

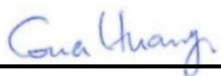
# FCC SAR TEST REPORT

FCC ID : PU5-TP00111AUC  
Equipment : Notebook Computer  
Brand Name : Lenovo  
Model Name : TP00111A  
Applicant : Wistron Corporation  
21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Dist, New Taipei  
City 221, Taiwan  
Manufacturer : Wistron Corporation  
21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Dist, New Taipei  
City 221, Taiwan  
Standard : FCC 47 CFR Part 2 (2.1093)

Equipment: Foxconn T99W175 tested inside of Lenovo Notebook Computer

The product was received on Sep. 29, 2020 and testing was started from Oct. 11, 2020 and completed on Oct. 22, 2020. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**



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## History of this test report

| Report No. | Version | Description             | Issued Date   |
|------------|---------|-------------------------|---------------|
| FA092423   | 01      | Initial issue of report | Dec. 16, 2020 |
|            |         |                         |               |
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## 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Wistron Corporation, Notebook Computer, TP00111A, are as follows.

| Equipment Class  | Frequency Band |                  | Highest SAR Summary     | Highest Simultaneous Transmission<br>1g SAR (W/kg) |
|------------------|----------------|------------------|-------------------------|----------------------------------------------------|
|                  |                |                  | Body                    |                                                    |
|                  |                |                  | 1g SAR (W/kg)           |                                                    |
| Licensed         | WCDMA          | WCDMA II         | 1.11                    | 1.58                                               |
|                  |                | WCDMA IV         | 1.19                    |                                                    |
|                  |                | WCDMA V          | 1.09                    |                                                    |
|                  | LTE            | LTE Band 2       | 0.69                    |                                                    |
|                  |                | LTE Band 5       | 1.14                    |                                                    |
|                  |                | LTE Band 7       | 1.14                    |                                                    |
|                  |                | LTE Band 12 / 17 | 1.09                    |                                                    |
|                  |                | LTE Band 13      | 1.17                    |                                                    |
|                  |                | LTE Band 14      | 1.19                    |                                                    |
|                  |                | LTE Band 25      | 1.12                    |                                                    |
|                  |                | LTE Band 26      | 1.17                    |                                                    |
|                  |                | LTE Band 30      | 1.16                    |                                                    |
|                  |                | LTE Band 38 / 41 | 1.13                    |                                                    |
|                  |                | LTE Band 48      | 1.18                    |                                                    |
|                  |                | LTE Band 4 / 66  | 1.13                    |                                                    |
|                  |                | LTE Band 71      | 1.14                    |                                                    |
|                  | FR1            | FR1 n2           | 0.97                    |                                                    |
|                  |                | FR1 n5           | 0.69                    |                                                    |
|                  |                | FR1 n7           | 0.82                    |                                                    |
|                  |                | FR1 n12          | 0.62                    |                                                    |
|                  |                | FR1 n41          | 0.75                    |                                                    |
|                  |                | FR1 n66          | 1.06                    |                                                    |
|                  |                | FR1 n71          | 0.63                    |                                                    |
| Date of Testing: |                |                  | 2020/10/11 – 2020/10/22 |                                                    |

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.(FCC).This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

**Reviewed by: Jason Wang**  
**Report Producer: Daisy Peng**



## 2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02

## 3. Equipment Under Test (EUT) Information

### 3.1 General Information

| Product Feature & Specification                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment Name                                                                                                                  | Notebook Computer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Brand Name                                                                                                                      | Lenovo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Model Name                                                                                                                      | TP00111A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FCC ID                                                                                                                          | PU5-TP00111AUC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Wireless Technology and Frequency Range                                                                                         | WCDMA Band II: 1850 MHz ~ 1910 MHz<br>WCDMA Band IV: 1710 MHz ~ 1755 MHz<br>WCDMA Band V: 824 MHz ~ 849 MHz<br>LTE Band 2: 1850 MHz ~ 1910 MHz<br>LTE Band 4: 1710 MHz ~ 1755 MHz<br>LTE Band 5: 824 MHz ~ 849 MHz<br>LTE Band 7: 2500 MHz ~ 2570 MHz<br>LTE Band 12: 699 MHz ~ 716 MHz<br>LTE Band 13: 777 MHz ~ 787 MHz<br>LTE Band 14: 788 MHz ~ 798 MHz<br>LTE Band 17: 704 MHz ~ 716 MHz<br>LTE Band 25: 1850 MHz ~ 1915 MHz<br>LTE Band 26: 814 MHz ~ 849 MHz<br>LTE Band 30: 2305 MHz ~ 2315 MHz<br>LTE Band 38: 2570 MHz ~ 2620 MHz<br>LTE Band 41: 2496 MHz ~ 2690 MHz<br>LTE Band 48: 3550 MHz ~ 3700 MHz<br>LTE Band 66: 1710 MHz ~ 1780 MHz<br>LTE Band 71: 663 MHz ~ 698 MHz<br>5G NR n2 : 1850 MHz ~ 1910 MHz<br>5G NR n5 : 824 MHz ~ 849 MHz<br>5G NR n7 : 2500 MHz ~ 2570 MHz<br>5G NR n12 : 699 MHz ~ 716 MHz<br>5G NR n41 : 2496 MHz ~ 2690 MHz<br>5G NR n66 : 1710 MHz ~ 1780 MHz<br>5G NR n71 : 663 MHz ~ 698 MHz |
| Mode                                                                                                                            | RMC/AMR 12.2Kbps<br>HSDPA<br>HSUPA<br>DC-HSDPA<br>HSPA+ (16QAM uplink)<br>LTE: QPSK, 16QAM, 64QAM<br>5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| EUT Stage                                                                                                                       | Production Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Remark:                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1. This device is convertible type notebook PC, and there are two mode as usage way, one is laptop mode, another is tablet mode |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



| WLAN Information                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integrated WLAN Module                                                                                                                                                                                                                                                         | Brand Name: Intel<br>Model Name: AX201D2W                                                                                                                                                                                                       |
| Wireless Technology and Frequency Range                                                                                                                                                                                                                                        | WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz<br>WLAN 5.2GHz Band: 5150 MHz ~ 5250 MHz<br>WLAN 5.3GHz Band: 5250 MHz ~ 5350 MHz<br>WLAN 5.6GHz Band: 5470 MHz ~ 5725 MHz<br>WLAN 5.8GHz Band: 5725 MHz ~ 5825 MHz<br>Bluetooth: 2400 MHz ~ 2483.5 MHz |
| Mode                                                                                                                                                                                                                                                                           | WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160<br>Bluetooth BR/EDR/LE                                                                                                                                        |
| EUT Stage                                                                                                                                                                                                                                                                      | Production Unit                                                                                                                                                                                                                                 |
| <b>Remark:</b>                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                 |
| 1. The WLAN/BT module is also integrated into Lenove TP00111A host. The WLAN and Bluetooth SAR results are referenced from Sporton SAR report, report number: FA0D0217 (FCC ID: PU5AX201D2) and these SAR results are also used to perform simultaneous transmission analysis. |                                                                                                                                                                                                                                                 |



### 3.2 General LTE SAR Test and Reporting Considerations

| Summarized necessary items addressed in KDB 941225 D05 v02r05 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                               |         |       |        |        |        |          |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------|-------|--------|--------|--------|----------|
| FCC ID                                                        | PU5-TP00111AUC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                               |         |       |        |        |        |          |
| Equipment Name                                                | Notebook Computer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                               |         |       |        |        |        |          |
| Operating Frequency Range of each LTE transmission band       | LTE Band 2: 1850 MHz ~ 1910 MHz<br>LTE Band 4: 1710 MHz ~ 1755 MHz<br>LTE Band 5: 824 MHz ~ 849 MHz<br>LTE Band 7: 2500 MHz ~ 2570 MHz<br>LTE Band 12: 699 MHz ~ 716 MHz<br>LTE Band 13: 777 MHz ~ 787 MHz<br>LTE Band 14: 788 MHz ~ 798 MHz<br>LTE Band 17: 704 MHz ~ 716 MHz<br>LTE Band 25: 1850 MHz ~ 1915 MHz<br>LTE Band 26: 814 MHz ~ 849 MHz<br>LTE Band 30: 2305 MHz ~ 2315 MHz<br>LTE Band 38: 2570 MHz ~ 2620 MHz<br>LTE Band 41: 2496 MHz ~ 2690 MHz<br>LTE Band 48: 3550 MHz ~ 3700 MHz<br>LTE Band 66: 1710 MHz ~ 1780 MHz<br>LTE Band 71: 663 MHz ~ 698 MHz                                                                                                               |                                                               |         |       |        |        |        |          |
| Channel Bandwidth                                             | LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz<br>LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz<br>LTE Band 13: 5MHz, 10MHz<br>LTE Band 14: 5MHz, 10MHz<br>LTE Band 17: 5MHz, 10MHz<br>LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz<br>LTE Band 30: 5MHz, 10MHz<br>LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz |                                                               |         |       |        |        |        |          |
| uplink modulations used                                       | QPSK / 16QAM / 64QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                               |         |       |        |        |        |          |
| LTE Voice / Data requirements                                 | Data only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                               |         |       |        |        |        |          |
| LTE MPR permanently built-in by design                        | Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                               |         |       |        |        |        |          |
|                                                               | Modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> ) |         |       |        |        |        | MPR (dB) |
|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.4 MHz                                                       | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |          |
|                                                               | QPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | > 5                                                           | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 1      |
|                                                               | 16 QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ≤ 5                                                           | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 1      |
|                                                               | 16 QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | > 5                                                           | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |
|                                                               | 64 QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ≤ 5                                                           | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 2      |
|                                                               | 64 QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | > 5                                                           | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 3      |
|                                                               | 256 QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ≥ 1                                                           |         |       |        |        |        | ≤ 5      |
| LTE A-MPR                                                     | In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                               |         |       |        |        |        |          |
| Spectrum plots for RB configuration                           | A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                               |         |       |        |        |        |          |
| Power reduction applied to satisfy SAR compliance             | Yes, Proximity Sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                               |         |       |        |        |        |          |
| LTE Carrier Aggregation Combinations                          | Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                               |         |       |        |        |        |          |
| LTE Carrier Aggregation Additional Information                | This device supports maximum of 6 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                               |         |       |        |        |        |          |

| Transmission (H, M, L) channel numbers and frequencies in each LTE band |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|-------------------------------------------------------------------------|-------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|--|--|
| LTE Band 2                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |  |  |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |  |  |
| L                                                                       | 18607             | 1850.7      | 18615            | 1851.5      | 18625            | 1852.5      | 18650            | 1855        | 18675            | 1857.5      | 18700            | 1860        |  |  |
| M                                                                       | 18900             | 1880        | 18900            | 1880        | 18900            | 1880        | 18900            | 1880        | 18900            | 1880        | 18900            | 1880        |  |  |
| H                                                                       | 19193             | 1909.3      | 19185            | 1908.5      | 19175            | 1907.5      | 19150            | 1905        | 19125            | 1902.5      | 19100            | 1900        |  |  |
| LTE Band 4                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |  |  |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |  |  |
| L                                                                       | 19957             | 1710.7      | 19965            | 1711.5      | 19975            | 1712.5      | 20000            | 1715        | 20025            | 1717.5      | 20050            | 1720        |  |  |
| M                                                                       | 20175             | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      |  |  |
| H                                                                       | 20393             | 1754.3      | 20385            | 1753.5      | 20375            | 1752.5      | 20350            | 1750        | 20325            | 1747.5      | 20300            | 1745        |  |  |
| LTE Band 5                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             |                  |             |                  |             |  |  |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |  |  |
| L                                                                       | 20407             | 824.7       | 20415            |             | 825.5            |             | 20425            | 826.5       |                  | 20450       |                  | 829         |  |  |
| M                                                                       | 20525             | 836.5       | 20525            |             | 836.5            |             | 20525            | 836.5       |                  | 20525       |                  | 836.5       |  |  |
| H                                                                       | 20643             | 848.3       | 20635            |             | 847.5            |             | 20625            | 846.5       |                  | 20600       |                  | 844         |  |  |
| LTE Band 7                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |                  |             |                  |             |  |  |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |  |  |
| L                                                                       | 20775             | 2502.5      | 20800            |             | 2505             |             | 20825            | 2507.5      |                  | 20850       |                  | 2510        |  |  |
| M                                                                       | 21100             | 2535        | 21100            |             | 2535             |             | 21100            | 2535        |                  | 21100       |                  | 2535        |  |  |
| H                                                                       | 21425             | 2567.5      | 21400            |             | 2565             |             | 21375            | 2562.5      |                  | 21350       |                  | 2560        |  |  |
| LTE Band 12                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             |                  |             |                  |             |  |  |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |  |  |
| L                                                                       | 23017             | 699.7       | 23025            |             | 700.5            |             | 23035            | 701.5       |                  | 23060       |                  | 704         |  |  |
| M                                                                       | 23095             | 707.5       | 23095            |             | 707.5            |             | 23095            | 707.5       |                  | 23095       |                  | 707.5       |  |  |
| H                                                                       | 23173             | 715.3       | 23165            |             | 714.5            |             | 23155            | 713.5       |                  | 23130       |                  | 711         |  |  |
| LTE Band 13                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Bandwidth 5 MHz   |             |                  |             | Bandwidth 10 MHz |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Channel #         |             | Freq.(MHz)       |             | Channel #        |             | Freq.(MHz)       |             |                  |             |                  |             |  |  |
| L                                                                       | 23205             |             | 779.5            |             | 23230            |             | 782              |             |                  |             |                  |             |  |  |
| M                                                                       | 23230             |             | 782              |             |                  |             |                  |             |                  |             |                  |             |  |  |
| H                                                                       | 23255             |             | 784.5            |             |                  |             |                  |             |                  |             |                  |             |  |  |
| LTE Band 14                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Bandwidth 5 MHz   |             |                  |             | Bandwidth 10 MHz |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Channel #         |             | Channel #        |             | Channel #        |             | Freq.(MHz)       |             |                  |             |                  |             |  |  |
| L                                                                       | 23305             |             | 790.5            |             | 23330            |             | 793              |             |                  |             |                  |             |  |  |
| M                                                                       | 23330             |             | 793              |             |                  |             |                  |             |                  |             |                  |             |  |  |
| H                                                                       | 23355             |             | 795.5            |             |                  |             |                  |             |                  |             |                  |             |  |  |
| LTE Band 17                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Bandwidth 5 MHz   |             |                  |             | Bandwidth 10 MHz |             |                  |             |                  |             |                  |             |  |  |
|                                                                         | Channel #         |             | Freq.(MHz)       |             | Channel #        |             | Freq. (MHz)      |             |                  |             |                  |             |  |  |
| L                                                                       | 23755             |             | 706.5            |             | 23780            |             | 709              |             |                  |             |                  |             |  |  |
| M                                                                       | 23790             |             | 710              |             | 23790            |             | 710              |             |                  |             |                  |             |  |  |
| H                                                                       | 23825             |             | 713.5            |             | 23800            |             | 711              |             |                  |             |                  |             |  |  |

| LTE Band 25 |                   |             |                  |             |                  |                  |                  |             |                  |             |                  |             |
|-------------|-------------------|-------------|------------------|-------------|------------------|------------------|------------------|-------------|------------------|-------------|------------------|-------------|
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |                  | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz)      | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 26047             | 1850.7      | 26055            | 1851.5      | 26065            | 1852.5           | 26090            | 1855        | 26115            | 1857.5      | 26140            | 1860        |
| M           | 26340             | 1880        | 26340            | 1880        | 26340            | 1880             | 26340            | 1880        | 26340            | 1880        | 26340            | 1880        |
| H           | 26683             | 1914.3      | 26675            | 1913.5      | 26665            | 1912.5           | 26640            | 1910        | 26615            | 1907.5      | 26590            | 1905        |
| LTE Band 26 |                   |             |                  |             |                  |                  |                  |             |                  |             |                  |             |
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |                  | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz)      | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 26697             | 814.7       | 26705            | 815.5       | 26715            | 816.5            | 26740            | 819         | 26765            | 821.5       | 26790            | 824         |
| M           | 26865             | 831.5       | 26865            | 831.5       | 26865            | 831.5            | 26865            | 831.5       | 26865            | 831.5       | 26865            | 831.5       |
| H           | 27033             | 848.3       | 27025            | 847.5       | 27015            | 846.5            | 26990            | 844         | 26965            | 841.5       | 26940            | 839         |
| LTE Band 30 |                   |             |                  |             |                  |                  |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             |                  |             |                  | Bandwidth 10 MHz |                  |             |                  |             |                  |             |
|             | Channel #         |             |                  | Freq.(MHz)  |                  | Channel #        |                  |             | Freq.(MHz)       |             |                  |             |
| L           | 27685             |             |                  | 2307.5      |                  | 27710            |                  |             | 2310             |             |                  |             |
| M           | 27710             |             |                  | 2310        |                  |                  |                  |             |                  |             |                  |             |
| H           | 27735             |             |                  | 2312.5      |                  |                  |                  |             |                  |             |                  |             |
| LTE Band 38 |                   |             |                  |             |                  |                  |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |                  | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz)      | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 37775             | 2572.5      | 37800            | 2575        | 37825            | 2577.5           | 37850            | 2580        |                  |             |                  |             |
| M           | 38000             | 2595        | 38000            | 2595        | 38000            | 2595             | 38000            | 2595        |                  |             |                  |             |
| H           | 38225             | 2617.5      | 38200            | 2615        | 38175            | 2612.5           | 38150            | 2610        |                  |             |                  |             |
| LTE Band 41 |                   |             |                  |             |                  |                  |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |                  | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz)      | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 39675             | 2498.5      | 39700            | 2501        | 39725            | 2503.5           | 39750            | 2506        |                  |             |                  |             |
| LM          | 40148             | 2545.8      | 40160            | 2547        | 40173            | 2548.3           | 40185            | 2549.5      |                  |             |                  |             |
|             | 40620             | 2593        | 40620            | 2593        | 40620            | 2593             | 40620            | 2593        |                  |             |                  |             |
| HM          | 41093             | 2640.3      | 41080            | 2639        | 41068            | 2637.8           | 41055            | 2636.5      |                  |             |                  |             |
|             | 41565             | 2687.5      | 41540            | 2685        | 41515            | 2682.5           | 41490            | 2680        |                  |             |                  |             |
| LTE Band 66 |                   |             |                  |             |                  |                  |                  |             |                  |             |                  |             |
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |                  | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz)      | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 131979            | 1710.7      | 131987           | 1711.5      | 131997           | 1712.5           | 132022           | 1715        | 132047           | 1717.5      | 132072           | 1720        |
| M           | 132322            | 1745        | 132322           | 1745        | 132322           | 1745             | 132322           | 1745        | 132322           | 1745        | 132322           | 1745        |
| H           | 132665            | 1779.3      | 132657           | 1778.5      | 132647           | 1777.5           | 132622           | 1775        | 132597           | 1772.5      | 132572           | 1770        |
| LTE Band 71 |                   |             |                  |             |                  |                  |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |                  | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz)      | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 133147            | 665.5       | 133172           | 668         | 133197           | 670.5            | 133222           | 673         |                  |             |                  |             |
| M           | 133297            | 680.5       | 133297           | 680.5       | 133297           | 680.5            | 133297           | 680.5       |                  |             |                  |             |
| H           | 133447            | 695.5       | 133422           | 693         | 133397           | 690.5            | 133372           | 688         |                  |             |                  |             |
| LTE Band 48 |                   |             |                  |             |                  |                  |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |                  | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz)      | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 55265             | 3552.5      | 55290            | 3555        | 55315            | 3557.5           | 55340            | 3560        |                  |             |                  |             |
| LM          | 55810             | 3607        | 55815            | 3607.5      | 55820            | 3608             | 55830            | 3609        |                  |             |                  |             |
|             | 56170             | 3643        | 56165            | 3642.5      | 56160            | 3642             | 56150            | 3641        |                  |             |                  |             |
| H           | 56715             | 3697.5      | 56690            | 3695        | 56665            | 3692.5           | 56640            | 3690        |                  |             |                  |             |

### 3.3 General 5G NR SAR Test and Reporting Considerations

| 5G NR Information                                                         |                                                                                                                                                                                                                                                                                                   |             |                 |             |                 |             |                 |             |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|
| FCC                                                                       | PU5-TP00111AUC                                                                                                                                                                                                                                                                                    |             |                 |             |                 |             |                 |             |
| Equipment Name                                                            | Notebook Computer                                                                                                                                                                                                                                                                                 |             |                 |             |                 |             |                 |             |
| Operating Frequency Range of each 5G NR transmission band                 | 5G NR n2 : 1850 MHz ~ 1910 MHz<br>5G NR n5 : 824 MHz ~ 849 MHz<br>5G NR n7 : 2500 MHz ~ 2570 MHz<br>5G NR n12 : 699 MHz ~ 716 MHz<br>5G NR n41 : 2496 MHz ~ 2690 MHz<br>5G NR n66 : 1710 MHz ~ 1780 MHz<br>5G NR n71 : 663 MHz ~ 698 MHz                                                          |             |                 |             |                 |             |                 |             |
| Channel Bandwidth                                                         | 5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz<br>5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz<br>5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz<br>5G NR n12: 5MHz, 10MHz, 15MHz<br>5G NR n41: 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz<br>5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz<br>5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz |             |                 |             |                 |             |                 |             |
| SCS                                                                       | FDD: SCS15KHz, TDD: SCS30KHz                                                                                                                                                                                                                                                                      |             |                 |             |                 |             |                 |             |
| uplink modulations used                                                   | DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM<br>CP-OFDM QPSK / 16QAM / 64QAM / 256QAM                                                                                                                                                                                                    |             |                 |             |                 |             |                 |             |
| A-MPR (Additional MPR) disabled for SAR Testing?                          | Yes                                                                                                                                                                                                                                                                                               |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n2                                                   | LTE B5/12/13/30/48/66                                                                                                                                                                                                                                                                             |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n5                                                   | LTE B2/7/12/48/66                                                                                                                                                                                                                                                                                 |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n7                                                   | LTE B5/12                                                                                                                                                                                                                                                                                         |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n12                                                  | LTE B2/66                                                                                                                                                                                                                                                                                         |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n41                                                  | LTE B2/25/26/66                                                                                                                                                                                                                                                                                   |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n66                                                  | LTE B5/12/13/30/48/71                                                                                                                                                                                                                                                                             |             |                 |             |                 |             |                 |             |
| LTE Anchor Bands for n71                                                  | LTE B2/7/66                                                                                                                                                                                                                                                                                       |             |                 |             |                 |             |                 |             |
| Transmission (H, M, L) channel numbers and frequencies in each 5G NR band |                                                                                                                                                                                                                                                                                                   |             |                 |             |                 |             |                 |             |
| NR Band 2                                                                 |                                                                                                                                                                                                                                                                                                   |             |                 |             |                 |             |                 |             |
|                                                                           | Bandwidth 5MHz                                                                                                                                                                                                                                                                                    |             | Bandwidth 10MHz |             | Bandwidth 15MHz |             | Bandwidth 20MHz |             |
|                                                                           | Ch. #                                                                                                                                                                                                                                                                                             | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) |
| L                                                                         | 370500                                                                                                                                                                                                                                                                                            | 1852.5      | 371000          | 1855        | 371500          | 1857.5      | 372000          | 1860        |
| M                                                                         | 376000                                                                                                                                                                                                                                                                                            | 1880        | 376000          | 1880        | 376000          | 1880        | 376000          | 1880        |
| H                                                                         | 381500                                                                                                                                                                                                                                                                                            | 1907.5      | 381000          | 1905        | 380500          | 1902.5      | 380000          | 1900        |
| NR Band 5                                                                 |                                                                                                                                                                                                                                                                                                   |             |                 |             |                 |             |                 |             |
|                                                                           | Bandwidth 5MHz                                                                                                                                                                                                                                                                                    |             | Bandwidth 10MHz |             | Bandwidth 15MHz |             | Bandwidth 20MHz |             |
|                                                                           | Ch. #                                                                                                                                                                                                                                                                                             | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) |
| L                                                                         | 165300                                                                                                                                                                                                                                                                                            | 826.5       | 165800          | 829         | 166300          | 831.5       | 166800          | 834         |
| M                                                                         | 167300                                                                                                                                                                                                                                                                                            | 836.5       | 167300          | 836.5       | 167300          | 836.5       | 167300          | 836.5       |
| H                                                                         | 169300                                                                                                                                                                                                                                                                                            | 846.5       | 168800          | 844         | 168300          | 841.5       | 167800          | 839         |
| NR Band 7                                                                 |                                                                                                                                                                                                                                                                                                   |             |                 |             |                 |             |                 |             |
|                                                                           | Bandwidth 5MHz                                                                                                                                                                                                                                                                                    |             | Bandwidth 10MHz |             | Bandwidth 15MHz |             | Bandwidth 20MHz |             |
|                                                                           | Ch. #                                                                                                                                                                                                                                                                                             | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) |
| L                                                                         | 500500                                                                                                                                                                                                                                                                                            | 2502.5      | 501000          | 2505        | 501500          | 2507.5      | 502000          | 2510        |
| M                                                                         | 507000                                                                                                                                                                                                                                                                                            | 2535        | 507000          | 2535        | 507000          | 2535        | 507000          | 2535        |
| H                                                                         | 513500                                                                                                                                                                                                                                                                                            | 2567.5      | 513000          | 2565        | 512500          | 2562.5      | 512000          | 2560        |

| NR Band 12 |                 |             |                 |                 |                 |             |                 |             |                 |                 |                 |             |                  |             |
|------------|-----------------|-------------|-----------------|-----------------|-----------------|-------------|-----------------|-------------|-----------------|-----------------|-----------------|-------------|------------------|-------------|
|            | Bandwidth 5MHz  |             |                 |                 | Bandwidth 10MHz |             |                 |             | Bandwidth 15MHz |                 |                 |             |                  |             |
|            | Ch. #           |             | Freq. (MHz)     |                 | Ch. #           |             | Freq. (MHz)     |             | Ch. #           |                 | Freq. (MHz)     |             |                  |             |
| L          | 140300          |             | 701.5           |                 | 140800          |             | 704             |             | 141300          |                 | 706.5           |             |                  |             |
| M          | 141500          |             | 707.5           |                 | 141500          |             | 707.5           |             | 141500          |                 | 707.5           |             |                  |             |
| H          | 142700          |             | 713.5           |                 | 142200          |             | 711             |             | 141700          |                 | 708.5           |             |                  |             |
| NR Band 41 |                 |             |                 |                 |                 |             |                 |             |                 |                 |                 |             |                  |             |
|            | Bandwidth 20MHz |             | Bandwidth 40MHz |                 | Bandwidth 50MHz |             | Bandwidth 60MHz |             | Bandwidth 80MHz |                 | Bandwidth 90MHz |             | Bandwidth 100MHz |             |
|            | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz)     | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz) | Ch. #           | Freq. (MHz)     | Ch. #           | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L          | 501204          | 2506.02     | 503202          | 2516.01         | 504204          | 2521.02     | 505200          | 2526        | 507204          | 2536.02         | 508200          | 2541        | 509202           | 2546.01     |
| M          | 518598          | 2592.99     | 518598          | 2592.99         | 518598          | 2592.99     | 518598          | 2592.99     | 518598          | 2592.99         | 518598          | 2592.99     | 518598           | 2592.99     |
| H          | 535998          | 2679.99     | 534000          | 2670            | 532998          | 2664.99     | 531996          | 2659.98     | 529998          | 2649.99         | 528996          | 2644.98     | 528000           | 2640        |
| NR Band 66 |                 |             |                 |                 |                 |             |                 |             |                 |                 |                 |             |                  |             |
|            | Bandwidth 5MHz  |             |                 | Bandwidth 10MHz |                 |             | Bandwidth 15MHz |             |                 | Bandwidth 20MHz |                 |             |                  |             |
|            | Ch. #           |             | Freq. (MHz)     | Ch. #           |                 | Freq. (MHz) | Ch. #           |             | Freq. (MHz)     | Ch. #           |                 | Freq. (MHz) |                  |             |
| L          | 342500          |             | 1712.5          | 343000          |                 | 1715        | 343500          |             | 1717.5          | 344000          |                 | 1720        |                  |             |
| M          | 349000          |             | 1745            | 349000          |                 | 1745        | 349000          |             | 1745            | 349000          |                 | 1745        |                  |             |
| H          | 355500          |             | 1777.5          | 355000          |                 | 1775        | 354500          |             | 1772.5          | 354000          |                 | 1770        |                  |             |
| NR Band 71 |                 |             |                 |                 |                 |             |                 |             |                 |                 |                 |             |                  |             |
|            | Bandwidth 5MHz  |             |                 | Bandwidth 10MHz |                 |             | Bandwidth 15MHz |             |                 | Bandwidth 20MHz |                 |             |                  |             |
|            | Ch. #           |             | Freq. (MHz)     | Ch. #           |                 | Freq. (MHz) | Ch. #           |             | Freq. (MHz)     | Ch. #           |                 | Freq. (MHz) |                  |             |
| L          | 133100          |             | 665.5           | 133600          |                 | 668         | 13410           |             | 670.5           | 134600          |                 | 673         |                  |             |
| M          | 136100          |             | 680.5           | 136100          |                 | 680.5       | 136100          |             | 680.5           | 136100          |                 | 680.5       |                  |             |
| H          | 139100          |             | 695.5           | 138600          |                 | 693         | 13810           |             | 690.5           | 137600          |                 | 688         |                  |             |

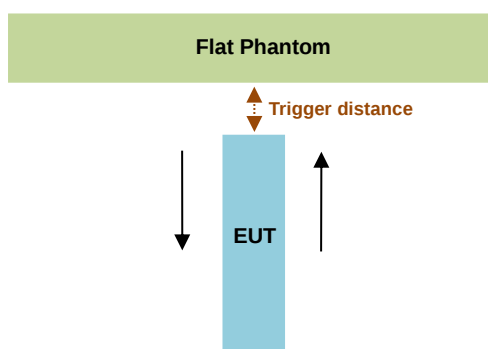
## 4. Proximity Sensor Triggering Test

### <Proximity Sensor Triggering Distance (KDB 616217 D04 section 6.2)>:

For the device is fully integrated, touch sensing capacitive sensor. It uses a charge transfer capacitive acquisition method that is capable of near range proximity detection. In this device offers a state of the art capacitive sensing engine with an embedded sampling capacitor and voltage regulator allowing the overall solution cost to be reduced and improving system immunity in noisy environments.

Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed. The details are illustrated as following, and the shortest triggering distances were reported and used for SAR assessment.

In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.



| Proximity Sensor Trigger Distance (mm) |                  |             |               |             |               |             |               |             |
|----------------------------------------|------------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| Position                               | Main antenna     |             |               |             |               |             |               |             |
|                                        | Bottom of Laptop |             | Bottom Face   |             | Edge 1        |             | Edge 2        |             |
|                                        | moving toward    | moving away | moving toward | moving away | moving toward | moving away | moving toward | moving away |
| Minimum                                | 17               | 17          | 20            | 14          | 24            | 25          | 16            | 16          |

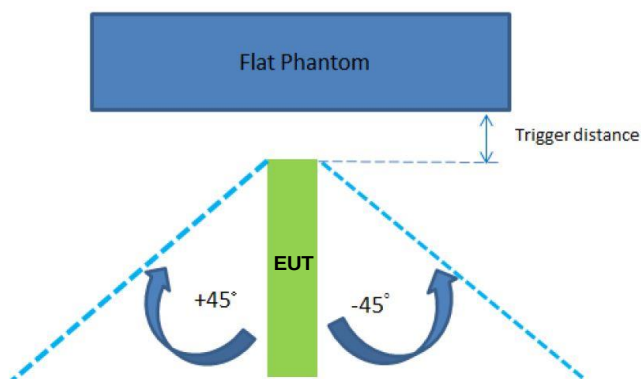
| Proximity Sensor Trigger Distance (mm) |                  |             |               |             |               |             |
|----------------------------------------|------------------|-------------|---------------|-------------|---------------|-------------|
| Position                               | MIMO2 antenna    |             |               |             |               |             |
|                                        | Bottom of Laptop |             | Bottom Face   |             | Edge 4        |             |
|                                        | moving toward    | moving away | moving toward | moving away | moving toward | moving away |
| Minimum                                | 16               | 16          | 13            | 13          | 11            | 11          |

### <Proximity Sensor Triggering Coverage (KDB 616217 D04 section 6.3)>:

Since the antenna and sensor are collocated and all of the peak SAR location is overlapping with the sensor pad for this device, therefore, According to KDB 616217 section 6.3, these procedures do not apply and are not required for Moving towards and Moving away due to the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor on this device.

**<Tablet Tilt angle influences to proximity sensor triggering (KDB 616217 D04 section 6.4)>:**

The influence of table tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom, at above separation distance. Rotating the tablet around the edge next to the phantom in  $\leq 10^\circ$  increments until the tablet is  $\pm 45^\circ$  from the vertical position at  $0^\circ$ , and the maximum output power remains in the reduced mode.



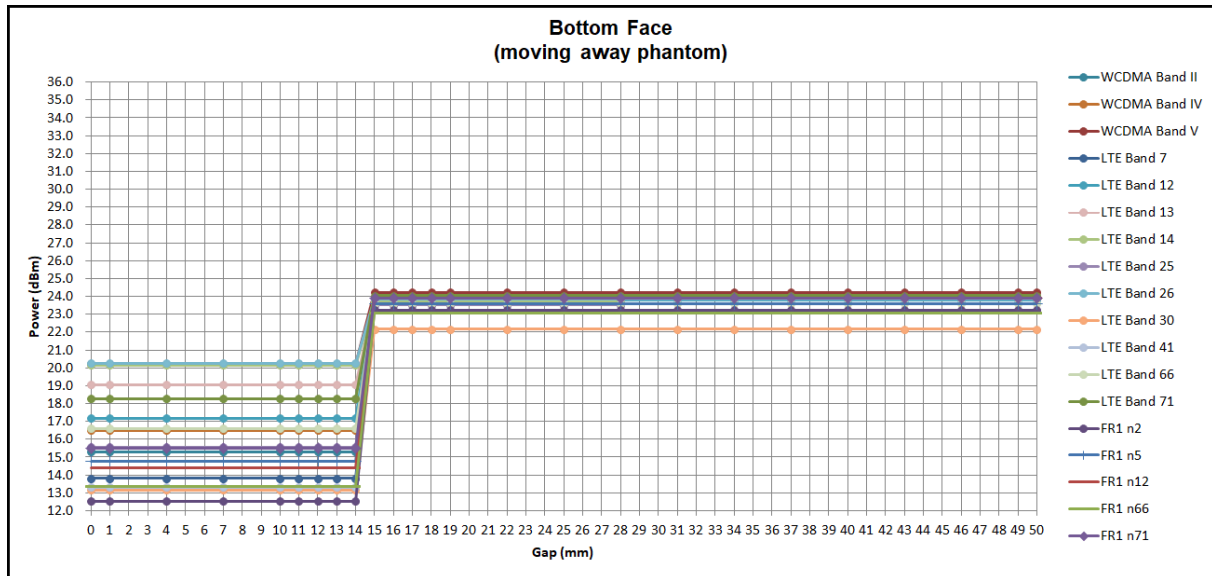
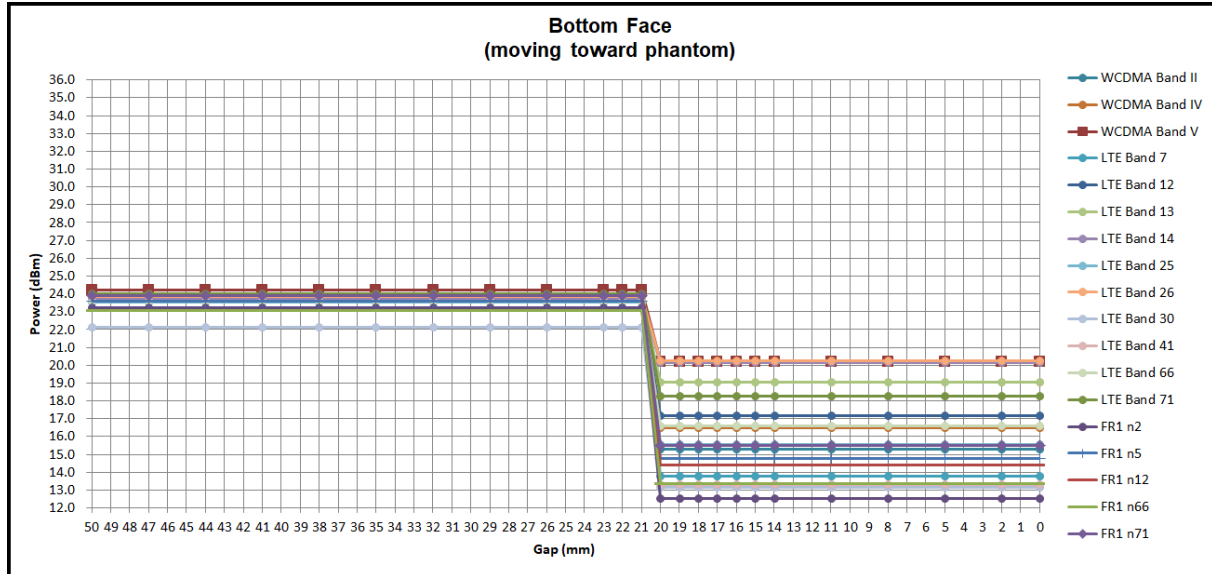
| The Sensor Trigger Distance (mm) |        |        |        |
|----------------------------------|--------|--------|--------|
| Position                         | Edge 1 | Edge 2 | Edge 4 |
| Minimum                          | 23     | 15     | 10     |

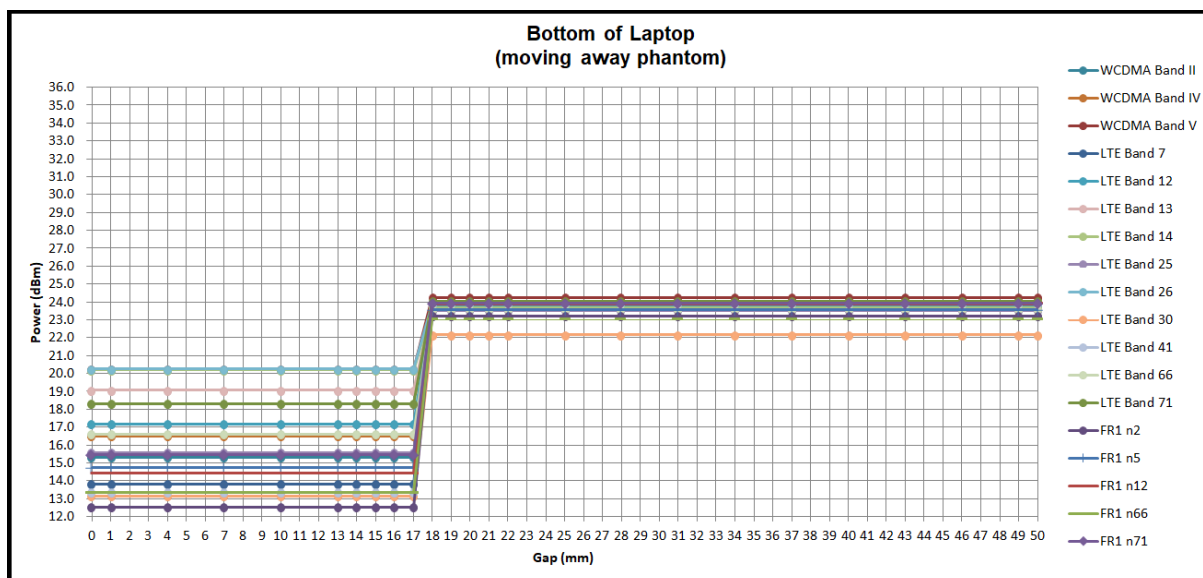
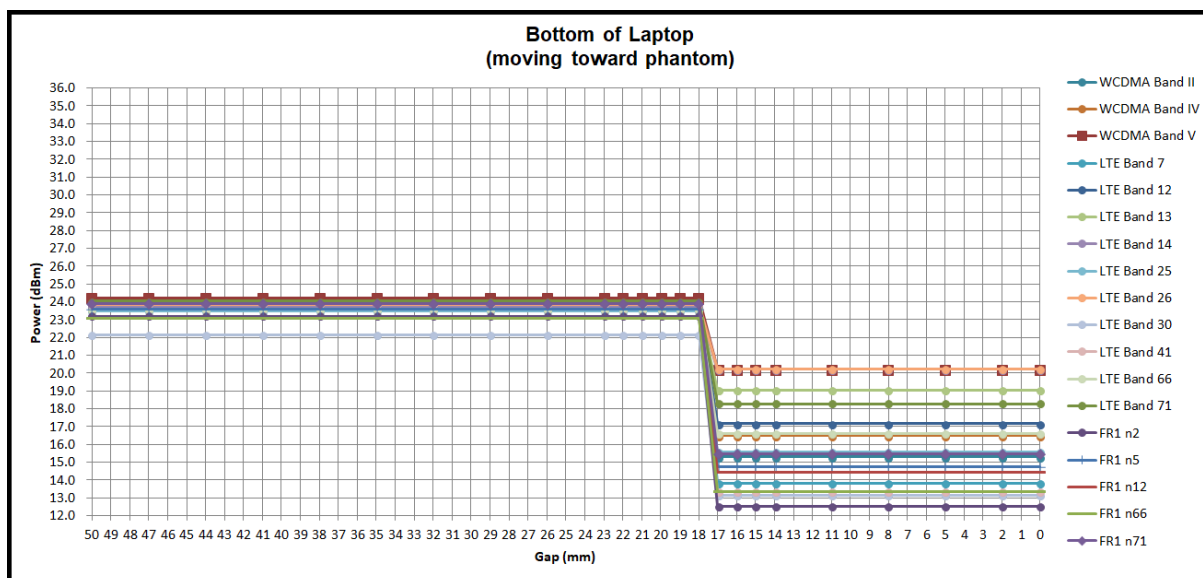
**Proximity sensor power reduction**

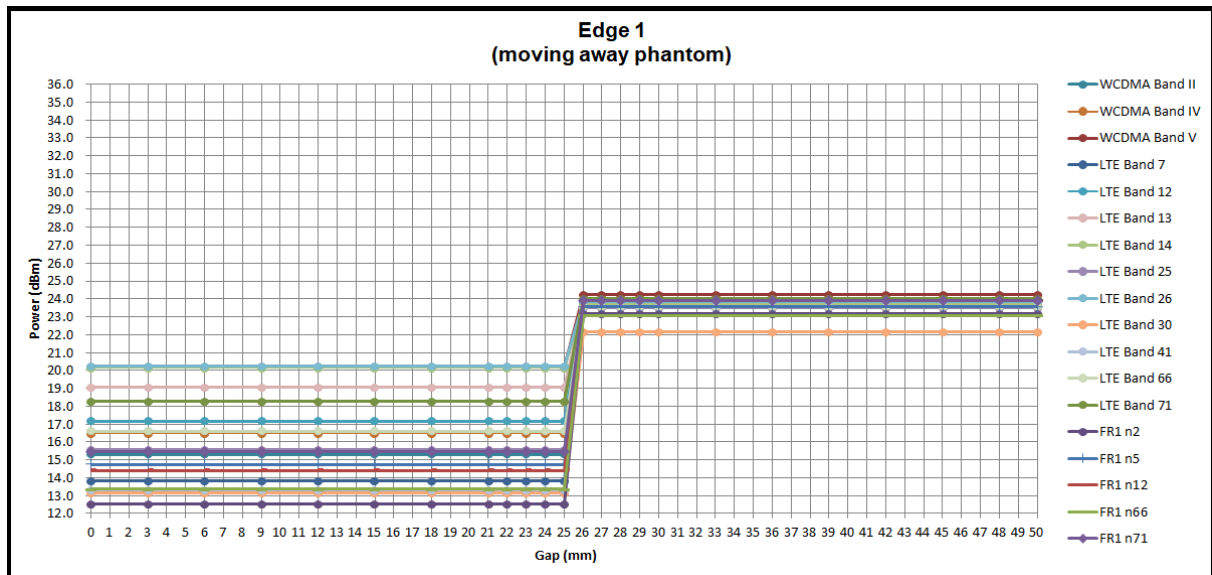
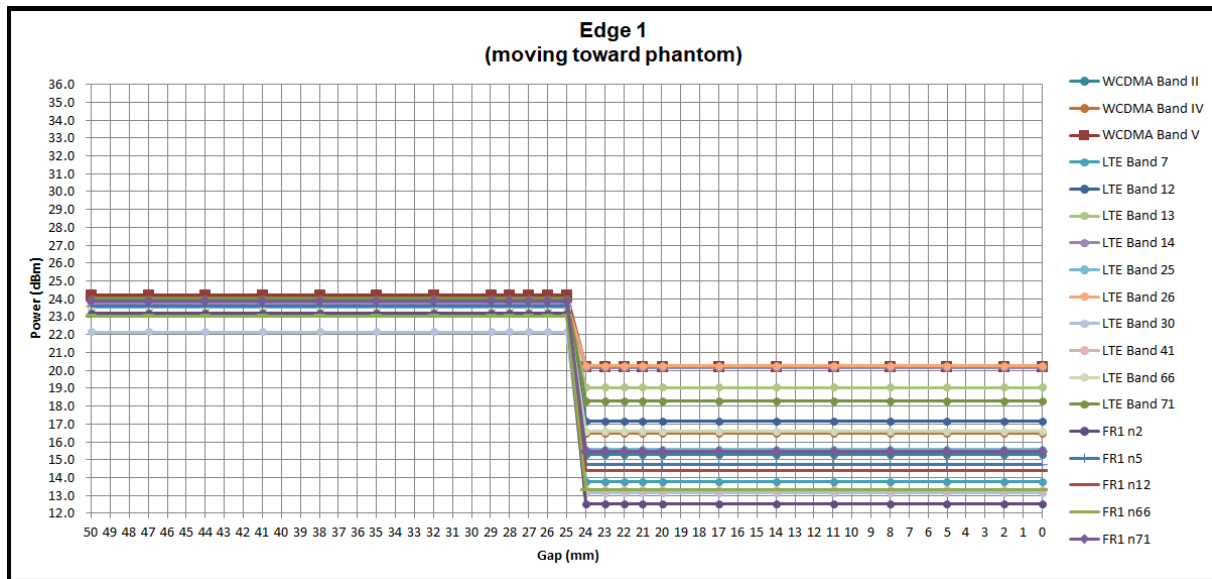
| Exposure Position / wireless mode | Bottom face <sup>(1)</sup> / Bottom of Laptop | Edge 1  | Edge 2  | Edge 3 | Edge 4  |
|-----------------------------------|-----------------------------------------------|---------|---------|--------|---------|
| WCDMA Band II Main                | 8.5 dB                                        | 8.5 dB  | 8.5 dB  | 0 dB   | 0 dB    |
| WCDMA Band IV Main                | 7.5 dB                                        | 7.5 dB  | 7.5 dB  | 0 dB   | 0 dB    |
| WCDMA Band V Main                 | 4 dB                                          | 4 dB    | 4 dB    | 0 dB   | 0 dB    |
| LTE Band 2 MIMO2                  | 11.5 dB                                       | 0 dB    | 0 dB    | 0 dB   | 11.5 dB |
| LTE Band 5 Main                   | 4 dB                                          | 4 dB    | 4 dB    | 0 dB   | 0 dB    |
| LTE Band 7 Main                   | 9.5 dB                                        | 9.5 dB  | 9.5 dB  | 0 dB   | 0 dB    |
| LTE Band 7 MIMO2                  | 12 dB                                         | 0 dB    | 0 dB    | 0 dB   | 12 dB   |
| LTE Band 12 Main / 17 Main        | 6 dB                                          | 6 dB    | 6 dB    | 0 dB   | 0 dB    |
| LTE Band 13 Main                  | 5 dB                                          | 5 dB    | 5 dB    | 0 dB   | 0 dB    |
| LTE Band 14 Main                  | 4 dB                                          | 4 dB    | 4 dB    | 0 dB   | 0 dB    |
| LTE Band 2 Main / 25 Main         | 7.5 dB                                        | 7.5 dB  | 7.5 dB  | 0 dB   | 0 dB    |
| LTE Band 26 Main                  | 4 dB                                          | 4 dB    | 4 dB    | 0 dB   | 0 dB    |
| LTE Band 30 Main                  | 8.5 dB                                        | 8.5 dB  | 8.5 dB  | 0 dB   | 0 dB    |
| LTE Band 38 Main / 41 Main        | 10.5 dB                                       | 10.5 dB | 10.5 dB | 0 dB   | 0 dB    |
| LTE Band 41_HPUE                  | 10.5 dB                                       | 10.5 dB | 10.5 dB | 0 dB   | 0 dB    |
| LTE Band 48 MIMO2                 | 9 dB                                          | 0 dB    | 0 dB    | 0 dB   | 9 dB    |
| LTE Band 4 Main / 66 Main         | 7 dB                                          | 7 dB    | 7 dB    | 0 dB   | 0 dB    |
| LTE Band 66 MIMO2                 | 12.4 dB                                       | 0 dB    | 0 dB    | 0 dB   | 12.4 dB |
| LTE Band 71 Main                  | 6 dB                                          | 6 dB    | 6 dB    | 0 dB   | 0 dB    |
| FR1 n2 Main                       | 10.5 dB                                       | 10.5 dB | 10.5 dB | 0 dB   | 0 dB    |
| FR1 n2 MIMO 2                     | 11.5 dB                                       | 0 dB    | 0 dB    | 0 dB   | 11.5 dB |
| FR1 n5 Main                       | 8.5 dB                                        | 8.5 dB  | 8.5 dB  | 0 dB   | 0 dB    |
| FR1 n7 MIMO 2                     | 12 dB                                         | 0 dB    | 0 dB    | 0 dB   | 12 dB   |
| FR1 n12 Main                      | 8.5 dB                                        | 8.5 dB  | 8.5 dB  | 0 dB   | 0 dB    |
| FR1 n41 MIMO 2                    | 14.5 dB                                       | 0 dB    | 0 dB    | 0 dB   | 14.5 dB |
| FR1 n66 Main                      | 10 dB                                         | 10 dB   | 10 dB   | 0 dB   | 0 dB    |
| FR1 n66 MIMO 2                    | 11.5 dB                                       | 0 dB    | 0 dB    | 0 dB   | 11.5 dB |
| FR1 n71 Main                      | 8 dB                                          | 8 dB    | 8 dB    | 0 dB   | 0 dB    |

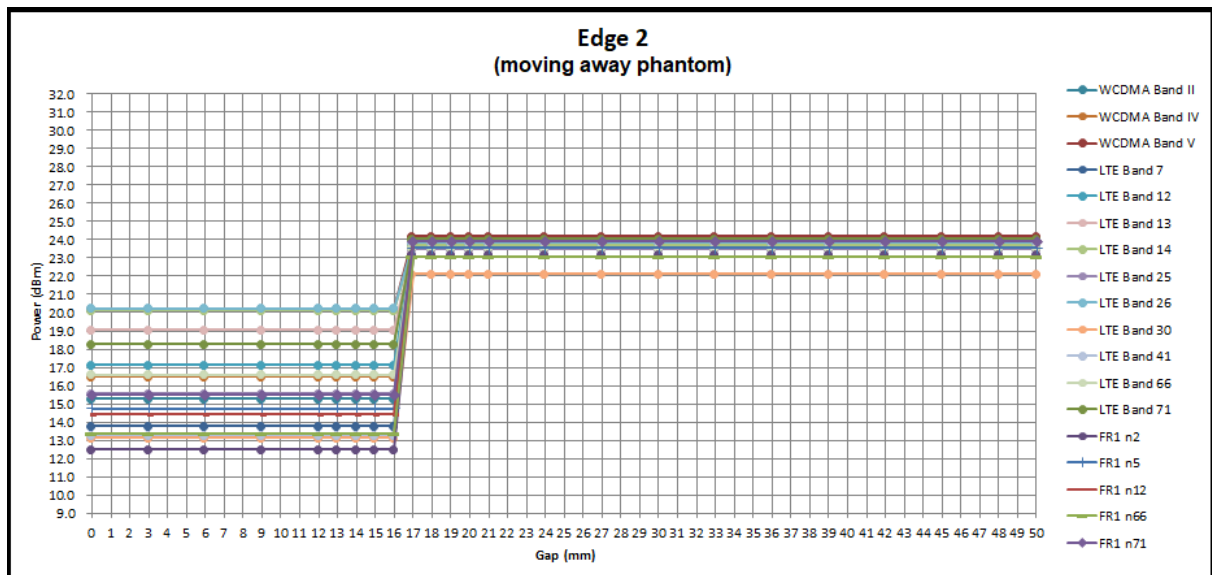
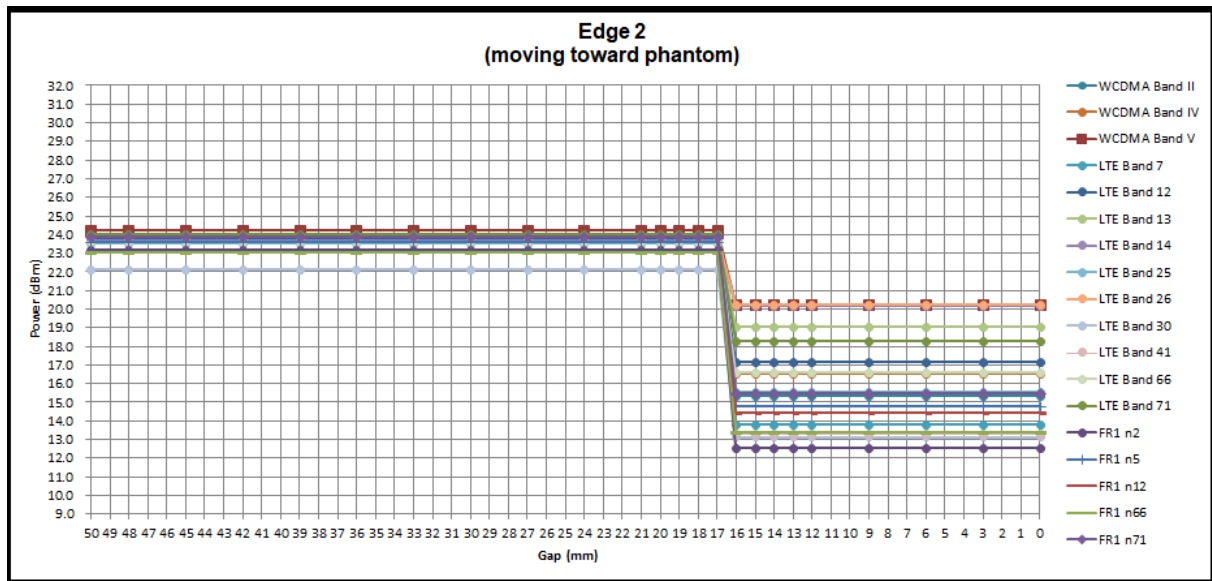
**Remark:**

- <sup>(1)</sup>: Reduced maximum limit applied by activation of proximity sensor.
- Power reduction is not applicable for WLAN and Bluetooth.
- Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown and described in exhibit "P-Sensor operational description"
- For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
  - Bottom Face: [12 mm for MIMO2 antenna](#) and [13mm for Main antenna](#)
  - Bottom of Laptop: [15 mm for MIMO2 antenna](#) and [16mm for Main antenna](#)
  - Edge1: [22mm for Main antenna](#)
  - Edge2: [14mm for Main antenna](#)
  - Edge4: [9mm for MIMO2 antenna](#)

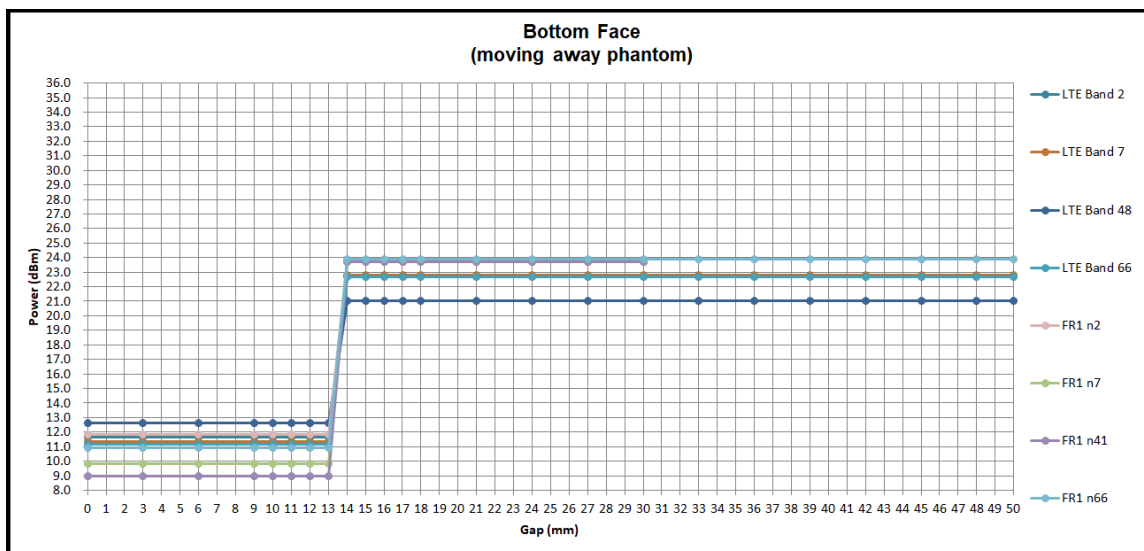
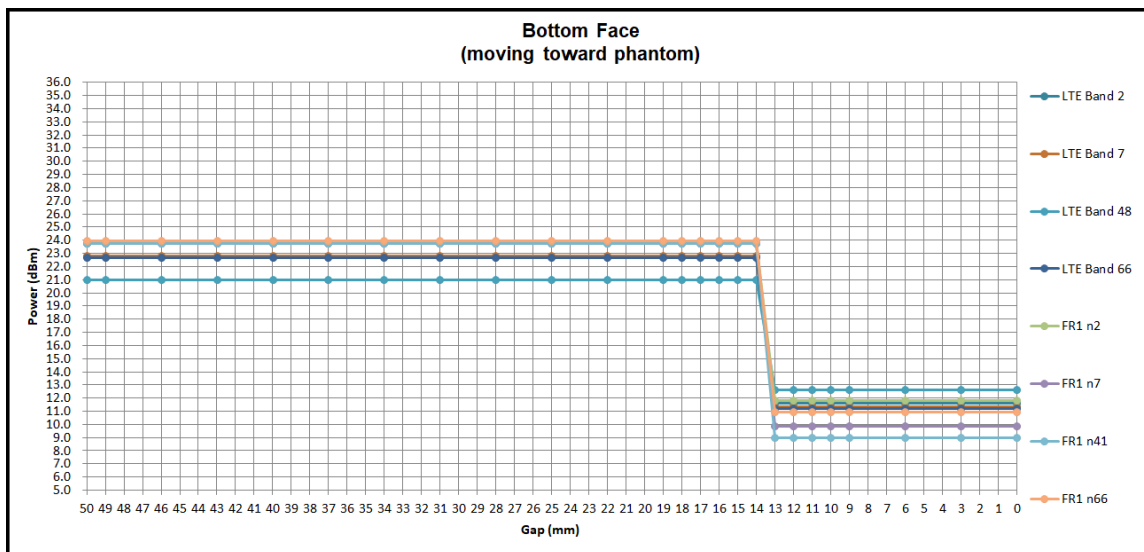
**Power Measurement during Sensor Trigger distance testing**
**Main Antenna**


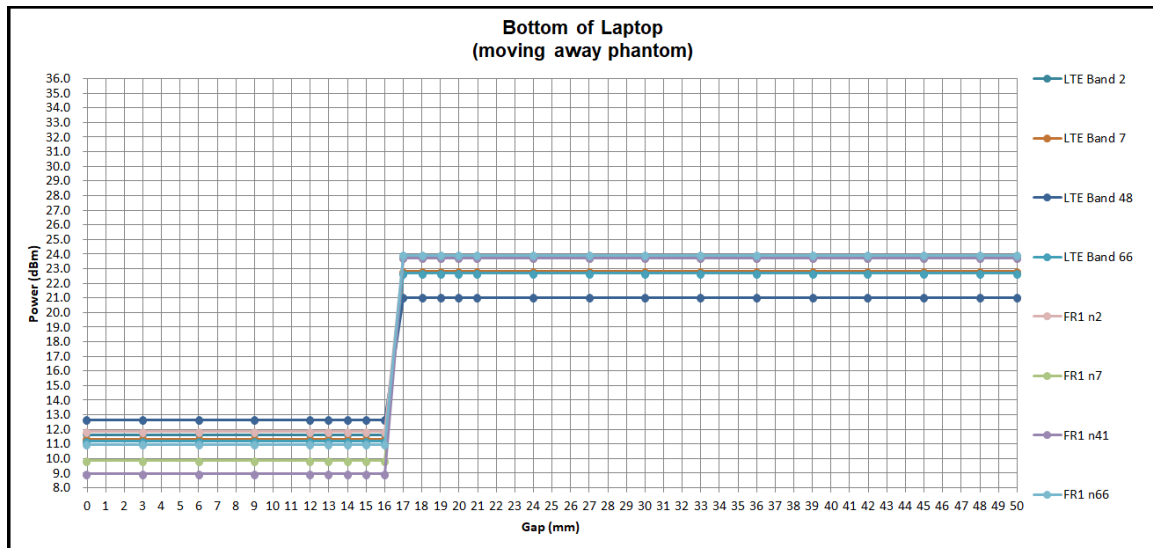
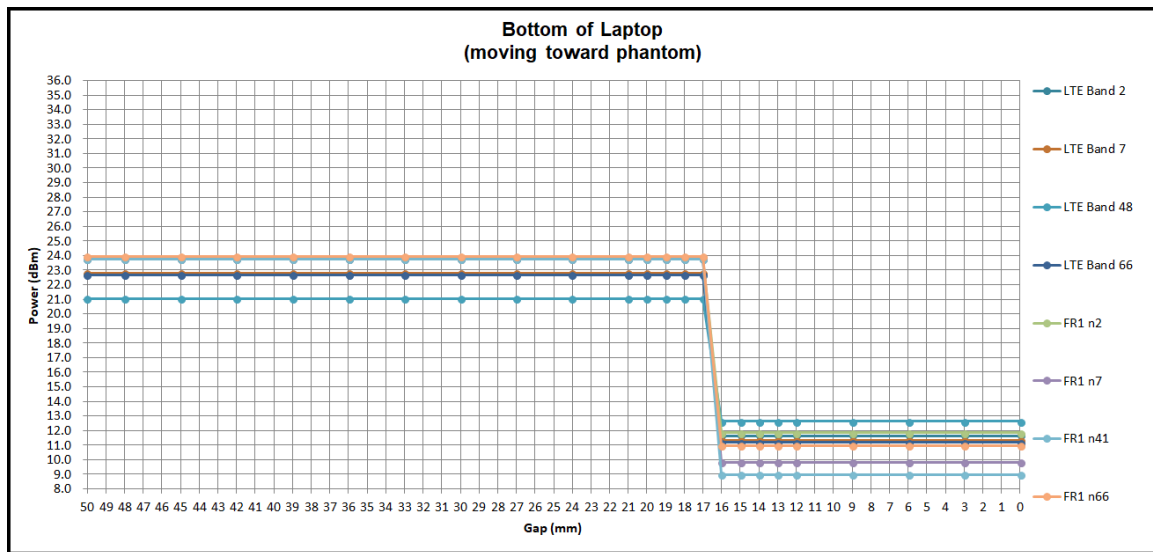


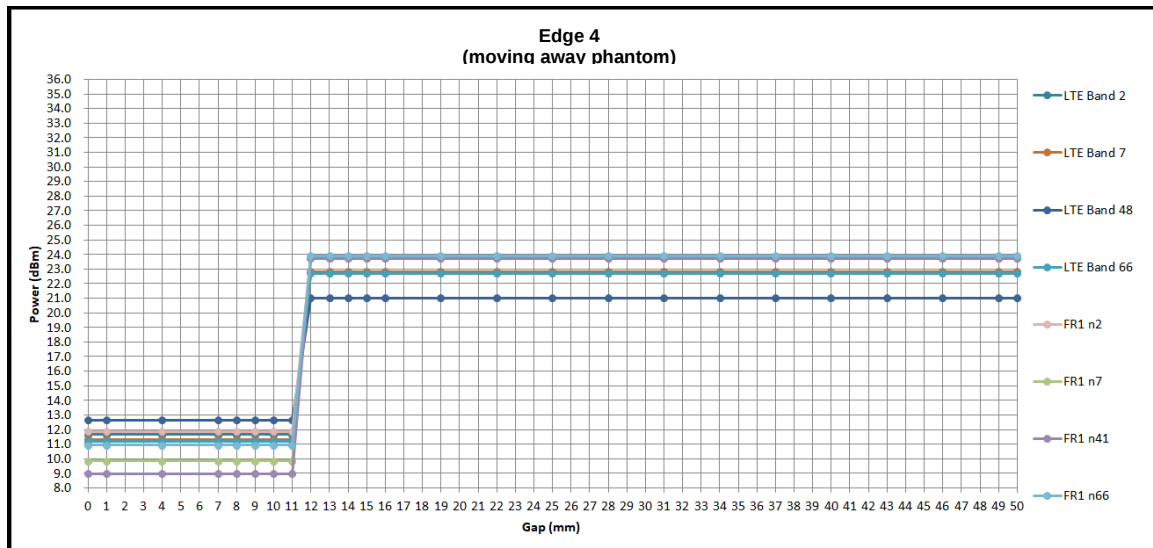
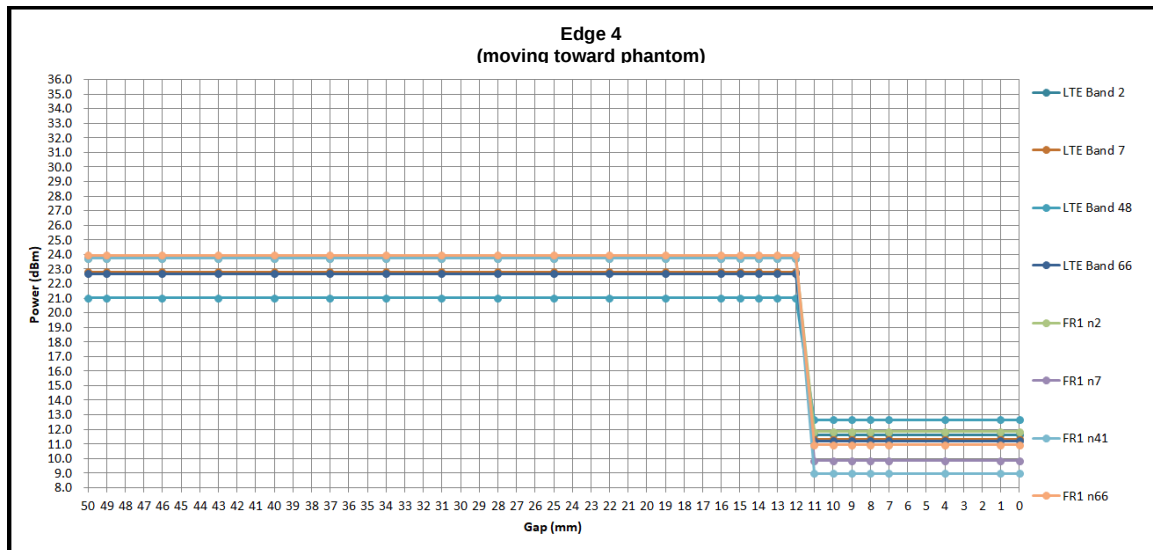




**MIMO2 Antenna**







## **5. RF Exposure Limits**

### **5.1 Uncontrolled Environment**

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

### **5.2 Controlled Environment**

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

**Limits for Occupational/Controlled Exposure (W/kg)**

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|------------|--------------|--------------------------------|
| 0.4        | 8.0          | 20.0                           |

**Limits for General Population/Uncontrolled Exposure (W/kg)**

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|------------|--------------|--------------------------------|
| 0.08       | 1.6          | 4.0                            |

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

## **6. Specific Absorption Rate (SAR)**

### **6.1 Introduction**

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

### **6.2 SAR Definition**

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left( \frac{dW}{dm} \right) = \frac{d}{dt} \left( \frac{dW}{\rho dv} \right)$$

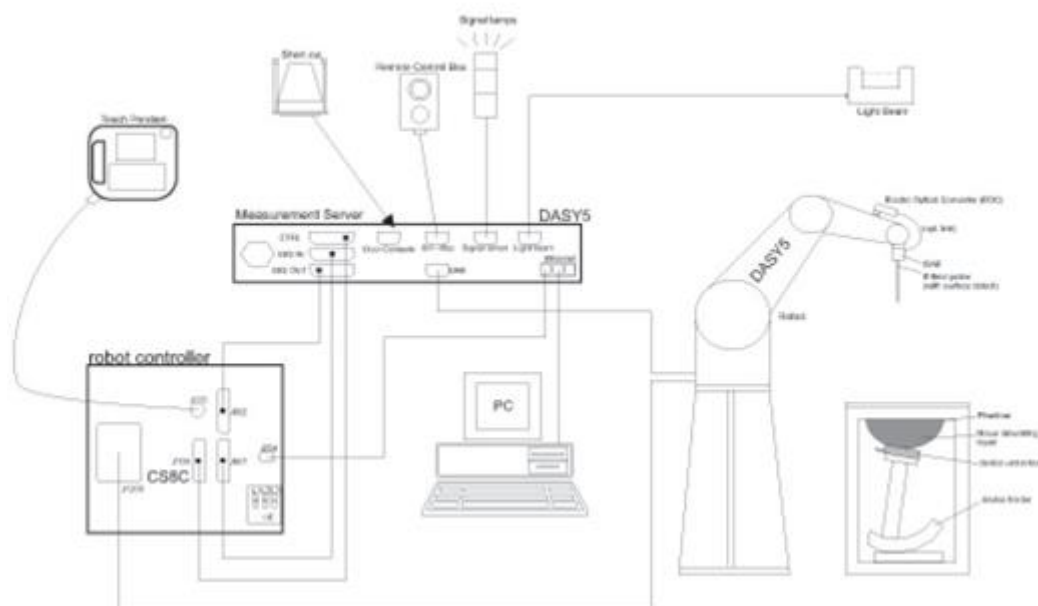
SAR is expressed in units of Watts per kilogram (W/kg)

$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

## 7. System Description and Setup

The DASY system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

### 7.1 Test Site Location

The SAR measurement facilities used to collect data are within Sporton Lab and below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 0007) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

| Test Site          | SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory                    |          |                                                                                                         |          |
|--------------------|----------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------|----------|
| Test Site Location | TW1190<br>No. 52, Huaya 1st Rd., Guishan Dist.,<br>Taoyuan City 333,<br>CHINESE TAIPEI |          | TW0007<br>No. 58, Aly. 75, Ln. 564, Wehnuia 3rd, Rd.,<br>Guishan Dist., Taoyuan City,<br>CHINESE TAIPEI |          |
|                    |                                                                                        |          |                                                                                                         |          |
| Test Site No.      | SAR01-HY                                                                               | SAR03-HY | SAR08-HY                                                                                                | SAR09-HY |
|                    | SAR04-HY                                                                               | SAR05-HY | SAR11-HY                                                                                                | SAR12-HY |
|                    | SAR06-HY                                                                               | SAR10-HY |                                                                                                         |          |

## 7.2 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

### <ES3DV3 Probe>

|                      |                                                                                                                                                                                  |                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Construction</b>  | Symmetric design with triangular core<br>Interleaved sensors<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |  |
| <b>Frequency</b>     | 10 MHz – 4 GHz;<br>Linearity: $\pm 0.2$ dB (30 MHz – 4 GHz)                                                                                                                      |                                                                                    |
| <b>Directivity</b>   | $\pm 0.2$ dB in TSL (rotation around probe axis)<br>$\pm 0.3$ dB in TSL (rotation normal to probe axis)                                                                          |                                                                                    |
| <b>Dynamic Range</b> | 5 $\mu$ W/g – >100 mW/g;<br>Linearity: $\pm 0.2$ dB                                                                                                                              |                                                                                    |
| <b>Dimensions</b>    | Overall length: 337 mm (tip: 20 mm)<br>Tip diameter: 3.9 mm (body: 12 mm)<br>Distance from probe tip to dipole centers: 3.0 mm                                                   |                                                                                    |

### <EX3DV4 Probe>

|                      |                                                                                                                                                           |                                                                                     |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Construction</b>  | Symmetric design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |  |
| <b>Frequency</b>     | 10 MHz – >6 GHz<br>Linearity: $\pm 0.2$ dB (30 MHz – 6 GHz)                                                                                               |                                                                                     |
| <b>Directivity</b>   | $\pm 0.3$ dB in TSL (rotation around probe axis)<br>$\pm 0.5$ dB in TSL (rotation normal to probe axis)                                                   |                                                                                     |
| <b>Dynamic Range</b> | 10 $\mu$ W/g – >100 mW/g<br>Linearity: $\pm 0.2$ dB (noise: typically <1 $\mu$ W/g)                                                                       |                                                                                     |
| <b>Dimensions</b>    | Overall length: 337 mm (tip: 20 mm)<br>Tip diameter: 2.5 mm (body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm                      |                                                                                     |

## 7.3 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.



**Fig 5.1 Photo of DAE**

## 7.4 Phantom

### <SAM Twin Phantom>

|                          |                                                         |                                                                                    |
|--------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Shell Thickness</b>   | 2 ± 0.2 mm;<br>Center ear point: 6 ± 0.2 mm             |  |
| <b>Filling Volume</b>    | Approx. 25 liters                                       |                                                                                    |
| <b>Dimensions</b>        | Length: 1000 mm; Width: 500 mm; Height: adjustable feet |                                                                                    |
| <b>Measurement Areas</b> | Left Hand, Right Hand, Flat Phantom                     |                                                                                    |

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

### <ELI Phantom>

|                        |                                                  |                                                                                     |
|------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Shell Thickness</b> | 2 ± 0.2 mm (sagging: <1%)                        |  |
| <b>Filling Volume</b>  | Approx. 30 liters                                |                                                                                     |
| <b>Dimensions</b>      | Major ellipse axis: 600 mm<br>Minor axis: 400 mm |                                                                                     |

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

## **7.5 Device Holder**

### **<Mounting Device for Hand-Held Transmitter>**

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

### **<Mounting Device for Laptops and other Body-Worn Transmitters>**

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops

## **8. Measurement Procedures**

The measurement procedures are as follows:

### **<Conducted power measurement>**

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- (b) Read the WWAN RF power level from the base station simulator.
- (c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
- (d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

### **<SAR measurement>**

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix D demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

### **8.1 Spatial Peak SAR Evaluation**

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

## **8.2 Power Reference Measurement**

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

## **8.3 Area Scan**

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

|                                                                                                        | $\leq 3$ GHz                                                                                                                                                                                                                                                           | $> 3$ GHz                                              |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | $5 \pm 1$ mm                                                                                                                                                                                                                                                           | $\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm     |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location              | $30^\circ \pm 1^\circ$                                                                                                                                                                                                                                                 | $20^\circ \pm 1^\circ$                                 |
| Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$                            | $\leq 2$ GHz: $\leq 15$ mm<br>$2 - 3$ GHz: $\leq 12$ mm                                                                                                                                                                                                                | $3 - 4$ GHz: $\leq 12$ mm<br>$4 - 6$ GHz: $\leq 10$ mm |
|                                                                                                        | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device. |                                                        |

### 8.4 Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

|                                                                                                                                                                                                                                                                                                             |                                           |                                                                                             | $\leq 3$ GHz                                         | $> 3$ GHz                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------|
| Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$                                                                                                                                                                                                                      |                                           |                                                                                             | $\leq 2$ GHz: $\leq 8$ mm<br>2 – 3 GHz: $\leq 5$ mm* | 3 – 4 GHz: $\leq 5$ mm*<br>4 – 6 GHz: $\leq 4$ mm*                            |
| Maximum zoom scan spatial resolution, normal to phantom surface                                                                                                                                                                                                                                             | uniform grid: $\Delta z_{\text{Zoom}}(n)$ |                                                                                             | $\leq 5$ mm                                          | 3 – 4 GHz: $\leq 4$ mm<br>4 – 5 GHz: $\leq 3$ mm<br>5 – 6 GHz: $\leq 2$ mm    |
|                                                                                                                                                                                                                                                                                                             | graded grid                               | $\Delta z_{\text{Zoom}}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface | $\leq 4$ mm                                          | 3 – 4 GHz: $\leq 3$ mm<br>4 – 5 GHz: $\leq 2.5$ mm<br>5 – 6 GHz: $\leq 2$ mm  |
|                                                                                                                                                                                                                                                                                                             |                                           | $\Delta z_{\text{Zoom}}(n>1)$ : between subsequent points                                   | $\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$         |                                                                               |
| Minimum zoom scan volume                                                                                                                                                                                                                                                                                    | x, y, z                                   |                                                                                             | $\geq 30$ mm                                         | 3 – 4 GHz: $\geq 28$ mm<br>4 – 5 GHz: $\geq 25$ mm<br>5 – 6 GHz: $\geq 22$ mm |
| Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.                                                                                                                                                           |                                           |                                                                                             |                                                      |                                                                               |
| * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. |                                           |                                                                                             |                                                      |                                                                               |

### 8.5 Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

### 8.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASYS measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

## 9. Test Equipment List

| Manufacturer  | Name of Equipment                            | Type/Model      | Serial Number | Calibration   |               |
|---------------|----------------------------------------------|-----------------|---------------|---------------|---------------|
|               |                                              |                 |               | Last Cal.     | Due Date      |
| SPEAG         | 750MHz System Validation Kit <sup>(2)</sup>  | D750V3          | 1107          | Mar. 08, 2019 | Mar. 06, 2021 |
| SPEAG         | 835MHz System Validation Kit                 | D835V2          | 4d167         | Nov. 25, 2019 | Nov. 24, 2020 |
| SPEAG         | 1750MHz System Validation Kit <sup>(2)</sup> | D1750V2         | 1112          | Mar. 07, 2019 | Mar. 05, 2021 |
| SPEAG         | 1900MHz System Validation Kit <sup>(2)</sup> | D1900V2         | 5d041         | Sep. 11, 2018 | Sep. 08, 2021 |
| SPEAG         | 2300MHz System Validation Kit <sup>(2)</sup> | D2300V2         | 1006          | Jan. 28, 2019 | Jan. 26, 2021 |
| SPEAG         | 2600MHz System Validation Kit <sup>(2)</sup> | D2600V2         | 1008          | Aug. 31, 2018 | Aug. 28, 2021 |
| SPEAG         | 3500MHz System Validation Kit <sup>(2)</sup> | D3500V2         | 1014          | Jan. 29, 2019 | Jan. 27, 2021 |
| SPEAG         | 3700MHz System Validation Kit <sup>(2)</sup> | D3700V2         | 1006          | Mar. 05, 2019 | Mar. 03, 2021 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 316           | Dec. 20, 2019 | Dec. 19, 2020 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 854           | May. 26, 2020 | May. 25, 2021 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 1311          | Aug. 25, 2020 | Aug. 24, 2021 |
| SPEAG         | Data Acquisition Electronics                 | DAE4            | 1399          | Feb. 18, 2020 | Feb. 17, 2021 |
| SPEAG         | Dosimetric E-Field Probe                     | ES3DV3          | 3124          | Dec. 18, 2019 | Dec. 17, 2020 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 3642          | Apr. 29, 2020 | Apr. 28, 2021 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 3753          | Jun. 25, 2020 | Jun. 24, 2021 |
| SPEAG         | Dosimetric E-Field Probe                     | EX3DV4          | 7306          | Jul. 24, 2020 | Jul. 23, 2021 |
| RCPTWN        | Thermometer                                  | HTC-1           | TM685-1       | Nov. 12, 2019 | Nov. 11, 2020 |
| RCPTWN        | Thermometer                                  | HTC-1           | TM560-2       | Nov. 12, 2019 | Nov. 11, 2020 |
| Anritsu       | Radio Communication Analyzer                 | MT8821C         | 6201341950    | Oct. 31, 2019 | Oct. 30, 2020 |
| Agilent       | Wireless Communication Test Set              | E5515C          | MY50267236    | Mar. 18, 2020 | Mar. 17, 2021 |
| SPEAG         | Device Holder                                | N/A             | N/A           | N/A           | N/A           |
| Anritsu       | Signal Generator                             | MG3710A         | 6201502524    | Nov. 20, 2019 | Nov. 19, 2020 |
| Agilent       | ENA Network Analyzer                         | E5071C          | MY46101588    | Jun. 10, 2020 | Jun. 09, 2021 |
| SPEAG         | Dielectric Probe Kit                         | DAK-3.5         | 1146          | Jul. 22, 2020 | Jul. 21, 2021 |
| LINE SEIKI    | Digital Thermometer                          | DTM3000-spezial | 3252          | Jun. 23, 2020 | Jun. 22, 2021 |
| Anritsu       | Power Meter                                  | ML2495A         | 1419002       | Aug. 19, 2020 | Aug. 18, 2021 |
| Anritsu       | Power Sensor                                 | MA2411B         | 1911176       | Aug. 18, 2020 | Aug. 17, 2021 |
| Anritsu       | Power Meter                                  | ML2495A         | 1240001       | Sep. 01, 2020 | Aug. 31, 2021 |
| Anritsu       | Power Sensor                                 | MA2411B         | 1207349       | Sep. 01, 2020 | Aug. 31, 2021 |
| Anritsu       | Spectrum Analyzer                            | MS2830A         | 6201396378    | Jun. 30, 2020 | Jun. 29, 2021 |
| Anritsu       | Spectrum Analyzer                            | N9010A          | MY53470118    | Mar. 12, 2020 | Mar. 11, 2021 |
| Mini-Circuits | Power Amplifier                              | ZHL-42W+        | 321501827     | Aug. 06, 2020 | Aug. 05, 2021 |
| Mini-Circuits | Power Amplifier                              | ZHL-42W+        | 715701915     | May. 07, 2020 | May. 06, 2021 |
| ATM           | Dual Directional Coupler                     | C122H-10        | P610410z-02   | Note 1        |               |
| Woken         | Attenuator 1                                 | WK0602-XX       | N/A           | Note 1        |               |
| PE            | Attenuator 2                                 | PE7005-10       | N/A           | Note 1        |               |
| PE            | Attenuator 3                                 | PE7005- 3       | N/A           | Note 1        |               |

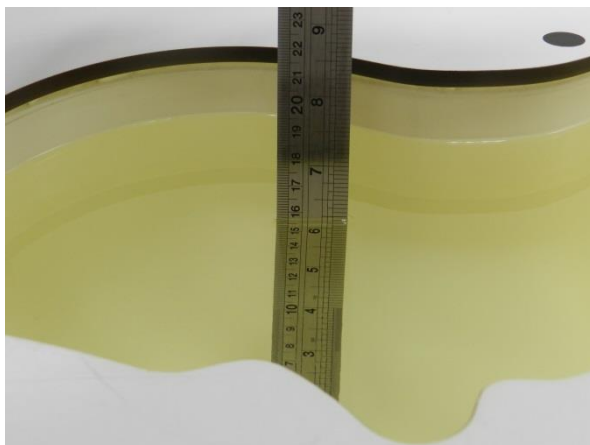
### General Note:

- Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
- The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

## **10. System Verification**

### **10.1 Tissue Simulating Liquids**

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.



**Fig 10.1**Photo of Liquid Height for Head SAR



**Fig 10.2** Photo of Liquid Height for Body SAR

## 10.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

| Frequency (MHz)  | Water (%) | Sugar (%) | Cellulose (%) | Salt (%) | Preventol (%) | DGBE (%) | Conductivity ( $\sigma$ ) | Permittivity ( $\epsilon_r$ ) |
|------------------|-----------|-----------|---------------|----------|---------------|----------|---------------------------|-------------------------------|
| 750              | 41.1      | 57.0      | 0.2           | 1.4      | 0.2           | 0        | 0.89                      | 41.9                          |
| 835              | 40.3      | 57.9      | 0.2           | 1.4      | 0.2           | 0        | 0.90                      | 41.5                          |
| 900              | 40.3      | 57.9      | 0.2           | 1.4      | 0.2           | 0        | 0.97                      | 41.5                          |
| 1800, 1900, 2000 | 55.2      | 0         | 0             | 0.3      | 0             | 44.5     | 1.40                      | 40.0                          |
| 2450             | 55.0      | 0         | 0             | 0        | 0             | 45.0     | 1.80                      | 39.2                          |
| 2600             | 54.8      | 0         | 0             | 0.1      | 0             | 45.1     | 1.96                      | 39.0                          |

### Simulating Liquid for 5GHz, Manufactured by SPEAG

| Ingredients        | (% by weight) |
|--------------------|---------------|
| Water              | 64~78%        |
| Mineral oil        | 11~18%        |
| Emulsifiers        | 9~15%         |
| Additives and Salt | 2~3%          |

### <Tissue Dielectric Parameter Check Results>

| Frequency (MHz) | Liquid Temp. (°C) | Conductivity ( $\sigma$ ) | Permittivity ( $\epsilon_r$ ) | Conductivity Target ( $\sigma$ ) | Permittivity Target ( $\epsilon_r$ ) | Delta ( $\sigma$ ) (%) | Delta ( $\epsilon_r$ ) (%) | Limit (%) | Date       |
|-----------------|-------------------|---------------------------|-------------------------------|----------------------------------|--------------------------------------|------------------------|----------------------------|-----------|------------|
| 750             | 22.2              | 0.881                     | 42.826                        | 0.89                             | 41.90                                | -1.01                  | 2.21                       | ±5        | 2020/10/13 |
| 750             | 22.2              | 0.878                     | 42.746                        | 0.89                             | 41.90                                | -1.35                  | 2.02                       | ±5        | 2020/10/20 |
| 835             | 22.2              | 0.914                     | 42.530                        | 0.90                             | 41.50                                | 1.56                   | 2.48                       | ±5        | 2020/10/13 |
| 835             | 22.2              | 0.910                     | 42.450                        | 0.90                             | 41.50                                | 1.11                   | 2.29                       | ±5        | 2020/10/16 |
| 1750            | 22.2              | 1.364                     | 40.866                        | 1.37                             | 40.10                                | -0.44                  | 1.91                       | ±5        | 2020/10/11 |
| 1750            | 22.2              | 1.354                     | 40.756                        | 1.37                             | 40.10                                | -1.17                  | 1.64                       | ±5        | 2020/10/17 |
| 1900            | 22.2              | 1.439                     | 39.113                        | 1.40                             | 40.00                                | 2.79                   | -2.22                      | ±5        | 2020/10/12 |
| 1900            | 22.2              | 1.422                     | 38.953                        | 1.40                             | 40.00                                | 1.57                   | -2.62                      | ±5        | 2020/10/18 |
| 2300            | 22.2              | 1.670                     | 39.653                        | 1.67                             | 39.50                                | 0.00                   | 0.39                       | ±5        | 2020/10/21 |
| 2600            | 22.2              | 2.002                     | 38.358                        | 1.96                             | 39.00                                | 2.14                   | -1.65                      | ±5        | 2020/10/14 |
| 2600            | 22.2              | 2.018                     | 38.468                        | 1.96                             | 39.00                                | 2.96                   | -1.36                      | ±5        | 2020/10/19 |
| 3500            | 22.2              | 2.984                     | 39.194                        | 2.91                             | 37.90                                | 2.54                   | 3.41                       | ±5        | 2020/10/15 |
| 3500            | 22.2              | 2.936                     | 37.527                        | 2.91                             | 37.90                                | 0.89                   | -0.98                      | ±5        | 2020/10/22 |
| 3700            | 22.2              | 3.142                     | 38.977                        | 3.12                             | 37.70                                | 0.71                   | 3.39                       | ±5        | 2020/10/15 |
| 3700            | 22.2              | 3.121                     | 37.228                        | 3.12                             | 37.70                                | 0.03                   | -1.25                      | ±5        | 2020/10/22 |

### 10.3 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

| Date       | Frequency (MHz) | Input Power (mW) | Dipole S/N    | Probe S/N       | DAE S/N     | Measured 1g SAR (W/kg) | Targeted 1g SAR (W/kg) | Normalized 1g SAR (W/kg) | Deviation (%) |
|------------|-----------------|------------------|---------------|-----------------|-------------|------------------------|------------------------|--------------------------|---------------|
| 2020/10/13 | 750             | 250              | D750V3-1107   | EX3DV4 - SN7306 | DAE4 Sn1399 | 2.19                   | 8.32                   | 8.76                     | 5.29          |
| 2020/10/20 | 750             | 250              | D750V3-1107   | EX3DV4 - SN7306 | DAE4 Sn1399 | 2.18                   | 8.32                   | 8.72                     | 4.81          |
| 2020/10/13 | 835             | 250              | D835V2-4d167  | EX3DV4 - SN7306 | DAE4 Sn1399 | 2.60                   | 9.55                   | 10.4                     | 8.90          |
| 2020/10/16 | 835             | 250              | D835V2-4d167  | EX3DV4 - SN7306 | DAE4 Sn1399 | 2.59                   | 9.55                   | 10.36                    | 8.48          |
| 2020/10/11 | 1750            | 250              | D1750V2-1112  | EX3DV4 - SN7306 | DAE4 Sn1399 | 9.96                   | 36.70                  | 39.84                    | 8.56          |
| 2020/10/17 | 1750            | 250              | D1750V2-1112  | EX3DV4 - SN7306 | DAE4 Sn1399 | 9.88                   | 36.70                  | 39.52                    | 7.68          |
| 2020/10/12 | 1900            | 250              | D1900V2-5d041 | EX3DV4 - SN7306 | DAE4 Sn1399 | 10.60                  | 40.20                  | 42.4                     | 5.47          |
| 2020/10/18 | 1900            | 250              | D1900V2-5d041 | EX3DV4 - SN7306 | DAE4 Sn1399 | 10.50                  | 40.20                  | 42                       | 4.48          |
| 2020/10/21 | 2300            | 250              | D2300V2-1006  | ES3DV3 - SN3124 | DAE4 Sn316  | 12.60                  | 48.70                  | 50.4                     | 3.49          |
| 2020/10/14 | 2600            | 250              | D2600V2-1008  | EX3DV4 - SN7306 | DAE4 Sn1399 | 15.10                  | 56.40                  | 60.4                     | 7.09          |
| 2020/10/19 | 2600            | 250              | D2600V2-1008  | EX3DV4 - SN7306 | DAE4 Sn1399 | 15.20                  | 56.40                  | 60.8                     | 7.80          |
| 2020/10/15 | 3500            | 100              | D3500V2-1014  | EX3DV4 - SN3753 | DAE4 Sn854  | 6.51                   | 67.90                  | 65.1                     | -4.12         |
| 2020/10/22 | 3500            | 100              | D3500V2-1014  | EX3DV4 - SN3642 | DAE4 Sn1311 | 6.48                   | 67.90                  | 64.8                     | -4.57         |
| 2020/10/15 | 3700            | 100              | D3700V2-1006  | EX3DV4 - SN3753 | DAE4 Sn854  | 6.73                   | 67.30                  | 67.3                     | 0.00          |
| 2020/10/22 | 3700            | 100              | D3700V2-1006  | EX3DV4 - SN3642 | DAE4 Sn1311 | 6.38                   | 67.30                  | 63.8                     | -5.20         |

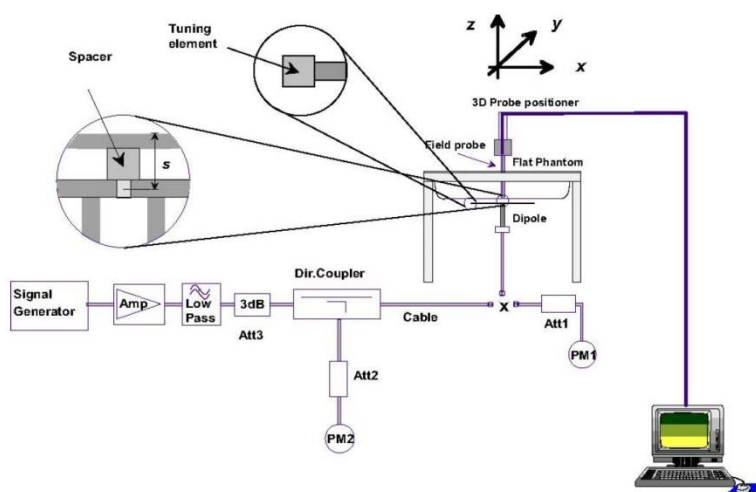


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

## 11. RF Exposure Positions

### 11.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR exclusion threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

## **12. UMTS/LTE Output Power (Unit: dBm)**

### **<WCDMA Conducted Power>**

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

### **HSDPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each
  - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
  - iii. Set RMC 12.2Kbps + HSDPA mode.
  - iv. Set Cell Power = -86 dBm
  - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
  - vi. Select HSDPA Uplink Parameters
  - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
  - viii. Set Ack-Nack Repetition Factor to 3
  - ix. Set CQI Feedback Cycle (k) to 4 ms
  - x. Set CQI Repetition Factor to 2
  - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

**Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

| Sub-test | $\beta_c$         | $\beta_d$         | $\beta_d$<br>(SF) | $\beta_c/\beta_d$ | $\beta_{hs}$<br>(Note 1,<br>Note 2) | CM (dB)<br>(Note 3) | MPR (dB)<br>(Note 3) |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------------------------|---------------------|----------------------|
| 1        | 2/15              | 15/15             | 64                | 2/15              | 4/15                                | 0.0                 | 0.0                  |
| 2        | 12/15<br>(Note 4) | 15/15<br>(Note 4) | 64                | 12/15<br>(Note 4) | 24/15                               | 1.0                 | 0.0                  |
| 3        | 15/15             | 8/15              | 64                | 15/8              | 30/15                               | 1.5                 | 0.5                  |
| 4        | 15/15             | 4/15              | 64                | 15/4              | 30/15                               | 1.5                 | 0.5                  |

**Note 1:**  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ .

**Note 2:** For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA,  $\Delta_{ACK}$  and  $\Delta_{NACK} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ , and  $\Delta_{CQI} = 24/15$  with  $\beta_{hs} = 24/15 * \beta_c$ .

**Note 3:** CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

**Note 4:** For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

### **Setup Configuration**

**HSUPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting \* :
  - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
  - ii. Set the Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
  - iii. Set Cell Power = -86 dBm
  - iv. Set Channel Type = 12.2k + HSPA
  - v. Set UE Target Power
  - vi. Power Ctrl Mode= Alternating bits
  - vii. Set and observe the E-TFCI
  - viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

**Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH**

| Sub-test | $\beta_c$      | $\beta_d$      | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{HS}$ (Note 1) | $\beta_{ec}$ | $\beta_{ed}$ (Note 4) (Note 5)               | $\beta_{ed}$ (SF) | $\beta_{ed}$ (Codes) | CM (dB) (Note 2) | MPR (dB) (Note 2) (Note 6) | AG Index (Note 5) | E-TFCI |
|----------|----------------|----------------|----------------|-------------------|-----------------------|--------------|----------------------------------------------|-------------------|----------------------|------------------|----------------------------|-------------------|--------|
| 1        | 11/15 (Note 3) | 15/15 (Note 3) | 64             | 11/15 (Note 3)    | 22/15                 | 209/25       | 1309/225                                     | 4                 | 1                    | 1.0              | 0.0                        | 20                | 75     |
| 2        | 6/15           | 15/15          | 64             | 6/15              | 12/15                 | 12/15        | 94/75                                        | 4                 | 1                    | 3.0              | 2.0                        | 12                | 67     |
| 3        | 15/15          | 9/15           | 64             | 15/9              | 30/15                 | 30/15        | $\beta_{ed1}: 47/15$<br>$\beta_{ed2}: 47/15$ | 4                 | 2                    | 2.0              | 1.0                        | 15                | 92     |
| 4        | 2/15           | 15/15          | 64             | 2/15              | 4/15                  | 2/15         | 56/75                                        | 4                 | 1                    | 3.0              | 2.0                        | 17                | 71     |
| 5        | 15/15          | 0              | -              | -                 | 5/15                  | 5/15         | 47/15                                        | 4                 | 1                    | 1.0              | 0.0                        | 12                | 67     |

Note 1: For sub-test 1 to 4,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ . For sub-test 5,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 5/15$  with  $\beta_{hs} = 5/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_d/\beta_c = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

**Setup Configuration**

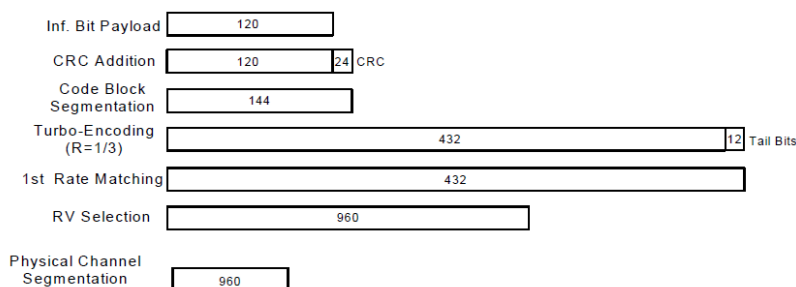
**DC-HSDPA 3GPP release 8 Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set RMC 12.2Kbps + HSDPA mode.
  - ii. Set Cell Power = -25 dBm
  - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
  - iv. Select HSDPA Uplink Parameters
  - v. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
    - a). Subtest 1:  $\beta_c/\beta_d=2/15$
    - b). Subtest 2:  $\beta_c/\beta_d=12/15$
    - c). Subtest 3:  $\beta_c/\beta_d=15/8$
    - d). Subtest 4:  $\beta_c/\beta_d=15/4$
  - vi. Set Delta ACK, Delta NACK and Delta CQI = 8
  - vii. Set Ack-Nack Repetition Factor to 3
  - viii. Set CQI Feedback Cycle (k) to 4 ms
  - ix. Set CQI Repetition Cycle to 2
  - x. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

**C.8.1.12 Fixed Reference Channel Definition H-Set 12**
**Table C.8.1.12: Fixed Reference Channel H-Set 12**

| Parameter                                                                                                                                              | Unit      | Value |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|
| Nominal Avg. Inf. Bit Rate                                                                                                                             | kbps      | 60    |
| Inter-TTI Distance                                                                                                                                     | TTI's     | 1     |
| Number of HARQ Processes                                                                                                                               | Processes | 6     |
| Information Bit Payload ( $N_{INF}$ )                                                                                                                  | Bits      | 120   |
| Number Code Blocks                                                                                                                                     | Blocks    | 1     |
| Binary Channel Bits Per TTI                                                                                                                            | Bits      | 960   |
| Total Available SML's in UE                                                                                                                            | SML's     | 19200 |
| Number of SML's per HARQ Proc.                                                                                                                         | SML's     | 3200  |
| Coding Rate                                                                                                                                            |           | 0.15  |
| Number of Physical Channel Codes                                                                                                                       | Codes     | 1     |
| Modulation                                                                                                                                             |           | QPSK  |
| Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.               |           |       |
| Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used. |           |       |


**Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)**
**Setup Configuration**

**HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting \* :
  - i. Call Configs = 5.2E:HSPA+:UL with 16QAM
  - ii. Set the Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.4, quoted from the TS 34.121-1 s5.2E
  - iii. Set Channel Parms
  - iv. Set Cell Power = -86 dBm
  - v. Set Channel Type = HSPA
  - vi. Set UE Target Power =21 dBm
  - vii. Power Ctrl Mode= All Up Bits
  - viii. Set Manual Uplink DPCH Bc/Bd = Manual
  - ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
  - x. Set HSPA Conn DL Channel Levels
  - xi. Set HS-SCCH Configs
  - xii. Set RB Test Mode Setup
  - xiii. Set Common HSUPA Parameters
  - xiv. Set Serving Grant
  - xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

**Table C.11.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM**

| Sub-test | $\beta_c$<br>(Note 3) | $\beta_d$ | $\beta_{HS}$<br>(Note 1) | $\beta_{ec}$ | $\beta_{ed}$<br>(2xSF2)<br>(Note 4)            | $\beta_{ed}$<br>(2xSF4)<br>(Note 4)            | CM<br>(dB)<br>(Note 2) | MPR<br>(dB)<br>(Note 2) | AG<br>Index<br>(Note 4) | E-TFCI<br>(Note 5) | E-TFCI<br>(boost) |
|----------|-----------------------|-----------|--------------------------|--------------|------------------------------------------------|------------------------------------------------|------------------------|-------------------------|-------------------------|--------------------|-------------------|
| 1        | 1                     | 0         | 30/15                    | 30/15        | $\beta_{ed1}$ : 30/15<br>$\beta_{ed2}$ : 30/15 | $\beta_{ed3}$ : 24/15<br>$\beta_{ed4}$ : 24/15 | 3.5                    | 2.5                     | 14                      | 105                | 105               |

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ .

Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).

Note 3: DPDCH is not configured, therefore the  $\beta_c$  is set to 1 and  $\beta_d = 0$  by default.

Note 4:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

**Setup Configuration**

**<WCDMA Conducted Power>**
**General Note:**

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

**Default Power Mode**

| Band            |                         | WCDMA II |       |        | Tune-up Limit (dBm) | WCDMA IV |        |        | Tune-up Limit (dBm) | WCDMA V |       |       | Tune-up Limit (dBm) |
|-----------------|-------------------------|----------|-------|--------|---------------------|----------|--------|--------|---------------------|---------|-------|-------|---------------------|
| TX Channel      |                         | 9262     | 9400  | 9538   |                     | 1312     | 1413   | 1513   |                     | 4132    | 4182  | 4233  |                     |
| Rx Channel      |                         | 9662     | 9800  | 9938   |                     | 1537     | 1638   | 1738   |                     | 4357    | 4407  | 4458  |                     |
| Frequency (MHz) |                         | 1852.4   | 1880  | 1907.6 |                     | 1712.4   | 1732.6 | 1752.6 |                     | 826.4   | 836.4 | 846.6 |                     |
| 3GPP Rel 99     | RMC 12.2Kbps            | 24.02    | 23.94 | 23.87  | 24.50               | 23.85    | 23.92  | 23.90  | 24.50               | 24.15   | 24.22 | 24.17 | 24.50               |
| 3GPP Rel 6      | HSDPA Subtest-1         | 23.39    | 23.33 | 23.33  | 23.50               | 23.28    | 23.01  | 22.92  | 23.50               | 22.92   | 23.10 | 23.22 | 23.50               |
| 3GPP Rel 6      | HSDPA Subtest-2         | 23.08    | 23.00 | 23.01  | 23.50               | 23.28    | 23.03  | 22.96  | 23.50               | 22.38   | 22.66 | 22.65 | 23.50               |
| 3GPP Rel 6      | HSDPA Subtest-3         | 22.59    | 22.50 | 22.62  | 23.00               | 23.00    | 22.80  | 22.86  | 23.00               | 22.39   | 22.55 | 22.65 | 23.00               |
| 3GPP Rel 6      | HSDPA Subtest-4         | 22.67    | 22.62 | 22.38  | 23.00               | 22.86    | 22.76  | 22.87  | 23.00               | 22.53   | 22.59 | 22.64 | 23.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-1      | 22.82    | 22.85 | 22.69  | 23.50               | 22.89    | 22.78  | 22.83  | 23.50               | 22.93   | 23.14 | 23.22 | 23.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-2      | 22.99    | 22.85 | 22.76  | 23.50               | 23.07    | 22.68  | 22.86  | 23.50               | 22.45   | 22.68 | 22.67 | 23.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-3      | 22.39    | 22.32 | 22.31  | 23.00               | 22.48    | 22.20  | 22.23  | 23.00               | 22.33   | 22.70 | 22.71 | 23.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-4      | 22.48    | 22.40 | 22.38  | 23.00               | 22.78    | 22.77  | 22.84  | 23.00               | 21.98   | 22.08 | 22.68 | 23.00               |
| 3GPP Rel 6      | HSUPA Subtest-1         | 21.92    | 21.86 | 21.82  | 23.50               | 21.66    | 21.61  | 21.60  | 23.50               | 22.50   | 22.57 | 22.75 | 23.50               |
| 3GPP Rel 6      | HSUPA Subtest-2         | 21.50    | 21.08 | 21.09  | 21.50               | 20.54    | 20.28  | 20.41  | 21.50               | 21.11   | 21.31 | 21.37 | 21.50               |
| 3GPP Rel 6      | HSUPA Subtest-3         | 21.47    | 21.44 | 21.34  | 22.50               | 21.12    | 20.84  | 20.88  | 22.50               | 21.95   | 22.09 | 22.20 | 22.50               |
| 3GPP Rel 6      | HSUPA Subtest-4         | 21.24    | 21.09 | 21.03  | 21.50               | 20.70    | 20.46  | 20.40  | 21.50               | 21.04   | 21.20 | 21.39 | 21.50               |
| 3GPP Rel 6      | HSUPA Subtest-5         | 22.46    | 22.32 | 22.14  | 23.50               | 21.75    | 21.56  | 21.55  | 23.50               | 22.74   | 22.88 | 22.86 | 23.50               |
| 3GPP Rel 7      | HSPA+ (16QAM) Subtest-1 | 20.37    | 20.11 | 20.02  | 21.00               | 20.22    | 20.00  | 19.87  | 21.00               | 20.51   | 20.65 | 20.60 | 21.00               |

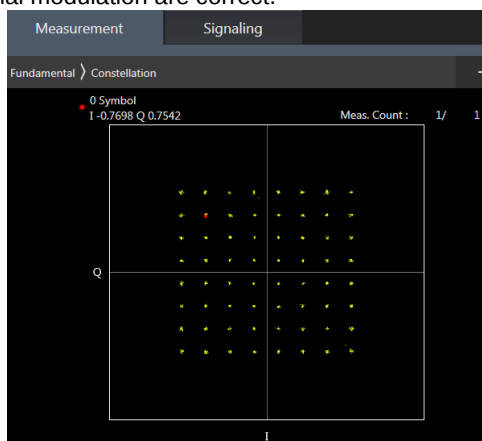
**Reduced Power Mode**

| Band            |                    | WCDMA II |       |        | Tune-up Limit (dBm) | WCDMA IV |        |        | Tune-up Limit (dBm) | WCDMA V |       |       | Tune-up Limit (dBm) |
|-----------------|--------------------|----------|-------|--------|---------------------|----------|--------|--------|---------------------|---------|-------|-------|---------------------|
| TX Channel      |                    | 9262     | 9400  | 9538   |                     | 1312     | 1413   | 1513   |                     | 4132    | 4182  | 4233  |                     |
| Rx Channel      |                    | 9662     | 9800  | 9938   |                     | 1537     | 1638   | 1738   |                     | 4357    | 4407  | 4458  |                     |
| Frequency (MHz) |                    | 1852.4   | 1880  | 1907.6 |                     | 1712.4   | 1732.6 | 1752.6 |                     | 826.4   | 836.4 | 846.6 |                     |
| 3GPP Rel 99     | RMC 12.2Kbps       | 15.07    | 15.22 | 15.31  | 16.00               | 16.47    | 16.50  | 16.48  | 17.00               | 20.15   | 20.21 | 20.20 | 20.50               |
| 3GPP Rel 6      | HSDPA Subtest-1    | 14.32    | 14.31 | 14.30  | 15.00               | 15.40    | 15.47  | 15.47  | 16.00               | 19.13   | 19.25 | 19.18 | 19.50               |
| 3GPP Rel 6      | HSDPA Subtest-2    | 14.40    | 14.29 | 14.26  | 15.00               | 15.40    | 15.47  | 15.46  | 16.00               | 19.16   | 19.25 | 19.20 | 19.50               |
| 3GPP Rel 6      | HSDPA Subtest-3    | 13.84    | 13.82 | 13.42  | 14.50               | 14.91    | 15.04  | 14.95  | 15.50               | 18.65   | 18.72 | 18.70 | 19.00               |
| 3GPP Rel 6      | HSDPA Subtest-4    | 13.86    | 13.79 | 13.76  | 14.50               | 14.95    | 14.94  | 14.94  | 15.50               | 18.62   | 18.75 | 18.69 | 19.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-1 | 14.31    | 14.33 | 14.21  | 15.00               | 15.46    | 15.47  | 15.56  | 16.00               | 19.07   | 19.26 | 19.24 | 19.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-2 | 14.36    | 14.20 | 14.27  | 15.00               | 15.34    | 15.52  | 15.39  | 16.00               | 19.24   | 19.26 | 19.27 | 19.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-3 | 13.94    | 13.92 | 13.39  | 14.50               | 14.83    | 15.05  | 14.93  | 15.50               | 18.64   | 18.77 | 18.71 | 19.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-4 | 13.88    | 13.74 | 13.77  | 14.50               | 14.94    | 14.99  | 14.96  | 15.50               | 18.55   | 18.70 | 18.79 | 19.00               |
| 3GPP Rel 6      | HSUPA Subtest-1    | 14.15    | 14.01 | 14.05  | 15.00               | 15.58    | 15.67  | 15.41  | 16.00               | 19.13   | 19.21 | 19.17 | 19.50               |
| 3GPP Rel 6      | HSUPA Subtest-2    | 12.05    | 12.27 | 12.25  | 13.00               | 13.37    | 13.45  | 13.18  | 14.00               | 17.14   | 17.18 | 17.19 | 17.50               |
| 3GPP Rel 6      | HSUPA Subtest-3    | 13.06    | 13.18 | 13.31  | 14.00               | 14.40    | 14.39  | 14.25  | 15.00               | 18.18   | 18.21 | 18.19 | 18.50               |
| 3GPP Rel 6      | HSUPA Subtest-4    | 12.10    | 12.03 | 11.97  | 13.00               | 13.06    | 13.13  | 13.17  | 14.00               | 17.19   | 17.21 | 17.17 | 17.50               |
| 3GPP Rel 6      | HSUPA Subtest-5    | 14.10    | 14.00 | 14.00  | 15.00               | 15.10    | 15.10  | 15.20  | 16.00               | 19.10   | 19.20 | 19.10 | 19.50               |

## <LTE Conducted Power>

### General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2/4/17/38 SAR test was covered by Band 25/66/12/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - a. the maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion
  - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



**64QAM**



**16QAM**

**Default Power Mode**
**<LTE Band 2 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 18700                 | 18900                    | 19100                  |                     |          |
| Frequency (MHz) |            |         |           | 1860                  | 1880                     | 1900                   |                     |          |
| 20              | QPSK       | 1       | 0         | 23.39                 | 23.41                    | 23.58                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 23.51                 | 23.31                    | 23.28                  |                     |          |
| 20              | QPSK       | 1       | 99        | 23.39                 | 23.27                    | 23.26                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.69                 | 22.44                    | 22.46                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 22.67                 | 22.55                    | 22.58                  |                     |          |
| 20              | QPSK       | 50      | 50        | 22.63                 | 22.49                    | 22.57                  |                     |          |
| 20              | QPSK       | 100     | 0         | 22.71                 | 22.49                    | 22.56                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 0         | 22.95                 | 22.69                    | 22.87                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 22.84                 | 22.68                    | 22.73                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 22.69                 | 22.65                    | 22.64                  | 22                  | 2        |
| 20              | 16QAM      | 50      | 0         | 21.71                 | 21.45                    | 21.54                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 21.68                 | 21.55                    | 21.61                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.66                 | 21.53                    | 21.57                  | 22                  | 2        |
| 20              | 16QAM      | 100     | 0         | 21.66                 | 21.50                    | 21.59                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 21.76                 | 21.59                    | 21.68                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 21.71                 | 21.63                    | 21.68                  | 22                  | 2        |
| 20              | 64QAM      | 1       | 99        | 21.70                 | 21.55                    | 21.65                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 20.71                 | 20.48                    | 20.55                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 20.71                 | 20.58                    | 20.65                  | 21                  | 3        |
| 20              | 64QAM      | 50      | 50        | 20.64                 | 20.54                    | 20.60                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 20.69                 | 20.53                    | 20.60                  |                     |          |
| Channel         |            |         |           | 18675                 | 18900                    | 19125                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1857.5                | 1880                     | 1902.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 23.49                 | 23.38                    | 23.36                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 23.49                 | 23.21                    | 23.19                  |                     |          |
| 15              | QPSK       | 1       | 74        | 23.34                 | 23.24                    | 23.26                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.62                 | 22.34                    | 22.45                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 22.61                 | 22.53                    | 22.53                  |                     |          |
| 15              | QPSK       | 36      | 39        | 22.56                 | 22.48                    | 22.57                  |                     |          |
| 15              | QPSK       | 75      | 0         | 22.67                 | 22.42                    | 22.50                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 22.91                 | 22.67                    | 22.80                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 22.74                 | 22.58                    | 22.64                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.59                 | 22.65                    | 22.62                  | 22                  | 2        |
| 15              | 16QAM      | 36      | 0         | 21.70                 | 21.44                    | 21.48                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 21.68                 | 21.53                    | 21.60                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.65                 | 21.44                    | 21.56                  | 22                  | 2        |
| 15              | 16QAM      | 75      | 0         | 21.60                 | 21.44                    | 21.58                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 21.66                 | 21.55                    | 21.66                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 21.65                 | 21.53                    | 21.67                  | 22                  | 2        |
| 15              | 64QAM      | 1       | 74        | 21.64                 | 21.46                    | 21.58                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 20.70                 | 20.45                    | 20.45                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 20.62                 | 20.58                    | 20.60                  | 21                  | 3        |
| 15              | 64QAM      | 36      | 39        | 20.63                 | 20.45                    | 20.51                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 20.61                 | 20.53                    | 20.52                  |                     |          |
| Channel         |            |         |           | 18650                 | 18900                    | 19150                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1855                  | 1880                     | 1905                   |                     |          |
| 10              | QPSK       | 1       | 0         | 23.55                 | 23.41                    | 23.36                  | 24                  | 0        |
| 10              | QPSK       | 1       | 25        | 23.51                 | 23.30                    | 23.24                  |                     |          |
| 10              | QPSK       | 1       | 49        | 23.38                 | 23.21                    | 23.16                  |                     |          |
| 10              | QPSK       | 25      | 0         | 22.61                 | 22.36                    | 22.39                  | 23                  | 1        |



# FCC SAR TEST REPORT

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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 12 | 22.66  | 22.53 | 22.55  |                        |             |
| 10              | QPSK  | 25 | 25 | 22.60  | 22.49 | 22.51  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.61  | 22.45 | 22.48  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.89  | 22.62 | 22.85  | 23                     | 1           |
| 10              | 16QAM | 1  | 25 | 22.77  | 22.66 | 22.68  |                        |             |
| 10              | 16QAM | 1  | 49 | 22.65  | 22.62 | 22.54  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.67  | 21.38 | 21.54  | 22                     | 2           |
| 10              | 16QAM | 25 | 12 | 21.62  | 21.45 | 21.56  |                        |             |
| 10              | 16QAM | 25 | 25 | 21.64  | 21.52 | 21.49  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.56  | 21.46 | 21.51  | 22                     | 2           |
| 10              | 64QAM | 1  | 0  | 21.68  | 21.57 | 21.62  |                        |             |
| 10              | 64QAM | 1  | 25 | 21.69  | 21.60 | 21.67  |                        |             |
| 10              | 64QAM | 1  | 49 | 21.64  | 21.55 | 21.56  | 21                     | 3           |
| 10              | 64QAM | 25 | 0  | 20.61  | 20.41 | 20.47  |                        |             |
| 10              | 64QAM | 25 | 12 | 20.70  | 20.50 | 20.56  |                        |             |
| 10              | 64QAM | 25 | 25 | 20.64  | 20.50 | 20.60  |                        |             |
| 10              | 64QAM | 50 | 0  | 20.61  | 20.52 | 20.51  |                        |             |
| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 23.52  | 23.36 | 23.30  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.49  | 23.25 | 23.25  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.33  | 23.17 | 23.18  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.67  | 22.35 | 22.39  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.67  | 22.46 | 22.50  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.63  | 22.41 | 22.49  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.70  | 22.42 | 22.52  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.86  | 22.64 | 22.82  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.75  | 22.62 | 22.67  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.59  | 22.64 | 22.56  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 21.66  | 21.40 | 21.45  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.58  | 21.52 | 21.59  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.66  | 21.45 | 21.47  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 21.59  | 21.43 | 21.52  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.74  | 21.59 | 21.60  |                        |             |
| 5               | 64QAM | 1  | 12 | 21.65  | 21.54 | 21.68  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 21.66  | 21.50 | 21.63  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.62  | 20.46 | 20.48  |                        |             |
| 5               | 64QAM | 12 | 7  | 20.63  | 20.57 | 20.56  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 20.62  | 20.47 | 20.56  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.69  | 20.49 | 20.53  |                        |             |
| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 23.55  | 23.32 | 23.37  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.49  | 23.21 | 23.18  |                        |             |
| 3               | QPSK  | 1  | 14 | 23.33  | 23.20 | 23.19  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.67  | 22.37 | 22.38  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 22.60  | 22.46 | 22.57  |                        |             |
| 3               | QPSK  | 8  | 7  | 22.62  | 22.49 | 22.48  |                        |             |
| 3               | QPSK  | 15 | 0  | 22.65  | 22.49 | 22.49  | 23                     | 1           |
| 3               | 16QAM | 1  | 0  | 22.91  | 22.69 | 22.81  |                        |             |
| 3               | 16QAM | 1  | 8  | 22.77  | 22.60 | 22.64  |                        |             |
| 3               | 16QAM | 1  | 14 | 22.60  | 22.58 | 22.58  | 22                     | 2           |
| 3               | 16QAM | 8  | 0  | 21.66  | 21.39 | 21.54  |                        |             |
| 3               | 16QAM | 8  | 4  | 21.68  | 21.49 | 21.61  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.62  | 21.46 | 21.54  |                        |             |
| 3               | 16QAM | 15 | 0  | 21.61  | 21.47 | 21.50  |                        |             |



# FCC SAR TEST REPORT

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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 0  | 21.66  | 21.56 | 21.62  | 22                     | 2           |
| 3               | 64QAM | 1  | 8  | 21.64  | 21.60 | 21.58  |                        |             |
| 3               | 64QAM | 1  | 14 | 21.67  | 21.52 | 21.65  |                        |             |
| 3               | 64QAM | 8  | 0  | 20.71  | 20.41 | 20.46  | 21                     | 3           |
| 3               | 64QAM | 8  | 4  | 20.65  | 20.56 | 20.60  |                        |             |
| 3               | 64QAM | 8  | 7  | 20.56  | 20.50 | 20.56  |                        |             |
| 3               | 64QAM | 15 | 0  | 20.61  | 20.43 | 20.52  |                        |             |
| Channel         |       |    |    | 18607  | 18900 | 19193  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1909.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 23.53  | 23.33 | 23.34  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.41  | 23.26 | 23.18  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.37  | 23.23 | 23.22  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.51  | 23.32 | 23.34  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.50  | 23.28 | 23.28  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.36  | 23.18 | 23.22  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.64  | 22.40 | 22.55  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.89  | 22.61 | 22.85  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.84  | 22.59 | 22.64  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.63  | 22.59 | 22.58  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 22.94  | 22.66 | 22.79  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.84  | 22.67 | 22.67  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 22.63  | 22.59 | 22.58  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.64  | 21.43 | 21.51  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 0  | 21.67  | 21.55 | 21.66  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 3  | 21.71  | 21.58 | 21.68  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 21.67  | 21.55 | 21.55  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.69  | 21.58 | 21.58  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.62  | 21.54 | 21.64  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.61  | 21.53 | 21.64  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 20.63  | 20.45 | 20.51  | 21                     | 3           |

**<LTE Band 2 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 18700                    | 18900                       | 19100                     |                        |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                        |             |
| 20              | QPSK       | 1       | 0         | 22.70                    | 22.55                       | 22.74                     | 24                     | 0           |
| 20              | QPSK       | 1       | 49        | 22.50                    | 22.47                       | 22.52                     |                        |             |
| 20              | QPSK       | 1       | 99        | 22.44                    | 22.50                       | 22.50                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.54                    | 22.46                       | 22.56                     | 23                     | 1           |
| 20              | QPSK       | 50      | 24        | 21.96                    | 22.04                       | 21.97                     |                        |             |
| 20              | QPSK       | 50      | 50        | 22.01                    | 22.02                       | 21.94                     |                        |             |
| 20              | QPSK       | 100     | 0         | 21.95                    | 22.04                       | 22.05                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 0         | 21.96                    | 22.06                       | 22.04                     |                        |             |
| 20              | 16QAM      | 1       | 49        | 22.11                    | 22.12                       | 22.08                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 21.96                    | 22.04                       | 22.00                     | 22                     | 2           |
| 20              | 16QAM      | 50      | 0         | 20.87                    | 20.96                       | 20.88                     |                        |             |
| 20              | 16QAM      | 50      | 24        | 21.03                    | 21.06                       | 21.04                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 20.95                    | 21.03                       | 20.93                     | 22                     | 2           |
| 20              | 16QAM      | 100     | 0         | 20.97                    | 20.98                       | 20.90                     |                        |             |
| 20              | 64QAM      | 1       | 0         | 20.48                    | 20.49                       | 20.42                     | 22                     | 2           |
| 20              | 64QAM      | 1       | 49        | 20.56                    | 20.63                       | 20.56                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 20.96                    | 20.98                       | 20.90                     |                        |             |
| 20              | 64QAM      | 50      | 0         | 19.88                    | 19.89                       | 19.82                     | 21                     | 3           |
| 20              | 64QAM      | 50      | 24        | 19.96                    | 20.00                       | 19.90                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 19.95                    | 19.98                       | 19.95                     |                        |             |
| 20              | 64QAM      | 100     | 0         | 19.96                    | 19.99                       | 19.95                     |                        |             |
| Channel         |            |         |           | 18675                    | 18900                       | 19125                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1902.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 22.63                    | 22.70                       | 22.52                     | 24                     | 0           |
| 15              | QPSK       | 1       | 37        | 22.50                    | 22.56                       | 22.48                     |                        |             |
| 15              | QPSK       | 1       | 74        | 22.35                    | 22.43                       | 22.50                     |                        |             |
| 15              | QPSK       | 36      | 0         | 22.51                    | 22.46                       | 22.41                     | 23                     | 1           |
| 15              | QPSK       | 36      | 20        | 21.95                    | 22.00                       | 21.89                     |                        |             |
| 15              | QPSK       | 36      | 39        | 21.96                    | 21.98                       | 21.85                     |                        |             |
| 15              | QPSK       | 75      | 0         | 21.94                    | 21.99                       | 21.95                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 0         | 21.87                    | 22.01                       | 21.99                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 22.07                    | 22.04                       | 22.08                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 21.86                    | 22.02                       | 21.96                     | 22                     | 2           |
| 15              | 16QAM      | 36      | 0         | 20.84                    | 20.91                       | 20.86                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 21.01                    | 21.01                       | 21.01                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 20.92                    | 21.01                       | 20.89                     | 22                     | 2           |
| 15              | 16QAM      | 75      | 0         | 20.93                    | 20.95                       | 20.83                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 20.41                    | 20.42                       | 20.42                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 20.50                    | 20.57                       | 20.55                     | 22                     | 2           |
| 15              | 64QAM      | 1       | 74        | 20.96                    | 20.89                       | 20.82                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 19.80                    | 19.86                       | 19.75                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 19.89                    | 19.98                       | 19.90                     | 21                     | 3           |
| 15              | 64QAM      | 36      | 39        | 19.87                    | 19.91                       | 19.95                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 19.96                    | 19.95                       | 19.86                     |                        |             |
| Channel         |            |         |           | 18650                    | 18900                       | 19150                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1855                     | 1880                        | 1905                      |                        |             |
| 10              | QPSK       | 1       | 0         | 22.66                    | 22.66                       | 22.45                     | 24                     | 0           |
| 10              | QPSK       | 1       | 25        | 22.46                    | 22.56                       | 22.48                     |                        |             |
| 10              | QPSK       | 1       | 49        | 22.42                    | 22.43                       | 22.47                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.54                    | 22.48                       | 22.37                     | 23                     | 1           |
| 10              | QPSK       | 25      | 12        | 21.90                    | 21.99                       | 21.94                     |                        |             |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 21.93  | 22.02 | 21.94  |                        |             |
| 10              | QPSK  | 50 | 0  | 21.90  | 22.00 | 21.92  |                        |             |
| 10              | 16QAM | 1  | 0  | 21.88  | 22.00 | 22.04  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.08  | 22.02 | 22.04  | 23                     | 1           |
| 10              | 16QAM | 1  | 49 | 21.92  | 22.00 | 21.93  |                        |             |
| 10              | 16QAM | 25 | 0  | 20.83  | 20.86 | 20.79  |                        |             |
| 10              | 16QAM | 25 | 12 | 20.98  | 21.02 | 20.99  | 22                     | 2           |
| 10              | 16QAM | 25 | 25 | 20.91  | 20.96 | 20.83  |                        |             |
| 10              | 16QAM | 50 | 0  | 20.90  | 20.91 | 20.87  |                        |             |
| 10              | 64QAM | 1  | 0  | 20.48  | 20.48 | 20.41  | 22                     | 2           |
| 10              | 64QAM | 1  | 25 | 20.56  | 20.57 | 20.56  |                        |             |
| 10              | 64QAM | 1  | 49 | 20.87  | 20.90 | 20.85  |                        |             |
| 10              | 64QAM | 25 | 0  | 19.83  | 19.81 | 19.72  | 21                     | 3           |
| 10              | 64QAM | 25 | 12 | 19.92  | 19.93 | 19.89  |                        |             |
| 10              | 64QAM | 25 | 25 | 19.87  | 19.92 | 19.89  |                        |             |
| 10              | 64QAM | 50 | 0  | 19.88  | 19.94 | 19.92  |                        |             |
| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 22.64  | 22.65 | 22.55  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 22.43  | 22.55 | 22.49  |                        |             |
| 5               | QPSK  | 1  | 24 | 22.36  | 22.43 | 22.48  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.44  | 22.46 | 22.44  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 21.94  | 22.02 | 21.97  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.01  | 22.00 | 21.93  |                        |             |
| 5               | QPSK  | 25 | 0  | 21.91  | 21.98 | 21.93  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 21.91  | 22.06 | 21.97  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.10  | 22.04 | 22.06  |                        |             |
| 5               | 16QAM | 1  | 24 | 21.89  | 21.99 | 21.96  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 20.77  | 20.89 | 20.82  |                        |             |
| 5               | 16QAM | 12 | 7  | 20.96  | 20.96 | 20.97  |                        |             |
| 5               | 16QAM | 12 | 13 | 20.94  | 21.00 | 20.84  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 20.87  | 20.92 | 20.84  |                        |             |
| 5               | 64QAM | 1  | 0  | 20.38  | 20.43 | 20.38  |                        |             |
| 5               | 64QAM | 1  | 12 | 20.51  | 20.58 | 20.53  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 20.89  | 20.90 | 20.88  |                        |             |
| 5               | 64QAM | 12 | 0  | 19.81  | 19.82 | 19.82  |                        |             |
| 5               | 64QAM | 12 | 7  | 19.90  | 19.90 | 19.87  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 19.94  | 19.91 | 19.93  |                        |             |
| 5               | 64QAM | 25 | 0  | 19.91  | 19.94 | 19.87  |                        |             |
| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 22.65  | 22.65 | 22.45  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 22.50  | 22.50 | 22.46  |                        |             |
| 3               | QPSK  | 1  | 14 | 22.35  | 22.47 | 22.46  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.47  | 22.54 | 22.36  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 21.96  | 21.99 | 21.92  |                        |             |
| 3               | QPSK  | 8  | 7  | 21.92  | 21.92 | 21.88  |                        |             |
| 3               | QPSK  | 15 | 0  | 21.92  | 21.94 | 21.86  | 23                     | 1           |
| 3               | 16QAM | 1  | 0  | 21.93  | 22.02 | 22.01  |                        |             |
| 3               | 16QAM | 1  | 8  | 22.06  | 22.10 | 22.04  |                        |             |
| 3               | 16QAM | 1  | 14 | 21.89  | 21.95 | 21.96  | 22                     | 2           |
| 3               | 16QAM | 8  | 0  | 20.80  | 20.94 | 20.84  |                        |             |
| 3               | 16QAM | 8  | 4  | 21.01  | 21.02 | 20.96  |                        |             |
| 3               | 16QAM | 8  | 7  | 20.91  | 21.00 | 20.90  | 22                     | 2           |
| 3               | 16QAM | 15 | 0  | 20.90  | 20.97 | 20.83  |                        |             |
| 3               | 64QAM | 1  | 0  | 20.47  | 20.39 | 20.40  | 22                     | 2           |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 20.51  | 20.56 | 20.49  | 21                     | 3           |
| 3               | 64QAM | 1  | 14 | 20.86  | 20.89 | 20.80  |                        |             |
| 3               | 64QAM | 8  | 0  | 19.78  | 19.80 | 19.82  |                        |             |
| 3               | 64QAM | 8  | 4  | 19.93  | 19.99 | 19.80  |                        |             |
| 3               | 64QAM | 8  | 7  | 19.89  | 19.90 | 19.89  |                        |             |
| 3               | 64QAM | 15 | 0  | 19.94  | 19.99 | 19.89  |                        |             |
| Channel         |       |    |    | 18607  | 18900 | 19193  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1909.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 22.61  | 22.73 | 22.51  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 22.42  | 22.51 | 22.46  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 22.36  | 22.42 | 22.41  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 22.47  | 22.46 | 22.45  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 22.35  | 22.43 | 22.46  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 22.49  | 22.45 | 22.32  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 21.87  | 21.99 | 21.92  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 21.86  | 22.05 | 21.96  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.05  | 22.04 | 22.05  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 21.86  | 21.95 | 21.90  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 21.83  | 21.93 | 21.93  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.03  | 22.06 | 22.04  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 21.78  | 21.97 | 21.83  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 20.92  | 20.92 | 20.84  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 0  | 20.46  | 20.43 | 20.35  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 3  | 20.55  | 20.55 | 20.52  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 20.92  | 20.94 | 20.80  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 20.30  | 20.36 | 20.33  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 20.49  | 20.57 | 20.41  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 20.91  | 20.90 | 20.83  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 19.93  | 19.94 | 19.94  | 21                     | 3           |



**<LTE Band 4 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 20050                    | 20175                       | 20300                     |                        |             |
| Frequency (MHz) |            |         |           | 1720                     | 1732.5                      | 1745                      |                        |             |
| 20              | QPSK       | 1       | 0         | 23.53                    | 23.55                       | 23.57                     |                        |             |
| 20              | QPSK       | 1       | 49        | 23.38                    | 23.46                       | 23.39                     | 24                     | 0           |
| 20              | QPSK       | 1       | 99        | 23.44                    | 23.39                       | 23.35                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.59                    | 22.66                       | 22.59                     |                        |             |
| 20              | QPSK       | 50      | 24        | 22.63                    | 22.57                       | 22.55                     | 23                     | 1           |
| 20              | QPSK       | 50      | 50        | 22.56                    | 22.57                       | 22.55                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.62                    | 22.64                       | 22.48                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 22.89                    | 22.85                       | 22.90                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 49        | 22.77                    | 22.82                       | 22.72                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 22.76                    | 22.70                       | 22.73                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 21.61                    | 21.67                       | 21.63                     | 22                     | 2           |
| 20              | 16QAM      | 50      | 24        | 21.60                    | 21.60                       | 21.52                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 21.55                    | 21.58                       | 21.56                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 21.64                    | 21.60                       | 21.53                     | 22                     | 2           |
| 20              | 64QAM      | 1       | 0         | 21.83                    | 21.82                       | 21.86                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 21.70                    | 21.62                       | 21.62                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 21.74                    | 21.67                       | 21.60                     | 21                     | 3           |
| 20              | 64QAM      | 50      | 0         | 20.61                    | 20.65                       | 20.66                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 20.63                    | 20.59                       | 20.56                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 20.56                    | 20.56                       | 20.55                     | 21                     | 3           |
| 20              | 64QAM      | 100     | 0         | 20.63                    | 20.58                       | 20.54                     |                        |             |
| Channel         |            |         |           | 20025                    | 20175                       | 20325                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1717.5                   | 1732.5                      | 1747.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 23.47                    | 23.51                       | 23.48                     |                        |             |
| 15              | QPSK       | 1       | 37        | 23.31                    | 23.40                       | 23.30                     | 24                     | 0           |
| 15              | QPSK       | 1       | 74        | 23.39                    | 23.37                       | 23.32                     |                        |             |
| 15              | QPSK       | 36      | 0         | 22.51                    | 22.66                       | 22.57                     |                        |             |
| 15              | QPSK       | 36      | 20        | 22.60                    | 22.49                       | 22.49                     | 23                     | 1           |
| 15              | QPSK       | 36      | 39        | 22.49                    | 22.47                       | 22.45                     |                        |             |
| 15              | QPSK       | 75      | 0         | 22.59                    | 22.56                       | 22.41                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 22.86                    | 22.78                       | 22.82                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 37        | 22.69                    | 22.75                       | 22.72                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 22.73                    | 22.68                       | 22.68                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 21.60                    | 21.60                       | 21.59                     | 22                     | 2           |
| 15              | 16QAM      | 36      | 20        | 21.53                    | 21.53                       | 21.52                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 21.47                    | 21.58                       | 21.52                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 21.60                    | 21.57                       | 21.51                     | 22                     | 2           |
| 15              | 64QAM      | 1       | 0         | 21.76                    | 21.78                       | 21.83                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 21.62                    | 21.59                       | 21.57                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 21.72                    | 21.67                       | 21.50                     | 21                     | 3           |
| 15              | 64QAM      | 36      | 0         | 20.59                    | 20.59                       | 20.63                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 20.55                    | 20.52                       | 20.50                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 20.51                    | 20.49                       | 20.53                     | 21                     | 3           |
| 15              | 64QAM      | 75      | 0         | 20.62                    | 20.57                       | 20.47                     |                        |             |
| Channel         |            |         |           | 20000                    | 20175                       | 20350                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1715                     | 1732.5                      | 1750                      |                        |             |
| 10              | QPSK       | 1       | 0         | 23.48                    | 23.51                       | 23.50                     |                        |             |
| 10              | QPSK       | 1       | 25        | 23.32                    | 23.46                       | 23.30                     | 24                     | 0           |
| 10              | QPSK       | 1       | 49        | 23.34                    | 23.37                       | 23.25                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.52                    | 22.60                       | 22.59                     |                        |             |
| 10              | QPSK       | 25      | 12        | 22.55                    | 22.47                       | 22.53                     | 23                     | 1           |



# FCC SAR TEST REPORT

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|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 22.54  | 22.52  | 22.55  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.56  | 22.61  | 22.46  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.82  | 22.78  | 22.87  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.70  | 22.77  | 22.68  | 23                     | 1           |
| 10              | 16QAM | 1  | 49 | 22.71  | 22.60  | 22.69  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.53  | 21.63  | 21.58  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.53  | 21.59  | 21.44  | 22                     | 2           |
| 10              | 16QAM | 25 | 25 | 21.51  | 21.54  | 21.53  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.56  | 21.58  | 21.44  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.76  | 21.74  | 21.79  | 22                     | 2           |
| 10              | 64QAM | 1  | 25 | 21.62  | 21.55  | 21.53  |                        |             |
| 10              | 64QAM | 1  | 49 | 21.70  | 21.65  | 21.58  |                        |             |
| 10              | 64QAM | 25 | 0  | 20.51  | 20.55  | 20.66  | 21                     | 3           |
| 10              | 64QAM | 25 | 12 | 20.60  | 20.56  | 20.52  |                        |             |
| 10              | 64QAM | 25 | 25 | 20.51  | 20.46  | 20.51  |                        |             |
| 10              | 64QAM | 50 | 0  | 20.63  | 20.53  | 20.44  |                        |             |
| Channel         |       |    |    | 19975  | 20175  | 20375  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1732.5 | 1752.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 23.50  | 23.54  | 23.55  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.30  | 23.43  | 23.34  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.37  | 23.32  | 23.27  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.50  | 22.59  | 22.51  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.57  | 22.47  | 22.46  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.53  | 22.48  | 22.52  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.58  | 22.62  | 22.41  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.83  | 22.76  | 22.84  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.72  | 22.80  | 22.70  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.74  | 22.63  | 22.67  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 21.51  | 21.58  | 21.63  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.50  | 21.57  | 21.48  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.48  | 21.54  | 21.53  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 21.62  | 21.54  | 21.44  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.81  | 21.75  | 21.80  |                        |             |
| 5               | 64QAM | 1  | 12 | 21.69  | 21.55  | 21.55  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 21.68  | 21.61  | 21.59  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.53  | 20.57  | 20.57  |                        |             |
| 5               | 64QAM | 12 | 7  | 20.59  | 20.54  | 20.54  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 20.56  | 20.54  | 20.48  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.58  | 20.51  | 20.48  |                        |             |
| Channel         |       |    |    | 19965  | 20175  | 20385  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1732.5 | 1753.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 23.45  | 23.49  | 23.56  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.35  | 23.46  | 23.29  |                        |             |
| 3               | QPSK  | 1  | 14 | 23.34  | 23.35  | 23.34  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.49  | 22.58  | 22.54  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 22.53  | 22.54  | 22.51  |                        |             |
| 3               | QPSK  | 8  | 7  | 22.50  | 22.47  | 22.53  |                        |             |
| 3               | QPSK  | 15 | 0  | 22.58  | 22.54  | 22.45  | 23                     | 1           |
| 3               | 16QAM | 1  | 0  | 22.83  | 22.76  | 22.87  |                        |             |
| 3               | 16QAM | 1  | 8  | 22.77  | 22.81  | 22.71  |                        |             |
| 3               | 16QAM | 1  | 14 | 22.71  | 22.67  | 22.64  | 22                     | 2           |
| 3               | 16QAM | 8  | 0  | 21.58  | 21.59  | 21.59  |                        |             |
| 3               | 16QAM | 8  | 4  | 21.59  | 21.55  | 21.42  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.49  | 21.48  | 21.49  | 22                     | 2           |
| 3               | 16QAM | 15 | 0  | 21.58  | 21.59  | 21.51  |                        |             |
| 3               | 64QAM | 1  | 0  | 21.77  | 21.74  | 21.83  | 22                     | 2           |



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|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 21.60  | 21.57  | 21.61  | 21                     | 3           |
| 3               | 64QAM | 1  | 14 | 21.70  | 21.59  | 21.57  |                        |             |
| 3               | 64QAM | 8  | 0  | 20.51  | 20.57  | 20.59  |                        |             |
| 3               | 64QAM | 8  | 4  | 20.56  | 20.58  | 20.52  |                        |             |
| 3               | 64QAM | 8  | 7  | 20.53  | 20.51  | 20.52  |                        |             |
| 3               | 64QAM | 15 | 0  | 20.58  | 20.56  | 20.50  |                        |             |
| Channel         |       |    |    | 19957  | 20175  | 20393  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1732.5 | 1754.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 23.50  | 23.50  | 23.53  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.35  | 23.37  | 23.30  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.42  | 23.32  | 23.33  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.52  | 23.46  | 23.50  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.29  | 23.39  | 23.32  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.36  | 23.39  | 23.30  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.57  | 22.59  | 22.39  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.87  | 22.85  | 22.81  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.67  | 22.78  | 22.72  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.76  | 22.67  | 22.71  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 22.80  | 22.81  | 22.88  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.77  | 22.75  | 22.66  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 22.73  | 22.66  | 22.67  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.56  | 21.56  | 21.43  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 0  | 21.82  | 21.81  | 21.82  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 3  | 21.60  | 21.62  | 21.62  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 21.74  | 21.63  | 21.60  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.79  | 21.73  | 21.83  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.63  | 21.58  | 21.54  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.71  | 21.65  | 21.58  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 20.57  | 20.56  | 20.51  | 21                     | 3           |



**<LTE Band 5 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 20450                    | 20525                       | 20600                     | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 829                      | 836.5                       | 844                       |                        |             |
| 10              | QPSK       | 1       | 0         | 23.67                    | 23.74                       | 23.81                     |                        |             |
| 10              | QPSK       | 1       | 25        | 23.59                    | 23.73                       | 23.74                     | 23.5                   | 1           |
| 10              | QPSK       | 1       | 49        | 23.65                    | 23.73                       | 23.72                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.73                    | 22.90                       | 22.85                     |                        |             |
| 10              | QPSK       | 25      | 12        | 22.73                    | 22.88                       | 22.86                     | 23.5                   | 1           |
| 10              | QPSK       | 25      | 25        | 22.81                    | 22.89                       | 22.89                     |                        |             |
| 10              | QPSK       | 50      | 0         | 22.83                    | 22.83                       | 22.83                     |                        |             |
| 10              | 16QAM      | 1       | 0         | 23.07                    | 23.13                       | 23.24                     | 23.5                   | 1           |
| 10              | 16QAM      | 1       | 25        | 23.01                    | 23.16                       | 23.15                     |                        |             |
| 10              | 16QAM      | 1       | 49        | 23.13                    | 23.14                       | 23.13                     |                        |             |
| 10              | 16QAM      | 25      | 0         | 21.70                    | 21.82                       | 21.83                     | 22.5                   | 2           |
| 10              | 16QAM      | 25      | 12        | 21.81                    | 21.86                       | 21.94                     |                        |             |
| 10              | 16QAM      | 25      | 25        | 21.80                    | 21.90                       | 21.93                     |                        |             |
| 10              | 16QAM      | 50      | 0         | 21.82                    | 21.85                       | 21.84                     | 22.5                   | 2           |
| 10              | 64QAM      | 1       | 0         | 21.84                    | 21.91                       | 22.06                     |                        |             |
| 10              | 64QAM      | 1       | 25        | 21.97                    | 22.13                       | 22.05                     |                        |             |
| 10              | 64QAM      | 1       | 49        | 21.99                    | 22.07                       | 21.72                     | 21.5                   | 3           |
| 10              | 64QAM      | 25      | 0         | 20.76                    | 20.89                       | 20.89                     |                        |             |
| 10              | 64QAM      | 25      | 12        | 20.90                    | 20.94                       | 20.97                     |                        |             |
| 10              | 64QAM      | 25      | 25        | 20.83                    | 20.91                       | 20.91                     | 21.5                   | 3           |
| 10              | 64QAM      | 50      | 0         | 20.86                    | 20.88                       | 20.87                     |                        |             |
| Channel         |            |         |           | 20425                    | 20525                       | 20625                     | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 826.5                    | 836.5                       | 846.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 23.64                    | 23.69                       | 23.79                     |                        |             |
| 5               | QPSK       | 1       | 12        | 23.58                    | 23.67                       | 23.66                     | 23.5                   | 1           |
| 5               | QPSK       | 1       | 24        | 23.55                    | 23.69                       | 23.63                     |                        |             |
| 5               | QPSK       | 12      | 0         | 22.70                    | 22.83                       | 22.78                     |                        |             |
| 5               | QPSK       | 12      | 7         | 22.82                    | 22.88                       | 22.89                     | 23.5                   | 1           |
| 5               | QPSK       | 12      | 13        | 22.71                    | 22.88                       | 22.83                     |                        |             |
| 5               | QPSK       | 25      | 0         | 22.73                    | 22.79                       | 22.80                     |                        |             |
| 5               | 16QAM      | 1       | 0         | 23.02                    | 23.10                       | 23.20                     | 23.5                   | 1           |
| 5               | 16QAM      | 1       | 12        | 22.94                    | 23.10                       | 23.14                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 23.11                    | 23.09                       | 23.11                     |                        |             |
| 5               | 16QAM      | 12      | 0         | 21.62                    | 21.75                       | 21.78                     | 22.5                   | 2           |
| 5               | 16QAM      | 12      | 7         | 21.79                    | 21.81                       | 21.86                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 21.72                    | 21.86                       | 21.93                     |                        |             |
| 5               | 16QAM      | 25      | 0         | 21.72                    | 21.80                       | 21.79                     | 22.5                   | 2           |
| 5               | 64QAM      | 1       | 0         | 21.78                    | 21.89                       | 22.04                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 21.90                    | 22.06                       | 22.00                     |                        |             |
| 5               | 64QAM      | 1       | 24        | 21.92                    | 22.04                       | 21.66                     | 21.5                   | 3           |
| 5               | 64QAM      | 12      | 0         | 20.69                    | 20.79                       | 20.86                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 20.83                    | 20.91                       | 20.90                     |                        |             |
| 5               | 64QAM      | 12      | 13        | 20.75                    | 20.88                       | 20.84                     | 21.5                   | 3           |
| 5               | 64QAM      | 25      | 0         | 20.78                    | 20.82                       | 20.84                     |                        |             |
| Channel         |            |         |           | 20415                    | 20525                       | 20635                     | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 825.5                    | 836.5                       | 847.5                     |                        |             |
| 3               | QPSK       | 1       | 0         | 23.62                    | 23.70                       | 23.75                     |                        |             |
| 3               | QPSK       | 1       | 8         | 23.53                    | 23.70                       | 23.73                     | 24.5                   | 0           |
| 3               | QPSK       | 1       | 14        | 23.64                    | 23.73                       | 23.63                     |                        |             |
| 3               | QPSK       | 8       | 0         | 22.69                    | 22.76                       | 22.75                     |                        |             |
| 3               | QPSK       | 8       | 4         | 22.80                    | 22.88                       | 22.92                     | 23.5                   | 1           |



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|                 |       |    |    |       |       |       |                        |             |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|
| 3               | QPSK  | 8  | 7  | 22.79 | 22.79 | 22.85 |                        |             |
| 3               | QPSK  | 15 | 0  | 22.75 | 22.74 | 22.76 |                        |             |
| 3               | 16QAM | 1  | 0  | 23.04 | 23.03 | 23.22 |                        |             |
| 3               | 16QAM | 1  | 8  | 22.92 | 23.13 | 23.12 | 23.5                   | 1           |
| 3               | 16QAM | 1  | 14 | 23.12 | 23.11 | 23.08 |                        |             |
| 3               | 16QAM | 8  | 0  | 21.68 | 21.78 | 21.76 |                        |             |
| 3               | 16QAM | 8  | 4  | 21.72 | 21.80 | 21.84 | 22.5                   | 2           |
| 3               | 16QAM | 8  | 7  | 21.70 | 21.90 | 21.91 |                        |             |
| 3               | 16QAM | 15 | 0  | 21.77 | 21.75 | 21.79 |                        |             |
| 3               | 64QAM | 1  | 0  | 21.81 | 21.84 | 22.05 | 22.5                   | 2           |
| 3               | 64QAM | 1  | 8  | 21.91 | 22.04 | 22.03 |                        |             |
| 3               | 64QAM | 1  | 14 | 21.97 | 22.05 | 21.68 |                        |             |
| 3               | 64QAM | 8  | 0  | 20.73 | 20.86 | 20.84 | 21.5                   | 3           |
| 3               | 64QAM | 8  | 4  | 20.89 | 20.90 | 20.92 |                        |             |
| 3               | 64QAM | 8  | 7  | 20.73 | 20.83 | 20.89 |                        |             |
| 3               | 64QAM | 15 | 0  | 20.81 | 20.82 | 20.79 |                        |             |
| Channel         |       |    |    | 20407 | 20525 | 20643 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 824.7 | 836.5 | 848.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 23.62 | 23.66 | 23.74 | 24.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.58 | 23.64 | 23.64 |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.56 | 23.64 | 23.62 |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.65 | 23.71 | 23.71 |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.53 | 23.70 | 23.67 |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.62 | 23.66 | 23.63 |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.74 | 22.83 | 22.78 | 23.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 23.07 | 23.08 | 23.21 | 23.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.96 | 23.10 | 23.14 |                        |             |
| 1.4             | 16QAM | 1  | 5  | 23.08 | 23.08 | 23.12 |                        |             |
| 1.4             | 16QAM | 3  | 0  | 23.07 | 23.12 | 23.24 |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.97 | 23.06 | 23.08 |                        |             |
| 1.4             | 16QAM | 3  | 3  | 23.05 | 23.14 | 23.07 |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.80 | 21.84 | 21.79 | 22.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 21.84 | 21.90 | 21.99 | 22.5                   | 2           |
| 1.4             | 64QAM | 1  | 3  | 21.93 | 22.12 | 21.96 |                        |             |
| 1.4             | 64QAM | 1  | 5  | 21.94 | 22.00 | 21.65 |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.74 | 21.87 | 22.02 |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.95 | 22.07 | 21.98 |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.93 | 22.06 | 21.69 |                        |             |
| 1.4             | 64QAM | 6  | 0  | 20.84 | 20.84 | 20.83 | 21.5                   | 3           |



**<LTE Band 7 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 20850                    | 21100                       | 21350                     |                        |             |
| Frequency (MHz) |            |         |           | 2510                     | 2535                        | 2560                      |                        |             |
| 20              | QPSK       | 1       | 0         | 23.67                    | 23.88                       | 23.77                     |                        |             |
| 20              | QPSK       | 1       | 49        | 23.65                    | 23.82                       | 23.76                     | 24                     | 0           |
| 20              | QPSK       | 1       | 99        | 23.61                    | 23.81                       | 23.74                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.47                    | 22.57                       | 22.56                     |                        |             |
| 20              | QPSK       | 50      | 24        | 22.57                    | 22.61                       | 22.57                     | 23                     | 1           |
| 20              | QPSK       | 50      | 50        | 22.59                    | 22.62                       | 22.59                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.60                    | 22.66                       | 22.58                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 22.67                    | 22.83                       | 22.78                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 49        | 22.81                    | 22.83                       | 22.81                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 22.85                    | 22.86                       | 22.77                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 21.47                    | 21.58                       | 21.58                     | 22                     | 2           |
| 20              | 16QAM      | 50      | 24        | 21.60                    | 21.63                       | 21.58                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 21.60                    | 21.62                       | 21.59                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 21.58                    | 21.62                       | 21.57                     | 22                     | 2           |
| 20              | 64QAM      | 1       | 0         | 21.57                    | 21.57                       | 21.73                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 21.70                    | 21.61                       | 21.48                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 21.68                    | 21.76                       | 21.46                     | 21                     | 3           |
| 20              | 64QAM      | 50      | 0         | 20.50                    | 20.49                       | 20.60                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 20.63                    | 20.62                       | 20.43                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 20.62                    | 20.62                       | 20.28                     | 21                     | 3           |
| 20              | 64QAM      | 100     | 0         | 20.61                    | 20.62                       | 20.37                     |                        |             |
| Channel         |            |         |           | 20825                    | 21100                       | 21375                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2507.5                   | 2535                        | 2562.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 23.67                    | 23.83                       | 23.74                     |                        |             |
| 15              | QPSK       | 1       | 37        | 23.69                    | 23.77                       | 23.66                     | 24                     | 0           |
| 15              | QPSK       | 1       | 74        | 23.71                    | 23.80                       | 23.75                     |                        |             |
| 15              | QPSK       | 36      | 0         | 22.43                    | 22.51                       | 22.47                     | 23                     | 1           |
| 15              | QPSK       | 36      | 20        | 22.50                    | 22.51                       | 22.47                     |                        |             |
| 15              | QPSK       | 36      | 39        | 22.57                    | 22.56                       | 22.47                     |                        |             |
| 15              | QPSK       | 75      | 0         | 22.51                    | 22.50                       | 22.48                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 0         | 22.67                    | 22.76                       | 22.76                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 22.76                    | 22.83                       | 22.73                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 22.77                    | 22.76                       | 22.71                     | 22                     | 2           |
| 15              | 16QAM      | 36      | 0         | 21.44                    | 21.58                       | 21.58                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 21.58                    | 21.61                       | 21.53                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 21.56                    | 21.57                       | 21.55                     | 22                     | 2           |
| 15              | 16QAM      | 75      | 0         | 21.53                    | 21.53                       | 21.49                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 21.47                    | 21.50                       | 21.70                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 21.60                    | 21.56                       | 21.42                     | 22                     | 2           |
| 15              | 64QAM      | 1       | 74        | 21.67                    | 21.67                       | 21.36                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 20.44                    | 20.49                       | 20.60                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 20.63                    | 20.62                       | 20.42                     | 21                     | 3           |
| 15              | 64QAM      | 36      | 39        | 20.61                    | 20.60                       | 20.25                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 20.60                    | 20.53                       | 20.30                     |                        |             |
| Channel         |            |         |           | 20800                    | 21100                       | 21400                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2505                     | 2535                        | 2565                      |                        |             |
| 10              | QPSK       | 1       | 0         | 23.66                    | 23.84                       | 23.70                     |                        |             |
| 10              | QPSK       | 1       | 25        | 23.65                    | 23.74                       | 23.74                     | 24                     | 0           |
| 10              | QPSK       | 1       | 49        | 23.71                    | 23.71                       | 23.70                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.37                    | 22.56                       | 22.47                     | 23                     | 1           |
| 10              | QPSK       | 25      | 12        | 22.54                    | 22.52                       | 22.53                     |                        |             |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 22.55  | 22.53 | 22.55  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.58  | 22.48 | 22.48  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.62  | 22.82 | 22.78  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.74  | 22.83 | 22.74  | 23                     | 1           |
| 10              | 16QAM | 1  | 49 | 22.83  | 22.84 | 22.76  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.44  | 21.54 | 21.49  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.50  | 21.58 | 21.57  | 22                     | 2           |
| 10              | 16QAM | 25 | 25 | 21.58  | 21.59 | 21.58  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.58  | 21.58 | 21.51  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.56  | 21.49 | 21.67  | 22                     | 2           |
| 10              | 64QAM | 1  | 25 | 21.61  | 21.53 | 21.40  |                        |             |
| 10              | 64QAM | 1  | 49 | 21.61  | 21.70 | 21.40  |                        |             |
| 10              | 64QAM | 25 | 0  | 20.44  | 20.47 | 20.56  | 21                     | 3           |
| 10              | 64QAM | 25 | 12 | 20.57  | 20.60 | 20.34  |                        |             |
| 10              | 64QAM | 25 | 25 | 20.53  | 20.54 | 20.23  |                        |             |
| 10              | 64QAM | 50 | 0  | 20.55  | 20.52 | 20.28  |                        |             |
| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 23.58  | 23.81 | 23.67  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.72  | 23.74 | 23.69  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.74  | 23.77 | 23.71  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.47  | 22.52 | 22.49  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.57  | 22.56 | 22.51  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.57  | 22.52 | 22.54  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.55  | 22.48 | 22.58  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.66  | 22.83 | 22.77  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.71  | 22.76 | 22.72  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.80  | 22.82 | 22.69  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 21.37  | 21.51 | 21.53  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.58  | 21.56 | 21.48  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.58  | 21.57 | 21.59  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 21.49  | 21.52 | 21.54  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.53  | 21.56 | 21.71  |                        |             |
| 5               | 64QAM | 1  | 12 | 21.60  | 21.57 | 21.46  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 21.65  | 21.70 | 21.37  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.42  | 20.41 | 20.51  |                        |             |
| 5               | 64QAM | 12 | 7  | 20.61  | 20.60 | 20.42  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 20.54  | 20.56 | 20.20  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.56  | 20.57 | 20.30  |                        |             |

**<LTE Band 7 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 20850                    | 21100                       | 21350                     |                        |             |
| Frequency (MHz) |            |         |           | 2510                     | 2535                        | 2560                      |                        |             |
| 20              | QPSK       | 1       | 0         | 22.70                    | 22.80                       | 22.79                     |                        |             |
| 20              | QPSK       | 1       | 49        | 22.69                    | 22.77                       | 22.67                     | 24                     | 0           |
| 20              | QPSK       | 1       | 99        | 22.65                    | 22.70                       | 22.62                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.07                    | 22.10                       | 22.08                     |                        |             |
| 20              | QPSK       | 50      | 24        | 22.00                    | 22.09                       | 22.04                     | 23                     | 1           |
| 20              | QPSK       | 50      | 50        | 22.08                    | 22.08                       | 22.06                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.00                    | 22.08                       | 22.02                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 22.15                    | 22.20                       | 22.10                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 49        | 22.20                    | 22.20                       | 22.12                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 22.10                    | 22.10                       | 22.03                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 21.12                    | 21.20                       | 21.10                     | 22                     | 2           |
| 20              | 16QAM      | 50      | 24        | 21.18                    | 21.20                       | 21.16                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 21.07                    | 21.10                       | 21.09                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 21.07                    | 21.10                       | 21.01                     | 22                     | 2           |
| 20              | 64QAM      | 1       | 0         | 20.70                    | 20.80                       | 20.78                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 20.96                    | 21.00                       | 20.90                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 20.85                    | 20.90                       | 20.82                     | 21                     | 3           |
| 20              | 64QAM      | 50      | 0         | 20.01                    | 20.10                       | 20.02                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 20.03                    | 20.10                       | 20.09                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 20.02                    | 20.10                       | 20.02                     | 21                     | 3           |
| 20              | 64QAM      | 100     | 0         | 20.01                    | 20.09                       | 20.04                     |                        |             |
| Channel         |            |         |           | 20825                    | 21100                       | 21375                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2507.5                   | 2535                        | 2562.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 22.62                    | 22.76                       | 22.57                     |                        |             |
| 15              | QPSK       | 1       | 37        | 22.63                    | 22.70                       | 22.63                     | 24                     | 0           |
| 15              | QPSK       | 1       | 74        | 22.60                    | 22.69                       | 22.54                     |                        |             |
| 15              | QPSK       | 36      | 0         | 22.02                    | 22.04                       | 22.08                     |                        |             |
| 15              | QPSK       | 36      | 20        | 21.91                    | 22.04                       | 22.04                     | 23                     | 1           |
| 15              | QPSK       | 36      | 39        | 22.04                    | 22.00                       | 22.04                     |                        |             |
| 15              | QPSK       | 75      | 0         | 21.98                    | 21.99                       | 21.92                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 22.05                    | 22.18                       | 22.03                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 37        | 22.13                    | 22.20                       | 22.04                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 22.04                    | 22.09                       | 22.00                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 21.11                    | 21.13                       | 21.02                     | 22                     | 2           |
| 15              | 16QAM      | 36      | 20        | 21.16                    | 21.18                       | 21.09                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 21.01                    | 21.03                       | 21.04                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 21.02                    | 21.08                       | 20.97                     | 22                     | 2           |
| 15              | 64QAM      | 1       | 0         | 20.64                    | 20.73                       | 20.72                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 20.87                    | 20.95                       | 20.82                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 20.81                    | 20.88                       | 20.82                     | 21                     | 3           |
| 15              | 64QAM      | 36      | 0         | 19.99                    | 20.10                       | 19.97                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 20.03                    | 20.05                       | 20.07                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 19.97                    | 20.06                       | 20.00                     | 21                     | 3           |
| 15              | 64QAM      | 75      | 0         | 19.93                    | 20.06                       | 20.02                     |                        |             |
| Channel         |            |         |           | 20800                    | 21100                       | 21400                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2505                     | 2535                        | 2565                      |                        |             |
| 10              | QPSK       | 1       | 0         | 22.60                    | 22.75                       | 22.59                     |                        |             |
| 10              | QPSK       | 1       | 25        | 22.69                    | 22.71                       | 22.62                     | 24                     | 0           |
| 10              | QPSK       | 1       | 49        | 22.57                    | 22.63                       | 22.54                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.02                    | 22.07                       | 22.04                     |                        |             |
| 10              | QPSK       | 25      | 12        | 21.95                    | 22.03                       | 21.96                     | 23                     | 1           |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 21.98  | 22.01 | 22.06  |                        |             |
| 10              | QPSK  | 50 | 0  | 21.99  | 22.01 | 21.97  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.07  | 22.11 | 22.01  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.10  | 22.17 | 22.04  | 23                     | 1           |
| 10              | 16QAM | 1  | 49 | 22.06  | 22.01 | 21.94  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.04  | 21.17 | 21.07  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.11  | 21.12 | 21.06  | 22                     | 2           |
| 10              | 16QAM | 25 | 25 | 20.97  | 21.04 | 21.06  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.07  | 21.05 | 20.96  |                        |             |
| 10              | 64QAM | 1  | 0  | 20.67  | 20.71 | 20.78  | 22                     | 2           |
| 10              | 64QAM | 1  | 25 | 20.92  | 20.93 | 20.89  |                        |             |
| 10              | 64QAM | 1  | 49 | 20.84  | 20.85 | 20.72  |                        |             |
| 10              | 64QAM | 25 | 0  | 19.93  | 20.02 | 19.99  | 21                     | 3           |
| 10              | 64QAM | 25 | 12 | 19.96  | 20.10 | 20.09  |                        |             |
| 10              | 64QAM | 25 | 25 | 19.97  | 20.07 | 19.98  |                        |             |
| 10              | 64QAM | 50 | 0  | 19.95  | 20.08 | 19.96  |                        |             |
| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 22.64  | 22.70 | 22.57  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 22.64  | 22.75 | 22.61  |                        |             |
| 5               | QPSK  | 1  | 24 | 22.59  | 22.67 | 22.53  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.03  | 22.10 | 21.99  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 21.91  | 22.07 | 21.96  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.07  | 22.06 | 21.96  |                        |             |
| 5               | QPSK  | 25 | 0  | 21.90  | 22.06 | 22.00  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.09  | 22.15 | 22.04  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.13  | 22.17 | 22.08  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.05  | 22.10 | 21.93  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 21.10  | 21.11 | 21.06  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.11  | 21.19 | 21.10  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.05  | 21.09 | 21.03  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 21.07  | 21.08 | 20.96  |                        |             |
| 5               | 64QAM | 1  | 0  | 20.61  | 20.79 | 20.73  |                        |             |
| 5               | 64QAM | 1  | 12 | 20.90  | 20.92 | 20.81  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 20.82  | 20.90 | 20.75  |                        |             |
| 5               | 64QAM | 12 | 0  | 19.94  | 20.00 | 20.01  |                        |             |
| 5               | 64QAM | 12 | 7  | 19.97  | 20.02 | 20.06  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 19.98  | 20.08 | 19.96  |                        |             |
| 5               | 64QAM | 25 | 0  | 19.94  | 20.01 | 19.99  |                        |             |

**<LTE Band 12 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23060                    | 23095                       | 23130                     | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 704                      | 707.5                       | 711                       |                        |             |
| 10              | QPSK       | 1       | 0         | 23.83                    | 23.81                       | 23.81                     |                        |             |
| 10              | QPSK       | 1       | 25        | 23.81                    | 23.80                       | 23.73                     | 23.5                   | 1           |
| 10              | QPSK       | 1       | 49        | 23.79                    | 23.77                       | 23.67                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.96                    | 22.94                       | 22.92                     |                        |             |
| 10              | QPSK       | 25      | 12        | 23.03                    | 22.93                       | 22.94                     | 23.5                   | 1           |
| 10              | QPSK       | 25      | 25        | 22.98                    | 22.91                       | 22.77                     |                        |             |
| 10              | QPSK       | 50      | 0         | 23.02                    | 22.95                       | 22.92                     |                        |             |
| 10              | 16QAM      | 1       | 0         | 23.23                    | 23.17                       | 23.18                     | 23.5                   | 1           |
| 10              | 16QAM      | 1       | 25        | 23.21                    | 23.24                       | 23.13                     |                        |             |
| 10              | 16QAM      | 1       | 49        | 23.22                    | 23.14                       | 23.05                     |                        |             |
| 10              | 16QAM      | 25      | 0         | 21.95                    | 21.92                       | 21.95                     | 22.5                   | 2           |
| 10              | 16QAM      | 25      | 12        | 22.02                    | 21.97                       | 21.92                     |                        |             |
| 10              | 16QAM      | 25      | 25        | 21.99                    | 21.88                       | 21.82                     |                        |             |
| 10              | 16QAM      | 50      | 0         | 22.04                    | 21.94                       | 21.91                     | 22.5                   | 2           |
| 10              | 64QAM      | 1       | 0         | 22.04                    | 21.99                       | 22.08                     |                        |             |
| 10              | 64QAM      | 1       | 25        | 21.50                    | 22.14                       | 21.99                     |                        |             |
| 10              | 64QAM      | 1       | 49        | 22.07                    | 22.00                       | 21.92                     | 21.5                   | 3           |
| 10              | 64QAM      | 25      | 0         | 20.78                    | 20.97                       | 20.98                     |                        |             |
| 10              | 64QAM      | 25      | 12        | 20.96                    | 21.02                       | 20.95                     |                        |             |
| 10              | 64QAM      | 25      | 25        | 21.02                    | 20.92                       | 20.80                     | 21.5                   | 3           |
| 10              | 64QAM      | 50      | 0         | 21.06                    | 20.99                       | 20.92                     |                        |             |
| Channel         |            |         |           | 23035                    | 23095                       | 23155                     | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 701.5                    | 707.5                       | 713.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 23.73                    | 23.74                       | 23.73                     |                        |             |
| 5               | QPSK       | 1       | 12        | 23.73                    | 23.78                       | 23.66                     | 23.5                   | 1           |
| 5               | QPSK       | 1       | 24        | 23.69                    | 23.70                       | 23.64                     |                        |             |
| 5               | QPSK       | 12      | 0         | 22.92                    | 22.91                       | 22.89                     |                        |             |
| 5               | QPSK       | 12      | 7         | 22.95                    | 22.94                       | 22.90                     | 23.5                   | 1           |
| 5               | QPSK       | 12      | 13        | 22.97                    | 22.91                       | 22.67                     |                        |             |
| 5               | QPSK       | 25      | 0         | 22.99                    | 22.95                       | 22.85                     |                        |             |
| 5               | 16QAM      | 1       | 0         | 23.18                    | 23.13                       | 23.11                     | 23.5                   | 1           |
| 5               | 16QAM      | 1       | 12        | 23.16                    | 23.20                       | 23.10                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 23.13                    | 23.04                       | 22.95                     |                        |             |
| 5               | 16QAM      | 12      | 0         | 21.92                    | 21.86                       | 21.94                     | 22.5                   | 2           |
| 5               | 16QAM      | 12      | 7         | 21.93                    | 21.94                       | 21.83                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 21.97                    | 21.86                       | 21.73                     |                        |             |
| 5               | 16QAM      | 25      | 0         | 22.04                    | 21.91                       | 21.89                     | 22.5                   | 2           |
| 5               | 64QAM      | 1       | 0         | 21.99                    | 21.98                       | 22.07                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 21.43                    | 22.13                       | 21.96                     |                        |             |
| 5               | 64QAM      | 1       | 24        | 22.02                    | 21.96                       | 21.85                     | 21.5                   | 3           |
| 5               | 64QAM      | 12      | 0         | 20.78                    | 20.97                       | 20.93                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 20.92                    | 20.94                       | 20.95                     |                        |             |
| 5               | 64QAM      | 12      | 13        | 20.94                    | 20.91                       | 20.70                     | 21.5                   | 3           |
| 5               | 64QAM      | 25      | 0         | 21.06                    | 20.90                       | 20.90                     |                        |             |
| Channel         |            |         |           | 23025                    | 23095                       | 23165                     | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 700.5                    | 707.5                       | 714.5                     |                        |             |
| 3               | QPSK       | 1       | 0         | 23.74                    | 23.80                       | 23.80                     |                        |             |
| 3               | QPSK       | 1       | 8         | 23.71                    | 23.76                       | 23.64                     | 24.5                   | 0           |
| 3               | QPSK       | 1       | 14        | 23.75                    | 23.70                       | 23.66                     |                        |             |
| 3               | QPSK       | 8       | 0         | 22.94                    | 22.93                       | 22.86                     |                        |             |
| 3               | QPSK       | 8       | 4         | 22.97                    | 22.92                       | 22.92                     | 23.5                   | 1           |



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|                 |       |    |    |       |       |       |                        |             |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|
| 3               | QPSK  | 8  | 7  | 22.89 | 22.87 | 22.70 |                        |             |
| 3               | QPSK  | 15 | 0  | 22.95 | 22.86 | 22.83 |                        |             |
| 3               | 16QAM | 1  | 0  | 23.14 | 23.09 | 23.08 |                        |             |
| 3               | 16QAM | 1  | 8  | 23.18 | 23.20 | 23.04 | 23.5                   | 1           |
| 3               | 16QAM | 1  | 14 | 23.20 | 23.13 | 22.96 |                        |             |
| 3               | 16QAM | 8  | 0  | 21.95 | 21.91 | 21.95 |                        |             |
| 3               | 16QAM | 8  | 4  | 21.92 | 21.92 | 21.87 | 22.5                   | 2           |
| 3               | 16QAM | 8  | 7  | 21.91 | 21.83 | 21.82 |                        |             |
| 3               | 16QAM | 15 | 0  | 22.04 | 21.92 | 21.91 |                        |             |
| 3               | 64QAM | 1  | 0  | 21.94 | 21.95 | 21.99 | 22.5                   | 2           |
| 3               | 64QAM | 1  | 8  | 21.50 | 22.12 | 21.99 |                        |             |
| 3               | 64QAM | 1  | 14 | 22.02 | 21.97 | 21.91 |                        |             |
| 3               | 64QAM | 8  | 0  | 20.74 | 20.93 | 20.91 | 21.5                   | 3           |
| 3               | 64QAM | 8  | 4  | 20.96 | 20.97 | 20.93 |                        |             |
| 3               | 64QAM | 8  | 7  | 20.93 | 20.82 | 20.80 |                        |             |
| 3               | 64QAM | 15 | 0  | 20.98 | 20.95 | 20.82 |                        |             |
| Channel         |       |    |    | 23017 | 23095 | 23173 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 699.7 | 707.5 | 715.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 23.73 | 23.75 | 23.73 | 24.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.75 | 23.73 | 23.72 |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.75 | 23.69 | 23.63 |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.78 | 23.74 | 23.71 |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.75 | 23.81 | 23.68 |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.77 | 23.77 | 23.66 |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.98 | 22.95 | 22.84 | 23.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 23.17 | 23.08 | 23.13 | 23.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 23.11 | 23.18 | 23.04 |                        |             |
| 1.4             | 16QAM | 1  | 5  | 23.16 | 23.04 | 23.00 |                        |             |
| 1.4             | 16QAM | 3  | 0  | 23.22 | 23.10 | 23.16 |                        |             |
| 1.4             | 16QAM | 3  | 1  | 23.19 | 23.18 | 23.08 |                        |             |
| 1.4             | 16QAM | 3  | 3  | 23.18 | 23.11 | 23.02 |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.95 | 21.87 | 21.85 | 22.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 22.04 | 21.92 | 22.07 | 22.5                   | 2           |
| 1.4             | 64QAM | 1  | 3  | 21.50 | 22.13 | 21.95 |                        |             |
| 1.4             | 64QAM | 1  | 5  | 22.00 | 21.98 | 21.87 |                        |             |
| 1.4             | 64QAM | 3  | 0  | 22.04 | 21.92 | 22.06 |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.46 | 22.10 | 21.90 |                        |             |
| 1.4             | 64QAM | 3  | 3  | 22.00 | 21.94 | 21.92 |                        |             |
| 1.4             | 64QAM | 6  | 0  | 20.97 | 20.91 | 20.86 | 21.5                   | 3           |



**<LTE Band 13 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23230                    |                             |                           |                        |             |
| Frequency (MHz) |            |         |           | 782                      |                             |                           |                        |             |
| 10              | QPSK       | 1       | 0         |                          | 23.66                       |                           | 24.5                   | 0           |
| 10              | QPSK       | 1       | 25        |                          | 23.60                       |                           |                        |             |
| 10              | QPSK       | 1       | 49        |                          | 23.56                       |                           |                        |             |
| 10              | QPSK       | 25      | 0         |                          | 22.65                       |                           | 23.5                   | 1           |
| 10              | QPSK       | 25      | 12        |                          | 22.63                       |                           |                        |             |
| 10              | QPSK       | 25      | 25        |                          | 22.59                       |                           |                        |             |
| 10              | QPSK       | 50      | 0         |                          | 22.64                       |                           | 23.5                   | 1           |
| 10              | 16QAM      | 1       | 0         |                          | 22.88                       |                           |                        |             |
| 10              | 16QAM      | 1       | 25        |                          | 22.92                       |                           |                        |             |
| 10              | 16QAM      | 1       | 49        |                          | 22.92                       |                           | 22.5                   | 2           |
| 10              | 16QAM      | 25      | 0         |                          | 21.69                       |                           |                        |             |
| 10              | 16QAM      | 25      | 12        |                          | 21.69                       |                           |                        |             |
| 10              | 16QAM      | 25      | 25        |                          | 21.68                       |                           | 22.5                   | 2           |
| 10              | 16QAM      | 50      | 0         |                          | 21.73                       |                           |                        |             |
| 10              | 64QAM      | 1       | 0         |                          | 21.73                       |                           |                        |             |
| 10              | 64QAM      | 1       | 25        |                          | 21.85                       |                           | 22.5                   | 2           |
| 10              | 64QAM      | 1       | 49        |                          | 21.95                       |                           |                        |             |
| 10              | 64QAM      | 25      | 0         |                          | 20.68                       |                           |                        |             |
| 10              | 64QAM      | 25      | 12        |                          | 20.72                       |                           | 21.5                   | 3           |
| 10              | 64QAM      | 25      | 25        |                          | 20.77                       |                           |                        |             |
| 10              | 64QAM      | 50      | 0         |                          | 20.71                       |                           |                        |             |
| Channel         |            |         |           | 23205                    | 23230                       | 23255                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 779.5                    | 782                         | 784.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 23.59                    | 23.62                       | 23.65                     | 24.5                   | 0           |
| 5               | QPSK       | 1       | 12        | 23.59                    | 23.59                       | 23.56                     |                        |             |
| 5               | QPSK       | 1       | 24        | 23.48                    | 23.52                       | 23.54                     |                        |             |
| 5               | QPSK       | 12      | 0         | 22.57                    | 22.57                       | 22.57                     | 23.5                   | 1           |
| 5               | QPSK       | 12      | 7         | 22.54                    | 22.60                       | 22.53                     |                        |             |
| 5               | QPSK       | 12      | 13        | 22.64                    | 22.69                       | 22.62                     |                        |             |
| 5               | QPSK       | 25      | 0         | 22.56                    | 22.56                       | 22.61                     | 23.5                   | 1           |
| 5               | 16QAM      | 1       | 0         | 22.88                    | 22.88                       | 22.79                     |                        |             |
| 5               | 16QAM      | 1       | 12        | 22.84                    | 22.88                       | 22.91                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 22.90                    | 22.85                       | 22.85                     | 22.5                   | 2           |
| 5               | 16QAM      | 12      | 0         | 21.60                    | 21.65                       | 21.63                     |                        |             |
| 5               | 16QAM      | 12      | 7         | 21.65                    | 21.63                       | 21.62                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 21.63                    | 21.63                       | 21.65                     | 22.5                   | 2           |
| 5               | 16QAM      | 25      | 0         | 21.63                    | 21.68                       | 21.73                     |                        |             |
| 5               | 64QAM      | 1       | 0         | 21.71                    | 21.64                       | 21.67                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 21.77                    | 21.84                       | 21.81                     | 22.5                   | 2           |
| 5               | 64QAM      | 1       | 24        | 21.92                    | 21.87                       | 21.92                     |                        |             |
| 5               | 64QAM      | 12      | 0         | 20.58                    | 20.58                       | 20.61                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 20.72                    | 20.69                       | 20.71                     | 21.5                   | 3           |
| 5               | 64QAM      | 12      | 13        | 20.72                    | 20.74                       | 20.73                     |                        |             |
| 5               | 64QAM      | 25      | 0         | 20.66                    | 20.65                       | 20.69                     |                        |             |



**<LTE Band 14 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23330                    |                             |                           |                        |             |
| Frequency (MHz) |            |         |           | 793                      |                             |                           |                        |             |
| 10              | QPSK       | 1       | 0         |                          | 23.68                       |                           | 24.5                   | 0           |
| 10              | QPSK       | 1       | 25        |                          | 23.59                       |                           |                        |             |
| 10              | QPSK       | 1       | 49        |                          | 23.56                       |                           |                        |             |
| 10              | QPSK       | 25      | 0         |                          | 22.66                       |                           | 23.5                   | 1           |
| 10              | QPSK       | 25      | 12        |                          | 22.65                       |                           |                        |             |
| 10              | QPSK       | 25      | 25        |                          | 22.61                       |                           |                        |             |
| 10              | QPSK       | 50      | 0         |                          | 22.64                       |                           | 23.5                   | 1           |
| 10              | 16QAM      | 1       | 0         |                          | 23.11                       |                           |                        |             |
| 10              | 16QAM      | 1       | 25        |                          | 23.02                       |                           |                        |             |
| 10              | 16QAM      | 1       | 49        |                          | 22.91                       |                           | 22.5                   | 2           |
| 10              | 16QAM      | 25      | 0         |                          | 21.63                       |                           |                        |             |
| 10              | 16QAM      | 25      | 12        |                          | 21.65                       |                           |                        |             |
| 10              | 16QAM      | 25      | 25        |                          | 21.73                       |                           | 22.5                   | 2           |
| 10              | 16QAM      | 50      | 0         |                          | 21.66                       |                           |                        |             |
| 10              | 64QAM      | 1       | 0         |                          | 21.91                       |                           |                        |             |
| 10              | 64QAM      | 1       | 25        |                          | 21.93                       |                           |                        |             |
| 10              | 64QAM      | 1       | 49        |                          | 21.88                       |                           |                        |             |
| 10              | 64QAM      | 25      | 0         |                          | 20.70                       |                           | 21.5                   | 3           |
| 10              | 64QAM      | 25      | 12        |                          | 20.70                       |                           |                        |             |
| 10              | 64QAM      | 25      | 25        |                          | 20.71                       |                           |                        |             |
| 10              | 64QAM      | 50      | 0         |                          | 20.70                       |                           |                        |             |
| Channel         |            |         |           | 23305                    | 23330                       | 23355                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 790.5                    | 793                         | 795.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 23.66                    | 23.65                       | 23.61                     | 24.5                   | 0           |
| 5               | QPSK       | 1       | 12        | 23.52                    | 23.56                       | 23.56                     |                        |             |
| 5               | QPSK       | 1       | 24        | 23.50                    | 23.50                       | 23.50                     |                        |             |
| 5               | QPSK       | 12      | 0         | 22.65                    | 22.60                       | 22.63                     | 23.5                   | 1           |
| 5               | QPSK       | 12      | 7         | 22.58                    | 22.60                       | 22.58                     |                        |             |
| 5               | QPSK       | 12      | 13        | 22.62                    | 22.71                       | 22.63                     |                        |             |
| 5               | QPSK       | 25      | 0         | 22.54                    | 22.63                       | 22.55                     | 23.5                   | 1           |
| 5               | 16QAM      | 1       | 0         | 23.01                    | 23.09                       | 23.08                     |                        |             |
| 5               | 16QAM      | 1       | 12        | 22.99                    | 22.97                       | 22.92                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 22.90                    | 22.83                       | 22.82                     | 22.5                   | 2           |
| 5               | 16QAM      | 12      | 0         | 21.59                    | 21.62                       | 21.56                     |                        |             |
| 5               | 16QAM      | 12      | 7         | 21.63                    | 21.58                       | 21.65                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 21.64                    | 21.71                       | 21.69                     | 22.5                   | 2           |
| 5               | 16QAM      | 25      | 0         | 21.60                    | 21.56                       | 21.64                     |                        |             |
| 5               | 64QAM      | 1       | 0         | 21.81                    | 21.85                       | 21.88                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 21.83                    | 21.90                       | 21.86                     | 22.5                   | 2           |
| 5               | 64QAM      | 1       | 24        | 21.83                    | 21.84                       | 21.81                     |                        |             |
| 5               | 64QAM      | 12      | 0         | 20.63                    | 20.66                       | 20.68                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 20.69                    | 20.68                       | 20.68                     | 21.5                   | 3           |
| 5               | 64QAM      | 12      | 13        | 20.66                    | 20.68                       | 20.63                     |                        |             |
| 5               | 64QAM      | 25      | 0         | 20.61                    | 20.61                       | 20.62                     |                        |             |

**<LTE Band 17 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23780                    | 23790                       | 23800                     | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 709                      | 710                         | 711                       |                        |             |
| 10              | QPSK       | 1       | 0         | 23.76                    | 23.73                       | 23.79                     |                        |             |
| 10              | QPSK       | 1       | 25        | 23.68                    | 23.64                       | 23.64                     | 23.5                   | 1           |
| 10              | QPSK       | 1       | 49        | 23.66                    | 23.63                       | 23.61                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.81                    | 22.89                       | 22.78                     |                        |             |
| 10              | QPSK       | 25      | 12        | 22.88                    | 22.86                       | 22.77                     | 23.5                   | 1           |
| 10              | QPSK       | 25      | 25        | 22.79                    | 22.79                       | 22.76                     |                        |             |
| 10              | QPSK       | 50      | 0         | 22.79                    | 22.76                       | 22.76                     |                        |             |
| 10              | 16QAM      | 1       | 0         | 23.13                    | 23.12                       | 23.11                     | 23.5                   | 1           |
| 10              | 16QAM      | 1       | 25        | 23.09                    | 23.06                       | 23.05                     |                        |             |
| 10              | 16QAM      | 1       | 49        | 23.02                    | 23.02                       | 22.99                     |                        |             |
| 10              | 16QAM      | 25      | 0         | 21.82                    | 21.83                       | 21.79                     | 22.5                   | 2           |
| 10              | 16QAM      | 25      | 12        | 21.90                    | 21.85                       | 21.76                     |                        |             |
| 10              | 16QAM      | 25      | 25        | 21.82                    | 21.78                       | 21.70                     |                        |             |
| 10              | 16QAM      | 50      | 0         | 21.77                    | 21.73                       | 21.69                     | 22.5                   | 2           |
| 10              | 64QAM      | 1       | 0         | 21.99                    | 21.99                       | 21.98                     |                        |             |
| 10              | 64QAM      | 1       | 25        | 22.01                    | 22.01                       | 21.95                     |                        |             |
| 10              | 64QAM      | 1       | 49        | 21.85                    | 21.89                       | 21.82                     | 21.5                   | 3           |
| 10              | 64QAM      | 25      | 0         | 20.87                    | 20.84                       | 20.83                     |                        |             |
| 10              | 64QAM      | 25      | 12        | 20.90                    | 20.90                       | 20.81                     |                        |             |
| 10              | 64QAM      | 25      | 25        | 20.80                    | 20.77                       | 20.81                     | 21.5                   | 3           |
| 10              | 64QAM      | 50      | 0         | 20.78                    | 20.79                       | 20.74                     |                        |             |
| Channel         |            |         |           | 23755                    | 23790                       | 23825                     | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 706.5                    | 710                         | 713.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 23.70                    | 23.69                       | 23.70                     |                        |             |
| 5               | QPSK       | 1       | 12        | 23.62                    | 23.61                       | 23.62                     | 23.5                   | 1           |
| 5               | QPSK       | 1       | 24        | 23.63                    | 23.54                       | 23.59                     |                        |             |
| 5               | QPSK       | 12      | 0         | 22.81                    | 22.73                       | 22.76                     |                        |             |
| 5               | QPSK       | 12      | 7         | 22.87                    | 22.86                       | 22.72                     | 23.5                   | 1           |
| 5               | QPSK       | 12      | 13        | 22.72                    | 22.76                       | 22.76                     |                        |             |
| 5               | QPSK       | 25      | 0         | 22.71                    | 22.68                       | 22.70                     |                        |             |
| 5               | 16QAM      | 1       | 0         | 23.07                    | 23.11                       | 23.07                     | 23.5                   | 1           |
| 5               | 16QAM      | 1       | 12        | 23.03                    | 23.05                       | 23.01                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 23.00                    | 22.95                       | 22.96                     |                        |             |
| 5               | 16QAM      | 12      | 0         | 21.73                    | 21.74                       | 21.74                     | 22.5                   | 2           |
| 5               | 16QAM      | 12      | 7         | 21.89                    | 21.83                       | 21.75                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 21.75                    | 21.76                       | 21.67                     |                        |             |
| 5               | 16QAM      | 25      | 0         | 21.73                    | 21.73                       | 21.61                     | 22.5                   | 2           |
| 5               | 64QAM      | 1       | 0         | 21.96                    | 21.98                       | 21.97                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 21.91                    | 22.01                       | 21.88                     |                        |             |
| 5               | 64QAM      | 1       | 24        | 21.77                    | 21.88                       | 21.77                     | 21.5                   | 3           |
| 5               | 64QAM      | 12      | 0         | 20.78                    | 20.82                       | 20.80                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 20.81                    | 20.82                       | 20.75                     |                        |             |
| 5               | 64QAM      | 12      | 13        | 20.80                    | 20.77                       | 20.72                     | 21.5                   | 3           |
| 5               | 64QAM      | 25      | 0         | 20.74                    | 20.71                       | 20.73                     |                        |             |



**<LTE Band 25 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 26140                    | 26340                       | 26590                     |                        |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1905                      |                        |             |
| 20              | QPSK       | 1       | 0         | 23.51                    | 23.44                       | 23.67                     | 24                     | 0           |
| 20              | QPSK       | 1       | 49        | 23.48                    | 23.37                       | 23.33                     |                        |             |
| 20              | QPSK       | 1       | 99        | 23.39                    | 23.28                       | 23.27                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.55                    | 22.56                       | 22.73                     | 23                     | 1           |
| 20              | QPSK       | 50      | 24        | 22.50                    | 22.48                       | 22.63                     |                        |             |
| 20              | QPSK       | 50      | 50        | 22.45                    | 22.47                       | 22.67                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.52                    | 22.49                       | 22.74                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 0         | 22.92                    | 22.75                       | 22.65                     |                        |             |
| 20              | 16QAM      | 1       | 49        | 22.83                    | 22.78                       | 22.63                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 22.82                    | 22.71                       | 22.61                     | 22                     | 2           |
| 20              | 16QAM      | 50      | 0         | 21.73                    | 21.50                       | 21.46                     |                        |             |
| 20              | 16QAM      | 50      | 24        | 21.71                    | 21.57                       | 21.48                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 21.63                    | 21.51                       | 21.45                     | 22                     | 2           |
| 20              | 16QAM      | 100     | 0         | 21.65                    | 21.55                       | 21.50                     |                        |             |
| 20              | 64QAM      | 1       | 0         | 21.88                    | 21.79                       | 21.17                     | 22                     | 2           |
| 20              | 64QAM      | 1       | 49        | 21.70                    | 21.59                       | 21.55                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 21.49                    | 21.52                       | 21.09                     |                        |             |
| 20              | 64QAM      | 50      | 0         | 20.75                    | 20.53                       | 20.29                     | 21                     | 3           |
| 20              | 64QAM      | 50      | 24        | 20.73                    | 20.60                       | 20.53                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 20.43                    | 20.53                       | 20.49                     |                        |             |
| 20              | 64QAM      | 100     | 0         | 20.67                    | 20.53                       | 20.22                     |                        |             |
| Channel         |            |         |           | 26115                    | 26340                       | 26615                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1907.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 23.63                    | 23.38                       | 23.34                     | 24                     | 0           |
| 15              | QPSK       | 1       | 37        | 23.50                    | 23.35                       | 23.23                     |                        |             |
| 15              | QPSK       | 1       | 74        | 23.37                    | 23.27                       | 23.26                     |                        |             |
| 15              | QPSK       | 36      | 0         | 22.66                    | 22.45                       | 22.36                     | 23                     | 1           |
| 15              | QPSK       | 36      | 20        | 22.64                    | 22.53                       | 22.45                     |                        |             |
| 15              | QPSK       | 36      | 39        | 22.62                    | 22.41                       | 22.38                     |                        |             |
| 15              | QPSK       | 75      | 0         | 22.72                    | 22.46                       | 22.43                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 0         | 22.90                    | 22.70                       | 22.64                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 22.83                    | 22.70                       | 22.61                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 22.76                    | 22.67                       | 22.56                     | 22                     | 2           |
| 15              | 16QAM      | 36      | 0         | 21.70                    | 21.47                       | 21.41                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 21.63                    | 21.53                       | 21.38                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 21.62                    | 21.43                       | 21.35                     | 22                     | 2           |
| 15              | 16QAM      | 75      | 0         | 21.58                    | 21.53                       | 21.46                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 21.84                    | 21.73                       | 21.10                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 21.69                    | 21.51                       | 21.53                     | 22                     | 2           |
| 15              | 64QAM      | 1       | 74        | 21.40                    | 21.49                       | 21.07                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 20.71                    | 20.51                       | 20.29                     | 21                     | 3           |
| 15              | 64QAM      | 36      | 20        | 20.71                    | 20.56                       | 20.52                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 20.39                    | 20.48                       | 20.47                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 20.58                    | 20.44                       | 20.15                     |                        |             |
| Channel         |            |         |           | 26090                    | 26340                       | 26640                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1855                     | 1880                        | 1910                      |                        |             |
| 10              | QPSK       | 1       | 0         | 23.61                    | 23.41                       | 23.35                     | 24                     | 0           |
| 10              | QPSK       | 1       | 25        | 23.47                    | 23.33                       | 23.24                     |                        |             |
| 10              | QPSK       | 1       | 49        | 23.35                    | 23.28                       | 23.18                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.67                    | 22.42                       | 22.38                     | 23                     | 1           |
| 10              | QPSK       | 25      | 12        | 22.60                    | 22.54                       | 22.48                     |                        |             |



# FCC SAR TEST REPORT

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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 22.57  | 22.38 | 22.38  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.74  | 22.45 | 22.42  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.83  | 22.65 | 22.55  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.78  | 22.74 | 22.59  | 23                     | 1           |
| 10              | 16QAM | 1  | 49 | 22.72  | 22.64 | 22.55  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.65  | 21.41 | 21.37  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.68  | 21.54 | 21.38  | 22                     | 2           |
| 10              | 16QAM | 25 | 25 | 21.62  | 21.46 | 21.36  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.62  | 21.49 | 21.42  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.87  | 21.70 | 21.12  | 22                     | 2           |
| 10              | 64QAM | 1  | 25 | 21.64  | 21.54 | 21.46  |                        |             |
| 10              | 64QAM | 1  | 49 | 21.42  | 21.52 | 21.02  |                        |             |
| 10              | 64QAM | 25 | 0  | 20.69  | 20.52 | 20.21  | 21                     | 3           |
| 10              | 64QAM | 25 | 12 | 20.66  | 20.58 | 20.44  |                        |             |
| 10              | 64QAM | 25 | 25 | 20.34  | 20.50 | 20.46  |                        |             |
| 10              | 64QAM | 50 | 0  | 20.62  | 20.49 | 20.16  |                        |             |
| Channel         |       |    |    | 26065  | 26340 | 26665  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1912.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 23.59  | 23.42 | 23.35  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.45  | 23.36 | 23.26  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.39  | 23.22 | 23.27  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.70  | 22.48 | 22.43  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.70  | 22.55 | 22.49  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.57  | 22.45 | 22.42  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.71  | 22.46 | 22.50  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.86  | 22.72 | 22.55  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.83  | 22.74 | 22.62  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.77  | 22.66 | 22.53  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 21.65  | 21.49 | 21.43  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.63  | 21.52 | 21.38  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.55  | 21.51 | 21.45  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 21.64  | 21.53 | 21.42  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.83  | 21.70 | 21.12  |                        |             |
| 5               | 64QAM | 1  | 12 | 21.65  | 21.58 | 21.52  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 21.39  | 21.44 | 21.00  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.72  | 20.44 | 20.23  |                        |             |
| 5               | 64QAM | 12 | 7  | 20.70  | 20.54 | 20.50  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 20.36  | 20.45 | 20.47  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.67  | 20.43 | 20.12  |                        |             |
| Channel         |       |    |    | 26055  | 26340 | 26675  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1913.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 23.62  | 23.38 | 23.32  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.43  | 23.30 | 23.25  |                        |             |
| 3               | QPSK  | 1  | 14 | 23.37  | 23.28 | 23.26  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.66  | 22.47 | 22.34  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 22.69  | 22.46 | 22.51  |                        |             |
| 3               | QPSK  | 8  | 7  | 22.55  | 22.43 | 22.37  |                        |             |
| 3               | QPSK  | 15 | 0  | 22.65  | 22.42 | 22.44  | 23                     | 1           |
| 3               | 16QAM | 1  | 0  | 22.87  | 22.73 | 22.55  |                        |             |
| 3               | 16QAM | 1  | 8  | 22.81  | 22.68 | 22.55  |                        |             |
| 3               | 16QAM | 1  | 14 | 22.80  | 22.65 | 22.60  | 22                     | 2           |
| 3               | 16QAM | 8  | 0  | 21.63  | 21.48 | 21.46  |                        |             |
| 3               | 16QAM | 8  | 4  | 21.67  | 21.49 | 21.41  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.60  | 21.49 | 21.44  | 22                     | 2           |
| 3               | 16QAM | 15 | 0  | 21.60  | 21.54 | 21.44  |                        |             |
| 3               | 64QAM | 1  | 0  | 21.85  | 21.75 | 21.16  | 22                     | 2           |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 21.67  | 21.50 | 21.54  | 21                     | 3           |
| 3               | 64QAM | 1  | 14 | 21.39  | 21.46 | 21.04  |                        |             |
| 3               | 64QAM | 8  | 0  | 20.75  | 20.45 | 20.29  |                        |             |
| 3               | 64QAM | 8  | 4  | 20.63  | 20.55 | 20.48  |                        |             |
| 3               | 64QAM | 8  | 7  | 20.42  | 20.47 | 20.49  |                        |             |
| 3               | 64QAM | 15 | 0  | 20.64  | 20.53 | 20.22  |                        |             |
| Channel         |       |    |    | 26047  | 26340 | 26683  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1914.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 23.58  | 23.35 | 23.38  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.44  | 23.33 | 23.24  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.29  | 23.22 | 23.18  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.64  | 23.40 | 23.39  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.44  | 23.28 | 23.30  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.30  | 23.19 | 23.17  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.70  | 22.41 | 22.50  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.86  | 22.73 | 22.60  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.80  | 22.78 | 22.59  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.73  | 22.65 | 22.53  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 22.87  | 22.71 | 22.60  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.79  | 22.71 | 22.61  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 22.81  | 22.68 | 22.61  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.65  | 21.50 | 21.47  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 0  | 21.81  | 21.69 | 21.13  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 3  | 21.65  | 21.50 | 21.53  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 21.48  | 21.49 | 21.08  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.80  | 21.77 | 21.14  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.64  | 21.49 | 21.52  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.46  | 21.50 | 21.03  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 20.62  | 20.51 | 20.16  | 21                     | 3           |



**<LTE Band 26 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 26765                 | 26865                    | 26965                  |                     |          |
| Frequency (MHz) |            |         |           | 821.5                 | 831.5                    | 841.5                  |                     |          |
| 15              | QPSK       | 1       | 0         | 23.79                 | 23.87                    | 23.97                  |                     |          |
| 15              | QPSK       | 1       | 37        | 23.85                 | 23.74                    | 23.87                  | 24.5                | 0        |
| 15              | QPSK       | 1       | 74        | 23.91                 | 23.80                    | 23.79                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.98                 | 22.89                    | 22.92                  |                     |          |
| 15              | QPSK       | 36      | 20        | 23.02                 | 22.88                    | 23.04                  | 23.5                | 1        |
| 15              | QPSK       | 36      | 39        | 22.96                 | 22.88                    | 23.02                  |                     |          |
| 15              | QPSK       | 75      | 0         | 23.01                 | 22.94                    | 22.94                  |                     |          |
| 15              | 16QAM      | 1       | 0         | 23.24                 | 23.11                    | 23.09                  | 23.5                | 1        |
| 15              | 16QAM      | 1       | 37        | 23.14                 | 23.08                    | 23.15                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 23.19                 | 23.24                    | 23.04                  |                     |          |
| 15              | 16QAM      | 36      | 0         | 21.94                 | 21.91                    | 21.92                  | 22.5                | 2        |
| 15              | 16QAM      | 36      | 20        | 21.98                 | 21.94                    | 22.01                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.96                 | 21.97                    | 21.99                  |                     |          |
| 15              | 16QAM      | 75      | 0         | 21.97                 | 21.96                    | 21.96                  | 22.5                | 2        |
| 15              | 64QAM      | 1       | 0         | 22.07                 | 21.95                    | 22.02                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 22.00                 | 22.03                    | 22.04                  |                     |          |
| 15              | 64QAM      | 1       | 74        | 22.03                 | 22.10                    | 20.97                  | 21.5                | 3        |
| 15              | 64QAM      | 36      | 0         | 21.00                 | 20.94                    | 20.98                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 21.00                 | 20.99                    | 21.05                  |                     |          |
| 15              | 64QAM      | 36      | 39        | 20.94                 | 21.05                    | 21.08                  | 21.5                | 3        |
| 15              | 64QAM      | 36      | 75        | 20.99                 | 20.97                    | 21.00                  |                     |          |
| Channel         |            |         |           | 26740                 | 26865                    | 26990                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 819                   | 831.5                    | 844                    |                     |          |
| 10              | QPSK       | 1       | 0         | 23.93                 | 23.78                    | 23.72                  |                     |          |
| 10              | QPSK       | 1       | 25        | 23.76                 | 23.65                    | 23.85                  | 24.5                | 0        |
| 10              | QPSK       | 1       | 49        | 23.85                 | 23.84                    | 23.78                  |                     |          |
| 10              | QPSK       | 25      | 0         | 22.97                 | 22.89                    | 22.90                  |                     |          |
| 10              | QPSK       | 25      | 12        | 22.99                 | 22.92                    | 23.04                  | 23.5                | 1        |
| 10              | QPSK       | 25      | 25        | 22.96                 | 22.94                    | 23.01                  |                     |          |
| 10              | QPSK       | 50      | 0         | 22.97                 | 22.90                    | 22.87                  |                     |          |
| 10              | 16QAM      | 1       | 0         | 23.24                 | 23.05                    | 23.08                  | 23.5                | 1        |
| 10              | 16QAM      | 1       | 25        | 23.11                 | 23.00                    | 23.12                  |                     |          |
| 10              | 16QAM      | 1       | 49        | 23.15                 | 23.14                    | 22.95                  |                     |          |
| 10              | 16QAM      | 25      | 0         | 21.89                 | 21.88                    | 21.89                  | 22.5                | 2        |
| 10              | 16QAM      | 25      | 12        | 21.91                 | 21.84                    | 21.94                  |                     |          |
| 10              | 16QAM      | 25      | 25        | 21.86                 | 21.95                    | 21.94                  |                     |          |
| 10              | 16QAM      | 50      | 0         | 21.89                 | 21.91                    | 21.87                  | 22.5                | 2        |
| 10              | 64QAM      | 1       | 0         | 22.07                 | 21.95                    | 22.02                  |                     |          |
| 10              | 64QAM      | 1       | 25        | 21.96                 | 21.94                    | 22.00                  |                     |          |
| 10              | 64QAM      | 1       | 49        | 21.93                 | 22.08                    | 20.89                  | 21.5                | 3        |
| 10              | 64QAM      | 25      | 0         | 20.93                 | 20.90                    | 20.94                  |                     |          |
| 10              | 64QAM      | 25      | 12        | 20.90                 | 20.98                    | 21.00                  |                     |          |
| 10              | 64QAM      | 25      | 25        | 20.90                 | 20.96                    | 21.06                  | 21.5                | 3        |
| 10              | 64QAM      | 25      | 50        | 20.92                 | 20.96                    | 21.00                  |                     |          |
| Channel         |            |         |           | 26715                 | 26865                    | 27015                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 816.5                 | 831.5                    | 846.5                  |                     |          |
| 5               | QPSK       | 1       | 0         | 23.93                 | 23.75                    | 23.69                  |                     |          |
| 5               | QPSK       | 1       | 12        | 23.76                 | 23.67                    | 23.83                  | 24.5                | 0        |
| 5               | QPSK       | 1       | 24        | 23.91                 | 23.85                    | 23.75                  |                     |          |
| 5               | QPSK       | 12      | 0         | 22.88                 | 22.89                    | 22.83                  |                     |          |
| 5               | QPSK       | 12      | 7         | 22.98                 | 22.95                    | 23.01                  | 23.5                | 1        |



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|                 |       |    |    |       |       |       |                     |          |
|-----------------|-------|----|----|-------|-------|-------|---------------------|----------|
| 5               | QPSK  | 12 | 13 | 22.86 | 22.90 | 22.97 |                     |          |
| 5               | QPSK  | 25 | 0  | 22.96 | 22.89 | 22.86 |                     |          |
| 5               | 16QAM | 1  | 0  | 23.15 | 23.10 | 23.04 |                     |          |
| 5               | 16QAM | 1  | 12 | 23.12 | 23.02 | 23.14 | 23.5                | 1        |
| 5               | 16QAM | 1  | 24 | 23.12 | 23.16 | 22.96 |                     |          |
| 5               | 16QAM | 12 | 0  | 21.88 | 21.86 | 21.86 |                     |          |
| 5               | 16QAM | 12 | 7  | 21.95 | 21.91 | 21.92 | 22.5                | 2        |
| 5               | 16QAM | 12 | 13 | 21.96 | 21.93 | 21.98 |                     |          |
| 5               | 16QAM | 25 | 0  | 21.92 | 21.96 | 21.91 |                     |          |
| 5               | 64QAM | 1  | 0  | 21.99 | 21.87 | 21.96 | 22.5                | 2        |
| 5               | 64QAM | 1  | 12 | 21.91 | 22.03 | 22.03 |                     |          |
| 5               | 64QAM | 1  | 24 | 21.93 | 22.04 | 20.87 |                     |          |
| 5               | 64QAM | 12 | 0  | 20.96 | 20.94 | 20.93 | 21.5                | 3        |
| 5               | 64QAM | 12 | 7  | 20.92 | 20.96 | 20.97 |                     |          |
| 5               | 64QAM | 12 | 13 | 20.84 | 21.02 | 21.02 |                     |          |
| 5               | 64QAM | 25 | 0  | 20.93 | 20.97 | 20.93 |                     |          |
| Channel         |       |    |    | 26705 | 26865 | 27025 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 815.5 | 831.5 | 847.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 23.91 | 23.77 | 23.72 | 24.5                | 0        |
| 3               | QPSK  | 1  | 8  | 23.85 | 23.69 | 23.81 |                     |          |
| 3               | QPSK  | 1  | 14 | 23.82 | 23.83 | 23.73 |                     |          |
| 3               | QPSK  | 8  | 0  | 22.88 | 22.80 | 22.92 | 23.5                | 1        |
| 3               | QPSK  | 8  | 4  | 23.00 | 22.95 | 22.95 |                     |          |
| 3               | QPSK  | 8  | 7  | 22.87 | 22.88 | 22.94 |                     |          |
| 3               | QPSK  | 15 | 0  | 22.93 | 22.94 | 22.84 | 23.5                | 1        |
| 3               | 16QAM | 1  | 0  | 23.14 | 23.05 | 23.06 |                     |          |
| 3               | 16QAM | 1  | 8  | 23.08 | 23.03 | 23.14 |                     |          |
| 3               | 16QAM | 1  | 14 | 23.10 | 23.14 | 22.95 | 22.5                | 2        |
| 3               | 16QAM | 8  | 0  | 21.84 | 21.91 | 21.92 |                     |          |
| 3               | 16QAM | 8  | 4  | 21.96 | 21.92 | 21.93 |                     |          |
| 3               | 16QAM | 8  | 7  | 21.94 | 21.94 | 21.92 | 22.5                | 2        |
| 3               | 16QAM | 15 | 0  | 21.93 | 21.91 | 21.89 |                     |          |
| 3               | 64QAM | 1  | 0  | 22.02 | 21.90 | 21.97 |                     |          |
| 3               | 64QAM | 1  | 8  | 22.00 | 21.96 | 21.99 | 22.5                | 2        |
| 3               | 64QAM | 1  | 14 | 22.01 | 22.00 | 20.97 |                     |          |
| 3               | 64QAM | 8  | 0  | 20.93 | 20.87 | 20.91 |                     |          |
| 3               | 64QAM | 8  | 4  | 20.93 | 20.97 | 21.01 | 21.5                | 3        |
| 3               | 64QAM | 8  | 7  | 20.92 | 20.97 | 20.99 |                     |          |
| 3               | 64QAM | 15 | 0  | 20.96 | 20.94 | 20.95 |                     |          |
| Channel         |       |    |    | 26697 | 26865 | 27033 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 814.7 | 831.5 | 848.3 |                     |          |
| 1.4             | QPSK  | 1  | 0  | 23.93 | 23.74 | 23.73 | 24.5                | 0        |
| 1.4             | QPSK  | 1  | 3  | 23.81 | 23.65 | 23.82 |                     |          |
| 1.4             | QPSK  | 1  | 5  | 23.91 | 23.77 | 23.70 |                     |          |
| 1.4             | QPSK  | 3  | 0  | 23.93 | 23.70 | 23.71 |                     |          |
| 1.4             | QPSK  | 3  | 1  | 23.81 | 23.68 | 23.79 |                     |          |
| 1.4             | QPSK  | 3  | 3  | 23.90 | 23.84 | 23.71 |                     |          |
| 1.4             | QPSK  | 6  | 0  | 22.94 | 22.94 | 22.94 | 23.5                | 1        |
| 1.4             | 16QAM | 1  | 0  | 23.21 | 23.08 | 23.06 | 23.5                | 1        |
| 1.4             | 16QAM | 1  | 3  | 23.06 | 22.99 | 23.12 |                     |          |
| 1.4             | 16QAM | 1  | 5  | 23.10 | 23.15 | 22.98 |                     |          |
| 1.4             | 16QAM | 3  | 0  | 23.16 | 23.08 | 22.99 |                     |          |
| 1.4             | 16QAM | 3  | 1  | 23.04 | 23.07 | 23.12 |                     |          |
| 1.4             | 16QAM | 3  | 3  | 23.19 | 23.23 | 22.95 |                     |          |
| 1.4             | 16QAM | 6  | 0  | 21.95 | 21.90 | 21.89 | 22.5                | 2        |
| 1.4             | 64QAM | 1  | 0  | 22.01 | 21.90 | 21.96 | 22.5                | 2        |



|     |       |   |   |       |       |       |      |   |
|-----|-------|---|---|-------|-------|-------|------|---|
| 1.4 | 64QAM | 1 | 3 | 21.91 | 22.00 | 22.00 |      |   |
| 1.4 | 64QAM | 1 | 5 | 21.95 | 22.04 | 20.93 |      |   |
| 1.4 | 64QAM | 3 | 0 | 22.06 | 21.85 | 22.00 |      |   |
| 1.4 | 64QAM | 3 | 1 | 21.93 | 21.96 | 21.95 |      |   |
| 1.4 | 64QAM | 3 | 3 | 21.93 | 22.05 | 20.93 |      |   |
| 1.4 | 64QAM | 6 | 0 | 20.94 | 20.91 | 20.98 | 21.5 | 3 |

**<LTE Band 30 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power<br>Low<br>Ch. / Freq. | Power<br>Middle<br>Ch. / Freq. | Power<br>High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|-----------------------------|--------------------------------|------------------------------|------------------------|-------------|
| Channel         |            |         |           | 27710                       |                                |                              |                        |             |
| Frequency (MHz) |            |         |           | 2310                        |                                |                              |                        |             |
| 10              | QPSK       | 1       | 0         |                             | 22.15                          |                              | 23                     | 0           |
| 10              | QPSK       | 1       | 25        |                             | 22.11                          |                              |                        |             |
| 10              | QPSK       | 1       | 49        |                             | 22.05                          |                              |                        |             |
| 10              | QPSK       | 25      | 0         |                             | 21.24                          |                              | 22                     | 1           |
| 10              | QPSK       | 25      | 12        |                             | 21.19                          |                              |                        |             |
| 10              | QPSK       | 25      | 25        |                             | 21.21                          |                              |                        |             |
| 10              | QPSK       | 50      | 0         |                             | 21.20                          |                              |                        |             |
| 10              | 16QAM      | 1       | 0         |                             | 21.49                          |                              | 22                     | 1           |
| 10              | 16QAM      | 1       | 25        |                             | 21.53                          |                              |                        |             |
| 10              | 16QAM      | 1       | 49        |                             | 21.46                          |                              |                        |             |
| 10              | 16QAM      | 25      | 0         |                             | 20.15                          |                              | 21                     | 2           |
| 10              | 16QAM      | 25      | 12        |                             | 20.22                          |                              |                        |             |
| 10              | 16QAM      | 25      | 25        |                             | 20.19                          |                              |                        |             |
| 10              | 16QAM      | 50      | 0         |                             | 20.21                          |                              |                        |             |
| 10              | 64QAM      | 1       | 0         |                             | 20.36                          |                              | 21                     | 2           |
| 10              | 64QAM      | 1       | 25        |                             | 20.39                          |                              |                        |             |
| 10              | 64QAM      | 1       | 49        |                             | 20.31                          |                              |                        |             |
| 10              | 64QAM      | 25      | 0         |                             | 19.20                          |                              | 20                     | 3           |
| 10              | 64QAM      | 25      | 12        |                             | 19.27                          |                              |                        |             |
| 10              | 64QAM      | 25      | 25        |                             | 19.25                          |                              |                        |             |
| 10              | 64QAM      | 50      | 0         |                             | 19.26                          |                              |                        |             |
| Channel         |            |         |           | 27685                       | 27710                          | 27735                        | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2307.5                      | 2310                           | 2312.5                       |                        |             |
| 5               | QPSK       | 1       | 0         | 22.14                       | 22.08                          | 22.08                        | 23                     | 0           |
| 5               | QPSK       | 1       | 12        | 22.02                       | 22.03                          | 22.02                        |                        |             |
| 5               | QPSK       | 1       | 24        | 22.01                       | 22.00                          | 22.00                        |                        |             |
| 5               | QPSK       | 12      | 0         | 21.11                       | 21.14                          | 21.13                        | 22                     | 1           |
| 5               | QPSK       | 12      | 7         | 21.17                       | 21.11                          | 21.17                        |                        |             |
| 5               | QPSK       | 12      | 13        | 21.21                       | 21.16                          | 21.13                        |                        |             |
| 5               | QPSK       | 25      | 0         | 21.17                       | 21.11                          | 21.10                        |                        |             |
| 5               | 16QAM      | 1       | 0         | 21.49                       | 21.47                          | 21.41                        | 22                     | 1           |
| 5               | 16QAM      | 1       | 12        | 21.49                       | 21.53                          | 21.47                        |                        |             |
| 5               | 16QAM      | 1       | 24        | 21.40                       | 21.45                          | 21.45                        |                        |             |
| 5               | 16QAM      | 12      | 0         | 20.14                       | 20.14                          | 20.07                        | 21                     | 2           |
| 5               | 16QAM      | 12      | 7         | 20.20                       | 20.16                          | 20.20                        |                        |             |
| 5               | 16QAM      | 12      | 13        | 20.13                       | 20.09                          | 20.13                        |                        |             |
| 5               | 16QAM      | 25      | 0         | 20.14                       | 20.11                          | 20.13                        |                        |             |
| 5               | 64QAM      | 1       | 0         | 20.33                       | 20.30                          | 20.29                        | 21                     | 2           |
| 5               | 64QAM      | 1       | 12        | 20.39                       | 20.29                          | 20.30                        |                        |             |
| 5               | 64QAM      | 1       | 24        | 20.25                       | 20.26                          | 20.23                        |                        |             |
| 5               | 64QAM      | 12      | 0         | 19.17                       | 19.20                          | 19.15                        | 20                     | 3           |
| 5               | 64QAM      | 12      | 7         | 19.22                       | 19.26                          | 19.23                        |                        |             |
| 5               | 64QAM      | 12      | 13        | 19.23                       | 19.22                          | 19.21                        |                        |             |
| 5               | 64QAM      | 25      | 0         | 19.23                       | 19.16                          | 19.17                        |                        |             |



**<LTE Band 66 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 132072                   | 132322                      | 132572                    | 24                     | 0           |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                        |             |
| 20              | QPSK       | 1       | 0         | 23.52                    | 23.54                       | 23.57                     |                        |             |
| 20              | QPSK       | 1       | 49        | 23.39                    | 23.48                       | 23.43                     | 23                     | 1           |
| 20              | QPSK       | 1       | 99        | 23.41                    | 23.45                       | 23.42                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.61                    | 22.62                       | 22.65                     |                        |             |
| 20              | QPSK       | 50      | 24        | 22.57                    | 22.61                       | 22.64                     | 23                     | 1           |
| 20              | QPSK       | 50      | 50        | 22.55                    | 22.60                       | 22.61                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.55                    | 22.55                       | 22.64                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 22.83                    | 22.81                       | 22.99                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 49        | 22.81                    | 22.83                       | 22.96                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 22.85                    | 22.82                       | 22.81                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 21.50                    | 21.64                       | 21.62                     | 22                     | 2           |
| 20              | 16QAM      | 50      | 24        | 21.61                    | 21.60                       | 21.68                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 21.55                    | 21.62                       | 21.61                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 21.57                    | 21.56                       | 21.67                     | 22                     | 2           |
| 20              | 64QAM      | 1       | 0         | 21.65                    | 21.80                       | 21.75                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 21.66                    | 21.72                       | 21.41                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 21.68                    | 21.76                       | 21.65                     | 21                     | 3           |
| 20              | 64QAM      | 50      | 0         | 20.53                    | 20.63                       | 20.49                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 20.61                    | 20.62                       | 20.69                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 20.56                    | 20.64                       | 20.63                     | 21                     | 3           |
| 20              | 64QAM      | 100     | 0         | 20.59                    | 20.59                       | 20.64                     |                        |             |
| Channel         |            |         |           | 132047                   | 132322                      | 132597                    | 24                     | 0           |
| Frequency (MHz) |            |         |           | 1717.5                   | 1745                        | 1772.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 23.44                    | 23.45                       | 23.48                     |                        |             |
| 15              | QPSK       | 1       | 37        | 23.31                    | 23.47                       | 23.34                     | 23                     | 1           |
| 15              | QPSK       | 1       | 74        | 23.38                    | 23.37                       | 23.37                     |                        |             |
| 15              | QPSK       | 36      | 0         | 22.47                    | 22.57                       | 22.52                     |                        |             |
| 15              | QPSK       | 36      | 20        | 22.54                    | 22.56                       | 22.58                     | 23                     | 1           |
| 15              | QPSK       | 36      | 39        | 22.52                    | 22.59                       | 22.51                     |                        |             |
| 15              | QPSK       | 75      | 0         | 22.46                    | 22.45                       | 22.58                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 22.73                    | 22.72                       | 22.97                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 37        | 22.78                    | 22.81                       | 22.95                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 22.82                    | 22.72                       | 22.74                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 21.44                    | 21.62                       | 21.53                     | 22                     | 2           |
| 15              | 16QAM      | 36      | 20        | 21.52                    | 21.56                       | 21.60                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 21.48                    | 21.54                       | 21.52                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 21.54                    | 21.54                       | 21.64                     | 22                     | 2           |
| 15              | 64QAM      | 1       | 0         | 21.55                    | 21.75                       | 21.75                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 21.66                    | 21.62                       | 21.39                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 21.59                    | 21.71                       | 21.65                     | 21                     | 3           |
| 15              | 64QAM      | 36      | 0         | 20.50                    | 20.62                       | 20.46                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 20.60                    | 20.54                       | 20.59                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 20.52                    | 20.63                       | 20.55                     | 21                     | 3           |
| 15              | 64QAM      | 75      | 0         | 20.52                    | 20.57                       | 20.64                     |                        |             |
| Channel         |            |         |           | 132022                   | 132322                      | 132622                    | 24                     | 0           |
| Frequency (MHz) |            |         |           | 1715                     | 1745                        | 1775                      |                        |             |
| 10              | QPSK       | 1       | 0         | 23.50                    | 23.52                       | 23.50                     |                        |             |
| 10              | QPSK       | 1       | 25        | 23.31                    | 23.44                       | 23.42                     | 24                     | 0           |
| 10              | QPSK       | 1       | 49        | 23.31                    | 23.42                       | 23.42                     |                        |             |
| 10              | QPSK       | 25      | 0         | 22.47                    | 22.57                       | 22.58                     | 23                     | 1           |
| 10              | QPSK       | 25      | 12        | 22.53                    | 22.58                       | 22.60                     |                        |             |



# FCC SAR TEST REPORT

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|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 22.55  | 22.50  | 22.57  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.47  | 22.45  | 22.58  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.79  | 22.78  | 22.91  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.73  | 22.82  | 22.93  | 23                     | 1           |
| 10              | 16QAM | 1  | 49 | 22.79  | 22.74  | 22.77  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.45  | 21.62  | 21.61  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.56  | 21.56  | 21.61  | 22                     | 2           |
| 10              | 16QAM | 25 | 25 | 21.52  | 21.54  | 21.56  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.56  | 21.49  | 21.63  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.59  | 21.72  | 21.75  | 22                     | 2           |
| 10              | 64QAM | 1  | 25 | 21.63  | 21.64  | 21.38  |                        |             |
| 10              | 64QAM | 1  | 49 | 21.62  | 21.72  | 21.63  |                        |             |
| 10              | 64QAM | 25 | 0  | 20.50  | 20.63  | 20.40  | 21                     | 3           |
| 10              | 64QAM | 25 | 12 | 20.56  | 20.60  | 20.63  |                        |             |
| 10              | 64QAM | 25 | 25 | 20.49  | 20.55  | 20.57  |                        |             |
| 10              | 64QAM | 50 | 0  | 20.50  | 20.58  | 20.56  |                        |             |
| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 23.52  | 23.49  | 23.49  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.33  | 23.40  | 23.40  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.32  | 23.35  | 23.40  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.55  | 22.57  | 22.53  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.58  | 22.52  | 22.57  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.46  | 22.60  | 22.61  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.47  | 22.46  | 22.59  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.78  | 22.80  | 22.93  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.76  | 22.81  | 22.87  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.76  | 22.78  | 22.74  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 21.40  | 21.62  | 21.55  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.52  | 21.57  | 21.60  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.54  | 21.52  | 21.56  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 21.55  | 21.48  | 21.60  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.64  | 21.75  | 21.69  |                        |             |
| 5               | 64QAM | 1  | 12 | 21.66  | 21.63  | 21.35  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 21.62  | 21.67  | 21.60  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.43  | 20.58  | 20.40  |                        |             |
| 5               | 64QAM | 12 | 7  | 20.53  | 20.62  | 20.61  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 20.52  | 20.59  | 20.59  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.51  | 20.51  | 20.63  |                        |             |
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 23.47  | 23.53  | 23.51  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.30  | 23.41  | 23.37  |                        |             |
| 3               | QPSK  | 1  | 14 | 23.40  | 23.37  | 23.42  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.53  | 22.58  | 22.51  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 22.61  | 22.55  | 22.56  |                        |             |
| 3               | QPSK  | 8  | 7  | 22.53  | 22.59  | 22.56  |                        |             |
| 3               | QPSK  | 15 | 0  | 22.49  | 22.47  | 22.58  | 23                     | 1           |
| 3               | 16QAM | 1  | 0  | 22.78  | 22.79  | 22.99  |                        |             |
| 3               | 16QAM | 1  | 8  | 22.78  | 22.74  | 22.89  |                        |             |
| 3               | 16QAM | 1  | 14 | 22.78  | 22.79  | 22.78  | 22                     | 2           |
| 3               | 16QAM | 8  | 0  | 21.50  | 21.58  | 21.60  |                        |             |
| 3               | 16QAM | 8  | 4  | 21.54  | 21.53  | 21.66  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.48  | 21.54  | 21.61  | 22                     | 2           |
| 3               | 16QAM | 15 | 0  | 21.55  | 21.50  | 21.67  |                        |             |
| 3               | 64QAM | 1  | 0  | 21.59  | 21.80  | 21.68  | 22                     | 2           |



# FCC SAR TEST REPORT

Report No. : FA092423

|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 21.57  | 21.62  | 21.41  | 21                     | 3           |
| 3               | 64QAM | 1  | 14 | 21.59  | 21.72  | 21.56  |                        |             |
| 3               | 64QAM | 8  | 0  | 20.49  | 20.53  | 20.47  |                        |             |
| 3               | 64QAM | 8  | 4  | 20.52  | 20.57  | 20.59  |                        |             |
| 3               | 64QAM | 8  | 7  | 20.50  | 20.60  | 20.61  |                        |             |
| 3               | 64QAM | 15 | 0  | 20.54  | 20.54  | 20.55  |                        |             |
| Channel         |       |    |    | 131979 | 132322 | 132665 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1745   | 1779.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 23.43  | 23.51  | 23.50  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.37  | 23.48  | 23.35  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.41  | 23.43  | 23.32  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.44  | 23.51  | 23.51  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.30  | 23.42  | 23.38  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.33  | 23.42  | 23.39  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.50  | 22.47  | 22.63  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.76  | 22.81  | 22.94  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.72  | 22.83  | 22.86  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.83  | 22.72  | 22.71  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 22.76  | 22.72  | 22.98  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.76  | 22.74  | 22.90  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 22.82  | 22.77  | 22.72  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.48  | 21.46  | 21.65  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 0  | 21.56  | 21.75  | 21.67  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 3  | 21.63  | 21.68  | 21.40  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 21.65  | 21.68  | 21.55  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.61  | 21.77  | 21.67  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.59  | 21.69  | 21.32  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.62  | 21.72  | 21.65  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 20.58  | 20.49  | 20.61  | 21                     | 3           |



## &lt;LTE Band 66 MIMO2&gt;

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 132072                   | 132322                      | 132572                    |                        |             |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                        |             |
| 20              | QPSK       | 1       | 0         | 22.60                    | 22.61                       | 22.68                     |                        |             |
| 20              | QPSK       | 1       | 49        | 22.55                    | 22.60                       | 22.57                     | 24                     | 0           |
| 20              | QPSK       | 1       | 99        | 22.54                    | 22.58                       | 22.59                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.03                    | 22.05                       | 22.06                     |                        |             |
| 20              | QPSK       | 50      | 24        | 21.95                    | 22.00                       | 21.95                     | 23                     | 1           |
| 20              | QPSK       | 50      | 50        | 22.01                    | 21.94                       | 21.98                     |                        |             |
| 20              | QPSK       | 100     | 0         | 21.94                    | 21.95                       | 21.98                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 21.96                    | 22.04                       | 22.01                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 49        | 21.91                    | 21.97                       | 21.94                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 21.97                    | 21.98                       | 21.93                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 20.91                    | 20.94                       | 20.86                     | 22                     | 2           |
| 20              | 16QAM      | 50      | 24        | 20.93                    | 20.96                       | 20.92                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 21.04                    | 21.05                       | 21.03                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 20.90                    | 20.96                       | 20.90                     | 22                     | 2           |
| 20              | 64QAM      | 1       | 0         | 20.93                    | 20.98                       | 20.91                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 20.89                    | 20.98                       | 20.94                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 20.93                    | 20.93                       | 20.92                     | 21                     | 3           |
| 20              | 64QAM      | 50      | 0         | 19.91                    | 19.98                       | 19.88                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 19.89                    | 19.94                       | 19.86                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 19.93                    | 20.02                       | 19.93                     | 21                     | 3           |
| 20              | 64QAM      | 100     | 0         | 19.93                    | 19.97                       | 19.91                     |                        |             |
| Channel         |            |         |           | 132047                   | 132322                      | 132597                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1717.5                   | 1745                        | 1772.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 22.57                    | 22.58                       | 22.64                     |                        |             |
| 15              | QPSK       | 1       | 37        | 22.54                    | 22.57                       | 22.49                     | 24                     | 0           |
| 15              | QPSK       | 1       | 74        | 22.48                    | 22.58                       | 22.55                     |                        |             |
| 15              | QPSK       | 36      | 0         | 21.90                    | 21.93                       | 21.90                     | 23                     | 1           |
| 15              | QPSK       | 36      | 20        | 21.93                    | 21.95                       | 21.85                     |                        |             |
| 15              | QPSK       | 36      | 39        | 21.98                    | 21.94                       | 21.97                     |                        |             |
| 15              | QPSK       | 75      | 0         | 21.92                    | 21.94                       | 21.85                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 0         | 21.93                    | 21.96                       | 21.98                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 21.91                    | 21.89                       | 21.85                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 21.91                    | 21.93                       | 21.92                     | 22                     | 2           |
| 15              | 16QAM      | 36      | 0         | 20.91                    | 20.86                       | 20.86                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 20.87                    | 20.96                       | 20.90                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 21.01                    | 21.00                       | 20.98                     | 22                     | 2           |
| 15              | 16QAM      | 75      | 0         | 20.84                    | 20.94                       | 20.83                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 20.84                    | 20.98                       | 20.91                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 20.81                    | 20.91                       | 20.84                     | 22                     | 2           |
| 15              | 64QAM      | 1       | 74        | 20.91                    | 20.93                       | 20.83                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 19.89                    | 19.90                       | 19.83                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 19.84                    | 19.84                       | 19.85                     | 21                     | 3           |
| 15              | 64QAM      | 36      | 39        | 19.84                    | 20.01                       | 19.89                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 19.88                    | 19.87                       | 19.90                     |                        |             |
| Channel         |            |         |           | 132022                   | 132322                      | 132622                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1715                     | 1745                        | 1775                      |                        |             |
| 10              | QPSK       | 1       | 0         | 22.59                    | 22.53                       | 22.61                     |                        |             |
| 10              | QPSK       | 1       | 25        | 22.48                    | 22.53                       | 22.48                     | 24                     | 0           |
| 10              | QPSK       | 1       | 49        | 22.48                    | 22.60                       | 22.52                     |                        |             |
| 10              | QPSK       | 25      | 0         | 21.95                    | 21.90                       | 21.92                     | 23                     | 1           |
| 10              | QPSK       | 25      | 12        | 21.93                    | 22.00                       | 21.93                     |                        |             |



# FCC SAR TEST REPORT

Report No. : FA092423

|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 21.95  | 22.04  | 21.97  |                        |             |
| 10              | QPSK  | 50 | 0  | 21.88  | 21.91  | 21.79  |                        |             |
| 10              | 16QAM | 1  | 0  | 21.88  | 22.02  | 21.99  |                        |             |
| 10              | 16QAM | 1  | 25 | 21.89  | 21.92  | 21.93  | 23                     | 1           |
| 10              | 16QAM | 1  | 49 | 21.95  | 21.88  | 21.86  |                        |             |
| 10              | 16QAM | 25 | 0  | 20.81  | 20.87  | 20.78  |                        |             |
| 10              | 16QAM | 25 | 12 | 20.87  | 20.92  | 20.86  | 22                     | 2           |
| 10              | 16QAM | 25 | 25 | 21.02  | 21.02  | 20.97  |                        |             |
| 10              | 16QAM | 50 | 0  | 20.88  | 20.95  | 20.84  |                        |             |
| 10              | 64QAM | 1  | 0  | 20.86  | 20.92  | 20.82  | 22                     | 2           |
| 10              | 64QAM | 1  | 25 | 20.80  | 20.94  | 20.92  |                        |             |
| 10              | 64QAM | 1  | 49 | 20.85  | 20.84  | 20.91  |                        |             |
| 10              | 64QAM | 25 | 0  | 19.90  | 19.92  | 19.85  | 21                     | 3           |
| 10              | 64QAM | 25 | 12 | 19.83  | 19.88  | 19.76  |                        |             |
| 10              | 64QAM | 25 | 25 | 19.92  | 20.00  | 19.84  |                        |             |
| 10              | 64QAM | 50 | 0  | 19.87  | 19.90  | 19.81  |                        |             |
| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 22.51  | 22.60  | 22.63  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 22.46  | 22.51  | 22.50  |                        |             |
| 5               | QPSK  | 1  | 24 | 22.51  | 22.51  | 22.52  |                        |             |
| 5               | QPSK  | 12 | 0  | 21.96  | 21.96  | 21.94  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 21.85  | 21.95  | 21.87  |                        |             |
| 5               | QPSK  | 12 | 13 | 21.92  | 22.01  | 21.97  |                        |             |
| 5               | QPSK  | 25 | 0  | 21.91  | 21.94  | 21.85  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 21.93  | 22.01  | 21.94  |                        |             |
| 5               | 16QAM | 1  | 12 | 21.83  | 21.92  | 21.87  |                        |             |
| 5               | 16QAM | 1  | 24 | 21.89  | 21.92  | 21.92  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 20.82  | 20.91  | 20.84  |                        |             |
| 5               | 16QAM | 12 | 7  | 20.90  | 20.91  | 20.91  |                        |             |
| 5               | 16QAM | 12 | 13 | 20.99  | 21.03  | 20.95  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 20.80  | 20.90  | 20.81  |                        |             |
| 5               | 64QAM | 1  | 0  | 20.86  | 20.98  | 20.89  |                        |             |
| 5               | 64QAM | 1  | 12 | 20.79  | 20.94  | 20.93  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 20.86  | 20.87  | 20.88  |                        |             |
| 5               | 64QAM | 12 | 0  | 19.90  | 19.98  | 19.87  |                        |             |
| 5               | 64QAM | 12 | 7  | 19.86  | 19.93  | 19.77  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 19.86  | 20.02  | 19.83  |                        |             |
| 5               | 64QAM | 25 | 0  | 19.84  | 19.89  | 19.84  |                        |             |
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 22.58  | 22.53  | 22.67  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 22.52  | 22.59  | 22.56  |                        |             |
| 3               | QPSK  | 1  | 14 | 22.49  | 22.55  | 22.49  |                        |             |
| 3               | QPSK  | 8  | 0  | 21.94  | 21.91  | 21.96  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 21.93  | 21.92  | 21.86  |                        |             |
| 3               | QPSK  | 8  | 7  | 21.92  | 21.96  | 21.98  |                        |             |
| 3               | QPSK  | 15 | 0  | 21.86  | 21.89  | 21.82  | 23                     | 1           |
| 3               | 16QAM | 1  | 0  | 21.95  | 22.03  | 21.97  |                        |             |
| 3               | 16QAM | 1  | 8  | 21.89  | 21.94  | 21.84  |                        |             |
| 3               | 16QAM | 1  | 14 | 21.94  | 21.91  | 21.86  | 22                     | 2           |
| 3               | 16QAM | 8  | 0  | 20.84  | 20.84  | 20.86  |                        |             |
| 3               | 16QAM | 8  | 4  | 20.89  | 20.87  | 20.91  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.03  | 20.95  | 21.02  | 22                     | 2           |
| 3               | 16QAM | 15 | 0  | 20.81  | 20.89  | 20.86  |                        |             |
| 3               | 64QAM | 1  | 0  | 20.85  | 20.89  | 20.90  | 22                     | 2           |



# FCC SAR TEST REPORT

Report No. : FA092423

|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 20.84  | 20.96  | 20.90  | 21                     | 3           |
| 3               | 64QAM | 1  | 14 | 20.90  | 20.85  | 20.89  |                        |             |
| 3               | 64QAM | 8  | 0  | 19.83  | 19.98  | 19.84  |                        |             |
| 3               | 64QAM | 8  | 4  | 19.89  | 19.89  | 19.79  |                        |             |
| 3               | 64QAM | 8  | 7  | 19.88  | 19.97  | 19.84  |                        |             |
| 3               | 64QAM | 15 | 0  | 19.91  | 19.95  | 19.88  |                        |             |
| Channel         |       |    |    | 131979 | 132322 | 132665 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1745   | 1779.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 22.59  | 22.50  | 22.59  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 22.48  | 22.60  | 22.52  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 22.50  | 22.60  | 22.52  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 22.57  | 22.46  | 22.55  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 22.39  | 22.51  | 22.57  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 22.40  | 22.53  | 22.50  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 21.84  | 21.93  | 21.83  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 21.86  | 21.97  | 21.99  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 21.81  | 21.90  | 21.92  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 21.87  | 21.98  | 21.86  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 21.82  | 21.99  | 21.88  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 21.82  | 21.85  | 21.74  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 21.81  | 21.92  | 21.81  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 20.84  | 20.86  | 20.84  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 0  | 20.89  | 20.98  | 20.91  | 22                     | 2           |
| 1.4             | 64QAM | 1  | 3  | 20.83  | 20.92  | 20.91  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 20.83  | 20.93  | 20.92  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 20.81  | 20.84  | 20.91  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 20.79  | 20.87  | 20.88  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 20.82  | 20.83  | 20.77  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 19.88  | 19.94  | 19.82  | 21                     | 3           |



**<LTE Band 71 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 133222                   | 133322                      | 133372                    | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 673                      | 683                         | 688                       |                        |             |
| 20              | QPSK       | 1       | 0         | 24.03                    | 24.03                       | 24.12                     |                        |             |
| 20              | QPSK       | 1       | 49        | 24.02                    | 23.88                       | 23.93                     | 23.5                   | 1           |
| 20              | QPSK       | 1       | 99        | 23.98                    | 24.01                       | 24.01                     |                        |             |
| 20              | QPSK       | 50      | 0         | 23.12                    | 23.08                       | 23.14                     |                        |             |
| 20              | QPSK       | 50      | 24        | 22.96                    | 22.96                       | 23.05                     | 23.5                   | 1           |
| 20              | QPSK       | 50      | 50        | 23.06                    | 23.07                       | 23.12                     |                        |             |
| 20              | QPSK       | 100     | 0         | 23.01                    | 22.99                       | 23.09                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 23.32                    | 23.15                       | 23.20                     | 23.5                   | 1           |
| 20              | 16QAM      | 1       | 49        | 23.15                    | 23.26                       | 23.25                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 23.17                    | 23.30                       | 23.37                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 21.92                    | 21.92                       | 21.95                     | 22.5                   | 2           |
| 20              | 16QAM      | 50      | 24        | 21.99                    | 21.96                       | 22.03                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 21.99                    | 22.06                       | 22.15                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 21.97                    | 22.03                       | 22.09                     | 22.5                   | 2           |
| 20              | 64QAM      | 1       | 0         | 21.97                    | 21.99                       | 21.99                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 21.96                    | 22.15                       | 22.14                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 22.17                    | 22.20                       | 22.29                     | 21.5                   | 3           |
| 20              | 64QAM      | 50      | 0         | 20.92                    | 20.91                       | 21.00                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 20.98                    | 20.95                       | 21.07                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 20.97                    | 21.09                       | 21.16                     | 21.5                   | 3           |
| 20              | 64QAM      | 100     | 0         | 20.98                    | 21.04                       | 21.10                     |                        |             |
| Channel         |            |         |           | 133197                   | 133297                      | 133397                    | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 670.5                    | 680.5                       | 690.5                     |                        |             |
| 15              | QPSK       | 1       | 0         | 24.04                    | 23.81                       | 23.77                     |                        |             |
| 15              | QPSK       | 1       | 37        | 23.96                    | 23.87                       | 23.90                     | 23.5                   | 1           |
| 15              | QPSK       | 1       | 74        | 24.03                    | 23.95                       | 24.01                     |                        |             |
| 15              | QPSK       | 36      | 0         | 23.12                    | 22.83                       | 22.90                     |                        |             |
| 15              | QPSK       | 36      | 20        | 23.16                    | 22.94                       | 23.05                     | 23.5                   | 1           |
| 15              | QPSK       | 36      | 39        | 22.99                    | 23.06                       | 23.08                     |                        |             |
| 15              | QPSK       | 75      | 0         | 22.91                    | 22.97                       | 23.08                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 23.27                    | 23.15                       | 23.14                     | 23.5                   | 1           |
| 15              | 16QAM      | 1       | 37        | 23.05                    | 23.19                       | 23.18                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 23.17                    | 23.28                       | 23.28                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 21.84                    | 21.86                       | 21.87                     | 22.5                   | 2           |
| 15              | 16QAM      | 36      | 20        | 21.90                    | 21.94                       | 22.02                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 21.94                    | 22.06                       | 22.14                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 21.96                    | 21.97                       | 22.04                     | 22.5                   | 2           |
| 15              | 64QAM      | 1       | 0         | 21.94                    | 21.98                       | 21.96                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 21.86                    | 22.14                       | 22.10                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 22.14                    | 22.19                       | 22.21                     | 21.5                   | 3           |
| 15              | 64QAM      | 36      | 0         | 20.90                    | 20.89                       | 20.96                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 20.93                    | 20.94                       | 21.00                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 20.87                    | 21.02                       | 21.06                     | 21.5                   | 3           |
| 15              | 64QAM      | 75      | 0         | 20.90                    | 21.02                       | 21.01                     |                        |             |
| Channel         |            |         |           | 133172                   | 133272                      | 133422                    | 24.5                   | 0           |
| Frequency (MHz) |            |         |           | 668                      | 678                         | 693                       |                        |             |
| 10              | QPSK       | 1       | 0         | 24.11                    | 23.81                       | 23.78                     |                        |             |
| 10              | QPSK       | 1       | 25        | 23.99                    | 23.86                       | 23.89                     | 24.5                   | 0           |
| 10              | QPSK       | 1       | 49        | 24.05                    | 23.97                       | 23.93                     |                        |             |
| 10              | QPSK       | 25      | 0         | 23.12                    | 22.78                       | 22.87                     |                        |             |
| 10              | QPSK       | 25      | 12        | 23.10                    | 22.86                       | 23.03                     | 23.5                   | 1           |



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|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 23.06  | 23.04  | 23.02  |                        |             |
| 10              | QPSK  | 50 | 0  | 23.01  | 22.90  | 23.07  |                        |             |
| 10              | 16QAM | 1  | 0  | 23.32  | 23.08  | 23.14  |                        |             |
| 10              | 16QAM | 1  | 25 | 23.10  | 23.21  | 23.25  | 23.5                   | 1           |
| 10              | 16QAM | 1  | 49 | 23.08  | 23.20  | 23.30  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.90  | 21.89  | 21.87  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.96  | 21.89  | 22.02  | 22.5                   | 2           |
| 10              | 16QAM | 25 | 25 | 21.96  | 22.01  | 22.10  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.87  | 22.01  | 22.09  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.90  | 21.97  | 21.97  | 22.5                   | 2           |
| 10              | 64QAM | 1  | 25 | 21.88  | 22.14  | 22.08  |                        |             |
| 10              | 64QAM | 1  | 49 | 22.10  | 22.17  | 22.21  |                        |             |
| 10              | 64QAM | 25 | 0  | 20.90  | 20.82  | 20.94  | 21.5                   | 3           |
| 10              | 64QAM | 25 | 12 | 20.96  | 20.85  | 21.05  |                        |             |
| 10              | 64QAM | 25 | 25 | 20.88  | 21.07  | 21.08  |                        |             |
| 10              | 64QAM | 50 | 0  | 20.90  | 20.96  | 21.03  |                        |             |
| Channel         |       |    |    | 133147 | 133247 | 133447 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 665.5  | 675.5  | 695.5  |                        |             |
| 5               | QPSK  | 1  | 0  | 24.05  | 23.81  | 23.78  | 24.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 24.01  | 23.79  | 23.84  |                        |             |
| 5               | QPSK  | 1  | 24 | 24.01  | 23.99  | 24.01  |                        |             |
| 5               | QPSK  | 12 | 0  | 23.06  | 22.84  | 22.91  | 23.5                   | 1           |
| 5               | QPSK  | 12 | 7  | 23.15  | 22.94  | 23.05  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.97  | 23.01  | 23.11  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.98  | 22.98  | 23.05  | 23.5                   | 1           |
| 5               | 16QAM | 1  | 0  | 23.23  | 23.12  | 23.18  |                        |             |
| 5               | 16QAM | 1  | 12 | 23.11  | 23.18  | 23.16  |                        |             |
| 5               | 16QAM | 1  | 24 | 23.08  | 23.28  | 23.28  | 22.5                   | 2           |
| 5               | 16QAM | 12 | 0  | 21.86  | 21.86  | 21.92  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.90  | 21.91  | 22.00  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.90  | 21.96  | 22.15  | 22.5                   | 2           |
| 5               | 16QAM | 25 | 0  | 21.92  | 22.00  | 22.09  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.93  | 21.89  | 21.90  |                        |             |
| 5               | 64QAM | 1  | 12 | 21.87  | 22.08  | 22.11  | 22.5                   | 2           |
| 5               | 64QAM | 1  | 24 | 22.15  | 22.20  | 22.28  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.89  | 20.82  | 20.92  |                        |             |
| 5               | 64QAM | 12 | 7  | 20.93  | 20.88  | 21.03  | 21.5                   | 3           |
| 5               | 64QAM | 12 | 13 | 20.97  | 21.03  | 21.15  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.97  | 21.03  | 21.09  |                        |             |

**Reduced Power Mode**
**<LTE Band 2 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 18700                 | 18900                    | 19100                  |                     |          |
| Frequency (MHz) |            |         |           | 1860                  | 1880                     | 1900                   |                     |          |
| 20              | QPSK       | 1       | 0         | 15.52                 | 15.39                    | 15.40                  | 16.5                | 0        |
| 20              | QPSK       | 1       | 49        | 15.44                 | 15.35                    | 15.37                  |                     |          |
| 20              | QPSK       | 1       | 99        | 15.32                 | 15.38                    | 15.37                  |                     |          |
| 20              | QPSK       | 50      | 0         | 14.68                 | 14.63                    | 14.50                  | 15.5                | 1        |
| 20              | QPSK       | 50      | 24        | 14.55                 | 14.57                    | 14.49                  |                     |          |
| 20              | QPSK       | 50      | 50        | 14.50                 | 14.60                    | 14.45                  |                     |          |
| 20              | QPSK       | 100     | 0         | 14.61                 | 14.47                    | 14.48                  | 15.5                | 1        |
| 20              | 16QAM      | 1       | 0         | 14.55                 | 14.70                    | 14.82                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 14.57                 | 14.77                    | 14.51                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 14.47                 | 14.76                    | 14.59                  | 14.5                | 2        |
| 20              | 16QAM      | 50      | 0         | 13.64                 | 13.62                    | 13.50                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 13.57                 | 13.44                    | 13.48                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 13.32                 | 13.59                    | 13.59                  | 14.5                | 2        |
| 20              | 16QAM      | 100     | 0         | 13.57                 | 13.54                    | 13.52                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 13.87                 | 13.83                    | 13.64                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 13.68                 | 13.83                    | 13.82                  | 14.5                | 2        |
| 20              | 64QAM      | 1       | 99        | 13.87                 | 13.71                    | 13.82                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 12.77                 | 12.66                    | 12.88                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 12.82                 | 12.78                    | 12.95                  | 13.5                | 3        |
| 20              | 64QAM      | 50      | 50        | 12.75                 | 12.79                    | 12.87                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 12.90                 | 12.58                    | 12.77                  |                     |          |
| Channel         |            |         |           | 18675                 | 18900                    | 19125                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1857.5                | 1880                     | 1902.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 15.45                 | 15.35                    | 15.36                  | 16.5                | 0        |
| 15              | QPSK       | 1       | 37        | 15.35                 | 15.32                    | 15.27                  |                     |          |
| 15              | QPSK       | 1       | 74        | 15.30                 | 15.35                    | 15.27                  |                     |          |
| 15              | QPSK       | 36      | 0         | 14.58                 | 14.48                    | 14.49                  | 15.5                | 1        |
| 15              | QPSK       | 36      | 20        | 14.52                 | 14.49                    | 14.45                  |                     |          |
| 15              | QPSK       | 36      | 39        | 14.47                 | 14.54                    | 14.42                  |                     |          |
| 15              | QPSK       | 75      | 0         | 14.57                 | 14.46                    | 14.47                  | 15.5                | 1        |
| 15              | 16QAM      | 1       | 0         | 14.45                 | 14.65                    | 14.76                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 14.55                 | 14.73                    | 14.48                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 14.37                 | 14.67                    | 14.55                  | 14.5                | 2        |
| 15              | 16QAM      | 36      | 0         | 13.56                 | 13.56                    | 13.49                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 13.51                 | 13.39                    | 13.47                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 13.22                 | 13.58                    | 13.50                  | 14.5                | 2        |
| 15              | 16QAM      | 75      | 0         | 13.48                 | 13.53                    | 13.44                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 13.83                 | 13.81                    | 13.58                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 13.67                 | 13.83                    | 13.72                  | 14.5                | 2        |
| 15              | 64QAM      | 1       | 74        | 13.83                 | 13.70                    | 13.82                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 12.68                 | 12.61                    | 12.83                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 12.81                 | 12.71                    | 12.88                  | 13.5                | 3        |
| 15              | 64QAM      | 36      | 39        | 12.65                 | 12.78                    | 12.79                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 12.88                 | 12.48                    | 12.75                  |                     |          |
| Channel         |            |         |           | 18650                 | 18900                    | 19150                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1855                  | 1880                     | 1905                   |                     |          |
| 10              | QPSK       | 1       | 0         | 15.50                 | 15.39                    | 15.36                  | 16.5                | 0        |
| 10              | QPSK       | 1       | 25        | 15.38                 | 15.25                    | 15.31                  |                     |          |
| 10              | QPSK       | 1       | 49        | 15.29                 | 15.29                    | 15.31                  |                     |          |
| 10              | QPSK       | 25      | 0         | 14.63                 | 14.48                    | 14.50                  | 15.5                | 1        |



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|                 |       |    |    |        |       |        |                     |          |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| 10              | QPSK  | 25 | 12 | 14.55  | 14.53 | 14.41  |                     |          |
| 10              | QPSK  | 25 | 25 | 14.44  | 14.53 | 14.37  |                     |          |
| 10              | QPSK  | 50 | 0  | 14.53  | 14.41 | 14.38  |                     |          |
| 10              | 16QAM | 1  | 0  | 14.50  | 14.65 | 14.78  | 15.5                | 1        |
| 10              | 16QAM | 1  | 25 | 14.48  | 14.77 | 14.47  |                     |          |
| 10              | 16QAM | 1  | 49 | 14.47  | 14.70 | 14.55  |                     |          |
| 10              | 16QAM | 25 | 0  | 13.62  | 13.54 | 13.43  | 14.5                | 2        |
| 10              | 16QAM | 25 | 12 | 13.56  | 13.44 | 13.48  |                     |          |
| 10              | 16QAM | 25 | 25 | 13.26  | 13.56 | 13.50  |                     |          |
| 10              | 16QAM | 50 | 0  | 13.54  | 13.52 | 13.44  | 14.5                | 2        |
| 10              | 64QAM | 1  | 0  | 13.81  | 13.76 | 13.60  |                     |          |
| 10              | 64QAM | 1  | 25 | 13.61  | 13.82 | 13.76  |                     |          |
| 10              | 64QAM | 1  | 49 | 13.77  | 13.65 | 13.76  | 13.5                | 3        |
| 10              | 64QAM | 25 | 0  | 12.75  | 12.56 | 12.88  |                     |          |
| 10              | 64QAM | 25 | 12 | 12.74  | 12.78 | 12.87  |                     |          |
| 10              | 64QAM | 25 | 25 | 12.72  | 12.73 | 12.85  | 12.89               | 12.58    |
| 10              | 64QAM | 50 | 0  | 12.89  | 12.58 | 12.74  |                     |          |
| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 15.50  | 15.37 | 15.35  | 16.5                | 0        |
| 5               | QPSK  | 1  | 12 | 15.42  | 15.25 | 15.35  |                     |          |
| 5               | QPSK  | 1  | 24 | 15.25  | 15.33 | 15.35  |                     |          |
| 5               | QPSK  | 12 | 0  | 14.61  | 14.47 | 14.49  | 15.5                | 1        |
| 5               | QPSK  | 12 | 7  | 14.47  | 14.54 | 14.47  |                     |          |
| 5               | QPSK  | 12 | 13 | 14.49  | 14.54 | 14.40  |                     |          |
| 5               | QPSK  | 25 | 0  | 14.54  | 14.42 | 14.41  | 15.5                | 1        |
| 5               | 16QAM | 1  | 0  | 14.52  | 14.65 | 14.78  |                     |          |
| 5               | 16QAM | 1  | 12 | 14.51  | 14.69 | 14.41  |                     |          |
| 5               | 16QAM | 1  | 24 | 14.40  | 14.76 | 14.52  | 14.5                | 2        |
| 5               | 16QAM | 12 | 0  | 13.58  | 13.62 | 13.43  |                     |          |
| 5               | 16QAM | 12 | 7  | 13.49  | 13.41 | 13.45  |                     |          |
| 5               | 16QAM | 12 | 13 | 13.29  | 13.55 | 13.53  | 14.5                | 2        |
| 5               | 16QAM | 25 | 0  | 13.47  | 13.49 | 13.44  |                     |          |
| 5               | 64QAM | 1  | 0  | 13.77  | 13.73 | 13.55  |                     |          |
| 5               | 64QAM | 1  | 12 | 13.67  | 13.83 | 13.73  | 14.5                | 2        |
| 5               | 64QAM | 1  | 24 | 13.81  | 13.68 | 13.80  |                     |          |
| 5               | 64QAM | 12 | 0  | 12.73  | 12.61 | 12.87  |                     |          |
| 5               | 64QAM | 12 | 7  | 12.77  | 12.75 | 12.94  | 13.5                | 3        |
| 5               | 64QAM | 12 | 13 | 12.68  | 12.75 | 12.79  |                     |          |
| 5               | 64QAM | 25 | 0  | 12.81  | 12.58 | 12.67  |                     |          |
| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 15.42  | 15.37 | 15.30  | 16.5                | 0        |
| 3               | QPSK  | 1  | 8  | 15.41  | 15.32 | 15.27  |                     |          |
| 3               | QPSK  | 1  | 14 | 15.31  | 15.29 | 15.34  |                     |          |
| 3               | QPSK  | 8  | 0  | 14.65  | 14.50 | 14.48  | 15.5                | 1        |
| 3               | QPSK  | 8  | 4  | 14.50  | 14.51 | 14.47  |                     |          |
| 3               | QPSK  | 8  | 7  | 14.46  | 14.55 | 14.43  |                     |          |
| 3               | QPSK  | 15 | 0  | 14.58  | 14.46 | 14.48  | 15.5                | 1        |
| 3               | 16QAM | 1  | 0  | 14.47  | 14.62 | 14.79  |                     |          |
| 3               | 16QAM | 1  | 8  | 14.57  | 14.73 | 14.41  |                     |          |
| 3               | 16QAM | 1  | 14 | 14.41  | 14.70 | 14.50  | 14.5                | 2        |
| 3               | 16QAM | 8  | 0  | 13.64  | 13.55 | 13.40  |                     |          |
| 3               | 16QAM | 8  | 4  | 13.49  | 13.35 | 13.47  |                     |          |
| 3               | 16QAM | 8  | 7  | 13.32  | 13.56 | 13.58  | 13.47               | 13.48    |
| 3               | 16QAM | 15 | 0  | 13.47  | 13.48 | 13.52  |                     |          |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 0  | 13.80  | 13.75 | 13.60  | 14.5                   | 2           |
| 3               | 64QAM | 1  | 8  | 13.62  | 13.81 | 13.75  |                        |             |
| 3               | 64QAM | 1  | 14 | 13.87  | 13.62 | 13.81  |                        |             |
| 3               | 64QAM | 8  | 0  | 12.73  | 12.63 | 12.84  | 13.5                   | 3           |
| 3               | 64QAM | 8  | 4  | 12.76  | 12.76 | 12.87  |                        |             |
| 3               | 64QAM | 8  | 7  | 12.72  | 12.77 | 12.84  |                        |             |
| 3               | 64QAM | 15 | 0  | 12.84  | 12.48 | 12.75  |                        |             |
| Channel         |       |    |    | 18607  | 18900 | 19193  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1909.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 15.51  | 15.30 | 15.35  | 16.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 15.34  | 15.33 | 15.31  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 15.29  | 15.37 | 15.27  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 15.44  | 15.51 | 15.49  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 15.51  | 15.50 | 15.45  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 15.40  | 15.44 | 15.37  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 14.56  | 14.42 | 14.48  | 15.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 14.53  | 14.61 | 14.78  | 15.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 14.52  | 14.77 | 14.44  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 14.44  | 14.71 | 14.58  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 14.62  | 14.57 | 14.48  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 14.54  | 14.44 | 14.44  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 14.25  | 14.51 | 14.53  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 13.56  | 13.53 | 13.52  | 14.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 13.86  | 13.75 | 13.63  | 14.5                   | 2           |
| 1.4             | 64QAM | 1  | 3  | 13.65  | 13.73 | 13.74  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 13.81  | 13.66 | 13.73  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 13.68  | 13.61 | 13.82  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 13.75  | 13.69 | 13.95  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 13.70  | 13.73 | 13.81  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 12.89  | 12.49 | 12.68  | 13.5                   | 3           |

**<LTE Band 2 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 18700                    | 18900                       | 19100                     |                        |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                        |             |
| 20              | QPSK       | 1       | 0         | 11.80                    | 11.67                       | 11.64                     | 12.5                   | 0           |
| 20              | QPSK       | 1       | 49        | 11.53                    | 11.42                       | 11.39                     |                        |             |
| 20              | QPSK       | 1       | 99        | 11.54                    | 11.44                       | 11.36                     |                        |             |
| 20              | QPSK       | 50      | 0         | 11.74                    | 11.54                       | 11.60                     | 12.5                   | 0           |
| 20              | QPSK       | 50      | 24        | 11.69                    | 11.49                       | 11.59                     |                        |             |
| 20              | QPSK       | 50      | 50        | 11.65                    | 11.52                       | 11.48                     |                        |             |
| 20              | QPSK       | 100     | 0         | 11.66                    | 11.48                       | 11.51                     | 12.5                   | 0           |
| 20              | 16QAM      | 1       | 0         | 11.75                    | 11.56                       | 11.65                     |                        |             |
| 20              | 16QAM      | 1       | 49        | 11.57                    | 11.42                       | 11.41                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 11.54                    | 11.38                       | 11.40                     | 12.5                   | 0           |
| 20              | 16QAM      | 50      | 0         | 11.72                    | 11.63                       | 11.63                     |                        |             |
| 20              | 16QAM      | 50      | 24        | 11.73                    | 11.56                       | 11.58                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 11.66                    | 11.47                       | 11.52                     | 12.5                   | 0           |
| 20              | 16QAM      | 100     | 0         | 11.76                    | 11.60                       | 11.67                     |                        |             |
| 20              | 64QAM      | 1       | 0         | 11.60                    | 11.44                       | 11.49                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 11.33                    | 11.16                       | 11.16                     | 12.5                   | 0           |
| 20              | 64QAM      | 1       | 99        | 11.46                    | 11.36                       | 11.27                     |                        |             |
| 20              | 64QAM      | 50      | 0         | 11.23                    | 11.10                       | 11.05                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 11.25                    | 11.14                       | 11.11                     | 12.5                   | 0           |
| 20              | 64QAM      | 50      | 50        | 11.08                    | 10.97                       | 10.94                     |                        |             |
| 20              | 64QAM      | 100     | 0         | 11.13                    | 10.98                       | 11.00                     |                        |             |
| Channel         |            |         |           | 18675                    | 18900                       | 19125                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1902.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 11.80                    | 11.57                       | 11.64                     | 12.5                   | 0           |
| 15              | QPSK       | 1       | 37        | 11.53                    | 11.42                       | 11.39                     |                        |             |
| 15              | QPSK       | 1       | 74        | 11.54                    | 11.44                       | 11.36                     |                        |             |
| 15              | QPSK       | 36      | 0         | 11.74                    | 11.54                       | 11.60                     | 12.5                   | 0           |
| 15              | QPSK       | 36      | 20        | 11.69                    | 11.49                       | 11.59                     |                        |             |
| 15              | QPSK       | 36      | 39        | 11.65                    | 11.52                       | 11.48                     |                        |             |
| 15              | QPSK       | 75      | 0         | 11.66                    | 11.48                       | 11.51                     | 12.5                   | 0           |
| 15              | 16QAM      | 1       | 0         | 11.75                    | 11.56                       | 11.65                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 11.57                    | 11.42                       | 11.41                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 11.54                    | 11.38                       | 11.40                     | 12.5                   | 0           |
| 15              | 16QAM      | 36      | 0         | 11.72                    | 11.63                       | 11.63                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 11.73                    | 11.56                       | 11.58                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 11.66                    | 11.47                       | 11.52                     | 12.5                   | 0           |
| 15              | 16QAM      | 75      | 0         | 11.76                    | 11.60                       | 11.67                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 11.60                    | 11.44                       | 11.49                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 11.33                    | 11.16                       | 11.16                     | 12.5                   | 0           |
| 15              | 64QAM      | 1       | 74        | 11.46                    | 11.36                       | 11.27                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 11.23                    | 11.10                       | 11.05                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 11.25                    | 11.14                       | 11.11                     | 12.5                   | 0           |
| 15              | 64QAM      | 36      | 39        | 11.08                    | 10.97                       | 10.94                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 11.13                    | 10.98                       | 11.00                     |                        |             |
| Channel         |            |         |           | 18650                    | 18900                       | 19150                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1855                     | 1880                        | 1905                      |                        |             |
| 10              | QPSK       | 1       | 0         | 11.72                    | 11.47                       | 11.62                     | 12.5                   | 0           |
| 10              | QPSK       | 1       | 25        | 11.49                    | 11.38                       | 11.36                     |                        |             |
| 10              | QPSK       | 1       | 49        | 11.51                    | 11.39                       | 11.44                     |                        |             |
| 10              | QPSK       | 25      | 0         | 11.65                    | 11.55                       | 11.64                     | 12.5                   | 0           |
| 10              | QPSK       | 25      | 12        | 11.66                    | 11.50                       | 11.56                     |                        |             |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 11.65  | 11.51 | 11.56  |                        |             |
| 10              | QPSK  | 50 | 0  | 11.61  | 11.48 | 11.57  |                        |             |
| 10              | 16QAM | 1  | 0  | 11.68  | 11.57 | 11.59  |                        |             |
| 10              | 16QAM | 1  | 25 | 11.52  | 11.41 | 11.45  | 12.5                   | 0           |
| 10              | 16QAM | 1  | 49 | 11.46  | 11.36 | 11.42  |                        |             |
| 10              | 16QAM | 25 | 0  | 11.60  | 11.57 | 11.53  |                        |             |
| 10              | 16QAM | 25 | 12 | 11.66  | 11.60 | 11.56  | 12.5                   | 0           |
| 10              | 16QAM | 25 | 25 | 11.60  | 11.47 | 11.48  |                        |             |
| 10              | 16QAM | 50 | 0  | 11.69  | 11.65 | 11.62  |                        |             |
| 10              | 64QAM | 1  | 0  | 11.55  | 11.42 | 11.42  | 12.5                   | 0           |
| 10              | 64QAM | 1  | 25 | 11.33  | 11.20 | 11.20  |                        |             |
| 10              | 64QAM | 1  | 49 | 11.36  | 11.28 | 11.28  |                        |             |
| 10              | 64QAM | 25 | 0  | 11.17  | 11.12 | 11.12  | 12.5                   | 0           |
| 10              | 64QAM | 25 | 12 | 11.23  | 11.06 | 11.07  |                        |             |
| 10              | 64QAM | 25 | 25 | 10.98  | 10.91 | 10.92  |                        |             |
| 10              | 64QAM | 50 | 0  | 11.03  | 11.00 | 11.00  |                        |             |
| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 11.78  | 11.51 | 11.62  | 12.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 11.47  | 11.38 | 11.39  |                        |             |
| 5               | QPSK  | 1  | 24 | 11.52  | 11.40 | 11.43  |                        |             |
| 5               | QPSK  | 12 | 0  | 11.65  | 11.62 | 11.56  | 12.5                   | 0           |
| 5               | QPSK  | 12 | 7  | 11.63  | 11.51 | 11.54  |                        |             |
| 5               | QPSK  | 12 | 13 | 11.58  | 11.47 | 11.48  |                        |             |
| 5               | QPSK  | 25 | 0  | 11.58  | 11.47 | 11.52  | 12.5                   | 0           |
| 5               | 16QAM | 1  | 0  | 11.66  | 11.61 | 11.56  |                        |             |
| 5               | 16QAM | 1  | 12 | 11.48  | 11.39 | 11.42  |                        |             |
| 5               | 16QAM | 1  | 24 | 11.53  | 11.38 | 11.41  | 12.5                   | 0           |
| 5               | 16QAM | 12 | 0  | 11.60  | 11.59 | 11.54  |                        |             |
| 5               | 16QAM | 12 | 7  | 11.67  | 11.56 | 11.61  |                        |             |
| 5               | 16QAM | 12 | 13 | 11.60  | 11.52 | 11.50  | 12.5                   | 0           |
| 5               | 16QAM | 25 | 0  | 11.70  | 11.64 | 11.60  |                        |             |
| 5               | 64QAM | 1  | 0  | 11.58  | 11.47 | 11.42  |                        |             |
| 5               | 64QAM | 1  | 12 | 11.32  | 11.22 | 11.14  | 12.5                   | 0           |
| 5               | 64QAM | 1  | 24 | 11.38  | 11.36 | 11.28  |                        |             |
| 5               | 64QAM | 12 | 0  | 11.17  | 11.04 | 11.11  |                        |             |
| 5               | 64QAM | 12 | 7  | 11.18  | 11.13 | 11.15  | 12.5                   | 0           |
| 5               | 64QAM | 12 | 13 | 11.08  | 10.89 | 10.93  |                        |             |
| 5               | 64QAM | 25 | 0  | 11.03  | 10.98 | 10.95  |                        |             |
| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 11.71  | 11.52 | 11.55  | 12.5                   | 0           |
| 3               | QPSK  | 1  | 8  | 11.43  | 11.34 | 11.34  |                        |             |
| 3               | QPSK  | 1  | 14 | 11.48  | 11.34 | 11.40  |                        |             |
| 3               | QPSK  | 8  | 0  | 11.67  | 11.55 | 11.63  | 12.5                   | 0           |
| 3               | QPSK  | 8  | 4  | 11.67  | 11.52 | 11.60  |                        |             |
| 3               | QPSK  | 8  | 7  | 11.60  | 11.45 | 11.56  |                        |             |
| 3               | QPSK  | 15 | 0  | 11.63  | 11.50 | 11.55  | 12.5                   | 0           |
| 3               | 16QAM | 1  | 0  | 11.71  | 11.57 | 11.60  |                        |             |
| 3               | 16QAM | 1  | 8  | 11.47  | 11.42 | 11.46  |                        |             |
| 3               | 16QAM | 1  | 14 | 11.51  | 11.43 | 11.44  | 12.5                   | 0           |
| 3               | 16QAM | 8  | 0  | 11.69  | 11.55 | 11.61  |                        |             |
| 3               | 16QAM | 8  | 4  | 11.67  | 11.61 | 11.57  |                        |             |
| 3               | 16QAM | 8  | 7  | 11.66  | 11.55 | 11.56  | 12.5                   | 0           |
| 3               | 16QAM | 15 | 0  | 11.66  | 11.64 | 11.67  |                        |             |
| 3               | 64QAM | 1  | 0  | 11.50  | 11.46 | 11.47  | 12.5                   | 0           |



# FCC SAR TEST REPORT

Report No. : FA092423

|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 11.23  | 11.13 | 11.17  | 12.5                   | 0           |
| 3               | 64QAM | 1  | 14 | 11.39  | 11.32 | 11.37  |                        |             |
| 3               | 64QAM | 8  | 0  | 11.14  | 11.13 | 11.06  |                        |             |
| 3               | 64QAM | 8  | 4  | 11.25  | 11.05 | 11.12  |                        |             |
| 3               | 64QAM | 8  | 7  | 11.07  | 10.95 | 10.92  |                        |             |
| 3               | 64QAM | 15 | 0  | 11.03  | 11.00 | 10.94  |                        |             |
| Channel         |       |    |    | 18607  | 18900 | 19193  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1909.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 11.70  | 11.52 | 11.60  | 12.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 11.43  | 11.35 | 11.44  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 11.53  | 11.38 | 11.42  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 11.70  | 11.56 | 11.55  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 11.62  | 11.54 | 11.51  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 11.55  | 11.51 | 11.55  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 11.65  | 11.46 | 11.55  | 12.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 11.65  | 11.65 | 11.65  | 12.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 11.49  | 11.42 | 11.46  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 11.53  | 11.43 | 11.35  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 11.66  | 11.59 | 11.61  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 11.65  | 11.54 | 11.56  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 11.65  | 11.52 | 11.52  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 11.66  | 11.56 | 11.65  | 12.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 11.58  | 11.42 | 11.51  | 12.5                   | 2           |
| 1.4             | 64QAM | 1  | 3  | 11.24  | 11.19 | 11.16  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 11.41  | 11.36 | 11.31  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 11.21  | 11.12 | 11.13  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 11.22  | 11.05 | 11.10  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 11.08  | 10.91 | 10.98  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 11.09  | 10.95 | 10.94  | 12.5                   | 3           |

**<LTE Band 4 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 20050                    | 20175                       | 20300                     | 16                     | 0           |
| Frequency (MHz) |            |         |           | 1720                     | 1732.5                      | 1745                      |                        |             |
| 20              | QPSK       | 1       | 0         | 15.51                    | 15.46                       | 15.59                     |                        |             |
| 20              | QPSK       | 1       | 49        | 15.35                    | 15.42                       | 15.45                     | 15                     | 1           |
| 20              | QPSK       | 1       | 99        | 15.40                    | 15.41                       | 15.51                     |                        |             |
| 20              | QPSK       | 50      | 0         | 14.66                    | 14.67                       | 14.71                     |                        |             |
| 20              | QPSK       | 50      | 24        | 14.52                    | 14.65                       | 14.68                     | 15                     | 1           |
| 20              | QPSK       | 50      | 50        | 14.63                    | 14.62                       | 14.65                     |                        |             |
| 20              | QPSK       | 100     | 0         | 14.56                    | 14.55                       | 14.58                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 14.77                    | 14.86                       | 14.79                     | 15                     | 1           |
| 20              | 16QAM      | 1       | 49        | 14.74                    | 14.76                       | 14.78                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 14.81                    | 14.74                       | 14.97                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 13.27                    | 13.52                       | 13.64                     | 14                     | 2           |
| 20              | 16QAM      | 50      | 24        | 13.62                    | 13.61                       | 13.63                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 13.54                    | 13.66                       | 13.62                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 13.59                    | 13.59                       | 13.58                     | 14                     | 2           |
| 20              | 64QAM      | 1       | 0         | 13.34                    | 13.41                       | 13.46                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 13.72                    | 13.50                       | 13.51                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 13.74                    | 13.74                       | 13.50                     | 13                     | 3           |
| 20              | 64QAM      | 50      | 0         | 12.47                    | 12.39                       | 12.68                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 12.42                    | 12.71                       | 12.55                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 12.62                    | 12.77                       | 12.58                     | 13                     | 3           |
| 20              | 64QAM      | 50      | 50        | 12.62                    | 12.77                       | 12.58                     |                        |             |
| 20              | 64QAM      | 100     | 0         | 12.59                    | 12.58                       | 12.56                     |                        |             |
| Channel         |            |         |           | 20025                    | 20175                       | 20325                     | 16                     | 0           |
| Frequency (MHz) |            |         |           | 1717.5                   | 1732.5                      | 1747.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 15.45                    | 15.43                       | 15.49                     |                        |             |
| 15              | QPSK       | 1       | 37        | 15.28                    | 15.40                       | 15.41                     | 15                     | 1           |
| 15              | QPSK       | 1       | 74        | 15.37                    | 15.35                       | 15.50                     |                        |             |
| 15              | QPSK       | 36      | 0         | 14.29                    | 14.49                       | 14.50                     |                        |             |
| 15              | QPSK       | 36      | 20        | 14.49                    | 14.58                       | 14.60                     | 15                     | 1           |
| 15              | QPSK       | 36      | 39        | 14.57                    | 14.58                       | 14.56                     |                        |             |
| 15              | QPSK       | 75      | 0         | 14.50                    | 14.53                       | 14.53                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 14.75                    | 14.86                       | 14.74                     | 15                     | 1           |
| 15              | 16QAM      | 1       | 37        | 14.73                    | 14.74                       | 14.70                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 14.77                    | 14.71                       | 14.96                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 13.19                    | 13.51                       | 13.58                     | 14                     | 2           |
| 15              | 16QAM      | 36      | 20        | 13.58                    | 13.55                       | 13.59                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 13.53                    | 13.61                       | 13.60                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 13.51                    | 13.52                       | 13.49                     | 14                     | 2           |
| 15              | 64QAM      | 1       | 0         | 13.25                    | 13.40                       | 13.42                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 13.63                    | 13.50                       | 13.44                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 13.67                    | 13.68                       | 13.41                     | 13                     | 3           |
| 15              | 64QAM      | 36      | 0         | 12.46                    | 12.31                       | 12.67                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 12.35                    | 12.68                       | 12.46                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 12.62                    | 12.67                       | 12.55                     | 13                     | 3           |
| 15              | 64QAM      | 36      | 39        | 12.62                    | 12.67                       | 12.55                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 12.58                    | 12.57                       | 12.50                     |                        |             |
| Channel         |            |         |           | 20000                    | 20175                       | 20350                     | 16                     | 0           |
| Frequency (MHz) |            |         |           | 1715                     | 1732.5                      | 1750                      |                        |             |
| 10              | QPSK       | 1       | 0         | 15.44                    | 15.39                       | 15.57                     |                        |             |
| 10              | QPSK       | 1       | 25        | 15.25                    | 15.35                       | 15.38                     | 16                     | 0           |
| 10              | QPSK       | 1       | 49        | 15.33                    | 15.31                       | 15.50                     |                        |             |
| 10              | QPSK       | 25      | 0         | 14.35                    | 14.52                       | 14.45                     |                        |             |
| 10              | QPSK       | 25      | 12        | 14.44                    | 14.64                       | 14.59                     | 15                     | 1           |



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|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 14.54  | 14.62  | 14.65  |                        |             |
| 10              | QPSK  | 50 | 0  | 14.55  | 14.56  | 14.54  |                        |             |
| 10              | 16QAM | 1  | 0  | 14.69  | 14.84  | 14.72  |                        |             |
| 10              | 16QAM | 1  | 25 | 14.68  | 14.73  | 14.69  | 15                     | 1           |
| 10              | 16QAM | 1  | 49 | 14.80  | 14.69  | 14.94  |                        |             |
| 10              | 16QAM | 25 | 0  | 13.23  | 13.48  | 13.64  |                        |             |
| 10              | 16QAM | 25 | 12 | 13.56  | 13.54  | 13.58  | 14                     | 2           |
| 10              | 16QAM | 25 | 25 | 13.48  | 13.63  | 13.58  |                        |             |
| 10              | 16QAM | 50 | 0  | 13.53  | 13.51  | 13.49  |                        |             |
| 10              | 64QAM | 1  | 0  | 13.27  | 13.31  | 13.38  | 14                     | 2           |
| 10              | 64QAM | 1  | 25 | 13.72  | 13.43  | 13.47  |                        |             |
| 10              | 64QAM | 1  | 49 | 13.66  | 13.64  | 13.45  |                        |             |
| 10              | 64QAM | 25 | 0  | 12.44  | 12.35  | 12.64  | 13                     | 3           |
| 10              | 64QAM | 25 | 12 | 12.38  | 12.70  | 12.47  |                        |             |
| 10              | 64QAM | 25 | 25 | 12.54  | 12.74  | 12.50  |                        |             |
| 10              | 64QAM | 50 | 0  | 12.55  | 12.54  | 12.48  |                        |             |
| Channel         |       |    |    | 19975  | 20175  | 20375  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1732.5 | 1752.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 15.47  | 15.38  | 15.56  | 16                     | 0           |
| 5               | QPSK  | 1  | 12 | 15.31  | 15.39  | 15.37  |                        |             |
| 5               | QPSK  | 1  | 24 | 15.34  | 15.39  | 15.45  |                        |             |
| 5               | QPSK  | 12 | 0  | 14.27  | 14.48  | 14.49  | 15                     | 1           |
| 5               | QPSK  | 12 | 7  | 14.44  | 14.56  | 14.60  |                        |             |
| 5               | QPSK  | 12 | 13 | 14.55  | 14.58  | 14.59  |                        |             |
| 5               | QPSK  | 25 | 0  | 14.52  | 14.55  | 14.52  | 15                     | 1           |
| 5               | 16QAM | 1  | 0  | 14.67  | 14.78  | 14.78  |                        |             |
| 5               | 16QAM | 1  | 12 | 14.72  | 14.68  | 14.77  |                        |             |
| 5               | 16QAM | 1  | 24 | 14.78  | 14.66  | 14.94  | 14                     | 2           |
| 5               | 16QAM | 12 | 0  | 13.22  | 13.43  | 13.61  |                        |             |
| 5               | 16QAM | 12 | 7  | 13.56  | 13.59  | 13.62  |                        |             |
| 5               | 16QAM | 12 | 13 | 13.47  | 13.59  | 13.61  | 14                     | 2           |
| 5               | 16QAM | 25 | 0  | 13.55  | 13.55  | 13.48  |                        |             |
| 5               | 64QAM | 1  | 0  | 13.29  | 13.40  | 13.44  |                        |             |
| 5               | 64QAM | 1  | 12 | 13.66  | 13.42  | 13.48  | 14                     | 2           |
| 5               | 64QAM | 1  | 24 | 13.73  | 13.66  | 13.42  |                        |             |
| 5               | 64QAM | 12 | 0  | 12.37  | 12.36  | 12.58  |                        |             |
| 5               | 64QAM | 12 | 7  | 12.40  | 12.62  | 12.45  | 13                     | 3           |
| 5               | 64QAM | 12 | 13 | 12.62  | 12.74  | 12.52  |                        |             |
| 5               | 64QAM | 25 | 0  | 12.54  | 12.50  | 12.50  |                        |             |
| Channel         |       |    |    | 19965  | 20175  | 20385  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1732.5 | 1753.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 15.50  | 15.37  | 15.56  | 16                     | 0           |
| 3               | QPSK  | 1  | 8  | 15.33  | 15.41  | 15.40  |                        |             |
| 3               | QPSK  | 1  | 14 | 15.35  | 15.41  | 15.51  |                        |             |
| 3               | QPSK  | 8  | 0  | 14.28  | 14.48  | 14.42  | 15                     | 1           |
| 3               | QPSK  | 8  | 4  | 14.52  | 14.62  | 14.67  |                        |             |
| 3               | QPSK  | 8  | 7  | 14.57  | 14.53  | 14.61  |                        |             |
| 3               | QPSK  | 15 | 0  | 14.55  | 14.52  | 14.53  | 15                     | 1           |
| 3               | 16QAM | 1  | 0  | 14.67  | 14.80  | 14.70  |                        |             |
| 3               | 16QAM | 1  | 8  | 14.68  | 14.67  | 14.68  |                        |             |
| 3               | 16QAM | 1  | 14 | 14.71  | 14.70  | 14.93  | 14                     | 2           |
| 3               | 16QAM | 8  | 0  | 13.20  | 13.52  | 13.57  |                        |             |
| 3               | 16QAM | 8  | 4  | 13.60  | 13.55  | 13.63  |                        |             |
| 3               | 16QAM | 8  | 7  | 13.45  | 13.64  | 13.57  | 14                     | 2           |
| 3               | 16QAM | 15 | 0  | 13.58  | 13.55  | 13.55  |                        |             |
| 3               | 64QAM | 1  | 0  | 13.25  | 13.36  | 13.40  | 14                     | 2           |



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|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 13.64  | 13.43  | 13.44  | 13                     | 3           |
| 3               | 64QAM | 1  | 14 | 13.68  | 13.65  | 13.42  |                        |             |
| 3               | 64QAM | 8  | 0  | 12.45  | 12.35  | 12.58  |                        |             |
| 3               | 64QAM | 8  | 4  | 12.38  | 12.64  | 12.45  |                        |             |
| 3               | 64QAM | 8  | 7  | 12.59  | 12.68  | 12.48  |                        |             |
| 3               | 64QAM | 15 | 0  | 12.59  | 12.52  | 12.49  |                        |             |
| Channel         |       |    |    | 19957  | 20175  | 20393  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1732.5 | 1754.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 15.46  | 15.42  | 15.50  | 16                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 15.33  | 15.39  | 15.42  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 15.36  | 15.36  | 15.41  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 15.14  | 15.35  | 15.29  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 15.32  | 15.36  | 15.31  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 15.33  | 15.40  | 15.39  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 14.56  | 14.55  | 14.55  | 15                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 14.68  | 14.78  | 14.72  | 15                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 14.73  | 14.66  | 14.78  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 14.78  | 14.65  | 14.94  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 14.26  | 14.44  | 14.58  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 14.52  | 14.53  | 14.58  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 14.49  | 14.58  | 14.53  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 13.56  | 13.59  | 13.49  | 14                     | 2           |
| 1.4             | 64QAM | 1  | 0  | 13.29  | 13.34  | 13.42  | 14                     | 2           |
| 1.4             | 64QAM | 1  | 3  | 13.72  | 13.46  | 13.51  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 13.71  | 13.67  | 13.45  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 13.37  | 13.38  | 13.66  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 13.39  | 13.66  | 13.46  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 13.60  | 13.73  | 13.54  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 12.51  | 12.50  | 12.47  | 13                     | 3           |



**<LTE Band 5 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 20450                    | 20525                       | 20600                     | 20.5                   | 0           |
| Frequency (MHz) |            |         |           | 829                      | 836.5                       | 844                       |                        |             |
| 10              | QPSK       | 1       | 0         | 20.13                    | 20.31                       | 20.30                     |                        |             |
| 10              | QPSK       | 1       | 25        | 19.92                    | 20.16                       | 20.10                     | 19.5                   | 1           |
| 10              | QPSK       | 1       | 49        | 20.05                    | 20.14                       | 20.16                     |                        |             |
| 10              | QPSK       | 25      | 0         | 19.23                    | 19.40                       | 19.35                     |                        |             |
| 10              | QPSK       | 25      | 12        | 19.28                    | 19.38                       | 19.48                     | 19.5                   | 1           |
| 10              | QPSK       | 25      | 25        | 19.35                    | 19.38                       | 19.42                     |                        |             |
| 10              | QPSK       | 50      | 0         | 19.27                    | 19.33                       | 19.32                     |                        |             |
| 10              | 16QAM      | 1       | 0         | 19.45                    | 19.44                       | 19.50                     | 19.5                   | 1           |
| 10              | 16QAM      | 1       | 25        | 19.42                    | 19.44                       | 19.42                     |                        |             |
| 10              | 16QAM      | 1       | 49        | 19.41                    | 19.41                       | 19.45                     |                        |             |
| 10              | 16QAM      | 25      | 0         | 18.22                    | 18.32                       | 18.39                     | 18.5                   | 2           |
| 10              | 16QAM      | 25      | 12        | 18.31                    | 18.39                       | 18.40                     |                        |             |
| 10              | 16QAM      | 25      | 25        | 18.37                    | 18.40                       | 18.33                     |                        |             |
| 10              | 16QAM      | 50      | 0         | 18.25                    | 18.37                       | 18.26                     | 18.5                   | 2           |
| 10              | 64QAM      | 1       | 0         | 18.12                    | 18.17                       | 18.21                     |                        |             |
| 10              | 64QAM      | 1       | 25        | 18.45                    | 18.41                       | 18.33                     |                        |             |
| 10              | 64QAM      | 1       | 49        | 18.18                    | 18.27                       | 18.19                     | 17.5                   | 3           |
| 10              | 64QAM      | 25      | 0         | 17.24                    | 17.38                       | 17.27                     |                        |             |
| 10              | 64QAM      | 25      | 12        | 17.35                    | 17.19                       | 17.43                     |                        |             |
| 10              | 64QAM      | 25      | 25        | 17.23                    | 17.34                       | 17.18                     | 17.5                   | 3           |
| 10              | 64QAM      | 50      | 0         | 17.09                    | 17.44                       | 17.14                     |                        |             |
| Channel         |            |         |           | 20425                    | 20525                       | 20625                     | 20.5                   | 0           |
| Frequency (MHz) |            |         |           | 826.5                    | 836.5                       | 846.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 20.04                    | 20.21                       | 20.28                     |                        |             |
| 5               | QPSK       | 1       | 12        | 19.87                    | 20.07                       | 20.07                     | 19.5                   | 1           |
| 5               | QPSK       | 1       | 24        | 20.15                    | 20.08                       | 20.14                     |                        |             |
| 5               | QPSK       | 12      | 0         | 19.17                    | 19.27                       | 19.27                     |                        |             |
| 5               | QPSK       | 12      | 7         | 19.28                    | 19.32                       | 19.47                     | 19.5                   | 1           |
| 5               | QPSK       | 12      | 13        | 19.32                    | 19.28                       | 19.39                     |                        |             |
| 5               | QPSK       | 25      | 0         | 19.22                    | 19.27                       | 19.24                     |                        |             |
| 5               | 16QAM      | 1       | 0         | 19.41                    | 19.43                       | 19.42                     | 19.5                   | 1           |
| 5               | 16QAM      | 1       | 12        | 19.42                    | 19.42                       | 19.34                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 19.33                    | 19.34                       | 19.35                     |                        |             |
| 5               | 16QAM      | 12      | 0         | 18.13                    | 18.22                       | 18.34                     | 18.5                   | 2           |
| 5               | 16QAM      | 12      | 7         | 18.21                    | 18.32                       | 18.31                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 18.29                    | 18.33                       | 18.26                     |                        |             |
| 5               | 16QAM      | 25      | 0         | 18.17                    | 18.33                       | 18.25                     | 18.5                   | 2           |
| 5               | 64QAM      | 1       | 0         | 18.10                    | 18.17                       | 18.21                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 18.44                    | 18.41                       | 18.26                     |                        |             |
| 5               | 64QAM      | 1       | 24        | 18.15                    | 18.25                       | 18.19                     | 17.5                   | 3           |
| 5               | 64QAM      | 12      | 0         | 17.14                    | 17.35                       | 17.25                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 17.27                    | 17.10                       | 17.34                     |                        |             |
| 5               | 64QAM      | 12      | 13        | 17.16                    | 17.26                       | 17.08                     | 17.5                   | 3           |
| 5               | 64QAM      | 25      | 0         | 17.07                    | 17.44                       | 17.14                     |                        |             |
| Channel         |            |         |           | 20415                    | 20525                       | 20635                     | 20.5                   | 0           |
| Frequency (MHz) |            |         |           | 825.5                    | 836.5                       | 847.5                     |                        |             |
| 3               | QPSK       | 1       | 0         | 20.04                    | 20.30                       | 20.26                     |                        |             |
| 3               | QPSK       | 1       | 8         | 19.87                    | 20.12                       | 20.01                     | 19.5                   | 1           |
| 3               | QPSK       | 1       | 14        | 20.16                    | 20.14                       | 20.07                     |                        |             |
| 3               | QPSK       | 8       | 0         | 19.22                    | 19.30                       | 19.35                     |                        |             |
| 3               | QPSK       | 8       | 4         | 19.24                    | 19.31                       | 19.43                     | 19.5                   | 1           |



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|                 |       |    |    |       |       |       |                        |             |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|
| 3               | QPSK  | 8  | 7  | 19.27 | 19.29 | 19.33 |                        |             |
| 3               | QPSK  | 15 | 0  | 19.18 | 19.24 | 19.24 |                        |             |
| 3               | 16QAM | 1  | 0  | 19.36 | 19.40 | 19.50 |                        |             |
| 3               | 16QAM | 1  | 8  | 19.35 | 19.42 | 19.34 | 19.5                   | 1           |
| 3               | 16QAM | 1  | 14 | 19.36 | 19.41 | 19.41 |                        |             |
| 3               | 16QAM | 8  | 0  | 18.17 | 18.27 | 18.34 |                        |             |
| 3               | 16QAM | 8  | 4  | 18.22 | 18.34 | 18.33 | 18.5                   | 2           |
| 3               | 16QAM | 8  | 7  | 18.33 | 18.30 | 18.31 |                        |             |
| 3               | 16QAM | 15 | 0  | 18.22 | 18.32 | 18.23 |                        |             |
| 3               | 64QAM | 1  | 0  | 18.10 | 18.07 | 18.15 | 18.5                   | 2           |
| 3               | 64QAM | 1  | 8  | 18.38 | 18.38 | 18.26 |                        |             |
| 3               | 64QAM | 1  | 14 | 18.15 | 18.24 | 18.16 |                        |             |
| 3               | 64QAM | 8  | 0  | 17.24 | 17.35 | 17.18 | 17.5                   | 3           |
| 3               | 64QAM | 8  | 4  | 17.35 | 17.16 | 17.34 |                        |             |
| 3               | 64QAM | 8  | 7  | 17.16 | 17.29 | 17.16 |                        |             |
| 3               | 64QAM | 15 | 0  | 17.02 | 17.36 | 17.11 |                        |             |
| Channel         |       |    |    | 20407 | 20525 | 20643 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 824.7 | 836.5 | 848.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 20.13 | 20.27 | 20.23 | 20.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 19.89 | 20.16 | 20.06 |                        |             |
| 1.4             | QPSK  | 1  | 5  | 20.24 | 20.10 | 20.13 |                        |             |
| 1.4             | QPSK  | 3  | 0  | 20.03 | 20.16 | 20.14 |                        |             |
| 1.4             | QPSK  | 3  | 1  | 20.07 | 20.12 | 20.25 |                        |             |
| 1.4             | QPSK  | 3  | 3  | 20.07 | 20.10 | 20.19 |                        |             |
| 1.4             | QPSK  | 6  | 0  | 19.22 | 19.26 | 19.28 | 19.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 19.40 | 19.34 | 19.49 | 19.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 19.38 | 19.37 | 19.42 |                        |             |
| 1.4             | 16QAM | 1  | 5  | 19.34 | 19.37 | 19.42 |                        |             |
| 1.4             | 16QAM | 3  | 0  | 18.96 | 19.07 | 19.16 |                        |             |
| 1.4             | 16QAM | 3  | 1  | 19.11 | 19.19 | 19.16 |                        |             |
| 1.4             | 16QAM | 3  | 3  | 19.09 | 19.17 | 19.08 |                        |             |
| 1.4             | 16QAM | 6  | 0  | 18.22 | 18.29 | 18.24 | 18.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 18.09 | 18.09 | 18.19 | 18.5                   | 2           |
| 1.4             | 64QAM | 1  | 3  | 18.41 | 18.41 | 18.29 |                        |             |
| 1.4             | 64QAM | 1  | 5  | 18.18 | 18.19 | 18.18 |                        |             |
| 1.4             | 64QAM | 3  | 0  | 18.00 | 18.16 | 18.06 |                        |             |
| 1.4             | 64QAM | 3  | 1  | 18.13 | 17.90 | 18.16 |                        |             |
| 1.4             | 64QAM | 3  | 3  | 17.99 | 18.14 | 17.98 |                        |             |
| 1.4             | 64QAM | 6  | 0  | 17.09 | 17.43 | 17.09 | 17.5                   | 3           |



## &lt;LTE Band 7 Main&gt;

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 20850                    | 21100                       | 21350                     |                        |             |
| Frequency (MHz) |            |         |           | 2510                     | 2535                        | 2560                      |                        |             |
| 20              | QPSK       | 1       | 0         | 13.61                    | 13.80                       | 13.60                     |                        |             |
| 20              | QPSK       | 1       | 49        | 13.54                    | 13.67                       | 13.56                     | 14.5                   | 0           |
| 20              | QPSK       | 1       | 99        | 13.57                    | 13.65                       | 13.44                     |                        |             |
| 20              | QPSK       | 50      | 0         | 12.78                    | 12.85                       | 12.84                     |                        |             |
| 20              | QPSK       | 50      | 24        | 12.77                    | 12.83                       | 12.81                     | 13.5                   | 1           |
| 20              | QPSK       | 50      | 50        | 12.71                    | 12.78                       | 12.69                     |                        |             |
| 20              | QPSK       | 100     | 0         | 12.87                    | 12.91                       | 12.82                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 12.83                    | 12.85                       | 12.90                     | 13.5                   | 1           |
| 20              | 16QAM      | 1       | 49        | 12.84                    | 12.88                       | 12.89                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 12.85                    | 12.83                       | 12.81                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 11.79                    | 11.82                       | 11.77                     | 12.5                   | 2           |
| 20              | 16QAM      | 50      | 24        | 11.89                    | 11.85                       | 11.75                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 11.87                    | 11.88                       | 11.71                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 11.84                    | 11.88                       | 11.74                     | 12.5                   | 2           |
| 20              | 64QAM      | 1       | 0         | 11.78                    | 11.94                       | 11.58                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 11.83                    | 11.93                       | 11.72                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 11.96                    | 11.95                       | 11.60                     | 11.5                   | 3           |
| 20              | 64QAM      | 50      | 0         | 10.89                    | 10.92                       | 10.61                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 10.88                    | 10.68                       | 10.69                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 10.93                    | 10.94                       | 10.62                     | 11.5                   | 3           |
| 20              | 64QAM      | 100     | 0         | 10.68                    | 10.75                       | 10.79                     |                        |             |
| Channel         |            |         |           | 20825                    | 21100                       | 21375                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2507.5                   | 2535                        | 2562.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 13.56                    | 13.72                       | 13.56                     |                        |             |
| 15              | QPSK       | 1       | 37        | 13.56                    | 13.64                       | 13.56                     | 14.5                   | 0           |
| 15              | QPSK       | 1       | 74        | 13.66                    | 13.60                       | 13.36                     |                        |             |
| 15              | QPSK       | 36      | 0         | 12.70                    | 12.76                       | 12.76                     |                        |             |
| 15              | QPSK       | 36      | 20        | 12.79                    | 12.79                       | 12.81                     | 13.5                   | 1           |
| 15              | QPSK       | 36      | 39        | 12.72                    | 12.71                       | 12.66                     |                        |             |
| 15              | QPSK       | 75      | 0         | 12.77                    | 12.75                       | 12.74                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 12.82                    | 12.80                       | 12.90                     | 13.5                   | 1           |
| 15              | 16QAM      | 1       | 37        | 12.83                    | 12.78                       | 12.84                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 12.79                    | 12.76                       | 12.71                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 11.69                    | 11.81                       | 11.76                     | 12.5                   | 2           |
| 15              | 16QAM      | 36      | 20        | 11.79                    | 11.80                       | 11.65                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 11.87                    | 11.81                       | 11.71                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 11.78                    | 11.88                       | 11.65                     | 12.5                   | 2           |
| 15              | 64QAM      | 1       | 0         | 11.69                    | 11.92                       | 11.54                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 11.73                    | 11.92                       | 11.67                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 11.91                    | 11.95                       | 11.54                     | 11.5                   | 3           |
| 15              | 64QAM      | 36      | 0         | 10.89                    | 10.91                       | 10.57                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 10.84                    | 10.64                       | 10.59                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 10.86                    | 10.86                       | 10.56                     | 11.5                   | 3           |
| 15              | 64QAM      | 75      | 0         | 10.61                    | 10.74                       | 10.78                     |                        |             |
| Channel         |            |         |           | 20800                    | 21100                       | 21400                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2505                     | 2535                        | 2565                      |                        |             |
| 10              | QPSK       | 1       | 0         | 13.61                    | 13.72                       | 13.54                     |                        |             |
| 10              | QPSK       | 1       | 25        | 13.64                    | 13.67                       | 13.46                     | 14.5                   | 0           |
| 10              | QPSK       | 1       | 49        | 13.66                    | 13.61                       | 13.34                     |                        |             |
| 10              | QPSK       | 25      | 0         | 12.75                    | 12.75                       | 12.77                     |                        |             |
| 10              | QPSK       | 25      | 12        | 12.78                    | 12.80                       | 12.73                     | 13.5                   | 1           |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 12.76  | 12.75 | 12.59  |                        |             |
| 10              | QPSK  | 50 | 0  | 12.79  | 12.78 | 12.82  |                        |             |
| 10              | 16QAM | 1  | 0  | 12.78  | 12.76 | 12.86  |                        |             |
| 10              | 16QAM | 1  | 25 | 12.83  | 12.85 | 12.82  | 13.5                   | 1           |
| 10              | 16QAM | 1  | 49 | 12.81  | 12.80 | 12.79  |                        |             |
| 10              | 16QAM | 25 | 0  | 11.73  | 11.76 | 11.70  |                        |             |
| 10              | 16QAM | 25 | 12 | 11.82  | 11.75 | 11.71  | 12.5                   | 2           |
| 10              | 16QAM | 25 | 25 | 11.78  | 11.80 | 11.65  |                        |             |
| 10              | 16QAM | 50 | 0  | 11.74  | 11.82 | 11.67  |                        |             |
| 10              | 64QAM | 1  | 0  | 11.73  | 11.84 | 11.56  | 12.5                   | 2           |
| 10              | 64QAM | 1  | 25 | 11.78  | 11.89 | 11.72  |                        |             |
| 10              | 64QAM | 1  | 49 | 11.95  | 11.90 | 11.55  |                        |             |
| 10              | 64QAM | 25 | 0  | 10.85  | 10.92 | 10.53  | 11.5                   | 3           |
| 10              | 64QAM | 25 | 12 | 10.80  | 10.58 | 10.63  |                        |             |
| 10              | 64QAM | 25 | 25 | 10.91  | 10.86 | 10.56  |                        |             |
| 10              | 64QAM | 50 | 0  | 10.59  | 10.72 | 10.71  |                        |             |
| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 13.61  | 13.74 | 13.52  | 14.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 13.54  | 13.67 | 13.49  |                        |             |
| 5               | QPSK  | 1  | 24 | 13.68  | 13.62 | 13.43  |                        |             |
| 5               | QPSK  | 12 | 0  | 12.77  | 12.72 | 12.76  | 13.5                   | 1           |
| 5               | QPSK  | 12 | 7  | 12.84  | 12.82 | 12.80  |                        |             |
| 5               | QPSK  | 12 | 13 | 12.72  | 12.73 | 12.64  |                        |             |
| 5               | QPSK  | 25 | 0  | 12.84  | 12.74 | 12.81  | 13.5                   | 1           |
| 5               | 16QAM | 1  | 0  | 12.73  | 12.83 | 12.85  |                        |             |
| 5               | 16QAM | 1  | 12 | 12.75  | 12.87 | 12.80  |                        |             |
| 5               | 16QAM | 1  | 24 | 12.83  | 12.73 | 12.72  | 12.5                   | 2           |
| 5               | 16QAM | 12 | 0  | 11.69  | 11.75 | 11.74  |                        |             |
| 5               | 16QAM | 12 | 7  | 11.86  | 11.80 | 11.67  |                        |             |
| 5               | 16QAM | 12 | 13 | 11.83  | 11.83 | 11.66  | 12.5                   | 2           |
| 5               | 16QAM | 25 | 0  | 11.78  | 11.84 | 11.71  |                        |             |
| 5               | 64QAM | 1  | 0  | 11.75  | 11.91 | 11.48  |                        |             |
| 5               | 64QAM | 1  | 12 | 11.82  | 11.92 | 11.63  | 12.5                   | 2           |
| 5               | 64QAM | 1  | 24 | 11.88  | 11.86 | 11.52  |                        |             |
| 5               | 64QAM | 12 | 0  | 10.82  | 10.85 | 10.58  |                        |             |
| 5               | 64QAM | 12 | 7  | 10.82  | 10.67 | 10.63  | 11.5                   | 3           |
| 5               | 64QAM | 12 | 13 | 10.88  | 10.84 | 10.61  |                        |             |
| 5               | 64QAM | 25 | 0  | 10.60  | 10.67 | 10.69  |                        |             |



**<LTE Band 7 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 20850                    | 21100                       | 21350                     |                        |             |
| Frequency (MHz) |            |         |           | 2510                     | 2535                        | 2560                      |                        |             |
| 20              | QPSK       | 1       | 0         | 11.27                    | 11.33                       | 11.31                     |                        |             |
| 20              | QPSK       | 1       | 49        | 10.96                    | 11.08                       | 11.05                     | 12                     | 0           |
| 20              | QPSK       | 1       | 99        | 10.95                    | 11.09                       | 10.98                     |                        |             |
| 20              | QPSK       | 50      | 0         | 11.06                    | 11.18                       | 11.07                     |                        |             |
| 20              | QPSK       | 50      | 24        | 11.16                    | 11.23                       | 11.11                     | 12                     | 0           |
| 20              | QPSK       | 50      | 50        | 11.06                    | 11.16                       | 11.11                     |                        |             |
| 20              | QPSK       | 100     | 0         | 11.18                    | 11.26                       | 11.21                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 11.24                    | 11.30                       | 11.18                     | 12                     | 0           |
| 20              | 16QAM      | 1       | 49        | 11.05                    | 11.14                       | 11.06                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 10.95                    | 11.10                       | 11.02                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 11.17                    | 11.28                       | 11.23                     | 12                     | 0           |
| 20              | 16QAM      | 50      | 24        | 11.10                    | 11.25                       | 11.23                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 11.10                    | 11.23                       | 11.18                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 11.16                    | 11.24                       | 11.15                     | 12                     | 0           |
| 20              | 64QAM      | 1       | 0         | 10.87                    | 11.00                       | 10.96                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 10.84                    | 10.98                       | 10.89                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 10.87                    | 10.96                       | 10.85                     | 12                     | 0           |
| 20              | 64QAM      | 50      | 0         | 10.19                    | 10.25                       | 10.20                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 10.20                    | 10.32                       | 10.28                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 10.13                    | 10.21                       | 10.16                     | 12                     | 0           |
| 20              | 64QAM      | 100     | 0         | 10.26                    | 10.32                       | 10.23                     |                        |             |
| Channel         |            |         |           | 20825                    | 21100                       | 21375                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2507.5                   | 2535                        | 2562.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 11.21                    | 11.27                       | 11.21                     |                        |             |
| 15              | QPSK       | 1       | 37        | 10.93                    | 11.03                       | 10.96                     | 12                     | 0           |
| 15              | QPSK       | 1       | 74        | 10.97                    | 11.09                       | 10.97                     |                        |             |
| 15              | QPSK       | 36      | 0         | 11.06                    | 11.18                       | 11.07                     | 12                     | 0           |
| 15              | QPSK       | 36      | 20        | 11.15                    | 11.16                       | 11.11                     |                        |             |
| 15              | QPSK       | 36      | 39        | 11.01                    | 11.11                       | 11.11                     |                        |             |
| 15              | QPSK       | 75      | 0         | 11.20                    | 11.19                       | 11.22                     | 12                     | 0           |
| 15              | 16QAM      | 1       | 0         | 11.14                    | 11.30                       | 11.25                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 11.04                    | 11.07                       | 11.02                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 10.98                    | 11.02                       | 11.07                     | 12                     | 0           |
| 15              | 16QAM      | 36      | 0         | 11.15                    | 11.27                       | 11.26                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 11.13                    | 11.21                       | 11.15                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 11.08                    | 11.17                       | 11.20                     | 12                     | 0           |
| 15              | 16QAM      | 75      | 0         | 11.11                    | 11.14                       | 11.14                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 10.84                    | 10.98                       | 10.98                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 10.91                    | 10.96                       | 10.89                     | 12                     | 0           |
| 15              | 64QAM      | 1       | 74        | 10.84                    | 10.86                       | 10.84                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 10.19                    | 10.19                       | 10.18                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 10.19                    | 10.22                       | 10.22                     | 12                     | 0           |
| 15              | 64QAM      | 36      | 39        | 10.05                    | 10.13                       | 10.19                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 10.17                    | 10.28                       | 10.29                     |                        |             |
| Channel         |            |         |           | 20800                    | 21100                       | 21400                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2505                     | 2535                        | 2565                      |                        |             |
| 10              | QPSK       | 1       | 0         | 11.24                    | 11.26                       | 11.29                     |                        |             |
| 10              | QPSK       | 1       | 25        | 10.97                    | 10.99                       | 10.98                     | 12                     | 0           |
| 10              | QPSK       | 1       | 49        | 10.93                    | 11.06                       | 11.05                     |                        |             |
| 10              | QPSK       | 25      | 0         | 11.10                    | 11.17                       | 11.13                     | 12                     | 0           |
| 10              | QPSK       | 25      | 12        | 11.10                    | 11.18                       | 11.11                     |                        |             |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 11.04  | 11.16 | 11.07  |                        |             |
| 10              | QPSK  | 50 | 0  | 11.11  | 11.19 | 11.21  |                        |             |
| 10              | 16QAM | 1  | 0  | 11.23  | 11.21 | 11.22  |                        |             |
| 10              | 16QAM | 1  | 25 | 11.06  | 11.14 | 11.02  | 12                     | 0           |
| 10              | 16QAM | 1  | 49 | 10.97  | 11.00 | 11.00  |                        |             |
| 10              | 16QAM | 25 | 0  | 11.12  | 11.24 | 11.24  |                        |             |
| 10              | 16QAM | 25 | 12 | 11.09  | 11.17 | 11.14  | 12                     | 0           |
| 10              | 16QAM | 25 | 25 | 11.10  | 11.16 | 11.14  |                        |             |
| 10              | 16QAM | 50 | 0  | 11.14  | 11.22 | 11.12  |                        |             |
| 10              | 64QAM | 1  | 0  | 10.90  | 10.90 | 10.91  | 12                     | 0           |
| 10              | 64QAM | 1  | 25 | 10.84  | 10.90 | 10.89  |                        |             |
| 10              | 64QAM | 1  | 49 | 10.90  | 10.95 | 10.94  |                        |             |
| 10              | 64QAM | 25 | 0  | 10.18  | 10.23 | 10.14  | 12                     | 0           |
| 10              | 64QAM | 25 | 12 | 10.25  | 10.31 | 10.26  |                        |             |
| 10              | 64QAM | 25 | 25 | 10.10  | 10.19 | 10.15  |                        |             |
| 10              | 64QAM | 50 | 0  | 10.22  | 10.30 | 10.26  |                        |             |
| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 11.25  | 11.28 | 11.27  | 12                     | 0           |
| 5               | QPSK  | 1  | 12 | 11.01  | 11.06 | 11.02  |                        |             |
| 5               | QPSK  | 1  | 24 | 11.03  | 11.07 | 11.03  |                        |             |
| 5               | QPSK  | 12 | 0  | 11.09  | 11.17 | 11.14  | 12                     | 0           |
| 5               | QPSK  | 12 | 7  | 11.08  | 11.13 | 11.21  |                        |             |
| 5               | QPSK  | 12 | 13 | 11.08  | 11.13 | 11.07  |                        |             |
| 5               | QPSK  | 25 | 0  | 11.19  | 11.25 | 11.17  | 12                     | 0           |
| 5               | 16QAM | 1  | 0  | 11.22  | 11.29 | 11.28  |                        |             |
| 5               | 16QAM | 1  | 12 | 11.08  | 11.13 | 11.03  |                        |             |
| 5               | 16QAM | 1  | 24 | 10.98  | 11.08 | 11.07  | 12                     | 0           |
| 5               | 16QAM | 12 | 0  | 11.13  | 11.24 | 11.25  |                        |             |
| 5               | 16QAM | 12 | 7  | 11.10  | 11.18 | 11.14  |                        |             |
| 5               | 16QAM | 12 | 13 | 11.10  | 11.22 | 11.20  | 12                     | 0           |
| 5               | 16QAM | 25 | 0  | 11.08  | 11.18 | 11.18  |                        |             |
| 5               | 64QAM | 1  | 0  | 10.94  | 10.94 | 10.89  |                        |             |
| 5               | 64QAM | 1  | 12 | 10.84  | 10.98 | 10.88  | 12                     | 0           |
| 5               | 64QAM | 1  | 24 | 10.80  | 10.94 | 10.85  |                        |             |
| 5               | 64QAM | 12 | 0  | 10.15  | 10.18 | 10.15  |                        |             |
| 5               | 64QAM | 12 | 7  | 10.16  | 10.27 | 10.22  | 12                     | 0           |
| 5               | 64QAM | 12 | 13 | 10.05  | 10.18 | 10.10  |                        |             |
| 5               | 64QAM | 25 | 0  | 10.16  | 10.23 | 10.22  |                        |             |



**<LTE Band 12 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23060                    | 23095                       | 23130                     | 18.5                   | 0           |
| Frequency (MHz) |            |         |           | 704                      | 707.5                       | 711                       |                        |             |
| 10              | QPSK       | 1       | 0         | 17.34                    | 17.17                       | 17.26                     |                        |             |
| 10              | QPSK       | 1       | 25        | 17.19                    | 17.05                       | 17.08                     | 17.5                   | 1           |
| 10              | QPSK       | 1       | 49        | 17.02                    | 17.03                       | 16.95                     |                        |             |
| 10              | QPSK       | 25      | 0         | 16.30                    | 16.27                       | 16.23                     |                        |             |
| 10              | QPSK       | 25      | 12        | 16.33                    | 16.26                       | 16.30                     | 17.5                   | 1           |
| 10              | QPSK       | 25      | 25        | 16.28                    | 16.13                       | 16.15                     |                        |             |
| 10              | QPSK       | 50      | 0         | 16.31                    | 16.35                       | 16.18                     |                        |             |
| 10              | 16QAM      | 1       | 0         | 16.41                    | 16.32                       | 16.47                     | 17.5                   | 1           |
| 10              | 16QAM      | 1       | 25        | 16.41                    | 16.37                       | 16.40                     |                        |             |
| 10              | 16QAM      | 1       | 49        | 16.37                    | 16.40                       | 16.47                     |                        |             |
| 10              | 16QAM      | 25      | 0         | 15.27                    | 15.26                       | 15.24                     | 16.5                   | 2           |
| 10              | 16QAM      | 25      | 12        | 15.28                    | 15.26                       | 15.28                     |                        |             |
| 10              | 16QAM      | 25      | 25        | 15.23                    | 15.04                       | 14.95                     |                        |             |
| 10              | 16QAM      | 50      | 0         | 15.31                    | 15.25                       | 15.18                     | 16.5                   | 2           |
| 10              | 64QAM      | 1       | 0         | 15.24                    | 15.44                       | 15.38                     |                        |             |
| 10              | 64QAM      | 1       | 25        | 15.28                    | 15.21                       | 15.14                     |                        |             |
| 10              | 64QAM      | 1       | 49        | 15.42                    | 15.14                       | 14.92                     | 15.5                   | 3           |
| 10              | 64QAM      | 25      | 0         | 14.43                    | 14.21                       | 14.35                     |                        |             |
| 10              | 64QAM      | 25      | 12        | 14.19                    | 14.15                       | 14.10                     |                        |             |
| 10              | 64QAM      | 25      | 25        | 14.17                    | 13.86                       | 13.89                     | 15.5                   | 3           |
| 10              | 64QAM      | 50      | 0         | 14.44                    | 14.18                       | 14.22                     |                        |             |
| Channel         |            |         |           | 23035                    | 23095                       | 23155                     | 18.5                   | 0           |
| Frequency (MHz) |            |         |           | 701.5                    | 707.5                       | 713.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 17.32                    | 17.10                       | 17.24                     |                        |             |
| 5               | QPSK       | 1       | 12        | 17.18                    | 17.05                       | 16.99                     | 17.5                   | 1           |
| 5               | QPSK       | 1       | 24        | 17.01                    | 16.97                       | 16.86                     |                        |             |
| 5               | QPSK       | 12      | 0         | 16.27                    | 16.20                       | 16.21                     |                        |             |
| 5               | QPSK       | 12      | 7         | 16.28                    | 16.16                       | 16.24                     | 17.5                   | 1           |
| 5               | QPSK       | 12      | 13        | 16.27                    | 16.07                       | 16.05                     |                        |             |
| 5               | QPSK       | 25      | 0         | 16.29                    | 16.21                       | 16.13                     |                        |             |
| 5               | 16QAM      | 1       | 0         | 16.40                    | 16.26                       | 16.47                     | 17.5                   | 1           |
| 5               | 16QAM      | 1       | 12        | 16.32                    | 16.34                       | 16.36                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 16.36                    | 16.35                       | 16.44                     |                        |             |
| 5               | 16QAM      | 12      | 0         | 15.19                    | 15.21                       | 15.19                     | 16.5                   | 2           |
| 5               | 16QAM      | 12      | 7         | 15.21                    | 15.26                       | 15.21                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 15.15                    | 15.03                       | 14.94                     |                        |             |
| 5               | 16QAM      | 25      | 0         | 15.30                    | 15.16                       | 15.18                     | 16.5                   | 2           |
| 5               | 64QAM      | 1       | 0         | 15.19                    | 15.38                       | 15.33                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 15.20                    | 15.14                       | 15.07                     |                        |             |
| 5               | 64QAM      | 1       | 24        | 15.35                    | 15.08                       | 14.82                     | 15.5                   | 3           |
| 5               | 64QAM      | 12      | 0         | 14.40                    | 14.12                       | 14.30                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 14.15                    | 14.15                       | 14.07                     |                        |             |
| 5               | 64QAM      | 12      | 13        | 14.09                    | 13.82                       | 13.80                     | 15.5                   | 3           |
| 5               | 64QAM      | 25      | 0         | 14.35                    | 14.10                       | 14.13                     |                        |             |
| Channel         |            |         |           | 23025                    | 23095                       | 23165                     | 18.5                   | 0           |
| Frequency (MHz) |            |         |           | 700.5                    | 707.5                       | 714.5                     |                        |             |
| 3               | QPSK       | 1       | 0         | 17.26                    | 17.15                       | 17.23                     |                        |             |
| 3               | QPSK       | 1       | 8         | 17.10                    | 16.98                       | 17.06                     | 17.5                   | 1           |
| 3               | QPSK       | 1       | 14        | 16.93                    | 17.03                       | 16.86                     |                        |             |
| 3               | QPSK       | 8       | 0         | 16.21                    | 16.19                       | 16.17                     |                        |             |
| 3               | QPSK       | 8       | 4         | 16.23                    | 16.22                       | 16.25                     | 17.5                   | 1           |



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|                 |       |    |    |       |       |       |                        |             |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|
| 3               | QPSK  | 8  | 7  | 16.24 | 16.11 | 16.15 |                        |             |
| 3               | QPSK  | 15 | 0  | 16.27 | 16.15 | 16.08 |                        |             |
| 3               | 16QAM | 1  | 0  | 16.39 | 16.25 | 16.41 |                        |             |
| 3               | 16QAM | 1  | 8  | 16.31 | 16.29 | 16.36 | 17.5                   | 1           |
| 3               | 16QAM | 1  | 14 | 16.34 | 16.36 | 16.37 |                        |             |
| 3               | 16QAM | 8  | 0  | 15.22 | 15.23 | 15.20 |                        |             |
| 3               | 16QAM | 8  | 4  | 15.19 | 15.25 | 15.18 | 16.5                   | 2           |
| 3               | 16QAM | 8  | 7  | 15.13 | 15.02 | 14.90 |                        |             |
| 3               | 16QAM | 15 | 0  | 15.23 | 15.16 | 15.15 |                        |             |
| 3               | 64QAM | 1  | 0  | 15.18 | 15.43 | 15.28 | 16.5                   | 2           |
| 3               | 64QAM | 1  | 8  | 15.19 | 15.15 | 15.09 |                        |             |
| 3               | 64QAM | 1  | 14 | 15.39 | 15.11 | 14.88 |                        |             |
| 3               | 64QAM | 8  | 0  | 14.39 | 14.19 | 14.26 | 15.5                   | 3           |
| 3               | 64QAM | 8  | 4  | 14.14 | 14.08 | 14.09 |                        |             |
| 3               | 64QAM | 8  | 7  | 14.13 | 13.77 | 13.79 |                        |             |
| 3               | 64QAM | 15 | 0  | 14.35 | 14.10 | 14.14 |                        |             |
| Channel         |       |    |    | 23017 | 23095 | 23173 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 699.7 | 707.5 | 715.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 17.28 | 17.13 | 17.19 | 18.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 17.11 | 16.97 | 17.06 |                        |             |
| 1.4             | QPSK  | 1  | 5  | 17.02 | 16.97 | 16.91 |                        |             |
| 1.4             | QPSK  | 3  | 0  | 17.08 | 17.00 | 16.98 |                        |             |
| 1.4             | QPSK  | 3  | 1  | 17.08 | 16.98 | 17.07 |                        |             |
| 1.4             | QPSK  | 3  | 3  | 17.01 | 16.90 | 16.91 |                        |             |
| 1.4             | QPSK  | 6  | 0  | 16.29 | 16.20 | 16.18 | 17.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 16.36 | 16.32 | 16.37 | 17.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 16.32 | 16.35 | 16.30 |                        |             |
| 1.4             | 16QAM | 1  | 5  | 16.36 | 16.36 | 16.40 |                        |             |
| 1.4             | 16QAM | 3  | 0  | 16.01 | 16.04 | 16.00 |                        |             |
| 1.4             | 16QAM | 3  | 1  | 16.02 | 16.00 | 16.04 |                        |             |
| 1.4             | 16QAM | 3  | 3  | 16.02 | 15.81 | 15.71 |                        |             |
| 1.4             | 16QAM | 6  | 0  | 15.27 | 15.18 | 15.08 | 16.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 15.21 | 15.36 | 15.28 | 16.5                   | 2           |
| 1.4             | 64QAM | 1  | 3  | 15.27 | 15.13 | 15.08 |                        |             |
| 1.4             | 64QAM | 1  | 5  | 15.36 | 15.04 | 14.89 |                        |             |
| 1.4             | 64QAM | 3  | 0  | 15.17 | 14.94 | 15.07 |                        |             |
| 1.4             | 64QAM | 3  | 1  | 14.89 | 14.94 | 14.81 |                        |             |
| 1.4             | 64QAM | 3  | 3  | 14.96 | 14.62 | 14.62 |                        |             |
| 1.4             | 64QAM | 6  | 0  | 14.39 | 14.12 | 14.16 | 15.5                   | 3           |

**<LTE Band 13 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23230                    |                             |                           |                        |             |
| Frequency (MHz) |            |         |           | 782                      |                             |                           |                        |             |
| 10              | QPSK       | 1       | 0         |                          | 19.05                       |                           | 19.5                   | 0           |
| 10              | QPSK       | 1       | 25        |                          | 18.96                       |                           |                        |             |
| 10              | QPSK       | 1       | 49        |                          | 18.99                       |                           |                        |             |
| 10              | QPSK       | 25      | 0         |                          | 18.18                       |                           | 18.5                   | 1           |
| 10              | QPSK       | 25      | 12        |                          | 18.17                       |                           |                        |             |
| 10              | QPSK       | 25      | 25        |                          | 18.16                       |                           |                        |             |
| 10              | QPSK       | 50      | 0         |                          | 18.05                       |                           | 18.5                   | 1           |
| 10              | 16QAM      | 1       | 0         |                          | 18.27                       |                           |                        |             |
| 10              | 16QAM      | 1       | 25        |                          | 18.31                       |                           |                        |             |
| 10              | 16QAM      | 1       | 49        |                          | 18.41                       |                           | 17.5                   | 2           |
| 10              | 16QAM      | 25      | 0         |                          | 17.03                       |                           |                        |             |
| 10              | 16QAM      | 25      | 12        |                          | 17.20                       |                           |                        |             |
| 10              | 16QAM      | 25      | 25        |                          | 17.17                       |                           | 17.5                   | 2           |
| 10              | 16QAM      | 50      | 0         |                          | 17.13                       |                           |                        |             |
| 10              | 64QAM      | 1       | 0         |                          | 16.93                       |                           |                        |             |
| 10              | 64QAM      | 1       | 25        |                          | 17.18                       |                           | 17.5                   | 2           |
| 10              | 64QAM      | 1       | 49        |                          | 17.02                       |                           |                        |             |
| 10              | 64QAM      | 25      | 0         |                          | 15.90                       |                           |                        |             |
| 10              | 64QAM      | 25      | 12        |                          | 16.17                       |                           | 16.5                   | 3           |
| 10              | 64QAM      | 25      | 25        |                          | 16.12                       |                           |                        |             |
| 10              | 64QAM      | 50      | 0         |                          | 16.33                       |                           |                        |             |
| Channel         |            |         |           | 23205                    | 23230                       | 23255                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 779.5                    | 782                         | 784.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 18.96                    | 19.04                       | 18.96                     | 19.5                   | 0           |
| 5               | QPSK       | 1       | 12        | 18.89                    | 18.90                       | 18.92                     |                        |             |
| 5               | QPSK       | 1       | 24        | 18.97                    | 18.89                       | 18.96                     |                        |             |
| 5               | QPSK       | 12      | 0         | 18.06                    | 18.10                       | 18.06                     | 18.5                   | 1           |
| 5               | QPSK       | 12      | 7         | 18.07                    | 18.14                       | 18.15                     |                        |             |
| 5               | QPSK       | 12      | 13        | 18.07                    | 18.07                       | 18.12                     |                        |             |
| 5               | QPSK       | 25      | 0         | 17.98                    | 17.97                       | 17.96                     | 18.5                   | 1           |
| 5               | 16QAM      | 1       | 0         | 18.25                    | 18.22                       | 18.21                     |                        |             |
| 5               | 16QAM      | 1       | 12        | 18.25                    | 18.29                       | 18.29                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 18.39                    | 18.31                       | 18.38                     | 17.5                   | 2           |
| 5               | 16QAM      | 12      | 0         | 17.00                    | 17.02                       | 16.97                     |                        |             |
| 5               | 16QAM      | 12      | 7         | 17.20                    | 17.12                       | 17.18                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 17.15                    | 17.07                       | 17.12                     | 17.5                   | 2           |
| 5               | 16QAM      | 25      | 0         | 17.04                    | 17.11                       | 17.07                     |                        |             |
| 5               | 64QAM      | 1       | 0         | 16.90                    | 16.85                       | 16.88                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 17.13                    | 17.10                       | 17.14                     | 17.5                   | 2           |
| 5               | 64QAM      | 1       | 24        | 16.97                    | 17.01                       | 17.01                     |                        |             |
| 5               | 64QAM      | 12      | 0         | 15.88                    | 15.81                       | 15.83                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 16.08                    | 16.16                       | 16.12                     | 16.5                   | 3           |
| 5               | 64QAM      | 12      | 13        | 16.10                    | 16.07                       | 16.07                     |                        |             |
| 5               | 64QAM      | 25      | 0         | 16.23                    | 16.27                       | 16.33                     |                        |             |

**<LTE Band 14 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23330                    |                             |                           |                        |             |
| Frequency (MHz) |            |         |           | 793                      |                             |                           |                        |             |
| 10              | QPSK       | 1       | 0         |                          | 20.16                       |                           | 20.5                   | 0           |
| 10              | QPSK       | 1       | 25        |                          | 19.97                       |                           |                        |             |
| 10              | QPSK       | 1       | 49        |                          | 19.94                       |                           |                        |             |
| 10              | QPSK       | 25      | 0         |                          | 19.17                       |                           | 19.5                   | 1           |
| 10              | QPSK       | 25      | 12        |                          | 19.06                       |                           |                        |             |
| 10              | QPSK       | 25      | 25        |                          | 19.12                       |                           |                        |             |
| 10              | QPSK       | 50      | 0         |                          | 19.02                       |                           | 19.5                   | 1           |
| 10              | 16QAM      | 1       | 0         |                          | 19.50                       |                           |                        |             |
| 10              | 16QAM      | 1       | 25        |                          | 19.42                       |                           |                        |             |
| 10              | 16QAM      | 1       | 49        |                          | 19.25                       |                           | 18.5                   | 2           |
| 10              | 16QAM      | 25      | 0         |                          | 18.11                       |                           |                        |             |
| 10              | 16QAM      | 25      | 12        |                          | 18.07                       |                           |                        |             |
| 10              | 16QAM      | 25      | 25        |                          | 18.07                       |                           | 18.5                   | 2           |
| 10              | 16QAM      | 50      | 0         |                          | 18.03                       |                           |                        |             |
| 10              | 64QAM      | 1       | 0         |                          | 18.16                       |                           |                        |             |
| 10              | 64QAM      | 1       | 25        |                          | 18.17                       |                           | 18.5                   | 2           |
| 10              | 64QAM      | 1       | 49        |                          | 18.11                       |                           |                        |             |
| 10              | 64QAM      | 25      | 0         |                          | 17.28                       |                           |                        |             |
| 10              | 64QAM      | 25      | 12        |                          | 17.21                       |                           | 17.5                   | 3           |
| 10              | 64QAM      | 25      | 25        |                          | 17.15                       |                           |                        |             |
| 10              | 64QAM      | 50      | 0         |                          | 17.06                       |                           |                        |             |
| Channel         |            |         |           | 23305                    | 23330                       | 23355                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 790.5                    | 793                         | 795.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 20.13                    | 20.06                       | 20.12                     | 20.5                   | 0           |
| 5               | QPSK       | 1       | 12        | 19.92                    | 19.87                       | 19.90                     |                        |             |
| 5               | QPSK       | 1       | 24        | 19.94                    | 19.89                       | 19.86                     |                        |             |
| 5               | QPSK       | 12      | 0         | 18.98                    | 19.04                       | 18.97                     | 19.5                   | 1           |
| 5               | QPSK       | 12      | 7         | 18.97                    | 18.96                       | 19.03                     |                        |             |
| 5               | QPSK       | 12      | 13        | 19.09                    | 19.12                       | 19.06                     |                        |             |
| 5               | QPSK       | 25      | 0         | 18.96                    | 19.01                       | 18.94                     | 19.5                   | 1           |
| 5               | 16QAM      | 1       | 0         | 19.44                    | 19.45                       | 19.43                     |                        |             |
| 5               | 16QAM      | 1       | 12        | 19.42                    | 19.34                       | 19.38                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 19.22                    | 19.25                       | 19.18                     | 18.5                   | 2           |
| 5               | 16QAM      | 12      | 0         | 18.03                    | 18.01                       | 18.02                     |                        |             |
| 5               | 16QAM      | 12      | 7         | 18.02                    | 18.02                       | 17.98                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 18.02                    | 17.99                       | 18.05                     | 18.5                   | 2           |
| 5               | 16QAM      | 25      | 0         | 18.00                    | 17.98                       | 18.00                     |                        |             |
| 5               | 64QAM      | 1       | 0         | 18.09                    | 18.10                       | 18.06                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 18.14                    | 18.07                       | 18.12                     | 18.5                   | 2           |
| 5               | 64QAM      | 1       | 24        | 18.08                    | 18.03                       | 18.01                     |                        |             |
| 5               | 64QAM      | 12      | 0         | 17.18                    | 17.20                       | 17.20                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 17.16                    | 17.16                       | 17.17                     | 17.5                   | 3           |
| 5               | 64QAM      | 12      | 13        | 17.10                    | 17.10                       | 17.10                     |                        |             |
| 5               | 64QAM      | 25      | 0         | 16.96                    | 16.98                       | 17.00                     |                        |             |

**<LTE Band 17 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23780                    | 23790                       | 23800                     | 18.5                   | 0           |
| Frequency (MHz) |            |         |           | 709                      | 710                         | 711                       |                        |             |
| 10              | QPSK       | 1       | 0         | 17.29                    | 17.21                       | 17.13                     |                        |             |
| 10              | QPSK       | 1       | 25        | 17.00                    | 17.02                       | 17.06                     | 17.5                   | 1           |
| 10              | QPSK       | 1       | 49        | 16.97                    | 16.89                       | 16.88                     |                        |             |
| 10              | QPSK       | 25      | 0         | 16.17                    | 16.17                       | 16.15                     |                        |             |
| 10              | QPSK       | 25      | 12        | 16.29                    | 16.16                       | 16.03                     | 17.5                   | 1           |
| 10              | QPSK       | 25      | 25        | 16.16                    | 16.07                       | 16.03                     |                        |             |
| 10              | QPSK       | 50      | 0         | 16.16                    | 16.09                       | 16.05                     |                        |             |
| 10              | 16QAM      | 1       | 0         | 16.41                    | 16.50                       | 16.43                     | 17.5                   | 1           |
| 10              | 16QAM      | 1       | 25        | 16.39                    | 16.33                       | 16.35                     |                        |             |
| 10              | 16QAM      | 1       | 49        | 16.28                    | 16.33                       | 16.24                     |                        |             |
| 10              | 16QAM      | 25      | 0         | 15.17                    | 15.18                       | 15.19                     | 16.5                   | 2           |
| 10              | 16QAM      | 25      | 12        | 15.20                    | 15.20                       | 15.06                     |                        |             |
| 10              | 16QAM      | 25      | 25        | 15.19                    | 15.10                       | 14.98                     |                        |             |
| 10              | 16QAM      | 50      | 0         | 15.07                    | 15.09                       | 15.08                     | 16.5                   | 2           |
| 10              | 64QAM      | 1       | 0         | 15.19                    | 15.12                       | 15.16                     |                        |             |
| 10              | 64QAM      | 1       | 25        | 15.13                    | 15.23                       | 15.15                     |                        |             |
| 10              | 64QAM      | 1       | 49        | 15.12                    | 15.15                       | 15.15                     | 15.5                   | 3           |
| 10              | 64QAM      | 25      | 0         | 14.10                    | 14.21                       | 14.24                     |                        |             |
| 10              | 64QAM      | 25      | 12        | 14.32                    | 14.15                       | 14.05                     |                        |             |
| 10              | 64QAM      | 25      | 25        | 14.33                    | 13.93                       | 13.95                     | 15.5                   | 3           |
| 10              | 64QAM      | 50      | 0         | 14.25                    | 14.17                       | 14.06                     |                        |             |
| Channel         |            |         |           | 23755                    | 23790                       | 23825                     | 18.5                   | 0           |
| Frequency (MHz) |            |         |           | 706.5                    | 710                         | 713.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 17.25                    | 17.13                       | 17.13                     |                        |             |
| 5               | QPSK       | 1       | 12        | 16.91                    | 16.99                       | 16.99                     | 17.5                   | 1           |
| 5               | QPSK       | 1       | 24        | 16.90                    | 16.80                       | 16.88                     |                        |             |
| 5               | QPSK       | 12      | 0         | 16.12                    | 16.16                       | 16.12                     |                        |             |
| 5               | QPSK       | 12      | 7         | 16.28                    | 16.14                       | 15.97                     | 17.5                   | 1           |
| 5               | QPSK       | 12      | 13        | 16.13                    | 16.06                       | 15.95                     |                        |             |
| 5               | QPSK       | 25      | 0         | 16.15                    | 16.05                       | 16.01                     |                        |             |
| 5               | 16QAM      | 1       | 0         | 16.34                    | 16.49                       | 16.41                     | 17.5                   | 1           |
| 5               | 16QAM      | 1       | 12        | 16.38                    | 16.24                       | 16.33                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 16.19                    | 16.29                       | 16.17                     |                        |             |
| 5               | 16QAM      | 12      | 0         | 15.11                    | 15.14                       | 15.11                     | 16.5                   | 2           |
| 5               | 16QAM      | 12      | 7         | 15.17                    | 15.10                       | 15.01                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 15.14                    | 15.10                       | 14.88                     |                        |             |
| 5               | 16QAM      | 25      | 0         | 15.07                    | 15.08                       | 15.05                     | 16.5                   | 2           |
| 5               | 64QAM      | 1       | 0         | 15.16                    | 15.11                       | 15.13                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 15.04                    | 15.16                       | 15.12                     |                        |             |
| 5               | 64QAM      | 1       | 24        | 15.09                    | 15.13                       | 15.06                     | 15.5                   | 3           |
| 5               | 64QAM      | 12      | 0         | 14.05                    | 14.17                       | 14.20                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 14.22                    | 14.07                       | 14.00                     |                        |             |
| 5               | 64QAM      | 12      | 13        | 14.26                    | 13.89                       | 13.86                     | 15.5                   | 3           |
| 5               | 64QAM      | 25      | 0         | 14.25                    | 14.13                       | 14.02                     |                        |             |

**<LTE Band 25 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 26140                    | 26340                       | 26590                     |                        |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1905                      |                        |             |
| 20              | QPSK       | 1       | 0         | 15.56                    | 15.46                       | 15.46                     |                        |             |
| 20              | QPSK       | 1       | 49        | 15.50                    | 15.40                       | 15.42                     | 16.5                   | 0           |
| 20              | QPSK       | 1       | 99        | 15.41                    | 15.41                       | 15.31                     |                        |             |
| 20              | QPSK       | 50      | 0         | 14.71                    | 14.65                       | 14.62                     |                        |             |
| 20              | QPSK       | 50      | 24        | 14.68                    | 14.64                       | 14.55                     | 15.5                   | 1           |
| 20              | QPSK       | 50      | 50        | 14.55                    | 14.55                       | 14.60                     |                        |             |
| 20              | QPSK       | 100     | 0         | 14.70                    | 14.51                       | 14.45                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 14.65                    | 14.65                       | 14.76                     | 15.5                   | 1           |
| 20              | 16QAM      | 1       | 49        | 14.76                    | 14.64                       | 14.49                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 14.64                    | 14.69                       | 14.66                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 13.68                    | 13.60                       | 13.51                     | 14.5                   | 2           |
| 20              | 16QAM      | 50      | 24        | 13.66                    | 13.67                       | 13.49                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 13.62                    | 13.55                       | 13.64                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 13.61                    | 13.55                       | 13.49                     | 14.5                   | 2           |
| 20              | 64QAM      | 1       | 0         | 13.51                    | 13.59                       | 13.62                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 13.48                    | 13.59                       | 13.38                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 13.53                    | 13.65                       | 13.66                     | 13.5                   | 3           |
| 20              | 64QAM      | 50      | 0         | 12.52                    | 12.54                       | 12.67                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 12.57                    | 12.60                       | 12.56                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 12.45                    | 12.40                       | 12.51                     | 13.5                   | 3           |
| 20              | 64QAM      | 100     | 0         | 12.77                    | 12.71                       | 12.55                     |                        |             |
| Channel         |            |         |           | 26115                    | 26340                       | 26615                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1907.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 15.53                    | 15.46                       | 15.42                     |                        |             |
| 15              | QPSK       | 1       | 37        | 15.40                    | 15.50                       | 15.42                     | 16.5                   | 0           |
| 15              | QPSK       | 1       | 74        | 15.37                    | 15.46                       | 15.31                     |                        |             |
| 15              | QPSK       | 36      | 0         | 14.36                    | 14.45                       | 14.50                     |                        |             |
| 15              | QPSK       | 36      | 20        | 14.66                    | 14.54                       | 14.45                     | 15.5                   | 1           |
| 15              | QPSK       | 36      | 39        | 14.54                    | 14.52                       | 14.56                     |                        |             |
| 15              | QPSK       | 75      | 0         | 14.69                    | 14.50                       | 14.44                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 14.56                    | 14.65                       | 14.67                     | 15.5                   | 1           |
| 15              | 16QAM      | 1       | 37        | 14.75                    | 14.55                       | 14.49                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 14.57                    | 14.60                       | 14.61                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 13.64                    | 13.58                       | 13.41                     | 14.5                   | 2           |
| 15              | 16QAM      | 36      | 20        | 13.63                    | 13.58                       | 13.39                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 13.55                    | 13.45                       | 13.57                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 13.54                    | 13.51                       | 13.43                     | 14.5                   | 2           |
| 15              | 64QAM      | 1       | 0         | 13.51                    | 13.57                       | 13.56                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 13.42                    | 13.49                       | 13.36                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 13.48                    | 13.60                       | 13.63                     | 13.5                   | 3           |
| 15              | 64QAM      | 36      | 0         | 12.50                    | 12.53                       | 12.63                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 12.48                    | 12.57                       | 12.51                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 12.36                    | 12.33                       | 12.51                     | 13.5                   | 3           |
| 15              | 64QAM      | 75      | 0         | 12.73                    | 12.61                       | 12.51                     |                        |             |
| Channel         |            |         |           | 26090                    | 26340                       | 26640                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1855                     | 1880                        | 1910                      |                        |             |
| 10              | QPSK       | 1       | 0         | 15.55                    | 15.39                       | 15.38                     |                        |             |
| 10              | QPSK       | 1       | 25        | 15.45                    | 15.46                       | 15.41                     | 16.5                   | 0           |
| 10              | QPSK       | 1       | 49        | 15.39                    | 15.48                       | 15.22                     |                        |             |
| 10              | QPSK       | 25      | 0         | 14.39                    | 14.48                       | 14.42                     |                        |             |
| 10              | QPSK       | 25      | 12        | 14.61                    | 14.64                       | 14.47                     | 15.5                   | 1           |



# FCC SAR TEST REPORT

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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 14.50  | 14.55 | 14.55  |                        |             |
| 10              | QPSK  | 50 | 0  | 14.62  | 14.41 | 14.36  |                        |             |
| 10              | 16QAM | 1  | 0  | 14.62  | 14.61 | 14.75  |                        |             |
| 10              | 16QAM | 1  | 25 | 14.73  | 14.62 | 14.40  | 15.5                   | 1           |
| 10              | 16QAM | 1  | 49 | 14.60  | 14.59 | 14.64  |                        |             |
| 10              | 16QAM | 25 | 0  | 13.58  | 13.53 | 13.47  |                        |             |
| 10              | 16QAM | 25 | 12 | 13.60  | 13.59 | 13.44  | 14.5                   | 2           |
| 10              | 16QAM | 25 | 25 | 13.52  | 13.45 | 13.64  |                        |             |
| 10              | 16QAM | 50 | 0  | 13.56  | 13.50 | 13.46  |                        |             |
| 10              | 64QAM | 1  | 0  | 13.46  | 13.51 | 13.54  | 14.5                   | 2           |
| 10              | 64QAM | 1  | 25 | 13.39  | 13.59 | 13.30  |                        |             |
| 10              | 64QAM | 1  | 49 | 13.47  | 13.64 | 13.58  |                        |             |
| 10              | 64QAM | 25 | 0  | 12.46  | 12.51 | 12.60  | 13.5                   | 3           |
| 10              | 64QAM | 25 | 12 | 12.51  | 12.53 | 12.53  |                        |             |
| 10              | 64QAM | 25 | 25 | 12.39  | 12.36 | 12.42  |                        |             |
| 10              | 64QAM | 50 | 0  | 12.73  | 12.68 | 12.45  |                        |             |
| Channel         |       |    |    | 26065  | 26340 | 26665  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1912.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 15.50  | 15.37 | 15.36  | 16.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 15.44  | 15.50 | 15.46  |                        |             |
| 5               | QPSK  | 1  | 24 | 15.33  | 15.45 | 15.24  |                        |             |
| 5               | QPSK  | 12 | 0  | 14.35  | 14.46 | 14.42  | 15.5                   | 1           |
| 5               | QPSK  | 12 | 7  | 14.59  | 14.59 | 14.52  |                        |             |
| 5               | QPSK  | 12 | 13 | 14.45  | 14.49 | 14.55  |                        |             |
| 5               | QPSK  | 25 | 0  | 14.68  | 14.48 | 14.42  |                        |             |
| 5               | 16QAM | 1  | 0  | 14.59  | 14.58 | 14.69  | 15.5                   | 1           |
| 5               | 16QAM | 1  | 12 | 14.72  | 14.57 | 14.49  |                        |             |
| 5               | 16QAM | 1  | 24 | 14.63  | 14.64 | 14.56  |                        |             |
| 5               | 16QAM | 12 | 0  | 13.63  | 13.54 | 13.51  | 14.5                   | 2           |
| 5               | 16QAM | 12 | 7  | 13.56  | 13.63 | 13.42  |                        |             |
| 5               | 16QAM | 12 | 13 | 13.59  | 13.53 | 13.62  |                        |             |
| 5               | 16QAM | 25 | 0  | 13.59  | 13.47 | 13.49  |                        |             |
| 5               | 64QAM | 1  | 0  | 13.47  | 13.59 | 13.54  | 14.5                   | 2           |
| 5               | 64QAM | 1  | 12 | 13.40  | 13.50 | 13.33  |                        |             |
| 5               | 64QAM | 1  | 24 | 13.47  | 13.55 | 13.61  |                        |             |
| 5               | 64QAM | 12 | 0  | 12.44  | 12.46 | 12.65  | 13.5                   | 3           |
| 5               | 64QAM | 12 | 7  | 12.53  | 12.59 | 12.53  |                        |             |
| 5               | 64QAM | 12 | 13 | 12.38  | 12.31 | 12.47  |                        |             |
| 5               | 64QAM | 25 | 0  | 12.72  | 12.68 | 12.50  |                        |             |
| Channel         |       |    |    | 26055  | 26340 | 26675  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1913.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 15.51  | 15.44 | 15.42  | 16.5                   | 0           |
| 3               | QPSK  | 1  | 8  | 15.48  | 15.46 | 15.37  |                        |             |
| 3               | QPSK  | 1  | 14 | 15.33  | 15.44 | 15.30  |                        |             |
| 3               | QPSK  | 8  | 0  | 14.40  | 14.54 | 14.48  | 15.5                   | 1           |
| 3               | QPSK  | 8  | 4  | 14.66  | 14.64 | 14.45  |                        |             |
| 3               | QPSK  | 8  | 7  | 14.46  | 14.48 | 14.51  |                        |             |
| 3               | QPSK  | 15 | 0  | 14.66  | 14.48 | 14.41  |                        |             |
| 3               | 16QAM | 1  | 0  | 14.60  | 14.56 | 14.68  | 15.5                   | 1           |
| 3               | 16QAM | 1  | 8  | 14.68  | 14.58 | 14.40  |                        |             |
| 3               | 16QAM | 1  | 14 | 14.63  | 14.63 | 14.65  |                        |             |
| 3               | 16QAM | 8  | 0  | 13.61  | 13.51 | 13.49  | 14.5                   | 2           |
| 3               | 16QAM | 8  | 4  | 13.57  | 13.62 | 13.41  |                        |             |
| 3               | 16QAM | 8  | 7  | 13.61  | 13.47 | 13.61  |                        |             |
| 3               | 16QAM | 15 | 0  | 13.61  | 13.48 | 13.40  |                        |             |
| 3               | 64QAM | 1  | 0  | 13.49  | 13.54 | 13.59  | 14.5                   | 2           |



# FCC SAR TEST REPORT

Report No. : FA092423

|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 13.38  | 13.55 | 13.28  | 13.5                   | 3           |
| 3               | 64QAM | 1  | 14 | 13.46  | 13.63 | 13.64  |                        |             |
| 3               | 64QAM | 8  | 0  | 12.48  | 12.48 | 12.66  |                        |             |
| 3               | 64QAM | 8  | 4  | 12.48  | 12.58 | 12.50  |                        |             |
| 3               | 64QAM | 8  | 7  | 12.35  | 12.40 | 12.46  |                        |             |
| 3               | 64QAM | 15 | 0  | 12.68  | 12.61 | 12.49  |                        |             |
| Channel         |       |    |    | 26047  | 26340 | 26683  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1914.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 15.46  | 15.46 | 15.40  | 16.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 15.50  | 15.46 | 15.45  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 15.32  | 15.46 | 15.24  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 15.14  | 15.32 | 15.31  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 15.44  | 15.38 | 15.26  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 15.27  | 15.31 | 15.38  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 14.62  | 14.51 | 14.42  | 15.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 14.56  | 14.64 | 14.71  | 15.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 14.70  | 14.62 | 14.45  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 14.56  | 14.65 | 14.62  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 14.45  | 14.39 | 14.21  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 14.40  | 14.43 | 14.29  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 14.40  | 14.25 | 14.35  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 13.55  | 13.53 | 13.41  | 14.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 13.44  | 13.49 | 13.55  | 14.5                   | 2           |
| 1.4             | 64QAM | 1  | 3  | 13.47  | 13.49 | 13.35  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 13.49  | 13.63 | 13.64  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 13.30  | 13.26 | 13.37  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 13.34  | 13.31 | 13.36  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 13.22  | 13.13 | 13.29  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 12.77  | 12.66 | 12.48  | 13.5                   | 3           |

**<LTE Band 26 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 26765                 | 26865                    | 26965                  | 20.5                | 0        |
| Frequency (MHz) |            |         |           | 821.5                 | 831.5                    | 841.5                  |                     |          |
| 15              | QPSK       | 1       | 0         | 20.23                 | 20.24                    | 20.32                  |                     |          |
| 15              | QPSK       | 1       | 37        | 20.10                 | 20.20                    | 20.30                  | 19.5                | 1        |
| 15              | QPSK       | 1       | 74        | 20.11                 | 20.21                    | 20.17                  |                     |          |
| 15              | QPSK       | 36      | 0         | 19.31                 | 19.47                    | 19.33                  |                     |          |
| 15              | QPSK       | 36      | 20        | 19.34                 | 19.37                    | 19.48                  | 19.5                | 1        |
| 15              | QPSK       | 36      | 39        | 19.31                 | 19.45                    | 19.49                  |                     |          |
| 15              | QPSK       | 75      | 0         | 19.34                 | 19.37                    | 19.36                  |                     |          |
| 15              | 16QAM      | 1       | 0         | 19.48                 | 19.46                    | 19.45                  | 19.5                | 1        |
| 15              | 16QAM      | 1       | 37        | 19.42                 | 19.42                    | 19.50                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 19.42                 | 19.46                    | 19.33                  |                     |          |
| 15              | 16QAM      | 36      | 0         | 18.30                 | 18.37                    | 18.35                  | 18.5                | 2        |
| 15              | 16QAM      | 36      | 20        | 18.35                 | 18.32                    | 18.48                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 18.32                 | 18.39                    | 18.47                  |                     |          |
| 15              | 16QAM      | 75      | 0         | 18.40                 | 18.38                    | 18.45                  | 18.5                | 2        |
| 15              | 64QAM      | 1       | 0         | 18.29                 | 18.32                    | 18.20                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 18.15                 | 18.39                    | 18.40                  |                     |          |
| 15              | 64QAM      | 1       | 74        | 18.15                 | 18.39                    | 18.49                  | 17.5                | 3        |
| 15              | 64QAM      | 36      | 0         | 17.47                 | 17.50                    | 17.44                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 17.22                 | 17.33                    | 17.39                  |                     |          |
| 15              | 64QAM      | 36      | 39        | 17.18                 | 17.31                    | 17.50                  | 17.5                | 3        |
| 15              | 64QAM      | 75      | 0         | 17.36                 | 17.45                    | 17.46                  |                     |          |
| Channel         |            |         |           | 26740                 | 26865                    | 26990                  | 20.5                | 0        |
| Frequency (MHz) |            |         |           | 819                   | 831.5                    | 844                    |                     |          |
| 10              | QPSK       | 1       | 0         | 20.14                 | 20.19                    | 20.24                  |                     |          |
| 10              | QPSK       | 1       | 25        | 20.10                 | 20.17                    | 20.27                  | 19.5                | 1        |
| 10              | QPSK       | 1       | 49        | 20.02                 | 20.19                    | 20.07                  |                     |          |
| 10              | QPSK       | 25      | 0         | 19.27                 | 19.27                    | 19.27                  |                     |          |
| 10              | QPSK       | 25      | 12        | 19.29                 | 19.32                    | 19.38                  | 19.5                | 1        |
| 10              | QPSK       | 25      | 25        | 19.22                 | 19.45                    | 19.41                  |                     |          |
| 10              | QPSK       | 50      | 0         | 19.27                 | 19.29                    | 19.47                  |                     |          |
| 10              | 16QAM      | 1       | 0         | 19.48                 | 19.37                    | 19.39                  | 19.5                | 1        |
| 10              | 16QAM      | 1       | 25        | 19.32                 | 19.41                    | 19.47                  |                     |          |
| 10              | 16QAM      | 1       | 49        | 19.33                 | 19.39                    | 19.26                  |                     |          |
| 10              | 16QAM      | 25      | 0         | 18.22                 | 18.30                    | 18.28                  | 18.5                | 2        |
| 10              | 16QAM      | 25      | 12        | 18.26                 | 18.31                    | 18.46                  |                     |          |
| 10              | 16QAM      | 25      | 25        | 18.23                 | 18.31                    | 18.42                  |                     |          |
| 10              | 16QAM      | 50      | 0         | 18.31                 | 18.31                    | 18.35                  | 18.5                | 2        |
| 10              | 64QAM      | 1       | 0         | 18.20                 | 18.29                    | 18.17                  |                     |          |
| 10              | 64QAM      | 1       | 25        | 18.08                 | 18.35                    | 18.34                  |                     |          |
| 10              | 64QAM      | 1       | 49        | 18.06                 | 18.34                    | 18.44                  | 17.5                | 3        |
| 10              | 64QAM      | 25      | 0         | 17.37                 | 17.48                    | 17.37                  |                     |          |
| 10              | 64QAM      | 25      | 12        | 17.22                 | 17.31                    | 17.37                  |                     |          |
| 10              | 64QAM      | 25      | 25        | 17.16                 | 17.24                    | 17.49                  | 17.5                | 3        |
| 10              | 64QAM      | 50      | 0         | 17.28                 | 17.39                    | 17.37                  |                     |          |
| Channel         |            |         |           | 26715                 | 26865                    | 27015                  | 20.5                | 0        |
| Frequency (MHz) |            |         |           | 816.5                 | 831.5                    | 846.5                  |                     |          |
| 5               | QPSK       | 1       | 0         | 20.19                 | 20.15                    | 20.25                  |                     |          |
| 5               | QPSK       | 1       | 12        | 20.05                 | 20.19                    | 20.20                  | 19.5                | 1        |
| 5               | QPSK       | 1       | 24        | 20.08                 | 20.11                    | 20.10                  |                     |          |
| 5               | QPSK       | 12      | 0         | 19.25                 | 19.27                    | 19.23                  |                     |          |
| 5               | QPSK       | 12      | 7         | 19.33                 | 19.31                    | 19.43                  | 19.5                | 1        |



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|                 |       |    |    |       |       |       |                        |             |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|
| 5               | QPSK  | 12 | 13 | 19.26 | 19.45 | 19.42 |                        |             |
| 5               | QPSK  | 25 | 0  | 19.27 | 19.20 | 19.42 |                        |             |
| 5               | 16QAM | 1  | 0  | 19.40 | 19.36 | 19.42 |                        |             |
| 5               | 16QAM | 1  | 12 | 19.42 | 19.36 | 19.41 | 19.5                   | 1           |
| 5               | 16QAM | 1  | 24 | 19.35 | 19.45 | 19.30 |                        |             |
| 5               | 16QAM | 12 | 0  | 18.25 | 18.33 | 18.35 |                        |             |
| 5               | 16QAM | 12 | 7  | 18.30 | 18.24 | 18.44 | 18.5                   | 2           |
| 5               | 16QAM | 12 | 13 | 18.27 | 18.39 | 18.45 |                        |             |
| 5               | 16QAM | 25 | 0  | 18.40 | 18.30 | 18.39 |                        |             |
| 5               | 64QAM | 1  | 0  | 18.29 | 18.28 | 18.20 | 18.5                   | 2           |
| 5               | 64QAM | 1  | 12 | 18.07 | 18.32 | 18.34 |                        |             |
| 5               | 64QAM | 1  | 24 | 18.15 | 18.29 | 18.40 |                        |             |
| 5               | 64QAM | 12 | 0  | 17.39 | 17.46 | 17.37 | 17.5                   | 3           |
| 5               | 64QAM | 12 | 7  | 17.19 | 17.28 | 17.31 |                        |             |
| 5               | 64QAM | 12 | 13 | 17.15 | 17.23 | 17.42 |                        |             |
| 5               | 64QAM | 25 | 0  | 17.27 | 17.43 | 17.43 |                        |             |
| Channel         |       |    |    | 26705 | 26865 | 27025 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 815.5 | 831.5 | 847.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 20.14 | 20.16 | 20.23 | 20.5                   | 0           |
| 3               | QPSK  | 1  | 8  | 20.01 | 20.11 | 20.22 |                        |             |
| 3               | QPSK  | 1  | 14 | 20.08 | 20.16 | 20.07 |                        |             |
| 3               | QPSK  | 8  | 0  | 19.24 | 19.22 | 19.32 | 19.5                   | 1           |
| 3               | QPSK  | 8  | 4  | 19.29 | 19.36 | 19.47 |                        |             |
| 3               | QPSK  | 8  | 7  | 19.25 | 19.46 | 19.39 |                        |             |
| 3               | QPSK  | 15 | 0  | 19.33 | 19.22 | 19.39 | 19.5                   | 1           |
| 3               | 16QAM | 1  | 0  | 19.41 | 19.44 | 19.44 |                        |             |
| 3               | 16QAM | 1  | 8  | 19.33 | 19.34 | 19.46 |                        |             |
| 3               | 16QAM | 1  | 14 | 19.41 | 19.43 | 19.32 | 18.5                   | 2           |
| 3               | 16QAM | 8  | 0  | 18.20 | 18.28 | 18.29 |                        |             |
| 3               | 16QAM | 8  | 4  | 18.35 | 18.22 | 18.42 |                        |             |
| 3               | 16QAM | 8  | 7  | 18.24 | 18.32 | 18.38 | 18.5                   | 2           |
| 3               | 16QAM | 15 | 0  | 18.36 | 18.30 | 18.40 |                        |             |
| 3               | 64QAM | 1  | 0  | 18.23 | 18.32 | 18.17 |                        |             |
| 3               | 64QAM | 1  | 8  | 18.05 | 18.30 | 18.32 | 18.5                   | 2           |
| 3               | 64QAM | 1  | 14 | 18.06 | 18.38 | 18.41 |                        |             |
| 3               | 64QAM | 8  | 0  | 17.44 | 17.40 | 17.37 |                        |             |
| 3               | 64QAM | 8  | 4  | 17.16 | 17.28 | 17.34 | 17.5                   | 3           |
| 3               | 64QAM | 8  | 7  | 17.15 | 17.22 | 17.42 |                        |             |
| 3               | 64QAM | 15 | 0  | 17.27 | 17.41 | 17.38 |                        |             |
| Channel         |       |    |    | 26697 | 26865 | 27033 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 814.7 | 831.5 | 848.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 20.13 | 20.18 | 20.29 | 20.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 20.02 | 20.16 | 20.23 |                        |             |
| 1.4             | QPSK  | 1  | 5  | 20.04 | 20.17 | 20.16 |                        |             |
| 1.4             | QPSK  | 3  | 0  | 20.02 | 20.07 | 20.11 |                        |             |
| 1.4             | QPSK  | 3  | 1  | 20.04 | 20.16 | 20.22 |                        |             |
| 1.4             | QPSK  | 3  | 3  | 20.02 | 20.20 | 20.28 |                        |             |
| 1.4             | QPSK  | 6  | 0  | 19.33 | 19.20 | 19.39 | 19.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 19.41 | 19.45 | 19.43 | 19.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 19.41 | 19.36 | 19.45 |                        |             |
| 1.4             | 16QAM | 1  | 5  | 19.42 | 19.37 | 19.25 |                        |             |
| 1.4             | 16QAM | 3  | 0  | 19.03 | 19.16 | 19.09 |                        |             |
| 1.4             | 16QAM | 3  | 1  | 19.08 | 19.11 | 19.18 |                        |             |
| 1.4             | 16QAM | 3  | 3  | 19.08 | 19.19 | 19.19 |                        |             |
| 1.4             | 16QAM | 6  | 0  | 18.39 | 18.36 | 18.45 | 18.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 18.22 | 18.29 | 18.14 | 18.5                   | 2           |



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|     |       |   |   |       |       |       |      |   |
|-----|-------|---|---|-------|-------|-------|------|---|
| 1.4 | 64QAM | 1 | 3 | 18.12 | 18.34 | 18.31 |      |   |
| 1.4 | 64QAM | 1 | 5 | 18.07 | 18.30 | 18.42 |      |   |
| 1.4 | 64QAM | 3 | 0 | 18.25 | 18.25 | 18.19 |      |   |
| 1.4 | 64QAM | 3 | 1 | 17.95 | 18.09 | 18.15 |      |   |
| 1.4 | 64QAM | 3 | 3 | 17.94 | 18.03 | 18.29 |      |   |
| 1.4 | 64QAM | 6 | 0 | 17.26 | 17.37 | 17.40 | 17.5 | 3 |



**<LTE Band 30 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 27710                 |                          |                        |                     |          |
| Frequency (MHz) |            |         |           | 2310                  |                          |                        |                     |          |
| 10              | QPSK       | 1       | 0         |                       | 13.13                    |                        | 14.5                | 0        |
| 10              | QPSK       | 1       | 25        |                       | 12.95                    |                        |                     |          |
| 10              | QPSK       | 1       | 49        |                       | 12.96                    |                        |                     |          |
| 10              | QPSK       | 25      | 0         |                       | 12.10                    |                        | 13.5                | 1        |
| 10              | QPSK       | 25      | 12        |                       | 12.07                    |                        |                     |          |
| 10              | QPSK       | 25      | 25        |                       | 12.08                    |                        |                     |          |
| 10              | QPSK       | 50      | 0         |                       | 12.12                    |                        | 13.5                | 1        |
| 10              | 16QAM      | 1       | 0         |                       | 12.46                    |                        |                     |          |
| 10              | 16QAM      | 1       | 25        |                       | 12.36                    |                        |                     |          |
| 10              | 16QAM      | 1       | 49        |                       | 12.38                    |                        | 12.5                | 2        |
| 10              | 16QAM      | 25      | 0         |                       | 11.10                    |                        |                     |          |
| 10              | 16QAM      | 25      | 12        |                       | 11.11                    |                        |                     |          |
| 10              | 16QAM      | 25      | 25        |                       | 11.15                    |                        | 12.5                | 2        |
| 10              | 16QAM      | 50      | 0         |                       | 11.08                    |                        |                     |          |
| 10              | 64QAM      | 1       | 0         |                       | 11.19                    |                        |                     |          |
| 10              | 64QAM      | 1       | 25        |                       | 11.29                    |                        |                     |          |
| 10              | 64QAM      | 1       | 49        |                       | 11.21                    |                        |                     |          |
| 10              | 64QAM      | 25      | 0         |                       | 10.30                    |                        | 11.5                | 3        |
| 10              | 64QAM      | 25      | 12        |                       | 10.10                    |                        |                     |          |
| 10              | 64QAM      | 25      | 25        |                       | 10.11                    |                        |                     |          |
| 10              | 64QAM      | 50      | 0         |                       | 10.09                    |                        | 11.5                | 3        |
| Channel         |            |         |           | 27685                 | 27710                    | 27735                  |                     |          |
| Frequency (MHz) |            |         |           | 2307.5                | 2310                     | 2312.5                 | Tune-up limit (dBm) | MPR (dB) |
| 5               | QPSK       | 1       | 0         | 13.04                 | 13.08                    | 13.11                  | 14.5                | 0        |
| 5               | QPSK       | 1       | 12        | 12.89                 | 12.93                    | 12.94                  |                     |          |
| 5               | QPSK       | 1       | 24        | 12.95                 | 12.94                    | 12.88                  |                     |          |
| 5               | QPSK       | 12      | 0         | 11.98                 | 12.06                    | 12.06                  | 13.5                | 1        |
| 5               | QPSK       | 12      | 7         | 12.05                 | 11.97                    | 12.00                  |                     |          |
| 5               | QPSK       | 12      | 13        | 12.18                 | 12.15                    | 12.12                  |                     |          |
| 5               | QPSK       | 25      | 0         | 12.09                 | 12.03                    | 12.12                  | 13.5                | 1        |
| 5               | 16QAM      | 1       | 0         | 12.38                 | 12.40                    | 12.37                  |                     |          |
| 5               | 16QAM      | 1       | 12        | 12.28                 | 12.29                    | 12.35                  |                     |          |
| 5               | 16QAM      | 1       | 24        | 12.35                 | 12.32                    | 12.37                  | 12.5                | 2        |
| 5               | 16QAM      | 12      | 0         | 11.04                 | 11.04                    | 11.01                  |                     |          |
| 5               | 16QAM      | 12      | 7         | 11.08                 | 11.01                    | 11.10                  |                     |          |
| 5               | 16QAM      | 12      | 13        | 11.14                 | 11.07                    | 11.09                  | 12.5                | 2        |
| 5               | 16QAM      | 25      | 0         | 11.00                 | 11.02                    | 11.07                  |                     |          |
| 5               | 64QAM      | 1       | 0         | 11.12                 | 11.17                    | 11.10                  | 12.5                | 2        |
| 5               | 64QAM      | 1       | 12        | 11.28                 | 11.20                    | 11.24                  |                     |          |
| 5               | 64QAM      | 1       | 24        | 11.16                 | 11.12                    | 11.19                  |                     |          |
| 5               | 64QAM      | 12      | 0         | 10.22                 | 10.30                    | 10.26                  | 11.5                | 3        |
| 5               | 64QAM      | 12      | 7         | 10.04                 | 10.06                    | 10.09                  |                     |          |
| 5               | 64QAM      | 12      | 13        | 10.06                 | 10.04                    | 10.01                  |                     |          |
| 5               | 64QAM      | 25      | 0         | 9.85                  | 9.87                     | 9.84                   | 11.5                | 3        |
| Channel         |            |         |           | 27685                 | 27710                    | 27735                  |                     |          |
| Frequency (MHz) |            |         |           | 2307.5                | 2310                     | 2312.5                 | Tune-up limit (dBm) | MPR (dB) |



**<LTE Band 66 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 132072                   | 132322                      | 132572                    | 17                     | 0           |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                        |             |
| 20              | QPSK       | 1       | 0         | 16.46                    | 16.42                       | 16.61                     |                        |             |
| 20              | QPSK       | 1       | 49        | 16.38                    | 16.40                       | 16.47                     | 16                     | 1           |
| 20              | QPSK       | 1       | 99        | 16.39                    | 16.38                       | 16.49                     |                        |             |
| 20              | QPSK       | 50      | 0         | 15.62                    | 15.57                       | 15.65                     |                        |             |
| 20              | QPSK       | 50      | 24        | 15.61                    | 15.52                       | 15.55                     | 16                     | 1           |
| 20              | QPSK       | 50      | 50        | 15.50                    | 15.56                       | 15.56                     |                        |             |
| 20              | QPSK       | 100     | 0         | 15.47                    | 15.51                       | 15.60                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 15.80                    | 15.83                       | 15.93                     | 16                     | 1           |
| 20              | 16QAM      | 1       | 49        | 15.74                    | 15.83                       | 15.89                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 15.75                    | 15.84                       | 15.81                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 14.47                    | 14.58                       | 14.73                     | 15                     | 2           |
| 20              | 16QAM      | 50      | 24        | 14.56                    | 14.61                       | 14.64                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 14.47                    | 14.56                       | 14.61                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 14.51                    | 14.54                       | 14.62                     | 15                     | 2           |
| 20              | 64QAM      | 1       | 0         | 14.31                    | 14.66                       | 14.77                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 14.47                    | 14.79                       | 14.72                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 14.43                    | 14.61                       | 14.49                     | 14                     | 3           |
| 20              | 64QAM      | 50      | 0         | 13.61                    | 13.60                       | 13.69                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 13.66                    | 13.49                       | 13.54                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 13.65                    | 13.69                       | 13.46                     | 14                     | 3           |
| 20              | 64QAM      | 100     | 0         | 13.69                    | 13.45                       | 13.60                     |                        |             |
| Channel         |            |         |           | 132047                   | 132322                      | 132597                    | 17                     | 0           |
| Frequency (MHz) |            |         |           | 1717.5                   | 1745                        | 1772.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 16.45                    | 16.37                       | 16.52                     |                        |             |
| 15              | QPSK       | 1       | 37        | 16.34                    | 16.48                       | 16.45                     | 16                     | 1           |
| 15              | QPSK       | 1       | 74        | 16.42                    | 16.33                       | 16.42                     |                        |             |
| 15              | QPSK       | 36      | 0         | 15.37                    | 15.49                       | 15.62                     |                        |             |
| 15              | QPSK       | 36      | 20        | 15.66                    | 15.48                       | 15.64                     | 16                     | 1           |
| 15              | QPSK       | 36      | 39        | 15.43                    | 15.54                       | 15.47                     |                        |             |
| 15              | QPSK       | 75      | 0         | 15.45                    | 15.41                       | 15.51                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 15.72                    | 15.79                       | 15.85                     | 16                     | 1           |
| 15              | 16QAM      | 1       | 37        | 15.73                    | 15.78                       | 15.88                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 15.72                    | 15.80                       | 15.79                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 14.42                    | 14.57                       | 14.73                     | 15                     | 2           |
| 15              | 16QAM      | 36      | 20        | 14.53                    | 14.53                       | 14.62                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 14.43                    | 14.48                       | 14.60                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 14.47                    | 14.54                       | 14.52                     | 15                     | 2           |
| 15              | 64QAM      | 1       | 0         | 14.27                    | 14.62                       | 14.74                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 14.47                    | 14.75                       | 14.72                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 14.41                    | 14.57                       | 14.47                     | 14                     | 3           |
| 15              | 64QAM      | 36      | 0         | 13.51                    | 13.51                       | 13.68                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 13.57                    | 13.45                       | 13.46                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 13.63                    | 13.66                       | 13.41                     | 14                     | 3           |
| 15              | 64QAM      | 75      | 0         | 13.68                    | 13.37                       | 13.50                     |                        |             |
| Channel         |            |         |           | 132022                   | 132322                      | 132622                    | 17                     | 0           |
| Frequency (MHz) |            |         |           | 1715                     | 1745                        | 1775                      |                        |             |
| 10              | QPSK       | 1       | 0         | 16.40                    | 16.41                       | 16.60                     |                        |             |
| 10              | QPSK       | 1       | 25        | 16.34                    | 16.50                       | 16.43                     | 17                     | 0           |
| 10              | QPSK       | 1       | 49        | 16.49                    | 16.35                       | 16.46                     |                        |             |
| 10              | QPSK       | 25      | 0         | 15.40                    | 15.49                       | 15.62                     |                        |             |
| 10              | QPSK       | 25      | 12        | 15.64                    | 15.45                       | 15.60                     | 16                     | 1           |



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|                 |       |    |    |        |        |        |                     |          |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| 10              | QPSK  | 25 | 25 | 15.42  | 15.55  | 15.51  |                     |          |
| 10              | QPSK  | 50 | 0  | 15.43  | 15.44  | 15.60  |                     |          |
| 10              | 16QAM | 1  | 0  | 15.74  | 15.80  | 15.89  |                     |          |
| 10              | 16QAM | 1  | 25 | 15.66  | 15.82  | 15.85  | 16                  | 1        |
| 10              | 16QAM | 1  | 49 | 15.70  | 15.83  | 15.74  |                     |          |
| 10              | 16QAM | 25 | 0  | 14.40  | 14.49  | 14.68  |                     |          |
| 10              | 16QAM | 25 | 12 | 14.56  | 14.56  | 14.55  | 15                  | 2        |
| 10              | 16QAM | 25 | 25 | 14.43  | 14.51  | 14.61  |                     |          |
| 10              | 16QAM | 50 | 0  | 14.50  | 14.44  | 14.52  |                     |          |
| 10              | 64QAM | 1  | 0  | 14.25  | 14.64  | 14.76  | 15                  | 2        |
| 10              | 64QAM | 1  | 25 | 14.41  | 14.76  | 14.67  |                     |          |
| 10              | 64QAM | 1  | 49 | 14.34  | 14.56  | 14.46  |                     |          |
| 10              | 64QAM | 25 | 0  | 13.59  | 13.55  | 13.62  | 14                  | 3        |
| 10              | 64QAM | 25 | 12 | 13.63  | 13.46  | 13.46  |                     |          |
| 10              | 64QAM | 25 | 25 | 13.61  | 13.63  | 13.43  |                     |          |
| 10              | 64QAM | 50 | 0  | 13.60  | 13.35  | 13.57  |                     |          |
| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 16.41  | 16.40  | 16.54  | 17                  | 0        |
| 5               | QPSK  | 1  | 12 | 16.32  | 16.41  | 16.45  |                     |          |
| 5               | QPSK  | 1  | 24 | 16.42  | 16.42  | 16.48  |                     |          |
| 5               | QPSK  | 12 | 0  | 15.38  | 15.50  | 15.55  | 16                  | 1        |
| 5               | QPSK  | 12 | 7  | 15.64  | 15.46  | 15.59  |                     |          |
| 5               | QPSK  | 12 | 13 | 15.41  | 15.48  | 15.53  |                     |          |
| 5               | QPSK  | 25 | 0  | 15.43  | 15.51  | 15.54  |                     |          |
| 5               | 16QAM | 1  | 0  | 15.79  | 15.79  | 15.85  | 16                  | 1        |
| 5               | 16QAM | 1  | 12 | 15.67  | 15.78  | 15.89  |                     |          |
| 5               | 16QAM | 1  | 24 | 15.73  | 15.84  | 15.79  |                     |          |
| 5               | 16QAM | 12 | 0  | 14.44  | 14.48  | 14.71  | 15                  | 2        |
| 5               | 16QAM | 12 | 7  | 14.55  | 14.58  | 14.59  |                     |          |
| 5               | 16QAM | 12 | 13 | 14.38  | 14.48  | 14.57  |                     |          |
| 5               | 16QAM | 25 | 0  | 14.42  | 14.48  | 14.60  |                     |          |
| 5               | 64QAM | 1  | 0  | 14.26  | 14.60  | 14.68  | 15                  | 2        |
| 5               | 64QAM | 1  | 12 | 14.37  | 14.78  | 14.63  |                     |          |
| 5               | 64QAM | 1  | 24 | 14.40  | 14.52  | 14.46  |                     |          |
| 5               | 64QAM | 12 | 0  | 13.54  | 13.59  | 13.61  | 14                  | 3        |
| 5               | 64QAM | 12 | 7  | 13.60  | 13.42  | 13.44  |                     |          |
| 5               | 64QAM | 12 | 13 | 13.60  | 13.65  | 13.40  |                     |          |
| 5               | 64QAM | 25 | 0  | 13.64  | 13.43  | 13.55  |                     |          |
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 16.38  | 16.32  | 16.57  | 17                  | 0        |
| 3               | QPSK  | 1  | 8  | 16.29  | 16.49  | 16.39  |                     |          |
| 3               | QPSK  | 1  | 14 | 16.49  | 16.32  | 16.47  |                     |          |
| 3               | QPSK  | 8  | 0  | 15.47  | 15.47  | 15.56  | 16                  | 1        |
| 3               | QPSK  | 8  | 4  | 15.60  | 15.46  | 15.61  |                     |          |
| 3               | QPSK  | 8  | 7  | 15.42  | 15.50  | 15.47  |                     |          |
| 3               | QPSK  | 15 | 0  | 15.39  | 15.50  | 15.60  |                     |          |
| 3               | 16QAM | 1  | 0  | 15.71  | 15.79  | 15.93  | 16                  | 1        |
| 3               | 16QAM | 1  | 8  | 15.69  | 15.73  | 15.80  |                     |          |
| 3               | 16QAM | 1  | 14 | 15.69  | 15.80  | 15.79  |                     |          |
| 3               | 16QAM | 8  | 0  | 14.39  | 14.48  | 14.71  | 15                  | 2        |
| 3               | 16QAM | 8  | 4  | 14.50  | 14.55  | 14.56  |                     |          |
| 3               | 16QAM | 8  | 7  | 14.42  | 14.49  | 14.57  |                     |          |
| 3               | 16QAM | 15 | 0  | 14.43  | 14.51  | 14.57  |                     |          |
| 3               | 64QAM | 1  | 0  | 14.23  | 14.58  | 14.73  | 15                  | 2        |



# FCC SAR TEST REPORT

Report No. : FA092423

|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 14.41  | 14.74  | 14.65  |                        |             |
| 3               | 64QAM | 1  | 14 | 14.39  | 14.59  | 14.41  |                        |             |
| 3               | 64QAM | 8  | 0  | 13.60  | 13.52  | 13.68  | 14                     | 3           |
| 3               | 64QAM | 8  | 4  | 13.62  | 13.41  | 13.54  |                        |             |
| 3               | 64QAM | 8  | 7  | 13.59  | 13.64  | 13.38  |                        |             |
| 3               | 64QAM | 15 | 0  | 13.69  | 13.36  | 13.52  |                        |             |
| Channel         |       |    |    | 131979 | 132322 | 132665 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1745   | 1779.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 16.38  | 16.32  | 16.53  | 17                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 16.28  | 16.50  | 16.44  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 16.46  | 16.40  | 16.40  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 16.22  | 16.29  | 16.40  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 16.42  | 16.26  | 16.40  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 16.20  | 16.30  | 16.36  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 15.44  | 15.42  | 15.51  | 16                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 15.78  | 15.83  | 15.86  | 16                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 15.68  | 15.83  | 15.84  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 15.65  | 15.78  | 15.72  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 15.25  | 15.34  | 15.52  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 15.32  | 15.41  | 15.35  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 15.19  | 15.30  | 15.39  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 14.45  | 14.46  | 14.61  | 15                     | 2           |
| 1.4             | 64QAM | 1  | 0  | 14.28  | 14.59  | 14.77  | 15                     | 2           |
| 1.4             | 64QAM | 1  | 3  | 14.37  | 14.74  | 14.67  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 14.33  | 14.54  | 14.41  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 14.35  | 14.33  | 14.49  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 14.36  | 14.29  | 14.24  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 14.41  | 14.47  | 14.24  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 13.64  | 13.35  | 13.58  | 14                     | 3           |



**<LTE Band 66 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 132072                   | 132322                      | 132572                    | 11.5                   | 0           |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                        |             |
| 20              | QPSK       | 1       | 0         | 11.12                    | 11.14                       | 11.19                     |                        |             |
| 20              | QPSK       | 1       | 49        | 10.91                    | 11.00                       | 10.95                     | 11.5                   | 0           |
| 20              | QPSK       | 1       | 99        | 11.07                    | 11.13                       | 11.09                     |                        |             |
| 20              | QPSK       | 50      | 0         | 10.89                    | 11.01                       | 10.97                     |                        |             |
| 20              | QPSK       | 50      | 24        | 10.99                    | 11.02                       | 11.00                     | 11.5                   | 0           |
| 20              | QPSK       | 50      | 50        | 11.03                    | 11.10                       | 11.10                     |                        |             |
| 20              | QPSK       | 100     | 0         | 10.88                    | 10.96                       | 10.95                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 10.94                    | 11.03                       | 10.99                     | 11.5                   | 0           |
| 20              | 16QAM      | 1       | 49        | 10.82                    | 10.86                       | 10.81                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 10.99                    | 11.10                       | 11.05                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 10.92                    | 11.02                       | 11.06                     | 11.5                   | 0           |
| 20              | 16QAM      | 50      | 24        | 11.02                    | 11.04                       | 11.01                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 11.05                    | 11.09                       | 11.08                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 10.89                    | 10.97                       | 11.00                     | 11.5                   | 0           |
| 20              | 64QAM      | 1       | 0         | 10.80                    | 10.86                       | 10.85                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 10.64                    | 10.74                       | 10.73                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 10.85                    | 10.93                       | 10.94                     | 11.5                   | 0           |
| 20              | 64QAM      | 50      | 0         | 10.98                    | 11.03                       | 11.04                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 10.90                    | 10.98                       | 10.99                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 11.00                    | 11.08                       | 11.06                     | 11.5                   | 0           |
| 20              | 64QAM      | 100     | 0         | 10.91                    | 10.98                       | 10.99                     |                        |             |
| Channel         |            |         |           | 132047                   | 132322                      | 132597                    | 11.5                   | 0           |
| Frequency (MHz) |            |         |           | 1717.5                   | 1745                        | 1772.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 11.02                    | 11.04                       | 11.09                     |                        |             |
| 15              | QPSK       | 1       | 37        | 10.95                    | 10.94                       | 11.01                     | 11.5                   | 0           |
| 15              | QPSK       | 1       | 74        | 11.11                    | 11.06                       | 11.17                     |                        |             |
| 15              | QPSK       | 36      | 0         | 10.99                    | 11.01                       | 10.95                     | 11.5                   | 0           |
| 15              | QPSK       | 36      | 20        | 10.94                    | 10.92                       | 11.06                     |                        |             |
| 15              | QPSK       | 36      | 39        | 11.05                    | 11.03                       | 11.11                     |                        |             |
| 15              | QPSK       | 75      | 0         | 10.85                    | 10.93                       | 10.94                     | 11.5                   | 0           |
| 15              | 16QAM      | 1       | 0         | 11.01                    | 10.96                       | 11.03                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 10.75                    | 10.81                       | 10.80                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 10.98                    | 11.05                       | 11.04                     | 11.5                   | 0           |
| 15              | 16QAM      | 36      | 0         | 10.94                    | 11.02                       | 10.96                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 10.92                    | 10.99                       | 11.07                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 11.02                    | 11.09                       | 11.06                     | 11.5                   | 0           |
| 15              | 16QAM      | 75      | 0         | 10.94                    | 10.93                       | 10.99                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 10.77                    | 10.85                       | 10.81                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 10.70                    | 10.69                       | 10.74                     | 11.5                   | 0           |
| 15              | 64QAM      | 1       | 74        | 10.88                    | 10.85                       | 10.89                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 10.92                    | 11.02                       | 10.98                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 10.88                    | 10.88                       | 11.00                     | 11.5                   | 0           |
| 15              | 64QAM      | 36      | 39        | 10.97                    | 11.06                       | 11.03                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 10.93                    | 10.88                       | 10.95                     |                        |             |
| Channel         |            |         |           | 132022                   | 132322                      | 132622                    | 11.5                   | 0           |
| Frequency (MHz) |            |         |           | 1715                     | 1745                        | 1775                      |                        |             |
| 10              | QPSK       | 1       | 0         | 11.06                    | 11.11                       | 11.12                     |                        |             |
| 10              | QPSK       | 1       | 25        | 10.97                    | 10.95                       | 11.00                     | 11.5                   | 0           |
| 10              | QPSK       | 1       | 49        | 11.02                    | 11.12                       | 11.08                     |                        |             |
| 10              | QPSK       | 25      | 0         | 10.99                    | 10.97                       | 10.99                     | 11.5                   | 0           |
| 10              | QPSK       | 25      | 12        | 10.90                    | 11.00                       | 11.02                     |                        |             |



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|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 11.02  | 11.03  | 11.12  |                        |             |
| 10              | QPSK  | 50 | 0  | 10.91  | 10.93  | 10.93  |                        |             |
| 10              | 16QAM | 1  | 0  | 10.91  | 10.94  | 11.05  |                        |             |
| 10              | 16QAM | 1  | 25 | 10.82  | 10.78  | 10.89  | 11.5                   | 0           |
| 10              | 16QAM | 1  | 49 | 11.01  | 11.07  | 11.12  |                        |             |
| 10              | 16QAM | 25 | 0  | 10.93  | 10.96  | 10.99  |                        |             |
| 10              | 16QAM | 25 | 12 | 10.94  | 11.02  | 10.98  | 11.5                   | 0           |
| 10              | 16QAM | 25 | 25 | 11.02  | 11.03  | 11.04  |                        |             |
| 10              | 16QAM | 50 | 0  | 10.92  | 10.90  | 10.97  |                        |             |
| 10              | 64QAM | 1  | 0  | 10.74  | 10.85  | 10.81  | 11.5                   | 0           |
| 10              | 64QAM | 1  | 25 | 10.64  | 10.74  | 10.73  |                        |             |
| 10              | 64QAM | 1  | 49 | 10.85  | 10.93  | 10.92  |                        |             |
| 10              | 64QAM | 25 | 0  | 10.99  | 11.01  | 11.03  | 11.5                   | 0           |
| 10              | 64QAM | 25 | 12 | 10.94  | 10.88  | 10.99  |                        |             |
| 10              | 64QAM | 25 | 25 | 10.99  | 11.05  | 11.12  |                        |             |
| 10              | 64QAM | 50 | 0  | 10.95  | 10.95  | 10.95  |                        |             |
| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 11.05  | 11.08  | 11.16  | 11.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 10.88  | 10.94  | 10.96  |                        |             |
| 5               | QPSK  | 1  | 24 | 11.05  | 11.04  | 11.10  |                        |             |
| 5               | QPSK  | 12 | 0  | 10.93  | 11.00  | 11.04  | 11.5                   | 0           |
| 5               | QPSK  | 12 | 7  | 10.92  | 11.00  | 11.03  |                        |             |
| 5               | QPSK  | 12 | 13 | 11.01  | 11.07  | 11.14  |                        |             |
| 5               | QPSK  | 25 | 0  | 10.93  | 10.90  | 10.90  | 11.5                   | 0           |
| 5               | 16QAM | 1  | 0  | 10.91  | 10.99  | 11.06  |                        |             |
| 5               | 16QAM | 1  | 12 | 10.83  | 10.76  | 10.84  |                        |             |
| 5               | 16QAM | 1  | 24 | 10.98  | 11.07  | 11.10  | 11.5                   | 0           |
| 5               | 16QAM | 12 | 0  | 10.90  | 10.97  | 11.03  |                        |             |
| 5               | 16QAM | 12 | 7  | 10.99  | 11.00  | 11.01  |                        |             |
| 5               | 16QAM | 12 | 13 | 11.00  | 11.02  | 11.03  | 11.5                   | 0           |
| 5               | 16QAM | 25 | 0  | 10.93  | 10.90  | 10.91  |                        |             |
| 5               | 64QAM | 1  | 0  | 10.79  | 10.85  | 10.80  |                        |             |
| 5               | 64QAM | 1  | 12 | 10.67  | 10.71  | 10.72  | 11.5                   | 0           |
| 5               | 64QAM | 1  | 24 | 10.85  | 10.85  | 10.92  |                        |             |
| 5               | 64QAM | 12 | 0  | 10.94  | 11.00  | 11.07  |                        |             |
| 5               | 64QAM | 12 | 7  | 10.89  | 10.98  | 10.96  | 11.5                   | 0           |
| 5               | 64QAM | 12 | 13 | 11.01  | 11.01  | 11.07  |                        |             |
| 5               | 64QAM | 25 | 0  | 10.92  | 10.95  | 10.97  |                        |             |
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 11.09  | 11.10  | 11.10  | 11.5                   | 0           |
| 3               | QPSK  | 1  | 8  | 10.98  | 10.96  | 10.99  |                        |             |
| 3               | QPSK  | 1  | 14 | 11.08  | 11.08  | 11.07  |                        |             |
| 3               | QPSK  | 8  | 0  | 10.92  | 10.95  | 11.02  | 11.5                   | 0           |
| 3               | QPSK  | 8  | 4  | 10.95  | 10.94  | 10.97  |                        |             |
| 3               | QPSK  | 8  | 7  | 11.07  | 11.04  | 11.10  |                        |             |
| 3               | QPSK  | 15 | 0  | 10.86  | 10.94  | 10.92  | 11.5                   | 0           |
| 3               | 16QAM | 1  | 0  | 10.98  | 10.95  | 11.01  |                        |             |
| 3               | 16QAM | 1  | 8  | 10.83  | 10.82  | 10.89  |                        |             |
| 3               | 16QAM | 1  | 14 | 11.04  | 11.05  | 11.05  | 11.5                   | 0           |
| 3               | 16QAM | 8  | 0  | 10.93  | 10.97  | 11.00  |                        |             |
| 3               | 16QAM | 8  | 4  | 10.99  | 11.02  | 11.00  |                        |             |
| 3               | 16QAM | 8  | 7  | 10.99  | 11.06  | 11.11  | 11.5                   | 0           |
| 3               | 16QAM | 15 | 0  | 10.93  | 10.94  | 11.00  |                        |             |
| 3               | 64QAM | 1  | 0  | 10.75  | 10.85  | 10.90  | 11.5                   | 0           |



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Report No. : FA092423

|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 3               | 64QAM | 1  | 8  | 10.64  | 10.65  | 10.75  | 11.5                   | 0           |
| 3               | 64QAM | 1  | 14 | 10.84  | 10.88  | 10.88  |                        |             |
| 3               | 64QAM | 8  | 0  | 10.93  | 11.01  | 11.04  |                        |             |
| 3               | 64QAM | 8  | 4  | 10.91  | 10.93  | 11.02  |                        |             |
| 3               | 64QAM | 8  | 7  | 10.96  | 10.98  | 11.08  |                        |             |
| 3               | 64QAM | 15 | 0  | 10.94  | 10.98  | 10.93  |                        |             |
| Channel         |       |    |    | 131979 | 132322 | 132665 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1745   | 1779.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 11.02  | 11.11  | 11.10  | 11.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 10.88  | 10.99  | 11.01  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 11.03  | 11.07  | 11.16  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 10.90  | 10.96  | 10.96  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 10.95  | 10.97  | 10.97  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 11.07  | 11.01  | 11.05  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 10.93  | 10.95  | 10.90  | 11.5                   | 1           |
| 1.4             | 16QAM | 1  | 0  | 10.98  | 10.93  | 11.06  | 11.5                   | 1           |
| 1.4             | 16QAM | 1  | 3  | 10.80  | 10.81  | 10.84  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 11.06  | 11.04  | 11.14  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 10.96  | 10.93  | 10.97  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 10.94  | 10.94  | 10.98  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 11.05  | 11.02  | 11.11  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 10.86  | 10.91  | 11.01  | 11.5                   | 2           |
| 1.4             | 64QAM | 1  | 0  | 10.84  | 10.77  | 10.88  | 11.5                   | 2           |
| 1.4             | 64QAM | 1  | 3  | 10.62  | 10.68  | 10.70  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 10.88  | 10.89  | 10.95  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 10.93  | 11.00  | 11.02  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 10.92  | 10.97  | 10.93  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 11.02  | 11.07  | 11.03  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 10.96  | 10.88  | 10.98  | 11.5                   | 3           |



**<LTE Band 71 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 133222                   | 133322                      | 133372                    | 18.5                   | 0           |
| Frequency (MHz) |            |         |           | 673                      | 683                         | 688                       |                        |             |
| 20              | QPSK       | 1       | 0         | 18.43                    | 18.28                       | 18.19                     |                        |             |
| 20              | QPSK       | 1       | 49        | 18.18                    | 18.24                       | 18.15                     | 17.5                   | 1           |
| 20              | QPSK       | 1       | 99        | 18.08                    | 18.22                       | 18.16                     |                        |             |
| 20              | QPSK       | 50      | 0         | 17.46                    | 17.39                       | 17.29                     |                        |             |
| 20              | QPSK       | 50      | 24        | 17.44                    | 17.30                       | 17.26                     | 17.5                   | 1           |
| 20              | QPSK       | 50      | 50        | 17.39                    | 17.38                       | 17.28                     |                        |             |
| 20              | QPSK       | 100     | 0         | 17.40                    | 17.26                       | 17.33                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 17.50                    | 17.45                       | 17.30                     | 17.5                   | 1           |
| 20              | 16QAM      | 1       | 49        | 17.25                    | 17.48                       | 17.48                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 17.29                    | 17.44                       | 17.41                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 16.44                    | 16.24                       | 16.30                     | 16.5                   | 2           |
| 20              | 16QAM      | 50      | 24        | 16.41                    | 16.20                       | 16.30                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 16.36                    | 16.23                       | 16.33                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 16.25                    | 16.24                       | 16.23                     | 16.5                   | 2           |
| 20              | 64QAM      | 1       | 0         | 16.36                    | 16.28                       | 16.49                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 16.48                    | 16.25                       | 16.24                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 16.41                    | 16.08                       | 16.49                     | 15.5                   | 3           |
| 20              | 64QAM      | 50      | 0         | 15.47                    | 15.31                       | 15.38                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 15.27                    | 15.17                       | 15.49                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 15.24                    | 15.18                       | 15.16                     | 15.5                   | 3           |
| 20              | 64QAM      | 100     | 0         | 15.41                    | 15.41                       | 15.43                     |                        |             |
| Channel         |            |         |           | 133197                   | 133297                      | 133397                    | 18.5                   | 0           |
| Frequency (MHz) |            |         |           | 670.5                    | 680.5                       | 690.5                     |                        |             |
| 15              | QPSK       | 1       | 0         | 18.42                    | 18.24                       | 18.09                     |                        |             |
| 15              | QPSK       | 1       | 37        | 18.13                    | 18.22                       | 18.11                     | 17.5                   | 1           |
| 15              | QPSK       | 1       | 74        | 17.98                    | 18.19                       | 18.10                     |                        |             |
| 15              | QPSK       | 36      | 0         | 17.27                    | 17.27                       | 17.15                     |                        |             |
| 15              | QPSK       | 36      | 20        | 17.36                    | 17.26                       | 17.20                     | 17.5                   | 1           |
| 15              | QPSK       | 36      | 39        | 17.35                    | 17.28                       | 17.32                     |                        |             |
| 15              | QPSK       | 75      | 0         | 17.31                    | 17.23                       | 17.27                     |                        |             |
| 15              | 16QAM      | 1       | 0         | 17.43                    | 17.43                       | 17.25                     | 17.5                   | 1           |
| 15              | 16QAM      | 1       | 37        | 17.25                    | 17.42                       | 17.46                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 17.29                    | 17.38                       | 17.32                     |                        |             |
| 15              | 16QAM      | 36      | 0         | 16.34                    | 16.20                       | 16.25                     | 16.5                   | 2           |
| 15              | 16QAM      | 36      | 20        | 16.38                    | 16.13                       | 16.22                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 16.28                    | 16.20                       | 16.25                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 16.24                    | 16.20                       | 16.21                     | 16.5                   | 2           |
| 15              | 64QAM      | 1       | 0         | 16.30                    | 16.27                       | 16.46                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 16.39                    | 16.15                       | 16.21                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 16.32                    | 16.07                       | 16.46                     | 15.5                   | 3           |
| 15              | 64QAM      | 36      | 0         | 15.38                    | 15.31                       | 15.29                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 15.27                    | 15.14                       | 15.41                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 15.18                    | 15.14                       | 15.10                     | 15.5                   | 3           |
| 15              | 64QAM      | 75      | 0         | 15.39                    | 15.39                       | 15.36                     |                        |             |
| Channel         |            |         |           | 133172                   | 133272                      | 133422                    | 18.5                   | 0           |
| Frequency (MHz) |            |         |           | 668                      | 678                         | 693                       |                        |             |
| 10              | QPSK       | 1       | 0         | 18.35                    | 18.27                       | 18.18                     |                        |             |
| 10              | QPSK       | 1       | 25        | 18.10                    | 18.16                       | 18.15                     | 17.5                   | 1           |
| 10              | QPSK       | 1       | 49        | 18.04                    | 18.18                       | 18.07                     |                        |             |
| 10              | QPSK       | 25      | 0         | 17.34                    | 17.25                       | 17.12                     |                        |             |
| 10              | QPSK       | 25      | 12        | 17.40                    | 17.29                       | 17.20                     | 17.5                   | 1           |



# FCC SAR TEST REPORT

Report No. : FA092423

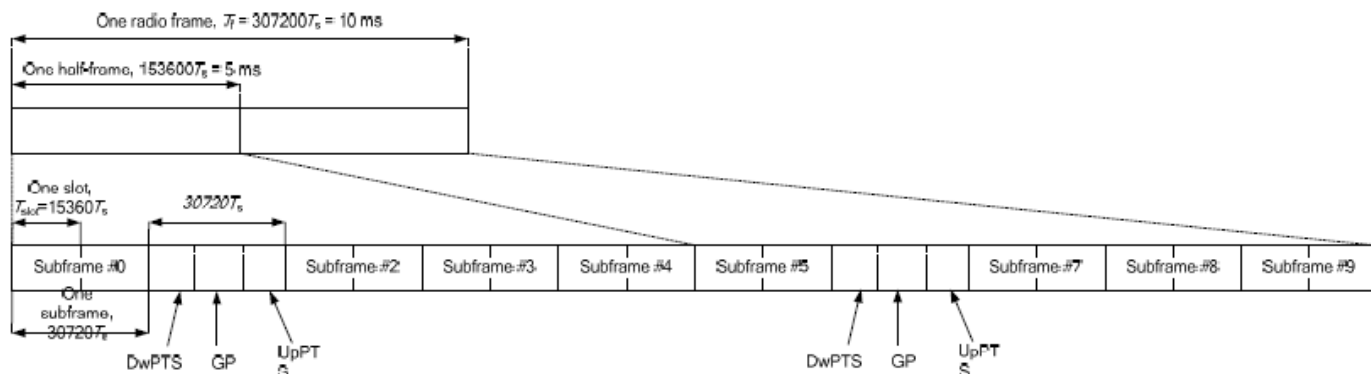
|                 |       |    |    |        |        |        |                        |             |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 17.36  | 17.29  | 17.31  |                        |             |
| 10              | QPSK  | 50 | 0  | 17.35  | 17.19  | 17.23  |                        |             |
| 10              | 16QAM | 1  | 0  | 17.45  | 17.35  | 17.21  |                        |             |
| 10              | 16QAM | 1  | 25 | 17.16  | 17.48  | 17.40  | 17.5                   | 1           |
| 10              | 16QAM | 1  | 49 | 17.22  | 17.42  | 17.32  |                        |             |
| 10              | 16QAM | 25 | 0  | 16.40  | 16.21  | 16.23  |                        |             |
| 10              | 16QAM | 25 | 12 | 16.38  | 16.20  | 16.27  | 16.5                   | 2           |
| 10              | 16QAM | 25 | 25 | 16.35  | 16.13  | 16.24  |                        |             |
| 10              | 16QAM | 50 | 0  | 16.17  | 16.14  | 16.18  |                        |             |
| 10              | 64QAM | 1  | 0  | 16.27  | 16.23  | 16.43  | 16.5                   | 2           |
| 10              | 64QAM | 1  | 25 | 16.38  | 16.15  | 16.23  |                        |             |
| 10              | 64QAM | 1  | 49 | 16.36  | 16.08  | 16.40  |                        |             |
| 10              | 64QAM | 25 | 0  | 15.39  | 15.31  | 15.37  | 15.5                   | 3           |
| 10              | 64QAM | 25 | 12 | 15.17  | 15.07  | 15.44  |                        |             |
| 10              | 64QAM | 25 | 25 | 15.21  | 15.10  | 15.09  |                        |             |
| 10              | 64QAM | 50 | 0  | 15.41  | 15.40  | 15.43  |                        |             |
| Channel         |       |    |    | 133147 | 133247 | 133447 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 665.5  | 675.5  | 695.5  |                        |             |
| 5               | QPSK  | 1  | 0  | 18.40  | 18.26  | 18.11  | 18.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 18.08  | 18.17  | 18.14  |                        |             |
| 5               | QPSK  | 1  | 24 | 18.05  | 18.19  | 18.15  |                        |             |
| 5               | QPSK  | 12 | 0  | 17.30  | 17.28  | 17.14  | 17.5                   | 1           |
| 5               | QPSK  | 12 | 7  | 17.34  | 17.23  | 17.16  |                        |             |
| 5               | QPSK  | 12 | 13 | 17.39  | 17.34  | 17.36  |                        |             |
| 5               | QPSK  | 25 | 0  | 17.32  | 17.21  | 17.32  | 17.5                   | 1           |
| 5               | 16QAM | 1  | 0  | 17.45  | 17.40  | 17.25  |                        |             |
| 5               | 16QAM | 1  | 12 | 17.25  | 17.43  | 17.44  |                        |             |
| 5               | 16QAM | 1  | 24 | 17.20  | 17.34  | 17.34  | 16.5                   | 2           |
| 5               | 16QAM | 12 | 0  | 16.41  | 16.21  | 16.29  |                        |             |
| 5               | 16QAM | 12 | 7  | 16.40  | 16.18  | 16.27  |                        |             |
| 5               | 16QAM | 12 | 13 | 16.30  | 16.19  | 16.31  | 16.5                   | 2           |
| 5               | 16QAM | 25 | 0  | 16.16  | 16.16  | 16.21  |                        |             |
| 5               | 64QAM | 1  | 0  | 16.31  | 16.19  | 16.49  |                        |             |
| 5               | 64QAM | 1  | 12 | 16.43  | 16.17  | 16.20  | 15.5                   | 3           |
| 5               | 64QAM | 1  | 24 | 16.33  | 16.04  | 16.39  |                        |             |
| 5               | 64QAM | 12 | 0  | 15.41  | 15.27  | 15.33  |                        |             |
| 5               | 64QAM | 12 | 7  | 15.23  | 15.09  | 15.48  | 15.5                   | 3           |
| 5               | 64QAM | 12 | 13 | 15.20  | 15.11  | 15.13  |                        |             |
| 5               | 64QAM | 25 | 0  | 15.34  | 15.37  | 15.35  |                        |             |

**<TDD LTE SAR Measurement>**

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- “special subframe S” contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
- Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.



**Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).**

**Table 4.2-2: Uplink-downlink configurations.**

| Uplink-downlink configuration | Downlink-to-Uplink Switch-point periodicity | Subframe number |   |   |   |   |   |   |   |   |   |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D |

**Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).**

| Special subframe configuration | Normal cyclic prefix in downlink |                                |                                  | Extended cyclic prefix in downlink |                                |                                  |
|--------------------------------|----------------------------------|--------------------------------|----------------------------------|------------------------------------|--------------------------------|----------------------------------|
|                                | DwPTS                            | UpPTS                          |                                  | DwPTS                              | UpPTS                          |                                  |
|                                |                                  | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |                                    | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| 0                              | $6592 \cdot T_s$                 | $2192 \cdot T_s$               | $2560 \cdot T_s$                 | $7680 \cdot T_s$                   | $2192 \cdot T_s$               | $2560 \cdot T_s$                 |
| 1                              | $19760 \cdot T_s$                |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 2                              | $21952 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 3                              | $24144 \cdot T_s$                |                                |                                  | $25600 \cdot T_s$                  |                                |                                  |
| 4                              | $26336 \cdot T_s$                | $4384 \cdot T_s$               | $5120 \cdot T_s$                 | $7680 \cdot T_s$                   | $4384 \cdot T_s$               | $5120 \cdot T_s$                 |
| 5                              | $6592 \cdot T_s$                 |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 6                              | $19760 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 7                              | $21952 \cdot T_s$                |                                |                                  | $12800 \cdot T_s$                  | -                              | -                                |
| 8                              | $24144 \cdot T_s$                |                                |                                  | -                                  |                                |                                  |
| 9                              | $13168 \cdot T_s$                |                                |                                  | -                                  |                                |                                  |

| Special subframe (30720·T <sub>s</sub> ): Normal cyclic prefix in downlink (UpPTS) |                                |                                |                                  |
|------------------------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------------|
|                                                                                    | Special subframe configuration | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| Uplink duty factor in one special subframe                                         | 0~4                            | 7.13%                          | 8.33%                            |
|                                                                                    | 5~9                            | 14.3%                          | 16.7%                            |

| Special subframe(30720·T <sub>s</sub> ): Extended cyclic prefix in downlink (UpPTS) |                                |                                |                                  |
|-------------------------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------------|
|                                                                                     | Special subframe configuration | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| Uplink duty factor in one special subframe                                          | 0~3                            | 7.13%                          | 8.33%                            |
|                                                                                     | 4~7                            | 14.3%                          | 16.7%                            |

The highest duty factor is resulted from:

- Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.167)/5 = 63.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.143)/5 = 62.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix  $63.3\%/62.9\% = 1.006$  is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
- The device supports Power Class 3 uplink-downlink configurations 0 and 6, and Power Class 2 uplink-downlink configurations 1 to 5 operations for LTE Band 41.
- The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition.

**Default Power Mode**
**<LTE Band 38 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 37850                 | 38000                    | 38150                  |                     |          |
| Frequency (MHz) |            |         |           | 2580                  | 2595                     | 2610                   |                     |          |
| 20              | QPSK       | 1       | 0         | 23.72                 | 23.89                    | 23.73                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 23.65                 | 23.84                    | 23.66                  |                     |          |
| 20              | QPSK       | 1       | 99        | 23.71                 | 23.85                    | 23.64                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.90                 | 22.97                    | 22.94                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 22.94                 | 22.98                    | 22.91                  |                     |          |
| 20              | QPSK       | 50      | 50        | 22.97                 | 22.98                    | 22.87                  |                     |          |
| 20              | QPSK       | 100     | 0         | 22.95                 | 22.95                    | 22.89                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 0         | 22.77                 | 22.96                    | 22.80                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 22.83                 | 22.86                    | 22.69                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 22.85                 | 22.82                    | 22.83                  | 22                  | 2        |
| 20              | 16QAM      | 50      | 0         | 21.89                 | 21.97                    | 21.94                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 21.99                 | 21.95                    | 21.91                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.97                 | 21.99                    | 21.88                  | 22                  | 2        |
| 20              | 16QAM      | 100     | 0         | 21.98                 | 21.95                    | 21.91                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 21.66                 | 21.74                    | 21.62                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 21.74                 | 21.81                    | 21.72                  | 22                  | 2        |
| 20              | 64QAM      | 1       | 99        | 21.85                 | 21.86                    | 21.68                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 20.90                 | 20.95                    | 20.95                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 21.00                 | 20.98                    | 20.95                  | 21                  | 3        |
| 20              | 64QAM      | 50      | 50        | 21.00                 | 20.89                    | 20.89                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 20.98                 | 20.96                    | 20.95                  |                     |          |
| Channel         |            |         |           | 37825                 | 38000                    | 38175                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2577.5                | 2595                     | 2612.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 23.62                 | 23.87                    | 23.71                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 23.68                 | 23.81                    | 23.72                  |                     |          |
| 15              | QPSK       | 1       | 74        | 23.75                 | 23.77                    | 23.62                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.86                 | 22.87                    | 22.90                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 22.90                 | 22.97                    | 22.88                  |                     |          |
| 15              | QPSK       | 36      | 39        | 22.97                 | 22.92                    | 22.81                  |                     |          |
| 15              | QPSK       | 75      | 0         | 22.95                 | 22.87                    | 22.79                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 22.69                 | 22.96                    | 22.76                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 22.76                 | 22.84                    | 22.64                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.80                 | 22.77                    | 22.76                  | 22                  | 2        |
| 15              | 16QAM      | 36      | 0         | 21.89                 | 21.90                    | 21.90                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 21.89                 | 21.85                    | 21.85                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.90                 | 21.92                    | 21.88                  | 22                  | 2        |
| 15              | 16QAM      | 75      | 0         | 21.97                 | 21.91                    | 21.88                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 21.58                 | 21.67                    | 21.54                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 21.66                 | 21.79                    | 21.69                  | 22                  | 2        |
| 15              | 64QAM      | 1       | 74        | 21.77                 | 21.79                    | 21.67                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 20.80                 | 20.89                    | 20.89                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 20.90                 | 20.93                    | 20.85                  | 21                  | 3        |
| 15              | 64QAM      | 36      | 39        | 21.00                 | 20.89                    | 20.79                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 20.95                 | 20.87                    | 20.87                  |                     |          |
| Channel         |            |         |           | 37800                 | 38000                    | 38200                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2575                  | 2595                     | 2615                   |                     |          |
| 10              | QPSK       | 1       | 0         | 23.71                 | 23.85                    | 23.68                  | 24                  | 0        |
| 10              | QPSK       | 1       | 25        | 23.74                 | 23.82                    | 23.71                  |                     |          |
| 10              | QPSK       | 1       | 49        | 23.77                 | 23.83                    | 23.58                  |                     |          |
| 10              | QPSK       | 25      | 0         | 22.86                 | 22.87                    | 22.93                  | 23                  | 1        |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 12 | 22.90  | 22.94 | 22.89  |                        |             |
| 10              | QPSK  | 25 | 25 | 22.90  | 22.97 | 22.80  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.93  | 22.88 | 22.89  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.71  | 22.93 | 22.71  | 23                     | 1           |
| 10              | 16QAM | 1  | 25 | 22.74  | 22.76 | 22.59  |                        |             |
| 10              | 16QAM | 1  | 49 | 22.77  | 22.79 | 22.83  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.85  | 21.94 | 21.90  | 22                     | 2           |
| 10              | 16QAM | 25 | 12 | 21.89  | 21.85 | 21.83  |                        |             |
| 10              | 16QAM | 25 | 25 | 21.91  | 21.96 | 21.82  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.97  | 21.89 | 21.87  | 22                     | 2           |
| 10              | 64QAM | 1  | 0  | 21.58  | 21.66 | 21.56  |                        |             |
| 10              | 64QAM | 1  | 25 | 21.74  | 21.77 | 21.66  |                        |             |
| 10              | 64QAM | 1  | 49 | 21.76  | 21.84 | 21.59  | 21                     | 3           |
| 10              | 64QAM | 25 | 0  | 20.82  | 20.91 | 20.89  |                        |             |
| 10              | 64QAM | 25 | 12 | 20.92  | 20.90 | 20.86  |                        |             |
| 10              | 64QAM | 25 | 25 | 20.91  | 20.85 | 20.83  | 21                     | 3           |
| 10              | 64QAM | 50 | 0  | 20.92  | 20.88 | 20.91  |                        |             |
| Channel         |       |    |    | 37775  | 38000 | 38225  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2572.5 | 2595  | 2617.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 23.68  | 23.83 | 23.72  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.67  | 23.82 | 23.66  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.82  | 23.83 | 23.64  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.81  | 22.95 | 22.88  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.91  | 22.92 | 22.85  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.94  | 22.91 | 22.78  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.89  | 22.87 | 22.84  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.73  | 22.89 | 22.80  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.79  | 22.78 | 22.59  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.85  | 22.80 | 22.80  | 22                     | 2           |
| 5               | 16QAM | 12 | 0  | 21.85  | 21.92 | 21.94  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.91  | 21.89 | 21.90  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.91  | 21.95 | 21.82  | 22                     | 2           |
| 5               | 16QAM | 25 | 0  | 21.88  | 21.90 | 21.87  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.58  | 21.70 | 21.52  |                        |             |
| 5               | 64QAM | 1  | 12 | 21.71  | 21.80 | 21.66  | 22                     | 2           |
| 5               | 64QAM | 1  | 24 | 21.85  | 21.81 | 21.60  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.86  | 20.87 | 20.89  |                        |             |
| 5               | 64QAM | 12 | 7  | 20.92  | 20.91 | 20.86  | 21                     | 3           |
| 5               | 64QAM | 12 | 13 | 20.98  | 20.79 | 20.87  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.93  | 20.92 | 20.95  |                        |             |



## &lt;LTE Band 41 Main&gt;

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|--------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 39750                 | 40185                        | 40620                    | 41055                         | 41490                  | 24                  | 0        |
| Frequency (MHz) |            |         |           | 2506                  | 2549.5                       | 2593                     | 2636.5                        | 2680                   |                     |          |
| 20              | QPSK       | 1       | 0         | 23.81                 | 23.79                        | 23.90                    | 23.78                         | 23.67                  |                     |          |
| 20              | QPSK       | 1       | 49        | 23.80                 | 23.78                        | 23.76                    | 23.69                         | 23.55                  | 24                  | 0        |
| 20              | QPSK       | 1       | 99        | 23.78                 | 23.78                        | 23.83                    | 23.70                         | 23.58                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.96                 | 22.95                        | 22.99                    | 22.88                         | 22.79                  |                     |          |
| 20              | QPSK       | 50      | 24        | 22.90                 | 22.94                        | 22.96                    | 22.86                         | 22.75                  | 23                  | 1        |
| 20              | QPSK       | 50      | 50        | 22.95                 | 22.93                        | 22.93                    | 22.83                         | 22.72                  |                     |          |
| 20              | QPSK       | 100     | 0         | 22.98                 | 22.97                        | 22.99                    | 22.84                         | 22.76                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 22.95                 | 22.89                        | 22.97                    | 22.84                         | 22.77                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 49        | 22.84                 | 22.85                        | 22.85                    | 22.75                         | 22.63                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 22.89                 | 22.84                        | 22.96                    | 22.76                         | 22.66                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 21.91                 | 21.95                        | 21.86                    | 21.88                         | 21.71                  | 22                  | 2        |
| 20              | 16QAM      | 50      | 24        | 21.92                 | 21.99                        | 21.95                    | 21.85                         | 21.76                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.98                 | 21.96                        | 21.93                    | 21.86                         | 21.72                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 21.91                 | 21.98                        | 21.93                    | 21.86                         | 21.75                  | 22                  | 2        |
| 20              | 64QAM      | 1       | 0         | 21.81                 | 21.70                        | 21.80                    | 21.60                         | 21.36                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 21.88                 | 21.87                        | 21.81                    | 21.54                         | 21.36                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 21.80                 | 21.81                        | 21.85                    | 21.50                         | 21.38                  | 21                  | 3        |
| 20              | 64QAM      | 50      | 0         | 20.91                 | 20.98                        | 20.90                    | 20.92                         | 20.74                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 20.94                 | 21.00                        | 20.97                    | 20.90                         | 20.79                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 21.00                 | 20.99                        | 20.94                    | 20.88                         | 20.73                  | 21                  | 3        |
| 20              | 64QAM      | 100     | 0         | 20.92                 | 20.99                        | 20.96                    | 20.88                         | 20.76                  |                     |          |
| Channel         |            |         |           | 39725                 | 40173                        | 40620                    | 41068                         | 41515                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2503.5                | 2548.3                       | 2593                     | 2637.8                        | 2682.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 23.81                 | 23.77                        | 23.79                    | 23.69                         | 23.59                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 23.74                 | 23.76                        | 23.69                    | 23.64                         | 23.53                  |                     |          |
| 15              | QPSK       | 1       | 74        | 23.71                 | 23.70                        | 23.78                    | 23.70                         | 23.57                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.97                 | 22.94                        | 22.85                    | 22.86                         | 22.63                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 22.92                 | 22.91                        | 22.88                    | 22.79                         | 22.67                  |                     |          |
| 15              | QPSK       | 36      | 39        | 22.90                 | 22.89                        | 22.85                    | 22.82                         | 22.64                  |                     |          |
| 15              | QPSK       | 75      | 0         | 22.96                 | 22.95                        | 22.89                    | 22.81                         | 22.73                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 22.95                 | 22.81                        | 22.96                    | 22.76                         | 22.73                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 22.81                 | 22.84                        | 22.75                    | 22.65                         | 22.58                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.83                 | 22.79                        | 22.86                    | 22.69                         | 22.66                  | 22                  | 2        |
| 15              | 16QAM      | 36      | 0         | 21.95                 | 21.92                        | 21.77                    | 21.80                         | 21.67                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 21.96                 | 21.95                        | 21.87                    | 21.82                         | 21.71                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.97                 | 21.94                        | 21.89                    | 21.76                         | 21.72                  | 22                  | 2        |
| 15              | 16QAM      | 75      | 0         | 21.92                 | 21.95                        | 21.90                    | 21.79                         | 21.69                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 21.80                 | 21.65                        | 21.71                    | 21.57                         | 21.34                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 21.86                 | 21.85                        | 21.71                    | 21.48                         | 21.32                  | 22                  | 2        |
| 15              | 64QAM      | 1       | 74        | 21.80                 | 21.80                        | 21.82                    | 21.44                         | 21.35                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 20.95                 | 20.93                        | 20.85                    | 20.90                         | 20.68                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 20.92                 | 20.90                        | 20.97                    | 20.82                         | 20.76                  | 21                  | 3        |
| 15              | 64QAM      | 36      | 39        | 20.93                 | 20.97                        | 20.94                    | 20.87                         | 20.72                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 20.94                 | 20.96                        | 20.96                    | 20.83                         | 20.74                  |                     |          |
| Channel         |            |         |           | 39700                 | 40160                        | 40620                    | 41080                         | 41540                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2501                  | 2547                         | 2593                     | 2639                          | 2685                   |                     |          |
| 10              | QPSK       | 1       | 0         | 23.74                 | 23.68                        | 23.85                    | 23.68                         | 23.58                  | 24                  | 0        |
| 10              | QPSK       | 1       | 25        | 23.74                 | 23.74                        | 23.70                    | 23.62                         | 23.52                  |                     |          |
| 10              | QPSK       | 1       | 49        | 23.77                 | 23.68                        | 23.81                    | 23.66                         | 23.52                  |                     |          |
| 10              | QPSK       | 25      | 0         | 22.89                 | 22.88                        | 22.85                    | 22.84                         | 22.69                  | 23                  | 1        |
| 10              | QPSK       | 25      | 12        | 22.93                 | 22.91                        | 22.86                    | 22.77                         | 22.73                  |                     |          |



# FCC SAR TEST REPORT

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|                 |       |    |    |        |        |       |         |        |                     |          |
|-----------------|-------|----|----|--------|--------|-------|---------|--------|---------------------|----------|
| 10              | QPSK  | 25 | 25 | 22.90  | 22.86  | 22.91 | 22.80   | 22.63  |                     |          |
| 10              | QPSK  | 50 | 0  | 22.96  | 22.94  | 22.94 | 22.82   | 22.74  |                     |          |
| 10              | 16QAM | 1  | 0  | 22.86  | 22.84  | 22.92 | 22.74   | 22.75  |                     |          |
| 10              | 16QAM | 1  | 25 | 22.80  | 22.85  | 22.85 | 22.66   | 22.63  | 23                  | 1        |
| 10              | 16QAM | 1  | 49 | 22.79  | 22.80  | 22.87 | 22.70   | 22.60  |                     |          |
| 10              | 16QAM | 25 | 0  | 21.96  | 21.89  | 21.79 | 21.78   | 21.70  |                     |          |
| 10              | 16QAM | 25 | 12 | 21.91  | 21.94  | 21.88 | 21.78   | 21.74  | 22                  | 2        |
| 10              | 16QAM | 25 | 25 | 21.98  | 21.86  | 21.88 | 21.85   | 21.64  |                     |          |
| 10              | 16QAM | 50 | 0  | 21.92  | 21.89  | 21.83 | 21.85   | 21.65  |                     |          |
| 10              | 64QAM | 1  | 0  | 21.71  | 21.61  | 21.74 | 21.50   | 21.34  | 22                  | 2        |
| 10              | 64QAM | 1  | 25 | 21.82  | 21.84  | 21.77 | 21.53   | 21.35  |                     |          |
| 10              | 64QAM | 1  | 49 | 21.76  | 21.81  | 21.76 | 21.45   | 21.35  |                     |          |
| 10              | 64QAM | 25 | 0  | 20.93  | 20.88  | 20.83 | 20.82   | 20.73  | 21                  | 3        |
| 10              | 64QAM | 25 | 12 | 20.98  | 20.91  | 20.91 | 20.82   | 20.76  |                     |          |
| 10              | 64QAM | 25 | 25 | 20.94  | 20.92  | 20.87 | 20.88   | 20.66  |                     |          |
| 10              | 64QAM | 50 | 0  | 20.95  | 20.93  | 20.92 | 20.79   | 20.66  |                     |          |
| Channel         |       |    |    | 39675  | 40148  | 40620 | 41093   | 41565  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2498.5 | 2545.8 | 2593  | 2640.30 | 2687.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 23.77  | 23.77  | 23.82 | 23.76   | 23.67  | 24                  | 0        |
| 5               | QPSK  | 1  | 12 | 23.80  | 23.69  | 23.68 | 23.61   | 23.52  |                     |          |
| 5               | QPSK  | 1  | 24 | 23.77  | 23.74  | 23.81 | 23.63   | 23.52  |                     |          |
| 5               | QPSK  | 12 | 0  | 22.89  | 22.95  | 22.77 | 22.87   | 22.64  | 23                  | 1        |
| 5               | QPSK  | 12 | 7  | 22.98  | 22.88  | 22.90 | 22.77   | 22.70  |                     |          |
| 5               | QPSK  | 12 | 13 | 22.92  | 22.83  | 22.84 | 22.78   | 22.62  |                     |          |
| 5               | QPSK  | 25 | 0  | 22.88  | 22.88  | 22.93 | 22.74   | 22.75  |                     |          |
| 5               | 16QAM | 1  | 0  | 22.94  | 22.87  | 22.96 | 22.80   | 22.67  | 23                  | 1        |
| 5               | 16QAM | 1  | 12 | 22.76  | 22.82  | 22.75 | 22.72   | 22.56  |                     |          |
| 5               | 16QAM | 1  | 24 | 22.86  | 22.83  | 22.95 | 22.76   | 22.62  |                     |          |
| 5               | 16QAM | 12 | 0  | 21.95  | 21.90  | 21.84 | 21.84   | 21.65  | 22                  | 2        |
| 5               | 16QAM | 12 | 7  | 21.94  | 21.95  | 21.94 | 21.77   | 21.75  |                     |          |
| 5               | 16QAM | 12 | 13 | 21.90  | 21.95  | 21.91 | 21.83   | 21.64  |                     |          |
| 5               | 16QAM | 25 | 0  | 21.96  | 21.92  | 21.85 | 21.85   | 21.74  |                     |          |
| 5               | 64QAM | 1  | 0  | 21.73  | 21.65  | 21.78 | 21.59   | 21.34  | 22                  | 2        |
| 5               | 64QAM | 1  | 12 | 21.87  | 21.85  | 21.80 | 21.48   | 21.36  |                     |          |
| 5               | 64QAM | 1  | 24 | 21.71  | 21.72  | 21.81 | 21.47   | 21.35  |                     |          |
| 5               | 64QAM | 12 | 0  | 20.95  | 20.97  | 20.80 | 20.83   | 20.68  | 21                  | 3        |
| 5               | 64QAM | 12 | 7  | 20.94  | 20.93  | 20.95 | 20.86   | 20.79  |                     |          |
| 5               | 64QAM | 12 | 13 | 20.90  | 20.93  | 20.86 | 20.79   | 20.63  |                     |          |
| 5               | 64QAM | 25 | 0  | 20.97  | 20.92  | 20.92 | 20.86   | 20.75  |                     |          |



## &lt;LTE Band 41 HPUE&gt;

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|--------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 39750                 | 40185                        | 40620                    | 41055                         | 41490                  | 27                  | 0        |
| Frequency (MHz) |            |         |           | 2506                  | 2549.5                       | 2593                     | 2636.5                        | 2680                   |                     |          |
| 20              | QPSK       | 1       | 0         | 26.34                 | 26.26                        | 26.30                    | 26.25                         | 25.72                  |                     |          |
| 20              | QPSK       | 1       | 49        | 26.33                 | 26.26                        | 26.21                    | 26.17                         | 25.41                  | 26                  | 1        |
| 20              | QPSK       | 1       | 99        | 26.33                 | 26.25                        | 26.23                    | 26.21                         | 24.57                  |                     |          |
| 20              | QPSK       | 50      | 0         | 25.62                 | 25.62                        | 25.54                    | 25.53                         | 24.85                  |                     |          |
| 20              | QPSK       | 50      | 24        | 25.54                 | 25.57                        | 25.40                    | 25.48                         | 24.52                  | 26                  | 1        |
| 20              | QPSK       | 50      | 50        | 25.62                 | 25.56                        | 25.49                    | 25.46                         | 24.01                  |                     |          |
| 20              | QPSK       | 100     | 0         | 25.58                 | 25.57                        | 25.52                    | 25.46                         | 24.46                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 25.73                 | 25.60                        | 25.68                    | 25.65                         | 24.99                  | 26                  | 1        |
| 20              | 16QAM      | 1       | 49        | 25.70                 | 25.57                        | 25.59                    | 25.53                         | 24.68                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 25.72                 | 25.59                        | 25.59                    | 25.62                         | 24.35                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 24.64                 | 24.57                        | 24.47                    | 24.52                         | 23.95                  | 25                  | 2        |
| 20              | 16QAM      | 50      | 24        | 24.66                 | 24.61                        | 24.54                    | 24.51                         | 23.64                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 24.64                 | 24.58                        | 24.51                    | 24.50                         | 23.28                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 24.67                 | 24.58                        | 24.52                    | 24.50                         | 23.54                  | 25                  | 2        |
| 20              | 64QAM      | 1       | 0         | 24.45                 | 24.41                        | 24.04                    | 23.69                         | 23.38                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 24.53                 | 24.45                        | 23.99                    | 23.87                         | 23.15                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 24.58                 | 24.48                        | 24.01                    | 23.70                         | 23.04                  | 24                  | 3        |
| 20              | 64QAM      | 50      | 0         | 23.66                 | 23.57                        | 23.10                    | 22.92                         | 22.03                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 23.67                 | 23.62                        | 23.05                    | 22.96                         | 22.16                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 23.66                 | 23.57                        | 23.06                    | 23.00                         | 22.08                  | 24                  | 3        |
| 20              | 64QAM      | 100     | 0         | 23.68                 | 23.59                        | 22.99                    | 22.83                         | 22.11                  |                     |          |
| Channel         |            |         |           | 39725                 | 40173                        | 40620                    | 41068                         | 41515                  | 27                  | 0        |
| Frequency (MHz) |            |         |           | 2503.5                | 2548.3                       | 2593                     | 2637.8                        | 2682.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 26.28                 | 26.24                        | 26.22                    | 26.21                         | 25.66                  |                     |          |
| 15              | QPSK       | 1       | 37        | 26.24                 | 26.24                        | 26.19                    | 26.11                         | 25.40                  | 26                  | 1        |
| 15              | QPSK       | 1       | 74        | 26.32                 | 26.20                        | 26.23                    | 26.17                         | 24.47                  |                     |          |
| 15              | QPSK       | 36      | 0         | 25.54                 | 25.62                        | 25.49                    | 25.52                         | 24.84                  |                     |          |
| 15              | QPSK       | 36      | 20        | 25.52                 | 25.57                        | 25.31                    | 25.39                         | 24.42                  | 26                  | 1        |
| 15              | QPSK       | 36      | 39        | 25.58                 | 25.48                        | 25.41                    | 25.36                         | 24.45                  |                     |          |
| 15              | QPSK       | 75      | 0         | 25.57                 | 25.52                        | 25.46                    | 25.41                         | 24.38                  |                     |          |
| 15              | 16QAM      | 1       | 0         | 25.69                 | 25.51                        | 25.67                    | 25.65                         | 24.98                  | 26                  | 1        |
| 15              | 16QAM      | 1       | 37        | 25.68                 | 25.49                        | 25.53                    | 25.52                         | 24.60                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 25.65                 | 25.56                        | 25.54                    | 25.55                         | 24.28                  |                     |          |
| 15              | 16QAM      | 36      | 0         | 24.55                 | 24.52                        | 24.47                    | 24.51                         | 23.90                  | 25                  | 2        |
| 15              | 16QAM      | 36      | 20        | 24.64                 | 24.56                        | 24.48                    | 24.44                         | 23.62                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 24.64                 | 24.49                        | 24.45                    | 24.48                         | 23.18                  |                     |          |
| 15              | 16QAM      | 75      | 0         | 24.59                 | 24.55                        | 24.42                    | 24.40                         | 23.53                  | 25                  | 2        |
| 15              | 64QAM      | 1       | 0         | 24.37                 | 24.40                        | 24.04                    | 23.63                         | 23.30                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 24.49                 | 24.43                        | 23.98                    | 23.83                         | 23.09                  |                     |          |
| 15              | 64QAM      | 1       | 74        | 24.48                 | 24.47                        | 23.95                    | 23.62                         | 23.46                  | 24                  | 3        |
| 15              | 64QAM      | 36      | 0         | 23.58                 | 23.57                        | 23.08                    | 22.90                         | 22.35                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 23.67                 | 23.62                        | 23.00                    | 22.90                         | 22.12                  |                     |          |
| 15              | 64QAM      | 36      | 39        | 23.64                 | 23.48                        | 22.99                    | 22.95                         | 22.02                  | 24                  | 3        |
| 15              | 64QAM      | 75      | 0         | 23.64                 | 23.51                        | 22.95                    | 22.75                         | 22.02                  |                     |          |
| Channel         |            |         |           | 39700                 | 40160                        | 40620                    | 41080                         | 41540                  | 27                  | 0        |
| Frequency (MHz) |            |         |           | 2501                  | 2547                         | 2593                     | 2639                          | 2685                   |                     |          |
| 10              | QPSK       | 1       | 0         | 26.29                 | 26.19                        | 26.27                    | 26.25                         | 25.67                  |                     |          |
| 10              | QPSK       | 1       | 25        | 26.27                 | 26.23                        | 26.11                    | 26.07                         | 25.37                  | 27                  | 0        |
| 10              | QPSK       | 1       | 49        | 26.32                 | 26.20                        | 26.15                    | 26.12                         | 24.47                  |                     |          |
| 10              | QPSK       | 25      | 0         | 25.62                 | 25.60                        | 25.45                    | 25.51                         | 24.85                  | 26                  | 1        |
| 10              | QPSK       | 25      | 12        | 25.52                 | 25.55                        | 25.32                    | 25.41                         | 24.50                  |                     |          |



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|    |       |    |    |        |        |       |         |        |                     |          |
|----|-------|----|----|--------|--------|-------|---------|--------|---------------------|----------|
| 10 | QPSK  | 25 | 25 | 25.53  | 25.47  | 25.41 | 25.45   | 24.48  |                     |          |
| 10 | QPSK  | 50 | 0  | 25.54  | 25.48  | 25.49 | 25.45   | 24.36  |                     |          |
| 10 | 16QAM | 1  | 0  | 25.73  | 25.52  | 25.58 | 25.62   | 24.97  |                     |          |
| 10 | 16QAM | 1  | 25 | 25.65  | 25.47  | 25.57 | 25.50   | 24.68  | 26                  | 1        |
| 10 | 16QAM | 1  | 49 | 25.63  | 25.52  | 25.56 | 25.62   | 24.32  |                     |          |
| 10 | 16QAM | 25 | 0  | 24.60  | 24.49  | 24.45 | 24.51   | 23.87  |                     |          |
| 10 | 16QAM | 25 | 12 | 24.65  | 24.54  | 24.48 | 24.45   | 23.54  | 25                  | 2        |
| 10 | 16QAM | 25 | 25 | 24.60  | 24.55  | 24.49 | 24.48   | 23.25  |                     |          |
| 10 | 16QAM | 50 | 0  | 24.67  | 24.57  | 24.46 | 24.46   | 23.47  |                     |          |
| 10 | 64QAM | 1  | 0  | 24.38  | 24.35  | 23.97 | 23.62   | 23.29  | 25                  | 2        |
| 10 | 64QAM | 1  | 25 | 24.52  | 24.40  | 23.96 | 23.87   | 23.13  |                     |          |
| 10 | 64QAM | 1  | 49 | 24.56  | 24.41  | 23.91 | 23.62   | 23.44  |                     |          |
| 10 | 64QAM | 25 | 0  | 23.60  | 23.53  | 23.03 | 22.91   | 22.43  | 24                  | 3        |
| 10 | 64QAM | 25 | 12 | 23.57  | 23.61  | 23.00 | 22.91   | 22.06  |                     |          |
| 10 | 64QAM | 25 | 25 | 23.56  | 23.54  | 22.96 | 22.98   | 22.02  |                     |          |
| 10 | 64QAM | 50 | 0  | 23.66  | 23.49  | 22.97 | 22.81   | 22.10  | Channel             | MPR (dB) |
|    |       |    |    | 39675  | 40148  | 40620 | 41093   | 41565  |                     |          |
|    |       |    |    | 2498.5 | 2545.8 | 2593  | 2640.30 | 2687.5 | Tune-up limit (dBm) |          |
| 5  | QPSK  | 1  | 0  | 26.33  | 26.17  | 26.28 | 26.19   | 25.66  | 27                  | 0        |
| 5  | QPSK  | 1  | 12 | 26.28  | 26.17  | 26.13 | 26.13   | 25.38  |                     |          |
| 5  | QPSK  | 1  | 24 | 26.31  | 26.25  | 26.15 | 26.17   | 24.54  |                     |          |
| 5  | QPSK  | 12 | 0  | 25.55  | 25.59  | 25.44 | 25.46   | 24.85  | 26                  | 1        |
| 5  | QPSK  | 12 | 7  | 25.44  | 25.56  | 25.34 | 25.45   | 24.42  |                     |          |
| 5  | QPSK  | 12 | 13 | 25.61  | 25.46  | 25.46 | 25.37   | 24.45  |                     |          |
| 5  | QPSK  | 25 | 0  | 25.53  | 25.55  | 25.44 | 25.41   | 24.38  | 26                  | 1        |
| 5  | 16QAM | 1  | 0  | 25.71  | 25.53  | 25.59 | 25.60   | 24.96  |                     |          |
| 5  | 16QAM | 1  | 12 | 25.67  | 25.49  | 25.56 | 25.52   | 24.59  |                     |          |
| 5  | 16QAM | 1  | 24 | 25.65  | 25.56  | 25.51 | 25.61   | 24.33  | 25                  | 2        |
| 5  | 16QAM | 12 | 0  | 24.58  | 24.53  | 24.43 | 24.46   | 23.86  |                     |          |
| 5  | 16QAM | 12 | 7  | 24.56  | 24.59  | 24.53 | 24.42   | 23.62  |                     |          |
| 5  | 16QAM | 12 | 13 | 24.58  | 24.48  | 24.45 | 24.46   | 23.27  | 25                  | 2        |
| 5  | 16QAM | 25 | 0  | 24.63  | 24.48  | 24.50 | 24.47   | 23.54  |                     |          |
| 5  | 64QAM | 1  | 0  | 24.39  | 24.35  | 23.99 | 23.62   | 23.34  |                     |          |
| 5  | 64QAM | 1  | 12 | 24.43  | 24.36  | 23.91 | 23.82   | 23.14  | 25                  | 2        |
| 5  | 64QAM | 1  | 24 | 24.49  | 24.42  | 23.95 | 23.70   | 23.49  |                     |          |
| 5  | 64QAM | 12 | 0  | 23.59  | 23.49  | 23.00 | 22.87   | 22.45  |                     |          |
| 5  | 64QAM | 12 | 7  | 23.66  | 23.56  | 22.97 | 22.94   | 22.11  | 24                  | 3        |
| 5  | 64QAM | 12 | 13 | 23.64  | 23.50  | 23.05 | 22.99   | 22.02  |                     |          |
| 5  | 64QAM | 25 | 0  | 23.66  | 23.59  | 22.96 | 22.75   | 22.08  |                     |          |

**<LTE Band 48 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 55340                 | 55830                        | 56150                         | 56640                  |                     |          |
| Frequency (MHz) |            |         |           | 3560                  | 3609                         | 3641                          | 3690                   |                     |          |
| 20              | QPSK       | 1       | 0         | 21.01                 | 20.80                        | 20.69                         | 20.53                  | 22                  | 0        |
| 20              | QPSK       | 1       | 49        | 20.92                 | 20.67                        | 20.58                         | 20.39                  |                     |          |
| 20              | QPSK       | 1       | 99        | 20.97                 | 20.78                        | 20.64                         | 20.47                  |                     |          |
| 20              | QPSK       | 50      | 0         | 20.07                 | 19.83                        | 19.75                         | 19.55                  | 21                  | 1        |
| 20              | QPSK       | 50      | 24        | 20.03                 | 19.82                        | 19.74                         | 19.55                  |                     |          |
| 20              | QPSK       | 50      | 50        | 19.97                 | 19.73                        | 19.61                         | 19.45                  |                     |          |
| 20              | QPSK       | 100     | 0         | 20.07                 | 19.78                        | 19.74                         | 19.54                  | 21                  | 1        |
| 20              | 16QAM      | 1       | 0         | 20.13                 | 19.83                        | 19.86                         | 19.60                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 20.06                 | 19.77                        | 19.72                         | 19.48                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 20.14                 | 19.87                        | 19.80                         | 19.61                  | 20                  | 2        |
| 20              | 16QAM      | 50      | 0         | 19.09                 | 18.85                        | 18.78                         | 18.56                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 19.11                 | 18.88                        | 18.80                         | 18.58                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 19.02                 | 18.79                        | 18.69                         | 18.49                  | 20                  | 2        |
| 20              | 16QAM      | 100     | 0         | 19.13                 | 18.83                        | 18.79                         | 18.57                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 19.93                 | 18.58                        | 18.47                         | 18.27                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 19.83                 | 18.49                        | 18.43                         | 18.20                  | 20                  | 2        |
| 20              | 64QAM      | 1       | 99        | 18.75                 | 18.53                        | 18.46                         | 18.24                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 18.15                 | 17.95                        | 17.84                         | 17.64                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 18.19                 | 17.93                        | 17.87                         | 17.67                  | 19                  | 3        |
| 20              | 64QAM      | 50      | 50        | 18.08                 | 17.85                        | 17.81                         | 17.58                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 18.13                 | 17.97                        | 17.86                         | 17.67                  |                     |          |
| Channel         |            |         |           | 55315                 | 55820                        | 56160                         | 56665                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 3557.5                | 3608                         | 3642                          | 3692.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 20.95                 | 20.74                        | 20.66                         | 20.45                  | 22                  | 0        |
| 15              | QPSK       | 1       | 37        | 20.91                 | 20.65                        | 20.57                         | 20.37                  |                     |          |
| 15              | QPSK       | 1       | 74        | 20.88                 | 20.72                        | 20.59                         | 20.41                  |                     |          |
| 15              | QPSK       | 36      | 0         | 20.04                 | 19.80                        | 19.74                         | 19.55                  | 21                  | 1        |
| 15              | QPSK       | 36      | 20        | 19.98                 | 19.80                        | 19.69                         | 19.55                  |                     |          |
| 15              | QPSK       | 36      | 39        | 19.96                 | 19.65                        | 19.57                         | 19.43                  |                     |          |
| 15              | QPSK       | 75      | 0         | 19.98                 | 19.74                        | 19.70                         | 19.44                  | 21                  | 1        |
| 15              | 16QAM      | 1       | 0         | 20.04                 | 19.78                        | 19.81                         | 19.55                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 20.00                 | 19.74                        | 19.68                         | 19.45                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 20.13                 | 19.79                        | 19.70                         | 19.57                  | 20                  | 2        |
| 15              | 16QAM      | 36      | 0         | 19.07                 | 18.82                        | 18.76                         | 18.54                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 19.06                 | 18.88                        | 18.79                         | 18.50                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 18.99                 | 18.78                        | 18.62                         | 18.49                  | 20                  | 2        |
| 15              | 16QAM      | 75      | 0         | 19.06                 | 18.78                        | 18.76                         | 18.47                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 19.88                 | 18.58                        | 18.43                         | 18.19                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 19.83                 | 18.43                        | 18.33                         | 18.20                  | 20                  | 2        |
| 15              | 64QAM      | 1       | 74        | 18.66                 | 18.49                        | 18.37                         | 18.16                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 18.11                 | 17.91                        | 17.77                         | 17.56                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 18.11                 | 17.83                        | 17.84                         | 17.61                  | 19                  | 3        |
| 15              | 64QAM      | 36      | 39        | 18.01                 | 17.82                        | 17.76                         | 17.54                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 18.06                 | 17.89                        | 17.86                         | 17.63                  |                     |          |
| Channel         |            |         |           | 55290                 | 55815                        | 56165                         | 56690                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 3555                  | 3607.5                       | 3642.5                        | 3695                   |                     |          |
| 10              | QPSK       | 1       | 0         | 21.00                 | 20.72                        | 20.66                         | 20.47                  | 22                  | 0        |
| 10              | QPSK       | 1       | 25        | 20.88                 | 20.62                        | 20.57                         | 20.30                  |                     |          |
| 10              | QPSK       | 1       | 49        | 20.97                 | 20.72                        | 20.54                         | 20.37                  |                     |          |
| 10              | QPSK       | 25      | 0         | 19.99                 | 19.77                        | 19.66                         | 19.46                  | 21                  | 1        |
| 10              | QPSK       | 25      | 12        | 20.03                 | 19.80                        | 19.64                         | 19.52                  |                     |          |



# FCC SAR TEST REPORT

Report No. : FA092423

|                 |       |    |    |        |       |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 19.94  | 19.70 | 19.55 | 19.44  |                        |             |
| 10              | QPSK  | 50 | 0  | 19.98  | 19.71 | 19.65 | 19.45  |                        |             |
| 10              | 16QAM | 1  | 0  | 20.07  | 19.75 | 19.81 | 19.52  |                        |             |
| 10              | 16QAM | 1  | 25 | 20.03  | 19.73 | 19.63 | 19.38  | 21                     | 1           |
| 10              | 16QAM | 1  | 49 | 20.10  | 19.86 | 19.79 | 19.54  |                        |             |
| 10              | 16QAM | 25 | 0  | 19.03  | 18.84 | 18.69 | 18.47  |                        |             |
| 10              | 16QAM | 25 | 12 | 19.03  | 18.83 | 18.78 | 18.51  | 20                     | 2           |
| 10              | 16QAM | 25 | 25 | 18.92  | 18.75 | 18.66 | 18.49  |                        |             |
| 10              | 16QAM | 50 | 0  | 19.08  | 18.73 | 18.72 | 18.48  |                        |             |
| 10              | 64QAM | 1  | 0  | 19.88  | 18.54 | 18.38 | 18.18  | 20                     | 2           |
| 10              | 64QAM | 1  | 25 | 19.76  | 18.49 | 18.33 | 18.19  |                        |             |
| 10              | 64QAM | 1  | 49 | 18.67  | 18.49 | 18.46 | 18.22  |                        |             |
| 10              | 64QAM | 25 | 0  | 18.08  | 17.93 | 17.80 | 17.62  | 19                     | 3           |
| 10              | 64QAM | 25 | 12 | 18.14  | 17.93 | 17.79 | 17.58  |                        |             |
| 10              | 64QAM | 25 | 25 | 18.01  | 17.84 | 17.77 | 17.48  |                        |             |
| 10              | 64QAM | 50 | 0  | 18.08  | 17.91 | 17.83 | 17.59  |                        |             |
| Channel         |       |    |    | 55265  | 55810 | 56170 | 56715  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 3552.5 | 3607  | 3643  | 3697.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 20.97  | 20.72 | 20.65 | 20.50  | 22                     | 0           |
| 5               | QPSK  | 1  | 12 | 20.90  | 20.62 | 20.51 | 20.32  |                        |             |
| 5               | QPSK  | 1  | 24 | 20.96  | 20.77 | 20.55 | 20.46  |                        |             |
| 5               | QPSK  | 12 | 0  | 20.06  | 19.74 | 19.74 | 19.55  | 21                     | 1           |
| 5               | QPSK  | 12 | 7  | 19.98  | 19.76 | 19.70 | 19.45  |                        |             |
| 5               | QPSK  | 12 | 13 | 19.88  | 19.70 | 19.57 | 19.45  |                        |             |
| 5               | QPSK  | 25 | 0  | 20.00  | 19.68 | 19.72 | 19.47  | 21                     | 1           |
| 5               | 16QAM | 1  | 0  | 20.12  | 19.80 | 19.77 | 19.54  |                        |             |
| 5               | 16QAM | 1  | 12 | 19.99  | 19.77 | 19.64 | 19.38  |                        |             |
| 5               | 16QAM | 1  | 24 | 20.09  | 19.87 | 19.75 | 19.54  | 20                     | 2           |
| 5               | 16QAM | 12 | 0  | 19.02  | 18.77 | 18.70 | 18.50  |                        |             |
| 5               | 16QAM | 12 | 7  | 19.02  | 18.81 | 18.70 | 18.55  |                        |             |
| 5               | 16QAM | 12 | 13 | 19.01  | 18.77 | 18.64 | 18.40  | 20                     | 2           |
| 5               | 16QAM | 25 | 0  | 19.05  | 18.83 | 18.75 | 18.52  |                        |             |
| 5               | 64QAM | 1  | 0  | 19.83  | 18.56 | 18.41 | 18.24  |                        |             |
| 5               | 64QAM | 1  | 12 | 19.74  | 18.48 | 18.39 | 18.15  | 19                     | 3           |
| 5               | 64QAM | 1  | 24 | 18.66  | 18.51 | 18.42 | 18.18  |                        |             |
| 5               | 64QAM | 12 | 0  | 18.13  | 17.94 | 17.77 | 17.64  |                        |             |
| 5               | 64QAM | 12 | 7  | 18.14  | 17.84 | 17.83 | 17.62  | 19                     | 3           |
| 5               | 64QAM | 12 | 13 | 18.01  | 17.85 | 17.80 | 17.57  |                        |             |
| 5               | 64QAM | 25 | 0  | 18.05  | 17.94 | 17.80 | 17.58  |                        |             |

**Reduced Power Mode**
**<LTE Band 38 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 37850                 | 38000                    | 38150                  |                     |          |
| Frequency (MHz) |            |         |           | 2580                  | 2595                     | 2610                   |                     |          |
| 20              | QPSK       | 1       | 0         | 13.30                 | 13.31                    | 13.26                  | 13.5                | 0        |
| 20              | QPSK       | 1       | 49        | 13.19                 | 13.26                    | 13.23                  |                     |          |
| 20              | QPSK       | 1       | 99        | 13.21                 | 13.23                    | 13.17                  |                     |          |
| 20              | QPSK       | 50      | 0         | 12.32                 | 12.39                    | 12.37                  | 12.5                | 1        |
| 20              | QPSK       | 50      | 24        | 12.36                 | 12.37                    | 12.37                  |                     |          |
| 20              | QPSK       | 50      | 50        | 12.35                 | 12.34                    | 12.30                  |                     |          |
| 20              | QPSK       | 100     | 0         | 12.37                 | 12.35                    | 12.28                  | 12.5                | 1        |
| 20              | 16QAM      | 1       | 0         | 12.41                 | 12.42                    | 12.42                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 12.30                 | 12.34                    | 12.28                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 12.30                 | 12.29                    | 12.24                  | 11.5                | 2        |
| 20              | 16QAM      | 50      | 0         | 11.37                 | 11.42                    | 11.40                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 11.39                 | 11.36                    | 11.42                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 11.36                 | 11.40                    | 11.33                  | 11.5                | 2        |
| 20              | 16QAM      | 100     | 0         | 11.40                 | 11.36                    | 11.33                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 10.73                 | 10.76                    | 10.82                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 10.75                 | 10.77                    | 10.69                  | 11.5                | 2        |
| 20              | 64QAM      | 1       | 99        | 10.71                 | 10.72                    | 10.61                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 10.36                 | 10.43                    | 10.40                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 10.39                 | 10.39                    | 10.42                  | 10.5                | 3        |
| 20              | 64QAM      | 50      | 50        | 10.38                 | 10.41                    | 10.35                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 10.38                 | 10.38                    | 10.33                  |                     |          |
| Channel         |            |         |           | 37825                 | 38000                    | 38175                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2577.5                | 2595                     | 2612.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 13.25                 | 13.30                    | 13.25                  | 13.5                | 0        |
| 15              | QPSK       | 1       | 37        | 13.17                 | 13.28                    | 13.23                  |                     |          |
| 15              | QPSK       | 1       | 74        | 13.14                 | 13.22                    | 13.17                  |                     |          |
| 15              | QPSK       | 36      | 0         | 12.22                 | 12.39                    | 12.32                  | 12.5                | 1        |
| 15              | QPSK       | 36      | 20        | 12.32                 | 12.36                    | 12.27                  |                     |          |
| 15              | QPSK       | 36      | 39        | 12.26                 | 12.28                    | 12.30                  |                     |          |
| 15              | QPSK       | 75      | 0         | 12.37                 | 12.26                    | 12.24                  | 12.5                | 1        |
| 15              | 16QAM      | 1       | 0         | 12.33                 | 12.36                    | 12.36                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 12.29                 | 12.33                    | 12.19                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 12.21                 | 12.26                    | 12.14                  | 11.5                | 2        |
| 15              | 16QAM      | 36      | 0         | 11.27                 | 11.39                    | 11.31                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 11.31                 | 11.36                    | 11.39                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 11.33                 | 11.35                    | 11.24                  | 11.5                | 2        |
| 15              | 16QAM      | 75      | 0         | 11.30                 | 11.28                    | 11.25                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 10.66                 | 10.73                    | 10.75                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 10.65                 | 10.72                    | 10.67                  | 11.5                | 2        |
| 15              | 64QAM      | 1       | 74        | 10.68                 | 10.62                    | 10.51                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 10.36                 | 10.43                    | 10.31                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 10.33                 | 10.34                    | 10.34                  | 10.5                | 3        |
| 15              | 64QAM      | 36      | 39        | 10.36                 | 10.37                    | 10.29                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 10.35                 | 10.30                    | 10.33                  |                     |          |
| Channel         |            |         |           | 37800                 | 38000                    | 38200                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2575                  | 2595                     | 2615                   |                     |          |
| 10              | QPSK       | 1       | 0         | 13.22                 | 13.30                    | 13.21                  | 13.5                | 0        |
| 10              | QPSK       | 1       | 25        | 13.16                 | 13.28                    | 13.19                  |                     |          |
| 10              | QPSK       | 1       | 49        | 13.13                 | 13.20                    | 13.11                  |                     |          |
| 10              | QPSK       | 25      | 0         | 12.29                 | 12.34                    | 12.29                  | 12.5                | 1        |



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|                 |       |    |    |        |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 12 | 12.31  | 12.27 | 12.28  |                        |             |
| 10              | QPSK  | 25 | 25 | 12.27  | 12.28 | 12.25  |                        |             |
| 10              | QPSK  | 50 | 0  | 12.36  | 12.28 | 12.25  |                        |             |
| 10              | 16QAM | 1  | 0  | 12.41  | 12.39 | 12.33  | 12.5                   | 1           |
| 10              | 16QAM | 1  | 25 | 12.24  | 12.34 | 12.18  |                        |             |
| 10              | 16QAM | 1  | 49 | 12.21  | 12.24 | 12.16  |                        |             |
| 10              | 16QAM | 25 | 0  | 11.36  | 11.41 | 11.32  | 11.5                   | 2           |
| 10              | 16QAM | 25 | 12 | 11.30  | 11.26 | 11.40  |                        |             |
| 10              | 16QAM | 25 | 25 | 11.34  | 11.37 | 11.27  |                        |             |
| 10              | 16QAM | 50 | 0  | 11.35  | 11.28 | 11.30  | 11.5                   | 2           |
| 10              | 64QAM | 1  | 0  | 10.72  | 10.66 | 10.73  |                        |             |
| 10              | 64QAM | 1  | 25 | 10.65  | 10.77 | 10.66  |                        |             |
| 10              | 64QAM | 1  | 49 | 10.67  | 10.71 | 10.53  | 10.5                   | 3           |
| 10              | 64QAM | 25 | 0  | 10.29  | 10.42 | 10.31  |                        |             |
| 10              | 64QAM | 25 | 12 | 10.36  | 10.39 | 10.32  |                        |             |
| 10              | 64QAM | 25 | 25 | 10.29  | 10.34 | 10.26  | 10.5                   | 3           |
| 10              | 64QAM | 50 | 0  | 10.31  | 10.33 | 10.26  |                        |             |
| Channel         |       |    |    | 37775  | 38000 | 38225  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2572.5 | 2595  | 2617.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 13.30  | 13.26 | 13.30  | 13.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 13.13  | 13.28 | 13.17  |                        |             |
| 5               | QPSK  | 1  | 24 | 13.12  | 13.20 | 13.17  |                        |             |
| 5               | QPSK  | 12 | 0  | 12.28  | 12.39 | 12.33  | 12.5                   | 1           |
| 5               | QPSK  | 12 | 7  | 12.35  | 12.37 | 12.36  |                        |             |
| 5               | QPSK  | 12 | 13 | 12.33  | 12.33 | 12.28  |                        |             |
| 5               | QPSK  | 25 | 0  | 12.29  | 12.27 | 12.28  | 12.5                   | 1           |
| 5               | 16QAM | 1  | 0  | 12.33  | 12.40 | 12.36  |                        |             |
| 5               | 16QAM | 1  | 12 | 12.21  | 12.26 | 12.26  |                        |             |
| 5               | 16QAM | 1  | 24 | 12.23  | 12.24 | 12.17  | 11.5                   | 2           |
| 5               | 16QAM | 12 | 0  | 11.32  | 11.33 | 11.33  |                        |             |
| 5               | 16QAM | 12 | 7  | 11.30  | 11.35 | 11.38  |                        |             |
| 5               | 16QAM | 12 | 13 | 11.34  | 11.31 | 11.30  | 11.5                   | 2           |
| 5               | 16QAM | 25 | 0  | 11.38  | 11.32 | 11.27  |                        |             |
| 5               | 64QAM | 1  | 0  | 10.70  | 10.73 | 10.73  |                        |             |
| 5               | 64QAM | 1  | 12 | 10.75  | 10.69 | 10.68  | 11.5                   | 2           |
| 5               | 64QAM | 1  | 24 | 10.63  | 10.72 | 10.60  |                        |             |
| 5               | 64QAM | 12 | 0  | 10.36  | 10.42 | 10.37  |                        |             |
| 5               | 64QAM | 12 | 7  | 10.30  | 10.32 | 10.35  | 10.5                   | 3           |
| 5               | 64QAM | 12 | 13 | 10.34  | 10.37 | 10.30  |                        |             |
| 5               | 64QAM | 25 | 0  | 10.32  | 10.30 | 10.29  |                        |             |



**<LTE Band 41 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|--------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 39750                 | 40185                        | 40620                    | 41055                         | 41490                  | 13.5                | 0        |
| Frequency (MHz) |            |         |           | 2506                  | 2549.5                       | 2593                     | 2636.5                        | 2680                   |                     |          |
| 20              | QPSK       | 1       | 0         | 13.28                 | 13.23                        | 13.32                    | 13.28                         | 13.12                  |                     |          |
| 20              | QPSK       | 1       | 49        | 13.22                 | 13.16                        | 13.21                    | 13.11                         | 13.03                  | 12.5                | 1        |
| 20              | QPSK       | 1       | 99        | 13.21                 | 13.18                        | 13.24                    | 13.15                         | 13.11                  |                     |          |
| 20              | QPSK       | 50      | 0         | 12.33                 | 12.30                        | 12.37                    | 12.36                         | 12.26                  |                     |          |
| 20              | QPSK       | 50      | 24        | 12.27                 | 12.24                        | 12.28                    | 12.33                         | 12.25                  | 12.5                | 1        |
| 20              | QPSK       | 50      | 50        | 12.25                 | 12.23                        | 12.26                    | 12.27                         | 12.21                  |                     |          |
| 20              | QPSK       | 100     | 0         | 12.37                 | 12.29                        | 12.39                    | 12.31                         | 12.17                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 12.35                 | 12.36                        | 12.41                    | 12.38                         | 12.24                  | 12.5                | 1        |
| 20              | 16QAM      | 1       | 49        | 12.30                 | 12.26                        | 12.29                    | 12.18                         | 12.10                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 12.31                 | 12.22                        | 12.36                    | 12.20                         | 12.19                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 11.36                 | 11.36                        | 11.34                    | 11.38                         | 11.21                  | 11.5                | 2        |
| 20              | 16QAM      | 50      | 24        | 11.39                 | 11.39                        | 11.40                    | 11.36                         | 11.25                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 11.40                 | 11.38                        | 11.39                    | 11.28                         | 11.23                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 11.37                 | 11.34                        | 11.40                    | 11.32                         | 11.16                  | 11.5                | 2        |
| 20              | 64QAM      | 1       | 0         | 10.80                 | 10.76                        | 10.87                    | 10.79                         | 10.73                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 10.79                 | 10.77                        | 10.78                    | 10.97                         | 10.82                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 10.77                 | 10.74                        | 10.86                    | 11.16                         | 10.85                  | 10.5                | 3        |
| 20              | 64QAM      | 50      | 0         | 10.38                 | 10.33                        | 10.36                    | 10.38                         | 10.18                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 10.41                 | 10.37                        | 10.44                    | 10.36                         | 10.30                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 10.39                 | 10.35                        | 10.37                    | 10.27                         | 10.22                  | 10.5                | 3        |
| 20              | 64QAM      | 100     | 0         | 10.39                 | 10.35                        | 10.39                    | 10.32                         | 10.17                  |                     |          |
| Channel         |            |         |           | 39725                 | 40173                        | 40620                    | 41068                         | 41515                  | 13.5                | 0        |
| Frequency (MHz) |            |         |           | 2503.5                | 2548.3                       | 2593                     | 2637.8                        | 2682.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 13.24                 | 13.19                        | 13.29                    | 13.21                         | 13.10                  |                     |          |
| 15              | QPSK       | 1       | 37        | 13.14                 | 13.16                        | 13.13                    | 13.06                         | 13.00                  | 12.5                | 1        |
| 15              | QPSK       | 1       | 74        | 13.17                 | 13.08                        | 13.15                    | 13.08                         | 13.08                  |                     |          |
| 15              | QPSK       | 36      | 0         | 12.28                 | 12.20                        | 12.27                    | 12.34                         | 12.24                  |                     |          |
| 15              | QPSK       | 36      | 20        | 12.26                 | 12.15                        | 12.25                    | 12.33                         | 12.24                  | 12.5                | 1        |
| 15              | QPSK       | 36      | 39        | 12.16                 | 12.17                        | 12.16                    | 12.24                         | 12.21                  |                     |          |
| 15              | QPSK       | 75      | 0         | 12.37                 | 12.26                        | 12.34                    | 12.23                         | 12.14                  |                     |          |
| 15              | 16QAM      | 1       | 0         | 12.30                 | 12.31                        | 12.40                    | 12.28                         | 12.22                  | 12.5                | 1        |
| 15              | 16QAM      | 1       | 37        | 12.27                 | 12.24                        | 12.24                    | 12.17                         | 12.02                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 12.30                 | 12.17                        | 12.28                    | 12.16                         | 12.18                  |                     |          |
| 15              | 16QAM      | 36      | 0         | 11.34                 | 11.26                        | 11.32                    | 11.38                         | 11.16                  | 11.5                | 2        |
| 15              | 16QAM      | 36      | 20        | 11.34                 | 11.38                        | 11.38                    | 11.30                         | 11.17                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 11.38                 | 11.34                        | 11.38                    | 11.26                         | 11.17                  |                     |          |
| 15              | 16QAM      | 75      | 0         | 11.30                 | 11.24                        | 11.37                    | 11.30                         | 11.11                  | 11.5                | 2        |
| 15              | 64QAM      | 1       | 0         | 10.79                 | 10.74                        | 10.84                    | 10.73                         | 10.72                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 10.69                 | 10.75                        | 10.76                    | 10.96                         | 10.81                  |                     |          |
| 15              | 64QAM      | 1       | 74        | 10.74                 | 10.73                        | 10.80                    | 11.12                         | 10.76                  | 10.5                | 3        |
| 15              | 64QAM      | 36      | 0         | 10.35                 | 10.31                        | 10.35                    | 10.33                         | 10.09                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 10.35                 | 10.32                        | 10.38                    | 10.31                         | 10.25                  |                     |          |
| 15              | 64QAM      | 36      | 39        | 10.38                 | 10.34                        | 10.35                    | 10.21                         | 10.20                  | 10.5                | 3        |
| 15              | 64QAM      | 75      | 0         | 10.34                 | 10.34                        | 10.32                    | 10.29                         | 10.13                  |                     |          |
| Channel         |            |         |           | 39700                 | 40160                        | 40620                    | 41080                         | 41540                  | 13.5                | 0        |
| Frequency (MHz) |            |         |           | 2501                  | 2547                         | 2593                     | 2639                          | 2685                   |                     |          |
| 10              | QPSK       | 1       | 0         | 13.22                 | 13.23                        | 13.27                    | 13.22                         | 13.09                  |                     |          |
| 10              | QPSK       | 1       | 25        | 13.16                 | 13.16                        | 13.18                    | 13.04                         | 12.97                  | 12.5                | 1        |
| 10              | QPSK       | 1       | 49        | 13.18                 | 13.10                        | 13.17                    | 13.10                         | 13.09                  |                     |          |
| 10              | QPSK       | 25      | 0         | 12.23                 | 12.20                        | 12.34                    | 12.27                         | 12.20                  |                     |          |
| 10              | QPSK       | 25      | 12        | 12.18                 | 12.16                        | 12.28                    | 12.29                         | 12.20                  | 12.5                | 1        |



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|                 |       |    |    |        |        |       |         |        |                        |             |
|-----------------|-------|----|----|--------|--------|-------|---------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 12.20  | 12.16  | 12.16 | 12.25   | 12.11  |                        |             |
| 10              | QPSK  | 50 | 0  | 12.27  | 12.22  | 12.39 | 12.29   | 12.09  |                        |             |
| 10              | 16QAM | 1  | 0  | 12.31  | 12.31  | 12.37 | 12.29   | 12.16  |                        |             |
| 10              | 16QAM | 1  | 25 | 12.21  | 12.18  | 12.20 | 12.13   | 12.10  | 12.5                   | 1           |
| 10              | 16QAM | 1  | 49 | 12.24  | 12.21  | 12.27 | 12.17   | 12.16  |                        |             |
| 10              | 16QAM | 25 | 0  | 11.28  | 11.34  | 11.33 | 11.35   | 11.16  |                        |             |
| 10              | 16QAM | 25 | 12 | 11.33  | 11.39  | 11.31 | 11.26   | 11.15  | 11.5                   | 2           |
| 10              | 16QAM | 25 | 25 | 11.39  | 11.38  | 11.37 | 11.23   | 11.16  |                        |             |
| 10              | 16QAM | 50 | 0  | 11.37  | 11.34  | 11.37 | 11.28   | 11.15  |                        |             |
| 10              | 64QAM | 1  | 0  | 10.76  | 10.76  | 10.78 | 10.75   | 10.67  | 11.5                   | 2           |
| 10              | 64QAM | 1  | 25 | 10.79  | 10.70  | 10.75 | 10.87   | 10.78  |                        |             |
| 10              | 64QAM | 1  | 49 | 10.73  | 10.71  | 10.82 | 11.12   | 10.79  |                        |             |
| 10              | 64QAM | 25 | 0  | 10.28  | 10.31  | 10.29 | 10.31   | 10.18  | 10.5                   | 3           |
| 10              | 64QAM | 25 | 12 | 10.37  | 10.29  | 10.40 | 10.35   | 10.24  |                        |             |
| 10              | 64QAM | 25 | 25 | 10.34  | 10.26  | 10.28 | 10.21   | 10.17  |                        |             |
| 10              | 64QAM | 50 | 0  | 10.32  | 10.34  | 10.32 | 10.32   | 10.11  |                        |             |
| Channel         |       |    |    | 39675  | 40148  | 40620 | 41093   | 41565  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2498.5 | 2545.8 | 2593  | 2640.30 | 2687.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 13.25  | 13.15  | 13.25 | 13.28   | 13.07  | 13.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 13.20  | 13.16  | 13.19 | 13.03   | 12.93  |                        |             |
| 5               | QPSK  | 1  | 24 | 13.21  | 13.13  | 13.19 | 13.09   | 13.02  |                        |             |
| 5               | QPSK  | 12 | 0  | 12.29  | 12.23  | 12.31 | 12.31   | 12.22  | 12.5                   | 1           |
| 5               | QPSK  | 12 | 7  | 12.17  | 12.23  | 12.20 | 12.30   | 12.25  |                        |             |
| 5               | QPSK  | 12 | 13 | 12.15  | 12.18  | 12.21 | 12.21   | 12.19  |                        |             |
| 5               | QPSK  | 25 | 0  | 12.37  | 12.20  | 12.38 | 12.23   | 12.17  | 12.5                   | 1           |
| 5               | 16QAM | 1  | 0  | 12.30  | 12.27  | 12.38 | 12.34   | 12.22  |                        |             |
| 5               | 16QAM | 1  | 12 | 12.27  | 12.17  | 12.28 | 12.13   | 12.00  |                        |             |
| 5               | 16QAM | 1  | 24 | 12.22  | 12.13  | 12.34 | 12.17   | 12.12  | 11.5                   | 2           |
| 5               | 16QAM | 12 | 0  | 11.31  | 11.27  | 11.27 | 11.28   | 11.20  |                        |             |
| 5               | 16QAM | 12 | 7  | 11.33  | 11.38  | 11.40 | 11.26   | 11.24  |                        |             |
| 5               | 16QAM | 12 | 13 | 11.33  | 11.29  | 11.36 | 11.25   | 11.19  | 11.5                   | 2           |
| 5               | 16QAM | 25 | 0  | 11.29  | 11.34  | 11.33 | 11.32   | 11.11  |                        |             |
| 5               | 64QAM | 1  | 0  | 10.80  | 10.71  | 10.81 | 10.74   | 10.64  |                        |             |
| 5               | 64QAM | 1  | 12 | 10.77  | 10.76  | 10.68 | 10.93   | 10.78  | 11.5                   | 2           |
| 5               | 64QAM | 1  | 24 | 10.72  | 10.72  | 10.81 | 11.13   | 10.82  |                        |             |
| 5               | 64QAM | 12 | 0  | 10.35  | 10.25  | 10.34 | 10.38   | 10.16  |                        |             |
| 5               | 64QAM | 12 | 7  | 10.31  | 10.36  | 10.38 | 10.34   | 10.23  | 10.5                   | 3           |
| 5               | 64QAM | 12 | 13 | 10.31  | 10.35  | 10.30 | 10.24   | 10.15  |                        |             |
| 5               | 64QAM | 25 | 0  | 10.36  | 10.26  | 10.33 | 10.30   | 10.07  |                        |             |



## &lt;LTE Band 41 HPUE&gt;

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|--------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 39750                 | 40185                        | 40620                    | 41055                         | 41490                  | 16.5                | 0        |
| Frequency (MHz) |            |         |           | 2506                  | 2549.5                       | 2593                     | 2636.5                        | 2680                   |                     |          |
| 20              | QPSK       | 1       | 0         | 16.05                 | 15.99                        | 16.12                    | 16.11                         | 16.07                  |                     |          |
| 20              | QPSK       | 1       | 49        | 16.01                 | 15.95                        | 16.01                    | 15.92                         | 15.89                  | 16.5                | 0        |
| 20              | QPSK       | 1       | 99        | 16.03                 | 15.92                        | 16.02                    | 15.91                         | 15.95                  |                     |          |
| 20              | QPSK       | 50      | 0         | 15.30                 | 15.27                        | 15.34                    | 15.29                         | 15.15                  |                     |          |
| 20              | QPSK       | 50      | 24        | 15.29                 | 15.17                        | 15.21                    | 15.24                         | 15.08                  | 15.5                | 1        |
| 20              | QPSK       | 50      | 50        | 15.26                 | 15.25                        | 15.23                    | 15.15                         | 15.09                  |                     |          |
| 20              | QPSK       | 100     | 0         | 15.32                 | 15.26                        | 15.35                    | 15.23                         | 15.13                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 15.50                 | 15.41                        | 15.44                    | 15.50                         | 15.30                  | 15.5                | 1        |
| 20              | 16QAM      | 1       | 49        | 15.43                 | 15.38                        | 15.36                    | 15.34                         | 15.25                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 15.41                 | 15.32                        | 15.37                    | 15.33                         | 15.22                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 14.42                 | 14.34                        | 14.32                    | 14.30                         | 14.14                  | 14.5                | 2        |
| 20              | 16QAM      | 50      | 24        | 14.36                 | 14.33                        | 14.33                    | 14.24                         | 14.15                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 14.36                 | 14.29                        | 14.32                    | 14.20                         | 14.13                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 14.36                 | 14.29                        | 14.35                    | 14.23                         | 14.15                  | 14.5                | 2        |
| 20              | 64QAM      | 1       | 0         | 14.45                 | 14.21                        | 14.47                    | 14.18                         | 14.20                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 14.45                 | 14.45                        | 14.50                    | 14.38                         | 14.14                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 14.40                 | 14.31                        | 14.33                    | 14.09                         | 14.27                  | 13.5                | 3        |
| 20              | 64QAM      | 50      | 0         | 13.45                 | 13.26                        | 13.17                    | 13.36                         | 13.01                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 13.38                 | 13.20                        | 13.30                    | 13.25                         | 13.05                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 13.48                 | 13.27                        | 13.41                    | 13.40                         | 13.24                  | 13.5                | 3        |
| 20              | 64QAM      | 100     | 0         | 13.48                 | 13.33                        | 13.50                    | 13.26                         | 13.05                  |                     |          |
| Channel         |            |         |           | 39725                 | 40173                        | 40620                    | 41068                         | 41515                  | 16.5                | 0        |
| Frequency (MHz) |            |         |           | 2503.5                | 2548.3                       | 2593                     | 2637.8                        | 2682.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 16.01                 | 15.95                        | 16.11                    | 16.02                         | 16.05                  |                     |          |
| 15              | QPSK       | 1       | 37        | 15.97                 | 15.93                        | 15.98                    | 15.83                         | 15.88                  | 16.5                | 0        |
| 15              | QPSK       | 1       | 74        | 16.00                 | 15.89                        | 15.94                    | 15.86                         | 15.93                  |                     |          |
| 15              | QPSK       | 36      | 0         | 15.23                 | 15.23                        | 15.24                    | 15.21                         | 15.13                  |                     |          |
| 15              | QPSK       | 36      | 20        | 15.25                 | 15.09                        | 15.15                    | 15.24                         | 15.02                  | 15.5                | 1        |
| 15              | QPSK       | 36      | 39        | 15.25                 | 15.24                        | 15.23                    | 15.07                         | 15.02                  |                     |          |
| 15              | QPSK       | 75      | 0         | 15.24                 | 15.24                        | 15.25                    | 15.23                         | 15.11                  |                     |          |
| 15              | 16QAM      | 1       | 0         | 15.45                 | 15.33                        | 15.34                    | 15.41                         | 15.27                  | 15.5                | 1        |
| 15              | 16QAM      | 1       | 37        | 15.33                 | 15.37                        | 15.35                    | 15.24                         | 15.16                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 15.37                 | 15.22                        | 15.37                    | 15.27                         | 15.20                  |                     |          |
| 15              | 16QAM      | 36      | 0         | 14.33                 | 14.26                        | 14.26                    | 14.25                         | 14.13                  | 14.5                | 2        |
| 15              | 16QAM      | 36      | 20        | 14.27                 | 14.27                        | 14.29                    | 14.24                         | 14.10                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 14.36                 | 14.26                        | 14.30                    | 14.13                         | 14.06                  |                     |          |
| 15              | 16QAM      | 75      | 0         | 14.36                 | 14.20                        | 14.28                    | 14.20                         | 14.11                  | 14.5                | 2        |
| 15              | 64QAM      | 1       | 0         | 14.39                 | 14.16                        | 14.43                    | 14.17                         | 14.17                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 14.41                 | 14.36                        | 14.49                    | 14.28                         | 14.08                  |                     |          |
| 15              | 64QAM      | 1       | 74        | 14.37                 | 14.25                        | 14.27                    | 14.00                         | 14.27                  | 13.5                | 3        |
| 15              | 64QAM      | 36      | 0         | 13.40                 | 13.20                        | 13.07                    | 13.30                         | 12.93                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 13.29                 | 13.11                        | 13.24                    | 13.16                         | 12.97                  |                     |          |
| 15              | 64QAM      | 36      | 39        | 13.42                 | 13.19                        | 13.41                    | 13.40                         | 13.15                  | 13.5                | 3        |
| 15              | 64QAM      | 75      | 0         | 13.40                 | 13.32                        | 13.43                    | 13.18                         | 12.99                  |                     |          |
| Channel         |            |         |           | 39700                 | 40160                        | 40620                    | 41080                         | 41540                  | 16.5                | 0        |
| Frequency (MHz) |            |         |           | 2501                  | 2547                         | 2593                     | 2639                          | 2685                   |                     |          |
| 10              | QPSK       | 1       | 0         | 16.02                 | 15.94                        | 16.04                    | 16.10                         | 15.99                  |                     |          |
| 10              | QPSK       | 1       | 25        | 15.94                 | 15.86                        | 15.92                    | 15.87                         | 15.87                  | 16.5                | 0        |
| 10              | QPSK       | 1       | 49        | 15.99                 | 15.86                        | 16.01                    | 15.87                         | 15.85                  |                     |          |
| 10              | QPSK       | 25      | 0         | 15.26                 | 15.22                        | 15.25                    | 15.20                         | 15.07                  |                     |          |
| 10              | QPSK       | 25      | 12        | 15.26                 | 15.12                        | 15.18                    | 15.24                         | 14.99                  | 15.5                | 1        |



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|                 |       |    |    |        |        |       |         |        |                        |             |
|-----------------|-------|----|----|--------|--------|-------|---------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 15.18  | 15.23  | 15.22 | 15.11   | 15.03  |                        |             |
| 10              | QPSK  | 50 | 0  | 15.31  | 15.23  | 15.29 | 15.15   | 15.11  |                        |             |
| 10              | 16QAM | 1  | 0  | 15.43  | 15.39  | 15.44 | 15.43   | 15.26  |                        |             |
| 10              | 16QAM | 1  | 25 | 15.42  | 15.35  | 15.34 | 15.30   | 15.19  | 15.5                   | 1           |
| 10              | 16QAM | 1  | 49 | 15.32  | 15.32  | 15.33 | 15.26   | 15.16  |                        |             |
| 10              | 16QAM | 25 | 0  | 14.38  | 14.25  | 14.24 | 14.26   | 14.12  |                        |             |
| 10              | 16QAM | 25 | 12 | 14.30  | 14.27  | 14.33 | 14.14   | 14.05  | 14.5                   | 2           |
| 10              | 16QAM | 25 | 25 | 14.30  | 14.20  | 14.29 | 14.20   | 14.11  |                        |             |
| 10              | 16QAM | 50 | 0  | 14.29  | 14.20  | 14.32 | 14.21   | 14.15  |                        |             |
| 10              | 64QAM | 1  | 0  | 14.38  | 14.15  | 14.45 | 14.08   | 14.19  | 14.5                   | 2           |
| 10              | 64QAM | 1  | 25 | 14.36  | 14.37  | 14.41 | 14.30   | 14.05  |                        |             |
| 10              | 64QAM | 1  | 49 | 14.33  | 14.21  | 14.28 | 14.06   | 14.26  |                        |             |
| 10              | 64QAM | 25 | 0  | 13.43  | 13.19  | 13.12 | 13.27   | 12.92  | 13.5                   | 3           |
| 10              | 64QAM | 25 | 12 | 13.37  | 13.13  | 13.21 | 13.22   | 13.05  |                        |             |
| 10              | 64QAM | 25 | 25 | 13.42  | 13.19  | 13.36 | 13.39   | 13.18  |                        |             |
| 10              | 64QAM | 50 | 0  | 13.48  | 13.32  | 13.46 | 13.26   | 12.98  |                        |             |
| Channel         |       |    |    | 39675  | 40148  | 40620 | 41093   | 41565  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2498.5 | 2545.8 | 2593  | 2640.30 | 2687.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 16.02  | 15.97  | 16.04 | 16.11   | 16.04  | 16.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 15.97  | 15.89  | 15.93 | 15.86   | 15.80  |                        |             |
| 5               | QPSK  | 1  | 24 | 16.00  | 15.87  | 15.99 | 15.91   | 15.86  |                        |             |
| 5               | QPSK  | 12 | 0  | 15.30  | 15.19  | 15.25 | 15.28   | 15.05  | 15.5                   | 1           |
| 5               | QPSK  | 12 | 7  | 15.29  | 15.14  | 15.21 | 15.23   | 15.06  |                        |             |
| 5               | QPSK  | 12 | 13 | 15.24  | 15.19  | 15.16 | 15.12   | 15.05  |                        |             |
| 5               | QPSK  | 25 | 0  | 15.26  | 15.26  | 15.28 | 15.13   | 15.05  | 15.5                   | 1           |
| 5               | 16QAM | 1  | 0  | 15.49  | 15.32  | 15.39 | 15.45   | 15.28  |                        |             |
| 5               | 16QAM | 1  | 12 | 15.42  | 15.29  | 15.33 | 15.27   | 15.22  |                        |             |
| 5               | 16QAM | 1  | 24 | 15.31  | 15.25  | 15.33 | 15.28   | 15.21  | 14.5                   | 2           |
| 5               | 16QAM | 12 | 0  | 14.41  | 14.28  | 14.30 | 14.23   | 14.12  |                        |             |
| 5               | 16QAM | 12 | 7  | 14.28  | 14.25  | 14.25 | 14.15   | 14.07  |                        |             |
| 5               | 16QAM | 12 | 13 | 14.30  | 14.29  | 14.31 | 14.14   | 14.03  | 14.5                   | 2           |
| 5               | 16QAM | 25 | 0  | 14.36  | 14.25  | 14.29 | 14.20   | 14.15  |                        |             |
| 5               | 64QAM | 1  | 0  | 14.37  | 14.20  | 14.39 | 14.13   | 14.12  |                        |             |
| 5               | 64QAM | 1  | 12 | 14.35  | 14.40  | 14.45 | 14.31   | 14.14  | 14.5                   | 2           |
| 5               | 64QAM | 1  | 24 | 14.40  | 14.21  | 14.29 | 14.01   | 14.26  |                        |             |
| 5               | 64QAM | 12 | 0  | 13.43  | 13.20  | 13.10 | 13.33   | 12.92  |                        |             |
| 5               | 64QAM | 12 | 7  | 13.28  | 13.15  | 13.25 | 13.17   | 12.97  | 13.5                   | 3           |
| 5               | 64QAM | 12 | 13 | 13.44  | 13.23  | 13.37 | 13.36   | 13.21  |                        |             |
| 5               | 64QAM | 25 | 0  | 13.46  | 13.31  | 13.47 | 13.24   | 13.03  |                        |             |

**<LTE Band 48 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 55340                 | 55830                        | 56150                         | 56640                  | 13                  | 0        |
| Frequency (MHz) |            |         |           | 3560                  | 3609                         | 3641                          | 3690                   |                     |          |
| 20              | QPSK       | 1       | 0         | 12.64                 | 12.65                        | 12.40                         | 12.38                  | 13                  | 0        |
| 20              | QPSK       | 1       | 49        | 12.56                 | 12.54                        | 12.31                         | 12.35                  |                     |          |
| 20              | QPSK       | 1       | 99        | 12.57                 | 12.61                        | 12.35                         | 12.37                  |                     |          |
| 20              | QPSK       | 50      | 0         | 11.69                 | 11.71                        | 11.47                         | 11.47                  | 12                  | 1        |
| 20              | QPSK       | 50      | 24        | 11.65                 | 11.70                        | 11.45                         | 11.39                  |                     |          |
| 20              | QPSK       | 50      | 50        | 11.68                 | 11.59                        | 11.35                         | 11.44                  |                     |          |
| 20              | QPSK       | 100     | 0         | 11.64                 | 11.70                        | 11.45                         | 11.50                  | 12                  | 1        |
| 20              | 16QAM      | 1       | 0         | 11.65                 | 11.74                        | 11.52                         | 11.50                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 11.63                 | 11.63                        | 11.39                         | 11.43                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 11.80                 | 11.67                        | 11.49                         | 11.64                  | 11                  | 2        |
| 20              | 16QAM      | 50      | 0         | 10.72                 | 10.76                        | 10.50                         | 10.53                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 10.74                 | 10.76                        | 10.54                         | 10.53                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 10.72                 | 10.63                        | 10.40                         | 10.48                  | 11                  | 2        |
| 20              | 16QAM      | 100     | 0         | 10.65                 | 10.72                        | 10.51                         | 10.54                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 10.84                 | 10.77                        | 10.68                         | 10.49                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 10.81                 | 10.65                        | 10.47                         | 10.53                  | 11                  | 2        |
| 20              | 64QAM      | 1       | 99        | 10.68                 | 10.44                        | 10.45                         | 10.36                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 9.63                  | 9.76                         | 9.54                          | 9.72                   |                     |          |
| 20              | 64QAM      | 50      | 24        | 9.58                  | 9.71                         | 9.41                          | 9.37                   | 10                  | 3        |
| 20              | 64QAM      | 50      | 50        | 9.91                  | 9.66                         | 9.31                          | 9.62                   |                     |          |
| 20              | 64QAM      | 100     | 0         | 9.72                  | 9.89                         | 9.55                          | 9.53                   |                     |          |
| Channel         |            |         |           | 55315                 | 55820                        | 56160                         | 56665                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 3557.5                | 3608                         | 3642                          | 3692.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 12.61                 | 12.58                        | 12.37                         | 12.28                  | 13                  | 0        |
| 15              | QPSK       | 1       | 37        | 12.49                 | 12.53                        | 12.24                         | 12.30                  |                     |          |
| 15              | QPSK       | 1       | 74        | 12.57                 | 12.51                        | 12.34                         | 12.35                  |                     |          |
| 15              | QPSK       | 36      | 0         | 11.69                 | 11.67                        | 11.43                         | 11.41                  | 12                  | 1        |
| 15              | QPSK       | 36      | 20        | 11.63                 | 11.63                        | 11.37                         | 11.29                  |                     |          |
| 15              | QPSK       | 36      | 39        | 11.64                 | 11.54                        | 11.29                         | 11.43                  |                     |          |
| 15              | QPSK       | 75      | 0         | 11.61                 | 11.66                        | 11.37                         | 11.49                  | 12                  | 1        |
| 15              | 16QAM      | 1       | 0         | 11.57                 | 11.70                        | 11.52                         | 11.46                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 11.61                 | 11.53                        | 11.36                         | 11.39                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 11.77                 | 11.57                        | 11.44                         | 11.54                  | 11                  | 2        |
| 15              | 16QAM      | 36      | 0         | 10.62                 | 10.69                        | 10.45                         | 10.45                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 10.72                 | 10.71                        | 10.50                         | 10.50                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 10.71                 | 10.61                        | 10.40                         | 10.44                  | 11                  | 2        |
| 15              | 16QAM      | 75      | 0         | 10.65                 | 10.63                        | 10.44                         | 10.48                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 10.76                 | 10.70                        | 10.63                         | 10.44                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 10.81                 | 10.57                        | 10.45                         | 10.45                  | 11                  | 2        |
| 15              | 64QAM      | 1       | 74        | 10.63                 | 10.42                        | 10.36                         | 10.31                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 9.54                  | 9.68                         | 9.50                          | 9.67                   |                     |          |
| 15              | 64QAM      | 36      | 20        | 9.57                  | 9.68                         | 9.34                          | 9.33                   | 10                  | 3        |
| 15              | 64QAM      | 36      | 39        | 9.83                  | 9.63                         | 9.30                          | 9.56                   |                     |          |
| 15              | 64QAM      | 75      | 0         | 9.65                  | 9.83                         | 9.55                          | 9.47                   |                     |          |
| Channel         |            |         |           | 55290                 | 55815                        | 56165                         | 56690                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 3555                  | 3607.5                       | 3642.5                        | 3695                   |                     |          |
| 10              | QPSK       | 1       | 0         | 12.61                 | 12.64                        | 12.38                         | 12.34                  | 13                  | 0        |
| 10              | QPSK       | 1       | 25        | 12.48                 | 12.54                        | 12.24                         | 12.30                  |                     |          |
| 10              | QPSK       | 1       | 49        | 12.57                 | 12.52                        | 12.28                         | 12.35                  |                     |          |
| 10              | QPSK       | 25      | 0         | 11.60                 | 11.62                        | 11.42                         | 11.41                  | 12                  | 1        |
| 10              | QPSK       | 25      | 12        | 11.63                 | 11.63                        | 11.39                         | 11.34                  |                     |          |



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|                 |       |    |    |        |       |       |        |                        |             |
|-----------------|-------|----|----|--------|-------|-------|--------|------------------------|-------------|
| 10              | QPSK  | 25 | 25 | 11.68  | 11.55 | 11.32 | 11.36  |                        |             |
| 10              | QPSK  | 50 | 0  | 11.63  | 11.65 | 11.38 | 11.47  |                        |             |
| 10              | 16QAM | 1  | 0  | 11.55  | 11.72 | 11.45 | 11.47  |                        |             |
| 10              | 16QAM | 1  | 25 | 11.55  | 11.54 | 11.31 | 11.37  | 12                     | 1           |
| 10              | 16QAM | 1  | 49 | 11.79  | 11.67 | 11.44 | 11.62  |                        |             |
| 10              | 16QAM | 25 | 0  | 10.68  | 10.72 | 10.47 | 10.46  |                        |             |
| 10              | 16QAM | 25 | 12 | 10.72  | 10.72 | 10.48 | 10.52  | 11                     | 2           |
| 10              | 16QAM | 25 | 25 | 10.65  | 10.55 | 10.39 | 10.43  |                        |             |
| 10              | 16QAM | 50 | 0  | 10.56  | 10.66 | 10.51 | 10.44  |                        |             |
| 10              | 64QAM | 1  | 0  | 10.77  | 10.69 | 10.61 | 10.49  | 11                     | 2           |
| 10              | 64QAM | 1  | 25 | 10.76  | 10.63 | 10.47 | 10.46  |                        |             |
| 10              | 64QAM | 1  | 49 | 10.66  | 10.44 | 10.38 | 10.35  |                        |             |
| 10              | 64QAM | 25 | 0  | 9.57   | 9.75  | 9.49  | 9.65   | 10                     | 3           |
| 10              | 64QAM | 25 | 12 | 9.58   | 9.62  | 9.32  | 9.37   |                        |             |
| 10              | 64QAM | 25 | 25 | 9.84   | 9.59  | 9.25  | 9.59   |                        |             |
| 10              | 64QAM | 50 | 0  | 9.71   | 9.88  | 9.45  | 9.45   |                        |             |
| Channel         |       |    |    | 55265  | 55810 | 56170 | 56715  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 3552.5 | 3607  | 3643  | 3697.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 12.58  | 12.61 | 12.32 | 12.37  | 13                     | 0           |
| 5               | QPSK  | 1  | 12 | 12.53  | 12.44 | 12.28 | 12.26  |                        |             |
| 5               | QPSK  | 1  | 24 | 12.57  | 12.60 | 12.34 | 12.32  |                        |             |
| 5               | QPSK  | 12 | 0  | 11.64  | 11.61 | 11.47 | 11.45  | 12                     | 1           |
| 5               | QPSK  | 12 | 7  | 11.56  | 11.63 | 11.37 | 11.39  |                        |             |
| 5               | QPSK  | 12 | 13 | 11.65  | 11.58 | 11.34 | 11.37  |                        |             |
| 5               | QPSK  | 25 | 0  | 11.57  | 11.64 | 11.44 | 11.41  |                        |             |
| 5               | 16QAM | 1  | 0  | 11.56  | 11.74 | 11.52 | 11.50  | 12                     | 1           |
| 5               | 16QAM | 1  | 12 | 11.57  | 11.56 | 11.29 | 11.42  |                        |             |
| 5               | 16QAM | 1  | 24 | 11.76  | 11.57 | 11.41 | 11.60  |                        |             |
| 5               | 16QAM | 12 | 0  | 10.71  | 10.68 | 10.40 | 10.45  | 11                     | 2           |
| 5               | 16QAM | 12 | 7  | 10.69  | 10.75 | 10.47 | 10.44  |                        |             |
| 5               | 16QAM | 12 | 13 | 10.65  | 10.53 | 10.35 | 10.48  |                        |             |
| 5               | 16QAM | 25 | 0  | 10.59  | 10.67 | 10.47 | 10.45  |                        |             |
| 5               | 64QAM | 1  | 0  | 10.77  | 10.67 | 10.62 | 10.40  | 11                     | 2           |
| 5               | 64QAM | 1  | 12 | 10.78  | 10.55 | 10.39 | 10.48  |                        |             |
| 5               | 64QAM | 1  | 24 | 10.62  | 10.35 | 10.40 | 10.31  |                        |             |
| 5               | 64QAM | 12 | 0  | 9.59   | 9.68  | 9.44  | 9.62   | 10                     | 3           |
| 5               | 64QAM | 12 | 7  | 9.48   | 9.62  | 9.31  | 9.33   |                        |             |
| 5               | 64QAM | 12 | 13 | 9.87   | 9.58  | 9.21  | 9.62   |                        |             |
| 5               | 64QAM | 25 | 0  | 9.62   | 9.82  | 9.45  | 9.50   |                        |             |

**<LTE Carrier Aggregation combinations>**
**General Note:**

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.
3. All permutations exist. No restrictions on Pcell & SCell combinations. Only LTE Band 29A is limited to SCell.

| 2CC Downlink Carrier Aggregation |             |                      | 3CC Downlink Carrier Aggregation |             |                      |
|----------------------------------|-------------|----------------------|----------------------------------|-------------|----------------------|
| Number                           | Combination | Covered by           | Number                           | Combination | Covered by           |
|                                  |             | Measurement Superset |                                  |             | Measurement Superset |
| 1                                | 12A-12A     | 3CC-87               | 69                               | 12A-30A-66A | 4CC-191              |
| 2                                | 12A-25A     |                      | 70                               | 12A-66A-66A | 4CC-192              |
| 3                                | 12A-30A     | 3CC-69               | 71                               | 12A-66C     | 4CC-210              |
| 4                                | 12A-66A     | 3CC-70               | 72                               | 12B-66A     | 4CC-192              |
| 5                                | 12B         | 3CC-72               | 73                               | 13A-48A-48A | 4CC-194              |
| 6                                | 13A-48A     | 3CC-73               | 74                               | 13A-48A-66A | 4CC-196              |
| 7                                | 13A-66A     | 3CC-76               | 75                               | 13A-48C     | 4CC-197              |
| 8                                | 14A-30A     | 3CC-79               | 76                               | 13A-66A-66A | 4CC-199              |
| 9                                | 14A-66A     | 3CC-80               | 77                               | 13A-66B     | 4CC-195              |
| 10                               | 25A-25A     | 3CC-81               | 78                               | 13A-66C     | 4CC-196              |
| 11                               | 25A-26A     | 3CC-82               | 79                               | 14A-30A-66A | 4CC-203              |
| 12                               | 25A-41A     | 3CC-83               | 80                               | 14A-66A-66A | 4CC-204              |
| 13                               | 26A-41A     | 3CC-86               | 81                               | 25A-25A-25A |                      |
| 14                               | 2A-12A      | 3CC-87               | 82                               | 25A-25A-26A |                      |
| 15                               | 2A-13A      | 3CC-91               | 83                               | 25A-25A-41A |                      |
| 16                               | 2A-14A      | 3CC-93               | 84                               | 25A-26A-41A |                      |
| 17                               | 2A-2A       | 3CC-95               | 85                               | 25A-41C     | 4CC-205              |
| 18                               | 2A-30A      | 3CC-98               | 86                               | 26A-41C     | 4CC-206              |
| 19                               | 2A-48A      | 3CC-105              | 87                               | 2A-12A-12A  | 4CC-219              |
| 20                               | 2A-4A       | 3CC-108              | 88                               | 2A-12A-30A  | 4CC-220              |
| 21                               | 2A-5A       | 3CC-115              | 89                               | 2A-12A-66A  | 4CC-210              |
| 22                               | 2A-66A      | 3CC-120              | 90                               | 2A-12B      | 4CC-222              |
| 23                               | 2A-71A      | 3CC-102              | 91                               | 2A-13A-48A  | 4CC-211              |
| 24                               | 2A-7A       | 3CC-126              | 92                               | 2A-13A-66A  | 4CC-214              |
| 25                               | 2C          | 3CC-128              | 93                               | 2A-14A-30A  | 4CC-217              |
| 26                               | 30A-66A     | 3CC-132              | 94                               | 2A-14A-66A  | 4CC-218              |
| 27                               | 38A-40A     | 3CC-133              | 95                               | 2A-2A-12A   | 4CC-219              |
| 28                               | 38C         |                      | 96                               | 2A-2A-13A   | 4CC-223              |
| 29                               | 41A-41A     | 3CC-134              | 97                               | 2A-2A-14A   | 4CC-224              |
| 30                               | 41A-42A     | 3CC-137              | 98                               | 2A-2A-30A   | 4CC-226              |
| 31                               | 41A-48A     |                      | 99                               | 2A-2A-4A    | 4CC-228              |
| 32                               | 41C         | 5CC-380              | 100                              | 2A-2A-5A    | 4CC-231              |
| 33                               | 42A-42A     | 3CC-136              | 101                              | 2A-2A-66A   | 4CC-234              |
| 34                               | 42C         | 5CC-379              | 102                              | 2A-2A-71A   | 4CC-235              |
| 35                               | 48A-48A     | 3CC-142              | 103                              | 2A-2A-7A    | 4CC-238              |
| 36                               | 48A-66A     | 3CC-142              | 104                              | 2A-30A-66A  | 4CC-226              |
| 37                               | 48A-71A     | 3CC-149              | 105                              | 2A-48A-48A  | 4CC-240              |
| 38                               | 48C         | 3CC-107              | 106                              | 2A-48A-66A  | 4CC-240              |
| 39                               | 4A-12A      | 3CC-108              | 107                              | 2A-48C      | 4CC-242              |
| 40                               | 4A-13A      | 3CC-109              | 108                              | 2A-4A-12A   | 4CC-244              |
| 41                               | 4A-30A      | 3CC-110              | 109                              | 2A-4A-13A   |                      |
| 42                               | 4A-48A      |                      | 110                              | 2A-4A-30A   | 4CC-249              |
| 43                               | 4A-4A       | 3CC-111              | 111                              | 2A-4A-4A    | 4CC-247              |
| 44                               | 4A-5A       | 3CC-112              | 112                              | 2A-4A-5A    | 4CC-249              |
| 45                               | 4A-71A      | 3CC-113              | 113                              | 2A-4A-71A   | 4CC-230              |

|    |         |         |     |             |         |
|----|---------|---------|-----|-------------|---------|
| 46 | 4A-7A   | 3CC-114 | 114 | 2A-4A-7A    | 4CC-251 |
| 47 | 5A-25A  |         | 115 | 2A-5A-30A   | 4CC-254 |
| 48 | 5A-30A  | 3CC-115 | 116 | 2A-5A-48A   | 4CC-255 |
| 49 | 5A-38A  |         | 117 | 2A-5A-66A   | 4CC-256 |
| 50 | 5A-40A  | 3CC-166 | 118 | 2A-5A-7A    |         |
| 51 | 5A-41A  |         | 119 | 2A-5B       | 4CC-233 |
| 52 | 5A-48A  | 3CC-116 | 120 | 2A-66A-66A  | 4CC-234 |
| 53 | 5A-5A   | 3CC-169 | 121 | 2A-66A-71A  | 4CC-235 |
| 54 | 5A-66A  | 3CC-170 | 122 | 2A-66B      | 4CC-236 |
| 55 | 5A-7A   | 3CC-173 | 123 | 2A-66C      | 4CC-237 |
| 56 | 5B      | 3CC-119 | 124 | 2A-7A-12A   | 4CC-251 |
| 57 | 66A-66A | 3CC-132 | 125 | 2A-7A-66A   | 4CC-238 |
| 58 | 66A-71A | 3CC-121 | 126 | 2A-7A-7A    | 4CC-252 |
| 59 | 66B     | 3CC-145 | 127 | 2A-7C       | 4CC-253 |
| 60 | 66C     | 3CC-146 | 128 | 2C-12A      | 4CC-272 |
| 61 | 7A-12A  | 3CC-124 | 129 | 2C-30A      | 4CC-261 |
| 62 | 7A-42A  |         | 130 | 2C-5A       | 4CC-273 |
| 63 | 7A-66A  | 3CC-125 | 131 | 2C-66A      | 4CC-274 |
| 64 | 7A-7A   | 3CC-126 | 132 | 30A-66A-66A | 4CC-239 |
| 65 | 7B      |         | 133 | 41A-41A-41A | 4CC-275 |
| 66 | 7C      | 3CC-127 | 134 | 41A-41C     | 4CC-275 |
| 67 | 4A-17A  |         | 135 | 41A-42A-42A | 4CC-277 |
| 68 | 2A-17A  |         | 136 | 41A-42C     | 4CC-277 |
|    |         |         | 137 | 41C-42A     | 4CC-280 |
|    |         |         | 138 | 41D         | 4CC-276 |
|    |         |         | 139 | 42A-42C     | 4CC-277 |
|    |         |         | 140 | 42D         | 4CC-278 |
|    |         |         | 141 | 48A-48A-66A | 4CC-286 |
|    |         |         | 142 | 48A-48A-71A |         |
|    |         |         | 143 | 48A-48C     | 4CC-289 |
|    |         |         | 144 | 48A-66A-66A | 4CC-286 |
|    |         |         | 145 | 48A-66B     | 4CC-287 |
|    |         |         | 146 | 48A-66C     | 4CC-288 |
|    |         |         | 147 | 48C-66A     | 4CC-289 |
|    |         |         | 148 | 48C-71A     |         |
|    |         |         | 149 | 48D         | 4CC-290 |
|    |         |         | 150 | 4A-12A-12A  | 4CC-299 |
|    |         |         | 151 | 4A-12A-30A  | 4CC-300 |
|    |         |         | 152 | 4A-12B      | 4CC-301 |
|    |         |         | 153 | 4A-48C      |         |
|    |         |         | 154 | 4A-4A-12A   | 4CC-299 |
|    |         |         | 155 | 4A-4A-13A   |         |
|    |         |         | 156 | 4A-4A-30A   | 4CC-300 |
|    |         |         | 157 | 4A-4A-5A    | 4CC-303 |
|    |         |         | 158 | 4A-4A-71A   |         |
|    |         |         | 159 | 4A-4A-7A    |         |
|    |         |         | 160 | 4A-5A-30A   | 4CC-302 |
|    |         |         | 161 | 4A-5B       | 4CC-303 |
|    |         |         | 162 | 4A-7A-12A   | 4CC-251 |
|    |         |         | 163 | 4A-7A-7A    | 4CC-252 |
|    |         |         | 164 | 4A-7C       | 4CC-253 |
|    |         |         | 165 | 5A-30A-66A  | 4CC-305 |
|    |         |         | 166 | 5A-48A-48A  | 4CC-306 |
|    |         |         | 167 | 5A-48A-66A  | 4CC-306 |
|    |         |         | 168 | 5A-48C      | 4CC-308 |
|    |         |         | 169 | 5A-5A-66A   | 4CC-310 |



|  |  |  |     |             |         |
|--|--|--|-----|-------------|---------|
|  |  |  | 170 | 5A-66A-66A  | 4CC-310 |
|  |  |  | 171 | 5A-66B      | 4CC-311 |
|  |  |  | 172 | 5A-66C      | 4CC-312 |
|  |  |  | 173 | 5A-7A-7A    |         |
|  |  |  | 174 | 5A-7C       |         |
|  |  |  | 175 | 5B-30A      | 4CC-316 |
|  |  |  | 176 | 5B-66A      | 4CC-317 |
|  |  |  | 177 | 66A-66A-66A | 4CC-263 |
|  |  |  | 178 | 66A-66A-71A | 4CC-264 |
|  |  |  | 179 | 66A-66B     | 4CC-313 |
|  |  |  | 180 | 66A-66C     | 4CC-314 |
|  |  |  | 181 | 66C-71A     | 4CC-267 |
|  |  |  | 182 | 66D         | 4CC-268 |
|  |  |  | 183 | 7A-12A-66A  | 4CC-269 |
|  |  |  | 184 | 7A-12B      | 4CC-320 |
|  |  |  | 185 | 7A-66A-66A  | 4CC-326 |
|  |  |  | 186 | 7C-66A      | 4CC-321 |
|  |  |  | 187 | 2A-48A-66A  | 4CC-325 |
|  |  |  | 188 | 48A-66B     | 4CC-195 |
|  |  |  | 189 | 7A-7A-66A   | 4CC-326 |
|  |  |  | 190 | 7A-7A-13A   | 4CC-328 |

| 4CC Downlink Carrier Aggregation |                 |                      | 5CC Downlink Carrier Aggregation |                    |                      |
|----------------------------------|-----------------|----------------------|----------------------------------|--------------------|----------------------|
| Number                           | Combination     | Covered by           | Covered by                       | Combination        | Covered by           |
|                                  |                 | Measurement Superset | Measurement Superset             |                    | Measurement Superset |
| 191                              | 12A-30A-66A-66A | 5CC-338              | 329                              | 13A-48A-48C-66A    |                      |
| 192                              | 12B-66A-66A     | 5CC-402              | 330                              | 13A-48A-48D        |                      |
| 193                              | 13A-48A-48A-66A | 5CC-339              | 331                              | 13A-48C-48C        |                      |
| 194                              | 13A-48A-48C     | 5CC-329              | 332                              | 13A-48C-66B        |                      |
| 195                              | 13A-48A-66B     |                      | 333                              | 13A-48C-66C        |                      |
| 196                              | 13A-48A-66C     |                      | 334                              | 13A-48D-66A        |                      |
| 197                              | 13A-48C-66A     | 5CC-341              | 335                              | 13A-48E            | 5CC-407              |
| 198                              | 13A-48D         | 5CC-334              | 336                              | 25A-25A-41D        |                      |
| 199                              | 13A-66A-66A-66A |                      | 337                              | 25A-41E            |                      |
| 200                              | 13A-66A-66B     | 5CC-343              | 338                              | 2A-12A-30A-66A-66A |                      |
| 201                              | 13A-66A-66C     | 5CC-344              | 339                              | 2A-13A-48A-48A-66A |                      |
| 202                              | 13A-66D         | 5CC-345              | 340                              | 2A-13A-48A-48C     |                      |
| 203                              | 14A-30A-66A-66A | 5CC-346              | 341                              | 2A-13A-48C-66A     |                      |
| 204                              | 14A-66A-66A-66A | 5CC-347              | 342                              | 2A-13A-48D         |                      |
| 205                              | 25A-25A-41C     |                      | 343                              | 2A-13A-66A-66B     |                      |
| 206                              | 25A-26A-41C     |                      | 344                              | 2A-13A-66A-66C     |                      |
| 207                              | 25A-41D         | 5CC-336              | 345                              | 2A-13A-66D         |                      |
| 208                              | 2A-12A-30A-66A  | 5CC-338              | 346                              | 2A-14A-30A-66A-66A |                      |
| 209                              | 2A-12A-66A-66A  | 5CC-349              | 347                              | 2A-14A-66A-66A-66A |                      |
| 210                              | 2A-12A-66C      |                      | 348                              | 2A-2A-12A-30A-66A  |                      |
| 211                              | 2A-13A-48A-48A  | 5CC-339              | 349                              | 2A-2A-12A-66A-66A  |                      |
| 212                              | 2A-13A-48A-66A  | 5CC-339              | 350                              | 2A-2A-12B-66A      |                      |
| 213                              | 2A-13A-48C      | 5CC-341              | 351                              | 2A-2A-13A-66A-66A  |                      |
| 214                              | 2A-13A-66A-66A  | 5CC-351              | 352                              | 2A-2A-13A-66B      |                      |
| 215                              | 2A-13A-66B      | 5CC-352              | 353                              | 2A-2A-14A-30A-66A  |                      |
| 216                              | 2A-13A-66C      | 5CC-344              | 354                              | 2A-2A-14A-66A-66A  |                      |
| 217                              | 2A-14A-30A-66A  | 5CC-346              | 355                              | 2A-2A-5A-30A-66A   |                      |
| 218                              | 2A-14A-66A-66A  | 5CC-347              | 356                              | 2A-2A-5A-66A-66A   |                      |
| 219                              | 2A-2A-12A-12A   |                      | 357                              | 2A-2A-5A-66B       |                      |
| 220                              | 2A-2A-12A-30A   | 5CC-348              | 358                              | 2A-2A-5A-66C       |                      |
| 221                              | 2A-2A-12A-66A   | 5CC-349              | 359                              | 2A-2A-5B-66A       |                      |
| 222                              | 2A-2A-12B       | 5CC-350              | 360                              | 2A-2A-66A-66B      |                      |
| 223                              | 2A-2A-13A-66A   | 5CC-351              | 361                              | 2A-2A-66A-66C      |                      |
| 224                              | 2A-2A-14A-30A   | 5CC-353              | 362                              | 2A-2A-7A-12A-66A   |                      |
| 225                              | 2A-2A-14A-66A   | 5CC-354              | 363                              | 2A-48A-48C-66A     |                      |
| 226                              | 2A-2A-30A-66A   | 5CC-355              | 364                              | 2A-48A-48D         |                      |
| 227                              | 2A-2A-4A-12A    |                      | 365                              | 2A-48C-48C         |                      |
| 228                              | 2A-2A-4A-4A     |                      | 366                              | 2A-48D-66A         |                      |
| 229                              | 2A-2A-4A-5A     |                      | 367                              | 2A-48E             | 5CC-405              |
| 230                              | 2A-2A-4A-71A    |                      | 368                              | 2A-4A-5B-30A       |                      |
| 231                              | 2A-2A-5A-30A    | 5CC-355              | 369                              | 2A-5A-30A-66A-66A  |                      |
| 232                              | 2A-2A-5A-66A    | 5CC-356              | 370                              | 2A-5A-48A-48A-66A  |                      |
| 233                              | 2A-2A-5B        | 5CC-359              | 371                              | 2A-5A-48A-48C      |                      |
| 234                              | 2A-2A-66A-66A   |                      | 372                              | 2A-5A-48C-66A      |                      |
| 235                              | 2A-2A-66A-71A   |                      | 373                              | 2A-5A-48D          |                      |
| 236                              | 2A-2A-66B       | 5CC-360              | 374                              | 2A-5B-30A-66A      |                      |
| 237                              | 2A-2A-66C       | 5CC-361              | 375                              | 2A-5B-66A-66A      |                      |
| 238                              | 2A-2A-7A-66A    | 5CC-362              | 376                              | 2A-5B-66B          |                      |
| 239                              | 2A-30A-66A-66A  | 5CC-338              | 377                              | 2A-5B-66C          |                      |
| 240                              | 2A-48A-48A-66A  | 5CC-370              | 378                              | 2A-7A-12B-66A      |                      |
| 241                              | 2A-48A-48C      | 5CC-363              | 379                              | 2C-5B-30A          |                      |
| 242                              | 2A-48C-66A      | 5CC-363              | 380                              | 41A-42C-42C        |                      |



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|     |                 |         |                                  |                  |            |
|-----|-----------------|---------|----------------------------------|------------------|------------|
| 243 | 2A-48D          | 5CC-366 | 381                              | 41C-41D          |            |
| 244 | 2A-4A-12A-12A   |         | 382                              | 41C-42A-42C      |            |
| 245 | 2A-4A-12A-30A   |         | 383                              | 41D-42C          |            |
| 246 | 2A-4A-12B       |         | 384                              | 48A-48C-66B      |            |
| 247 | 2A-4A-4A-12A    |         | 385                              | 48A-48C-66C      |            |
| 248 | 2A-4A-4A-5A     |         | 386                              | 48A-48D-66A      |            |
| 249 | 2A-4A-5A-30A    |         | 387                              | 48C-48C-66A      |            |
| 250 | 2A-4A-5B        | 5CC-368 | 388                              | 48C-48D          |            |
| 251 | 2A-4A-7A-12A    |         | 389                              | 48C-66A-66A-66A  |            |
| 252 | 2A-4A-7A-7A     |         | 390                              | 48E-66A          |            |
| 253 | 2A-4A-7C        |         | 391                              | 48F              |            |
| 254 | 2A-5A-30A-66A   | 5CC-369 | 392                              | 4A-48E           |            |
| 255 | 2A-5A-48A-48A   | 5CC-370 | 393                              | 4A-4A-5B-30A     |            |
| 256 | 2A-5A-48A-66A   | 5CC-370 | 394                              | 5A-48A-48C-66A   |            |
| 257 | 2A-5A-48C       | 5CC-372 | 395                              | 5A-48C-48C       |            |
| 258 | 2A-5A-66A-66A   | 5CC-356 | 396                              | 5A-48E           |            |
| 259 | 2A-5A-66B       | 5CC-357 | 397                              | 5B-30A-66A-66A   |            |
| 260 | 2A-5A-66C       | 5CC-358 | 398                              | 5B-66A-66B       |            |
| 261 | 2A-5B-30A       | 5CC-374 | 399                              | 5B-66A-66C       |            |
| 262 | 2A-5B-66A       | 5CC-375 | 400                              | 5A-48A-48D       |            |
| 263 | 2A-66A-66A-66A  | 5CC-347 | 401                              | 5A-48D-66A       |            |
| 264 | 2A-66A-66A-71A  |         | 402                              | 2A-12B-66A-66A   |            |
| 265 | 2A-66A-66B      | 5CC-360 | 403                              | 2A-7C-66A-66A    |            |
| 266 | 2A-66A-66C      | 5CC-361 | 404                              | 2A-7A-7A-66A-66A |            |
| 267 | 2A-66C-71A      |         |                                  |                  |            |
| 268 | 2A-66D          | 5CC-345 |                                  |                  |            |
| 269 | 2A-7A-12A-66A   | 5CC-362 | 6CC Downlink Carrier Aggregation |                  |            |
| 270 | 2A-7A-12B       | 5CC-378 | Number                           | Combination      | Covered by |
| 271 | 2A-7A-66A-66A   | 5CC-404 | 405                              | 2A-48E-66A       |            |
| 272 | 2C-12A-30A      |         | 406                              | 41C-42C-42C      |            |
| 273 | 2C-5A-30A       |         | 407                              | 13A-48E-66A      |            |
| 274 | 2C-66A-66A      |         |                                  |                  |            |
| 275 | 41A-41A-41C     |         |                                  |                  |            |
| 276 | 41A-41D         |         |                                  |                  |            |
| 277 | 41A-42A-42C     |         |                                  |                  |            |
| 278 | 41A-42D         |         |                                  |                  |            |
| 279 | 41C-41C         |         |                                  |                  |            |
| 280 | 41C-42C         | 5CC-382 |                                  |                  |            |
| 281 | 41D-42A         |         |                                  |                  |            |
| 282 | 41E             | 5CC-337 |                                  |                  |            |
| 283 | 42A-42D         |         |                                  |                  |            |
| 284 | 42C-42C         | 5CC-380 |                                  |                  |            |
| 285 | 42E             |         |                                  |                  |            |
| 286 | 48A-48A-66A-66A |         |                                  |                  |            |
| 287 | 48A-48A-66B     |         |                                  |                  |            |
| 288 | 48A-48A-66C     |         |                                  |                  |            |
| 289 | 48A-48C-66A     | 5CC-394 |                                  |                  |            |
| 290 | 48A-48D         | 5CC-400 |                                  |                  |            |
| 291 | 48A-66A-66A-66A |         |                                  |                  |            |
| 292 | 48C-48C         | 5CC-395 |                                  |                  |            |
| 293 | 48C-66A-66A     |         |                                  |                  |            |
| 294 | 48C-66B         | 5CC-384 |                                  |                  |            |
| 295 | 48C-66C         | 5CC-385 |                                  |                  |            |
| 296 | 48D-66A         | 5CC-401 |                                  |                  |            |
| 297 | 48E             | 5CC-396 |                                  |                  |            |
| 298 | 4A-48D          |         |                                  |                  |            |

|     |                |         |  |  |  |
|-----|----------------|---------|--|--|--|
| 299 | 4A-4A-12A-12A  |         |  |  |  |
| 300 | 4A-4A-12A-30A  |         |  |  |  |
| 301 | 4A-4A-12B      |         |  |  |  |
| 302 | 4A-4A-5A-30A   |         |  |  |  |
| 303 | 4A-4A-5B       | 5CC-393 |  |  |  |
| 304 | 4A-5B-30A      | 5CC-393 |  |  |  |
| 305 | 5A-30A-66A-66A | 5CC-369 |  |  |  |
| 306 | 5A-48A-48A-66A | 5CC-370 |  |  |  |
| 307 | 5A-48A-48C     | 5CC-371 |  |  |  |
| 308 | 5A-48C-66A     | 5CC-372 |  |  |  |
| 309 | 5A-48D         | 5CC-373 |  |  |  |
| 310 | 5A-5A-66A-66A  |         |  |  |  |
| 311 | 5A-5A-66B      |         |  |  |  |
| 312 | 5A-5A-66C      |         |  |  |  |
| 313 | 5A-66A-66B     |         |  |  |  |
| 314 | 5A-66A-66C     |         |  |  |  |
| 315 | 5A-66D         |         |  |  |  |
| 316 | 5B-30A-66A     | 5CC-397 |  |  |  |
| 317 | 5B-66A-66A     | 5CC-397 |  |  |  |
| 318 | 5B-66B         | 5CC-376 |  |  |  |
| 319 | 5B-66C         | 5CC-377 |  |  |  |
| 320 | 7A-12B-66A     | 5CC-378 |  |  |  |
| 321 | 7C-66A-66A     | 5CC-403 |  |  |  |
| 322 | 2A-12B-66A     | 5CC-350 |  |  |  |
| 323 | 2A-7A-7A-66A   | 5CC-404 |  |  |  |
| 324 | 2A-7C-66A      | 5CC-403 |  |  |  |
| 325 | 2A-48A-66A-66A |         |  |  |  |
| 326 | 7A-7A-66A-66A  | 5CC-404 |  |  |  |
| 327 | 2A-2A-7A-12A   | 5CC-362 |  |  |  |
| 328 | 2A-7A-7A-13A   |         |  |  |  |

**<Power verification when LTE Carrier Aggregation Active>**
**General Note:**

- According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lceil \frac{BW_{\text{Channel}(1)} + BW_{\text{Channel}(2)} - 0.1|BW_{\text{Channel}(1)} - BW_{\text{Channel}(2)}|}{0.6} \right\rceil 0.3 \text{ [MHz]}$$

**<Two Carrier power verification>**

| Configure  |            | PCC      |          |                |            |      |        | SCC          |          |          |                | Power      |                        |                       |
|------------|------------|----------|----------|----------------|------------|------|--------|--------------|----------|----------|----------------|------------|------------------------|-----------------------|
|            |            | LTE Band | BW (MHz) | UL Freq. (MHz) | UL Channel | Mod. | UL# RB | UL RB Offset | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | With CA Tx.Power (dBm) | W/O CA Tx.Power (dBm) |
| Inter-Band |            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 17       | 10       | 740            | 5790       | 23.19                  | 23.20                 |
|            |            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 17       | 10       | 740            | 5790       | 23.26                  | 23.33                 |
|            |            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 48       | 20       | 3609           | 55830      | 23.29                  | 23.35                 |
|            |            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 25       | 20       | 1960           | 8340       | 23.83                  | 23.85                 |
|            |            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 38       | 20       | 2595           | 38000      | 23.76                  | 23.76                 |
|            |            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 41       | 20       | 2593           | 40620      | 23.67                  | 23.76                 |
|            |            | 7        | 20       | 2560           | 21350      | QPSK | 1      | 99           | 42       | 20       | 3575           | 43340      | 22.15                  | 22.22                 |
|            |            | 12       | 10       | 704            | 23060      | QPSK | 1      | 0            | 25       | 20       | 1960           | 8340       | 23.65                  | 23.72                 |
|            |            | 41       | 20       | 2593           | 40620      | QPSK | 1      | 99           | 48       | 20       | 3609           | 55830      | 23.76                  | 23.86                 |
| Intra-Band | Contiguous | 7        | 15       | 2562.5         | 21375      | QPSK | 1      | 74           | 7        | 5        | 2691.80        | 3468       | 22.21                  | 22.21                 |
|            |            | 38       | 20       | 2595           | 38000      | QPSK | 1      | 99           | 38       | 20       | 2614.80        | 38198      | 23.78                  | 23.82                 |

**<Three Carrier power verification>**

| Configure  | PCC      |          |                |            |      |        |              | SCC1     |          |                |            | SCC2     |          |                |            | Power                  |                       |
|------------|----------|----------|----------------|------------|------|--------|--------------|----------|----------|----------------|------------|----------|----------|----------------|------------|------------------------|-----------------------|
|            | LTE Band | BW (MHz) | UL Freq. (MHz) | UL Channel | Mod. | UL# RB | UL RB Offset | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | With CA Tx.Power (dBm) | W/O CA Tx.Power (dBm) |
| Inter-Band | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 13       | 10       | 751            | 5230       | 23.05                  | 23.13                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 7        | 20       | 2655           | 3100       | 23.10                  | 23.11                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 4        | 5        | 2152.5         | 2375       | 7        | 20       | 2655           | 3100       | 23.28                  | 23.34                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 4        | 5        | 2152.5         | 2375       | 13       | 10       | 751            | 5230       | 23.35                  | 23.36                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 4        | 5        | 2152.5         | 2375       | 71       | 20       | 637            | 68786      | 23.25                  | 23.30                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 48       | 20       | 3609           | 55830      | 48       | 20       | 3628.8         | 56028      | 23.30                  | 23.40                 |
|            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 7        | 20       | 2655           | 3100       | 7        | 5        | 2622.5         | 2775       | 23.81                  | 23.81                 |
|            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 7        | 20       | 2655           | 3100       | 7        | 20       | 2674.8         | 3298       | 23.67                  | 23.76                 |
|            | 25       | 20       | 1880           | 26340      | QPSK | 1      | 0            | 25       | 5        | 1932.5         | 8065       | 25       | 20       | 1960           | 8340       | 23.18                  | 23.22                 |
|            | 25       | 20       | 1880           | 26340      | QPSK | 1      | 0            | 25       | 5        | 1932.5         | 8065       | 26       | 15       | 876.5          | 8865       | 23.11                  | 23.21                 |
|            | 25       | 20       | 1880           | 26340      | QPSK | 1      | 0            | 25       | 5        | 1932.5         | 8065       | 41       | 20       | 2593           | 40620      | 23.16                  | 23.26                 |
|            | 25       | 20       | 1880           | 26340      | QPSK | 1      | 0            | 26       | 15       | 876.5          | 8865       | 41       | 20       | 2593           | 40620      | 23.22                  | 23.24                 |
|            | 48       | 20       | 3641           | 56150      | QPSK | 1      | 0            | 48       | 5        | 3552.5         | 55265      | 71       | 20       | 637            | 68786      | 21.81                  | 21.82                 |
|            | 48       | 20       | 3641           | 56150      | QPSK | 1      | 0            | 48       | 20       | 3621.2         | 55952      | 71       | 20       | 637            | 68786      | 21.86                  | 21.91                 |

**<Four Carrier power verification>**

| Configure  | PCC      |          |                |            |      |        |              | SCC1     |          |                |            | SCC2     |          |                |            | SCC3     |          |                |            | Power                  |                       |
|------------|----------|----------|----------------|------------|------|--------|--------------|----------|----------|----------------|------------|----------|----------|----------------|------------|----------|----------|----------------|------------|------------------------|-----------------------|
|            | LTE Band | BW (MHz) | UL Freq. (MHz) | UL Channel | Mod. | UL# RB | UL RB Offset | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | With CA Tx.Power (dBm) | W/O CA Tx.Power (dBm) |
| Inter-Band | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 4        | 20       | 2132.5         | 2175       | 12       | 10       | 737.5          | 5095       | 23.03                  | 23.10                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 4        | 20       | 2132.5         | 2175       | 4        | 5        | 2112.5         | 1975       | 23.16                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 4        | 20       | 2132.5         | 2175       | 5        | 10       | 881.5          | 2525       | 23.04                  | 23.12                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 4        | 20       | 2132.5         | 2175       | 71       | 20       | 637            | 68786      | 23.08                  | 23.12                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 12       | 5        | 737.5          | 5095       | 12       | 5        | 731.5          | 5035       | 23.14                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.17                  | 23.17                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 66       | 20       | 2155           | 66886      | 71       | 20       | 637            | 68786      | 23.14                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 4        | 5        | 2112.5         | 1975       | 5        | 10       | 881.5          | 2525       | 23.17                  | 23.17                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 4        | 5        | 2112.5         | 1975       | 12       | 10       | 737.5          | 5095       | 23.04                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 5        | 10       | 881.5          | 2525       | 30       | 10       | 9820           | 2355       | 23.11                  | 23.20                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 7        | 20       | 2655           | 3100       | 7        | 5        | 2622.5         | 2775       | 23.09                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 7        | 20       | 2655           | 3100       | 12       | 10       | 737.5          | 5095       | 23.10                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 7        | 20       | 2655           | 3100       | 7        | 20       | 2674.8         | 3298       | 23.16                  | 23.17                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 12       | 5        | 737.5          | 5095       | 12       | 5        | 731.5          | 5035       | 23.16                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 12       | 10       | 737.5          | 5095       | 30       | 10       | 9820           | 2355       | 23.08                  | 23.15                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 12       | 5        | 737.5          | 5095       | 12       | 10       | 744.7          | 5167       | 23.14                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 12       | 10       | 737.5          | 5095       | 66       | 20       | 2155           | 66886      | 66       | 20       | 2174.8         | 67084      | 23.13                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 7        | 20       | 2655           | 3100       | 7        | 5        | 2622.5         | 2775       | 13       | 10       | 751            | 5230       | 23.09                  | 23.15                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 48       | 20       | 3697.5         | 56715      | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.12                  | 23.16                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 71       | 20       | 637            | 68786      | 23.13                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 66       | 20       | 2155           | 66886      | 66       | 20       | 2174.8         | 67084      | 71       | 20       | 637            | 68786      | 23.08                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 20       | 1959.8         | 898        | 5        | 10       | 881.5          | 2525       | 30       | 10       | 9820           | 2355       | 23.12                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 20       | 1959.8         | 898        | 12       | 10       | 737.5          | 5095       | 30       | 10       | 9820           | 2355       | 23.11                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 20       | 1959.8         | 898        | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.00                  | 23.10                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 4        | 5        | 2152.5         | 2375       | 5        | 10       | 881.5          | 2525       | 30       | 10       | 9820           | 2355       | 23.22                  | 23.30                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 4        | 5        | 2152.5         | 2375       | 12       | 5        | 737.5          | 5095       | 12       | 5        | 731.5          | 5035       | 23.27                  | 23.34                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 4        | 5        | 2152.5         | 2375       | 12       | 10       | 737.5          | 5095       | 30       | 10       | 9820           | 2355       | 23.29                  | 23.35                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 4        | 5        | 2152.5         | 2375       | 12       | 5        | 737.5          | 5095       | 12       | 10       | 744.7          | 5167       | 23.27                  | 23.31                 |
|            | 4        | 20       | 1720           | 20050      | QPSK | 1      | 0            | 48       | 20       | 3697.5         | 56715      | 48       | 20       | 3717.3         | 56913      | 48       | 20       | 3737.1         | 57111      | 23.31                  | 23.34                 |
|            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 5        | 5        | 891.5          | 2625       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.69                  | 23.78                 |
|            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 5        | 5        | 891.5          | 2625       | 66       | 15       | 2155           | 66886      | 66       | 5        | 2164.3         | 66979      | 23.75                  | 23.78                 |
|            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 5        | 5        | 891.5          | 2625       | 66       | 20       | 2155           | 66886      | 66       | 20       | 2174.8         | 67084      | 23.71                  | 23.78                 |
|            | 5        | 10       | 829            | 20450      | QPSK | 1      | 0            | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 66       | 15       | 2121.8         | 66554      | 23.74                  | 23.79                 |



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|  |    |    |      |       |      |   |    |    |    |        |       |    |    |        |       |    |    |        |       |       |       |
|--|----|----|------|-------|------|---|----|----|----|--------|-------|----|----|--------|-------|----|----|--------|-------|-------|-------|
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 20 | 2124.2 | 66578 | 23.76 | 23.81 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 66 | 20 | 2155   | 66886 | 66 | 20 | 2174.8 | 67084 | 66 | 20 | 2194.6 | 67282 | 23.74 | 23.84 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 48 | 20 | 3697.5 | 56715 | 66 | 15 | 2155   | 66886 | 66 | 5  | 2164.3 | 66979 | 23.76 | 23.79 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 48 | 20 | 3697.5 | 56715 | 66 | 20 | 2155   | 66886 | 66 | 20 | 2174.8 | 67084 | 23.67 | 23.70 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 20 | 2190   | 67236 | 23.72 | 23.79 |
|  | 25 | 20 | 1880 | 26340 | QPSK | 1 | 0  | 25 | 5  | 1932.5 | 8065  | 41 | 20 | 2593   | 40620 | 41 | 20 | 2612.8 | 40818 | 23.22 | 23.30 |
|  | 25 | 20 | 1880 | 26340 | QPSK | 1 | 0  | 26 | 15 | 1960   | 8340  | 41 | 20 | 2593   | 40620 | 41 | 20 | 2612.8 | 40818 | 23.17 | 23.23 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 41 | 5  | 2687.5 | 41565 | 41 | 20 | 2506   | 39750 | 41 | 20 | 2525.8 | 39948 | 23.80 | 23.80 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 41 | 5  | 2687.5 | 41565 | 41 | 20 | 2699.2 | 41682 | 41 | 20 | 2719   | 41880 | 23.76 | 23.81 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 42 | 20 | 3575   | 43340 | 42 | 5  | 3552.5 | 43115 | 42 | 20 | 3564.2 | 43232 | 23.78 | 23.83 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 42 | 20 | 3575   | 43340 | 42 | 20 | 3594.8 | 43538 | 42 | 20 | 3614.6 | 43736 | 23.74 | 23.83 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 41 | 20 | 2612.8 | 40818 | 41 | 5  | 2687.5 | 41565 | 41 | 20 | 2699.2 | 41682 | 23.70 | 23.80 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 41 | 20 | 2612.8 | 40818 | 41 | 20 | 2632.6 | 41016 | 42 | 20 | 3575   | 43340 | 23.73 | 23.76 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 5  | 3552.5 | 55265 | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 21.81 | 21.83 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 5  | 3552.5 | 55265 | 66 | 15 | 2155   | 66886 | 66 | 5  | 2164.3 | 66979 | 21.88 | 21.88 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 5  | 3552.5 | 55265 | 66 | 20 | 2155   | 66886 | 66 | 20 | 2174.8 | 67084 | 21.84 | 21.91 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 20 | 2190   | 67236 | 21.86 | 21.88 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 20 | 3621.2 | 55952 | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 21.75 | 21.83 |

## <Five Carrier power verification>

| Configure  | PCC      |          |                |            |      |        |              | SCC1     |          |                |            | SCC2     |          |                |            | SCC3     |          |                |            | SCC4     |          |                |            | Power                  |                       |
|------------|----------|----------|----------------|------------|------|--------|--------------|----------|----------|----------------|------------|----------|----------|----------------|------------|----------|----------|----------------|------------|----------|----------|----------------|------------|------------------------|-----------------------|
|            | LTE Band | BW (MHz) | UL Freq. (MHz) | UL Channel | Mod. | UL# RB | UL RB Offset | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | With CA Tx.Power (dBm) | W/O CA Tx.Power (dBm) |
| Inter-Band | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 12       | 10       | 737.5          | 5095       | 30       | 10       | 2355           | 9820       | 66       | 20       | 2155           | 66886      | 23.10                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 12       | 10       | 737.5          | 5095       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.10                  | 23.13                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 12       | 5        | 737.5          | 5095       | 12       | 10       | 744.7          | 5167       | 66       | 20       | 2155           | 66886      | 23.14                  | 23.17                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 13       | 10       | 751            | 5230       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.06                  | 23.10                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 13       | 10       | 751            | 5230       | 66       | 15       | 2155           | 66886      | 66       | 5        | 2164.3         | 66979      | 23.05                  | 23.12                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 14       | 10       | 763            | 5330       | 30       | 10       | 2355           | 9820       | 66       | 20       | 2155           | 66886      | 23.06                  | 23.13                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 14       | 10       | 763            | 5330       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.07                  | 23.16                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 5        | 10       | 881.5          | 2525       | 30       | 10       | 2355           | 9820       | 66       | 20       | 2155           | 66886      | 23.17                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 5        | 10       | 881.5          | 2525       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.12                  | 23.13                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 5        | 10       | 881.5          | 2525       | 66       | 15       | 2155           | 66886      | 66       | 5        | 2164.3         | 66979      | 23.11                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 5        | 10       | 881.5          | 2525       | 66       | 20       | 2155           | 66886      | 66       | 20       | 2174.8         | 67084      | 23.08                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 5        | 10       | 881.5          | 2525       | 5        | 10       | 891.4          | 2624       | 66       | 20       | 2155           | 66886      | 23.11                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 66       | 15       | 2121.8         | 66554      | 23.10                  | 23.11                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 66       | 20       | 2124.2         | 66578      | 23.10                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 5        | 1987.5         | 1175       | 7        | 20       | 2655           | 3100       | 12       | 10       | 737.5          | 5095       | 66       | 20       | 2155           | 66886      | 23.14                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 2        | 20       | 1959.8         | 898        | 5        | 10       | 881.5          | 2525       | 5        | 10       | 891.4          | 2624       | 30       | 10       | 2355           | 9820       | 23.12                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 4        | 20       | 2132.5         | 2175       | 5        | 10       | 881.5          | 2525       | 5        | 10       | 891.4          | 2624       | 30       | 10       | 2355           | 9820       | 23.07                  | 23.11                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 30       | 10       | 2355           | 9820       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.10                  | 23.15                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 48       | 20       | 3609           | 55830      | 48       | 5        | 3697.5         | 56715      | 66       | 20       | 2155           | 66886      | 23.10                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 48       | 20       | 3609           | 55830      | 48       | 5        | 3697.5         | 56715      | 48       | 20       | 3709.2         | 56832      | 23.04                  | 23.10                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 48       | 20       | 3609           | 55830      | 48       | 20       | 3628.8         | 56028      | 66       | 20       | 2155           | 66886      | 23.08                  | 23.15                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 48       | 20       | 3609           | 55830      | 48       | 20       | 3628.8         | 56028      | 48       | 20       | 3648.6         | 56226      | 23.11                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 5        | 10       | 891.4          | 2624       | 30       | 10       | 2355           | 9820       | 66       | 20       | 2155           | 66886      | 23.10                  | 23.15                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 5        | 10       | 891.4          | 2624       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.09                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 5        | 10       | 891.4          | 2624       | 66       | 15       | 2155           | 66886      | 66       | 5        | 2164.3         | 66979      | 23.11                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 5        | 10       | 881.5          | 2525       | 5        | 10       | 891.4          | 2624       | 66       | 20       | 2155           | 66886      | 66       | 20       | 2174.8         | 67084      | 23.09                  | 23.10                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 7        | 20       | 2655           | 3100       | 12       | 5        | 737.5          | 5095       | 12       | 10       | 744.7          | 5167       | 66       | 20       | 2155           | 66886      | 23.18                  | 23.19                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 7        | 20       | 2655           | 3100       | 7        | 20       | 2674.8         | 3298       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.06                  | 23.12                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 7        | 20       | 2655           | 3100       | 7        | 5        | 2622.5         | 2775       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.16                  | 23.18                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 12       | 5        | 737.5          | 5095       | 12       | 10       | 744.7          | 5167       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.13                  | 23.14                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 12       | 10       | 737.5          | 5095       | 30       | 10       | 2355           | 9820       | 66       | 20       | 2155           | 66886      | 66       | 5        | 2112.5         | 66461      | 23.13                  | 23.13                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 13       | 10       | 751            | 5230       | 48       | 20       | 3609           | 55830      | 48       | 5        | 3697.5         | 56715      | 66       | 20       | 2155           | 66886      | 23.09                  | 23.12                 |
|            | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 13       | 10       | 751            | 5230       | 48       | 20       | 3609           | 55830      | 48       | 5        | 3697.5         | 56715      | 48       | 20       | 3709.2         | 56832      | 23.05                  | 23.14                 |



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|  |    |    |      |       |      |   |    |    |    |        |       |    |    |        |       |    |    |        |       |    |    |        |       |       |       |
|--|----|----|------|-------|------|---|----|----|----|--------|-------|----|----|--------|-------|----|----|--------|-------|----|----|--------|-------|-------|-------|
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 13 | 10 | 751    | 5230  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 66 | 20 | 2155   | 66886 | 23.08 | 23.14 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 13 | 10 | 751    | 5230  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 20 | 3648.6 | 56226 | 23.04 | 23.14 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 13 | 10 | 751    | 5230  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 15 | 2121.8 | 66554 | 23.06 | 23.13 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 13 | 10 | 751    | 5230  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 20 | 2124.2 | 66578 | 23.12 | 23.12 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 13 | 10 | 751    | 5230  | 66 | 20 | 2155   | 66886 | 66 | 20 | 2174.8 | 67084 | 66 | 20 | 2194.6 | 67282 | 23.05 | 23.10 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 14 | 10 | 763    | 5330  | 30 | 10 | 2355   | 9820  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 23.08 | 23.12 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 14 | 10 | 763    | 5330  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 20 | 2190   | 67236 | 23.13 | 23.16 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 66 | 20 | 2155   | 66886 | 23.10 | 23.14 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 48 | 20 | 3729   | 57030 | 23.13 | 23.18 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 23.12 | 23.20 |
|  | 2  | 20 | 1860 | 18700 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 20 | 3648.6 | 56226 | 66 | 20 | 2155   | 66886 | 23.12 | 23.18 |
|  | 4  | 20 | 1720 | 20050 | QPSK | 1 | 0  | 4  | 5  | 2152.5 | 2375  | 5  | 10 | 881.5  | 2525  | 5  | 10 | 891.4  | 2624  | 30 | 10 | 2355   | 9820  | 23.33 | 23.36 |
|  | 4  | 20 | 1720 | 20050 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 20 | 3648.6 | 56226 | 48 | 20 | 3668.4 | 56424 | 23.25 | 23.32 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 5  | 10 | 883.9  | 2549  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 15 | 2121.8 | 66554 | 23.74 | 23.75 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 5  | 10 | 883.9  | 2549  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 20 | 2124.2 | 66578 | 23.76 | 23.83 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 5  | 10 | 883.9  | 2549  | 30 | 10 | 2355   | 9820  | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 23.77 | 23.81 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 66 | 20 | 2155   | 66886 | 23.77 | 23.77 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 23.77 | 23.84 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 20 | 3648.6 | 56226 | 48 | 20 | 3668.4 | 56424 | 23.74 | 23.75 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 48 | 20 | 3729   | 57030 | 23.71 | 23.75 |
|  | 5  | 10 | 829  | 20450 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 20 | 3648.6 | 56226 | 66 | 20 | 2155   | 66886 | 23.69 | 23.79 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 66 | 20 | 2155   | 66886 | 23.64 | 23.69 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 48 | 20 | 3729   | 57030 | 23.67 | 23.71 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 5  | 3697.5 | 56715 | 48 | 20 | 3709.2 | 56832 | 23.65 | 23.71 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 66 | 15 | 2155   | 66886 | 66 | 5  | 2164.3 | 66979 | 23.68 | 23.76 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 66 | 20 | 2155   | 66886 | 66 | 20 | 2174.8 | 67084 | 23.71 | 23.78 |
|  | 13 | 10 | 782  | 23230 | QPSK | 1 | 0  | 48 | 20 | 3609   | 55830 | 48 | 20 | 3628.8 | 56028 | 48 | 20 | 3648.6 | 56226 | 66 | 20 | 2155   | 66886 | 23.67 | 23.77 |
|  | 25 | 20 | 1880 | 26340 | QPSK | 1 | 0  | 25 | 5  | 1932.5 | 8065  | 41 | 20 | 2593   | 40620 | 41 | 20 | 2612.8 | 40818 | 41 | 20 | 2632.6 | 41016 | 23.20 | 23.26 |
|  | 25 | 20 | 1880 | 26340 | QPSK | 1 | 0  | 41 | 20 | 2593   | 40620 | 41 | 20 | 2612.8 | 40818 | 41 | 20 | 2632.6 | 41016 | 41 | 20 | 2652.4 | 41214 | 23.24 | 23.31 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 41 | 20 | 2612.8 | 40818 | 41 | 5  | 2687.5 | 41565 | 41 | 20 | 2667.7 | 41367 | 41 | 20 | 2647.9 | 41169 | 23.76 | 23.78 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 41 | 20 | 2612.8 | 40818 | 42 | 20 | 3575   | 43340 | 42 | 5  | 3552.5 | 43115 | 42 | 20 | 3564.2 | 43232 | 23.73 | 23.78 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 41 | 20 | 2612.8 | 40818 | 41 | 20 | 2632.6 | 41016 | 42 | 20 | 3575   | 43340 | 42 | 20 | 3594.8 | 43538 | 23.75 | 23.79 |
|  | 41 | 20 | 2593 | 40620 | QPSK | 1 | 99 | 42 | 20 | 3575   | 43340 | 42 | 20 | 3594.8 | 43538 | 42 | 5  | 3552.5 | 43115 | 42 | 20 | 3564.2 | 43232 | 23.80 | 23.86 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 5  | 3552.5 | 55265 | 48 | 20 | 3564.2 | 55382 | 66 | 15 | 2155   | 66886 | 66 | 5  | 2164.3 | 66979 | 21.80 | 21.83 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 5  | 3552.5 | 55265 | 48 | 20 | 3564.2 | 55382 | 66 | 20 | 2155   | 66886 | 66 | 20 | 2174.8 | 67084 | 21.82 | 21.82 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 5  | 3552.5 | 55265 | 48 | 20 | 3564.2 | 55382 | 48 | 20 | 3584   | 55580 | 66 | 20 | 2155   | 66886 | 21.85 | 21.87 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 20 | 3621.2 | 55952 | 48 | 5  | 3552.5 | 55265 | 48 | 20 | 3564.2 | 55382 | 66 | 20 | 2155   | 66886 | 21.80 | 21.86 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 20 | 3621.2 | 55952 | 48 | 5  | 3552.5 | 55265 | 48 | 20 | 3564.2 | 55382 | 48 | 20 | 3584   | 55580 | 21.79 | 21.82 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 20 | 3621.2 | 55952 | 66 | 20 | 2155   | 66886 | 66 | 5  | 2112.5 | 66461 | 66 | 20 | 2190   | 67236 | 21.84 | 21.89 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 20 | 3621.2 | 55952 | 48 | 20 | 3601.4 | 55754 | 48 | 20 | 3581.6 | 55556 | 66 | 20 | 2155   | 66886 | 21.79 | 21.88 |
|  | 48 | 20 | 3641 | 56150 | QPSK | 1 | 0  | 48 | 20 | 3621.2 | 55952 | 48 | 20 | 3601.4 | 55754 | 48 | 20 | 3581.6 | 55556 | 48 | 20 | 3561.8 | 55358 | 21.85 | 21.86 |

## <Six Carrier power verification>

| Configure  | PCC      |          |                |            |      |        |              | SCC1     |          |                |            | SCC2     |          |                |            | SCC3     |          |                |            | SCC4     |          |                |            | SCC5     |          |                |            | Power                  |                       |
|------------|----------|----------|----------------|------------|------|--------|--------------|----------|----------|----------------|------------|----------|----------|----------------|------------|----------|----------|----------------|------------|----------|----------|----------------|------------|----------|----------|----------------|------------|------------------------|-----------------------|
|            | LTE Band | BW (MHz) | UL Freq. (MHz) | UL Channel | Mod. | UL# RB | UL RB Offset | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | With CA Tx.Power (dBm) | W/O CA Tx.Power (dBm) |
| Inter-Band | 2        | 20       | 1860           | 18700      | QPSK | 1      | 0            | 48       | 20       | 3609           | 55830      | 48       | 20       | 3628.8         | 56028      | 48       | 20       | 3648.6         | 56226      | 48       | 20       | 3648.6         | 56226      | 66       | 20       | 2155           | 66886      | 23.19                  | 23.20                 |
|            | 13       | 10       | 782            | 23230      | QPSK | 1      | 0            | 48       | 20       | 3609           | 55830      | 48       | 20       | 3628.8         | 56028      | 48       | 20       | 3648.6         | 56226      | 48       | 20       | 3648.6         | 56226      | 66       | 20       | 2155           | 66886      | 23.76                  | 23.79                 |
|            | 41       | 20       | 2593           | 40620      | QPSK | 1      | 99           | 41       | 20       | 2612.8         | 40818      | 42       | 20       | 3575           | 43340      | 42       | 20       | 3594.8         | 43538      | 42       | 5        | 3552.5         | 43115      | 42       | 20       | 3564.2         | 43232      | 23.76                  | 23.77                 |

**<LTE Uplink carrier aggregation>**

| 2CC Uplink Carrier Aggregation |             |
|--------------------------------|-------------|
| Number                         | Combination |
| 1                              | 5B          |
| 2                              | 7C          |
| 3                              | 66B         |
| 4                              | 66C         |
| 5                              | 38C         |
| 6                              | 41C         |
| 7                              | 48C         |

**<Intra-band>**
**General Note:**

- The device supports intra-band uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- The device supports uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

| CA_5B                               |             |            |         |           |         |           |               |                       |                      |                     |
|-------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 10MHz+10MHz (50RB+50RB) |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                         | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune-up power (dBm) |
|                                     |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 20450                               | 20549       | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 19.81                | 20.5                |
| 20525                               | 20426       | QPSK       | 1       | 0         | 1       | 49        | 2             | 0                     | 19.83                | 20.5                |
| 20600                               | 20501       | QPSK       | 1       | 0         | 1       | 49        | 2             | 0                     | 19.67                | 20.5                |

| CA_7C                                 |             |            |         |           |         |           |               |                       |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune-up power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 20850                                 | 21048       | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 14.41                | 14.5                |
| 21100                                 | 20902       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 14.38                | 14.5                |
| 21350                                 | 21152       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 14.39                | 14.5                |

| CA_66B                             |             |            |         |           |         |           |               |                       |                      |                     |
|------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 15MHz+5MHz (75RB+25RB) |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                        | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune-up power (dBm) |
|                                    |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 132047                             | 132140      | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 16.85                | 17                  |
| 132322                             | 132229      | QPSK       | 1       | 0         | 1       | 24        | 2             | 0                     | 16.83                | 17                  |
| 132572                             | 132479      | QPSK       | 1       | 0         | 1       | 24        | 2             | 0                     | 16.79                | 17                  |

| CA_66C                                |             |            |         |           |         |           |               |                       |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune-up power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 132072                                | 132270      | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 16.92                | 17                  |
| 132322                                | 132124      | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 16.89                | 17                  |
| 132572                                | 132374      | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 16.83                | 17                  |

| CA_38C                                |             |            |         |           |         |           |               |                       |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune-up power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 37850                                 | 38048       | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 13.44                | 13.5                |
| 37901                                 | 38099       | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 13.41                | 13.5                |
| 38150                                 | 37952       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 13.38                | 13.5                |

| CA_41C                                |             |            |         |           |         |           |               |                       |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune-up power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 39750                                 | 39948       | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 13.46                | 13.5                |
| 40185                                 | 39987       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 13.41                | 13.5                |
| 40620                                 | 40422       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 13.33                | 13.5                |
| 41055                                 | 40857       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 13.32                | 13.5                |
| 41490                                 | 41292       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 13.24                | 13.5                |

| CA_48C                                |             |            |         |           |         |           |               |                       |                      |                     |
|---------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB) |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                           | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune-up power (dBm) |
|                                       |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 55340                                 | 55538       | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 12.96                | 13                  |
| 55830                                 | 55632       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 12.84                | 13                  |
| 56150                                 | 55952       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 12.78                | 13                  |
| 56640                                 | 56442       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 12.77                | 13                  |

### 13. 5G NR Output Power (Unit: dBm)

**General Note:**

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
  - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM measurement is unnecessary.
  - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, full measurement on Pi/2 BPSK and QPSK, for 16QAM/64QAM/256QAM spot check 1RB 1offset configuration to ensure the output power will not ½ dB higher than Pi/2 BPSK and QPSK, for smaller bandwidth output power will spot check 1RB 1offset configuration at Pi/2 BPSK to ensure output power will not ½ dB higher than largest supported bandwidth.
  - c. SAR testing start with the largest channel bandwidth and measure SAR for Pi/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
  - d. 50% RB allocation for Pi/2 BPSK SAR testing follows 1RB Pi/2 BPSK allocation procedure
  - e. Pi/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
  - f. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
  - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
2. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.

#### <3GPP 38.101 MPR for EN-DC>

**Table 6.2.2-1 Maximum power reduction (MPR) for power class 3**

| Modulation |           | MPR (dB)            |                      |                      |
|------------|-----------|---------------------|----------------------|----------------------|
|            |           | Edge RB allocations | Outer RB allocations | Inner RB allocations |
| DFT-s-OFDM | Pi/2 BPSK | ≤ 3.5 <sup>1</sup>  | ≤ 1.2 <sup>1</sup>   | ≤ 0.2 <sup>1</sup>   |
|            |           | ≤ 0.5 <sup>2</sup>  | ≤ 0.5 <sup>2</sup>   | 0 <sup>2</sup>       |
|            | QPSK      | ≤ 1                 |                      | 0                    |
|            | 16 QAM    | ≤ 2                 |                      | ≤ 1                  |
|            | 64 QAM    | ≤ 2.5               |                      |                      |
| CP-OFDM    | 256 QAM   | ≤ 4.5               |                      |                      |
|            | QPSK      | ≤ 3                 |                      | ≤ 1.5                |
|            | 16 QAM    | ≤ 3                 |                      | ≤ 2                  |
|            | 64 QAM    | ≤ 3.5               |                      |                      |
|            | 256 QAM   | ≤ 6.5               |                      |                      |

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE *powerBoostPi2BPSK* is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

**Table 6.2.2-2 Maximum power reduction (MPR) for power class 2**

| Modulation |           | MPR (dB)            |                      |                      |
|------------|-----------|---------------------|----------------------|----------------------|
|            |           | Edge RB allocations | Outer RB allocations | Inner RB allocations |
| DFT-s-OFDM | Pi/2 BPSK | ≤ 3.5               | ≤ 0.5                | 0                    |
|            | QPSK      | ≤ 3.5               | ≤ 1                  | 0                    |
|            | 16 QAM    | ≤ 3.5               | ≤ 2                  | ≤ 1                  |
|            | 64 QAM    | ≤ 3.5               | ≤ 2.5                |                      |
|            | 256 QAM   | ≤ 4.5               |                      |                      |
| CP-OFDM    | QPSK      | ≤ 3.5               | ≤ 3                  | ≤ 1.5                |
|            | 16 QAM    | ≤ 3.5               | ≤ 3                  | ≤ 2                  |
|            | 64 QAM    | ≤ 3.5               |                      |                      |
|            | 256 QAM   | ≤ 6.5               |                      |                      |

**Default Power Mode**
**<n2 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 372000                   | 376000                      | 380000                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 23.06                    | 23.20                       | 23.05                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 22.94                    | 23.02                       | 22.83                     | 23.5                   | 0.5         |
| 20              | PI/2 BPSK  | 1       | 104       | 22.85                    | 22.96                       | 22.86                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 22.38                    | 22.50                       | 22.32                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 22.79                    | 22.99                       | 22.79                     | 24.0                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 22.47                    | 22.57                       | 22.46                     |                        |             |
| 20              | PI/2 BPSK  | 100     | 0         | 22.40                    | 22.56                       | 22.44                     |                        |             |
| 20              | QPSK       | 1       | 1         | 22.77                    | 23.00                       | 22.79                     | 23.0                   | 1.0         |
| 20              | QPSK       | 1       | 53        | 22.90                    | 23.08                       | 22.96                     |                        |             |
| 20              | QPSK       | 1       | 104       | 22.72                    | 22.93                       | 22.74                     |                        |             |
| 20              | QPSK       | 50      | 0         | 21.95                    | 22.07                       | 21.88                     | 24.0                   | 0.0         |
| 20              | QPSK       | 50      | 28        | 22.83                    | 22.93                       | 22.78                     |                        |             |
| 20              | QPSK       | 50      | 56        | 21.91                    | 21.99                       | 21.90                     |                        |             |
| 20              | QPSK       | 100     | 0         | 21.96                    | 22.06                       | 21.87                     | 23.0                   | 1.0         |
| 20              | 16QAM      | 1       | 1         | 21.71                    | 21.78                       | 21.64                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 20.88                    | 21.00                       | 20.91                     |                        |             |
| 20              | 256QAM     | 1       | 1         | 18.10                    | 18.28                       | 18.04                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 371500                   | 376000                      | 380500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1902.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 22.99                    | 23.11                       | 23.01                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 371000                   | 376000                      | 381000                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1855                     | 1880                        | 1905                      |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 23.02                    | 23.13                       | 23.02                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 370500                   | 376000                      | 381500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1852.5                   | 1880                        | 1907.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 23.05                    | 23.17                       | 22.99                     | 24.0                   | 0.0         |

**<n2 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 372000                   | 376000                      | 380000                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 23.64                    | 23.73                       | 23.58                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 23.61                    | 23.62                       | 23.58                     | 23.5                   | 0.5         |
| 20              | PI/2 BPSK  | 1       | 104       | 23.56                    | 23.70                       | 23.56                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 23.25                    | 23.26                       | 23.18                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 23.59                    | 23.62                       | 23.61                     | 23.5                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 23.18                    | 23.18                       | 23.12                     |                        |             |
| 20              | PI/2 BPSK  | 100     | 0         | 23.10                    | 23.11                       | 23.10                     |                        |             |
| 20              | QPSK       | 1       | 1         | 23.54                    | 23.61                       | 23.53                     | 24.0                   | 0.0         |
| 20              | QPSK       | 1       | 53        | 23.53                    | 23.54                       | 23.53                     |                        |             |
| 20              | QPSK       | 1       | 104       | 23.49                    | 23.56                       | 23.49                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.68                    | 22.78                       | 22.74                     | 24.0                   | 1.0         |
| 20              | QPSK       | 50      | 28        | 23.49                    | 23.54                       | 23.49                     |                        |             |
| 20              | QPSK       | 50      | 56        | 22.53                    | 22.61                       | 22.60                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.67                    | 22.67                       | 22.66                     | 23.0                   | 1.0         |
| 20              | 16QAM      | 1       | 1         | 22.82                    | 22.91                       | 22.88                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 21.43                    | 21.43                       | 21.33                     |                        |             |
| 20              | 256QAM     | 1       | 1         | 18.87                    | 18.93                       | 18.85                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 371500                   | 376000                      | 380500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1902.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 23.51                    | 23.61                       | 23.52                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 371000                   | 376000                      | 381000                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1855                     | 1880                        | 1905                      |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 23.53                    | 23.49                       | 23.62                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 370500                   | 376000                      | 381500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1852.5                   | 1880                        | 1907.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 23.66                    | 23.60                       | 23.55                     | 24.0                   | 0.0         |

**<n5 Main >**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 166800                   | 167300                      | 167800                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 834                      | 836.5                       | 839                       |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 23.54                    | 23.58                       | 23.47                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 23.36                    | 23.47                       | 23.34                     | 23.5                   | 0.5         |
| 20              | PI/2 BPSK  | 1       | 104       | 23.16                    | 23.21                       | 23.09                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 22.88                    | 23.00                       | 22.87                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 23.24                    | 23.28                       | 23.18                     | 23.5                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 22.71                    | 22.78                       | 22.67                     |                        |             |
| 20              | PI/2 BPSK  | 100     | 0         | 22.88                    | 22.94                       | 22.85                     |                        |             |
| 20              | QPSK       | 1       | 1         | 23.29                    | 23.42                       | 23.30                     | 24.0                   | 0.0         |
| 20              | QPSK       | 1       | 53        | 23.35                    | 23.42                       | 23.36                     |                        |             |
| 20              | QPSK       | 1       | 104       | 23.00                    | 23.07                       | 22.95                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.35                    | 22.49                       | 22.36                     | 23.0                   | 1.0         |
| 20              | QPSK       | 50      | 28        | 23.15                    | 23.20                       | 23.14                     |                        |             |
| 20              | QPSK       | 50      | 56        | 22.30                    | 22.29                       | 22.24                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.37                    | 22.43                       | 22.26                     | 23.0                   | 1.0         |
| 20              | 16QAM      | 1       | 1         | 22.48                    | 22.47                       | 22.43                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 21.31                    | 21.39                       | 21.33                     |                        |             |
| 20              | 256QAM     | 1       | 1         | 18.80                    | 18.78                       | 18.68                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 166300                   | 167300                      | 168300                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 831.5                    | 836.5                       | 841.5                     |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 23.48                    | 23.53                       | 23.45                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 165800                   | 167300                      | 168800                    |                        |             |
| Frequency (MHz) |            |         |           | 829                      | 836.5                       | 844                       | 24.0                   | 0.0         |
| 10              | PI/2 BPSK  | 1       | 1         | 23.44                    | 23.52                       | 23.39                     |                        |             |
| Channel         |            |         |           | 165300                   | 167300                      | 169300                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 826.5                    | 836.5                       | 846.5                     |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 23.52                    | 23.49                       | 23.43                     | 24.0                   | 0.0         |

**<n7 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 502000                   | 507000                      | 512000                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2510                     | 2535                        | 2560                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 23.22                    | 22.56                       | 23.01                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 23.76                    | 23.04                       | 23.57                     | 23.5                   | 0.5         |
| 20              | PI/2 BPSK  | 1       | 104       | 23.57                    | 22.84                       | 23.33                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 22.92                    | 22.26                       | 22.69                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 23.67                    | 22.97                       | 23.37                     | 23.5                   | 0.5         |
| 20              | PI/2 BPSK  | 50      | 56        | 23.14                    | 22.55                       | 22.96                     |                        |             |
| 20              | PI/2 BPSK  | 100     | 0         | 23.24                    | 22.54                       | 22.97                     |                        |             |
| 20              | QPSK       | 1       | 1         | 23.12                    | 22.44                       | 22.90                     | 24.0                   | 0.0         |
| 20              | QPSK       | 1       | 53        | 23.71                    | 22.97                       | 23.50                     |                        |             |
| 20              | QPSK       | 1       | 104       | 23.49                    | 22.80                       | 23.24                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.73                    | 22.05                       | 22.51                     | 23.0                   | 1.0         |
| 20              | QPSK       | 50      | 28        | 23.55                    | 22.93                       | 23.32                     |                        |             |
| 20              | QPSK       | 50      | 56        | 22.73                    | 22.04                       | 22.49                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.74                    | 22.00                       | 22.49                     | 23.0                   | 1.0         |
| 20              | 16QAM      | 1       | 1         | 22.01                    | 21.35                       | 21.83                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 21.43                    | 20.84                       | 21.28                     |                        |             |
| 20              | 256QAM     | 1       | 1         | 18.97                    | 18.29                       | 18.79                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 501500                   | 507000                      | 512500                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2507.5                   | 2535                        | 2562.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 23.15                    | 22.52                       | 23.00                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 501000                   | 507000                      | 513000                    |                        |             |
| Frequency (MHz) |            |         |           | 2505                     | 2535                        | 2565                      | 24.0                   | 0.0         |
| 10              | PI/2 BPSK  | 1       | 1         | 23.21                    | 22.48                       | 22.91                     |                        |             |
| Channel         |            |         |           | 500500                   | 507000                      | 513500                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2502.5                   | 2535                        | 2567.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 23.18                    | 22.50                       | 23.01                     | 24.0                   | 0.0         |

**<n12 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 141300                   | 141500                      | 141700                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 706.5                    | 707.5                       | 708.5                     |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 23.75                    | 23.89                       | 23.82                     |                        |             |
| 15              | PI/2 BPSK  | 1       | 40        | 23.49                    | 23.70                       | 23.61                     | 23.5                   | 0.5         |
| 15              | PI/2 BPSK  | 1       | 77        | 23.45                    | 23.58                       | 23.49                     |                        |             |
| 15              | PI/2 BPSK  | 36      | 0         | 23.10                    | 23.26                       | 23.24                     |                        |             |
| 15              | PI/2 BPSK  | 36      | 22        | 23.50                    | 23.58                       | 23.52                     | 24.0                   | 0.0         |
| 15              | PI/2 BPSK  | 36      | 43        | 23.08                    | 23.20                       | 23.10                     |                        |             |
| 15              | PI/2 BPSK  | 75      | 0         | 23.12                    | 23.20                       | 23.17                     |                        |             |
| 15              | QPSK       | 1       | 1         | 23.59                    | 23.70                       | 23.62                     | 23.0                   | 1.0         |
| 15              | QPSK       | 1       | 40        | 23.41                    | 23.58                       | 23.51                     |                        |             |
| 15              | QPSK       | 1       | 77        | 23.29                    | 23.38                       | 23.32                     |                        |             |
| 15              | QPSK       | 36      | 0         | 22.59                    | 22.71                       | 22.65                     | 24.0                   | 0.0         |
| 15              | QPSK       | 36      | 22        | 23.45                    | 23.54                       | 23.43                     |                        |             |
| 15              | QPSK       | 36      | 43        | 22.48                    | 22.63                       | 22.59                     |                        |             |
| 15              | QPSK       | 75      | 0         | 22.63                    | 22.73                       | 22.72                     | 23.0                   | 1.0         |
| 15              | 16QAM      | 1       | 1         | 22.43                    | 22.66                       | 22.54                     |                        |             |
| 15              | 64QAM      | 1       | 1         | 21.21                    | 21.32                       | 21.27                     |                        |             |
| 15              | 256QAM     | 1       | 1         | 18.94                    | 19.15                       | 19.09                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 140800                   | 141500                      | 142200                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 704                      | 707.5                       | 711                       |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 23.74                    | 23.89                       | 23.80                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 140300                   | 141500                      | 142700                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 701.5                    | 707.5                       | 713.5                     |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 23.70                    | 23.80                       | 23.76                     | 24.0                   | 0.0         |

**<n41 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 509202                   | 518598                      | 528000                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2546.01                  | 2592.99                     | 2640                      |                        |             |
| 100             | PI/2 BPSK  | 1       | 1         | 23.73                    | 23.70                       | 23.45                     |                        |             |
| 100             | PI/2 BPSK  | 1       | 137       | 23.60                    | 23.57                       | 23.37                     | 24.0                   | 0.0         |
| 100             | PI/2 BPSK  | 1       | 271       | 23.61                    | 23.52                       | 23.37                     |                        |             |
| 100             | PI/2 BPSK  | 135     | 0         | 23.36                    | 23.31                       | 23.05                     |                        |             |
| 100             | PI/2 BPSK  | 135     | 69        | 23.64                    | 23.57                       | 23.59                     | 24.0                   | 0.0         |
| 100             | PI/2 BPSK  | 135     | 138       | 23.44                    | 23.53                       | 23.22                     |                        |             |
| 100             | PI/2 BPSK  | 270     | 0         | 23.39                    | 23.30                       | 23.06                     |                        |             |
| 100             | QPSK       | 1       | 1         | 22.97                    | 22.92                       | 22.73                     | 24.0                   | 0.0         |
| 100             | QPSK       | 1       | 137       | 23.28                    | 23.24                       | 23.06                     |                        |             |
| 100             | QPSK       | 1       | 271       | 23.17                    | 23.12                       | 22.93                     |                        |             |
| 100             | QPSK       | 135     | 0         | 23.30                    | 23.23                       | 23.05                     | 24.0                   | 0.0         |
| 100             | QPSK       | 135     | 69        | 23.52                    | 23.58                       | 23.42                     |                        |             |
| 100             | QPSK       | 135     | 138       | 23.52                    | 23.53                       | 23.26                     |                        |             |
| 100             | QPSK       | 270     | 0         | 22.83                    | 22.87                       | 22.61                     | 23.0                   | 1.0         |
| 100             | 16QAM      | 1       | 1         | 22.20                    | 22.29                       | 22.00                     | 23.0                   | 1.0         |
| 100             | 64QAM      | 1       | 1         | 21.38                    | 21.36                       | 21.22                     | 21.5                   | 2.5         |
| 100             | 256QAM     | 1       | 1         | 19.29                    | 19.34                       | 19.39                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 508200                   | 518598                      | 528996                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2541                     | 2592.99                     | 2644.98                   |                        |             |
| 90              | PI/2 BPSK  | 1       | 1         | 23.45                    | 23.45                       | 23.19                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 507204                   | 518598                      | 529998                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2536.02                  | 2592.99                     | 2649.99                   |                        |             |
| 80              | PI/2 BPSK  | 1       | 1         | 23.40                    | 23.35                       | 23.11                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 505200                   | 518598                      | 531996                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2526                     | 2592.99                     | 2659.98                   |                        |             |
| 60              | PI/2 BPSK  | 1       | 1         | 23.47                    | 23.39                       | 23.15                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 504204                   | 518598                      | 532998                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2521.02                  | 2592.99                     | 2664.99                   |                        |             |
| 50              | PI/2 BPSK  | 1       | 1         | 23.39                    | 23.40                       | 23.16                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 503202                   | 518598                      | 534000                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2516.01                  | 2592.99                     | 2670                      |                        |             |
| 40              | PI/2 BPSK  | 1       | 1         | 23.48                    | 23.38                       | 23.14                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 501204                   | 518598                      | 535998                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2506.02                  | 2592.99                     | 2679.99                   |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 23.40                    | 23.44                       | 23.11                     | 24.0                   | 0.0         |

**<n66 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 344000                   | 349000                      | 354000                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 23.00                    | 23.05                       | 23.07                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 22.87                    | 22.93                       | 22.95                     | 23.5                   | 0.5         |
| 20              | PI/2 BPSK  | 1       | 104       | 22.93                    | 22.93                       | 22.98                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 22.43                    | 22.55                       | 22.48                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 22.85                    | 22.88                       | 22.95                     | 24.0                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 22.46                    | 22.45                       | 22.47                     |                        |             |
| 20              | PI/2 BPSK  | 100     | 0         | 22.49                    | 22.56                       | 22.61                     |                        |             |
| 20              | QPSK       | 1       | 1         | 22.86                    | 22.86                       | 22.88                     | 23.0                   | 1.0         |
| 20              | QPSK       | 1       | 53        | 22.90                    | 22.92                       | 22.92                     |                        |             |
| 20              | QPSK       | 1       | 104       | 22.80                    | 22.86                       | 22.92                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.02                    | 22.01                       | 22.08                     | 24.0                   | 0.0         |
| 20              | QPSK       | 50      | 28        | 22.80                    | 22.93                       | 22.92                     |                        |             |
| 20              | QPSK       | 50      | 56        | 21.95                    | 21.96                       | 22.01                     |                        |             |
| 20              | QPSK       | 100     | 0         | 21.97                    | 22.01                       | 21.99                     | 23.0                   | 1.0         |
| 20              | 16QAM      | 1       | 1         | 21.84                    | 21.92                       | 21.97                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 20.82                    | 20.88                       | 20.84                     |                        |             |
| 20              | 256QAM     | 1       | 1         | 18.24                    | 18.21                       | 18.29                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 343500                   | 349000                      | 354500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1717.5                   | 1745                        | 1772.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 22.90                    | 22.99                       | 23.04                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 343000                   | 349000                      | 355000                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1715                     | 1745                        | 1775                      |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 23.00                    | 22.96                       | 22.98                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 342500                   | 349000                      | 355500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1712.5                   | 1745                        | 1777.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 22.97                    | 22.95                       | 23.05                     | 24.0                   | 0.0         |

**<n66 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 344000                   | 349000                      | 354000                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 23.69                    | 23.92                       | 23.76                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 23.65                    | 23.73                       | 23.63                     | 23.5                   | 0.5         |
| 20              | PI/2 BPSK  | 1       | 104       | 23.59                    | 23.69                       | 23.64                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 23.29                    | 23.34                       | 23.34                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 23.75                    | 23.76                       | 23.70                     | 23.5                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 23.32                    | 23.39                       | 23.38                     |                        |             |
| 20              | PI/2 BPSK  | 100     | 0         | 23.18                    | 23.27                       | 23.20                     |                        |             |
| 20              | QPSK       | 1       | 1         | 23.60                    | 23.60                       | 23.58                     | 24.0                   | 0.0         |
| 20              | QPSK       | 1       | 53        | 23.73                    | 23.83                       | 23.78                     |                        |             |
| 20              | QPSK       | 1       | 104       | 23.77                    | 23.87                       | 23.77                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.95                    | 22.98                       | 22.94                     | 23.0                   | 1.0         |
| 20              | QPSK       | 50      | 28        | 23.85                    | 23.91                       | 23.81                     |                        |             |
| 20              | QPSK       | 50      | 56        | 22.91                    | 22.94                       | 22.87                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.87                    | 22.89                       | 22.89                     | 23.0                   | 1.0         |
| 20              | 16QAM      | 1       | 1         | 21.84                    | 21.92                       | 21.97                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 20.82                    | 20.88                       | 20.84                     |                        |             |
| 20              | 256QAM     | 1       | 1         | 18.24                    | 18.21                       | 18.29                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 343500                   | 349000                      | 354500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1717.5                   | 1745                        | 1772.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 23.60                    | 23.86                       | 23.75                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 343000                   | 349000                      | 355000                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1715                     | 1745                        | 1775                      |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 23.63                    | 23.91                       | 23.76                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 342500                   | 349000                      | 355500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1712.5                   | 1745                        | 1777.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 23.59                    | 23.91                       | 23.71                     | 24.0                   | 0.0         |

**<n71 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 134600                   | 136100                      | 137600                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 673                      | 680.5                       | 688                       |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 23.98                    | 23.90                       | 23.77                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 23.84                    | 23.83                       | 23.62                     | 23.5                   | 0.5         |
| 20              | PI/2 BPSK  | 1       | 104       | 23.60                    | 23.52                       | 23.42                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 23.31                    | 23.32                       | 23.21                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 23.68                    | 23.64                       | 23.48                     | 23.5                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 23.13                    | 23.17                       | 23.06                     |                        |             |
| 20              | PI/2 BPSK  | 100     | 0         | 23.31                    | 23.25                       | 23.18                     |                        |             |
| 20              | QPSK       | 1       | 1         | 23.72                    | 23.75                       | 23.61                     | 24.0                   | 0.0         |
| 20              | QPSK       | 1       | 53        | 23.77                    | 23.70                       | 23.62                     |                        |             |
| 20              | QPSK       | 1       | 104       | 23.47                    | 23.56                       | 23.37                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.83                    | 22.78                       | 22.66                     | 23.0                   | 1.0         |
| 20              | QPSK       | 50      | 28        | 23.61                    | 23.61                       | 23.49                     |                        |             |
| 20              | QPSK       | 50      | 56        | 22.77                    | 22.76                       | 22.56                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.81                    | 22.77                       | 22.64                     | 23.0                   | 1.0         |
| 20              | 16QAM      | 1       | 1         | 22.82                    | 22.75                       | 22.66                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 21.34                    | 21.34                       | 21.16                     |                        |             |
| 20              | 256QAM     | 1       | 1         | 19.19                    | 19.28                       | 19.06                     | 19.5                   | 4.5         |
| Channel         |            |         |           | 134100                   | 136100                      | 138100                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 670.5                    | 680.5                       | 690.5                     |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 23.89                    | 23.85                       | 23.68                     | 24.0                   | 0.0         |
| Channel         |            |         |           | 133600                   | 136100                      | 138600                    |                        |             |
| Frequency (MHz) |            |         |           | 668                      | 680.5                       | 693                       | 24.0                   | 0.0         |
| 10              | PI/2 BPSK  | 1       | 1         | 23.88                    | 23.81                       | 23.73                     |                        |             |
| Channel         |            |         |           | 133100                   | 136100                      | 139100                    | 24.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 665.5                    | 680.5                       | 695.5                     |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 23.91                    | 23.89                       | 23.73                     | 24.0                   | 0.0         |



**Reduced Power Mode**

**<n2 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 372000                   | 376000                      | 380000                    |                        |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 12.54                    | 12.52                       | 12.48                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 12.75                    | 12.77                       | 12.69                     | 13.5                   | 0.0         |
| 20              | PI/2 BPSK  | 1       | 104       | 12.45                    | 12.45                       | 12.39                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 12.50                    | 12.52                       | 12.52                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 12.43                    | 12.52                       | 12.43                     | 13.5                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 12.46                    | 12.55                       | 12.52                     | 13.5                   | 0.0         |
| 20              | PI/2 BPSK  | 100     | 0         | 12.45                    | 12.49                       | 12.46                     |                        |             |
| 20              | QPSK       | 1       | 1         | 12.56                    | 12.61                       | 12.60                     |                        |             |
| 20              | QPSK       | 1       | 53        | 12.40                    | 12.46                       | 12.39                     | 13.5                   | 0.0         |
| 20              | QPSK       | 1       | 104       | 12.43                    | 12.52                       | 12.42                     |                        |             |
| 20              | QPSK       | 50      | 0         | 12.44                    | 12.46                       | 12.43                     |                        |             |
| 20              | QPSK       | 50      | 28        | 12.48                    | 12.50                       | 12.50                     | 13.5                   | 0.0         |
| 20              | QPSK       | 50      | 56        | 12.46                    | 12.54                       | 12.53                     | 13.5                   | 0.0         |
| 20              | QPSK       | 100     | 0         | 12.46                    | 12.53                       | 12.51                     |                        |             |
| 20              | 16QAM      | 1       | 1         | 12.38                    | 12.42                       | 12.32                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 12.67                    | 12.75                       | 12.65                     | 13.5                   | 0.0         |
| 20              | 256QAM     | 1       | 1         | 11.93                    | 11.95                       | 11.85                     | 12.5                   | 1.0         |
| Channel         |            |         |           | 371500                   | 376000                      | 380500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1902.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 12.44                    | 12.44                       | 12.42                     | 13.5                   | 0.0         |
| Channel         |            |         |           | 370000                   | 376000                      | 382000                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1850                     | 1880                        | 1910                      |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 12.52                    | 12.48                       | 12.47                     | 13.5                   | 0.0         |
| Channel         |            |         |           | 370500                   | 376000                      | 381500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1852.5                   | 1880                        | 1907.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 12.50                    | 12.42                       | 12.43                     | 13.5                   | 0.0         |

**<n2 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 372000                   | 376000                      | 380000                    | 12.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 11.38                    | 11.31                       | 11.24                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 11.84                    | 11.79                       | 11.70                     | 12.5                   | 0.0         |
| 20              | PI/2 BPSK  | 1       | 104       | 11.25                    | 11.24                       | 11.15                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 11.16                    | 11.20                       | 11.05                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 11.30                    | 11.30                       | 11.18                     | 12.5                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 11.40                    | 11.38                       | 11.21                     | 12.5                   | 0.0         |
| 20              | PI/2 BPSK  | 100     | 0         | 11.34                    | 11.31                       | 11.19                     |                        |             |
| 20              | QPSK       | 1       | 1         | 11.38                    | 11.33                       | 11.17                     |                        |             |
| 20              | QPSK       | 1       | 53        | 11.34                    | 11.31                       | 11.17                     | 12.5                   | 0.0         |
| 20              | QPSK       | 1       | 104       | 11.18                    | 11.15                       | 11.03                     |                        |             |
| 20              | QPSK       | 50      | 0         | 11.38                    | 11.35                       | 11.21                     |                        |             |
| 20              | QPSK       | 50      | 28        | 11.37                    | 11.32                       | 11.23                     | 12.5                   | 0.0         |
| 20              | QPSK       | 50      | 56        | 11.24                    | 11.25                       | 11.11                     | 12.5                   | 0.0         |
| 20              | QPSK       | 100     | 0         | 11.27                    | 11.32                       | 11.22                     |                        |             |
| 20              | 16QAM      | 1       | 1         | 11.32                    | 11.29                       | 11.13                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 11.49                    | 11.52                       | 11.36                     | 12.5                   | 0.0         |
| 20              | 256QAM     | 1       | 1         | 10.96                    | 10.99                       | 10.90                     | 11.5                   | 1.0         |
| Channel         |            |         |           | 371500                   | 376000                      | 380500                    | 12.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1902.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 11.32                    | 11.23                       | 11.24                     | 12.5                   | 0.0         |
| Channel         |            |         |           | 371000                   | 376000                      | 381000                    | 12.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 1855                     | 1880                        | 1905                      |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 11.36                    | 11.30                       | 11.19                     | 12.5                   | 0.0         |
| Channel         |            |         |           | 370500                   | 376000                      | 381500                    | 12.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 1852.5                   | 1880                        | 1907.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 11.36                    | 11.28                       | 11.18                     | 12.5                   | 0.0         |

**<n5 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 166800                   | 167300                      | 167800                    | 15.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 834                      | 836.5                       | 839                       |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 14.55                    | 14.75                       | 14.50                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 14.47                    | 14.63                       | 14.42                     | 15.5                   | 0.0         |
| 20              | PI/2 BPSK  | 1       | 104       | 14.12                    | 14.36                       | 14.06                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 14.40                    | 14.57                       | 14.33                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 14.29                    | 14.46                       | 14.20                     | 15.5                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 14.28                    | 14.53                       | 14.25                     | 15.5                   | 0.0         |
| 20              | PI/2 BPSK  | 100     | 0         | 14.35                    | 14.57                       | 14.32                     |                        |             |
| 20              | QPSK       | 1       | 1         | 14.42                    | 14.57                       | 14.32                     |                        |             |
| 20              | QPSK       | 1       | 53        | 14.28                    | 14.48                       | 14.23                     | 15.5                   | 0.0         |
| 20              | QPSK       | 1       | 104       | 14.20                    | 14.43                       | 14.17                     |                        |             |
| 20              | QPSK       | 50      | 0         | 14.40                    | 14.60                       | 14.35                     |                        |             |
| 20              | QPSK       | 50      | 28        | 14.34                    | 14.51                       | 14.22                     | 15.5                   | 0.0         |
| 20              | QPSK       | 50      | 56        | 14.20                    | 14.43                       | 14.13                     | 15.5                   | 0.0         |
| 20              | QPSK       | 100     | 0         | 14.34                    | 14.56                       | 14.35                     |                        |             |
| 20              | 16QAM      | 1       | 1         | 14.41                    | 14.58                       | 14.32                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 14.35                    | 14.54                       | 14.25                     | 15.5                   | 0.0         |
| 20              | 256QAM     | 1       | 1         | 14.04                    | 14.19                       | 13.96                     | 15.0                   | 0.5         |
| Channel         |            |         |           | 166300                   | 167300                      | 168300                    | 15.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 831.5                    | 836.5                       | 841.5                     |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 14.52                    | 14.68                       | 14.50                     | 15.5                   | 0.0         |
| Channel         |            |         |           | 165800                   | 167300                      | 168800                    | 15.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 829                      | 836.5                       | 844                       |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 14.49                    | 14.67                       | 14.49                     | 15.5                   | 0.0         |
| Channel         |            |         |           | 165300                   | 167300                      | 169300                    | 15.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 826.5                    | 836.5                       | 846.5                     |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 14.47                    | 14.61                       | 14.45                     | 15.5                   | 0.0         |

**<n7 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 502000                   | 507000                      | 512000                    | 10.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 2510                     | 2535                        | 2560                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 9.29                     | 9.42                        | 9.32                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 9.69                     | 9.84                        | 9.67                      | 10.0                   | 0.0         |
| 20              | PI/2 BPSK  | 1       | 104       | 9.19                     | 9.32                        | 9.15                      |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 9.15                     | 9.32                        | 9.12                      |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 9.21                     | 9.34                        | 9.21                      | 10.0                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 9.22                     | 9.36                        | 9.23                      | 10.0                   | 0.0         |
| 20              | PI/2 BPSK  | 100     | 0         | 9.23                     | 9.36                        | 9.22                      |                        |             |
| 20              | QPSK       | 1       | 1         | 9.28                     | 9.41                        | 9.23                      |                        |             |
| 20              | QPSK       | 1       | 53        | 9.24                     | 9.40                        | 9.24                      | 10.0                   | 0.0         |
| 20              | QPSK       | 1       | 104       | 9.14                     | 9.36                        | 9.21                      |                        |             |
| 20              | QPSK       | 50      | 0         | 9.13                     | 9.29                        | 9.10                      |                        |             |
| 20              | QPSK       | 50      | 28        | 9.16                     | 9.38                        | 9.21                      | 10.0                   | 0.0         |
| 20              | QPSK       | 50      | 56        | 9.19                     | 9.36                        | 9.25                      | 10.0                   | 0.0         |
| 20              | QPSK       | 100     | 0         | 9.18                     | 9.33                        | 9.15                      |                        |             |
| 20              | 16QAM      | 1       | 1         | 9.18                     | 9.41                        | 9.23                      |                        |             |
| 20              | 64QAM      | 1       | 1         | 9.35                     | 9.49                        | 9.32                      | 10.0                   | 0.0         |
| 20              | 256QAM     | 1       | 1         | 8.99                     | 9.13                        | 9.00                      | 9.5                    | 0.5         |
| Channel         |            |         |           | 501500                   | 507000                      | 512500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2507.5                   | 2535                        | 2562.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 9.20                     | 9.40                        | 9.29                      | 10.0                   | 0.0         |
| Channel         |            |         |           | 501000                   | 507000                      | 513000                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2505                     | 2535                        | 2565                      |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 9.22                     | 9.35                        | 9.23                      | 10.0                   | 0.0         |
| Channel         |            |         |           | 500500                   | 507000                      | 513500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2502.5                   | 2535                        | 2567.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 9.23                     | 9.33                        | 9.26                      | 10.0                   | 0.0         |

**<n12 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 141300                   | 141500                      | 141700                    | 15.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 706.5                    | 707.5                       | 708.5                     |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 14.27                    | 14.41                       | 14.32                     |                        |             |
| 15              | PI/2 BPSK  | 1       | 40        | 13.98                    | 13.87                       | 14.08                     | 15.5                   | 0.0         |
| 15              | PI/2 BPSK  | 1       | 77        | 13.94                    | 13.79                       | 13.92                     |                        |             |
| 15              | PI/2 BPSK  | 36      | 0         | 14.07                    | 14.11                       | 14.08                     |                        |             |
| 15              | PI/2 BPSK  | 36      | 22        | 13.98                    | 13.91                       | 14.09                     | 15.5                   | 0.0         |
| 15              | PI/2 BPSK  | 36      | 43        | 13.94                    | 13.84                       | 13.97                     | 15.5                   | 0.0         |
| 15              | PI/2 BPSK  | 75      | 0         | 14.04                    | 13.95                       | 14.07                     |                        |             |
| 15              | QPSK       | 1       | 1         | 14.12                    | 13.97                       | 14.18                     |                        |             |
| 15              | QPSK       | 1       | 40        | 14.07                    | 13.90                       | 14.08                     | 15.5                   | 0.0         |
| 15              | QPSK       | 1       | 77        | 13.88                    | 13.75                       | 13.94                     |                        |             |
| 15              | QPSK       | 36      | 0         | 14.10                    | 14.01                       | 14.23                     |                        |             |
| 15              | QPSK       | 36      | 22        | 14.02                    | 13.90                       | 14.08                     | 15.5                   | 0.0         |
| 15              | QPSK       | 36      | 43        | 13.95                    | 13.87                       | 14.05                     | 15.5                   | 0.0         |
| 15              | QPSK       | 75      | 0         | 14.06                    | 13.93                       | 14.13                     |                        |             |
| 15              | 16QAM      | 1       | 1         | 14.20                    | 14.07                       | 14.27                     |                        |             |
| 15              | 64QAM      | 1       | 1         | 14.13                    | 14.04                       | 14.19                     | 15.5                   | 0.0         |
|                 | 256QAM     | 1       | 1         | 13.71                    | 13.62                       | 13.79                     | 15.0                   | 0.5         |
| Channel         |            |         |           | 140800                   | 141500                      | 142200                    | 15.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 704                      | 707.5                       | 711                       |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 17.72                    | 17.88                       | 17.82                     | 15.5                   | 0.0         |
| Channel         |            |         |           | 140300                   | 141500                      | 142700                    | 15.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 701.5                    | 707.5                       | 713.5                     |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 17.71                    | 17.84                       | 17.72                     | 15.5                   | 0.0         |

**<n41 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 509202                   | 518598                      | 528000                    | 9.5                    | 0.0         |
| Frequency (MHz) |            |         |           | 2546.01                  | 2592.99                     | 2640                      |                        |             |
| 100             | PI/2 BPSK  | 1       | 1         | 8.97                     | 9.34                        | 9.37                      |                        |             |
| 100             | PI/2 BPSK  | 1       | 137       | 8.74                     | 9.21                        | 9.12                      | 9.5                    | 0.0         |
| 100             | PI/2 BPSK  | 1       | 271       | 8.55                     | 8.97                        | 8.95                      |                        |             |
| 100             | PI/2 BPSK  | 135     | 0         | 8.74                     | 9.20                        | 9.14                      |                        |             |
| 100             | PI/2 BPSK  | 135     | 69        | 8.85                     | 9.27                        | 9.29                      | 9.5                    | 0.0         |
| 100             | PI/2 BPSK  | 135     | 138       | 8.66                     | 9.05                        | 8.96                      |                        |             |
| 100             | PI/2 BPSK  | 270     | 0         | 8.71                     | 9.12                        | 9.02                      |                        |             |
| 100             | QPSK       | 1       | 1         | 8.68                     | 9.09                        | 9.09                      | 9.5                    | 0.0         |
| 100             | QPSK       | 1       | 137       | 8.71                     | 9.14                        | 9.05                      |                        |             |
| 100             | QPSK       | 1       | 271       | 8.44                     | 8.91                        | 8.90                      |                        |             |
| 100             | QPSK       | 135     | 0         | 8.72                     | 9.19                        | 9.12                      | 9.5                    | 0.0         |
| 100             | QPSK       | 135     | 69        | 8.81                     | 9.25                        | 9.17                      |                        |             |
| 100             | QPSK       | 135     | 138       | 8.71                     | 9.08                        | 9.04                      |                        |             |
| 100             | QPSK       | 270     | 0         | 8.69                     | 9.14                        | 9.06                      | 9.5                    | 0.0         |
| 100             | 16QAM      | 1       | 1         | 8.67                     | 9.12                        | 9.08                      | 9.5                    | 0.0         |
| 100             | 64QAM      | 1       | 1         | 8.68                     | 9.05                        | 9.02                      | 9.5                    | 0.0         |
| 100             | 256QAM     | 1       | 1         | 8.54                     | 8.91                        | 8.85                      | 9.5                    | 0.0         |
| Channel         |            |         |           | 508200                   | 518598                      | 528996                    | 9.5                    | 0.0         |
| Frequency (MHz) |            |         |           | 2541                     | 2592.99                     | 2644.98                   |                        |             |
| 90              | PI/2 BPSK  | 1       | 1         | 8.89                     | 9.28                        | 9.34                      | 9.5                    | 0.0         |
| Channel         |            |         |           | 507204                   | 518598                      | 529998                    | 9.5                    | 0.0         |
| Frequency (MHz) |            |         |           | 2536.02                  | 2592.99                     | 2649.99                   |                        |             |
| 80              | PI/2 BPSK  | 1       | 1         | 8.95                     | 9.24                        | 9.29                      | 9.5                    | 0.0         |
| Channel         |            |         |           | 505200                   | 518598                      | 531996                    | 9.5                    | 0.0         |
| Frequency (MHz) |            |         |           | 2526                     | 2592.99                     | 2659.98                   |                        |             |
| 60              | PI/2 BPSK  | 1       | 1         | 8.92                     | 9.34                        | 9.32                      | 9.5                    | 0.0         |
| Channel         |            |         |           | 504204                   | 518598                      | 532998                    | 9.5                    | 0.0         |
| Frequency (MHz) |            |         |           | 2521.02                  | 2592.99                     | 2664.99                   |                        |             |
| 50              | PI/2 BPSK  | 1       | 1         | 8.97                     | 9.34                        | 9.32                      | 9.5                    | 0.0         |
| Channel         |            |         |           | 503202                   | 518598                      | 534000                    | 9.5                    | 0.0         |
| Frequency (MHz) |            |         |           | 2516.01                  | 2592.99                     | 2670                      |                        |             |
| 40              | PI/2 BPSK  | 1       | 1         | 8.95                     | 9.29                        | 9.30                      | 9.5                    | 0.0         |
| Channel         |            |         |           | 501204                   | 518598                      | 535998                    | 9.5                    | 0.0         |
| Frequency (MHz) |            |         |           | 2506.02                  | 2592.99                     | 2679.99                   |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 8.89                     | 9.30                        | 9.32                      | 9.5                    | 0.0         |

**<n66 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 344000                   | 349000                      | 354000                    | 14.0                   | 0.0         |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 13.31                    | 13.35                       | 13.24                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 13.59                    | 13.65                       | 13.51                     | 14.0                   | 0.0         |
| 20              | PI/2 BPSK  | 1       | 104       | 13.24                    | 13.29                       | 13.14                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 13.23                    | 13.28                       | 13.10                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 13.29                    | 13.29                       | 13.12                     | 14.0                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 13.18                    | 13.28                       | 13.11                     | 14.0                   | 0.0         |
| 20              | PI/2 BPSK  | 100     | 0         | 13.31                    | 13.33                       | 13.20                     |                        |             |
| 20              | QPSK       | 1       | 1         | 13.30                    | 13.31                       | 13.11                     |                        |             |
| 20              | QPSK       | 1       | 53        | 13.29                    | 13.35                       | 13.20                     | 14.0                   | 0.0         |
| 20              | QPSK       | 1       | 104       | 13.26                    | 13.27                       | 13.10                     |                        |             |
| 20              | QPSK       | 50      | 0         | 13.21                    | 13.31                       | 13.19                     |                        |             |
| 20              | QPSK       | 50      | 28        | 13.25                    | 13.32                       | 13.12                     | 14.0                   | 0.0         |
| 20              | QPSK       | 50      | 56        | 13.25                    | 13.32                       | 13.19                     | 14.0                   | 0.0         |
| 20              | QPSK       | 100     | 0         | 13.21                    | 13.25                       | 13.12                     |                        |             |
| 20              | 16QAM      | 1       | 1         | 13.19                    | 13.27                       | 13.02                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 13.24                    | 13.27                       | 13.13                     | 14.0                   | 0.0         |
| 20              | 256QAM     | 1       | 1         | 13.13                    | 13.15                       | 13.07                     | 14.0                   | 0.0         |
| Channel         |            |         |           | 343500                   | 349000                      | 354500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1717.5                   | 1745                        | 1772.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 13.25                    | 13.29                       | 13.18                     | 14.0                   | 0.0         |
| Channel         |            |         |           | 343000                   | 349000                      | 355000                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1715                     | 1745                        | 1775                      |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 13.25                    | 13.34                       | 13.14                     | 14.0                   | 0.0         |
| Channel         |            |         |           | 342500                   | 349000                      | 355500                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1712.5                   | 1745                        | 1777.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 13.23                    | 13.31                       | 13.16                     | 14.0                   | 0.0         |

**<n66 MIMO2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 344000                   | 349000                      | 354000                    | 12.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 10.54                    | 10.59                       | 10.49                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 53        | 10.81                    | 10.93                       | 10.80                     | 12.5                   | 0.0         |
| 20              | PI/2 BPSK  | 1       | 104       | 10.39                    | 10.54                       | 10.42                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 10.40                    | 10.51                       | 10.32                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 28        | 10.39                    | 10.47                       | 10.30                     | 12.5                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 10.34                    | 10.46                       | 10.30                     |                        |             |
| 20              | PI/2 BPSK  | 100     | 0         | 10.44                    | 10.53                       | 10.41                     |                        |             |
| 20              | QPSK       | 1       | 1         | 10.48                    | 10.56                       | 10.43                     | 12.5                   | 0.0         |
| 20              | QPSK       | 1       | 53        | 10.23                    | 10.38                       | 10.27                     |                        |             |
| 20              | QPSK       | 1       | 104       | 10.34                    | 10.48                       | 10.38                     |                        |             |
| 20              | QPSK       | 50      | 0         | 10.50                    | 10.59                       | 10.45                     | 12.5                   | 0.0         |
| 20              | QPSK       | 50      | 28        | 10.42                    | 10.53                       | 10.37                     |                        |             |
| 20              | QPSK       | 50      | 56        | 10.43                    | 10.55                       | 10.37                     |                        |             |
| 20              | QPSK       | 100     | 0         | 10.42                    | 10.48                       | 10.34                     | 12.5                   | 0.0         |
| 20              | 16QAM      | 1       | 1         | 10.33                    | 10.47                       | 10.35                     |                        |             |
| 20              | 64QAM      | 1       | 1         | 10.39                    | 10.48                       | 10.30                     |                        |             |
| 20              | 256QAM     | 1       | 1         | 10.41                    | 10.42                       | 10.25                     | 12.5                   | 0.0         |
| Channel         |            |         |           | 343500                   | 349000                      | 354500                    | 12.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 1717.5                   | 1745                        | 1772.5                    |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 10.52                    | 10.57                       | 10.45                     | 12.5                   | 0.0         |
| Channel         |            |         |           | 343000                   | 349000                      | 355000                    |                        |             |
| Frequency (MHz) |            |         |           | 1715                     | 1745                        | 1775                      | 12.5                   | 0.0         |
| 10              | PI/2 BPSK  | 1       | 1         | 10.51                    | 10.53                       | 10.43                     |                        |             |
| Channel         |            |         |           | 342500                   | 349000                      | 355500                    | 12.5                   | 0.0         |
| Frequency (MHz) |            |         |           | 1712.5                   | 1745                        | 1777.5                    |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 10.50                    | 10.58                       | 10.45                     | 12.5                   | 0.0         |

**<n71 Main>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 134600                   | 136100                      | 137600                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 673                      | 680.5                       | 688                       |                        |             |
| 20              | PI/2 BPSK  | 1       | 1         | 15.60                    | 15.48                       | 15.41                     | 16.0                   | 0.0         |
| 20              | PI/2 BPSK  | 1       | 53        | 15.25                    | 15.22                       | 15.05                     |                        |             |
| 20              | PI/2 BPSK  | 1       | 104       | 14.70                    | 14.67                       | 14.54                     |                        |             |
| 20              | PI/2 BPSK  | 50      | 0         | 14.87                    | 14.81                       | 14.65                     | 16.0                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 28        | 14.85                    | 14.75                       | 14.61                     | 16.0                   | 0.0         |
| 20              | PI/2 BPSK  | 50      | 56        | 14.70                    | 14.65                       | 14.47                     | 16.0                   | 0.0         |
| 20              | PI/2 BPSK  | 100     | 0         | 14.90                    | 14.80                       | 14.70                     |                        |             |
| 20              | QPSK       | 1       | 1         | 14.72                    | 14.69                       | 14.56                     | 16.0                   | 0.0         |
| 20              | QPSK       | 1       | 53        | 14.86                    | 14.84                       | 14.73                     |                        |             |
| 20              | QPSK       | 1       | 104       | 14.72                    | 14.61                       | 14.44                     |                        |             |
| 20              | QPSK       | 50      | 0         | 14.94                    | 14.85                       | 14.74                     | 16.0                   | 0.0         |
| 20              | QPSK       | 50      | 28        | 14.81                    | 14.76                       | 14.66                     | 16.0                   | 0.0         |
| 20              | QPSK       | 50      | 56        | 14.73                    | 14.69                       | 14.50                     | 16.0                   | 0.0         |
| 20              | QPSK       | 100     | 0         | 14.80                    | 14.77                       | 14.64                     |                        |             |
| 20              | 16QAM      | 1       | 1         | 14.75                    | 14.72                       | 14.63                     | 16.0                   | 0.0         |
| 20              | 64QAM      | 1       | 1         | 15.01                    | 14.97                       | 14.88                     | 16.0                   | 0.0         |
| 20              | 256QAM     | 1       | 1         | 14.57                    | 14.54                       | 14.36                     | 15.5                   | 0.5         |
| Channel         |            |         |           | 134100                   | 136100                      | 138100                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 670.5                    | 680.5                       | 690.5                     |                        |             |
| 15              | PI/2 BPSK  | 1       | 1         | 15.56                    | 15.43                       | 15.41                     | 16.0                   | 0.0         |
| Channel         |            |         |           | 133600                   | 136100                      | 138600                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 668                      | 680.5                       | 693                       |                        |             |
| 10              | PI/2 BPSK  | 1       | 1         | 15.60                    | 15.40                       | 15.39                     | 16.0                   | 0.0         |
| Channel         |            |         |           | 133100                   | 136100                      | 139100                    | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 665.5                    | 680.5                       | 695.5                     |                        |             |
| 5               | PI/2 BPSK  | 1       | 1         | 15.58                    | 15.45                       | 15.32                     | 16.0                   | 0.0         |



## &lt;SAR test exclusion table&gt;

## General Note:

- The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
- Maximum power is the source-based time-average power and represents the maximum RF output power among production units
- Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
- Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
- Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:  

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$
  - f(GHz) is the RF channel transmit frequency in GHz
  - Power and distance are rounded to the nearest mW and mm before calculation
  - The result is rounded to one decimal place for comparison
- Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following
  - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · (f(MHz)/150)] mW, at 100 MHz to 1500 MHz
  - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz

## &lt;Main Antenna&gt;

|                   | Wireless Interface      | WCDMA Band V | WCDMA Band IV | WCDMA Band II | LTE Band 71/n71 | LTE Band 12/17/n12 | LTE Band 14 | LTE Band 13 | LTE Band 5/n5 | LTE Band 26 | LTE Band 4 | LTE Band 66/n66 | LTE Band 2/n2 | LTE Band 25 | LTE Band 30 | LTE Band 7 | LTE Band 38 | LTE Band 41 |
|-------------------|-------------------------|--------------|---------------|---------------|-----------------|--------------------|-------------|-------------|---------------|-------------|------------|-----------------|---------------|-------------|-------------|------------|-------------|-------------|
| Exposure Position | Calculated Frequency    | 846MHz       | 1750MHz       | 1907MHz       | 695MHz          | 715MHz             | 795MHz      | 784MHz      | 848MHz        | 848MHz      | 1754MHz    | 1779MHz         | 1909MHz       | 1914MHz     | 2312MHz     | 2567MHz    | 2617MHz     | 2687MHz     |
|                   | Maximum power (dBm)     | 24.50        | 24.50         | 24.50         | 24.5            | 24.5               | 24.5        | 24.5        | 24.5          | 24.5        | 24         | 24              | 24            | 24          | 23          | 24         | 24          | 24          |
|                   | Maximum rated power(mW) | 282.0        | 282.0         | 282.0         | 282.0           | 282.0              | 282.0       | 282.0       | 282.0         | 282.0       | 251.0      | 251.0           | 251.0         | 251.0       | 200.0       | 251.0      | 251.0       | 251.0       |
| Bottom Face       | Separation distance(mm) | 5.0          |               |               |                 |                    |             |             |               |             |            |                 |               |             |             |            |             |             |
|                   | exclusion threshold     | 51.9         | 74.6          | 77.9          | 47.0            | 47.7               | 50.3        | 49.9        | 51.9          | 51.9        | 66.5       | 67.0            | 69.4          | 69.5        | 60.8        | 80.4       | 81.2        | 82.3        |
|                   | Testing required?       | Yes          | Yes           | Yes           | Yes             | Yes                | Yes         | Yes         | Yes           | Yes         | Yes        | Yes             | Yes           | Yes         | Yes         | Yes        | Yes         | Yes         |
| Edge 1            | Separation distance(mm) | 5.0          |               |               |                 |                    |             |             |               |             |            |                 |               |             |             |            |             |             |
|                   | exclusion threshold     | 51.9         | 74.6          | 77.9          | 47.0            | 47.7               | 50.3        | 49.9        | 51.9          | 51.9        | 66.5       | 67.0            | 69.4          | 69.5        | 60.8        | 80.4       | 81.2        | 82.3        |
|                   | Testing required?       | Yes          | Yes           | Yes           | Yes             | Yes                | Yes         | Yes         | Yes           | Yes         | Yes        | Yes             | Yes           | Yes         | Yes         | Yes        | Yes         | Yes         |
| Edge 2            | Separation distance(mm) | 5.0          |               |               |                 |                    |             |             |               |             |            |                 |               |             |             |            |             |             |
|                   | exclusion threshold     | 51.9         | 74.6          | 77.9          | 47.0            | 47.7               | 50.3        | 49.9        | 51.9          | 51.9        | 66.5       | 67.0            | 69.4          | 69.5        | 60.8        | 80.4       | 81.2        | 82.3        |
|                   | Testing required?       | Yes          | Yes           | Yes           | Yes             | Yes                | Yes         | Yes         | Yes           | Yes         | Yes        | Yes             | Yes           | Yes         | Yes         | Yes        | Yes         | Yes         |
| Edge 3            | Separation distance(mm) | 210.2        |               |               |                 |                    |             |             |               |             |            |                 |               |             |             |            |             |             |
|                   | exclusion threshold     | 1067.0       | 1715.0        | 1711.0        | 922.0           | 941.0              | 1017.0      | 1007.0      | 1069.0        | 1069.0      | 1715.0     | 1714.0          | 1711.0        | 1710.0      | 1701.0      | 1696.0     | 1695.0      | 1694.0      |
|                   | Testing required?       | No           | No            | No            | No              | No                 | No          | No          | No            | No          | No         | No              | No            | No          | No          | No         | No          | No          |
| Edge 4            | Separation distance(mm) | 225.5        |               |               |                 |                    |             |             |               |             |            |                 |               |             |             |            |             |             |
|                   | exclusion threshold     | 1153.0       | 1868.0        | 1864.0        | 993.0           | 1014.0             | 1098.0      | 1087.0      | 1155.0        | 1155.0      | 1868.0     | 1867.0          | 1864.0        | 1863.0      | 1854.0      | 1849.0     | 1848.0      | 1847.0      |
|                   | Testing required?       | No           | No            | No            | No              | No                 | No          | No          | No            | No          | No         | No              | No            | No          | No          | No         | No          | No          |
| Bottom of Laptop  | Separation distance(mm) | 5.0          |               |               |                 |                    |             |             |               |             |            |                 |               |             |             |            |             |             |
|                   | exclusion threshold     | 51.9         | 74.6          | 77.9          | 47.0            | 47.7               | 50.3        | 49.9        | 51.9          | 51.9        | 66.5       | 67.0            | 69.4          | 69.5        | 60.8        | 80.4       | 81.2        | 82.3        |
|                   | Testing required?       | Yes          | Yes           | Yes           | Yes             | Yes                | Yes         | Yes         | Yes           | Yes         | Yes        | Yes             | Yes           | Yes         | Yes         | Yes        | Yes         | Yes         |



**<MIMO2 Antenna>**

| Exposure Position | Wireless Interface      | LTE Band 66 | LTE Band 2 | LTE Band 7 | LTE Band 48 | LTE Band n2 | LTE Band n7 | LTE Band n41 | LTE Band n66 |
|-------------------|-------------------------|-------------|------------|------------|-------------|-------------|-------------|--------------|--------------|
|                   | Calculated Frequency    | 1779MHz     | 1909MHz    | 2567MHz    | 3697MHz     | 1909MHz     | 2567MHz     | 2687MHz      | 1779MHz      |
|                   | Maximum power (dBm)     | 24          | 24         | 24         | 22          | 24          | 24          | 24           | 24           |
|                   | Maximum rated power(mW) | 251.0       | 251.0      | 251.0      | 158.0       | 251.0       | 251.0       | 251.0        | 251.0        |
| Bottom Face       | Separation distance(mm) | 5.0         |            |            |             |             |             |              |              |
|                   | exclusion threshold     | 67.0        | 69.4       | 80.4       | 60.8        | 69.4        | 80.4        | 82.3         | 67.0         |
|                   | Testing required?       | Yes         | Yes        | Yes        | Yes         | Yes         | Yes         | Yes          | Yes          |
| Edge 1            | Separation distance(mm) | 35.1        |            |            |             |             |             |              |              |
|                   | exclusion threshold     | 9.5         | 9.9        | 11.5       | 8.7         | 9.9         | 11.5        | 11.7         | 9.5          |
|                   | Testing required?       | Yes         | Yes        | Yes        | Yes         | Yes         | Yes         | Yes          | Yes          |
| Edge 2            | Separation distance(mm) | 289.6       |            |            |             |             |             |              |              |
|                   | exclusion threshold     | 2508.0      | 2504.0     | 2489.0     | 2474.0      | 2504.0      | 2489.0      | 2487.0       | 2508.0       |
|                   | Testing required?       | No          | No         | No         | No          | No          | No          | No           | No           |
| Edge 3            | Separation distance(mm) | 146.3       |            |            |             |             |             |              |              |
|                   | exclusion threshold     | 1076.0      | 1072.0     | 1057.0     | 1041.0      | 1072.0      | 1057.0      | 1055.0       | 1076.0       |
|                   | Testing required?       | No          | No         | No         | No          | No          | No          | No           | No           |
| Edge 4            | Separation distance(mm) | 5.0         |            |            |             |             |             |              |              |
|                   | exclusion threshold     | 67.0        | 69.4       | 80.4       | 60.8        | 69.4        | 80.4        | 82.3         | 67.0         |
|                   | Testing required?       | Yes         | Yes        | Yes        | Yes         | Yes         | Yes         | Yes          | Yes          |
| Bottom of Laptop  | Separation distance(mm) | 5.0         |            |            |             |             |             |              |              |
|                   | exclusion threshold     | 67.0        | 69.4       | 80.4       | 60.8        | 69.4        | 80.4        | 82.3         | 67.0         |
|                   | Testing required?       | Yes         | Yes        | Yes        | Yes         | Yes         | Yes         | Yes          | Yes          |

## 14. SAR Test Results

### General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
  - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
  - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
  - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)\*Tune-up Scaling Factor
  - d. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix  $63.3\%/62.9\% = 1.006$  is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
  - $\leq 0.8$  W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\leq 100$  MHz
  - $\leq 0.6$  W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
  - $\leq 0.4$  W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\geq 200$  MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8$ W/kg.
4. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in sensor trigger distance was performed; 13mm for bottom face of main antenna, 16mm for bottom of Laptop of main antenna, 22mm for edge1 of main antenna, 14mm for edge2 of main antenna, 15mm for bottom of Laptop of MIMO2 antenna 12mm for bottom face of MIMO2 antenna and 9mm for edge4 of MIMO2 antenna. These test results just verification the sensor trigger distance to meet KDB 616217 requirement, when in normal usage will not operate at trigger distance, therefore, these results were not using performed Sim-Tx analysis

### UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

**LTE Note:**

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/17/38 SAR test was covered by Band 25/66/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - a. The maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion.
  - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

**5G NR Note:**

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
  - a. SAR testing start with the largest channel bandwidth and measure SAR for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
  - b. 50% RB allocation for PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure
  - c. PI/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
  - d. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not  $\frac{1}{2}$  dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
  - e. Smaller bandwidth output power for each RB allocation configuration for this device will not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device
  - f. For 5G FR1 n5/n12/n41/n71 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**14.1 Body SAR****<WCDMA SAR>**

| Plot No. | Band     | Mode         | Test Position    | Gap (mm) | Power Reduction | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|----------|--------------|------------------|----------|-----------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | WCDMA II | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 9538 | 1907.6      | 15.31               | 16.00               | 1.172                  | -0.12            | 0.772                  | 0.905                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 9262 | 1852.4      | 15.07               | 16.00               | 1.239                  | 0.06             | 0.730                  | 0.904                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 9400 | 1880        | 15.22               | 16.00               | 1.197                  | -0.03            | 0.686                  | 0.821                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 9538 | 1907.6      | 15.31               | 16.00               | 1.172                  | -0.1             | 0.774                  | 0.907                  |
| 01       | WCDMA II | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 9262 | 1852.4      | 15.07               | 16.00               | 1.239                  | -0.11            | 0.894                  | 1.107                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 9400 | 1880        | 15.22               | 16.00               | 1.197                  | 0.07             | 0.851                  | 1.018                  |
|          | WCDMA II | RMC 12.2Kbps | Edge 1           | 0mm      | ON              | 9538 | 1907.6      | 15.31               | 16.00               | 1.172                  | -0.02            | 0.136                  | 0.159                  |
|          | WCDMA II | RMC 12.2Kbps | Edge 2           | 0mm      | ON              | 9538 | 1907.6      | 15.31               | 16.00               | 1.172                  | -0.08            | 0.333                  | 0.390                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom of Laptop | 16mm     | OFF             | 9262 | 1852.4      | 24.02               | 24.50               | 1.117                  | -0.02            | 0.371                  | 0.414                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Face      | 13mm     | OFF             | 9262 | 1852.4      | 24.02               | 24.50               | 1.117                  | -0.09            | 0.497                  | 0.555                  |
|          | WCDMA II | RMC 12.2Kbps | Edge 1           | 22mm     | OFF             | 9262 | 1852.4      | 24.02               | 24.50               | 1.117                  | 0.01             | 0.063                  | 0.070                  |
|          | WCDMA II | RMC 12.2Kbps | Edge 2           | 14mm     | OFF             | 9262 | 1852.4      | 24.02               | 24.50               | 1.117                  | 0.06             | 0.202                  | 0.226                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 1413 | 1732.6      | 16.50               | 17.00               | 1.122                  | 0.16             | 0.976                  | 1.095                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 1312 | 1712.4      | 16.47               | 17.00               | 1.130                  | 0.02             | 0.938                  | 1.060                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 1513 | 1752.6      | 16.48               | 17.00               | 1.127                  | 0.15             | 0.869                  | 0.980                  |
| 02       | WCDMA IV | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 1413 | 1732.6      | 16.50               | 17.00               | 1.122                  | -0.12            | 1.060                  | 1.189                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 1312 | 1712.4      | 16.47               | 17.00               | 1.130                  | 0.01             | 1.030                  | 1.164                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 1513 | 1752.6      | 16.48               | 17.00               | 1.127                  | -0.12            | 0.927                  | 1.045                  |
|          | WCDMA IV | RMC 12.2Kbps | Edge 1           | 0mm      | ON              | 1413 | 1732.6      | 16.50               | 17.00               | 1.122                  | 0.05             | 0.178                  | 0.200                  |
|          | WCDMA IV | RMC 12.2Kbps | Edge 2           | 0mm      | ON              | 1413 | 1732.6      | 16.50               | 17.00               | 1.122                  | -0.02            | 0.467                  | 0.524                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom of Laptop | 16mm     | OFF             | 1413 | 1732.6      | 23.92               | 24.50               | 1.143                  | -0.01            | 0.443                  | 0.506                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Face      | 13mm     | OFF             | 1413 | 1732.6      | 23.92               | 24.50               | 1.143                  | -0.09            | 0.438                  | 0.501                  |
|          | WCDMA IV | RMC 12.2Kbps | Edge 1           | 22mm     | OFF             | 1413 | 1732.6      | 23.92               | 24.50               | 1.143                  | 0.05             | 0.083                  | 0.095                  |
|          | WCDMA IV | RMC 12.2Kbps | Edge 2           | 14mm     | OFF             | 1413 | 1732.6      | 23.92               | 24.50               | 1.143                  | -0.02            | 0.213                  | 0.244                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 4182 | 836.4       | 20.21               | 20.50               | 1.069                  | -0.17            | 0.878                  | 0.939                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 4132 | 826.4       | 20.15               | 20.50               | 1.084                  | -0.15            | 0.872                  | 0.945                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom of Laptop | 0mm      | ON              | 4233 | 846.6       | 20.20               | 20.50               | 1.072                  | -0.02            | 0.856                  | 0.917                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 4182 | 836.4       | 20.21               | 20.50               | 1.069                  | -0.03            | 0.909                  | 0.972                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 4132 | 826.4       | 20.15               | 20.50               | 1.084                  | 0.06             | 0.905                  | 0.981                  |
| 03       | WCDMA V  | RMC 12.2Kbps | Bottom Face      | 0mm      | ON              | 4233 | 846.6       | 20.20               | 20.50               | 1.072                  | -0.11            | 1.020                  | 1.093                  |
|          | WCDMA V  | RMC 12.2Kbps | Edge 1           | 0mm      | ON              | 4182 | 836.4       | 20.21               | 20.50               | 1.069                  | 0                | 0.539                  | 0.576                  |
|          | WCDMA V  | RMC 12.2Kbps | Edge 2           | 0mm      | ON              | 4182 | 836.4       | 20.21               | 20.50               | 1.069                  | -0.01            | 0.033                  | 0.035                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom of Laptop | 16mm     | OFF             | 4182 | 836.4       | 24.22               | 24.50               | 1.067                  | -0.05            | 0.202                  | 0.215                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom Face      | 13mm     | OFF             | 4182 | 836.4       | 24.22               | 24.50               | 1.067                  | -0.01            | 0.423                  | 0.451                  |
|          | WCDMA V  | RMC 12.2Kbps | Edge 1           | 22mm     | OFF             | 4182 | 836.4       | 24.22               | 24.50               | 1.067                  | -0.08            | 0.176                  | 0.188                  |
|          | WCDMA V  | RMC 12.2Kbps | Edge 2           | 14mm     | OFF             | 4182 | 836.4       | 24.22               | 24.50               | 1.067                  | 0.02             | 0.001                  | 0.001                  |

**<FDD LTE SAR>**

| Plot No. | Band             | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------------|----------|------------|---------|-----------|------------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 18700 | 1860        | 11.80               | 12.50               | 1.175                  | 0.18             | 0.315                  | 0.370                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 18700 | 1860        | 11.74               | 12.50               | 1.191                  | 0.11             | 0.305                  | 0.363                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 18700 | 1860        | 11.80               | 12.50               | 1.175                  | 0.01             | 0.530                  | 0.623                  |
| 04       | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 18900 | 1880        | 11.67               | 12.50               | 1.211                  | -0.04            | 0.569                  | 0.689                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 19100 | 1900        | 11.64               | 12.50               | 1.219                  | -0.05            | 0.562                  | 0.685                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 18700 | 1860        | 11.74               | 12.50               | 1.191                  | 0.03             | 0.558                  | 0.665                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 4           | 0mm      | ON              | 18700 | 1860        | 11.80               | 12.50               | 1.175                  | -0.11            | 0.249                  | 0.293                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 50      | 0         | Edge 4           | 0mm      | ON              | 18700 | 1860        | 11.74               | 12.50               | 1.191                  | 0.09             | 0.234                  | 0.279                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 15mm     | OFF             | 19100 | 1900        | 22.74               | 24.00               | 1.337                  | 0.07             | 0.096                  | 0.128                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 15mm     | OFF             | 19100 | 1900        | 22.56               | 23.00               | 1.107                  | 0.03             | 0.092                  | 0.102                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 12mm     | OFF             | 19100 | 1900        | 22.74               | 24.00               | 1.337                  | -0.17            | 0.050                  | 0.067                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 12mm     | OFF             | 19100 | 1900        | 22.56               | 23.00               | 1.107                  | -0.09            | 0.048                  | 0.053                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | OFF             | 19100 | 1900        | 22.74               | 24.00               | 1.337                  | -0.02            | 0.088                  | 0.118                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | OFF             | 19100 | 1900        | 22.56               | 23.00               | 1.107                  | -0.1             | 0.074                  | 0.082                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 4           | 9mm      | OFF             | 19100 | 1900        | 22.74               | 24.00               | 1.337                  | -0.06            | 0.111                  | 0.148                  |
|          | LTE Band 2 MIMO2 | 20M      | QPSK       | 50      | 0         | Edge 4           | 9mm      | OFF             | 19100 | 1900        | 22.56               | 23.00               | 1.107                  | -0.02            | 0.103                  | 0.114                  |



| Plot No. | Band             | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------------|----------|------------|---------|-----------|------------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 05       | LTE Band 5       | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 20525 | 836.5       | 20.31               | 20.50               | 1.045                  | -0.04            | 0.897                  | 0.937                  |
|          | LTE Band 5       | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 0mm      | ON              | 20525 | 836.5       | 19.40               | 19.50               | 1.023                  | -0.09            | 0.734                  | 0.751                  |
|          | LTE Band 5       | 10M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 20525 | 836.5       | 19.33               | 19.50               | 1.040                  | 0.1              | 0.716                  | 0.745                  |
|          | LTE Band 5       | 10M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 20525 | 836.5       | 20.31               | 20.50               | 1.045                  | -0.04            | 1.090                  | 1.139                  |
|          | LTE Band 5       | 10M      | QPSK       | 25      | 0         | Bottom Face      | 0mm      | ON              | 20525 | 836.5       | 19.40               | 19.50               | 1.023                  | 0                | 0.904                  | 0.925                  |
|          | LTE Band 5       | 10M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 20525 | 836.5       | 19.33               | 19.50               | 1.040                  | 0.06             | 0.877                  | 0.912                  |
|          | LTE Band 5       | 10M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 20525 | 836.5       | 20.31               | 20.50               | 1.045                  | 0.05             | 0.591                  | 0.617                  |
|          | LTE Band 5       | 10M      | QPSK       | 25      | 0         | Edge 1           | 0mm      | ON              | 20525 | 836.5       | 19.40               | 19.50               | 1.023                  | 0.03             | 0.485                  | 0.496                  |
|          | LTE Band 5       | 10M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 20525 | 836.5       | 20.31               | 20.50               | 1.045                  | -0.1             | 0.030                  | 0.031                  |
|          | LTE Band 5       | 10M      | QPSK       | 25      | 0         | Edge 2           | 0mm      | ON              | 20525 | 836.5       | 19.40               | 19.50               | 1.023                  | -0.03            | 0.020                  | 0.020                  |
|          | LTE Band 5       | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 20525 | 836.5       | 23.74               | 24.50               | 1.191                  | -0.06            | 0.021                  | 0.025                  |
|          | LTE Band 5       | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 16mm     | OFF             | 20525 | 836.5       | 22.90               | 23.50               | 1.148                  | 0.03             | 0.015                  | 0.017                  |
|          | LTE Band 5       | 10M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 20525 | 836.5       | 23.74               | 24.50               | 1.191                  | 0                | 0.410                  | 0.488                  |
|          | LTE Band 5       | 10M      | QPSK       | 25      | 0         | Bottom Face      | 13mm     | OFF             | 20525 | 836.5       | 22.90               | 23.50               | 1.148                  | -0.04            | 0.361                  | 0.414                  |
|          | LTE Band 5       | 10M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 20525 | 836.5       | 23.74               | 24.50               | 1.191                  | -0.09            | 0.001                  | 0.001                  |
|          | LTE Band 5       | 10M      | QPSK       | 25      | 0         | Edge 1           | 22mm     | OFF             | 20525 | 836.5       | 22.90               | 23.50               | 1.148                  | -0.06            | 0.001                  | 0.001                  |
|          | LTE Band 5       | 10M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 20525 | 836.5       | 23.74               | 24.50               | 1.191                  | -0.02            | 0.001                  | 0.001                  |
|          | LTE Band 5       | 10M      | QPSK       | 25      | 0         | Edge 2           | 14mm     | OFF             | 20525 | 836.5       | 22.90               | 23.50               | 1.148                  | 0.02             | 0.001                  | 0.001                  |
|          | LTE Band 5B      | 10M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 20525 | 836.5       | 19.83               | 20.50               | 1.167                  | -0.05            | 0.859                  | 1.002                  |
| 06       | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 21100 | 2535        | 13.80               | 14.50               | 1.175                  | -0.08            | 0.455                  | 0.535                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 21100 | 2535        | 12.85               | 13.50               | 1.161                  | 0.01             | 0.366                  | 0.425                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 21100 | 2535        | 13.80               | 14.50               | 1.175                  | 0.03             | 0.857                  | 1.007                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 20850 | 2510        | 13.61               | 14.50               | 1.227                  | 0.02             | 0.926                  | 1.137                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 21350 | 2560        | 13.60               | 14.50               | 1.230                  | -0.11            | 0.797                  | 0.981                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 21100 | 2535        | 12.85               | 13.50               | 1.161                  | 0.15             | 0.438                  | 0.509                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 20850 | 2510        | 12.78               | 13.50               | 1.180                  | -0.11            | 0.680                  | 0.803                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 21350 | 2560        | 12.84               | 13.50               | 1.164                  | -0.02            | 0.600                  | 0.698                  |
|          | LTE Band 7       | 20M      | QPSK       | 100     | 0         | Bottom Face      | 0mm      | ON              | 21100 | 2535        | 12.91               | 13.50               | 1.146                  | 0.06             | 0.620                  | 0.710                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 21100 | 2535        | 13.80               | 14.50               | 1.175                  | 0.07             | 0.079                  | 0.093                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | ON              | 21100 | 2535        | 12.85               | 13.50               | 1.161                  | -0.09            | 0.062                  | 0.072                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 21100 | 2535        | 13.80               | 14.50               | 1.175                  | 0.11             | 0.167                  | 0.196                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 0         | Edge 2           | 0mm      | ON              | 21100 | 2535        | 12.85               | 13.50               | 1.161                  | -0.15            | 0.135                  | 0.157                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 21100 | 2535        | 23.88               | 24.00               | 1.028                  | -0.07            | 0.431                  | 0.443                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 50        | Bottom of Laptop | 16mm     | OFF             | 21100 | 2535        | 22.62               | 23.00               | 1.091                  | 0.04             | 0.343                  | 0.374                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 21100 | 2535        | 23.88               | 24.00               | 1.028                  | -0.06            | 0.485                  | 0.499                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 50        | Bottom Face      | 13mm     | OFF             | 21100 | 2535        | 22.62               | 23.00               | 1.091                  | -0.02            | 0.395                  | 0.431                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 21100 | 2535        | 23.88               | 24.00               | 1.028                  | -0.1             | 0.001                  | 0.001                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 50        | Edge 1           | 22mm     | OFF             | 21100 | 2535        | 22.62               | 23.00               | 1.091                  | -0.06            | 0.001                  | 0.001                  |
|          | LTE Band 7       | 20M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 21100 | 2535        | 23.88               | 24.00               | 1.028                  | -0.04            | 0.110                  | 0.113                  |
|          | LTE Band 7       | 20M      | QPSK       | 50      | 50        | Edge 2           | 14mm     | OFF             | 21100 | 2535        | 22.62               | 23.00               | 1.091                  | 0.05             | 0.085                  | 0.093                  |
|          | LTE Band 7C      | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 20850 | 2510        | 14.41               | 14.50               | 1.021                  | -0.15            | 1.050                  | 1.072                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 21100 | 2535        | 11.33               | 12.00               | 1.167                  | -0.18            | 0.169                  | 0.197                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 50      | 24        | Bottom of Laptop | 0mm      | ON              | 21100 | 2535        | 11.23               | 12.00               | 1.194                  | 0.01             | 0.163                  | 0.195                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 21100 | 2535        | 11.33               | 12.00               | 1.167                  | -0.01            | 0.541                  | 0.631                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 20850 | 2510        | 11.27               | 12.00               | 1.183                  | 0.03             | 0.472                  | 0.558                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 21350 | 2560        | 11.31               | 12.00               | 1.172                  | -0.13            | 0.535                  | 0.627                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 50      | 24        | Bottom Face      | 0mm      | ON              | 21100 | 2535        | 11.23               | 12.00               | 1.194                  | -0.01            | 0.521                  | 0.622                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 4           | 0mm      | ON              | 21100 | 2535        | 11.33               | 12.00               | 1.167                  | 0.05             | 0.100                  | 0.117                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 50      | 24        | Edge 4           | 0mm      | ON              | 21100 | 2535        | 11.23               | 12.00               | 1.194                  | 0.05             | 0.095                  | 0.113                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 15mm     | OFF             | 21100 | 2535        | 22.80               | 24.00               | 1.318                  | -0.08            | 0.015                  | 0.020                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 15mm     | OFF             | 21100 | 2535        | 22.10               | 23.00               | 1.230                  | 0.01             | 0.009                  | 0.011                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 12mm     | OFF             | 21100 | 2535        | 22.80               | 24.00               | 1.318                  | 0.09             | 0.041                  | 0.054                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 12mm     | OFF             | 21100 | 2535        | 22.10               | 23.00               | 1.230                  | 0.07             | 0.028                  | 0.034                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | OFF             | 21100 | 2535        | 22.80               | 24.00               | 1.318                  | -0.08            | 0.095                  | 0.125                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | OFF             | 21100 | 2535        | 22.10               | 23.00               | 1.230                  | -0.1             | 0.080                  | 0.098                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 4           | 9mm      | OFF             | 21100 | 2535        | 22.80               | 24.00               | 1.318                  | -0.09            | 0.359                  | 0.473                  |
|          | LTE Band 7 MIMO2 | 20M      | QPSK       | 50      | 0         | Edge 4           | 9mm      | OFF             | 21100 | 2535        | 22.10               | 23.00               | 1.230                  | 0.08             | 0.343                  | 0.422                  |



# FCC SAR TEST REPORT

Report No. : FA092423

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|------------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 07       | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 23095 | 707.5       | 17.17               | 18.50               | 1.358                  | 0.15             | 0.269                  | 0.365                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 0mm      | ON              | 23095 | 707.5       | 16.27               | 17.50               | 1.327                  | 0.14             | 0.219                  | 0.291                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 23095 | 707.5       | 17.17               | 18.50               | 1.358                  | -0.01            | 0.802                  | 1.089                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Bottom Face      | 0mm      | ON              | 23095 | 707.5       | 16.27               | 17.50               | 1.327                  | 0.03             | 0.650                  | 0.863                  |
|          | LTE Band 12 | 10M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 23095 | 707.5       | 16.35               | 17.50               | 1.303                  | 0.09             | 0.661                  | 0.861                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 23095 | 707.5       | 17.17               | 18.50               | 1.358                  | 0.09             | 0.250                  | 0.340                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Edge 1           | 0mm      | ON              | 23095 | 707.5       | 16.27               | 17.50               | 1.327                  | -0.12            | 0.200                  | 0.265                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 23095 | 707.5       | 17.17               | 18.50               | 1.358                  | 0.02             | 0.061                  | 0.083                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Edge 2           | 0mm      | ON              | 23095 | 707.5       | 16.27               | 17.50               | 1.327                  | 0.01             | 0.050                  | 0.066                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 23095 | 707.5       | 23.81               | 24.50               | 1.172                  | -0.03            | 0.142                  | 0.166                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 16mm     | OFF             | 23095 | 707.5       | 22.94               | 23.50               | 1.138                  | 0.06             | 0.104                  | 0.118                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 23095 | 707.5       | 23.81               | 24.50               | 1.172                  | 0.05             | 0.171                  | 0.200                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Bottom Face      | 13mm     | OFF             | 23095 | 707.5       | 22.94               | 23.50               | 1.138                  | 0.1              | 0.149                  | 0.170                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 23095 | 707.5       | 23.81               | 24.50               | 1.172                  | 0.03             | 0.001                  | 0.001                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Edge 1           | 22mm     | OFF             | 23095 | 707.5       | 22.94               | 23.50               | 1.138                  | -0.08            | 0.001                  | 0.001                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 23095 | 707.5       | 23.81               | 24.50               | 1.172                  | 0.08             | 0.001                  | 0.001                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Edge 2           | 14mm     | OFF             | 23095 | 707.5       | 22.94               | 23.50               | 1.138                  | -0.03            | 0.001                  | 0.001                  |
| 08       | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 23230 | 782         | 19.05               | 19.50               | 1.109                  | -0.12            | 0.669                  | 0.742                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 0mm      | ON              | 23230 | 782         | 18.18               | 18.50               | 1.076                  | 0.02             | 0.547                  | 0.589                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 23230 | 782         | 19.05               | 19.50               | 1.109                  | 0.02             | 1.050                  | 1.165                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Bottom Face      | 0mm      | ON              | 23230 | 782         | 18.18               | 18.50               | 1.076                  | 0.06             | 0.860                  | 0.926                  |
|          | LTE Band 13 | 10M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 23230 | 782         | 18.05               | 18.50               | 1.109                  | 0.05             | 0.836                  | 0.927                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 23230 | 782         | 19.05               | 19.50               | 1.109                  | 0.03             | 0.402                  | 0.446                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Edge 1           | 0mm      | ON              | 23230 | 782         | 18.18               | 18.50               | 1.076                  | -0.01            | 0.329                  | 0.354                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 23230 | 782         | 19.05               | 19.50               | 1.109                  | -0.09            | 0.041                  | 0.045                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Edge 2           | 0mm      | ON              | 23230 | 782         | 18.18               | 18.50               | 1.076                  | 0.03             | 0.034                  | 0.037                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 23230 | 782         | 23.66               | 24.50               | 1.213                  | -0.11            | 0.209                  | 0.254                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 16mm     | OFF             | 23230 | 782         | 22.65               | 23.50               | 1.216                  | -0.08            | 0.158                  | 0.192                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 23230 | 782         | 23.66               | 24.50               | 1.213                  | -0.14            | 0.322                  | 0.391                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Bottom Face      | 13mm     | OFF             | 23230 | 782         | 22.65               | 23.50               | 1.216                  | -0.08            | 0.281                  | 0.342                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 23230 | 782         | 23.66               | 24.50               | 1.213                  | -0.07            | 0.001                  | 0.001                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Edge 1           | 22mm     | OFF             | 23230 | 782         | 22.65               | 23.50               | 1.216                  | 0.1              | 0.001                  | 0.001                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 23230 | 782         | 23.66               | 24.50               | 1.213                  | 0.05             | 0.001                  | 0.001                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Edge 2           | 14mm     | OFF             | 23230 | 782         | 22.65               | 23.50               | 1.216                  | 0                | 0.001                  | 0.001                  |
| 09       | LTE Band 14 | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 23330 | 793         | 20.16               | 20.50               | 1.081                  | -0.12            | 0.861                  | 0.931                  |
|          | LTE Band 14 | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 0mm      | ON              | 23330 | 793         | 19.17               | 19.50               | 1.079                  | 0.05             | 0.686                  | 0.740                  |
|          | LTE Band 14 | 10M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 23330 | 793         | 19.02               | 19.50               | 1.117                  | -0.06            | 0.656                  | 0.733                  |
|          | LTE Band 14 | 10M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 23330 | 793         | 20.16               | 20.50               | 1.081                  | -0.12            | 1.100                  | 1.190                  |
|          | LTE Band 14 | 10M      | QPSK       | 25      | 0         | Bottom Face      | 0mm      | ON              | 23330 | 793         | 19.17               | 19.50               | 1.079                  | -0.12            | 0.875                  | 0.944                  |
|          | LTE Band 14 | 10M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 23330 | 793         | 19.02               | 19.50               | 1.117                  | 0.02             | 0.842                  | 0.940                  |
|          | LTE Band 14 | 10M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 23330 | 793         | 20.16               | 20.50               | 1.081                  | 0.05             | 0.642                  | 0.694                  |
|          | LTE Band 14 | 10M      | QPSK       | 25      | 0         | Edge 1           | 0mm      | ON              | 23330 | 793         | 19.17               | 19.50               | 1.079                  | 0.03             | 0.512                  | 0.552                  |
|          | LTE Band 14 | 10M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 23330 | 793         | 20.16               | 20.50               | 1.081                  | -0.09            | 0.050                  | 0.054                  |
|          | LTE Band 14 | 10M      | QPSK       | 25      | 0         | Edge 2           | 0mm      | ON              | 23330 | 793         | 19.17               | 19.50               | 1.079                  | 0.07             | 0.040                  | 0.043                  |
|          | LTE Band 14 | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 23330 | 793         | 23.68               | 24.50               | 1.208                  | -0.06            | 0.214                  | 0.258                  |
|          | LTE Band 14 | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 16mm     | OFF             | 23330 | 793         | 22.66               | 23.50               | 1.213                  | 0                | 0.157                  | 0.191                  |
|          | LTE Band 14 | 10M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 23330 | 793         | 23.68               | 24.50               | 1.208                  | -0.03            | 0.360                  | 0.435                  |
|          | LTE Band 14 | 10M      | QPSK       | 25      | 0         | Bottom Face      | 13mm     | OFF             | 23330 | 793         | 22.66               | 23.50               | 1.213                  | 0.07             | 0.315                  | 0.382                  |
|          | LTE Band 14 | 10M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 23330 | 793         | 23.68               | 24.50               | 1.208                  | 0.07             | 0.001                  | 0.001                  |
|          | LTE Band 14 | 10M      | QPSK       | 25      | 0         | Edge 1           | 22mm     | OFF             | 23330 | 793         | 22.66               | 23.50               | 1.213                  | -0.03            | 0.001                  | 0.001                  |
|          | LTE Band 14 | 10M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 23330 | 793         | 23.68               | 24.50               | 1.208                  | 0.04             | 0.001                  | 0.001                  |
|          | LTE Band 14 | 10M      | QPSK       | 25      | 0         | Edge 2           | 14mm     | OFF             | 23330 | 793         | 22.66               | 23.50               | 1.213                  | -0.05            | 0.001                  | 0.001                  |



# FCC SAR TEST REPORT

Report No. : FA092423

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-Up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|------------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 26140 | 1860        | 15.56               | 16.50               | 1.242                  | 0.08             | 0.743                  | 0.923                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 26340 | 1880        | 15.46               | 16.50               | 1.271                  | -0.08            | 0.788                  | 1.001                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 26590 | 1905        | 15.46               | 16.50               | 1.271                  | -0.04            | 0.812                  | 1.032                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 26140 | 1860        | 14.71               | 15.50               | 1.199                  | -0.09            | 0.611                  | 0.733                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 26340 | 1880        | 14.65               | 15.50               | 1.216                  | -0.02            | 0.654                  | 0.795                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 26590 | 1905        | 14.62               | 15.50               | 1.225                  | 0.05             | 0.670                  | 0.820                  |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Bottom of Laptop | 0mm      | ON              | 26140 | 1860        | 14.70               | 15.50               | 1.202                  | 0.02             | 0.666                  | 0.801                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 26140 | 1860        | 15.56               | 16.50               | 1.242                  | -0.09            | 0.847                  | 1.052                  |
| 10       | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 26340 | 1880        | 15.46               | 16.50               | 1.271                  | 0.14             | 0.885                  | 1.124                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 26590 | 1905        | 15.46               | 16.50               | 1.271                  | 0                | 0.812                  | 1.032                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 26140 | 1860        | 14.71               | 15.50               | 1.199                  | 0                | 0.695                  | 0.834                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 26340 | 1880        | 14.65               | 15.50               | 1.216                  | -0.09            | 0.735                  | 0.894                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 26590 | 1905        | 14.62               | 15.50               | 1.225                  | -0.01            | 0.670                  | 0.820                  |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Bottom Face      | 0mm      | ON              | 26140 | 1860        | 14.70               | 15.50               | 1.202                  | 0.1              | 0.691                  | 0.831                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 26140 | 1860        | 15.56               | 16.50               | 1.242                  | 0.01             | 0.091                  | 0.113                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | ON              | 26140 | 1860        | 14.71               | 15.50               | 1.199                  | 0.04             | 0.075                  | 0.090                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 26140 | 1860        | 15.56               | 16.50               | 1.242                  | 0                | 0.307                  | 0.381                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Edge 2           | 0mm      | ON              | 26140 | 1860        | 14.71               | 15.50               | 1.199                  | 0.01             | 0.251                  | 0.301                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 26590 | 1905        | 23.67               | 24.00               | 1.079                  | 0.02             | 0.338                  | 0.365                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 16mm     | OFF             | 26590 | 1905        | 22.73               | 23.00               | 1.064                  | 0.1              | 0.251                  | 0.267                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 26590 | 1905        | 23.67               | 24.00               | 1.079                  | -0.06            | 0.313                  | 0.338                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 13mm     | OFF             | 26590 | 1905        | 22.73               | 23.00               | 1.064                  | 0.09             | 0.233                  | 0.248                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 26590 | 1905        | 23.67               | 24.00               | 1.079                  | -0.06            | 0.001                  | 0.001                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Edge 1           | 22mm     | OFF             | 26590 | 1905        | 22.73               | 23.00               | 1.064                  | 0.01             | 0.001                  | 0.001                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 26590 | 1905        | 23.67               | 24.00               | 1.079                  | -0.05            | 0.097                  | 0.104                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Edge 2           | 14mm     | OFF             | 26590 | 1905        | 22.73               | 23.00               | 1.064                  | 0.05             | 0.083                  | 0.088                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 26865 | 831.5       | 20.24               | 20.50               | 1.062                  | -0.04            | 0.915                  | 0.971                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Bottom of Laptop | 0mm      | ON              | 26865 | 831.5       | 19.47               | 19.50               | 1.007                  | 0.06             | 0.766                  | 0.771                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Bottom of Laptop | 0mm      | ON              | 26865 | 831.5       | 19.37               | 19.50               | 1.030                  | 0.06             | 0.734                  | 0.756                  |
| 11       | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 26865 | 831.5       | 20.24               | 20.50               | 1.062                  | -0.13            | 1.100                  | 1.168                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Bottom Face      | 0mm      | ON              | 26865 | 831.5       | 19.47               | 19.50               | 1.007                  | 0.09             | 0.923                  | 0.929                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Bottom Face      | 0mm      | ON              | 26865 | 831.5       | 19.37               | 19.50               | 1.030                  | 0.05             | 0.898                  | 0.925                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 26865 | 831.5       | 20.24               | 20.50               | 1.062                  | 0.08             | 0.593                  | 0.630                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Edge 1           | 0mm      | ON              | 26865 | 831.5       | 19.47               | 19.50               | 1.007                  | -0.12            | 0.498                  | 0.501                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 26865 | 831.5       | 20.24               | 20.50               | 1.062                  | 0.03             | 0.037                  | 0.039                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Edge 2           | 0mm      | ON              | 26865 | 831.5       | 19.47               | 19.50               | 1.007                  | 0.07             | 0.030                  | 0.030                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 26865 | 831.5       | 23.87               | 24.50               | 1.156                  | 0.03             | 0.220                  | 0.254                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Bottom of Laptop | 16mm     | OFF             | 26865 | 831.5       | 22.89               | 23.50               | 1.151                  | -0.08            | 0.163                  | 0.188                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 26865 | 831.5       | 23.87               | 24.50               | 1.156                  | -0.03            | 0.448                  | 0.518                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Bottom Face      | 13mm     | OFF             | 26865 | 831.5       | 22.89               | 23.50               | 1.151                  | -0.1             | 0.391                  | 0.450                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 26865 | 831.5       | 23.87               | 24.50               | 1.156                  | 0.08             | 0.001                  | 0.001                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Edge 1           | 22mm     | OFF             | 26865 | 831.5       | 22.89               | 23.50               | 1.151                  | -0.03            | 0.001                  | 0.001                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 26865 | 831.5       | 23.87               | 24.50               | 1.156                  | 0.03             | 0.001                  | 0.001                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Edge 2           | 14mm     | OFF             | 26865 | 831.5       | 22.89               | 23.50               | 1.151                  | -0.03            | 0.001                  | 0.001                  |
|          | LTE Band 30 | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 27710 | 2310        | 13.13               | 14.50               | 1.371                  | 0.15             | 0.497                  | 0.681                  |
|          | LTE Band 30 | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 0mm      | ON              | 27710 | 2310        | 12.10               | 13.50               | 1.380                  | 0.03             | 0.430                  | 0.594                  |
| 12       | LTE Band 30 | 10M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 27710 | 2310        | 13.13               | 14.50               | 1.371                  | -0.04            | 0.845                  | 1.158                  |
|          | LTE Band 30 | 10M      | QPSK       | 25      | 0         | Bottom Face      | 0mm      | ON              | 27710 | 2310        | 12.10               | 13.50               | 1.380                  | 0.01             | 0.731                  | 1.009                  |
|          | LTE Band 30 | 10M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 27710 | 2310        | 12.12               | 13.50               | 1.374                  | 0                | 0.738                  | 1.014                  |
|          | LTE Band 30 | 10M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 27710 | 2310        | 13.13               | 14.50               | 1.371                  | 0.1              | 0.433                  | 0.594                  |
|          | LTE Band 30 | 10M      | QPSK       | 25      | 0         | Edge 1           | 0mm      | ON              | 27710 | 2310        | 12.10               | 13.50               | 1.380                  | -0.09            | 0.365                  | 0.504                  |
|          | LTE Band 30 | 10M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 27710 | 2310        | 13.13               | 14.50               | 1.371                  | -0.1             | 0.030                  | 0.041                  |
|          | LTE Band 30 | 10M      | QPSK       | 25      | 0         | Edge 2           | 0mm      | ON              | 27710 | 2310        | 12.10               | 13.50               | 1.380                  | 0.06             | 0.028                  | 0.039                  |
|          | LTE Band 30 | 10M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 27710 | 2310        | 22.15               | 23.00               | 1.216                  | -0.03            | 0.359                  | 0.437                  |
|          | LTE Band 30 | 10M      | QPSK       | 25      | 0         | Bottom of Laptop | 16mm     | OFF             | 27710 | 2310        | 21.24               | 22.00               | 1.191                  | 0.06             | 0.288                  | 0.343                  |
|          | LTE Band 30 | 10M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 27710 | 2310        | 22.15               | 23.00               | 1.216                  | 0.09             | 0.576                  | 0.701                  |
|          | LTE Band 30 | 10M      | QPSK       | 25      | 0         | Bottom Face      | 13mm     | OFF             | 27710 | 2310        | 21.24               | 22.00               | 1.191                  | -0.05            | 0.484                  | 0.577                  |
|          | LTE Band 30 | 10M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 27710 | 2310        | 22.15               | 23.00               | 1.216                  | 0.04             | 0.001                  | 0.001                  |
|          | LTE Band 30 | 10M      | QPSK       | 25      | 0         | Edge 1           | 22mm     | OFF             | 27710 | 2310        | 21.24               | 22.00               | 1.191                  | 0.07             | 0.001                  | 0.001                  |
|          | LTE Band 30 | 10M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 27710 | 2310        | 22.15               | 23.00               | 1.216                  | 0.1              | 0.074                  | 0.090                  |
|          | LTE Band 30 | 10M      | QPSK       | 25      | 0         | Edge 2           | 14mm     | OFF             | 27710 | 2310        | 21.24               | 22.00               | 1.191                  | 0.05             | 0.061                  | 0.073                  |



# FCC SAR TEST REPORT

Report No. : FA092423

| Plot No. | Band              | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------------|----------|------------|---------|-----------|------------------|----------|-----------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 132572 | 1770        | 16.61               | 17.00               | 1.094                  | 0.05             | 0.920                  | 1.006                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 132072 | 1720        | 16.46               | 17.00               | 1.132                  | 0                | 0.988                  | 1.119                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 132322 | 1745        | 16.42               | 17.00               | 1.143                  | 0.09             | 0.955                  | 1.091                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 132572 | 1770        | 15.65               | 16.00               | 1.084                  | 0.06             | 0.737                  | 0.799                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 132072 | 1720        | 15.62               | 16.00               | 1.091                  | -0.01            | 0.815                  | 0.890                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 132322 | 1745        | 15.57               | 16.00               | 1.104                  | 0.03             | 0.785                  | 0.867                  |
|          | LTE Band 66       | 20M      | QPSK       | 100     | 0         | Bottom of Laptop | 0mm      | ON              | 132572 | 1770        | 15.60               | 16.00               | 1.096                  | -0.02            | 0.766                  | 0.840                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 132572 | 1770        | 16.61               | 17.00               | 1.094                  | 0.05             | 0.980                  | 1.072                  |
| 13       | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 132072 | 1720        | 16.46               | 17.00               | 1.132                  | -0.02            | 1.000                  | 1.132                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 132322 | 1745        | 16.42               | 17.00               | 1.143                  | -0.13            | 0.915                  | 1.046                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 132572 | 1770        | 15.65               | 16.00               | 1.084                  | -0.11            | 0.786                  | 0.852                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 132072 | 1720        | 15.62               | 16.00               | 1.091                  | 0.15             | 0.824                  | 0.899                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 132322 | 1745        | 15.57               | 16.00               | 1.104                  | -0.01            | 0.753                  | 0.831                  |
|          | LTE Band 66       | 20M      | QPSK       | 100     | 0         | Bottom Face      | 0mm      | ON              | 132572 | 1770        | 15.60               | 16.00               | 1.096                  | -0.02            | 0.746                  | 0.818                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 132572 | 1770        | 16.61               | 17.00               | 1.094                  | -0.03            | 0.199                  | 0.218                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | ON              | 132572 | 1770        | 15.65               | 16.00               | 1.084                  | 0.06             | 0.160                  | 0.173                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 132572 | 1770        | 16.61               | 17.00               | 1.094                  | -0.13            | 0.620                  | 0.678                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Edge 2           | 0mm      | ON              | 132572 | 1770        | 15.65               | 16.00               | 1.084                  | 0.07             | 0.497                  | 0.539                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 132572 | 1770        | 23.57               | 24.00               | 1.104                  | -0.02            | 0.372                  | 0.411                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 16mm     | OFF             | 132572 | 1770        | 22.65               | 23.00               | 1.084                  | -0.05            | 0.280                  | 0.303                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 132572 | 1770        | 23.57               | 24.00               | 1.104                  | -0.02            | 0.359                  | 0.396                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Bottom Face      | 13mm     | OFF             | 132572 | 1770        | 22.65               | 23.00               | 1.084                  | 0.07             | 0.302                  | 0.327                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 132572 | 1770        | 23.57               | 24.00               | 1.104                  | -0.1             | 0.001                  | 0.001                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Edge 1           | 22mm     | OFF             | 132572 | 1770        | 22.65               | 23.00               | 1.084                  | 0.02             | 0.001                  | 0.001                  |
|          | LTE Band 66       | 20M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 132572 | 1770        | 23.57               | 24.00               | 1.104                  | -0.02            | 0.156                  | 0.172                  |
|          | LTE Band 66       | 20M      | QPSK       | 50      | 0         | Edge 2           | 14mm     | OFF             | 132572 | 1770        | 22.65               | 23.00               | 1.084                  | 0.05             | 0.138                  | 0.150                  |
|          | LTE Band 66B      | 15M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 130247 | 1717.5      | 16.85               | 17.00               | 1.035                  | -0.05            | 1.080                  | 1.118                  |
|          | LTE Band 66C      | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 132072 | 1720        | 16.92               | 17.00               | 1.019                  | -0.04            | 1.100                  | 1.120                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 132572 | 1770        | 11.19               | 11.50               | 1.074                  | 0.17             | 0.398                  | 0.427                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 50      | 50        | Bottom of Laptop | 0mm      | ON              | 132572 | 1770        | 11.10               | 11.50               | 1.096                  | 0.11             | 0.385                  | 0.422                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 132572 | 1770        | 11.19               | 11.50               | 1.074                  | 0.19             | 0.632                  | 0.679                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 132072 | 1720        | 11.12               | 11.50               | 1.091                  | 0.01             | 0.546                  | 0.596                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 132322 | 1745        | 11.14               | 11.50               | 1.086                  | 0.13             | 0.616                  | 0.669                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 50      | 50        | Bottom Face      | 0mm      | ON              | 132572 | 1770        | 11.10               | 11.50               | 1.096                  | -0.05            | 0.615                  | 0.674                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 4           | 0mm      | ON              | 132572 | 1770        | 11.19               | 11.50               | 1.074                  | 0.07             | 0.425                  | 0.456                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 50      | 50        | Edge 4           | 0mm      | ON              | 132572 | 1770        | 11.10               | 11.50               | 1.096                  | -0.05            | 0.403                  | 0.442                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 15mm     | OFF             | 132572 | 1770        | 22.68               | 24.00               | 1.355                  | -0.04            | 0.642                  | 0.870                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 15mm     | OFF             | 132072 | 1720        | 22.60               | 24.00               | 1.380                  | 0.06             | 0.624                  | 0.861                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 15mm     | OFF             | 132322 | 1745        | 22.61               | 24.00               | 1.377                  | -0.12            | 0.612                  | 0.843                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 15mm     | OFF             | 132572 | 1770        | 22.06               | 23.00               | 1.242                  | 0.06             | 0.557                  | 0.692                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 100     | 0         | Bottom of Laptop | 15mm     | OFF             | 132572 | 1770        | 21.98               | 23.00               | 1.265                  | 0.04             | 0.548                  | 0.693                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 12mm     | OFF             | 132572 | 1770        | 22.68               | 24.00               | 1.355                  | -0.12            | 0.643                  | 0.871                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 12mm     | OFF             | 132072 | 1720        | 22.60               | 24.00               | 1.380                  | 0.08             | 0.620                  | 0.856                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 12mm     | OFF             | 132322 | 1745        | 22.61               | 24.00               | 1.377                  | -0.17            | 0.605                  | 0.833                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 12mm     | OFF             | 132572 | 1770        | 22.06               | 23.00               | 1.242                  | 0                | 0.558                  | 0.693                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 100     | 0         | Bottom Face      | 12mm     | OFF             | 132572 | 1770        | 21.98               | 23.00               | 1.265                  | 0.02             | 0.543                  | 0.687                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | OFF             | 132572 | 1770        | 22.68               | 24.00               | 1.355                  | -0.07            | 0.111                  | 0.150                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | OFF             | 132572 | 1770        | 22.06               | 23.00               | 1.242                  | 0                | 0.089                  | 0.111                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 1       | 0         | Edge 4           | 9mm      | OFF             | 132572 | 1770        | 22.68               | 24.00               | 1.355                  | -0.06            | 0.433                  | 0.587                  |
|          | LTE Band 66 MIMO2 | 20M      | QPSK       | 50      | 0         | Edge 4           | 9mm      | OFF             | 132572 | 1770        | 22.06               | 23.00               | 1.242                  | -0.01            | 0.395                  | 0.490                  |



# FCC SAR TEST REPORT

Report No. : FA092423

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|------------------|----------|-----------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 71 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 133322 | 683         | 18.28               | 18.50               | 1.052                  | -0.01            | 0.388                  | 0.408                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 133322 | 683         | 17.39               | 17.50               | 1.026                  | 0.04             | 0.316                  | 0.324                  |
| 14       | LTE Band 71 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 133322 | 683         | 18.28               | 18.50               | 1.052                  | -0.04            | 1.080                  | 1.136                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 133322 | 683         | 17.39               | 17.50               | 1.026                  | 0.04             | 0.880                  | 0.903                  |
|          | LTE Band 71 | 20M      | QPSK       | 100     | 0         | Bottom Face      | 0mm      | ON              | 133322 | 683         | 17.26               | 17.50               | 1.057                  | 0.06             | 0.854                  | 0.903                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 133322 | 683         | 18.28               | 18.50               | 1.052                  | 0.08             | 0.759                  | 0.798                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | ON              | 133322 | 683         | 17.39               | 17.50               | 1.026                  | -0.03            | 0.620                  | 0.636                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 133322 | 683         | 18.28               | 18.50               | 1.052                  | 0.07             | 0.242                  | 0.255                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 0         | Edge 2           | 0mm      | ON              | 133322 | 683         | 17.39               | 17.50               | 1.026                  | 0.09             | 0.195                  | 0.200                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 133322 | 683         | 24.03               | 24.50               | 1.114                  | -0.01            | 0.157                  | 0.175                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 16mm     | OFF             | 133322 | 683         | 23.08               | 23.50               | 1.102                  | -0.1             | 0.133                  | 0.147                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 133322 | 683         | 24.03               | 24.50               | 1.114                  | -0.09            | 0.193                  | 0.215                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 0         | Bottom Face      | 13mm     | OFF             | 133322 | 683         | 23.08               | 23.50               | 1.102                  | -0.07            | 0.166                  | 0.183                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 133322 | 683         | 24.03               | 24.50               | 1.114                  | -0.1             | 0.001                  | 0.001                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 0         | Edge 1           | 22mm     | OFF             | 133322 | 683         | 23.08               | 23.50               | 1.102                  | 0.06             | 0.001                  | 0.001                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 133322 | 683         | 24.03               | 24.50               | 1.114                  | 0.08             | 0.056                  | 0.062                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 0         | Edge 2           | 14mm     | OFF             | 133322 | 683         | 23.08               | 23.50               | 1.102                  | 0.04             | 0.046                  | 0.051                  |

## <TDD LTE SAR>

| Plot No. | Band             | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------------|----------|------------|---------|-----------|------------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 40620 | 2593        | 13.32               | 13.50               | 1.042                  | 62.9         | 1.006                     | -0.07            | 0.294                  | 0.308                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 40620 | 2593        | 12.37               | 12.50               | 1.030                  | 62.9         | 1.006                     | 0.1              | 0.212                  | 0.220                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 40620 | 2593        | 13.32               | 13.50               | 1.042                  | 62.9         | 1.006                     | 0.04             | 0.766                  | 0.803                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 39750 | 2506        | 13.28               | 13.50               | 1.052                  | 62.9         | 1.006                     | -0.04            | 0.700                  | 0.741                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 40185 | 2549.5      | 13.23               | 13.50               | 1.064                  | 62.9         | 1.006                     | 0.03             | 0.667                  | 0.714                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 41055 | 2636.5      | 13.28               | 13.50               | 1.052                  | 62.9         | 1.006                     | -0.03            | 0.808                  | 0.855                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 41490 | 2680        | 13.12               | 13.50               | 1.091                  | 62.9         | 1.006                     | -0.11            | 0.833                  | 0.915                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 40620 | 2593        | 12.37               | 12.50               | 1.030                  | 62.9         | 1.006                     | -0.09            | 0.616                  | 0.639                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 39750 | 2506        | 12.33               | 12.50               | 1.040                  | 62.9         | 1.006                     | -0.06            | 0.562                  | 0.588                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 40185 | 2549.5      | 12.30               | 12.50               | 1.047                  | 62.9         | 1.006                     | -0.08            | 0.538                  | 0.567                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 41055 | 2636.5      | 12.36               | 12.50               | 1.033                  | 62.9         | 1.006                     | -0.09            | 0.655                  | 0.681                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 41490 | 2680        | 12.26               | 12.50               | 1.057                  | 62.9         | 1.006                     | -0.08            | 0.684                  | 0.727                  |
|          | LTE Band 41      | 20M      | QPSK       | 100     | 0         | Bottom Face      | 0mm      | ON              | 40620 | 2593        | 12.39               | 12.50               | 1.026                  | 62.9         | 1.006                     | -0.07            | 0.558                  | 0.576                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | ON              | 40620 | 2593        | 13.32               | 13.50               | 1.042                  | 62.9         | 1.006                     | -0.04            | 0.067                  | 0.070                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | ON              | 40620 | 2593        | 12.37               | 12.50               | 1.030                  | 62.9         | 1.006                     | 0.02             | 0.048                  | 0.050                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Edge 2           | 0mm      | ON              | 40620 | 2593        | 13.32               | 13.50               | 1.042                  | 62.9         | 1.006                     | 0.03             | 0.117                  | 0.123                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Edge 2           | 0mm      | ON              | 40620 | 2593        | 12.37               | 12.50               | 1.030                  | 62.9         | 1.006                     | -0.03            | 0.098                  | 0.102                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 16mm     | OFF             | 40620 | 2593        | 23.90               | 24.00               | 1.023                  | 62.9         | 1.006                     | -0.03            | 0.215                  | 0.221                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 16mm     | OFF             | 40620 | 2593        | 22.99               | 23.00               | 1.002                  | 62.9         | 1.006                     | -0.07            | 0.161                  | 0.162                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Bottom Face      | 13mm     | OFF             | 40620 | 2593        | 23.90               | 24.00               | 1.023                  | 62.9         | 1.006                     | 0.02             | 0.366                  | 0.377                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Bottom Face      | 13mm     | OFF             | 40620 | 2593        | 22.99               | 23.00               | 1.002                  | 62.9         | 1.006                     | -0.09            | 0.309                  | 0.312                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Edge 1           | 22mm     | OFF             | 40620 | 2593        | 23.90               | 24.00               | 1.023                  | 62.9         | 1.006                     | 0.1              | 0.001                  | 0.001                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Edge 1           | 22mm     | OFF             | 40620 | 2593        | 22.99               | 23.00               | 1.002                  | 62.9         | 1.006                     | -0.05            | 0.001                  | 0.001                  |
|          | LTE Band 41      | 20M      | QPSK       | 1       | 0         | Edge 2           | 14mm     | OFF             | 40620 | 2593        | 23.90               | 24.00               | 1.023                  | 62.9         | 1.006                     | 0.01             | 0.061                  | 0.063                  |
|          | LTE Band 41      | 20M      | QPSK       | 50      | 0         | Edge 2           | 14mm     | OFF             | 40620 | 2593        | 22.99               | 23.00               | 1.002                  | 62.9         | 1.006                     | 0.03             | 0.050                  | 0.050                  |
|          | LTE Band 41C     | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 39750 | 2506        | 13.46               | 13.50               | 1.009                  | 62.9         | 1.006                     | 0.12             | 0.856                  | 0.869                  |
| 15       | LTE Band 41_HPUE | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 40620 | 2593        | 16.12               | 16.50               | 1.091                  | 42.9         | 1.009                     | -0.02            | 1.030                  | 1.134                  |



| Plot No. | Band               | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|--------------------|----------|------------|---------|-----------|------------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 0mm      | ON              | 55830 | 3609        | 12.65               | 13.00               | 1.084                  | 62.9         | 1.006                     | 0.05             | 0.413                  | 0.450                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 55830 | 3609        | 11.71               | 12.00               | 1.069                  | 62.9         | 1.006                     | -0.05            | 0.350                  | 0.376                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 55830 | 3609        | 12.65               | 13.00               | 1.084                  | 62.9         | 1.006                     | -0.09            | 0.777                  | 0.847                  |
| 16       | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 55340 | 3560        | 12.64               | 13.00               | 1.086                  | 62.9         | 1.006                     | -0.05            | 1.080                  | 1.180                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 56150 | 3641        | 12.40               | 13.00               | 1.148                  | 62.9         | 1.006                     | 0.03             | 0.969                  | 1.119                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 56640 | 3690        | 12.38               | 13.00               | 1.153                  | 62.9         | 1.006                     | -0.11            | 0.875                  | 1.015                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 55830 | 3609        | 11.71               | 12.00               | 1.069                  | 62.9         | 1.006                     | 0.03             | 0.761                  | 0.818                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 55340 | 3560        | 11.69               | 12.00               | 1.074                  | 62.9         | 1.006                     | -0.14            | 0.956                  | 1.033                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 56150 | 3641        | 11.47               | 12.00               | 1.130                  | 62.9         | 1.006                     | 0.06             | 0.932                  | 1.059                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 56640 | 3690        | 11.47               | 12.00               | 1.130                  | 62.9         | 1.006                     | -0.11            | 0.867                  | 0.985                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 100     | 0         | Bottom Face      | 0mm      | ON              | 55830 | 3609        | 11.70               | 12.00               | 1.072                  | 62.9         | 1.006                     | 0.07             | 0.761                  | 0.820                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Edge 4           | 0mm      | ON              | 55830 | 3609        | 12.65               | 13.00               | 1.084                  | 62.9         | 1.006                     | -0.17            | 0.551                  | 0.601                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Edge 4           | 0mm      | ON              | 55830 | 3609        | 11.71               | 12.00               | 1.069                  | 62.9         | 1.006                     | -0.03            | 0.436                  | 0.469                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Bottom of Laptop | 15mm     | OFF             | 55340 | 3560        | 21.01               | 22.00               | 1.256                  | 62.9         | 1.006                     | 0.03             | 0.170                  | 0.215                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Bottom of Laptop | 15mm     | OFF             | 55340 | 3560        | 20.07               | 21.00               | 1.239                  | 62.9         | 1.006                     | 0.08             | 0.129                  | 0.161                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Bottom Face      | 12mm     | OFF             | 55340 | 3560        | 21.01               | 22.00               | 1.256                  | 62.9         | 1.006                     | 0.05             | 0.499                  | 0.631                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Bottom Face      | 12mm     | OFF             | 55340 | 3560        | 20.07               | 21.00               | 1.239                  | 62.9         | 1.006                     | 0.01             | 0.400                  | 0.498                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Edge 1           | 0mm      | OFF             | 55340 | 3560        | 21.01               | 22.00               | 1.256                  | 62.9         | 1.006                     | -0.01            | 0.066                  | 0.083                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Edge 1           | 0mm      | OFF             | 55340 | 3560        | 20.07               | 21.00               | 1.239                  | 62.9         | 1.006                     | -0.07            | 0.045                  | 0.056                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 1       | 0         | Edge 4           | 9mm      | OFF             | 55340 | 3560        | 21.01               | 22.00               | 1.256                  | 62.9         | 1.006                     | 0.02             | 0.278                  | 0.351                  |
|          | LTE Band 48 MIMO2  | 20M      | QPSK       | 50      | 0         | Edge 4           | 9mm      | OFF             | 55340 | 3560        | 20.07               | 21.00               | 1.239                  | 62.9         | 1.006                     | 0.04             | 0.217                  | 0.270                  |
|          | LTE Band 48C MIMO2 | 20M      | QPSK       | 1       | 0         | Bottom Face      | 0mm      | ON              | 55340 | 3560        | 12.96               | 13.00               | 1.009                  | 62.9         | 1.006                     | -0.04            | 1.060                  | 1.076                  |



## &lt;5G NR SAR&gt;

| Plot No. | Band         | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|--------------|----------|------------|---------|-----------|------------------|----------|-----------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | FR1 n2       | 20M      | BPSK       | 1       | 53        | Bottom of Laptop | 0mm      | ON              | 376000 | 1880        | 12.77               | 13.50               | 1.183                  | 0.18             | 0.472                  | 0.558                  |
|          | FR1 n2       | 20M      | BPSK       | 50      | 56        | Bottom of Laptop | 0mm      | ON              | 376000 | 1880        | 12.55               | 13.50               | 1.245                  | 0.11             | 0.441                  | 0.549                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 376000 | 1880        | 12.77               | 13.50               | 1.183                  | 0.07             | 0.559                  | 0.661                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 372000 | 1860        | 12.75               | 13.50               | 1.189                  | -0.11            | 0.587                  | 0.698                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 380000 | 1900        | 12.69               | 13.50               | 1.205                  | 0.14             | 0.551                  | 0.664                  |
|          | FR1 n2       | 20M      | BPSK       | 50      | 56        | Bottom Face      | 0mm      | ON              | 376000 | 1880        | 12.55               | 13.50               | 1.245                  | -0.13            | 0.524                  | 0.652                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 53        | Edge 1           | 0mm      | ON              | 376000 | 1880        | 12.77               | 13.50               | 1.183                  | 0.07             | 0.057                  | 0.067                  |
|          | FR1 n2       | 20M      | BPSK       | 50      | 56        | Edge 1           | 0mm      | ON              | 376000 | 1880        | 12.55               | 13.50               | 1.245                  | -0.18            | 0.034                  | 0.042                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 53        | Edge 2           | 0mm      | ON              | 376000 | 1880        | 12.77               | 13.50               | 1.183                  | -0.03            | 0.184                  | 0.218                  |
|          | FR1 n2       | 20M      | BPSK       | 50      | 56        | Edge 2           | 0mm      | ON              | 376000 | 1880        | 12.55               | 13.50               | 1.245                  | 0.06             | 0.173                  | 0.215                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 1         | Bottom of Laptop | 16mm     | OFF             | 376000 | 1880        | 23.20               | 24.00               | 1.202                  | -0.12            | 0.270                  | 0.325                  |
|          | FR1 n2       | 20M      | BPSK       | 50      | 28        | Bottom of Laptop | 16mm     | OFF             | 376000 | 1880        | 22.99               | 24.00               | 1.262                  | 0.08             | 0.244                  | 0.308                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 1         | Bottom Face      | 13mm     | OFF             | 376000 | 1880        | 23.20               | 24.00               | 1.202                  | -0.09            | 0.305                  | 0.367                  |
|          | FR1 n2       | 20M      | BPSK       | 50      | 28        | Bottom Face      | 13mm     | OFF             | 376000 | 1880        | 22.99               | 24.00               | 1.262                  | -0.01            | 0.280                  | 0.353                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 1         | Edge 1           | 22mm     | OFF             | 376000 | 1880        | 23.20               | 24.00               | 1.202                  | -0.01            | 0.058                  | 0.070                  |
|          | FR1 n2       | 20M      | BPSK       | 50      | 28        | Edge 1           | 22mm     | OFF             | 376000 | 1880        | 22.99               | 24.00               | 1.262                  | -0.04            | 0.064                  | 0.081                  |
|          | FR1 n2       | 20M      | BPSK       | 1       | 1         | Edge 2           | 14mm     | OFF             | 376000 | 1880        | 23.20               | 24.00               | 1.202                  | 0.08             | 0.124                  | 0.149                  |
|          | FR1 n2       | 20M      | BPSK       | 50      | 28        | Edge 2           | 14mm     | OFF             | 376000 | 1880        | 22.99               | 24.00               | 1.262                  | -0.08            | 0.113                  | 0.143                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom of Laptop | 0mm      | ON              | 372000 | 1860        | 11.84               | 12.50               | 1.164                  | 0.16             | 0.318                  | 0.370                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 56        | Bottom of Laptop | 0mm      | ON              | 372000 | 1860        | 11.40               | 12.50               | 1.288                  | 0.12             | 0.285                  | 0.367                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 372000 | 1860        | 11.84               | 12.50               | 1.164                  | -0.02            | 0.589                  | 0.686                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 376000 | 1880        | 11.79               | 12.50               | 1.178                  | 0.05             | 0.582                  | 0.685                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 380000 | 1900        | 11.70               | 12.50               | 1.202                  | 0.06             | 0.564                  | 0.678                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 56        | Bottom Face      | 0mm      | ON              | 372000 | 1860        | 11.40               | 12.50               | 1.288                  | -0.04            | 0.512                  | 0.660                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 53        | Edge 4           | 0mm      | ON              | 372000 | 1860        | 11.84               | 12.50               | 1.164                  | -0.01            | 0.233                  | 0.271                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 56        | Edge 4           | 0mm      | ON              | 372000 | 1860        | 11.40               | 12.50               | 1.288                  | -0.11            | 0.182                  | 0.234                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 1         | Bottom of Laptop | 15mm     | OFF             | 376000 | 1880        | 23.73               | 24.00               | 1.064                  | -0.08            | 0.672                  | 0.715                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 28        | Bottom of Laptop | 15mm     | OFF             | 376000 | 1880        | 23.62               | 24.00               | 1.091                  | 0.02             | 0.661                  | 0.721                  |
| 17       | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 1         | Bottom Face      | 12mm     | OFF             | 376000 | 1880        | 23.73               | 24.00               | 1.064                  | -0.12            | 0.913                  | 0.972                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 1         | Bottom Face      | 12mm     | OFF             | 372000 | 1860        | 23.64               | 24.00               | 1.086                  | 0.05             | 0.890                  | 0.967                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 1         | Bottom Face      | 12mm     | OFF             | 380000 | 1900        | 23.58               | 24.00               | 1.102                  | -0.01            | 0.872                  | 0.961                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 28        | Bottom Face      | 12mm     | OFF             | 376000 | 1880        | 23.62               | 24.00               | 1.091                  | 0.08             | 0.876                  | 0.956                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 28        | Bottom Face      | 12mm     | OFF             | 372000 | 1860        | 23.59               | 24.00               | 1.099                  | -0.09            | 0.851                  | 0.935                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 28        | Bottom Face      | 12mm     | OFF             | 380000 | 1900        | 23.61               | 24.00               | 1.094                  | -0.01            | 0.832                  | 0.910                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 100     | 0         | Bottom Face      | 12mm     | OFF             | 376000 | 1880        | 23.11               | 24.00               | 1.227                  | -0.15            | 0.753                  | 0.924                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 1         | Edge 1           | 0mm      | OFF             | 376000 | 1880        | 23.73               | 24.00               | 1.064                  | 0.04             | 0.213                  | 0.227                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 28        | Edge 1           | 0mm      | OFF             | 376000 | 1880        | 23.62               | 24.00               | 1.091                  | 0.02             | 0.186                  | 0.203                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 1       | 1         | Edge 4           | 9mm      | OFF             | 376000 | 1880        | 23.73               | 24.00               | 1.064                  | -0.05            | 0.666                  | 0.709                  |
|          | FR1 n2 MIMO2 | 20M      | BPSK       | 50      | 28        | Edge 4           | 9mm      | OFF             | 376000 | 1880        | 23.62               | 24.00               | 1.091                  | 0.08             | 0.618                  | 0.675                  |
|          | FR1 n5       | 20M      | BPSK       | 1       | 1         | Bottom of Laptop | 0mm      | ON              | 167300 | 836.5       | 14.75               | 15.50               | 1.189                  | 0.02             | 0.272                  | 0.323                  |
|          | FR1 n5       | 20M      | BPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 167300 | 836.5       | 14.57               | 15.50               | 1.239                  | 0.08             | 0.259                  | 0.321                  |
| 18       | FR1 n5       | 20M      | BPSK       | 1       | 1         | Bottom Face      | 0mm      | ON              | 167300 | 836.5       | 14.75               | 15.50               | 1.189                  | -0.02            | 0.578                  | 0.687                  |
|          | FR1 n5       | 20M      | BPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 167300 | 836.5       | 14.57               | 15.50               | 1.239                  | 0.01             | 0.541                  | 0.670                  |
|          | FR1 n5       | 20M      | BPSK       | 1       | 1         | Edge 1           | 0mm      | ON              | 167300 | 836.5       | 14.75               | 15.50               | 1.189                  | -0.14            | 0.335                  | 0.398                  |
|          | FR1 n5       | 20M      | BPSK       | 50      | 0         | Edge 1           | 0mm      | ON              | 167300 | 836.5       | 14.57               | 15.50               | 1.239                  | 0.16             | 0.314                  | 0.389                  |
|          | FR1 n5       | 20M      | BPSK       | 1       | 1         | Edge 2           | 0mm      | ON              | 167300 | 836.5       | 14.75               | 15.50               | 1.189                  | 0.08             | 0.118                  | 0.140                  |
|          | FR1 n5       | 20M      | BPSK       | 50      | 0         | Edge 2           | 0mm      | ON              | 167300 | 836.5       | 14.57               | 15.50               | 1.239                  | -0.19            | 0.109                  | 0.135                  |
|          | FR1 n5       | 20M      | BPSK       | 1       | 1         | Bottom of Laptop | 16mm     | OFF             | 167300 | 836.5       | 23.58               | 24.00               | 1.102                  | 0                | 0.207                  | 0.228                  |
|          | FR1 n5       | 20M      | BPSK       | 50      | 28        | Bottom of Laptop | 16mm     | OFF             | 167300 | 836.5       | 23.28               | 24.00               | 1.180                  | 0.05             | 0.184                  | 0.217                  |
|          | FR1 n5       | 20M      | BPSK       | 1       | 1         | Bottom Face      | 13mm     | OFF             | 167300 | 836.5       | 23.58               | 24.00               | 1.102                  | 0.04             | 0.414                  | 0.456                  |
|          | FR1 n5       | 20M      | BPSK       | 50      | 28        | Bottom Face      | 13mm     | OFF             | 167300 | 836.5       | 23.28               | 24.00               | 1.180                  | 0.03             | 0.391                  | 0.462                  |
|          | FR1 n5       | 20M      | BPSK       | 1       | 1         | Edge 1           | 22mm     | OFF             | 167300 | 836.5       | 23.58               | 24.00               | 1.102                  | 0.07             | 0.001                  | 0.001                  |
|          | FR1 n5       | 20M      | BPSK       | 50      | 28        | Edge 1           | 22mm     | OFF             | 167300 | 836.5       | 23.28               | 24.00               | 1.180                  | 0.02             | 0.001                  | 0.001                  |
|          | FR1 n5       | 20M      | BPSK       | 1       | 1         | Edge 2           | 14mm     | OFF             | 167300 | 836.5       | 23.58               | 24.00               | 1.102                  | 0.09             | 0.105                  | 0.116                  |
|          | FR1 n5       | 20M      | BPSK       | 50      | 28        | Edge 2           | 14mm     | OFF             | 167300 | 836.5       | 23.28               | 24.00               | 1.180                  | 0.09             | 0.090                  | 0.106                  |



# FCC SAR TEST REPORT

Report No. : FA092423

| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|------------------|----------|-----------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Bottom of Laptop | 0mm      | ON              | 507000 | 2535        | 9.84                | 10.00               | 1.038                  | -0.07            | 0.203                  | 0.211                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 50      | 56        | Bottom of Laptop | 0mm      | ON              | 507000 | 2535        | 9.36                | 10.00               | 1.159                  | 0.01             | 0.175                  | 0.203                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 507000 | 2535        | 9.84                | 10.00               | 1.038                  | -0.09            | 0.531                  | 0.551                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 502000 | 2510        | 9.69                | 10.00               | 1.074                  | 0.02             | 0.563                  | 0.605                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 512000 | 2560        | 9.67                | 10.00               | 1.079                  | -0.05            | 0.648                  | 0.699                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 50      | 56        | Bottom Face      | 0mm      | ON              | 507000 | 2535        | 9.36                | 10.00               | 1.159                  | 0.06             | 0.524                  | 0.607                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Edge 4           | 0mm      | ON              | 507000 | 2535        | 9.84                | 10.00               | 1.038                  | 0.12             | 0.131                  | 0.136                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 50      | 56        | Edge 4           | 0mm      | ON              | 507000 | 2535        | 9.36                | 10.00               | 1.159                  | -0.05            | 0.095                  | 0.110                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Bottom of Laptop | 15mm     | OFF             | 502000 | 2510        | 23.76               | 24.00               | 1.057                  | 0.11             | 0.333                  | 0.352                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 50      | 28        | Bottom of Laptop | 15mm     | OFF             | 502000 | 2510        | 23.67               | 24.00               | 1.079                  | 0.02             | 0.315                  | 0.340                  |
| 19       | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Bottom Face      | 12mm     | OFF             | 502000 | 2510        | 23.76               | 24.00               | 1.057                  | -0.05            | 0.776                  | 0.820                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Bottom Face      | 12mm     | OFF             | 507000 | 2535        | 23.04               | 24.00               | 1.247                  | -0.1             | 0.653                  | 0.815                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Bottom Face      | 12mm     | OFF             | 512000 | 2560        | 23.57               | 24.00               | 1.104                  | 0.02             | 0.723                  | 0.798                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 50      | 28        | Bottom Face      | 12mm     | OFF             | 502000 | 2510        | 23.67               | 24.00               | 1.079                  | -0.01            | 0.735                  | 0.793                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 100     | 0         | Bottom Face      | 12mm     | OFF             | 502000 | 2510        | 23.24               | 23.50               | 1.062                  | -0.01            | 0.749                  | 0.795                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Edge 1           | 0mm      | OFF             | 502000 | 2510        | 23.76               | 24.00               | 1.057                  | -0.09            | 0.123                  | 0.130                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 50      | 28        | Edge 1           | 0mm      | OFF             | 502000 | 2510        | 23.67               | 24.00               | 1.079                  | 0.03             | 0.100                  | 0.108                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 1       | 53        | Edge 4           | 9mm      | OFF             | 502000 | 2510        | 23.76               | 24.00               | 1.057                  | -0.08            | 0.490                  | 0.518                  |
|          | FR1 n7 MIMO2  | 20M      | BPSK       | 50      | 28        | Edge 4           | 9mm      | OFF             | 502000 | 2510        | 23.67               | 24.00               | 1.079                  | 0.01             | 0.430                  | 0.464                  |
|          | FR1 n12       | 15M      | BPSK       | 1       | 1         | Bottom of Laptop | 0mm      | ON              | 141500 | 707.5       | 14.41               | 15.50               | 1.285                  | 0.05             | 0.160                  | 0.206                  |
|          | FR1 n12       | 15M      | BPSK       | 36      | 0         | Bottom of Laptop | 0mm      | ON              | 141500 | 707.5       | 14.11               | 15.50               | 1.377                  | 0.17             | 0.145                  | 0.200                  |
| 20       | FR1 n12       | 15M      | BPSK       | 1       | 1         | Bottom Face      | 0mm      | ON              | 141500 | 707.5       | 14.41               | 15.50               | 1.285                  | -0.07            | 0.481                  | 0.618                  |
|          | FR1 n12       | 15M      | BPSK       | 36      | 0         | Bottom Face      | 0mm      | ON              | 141500 | 707.5       | 14.11               | 15.50               | 1.377                  | 0.01             | 0.442                  | 0.609                  |
|          | FR1 n12       | 15M      | BPSK       | 1       | 1         | Edge 1           | 0mm      | ON              | 141500 | 707.5       | 14.41               | 15.50               | 1.285                  | -0.13            | 0.168                  | 0.216                  |
|          | FR1 n12       | 15M      | BPSK       | 36      | 0         | Edge 1           | 0mm      | ON              | 141500 | 707.5       | 14.11               | 15.50               | 1.377                  | -0.05            | 0.155                  | 0.213                  |
|          | FR1 n12       | 15M      | BPSK       | 1       | 1         | Edge 2           | 0mm      | ON              | 141500 | 707.5       | 14.41               | 15.50               | 1.285                  | 0.17             | 0.034                  | 0.044                  |
|          | FR1 n12       | 15M      | BPSK       | 36      | 0         | Edge 2           | 0mm      | ON              | 141500 | 707.5       | 14.11               | 15.50               | 1.377                  | 0.06             | 0.021                  | 0.029                  |
|          | FR1 n12       | 15M      | BPSK       | 1       | 1         | Bottom of Laptop | 16mm     | OFF             | 141500 | 707.5       | 23.89               | 24.00               | 1.026                  | 0.11             | 0.143                  | 0.147                  |
|          | FR1 n12       | 15M      | BPSK       | 36      | 22        | Bottom of Laptop | 16mm     | OFF             | 141500 | 707.5       | 23.58               | 24.00               | 1.102                  | 0.07             | 0.132                  | 0.145                  |
|          | FR1 n12       | 15M      | BPSK       | 1       | 1         | Bottom Face      | 13mm     | OFF             | 141500 | 707.5       | 23.89               | 24.00               | 1.026                  | -0.06            | 0.178                  | 0.183                  |
|          | FR1 n12       | 15M      | BPSK       | 36      | 22        | Bottom Face      | 13mm     | OFF             | 141500 | 707.5       | 23.58               | 24.00               | 1.102                  | -0.04            | 0.160                  | 0.176                  |
|          | FR1 n12       | 15M      | BPSK       | 1       | 1         | Edge 1           | 22mm     | OFF             | 141500 | 707.5       | 23.89               | 24.00               | 1.026                  | 0.01             | 0.082                  | 0.084                  |
|          | FR1 n12       | 15M      | BPSK       | 36      | 22        | Edge 1           | 22mm     | OFF             | 141500 | 707.5       | 23.58               | 24.00               | 1.102                  | 0.09             | 0.059                  | 0.065                  |
|          | FR1 n12       | 15M      | BPSK       | 1       | 1         | Edge 2           | 14mm     | OFF             | 141500 | 707.5       | 23.89               | 24.00               | 1.026                  | 0.04             | 0.001                  | 0.001                  |
|          | FR1 n12       | 15M      | BPSK       | 36      | 22        | Edge 2           | 14mm     | OFF             | 141500 | 707.5       | 23.58               | 24.00               | 1.102                  | -0.09            | 0.001                  | 0.001                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 1       | 1         | Bottom of Laptop | 0mm      | ON              | 518598 | 2592.99     | 9.34                | 9.50                | 1.038                  | -0.11            | 0.092                  | 0.095                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 135     | 69        | Bottom of Laptop | 0mm      | ON              | 518598 | 2592.99     | 9.27                | 9.50                | 1.054                  | 0.14             | 0.084                  | 0.089                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 1       | 1         | Bottom Face      | 0mm      | ON              | 518598 | 2592.99     | 9.34                | 9.50                | 1.038                  | -0.15            | 0.661                  | 0.686                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 135     | 69        | Bottom Face      | 0mm      | ON              | 518598 | 2592.99     | 9.27                | 9.50                | 1.054                  | 0.01             | 0.643                  | 0.678                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 1       | 1         | Edge 4           | 0mm      | ON              | 518598 | 2592.99     | 9.34                | 9.50                | 1.038                  | 0.16             | 0.221                  | 0.229                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 135     | 69        | Edge 4           | 0mm      | ON              | 518598 | 2592.99     | 9.27                | 9.50                | 1.054                  | -0.17            | 0.215                  | 0.227                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 1       | 1         | Bottom of Laptop | 15mm     | OFF             | 518598 | 2592.99     | 23.70               | 24.00               | 1.072                  | -0.12            | 0.385                  | 0.413                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 135     | 69        | Bottom of Laptop | 15mm     | OFF             | 518598 | 2592.99     | 23.57               | 24.00               | 1.104                  | -0.02            | 0.366                  | 0.404                  |
| 21       | FR1 n41 MIMO2 | 100M     | BPSK       | 1       | 1         | Bottom Face      | 12mm     | OFF             | 518598 | 2592.99     | 23.70               | 24.00               | 1.072                  | -0.11            | 0.700                  | 0.750                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 135     | 69        | Bottom Face      | 12mm     | OFF             | 518598 | 2592.99     | 23.57               | 24.00               | 1.104                  | 0.02             | 0.671                  | 0.741                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 1       | 1         | Edge 1           | 0mm      | OFF             | 518598 | 2592.99     | 23.70               | 24.00               | 1.072                  | -0.09            | 0.123                  | 0.132                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 135     | 69        | Edge 1           | 0mm      | OFF             | 518598 | 2592.99     | 23.57               | 24.00               | 1.104                  | -0.09            | 0.098                  | 0.108                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 1       | 1         | Edge 4           | 9mm      | OFF             | 518598 | 2592.99     | 23.70               | 24.00               | 1.072                  | 0                | 0.503                  | 0.539                  |
|          | FR1 n41 MIMO2 | 100M     | BPSK       | 135     | 69        | Edge 4           | 9mm      | OFF             | 518598 | 2592.99     | 23.57               | 24.00               | 1.104                  | -0.08            | 0.448                  | 0.495                  |



# FCC SAR TEST REPORT

Report No. : FA092423

| Plot No. | Band          | BW (MHz) | Modulation | RB Size | RB offset | Test Position    | Gap (mm) | Power Reduction | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------------|----------|------------|---------|-----------|------------------|----------|-----------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | FR1 n66       | 20M      | BPSK       | 1       | 53        | Bottom of Laptop | 0mm      | ON              | 349000 | 1745        | 13.65               | 14.00               | 1.084                  | 0.14             | 0.453                  | 0.491                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 349000 | 1745        | 13.29               | 14.00               | 1.178                  | 0.07             | 0.415                  | 0.489                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 349000 | 1745        | 13.65               | 14.00               | 1.084                  | 0.03             | 0.533                  | 0.578                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 344000 | 1720        | 13.59               | 14.00               | 1.099                  | -0.06            | 0.585                  | 0.643                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 354000 | 1770        | 13.51               | 14.00               | 1.119                  | -0.12            | 0.566                  | 0.634                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 349000 | 1745        | 13.29               | 14.00               | 1.178                  | 0.14             | 0.481                  | 0.566                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 344000 | 1720        | 13.29               | 14.00               | 1.178                  | 0.06             | 0.531                  | 0.625                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 354000 | 1770        | 13.12               | 14.00               | 1.225                  | -0.17            | 0.521                  | 0.638                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 1         | Edge 1           | 0mm      | ON              | 349000 | 1745        | 13.65               | 14.00               | 1.084                  | 0.05             | 0.099                  | 0.107                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 0         | Edge 1           | 0mm      | ON              | 349000 | 1745        | 13.29               | 14.00               | 1.178                  | 0.09             | 0.086                  | 0.101                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 1         | Edge 2           | 0mm      | ON              | 349000 | 1745        | 13.65               | 14.00               | 1.084                  | -0.17            | 0.249                  | 0.270                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 0         | Edge 2           | 0mm      | ON              | 349000 | 1745        | 13.29               | 14.00               | 1.178                  | 0.08             | 0.228                  | 0.268                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 1         | Bottom of Laptop | 16mm     | OFF             | 354000 | 1770        | 23.07               | 24.00               | 1.239                  | -0.03            | 0.400                  | 0.496                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 28        | Bottom of Laptop | 16mm     | OFF             | 354000 | 1770        | 22.95               | 24.00               | 1.274                  | -0.08            | 0.378                  | 0.481                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 1         | Bottom Face      | 13mm     | OFF             | 354000 | 1770        | 23.07               | 24.00               | 1.239                  | 0                | 0.395                  | 0.489                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 28        | Bottom Face      | 13mm     | OFF             | 354000 | 1770        | 22.95               | 24.00               | 1.274                  | -0.09            | 0.366                  | 0.466                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 1         | Edge 1           | 22mm     | OFF             | 354000 | 1770        | 23.07               | 24.00               | 1.239                  | -0.09            | 0.113                  | 0.140                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 28        | Edge 1           | 22mm     | OFF             | 354000 | 1770        | 22.95               | 24.00               | 1.274                  | -0.1             | 0.098                  | 0.125                  |
|          | FR1 n66       | 20M      | BPSK       | 1       | 1         | Edge 2           | 14mm     | OFF             | 354000 | 1770        | 23.07               | 24.00               | 1.239                  | -0.09            | 0.264                  | 0.327                  |
|          | FR1 n66       | 20M      | BPSK       | 50      | 28        | Edge 2           | 14mm     | OFF             | 354000 | 1770        | 22.95               | 24.00               | 1.274                  | 0.03             | 0.233                  | 0.297                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom of Laptop | 0mm      | ON              | 349000 | 1745        | 10.93               | 12.50               | 1.435                  | 0.14             | 0.414                  | 0.594                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 349000 | 1745        | 10.51               | 12.50               | 1.581                  | 0.06             | 0.374                  | 0.591                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 349000 | 1745        | 10.93               | 12.50               | 1.435                  | 0.02             | 0.438                  | 0.629                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 344000 | 1720        | 10.81               | 12.50               | 1.476                  | -0.11            | 0.434                  | 0.640                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 0mm      | ON              | 354000 | 1770        | 10.80               | 12.50               | 1.479                  | -0.13            | 0.470                  | 0.695                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 349000 | 1745        | 10.51               | 12.50               | 1.581                  | 0.15             | 0.395                  | 0.625                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Edge 4           | 0mm      | ON              | 349000 | 1745        | 10.93               | 12.50               | 1.435                  | -0.06            | 0.296                  | 0.425                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 0         | Edge 4           | 0mm      | ON              | 349000 | 1745        | 10.51               | 12.50               | 1.581                  | -0.17            | 0.246                  | 0.389                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom of Laptop | 15mm     | OFF             | 349000 | 1745        | 23.92               | 24.00               | 1.019                  | -0.18            | 0.603                  | 0.614                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 28        | Bottom of Laptop | 15mm     | OFF             | 349000 | 1745        | 23.76               | 24.00               | 1.057                  | 0.06             | 0.576                  | 0.609                  |
| 22       | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 12mm     | OFF             | 349000 | 1745        | 23.92               | 24.00               | 1.019                  | -0.16            | 1.040                  | 1.059                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 12mm     | OFF             | 344000 | 1720        | 23.69               | 24.00               | 1.074                  | 0.03             | 0.967                  | 1.039                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Bottom Face      | 12mm     | OFF             | 354000 | 1770        | 23.76               | 24.00               | 1.057                  | -0.13            | 0.982                  | 1.038                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 28        | Bottom Face      | 12mm     | OFF             | 349000 | 1745        | 23.76               | 24.00               | 1.057                  | -0.07            | 0.986                  | 1.042                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 28        | Bottom Face      | 12mm     | OFF             | 344000 | 1720        | 23.75               | 24.00               | 1.059                  | 0.08             | 0.942                  | 0.998                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 28        | Bottom Face      | 12mm     | OFF             | 354000 | 1770        | 23.70               | 24.00               | 1.072                  | -0.11            | 0.939                  | 1.006                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 100     | 0         | Bottom Face      | 12mm     | OFF             | 349000 | 1745        | 23.27               | 23.50               | 1.054                  | 0.09             | 0.895                  | 0.944                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Edge 1           | 0mm      | OFF             | 349000 | 1745        | 23.92               | 24.00               | 1.019                  | 0.08             | 0.235                  | 0.239                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 28        | Edge 1           | 0mm      | OFF             | 349000 | 1745        | 23.76               | 24.00               | 1.057                  | -0.07            | 0.210                  | 0.222                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 1       | 53        | Edge 4           | 9mm      | OFF             | 349000 | 1745        | 23.92               | 24.00               | 1.019                  | 0                | 0.688                  | 0.701                  |
|          | FR1 n66 MIMO2 | 20M      | BPSK       | 50      | 28        | Edge 4           | 9mm      | OFF             | 349000 | 1745        | 23.76               | 24.00               | 1.057                  | -0.1             | 0.613                  | 0.648                  |
|          | FR1 n71       | 20M      | BPSK       | 1       | 1         | Bottom of Laptop | 0mm      | ON              | 136100 | 680.5       | 15.48               | 16.00               | 1.127                  | 0.01             | 0.206                  | 0.232                  |
|          | FR1 n71       | 20M      | BPSK       | 50      | 0         | Bottom of Laptop | 0mm      | ON              | 136100 | 680.5       | 14.81               | 16.00               | 1.315                  | 0.13             | 0.175                  | 0.230                  |
| 23       | FR1 n71       | 20M      | BPSK       | 1       | 1         | Bottom Face      | 0mm      | ON              | 136100 | 680.5       | 15.48               | 16.00               | 1.127                  | 0.12             | 0.561                  | 0.632                  |
|          | FR1 n71       | 20M      | BPSK       | 50      | 0         | Bottom Face      | 0mm      | ON              | 136100 | 680.5       | 14.81               | 16.00               | 1.315                  | -0.11            | 0.478                  | 0.629                  |
|          | FR1 n71       | 20M      | BPSK       | 1       | 1         | Edge 1           | 0mm      | ON              | 136100 | 680.5       | 15.48               | 16.00               | 1.127                  | 0.13             | 0.374                  | 0.422                  |
|          | FR1 n71       | 20M      | BPSK       | 50      | 0         | Edge 1           | 0mm      | ON              | 136100 | 680.5       | 14.81               | 16.00               | 1.315                  | 0.07             | 0.318                  | 0.418                  |
|          | FR1 n71       | 20M      | BPSK       | 1       | 1         | Edge 2           | 0mm      | ON              | 136100 | 680.5       | 15.48               | 16.00               | 1.127                  | 0.15             | 0.132                  | 0.149                  |
|          | FR1 n71       | 20M      | BPSK       | 50      | 0         | Edge 2           | 0mm      | ON              | 136100 | 680.5       | 14.81               | 16.00               | 1.315                  | -0.05            | 0.109                  | 0.143                  |
|          | FR1 n71       | 20M      | BPSK       | 1       | 1         | Bottom of Laptop | 16mm     | OFF             | 136100 | 680.5       | 23.90               | 24.00               | 1.023                  | -0.01            | 0.150                  | 0.153                  |
|          | FR1 n71       | 20M      | BPSK       | 50      | 28        | Bottom of Laptop | 16mm     | OFF             | 136100 | 680.5       | 23.64               | 24.00               | 1.086                  | 0.09             | 0.139                  | 0.151                  |
|          | FR1 n71       | 20M      | BPSK       | 1       | 1         | Bottom Face      | 13mm     | OFF             | 136100 | 680.5       | 23.90               | 24.00               | 1.023                  | -0.04            | 0.176                  | 0.180                  |
|          | FR1 n71       | 20M      | BPSK       | 50      | 28        | Bottom Face      | 13mm     | OFF             | 136100 | 680.5       | 23.64               | 24.00               | 1.086                  | -0.06            | 0.155                  | 0.168                  |
|          | FR1 n71       | 20M      | BPSK       | 1       | 1         | Edge 1           | 22mm     | OFF             | 136100 | 680.5       | 23.90               | 24.00               | 1.023                  | 0.05             | 0.077                  | 0.079                  |
|          | FR1 n71       | 20M      | BPSK       | 50      | 28        | Edge 1           | 22mm     | OFF             | 136100 | 680.5       | 23.64               | 24.00               | 1.086                  | -0.07            | 0.060                  | 0.065                  |
|          | FR1 n71       | 20M      | BPSK       | 1       | 1         | Edge 2           | 14mm     | OFF             | 136100 | 680.5       | 23.90               | 24.00               | 1.023                  | 0.03             | 0.001                  | 0.001                  |
|          | FR1 n71       | 20M      | BPSK       | 50      | 28        | Edge 2           | 14mm     | OFF             | 136100 | 680.5       | 23.64               | 24.00               | 1.086                  | -0.09            | 0.001                  | 0.001                  |

## 14.2 Repeated SAR Measurement

| No. | Band              | Mode         | Test Position | Gap (mm) | Power Reduction | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Ratio | Reported 1g SAR (W/kg) |
|-----|-------------------|--------------|---------------|----------|-----------------|--------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|-------|------------------------|
| 1st | LTE Band 7C       | 20M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 20850  | 2510        | 14.41               | 14.50               | 1.021                  | -            | -                         | -0.15            | 1.050                  | -     | 1.072                  |
| 2nd | LTE Band 7C       | 20M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 20850  | 2510        | 14.41               | 14.50               | 1.021                  | -            | -                         | -0.03            | 1.020                  | 1.03  | 1.041                  |
| 1st | LTE Band 14       | 10M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 23330  | 793         | 20.16               | 20.50               | 1.081                  | -            | -                         | -0.12            | 1.100                  | -     | 1.190                  |
| 2nd | LTE Band 14       | 10M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 23330  | 793         | 20.16               | 20.50               | 1.081                  | -            | -                         | -0.05            | 1.030                  | 1.08  | 1.114                  |
| 1st | LTE Band 26       | 15M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 26865  | 831.5       | 20.24               | 20.50               | 1.062                  | -            | -                         | -0.13            | 1.100                  | -     | 1.168                  |
| 2nd | LTE Band 26       | 15M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 26865  | 831.5       | 20.24               | 20.50               | 1.062                  | -            | -                         | -0.12            | 1.020                  | 1.08  | 1.083                  |
| 1st | LTE Band 26       | 15M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 26915  | 836.5       | 20.24               | 20.50               | 1.062                  | -            | -                         | -0.13            | 1.100                  | -     | 1.168                  |
| 2nd | LTE Band 26       | 15M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 26915  | 836.5       | 20.24               | 20.50               | 1.062                  | -            | -                         | -0.12            | 1.020                  | 1.08  | 1.083                  |
| 1st | LTE Band 30       | 10M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 27710  | 2310        | 13.13               | 14.50               | 1.371                  | -            | -                         | -0.04            | 0.845                  | -     | 1.158                  |
| 2nd | LTE Band 30       | 10M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 27710  | 2310        | 13.13               | 14.50               | 1.371                  | -            | -                         | -0.11            | 0.837                  | 1.01  | 1.147                  |
| 1st | LTE Band 48 MIMO2 | 20M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 55340  | 3560        | 12.64               | 13.00               | 1.086                  | 62.9         | 1.006                     | -0.05            | 1.080                  | -     | 1.180                  |
| 2nd | LTE Band 48 MIMO2 | 20M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 55340  | 3560        | 12.64               | 13.00               | 1.086                  | 62.9         | 1.006                     | -0.02            | 1.020                  | 1.06  | 1.115                  |
| 1st | LTE Band 66C      | 20M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 132072 | 1720        | 16.92               | 17.00               | 1.019                  | -            | -                         | -0.04            | 1.100                  | -     | 1.120                  |
| 2nd | LTE Band 66C      | 20M_QPSK_1_0 | Bottom Face   | 0mm      | ON              | 132072 | 1720        | 16.92               | 17.00               | 1.019                  | -            | -                         | 0.09             | 1.050                  | 1.05  | 1.070                  |
| 1st | FR1 n2 MIMO2      | 20M_BPSK_1_0 | Bottom Face   | 12mm     | OFF             | 376000 | 1880        | 23.73               | 24.00               | 1.064                  | -            | -                         | -0.12            | 0.913                  | -     | 0.972                  |
| 2nd | FR1 n2 MIMO2      | 20M_BPSK_1_0 | Bottom Face   | 12mm     | OFF             | 376000 | 1880        | 23.73               | 24.00               | 1.064                  | -            | -                         | 0.08             | 0.902                  | 1.01  | 0.960                  |

### General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8\text{W/kg}$ .
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is  $\leq 1.2$  and the measured SAR  $< 1.45\text{W/kg}$ , only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

## 14.3 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with  $< 10\%$  discrepancy between power classes and all reported SAR are  $< 1.4\text{ W/kg}$ , Separate SAR testing for Power Class 2 is not required

|                                     | LTE Band 41<br>(Power Class 3) | LTE Band 41<br>(Power Class 2) |
|-------------------------------------|--------------------------------|--------------------------------|
| Maximum Tune up Power (dBm)         | 13.5                           | 16.5                           |
| Reported 1g SAR (W/kg)              | 0.915                          | 1.134                          |
| Duty Cycle                          | 63.30%                         | 43.30%                         |
| Frame Averaged (mW)                 | 14.17                          | 19.34                          |
| Linearity SAR(W/kg)                 | 1.25                           |                                |
| % deviation from expected linearity |                                | -9.20%                         |

## 15. Simultaneous Transmission Analysis

| NO. | Simultaneous Transmission Configurations                       | Body |
|-----|----------------------------------------------------------------|------|
| 1.  | WWAN + WLAN2.4GHz Ant 1 + WLAN 2.4GHz Ant 2 + FR1              | Yes  |
| 2.  | WWAN + WLAN2.4GHz Ant 2 + Bluetooth Ant 1 + FR1                | Yes  |
| 3.  | WWAN + WLAN5GHz Ant 1 + WLAN5GHz Ant 2 + FR1                   | Yes  |
| 4.  | WWAN + WLAN5GHz Ant 2 + Bluetooth Ant 1 + FR1                  | Yes  |
| 5.  | WWAN + WLAN5GHz Ant 1 + WLAN5GHz Ant 2 + Bluetooth Ant 1 + FR1 | Yes  |
| 6.  | WWAN + Bluetooth Ant 1 + 5GHz WLAN Ant 1+2 + FR1               | Yes  |

### General Note:

1. The WLAN/BT module is also integrated into Lenove TP00111A host. The WLAN and Bluetooth SAR results are referenced from Sporton SAR report, report number: CA0D0217 (FCC ID: PU5AX201D2) and these SAR results are also used to perform simultaneous transmission analysis.
2. For 2.4GHz SAR testing was performed on single antenna RF power in SISO mode is larger or equal to the single antenna RF power in MIMO mode, and for RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode.
3. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
4. The Scaled SAR summation is calculated based on the same configuration and test position.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
  - i) Scalar SAR summation < 1.6W/kg.
  - ii)  $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{ separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - iii) If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary.
  - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
  - v) The SPLSR calculated results please refer to section 16.2.

**15.1 Body Exposure Conditions**

&lt;EN-DC non-Active&gt;

| WWAN Band        | Exposure Position       | 1                | 2                       | 3                       | 4                     | 5                     | 6                  | 7                                 | 1+2+3<br>Summed<br>1g SAR<br>(W/kg) | 1+4+5<br>Summed<br>1g SAR<br>(W/kg) | 1+3+6<br>Summed<br>1g SAR<br>(W/kg) | 1+5+6<br>Summed<br>1g SAR<br>(W/kg) | 1+4+5+6<br>Summed<br>1g SAR<br>(W/kg) | 1+6+7<br>Summed<br>1g SAR<br>(W/kg) | SPLSR | Case No |
|------------------|-------------------------|------------------|-------------------------|-------------------------|-----------------------|-----------------------|--------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------|-------|---------|
|                  |                         | WWAN             | 2.4GHz<br>WLAN<br>Ant 1 | 2.4GHz<br>WLAN<br>Ant 2 | 5GHz<br>WLAN<br>Ant 1 | 5GHz<br>WLAN<br>Ant 2 | Bluetooth<br>Ant 1 | 5GHz<br>WLAN<br>Ant 1+2<br>(MIMO) |                                     |                                     |                                     |                                     |                                       |                                     |       |         |
|                  |                         | 1g SAR<br>(W/kg) | 1g SAR<br>(W/kg)        | 1g SAR<br>(W/kg)        | 1g SAR<br>(W/kg)      | 1g SAR<br>(W/kg)      | 1g SAR<br>(W/kg)   | 1g SAR<br>(W/kg)                  |                                     |                                     |                                     |                                     |                                       |                                     |       |         |
| WCDMA II         | Bottom of Laptop at 0mm | 0.905            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 2.353                               | 1.737                               | 1.929                               | 1.508                               | 2.102                                 | 1.630                               | 0.03  | Case 1  |
|                  | Bottom Face at 0mm      | 1.107            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 3.217                               | 2.946                               | 2.522                               | 2.420                               | 3.440                                 | 2.371                               | 0.04  | Case 2  |
|                  | Edge 1 at 0mm           | 0.159            |                         |                         |                       |                       |                    |                                   | 0.159                               | 0.159                               | 0.159                               | 0.159                               | 0.159                                 | 0.159                               |       |         |
|                  | Edge 2 at 0mm           | 0.390            | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.630                               | 1.497                               | 0.546                               | 0.546                               | 1.653                                 | 1.119                               | 0.02  | Case 3  |
|                  | Edge 4 at 0mm           |                  |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.288                               | 0.567                               | 0.288                               | 0.567                               | 0.567                                 | 0.474                               |       |         |
| WCDMA IV         | Bottom of Laptop at 0mm | 1.095            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 2.543                               | 1.927                               | 2.119                               | 1.698                               | 2.292                                 | 1.820                               | 0.03  | Case 4  |
|                  | Bottom Face at 0mm      | 1.189            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 3.299                               | 3.028                               | 2.604                               | 2.502                               | 3.522                                 | 2.453                               | 0.04  | Case 5  |
|                  | Edge 1 at 0mm           | 0.200            |                         |                         |                       |                       |                    |                                   | 0.200                               | 0.200                               | 0.200                               | 0.200                               | 0.200                                 | 0.200                               |       |         |
|                  | Edge 2 at 0mm           | 0.524            | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.764                               | 1.631                               | 0.680                               | 0.680                               | 1.787                                 | 1.253                               | 0.03  | Case 6  |
|                  | Edge 4 at 0mm           |                  |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.288                               | 0.567                               | 0.288                               | 0.567                               | 0.567                                 | 0.474                               |       |         |
| WCDMA V          | Bottom of Laptop at 0mm | 0.945            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 2.393                               | 1.777                               | 1.969                               | 1.548                               | 2.142                                 | 1.670                               | 0.02  | Case 7  |
|                  | Bottom Face at 0mm      | 1.093            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 3.203                               | 2.932                               | 2.508                               | 2.406                               | 3.426                                 | 2.357                               | 0.03  | Case 8  |
|                  | Edge 1 at 0mm           | 0.576            |                         |                         |                       |                       |                    |                                   | 0.576                               | 0.576                               | 0.576                               | 0.576                               | 0.576                                 | 0.576                               |       |         |
|                  | Edge 2 at 0mm           | 0.035            | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.275                               | 1.142                               | 0.191                               | 0.191                               | 1.298                                 | 0.764                               |       |         |
|                  | Edge 4 at 0mm           |                  |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.288                               | 0.567                               | 0.288                               | 0.567                               | 0.567                                 | 0.474                               |       |         |
| LTE Band 2 MIMO2 | Bottom of Laptop at 0mm | 0.370            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 1.818                               | 1.202                               | 1.394                               | 0.973                               | 1.567                                 | 1.095                               | 0.02  | Case 9  |
|                  | Bottom Face at 0mm      | 0.689            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 2.799                               | 2.528                               | 2.104                               | 2.002                               | 3.022                                 | 1.953                               | 0.03  | Case 10 |
|                  | Edge 1 at 0mm           | 0.118            |                         |                         |                       |                       |                    |                                   | 0.118                               | 0.118                               | 0.118                               | 0.118                               | 0.118                                 | 0.118                               |       |         |
|                  | Edge 2 at 0mm           |                  | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.240                               | 1.107                               | 0.156                               | 0.156                               | 1.263                                 | 0.729                               |       |         |
|                  | Edge 4 at 0mm           | 0.293            |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.581                               | 0.860                               | 0.581                               | 0.860                               | 0.860                                 | 0.767                               |       |         |
| LTE Band 7       | Bottom of Laptop at 0mm | 0.535            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 1.983                               | 1.367                               | 1.559                               | 1.138                               | 1.732                                 | 1.260                               | 0.02  | Case 11 |
|                  | Bottom Face at 0mm      | 1.137            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 3.247                               | 2.976                               | 2.552                               | 2.450                               | 3.470                                 | 2.401                               | 0.03  | Case 12 |
|                  | Edge 1 at 0mm           | 0.093            |                         |                         |                       |                       |                    |                                   | 0.093                               | 0.093                               | 0.093                               | 0.093                               | 0.093                                 | 0.093                               |       |         |
|                  | Edge 2 at 0mm           | 0.196            | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.436                               | 1.303                               | 0.352                               | 0.352                               | 1.459                                 | 0.925                               |       |         |
|                  | Edge 4 at 0mm           |                  |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.288                               | 0.567                               | 0.288                               | 0.567                               | 0.567                                 | 0.474                               |       |         |
| LTE Band 7 MIMO2 | Bottom of Laptop at 0mm | 0.197            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 1.645                               | 1.029                               | 1.221                               | 0.800                               | 1.394                                 | 0.922                               | 0.01  | Case 13 |
|                  | Bottom Face at 0mm      | 0.631            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 2.741                               | 2.470                               | 2.046                               | 1.944                               | 2.964                                 | 1.895                               | 0.03  | Case 14 |
|                  | Edge 1 at 0mm           | 0.125            |                         |                         |                       |                       |                    |                                   | 0.125                               | 0.125                               | 0.125                               | 0.125                               | 0.125                                 | 0.125                               |       |         |
|                  | Edge 2 at 0mm           |                  | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.240                               | 1.107                               | 0.156                               | 0.156                               | 1.263                                 | 0.729                               |       |         |
|                  | Edge 4 at 0mm           | 0.117            |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.405                               | 0.684                               | 0.405                               | 0.684                               | 0.684                                 | 0.591                               |       |         |
| LTE Band 12      | Bottom of Laptop at 0mm | 0.365            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 1.813                               | 1.197                               | 1.389                               | 0.968                               | 1.562                                 | 1.090                               | 0.02  | Case 15 |
|                  | Bottom Face at 0mm      | 1.089            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 3.199                               | 2.928                               | 2.504                               | 2.402                               | 3.422                                 | 2.353                               | 0.03  | Case 16 |
|                  | Edge 1 at 0mm           | 0.340            |                         |                         |                       |                       |                    |                                   | 0.340                               | 0.340                               | 0.340                               | 0.340                               | 0.340                                 | 0.340                               |       |         |
|                  | Edge 2 at 0mm           | 0.083            | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.323                               | 1.190                               | 0.239                               | 0.239                               | 1.346                                 | 0.812                               |       |         |
|                  | Edge 4 at 0mm           |                  |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.288                               | 0.567                               | 0.288                               | 0.567                               | 0.567                                 | 0.474                               |       |         |
| LTE Band 13      | Bottom of Laptop at 0mm | 0.742            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 2.190                               | 1.574                               | 1.766                               | 1.345                               | 1.939                                 | 1.467                               | 0.02  | Case 17 |
|                  | Bottom Face at 0mm      | 1.165            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 3.275                               | 3.004                               | 2.580                               | 2.478                               | 3.498                                 | 2.429                               | 0.03  | Case 18 |
|                  | Edge 1 at 0mm           | 0.446            |                         |                         |                       |                       |                    |                                   | 0.446                               | 0.446                               | 0.446                               | 0.446                               | 0.446                                 | 0.446                               |       |         |
|                  | Edge 2 at 0mm           | 0.045            | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.285                               | 1.152                               | 0.201                               | 0.201                               | 1.308                                 | 0.774                               |       |         |
|                  | Edge 4 at 0mm           |                  |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.288                               | 0.567                               | 0.288                               | 0.567                               | 0.567                                 | 0.474                               |       |         |
| LTE Band 14      | Bottom of Laptop at 0mm | 0.931            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 2.379                               | 1.763                               | 1.955                               | 1.534                               | 2.128                                 | 1.656                               | 0.02  | Case 19 |
|                  | Bottom Face at 0mm      | 1.190            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 3.300                               | 3.029                               | 2.605                               | 2.503                               | 3.523                                 | 2.454                               | 0.03  | Case 20 |
|                  | Edge 1 at 0mm           | 0.694            |                         |                         |                       |                       |                    |                                   | 0.694                               | 0.694                               | 0.694                               | 0.694                               | 0.694                                 | 0.694                               |       |         |
|                  | Edge 2 at 0mm           | 0.054            | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.294                               | 1.161                               | 0.210                               | 0.210                               | 1.317                                 | 0.783                               |       |         |
|                  | Edge 4 at 0mm           |                  |                         | 0.288                   |                       | 0.567                 |                    | 0.474                             | 0.288                               | 0.567                               | 0.288                               | 0.567                               | 0.567                                 | 0.474                               |       |         |
| LTE Band 25      | Bottom of Laptop at 0mm | 1.032            | 0.789                   | 0.659                   | 0.594                 | 0.238                 | 0.365              | 0.360                             | 2.480                               | 1.864                               | 2.056                               | 1.635                               | 2.229                                 | 1.757                               | 0.03  | Case 21 |
|                  | Bottom Face at 0mm      | 1.124            | 1.189                   | 0.921                   | 1.020                 | 0.819                 | 0.494              | 0.770                             | 3.234                               | 2.963                               | 2.539                               | 2.437                               | 3.457                                 | 2.388                               | 0.04  | Case 22 |
|                  | Edge 1 at 0mm           | 0.113            |                         |                         |                       |                       |                    |                                   | 0.113                               | 0.113                               | 0.113                               | 0.113                               | 0.113                                 | 0.113                               |       |         |
|                  | Edge 2 at 0mm           | 0.381            | 0.240                   |                         | 1.107                 |                       | 0.156              | 0.573                             | 0.621                               | 1.488                               | 0.537                               | 0.537                               | 1.644                                 | 1.110                               | 0.02  | Case 23 |



# FCC SAR TEST REPORT

Report No. : FA092423

|                   |                         |       |       |       |       |       |       |       |       |       |       |       |       |       |      |         |
|-------------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|---------|
|                   | Edge 4 at 0mm           |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.288 | 0.567 | 0.288 | 0.567 | 0.567 | 0.474 |      |         |
| LTE Band 26       | Bottom of Laptop at 0mm | 0.971 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.419 | 1.803 | 1.995 | 1.574 | 2.168 | 1.696 | 0.02 | Case 24 |
|                   | Bottom Face at 0mm      | 1.168 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.278 | 3.007 | 2.583 | 2.481 | 3.501 | 2.432 | 0.03 | Case 25 |
|                   | Edge 1 at 0mm           | 0.630 |       |       |       |       |       |       | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 |      |         |
|                   | Edge 2 at 0mm           | 0.039 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.279 | 1.146 | 0.195 | 0.195 | 1.302 | 0.768 |      |         |
|                   | Edge 4 at 0mm           |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.288 | 0.567 | 0.288 | 0.567 | 0.567 | 0.474 |      |         |
| LTE Band 30       | Bottom of Laptop at 0mm | 0.681 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.129 | 1.513 | 1.705 | 1.284 | 1.878 | 1.406 | 0.02 | Case 26 |
|                   | Bottom Face at 0mm      | 1.158 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.268 | 2.997 | 2.573 | 2.471 | 3.491 | 2.422 | 0.03 | Case 27 |
|                   | Edge 1 at 0mm           | 0.594 |       |       |       |       |       |       | 0.594 | 0.594 | 0.594 | 0.594 | 0.594 | 0.594 |      |         |
|                   | Edge 2 at 0mm           | 0.041 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.281 | 1.148 | 0.197 | 0.197 | 1.304 | 0.770 |      |         |
|                   | Edge 4 at 0mm           |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.288 | 0.567 | 0.288 | 0.567 | 0.567 | 0.474 |      |         |
| LTE Band 41       | Bottom of Laptop at 0mm | 0.308 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 1.756 | 1.140 | 1.332 | 0.911 | 1.505 | 1.033 | 0.01 | Case 28 |
|                   | Bottom Face at 0mm      | 0.915 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.025 | 2.754 | 2.330 | 2.228 | 3.248 | 2.179 | 0.04 | Case 29 |
|                   | Edge 1 at 0mm           | 0.070 |       |       |       |       |       |       | 0.070 | 0.070 | 0.070 | 0.070 | 0.070 | 0.070 |      |         |
|                   | Edge 2 at 0mm           | 0.123 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.363 | 1.230 | 0.279 | 0.279 | 1.386 | 0.852 |      |         |
|                   | Edge 4 at 0mm           |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.288 | 0.567 | 0.288 | 0.567 | 0.567 | 0.474 |      |         |
| LTE Band 48 MIMO2 | Bottom of Laptop at 0mm | 0.450 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 1.898 | 1.282 | 1.474 | 1.053 | 1.647 | 1.175 | 0.02 | Case 32 |
|                   | Bottom Face at 0mm      | 1.180 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.290 | 3.019 | 2.595 | 2.493 | 3.513 | 2.444 | 0.04 | Case 33 |
|                   | Edge 1 at 0mm           | 0.083 |       |       |       |       |       |       | 0.083 | 0.083 | 0.083 | 0.083 | 0.083 | 0.083 |      |         |
|                   | Edge 2 at 0mm           |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.240 | 1.107 | 0.156 | 0.156 | 1.263 | 0.729 |      |         |
|                   | Edge 4 at 0mm           | 0.601 |       | 0.288 |       | 0.567 |       | 0.474 | 0.889 | 1.168 | 0.889 | 1.168 | 1.168 | 1.075 |      |         |
| LTE Band 66       | Bottom of Laptop at 0mm | 1.119 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.567 | 1.951 | 2.143 | 1.722 | 2.316 | 1.844 | 0.03 | Case 34 |
|                   | Bottom Face at 0mm      | 1.132 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.242 | 2.971 | 2.547 | 2.445 | 3.465 | 2.396 | 0.04 | Case 35 |
|                   | Edge 1 at 0mm           | 0.218 |       |       |       |       |       |       | 0.218 | 0.218 | 0.218 | 0.218 | 0.218 | 0.218 |      |         |
|                   | Edge 2 at 0mm           | 0.678 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.918 | 1.785 | 0.834 | 0.834 | 1.941 | 1.407 | 0.03 | Case 36 |
|                   | Edge 4 at 0mm           |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.288 | 0.567 | 0.288 | 0.567 | 0.567 | 0.474 |      |         |
| LTE Band 66 MIMO2 | Bottom of Laptop at 0mm | 0.427 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 1.875 | 1.259 | 1.451 | 1.030 | 1.624 | 1.152 | 0.02 | Case 37 |
|                   | Bottom Face at 0mm      | 0.679 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 2.789 | 2.518 | 2.094 | 1.992 | 3.012 | 1.943 | 0.03 | Case 38 |
|                   | Edge 1 at 0mm           | 0.150 |       |       |       |       |       |       | 0.150 | 0.150 | 0.150 | 0.150 | 0.150 | 0.150 |      |         |
|                   | Edge 2 at 0mm           |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.240 | 1.107 | 0.156 | 0.156 | 1.263 | 0.729 |      |         |
|                   | Edge 4 at 0mm           | 0.456 |       | 0.288 |       | 0.567 |       | 0.474 | 0.744 | 1.023 | 0.744 | 1.023 | 1.023 | 0.930 |      |         |
| LTE Band 71       | Bottom of Laptop at 0mm | 0.408 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 1.856 | 1.240 | 1.432 | 1.011 | 1.605 | 1.133 | 0.02 | Case 39 |
|                   | Bottom Face at 0mm      | 1.136 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.246 | 2.975 | 2.551 | 2.449 | 3.469 | 2.400 | 0.03 | Case 40 |
|                   | Edge 1 at 0mm           | 0.798 |       |       |       |       |       |       | 0.798 | 0.798 | 0.798 | 0.798 | 0.798 | 0.798 |      |         |
|                   | Edge 2 at 0mm           | 0.255 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.495 | 1.362 | 0.411 | 0.411 | 1.518 | 0.984 |      |         |
|                   | Edge 4 at 0mm           |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.288 | 0.567 | 0.288 | 0.567 | 0.567 | 0.474 |      |         |
| LTE Band 5        | Bottom of Laptop at 0mm | 0.937 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.385 | 1.769 | 2.091 | 1.896 | 2.134 | 1.540 | 0.02 | Case 87 |
|                   | Bottom Face at 0mm      | 1.139 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.249 | 2.978 | 2.822 | 2.653 | 3.472 | 2.452 | 0.03 | Case 88 |
|                   | Edge 1 at 0mm           | 0.617 |       |       |       |       |       |       | 0.617 | 0.617 | 0.617 | 0.617 | 0.617 | 0.617 |      |         |
|                   | Edge 2 at 0mm           | 0.031 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.271 | 1.138 | 0.427 | 1.294 | 1.294 | 0.187 |      |         |
|                   | Edge 4 at 0mm           |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.288 | 0.567 | 0.000 | 0.000 | 0.567 | 0.567 |      |         |



## &lt;When EN-DC is active&gt;

## General Note:

- 1.
2. Test positions and test channels used for the testing below are based on the standalone LTE SAR result. When the EN-DC active the LTE Anchors Band output power is equal or less than the standalone output power for each frequency bands, therefore, LTE Anchors Band power and SAR was estimated based on standalone results to performed sim-Tx analysis with 5G NR and WiFi and Bluetooth. When the EN-DC is active the LTE Anchors Band power are list as below table.
3. The single uplink 1g SAR values for each LTE Anchors Bands and 5G NR are both less than 0.8W/kg and the algebraic summation of the 1g SAR value are less than 1.45W/kg, additional measurements are not required according to TCBC workshop guidance, the detail sim-Tx analysis as following.

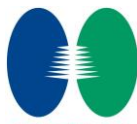
| WWAN Band        | FR1 Band      | Exposure Position       | LTE Standalone Maximum Power (dBm) | 0     | EN-DC Active LTE Maximum Power (dBm) | 1                          | 2     | 3                 | 4                 | 5               | 6               | 7               | 8                        | 1+2+3+4 Summed 1g SAR (W/kg) | 1+2+5+6 Summed 1g SAR (W/kg) | 1+2+4+7 Summed 1g SAR (W/kg) | 1+2+6+7 Summed 1g SAR (W/kg) | 1+2+5+6+7 Summed 1g SAR (W/kg) | 1+2+7+8 Summed 1g SAR (W/kg) | SPLSR | Case No |
|------------------|---------------|-------------------------|------------------------------------|-------|--------------------------------------|----------------------------|-------|-------------------|-------------------|-----------------|-----------------|-----------------|--------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|------------------------------|-------|---------|
|                  |               |                         |                                    | WWAN  | EN-DC Active LTE Maximum Power (dBm) | EN-DC Active Estimated LTE | FR1   | 2.4GHz WLAN Ant 1 | 2.4GHz WLAN Ant 2 | 5GHz WLAN Ant 1 | 5GHz WLAN Ant 2 | Bluetooth Ant 1 | 5GHz WLAN Ant 1+2 (MIMO) |                              |                              |                              |                              |                                |                              |       |         |
| LTE Band 2 MIMO2 | FR1 n5        | Bottom of Laptop at 0mm | 12.50                              | 0.370 | 12.50                                | 0.370                      | 0.323 | 0.789             | 0.659             | 0.594           | 0.238           | 0.365           | 0.360                    | 2.141                        | 1.525                        | 1.717                        | 1.296                        | 1.890                          | 1.418                        | 0.02  | Case 41 |
|                  |               | Bottom Face at 0mm      | 12.50                              | 0.689 | 12.50                                | 0.689                      | 0.687 | 1.189             | 0.921             | 1.020           | 0.819           | 0.494           | 0.770                    | 3.486                        | 3.215                        | 2.791                        | 2.689                        | 3.709                          | 2.640                        | 0.03  | Case 42 |
|                  |               | Edge 1 at 0mm           | 24.00                              | 0.118 | 24.00                                | 0.118                      | 0.398 |                   |                   |                 |                 |                 |                          | 0.516                        | 0.516                        | 0.516                        | 0.516                        | 0.516                          | 0.516                        |       |         |
|                  |               | Edge 2 at 0mm           |                                    |       |                                      |                            | 0.140 | 0.240             |                   | 1.107           |                 | 0.156           | 0.573                    | 0.380                        | 1.247                        | 0.296                        | 0.296                        | 1.403                          | 0.869                        |       |         |
|                  |               | Edge 4 at 0mm           | 12.50                              | 0.293 | 12.50                                | 0.293                      |       |                   | 0.288             |                 | 0.567           |                 | 0.474                    | 0.581                        | 0.860                        | 0.581                        | 0.860                        | 0.860                          | 0.767                        |       |         |
|                  | FR1 n12       | Bottom of Laptop at 0mm | 12.50                              | 0.370 | 12.50                                | 0.370                      | 0.206 | 0.789             | 0.659             | 0.594           | 0.238           | 0.365           | 0.360                    | 2.024                        | 1.408                        | 1.600                        | 1.179                        | 1.773                          | 1.301                        | 0.02  | Case 43 |
|                  |               | Bottom Face at 0mm      | 12.50                              | 0.689 | 12.50                                | 0.689                      | 0.618 | 1.189             | 0.921             | 1.020           | 0.819           | 0.494           | 0.770                    | 3.417                        | 3.146                        | 2.722                        | 2.620                        | 3.640                          | 2.571                        | 0.03  | Case 44 |
|                  |               | Edge 1 at 0mm           | 24.00                              | 0.118 | 24.00                                | 0.118                      | 0.216 |                   |                   |                 |                 |                 |                          | 0.334                        | 0.334                        | 0.334                        | 0.334                        | 0.334                          | 0.334                        |       |         |
|                  |               | Edge 2 at 0mm           |                                    |       |                                      |                            | 0.044 | 0.240             |                   | 1.107           |                 | 0.156           | 0.573                    | 0.284                        | 1.151                        | 0.200                        | 0.200                        | 1.307                          | 0.773                        |       |         |
|                  |               | Edge 4 at 0mm           | 12.50                              | 0.293 | 12.50                                | 0.293                      |       |                   | 0.288             |                 | 0.567           |                 | 0.474                    | 0.581                        | 0.860                        | 0.581                        | 0.860                        | 0.860                          | 0.767                        |       |         |
|                  | FR1 n71       | Bottom of Laptop at 0mm | 12.50                              | 0.370 | 12.50                                | 0.370                      | 0.232 | 0.789             | 0.659             | 0.594           | 0.238           | 0.365           | 0.360                    | 2.050                        | 1.434                        | 1.626                        | 1.205                        | 1.799                          | 1.327                        | 0.02  | Case 45 |
|                  |               | Bottom Face at 0mm      | 12.50                              | 0.689 | 12.50                                | 0.689                      | 0.632 | 1.189             | 0.921             | 1.020           | 0.819           | 0.494           | 0.770                    | 3.431                        | 3.160                        | 2.736                        | 2.634                        | 3.654                          | 2.585                        | 0.03  | Case 46 |
|                  |               | Edge 1 at 0mm           | 24.00                              | 0.118 | 24.00                                | 0.118                      | 0.422 |                   |                   |                 |                 |                 |                          | 0.540                        | 0.540                        | 0.540                        | 0.540                        | 0.540                          | 0.540                        |       |         |
|                  |               | Edge 2 at 0mm           |                                    |       |                                      |                            | 0.149 | 0.240             |                   | 1.107           |                 | 0.156           | 0.573                    | 0.389                        | 1.256                        | 0.305                        | 0.305                        | 1.412                          | 0.878                        |       |         |
|                  |               | Edge 4 at 0mm           | 12.50                              | 0.293 | 12.50                                | 0.293                      |       |                   | 0.288             |                 | 0.567           |                 | 0.474                    | 0.581                        | 0.860                        | 0.581                        | 0.860                        | 0.860                          | 0.767                        |       |         |
| LTE Band 5       | FR1 n2 MIMO2  | Bottom of Laptop at 0mm | 20.50                              | 0.937 | 18.50                                | 0.591                      | 0.370 | 0.789             | 0.659             | 0.594           | 0.238           | 0.365           | 0.360                    | 2.409                        | 1.793                        | 1.985                        | 1.564                        | 2.158                          | 1.686                        | 0.02  | Case 47 |
|                  |               | Bottom Face at 0mm      | 20.50                              | 1.139 | 18.50                                | 0.719                      | 0.686 | 1.189             | 0.921             | 1.020           | 0.819           | 0.494           | 0.770                    | 3.515                        | 3.244                        | 2.820                        | 2.718                        | 3.738                          | 2.669                        | 0.03  | Case 48 |
|                  |               | Edge 1 at 0mm           | 20.50                              | 0.617 | 18.50                                | 0.389                      | 0.227 |                   |                   |                 |                 |                 |                          | 0.616                        | 0.616                        | 0.616                        | 0.616                        | 0.616                          | 0.616                        |       |         |
|                  |               | Edge 2 at 0mm           | 20.50                              | 0.031 | 18.50                                | 0.020                      |       | 0.240             |                   | 1.107           |                 | 0.156           | 0.573                    | 0.260                        | 1.127                        | 0.176                        | 0.176                        | 1.283                          | 0.749                        |       |         |
|                  |               | Edge 4 at 0mm           |                                    |       |                                      |                            | 0.271 |                   | 0.288             |                 | 0.567           |                 | 0.474                    | 0.559                        | 0.838                        | 0.559                        | 0.838                        | 0.838                          | 0.745                        |       |         |
|                  | FR1 n7 MIMO2  | Bottom of Laptop at 0mm | 20.50                              | 0.937 | 18.50                                | 0.591                      | 0.211 | 0.789             | 0.659             | 0.594           | 0.238           | 0.365           | 0.360                    | 2.250                        | 1.634                        | 1.826                        | 1.405                        | 1.999                          | 1.527                        | 0.02  | Case 49 |
|                  |               | Bottom Face at 0mm      | 20.50                              | 1.139 | 18.50                                | 0.719                      | 0.699 | 1.189             | 0.921             | 1.020           | 0.819           | 0.494           | 0.770                    | 3.528                        | 3.257                        | 2.833                        | 2.731                        | 3.751                          | 2.682                        | 0.03  | Case 50 |
|                  |               | Edge 1 at 0mm           | 20.50                              | 0.617 | 18.50                                | 0.389                      | 0.130 |                   |                   |                 |                 |                 |                          | 0.519                        | 0.519                        | 0.519                        | 0.519                        | 0.519                          | 0.519                        |       |         |
|                  |               | Edge 2 at 0mm           | 20.50                              | 0.031 | 18.50                                | 0.020                      |       | 0.240             |                   | 1.107           |                 | 0.156           | 0.573                    | 0.260                        | 1.127                        | 0.176                        | 0.176                        | 1.283                          | 0.749                        |       |         |
|                  |               | Edge 4 at 0mm           |                                    |       |                                      |                            | 0.136 |                   | 0.288             |                 | 0.567           |                 | 0.474                    | 0.424                        | 0.703                        | 0.424                        | 0.703                        | 0.703                          | 0.610                        |       |         |
|                  | FR1 n66 MIMO2 | Bottom of Laptop at 0mm | 20.50                              | 0.937 | 18.50                                | 0.591                      | 0.594 | 0.789             | 0.659             | 0.594           | 0.238           | 0.365           | 0.360                    | 2.633                        | 2.017                        | 2.209                        | 1.788                        | 2.382                          | 1.910                        | 0.03  | Case 51 |
|                  |               | Bottom Face at 0mm      | 20.50                              | 1.139 | 18.50                                | 0.719                      | 0.695 | 1.189             | 0.921             | 1.020           | 0.819           | 0.494           | 0.770                    | 3.524                        | 3.253                        | 2.829                        | 2.727                        | 3.747                          | 2.678                        | 0.03  | Case 52 |
|                  |               | Edge 1 at 0mm           | 20.50                              | 0.617 | 18.50                                | 0.389                      | 0.239 |                   |                   |                 |                 |                 |                          | 0.628                        | 0.628                        | 0.628                        | 0.628                        | 0.628                          | 0.628                        |       |         |
|                  |               | Edge 2 at 0mm           | 20.50                              | 0.031 | 18.50                                | 0.020                      |       | 0.240             |                   | 1.107           |                 | 0.156           | 0.573                    | 0.260                        | 1.127                        | 0.176                        | 0.176                        | 1.283                          | 0.749                        |       |         |
|                  |               | Edge 4 at 0mm           |                                    |       |                                      |                            | 0.425 |                   | 0.288             |                 | 0.567           |                 | 0.474                    | 0.713                        | 0.992                        | 0.713                        | 0.992                        | 0.992                          | 0.899                        |       |         |
| LTE Band 7 MIMO2 | FR1 n5        | Bottom of Laptop at 0mm | 12.00                              | 0.197 | 12.00                                | 0.197                      | 0.323 | 0.789             | 0.659             | 0.594           | 0.238           | 0.365           | 0.360                    | 1.968                        | 1.352                        | 1.544                        | 1.123                        | 1.717                          | 1.245                        | 0.01  | Case 53 |
|                  |               | Bottom Face at 0mm      | 12.00                              | 0.631 | 12.00                                | 0.631                      | 0.687 | 1.189             | 0.921             | 1.020           | 0.819           | 0.494           | 0.770                    | 3.428                        | 3.157                        | 2.733                        | 2.631                        | 3.651                          | 2.582                        | 0.03  | Case 54 |
|                  |               | Edge 1 at 0mm           | 24.00                              | 0.125 | 24.00                                | 0.125                      | 0.398 |                   |                   |                 |                 |                 |                          | 0.523                        | 0.523                        | 0.523                        | 0.523                        | 0.523                          | 0.523                        |       |         |
|                  |               | Edge 2 at 0mm           |                                    |       |                                      |                            | 0.140 | 0.240             |                   | 1.107           |                 | 0.156           | 0.573                    | 0.380                        | 1.247                        | 0.296                        | 0.296                        | 1.403                          | 0.869                        |       |         |
|                  |               | Edge 4 at 0mm           | 12.00                              | 0.117 | 12.00                                | 0.117                      |       |                   | 0.288             |                 | 0.567           |                 | 0.474                    | 0.405                        | 0.684                        | 0.405                        | 0.684                        | 0.684                          | 0.591                        |       |         |
|                  | FR1 n71       | Bottom of Laptop at 0mm | 12.00                              | 0.197 | 12.00                                | 0.197                      | 0.232 | 0.789             | 0.659             | 0.594           | 0.238           | 0.365           | 0.360                    | 1.877                        | 1.261                        | 1.453                        | 1.032                        | 1.626                          | 1.154                        | 0.01  | Case 55 |
|                  |               | Bottom Face at 0mm      | 12.00                              | 0.631 | 12.00                                | 0.631                      | 0.632 | 1.189             | 0.921             | 1.020           | 0.819           | 0.494           | 0.770                    | 3.373                        | 3.102                        | 2.678                        | 2.576                        | 3.596                          | 2.527                        | 0.03  | Case 56 |



# FCC SAR TEST REPORT

Report No. : FA092423

|                   |               |                         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |         |
|-------------------|---------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|---------|
|                   |               | Edge 1 at 0mm           | 24.00 | 0.125 | 24.00 | 0.125 | 0.422 |       |       |       |       |       |       | 0.547 | 0.547 | 0.547 | 0.547 | 0.547 | 0.547 |      |         |
|                   |               | Edge 2 at 0mm           |       |       |       |       | 0.149 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.389 | 1.256 | 0.305 | 0.305 | 1.412 | 0.878 |      |         |
|                   |               | Edge 4 at 0mm           | 12.00 | 0.117 | 12.00 | 0.117 |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.405 | 0.684 | 0.405 | 0.684 | 0.684 | 0.591 |      |         |
| LTE Band 12       | FR1 n2 MIMO2  | Bottom of Laptop at 0mm | 18.50 | 0.365 | 16.50 | 0.230 | 0.370 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.048 | 1.432 | 1.624 | 1.203 | 1.797 | 1.325 | 0.02 | Case 57 |
|                   |               | Bottom Face at 0mm      | 18.50 | 1.089 | 16.50 | 0.687 | 0.686 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.483 | 3.212 | 2.788 | 2.686 | 3.706 | 2.637 | 0.03 | Case 58 |
|                   |               | Edge 1 at 0mm           | 18.50 | 0.340 | 16.50 | 0.215 | 0.227 |       |       |       |       |       |       | 0.442 | 0.442 | 0.442 | 0.442 | 0.442 | 0.442 |      |         |
|                   |               | Edge 2 at 0mm           | 18.50 | 0.083 | 16.50 | 0.052 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.292 | 1.159 | 0.208 | 0.208 | 1.315 | 0.781 |      |         |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.271 |       | 0.288 |       | 0.567 |       | 0.474 | 0.559 | 0.838 | 0.559 | 0.838 | 0.838 | 0.745 |      |         |
|                   | FR1 n7 MIMO2  | Bottom of Laptop at 0mm | 18.50 | 0.365 | 16.50 | 0.230 | 0.211 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 1.889 | 1.273 | 1.465 | 1.044 | 1.638 | 1.166 | 0.01 | Case 59 |
|                   |               | Bottom Face at 0mm      | 18.50 | 1.089 | 16.50 | 0.687 | 0.699 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.496 | 3.225 | 2.801 | 2.699 | 3.719 | 2.650 | 0.03 | Case 60 |
|                   |               | Edge 1 at 0mm           | 18.50 | 0.340 | 16.50 | 0.215 | 0.130 |       |       |       |       |       |       | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 |      |         |
|                   |               | Edge 2 at 0mm           | 18.50 | 0.083 | 16.50 | 0.052 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.292 | 1.159 | 0.208 | 0.208 | 1.315 | 0.781 |      |         |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.136 |       | 0.288 |       | 0.567 |       | 0.474 | 0.424 | 0.703 | 0.424 | 0.703 | 0.703 | 0.610 |      |         |
|                   | FR1 n66 MIMO2 | Bottom of Laptop at 0mm | 18.50 | 0.365 | 16.50 | 0.230 | 0.594 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.272 | 1.656 | 1.848 | 1.427 | 2.021 | 1.549 | 0.03 | Case 61 |
|                   |               | Bottom Face at 0mm      | 18.50 | 1.089 | 16.50 | 0.687 | 0.695 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.492 | 3.221 | 2.797 | 2.695 | 3.715 | 2.646 | 0.03 | Case 62 |
|                   |               | Edge 1 at 0mm           | 18.50 | 0.340 | 16.50 | 0.215 | 0.239 |       |       |       |       |       |       | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 | 0.454 |      |         |
|                   |               | Edge 2 at 0mm           | 18.50 | 0.083 | 16.50 | 0.052 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.292 | 1.159 | 0.208 | 0.208 | 1.315 | 0.781 |      |         |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.425 |       | 0.288 |       | 0.567 |       | 0.474 | 0.713 | 0.992 | 0.713 | 0.992 | 0.992 | 0.899 |      |         |
| LTE Band 13       | FR1 n2 MIMO2  | Bottom of Laptop at 0mm | 19.50 | 0.742 | 17.50 | 0.468 | 0.370 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.286 | 1.670 | 1.862 | 1.441 | 2.035 | 1.563 | 0.02 | Case 63 |
|                   |               | Bottom Face at 0mm      | 19.50 | 1.165 | 17.50 | 0.735 | 0.686 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.531 | 3.260 | 2.836 | 2.734 | 3.754 | 2.685 | 0.03 | Case 64 |
|                   |               | Edge 1 at 0mm           | 19.50 | 0.446 | 17.50 | 0.281 | 0.227 |       |       |       |       |       |       | 0.508 | 0.508 | 0.508 | 0.508 | 0.508 | 0.508 |      |         |
|                   |               | Edge 2 at 0mm           | 19.50 | 0.045 | 17.50 | 0.028 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.268 | 1.135 | 0.184 | 0.184 | 1.291 | 0.757 |      |         |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.271 |       | 0.288 |       | 0.567 |       | 0.474 | 0.559 | 0.838 | 0.559 | 0.838 | 0.838 | 0.745 |      |         |
|                   | FR1 n66 MIMO2 | Bottom of Laptop at 0mm | 19.50 | 0.742 | 17.50 | 0.468 | 0.594 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.510 | 1.894 | 2.086 | 1.665 | 2.259 | 1.787 | 0.03 | Case 65 |
|                   |               | Bottom Face at 0mm      | 19.50 | 1.165 | 17.50 | 0.735 | 0.695 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.540 | 3.269 | 2.845 | 2.743 | 3.763 | 2.694 | 0.03 | Case 66 |
|                   |               | Edge 1 at 0mm           | 19.50 | 0.446 | 17.50 | 0.281 | 0.239 |       |       |       |       |       |       | 0.520 | 0.520 | 0.520 | 0.520 | 0.520 | 0.520 |      |         |
|                   |               | Edge 2 at 0mm           | 19.50 | 0.045 | 17.50 | 0.028 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.268 | 1.135 | 0.184 | 0.184 | 1.291 | 0.757 |      |         |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.425 |       | 0.288 |       | 0.567 |       | 0.474 | 0.713 | 0.992 | 0.713 | 0.992 | 0.992 | 0.899 |      |         |
| LTE Band 25       | FR1 n41 MIMO2 | Bottom of Laptop at 0mm | 16.50 | 1.032 | 14.50 | 0.651 | 0.095 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.194 | 1.578 | 1.770 | 1.349 | 1.943 | 1.471 | 0.02 | Case 67 |
|                   |               | Bottom Face at 0mm      | 16.50 | 1.124 | 14.50 | 0.709 | 0.686 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.505 | 3.234 | 2.810 | 2.708 | 3.728 | 2.659 | 0.04 | Case 68 |
|                   |               | Edge 1 at 0mm           | 16.50 | 0.113 | 14.50 | 0.071 | 0.132 |       |       |       |       |       |       | 0.203 | 0.203 | 0.203 | 0.203 | 0.203 | 0.203 |      |         |
|                   |               | Edge 2 at 0mm           | 16.50 | 0.381 | 14.50 | 0.240 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.480 | 1.347 | 0.396 | 0.396 | 1.503 | 0.969 |      |         |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.229 |       | 0.288 |       | 0.567 |       | 0.474 | 0.517 | 0.796 | 0.517 | 0.796 | 0.796 | 0.703 |      |         |
| LTE Band 26       | FR1 n41 MIMO2 | Bottom of Laptop at 0mm | 20.50 | 0.971 | 18.50 | 0.613 | 0.095 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.156 | 1.540 | 1.732 | 1.311 | 1.905 | 1.433 | 0.02 | Case 69 |
|                   |               | Bottom Face at 0mm      | 20.50 | 1.168 | 18.50 | 0.737 | 0.686 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.533 | 3.262 | 2.838 | 2.736 | 3.756 | 2.687 | 0.03 | Case 70 |
|                   |               | Edge 1 at 0mm           | 20.50 | 0.630 | 18.50 | 0.398 | 0.132 |       |       |       |       |       |       | 0.530 | 0.530 | 0.530 | 0.530 | 0.530 | 0.530 |      |         |
|                   |               | Edge 2 at 0mm           | 20.50 | 0.039 | 18.50 | 0.025 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.265 | 1.132 | 0.181 | 0.181 | 1.288 | 0.754 |      |         |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.229 |       | 0.288 |       | 0.567 |       | 0.474 | 0.517 | 0.796 | 0.517 | 0.796 | 0.796 | 0.703 |      |         |
| LTE Band 48 MIMO2 | FR1 n2        | Bottom of Laptop at 0mm | 13.00 | 0.450 | 11.00 | 0.284 | 0.558 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.290 | 1.674 | 1.866 | 1.445 | 2.039 | 1.567 | 0.02 | Case 71 |
|                   |               | Bottom Face at 0mm      | 13.00 | 1.180 | 11.00 | 0.745 | 0.698 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.553 | 3.282 | 2.858 | 2.756 | 3.776 | 2.707 | 0.04 | Case 72 |
|                   |               | Edge 1 at 0mm           | 22.00 | 0.083 | 22.00 | 0.083 | 0.067 |       |       |       |       |       |       | 0.150 | 0.150 | 0.150 | 0.150 | 0.150 | 0.150 |      |         |
|                   |               | Edge 2 at 0mm           |       |       |       |       | 0.218 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.458 | 1.325 | 0.374 | 0.374 | 1.481 | 0.947 |      |         |
|                   |               | Edge 4 at 0mm           | 13.00 | 0.601 | 11.00 | 0.379 |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.667 | 0.946 | 0.667 | 0.946 | 0.946 | 0.853 |      |         |
|                   | FR1 n5        | Bottom of Laptop at 0mm | 13.00 | 0.450 | 11.00 | 0.284 | 0.323 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.055 | 1.439 | 1.631 | 1.210 | 1.804 | 1.332 | 0.02 | Case 73 |
|                   |               | Bottom Face at 0mm      | 13.00 | 1.180 | 11.00 | 0.745 | 0.687 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.542 | 3.271 | 2.847 | 2.745 | 3.765 | 2.696 | 0.03 | Case 74 |
|                   |               | Edge 1 at 0mm           | 22.00 | 0.083 | 22.00 | 0.083 | 0.398 |       |       |       |       |       |       | 0.481 | 0.481 | 0.481 | 0.481 | 0.481 | 0.481 |      |         |
|                   |               | Edge 2 at 0mm           |       |       |       |       | 0.140 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.380 | 1.247 | 0.296 | 0.296 | 1.403 | 0.869 |      |         |
|                   |               | Edge 4 at 0mm           | 13.00 | 0.601 | 11.00 | 0.379 |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.667 | 0.946 | 0.667 | 0.946 | 0.946 | 0.853 |      |         |
|                   | FR1 n66       | Bottom of Laptop at 0mm | 13.00 | 0.450 | 11.00 | 0.284 | 0.491 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.223 | 1.607 | 1.799 | 1.378 | 1.972 | 1.500 | 0.02 | Case 75 |
|                   |               | Bottom Face at 0mm      | 13.00 | 1.180 | 11.00 | 0.745 | 0.643 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.498 | 3.227 | 2.803 | 2.701 | 3.721 | 2.652 | 0.04 | Case 76 |
|                   |               | Edge 1 at 0mm           | 22.00 | 0.083 | 22.00 | 0.083 | 0.107 |       |       |       |       |       |       | 0.190 | 0.190 | 0.190 | 0.190 | 0.190 | 0.190 |      |         |
|                   |               | Edge 2 at 0mm           |       |       |       |       | 0.270 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.510 | 1.377 | 0.426 | 0.426 | 1.533 | 0.999 |      |         |
|                   |               | Edge 4 at 0mm           | 13.00 | 0.601 | 11.00 | 0.379 |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.667 | 0.946 | 0.667 | 0.946 | 0.946 | 0.853 |      |         |
| LTE Band 66       | FR1 n41 MIMO2 | Bottom of Laptop at 0mm | 17.00 | 1.119 | 15.00 | 0.706 | 0.095 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.249 | 1.633 | 1.825 | 1.404 | 1.998 | 1.526 | 0.02 | Case 77 |



# FCC SAR TEST REPORT

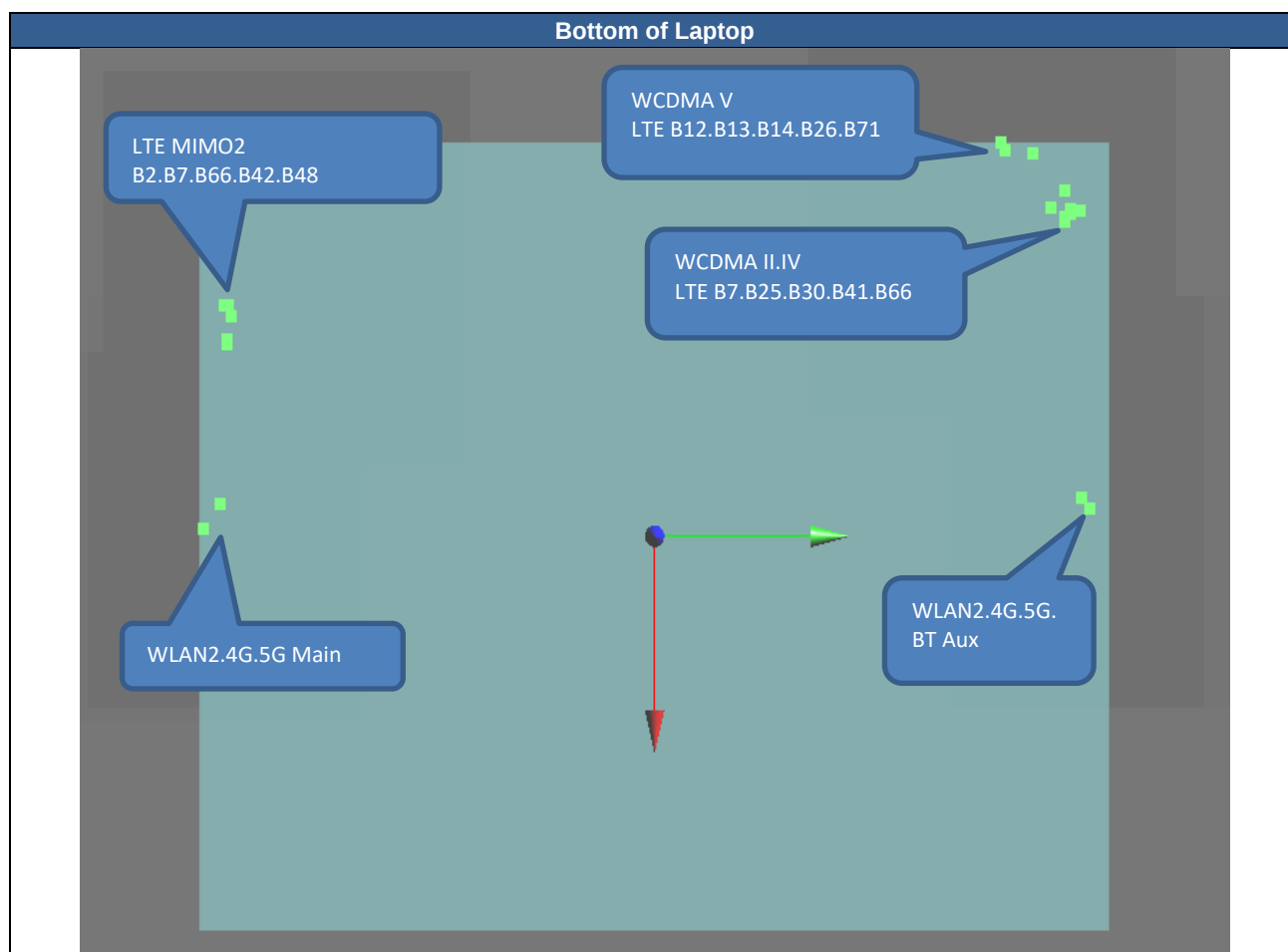
Report No. : FA092423

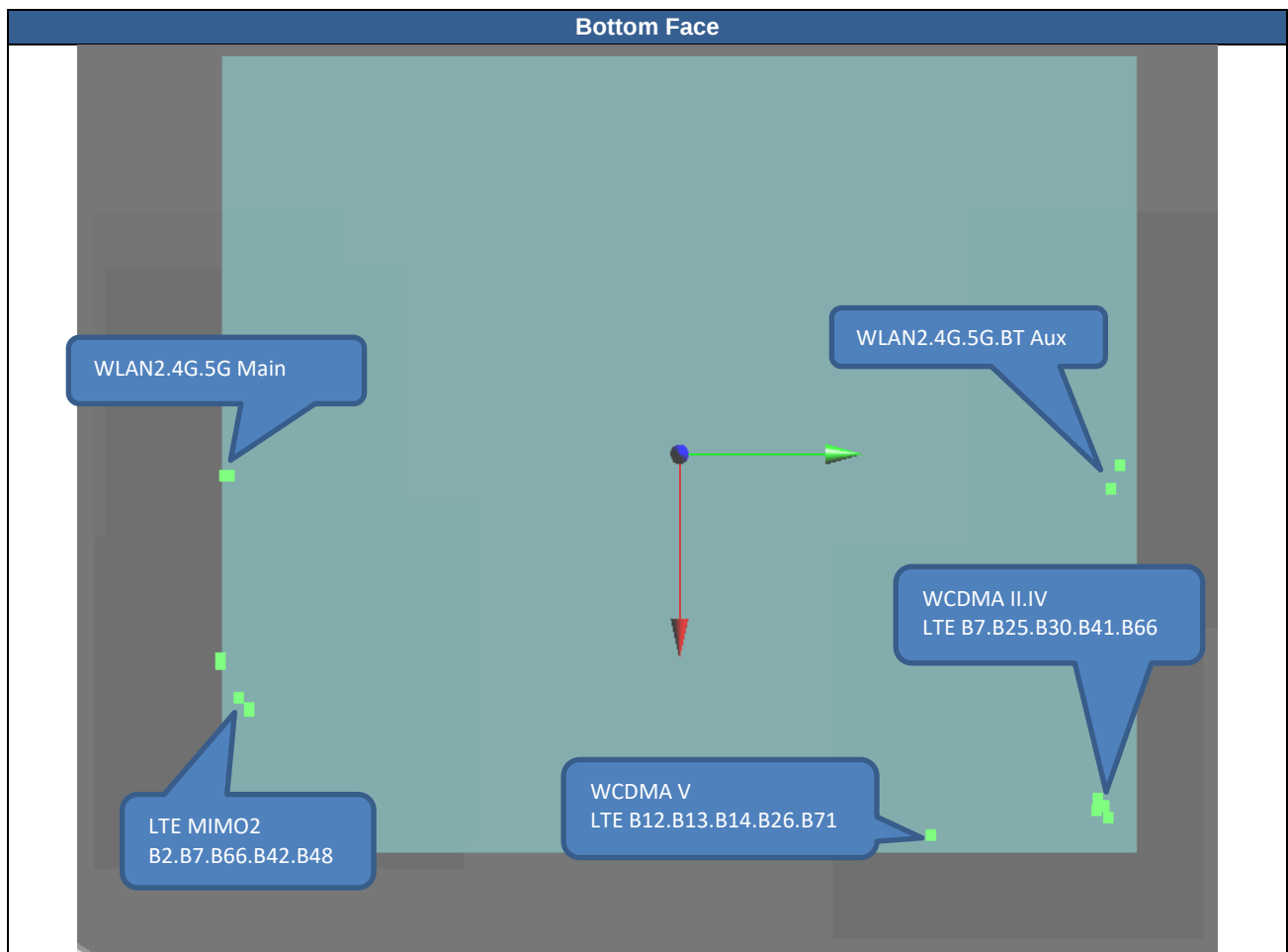
|                   |               |                         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |         |
|-------------------|---------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|---------|
|                   |               | Bottom Face at 0mm      | 17.00 | 1.132 | 15.00 | 0.714 | 0.686 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.510 | 3.239 | 2.815 | 2.713 | 3.733 | 2.664 | 0.04 | Case 78 |
|                   |               | Edge 1 at 0mm           | 17.00 | 0.218 | 15.00 | 0.138 | 0.132 |       |       |       |       |       |       | 0.270 | 0.270 | 0.270 | 0.270 | 0.270 | 0.270 |      |         |
|                   |               | Edge 2 at 0mm           | 17.00 | 0.678 | 15.00 | 0.428 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.668 | 1.535 | 0.584 | 0.584 | 1.691 | 1.157 | 0.02 | Case 87 |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.229 |       | 0.288 |       | 0.567 |       | 0.474 | 0.517 | 0.796 | 0.517 | 0.796 | 0.796 | 0.703 |      |         |
| LTE Band 66 MIMO2 | FR1 n5        | Bottom of Laptop at 0mm | 11.50 | 0.427 | 11.50 | 0.427 | 0.323 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.198 | 1.582 | 1.774 | 1.353 | 1.947 | 1.475 | 0.02 | Case 79 |
|                   |               | Bottom Face at 0mm      | 11.50 | 0.679 | 11.50 | 0.679 | 0.687 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.476 | 3.205 | 2.781 | 2.679 | 3.699 | 2.630 | 0.03 | Case 80 |
|                   |               | Edge 1 at 0mm           | 24.00 | 0.150 | 24.00 | 0.150 | 0.398 |       |       |       |       |       |       | 0.548 | 0.548 | 0.548 | 0.548 | 0.548 | 0.548 |      |         |
|                   |               | Edge 2 at 0mm           |       |       |       |       | 0.140 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.380 | 1.247 | 0.296 | 0.296 | 1.403 | 0.869 |      |         |
|                   |               | Edge 4 at 0mm           | 11.50 | 0.456 | 11.50 | 0.456 |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.744 | 1.023 | 0.744 | 1.023 | 1.023 | 0.930 |      |         |
|                   | FR1 n12       | Bottom of Laptop at 0mm | 11.50 | 0.427 | 11.50 | 0.427 | 0.206 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.081 | 1.465 | 1.657 | 1.236 | 1.830 | 1.358 | 0.02 | Case 81 |
|                   |               | Bottom Face at 0mm      | 11.50 | 0.679 | 11.50 | 0.679 | 0.618 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.407 | 3.136 | 2.712 | 2.610 | 3.630 | 2.561 | 0.03 | Case 82 |
|                   |               | Edge 1 at 0mm           | 24.00 | 0.150 | 24.00 | 0.150 | 0.216 |       |       |       |       |       |       | 0.366 | 0.366 | 0.366 | 0.366 | 0.366 | 0.366 |      |         |
|                   |               | Edge 2 at 0mm           |       |       |       |       | 0.044 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.284 | 1.151 | 0.200 | 0.200 | 1.307 | 0.773 |      |         |
|                   |               | Edge 4 at 0mm           | 11.50 | 0.456 | 11.50 | 0.456 |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.744 | 1.023 | 0.744 | 1.023 | 1.023 | 0.930 |      |         |
|                   | FR1 n71       | Bottom of Laptop at 0mm | 11.50 | 0.427 | 11.50 | 0.427 | 0.232 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.107 | 1.491 | 1.683 | 1.262 | 1.856 | 1.384 | 0.02 | Case 83 |
|                   |               | Bottom Face at 0mm      | 11.50 | 0.679 | 11.50 | 0.679 | 0.632 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.421 | 3.150 | 2.726 | 2.624 | 3.644 | 2.575 | 0.03 | Case 84 |
|                   |               | Edge 1 at 0mm           | 24.00 | 0.150 | 24.00 | 0.150 | 0.422 |       |       |       |       |       |       | 0.572 | 0.572 | 0.572 | 0.572 | 0.572 | 0.572 |      |         |
|                   |               | Edge 2 at 0mm           |       |       |       |       | 0.149 | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.389 | 1.256 | 0.305 | 0.305 | 1.412 | 0.878 |      |         |
|                   |               | Edge 4 at 0mm           | 11.50 | 0.456 | 11.50 | 0.456 |       |       | 0.288 |       | 0.567 |       | 0.474 | 0.744 | 1.023 | 0.744 | 1.023 | 1.023 | 0.930 |      |         |
| LTE Band 71       | FR1 n66 MIMO2 | Bottom of Laptop at 0mm | 18.50 | 0.408 | 16.50 | 0.257 | 0.594 | 0.789 | 0.659 | 0.594 | 0.238 | 0.365 | 0.360 | 2.299 | 1.683 | 1.875 | 1.454 | 2.048 | 1.576 | 0.03 | Case 85 |
|                   |               | Bottom Face at 0mm      | 18.50 | 1.136 | 16.50 | 0.717 | 0.695 | 1.189 | 0.921 | 1.020 | 0.819 | 0.494 | 0.770 | 3.522 | 3.251 | 2.827 | 2.725 | 3.745 | 2.676 | 0.03 | Case 86 |
|                   |               | Edge 1 at 0mm           | 18.50 | 0.798 | 16.50 | 0.504 | 0.239 |       |       |       |       |       |       | 0.743 | 0.743 | 0.743 | 0.743 | 0.743 | 0.743 |      |         |
|                   |               | Edge 2 at 0mm           | 18.50 | 0.255 | 16.50 | 0.161 |       | 0.240 |       | 1.107 |       | 0.156 | 0.573 | 0.401 | 1.268 | 0.317 | 0.317 | 1.424 | 0.890 |      |         |
|                   |               | Edge 4 at 0mm           |       |       |       |       | 0.425 |       | 0.288 |       | 0.567 |       | 0.474 | 0.713 | 0.992 | 0.713 | 0.992 | 0.992 | 0.899 |      |         |

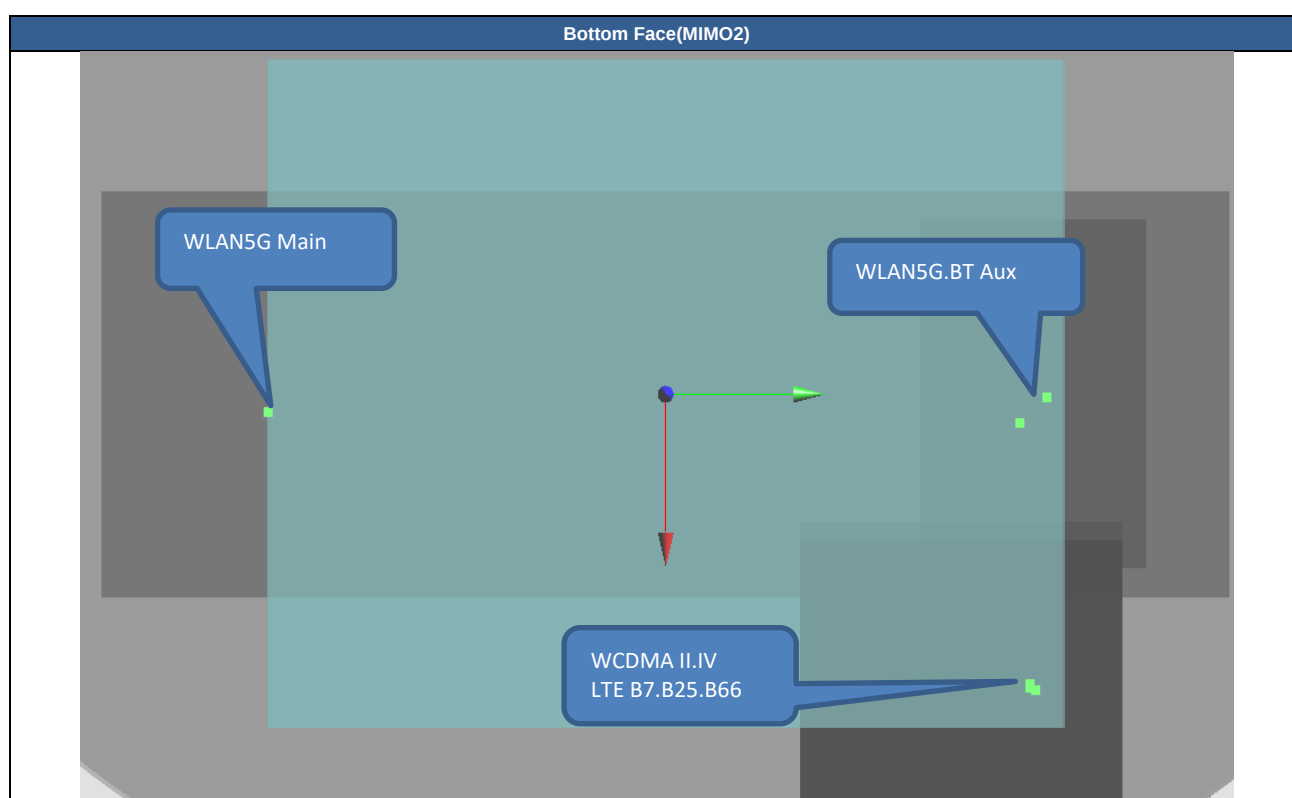
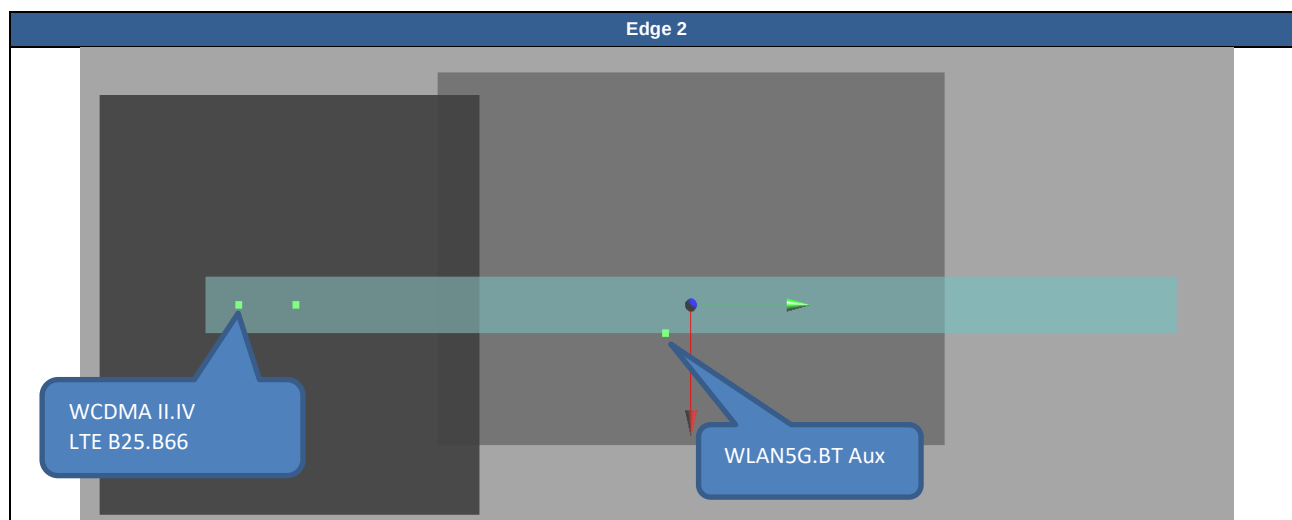
## 15.2 SPLSR Evaluation and Analysis

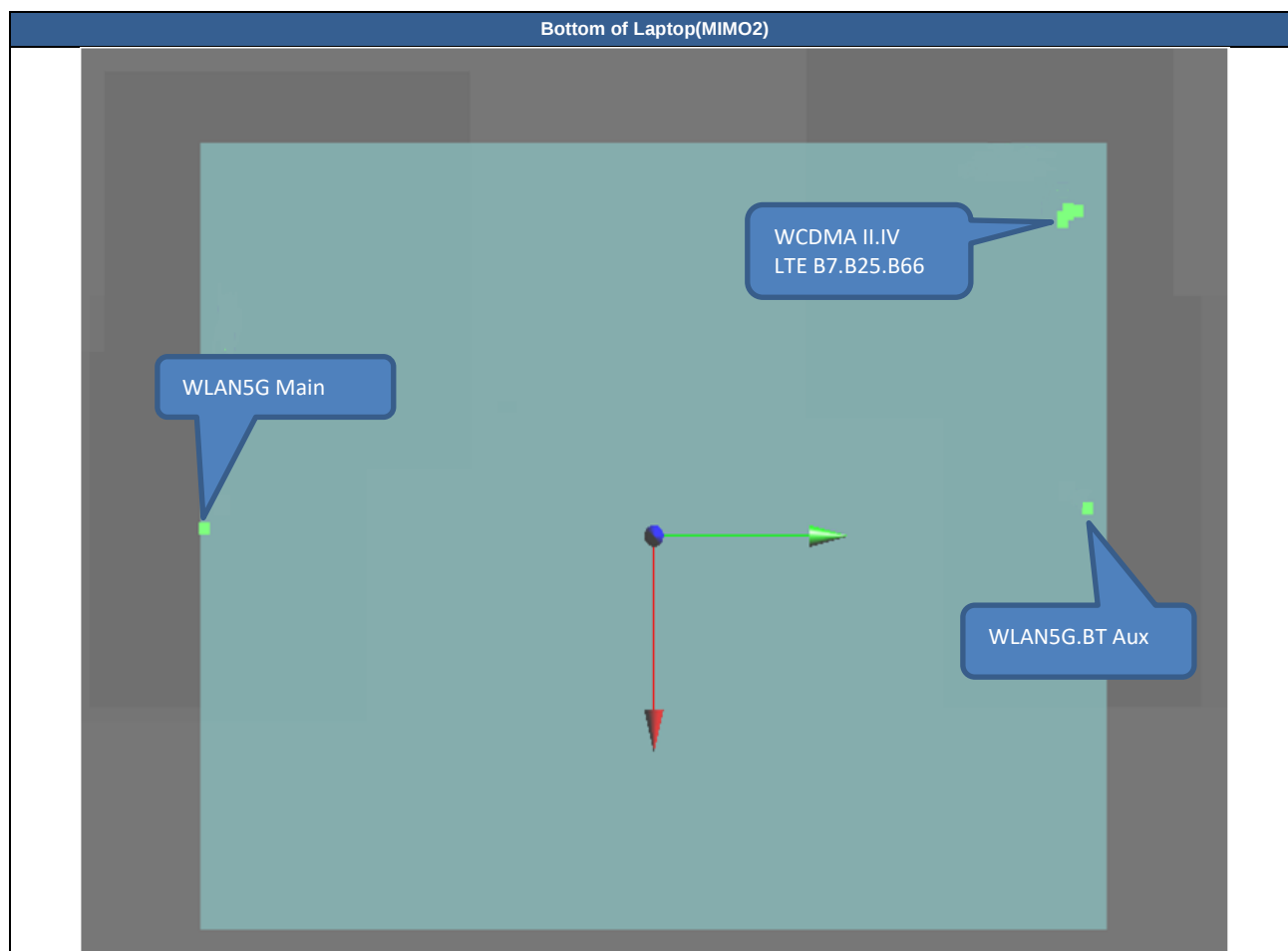
### General Note:

1.  $SPLSR = (SAR_1 + SAR_2)^{1.5} / (\text{min. separation distance, mm})$ . If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary
2. The detail hotspot point for each transmitter in each exposure condition are showing as below figure and the minimum 3D distance for each sum combination is used for SPLSR analysis.









**Main Antenna**
**<EN-DC non-Active>**

|        | Band                | Position         | SAR (W/kg) | Gap      | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------------------|------------------|------------|----------|------------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |                     |                  |            | (mm)     | X                      | Y      | Z     |                  |                   |               |                  |
| Case 1 | WCDMA II            | Bottom of Laptop | 0.905      | 0mm      | -94                    | 135.5  | 7.47  | 84.3             | 1.69              | 0.03          | Not required     |
|        | WLAN2.4G_Ant1       |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|        | WCDMA II            | Bottom of Laptop | 0.905      | 0mm      | -94                    | 135.5  | 7.47  | 290.7            | 1.56              | 0.01          | Not required     |
|        | WLAN2.4G_Ant2       |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|        | WLAN2.4G_Ant1       | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|        | WLAN2.4G_Ant2       |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|        | WLAN2.4G_Ant2       | Bottom of Laptop | 0.659      | 0mm      | -7.6                   | -142   | 3.07  | 287.2            | 1.02              | 0.00          | Not required     |
|        | BT_Ant1             |                  | 0.365      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|        | WCDMA II            | Bottom of Laptop | 0.905      | 0mm      | -94                    | 135.5  | 7.47  | 297.0            | 1.14              | 0.00          | Not required     |
|        | WLAN5G_Ant2         |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|        | WCDMA II            | Bottom of Laptop | 0.905      | 0mm      | -94                    | 135.5  | 7.47  | 90.0             | 1.86              | 0.03          | Not required     |
|        | WLAN5G_Ant1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|        | WLAN5G_Ant2         | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|        | WLAN5G_Ant1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 2 | Band                | Position         | SAR (W/kg) | Gap (mm) | X                      | Y      | Z     | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|        | WCDMA II            | Bottom Face      | 1.107      | 0mm      | 101                    | 137.1  | 7.49  | 99.3             | 2.30              | 0.04          | Not required     |
|        | WLAN2.4G_Ant1       |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|        | WCDMA II            | Bottom Face      | 1.107      | 0mm      | 101                    | 137.1  | 7.49  | 302.1            | 2.03              | 0.01          | Not required     |
|        | WLAN2.4G_Ant2       |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|        | WLAN2.4G_Ant1       | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|        | WLAN2.4G_Ant2       |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|        | WLAN2.4G_Ant2       | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|        | BT_Ant1             |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|        | WCDMA II            | Bottom Face      | 1.107      | 0mm      | 101                    | 137.1  | 7.49  | 297.9            | 1.93              | 0.01          | Not required     |
|        | WLAN5G_Ant2         |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|        | WCDMA II            | Bottom Face      | 1.107      | 0mm      | 101                    | 137.1  | 7.49  | 100.6            | 2.62              | 0.04          | Not required     |
|        | WLAN5G_Ant1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
|        | WLAN5G_Ant2         | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|        | WLAN5G_Ant1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 3 | Band                | Position         | SAR (W/kg) | Gap (mm) | X                      | Y      | Z     | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|        | WCDMA II            | Edge 2           | 0.39       | 0mm      | 1.6                    | -101.5 | 6     | 90.1             | 1.65              | 0.02          | Not required     |
|        | WLAN5G_Ant1+BT_Ant1 |                  | 1.263      | 0mm      | 0.4                    | -11.6  | -0.57 |                  |                   |               |                  |
| Case 4 | Band                | Position         | SAR (W/kg) | Gap (mm) | X                      | Y      | Z     | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|        | WCDMA IV            | Bottom of Laptop | 1.095      | 0mm      | -95.5                  | 135.5  | 7.46  | 85.8             | 1.88              | 0.03          | Not required     |
|        | WLAN2.4G_Ant1       |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|        | WCDMA IV            | Bottom of Laptop | 1.095      | 0mm      | -95.5                  | 135.5  | 7.46  | 291.1            | 1.75              | 0.01          | Not required     |
|        | WLAN2.4G_Ant2       |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|        | WLAN2.4G_Ant1       | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|        | WLAN2.4G_Ant2       |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|        | WLAN2.4G_Ant2       | Bottom of Laptop | 0.659      | 0mm      | -7.6                   | -142   | 3.07  | 287.2            | 1.02              | 0.00          | Not required     |
|        | BT_Ant1             |                  | 0.365      | 0mm      | -4.8                   | 145.2  | 0.029 |                  |                   |               |                  |
|        | WCDMA IV            | Bottom of Laptop | 1.095      | 0mm      | -95.5                  | 135.5  | 7.46  | 297.4            | 1.33              | 0.01          | Not required     |
|        | WLAN5G_Ant2         |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|        | WCDMA IV            | Bottom of Laptop | 1.095      | 0mm      | -95.5                  | 135.5  | 7.46  | 91.5             | 2.05              | 0.03          | Not required     |
|        | WLAN5G_Ant1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|        | WLAN5G_Ant2         | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|        | WLAN5G_Ant1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 5 | Band                | Position         | SAR (W/kg) | Gap (mm) | X                      | Y      | Z     | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|        | WCDMA IV            | Bottom Face      | 1.189      | 0mm      | 99.5                   | 135.5  | 7.53  | 97.9             | 2.38              | 0.04          | Not required     |
|        | WLAN2.4G_Ant1       |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|        | WCDMA IV            | Bottom Face      | 1.189      | 0mm      | 99.5                   | 135.5  | 7.53  | 300.1            | 2.11              | 0.01          | Not required     |
|        | WLAN2.4G_Ant2       |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|        | WLAN2.4G_Ant1       | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|        | WLAN2.4G_Ant2       |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |

|         |                      |                  |            |          |                        |        |       |                  |                   |               |                  |
|---------|----------------------|------------------|------------|----------|------------------------|--------|-------|------------------|-------------------|---------------|------------------|
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | WCDMA IV             | Bottom Face      | 1.189      | 0mm      | 99.5                   | 135.5  | 7.53  | 296.0            | 2.01              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | WCDMA IV             | Bottom Face      | 1.189      | 0mm      | 99.5                   | 135.5  | 7.53  | 99.6             | 2.70              | 0.04          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 6  | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         |                      |                  |            |          | X                      | Y      | Z     |                  |                   |               |                  |
|         | WCDMA IV             | Edge 2           | 0.524      | 0mm      | 1.6                    | -103.8 | 6.01  | 92.4             | 1.79              | 0.03          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.263      | 0mm      | 0.4                    | -11.6  | -0.57 |                  |                   |               |                  |
| Case 7  | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         |                      |                  |            |          | X                      | Y      | Z     |                  |                   |               |                  |
|         | WCDMA V              | Bottom of Laptop | 0.945      | 0mm      | -113.4                 | 116.2  | 7.53  | 106.5            | 1.73              | 0.02          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | WCDMA V              | Bottom of Laptop | 0.945      | 0mm      | -113.4                 | 116.2  | 7.53  | 279.1            | 1.60              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom of Laptop | 0.659      | 0mm      | -7.6                   | -142   | 3.07  | 287.2            | 1.02              | 0.00          | Not required     |
|         | BT_Ant1              |                  | 0.365      | 0mm      | -4.8                   | 145.2  | 0.029 |                  |                   |               |                  |
|         | WCDMA V              | Bottom of Laptop | 0.945      | 0mm      | -113.4                 | 116.2  | 7.53  | 285.4            | 1.18              | 0.00          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | WCDMA V              | Bottom of Laptop | 0.945      | 0mm      | -113.4                 | 116.2  | 7.53  | 112.6            | 1.90              | 0.02          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 8  | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         |                      |                  |            |          | X                      | Y      | Z     |                  |                   |               |                  |
|         | WCDMA V              | Bottom Face      | 1.093      | 0mm      | 110                    | 81.5   | 7.39  | 125.2            | 2.28              | 0.03          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | WCDMA V              | Bottom Face      | 1.093      | 0mm      | 110                    | 81.5   | 7.39  | 253.8            | 2.01              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | WCDMA V              | Bottom Face      | 1.093      | 0mm      | 110                    | 81.5   | 7.39  | 249.2            | 1.91              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | WCDMA V              | Bottom Face      | 1.093      | 0mm      | 110                    | 81.5   | 7.39  | 134.6            | 2.61              | 0.03          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 9  | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         |                      |                  |            |          | X                      | Y      | Z     |                  |                   |               |                  |
|         | LTE B2 MIMO2         | Bottom of Laptop | 0.37       | 0mm      | -55.9                  | -141.1 | 7.31  | 286.3            | 1.16              | 0.00          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B2 MIMO2         | Bottom of Laptop | 0.37       | 0mm      | -55.9                  | -141.1 | 7.31  | 48.5             | 1.03              | 0.02          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | LTE B2 MIMO2         | Bottom of Laptop | 0.37       | 0mm      | -55.9                  | -141.1 | 7.31  | 51.7             | 0.61              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | LTE B2 MIMO2         | Bottom of Laptop | 0.37       | 0mm      | -55.9                  | -141.1 | 7.31  | 290.9            | 1.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 10 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         |                      |                  |            |          | X                      | Y      | Z     |                  |                   |               |                  |
|         | LTE B2 MIMO2         | Bottom Face      | 0.689      | 0mm      | 65.4                   | -147.4 | 7.33  | 299.2            | 1.88              | 0.01          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |



# FCC SAR TEST REPORT

Report No. : FA092423

|         |                      |                  |            |          |                        |        |       |                  |                   |               |                  |
|---------|----------------------|------------------|------------|----------|------------------------|--------|-------|------------------|-------------------|---------------|------------------|
|         | LTE B2 MIMO2         | Bottom Face      | 0.689      | 0mm      | 65.4                   | -147.4 | 7.33  | 62.7             | 1.61              | 0.03          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | LTE B2 MIMO2         | Bottom Face      | 0.689      | 0mm      | 65.4                   | -147.4 | 7.33  | 57.4             | 1.51              | 0.03          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | LTE B2 MIMO2         | Bottom Face      | 0.689      | 0mm      | 65.4                   | -147.4 | 7.33  | 318.3            | 2.20              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 11 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B7               | Bottom of Laptop | 0.535      | 0mm      | -97.2                  | 135.4  | 7.48  | 87.5             | 1.32              | 0.02          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B7               | Bottom of Laptop | 0.535      | 0mm      | -97.2                  | 135.4  | 7.48  | 291.5            | 1.19              | 0.00          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | LTE B7               | Bottom of Laptop | 0.535      | 0mm      | -97.2                  | 135.4  | 7.48  | 297.9            | 0.77              | 0.00          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | LTE B7               | Bottom of Laptop | 0.535      | 0mm      | -97.2                  | 135.4  | 7.48  | 93.2             | 1.49              | 0.02          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 12 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B7               | Bottom Face      | 1.137      | 0mm      | 104.6                  | 135.6  | 7.54  | 103.0            | 2.33              | 0.03          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | LTE B7               | Bottom Face      | 1.137      | 0mm      | 104.6                  | 135.6  | 7.54  | 301.9            | 2.06              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | LTE B7               | Bottom Face      | 1.137      | 0mm      | 104.6                  | 135.6  | 7.54  | 297.7            | 1.96              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | LTE B7               | Bottom Face      | 1.137      | 0mm      | 104.6                  | 135.6  | 7.54  | 104.4            | 2.65              | 0.04          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 13 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B7_MIMO2         | Bottom of Laptop | 0.197      | 0mm      | -66.4                  | -136   | 7.37  | 283.1            | 0.99              | 0.00          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B7_MIMO2         | Bottom of Laptop | 0.197      | 0mm      | -66.4                  | -136   | 7.37  | 59.3             | 0.86              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
| Case 14 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B7_MIMO2         | Bottom Face      | 0.631      | 0mm      | 72.4                   | -142   | 7.36  | 295.5            | 1.82              | 0.01          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | LTE B7_MIMO2         | Bottom Face      | 0.631      | 0mm      | 72.4                   | -142   | 7.36  | 69.9             | 1.55              | 0.03          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | LTE B7_MIMO2         | Bottom Face      | 0.631      | 0mm      | 72.4                   | -142   | 7.36  | 64.5             | 1.45              | 0.03          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | LTE B7_MIMO2         | Bottom Face      | 0.631      | 0mm      | 72.4                   | -142   | 7.36  | 314.5            | 2.15              | 0.01          | Not required     |

|         |                      |                  |            |          |                        |        |       |                  |                   |               |                  |
|---------|----------------------|------------------|------------|----------|------------------------|--------|-------|------------------|-------------------|---------------|------------------|
|         | WLAN5G_Ant 1+BT_Ant1 | Bottom Face      | 1.514      | 0mm      | 4.6                    | 165    | 1.05  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 15 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B12              | Bottom of Laptop | 0.365      | 0mm      | -96                    | 134.7  | 7.47  | 86.4             | 1.15              | 0.01          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B12              | Bottom of Laptop | 0.365      | 0mm      | -96                    | 134.7  | 7.47  | 290.5            | 1.02              | 0.00          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | LTE B12              | Bottom of Laptop | 0.365      | 0mm      | -96                    | 134.7  | 7.47  | 296.8            | 0.60              | 0.00          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | LTE B12              | Bottom of Laptop | 0.365      | 0mm      | -96                    | 134.7  | 7.47  | 92.1             | 1.32              | 0.02          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 16 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B12              | Bottom Face      | 1.089      | 0mm      | 111.6                  | 79.9   | 7.2   | 127.4            | 2.28              | 0.03          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | LTE B12              | Bottom Face      | 1.089      | 0mm      | 111.6                  | 79.9   | 7.2   | 253.1            | 2.01              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | LTE B12              | Bottom Face      | 1.089      | 0mm      | 111.6                  | 79.9   | 7.2   | 248.4            | 1.91              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | LTE B12              | Bottom Face      | 1.089      | 0mm      | 111.6                  | 79.9   | 7.2   | 136.9            | 2.60              | 0.03          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 17 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B13              | Bottom of Laptop | 0.742      | 0mm      | -113.4                 | 114.6  | 7.52  | 106.9            | 1.53              | 0.02          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B13              | Bottom of Laptop | 0.742      | 0mm      | -113.4                 | 114.6  | 7.52  | 277.6            | 1.40              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom of Laptop | 0.659      | 0mm      | -7.6                   | -142   | 3.07  | 287.2            | 1.02              | 0.00          | Not required     |
|         | BT_Ant1              |                  | 0.365      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | LTE B13              | Bottom of Laptop | 0.742      | 0mm      | -113.4                 | 114.6  | 7.52  | 283.9            | 0.98              | 0.00          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | LTE B13              | Bottom of Laptop | 0.742      | 0mm      | -113.4                 | 114.6  | 7.52  | 113.1            | 1.70              | 0.02          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 18 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B13              | Bottom Face      | 1.165      | 0mm      | 110                    | 81.5   | 7.45  | 125.2            | 2.35              | 0.03          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | LTE B13              | Bottom Face      | 1.165      | 0mm      | 110                    | 81.5   | 7.45  | 253.8            | 2.09              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | LTE B13              | Bottom Face      | 1.165      | 0mm      | 110                    | 81.5   | 7.45  | 249.2            | 1.98              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | LTE B13              | Bottom Face      | 1.165      | 0mm      | 110                    | 81.5   | 7.45  | 134.6            | 2.68              | 0.03          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |

|         |                      |                  |            |          |                        |        |       |                  |                   |               |                  |
|---------|----------------------|------------------|------------|----------|------------------------|--------|-------|------------------|-------------------|---------------|------------------|
|         | WLAN5G_Ant2          | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 19 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B14              | Bottom of Laptop | 0.931      | 0mm      | -113.4                 | 114.6  | 7.53  | 106.9            | 1.72              | 0.02          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B14              | Bottom of Laptop | 0.931      | 0mm      | -113.4                 | 114.6  | 7.53  | 277.6            | 1.59              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom of Laptop | 0.659      | 0mm      | -7.6                   | -142   | 3.07  | 287.2            | 1.02              | 0.00          | Not required     |
|         | BT_Ant1              |                  | 0.365      | 0mm      | -4.8                   | 145.2  | 0.029 |                  |                   |               |                  |
|         | LTE B14              | Bottom of Laptop | 0.931      | 0mm      | -113.4                 | 114.6  | 7.53  | 283.9            | 1.17              | 0.00          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | LTE B14              | Bottom of Laptop | 0.931      | 0mm      | -113.4                 | 114.6  | 7.53  | 113.1            | 1.89              | 0.02          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 20 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B14              | Bottom Face      | 1.19       | 0mm      | 110                    | 81.5   | 7.46  | 125.2            | 2.38              | 0.03          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | LTE B14              | Bottom Face      | 1.19       | 0mm      | 110                    | 81.5   | 7.46  | 253.8            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | LTE B14              | Bottom Face      | 1.19       | 0mm      | 110                    | 81.5   | 7.46  | 249.2            | 2.01              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | LTE B14              | Bottom Face      | 1.19       | 0mm      | 110                    | 81.5   | 7.46  | 134.6            | 2.70              | 0.03          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 21 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B25              | Bottom of Laptop | 1.032      | 0mm      | -96.8                  | 135.6  | 7.48  | 87.1             | 1.82              | 0.03          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B25              | Bottom of Laptop | 1.032      | 0mm      | -96.8                  | 135.6  | 7.48  | 291.6            | 1.69              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom of Laptop | 0.659      | 0mm      | -7.6                   | -142   | 3.07  | 287.2            | 1.02              | 0.00          | Not required     |
|         | BT_Ant1              |                  | 0.365      | 0mm      | -4.8                   | 145.2  | 0.029 |                  |                   |               |                  |
|         | LTE B25              | Bottom of Laptop | 1.032      | 0mm      | -96.8                  | 135.6  | 7.48  | 297.9            | 1.27              | 0.00          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | LTE B25              | Bottom of Laptop | 1.032      | 0mm      | -96.8                  | 135.6  | 7.48  | 92.8             | 1.99              | 0.03          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 22 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B25              | Bottom Face      | 1.124      | 0mm      | 101                    | 135.5  | 7.32  | 99.4             | 2.31              | 0.04          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | LTE B25              | Bottom Face      | 1.124      | 0mm      | 101                    | 135.5  | 7.32  | 300.6            | 2.05              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | LTE B25              | Bottom Face      | 1.124      | 0mm      | 101                    | 135.5  | 7.32  | 296.4            | 1.94              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | LTE B25              | Bottom Face      | 1.124      | 0mm      | 101                    | 135.5  | 7.32  | 101.0            | 2.64              | 0.04          | Not required     |



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|         |                      |                  |            |          |                        |        |       |                  |                   |               |                  |
|---------|----------------------|------------------|------------|----------|------------------------|--------|-------|------------------|-------------------|---------------|------------------|
|         | WLAN5G_Ant 1+BT_Ant1 | Bottom Face      | 1.514      | 0mm      | 4.6                    | 165    | 1.05  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 23 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B25              | Edge 2           | 0.381      | 0mm      | 1.6                    | -102.2 | 6     | 90.8             | 1.64              | 0.02          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.263      | 0mm      | 0.4                    | -11.6  | -0.57 |                  |                   |               |                  |
| Case 24 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B26              | Bottom of Laptop | 0.971      | 0mm      | -114.6                 | 114.5  | 7.53  | 108.1            | 1.76              | 0.02          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B26              | Bottom of Laptop | 0.971      | 0mm      | -114.6                 | 114.5  | 7.53  | 278.0            | 1.63              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom of Laptop | 0.659      | 0mm      | -7.6                   | -142   | 3.07  | 287.2            | 1.02              | 0.00          | Not required     |
|         | BT_Ant1              |                  | 0.365      | 0mm      | -4.8                   | 145.2  | 0.029 |                  |                   |               |                  |
|         | LTE B26              | Bottom of Laptop | 0.971      | 0mm      | -114.6                 | 114.5  | 7.53  | 284.3            | 1.21              | 0.00          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | LTE B26              | Bottom of Laptop | 0.971      | 0mm      | -114.6                 | 114.5  | 7.53  | 114.2            | 1.93              | 0.02          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 25 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B26              | Bottom Face      | 1.168      | 0mm      | 110                    | 81.5   | 7.41  | 125.2            | 2.36              | 0.03          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | LTE B26              | Bottom Face      | 1.168      | 0mm      | 110                    | 81.5   | 7.41  | 253.8            | 2.09              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom Face      | 0.921      | 0mm      | 3                      | -148.6 | 1.84  | 289.5            | 1.42              | 0.01          | Not required     |
|         | BT_Ant1              |                  | 0.494      | 0mm      | 11.6                   | 140.8  | 1.05  |                  |                   |               |                  |
|         | LTE B26              | Bottom Face      | 1.168      | 0mm      | 110                    | 81.5   | 7.41  | 249.2            | 1.99              | 0.01          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.819      | 0mm      | 8.4                    | -146   | 0.81  |                  |                   |               |                  |
|         | LTE B26              | Bottom Face      | 1.168      | 0mm      | 110                    | 81.5   | 7.41  | 134.6            | 2.68              | 0.03          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom Face      | 0.819      | 0mm      | 8.4                    | -146   | 0.81  | 311.0            | 2.33              | 0.01          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 1.514      | 0mm      | 4.6                    | 165    | 1.05  |                  |                   |               |                  |
| Case 26 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B30              | Bottom of Laptop | 0.681      | 0mm      | -98.2                  | 137.8  | 7.39  | 88.4             | 1.47              | 0.02          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  |                  |                   |               |                  |
|         | LTE B30              | Bottom of Laptop | 0.681      | 0mm      | -98.2                  | 137.8  | 7.39  | 294.1            | 1.34              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom of Laptop | 0.789      | 0mm      | -10.2                  | 141.4  | 0.21  | 283.4            | 1.45              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.659      | 0mm      | -7.6                   | -142   | 3.07  |                  |                   |               |                  |
|         | WLAN2.4G_Ant2        | Bottom of Laptop | 0.659      | 0mm      | -7.6                   | -142   | 3.07  | 287.2            | 1.02              | 0.00          | Not required     |
|         | BT_Ant1              |                  | 0.365      | 0mm      | -4.8                   | 145.2  | 0.029 |                  |                   |               |                  |
|         | LTE B30              | Bottom of Laptop | 0.681      | 0mm      | -98.2                  | 137.8  | 7.39  | 300.5            | 0.92              | 0.00          | Not required     |
|         | WLAN5G_Ant2          |                  | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 |                  |                   |               |                  |
|         | LTE B30              | Bottom of Laptop | 0.681      | 0mm      | -98.2                  | 137.8  | 7.39  | 94.0             | 1.64              | 0.02          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
|         | WLAN5G_Ant2          | Bottom of Laptop | 0.238      | 0mm      | -5.2                   | -147.8 | -0.07 | 293.0            | 1.20              | 0.00          | Not required     |
|         | WLAN5G_Ant 1+BT_Ant1 |                  | 0.959      | 0mm      | -4.8                   | 145.2  | 0.29  |                  |                   |               |                  |
| Case 27 | Band                 | Position         | SAR (W/kg) | Gap (mm) | SAR peak location (mm) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|         | LTE B30              | Bottom Face      | 1.158      | 0mm      | 110                    | 81.5   | 7.41  | 125.2            | 2.35              | 0.03          | Not required     |
|         | WLAN2.4G_Ant1        |                  | 1.189      | 0mm      | 2.2                    | 145    | 1.81  |                  |                   |               |                  |
|         | LTE B30              | Bottom Face      | 1.158      | 0mm      | 110                    | 81.5   | 7.41  | 253.8            | 2.08              | 0.01          | Not required     |
|         | WLAN2.4G_Ant2        |                  | 0.921      | 0mm      | 3                      | -148.6 | 1.84  |                  |                   |               |                  |
|         | WLAN2.4G_Ant1        | Bottom Face      | 1.189      | 0mm      | 2.2                    | 145    | 1.81  | 293.6            | 2.11              | 0.01          | Not required     |