

# TEST REPORT

|                        |                                                      |
|------------------------|------------------------------------------------------|
| EUT Description        | <b>Notebook/Tablet</b>                               |
| Brand Name             | <b>HP TPN-I137</b>                                   |
| Model Name             | <b>TPN-I137</b>                                      |
| FCC ID                 | <b>FCC ID: B94TNI137JPPD</b>                         |
| Date of Test Start/End | <b>2019-12-24 / 2020-01-24</b>                       |
| Features               | <b>WWAN (LTE, UMTS), WLAN, BT</b><br>(see section 6) |
| Description            | <b>Platform: Fibocom M2 L850GL + Inpaq antenna</b>   |

|                      |                                                                  |
|----------------------|------------------------------------------------------------------|
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| Reference Standards           | <b>FCC 47 CFR Part §2.1093</b><br><b>RSS-102, issue 5</b><br>(see section 1)                                                           |            |           |                       |                      |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|-----------------------|----------------------|
| RF Exposure Environment       | <b>Portable devices - General population/uncontrolled exposure</b>                                                                     |            |           |                       |                      |
|                               | <table> <tr> <th>SAR Result</th><th>SAR Limit</th></tr> <tr> <td><b>1.41 W/kg (1g)</b></td><td><b>1.6 W/kg (1g)</b></td></tr> </table> | SAR Result | SAR Limit | <b>1.41 W/kg (1g)</b> | <b>1.6 W/kg (1g)</b> |
| SAR Result                    | SAR Limit                                                                                                                              |            |           |                       |                      |
| <b>1.41 W/kg (1g)</b>         | <b>1.6 W/kg (1g)</b>                                                                                                                   |            |           |                       |                      |
| Maximum SAR Result & Limit    |                                                                                                                                        |            |           |                       |                      |
| Min. test separation distance | <b>0mm to phantom, 6.465mm to antenna edge</b>                                                                                         |            |           |                       |                      |

|                            |                                                                                                                  |
|----------------------------|------------------------------------------------------------------------------------------------------------------|
| Test Report identification | <b>191210-02.TR05</b>                                                                                            |
| Revision Control           | <b>Rev. 00</b><br><b>This test report revision replaces any previous test report revision</b><br>(see section 9) |

The test results relate only to the samples tested.

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## 1. Standards, reference documents and applicable test methods

1. FCC 47 CFR Part §2.1093 – Radiofrequency radiation exposure evaluation: portable devices.
2. FCC OET KDB 447498 D01 v06 –RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices.
3. FCC OET KDB 616217 D04 v01r02– SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers.
4. FCC OET KDB 865664 D01 v01r04 – SAR Measurement Requirements for 100 MHz to 6 GHz.
5. FCC OET KDB 865664 D02 v01r02 – RF Exposure Compliance Reporting and Documentation Considerations.
6. FCC OET KDB 941225 D05 v02r05 – SAR Evaluation Considerations for LTE Devices.
7. FCC OET KDB 941225 D01 v03r01 – 3G SAR Measurement Procedures.
8. ISED RSS 102, Issue 5 – Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands).
9. ISED RSS-102 Supplementary Procedures SPR-001 SAR testing requirements with regard to bystanders for laptop type computers with antennas built-in on display screen (Laptop Mode / Tablet Mode)
10. ISED Notice 2016-DRS001 – Applicability of latest FCC RF Exposure KDB Procedures and Other Procedures.
11. ISED Notice 2012-DRS0529 – SAR correction for measured conductivity and relative permittivity based on IEC 62209-2 standard.
12. IEEE Std 1528-2013 – IEEE Recommended Practice Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communication Devices: Measurement Techniques...

## 2. General conditions, competences and guarantees

- ✓ Tests performed under FCC standards identified in section 1 are covered by A2LA accreditation.
- ✓ Tests performed under ISED standards identified in section 1 are covered by Cofrac accreditation.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an ISO/IEC 17025:2017 laboratory accredited by the American Association for Laboratory Accreditation (A2LA) with the certificate number 3478.01.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an Accredited Test Firm recognized by the FCC, with Designation Number FR0011.
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### 3. Preface

The HP model TPN-I137 convertible PC include the Time Averaging SAR (TAS) concept. The TAS algorithm is implemented in the Intel XMM 7360 Cellular Modem, which is incorporated in the Fibocom M2 L850GL cellular module (FCC ID: ZMOL850GL).

The implementation details and TAS operating characteristics are described in a separated document [1]. The validation of algorithm operations is performed by Intel Corporation according to the range of commonly used accessible control parameters used for typical host products. The validation results are reported in document [2].

The FCC SAR limit is a time averaged exposure metric. At host level, the normally required SAR test procedures are applicable for SAR compliance testing at upper-threshold values of the algorithm, which is the maximum output power level for continuous time-averaging operations TAS algorithm enforces. The reliability of this has been demonstrated by results in the Algorithm Validation Test Report [2].

The HP model TPN-I137 supports simultaneous transmission of WWAN, BT and WLAN. The TAS algorithm is only applied to WWAN cellular module. The WLAN / BT SAR evaluation is presented in the document [3].

The SAR evaluation of WWAN is performed in this report as well as the RF exposure assessment for simultaneous transmission of WWAN, WLAN and BT.

[1] 190214\_TAS\_Operational\_Report\_XMM7360\_KDB\_Rev04

[2] 171110-01.TR02 - TAS\_Validation\_report\_Rev02

[3] 191210-02.TR01 - HP TPN-I137 w9461NGW, SAR, FCC\_IC, INPAQ

#### 4. Environmental Conditions

- ✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

|                    |              |
|--------------------|--------------|
| Temperature        | 21.2C ± 2°C  |
| Humidity           | 38.5% ± 20%  |
| Liquid Temperature | 21.1°C ± 2°C |

#### 5. Test samples

| Sample | Control #     | Description     | Model                         | Serial #   | Date of receipt |
|--------|---------------|-----------------|-------------------------------|------------|-----------------|
| #01    | 191210-02.S05 | Notebook/Tablet | TPN-I137+Fibocom M2<br>L850GL | 00094300T3 | 2019-12-10      |

## 6. EUT Features

|                        |                   |
|------------------------|-------------------|
| Brand Name             | HP TPN-I137       |
| Model Name             | TPN-I137          |
| Software Version       | 1.0.3.2           |
| Driver Version         | 10.0.18362.387    |
| Prototype / Production | Production        |
| Host Identification    | Fibocom M2 L850GL |
| Exposure Conditions    | Body worn         |

### Supported radios

The Fibocom M2 L850GL module is a data only DUT supporting UMTS and LTE, without carrier aggregation. The applicable frequency bands and operating modes are identified in the following table, where North America bands are shown in bold.

#### WWAN:

| Mode          | Bands                               | Supported Tx Mode |       |       |          |
|---------------|-------------------------------------|-------------------|-------|-------|----------|
|               |                                     | WCDMA             | HSDPA | HSUPA | DC-HSDPA |
| WCDMA / HSPA+ | <b>FDD II (1850.0 – 1910.0 MHz)</b> | ✓                 | ✓     | ✓     | ✓        |
|               | <b>FDD IV (1710.0 – 1755.0 MHz)</b> | ✓                 | ✓     | ✓     | ✓        |
|               | <b>FDD V (824.0 – 849.0 MHz)</b>    | ✓                 | ✓     | ✓     | ✓        |
|               | FDD VIII (880.0 – 915.0 MHz)        | ✓                 | ✓     | ✓     | ✓        |

| FDD/TDD | Band                                 | Modulation | Bandwidth |   |   |    |    |    |
|---------|--------------------------------------|------------|-----------|---|---|----|----|----|
|         |                                      |            | 1.4       | 3 | 5 | 10 | 15 | 20 |
| LTE FDD | <b>Band 2 (1850.0 – 1910.0 MHz)</b>  | QPSK/16QAM | ✓         | ✓ | ✓ | ✓  | ✓  | ✓  |
|         | <b>Band 4 (1710.0 – 1755.0 MHz)</b>  | QPSK/16QAM | ✓         | ✓ | ✓ | ✓  | ✓  | ✓  |
|         | <b>Band 5 (824.0 – 849.0 MHz)</b>    | QPSK/16QAM | ✓         | ✓ | ✓ | ✓  |    |    |
|         | <b>Band 7 (2500.0 – 2570.0 MHz)</b>  | QPSK/16QAM |           |   | ✓ | ✓  | ✓  | ✓  |
|         | <b>Band 12 (699.0 – 716.0 MHz)</b>   | QPSK/16QAM | ✓         | ✓ | ✓ | ✓  |    |    |
|         | <b>Band 13 (777.0 – 787.0 MHz)</b>   | QPSK/16QAM |           |   | ✓ | ✓  |    |    |
|         | <b>Band 17 (704.0 – 716.0 MHz)</b>   | QPSK/16QAM |           |   | ✓ | ✓  |    |    |
|         | Band 18 (815.0 – 830.0 MHz)          | QPSK/16QAM |           |   | ✓ | ✓  | ✓  |    |
|         | Band 19 (830.0 – 845.0 MHz)          | QPSK/16QAM |           |   | ✓ | ✓  | ✓  |    |
|         | <b>Band 26 (814.0 – 849.0 MHz)</b>   | QPSK/16QAM | ✓         | ✓ | ✓ | ✓  | ✓  |    |
|         | Band 28 (703.0 – 748.0 MHz)          | QPSK/16QAM |           | ✓ | ✓ | ✓  | ✓  | ✓  |
|         | <b>Band 30 (2305.0 – 2315.0 MHz)</b> | QPSK/16QAM |           |   | ✓ | ✓  |    |    |
|         | <b>Band 66 (1710.0 – 1780.0 MHz)</b> | QPSK/16QAM | ✓         | ✓ | ✓ | ✓  | ✓  | ✓  |
| LTE TDD | <b>Band 38 (2570.0 – 2620.0 MHz)</b> | QPSK/16QAM |           |   | ✓ | ✓  | ✓  | ✓  |
|         | Band 40 (2300.0 – 2400.0 MHz)        | QPSK/16QAM |           |   | ✓ | ✓  | ✓  | ✓  |
|         | <b>Band 41 (2496.0 – 2690.0 MHz)</b> | QPSK/16QAM |           |   | ✓ | ✓  | ✓  | ✓  |

#### WLAN

| Mode                 | UL Freq Range                                                                                                                |
|----------------------|------------------------------------------------------------------------------------------------------------------------------|
| 802.11b/g/n          | 2.4GHz (2400.0 – 2483.5 MHz)                                                                                                 |
| 802.11a/n/ac         | 5.2GHz (5150.0 – 5250.0 MHz)<br>5.3GHz (5250.0 – 5350.0 MHz)<br>5.6GHz (5470.0 – 5725.0 MHz)<br>5.8GHz (5725.0 – 5825.0 MHz) |
| Bluetooth & BLE v5.0 | 2.4GHz (2400.0 – 2483.5 MHz)                                                                                                 |

### Antenna Information

#### The DUT has 1 WWAN TX antenna:

- WWAN Main Tx1 Antenna: INPAQ, PIFA antenna.  
P/N: 6036B0263901 (WA-P-LTE15-02-005)

See Annex F for more details on antennas location.

### Simultaneous Transmission Configurations

WWAN Main + WLAN 2.4GHz  
WWAN Main + WLAN 5GHz + BT  
WWAN Main + WLAN 5GHz

WLAN transmitter is considered in this report just for the simultaneous transmission evaluation with the WWAN module (See section B.6.4)

### Additional information

- 5.60-5.65 GHz band (TDWR) is supported by the device
- Band gap is supported by the device
- Two different power settings are implemented in the DUT:
  - Max power for Notebook mode
  - Reduced power for Tablet mode
- The DUT does not support VoLTE, so Head Exposure is not considered for LTE and WCDMA modes. Maximum Power Reduction (MPR) is implemented according to 3GPP, and it is a permanent feature, built-in by design:

| Modulation | Channel bandwidth / #RB |         |       |        |        |        | 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      |

A-MPR (additional MPR) was disabled during SAR testing

### Low, Middle and High channel and frequency number for LTE

| LTE BAND | BANDWIDTH | FREQ (MHZ) | CHANNEL # | LTE BAND | BANDWIDTH | FREQ (MHZ) | CHANNEL # |       |
|----------|-----------|------------|-----------|----------|-----------|------------|-----------|-------|
| LTE2     | 20 MHz    | 1860.00    | 18700     | LTE5     | 10 MHz    | 829.00     | 20450     |       |
|          |           | 1880.00    | 18900     |          |           | 836.50     | 20525     |       |
|          |           | 1900.00    | 19100     |          |           | 844.00     | 20600     |       |
|          | 15 MHz    | 1857.50    | 18675     |          | 5.0 MHz   | 826.50     | 20425     |       |
|          |           | 1880.00    | 18900     |          |           | 836.50     | 20525     |       |
|          |           | 1902.50    | 19125     |          |           | 846.50     | 20625     |       |
|          | 10 MHz    | 1855.00    | 18650     |          | 3.0 MHz   | 825.50     | 20415     |       |
|          |           | 1880.00    | 18900     |          |           | 836.50     | 20525     |       |
|          |           | 1905.00    | 19150     |          |           | 847.50     | 20635     |       |
|          | 5.0 MHz   | 1852.50    | 18625     |          | 1.4 MHz   | 824.70     | 20407     |       |
|          |           | 1880.00    | 18900     |          |           | 836.50     | 20525     |       |
|          |           | 1907.50    | 19175     |          |           | 848.30     | 20643     |       |
|          | 3.0 MHz   | 1851.50    | 18615     | LTE7     | 20 MHz    | 2510.00    | 20850     |       |
|          |           | 1880.00    | 18900     |          |           | 2535.00    | 21100     |       |
|          |           | 1908.50    | 19185     |          |           | 2560.00    | 21350     |       |
|          | 1.4 MHz   | 1850.70    | 18607     |          | 15 MHz    | 2507.50    | 20825     |       |
|          |           | 1880.00    | 18900     |          |           | 2535.00    | 21100     |       |
| 1909.30  |           | 19193      | 2562.50   |          |           | 21375      |           |       |
| LTE4     | 20 MHz    | 1720.00    | 20050     |          | LTE12     | 10 MHz     | 2505.00   | 20800 |
|          |           | 1732.50    | 20175     |          |           |            | 2535.00   | 21100 |
|          |           | 1745.00    | 20300     |          |           |            | 2565.00   | 21400 |
|          | 15 MHz    | 1717.50    | 20025     |          |           | 5.0 MHz    | 2502.50   | 20775 |
|          |           | 1732.50    | 20175     |          |           |            | 2535.00   | 21100 |
|          |           | 1747.50    | 20325     |          |           |            | 2567.50   | 21425 |
|          | 10 MHz    | 1715.00    | 20000     | 10 MHz   |           | 704.00     | 23060     |       |
|          |           | 1732.50    | 20175     |          |           | 707.50     | 23095     |       |
|          |           | 1750.00    | 20350     |          |           | 711.00     | 23130     |       |
|          | 5.0 MHz   | 1712.50    | 19975     | 5.0 MHz  |           | 701.50     | 23035     |       |
|          |           | 1732.50    | 20175     |          |           | 707.50     | 23095     |       |
|          |           | 1752.50    | 20375     |          |           | 713.50     | 23155     |       |
|          | 3.0 MHz   | 1711.50    | 19965     | 3.0 MHz  | 700.50    | 23025      |           |       |
|          |           | 1732.50    | 20175     |          | 707.50    | 23095      |           |       |
|          |           | 1753.50    | 20385     |          | 714.50    | 23165      |           |       |
|          | 1.4 MHz   | 1710.70    | 19957     |          | 699.70    | 23017      |           |       |
|          |           | 1732.50    | 20175     | 707.50   | 23095     |            |           |       |
|          |           | 1754.30    | 20393     | 1.4 MHz  | 715.30    | 23173      |           |       |

## Low, Middle and High channel and frequency number in for LTE

| LTE BAND | BANDWIDTH | FREQ (MHZ) | CHANNEL # | LTE BAND | BANDWIDTH | FREQ (MHZ) | CHANNEL # |
|----------|-----------|------------|-----------|----------|-----------|------------|-----------|
| LTE13    | 10 MHz    | 782.00     | 23230     | LTE41    | 20 MHz    | 2506.00    | 39750     |
|          |           | 779.50     | 23205     |          |           | 2549.50    | 40185     |
|          | 5.0 MHz   | 782.00     | 23230     |          |           | 2593.00    | 40620     |
|          |           | 784.50     | 23255     |          |           | 2636.50    | 41055     |
| LTE17    | 10 MHz    | 709.00     | 23780     |          |           | 2680.00    | 41490     |
|          |           | 710.00     | 23790     |          | 15 MHz    | 2503.50    | 39725     |
|          |           | 711.00     | 23800     |          |           | 2549.50    | 40185     |
|          |           | 706.50     | 23755     |          |           | 2593.00    | 40620     |
|          | 5.0 MHz   | 710.00     | 23790     |          |           | 2636.50    | 41055     |
|          |           | 713.50     | 23825     |          | 2682.50   | 41515      |           |
|          | 15 MHz    | 822.50     | 26775     |          | 10 MHz    | 2501.00    | 39700     |
|          |           | 831.50     | 26865     |          |           | 2549.50    | 40185     |
| 841.50   |           | 26965      | 2593.00   |          |           | 40620      |           |
| 820.00   |           | 26750      | 2636.50   |          |           | 41055      |           |
| LTE26    | 10 MHz    | 831.50     | 26865     |          |           | 2685.00    | 41540     |
|          |           | 844.00     | 26990     |          | 2498.50   | 39675      |           |
|          |           | 5.0 MHz    | 816.50    |          | 26715     | 2549.50    | 40185     |
|          |           |            | 831.50    |          | 26865     | 2593.00    | 40620     |
|          | 3.0 MHz   | 846.50     | 27015     |          | 2636.50   | 41055      |           |
|          |           | 815.50     | 26705     |          | 2687.50   | 41565      |           |
|          |           | 831.50     | 26865     |          | 20 MHz    | 1720.00    | 132072    |
|          |           | 847.50     | 27025     |          |           | 1745.00    | 132322    |
|          | 1.4 MHz   | 814.70     | 26697     |          |           | 1770.00    | 132572    |
|          |           | 831.50     | 26865     | 1717.50  |           | 132047     |           |
|          | LTE38     | 20 MHz     | 848.30    | 27033    | 15 MHz    | 1745.00    | 132322    |
|          |           |            | 2580.00   | 37850    |           | 1772.50    | 132597    |
| 2595.00  |           |            | 38000     | 10 MHz   | 1715.00   | 132022     |           |
| 2610.00  |           |            | 38150     |          | 1745.00   | 132322     |           |
| 2577.50  |           | 37825      | 1775.00   |          | 132622    |            |           |
| 15 MHz   |           | 2595.00    | 38000     |          | 5.0 MHz   | 1712.50    | 131997    |
|          |           | 2612.50    | 38175     | 1745.00  |           | 132322     |           |
|          |           | 2575.00    | 37800     | 1777.50  |           | 132647     |           |
|          |           | 10 MHz     | 2595.00   | 38000    | 3.0 MHz   | 1711.50    | 131987    |
| 2615.00  |           |            | 38200     | 1745.00  |           | 132322     |           |
| 5.0 MHz  |           |            | 2572.50   | 37775    |           | 1778.50    | 132657    |
|          |           |            | 2595.00   | 38000    |           | 1710.00    | 131979    |
|          |           | 2617.50    | 38225     | 1745.00  | 132322    |            |           |
|          |           |            |           | 1779.30  | 132665    |            |           |

The following table indicates the power levels and tolerance for each mode:

#### Maximum Output power specification + Tune up tolerance

| Mode     | Technology | Bands                         | Class | Nominal (dBm) | Tolerance dB | Lower Tolerance (dBm) | Upper Tolerance (dBm) |
|----------|------------|-------------------------------|-------|---------------|--------------|-----------------------|-----------------------|
| Notebook | WCDMA/HSPA | FDD II (1850.0 – 1910.0 MHz)  | 3     | 16.0          | ±1           | 15.0                  | 17.0                  |
| Notebook | WCDMA/HSPA | FDD IV (1710.0 – 1755.0 MHz)  | 3     | 16.0          | ±1           | 15.0                  | 17.0                  |
| Notebook | WCDMA/HSPA | FDD V (824.0 – 849.0 MHz)     | 3     | 19.5          | ±1           | 17.5                  | 20.5                  |
| Notebook | LTE        | Band 2 (1850.0 – 1910.0 MHz)  | 3     | 16.0          | ±1           | 15.0                  | 17.0                  |
| Notebook | LTE        | Band 4 (1710.0 – 1755.0 MHz)  | 3     | 16.0          | ±1           | 15.0                  | 17.0                  |
| Notebook | LTE        | Band 5 (824.0 – 849.0 MHz)    | 3     | 18.5          | ±2           | 16.5                  | 20.5                  |
| Notebook | LTE        | Band 7 (2500.0 – 2570.0 MHz)  | 3     | 15.0          | ±1           | 14.0                  | 16.0                  |
| Notebook | LTE        | Band 12 (699.0 – 716.0 MHz)   | 3     | 21.0          | ±1           | 20.0                  | 22.0                  |
| Notebook | LTE        | Band 13 (777.0 – 787.0 MHz)   | 3     | 20.5          | ±1           | 19.5                  | 21.5                  |
| Notebook | LTE        | Band 17 (704.0 – 716.0 MHz)   | 3     | 21.0          | ±1           | 20.0                  | 22.0                  |
| Notebook | LTE        | Band 26 (814.0 – 849.0 MHz)   | 3     | 19.5          | ±1           | 18.5                  | 20.5                  |
| Notebook | LTE        | Band 30 (2305.0 – 2315.0 MHz) | 3     | 15.5          | ±1           | 14.5                  | 16.5                  |
| Notebook | LTE        | Band 66 (1710.0 – 1780.0 MHz) | 3     | 16.0          | ±1           | 15.0                  | 17.0                  |
| Notebook | LTE        | Band 38 (2570.0 – 2620.0 MHz) | 3     | 17.0          | ±1           | 16.0                  | 18.0                  |
| Notebook | LTE        | Band 41 (2496.0 – 2690.0 MHz) | 3     | 16.5          | ±1           | 15.5                  | 17.5                  |
| Tablet   | WCDMA/HSPA | FDD II (1850.0 – 1910.0 MHz)  | 3     | 14.0          | ±1           | 13.0                  | 15.0                  |
| Tablet   | WCDMA/HSPA | FDD IV (1710.0 – 1755.0 MHz)  | 3     | 13.5          | ±1           | 12.5                  | 14.5                  |
| Tablet   | WCDMA/HSPA | FDD V (824.0 – 849.0 MHz)     | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
| Tablet   | LTE        | Band 2 (1850.0 – 1910.0 MHz)  | 3     | 14.0          | ±1           | 13.0                  | 15.0                  |
| Tablet   | LTE        | Band 4 (1710.0 – 1755.0 MHz)  | 3     | 13.5          | ±1           | 12.5                  | 14.5                  |
| Tablet   | LTE        | Band 5 (824.0 – 849.0 MHz)    | 3     | 17.5          | ±2           | 16.5                  | 19.5                  |
| Tablet   | LTE        | Band 7 (2500.0 – 2570.0 MHz)  | 3     | 14.0          | ±1           | 13.0                  | 15.0                  |
| Tablet   | LTE        | Band 12 (699.0 – 716.0 MHz)   | 3     | 19.5          | ±1           | 18.5                  | 20.5                  |
| Tablet   | LTE        | Band 13 (777.0 – 787.0 MHz)   | 3     | 19.0          | ±1           | 18.0                  | 20.0                  |
| Tablet   | LTE        | Band 17 (704.0 – 716.0 MHz)   | 3     | 19.5          | ±1           | 18.5                  | 20.5                  |
| Tablet   | LTE        | Band 26 (814.0 – 849.0 MHz)   | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
| Tablet   | LTE        | Band 30 (2305.0 – 2315.0 MHz) | 3     | 13.0          | ±1           | 12.0                  | 14.0                  |
| Tablet   | LTE        | Band 66 (1710.0 – 1780.0 MHz) | 3     | 13.5          | ±1           | 12.5                  | 14.5                  |
| Tablet   | LTE        | Band 38 (2570.0 – 2620.0 MHz) | 3     | 16.0          | ±1           | 15.0                  | 17.0                  |
| Tablet   | LTE        | Band 41 (2496.0 – 2690.0 MHz) | 3     | 16.0          | ±1           | 15.0                  | 17.0                  |

As mentioned in Section 3, the SAR compliance testing is performed at upper-threshold values of the algorithm, which is the maximum output power level for continuous time-averaging operations TAS algorithm enforces.

In TAS operation, the control parameters including the upper-threshold value are stored in NVM. They are inaccessible to the normal users and no other interface is available for changing these control parameters.

The table below shows the upper-threshold values used as continuous power for SAR testing as well as the different TAS parameters defined in [1] and [2] to be embedded in the host:

| Mode     | Technology | Bands                         | Class | Nominal Full Power (dBm) | Upper Threshold (dBm) | Lower Threshold (dBm) | DPR_ON Power (dBm) |
|----------|------------|-------------------------------|-------|--------------------------|-----------------------|-----------------------|--------------------|
| Notebook | WCDMA/HSPA | FDD II (1850.0 – 1910.0 MHz)  | 3     | 23.5                     | 16.0                  | 15.0                  | 14.0               |
| Notebook | WCDMA/HSPA | FDD IV (1710.0 – 1755.0 MHz)  | 3     | 23.5                     | 16.0                  | 15.0                  | 14.0               |
| Notebook | WCDMA/HSPA | FDD V (824.0 – 849.0 MHz)     | 3     | 23.5                     | 19.5                  | 18.5                  | 17.5               |
| Notebook | LTE        | Band 2 (1850.0 – 1910.0 MHz)  | 3     | 23                       | 16.0                  | 15.0                  | 14.0               |
| Notebook | LTE        | Band 4 (1710.0 – 1755.0 MHz)  | 3     | 23                       | 16.0                  | 15.0                  | 14.0               |
| Notebook | LTE        | Band 5 (824.0 – 849.0 MHz)    | 3     | 23                       | 18.5                  | 17.5                  | 16.5               |
| Notebook | LTE        | Band 7 (2500.0 – 2570.0 MHz)  | 3     | 23                       | 15.0                  | 14.0                  | 13.0               |
| Notebook | LTE        | Band 12 (699.0 – 716.0 MHz)   | 3     | 23                       | 21.0                  | 20.0                  | 19.0               |
| Notebook | LTE        | Band 13 (777.0 – 787.0 MHz)   | 3     | 23                       | 20.5                  | 19.5                  | 18.5               |
| Notebook | LTE        | Band 17 (704.0 – 716.0 MHz)   | 3     | 23                       | 21.0                  | 20.0                  | 19.0               |
| Notebook | LTE        | Band 26 (814.0 – 849.0 MHz)   | 3     | 23                       | 19.5                  | 18.5                  | 17.5               |
| Notebook | LTE        | Band 30 (2305.0 – 2315.0 MHz) | 3     | 23                       | 15.5                  | 14.5                  | 13.5               |
| Notebook | LTE        | Band 66 (1710.0 – 1780.0 MHz) | 3     | 23                       | 16.0                  | 15.0                  | 14.0               |
| Notebook | LTE        | Band 38 (2570.0 – 2620.0 MHz) | 3     | 23                       | 17.0                  | 16.0                  | 15.0               |
| Notebook | LTE        | Band 41 (2496.0 – 2690.0 MHz) | 3     | 23                       | 16.5                  | 15.5                  | 14.5               |
| Tablet   | WCDMA/HSPA | FDD II (1850.0 – 1910.0 MHz)  | 3     | 23.5                     | 14.0                  | 13.0                  | 12.0               |
| Tablet   | WCDMA/HSPA | FDD IV (1710.0 – 1755.0 MHz)  | 3     | 23.5                     | 13.5                  | 12.5                  | 11.5               |
| Tablet   | WCDMA/HSPA | FDD V (824.0 – 849.0 MHz)     | 3     | 23.5                     | 18.0                  | 17.0                  | 16.0               |
| Tablet   | LTE        | Band 2 (1850.0 – 1910.0 MHz)  | 3     | 23                       | 14.0                  | 13.0                  | 12.0               |
| Tablet   | LTE        | Band 4 (1710.0 – 1755.0 MHz)  | 3     | 23                       | 13.5                  | 12.5                  | 11.5               |
| Tablet   | LTE        | Band 5 (824.0 – 849.0 MHz)    | 3     | 23                       | 17.5                  | 16.5                  | 15.5               |
| Tablet   | LTE        | Band 7 (2500.0 – 2570.0 MHz)  | 3     | 23                       | 14.0                  | 13.0                  | 12.0               |
| Tablet   | LTE        | Band 12 (699.0 – 716.0 MHz)   | 3     | 23                       | 19.5                  | 18.5                  | 17.5               |
| Tablet   | LTE        | Band 13 (777.0 – 787.0 MHz)   | 3     | 23                       | 19.0                  | 18                    | 17.0               |
| Tablet   | LTE        | Band 17 (704.0 – 716.0 MHz)   | 3     | 23                       | 19.5                  | 18.5                  | 17.5               |
| Tablet   | LTE        | Band 26 (814.0 – 849.0 MHz)   | 3     | 23                       | 18.0                  | 17.0                  | 16.0               |
| Tablet   | LTE        | Band 30 (2305.0 – 2315.0 MHz) | 3     | 23                       | 13.0                  | 12.0                  | 11.0               |
| Tablet   | LTE        | Band 66 (1710.0 – 1780.0 MHz) | 3     | 23                       | 13.5                  | 12.5                  | 11.5               |
| Tablet   | LTE        | Band 38 (2570.0 – 2620.0 MHz) | 3     | 23                       | 16.0                  | 15.0                  | 14.0               |
| Tablet   | LTE        | Band 41 (2496.0 – 2690.0 MHz) | 3     | 23                       | 16.0                  | 15.0                  | 14.0               |

SAR compliance is demonstrated with the *Reported SAR*:

*Reported SAR = measured 1gSAR @ Reported Upper Threshold < FCC SAR limit*

Where, *Reported Upper Threshold = Upper Threshold (stored in NVM) + Tolerance*

## 7. Remarks and comments

- Only the plots for the test positions with the highest measured SAR per band/mode are included in Annex C as required per FCC OET KDB 865664 D02, paragraph 2.3.8.

## 8. Test Verdicts summary

The statement of conformity to applicable standards in the table below are based on the measured values, without taking into account the measurement uncertainties.

| Mode    | Band (UL)                     | Highest Reported SAR (1g) (W/kg) | Verdict |
|---------|-------------------------------|----------------------------------|---------|
| WCDMA   | FDD II (1850.0 – 1910.0 MHz)  | 1.26                             | P       |
|         | FDD IV (1710.0 – 1755.0 MHz)  | 1.41                             | P       |
|         | FDD V (824.0 – 849.0 MHz)     | 1.29                             | P       |
| LTE FDD | Band 2 (1850.0 – 1910.0 MHz)  | 1.38                             | P       |
|         | Band 4 (1710.0 – 1755.0 MHz)  | NM                               | NA      |
|         | Band 5 (824.0 – 849.0 MHz)    | 1.41                             | P       |
|         | Band 7 (2500.0 – 2570.0 MHz)  | 1.27                             | P       |
|         | Band 12 (699.0 – 716.0 MHz)   | 1.08                             | P       |
|         | Band 13 (777.0 – 787.0 MHz)   | 1.33                             | P       |
|         | Band 17 (704.0 – 716.0 MHz)   | NM                               | NA      |
|         | Band 26 (814.0 – 849.0 MHz)   | 1.33                             | P       |
|         | Band 30 (2305.0 – 2315.0 MHz) | 1.23                             | P       |
|         | Band 66 (1710.0 – 1780.0 MHz) | 1.31                             | P       |
| LTE TDD | Band 38 (2570.0 – 2620.0 MHz) | 1.24                             | P       |
|         | Band 41 (2496.0 – 2690.0 MHz) | 1.35                             | P       |

P: Pass

F: Fail

NM: Not Measured

NA: Not Applicable

According to the FCC OET KDB 690783 D01, this is the summary of the values for the Grant Listing:

| Exposure Condition | Highest Reported SAR (1g) (W/kg) |               |                             |                             |
|--------------------|----------------------------------|---------------|-----------------------------|-----------------------------|
|                    | Equipment Class                  |               |                             |                             |
|                    | PCE                              | DTS           | DSS                         | U-NII                       |
| Body Worn          | 1.41                             | 0.78          | 0.09                        | 1.35                        |
| Simultaneous Tx    | Sum-SAR: 1.71<br>SPLSR:0.04      | Sum-SAR: 1.46 | Sum-SAR: 1.71<br>SPLSR:0.04 | Sum-SAR: 1.71<br>SPLSR:0.04 |

Considering the results of the performed test according to FCC 47CFR Part 2.1093 and ISSED RSS 102, Issue 5 the item under test is IN COMPLIANCE with the requested specifications specified in Section1. Standards, reference documents and applicable test methods

## 9. Document Revision History

| Revision # | Date       | Modified by | Revision Details |
|------------|------------|-------------|------------------|
| Rev. 00    | 2020-01-28 | C.In        | First Issue      |

# Annex A. Test & System Description

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## A.1 SAR Definition

Specific Absorption rate is defined as the time derivative of the incremental energy (dW) absorbed by (dissipated in) and incremental mass (dm) contained in a volume element (dV) of a given density ( $\rho$ ).

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

SAR is expressed in units of watts per kilogram (W/kg). SAR can be related to the electric field at a point by

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

Where:

$\sigma$  = Conductivity of the tissue (S/m)

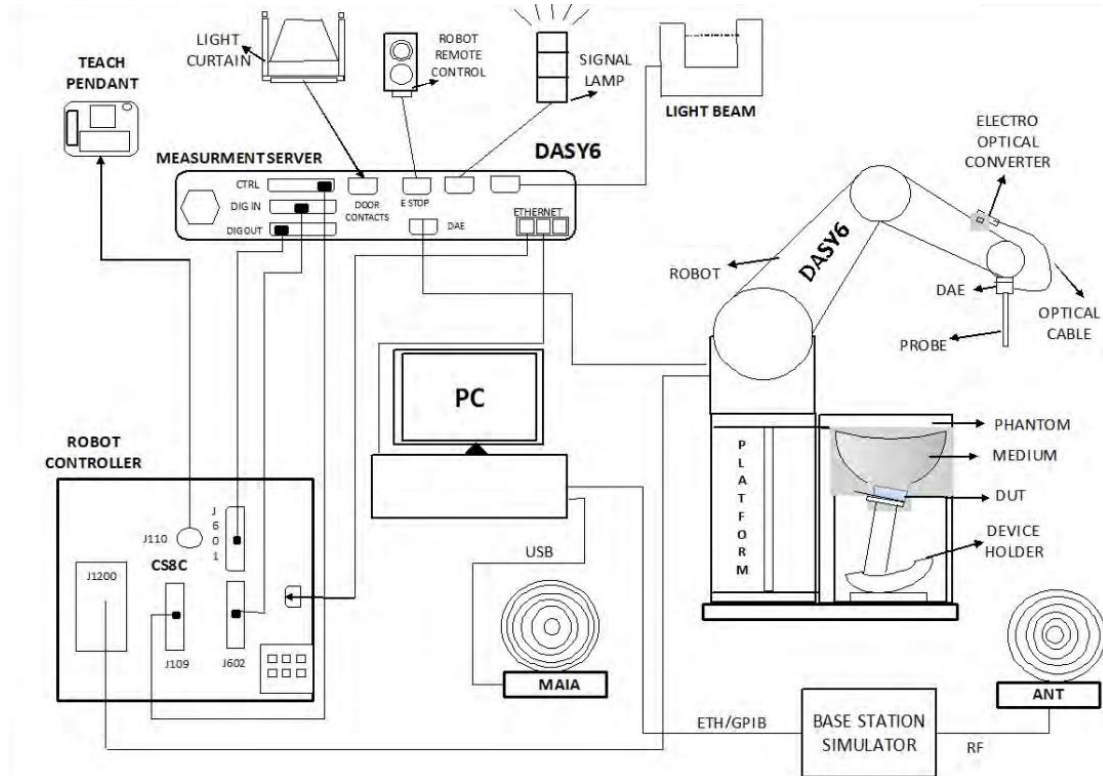
$\rho$  = Mass density of the tissue (kg/m<sup>3</sup>)

E = RMS electric field strength (V/m)

## A.2 SPEAG SAR Measurement System

### A.2.1 SAR Measurement Setup

The DASY6 system for performing compliance tests consists of the following items:



- ✓ A standard high precision 6-axis robot (Stäubli TX/RX family) with controller, teach pendant and software. It includes an arm extension for accommodating the data acquisition electronics (DAE)
- ✓ An isotropic field probe optimized and calibrated for the targeted measurements.
- ✓ 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. 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 movements interrupts.
- ✓ The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- ✓ A computer running Win7 professional operating system and the DASY6 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.
- ✓ MAIA is a hardware interface (Antenna) used to evaluate the modulation and audio interference characteristics of RF signals.
- ✓ ANT is an ultra-wideband antenna for use with the base station simulators over 698 MHz to 6GHz.
- ✓ The base station simulator is an equipment used for SAR cellular tests in order to emulate the cellular signals characteristics and behavior between a regular base station and the equipment under test.
- ✓ Tissue simulating liquid.
- ✓ System Validation dipoles.
- ✓ Network emulator or RF test tool.

## A.2.2 E-Field Measurement Probe

The probe is constructed using three orthogonal dipole sensors arranged on an interlocking, triangular prism core. The probe has built-in shielding against static charges and is contained within a PEEK cylindrical enclosure material at the tip.



The probe's characteristics are:

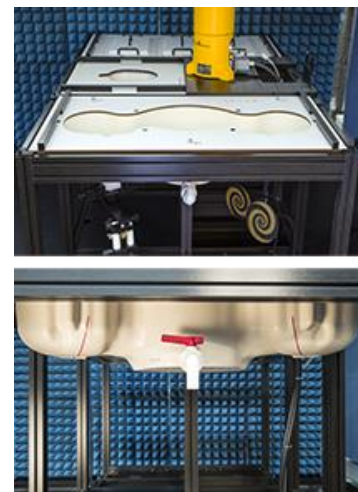
|                                                      |              |
|------------------------------------------------------|--------------|
| Frequency Range                                      | 30MHz – 6GHz |
| Length                                               | 337 mm       |
| Probe tip external diameter                          | 2.5 mm       |
| Typical distance between dipoles and the probe tip   | 1 mm         |
| Axial Isotropy (in human-equivalent liquids)         | $\pm 0.3$ dB |
| Hemispherical Isotropy (in human-equivalent liquids) | $\pm 0.5$ dB |
| Linearity                                            | $\pm 0.2$ dB |
| Maximum operating SAR                                | 100 W/kg     |
| Lower SAR detection threshold                        | 0.001 W/kg   |

## A.2.3 SAM Phantom

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

The phantom's characteristics are:

|                        |                                            |
|------------------------|--------------------------------------------|
| Material               | Vinylester, glass fiber reinforced (VE-GF) |
| Shell thickness        | 2 mm $\pm$ 0.2 mm                          |
| Shell thickness at ERP | 6 $\pm$ 0.2 mm                             |
| Filling volume         | 25 Liters                                  |
| Dimensions             | Length: 1000mm / Width: 500mm              |

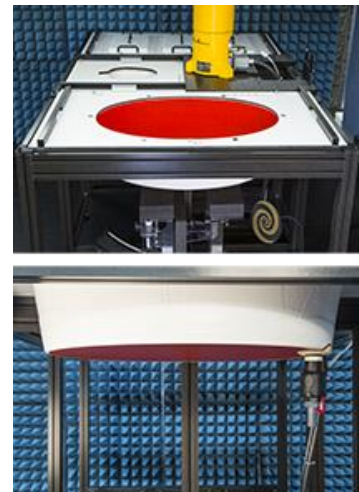


## A.2.4 Flat Phantom

Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.

The phantom's characteristics are:

|                 |                                            |
|-----------------|--------------------------------------------|
| Material        | Vinylester, glass fiber reinforced (VE-GF) |
| Shell thickness | 2 mm $\pm$ 0.2 mm                          |
| Filling volume  | 30 Liters approx.                          |
| Dimensions      | Major axis: 600mm / Minor axis: 400mm      |



## A.2.5 Device Positioner

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of 0.5 mm would produce a SAR uncertainty of 20%. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.



The DASy device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASy device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity  $\epsilon=3$  and loss tangent  $\delta=0.02$ . The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

A simple but effective and easy-to-use extension for the Mounting Device; facilitates testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.); lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin SAM, ELI and other Flat Phantoms.



### A.3 Data Evaluation

- **Power Reference measurement**

The robot measures the E field in a specified reference position that can be either the selected section's grid reference point or a user point in this section at 4mm of the inner surface of the phantom, 2mm for frequencies above 3GHz.

- **Area Scan**

Measurement procedures for evaluating SAR from wireless handsets typically start with a coarse measurement grid to determine the approximate location of the local peak SAR values. This is known as the area-scan procedure. The SAR distribution is scanned along the inside surface of one side of the phantom head, at least for an area larger than the projection of the handset and antenna. The distance between the measured points and phantom surface should be less than 8 mm, and should remain constant (with variation less than  $\pm 1$  mm) during the entire scan in order to determine the locations of the local peak SAR with sufficient accuracy. The angle between the probe axis and the surface normal line is recommended but not required to be less than  $30^\circ$ . If this angle is larger than  $30^\circ$  and the closest point on the probe-tip housing to the phantom surface is closer than a probe diameter, the boundary effect may become larger and polarization dependent. This additional uncertainty needs to be analyzed and accounted for. To achieve this, modified test procedures and additional uncertainty analyses not described in this recommended practice may be required. The measurement and interpolation point spacing should be chosen such as to allow identification of the local peak locations to within one-half of the linear dimension of a side of the zoom-scan volume. Because a local peak having specific amplitude and steep gradients may produce a lower peak spatial-average SAR compared to peaks with slightly lower amplitude and less steep gradients, it is necessary to evaluate these other peaks as well. However, since the spatial gradients of local SAR peaks are a function of the wavelength inside the tissue-equivalent liquid and the incident magnetic field strength, it is not necessary to evaluate local peaks that are less than 2 dB or more below the global maximum peak. Two-dimensional spline algorithms (Brishoual et al. 2001; Press et al., 1996) are typically used to determine the peaks and gradients within the scanned area. If a peak is found at a distance from the scan border of less than one-half the edge dimension of the desired 1 g or 10 g cube, the measurement area should be enlarged if possible.

- **Zoom Scan**

To evaluate the peak spatial-average SAR values for 1 g or 10 g cubes, fine resolution volume scans, called zoom scans, are performed at the peak SAR locations identified during the area scan. The minimum zoom scan volume size should extend at least 1.5 times the edge dimension of a 1 g cube in all directions from the center of the scan volume, for both 1 g and 10 g peak spatial-average SAR evaluations. Along the phantom curved surfaces, the front face of the volume facing the tissue/liquid interface conforms to the curved boundary, to ensure that all SAR peaks are captured. The back face should be equally distorted to maintain the correct averaging mass. The flatness and orientation of the four side faces are unchanged from that of a cube whose orientation is within  $\pm 30^\circ$  of the line normal to the phantom at the center of the cube face next to the phantom surface. The peak local SAR locations that were determined in the area scan (interpolated values) should be used for the centers of the zoom scans. If a scan volume cannot be centered due to proximity of a phantom shape feature, the probe should be tilted to allow scan volume enlargement. If probe tilt is not feasible, the zoom-scan origin may be shifted, but not by more than half of the 1 g or 10 g cube edge dimension.

After the zoom-scan measurement, extrapolations from the closest measured points to the surface, for example along lines parallel to the zoom-scan centerline, and interpolations to a finer resolution between all measured and extrapolated points are performed. Extrapolation algorithm considerations are described in 6.5.3, and 3-D spline methods (Brishoual et al., 2001; Kreyszig, 1983; Press et al., 1996) can be used for interpolation. The peak spatial-average SAR is finally determined by a numerical averaging of the local SAR values in the interpolation grid, using for example a trapezoidal algorithm for the integration (averaging).

In some areas of the phantom, such as the jaw and upper head regions, the angle of the probe with respect to the line normal to the surface may be relatively large, e.g., greater than  $\pm 30^\circ$ , which could increase the boundary effect error to a larger level. In these cases, during the zoom scan a change in the orientation of the probe, the phantom, or both is recommended but not required for the duration of the zoom scan, so that the angle between the probe axis and the line normal to the surface is within  $30^\circ$  for all measurement points.

- **Power Drift measurement**

The robot re-measures the E-Field in the same reference location measured at the Power Reference. The drift measurement gives the field difference in dB from the first to the last reference reading. This allows a user to monitor the power drift of the device under test that must remain within a maximum variation of  $\pm 5\%$ .

- **Post-processing**

The procedure for spatial peak SAR evaluation has been implemented according to the IEEE1528 and IEC 62209-1/2 standards. It can be conducted for 1g and 10g.

The software allows evaluations that combine measured data and robot positions, such as:

- ✓ Maximum search
- ✓ Extrapolation
- ✓ Boundary correction
- ✓ Peak search for averaged SAR

Interpolation between the measured points is performed when the resolution of the grid is not fine enough to compute the average SAR over a given mass.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation.

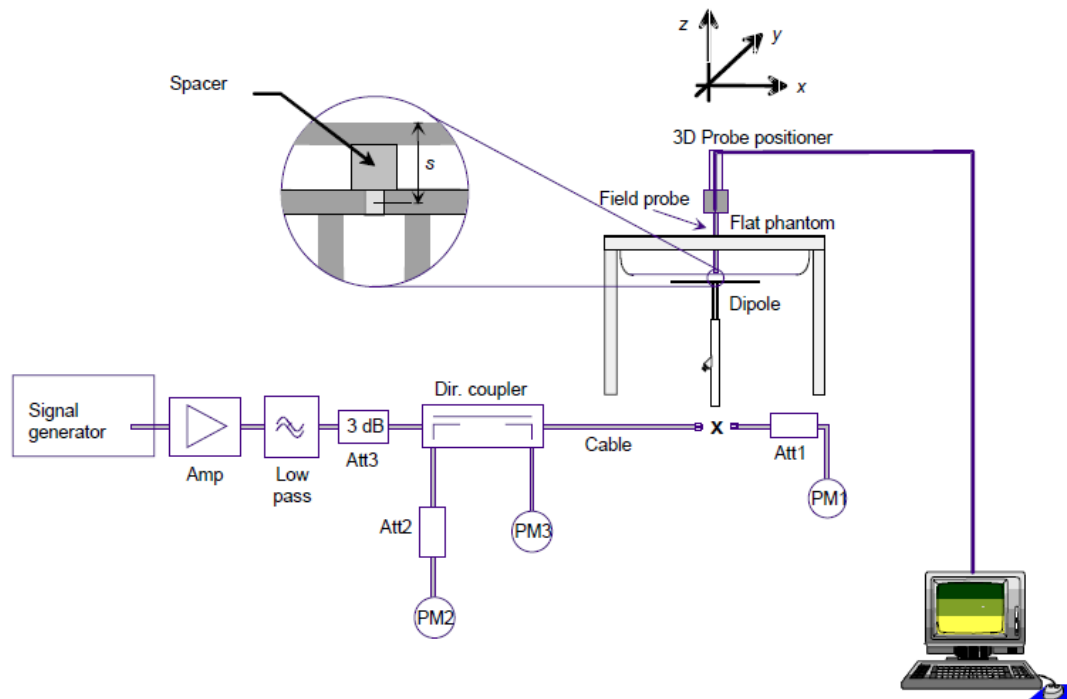
## A.4 System and Liquid Check

### A.4.1 System Check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results.

The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

In the simplified setup for system check, the EUT is replaced by a calibrated dipole and the power source is replaced by a controlled continuous wave generated by a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the phantom at the correct distance.



The equipment setup is shown below:

- ✓ Signal Generator
- ✓ Amplifier
- ✓ Directional coupler
- ✓ Power meter
- ✓ Calibrated dipole

First, the power meter PM1 (including attenuator Att1) is connected to the cable to measure the forward power at the location of the connector (x) to the system check source. The signal generator is adjusted for the desired forward power at the connector as read by power meter PM1 after attenuation Att1 and also as coupled through Att2 to PM2. After connecting the cable to the source, the signal generator is readjusted for the same reading at power meter PM2.

SAR results are normalized to a forward power of 1W to compare the values with the calibration reports results as described at IEEE 1528 and IEC 62209 standards.

#### A.4.2 Liquid Check

The dielectric parameters check is done prior to the use of the tissue simulating liquid. The verification is made by comparing the relative permittivity and conductivity to the values recommended by the applicable standards.

The liquid verification was performed using the following test setup:

- ✓ VNA (Vector Network Analyzer)
- ✓ Open-Short-Load calibration kit
- ✓ RF Cable
- ✓ Open-Ended Coaxial probe
- ✓ DAK software tool
- ✓ SAR Liquid
- ✓ De-ionized water
- ✓ Thermometer

These are the target dielectric properties of the tissue-equivalent liquid material as defined in FCC OET KDB 865664 D01.

| Frequency<br>(MHz) | Body SAR           |                |
|--------------------|--------------------|----------------|
|                    | $\epsilon_r$ (F/m) | $\sigma$ (S/m) |
| 150                | 61.9               | 0.80           |
| 300                | 58.2               | 0.92           |
| 450                | 56.7               | 0.94           |
| 835                | 55.2               | 0.97           |
| 900                | 55.0               | 1.05           |
| 1450               | 54.0               | 1.30           |
| 1800-2000          | 53.3               | 1.52           |
| 2450               | 52.7               | 1.95           |
| 3000               | 52.0               | 2.73           |
| 5800               | 48.2               | 6.00           |

( $\epsilon_r$  = relative permittivity,  $\sigma$  = conductivity and  $\rho$  = 1000 kg/m<sup>3</sup>)

The measurement system implement a SAR error compensation algorithm as documented in IEEE Std 1528-2013 (equivalent to draft standard IEEE P1528-2011) to automatically compensate the measured SAR results for deviations between the measured and required tissue dielectric parameters (applied to only scale up the measured SAR, and not downward) so, according to FCC OET KDB 865664 D01, the tolerance for  $\epsilon_r$  and  $\sigma$  may be relaxed to  $\pm 10\%$ .

## A.5 Test Equipment List

### A.5.1 SAR System #2

| ID # | Device                       | Type/Model                  | Serial Number   | Manufacturer | Cal. Date  | Cal. Due Date |
|------|------------------------------|-----------------------------|-----------------|--------------|------------|---------------|
| 0236 | Dosimetric E-field Probe     | EX3DV4                      | 3978            | SPEAG        | 2019-05-21 | 2020-05-21    |
| 0242 | Data Acquisition Electronics | DAE4                        | 1429            | SPEAG        | 2019-05-17 | 2020-05-17    |
| 0451 | 6-axis Robot                 | TX60 L                      | F16/55FXA1/A/01 | STAÜBLI      | NA         | NA            |
| 0453 | Robot Controller             | CS8C                        | F16/55FXA1/C/01 | STAÜBLI      | NA         | NA            |
| 0455 | Measurement Server           | DASY6<br>P/N: SE UMS 028 BB | 1489            | SPEAG        | NA         | NA            |
| 0456 | Electro-Optical Converter    | EOC60                       | 1098            | SPEAG        | NA         | NA            |
| 0459 | Light Beam Unit              | SE UKS 030 AA               | -               | Di-soric     | NA         | NA            |
| 0460 | Oval Flat Phantom            | ELI v8.0                    | 2048            | SPEAG        | NA         | NA            |
| 0461 | Measurement SW               | DASY6<br>6.8.0.14623        | 9-5DEE27C2      | SPEAG        | NA         | NA            |
| 0466 | Laptop Holder                | P/N SM LH1 001 CD           | -               | SPEAG        | NA         | NA            |

### A.5.2 Shared Instrumentation

| ID # | Device                            | Type/Model       | Serial Number | Manufacturer                 | Cal. Date  | Cal. Due Date |
|------|-----------------------------------|------------------|---------------|------------------------------|------------|---------------|
| 0013 | USB Power Sensor                  | NRP-Z81          | 101152        | R&S                          | 2018-04-16 | 2020-04-16    |
| 0098 | USB Power Sensor                  | NRP-Z81          | 102278        | R&S                          | 2019-04-02 | 2021-04-02    |
| 0099 | USB Power Sensor                  | NRP-Z81          | 102279        | R&S                          | 2019-04-02 | 2021-04-02    |
| 0100 | Network Emulator                  | CMW500           | 129337        | R&S                          | 2019-04-02 | 2021-04-02    |
| 0114 | Vector Signal Generator           | ESG E4438C       | MY45092885    | Agilent                      | 2019-05-28 | 2021-05-28    |
| 0170 | Power Amplifier                   | SAM-01           | 151922        | ETS-Lindgren                 | NA         | NA            |
| 0224 | Liquid measurement SW             | DAK-3.5 V2.6.0.5 | 9-2687B491    | SPEAG                        | NA         | NA            |
| 0237 | Dielectric Probe Kit              | DAK-3.5          | 1037          | SPEAG                        | 2019-07-16 | 2021-07-16    |
| 0239 | 2450MHz System Validation Dipole  | D2450V2          | 937           | SPEAG                        | 2018-05-18 | 2020-05-18    |
| 0277 | 750 MHz System Validation Dipole  | D750V3           | 1136          | SPEAG                        | 2019-01-17 | 2021-01-17    |
| 0278 | 835 MHz System Validation Dipole  | D835V2           | 4d192         | SPEAG                        | 2019-01-17 | 2021-01-17    |
| 0280 | 1750 MHz System Validation Dipole | D1750V2          | 1133          | SPEAG                        | 2019-01-21 | 2021-01-21    |
| 0281 | 1900 MHz System Validation Dipole | D1900V2          | 5d197         | SPEAG                        | 2019-01-21 | 2021-01-21    |
| 0283 | 2300 MHz System Validation Dipole | D2300V2          | 1046          | SPEAG                        | 2019-01-21 | 2021-01-21    |
| 0284 | 2600 MHz System Validation Dipole | D2600V2          | 1100          | SPEAG                        | 2019-01-21 | 2021-01-21    |
| 0591 | 5GHz System Validation Dipole     | D5GHzv2          | 1259          | SPEAG                        | 2018-02-12 | 2020-02-12    |
| 0412 | Coupler                           | CD0.5-8-20-30    | 1251-002      | Amd-group                    | NA         | NA            |
| 0421 | Network Emulator                  | CMW500           | 158429        | R&S                          | 2018-04-13 | 2020-04-13    |
| 0655 | Vector Reflectometer              | PLANAR R140      | 0190616       | Copper Mountain Technologies | 2019-08-07 | 2021-08-07    |
| 0799 | Temperature & Humidity Logger     | RA32E-TH1-RAS    | RA32-FBFD5A   | AVTECH                       | 2019-06-27 | 2021-06-27    |
| 0880 | Thermometer                       | 925              | 34822881      | Testo                        | 2019-11-19 | 2021-11-19    |

### A.5.3 Tissue Simulant Liquid

| TSL           | Manufacturer / Model                    | Freq Range (MHz) | Main Ingredients                                                                                         |
|---------------|-----------------------------------------|------------------|----------------------------------------------------------------------------------------------------------|
| Body WideBand | SPEAG MBBL600-6000V6<br>Batch 160603-01 | 600-6000         | Ethanediol, Sodium petroleum sulfonate, Hexylene Glycol / 2-Methyl-pentane-2.4-diol, Alkoxylated alcohol |

## A.6 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the below table:

### SAR System #2

| SPEAG DASY6 Uncertainty Budget<br>According to IEEE 1528-2013 and IEC 62209-1/2016 (0.3 - 6 GHz range) |                  |                |      |            |             |                   |                    |              |
|--------------------------------------------------------------------------------------------------------|------------------|----------------|------|------------|-------------|-------------------|--------------------|--------------|
| Error Description<br><b>Measurement System</b>                                                         | Uncert.<br>value | Prob.<br>Dist. | Div. | (ci)<br>1g | (ci)<br>10g | Std. Unc.<br>(1g) | Std. Unc.<br>(10g) | (vi)<br>veff |
| Probe Calibration                                                                                      | ±7.00            | N              | 1    | 1          | 1           | ±7.00             | ±7.00              | ∞            |
| Axial Isotropy                                                                                         | ±4.7 %           | R              | √3   | 0.7        | 0.7         | ±1.9 %            | ±1.9 %             | ∞            |
| Hemispherical Isotropy                                                                                 | ±9.6 %           | R              | √3   | 0.7        | 0.7         | ±3.9 %            | ±3.9 %             | ∞            |
| Boundary Effects                                                                                       | ±2.0 %           | R              | √3   | 1          | 1           | ±1.2 %            | ±1.2 %             | ∞            |
| Linearity                                                                                              | ±4.7 %           | R              | √3   | 1          | 1           | ±2.7 %            | ±2.7 %             | ∞            |
| System Detection Limits                                                                                | ±1.0 %           | R              | √3   | 1          | 1           | ±0.6 %            | ±0.6 %             | ∞            |
| Modulation Response                                                                                    | ±2.4 %           | R              | √3   | 1          | 1           | ±1.4 %            | ±1.4 %             | ∞            |
| Readout Electronics                                                                                    | ±0.3 %           | N              | 1    | 1          | 1           | ±0.3 %            | ±0.3 %             | ∞            |
| Response Time                                                                                          | ±0.8 %           | R              | √3   | 1          | 1           | ±0.5 %            | ±0.5 %             | ∞            |
| Integration Time                                                                                       | ±2.6 %           | R              | √3   | 1          | 1           | ±1.5 %            | ±1.5 %             | ∞            |
| RF Ambient Noise                                                                                       | ±3.0 %           | R              | √3   | 1          | 1           | ±1.7 %            | ±1.7 %             | ∞            |
| RF Ambient Reflections                                                                                 | ±3.0 %           | R              | √3   | 1          | 1           | ±1.7 %            | ±1.7 %             | ∞            |
| Probe Positioner                                                                                       | ±0.04 %          | R              | √3   | 1          | 1           | ±0.0 %            | ±0.0 %             | ∞            |
| Probe Positioning                                                                                      | ±0.8 %           | R              | √3   | 1          | 1           | ±0.5 %            | ±0.5 %             | ∞            |
| Max. SAR Eval.                                                                                         | ±4.0 %           | R              | √3   | 1          | 1           | ±2.3 %            | ±2.3 %             | ∞            |
| <b>Test Sample Related</b>                                                                             |                  |                |      |            |             |                   |                    |              |
| Device Positioning                                                                                     | ±2.9 %           | N              | 1    | 1          | 1           | ±2.9 %            | ±2.9 %             | 145          |
| Device Holder                                                                                          | ±3.6 %           | N              | 1    | 1          | 1           | ±3.6 %            | ±3.6 %             | 5            |
| Power Drift                                                                                            | ±5.0 %           | R              | √3   | 1          | 1           | ±2.9 %            | ±2.9 %             | ∞            |
| Power Scaling                                                                                          | ±0.0 %           | R              | √3   | 1          | 1           | ±0.0 %            | ±0.0 %             | ∞            |
| <b>Phantom and Setup</b>                                                                               |                  |                |      |            |             |                   |                    |              |
| Phantom Uncertainty                                                                                    | ±6.6 %           | R              | √3   | 1          | 1           | ±3.8 %            | ±3.8 %             | ∞            |
| SAR correction                                                                                         | ±1.9 %           | N              | √3   | 1          | 0.84        | ±1.9 %            | ±1.6 %             | ∞            |
| Liquid Conductivity (mea.) DAK                                                                         | ±2.5 %           | N              | √3   | 0.78       | 0.71        | ±2.0 %            | ±1.8 %             | ∞            |
| Liquid Permittivity (mea.) DAK                                                                         | ±2.5 %           | N              | √3   | 0.23       | 0.26        | ±0.6 %            | ±0.7 %             | ∞            |
| Temp. unc. - Conductivity BB                                                                           | ±3.4 %           | R              | √3   | 0.78       | 0.71        | ±1.5 %            | ±1.4 %             | ∞            |
| Temp. unc. - Permittivity BB                                                                           | ±0.4 %           | R              | √3   | 0.23       | 0.26        | ±0.1 %            | ±0.1 %             | ∞            |
| Combined Std. Uncertainty                                                                              |                  |                |      |            |             | ±11.6 %           | ±11.5 %            | 569          |
| Expanded STD Uncertainty                                                                               |                  |                |      |            |             | ±23.2%            | ±23.00 %           |              |

| SPEAG DASY6 Uncertainty Budget<br>According to IEC 62209-2/2010 (30 MHz - 6 GHz range) |                  |                |      |            |             |                   |                    |              |
|----------------------------------------------------------------------------------------|------------------|----------------|------|------------|-------------|-------------------|--------------------|--------------|
| Error Description                                                                      | Uncert.<br>value | Prob.<br>Dist. | Div. | (ci)<br>1g | (ci)<br>10g | Std. Unc.<br>(1g) | Std. Unc.<br>(10g) | (vi)<br>veff |
| <b>Measurement System</b>                                                              |                  |                |      |            |             |                   |                    |              |
| Probe Calibration                                                                      | ±7.00 %          | N              | 1    | 1          | 1           | ±7.00 %           | ±7.00 %            | ∞            |
| Axial Isotropy                                                                         | ±4.7 %           | R              | √3   | 0.7        | 0.7         | ±1.9 %            | ±1.9 %             | ∞            |
| Hemispherical Isotropy                                                                 | ±9.6 %           | R              | √3   | 0.7        | 0.7         | ±3.9 %            | ±3.9 %             | ∞            |
| Linearity                                                                              | ±4.7 %           | R              | √3   | 1          | 1           | ±2.7 %            | ±2.7 %             | ∞            |
| Modulation Response                                                                    | ±2.4 %           | R              | √3   | 1          | 1           | ±1.4 %            | ±1.4 %             | ∞            |
| System Detection Limits                                                                | ±1.0 %           | R              | √3   | 1          | 1           | ±0.6 %            | ±0.6 %             | ∞            |
| Boundary Effects                                                                       | ±2.0 %           | R              | √3   | 1          | 1           | ±1.2 %            | ±1.2 %             | ∞            |
| Readout Electronics                                                                    | ±0.3 %           | N              | 1    | 1          | 1           | ±0.3 %            | ±0.3 %             | ∞            |
| Response Time                                                                          | ±0.8 %           | R              | √3   | 1          | 1           | ±0.5 %            | ±0.5 %             | ∞            |
| Integration Time                                                                       | ±2.6 %           | R              | √3   | 1          | 1           | ±1.5 %            | ±1.5 %             | ∞            |
| RF Ambient Noise                                                                       | ±3.0 %           | R              | √3   | 1          | 1           | ±1.7 %            | ±1.7 %             | ∞            |
| RF Ambient Reflections                                                                 | ±3.0 %           | R              | √3   | 1          | 1           | ±1.7 %            | ±1.7 %             | ∞            |
| Probe Positioner                                                                       | ±0.04 %          | R              | √3   | 1          | 1           | ±0.0 %            | ±0.0 %             | ∞            |
| Probe Positioning                                                                      | ±0.8 %           | R              | √3   | 1          | 1           | ±0.5 %            | ±0.5 %             | ∞            |
| Post-processing                                                                        | ±4.0 %           | R              | √3   | 1          | 1           | ±2.3 %            | ±2.3 %             | ∞            |
| <b>Test Sample Related</b>                                                             |                  |                |      |            |             |                   |                    |              |
| Device Holder                                                                          | ±3.6 %           | N              | 1    | 1          | 1           | ±3.6 %            | ±3.6 %             | 5            |
| Test sample Positioning                                                                | ±2.9 %           | N              | 1    | 1          | 1           | ±2.9 %            | ±2.9 %             | 145          |
| Power Scaling                                                                          | ±0.0 %           | R              | √3   | 1          | 1           | ±0.0 %            | ±0.0 %             | ∞            |
| Power Drift                                                                            | ±5.0 %           | R              | √3   | 1          | 1           | ±2.9 %            | ±2.9 %             | ∞            |
| <b>Phantom and Setup</b>                                                               |                  |                |      |            |             |                   |                    |              |
| Phantom Uncertainty                                                                    | ±7.6 %           | R              | √3   | 1          | 1           | ±4.4 %            | ±4.4 %             | ∞            |
| SAR correction                                                                         | ±1.9 %           | N              | √3   | 1          | 0.84        | ±1.9 %            | ±1.6 %             | ∞            |
| Liquid Conductivity (mea.)DAK                                                          | ±2.5 %           | N              | √3   | 0.78       | 0.71        | ±2.0 %            | ±1.8 %             | ∞            |
| Liquid Permittivity (mea.) DAK                                                         | ±2.5 %           | N              | √3   | 0.23       | 0.26        | ±0.6 %            | ±0.7 %             | ∞            |
| Temp. unc. - Conductivity BB                                                           | ±3.4 %           | R              | √3   | 0.78       | 0.71        | ±1.5 %            | ±1.4 %             | ∞            |
| Temp. unc. - Permittivity BB                                                           | ±0.4 %           | R              | √3   | 0.23       | 0.26        | ±0.1 %            | ±0.1 %             | ∞            |
| Combined Std. Uncertainty                                                              |                  |                |      |            |             | ±11.6 %           | ±11.6 %            | 605          |
| <b>Expanded STD Uncertainty</b>                                                        |                  |                |      |            |             | <b>±23.3 %</b>    | <b>±23.2 %</b>     |              |

## A.7 RF Exposure Limits

SAR assessments have been made in line with the requirements of FCC 47 CFR Part 2.1093 and ISED RSS 102 issue 5 on the limitation of exposure of the general population / uncontrolled exposure for portable devices.

| Exposure Type                                                                    | General Population /<br>Uncontrolled Environment |
|----------------------------------------------------------------------------------|--------------------------------------------------|
| Peak spatial-average SAR<br>(averaged over any 1 gram of tissue)                 | <b>1.6 W/kg</b>                                  |
| Whole body average SAR                                                           | <b>0.08 W/kg</b>                                 |
| Peak spatial-average SAR (extremities)<br>(averaged over any 10 grams of tissue) | <b>4.0 W/kg</b>                                  |

# Annex B. Test Results

## B.1 Test Conditions

### B.1.1 Test SAR Test positions relative to the phantom

The device under test was an Fibocom M2 L850GL card inside a convertible PC host platform (HP TPN-I137) using a PIFA antenna. The card was operated utilizing proprietary software (RD Tool v1.0.3.2) and each channel was measured using a communication tester to determine the maximum average power.

The device has 2 power settings:

- Notebook mode
- Tablet mode

See section 6 for details about power values for each configuration

See Annex F.3 for information about the existing configurations

In the same manner the required test positions analysis is done considering the two possible user configurations and power levels for each one

#### Laptop mode

According to FCC OET KDB 616217 D04, laptop position should be tested for SAR compliance with the display screen opened at an angle of 90° to the keyboard compartment and the notebook bottom surface must be touching the phantom.

| Notebook | WWAN Main                                                  |
|----------|------------------------------------------------------------|
| Position | <ul style="list-style-type: none"> <li>• Laptop</li> </ul> |

#### Tablet mode

According to FCC OET KDB 616217 D04, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Test Exclusion Threshold in FCC OET KDB 447498 D01 can be applied to determine SAR test exclusion for adjacent edge configurations. (See section 6 for power specifications)

The reduced power values shown on section 6 and 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.

Considering the antenna location diagrams in Annex F and the test exclusions described before, the surfaces/edges to be measured for each antenna are:

| Tablet   | WWAN Main                                                                                               |
|----------|---------------------------------------------------------------------------------------------------------|
| Position | <ul style="list-style-type: none"> <li>• Top Edge</li> <li>• Back Face</li> <li>• Right Edge</li> </ul> |

See B.1.3.1 for a more detailed list of the applied reductions.

See F.2 *Test positions* section for more information on the tested positions.

## B.1.2 Test signal, Output power and Test Frequencies

### B.1.2.1 LTE TDD consideration

According to KDB 941225 D05 SAR for LTE Devices, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

LTE TDD Bands support 3GPP TS 36.211 section 4.2 for Type 2 Frame structure and table 2 for uplink-downlink configurations and table 1 for special subframe configurations

**Table 1**

| 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 $T_s$                       | (1+X) 2192 $T_s$               | (1+X) 2560 $T_s$                 | 7680 $T_s$                         | (1+X) 2192 $T_s$               | (1+X) 2560 $T_s$                 |
| 1                              | 19760 $T_s$                      |                                |                                  | 20480 $T_s$                        |                                |                                  |
| 2                              | 21952 $T_s$                      |                                |                                  | 23040 $T_s$                        |                                |                                  |
| 3                              | 24144 $T_s$                      |                                |                                  | 25600 $T_s$                        |                                |                                  |
| 4                              | 26336 $T_s$                      |                                |                                  | 7680 $T_s$                         |                                |                                  |
| 5                              | 6592 $T_s$                       | (2+X) 2192 $T_s$               | (2+X) 2560 $T_s$                 | 20480 $T_s$                        | (2+X) 2192 $T_s$               | (2+X) 2560 $T_s$                 |
| 6                              | 19760 $T_s$                      |                                |                                  | 23040 $T_s$                        |                                |                                  |
| 7                              | 21952 $T_s$                      |                                |                                  | 12800 $T_s$                        |                                |                                  |
| 8                              | 24144 $T_s$                      |                                |                                  | -                                  | -                              | -                                |
| 9                              | 13168 $T_s$                      |                                |                                  | -                                  | -                              | -                                |
| 10                             | 13168 $T_s$                      | 13150 $T_s$                    | 12800 $T_s$                      | -                                  | -                              | -                                |

**Table2**

| Uplink-Downlink Config. | Downlink-to-Uplink Switch-point Periodicity | Subframe Number |   |   |   |   |   |   |   |   |   | Calculated Duty Cycle (%) |
|-------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|---------------------------|
|                         |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                           |
| 0                       | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U | 63.3%                     |
| 1                       | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D | 43.3%                     |
| 2                       | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D | 23.3%                     |
| 3                       | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D | 31.7%                     |
| 4                       | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D | 21.7%                     |
| 5                       | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D | 11.7%                     |
| 6                       | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D | 53.3%                     |

Calculated duty cycle = Extended cyclic prefix in uplink \* (  $T_s$  ) \* # of S + # of U / period

The configuration used for SAR testing was the number 0 which corresponds to the highest duty cycle (Power Class 3)

## B.1.3 Evaluation Exclusion and Test Reductions

### B.1.3.1 SAR evaluation exclusion

The SAR Test Exclusion Threshold in FCC OET KDB 447498 D01 v06 can be applied to determine SAR test exclusion for adjacent edge configurations. For 100MHz to 6GHz and test separation distances  $\leq 50$ mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following formula:

$$[(\text{max. power of channel, including tune - up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot \left[ \sqrt{f_{\text{GHz}}} \right] \quad (1)$$

$\leq 3.0$  for 1g SAR, and  $\leq 7.5$  for 10g extremity SAR

Where:

- $f_{\text{GHz}}$  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
- The values 3.0 and 7.5 are referred to as numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

For test separation distances  $> 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined using the following formulas:

$$((\text{Power allowed at numeric threshold for 50 mm in (1)}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f_{\text{MHz}}/150)) \text{mW}, \quad (2)$$

for 100MHz to 1500MHz

$$((\text{Power allowed at numeric threshold for 50 mm in (1)}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10) \text{mW}, \quad (3)$$

for 1500MHz and  $\leq 6$ GHz

### Test Exclusion for Notebook mode specified power

| Antenna   | Band Name | Output power |      |        |      | Back Face | Top Edge | Right Edge | Left Edge | Bottom Edge | Laptop | Back Face | Top Edge | Right Edge | Left Edge | Bottom Edge | Laptop |
|-----------|-----------|--------------|------|--------|------|-----------|----------|------------|-----------|-------------|--------|-----------|----------|------------|-----------|-------------|--------|
|           |           | Notebook     |      | Tablet |      |           |          |            |           |             |        |           |          |            |           |             |        |
|           |           | dBm          | mW   | dBm    | mW   |           |          |            |           |             |        |           |          |            |           |             |        |
| WWAN Main | FDD II    | 17.0         | 50.1 | 15.0   | 31.6 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | FDD IV    | 17.0         | 50.1 | 14.5   | 28.2 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | FDD V     | 20.5         | 112  | 19.0   | 79.4 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 2     | 17.0         | 50.1 | 15.0   | 31.6 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 4     | 17.0         | 50.1 | 14.5   | 28.2 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 5     | 20.5         | 112  | 19.5   | 89.1 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 7     | 16.0         | 39.8 | 15.0   | 31.6 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 12    | 22.0         | 158  | 20.5   | 112  | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 13    | 21.5         | 141  | 20.0   | 100  | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 17    | 22.0         | 158  | 20.5   | 112  | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 26    | 20.5         | 112  | 19.0   | 79.4 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 30    | 16.5         | 44.7 | 14.0   | 25.1 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 38    | 18.0         | 63.1 | 17.0   | 50.1 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 41    | 17.5         | 56.2 | 17.0   | 50.1 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |
|           | LTE 66    | 17.0         | 50.1 | 14.5   | 28.2 | <50       | <50      | <50        | >50       | >50         | <50    | T         | T        | T          | R         | R           | T      |

T: Tested position

R: Reduced

See Annex F for a more detailed explanation of the separation distance related to the platform.

In order to evaluate SAR test exclusion for tablet user positions in which the separation distance passes the 50mm limit, equations (2) and (3) are used with the corresponding frequencies for each band, the user distances for the two positions and with the power values described on Section 6. The table below shows all cellular bands evaluated in this report grouped by frequency band, separation distances and the corresponding Power threshold in mW for each combination (distance and frequency)

| Bands               | Freq | Separation distance to the body on mm |     |     |     |     |     |      |      |      |      | Threshold values in mW |
|---------------------|------|---------------------------------------|-----|-----|-----|-----|-----|------|------|------|------|------------------------|
|                     |      | 60                                    | 70  | 80  | 90  | 100 | 110 | 160  | 170  | 190  | 200  |                        |
| LTE 12,13, 17       | 750  | 223                                   | 273 | 323 | 373 | 423 | 473 | 723  | 773  | 873  | 923  |                        |
| FDD V<br>LTE 5, 26  | 835  | 220                                   | 275 | 331 | 387 | 442 | 498 | 776  | 832  | 943  | 999  |                        |
| FDD IV<br>LTE 4, 66 | 1750 | 213                                   | 313 | 413 | 513 | 613 | 713 | 1213 | 1313 | 1513 | 1613 |                        |
| FDD II<br>LTE 2, 25 | 1900 | 209                                   | 309 | 409 | 509 | 609 | 709 | 1209 | 1309 | 1509 | 1609 |                        |
| LTE 30              | 2300 | 199                                   | 299 | 399 | 499 | 599 | 699 | 1199 | 1299 | 1499 | 1599 |                        |
| LTE 7, 41           | 2600 | 193                                   | 293 | 393 | 493 | 593 | 693 | 1193 | 1293 | 1493 | 1593 |                        |

Considering the highest output power for all bands in tablet mode is 112mW and that it is smaller than all the values of the table, SAR is not required for the tablet bottom and left edge positions

### B.1.3.2 General SAR test reduction

According to FCC OET KDB 447498 D01, 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

### WLAN SAR Test reduction

| Transmission Mode | SAR test exclusion/reduction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DSSS              | <p>According to FCC OET KDB 248227 D01, SAR is measured for 2.4 GHz 802.11b, SAR test reduction is determined according to the following:</p> <ul style="list-style-type: none"> <li>▪ When the reported SAR of the highest measured maximum output power channel for the exposure configuration is <math>\leq 0.8</math> W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.</li> <li>▪ When the reported SAR is <math>&gt; 0.8</math> W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is <math>&gt; 1.2</math> W/kg, SAR is required for the third channel.</li> </ul> <p>According to FCC OET KDB 248227 D01, SAR is not required for 2.4 GHz OFDM conditions when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is <math>\leq 1.2</math> W/kg.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OFDM              | <p>According to FCC OET KDB 248227 D01, 802.11a/g/n/ac modes have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n.</p> <p>According to FCC OET KDB 248227 D01, an <u>initial test configuration</u> is determined for OFDM and DSSS transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. SAR test reduction for subsequent highest output test channels is determined according to reported SAR of the initial test configuration.</p> <p>The <u>initial test configuration</u> for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures.</p> <p>According to FCC OET KDB 248227 D01, when the reported SAR of the initial test configuration is <math>&gt; 0.8</math> W/kg, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until reported SAR is <math>\leq 1.2</math> W/kg or all required channels are tested.</p> |

**WWAN SAR Test reduction**

| Transmission Mode | SAR test exclusion/reduction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HSDPA             | According to FCC OET KDB 941225 D01, SAR evaluation is not required when the maximum average output power is $< \frac{1}{4}$ dB higher than the measured on the corresponding channels without HSDPA, using 12.2kbps RMC, and the maximum SAR for 12.2kbps RMC is $< 1.2$ W/kg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| HSUPA             | According to FCC OET KDB 941225 D01, SAR evaluation is not required when the maximum average output power is $< \frac{1}{4}$ dB higher than the measured on the corresponding channels without HSUPA, using 12.2kbps RMC, and the maximum SAR for 12.2kbps RMC is $< 1.2$ W/kg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DC+HSDPA          | According to FCC OET KDB 941225 D01, SAR evaluation is not required when the maximum average output power is $< \frac{1}{4}$ dB higher than the measured on the corresponding channels without DC+HSDPA, using 12.2kbps RMC, and the maximum SAR for 12.2kbps RMC is $< 1.2$ W/kg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| LTE               | <p>According to FCC OET KDB 941225 D05, testing of 100% RB allocation, higher order modulations or lower BW is not required when these conditions are met:</p> <ul style="list-style-type: none"> <li>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 <math>\leq 0.8</math> W/kg.</li> <li>For each modulation besides QPSK, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is <math>&gt; \frac{1}{2}</math> dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is <math>&gt; 1.45</math> W/kg.</li> <li>For lower BW, only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is <math>&gt; \frac{1}{2}</math> dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is <math>&gt; 1.45</math> W/kg.</li> </ul> <p>For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. 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; therefore, the requirement for H, M, and L channels may not fully apply</p> |

## B.2 Conducted Power Measurements – Notebook mode

### B.2.1 WCDMA / HSDPA / HSUPA

#### B.2.1.1 WCDMA Band II

| Mode  | Channel Number | Freq (MHz) | Subset | Average Power Measured (dBm) | Factory Upper Tolerance (dBm) |
|-------|----------------|------------|--------|------------------------------|-------------------------------|
| RMC   | 9263           | 1852.6     | -      | 16.78                        | 17.00                         |
|       | 9400           | 1880       | -      | 16.93                        | 17.00                         |
|       | 9538           | 1907.6     | -      | 16.65                        | 17.00                         |
| HSDPA | 9263           | 1852.6     | 1      | 16.75                        | 17.00                         |
|       |                |            | 2      | 16.70                        | 17.00                         |
|       |                |            | 3      | 16.62                        | 17.00                         |
|       |                |            | 4      | 16.69                        | 17.00                         |
|       | 9400           | 1880       | 1      | 16.82                        | 17.00                         |
|       |                |            | 2      | 16.88                        | 17.00                         |
|       |                |            | 3      | 16.89                        | 17.00                         |
|       |                |            | 4      | 16.83                        | 17.00                         |
|       | 9538           | 1907.6     | 1      | 16.54                        | 17.00                         |
|       |                |            | 2      | 16.55                        | 17.00                         |
|       |                |            | 3      | 16.51                        | 17.00                         |
|       |                |            | 4      | 16.48                        | 17.00                         |
| HSUPA | 9263           | 1852.4     | 1      | 16.65                        | 17.00                         |
|       |                |            | 2      | 16.62                        | 17.00                         |
|       |                |            | 3      | 16.69                        | 17.00                         |
|       |                |            | 4      | 16.67                        | 17.00                         |
|       |                |            | 5      | 16.67                        | 17.00                         |
|       | 9400           | 1880       | 1      | 16.88                        | 17.00                         |
|       |                |            | 2      | 16.91                        | 17.00                         |
|       |                |            | 3      | 16.86                        | 17.00                         |
|       |                |            | 4      | 16.89                        | 17.00                         |
|       |                |            | 5      | 16.80                        | 17.00                         |
|       | 9538           | 1907.6     | 1      | 16.46                        | 17.00                         |
|       |                |            | 2      | 16.55                        | 17.00                         |
|       |                |            | 3      | 16.42                        | 17.00                         |
|       |                |            | 4      | 16.48                        | 17.00                         |
|       |                |            | 5      | 16.45                        | 17.00                         |

According to KDB 941225, SAR measurements are not required for the secondary modes different than RMC as the maximum output power specified for production units in the secondary modes are  $\leq 1/4$  dB higher than the primary mode and the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power of the secondary to primary mode and the adjusted SAR is  $\leq 1.2\text{W/Kg}$ .

### B.2.1.2 WCDMA Band IV

| Mode  | Channel Number | Freq (MHz) | Subset | Average Power Measured (dBm) | Factory Upper Tolerance (dBm) |
|-------|----------------|------------|--------|------------------------------|-------------------------------|
| RMC   | 1312           | 1712.6     | -      | 16.94                        | 17.00                         |
|       | 1450           | 1740       | -      | 16.72                        | 17.00                         |
|       | 1512           | 1752.4     | -      | 17.00                        | 17.00                         |
| HSDPA | 1312           | 1712.6     | 1      | 16.90                        | 17.00                         |
|       |                |            | 2      | 16.90                        | 17.00                         |
|       |                |            | 3      | 16.91                        | 17.00                         |
|       |                |            | 4      | 16.94                        | 17.00                         |
|       | 1450           | 1740       | 1      | 16.60                        | 17.00                         |
|       |                |            | 2      | 16.61                        | 17.00                         |
|       |                |            | 3      | 16.61                        | 17.00                         |
|       |                |            | 4      | 16.55                        | 17.00                         |
|       | 1512           | 1752.4     | 1      | 16.98                        | 17.00                         |
|       |                |            | 2      | 16.96                        | 17.00                         |
|       |                |            | 3      | 16.94                        | 17.00                         |
|       |                |            | 4      | 16.95                        | 17.00                         |
| HSUPA | 1312           | 1712.6     | 1      | 16.92                        | 17.00                         |
|       |                |            | 2      | 16.90                        | 17.00                         |
|       |                |            | 3      | 16.92                        | 17.00                         |
|       |                |            | 4      | 16.92                        | 17.00                         |
|       |                |            | 5      | 16.87                        | 17.00                         |
|       | 1413           | 1740       | 1      | 16.65                        | 17.00                         |
|       |                |            | 2      | 16.65                        | 17.00                         |
|       |                |            | 3      | 16.63                        | 17.00                         |
|       |                |            | 4      | 16.65                        | 17.00                         |
|       |                |            | 5      | 16.62                        | 17.00                         |
|       | 1512           | 1752.4     | 1      | 16.92                        | 17.00                         |
|       |                |            | 2      | 16.97                        | 17.00                         |
|       |                |            | 3      | 16.94                        | 17.00                         |
|       |                |            | 4      | 16.93                        | 17.00                         |
|       |                |            | 5      | 16.98                        | 17.00                         |

According to KDB 941225, SAR measurements are not required for the secondary modes different than RMC as the maximum output power specified for production units in the secondary modes are  $\leq 1/4$  dB higher than the primary mode and the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power of the secondary to primary mode and the adjusted SAR is  $\leq 1.2\text{W/Kg}$ .

### B.2.1.3 WCDMA Band V

| Mode  | Channel Number | Freq (MHz) | Subset | Pwr Avg (dBm) | Factory Upper Tolerance (dBm) |
|-------|----------------|------------|--------|---------------|-------------------------------|
| RMC   | 4133           | 826.6      | -      | 20.11         | 20.50                         |
|       | 4175           | 835        | -      | 20.19         | 20.50                         |
|       | 4232           | 846.4      | -      | 20.13         | 20.50                         |
| HSDPA | 4133           | 826.6      | 1      | 19.92         | 20.50                         |
|       |                |            | 2      | 19.98         | 20.50                         |
|       |                |            | 3      | 20.00         | 20.50                         |
|       |                |            | 4      | 19.95         | 20.50                         |
|       | 4175           | 835        | 1      | 20.00         | 20.50                         |
|       |                |            | 2      | 20.06         | 20.50                         |
|       |                |            | 3      | 20.07         | 20.50                         |
|       |                |            | 4      | 20.06         | 20.50                         |
|       | 4232           | 846.4      | 1      | 19.80         | 20.50                         |
|       |                |            | 2      | 19.81         | 20.50                         |
|       |                |            | 3      | 19.81         | 20.50                         |
|       |                |            | 4      | 19.79         | 20.50                         |
| HSUPA | 4133           | 826.6      | 1      | 19.90         | 20.50                         |
|       |                |            | 2      | 19.72         | 20.50                         |
|       |                |            | 3      | 19.91         | 20.50                         |
|       |                |            | 4      | 19.96         | 20.50                         |
|       |                |            | 5      | 19.94         | 20.50                         |
|       | 4175           | 835        | 1      | 19.98         | 20.50                         |
|       |                |            | 2      | 20.00         | 20.50                         |
|       |                |            | 3      | 20.03         | 20.50                         |
|       |                |            | 4      | 20.03         | 20.50                         |
|       |                |            | 5      | 20.00         | 20.50                         |
|       | 4232           | 846.4      | 1      | 19.73         | 20.50                         |
|       |                |            | 2      | 19.45         | 20.50                         |
|       |                |            | 3      | 19.76         | 20.50                         |
|       |                |            | 4      | 19.74         | 20.50                         |
|       |                |            | 5      | 19.73         | 20.50                         |

According to KDB 941225, SAR measurements are not required for the secondary modes different than RMC as the maximum output power specified for production units in the secondary modes are  $\leq 1/4$  dB higher than the primary mode and the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power of the secondary to primary mode and the adjusted SAR is  $\leq 1.2\text{W/Kg}$ .

## B.2.2 LTE

### B.2.2.1 LTE Band 2 FDD

| Band | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dB) |        |
|------|--------|----------|------------|-----------------|-------------|-------------------------------|----------------------------|--------|
|      |        |          |            |                 |             |                               | QPSK                       | 16-QAM |
| LTE2 | 20 MHz | 18700    | 1860       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.29                      | 16.45  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 16.12                      | 16.31  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 16.05                      | 16.17  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 16.24                      | 16.28  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 16.21                      | 16.22  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 16.07                      | 16.11  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 16.32                      | 16.30  |
|      |        | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.26                      | 16.37  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 16.23                      | 16.33  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 16.22                      | 16.37  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 16.29                      | 16.35  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 16.28                      | 16.33  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 16.18                      | 16.24  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 16.33                      | 16.38  |
|      |        | 19100    | 1900       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.09                      | 15.99  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.91                      | 15.83  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 16.20                      | 16.10  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 16.05                      | 16.08  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 16.05                      | 16.07  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 16.14                      | 16.20  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 16.34                      | 16.46  |
|      | 15 MHz | 18675    | 1857.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.23                      | 16.60  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 16.09                      | 16.46  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.96                      | 16.33  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 16.25                      | 16.31  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 16.23                      | 16.29  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 16.20                      | 16.26  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 16.32                      | 16.27  |
|      |        | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.32                      | 16.45  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 16.29                      | 16.41  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 16.29                      | 16.42  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 16.30                      | 16.35  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 16.32                      | 16.37  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 16.24                      | 16.29  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 16.27                      | 16.34  |
|      |        | 19125    | 1902.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.07                      | 16.20  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 16.09                      | 16.18  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 16.25                      | 16.31  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 16.05                      | 16.07  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 16.15                      | 16.14  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 16.15                      | 16.20  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 16.24                      | 16.28  |
|      | 10 MHz | 18650    | 1855       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.26                      | 16.42  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 16.18                      | 16.40  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 16.18                      | 16.34  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 16.35                      | 16.47  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 16.29                      | 16.42  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 17.00                         | 16.26                      | 16.41  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 16.29                      | 16.26  |
|      |        | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.42                      | 16.63  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 16.37                      | 16.60  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 16.39                      | 16.60  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 16.39                      | 16.46  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 16.36                      | 16.43  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 17.00                         | 16.22                      | 16.33  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 16.28                      | 16.27  |
|      |        | 19150    | 1905       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.18                      | 16.38  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 16.17                      | 16.29  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 16.35                      | 16.56  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 16.20                      | 16.21  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 16.20                      | 16.23  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 17.00                         | 16.34                      | 16.35  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 16.21                      | 16.25  |

| Band | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE2 | 5.0 MHz | 18625    | 1852.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.42                       | 16.63  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 16.34                       | 16.50  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 16.32                       | 16.52  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 16.32                       | 16.46  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 16.33                       | 16.46  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 16.25                       | 16.40  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 16.38                       | 16.36  |
|      |         | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.28                       | 16.73  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 16.16                       | 16.59  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 16.19                       | 16.65  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 16.31                       | 16.26  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 16.31                       | 16.25  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 16.29                       | 16.18  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 16.26                       | 16.32  |
|      |         | 19175    | 1907.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.21                       | 16.48  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 16.27                       | 16.53  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 16.36                       | 16.63  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 16.24                       | 16.20  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 16.24                       | 16.26  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 16.29                       | 16.27  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 16.26                       | 16.27  |
|      | 3.0 MHz | 18615    | 1851.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.32                       | 16.53  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 17.00                         | 16.29                       | 16.51  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 17.00                         | 16.24                       | 16.47  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 17.00                         | 16.39                       | 16.45  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 17.00                         | 16.38                       | 16.45  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 17.00                         | 16.40                       | 16.47  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 17.00                         | 16.39                       | 16.40  |
|      |         | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.26                       | 16.38  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 17.00                         | 16.26                       | 16.38  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 17.00                         | 16.25                       | 16.36  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 17.00                         | 16.27                       | 16.43  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 17.00                         | 16.21                       | 16.35  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 17.00                         | 16.23                       | 16.37  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 17.00                         | 16.23                       | 16.19  |
|      |         | 19185    | 1908.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.20                       | 16.45  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 17.00                         | 16.27                       | 16.50  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 17.00                         | 16.29                       | 16.49  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 17.00                         | 16.29                       | 16.17  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 17.00                         | 16.30                       | 16.16  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 17.00                         | 16.33                       | 16.18  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 17.00                         | 16.35                       | 16.31  |
|      | 1.4 MHz | 18607    | 1850.7     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.45                       | 16.69  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 17.00                         | 16.35                       | 16.62  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 17.00                         | 16.42                       | 16.68  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 17.00                         | 16.36                       | 16.45  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 17.00                         | 16.31                       | 16.40  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 17.00                         | 16.32                       | 16.40  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 17.00                         | 16.32                       | 16.28  |
|      |         | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.37                       | 16.56  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 17.00                         | 16.34                       | 16.53  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 17.00                         | 16.31                       | 16.50  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 17.00                         | 16.35                       | 16.19  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 17.00                         | 16.35                       | 16.18  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 17.00                         | 16.27                       | 16.10  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 17.00                         | 16.23                       | 16.21  |
|      |         | 19193    | 1909.3     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.41                       | 16.53  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 17.00                         | 16.37                       | 16.50  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 17.00                         | 16.42                       | 16.55  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 17.00                         | 16.35                       | 16.36  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 17.00                         | 16.30                       | 16.37  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 17.00                         | 16.31                       | 16.36  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 17.00                         | 16.39                       | 16.40  |

**B.2.2.2 LTE Band 4 FDD**

SAR Measurement for LTE Band 4 FDD (Frequency range: 1710 – 1755MHz) is covered by LTE Band 66 FDD (Frequency range: 1710 – 1780MHz) due to overlapping frequency range, same maximum tune-up and same bandwidth.

### B.2.2.3 LTE band 5 FDD

| Band | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE5 | 10 MHz  | 20450    | 829        | 1RB Low         | 1 Pos 0     | 20.50                         | 19.39                       | 19.78  |
|      |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.17                       | 19.52  |
|      |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.31                       | 19.75  |
|      |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.43                       | 19.47  |
|      |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.29                       | 19.32  |
|      |         |          |            | 50% RB High     | 25 Pos 24   | 20.50                         | 19.28                       | 19.27  |
|      |         |          |            | 100% RB         | 50 Pos 0    | 20.50                         | 19.37                       | 19.48  |
|      |         | 20525    | 836.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.48                       | 19.49  |
|      |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.66                       | 19.71  |
|      |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.65                       | 19.68  |
|      |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.49                       | 19.57  |
|      |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.52                       | 19.61  |
|      |         |          |            | 50% RB High     | 25 Pos 24   | 20.50                         | 19.58                       | 19.69  |
|      |         |          |            | 100% RB         | 50 Pos 0    | 20.50                         | 19.51                       | 19.55  |
|      |         | 20600    | 844        | 1RB Low         | 1 Pos 0     | 20.50                         | 19.50                       | 19.64  |
|      |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.36                       | 19.48  |
|      |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.33                       | 19.41  |
|      |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.51                       | 19.63  |
|      |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.45                       | 19.54  |
|      |         |          |            | 50% RB High     | 25 Pos 24   | 20.50                         | 19.38                       | 19.44  |
|      | 5.0 MHz | 20425    | 826.5      | 100% RB         | 50 Pos 0    | 20.50                         | 19.49                       | 19.52  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.45                       | 19.50  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.29                       | 19.35  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 20.50                         | 19.27                       | 19.35  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.38                       | 19.40  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.37                       | 19.39  |
|      |         | 20525    | 836.5      | 50% RB High     | 12 Pos 11   | 20.50                         | 19.32                       | 19.31  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.35                       | 19.38  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.43                       | 19.67  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.42                       | 19.67  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 20.50                         | 19.52                       | 19.81  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.36                       | 19.41  |
|      |         | 20625    | 846.5      | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.41                       | 19.45  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 20.50                         | 19.48                       | 19.51  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.45                       | 19.50  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.34                       | 19.51  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.17                       | 19.37  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 20.50                         | 19.26                       | 19.43  |
|      | 3.0 MHz | 20415    | 825.5      | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.27                       | 19.25  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.23                       | 19.17  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 20.50                         | 19.27                       | 19.21  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.23                       | 19.20  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.30                       | 19.37  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.28                       | 19.34  |
|      |         | 20525    | 836.5      | 1RB High        | 1 Pos 14    | 20.50                         | 19.19                       | 19.24  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.45                       | 19.41  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.37                       | 19.32  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.37                       | 19.33  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 20.50                         | 19.37                       | 19.30  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.33                       | 19.77  |
|      |         | 20635    | 847.5      | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.42                       | 19.85  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 20.50                         | 19.43                       | 19.87  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.43                       | 19.46  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.41                       | 19.44  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.47                       | 19.50  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 20.50                         | 19.41                       | 19.47  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.25                       | 19.49  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.28                       | 19.54  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 20.50                         | 19.24                       | 19.53  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.20                       | 19.14  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.22                       | 19.18  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.23                       | 19.19  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 20.50                         | 19.32                       | 19.15  |

| Band | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE5 | 1.4 MHz | 20407    | 824.7      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.40                       | 19.79  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 19.37                       | 19.77  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 20.50                         | 19.35                       | 19.74  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 19.40                       | 19.50  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 19.39                       | 19.49  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 20.50                         | 19.39                       | 19.48  |
|      |         | 20525    | 836.5      | 100% RB         | 6 Pos 0     | 20.50                         | 19.40                       | 19.56  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.49                       | 19.67  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 19.45                       | 19.62  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 20.50                         | 19.47                       | 19.64  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 19.44                       | 19.34  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 19.43                       | 19.32  |
|      |         | 20643    | 848.3      | 50% RB High     | 3 Pos 2     | 20.50                         | 19.43                       | 19.32  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 20.50                         | 19.39                       | 19.53  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.33                       | 19.49  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 19.28                       | 19.46  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 20.50                         | 19.31                       | 19.51  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 19.19                       | 19.33  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 19.18                       | 19.32  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 20.50                         | 19.18                       | 19.32  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 20.50                         | 19.28                       | 19.24  |

### B.2.2.4 LTE Band 7 FDD

| Band | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE7 | 20 MHz | 20850    | 2510       | 1RB Low         | 1 Pos 0     | 16.00                         | 14.51                       | 14.58  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 16.00                         | 14.76                       | 14.81  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 16.00                         | 14.73                       | 14.82  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 16.00                         | 14.76                       | 14.80  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 16.00                         | 14.86                       | 14.89  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 16.00                         | 14.81                       | 14.87  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 16.00                         | 14.92                       | 14.97  |
|      |        | 21100    | 2535       | 1RB Low         | 1 Pos 0     | 16.00                         | 14.76                       | 15.02  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 16.00                         | 14.65                       | 14.89  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 16.00                         | 14.77                       | 15.04  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 16.00                         | 14.78                       | 14.80  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 16.00                         | 14.79                       | 14.78  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 16.00                         | 14.72                       | 14.70  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 16.00                         | 14.87                       | 14.87  |
|      |        | 21350    | 2560       | 1RB Low         | 1 Pos 0     | 16.00                         | 14.70                       | 15.11  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 16.00                         | 14.52                       | 14.99  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 16.00                         | 14.61                       | 15.09  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 16.00                         | 14.68                       | 14.70  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 16.00                         | 14.60                       | 14.62  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 16.00                         | 14.64                       | 14.66  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 16.00                         | 14.64                       | 14.68  |
|      | 15 MHz | 20825    | 2507.5     | 1RB Low         | 1 Pos 0     | 16.00                         | 14.50                       | 14.62  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 16.00                         | 14.71                       | 14.87  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 16.00                         | 14.77                       | 14.91  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 16.00                         | 14.65                       | 14.71  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 16.00                         | 14.80                       | 14.86  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 16.00                         | 14.83                       | 14.89  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 16.00                         | 14.84                       | 14.83  |
|      |        | 21100    | 2535       | 1RB Low         | 1 Pos 0     | 16.00                         | 14.84                       | 14.93  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 16.00                         | 14.81                       | 14.89  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 16.00                         | 14.86                       | 14.92  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 16.00                         | 14.76                       | 14.77  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 16.00                         | 14.82                       | 14.83  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 16.00                         | 14.75                       | 14.78  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 16.00                         | 14.84                       | 14.85  |
|      |        | 21375    | 2562.5     | 1RB Low         | 1 Pos 0     | 16.00                         | 14.69                       | 14.48  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 16.00                         | 14.63                       | 14.39  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 16.00                         | 14.67                       | 14.44  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 16.00                         | 14.63                       | 14.69  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 16.00                         | 14.63                       | 14.67  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 16.00                         | 14.62                       | 14.67  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 16.00                         | 14.64                       | 14.64  |
|      | 10 MHz | 20800    | 2505       | 1RB Low         | 1 Pos 0     | 16.00                         | 14.52                       | 14.59  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 14.61                       | 14.67  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 16.00                         | 14.76                       | 14.87  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 16.00                         | 14.73                       | 14.68  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 16.00                         | 14.76                       | 14.73  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 16.00                         | 14.87                       | 14.83  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 16.00                         | 14.75                       | 14.77  |
|      |        | 21100    | 2535       | 1RB Low         | 1 Pos 0     | 16.00                         | 14.72                       | 14.87  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 14.75                       | 14.93  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 16.00                         | 14.73                       | 14.89  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 16.00                         | 14.82                       | 14.90  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 16.00                         | 14.82                       | 14.89  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 16.00                         | 14.79                       | 14.85  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 16.00                         | 14.74                       | 14.75  |
|      |        | 21400    | 2565       | 1RB Low         | 1 Pos 0     | 16.00                         | 14.75                       | 14.63  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 14.69                       | 14.49  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 16.00                         | 14.70                       | 14.57  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 16.00                         | 14.65                       | 14.66  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 16.00                         | 14.67                       | 14.68  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 16.00                         | 14.66                       | 14.68  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 16.00                         | 14.63                       | 14.69  |

| Band | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE7 | 5.0 MHz | 20775    | 2502.5     | 1RB Low         | 1 Pos 0     | 16.00                         | 14.54                       | 14.71  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 16.00                         | 14.57                       | 14.75  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 16.00                         | 14.64                       | 14.93  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 16.00                         | 14.60                       | 14.64  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 16.00                         | 14.61                       | 14.67  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 16.00                         | 14.65                       | 14.71  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 16.00                         | 14.60                       | 14.66  |
|      |         | 21100    | 2535       | 1RB Low         | 1 Pos 0     | 16.00                         | 14.77                       | 15.10  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 16.00                         | 14.65                       | 15.04  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 16.00                         | 14.71                       | 15.07  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 16.00                         | 14.77                       | 14.76  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 16.00                         | 14.77                       | 14.76  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 16.00                         | 14.70                       | 14.70  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 16.00                         | 14.69                       | 14.67  |
|      |         | 21425    | 2567.5     | 1RB Low         | 1 Pos 0     | 16.00                         | 14.72                       | 14.78  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 16.00                         | 14.63                       | 14.65  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 16.00                         | 14.72                       | 14.80  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 16.00                         | 14.63                       | 14.68  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 16.00                         | 14.61                       | 14.65  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 16.00                         | 14.66                       | 14.72  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 16.00                         | 14.65                       | 14.59  |

### B.2.2.5 LTE Band 12 FDD

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE12 | 10 MHz  | 23060    | 704        | 1RB Low         | 1 Pos 0     | 22.00                         | 21.14                       | 21.25  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 22.00                         | 21.00                       | 21.11  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 22.00                         | 21.09                       | 21.14  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 22.00                         | 21.19                       | 20.74  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 22.00                         | 21.06                       | 20.61  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 22.00                         | 21.08                       | 20.60  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 22.00                         | 21.21                       | 20.75  |
|       |         | 23095    | 707.5      | 1RB Low         | 1 Pos 0     | 22.00                         | 21.20                       | 21.25  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 22.00                         | 21.12                       | 21.14  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 22.00                         | 21.26                       | 21.30  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 22.00                         | 20.98                       | 20.55  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 22.00                         | 21.05                       | 20.60  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 22.00                         | 21.15                       | 20.72  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 22.00                         | 21.22                       | 20.76  |
|       |         | 23130    | 711        | 1RB Low         | 1 Pos 0     | 22.00                         | 21.06                       | 21.41  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 22.00                         | 21.16                       | 21.52  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 22.00                         | 20.99                       | 21.36  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 22.00                         | 21.16                       | 20.65  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 22.00                         | 21.15                       | 20.66  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 22.00                         | 20.97                       | 20.58  |
|       | 5.0 MHz | 23035    | 701.5      | 100% RB         | 50 Pos 0    | 22.00                         | 21.21                       | 20.75  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 22.00                         | 21.21                       | 21.34  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 22.00                         | 21.23                       | 21.38  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 22.00                         | 21.08                       | 21.34  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 22.00                         | 21.13                       | 20.74  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 22.00                         | 21.13                       | 20.66  |
|       |         | 23095    | 707.5      | 50% RB High     | 12 Pos 11   | 22.00                         | 21.10                       | 20.60  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 22.00                         | 21.16                       | 20.67  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 22.00                         | 21.00                       | 21.36  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 22.00                         | 21.01                       | 21.26  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 22.00                         | 21.12                       | 21.36  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 22.00                         | 21.01                       | 20.56  |
|       |         | 23155    | 713.5      | 50% RB Mid      | 12 Pos 6    | 22.00                         | 21.01                       | 20.52  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 22.00                         | 21.10                       | 20.57  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 22.00                         | 21.09                       | 20.57  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 22.00                         | 21.11                       | 21.38  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 22.00                         | 20.95                       | 21.15  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 22.00                         | 20.85                       | 21.10  |
|       | 3.0 MHz | 23025    | 700.5      | 50% RB Low      | 12 Pos 0    | 22.00                         | 21.05                       | 20.68  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 22.00                         | 20.94                       | 20.54  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 22.00                         | 20.96                       | 20.49  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 22.00                         | 20.97                       | 20.54  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 22.00                         | 21.11                       | 21.38  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 22.00                         | 20.95                       | 21.15  |
|       |         | 23095    | 707.5      | 1RB High        | 1 Pos 24    | 22.00                         | 20.85                       | 21.10  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 22.00                         | 21.13                       | 20.72  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 22.00                         | 21.16                       | 20.74  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 22.00                         | 21.15                       | 20.70  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 22.00                         | 21.12                       | 20.82  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 22.00                         | 21.01                       | 21.23  |
|       |         | 23165    | 714.5      | 1RB Mid         | 1 Pos 7     | 22.00                         | 21.02                       | 21.25  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 22.00                         | 21.07                       | 21.30  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 22.00                         | 20.95                       | 20.48  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 22.00                         | 20.92                       | 20.45  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 22.00                         | 21.01                       | 20.54  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 22.00                         | 21.01                       | 20.58  |
|       |         | 23165    | 714.5      | 1RB Low         | 1 Pos 0     | 22.00                         | 21.02                       | 21.15  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 22.00                         | 21.03                       | 21.16  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 22.00                         | 20.90                       | 21.03  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 22.00                         | 20.93                       | 20.43  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 22.00                         | 20.92                       | 20.40  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 22.00                         | 20.92                       | 20.39  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 22.00                         | 21.02                       | 20.43  |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE12 | 1.4 MHz | 23017    | 699.7      | 1RB Low         | 1 Pos 0     | 22.00                         | 21.19                       | 21.31  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 22.00                         | 21.18                       | 21.30  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 22.00                         | 21.25                       | 21.37  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 22.00                         | 21.16                       | 21.11  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 22.00                         | 21.16                       | 21.10  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 22.00                         | 21.17                       | 21.11  |
|       |         | 23095    | 707.5      | 100% RB         | 6 Pos 0     | 22.00                         | 21.11                       | 20.87  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 22.00                         | 21.08                       | 21.15  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 22.00                         | 21.05                       | 21.10  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 22.00                         | 21.09                       | 21.11  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 22.00                         | 20.97                       | 21.08  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 22.00                         | 20.97                       | 21.06  |
|       |         | 23173    | 715.3      | 50% RB High     | 3 Pos 2     | 22.00                         | 20.97                       | 21.07  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 22.00                         | 20.94                       | 20.54  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 22.00                         | 20.98                       | 20.99  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 22.00                         | 20.97                       | 20.97  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 22.00                         | 20.92                       | 20.94  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 22.00                         | 20.97                       | 21.05  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 22.00                         | 20.96                       | 21.02  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 22.00                         | 20.94                       | 21.00  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 22.00                         | 20.91                       | 20.44  |

### B.2.2.6 LTE Band 13 FDD

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE13 | 10 MHz  | 23230    | 782        | 1RB Low         | 1 Pos 0     | 21.50                         | 20.48                       | 20.63  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 21.50                         | 20.38                       | 20.55  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 21.50                         | 20.41                       | 20.56  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 21.50                         | 20.53                       | 20.45  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 21.50                         | 20.46                       | 20.50  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 21.50                         | 20.55                       | 20.56  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 21.50                         | 20.67                       | 20.70  |
|       | 5.0 MHz | 23205    | 779.5      | 1RB Low         | 1 Pos 0     | 21.50                         | 20.65                       | 20.89  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 21.50                         | 20.49                       | 20.76  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 21.50                         | 20.50                       | 20.86  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 21.50                         | 20.47                       | 20.33  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 21.50                         | 20.47                       | 20.35  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 21.50                         | 20.40                       | 20.33  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 21.50                         | 20.48                       | 20.46  |
|       |         | 23230    | 782        | 1RB Low         | 1 Pos 0     | 21.50                         | 20.43                       | 20.40  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 21.50                         | 20.42                       | 20.52  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 21.50                         | 20.53                       | 20.66  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 21.50                         | 20.41                       | 20.46  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 21.50                         | 20.43                       | 20.47  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 21.50                         | 20.47                       | 20.49  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 21.50                         | 20.47                       | 20.51  |
|       |         | 23255    | 784.5      | 1RB Low         | 1 Pos 0     | 21.50                         | 20.56                       | 20.72  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 21.50                         | 20.57                       | 20.69  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 21.50                         | 20.54                       | 20.71  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 21.50                         | 20.55                       | 20.57  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 21.50                         | 20.48                       | 20.53  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 21.50                         | 20.45                       | 20.50  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 21.50                         | 20.50                       | 20.51  |

**B.2.2.7 LTE Band 17 FDD**

SAR Measurement for LTE Band 17 FDD (Frequency range: 704 – 716MHz) is covered by LTE Band 12 FDD (Frequency range: 699 – 716MHz) due to overlapping frequency range, same maximum tune-up and same bandwidth.

### B.2.2.8 LTE Band 26 FDD

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE26 | 15 MHz  | 26775    | 822.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.30                       | 19.63  |
|       |         |          |            | 1RB Mid         | 1 Pos 38    | 20.50                         | 19.36                       | 19.65  |
|       |         |          |            | 1RB High        | 1 Pos 74    | 20.50                         | 19.16                       | 19.48  |
|       |         |          |            | 50% RB Low      | 38 Pos 0    | 20.50                         | 19.41                       | 19.49  |
|       |         |          |            | 50% RB Mid      | 38 Pos 19   | 20.50                         | 19.42                       | 19.58  |
|       |         |          |            | 50% RB High     | 38 Pos 39   | 20.50                         | 19.40                       | 19.47  |
|       |         |          |            | 100% RB         | 75 Pos 0    | 20.50                         | 19.75                       | 19.76  |
|       |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.43                       | 19.61  |
|       |         |          |            | 1RB Mid         | 1 Pos 38    | 20.50                         | 19.16                       | 19.32  |
|       |         |          |            | 1RB High        | 1 Pos 74    | 20.50                         | 19.43                       | 19.60  |
|       |         |          |            | 50% RB Low      | 38 Pos 0    | 20.50                         | 19.37                       | 19.43  |
|       |         |          |            | 50% RB Mid      | 38 Pos 19   | 20.50                         | 19.23                       | 19.37  |
|       |         |          |            | 50% RB High     | 38 Pos 39   | 20.50                         | 19.42                       | 19.50  |
|       |         |          |            | 100% RB         | 75 Pos 0    | 20.50                         | 19.41                       | 19.37  |
|       |         | 26965    | 841.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.45                       | 19.62  |
|       |         |          |            | 1RB Mid         | 1 Pos 38    | 20.50                         | 19.45                       | 19.60  |
|       |         |          |            | 1RB High        | 1 Pos 74    | 20.50                         | 19.27                       | 19.43  |
|       |         |          |            | 50% RB Low      | 38 Pos 0    | 20.50                         | 19.51                       | 19.54  |
|       |         |          |            | 50% RB Mid      | 38 Pos 19   | 20.50                         | 19.42                       | 19.50  |
|       |         |          |            | 50% RB High     | 38 Pos 39   | 20.50                         | 19.31                       | 19.24  |
|       |         |          |            | 100% RB         | 75 Pos 0    | 20.50                         | 19.67                       | 19.71  |
|       | 10 MHz  | 26750    | 820        | 1RB Low         | 1 Pos 0     | 20.50                         | 19.32                       | 19.71  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.38                       | 19.78  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.44                       | 19.76  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.43                       | 19.51  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.48                       | 19.56  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 20.50                         | 19.49                       | 19.58  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 20.50                         | 19.49                       | 19.59  |
|       |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.43                       | 19.39  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.27                       | 19.23  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.58                       | 19.52  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.27                       | 19.28  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.19                       | 19.24  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 20.50                         | 19.35                       | 19.39  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 20.50                         | 19.27                       | 19.33  |
|       |         | 26990    | 844        | 1RB Low         | 1 Pos 0     | 20.50                         | 19.44                       | 19.47  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.29                       | 19.24  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.22                       | 19.16  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.44                       | 19.52  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.39                       | 19.41  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 20.50                         | 19.33                       | 19.31  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 20.50                         | 19.46                       | 19.52  |
|       | 5.0 MHz | 26715    | 816.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.47                       | 19.43  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.41                       | 19.39  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 20.50                         | 19.43                       | 19.42  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.32                       | 19.41  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.36                       | 19.46  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 20.50                         | 19.32                       | 19.46  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.38                       | 19.45  |
|       |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.30                       | 19.58  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.20                       | 19.51  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 20.50                         | 19.40                       | 19.74  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.18                       | 19.24  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.14                       | 19.22  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 20.50                         | 19.21                       | 19.28  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.18                       | 19.20  |
|       |         | 27015    | 846.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.43                       | 19.39  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.27                       | 19.23  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 20.50                         | 19.32                       | 19.27  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.32                       | 19.29  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.29                       | 19.22  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 20.50                         | 19.32                       | 19.26  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.28                       | 19.32  |

| Band       | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|            |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE26      | 3.0 MHz | 26705    | 815.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.24                       | 19.21  |
|            |         |          |            | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.20                       | 19.23  |
|            |         |          |            | 1RB High        | 1 Pos 14    | 20.50                         | 19.22                       | 19.24  |
|            |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.31                       | 19.30  |
|            |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.29                       | 19.26  |
|            |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.34                       | 19.34  |
|            |         |          |            | 100% RB         | 15 Pos 0    | 20.50                         | 19.29                       | 19.29  |
|            |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.12                       | 19.33  |
|            |         |          |            | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.12                       | 19.32  |
|            |         |          |            | 1RB High        | 1 Pos 14    | 20.50                         | 19.22                       | 19.42  |
|            |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.13                       | 19.11  |
|            |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.11                       | 19.10  |
|            |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.15                       | 19.15  |
|            |         |          |            | 100% RB         | 15 Pos 0    | 20.50                         | 19.11                       | 19.15  |
|            |         | 27025    | 847.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.17                       | 19.43  |
|            |         |          |            | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.22                       | 19.48  |
|            |         |          |            | 1RB High        | 1 Pos 14    | 20.50                         | 19.18                       | 19.47  |
|            |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.20                       | 19.20  |
|            |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.22                       | 19.22  |
|            |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.22                       | 19.21  |
|            | 1.4 MHz | 26697    | 814.7      | 100% RB         | 15 Pos 0    | 20.50                         | 19.25                       | 19.34  |
|            |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.34                       | 19.50  |
|            |         |          |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 19.28                       | 19.44  |
|            |         |          |            | 1RB High        | 1 Pos 5     | 20.50                         | 19.28                       | 19.46  |
|            |         |          |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 19.29                       | 19.35  |
|            |         |          |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 19.27                       | 19.33  |
|            |         |          |            | 50% RB High     | 3 Pos 2     | 20.50                         | 19.27                       | 19.32  |
|            |         | 26865    | 831.5      | 100% RB         | 6 Pos 0     | 20.50                         | 19.29                       | 19.30  |
|            |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.25                       | 19.34  |
|            |         |          |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 19.21                       | 19.30  |
|            |         |          |            | 1RB High        | 1 Pos 5     | 20.50                         | 19.29                       | 19.40  |
|            |         |          |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 19.19                       | 19.20  |
|            |         |          |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 19.16                       | 19.17  |
|            |         |          |            | 50% RB High     | 3 Pos 2     | 20.50                         | 19.16                       | 19.18  |
|            |         | 27033    | 848.3      | 100% RB         | 6 Pos 0     | 20.50                         | 19.14                       | 19.13  |
|            |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.25                       | 19.18  |
| 1RB Mid    | 1 Pos 2 |          |            | 20.50           | 19.21       | 19.19                         |                             |        |
| 1RB High   | 1 Pos 5 |          |            | 20.50           | 19.23       | 19.24                         |                             |        |
| 50% RB Low | 3 Pos 0 |          |            | 20.50           | 19.23       | 19.22                         |                             |        |
| 50% RB Mid | 3 Pos 1 |          |            | 20.50           | 19.22       | 19.20                         |                             |        |

### B.2.2.9 LTE Band 30 FDD

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE30 | 10 MHz  | 27710    | 2310       | 1RB Low         | 1 Pos 0     | 16.50                         | 15.42                       | 15.45  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 16.50                         | 15.40                       | 15.49  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 16.50                         | 15.52                       | 15.65  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 16.50                         | 15.47                       | 15.49  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 16.50                         | 15.47                       | 15.47  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 16.50                         | 15.45                       | 15.45  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 16.50                         | 15.62                       | 15.59  |
|       | 5.0 MHz | 27685    | 2307.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 15.49                       | 15.17  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 16.50                         | 15.53                       | 15.19  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 16.50                         | 15.58                       | 15.36  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 16.50                         | 15.38                       | 15.25  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 16.50                         | 15.36                       | 15.25  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 16.50                         | 15.51                       | 15.42  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 16.50                         | 15.51                       | 15.49  |
|       |         | 27710    | 2310       | 1RB Low         | 1 Pos 0     | 16.50                         | 15.47                       | 15.41  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 16.50                         | 15.50                       | 15.47  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 16.50                         | 15.45                       | 15.44  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 16.50                         | 15.53                       | 15.39  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 16.50                         | 15.43                       | 15.30  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 16.50                         | 15.54                       | 15.41  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 16.50                         | 15.56                       | 15.47  |
|       |         | 27735    | 2312.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 15.52                       | 15.73  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 16.50                         | 15.45                       | 15.71  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 16.50                         | 15.57                       | 15.81  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 16.50                         | 15.42                       | 15.36  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 16.50                         | 15.35                       | 15.29  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 16.50                         | 15.52                       | 15.41  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 16.50                         | 15.49                       | 15.41  |

### B.2.2.10 LTE Band 66 FDD

| Band  | BW          | Channel#    | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |       |
|-------|-------------|-------------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|-------|
|       |             |             |            |                 |             |                               | QPSK                        | 16-QAM |       |
| LTE66 | 20 MHz      | 132072      | 1720       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.07                       | 16.47  |       |
|       |             |             |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 16.23                       | 16.65  |       |
|       |             |             |            | 1RB High        | 1 Pos 99    | 17.00                         | 16.22                       | 16.60  |       |
|       |             |             |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 16.34                       | 16.26  |       |
|       |             |             |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 16.34                       | 16.30  |       |
|       |             |             |            | 50% RB High     | 50 Pos 50   | 17.00                         | 16.31                       | 16.26  |       |
|       |             |             |            | 100% RB         | 100 Pos 0   | 17.00                         | 16.54                       | 16.51  |       |
|       |             | 132322      | 1745       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.17                       | 16.60  |       |
|       |             |             |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 16.23                       | 16.65  |       |
|       |             |             |            | 1RB High        | 1 Pos 99    | 17.00                         | 16.21                       | 16.60  |       |
|       |             |             |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 16.50                       | 16.46  |       |
|       |             |             |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 16.46                       | 16.44  |       |
|       |             |             |            | 50% RB High     | 50 Pos 50   | 17.00                         | 16.50                       | 16.46  |       |
|       |             |             |            | 100% RB         | 100 Pos 0   | 17.00                         | 16.66                       | 16.60  |       |
|       |             | 132572      | 1770       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.59                       | 16.84  |       |
|       |             |             |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 16.28                       | 16.50  |       |
|       |             |             |            | 1RB High        | 1 Pos 99    | 17.00                         | 16.42                       | 16.64  |       |
|       |             |             |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 16.31                       | 16.25  |       |
|       |             |             |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 16.16                       | 16.06  |       |
|       |             |             |            | 50% RB High     | 50 Pos 50   | 17.00                         | 16.11                       | 16.05  |       |
|       |             |             |            | 100% RB         | 100 Pos 0   | 17.00                         | 16.35                       | 16.36  |       |
|       |             | 15 MHz      | 132047     | 1717.5          | 1RB Low     | 1 Pos 0                       | 17.00                       | 15.99  | 16.27 |
|       |             |             |            |                 | 1RB Mid     | 1 Pos 38                      | 17.00                       | 16.12  | 16.40 |
|       |             |             |            |                 | 1RB High    | 1 Pos 74                      | 17.00                       | 16.01  | 16.31 |
|       | 50% RB Low  |             |            |                 | 38 Pos 0    | 17.00                         | 16.24                       | 16.17  |       |
|       | 50% RB Mid  |             |            |                 | 38 Pos 19   | 17.00                         | 16.31                       | 16.23  |       |
|       | 50% RB High |             |            |                 | 38 Pos 39   | 17.00                         | 16.39                       | 16.29  |       |
|       | 100% RB     |             |            |                 | 75 Pos 0    | 17.00                         | 16.40                       | 16.35  |       |
|       | 132322      |             | 1745       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.40                       | 16.32  |       |
|       |             |             |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 16.37                       | 16.28  |       |
|       |             |             |            | 1RB High        | 1 Pos 74    | 17.00                         | 16.37                       | 16.30  |       |
|       |             |             |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 16.46                       | 16.40  |       |
|       |             |             |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 16.49                       | 16.47  |       |
|       |             |             |            | 50% RB High     | 38 Pos 39   | 17.00                         | 16.47                       | 16.45  |       |
|       |             |             |            | 100% RB         | 75 Pos 0    | 17.00                         | 16.50                       | 16.44  |       |
|       | 132597      |             | 1772.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.47                       | 16.54  |       |
|       |             |             |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 16.21                       | 16.27  |       |
|       |             |             |            | 1RB High        | 1 Pos 74    | 17.00                         | 16.38                       | 16.47  |       |
|       |             |             |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 16.18                       | 16.26  |       |
|       |             |             |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 16.14                       | 16.21  |       |
|       |             |             |            | 50% RB High     | 38 Pos 39   | 17.00                         | 16.21                       | 16.20  |       |
|       |             |             |            | 100% RB         | 75 Pos 0    | 17.00                         | 16.30                       | 16.24  |       |
|       | 10 MHz      |             | 132022     | 1715            | 1RB Low     | 1 Pos 0                       | 17.00                       | 15.98  | 16.03 |
|       |             |             |            |                 | 1RB Mid     | 1 Pos 24                      | 17.00                       | 16.05  | 16.13 |
|       |             |             |            |                 | 1RB High    | 1 Pos 49                      | 17.00                       | 16.20  | 16.27 |
|       |             | 50% RB Low  |            |                 | 25 Pos 0    | 17.00                         | 16.15                       | 16.10  |       |
|       |             | 50% RB Mid  |            |                 | 25 Pos 12   | 17.00                         | 16.15                       | 16.10  |       |
|       |             | 50% RB High |            |                 | 25 Pos 24   | 17.00                         | 16.21                       | 16.15  |       |
|       |             | 100% RB     |            |                 | 50 Pos 0    | 17.00                         | 16.28                       | 16.25  |       |
|       |             | 132322      | 1745       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.40                       | 16.83  |       |
|       |             |             |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 16.36                       | 16.83  |       |
|       |             |             |            | 1RB High        | 1 Pos 49    | 17.00                         | 16.39                       | 16.88  |       |
|       |             |             |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 16.34                       | 16.33  |       |
|       |             |             |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 16.37                       | 16.35  |       |
|       |             |             |            | 50% RB High     | 25 Pos 24   | 17.00                         | 16.40                       | 16.37  |       |
|       |             |             |            | 100% RB         | 50 Pos 0    | 17.00                         | 16.47                       | 16.44  |       |
|       |             | 132622      | 1775       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.15                       | 16.11  |       |
|       |             |             |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 16.02                       | 15.96  |       |
|       |             |             |            | 1RB High        | 1 Pos 49    | 17.00                         | 16.26                       | 16.20  |       |
|       |             |             |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 16.02                       | 15.94  |       |
|       |             |             |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 16.02                       | 15.90  |       |
|       |             |             |            | 50% RB High     | 25 Pos 24   | 17.00                         | 16.12                       | 15.99  |       |
|       |             |             |            | 100% RB         | 50 Pos 0    | 17.00                         | 16.27                       | 16.15  |       |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE66 | 5.0 MHz | 131997   | 1712.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.18                       | 16.08  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 16.27                       | 16.20  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 16.33                       | 16.21  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 16.05                       | 15.97  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 16.08                       | 16.01  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 16.09                       | 16.01  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 16.20                       | 16.11  |
|       |         | 132322   | 1745       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.52                       | 16.67  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 16.53                       | 16.69  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 16.60                       | 16.80  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 16.22                       | 16.22  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 16.20                       | 16.19  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 16.24                       | 16.23  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 16.39                       | 16.25  |
|       |         | 132647   | 1777.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.36                       | 16.21  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 16.30                       | 16.18  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 16.47                       | 16.37  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 16.02                       | 15.96  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 16.09                       | 15.99  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 16.17                       | 16.07  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 16.18                       | 16.05  |
|       | 3.0 MHz | 131987   | 1711.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.95                       | 15.94  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 17.00                         | 16.04                       | 16.05  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 17.00                         | 16.06                       | 16.06  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 17.00                         | 15.97                       | 15.85  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 17.00                         | 15.93                       | 15.82  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 17.00                         | 16.00                       | 15.87  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 17.00                         | 16.05                       | 16.01  |
|       |         | 132322   | 1745       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.22                       | 16.68  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 17.00                         | 16.26                       | 16.71  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 17.00                         | 16.20                       | 16.61  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 17.00                         | 16.27                       | 16.27  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 17.00                         | 16.28                       | 16.29  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 17.00                         | 16.31                       | 16.33  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 17.00                         | 16.32                       | 16.25  |
|       |         | 132657   | 1778.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.11                       | 16.31  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 17.00                         | 16.25                       | 16.44  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 17.00                         | 16.26                       | 16.45  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 17.00                         | 16.10                       | 15.99  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 17.00                         | 16.17                       | 16.03  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 17.00                         | 16.18                       | 16.05  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 17.00                         | 16.28                       | 16.02  |
|       | 1.4 MHz | 131979   | 1710       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.05                       | 16.39  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 17.00                         | 16.01                       | 16.35  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 17.00                         | 16.08                       | 16.44  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 17.00                         | 15.91                       | 15.94  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 17.00                         | 15.90                       | 15.93  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 17.00                         | 15.95                       | 15.99  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 17.00                         | 15.95                       | 15.85  |
|       |         | 132322   | 1745       | 1RB Low         | 1 Pos 0     | 17.00                         | 16.25                       | 16.50  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 17.00                         | 16.25                       | 16.74  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 17.00                         | 16.32                       | 16.81  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 17.00                         | 16.26                       | 16.24  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 17.00                         | 16.26                       | 16.24  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 17.00                         | 16.27                       | 16.25  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 17.00                         | 16.22                       | 16.27  |
|       |         | 132665   | 1779.3     | 1RB Low         | 1 Pos 0     | 17.00                         | 16.24                       | 15.82  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 17.00                         | 16.22                       | 15.81  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 17.00                         | 16.28                       | 15.85  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 17.00                         | 16.22                       | 15.89  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 17.00                         | 16.21                       | 15.90  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 17.00                         | 16.23                       | 15.90  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 17.00                         | 16.04                       | 16.14  |

### B.2.2.11 LTE Band 38 TDD

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE38 | 20 MHz | 37850    | 2580       | 1RB Low         | 1 Pos 0     | 18.00                         | 16.59                       | 17.08  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 18.00                         | 16.43                       | 16.91  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 18.00                         | 16.40                       | 16.89  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 18.00                         | 16.57                       | 16.64  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 18.00                         | 16.51                       | 16.58  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 18.00                         | 16.47                       | 16.53  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 18.00                         | 16.50                       | 16.53  |
|       |        | 38000    | 2595       | 1RB Low         | 1 Pos 0     | 18.00                         | 16.52                       | 16.29  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 18.00                         | 16.42                       | 16.17  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 18.00                         | 16.45                       | 16.22  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 18.00                         | 16.42                       | 16.42  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 18.00                         | 16.38                       | 16.38  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 18.00                         | 16.37                       | 16.37  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 18.00                         | 16.39                       | 16.39  |
|       |        | 38150    | 2610       | 1RB Low         | 1 Pos 0     | 18.00                         | 16.51                       | 16.61  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 18.00                         | 16.48                       | 16.57  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 18.00                         | 16.55                       | 16.62  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 18.00                         | 16.45                       | 16.55  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 18.00                         | 16.46                       | 16.55  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 18.00                         | 16.47                       | 16.56  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 18.00                         | 16.44                       | 16.46  |
|       | 15 MHz | 37825    | 2577.5     | 1RB Low         | 1 Pos 0     | 18.00                         | 16.66                       | 16.95  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 18.00                         | 16.58                       | 16.87  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 18.00                         | 16.48                       | 16.77  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 18.00                         | 16.59                       | 16.63  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 18.00                         | 16.56                       | 16.61  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 18.00                         | 16.53                       | 16.57  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 18.00                         | 16.51                       | 16.50  |
|       |        | 38000    | 2595       | 1RB Low         | 1 Pos 0     | 18.00                         | 16.42                       | 16.69  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 18.00                         | 16.34                       | 16.63  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 18.00                         | 16.31                       | 16.59  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 18.00                         | 16.49                       | 16.59  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 18.00                         | 16.49                       | 16.57  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 18.00                         | 16.46                       | 16.54  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 18.00                         | 16.43                       | 16.48  |
|       |        | 38175    | 2612.5     | 1RB Low         | 1 Pos 0     | 18.00                         | 16.60                       | 16.82  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 18.00                         | 16.59                       | 16.83  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 18.00                         | 16.60                       | 16.86  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 18.00                         | 16.48                       | 16.56  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 18.00                         | 16.49                       | 16.58  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 18.00                         | 16.48                       | 16.57  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 18.00                         | 16.45                       | 16.51  |
|       | 10 MHz | 37800    | 2575       | 1RB Low         | 1 Pos 0     | 18.00                         | 16.64                       | 16.89  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 18.00                         | 16.56                       | 16.83  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 18.00                         | 16.55                       | 16.82  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 18.00                         | 16.64                       | 16.69  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 18.00                         | 16.57                       | 16.66  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 18.00                         | 16.55                       | 16.65  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 18.00                         | 16.61                       | 16.63  |
|       |        | 38000    | 2595       | 1RB Low         | 1 Pos 0     | 18.00                         | 16.47                       | 16.72  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 18.00                         | 16.42                       | 16.66  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 18.00                         | 16.44                       | 16.68  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 18.00                         | 16.53                       | 16.56  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 18.00                         | 16.51                       | 16.53  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 18.00                         | 16.51                       | 16.53  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 18.00                         | 16.46                       | 16.48  |
|       |        | 38200    | 2615       | 1RB Low         | 1 Pos 0     | 18.00                         | 16.68                       | 16.91  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 18.00                         | 16.64                       | 16.88  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 18.00                         | 16.67                       | 16.94  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 18.00                         | 16.56                       | 16.77  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 18.00                         | 16.55                       | 16.76  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 18.00                         | 16.57                       | 16.78  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 18.00                         | 16.51                       | 16.59  |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE38 | 5.0 MHz | 37775    | 2572.5     | 1RB Low         | 1 Pos 0     | 18.00                         | 16.53                       | 16.68  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 18.00                         | 16.48                       | 16.62  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 18.00                         | 16.51                       | 16.65  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 18.00                         | 16.61                       | 16.62  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 18.00                         | 16.59                       | 16.59  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 18.00                         | 16.58                       | 16.58  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 18.00                         | 16.59                       | 16.59  |
|       |         | 38000    | 2595       | 1RB Low         | 1 Pos 0     | 18.00                         | 16.46                       | 16.73  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 18.00                         | 16.41                       | 16.69  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 18.00                         | 16.45                       | 16.71  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 18.00                         | 16.41                       | 16.54  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 18.00                         | 16.40                       | 16.52  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 18.00                         | 16.40                       | 16.51  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 18.00                         | 16.41                       | 16.41  |
|       |         | 38225    | 2617.5     | 1RB Low         | 1 Pos 0     | 18.00                         | 16.45                       | 16.80  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 18.00                         | 16.42                       | 16.78  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 18.00                         | 16.46                       | 16.83  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 18.00                         | 16.49                       | 16.53  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 18.00                         | 16.49                       | 16.53  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 18.00                         | 16.50                       | 16.55  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 18.00                         | 16.50                       | 16.56  |

### B.2.2.12 LTE Band 41 TDD

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE41 | 20 MHz | 39750    | 2506       | 1RB Low         | 1 Pos 0     | 17.50                         | 16.00                       | 16.47  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.50                         | 16.06                       | 16.54  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.50                         | 16.30                       | 16.79  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.50                         | 16.08                       | 16.18  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.50                         | 16.13                       | 16.24  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.50                         | 16.22                       | 16.33  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.50                         | 16.21                       | 16.23  |
|       |        | 40185    | 2549.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 16.44                       | 16.23  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.50                         | 16.29                       | 16.05  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.50                         | 16.30                       | 16.10  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.50                         | 16.30                       | 16.29  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.50                         | 16.23                       | 16.20  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.50                         | 16.24                       | 16.20  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.50                         | 16.24                       | 16.22  |
|       |        | 40620    | 2593       | 1RB Low         | 1 Pos 0     | 17.50                         | 16.24                       | 16.37  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.50                         | 16.03                       | 16.13  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.50                         | 15.93                       | 16.04  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.50                         | 16.11                       | 16.20  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.50                         | 16.00                       | 16.10  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.50                         | 15.95                       | 16.05  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.50                         | 16.01                       | 16.05  |
|       |        | 41055    | 2636.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 15.69                       | 16.11  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.50                         | 15.62                       | 16.09  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.50                         | 15.61                       | 16.11  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.50                         | 15.76                       | 15.88  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.50                         | 15.69                       | 15.80  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.50                         | 15.69                       | 15.82  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.50                         | 15.66                       | 15.66  |
|       |        | 41490    | 2680       | 1RB Low         | 1 Pos 0     | 17.50                         | 15.75                       | 15.51  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.50                         | 15.66                       | 15.51  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.50                         | 15.76                       | 15.52  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.50                         | 15.71                       | 15.72  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.50                         | 15.64                       | 15.68  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.50                         | 15.62                       | 15.68  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.50                         | 15.68                       | 15.75  |

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE41 | 15 MHz | 39725    | 2503.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 16.02                       | 16.31  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.50                         | 16.11                       | 16.39  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.50                         | 16.21                       | 16.50  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.50                         | 16.10                       | 16.14  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.50                         | 16.20                       | 16.19  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.50                         | 16.14                       | 16.19  |
|       |        | 40185    | 2549.5     | 100% RB         | 75 Pos 0    | 17.50                         | 16.15                       | 16.17  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 17.50                         | 16.35                       | 16.62  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.50                         | 16.25                       | 16.50  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.50                         | 16.24                       | 16.48  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.50                         | 16.36                       | 16.48  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.50                         | 16.30                       | 16.43  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.50                         | 16.30                       | 16.42  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.50                         | 16.28                       | 16.31  |
|       |        | 40620    | 2593       | 1RB Low         | 1 Pos 0     | 17.50                         | 16.38                       | 16.60  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.50                         | 16.19                       | 16.38  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.50                         | 16.08                       | 16.29  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.50                         | 16.17                       | 16.19  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.50                         | 16.10                       | 16.11  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.50                         | 16.08                       | 16.09  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.50                         | 16.04                       | 16.10  |
|       |        | 41055    | 2636.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 15.75                       | 16.03  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.50                         | 15.69                       | 15.98  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.50                         | 15.69                       | 15.98  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.50                         | 15.75                       | 15.84  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.50                         | 15.70                       | 15.79  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.50                         | 15.70                       | 15.78  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.50                         | 15.71                       | 15.68  |
|       |        | 41515    | 2682.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 15.54                       | 15.65  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.50                         | 15.57                       | 15.60  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.50                         | 15.70                       | 15.69  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.50                         | 15.54                       | 15.55  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.50                         | 15.54                       | 15.53  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.50                         | 15.56                       | 15.51  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.50                         | 15.59                       | 15.52  |

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE41 | 10 MHz | 39700    | 2501       | 1RB Low         | 1 Pos 0     | 17.50                         | 16.08                       | 16.38  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.50                         | 16.13                       | 16.44  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.50                         | 16.24                       | 16.54  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.50                         | 16.09                       | 16.15  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.50                         | 16.13                       | 16.18  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 17.50                         | 16.18                       | 16.22  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.50                         | 16.14                       | 16.11  |
|       |        | 40185    | 2549.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 16.40                       | 16.61  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.50                         | 16.33                       | 16.53  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.50                         | 16.39                       | 16.59  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.50                         | 16.43                       | 16.47  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.50                         | 16.37                       | 16.41  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 17.50                         | 16.39                       | 16.42  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.50                         | 16.33                       | 16.36  |
|       |        | 40620    | 2593       | 1RB Low         | 1 Pos 0     | 17.50                         | 16.36                       | 16.56  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.50                         | 16.23                       | 16.42  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.50                         | 16.18                       | 16.36  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.50                         | 16.24                       | 16.36  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.50                         | 16.14                       | 16.28  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.50                         | 16.11                       | 16.19  |
|       |        | 41055    | 2636.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 15.83                       | 16.14  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.50                         | 15.76                       | 16.08  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.50                         | 15.82                       | 16.14  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.50                         | 15.80                       | 15.90  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.50                         | 15.74                       | 15.85  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.50                         | 15.74                       | 15.73  |
|       |        | 41540    | 2685       | 1RB Low         | 1 Pos 0     | 17.50                         | 15.51                       | 15.65  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.50                         | 15.59                       | 15.64  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.50                         | 15.54                       | 15.78  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.50                         | 15.52                       | 15.55  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.50                         | 15.51                       | 15.55  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.50                         | 15.54                       | 15.54  |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE41 | 5.0 MHz | 39675    | 2498.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 16.08                       | 16.49  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.50                         | 16.09                       | 16.50  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.50                         | 16.17                       | 16.56  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.50                         | 15.99                       | 16.02  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.50                         | 16.04                       | 16.08  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.50                         | 16.03                       | 16.07  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.50                         | 16.13                       | 16.05  |
|       |         | 40185    | 2549.5     | 1RB Low         | 1 Pos 0     | 17.50                         | 16.32                       | 16.69  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.50                         | 16.23                       | 16.59  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.50                         | 16.27                       | 16.64  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.50                         | 16.33                       | 16.35  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.50                         | 16.28                       | 16.31  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.50                         | 16.29                       | 16.32  |
|       |         | 40620    | 2593       | 100% RB         | 25 Pos 0    | 17.50                         | 16.29                       | 16.30  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 17.50                         | 16.11                       | 16.16  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.50                         | 15.99                       | 16.04  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.50                         | 16.03                       | 16.07  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.50                         | 16.15                       | 16.21  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.50                         | 16.07                       | 16.12  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.50                         | 16.07                       | 16.12  |
|       |         | 41055    | 2636.5     | 100% RB         | 25 Pos 0    | 17.50                         | 16.06                       | 16.06  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 17.50                         | 15.85                       | 16.15  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.50                         | 15.75                       | 16.04  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.50                         | 15.79                       | 16.08  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.50                         | 15.81                       | 15.90  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.50                         | 15.72                       | 15.82  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.50                         | 15.73                       | 15.81  |
|       |         | 41565    | 2687.5     | 100% RB         | 25 Pos 0    | 17.50                         | 15.72                       | 15.77  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 17.50                         | 15.71                       | 15.62  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.50                         | 15.69                       | 15.64  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.50                         | 15.52                       | 15.79  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.50                         | 15.74                       | 15.75  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.50                         | 15.73                       | 15.74  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.50                         | 15.76                       | 15.76  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.50                         | 15.76                       | 15.77  |

### B.3 Conducted Power Measurements – Tablet mode

#### B.3.1 WCDMA / HSPA /DC-HSPA

##### B.3.1.1 WCDMA Band II

| Mode  | Channel Number | Freq (MHz) | Subset | Average Power Measured (dBm) | Factory Upper Tolerance (dBm) |
|-------|----------------|------------|--------|------------------------------|-------------------------------|
| RMC   | 9263           | 1852.6     | -      | 14.74                        | 15.00                         |
|       | 9400           | 1880       | -      | 14.62                        | 15.00                         |
|       | 9538           | 1907.6     | -      | 14.71                        | 15.00                         |
| HSDPA | 9263           | 1852.6     | 1      | 14.44                        | 15.00                         |
|       |                |            | 2      | 14.33                        | 15.00                         |
|       |                |            | 3      | 14.36                        | 15.00                         |
|       |                |            | 4      | 14.38                        | 15.00                         |
|       | 9400           | 1880       | 1      | 14.41                        | 15.00                         |
|       |                |            | 2      | 14.36                        | 15.00                         |
|       |                |            | 3      | 14.43                        | 15.00                         |
|       |                |            | 4      | 14.40                        | 15.00                         |
|       | 9538           | 1907.6     | 1      | 14.49                        | 15.00                         |
|       |                |            | 2      | 14.40                        | 15.00                         |
|       |                |            | 3      | 14.40                        | 15.00                         |
|       |                |            | 4      | 14.44                        | 15.00                         |
| HSUPA | 9263           | 1852.4     | 1      | 14.38                        | 15.00                         |
|       |                |            | 2      | 14.38                        | 15.00                         |
|       |                |            | 3      | 14.35                        | 15.00                         |
|       |                |            | 4      | 14.35                        | 15.00                         |
|       |                |            | 5      | 14.35                        | 15.00                         |
|       | 9400           | 1880       | 1      | 14.41                        | 15.00                         |
|       |                |            | 2      | 14.35                        | 15.00                         |
|       |                |            | 3      | 14.37                        | 15.00                         |
|       |                |            | 4      | 14.40                        | 15.00                         |
|       |                |            | 5      | 14.33                        | 15.00                         |
|       | 9538           | 1907.6     | 1      | 14.42                        | 15.00                         |
|       |                |            | 2      | 14.37                        | 15.00                         |
|       |                |            | 3      | 14.34                        | 15.00                         |
|       |                |            | 4      | 14.40                        | 15.00                         |
|       |                |            | 5      | 14.38                        | 15.00                         |

According to KDB 941225, SAR measurements are not required for the secondary modes different than RMC as the maximum output power specified for production units in the secondary modes are  $\leq 1/4$  dB higher than the primary mode and the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power of the secondary to primary mode and the adjusted SAR is  $\leq 1.2\text{W/Kg}$ .

### B.3.1.2 WCDMA Band IV

| Mode  | Channel Number | Freq (MHz) | Subset | Average Power Measured (dBm) | Factory Upper Tolerance (dBm) |
|-------|----------------|------------|--------|------------------------------|-------------------------------|
| RMC   | 1312           | 1712.6     | -      | 14.50                        | 14.50                         |
|       | 1450           | 1740       | -      | 14.50                        | 14.50                         |
|       | 1512           | 1752.4     | -      | 14.50                        | 14.50                         |
| HSDPA | 1312           | 1712.6     | 1      | 14.43                        | 14.50                         |
|       |                |            | 2      | 14.46                        | 14.50                         |
|       |                |            | 3      | 14.47                        | 14.50                         |
|       |                |            | 4      | 14.47                        | 14.50                         |
|       | 1450           | 1740       | 1      | 14.38                        | 14.50                         |
|       |                |            | 2      | 14.35                        | 14.50                         |
|       |                |            | 3      | 14.39                        | 14.50                         |
|       |                |            | 4      | 14.40                        | 14.50                         |
|       | 1512           | 1752.4     | 1      | 14.42                        | 14.50                         |
|       |                |            | 2      | 14.21                        | 14.50                         |
|       |                |            | 3      | 14.46                        | 14.50                         |
|       |                |            | 4      | 14.37                        | 14.50                         |
| HSUPA | 1312           | 1712.6     | 1      | 14.48                        | 14.50                         |
|       |                |            | 2      | 14.50                        | 14.50                         |
|       |                |            | 3      | 14.49                        | 14.50                         |
|       |                |            | 4      | 14.49                        | 14.50                         |
|       |                |            | 5      | 14.50                        | 14.50                         |
|       | 1413           | 1740       | 1      | 14.37                        | 14.50                         |
|       |                |            | 2      | 14.40                        | 14.50                         |
|       |                |            | 3      | 14.37                        | 14.50                         |
|       |                |            | 4      | 14.37                        | 14.50                         |
|       |                |            | 5      | 14.37                        | 14.50                         |
|       | 1512           | 1752.4     | 1      | 14.47                        | 14.50                         |
|       |                |            | 2      | 14.21                        | 14.50                         |
|       |                |            | 3      | 14.52                        | 14.50                         |
|       |                |            | 4      | 14.50                        | 14.50                         |
|       |                |            | 5      | 14.25                        | 14.50                         |

According to KDB 941225, SAR measurements are not required for the secondary modes different than RMC as the maximum output power specified for production units in the secondary modes are  $\leq 1/4$  dB higher than the primary mode and the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power of the secondary to primary mode and the adjusted SAR is  $\leq 1.2\text{W/Kg}$ .

### B.3.1.3 WCDMA Band V

| Mode      | Channel Number | Freq (MHz) | Subset   | Pwr Avg (dBm) | Factory Upper Tolerance (dBm) |
|-----------|----------------|------------|----------|---------------|-------------------------------|
| RMC       | 4133           | 826.6      | 12.2kbps | 18.94         | 19.00                         |
|           | 4175           | 835        | 12.2kbps | 18.99         | 19.00                         |
|           | 4232           | 846.4      | 12.2kbps | 18.98         | 19.00                         |
| HSDPA     | 4133           | 826.6      | 1        | 18.79         | 19.00                         |
|           |                |            | 2        | 18.79         | 19.00                         |
|           |                |            | 3        | 18.81         | 19.00                         |
|           |                |            | 4        | 18.78         | 19.00                         |
|           | 4175           | 835        | 1        | 18.77         | 19.00                         |
|           |                |            | 2        | 18.85         | 19.00                         |
|           |                |            | 3        | 18.87         | 19.00                         |
|           |                |            | 4        | 18.85         | 19.00                         |
|           | 4232           | 846.4      | 1        | 18.65         | 19.00                         |
|           |                |            | 2        | 18.64         | 19.00                         |
|           |                |            | 3        | 18.65         | 19.00                         |
|           |                |            | 4        | 18.71         | 19.00                         |
| DC- HSDPA | 4133           | 826.6      | 1        | 18.79         | 19.00                         |
|           |                |            | 2        | 18.77         | 19.00                         |
|           |                |            | 3        | 18.77         | 19.00                         |
|           |                |            | 4        | 18.78         | 19.00                         |
|           | 4175           | 835        | 1        | 18.81         | 19.00                         |
|           |                |            | 2        | 18.80         | 19.00                         |
|           |                |            | 3        | 18.88         | 19.00                         |
|           |                |            | 4        | 18.87         | 19.00                         |
|           | 4232           | 846.4      | 1        | 18.84         | 19.00                         |
|           |                |            | 2        | 18.81         | 19.00                         |
|           |                |            | 3        | 18.68         | 19.00                         |
|           |                |            | 4        | 18.65         | 19.00                         |
| HSUPA     | 4133           | 826.6      | 1        | 18.64         | 19.00                         |
|           |                |            | 2        | 18.62         | 19.00                         |
|           |                |            | 3        | 18.65         | 19.00                         |
|           |                |            | 4        | 18.94         | 19.00                         |
|           |                |            | 5        | 18.99         | 19.00                         |
|           | 4175           | 835        | 1        | 18.98         | 19.00                         |
|           |                |            | 2        | 18.79         | 19.00                         |
|           |                |            | 3        | 18.79         | 19.00                         |
|           |                |            | 4        | 18.81         | 19.00                         |
|           |                |            | 5        | 18.78         | 19.00                         |
|           | 4232           | 846.4      | 1        | 18.77         | 19.00                         |
|           |                |            | 2        | 18.85         | 19.00                         |
|           |                |            | 3        | 18.87         | 19.00                         |
|           |                |            | 4        | 18.85         | 19.00                         |
|           |                |            | 5        | 18.65         | 19.00                         |

According to KDB 941225, SAR measurements are not required for the secondary modes different than RMC as the maximum output power specified for production units in the secondary modes are  $\leq 1/4$  dB higher than the primary mode and the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power of the secondary to primary mode and the adjusted SAR is  $\leq 1.2\text{W/Kg}$ .

## B.3.2 LTE

### B.3.2.1 LTE Band 2 FDD

| Band | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dB) |        |
|------|--------|----------|------------|-----------------|-------------|-------------------------------|----------------------------|--------|
|      |        |          |            |                 |             |                               | QPSK                       | 16-QAM |
| LTE2 | 20 MHz | 18700    | 1860       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.37                      | 14.56  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 14.20                      | 14.37  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 15.00                         | 14.14                      | 14.26  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 14.22                      | 14.31  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 14.08                      | 14.18  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 15.00                         | 14.25                      | 14.37  |
|      |        | 18900    | 1880       | 100% RB         | 100 Pos 0   | 15.00                         | 14.40                      | 14.42  |
|      |        |          |            | 1RB Low         | 1 Pos 0     | 15.00                         | 14.17                      | 14.08  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 14.21                      | 14.11  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 15.00                         | 14.20                      | 14.07  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 14.34                      | 14.41  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 14.24                      | 14.31  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 15.00                         | 14.37                      | 14.42  |
|      |        | 19100    | 1900       | 100% RB         | 100 Pos 0   | 15.00                         | 14.42                      | 14.45  |
|      |        |          |            | 1RB Low         | 1 Pos 0     | 15.00                         | 14.15                      | 14.57  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 13.97                      | 14.40  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 15.00                         | 14.28                      | 14.71  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 14.06                      | 14.11  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 14.23                      | 14.24  |
|      | 15 MHz | 18675    | 1857.5     | 50% RB High     | 50 Pos 50   | 15.00                         | 14.03                      | 14.10  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 15.00                         | 14.35                      | 14.36  |
|      |        |          |            | 1RB Low         | 1 Pos 0     | 15.00                         | 14.24                      | 14.50  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 14.10                      | 14.35  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 15.00                         | 13.96                      | 14.23  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 15.00                         | 14.30                      | 14.37  |
|      |        | 18900    | 1880       | 50% RB Mid      | 38 Pos 19   | 15.00                         | 14.27                      | 14.33  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 15.00                         | 14.24                      | 14.31  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 15.00                         | 14.26                      | 14.35  |
|      |        |          |            | 1RB Low         | 1 Pos 0     | 15.00                         | 14.25                      | 14.36  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 14.22                      | 14.35  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 15.00                         | 14.21                      | 14.48  |
|      |        | 19125    | 1902.5     | 50% RB Low      | 38 Pos 0    | 15.00                         | 14.42                      | 14.44  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 15.00                         | 14.42                      | 14.45  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 15.00                         | 14.34                      | 14.38  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 15.00                         | 14.34                      | 14.41  |
|      |        |          |            | 1RB Low         | 1 Pos 0     | 15.00                         | 14.09                      | 14.36  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 14.16                      | 14.43  |
|      | 10 MHz | 18650    | 1855       | 1RB High        | 1 Pos 74    | 15.00                         | 14.27                      | 14.58  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 15.00                         | 14.11                      | 14.19  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 15.00                         | 14.22                      | 14.28  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 15.00                         | 14.19                      | 14.24  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 15.00                         | 14.34                      | 14.36  |
|      |        |          |            | 1RB Low         | 1 Pos 0     | 15.00                         | 14.49                      | 14.96  |
|      |        | 18900    | 1880       | 1RB Mid         | 1 Pos 24    | 15.00                         | 14.37                      | 14.86  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 15.00                         | 14.35                      | 14.84  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 14.44                      | 14.58  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 14.35                      | 14.48  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 15.00                         | 14.31                      | 14.44  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 15.00                         | 14.31                      | 14.36  |
|      |        | 19150    | 1905       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.30                      | 14.57  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 15.00                         | 14.27                      | 14.55  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 15.00                         | 14.28                      | 14.56  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 14.42                      | 14.49  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 14.40                      | 14.47  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 15.00                         | 14.31                      | 14.39  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 15.00                         | 14.30                      | 14.36  |
|      |        |          |            | 1RB Low         | 1 Pos 0     | 15.00                         | 14.27                      | 14.67  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 15.00                         | 14.28                      | 14.66  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 15.00                         | 14.44                      | 14.82  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 14.26                      | 14.40  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 14.29                      | 14.39  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 15.00                         | 14.39                      | 14.48  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 15.00                         | 14.34                      | 14.36  |

| Band | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE2 | 5.0 MHz | 18625    | 1852.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.45                       | 14.70  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 14.37                       | 14.62  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 15.00                         | 14.33                       | 14.56  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 14.41                       | 14.52  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 14.42                       | 14.48  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 15.00                         | 14.40                       | 14.52  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 15.00                         | 14.33                       | 14.45  |
|      |         | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.39                       | 14.58  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 14.25                       | 14.46  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 15.00                         | 14.28                       | 14.49  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 14.32                       | 14.36  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 14.29                       | 14.30  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 15.00                         | 14.33                       | 14.39  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 15.00                         | 14.29                       | 14.33  |
|      |         | 19175    | 1907.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.21                       | 14.58  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 14.27                       | 14.63  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 15.00                         | 14.33                       | 14.73  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 14.20                       | 14.25  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 14.37                       | 14.39  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 15.00                         | 14.31                       | 14.30  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 15.00                         | 14.31                       | 14.31  |
|      | 3.0 MHz | 18615    | 1851.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.37                       | 14.62  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 15.00                         | 14.37                       | 14.61  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 15.00                         | 14.36                       | 14.58  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 15.00                         | 14.40                       | 14.52  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 15.00                         | 14.39                       | 14.51  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 15.00                         | 14.40                       | 14.39  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 15.00                         | 14.38                       | 14.45  |
|      |         | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.29                       | 14.61  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 15.00                         | 14.30                       | 14.62  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 15.00                         | 14.23                       | 14.18  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 15.00                         | 14.30                       | 14.41  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 15.00                         | 14.23                       | 14.33  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 15.00                         | 14.24                       | 14.21  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 15.00                         | 14.25                       | 14.31  |
|      |         | 19185    | 1908.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.32                       | 14.45  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 15.00                         | 14.34                       | 14.46  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 15.00                         | 14.33                       | 14.44  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 15.00                         | 14.35                       | 14.43  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 15.00                         | 14.34                       | 14.46  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 15.00                         | 14.39                       | 14.47  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 15.00                         | 14.36                       | 14.36  |
|      | 1.4 MHz | 18607    | 1850.7     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.56                       | 15.02  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 15.00                         | 14.48                       | 14.94  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 15.00                         | 14.55                       | 15.01  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 15.00                         | 14.50                       | 14.62  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 15.00                         | 14.43                       | 14.57  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 15.00                         | 14.40                       | 14.56  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 15.00                         | 14.38                       | 14.48  |
|      |         | 18900    | 1880       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.47                       | 14.61  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 15.00                         | 14.43                       | 14.57  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 15.00                         | 14.42                       | 14.56  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 15.00                         | 14.35                       | 14.35  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 15.00                         | 14.33                       | 14.34  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 15.00                         | 14.28                       | 14.31  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 15.00                         | 14.32                       | 14.31  |
|      |         | 19193    | 1909.3     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.33                       | 14.42  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 15.00                         | 14.30                       | 14.38  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 15.00                         | 14.40                       | 14.41  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 15.00                         | 14.30                       | 14.42  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 15.00                         | 14.30                       | 14.41  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 15.00                         | 14.29                       | 14.42  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 15.00                         | 14.32                       | 14.39  |

**B.3.2.2 LTE Band 4 FDD**

SAR Measurement for LTE Band 4 FDD (Frequency range: 1710 – 1755MHz) is covered by LTE Band 66 FDD (Frequency range: 1710 – 1780MHz) due to overlapping frequency range, same maximum tune-up and same bandwidth.

### B.3.2.3 LTE band 5 FDD

| Band | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE5 | 10 MHz  | 20450    | 829        | 1RB Low         | 1 Pos 0     | 19.50                         | 18.47                       | 18.75  |
|      |         |          |            | 1RB Mid         | 1 Pos 24    | 19.50                         | 18.25                       | 18.50  |
|      |         |          |            | 1RB High        | 1 Pos 49    | 19.50                         | 18.40                       | 18.67  |
|      |         |          |            | 50% RB Low      | 25 Pos 0    | 19.50                         | 18.40                       | 18.48  |
|      |         |          |            | 50% RB Mid      | 25 Pos 12   | 19.50                         | 18.24                       | 18.32  |
|      |         |          |            | 50% RB High     | 25 Pos 24   | 19.50                         | 18.19                       | 18.29  |
|      |         |          |            | 100% RB         | 50 Pos 0    | 19.50                         | 18.30                       | 18.32  |
|      |         | 20525    | 836.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 18.21                       | 18.36  |
|      |         |          |            | 1RB Mid         | 1 Pos 24    | 19.50                         | 18.37                       | 18.55  |
|      |         |          |            | 1RB High        | 1 Pos 49    | 19.50                         | 18.38                       | 18.55  |
|      |         |          |            | 50% RB Low      | 25 Pos 0    | 19.50                         | 18.41                       | 18.49  |
|      |         |          |            | 50% RB Mid      | 25 Pos 12   | 19.50                         | 18.40                       | 18.52  |
|      |         |          |            | 50% RB High     | 25 Pos 24   | 19.50                         | 18.45                       | 18.57  |
|      |         |          |            | 100% RB         | 50 Pos 0    | 19.50                         | 18.43                       | 18.47  |
|      |         | 20600    | 844        | 1RB Low         | 1 Pos 0     | 19.50                         | 18.39                       | 18.68  |
|      |         |          |            | 1RB Mid         | 1 Pos 24    | 19.50                         | 18.23                       | 18.45  |
|      |         |          |            | 1RB High        | 1 Pos 49    | 19.50                         | 18.18                       | 18.42  |
|      |         |          |            | 50% RB Low      | 25 Pos 0    | 19.50                         | 18.49                       | 18.52  |
|      |         |          |            | 50% RB Mid      | 25 Pos 12   | 19.50                         | 18.39                       | 18.45  |
|      |         |          |            | 50% RB High     | 25 Pos 24   | 19.50                         | 18.25                       | 18.33  |
|      | 5.0 MHz | 20425    | 826.5      | 100% RB         | 50 Pos 0    | 19.50                         | 18.49                       | 18.48  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 19.50                         | 18.32                       | 18.50  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 18.18                       | 18.37  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 19.50                         | 18.16                       | 18.32  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 18.30                       | 18.35  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 18.31                       | 18.34  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 19.50                         | 18.31                       | 18.34  |
|      |         | 20525    | 836.5      | 100% RB         | 25 Pos 0    | 19.50                         | 18.27                       | 18.27  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 19.50                         | 18.33                       | 18.69  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 18.28                       | 18.64  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 19.50                         | 18.37                       | 18.76  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 18.30                       | 18.39  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 18.33                       | 18.34  |
|      |         | 20625    | 846.5      | 50% RB High     | 12 Pos 11   | 19.50                         | 18.32                       | 18.41  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 19.50                         | 18.39                       | 18.46  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 19.50                         | 18.28                       | 18.67  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 18.10                       | 18.52  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 19.50                         | 18.13                       | 18.61  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 18.18                       | 18.16  |
|      | 3.0 MHz | 20415    | 825.5      | 50% RB Mid      | 12 Pos 6    | 19.50                         | 18.25                       | 18.17  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 19.50                         | 18.13                       | 18.12  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 19.50                         | 18.15                       | 18.18  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 19.50                         | 18.21                       | 18.40  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 19.50                         | 18.31                       | 18.49  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 19.50                         | 18.14                       | 18.39  |
|      |         | 20525    | 836.5      | 50% RB Low      | 8 Pos 0     | 19.50                         | 18.37                       | 18.36  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 19.50                         | 18.31                       | 18.37  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 19.50                         | 18.34                       | 18.39  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 19.50                         | 18.31                       | 18.33  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 19.50                         | 18.30                       | 18.59  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 19.50                         | 18.32                       | 18.65  |
|      |         | 20635    | 847.5      | 1RB High        | 1 Pos 14    | 19.50                         | 18.41                       | 18.42  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 19.50                         | 18.33                       | 18.41  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 19.50                         | 18.32                       | 18.21  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 19.50                         | 18.38                       | 18.41  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 19.50                         | 18.36                       | 18.39  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 19.50                         | 18.18                       | 18.23  |
|      |         |          |            | 1RB Mid         | 1 Pos 7     | 19.50                         | 18.24                       | 18.30  |
|      |         |          |            | 1RB High        | 1 Pos 14    | 19.50                         | 18.18                       | 18.26  |
|      |         |          |            | 50% RB Low      | 8 Pos 0     | 19.50                         | 18.15                       | 18.10  |
|      |         |          |            | 50% RB Mid      | 8 Pos 4     | 19.50                         | 18.20                       | 18.14  |
|      |         |          |            | 50% RB High     | 8 Pos 7     | 19.50                         | 18.21                       | 18.15  |
|      |         |          |            | 100% RB         | 15 Pos 0    | 19.50                         | 18.22                       | 18.19  |

| Band | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE5 | 1.4 MHz | 20407    | 824.7      | 1RB Low         | 1 Pos 0     | 19.50                         | 18.43                       | 18.57  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 19.50                         | 18.40                       | 18.58  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 19.50                         | 18.38                       | 18.57  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 19.50                         | 18.33                       | 18.43  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 19.50                         | 18.31                       | 18.42  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 19.50                         | 18.31                       | 18.32  |
|      |         | 20525    | 836.5      | 100% RB         | 6 Pos 0     | 19.50                         | 18.30                       | 18.31  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 19.50                         | 18.37                       | 18.66  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 19.50                         | 18.36                       | 18.63  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 19.50                         | 18.37                       | 18.67  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 19.50                         | 18.31                       | 18.42  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 19.50                         | 18.30                       | 18.40  |
|      |         | 20643    | 848.3      | 50% RB High     | 3 Pos 2     | 19.50                         | 18.31                       | 18.42  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 19.50                         | 18.35                       | 18.44  |
|      |         |          |            | 1RB Low         | 1 Pos 0     | 19.50                         | 18.25                       | 18.49  |
|      |         |          |            | 1RB Mid         | 1 Pos 2     | 19.50                         | 18.27                       | 18.47  |
|      |         |          |            | 1RB High        | 1 Pos 5     | 19.50                         | 18.30                       | 18.51  |
|      |         |          |            | 50% RB Low      | 3 Pos 0     | 19.50                         | 18.10                       | 18.23  |
|      |         |          |            | 50% RB Mid      | 3 Pos 1     | 19.50                         | 18.10                       | 18.32  |
|      |         |          |            | 50% RB High     | 3 Pos 2     | 19.50                         | 18.08                       | 18.31  |
|      |         |          |            | 100% RB         | 6 Pos 0     | 19.50                         | 18.16                       | 18.14  |

### B.3.2.4 LTE Band 7 FDD

| Band | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE7 | 20 MHz | 20850    | 2510       | 1RB Low         | 1 Pos 0     | 15.00                         | 13.94                       | 14.14  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 14.00                       | 14.44  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 15.00                         | 14.16                       | 14.46  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 14.25                       | 14.25  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 14.25                       | 14.29  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 15.00                         | 14.14                       | 14.09  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 15.00                         | 14.35                       | 14.35  |
|      |        | 21100    | 2535       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.17                       | 14.32  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 14.06                       | 14.22  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 15.00                         | 14.19                       | 14.34  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 14.25                       | 14.25  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 14.21                       | 14.20  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 15.00                         | 14.23                       | 14.19  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 15.00                         | 14.36                       | 14.40  |
|      |        | 21350    | 2560       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.15                       | 14.27  |
|      |        |          |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 14.01                       | 14.05  |
|      |        |          |            | 1RB High        | 1 Pos 99    | 15.00                         | 14.10                       | 14.17  |
|      |        |          |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 14.00                       | 14.08  |
|      |        |          |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 14.03                       | 14.16  |
|      |        |          |            | 50% RB High     | 50 Pos 50   | 15.00                         | 14.11                       | 14.11  |
|      |        |          |            | 100% RB         | 100 Pos 0   | 15.00                         | 14.10                       | 14.12  |
|      | 15 MHz | 20825    | 2507.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 13.98                       | 14.39  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 14.23                       | 14.65  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 15.00                         | 14.20                       | 14.59  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 15.00                         | 14.14                       | 14.10  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 15.00                         | 14.28                       | 14.27  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 15.00                         | 14.32                       | 14.32  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 15.00                         | 14.35                       | 14.30  |
|      |        | 21100    | 2535       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.21                       | 14.40  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 14.17                       | 14.26  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 15.00                         | 14.23                       | 14.40  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 15.00                         | 14.22                       | 14.20  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 15.00                         | 14.30                       | 14.30  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 15.00                         | 14.24                       | 14.26  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 15.00                         | 14.33                       | 14.29  |
|      |        | 21375    | 2562.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.15                       | 14.58  |
|      |        |          |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 14.08                       | 14.47  |
|      |        |          |            | 1RB High        | 1 Pos 74    | 15.00                         | 14.11                       | 14.54  |
|      |        |          |            | 50% RB Low      | 38 Pos 0    | 15.00                         | 14.04                       | 14.09  |
|      |        |          |            | 50% RB Mid      | 38 Pos 19   | 15.00                         | 14.05                       | 14.10  |
|      |        |          |            | 50% RB High     | 38 Pos 39   | 15.00                         | 14.05                       | 14.11  |
|      |        |          |            | 100% RB         | 75 Pos 0    | 15.00                         | 14.06                       | 14.06  |
|      | 10 MHz | 20800    | 2505       | 1RB Low         | 1 Pos 0     | 15.00                         | 13.97                       | 14.38  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 15.00                         | 14.07                       | 14.49  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 15.00                         | 14.29                       | 14.70  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 14.12                       | 14.21  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 14.17                       | 14.23  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 15.00                         | 14.32                       | 14.38  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 15.00                         | 14.21                       | 14.18  |
|      |        | 21100    | 2535       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.20                       | 14.42  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 15.00                         | 14.23                       | 14.45  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 15.00                         | 14.18                       | 14.40  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 14.32                       | 14.23  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 14.31                       | 14.20  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 15.00                         | 14.27                       | 14.18  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 15.00                         | 14.26                       | 14.27  |
|      |        | 21400    | 2565       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.08                       | 14.23  |
|      |        |          |            | 1RB Mid         | 1 Pos 24    | 15.00                         | 14.03                       | 14.16  |
|      |        |          |            | 1RB High        | 1 Pos 49    | 15.00                         | 14.07                       | 14.18  |
|      |        |          |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 14.16                       | 14.15  |
|      |        |          |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 14.15                       | 14.18  |
|      |        |          |            | 50% RB High     | 25 Pos 24   | 15.00                         | 14.12                       | 14.15  |
|      |        |          |            | 100% RB         | 50 Pos 0    | 15.00                         | 14.14                       | 14.18  |

| Band | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|      |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE7 | 5.0 MHz | 20775    | 2502.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.07                       | 14.53  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 14.09                       | 14.55  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 15.00                         | 14.19                       | 14.65  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 14.03                       | 14.06  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 14.11                       | 14.08  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 15.00                         | 14.05                       | 14.04  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 15.00                         | 14.08                       | 14.07  |
|      |         | 21100    | 2535       | 1RB Low         | 1 Pos 0     | 15.00                         | 14.25                       | 14.05  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 14.16                       | 13.94  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 15.00                         | 14.20                       | 14.00  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 14.31                       | 14.28  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 14.24                       | 14.22  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 15.00                         | 14.31                       | 14.30  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 15.00                         | 14.25                       | 14.23  |
|      |         | 21425    | 2567.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 14.02                       | 14.42  |
|      |         |          |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 13.94                       | 14.38  |
|      |         |          |            | 1RB High        | 1 Pos 24    | 15.00                         | 14.02                       | 14.41  |
|      |         |          |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 14.05                       | 14.08  |
|      |         |          |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 14.04                       | 14.02  |
|      |         |          |            | 50% RB High     | 12 Pos 11   | 15.00                         | 14.02                       | 14.04  |
|      |         |          |            | 100% RB         | 25 Pos 0    | 15.00                         | 14.06                       | 14.08  |

### B.3.2.5 LTE Band 12 FDD

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE12 | 10 MHz  | 23060    | 704        | 1RB Low         | 1 Pos 0     | 20.50                         | 19.72                       | 20.05  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.57                       | 19.90  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.64                       | 19.95  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.67                       | 19.81  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.57                       | 19.70  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 20.50                         | 19.59                       | 19.71  |
|       |         | 23095    | 707.5      | 100% RB         | 50 Pos 0    | 20.50                         | 19.61                       | 19.69  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.53                       | 19.89  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.48                       | 19.83  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.67                       | 20.03  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.47                       | 19.53  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.52                       | 19.59  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 20.50                         | 19.60                       | 19.66  |
|       |         | 23130    | 711        | 100% RB         | 50 Pos 0    | 20.50                         | 19.63                       | 19.73  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.46                       | 19.89  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 19.55                       | 19.98  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 20.50                         | 19.43                       | 19.85  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 19.66                       | 19.69  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 19.68                       | 19.71  |
|       | 5.0 MHz | 23035    | 701.5      | 50% RB High     | 25 Pos 24   | 20.50                         | 19.47                       | 19.54  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 20.50                         | 19.67                       | 19.87  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.57                       | 19.98  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.55                       | 19.93  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 20.50                         | 19.51                       | 19.89  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.53                       | 19.73  |
|       |         | 23095    | 707.5      | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.52                       | 19.56  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 20.50                         | 19.55                       | 19.65  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.53                       | 19.53  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.46                       | 19.73  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.44                       | 19.67  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 20.50                         | 19.54                       | 19.75  |
|       |         | 23155    | 713.5      | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.46                       | 19.55  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.49                       | 19.45  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 20.50                         | 19.43                       | 19.48  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.49                       | 19.53  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.59                       | 19.91  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.50                         | 19.33                       | 19.72  |
|       | 3.0 MHz | 23025    | 700.5      | 1RB High        | 1 Pos 24    | 20.50                         | 19.26                       | 19.68  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 20.50                         | 19.58                       | 19.56  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.50                         | 19.42                       | 19.36  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 20.50                         | 19.38                       | 19.38  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.50                         | 19.37                       | 19.38  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.64                       | 19.67  |
|       |         | 23095    | 707.5      | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.74                       | 19.77  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 20.50                         | 19.65                       | 19.72  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.57                       | 19.60  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.59                       | 19.63  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.58                       | 19.69  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 20.50                         | 19.60                       | 19.60  |
|       |         | 23165    | 714.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.42                       | 19.90  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.46                       | 19.96  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 20.50                         | 19.49                       | 19.95  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.43                       | 19.45  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.42                       | 19.45  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.47                       | 19.50  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 20.50                         | 19.46                       | 19.46  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.36                       | 19.83  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 20.50                         | 19.38                       | 19.83  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 20.50                         | 19.28                       | 19.46  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 20.50                         | 19.36                       | 19.45  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 20.50                         | 19.39                       | 19.41  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 20.50                         | 19.33                       | 19.44  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 20.50                         | 19.44                       | 19.46  |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE12 | 1.4 MHz | 23017    | 699.7      | 1RB Low         | 1 Pos 0     | 20.50                         | 19.59                       | 19.66  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 19.58                       | 19.56  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 20.50                         | 19.66                       | 19.70  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 19.56                       | 19.64  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 19.56                       | 19.68  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 20.50                         | 19.62                       | 19.68  |
|       |         | 23095    | 707.5      | 100% RB         | 6 Pos 0     | 20.50                         | 19.56                       | 19.56  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.43                       | 19.81  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 19.41                       | 19.79  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 20.50                         | 19.44                       | 19.82  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 19.40                       | 19.29  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 19.39                       | 19.48  |
|       |         | 23173    | 715.3      | 50% RB High     | 3 Pos 2     | 20.50                         | 19.39                       | 19.28  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 20.50                         | 19.43                       | 19.39  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.50                         | 19.34                       | 19.50  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 19.34                       | 19.51  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 20.50                         | 19.32                       | 19.48  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 19.37                       | 19.64  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 19.43                       | 19.60  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 20.50                         | 19.27                       | 19.39  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 20.50                         | 19.33                       | 19.67  |

### B.3.2.6 LTE Band 13 FDD

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE13 | 10 MHz  | 23230    | 782        | 1RB Low         | 1 Pos 0     | 20.00                         | 19.04                       | 19.25  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 20.00                         | 18.92                       | 19.05  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 20.00                         | 18.93                       | 19.10  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 20.00                         | 18.98                       | 19.07  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 20.00                         | 18.98                       | 19.08  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 20.00                         | 19.04                       | 19.11  |
|       | 5.0 MHz | 23205    | 779.5      | 100% RB         | 50 Pos 0    | 20.00                         | 19.13                       | 19.07  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.00                         | 19.04                       | 19.24  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.00                         | 18.91                       | 19.08  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 20.00                         | 18.94                       | 19.16  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 20.00                         | 18.80                       | 18.96  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.00                         | 18.86                       | 18.82  |
|       |         | 23230    | 782        | 50% RB High     | 12 Pos 11   | 20.00                         | 18.79                       | 18.91  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.00                         | 18.79                       | 18.85  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.00                         | 18.84                       | 19.11  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.00                         | 18.83                       | 19.04  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 20.00                         | 18.98                       | 19.23  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 20.00                         | 18.84                       | 18.87  |
|       |         | 23255    | 784.5      | 50% RB Mid      | 12 Pos 6    | 20.00                         | 18.93                       | 18.88  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 20.00                         | 18.88                       | 18.90  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.00                         | 18.91                       | 18.93  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 20.00                         | 18.84                       | 19.05  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 20.00                         | 18.86                       | 19.13  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 20.00                         | 18.82                       | 19.06  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 20.00                         | 19.01                       | 19.06  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 20.00                         | 18.97                       | 18.91  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 20.00                         | 18.98                       | 18.94  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 20.00                         | 18.90                       | 18.88  |

**B.3.2.7 LTE Band 17 FDD**

SAR Measurement for LTE Band 17 FDD (Frequency range: 704 – 716MHz) is covered by LTE Band 12 FDD (Frequency range: 699 – 716MHz) due to overlapping frequency range, same maximum tune-up and same bandwidth.

### B.3.2.8 LTE Band 26 FDD

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE26 | 15 MHz  | 26775    | 822.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.24                       | 18.57  |
|       |         |          |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 18.00                       | 18.39  |
|       |         |          |            | 1RB High        | 1 Pos 74    | 19.00                         | 18.09                       | 18.36  |
|       |         |          |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 18.39                       | 18.41  |
|       |         |          |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 18.14                       | 18.49  |
|       |         |          |            | 50% RB High     | 38 Pos 39   | 19.00                         | 18.39                       | 18.40  |
|       |         |          |            | 100% RB         | 75 Pos 0    | 19.00                         | 18.24                       | 18.66  |
|       |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.33                       | 18.71  |
|       |         |          |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 18.04                       | 18.43  |
|       |         |          |            | 1RB High        | 1 Pos 74    | 19.00                         | 18.35                       | 18.75  |
|       |         |          |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 18.25                       | 18.34  |
|       |         |          |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 18.15                       | 18.22  |
|       |         |          |            | 50% RB High     | 38 Pos 39   | 19.00                         | 18.31                       | 18.38  |
|       |         |          |            | 100% RB         | 75 Pos 0    | 19.00                         | 18.26                       | 18.33  |
|       |         | 26965    | 841.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.22                       | 18.48  |
|       |         |          |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 18.02                       | 18.45  |
|       |         |          |            | 1RB High        | 1 Pos 74    | 19.00                         | 18.07                       | 18.30  |
|       |         |          |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 18.40                       | 18.41  |
|       |         |          |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 18.12                       | 18.32  |
|       |         |          |            | 50% RB High     | 38 Pos 39   | 19.00                         | 18.25                       | 18.29  |
|       |         |          |            | 100% RB         | 75 Pos 0    | 19.00                         | 18.26                       | 18.54  |
|       | 10 MHz  | 26750    | 820        | 1RB Low         | 1 Pos 0     | 19.00                         | 18.30                       | 18.64  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 18.37                       | 18.73  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 19.00                         | 18.36                       | 18.74  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 18.37                       | 18.47  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 18.10                       | 18.48  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 19.00                         | 18.41                       | 18.50  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 19.00                         | 18.16                       | 18.43  |
|       |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.27                       | 18.45  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 18.13                       | 18.31  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 19.00                         | 18.43                       | 18.63  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 18.22                       | 18.26  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 18.18                       | 18.20  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 19.00                         | 18.33                       | 18.41  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 19.00                         | 18.19                       | 18.30  |
|       |         | 26990    | 844        | 1RB Low         | 1 Pos 0     | 19.00                         | 18.37                       | 18.72  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 18.25                       | 18.46  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 19.00                         | 18.17                       | 18.46  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 18.41                       | 18.57  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 18.17                       | 18.44  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 19.00                         | 18.24                       | 18.32  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 19.00                         | 18.11                       | 18.47  |
|       | 5.0 MHz | 26715    | 816.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.43                       | 18.58  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 19.00                         | 18.37                       | 18.52  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 19.00                         | 18.38                       | 18.53  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 18.30                       | 18.36  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 18.36                       | 18.35  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 19.00                         | 18.31                       | 18.39  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 19.00                         | 18.30                       | 18.37  |
|       |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.10                       | 18.57  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 19.00                         | 18.00                       | 18.48  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 19.00                         | 18.24                       | 18.73  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 18.10                       | 18.12  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 18.18                       | 18.09  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 19.00                         | 18.05                       | 18.10  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 19.00                         | 18.12                       | 18.16  |
|       |         | 27015    | 846.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.36                       | 18.73  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 19.00                         | 18.22                       | 18.60  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 19.00                         | 18.29                       | 18.67  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 18.24                       | 18.27  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 18.20                       | 18.14  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 19.00                         | 18.22                       | 18.21  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 19.00                         | 18.27                       | 18.25  |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE26 | 3.0 MHz | 26705    | 815.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.28                       | 18.23  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 19.00                         | 18.21                       | 18.17  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 19.00                         | 18.19                       | 18.16  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 19.00                         | 18.19                       | 18.32  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 19.00                         | 18.21                       | 18.20  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 19.00                         | 18.23                       | 18.28  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 19.00                         | 18.21                       | 18.22  |
|       |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.04                       | 18.25  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 19.00                         | 18.04                       | 18.26  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 19.00                         | 18.04                       | 18.33  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 19.00                         | 18.06                       | 18.18  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 19.00                         | 18.04                       | 18.16  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 19.00                         | 18.09                       | 18.12  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 19.00                         | 18.04                       | 18.12  |
|       |         | 27025    | 847.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.13                       | 17.90  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 19.00                         | 18.22                       | 18.14  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 19.00                         | 18.12                       | 17.95  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 19.00                         | 18.12                       | 18.24  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 19.00                         | 18.13                       | 18.24  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 19.00                         | 18.20                       | 18.27  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 19.00                         | 18.24                       | 18.18  |
|       | 1.4 MHz | 26697    | 814.7      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.25                       | 18.36  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 19.00                         | 18.21                       | 18.32  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 19.00                         | 18.20                       | 18.43  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 19.00                         | 18.22                       | 18.23  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 19.00                         | 18.20                       | 18.21  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 19.00                         | 18.20                       | 18.22  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 19.00                         | 18.13                       | 18.22  |
|       |         | 26865    | 831.5      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.03                       | 18.34  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 19.00                         | 18.01                       | 18.29  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 19.00                         | 18.09                       | 18.39  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 19.00                         | 18.04                       | 18.10  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 19.00                         | 18.03                       | 18.09  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 19.00                         | 18.03                       | 18.08  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 19.00                         | 18.03                       | 18.00  |
|       |         | 27033    | 848.3      | 1RB Low         | 1 Pos 0     | 19.00                         | 18.21                       | 18.37  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 19.00                         | 18.18                       | 18.36  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 19.00                         | 18.22                       | 18.41  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 19.00                         | 18.15                       | 18.14  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 19.00                         | 18.13                       | 18.13  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 19.00                         | 18.12                       | 18.12  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 19.00                         | 18.10                       | 18.29  |

### B.3.2.9 LTE Band 30 FDD

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE30 | 10 MHz  | 27710    | 2310       | 1RB Low         | 1 Pos 0     | 14.00                         | 12.86                       | 12.80  |
|       |         |          |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 12.90                       | 12.84  |
|       |         |          |            | 1RB High        | 1 Pos 49    | 14.00                         | 12.97                       | 12.97  |
|       |         |          |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 12.94                       | 12.93  |
|       |         |          |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 12.90                       | 12.89  |
|       |         |          |            | 50% RB High     | 25 Pos 24   | 14.00                         | 12.84                       | 12.85  |
|       |         |          |            | 100% RB         | 50 Pos 0    | 14.00                         | 13.07                       | 13.06  |
|       | 5.0 MHz | 27685    | 2307.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 12.80                       | 12.96  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 12.83                       | 12.98  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 14.00                         | 12.86                       | 13.01  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 12.78                       | 12.75  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 12.87                       | 12.76  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 14.00                         | 12.77                       | 12.71  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 14.00                         | 12.90                       | 12.85  |
|       |         | 27710    | 2310       | 1RB Low         | 1 Pos 0     | 14.00                         | 12.73                       | 12.66  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 12.78                       | 12.69  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 14.00                         | 12.75                       | 12.69  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 12.91                       | 12.87  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 12.95                       | 12.89  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 14.00                         | 12.84                       | 12.78  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 14.00                         | 12.92                       | 12.89  |
|       |         | 27735    | 2312.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 12.77                       | 13.26  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 12.61                       | 13.09  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 14.00                         | 12.72                       | 13.19  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 12.83                       | 12.69  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 12.91                       | 12.82  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 14.00                         | 12.77                       | 12.64  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 14.00                         | 12.90                       | 12.79  |

### B.3.2.10 LTE Band 66 FDD

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE66 | 20 MHz | 132072   | 1720       | 1RB Low         | 1 Pos 0     | 14.50                         | 13.73                       | 13.80  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 14.50                         | 13.83                       | 13.91  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 14.50                         | 13.81                       | 13.87  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 14.50                         | 13.76                       | 13.75  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 14.50                         | 13.82                       | 13.79  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 14.50                         | 13.83                       | 13.79  |
|       |        | 132322   | 1745       | 100% RB         | 100 Pos 0   | 14.50                         | 13.94                       | 13.96  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.78                       | 13.92  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 14.50                         | 13.86                       | 14.01  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 14.50                         | 13.86                       | 13.98  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 14.50                         | 13.99                       | 13.90  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 14.50                         | 13.95                       | 13.83  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 14.50                         | 13.99                       | 13.86  |
|       |        | 132572   | 1770       | 100% RB         | 100 Pos 0   | 14.50                         | 14.14                       | 14.03  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.97                       | 14.45  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 14.50                         | 13.63                       | 14.12  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 14.50                         | 13.75                       | 14.20  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 14.50                         | 13.82                       | 13.72  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 14.50                         | 13.65                       | 13.49  |
|       | 15 MHz | 132047   | 1717.5     | 50% RB High     | 50 Pos 50   | 14.50                         | 13.60                       | 13.53  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 14.50                         | 13.81                       | 13.85  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.57                       | 13.83  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 14.50                         | 13.65                       | 13.91  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 14.50                         | 13.72                       | 13.93  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 14.50                         | 13.70                       | 13.55  |
|       |        | 132322   | 1745       | 50% RB Mid      | 38 Pos 19   | 14.50                         | 13.77                       | 13.59  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 14.50                         | 13.83                       | 13.64  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 14.50                         | 13.89                       | 13.84  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.97                       | 14.25  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 14.50                         | 13.95                       | 14.21  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 14.50                         | 13.78                       | 14.11  |
|       |        | 132597   | 1772.5     | 50% RB Low      | 38 Pos 0    | 14.50                         | 13.89                       | 13.79  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 14.50                         | 13.92                       | 13.82  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 14.50                         | 13.90                       | 13.77  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 14.50                         | 13.96                       | 13.93  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.77                       | 13.78  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 14.50                         | 13.51                       | 13.51  |
| LTE66 | 10 MHz | 132022   | 1715       | 1RB High        | 1 Pos 74    | 14.50                         | 13.71                       | 13.71  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 14.50                         | 13.59                       | 13.47  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 14.50                         | 13.55                       | 13.43  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 14.50                         | 13.54                       | 13.40  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 14.50                         | 13.68                       | 13.66  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.45                       | 13.88  |
|       |        | 132322   | 1745       | 1RB Mid         | 1 Pos 24    | 14.50                         | 13.54                       | 13.95  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 14.50                         | 13.66                       | 14.08  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 14.50                         | 13.70                       | 13.66  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 14.50                         | 13.70                       | 13.63  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 14.50                         | 13.74                       | 13.67  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 14.50                         | 13.82                       | 13.75  |
|       |        | 132622   | 1775       | 1RB Low         | 1 Pos 0     | 14.50                         | 14.04                       | 13.97  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 14.50                         | 13.98                       | 13.90  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 14.50                         | 14.03                       | 13.93  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 14.50                         | 13.83                       | 13.68  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 14.50                         | 13.87                       | 13.67  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 14.50                         | 13.88                       | 13.68  |
| LTE66 | 10 MHz | 132022   | 1715       | 100% RB         | 50 Pos 0    | 14.50                         | 13.92                       | 13.94  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.77                       | 13.85  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 14.50                         | 13.63                       | 13.70  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 14.50                         | 13.90                       | 13.96  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 14.50                         | 13.58                       | 13.44  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 14.50                         | 13.52                       | 13.39  |
|       |        | 132322   | 1745       | 50% RB High     | 25 Pos 24   | 14.50                         | 13.64                       | 13.44  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 14.50                         | 13.75                       | 13.73  |
|       |        |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.75                       | 13.73  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 14.50                         | 13.75                       | 13.73  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 14.50                         | 13.75                       | 13.73  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 14.50                         | 13.75                       | 13.73  |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE66 | 5.0 MHz | 131997   | 1712.5     | 1RB Low         | 1 Pos 0     | 14.50                         | 13.35                       | 13.72  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 14.50                         | 13.36                       | 13.82  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 14.50                         | 13.42                       | 13.85  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 14.50                         | 13.55                       | 13.40  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 14.50                         | 13.61                       | 13.46  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 14.50                         | 13.63                       | 13.47  |
|       |         | 132322   | 1745       | 100% RB         | 25 Pos 0    | 14.50                         | 13.68                       | 13.58  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.68                       | 13.71  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 14.50                         | 13.72                       | 13.72  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 14.50                         | 13.74                       | 13.76  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 14.50                         | 13.74                       | 13.67  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 14.50                         | 13.71                       | 13.70  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 14.50                         | 13.76                       | 13.73  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 14.50                         | 13.86                       | 13.77  |
|       |         | 132647   | 1777.5     | 1RB Low         | 1 Pos 0     | 14.50                         | 13.28                       | 13.62  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 14.50                         | 13.28                       | 13.63  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 14.50                         | 13.44                       | 13.81  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 14.50                         | 13.42                       | 13.29  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 14.50                         | 13.49                       | 13.37  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 14.50                         | 13.58                       | 13.48  |
|       | 3.0 MHz | 131987   | 1711.5     | 100% RB         | 25 Pos 0    | 14.50                         | 13.59                       | 13.51  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.16                       | 13.61  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 14.50                         | 13.50                       | 13.86  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 14.50                         | 13.50                       | 13.86  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 14.50                         | 13.48                       | 13.59  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 14.50                         | 13.30                       | 13.15  |
|       |         | 132322   | 1745       | 50% RB High     | 8 Pos 7     | 14.50                         | 13.35                       | 13.18  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 14.50                         | 13.53                       | 13.40  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.88                       | 14.09  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 14.50                         | 14.07                       | 14.16  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 14.50                         | 13.99                       | 14.09  |
|       |         |          |            | 50% RB Low      | 8 Pos 0     | 14.50                         | 13.76                       | 13.44  |
|       |         | 132657   | 1778.5     | 50% RB Mid      | 8 Pos 4     | 14.50                         | 13.79                       | 13.47  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 14.50                         | 13.82                       | 13.77  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 14.50                         | 13.77                       | 13.71  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.39                       | 13.02  |
|       |         |          |            | 1RB Mid         | 1 Pos 7     | 14.50                         | 13.84                       | 13.16  |
|       |         |          |            | 1RB High        | 1 Pos 14    | 14.50                         | 13.85                       | 13.19  |
|       | 1.4 MHz | 131979   | 1710       | 50% RB Low      | 8 Pos 0     | 14.50                         | 13.59                       | 13.41  |
|       |         |          |            | 50% RB Mid      | 8 Pos 4     | 14.50                         | 13.59                       | 13.55  |
|       |         |          |            | 50% RB High     | 8 Pos 7     | 14.50                         | 13.64                       | 13.52  |
|       |         |          |            | 100% RB         | 15 Pos 0    | 14.50                         | 13.68                       | 13.45  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 13.63                       | 13.02  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 14.50                         | 13.59                       | 13.01  |
|       |         | 132322   | 1745       | 1RB High        | 1 Pos 5     | 14.50                         | 13.68                       | 13.07  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 14.50                         | 13.46                       | 13.58  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 14.50                         | 13.43                       | 13.55  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 14.50                         | 13.46                       | 13.61  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 14.50                         | 13.45                       | 13.27  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 14.50                         | 14.00                       | 14.21  |
|       |         | 132665   | 1779.3     | 1RB Mid         | 1 Pos 2     | 14.50                         | 13.97                       | 14.18  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 14.50                         | 14.04                       | 14.25  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 14.50                         | 13.78                       | 13.63  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 14.50                         | 13.72                       | 13.63  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 14.50                         | 13.74                       | 13.65  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 14.50                         | 13.78                       | 13.65  |
|       |         | 132665   | 1779.3     | 1RB Low         | 1 Pos 0     | 14.50                         | 13.84                       | 14.12  |
|       |         |          |            | 1RB Mid         | 1 Pos 2     | 14.50                         | 13.83                       | 14.11  |
|       |         |          |            | 1RB High        | 1 Pos 5     | 14.50                         | 13.86                       | 14.11  |
|       |         |          |            | 50% RB Low      | 3 Pos 0     | 14.50                         | 13.28                       | 13.59  |
|       |         |          |            | 50% RB Mid      | 3 Pos 1     | 14.50                         | 13.42                       | 13.58  |
|       |         |          |            | 50% RB High     | 3 Pos 2     | 14.50                         | 13.29                       | 13.62  |
|       |         |          |            | 100% RB         | 6 Pos 0     | 14.50                         | 13.47                       | 13.52  |

### B.3.2.11 LTE Band 38 TDD

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE38 | 20 MHz | 37850    | 2580       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.62                       | 16.09  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.48                       | 15.98  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 15.44                       | 15.90  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 15.61                       | 15.64  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 15.52                       | 15.59  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 15.52                       | 15.55  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 15.52                       | 15.56  |
|       |        | 38000    | 2595       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.64                       | 15.44  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.51                       | 15.31  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 15.55                       | 15.35  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 15.55                       | 15.57  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 15.50                       | 15.53  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 15.47                       | 15.51  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 15.52                       | 15.51  |
|       |        | 38150    | 2610       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.49                       | 15.58  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.44                       | 15.54  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 15.50                       | 15.58  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 15.50                       | 15.49  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 15.50                       | 15.48  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 15.49                       | 15.49  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 15.52                       | 15.50  |
|       | 15 MHz | 37825    | 2577.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.71                       | 15.98  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 15.62                       | 15.90  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.54                       | 15.82  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 15.72                       | 15.77  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 15.69                       | 15.74  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 15.63                       | 15.69  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 15.61                       | 15.64  |
|       |        | 38000    | 2595       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.45                       | 15.77  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 15.39                       | 15.71  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.37                       | 15.67  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 15.52                       | 15.53  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 15.50                       | 15.52  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 15.48                       | 15.51  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 15.50                       | 15.58  |
|       |        | 38175    | 2612.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.66                       | 15.87  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 15.65                       | 15.89  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.66                       | 15.90  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 15.57                       | 15.61  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 15.58                       | 15.63  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 15.57                       | 15.61  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 15.53                       | 15.57  |
|       | 10 MHz | 37800    | 2575       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.85                       | 16.14  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 15.79                       | 16.06  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 15.78                       | 16.05  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 15.80                       | 15.83  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 15.77                       | 15.81  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 17.00                         | 15.77                       | 15.80  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 15.70                       | 15.71  |
|       |        | 38000    | 2595       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.55                       | 15.82  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 15.49                       | 15.76  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 15.53                       | 15.79  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 15.70                       | 15.67  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 15.67                       | 15.64  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 17.00                         | 15.67                       | 15.63  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 15.58                       | 15.61  |
|       |        | 38200    | 2615       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.78                       | 15.99  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 15.73                       | 15.96  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 15.80                       | 16.03  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 15.67                       | 15.82  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 15.66                       | 15.81  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 17.00                         | 15.68                       | 15.82  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 15.59                       | 15.68  |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE38 | 5.0 MHz | 37775    | 2572.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.79                       | 15.96  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 15.73                       | 15.91  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 15.76                       | 15.94  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 15.80                       | 15.93  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 15.80                       | 15.90  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 15.79                       | 15.92  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 15.76                       | 15.81  |
|       |         | 38000    | 2595       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.75                       | 15.92  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 15.69                       | 15.87  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 15.65                       | 15.89  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 15.68                       | 15.75  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 15.65                       | 15.72  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 15.66                       | 15.72  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 15.66                       | 15.63  |
|       |         | 38225    | 2617.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.62                       | 15.92  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 15.57                       | 15.89  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 15.63                       | 15.97  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 15.68                       | 15.66  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 15.63                       | 15.65  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 15.63                       | 15.67  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 15.68                       | 15.66  |

### B.3.2.12 LTE Band 41 TDD

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE41 | 20 MHz | 39750    | 2506       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.47                       | 15.95  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.52                       | 16.01  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 15.78                       | 16.24  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 15.61                       | 15.72  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 15.51                       | 15.72  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 15.70                       | 15.78  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 15.56                       | 15.85  |
|       |        | 40185    | 2549.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.96                       | 15.76  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.58                       | 15.57  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 15.82                       | 15.61  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 15.81                       | 15.84  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 15.57                       | 15.76  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 15.77                       | 15.77  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 15.56                       | 15.78  |
|       |        | 40620    | 2593       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.80                       | 15.92  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.59                       | 15.71  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 15.49                       | 15.60  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 15.65                       | 15.65  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 15.57                       | 15.56  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 15.48                       | 15.48  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 15.57                       | 15.59  |
|       |        | 41055    | 2636.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.20                       | 15.68  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.14                       | 15.62  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 15.11                       | 15.59  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 15.26                       | 15.32  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 15.21                       | 15.28  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 15.23                       | 15.30  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 15.22                       | 15.22  |
|       |        | 41490    | 2680       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.29                       | 15.05  |
|       |        |          |            | 1RB Mid         | 1 Pos 50    | 17.00                         | 15.19                       | 15.30  |
|       |        |          |            | 1RB High        | 1 Pos 99    | 17.00                         | 15.28                       | 15.04  |
|       |        |          |            | 50% RB Low      | 50 Pos 0    | 17.00                         | 15.23                       | 15.25  |
|       |        |          |            | 50% RB Mid      | 50 Pos 24   | 17.00                         | 15.17                       | 15.20  |
|       |        |          |            | 50% RB High     | 50 Pos 50   | 17.00                         | 15.16                       | 15.21  |
|       |        |          |            | 100% RB         | 100 Pos 0   | 17.00                         | 15.30                       | 15.27  |

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE41 | 15 MHz | 39725    | 2503.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.55                       | 15.84  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 15.65                       | 15.95  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.76                       | 16.06  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 15.59                       | 15.64  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 15.65                       | 15.72  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 15.66                       | 15.75  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 15.68                       | 15.71  |
|       |        | 40185    | 2549.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.93                       | 16.19  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 15.82                       | 16.07  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.80                       | 16.04  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 15.90                       | 15.98  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 15.85                       | 15.93  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 15.84                       | 15.92  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 15.80                       | 15.89  |
|       |        | 40620    | 2593       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.83                       | 16.05  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 15.66                       | 15.87  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.55                       | 15.74  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 15.73                       | 15.74  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 15.64                       | 15.64  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 15.61                       | 15.60  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 15.58                       | 15.61  |
|       |        | 41055    | 2636.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.28                       | 15.57  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 15.25                       | 15.55  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.24                       | 15.53  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 15.26                       | 15.33  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 15.23                       | 15.31  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 15.23                       | 15.31  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 15.19                       | 15.18  |
|       |        | 41515    | 2682.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.11                       | 15.43  |
|       |        |          |            | 1RB Mid         | 1 Pos 38    | 17.00                         | 15.09                       | 15.38  |
|       |        |          |            | 1RB High        | 1 Pos 74    | 17.00                         | 15.17                       | 15.18  |
|       |        |          |            | 50% RB Low      | 38 Pos 0    | 17.00                         | 15.17                       | 15.22  |
|       |        |          |            | 50% RB Mid      | 38 Pos 19   | 17.00                         | 15.15                       | 15.22  |
|       |        |          |            | 50% RB High     | 38 Pos 39   | 17.00                         | 15.15                       | 15.23  |
|       |        |          |            | 100% RB         | 75 Pos 0    | 17.00                         | 15.03                       | 15.25  |

| Band  | BW     | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|--------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |        |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE41 | 10 MHz | 39700    | 2501       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.61                       | 15.88  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 15.64                       | 15.92  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 15.75                       | 16.03  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 15.62                       | 15.61  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 15.66                       | 15.63  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 17.00                         | 15.70                       | 15.69  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 15.60                       | 15.64  |
|       |        | 40185    | 2549.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.92                       | 16.13  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 15.86                       | 16.06  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 15.91                       | 16.11  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 15.97                       | 15.99  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 15.92                       | 15.94  |
|       |        |          |            | 50% RB High     | 25 Pos 24   | 17.00                         | 15.92                       | 15.95  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 15.88                       | 15.90  |
|       |        | 40620    | 2593       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.87                       | 16.09  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 15.75                       | 15.96  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 15.69                       | 15.89  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 15.79                       | 15.86  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 15.69                       | 15.78  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 15.70                       | 15.77  |
|       |        | 41055    | 2636.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.64                       | 15.73  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 15.35                       | 15.67  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 15.27                       | 15.57  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 15.32                       | 15.63  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 15.34                       | 15.38  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 15.27                       | 15.31  |
|       |        | 41540    | 2685       | 1RB Low         | 1 Pos 0     | 17.00                         | 15.02                       | 15.16  |
|       |        |          |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 15.03                       | 15.13  |
|       |        |          |            | 1RB High        | 1 Pos 49    | 17.00                         | 15.05                       | 15.29  |
|       |        |          |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 15.01                       | 15.04  |
|       |        |          |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 15.01                       | 15.02  |
|       |        |          |            | 100% RB         | 50 Pos 0    | 17.00                         | 15.02                       | 15.05  |

| Band  | BW      | Channel# | Freq (MHz) | % RB Allocation | RB Position | Factory Upper Tolerance (dBm) | Measured Output Power (dBm) |        |
|-------|---------|----------|------------|-----------------|-------------|-------------------------------|-----------------------------|--------|
|       |         |          |            |                 |             |                               | QPSK                        | 16-QAM |
| LTE41 | 5.0 MHz | 39675    | 2498.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.52                       | 15.53  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 15.51                       | 15.54  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 15.59                       | 15.60  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 15.51                       | 15.52  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 15.56                       | 15.56  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 15.55                       | 15.55  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 15.56                       | 15.53  |
|       |         | 40185    | 2549.5     | 1RB Low         | 1 Pos 0     | 17.00                         | 15.93                       | 16.21  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 15.85                       | 16.11  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 15.88                       | 16.15  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 15.87                       | 15.95  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 15.80                       | 15.90  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 15.81                       | 15.90  |
|       |         | 40620    | 2593       | 100% RB         | 25 Pos 0    | 17.00                         | 15.83                       | 15.85  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 17.00                         | 15.67                       | 15.95  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 15.53                       | 15.83  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 15.56                       | 15.83  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 15.68                       | 15.81  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 15.59                       | 15.71  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 15.59                       | 15.71  |
|       |         | 41055    | 2636.5     | 100% RB         | 25 Pos 0    | 17.00                         | 15.59                       | 15.64  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 17.00                         | 15.29                       | 15.34  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 15.20                       | 15.25  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 15.24                       | 15.29  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 15.33                       | 15.36  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 15.28                       | 15.30  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 15.28                       | 15.31  |
|       |         | 41565    | 2687.5     | 100% RB         | 25 Pos 0    | 17.00                         | 15.27                       | 15.22  |
|       |         |          |            | 1RB Low         | 1 Pos 0     | 17.00                         | 15.01                       | 15.25  |
|       |         |          |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 15.04                       | 15.23  |
|       |         |          |            | 1RB High        | 1 Pos 24    | 17.00                         | 15.08                       | 15.35  |
|       |         |          |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 15.05                       | 15.17  |
|       |         |          |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 15.04                       | 15.17  |
|       |         |          |            | 50% RB High     | 12 Pos 11   | 17.00                         | 15.07                       | 15.20  |
|       |         |          |            | 100% RB         | 25 Pos 0    | 17.00                         | 15.05                       | 15.04  |

## B.4 Tissue Parameters Measurement

### Body TSL

| Freq.<br>(MHz) | Target Parameters |                | Measured TSL<br>Parameters |                | Deviation (%) |          | Date       |
|----------------|-------------------|----------------|----------------------------|----------------|---------------|----------|------------|
|                | $\epsilon'$ (F/m) | $\sigma$ (S/m) | $\epsilon'$ (F/m)          | $\sigma$ (S/m) | $\epsilon'$   | $\sigma$ |            |
| 750            | 55.53             | 0.96           | 53.77                      | 0.92           | -3.17         | -4.17    | 2019-12-30 |
| 835            | 55.15             | 0.99           | 52.57                      | 1.01           | -4.68         | 2.02     | 2019-12-23 |
| 835            | 55.15             | 0.99           | 53.56                      | 0.95           | -2.88         | -4.04    | 2019-12-30 |
| 835            | 55.15             | 0.99           | 53.80                      | 0.99           | -2.45         | 0.00     | 2020-01-23 |
| 1750           | 53.43             | 1.49           | 51.64                      | 1.48           | -3.35         | -0.67    | 2019-12-23 |
| 1750           | 53.43             | 1.49           | 51.30                      | 1.47           | -3.99         | -1.34    | 2020-01-02 |
| 1900           | 53.30             | 1.52           | 51.42                      | 1.58           | -3.53         | 3.95     | 2019-12-23 |
| 1900           | 53.30             | 1.52           | 51.82                      | 1.58           | -2.78         | 3.95     | 2019-12-30 |
| 2300           | 52.90             | 1.81           | 51.19                      | 1.91           | -3.23         | 5.52     | 2019-12-30 |
| 2600           | 52.51             | 2.16           | 50.64                      | 2.21           | -3.56         | 2.31     | 2019-12-30 |
| 2600           | 52.51             | 2.16           | 50.34                      | 2.20           | -4.13         | 1.85     | 2020-01-06 |

See *Annex D* below for more details.

## B.5 System Check Measurements

### Body Measurements

| Frequency (MHz) | Average | Target SAR (W/Kg) | Measured SAR (W/Kg) | Deviation to target (%) | Limit (%) | Date       |
|-----------------|---------|-------------------|---------------------|-------------------------|-----------|------------|
| 750             | 1g      | 8.46              | 7.66                | -9.44                   | ±10       | 2019-12-30 |
|                 | 10g     | 5.59              | 5.04                | -9.83                   |           |            |
| 835             | 1g      | 9.63              | 9.80                | 1.77                    |           | 2019-12-24 |
|                 | 10g     | 6.31              | 6.40                | 1.43                    |           |            |
| 835             | 1g      | 9.63              | 9.14                | -5.09                   |           | 2019-12-31 |
|                 | 10g     | 6.31              | 5.98                | -5.23                   |           |            |
| 835             | 1g      | 9.63              | 9.86                | 2.39                    |           | 2020-01-24 |
|                 | 10g     | 6.31              | 6.50                | 3.01                    |           |            |
| 1750            | 1g      | 36.80             | 33.80               | -8.15                   |           | 2019-12-24 |
|                 | 10g     | 19.40             | 17.90               | -7.73                   |           |            |
| 1750            | 1g      | 36.80             | 33.80               | -8.15                   |           | 2020-01-02 |
|                 | 10g     | 19.40             | 17.86               | -7.94                   |           |            |
| 1900            | 1g      | 39.50             | 37.60               | -4.81                   |           | 2019-12-24 |
|                 | 10g     | 20.70             | 19.50               | -5.80                   |           |            |
| 1900            | 1g      | 39.50             | 36.80               | -6.84                   |           | 2019-12-30 |
|                 | 10g     | 20.70             | 19.16               | -7.44                   |           |            |
| 2300            | 1g      | 47.20             | 47.60               | 0.85                    |           | 2019-12-30 |
|                 | 10g     | 22.60             | 22.60               | 0.00                    |           |            |
| 2600            | 1g      | 54.60             | 56.40               | 3.30                    |           | 2019-12-31 |
|                 | 10g     | 24.20             | 24.60               | 2.48                    |           |            |
| 2600            | 1g      | 54.60             | 55.20               | 1.10                    |           | 2020-01-06 |
|                 | 10g     | 24.20             | 24.40               | 0.83                    |           |            |
| 2600            | 1g      | 54.60             | 52.60               | -3.66                   |           | 2020-01-07 |
|                 | 10g     | 24.20             | 53.40               | -3.31                   |           |            |

See Annex C for more details.

## B.6 SAR Test Results

### B.6.1 WCDMA

| BW (MHz) | Rate         | Distance (mm) | Radio Band Name | Channel Number | Freq (MHz) | Test position mode | Position   | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|----------|--------------|---------------|-----------------|----------------|------------|--------------------|------------|---------------------|------------------------|------------------------|--------|
| 5        | RMC 12.2kbps | 0mm           | Band 2          | 9263           | 1852.6     | Tablet             | Back Face  | 0.26                | 1.19                   | 1.26                   | 1      |
|          |              |               |                 |                |            | Notebook           | Laptop     | 0.22                | 0.94                   | 0.99                   |        |
|          |              |               |                 | 9400           | 1880       | Tablet             | Back Face  | 0.38                | 1.09                   | 1.19                   |        |
|          |              |               |                 |                |            |                    | Right edge | 0.38                | 0.25                   | 0.27                   |        |
|          |              |               |                 |                |            | Notebook           | Top edge   | 0.38                | 0.03                   | 0.04                   |        |
|          |              |               |                 |                |            |                    | Laptop     | 0.07                | 0.95                   | 0.96                   |        |
|          |              |               | Band 4          | 9538           | 1907.6     | Tablet             | Back Face  | 0.29                | 0.98                   | 1.05                   |        |
|          |              |               |                 |                |            | Notebook           | Laptop     | 0.35                | 0.91                   | 0.98                   |        |
|          |              |               |                 | 1312           | 1712.6     | Tablet             | Back Face  | 0.00                | 1.31                   | 1.31                   |        |
|          |              |               |                 |                |            | Notebook           | Laptop     | 0.06                | 1.08                   | 1.10                   |        |
|          |              |               |                 | 1450           | 1740       | Tablet             | Back Face  | 0.00                | 1.34                   | 1.34                   |        |
|          |              |               |                 |                |            |                    | Right edge | 0.00                | 0.38                   | 0.38                   |        |
|          |              |               |                 |                |            | Notebook           | Top edge   | 0.00                | 0.02                   | 0.02                   |        |
|          |              |               |                 |                |            |                    | Laptop     | 0.28                | 1.13                   | 1.21                   |        |
|          |              |               |                 | 1513           | 1752.6     | Tablet             | Back Face  | 0.00                | 1.41                   | 1.41                   | 2      |
|          |              |               |                 |                |            | Notebook           | Laptop     | 0.00                | 1.15                   | 1.15                   |        |
|          |              |               | Band 5          | 4133           | 826.6      | Tablet             | Back Face  | 0.06                | 1.23                   | 1.25                   |        |
|          |              |               |                 |                |            |                    | Right edge | 0.06                | 0.44                   | 0.45                   |        |
|          |              |               |                 |                |            | Notebook           | Top edge   | 0.06                | 0.18                   | 0.18                   |        |
|          |              |               |                 |                |            |                    | Laptop     | 0.39                | 0.87                   | 0.96                   |        |
|          |              |               |                 | 4175           | 835        | Tablet             | Back Face  | 0.01                | 1.29                   | 1.29                   | 3      |
|          |              |               |                 |                |            | Notebook           | Laptop     | 0.31                | 0.93                   | 0.99                   |        |
|          |              |               |                 | 4232           | 846.4      | Tablet             | Back Face  | 0.02                | 1.22                   | 1.23                   |        |
|          |              |               |                 |                |            | Notebook           | Laptop     | 0.37                | 0.90                   | 0.98                   |        |

## B.6.2 LTE

### B.6.2.1 LTE Band 2 FDD

| Band   | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|--------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 2 | QPSK | 20       | 0mm           | 18700          | 1860       | Tablet             | Back Face  | 1RB Mid   | 0.80                | 1.14                   | 1.37                   | 4      |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.78                | 1.15                   | 1.38                   |        |
|        |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 0.88                | 0.95                   | 1.16                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.79                | 0.95                   | 0.78                   |        |
|        |      |          |               | 18900          | 1880       | Tablet             | Back Face  | 1RB Mid   | 0.79                | 1.14                   | 1.37                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.66                | 1.09                   | 1.27                   |        |
|        |      |          |               |                |            |                    |            | 100RB Mid | 0.58                | 1.05                   | 1.20                   |        |
|        |      |          |               |                |            |                    | Right edge | 1RB Mid   | 0.79                | 0.26                   | 0.31                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.66                | 0.26                   | 0.30                   |        |
|        |      |          |               |                |            |                    | Top edge   | 1RB Mid   | 0.79                | 0.04                   | 0.04                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.66                | 0.04                   | 0.04                   |        |
|        |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 0.77                | 0.95                   | 1.13                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.72                | 0.92                   | 0.66                   |        |
|        |      |          |               |                |            |                    |            | 100RB Mid | 0.67                | 0.95                   | 1.11                   |        |
|        |      |          |               | 19100          | 1900       | Tablet             | Back Face  | 1RB Mid   | 1.03                | 0.96                   | 1.22                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.94                | 0.97                   | 1.20                   |        |
|        |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.09                | 0.84                   | 1.08                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.95                | 0.88                   | 0.94                   |        |

### B.6.2.2 LTE Band 5 FDD

| Band   | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|--------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 5 | QPSK | 10       | 0mm           | 20450          | 829        | Tablet             | Back Face  | 1RB Mid   | 1.25                | 1.00                   | 1.33                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.26                | 1.02                   | 1.36                   |        |
|        |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.33                | 0.87                   | 1.18                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.21                | 0.89                   | 1.18                   |        |
|        |      |          |               | 20525          | 836.5      | Tablet             | Back Face  | 1RB Mid   | 1.13                | 1.09                   | 1.41                   | 5      |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.10                | 1.08                   | 1.39                   |        |
|        |      |          |               |                |            |                    |            | 100RB Mid | 1.07                | 1.10                   | 1.41                   |        |
|        |      |          |               |                |            |                    | Right edge | 1RB Mid   | 1.13                | 0.43                   | 0.55                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.10                | 0.43                   | 0.56                   |        |
|        |      |          |               |                |            |                    | Top edge   | 1RB Mid   | 1.13                | 0.21                   | 0.27                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.10                | 0.21                   | 0.27                   |        |
|        |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 0.84                | 0.96                   | 1.16                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.98                | 0.96                   | 1.20                   |        |
|        |      |          |               |                |            |                    |            | 100RB Mid | 0.99                | 0.96                   | 1.20                   |        |
|        |      |          |               | 26990          | 844        | Tablet             | Back Face  | 1RB Mid   | 1.27                | 1.02                   | 1.37                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.11                | 1.06                   | 1.37                   |        |
|        |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.14                | 0.94                   | 1.22                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.05                | 0.96                   | 1.22                   |        |

### B.6.2.3 LTE Band 7 FDD

| Band   | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|--------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 7 | QPSK | 20       | 0mm           | 21100          | 2535       | Tablet             | Back Face  | 1RB Mid   | 0.94                | 1.01                   | 1.25                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.75                | 1.00                   | 1.19                   |        |
|        |      |          |               |                |            |                    |            | 100RB Mid | 0.64                | 1.03                   | 1.19                   |        |
|        |      |          |               |                |            |                    | Right edge | 1RB Mid   | 0.94                | 0.70                   | 0.87                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.75                | 0.70                   | 0.83                   |        |
|        |      |          |               |                |            |                    | Top edge   | 1RB Mid   | 0.94                | 0.16                   | 0.20                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.75                | 0.16                   | 0.19                   |        |
|        |      |          |               | 21350          | 2560       | Laptop             | Laptop     | 1RB Mid   | 1.35                | 0.75                   | 1.02                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.21                | 0.76                   | 1.00                   |        |
|        |      |          |               |                |            |                    |            | 100RB Mid | 1.13                | 0.77                   | 0.99                   |        |
|        |      |          |               |                |            | Tablet             | Back Face  | 1RB Mid   | 0.99                | 0.93                   | 1.17                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.00                | 0.92                   | 1.16                   |        |
|        |      |          |               |                |            |                    | Laptop     | 1RB Mid   | 1.48                | 0.76                   | 1.07                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.40                | 0.77                   | 1.06                   |        |
|        |      |          |               | 20850          | 2510       | Tablet             | Back Face  | 1RB Mid   | 1.00                | 1.03                   | 1.30                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 0.75                | 1.07                   | 1.27                   | 6      |
|        |      |          |               |                |            | Laptop             | Laptop     | 1RB Mid   | 1.24                | 0.68                   | 0.91                   |        |
|        |      |          |               |                |            |                    |            | 50RB Mid  | 1.14                | 0.68                   | 0.89                   |        |

### B.6.2.4 LTE Band 12 FDD

| Band    | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 12 | QPSK | 10       | 0mm           | 23095          | 707.5      | Tablet             | Back Face  | 1RB Mid   | 1.02                | 0.81                   | 1.03                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.98                | 0.86                   | 1.08                   | 7      |
|         |      |          |               |                |            |                    |            | 100RB Mid | 0.87                | 0.85                   | 1.04                   |        |
|         |      |          |               |                |            |                    | Right edge | 1RB Mid   | 1.02                | 0.18                   | 0.23                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.98                | 0.19                   | 0.24                   |        |
|         |      |          |               |                |            |                    | Top edge   | 1RB Mid   | 1.02                | 0.16                   | 0.20                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.98                | 0.16                   | 0.20                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 0.88                | 0.73                   | 0.89                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.95                | 0.75                   | 0.93                   |        |
|         |      |          |               |                |            |                    |            | 100RB Mid | 0.78                | 0.78                   | 0.94                   |        |

### B.6.2.5 LTE Band 13 FDD

| Band    | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 13 | QPSK | 10       | 0mm           | 23230          | 782        | Tablet             | Back Face  | 1RB Mid   | 1.08                | 1.02                   | 1.31                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.02                | 1.05                   | 1.33                   | 8      |
|         |      |          |               |                |            |                    |            | 100RB Mid | 0.87                | 1.05                   | 1.28                   |        |
|         |      |          |               |                |            |                    | Right edge | 1RB Mid   | 1.07                | 0.32                   | 0.40                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.02                | 0.33                   | 0.42                   |        |
|         |      |          |               |                |            |                    | Top edge   | 1RB Mid   | 1.08                | 0.21                   | 0.27                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.02                | 0.21                   | 0.27                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.12                | 0.90                   | 1.16                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.04                | 0.92                   | 1.17                   |        |
|         |      |          |               |                |            |                    |            | 100RB Mid | 0.83                | 0.95                   | 1.15                   |        |

### B.6.2.6 LTE Band 26 FDD

| Band    | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 26 | QPSK | 15       | 0mm           | 26865          | 831.5      | Tablet             | Back Face  | 1RB Mid   | 0.96                | 1.00                   | 1.25                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.85                | 1.02                   | 1.24                   |        |
|         |      |          |               |                |            |                    |            | 100RB Mid | 0.74                | 0.95                   | 1.13                   |        |
|         |      |          |               |                |            |                    | Right edge | 1RB Mid   | 0.96                | 0.36                   | 0.45                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.85                | 0.37                   | 0.45                   |        |
|         |      |          |               |                |            |                    | Top edge   | 1RB Mid   | 0.96                | 0.18                   | 0.23                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.85                | 0.19                   | 0.23                   |        |
|         |      |          |               | 26965          | 841.5      | Notebook           | Laptop     | 1RB Mid   | 1.34                | 0.77                   | 1.04                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.27                | 0.78                   | 1.05                   |        |
|         |      |          |               |                |            |                    |            | 100RB Mid | 1.09                | 0.81                   | 1.04                   |        |
|         |      |          |               |                |            | Tablet             | Back Face  | 1RB Mid   | 0.98                | 1.06                   | 1.33                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.88                | 1.09                   | 1.33                   | 9      |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.05                | 0.86                   | 1.09                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.08                | 0.87                   | 1.12                   |        |
|         |      |          |               |                |            |                    |            | 1RB Mid   | 1.00                | 1.02                   | 1.28                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.86                | 1.06                   | 1.29                   |        |
|         |      |          |               | 26775          | 822.5      | Tablet             | Back Face  | 1RB Mid   | 1.00                | 1.02                   | 1.28                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 0.86                | 1.06                   | 1.29                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.14                | 0.78                   | 1.01                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.08                | 0.79                   | 1.01                   |        |

### B.6.2.7 LTE Band 30 FDD

| Band    | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 30 | QPSK | 10       | 0mm           | 27710          | 2310       | Tablet             | Back Face  | 1RB Mid   | 1.12                | 0.93                   | 1.20                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.13                | 0.95                   | 1.23                   | 10     |
|         |      |          |               |                |            |                    |            | 100RB Mid | 0.93                | 0.96                   | 1.19                   |        |
|         |      |          |               |                |            |                    | Right edge | 1RB Mid   | 1.12                | 0.32                   | 0.41                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.13                | 0.33                   | 0.43                   |        |
|         |      |          |               |                |            |                    | Top edge   | 1RB Mid   | 1.12                | 0.04                   | 0.05                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.13                | 0.04                   | 0.05                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.13                | 0.69                   | 0.90                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.07                | 0.72                   | 0.92                   |        |
|         |      |          |               |                |            |                    |            | 100RB Mid | 0.91                | 0.72                   | 0.89                   |        |

### B.6.2.8 LTE Band 38 TDD

| Band    | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 38 | QPSK | 20       | 0mm           | 37850          | 2580       | Tablet             | Back Face  | 1RB Mid   | 1.52                | 0.81                   | 1.14                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.48                | 0.79                   | 1.11                   |        |
|         |      |          |               |                |            |                    | Right edge | 1RB Mid   | 1.52                | 0.34                   | 0.49                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.48                | 0.09                   | 0.13                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.57                | 0.85                   | 1.22                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.49                | 0.86                   | 1.21                   |        |
|         |      |          |               | 38000          | 2595       | Tablet             | Back Face  | 1RB Mid   | 1.49                | 0.77                   | 1.08                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.50                | 0.77                   | 1.08                   |        |
|         |      |          |               |                |            |                    | Right edge | 100RB Mid | 1.48                | 0.77                   | 1.08                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.50                | 0.34                   | 0.48                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.58                | 0.85                   | 1.23                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.62                | 0.85                   | 1.24                   |        |
|         |      |          |               |                |            |                    |            | 100RB Mid | 1.61                | 0.86                   | 1.24                   |        |
|         |      |          |               | 38150          | 2610       | Tablet             | Back Face  | 1RB Mid   | 1.56                | 0.77                   | 1.10                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.50                | 0.76                   | 1.08                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.52                | 0.85                   | 1.21                   | 11     |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.54                | 0.84                   | 1.20                   |        |

### B.6.2.9 LTE Band 41 TDD

| Band    | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 41 | QPSK | 20       | 0mm           | 40620          | 2593       | Tablet             | Back Face  | 1RB Mid   | 1.41                | 0.85                   | 1.18                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.43                | 0.79                   | 1.10                   |        |
|         |      |          |               |                |            |                    |            | 100RB Mid | 1.43                | 0.80                   | 1.11                   |        |
|         |      |          |               |                |            |                    | Right edge | 1RB Mid   | 1.41                | 0.33                   | 0.46                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.43                | 0.34                   | 0.47                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.41                | 0.18                   | 0.25                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.43                | 0.18                   | 0.25                   |        |
|         |      |          |               |                |            |                    |            | 1RB Mid   | 1.47                | 0.92                   | 1.28                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.50                | 0.89                   | 1.25                   |        |
|         |      |          |               |                |            |                    |            | 100RB Mid | 1.49                | 0.88                   | 1.24                   |        |
|         |      |          |               | 39750          | 2506       | Tablet             | Back Face  | 1RB Mid   | 1.48                | 0.96                   | 1.35                   | 12     |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.49                | 0.94                   | 1.32                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.44                | 0.70                   | 0.97                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.37                | 0.68                   | 0.94                   |        |
|         |      |          |               | 40185          | 2549.5     | Tablet             | Back Face  | 1RB Mid   | 1.42                | 0.94                   | 1.31                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.43                | 0.90                   | 1.25                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.21                | 0.87                   | 1.15                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.27                | 0.84                   | 1.12                   |        |
|         |      |          |               | 41055          | 2636.5     | Tablet             | Back Face  | 1RB Mid   | 1.86                | 0.73                   | 1.13                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.79                | 0.73                   | 1.09                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.88                | 0.76                   | 1.17                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.81                | 0.75                   | 1.14                   |        |
|         |      |          |               | 41490          | 2680       | Tablet             | Back Face  | 1RB Mid   | 1.84                | 0.70                   | 1.08                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.86                | 0.70                   | 1.08                   |        |
|         |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 1.81                | 0.59                   | 0.90                   |        |
|         |      |          |               |                |            |                    |            | 50RB Mid  | 1.83                | 0.60                   | 0.91                   |        |

### B.6.2.1 LTE Band 66 FDD

| Radio Band Name | Mod. | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Test position mode | Position   | RB        | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|-----------------|------|----------|---------------|----------------|------------|--------------------|------------|-----------|---------------------|------------------------|------------------------|--------|
| Band 66         | QPSK | 20       | 0mm           | 132572         | 1770       | Tablet             | Back Face  | 1RB Mid   | 0.87                | 1.07                   | 1.31                   | 13     |
|                 |      |          |               |                |            |                    |            | 50RB Mid  | 0.85                | 1.08                   | 1.31                   |        |
|                 |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 0.72                | 1.05                   | 1.24                   |        |
|                 |      |          |               |                |            |                    |            | 50RB Mid  | 0.84                | 1.08                   | 1.31                   |        |
|                 |      |          |               | 132322         | 1745       | Tablet             | Back Face  | 1RB Mid   | 0.64                | 1.04                   | 1.21                   |        |
|                 |      |          |               |                |            |                    |            | 50RB Mid  | 0.55                | 1.06                   | 1.20                   |        |
|                 |      |          |               |                |            |                    |            | 100RB Mid | 0.36                | 1.12                   | 1.22                   |        |
|                 |      |          |               |                |            |                    | Right edge | 1RB Mid   | 0.64                | 0.35                   | 0.40                   |        |
|                 |      |          |               |                |            |                    |            | 50RB Mid  | 0.55                | 0.36                   | 0.41                   |        |
|                 |      |          |               |                |            |                    | Top edge   | 1RB Mid   | 0.64                | 0.03                   | 0.03                   |        |
|                 |      |          |               |                |            |                    |            | 50RB Mid  | 0.55                | 0.03                   | 0.03                   |        |
|                 |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 0.77                | 1.04                   | 1.24                   |        |
|                 |      |          |               |                |            |                    |            | 50RB Mid  | 0.54                | 1.11                   | 1.26                   |        |
|                 |      |          |               |                |            |                    |            | 100RB Mid | 0.34                | 1.17                   | 1.27                   |        |
|                 |      |          |               | 132072         | 1720       | Tablet             | Back Face  | 1RB Mid   | 0.67                | 1.03                   | 1.20                   |        |
|                 |      |          |               |                |            |                    |            | 50RB Mid  | 0.68                | 1.04                   | 1.22                   |        |
|                 |      |          |               |                |            | Notebook           | Laptop     | 1RB Mid   | 0.77                | 1.05                   | 1.25                   |        |
|                 |      |          |               |                |            |                    |            | 50RB Mid  | 0.66                | 1.10                   | 1.28                   |        |

### B.6.3 SAR Measurement Variability

According to FCC OET KDB 865664, SAR Measurement variability is assessed when the maximum initial measured SAR is  $\geq 0.8$  W/kg for a certain band/mode. If the measured SAR value of the initial repeated measurement is  $< 1.45$  W/kg with  $< 20\%$  variation, only one repeated measurement is required to confirm that the results are not expected to have substantial variations.

A second repeated measurement is required only if the measured results for the initial repeated measurement are within 10% of the SAR limit or vary by more than 20%.

A third repeated measurement is required only if the original, first or second repeated measurement  $\geq 1.5$  W/Kg and the ratio of largest to smallest SAR for the original, first and second repeated measurement is  $> 1.2$ .

| Band / Mode               | Position  | Ch #  | Freq. (MHz) | Measured SAR 1g (W/kg) | 1 <sup>st</sup> Repeated SAR 1g (W/Kg) | 2 <sup>nd</sup> Repeated SAR 1g (W/Kg) | Highest Ratio |
|---------------------------|-----------|-------|-------------|------------------------|----------------------------------------|----------------------------------------|---------------|
| LTE FDD 13 / QPSK – 10MHz | Back Face | 23230 | 750         | 1.05                   | 1.04                                   |                                        | 1.01          |
| WCDMA FDD V / 5MHz        | Back Face | 4175  | 835         | 1.29                   | 1.22                                   |                                        | 1.06          |
| WCDMA FDD IV / 5MHz       | Back Face | 1512  | 1750        | 1.41                   | 1.40                                   |                                        | 1.01          |
| WCDMA FDD II / 5MHz       | Back Face | 9263  | 1900        | 1.19                   | 1.11                                   |                                        | 1.07          |
| LTE FDD 30 / QPSK – 10MHz | Back Face | 27710 | 2300        | 0.96                   | 0.95                                   |                                        | 1.01          |
| LTE FDD 7 / QPSK – 20MHz  | Back Face | 20850 | 2600        | 1.07                   | 1.05                                   |                                        | 1.02          |

## B.6.4 Simultaneous Transmission SAR Evaluation

According to FCC OET KDB 447498 D01, when the sum of 1g SAR for all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration.

As commented on sections 3 and 5, this report only evaluates SAR for cellular transmission on the module Fibocom M2 L850GL, nevertheless in order to consider all possible simultaneous transmissions on the device for compliance, WLAN SAR values reported on document [3] mentioned on section 3 are considered.

All the values stated in the table below are the worst case found for standalone measurement with disregard of the transmission mode or channel where the worst case was found

| Antenna   | Position   | Highest Reported SAR (1g) (W/Kg) |             |           |           |
|-----------|------------|----------------------------------|-------------|-----------|-----------|
|           |            | WWAN                             | WLAN 2.4GHz | WLAN 5GHz | Bluetooth |
| Main WWAN | Top Edge   | 0.27                             |             |           |           |
|           | Back Face  | 1.41                             |             |           |           |
|           | Right Edge | 0.87                             |             |           |           |
|           | Laptop     | 1.31                             |             |           |           |
| WLAN      | Top Edge   |                                  | 0.78        | 1.35      | 0.09      |
|           | Back Face  |                                  | 0.05        | 0.06      | 0.01      |

| Position  | Simultaneous Tx Antenna Combination |           |                 |   | $\Sigma$ SAR 1g (W/Kg) | Limit (W/kg) |
|-----------|-------------------------------------|-----------|-----------------|---|------------------------|--------------|
|           | #                                   | Main WWAN | WLAN/BT Antenna | - |                        |              |
| Top Edge  | 1                                   | Cellular  | WLAN 5GHz       |   | <b>1.62</b>            | 1.6          |
|           | 2                                   | Cellular  | WLAN 5GHz +BT   |   | <b>1.71</b>            |              |
|           | 3                                   | Cellular  | WLAN 2.4GHz     |   | 1.05                   |              |
| Back Face | 1                                   | Cellular  | WLAN 5GHz       |   | 1.47                   |              |
|           | 2                                   | Cellular  | WLAN 5GHz + BT  |   | 1.48                   |              |
|           | 3                                   | Cellular  | WLAN 2.4GHz     |   | 1.46                   |              |

In case the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. According to the last table possible simultaneous transmission combinations are identified for each position from 1 to 3, each combination will be analyzed by antenna pairs. Antenna pairs considered in one configuration won't be performed again in case they are repeated on the next simultaneous configuration:

| Position | Ant. Pair case | Antenna   | Reported SAR 1g (W/kg) | Σ SAR 1g (W/Kg) | Peak Location (mm) (x,y,z) | SAR to peak location separation ratio | Limit |
|----------|----------------|-----------|------------------------|-----------------|----------------------------|---------------------------------------|-------|
| Top Edge | 1a             | Main WWAN | 0.27                   | 1.62            | (0.0, 147.0, -177.3)       | 0.03                                  | 0.04  |
|          |                | WLAN 5GHz | 1.35                   |                 | (0.0, 71.0, -177.5)        |                                       |       |
|          | 2a             | Main WWAN | 0.27                   | 1.71            | (0.0, 147.0, -177.3)       | 0.04*                                 |       |
|          |                | WLAN 5GHz | 1.35                   |                 | (0.0, 71.0, -177.5)        |                                       |       |
|          |                | BT        | 0.09                   |                 | (0.0, 88.5, -177.6)        |                                       |       |

\* The worst case for simultaneous SAR to peak location separation ratio calculation was made considering the sum of 3 SAR results and the closest maxima distance between the WWAN and WLAN antenna (i.e. the closest distance between the peak location between Main WWAN to Main WLAN and Main WWAN to Main BT).

Considering the results described above and according to the simultaneous transmission evaluation exclusions described in FCC OET KDB 447498 D01, no enlarged zoom scan measurements are required

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## 1. WCDMA FDD II, 12.2kbps RMC, CH9263, Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band             | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 2, UTRA/FDD | WCDMA, 10011-CAB | 1852.6, 9263                    | 7.89              | 1.54                   | 51.5             |

### Hardware Setup

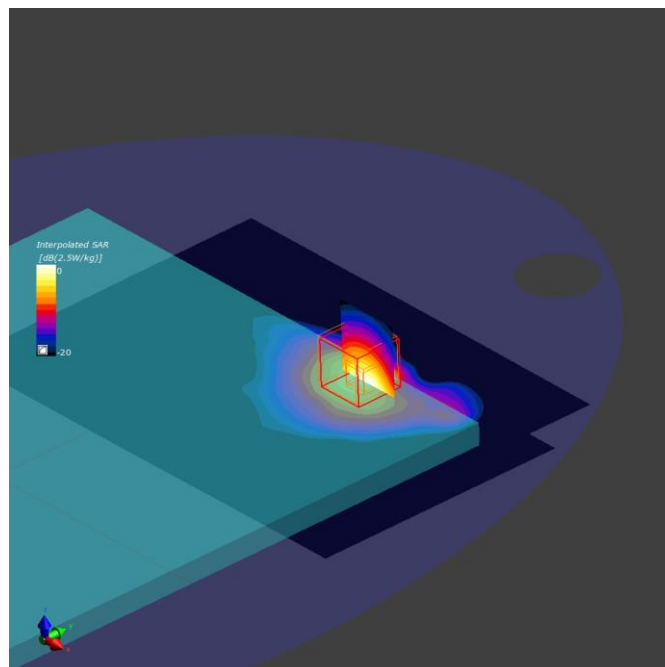
| Phantom                            | TSL, Measured Date         | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000, 2019-Dec-23 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                  | Area Scan         | Zoom Scan         |
|------------------|-------------------|-------------------|
| Date             | 2019-12-24, 15:01 | 2019-12-24, 15:06 |
| SAR1g [W/Kg]     | 1.08              | 1.19              |
| SAR10g [W/Kg]    | 0.527             | 0.527             |
| Power Drift [dB] | 0.01              | 0.08              |
| Power Scaling    | Disabled          | Disabled          |
| Scaling Factor   |                   |                   |
| TSL Correction   | Positive Only     | Positive Only     |



## 2. WCDMA FDD IV, 12.2kbps RMC, CH1513, Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band             | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 4, UTRA/FDD | WCDMA, 10011-CAB | 1752.6, 1513                    | 8.26              | 1.48                   | 51.6             |

### Hardware Setup

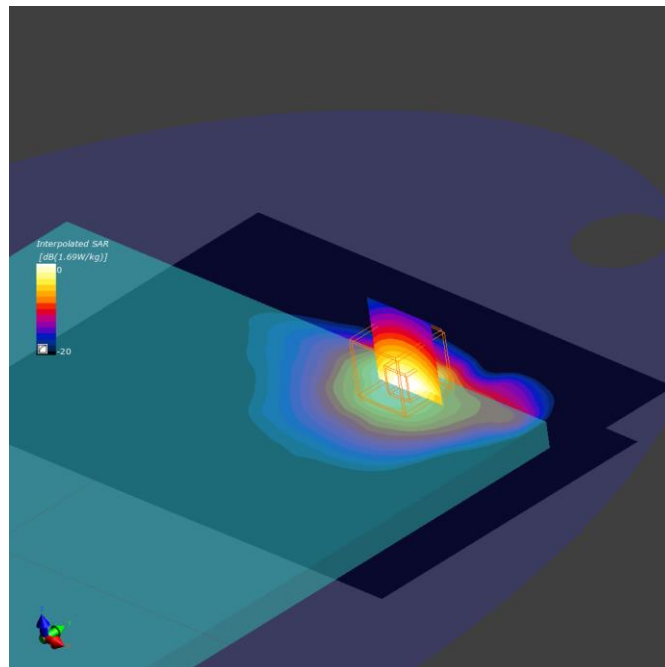
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-23 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                  | Area Scan         | Zoom Scan         |
|------------------|-------------------|-------------------|
| Date             | 2019-12-24, 15:41 | 2019-12-24, 15:46 |
| SAR1g [W/Kg]     | 1.26              | 1.41              |
| SAR10g [W/Kg]    | 0.612             | 0.625             |
| Power Drift [dB] | 0.03              | 0.01              |
| Power Scaling    | Disabled          | Disabled          |
| Scaling Factor   |                   |                   |
| TSL Correction   | Positive Only     | Positive Only     |



### 3. WCDMA FDD V, 12.2kbps RMC, CH4175, Main Antenna – Back Face

#### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

#### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band             | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.0                    | Band 5, UTRA/FDD | WCDMA, 10011-CAB | 835.0, 4175                     | 9.53              | 1.01                   | 52.6             |

#### Hardware Setup

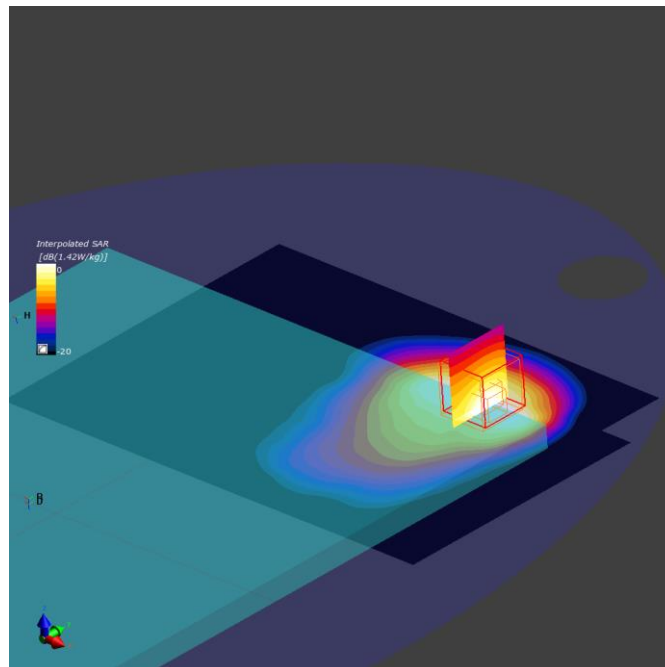
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-23 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

#### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

#### Measurement Results

|                  | Area Scan         | Zoom Scan         |
|------------------|-------------------|-------------------|
| Date             | 2019-12-24, 16:03 | 2019-12-24, 16:07 |
| SAR1g [W/Kg]     | 1.18              | 1.29              |
| SAR10g [W/Kg]    | 0.728             | 0.657             |
| Power Drift [dB] | 0.00              | 0.00              |
| Power Scaling    | Disabled          | Disabled          |
| Scaling Factor   |                   |                   |
| [dB]             |                   |                   |
| TSL Correction   | Positive Only     | Positive Only     |



#### 4. LTE Band 2, 50RB Mid @ QPSK - 20MHz, CH18700 , Main Antenna – Back Face

##### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

##### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band               | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|--------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 2, E-UTRA/FDD | WCDMA, 10297-AAD | 1860.0, 18700                   | 7.89              | 1.55                   | 51.9             |

##### Hardware Setup

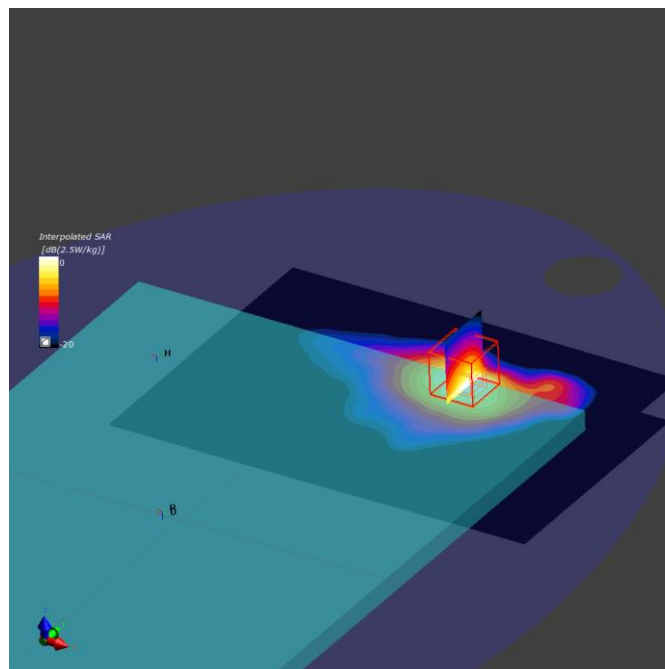
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

##### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

##### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-30, 10:58 | 2019-12-30, 11:03 |
| SAR1g [W/Kg]        | 0.974             | 1.15              |
| SAR10g [W/Kg]       | 0.475             | 0.505             |
| Power Drift [dB]    | -0.04             | 0.05              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 5. LTE Band 5, 1RB Mid @ QPSK - 10MHz, CH20525 , Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band               | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|--------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 5, E-UTRA/FDD | WCDMA, 10175-CAG | 836.5, 20525                    | 9.53              | 0.99                   | 53.8             |

### Hardware Setup

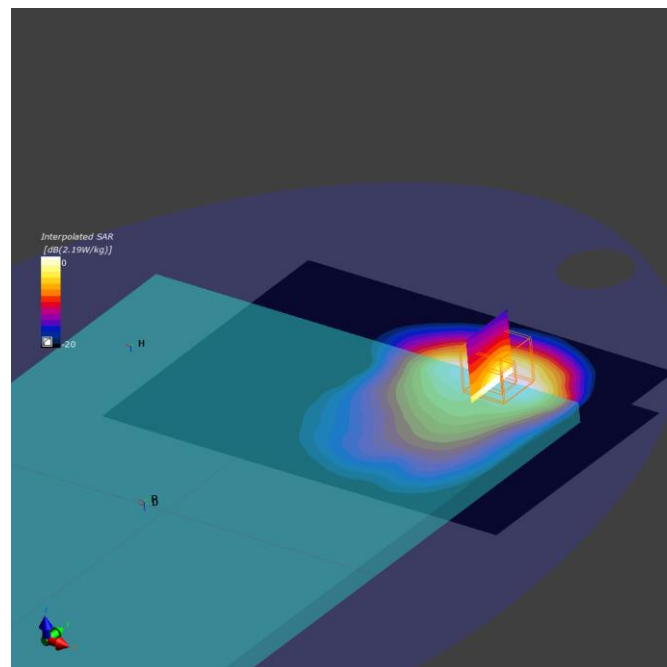
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2020-Jan-24 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                  | Area Scan         | Zoom Scan         |
|------------------|-------------------|-------------------|
| Date             | 2020-01-24, 10:46 | 2020-01-24, 10:51 |
| SAR1g [W/Kg]     | <b>0.934</b>      | <b>1.09</b>       |
| SAR10g [W/Kg]    | <b>0.600</b>      | <b>0.562</b>      |
| Power Drift [dB] | -0.04             | 0.00              |
| Power Scaling    | Disabled          | Disabled          |
| Scaling Factor   |                   |                   |
| [dB]             |                   |                   |
| TSL Correction   | Positive Only     | Positive Only     |



## 6. LTE Band 7, 50RB Mid @ QPSK - 20MHz, CH20850 , Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band               | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|--------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 7, E-UTRA/FDD | WCDMA, 10297-AAD | 2510.0, 20850                   | 7.17              | 2.12                   | 50.8             |

### Hardware Setup

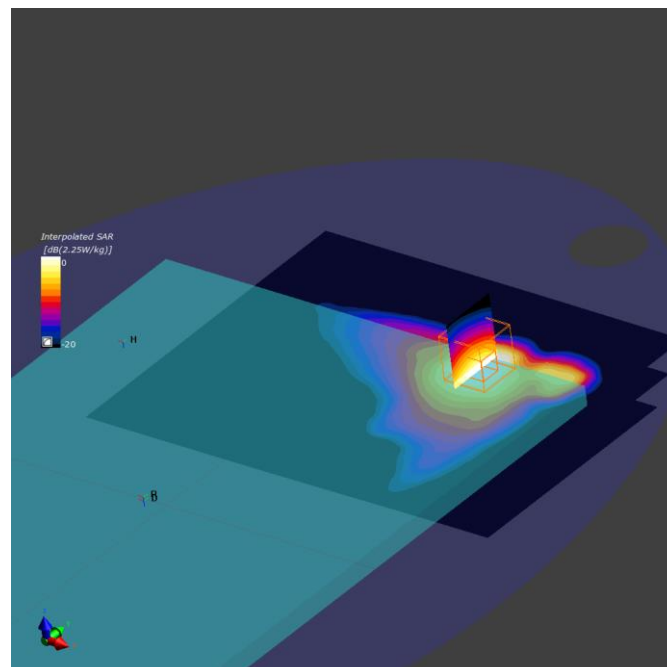
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 216.0 x 168.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 12.0 x 12.0       | 5.0 x 5.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-31, 15:34 | 2019-12-31, 15:40 |
| SAR1g [W/Kg]        | 0.963             | 1.07              |
| SAR10g [W/Kg]       | 0.477             | 0.500             |
| Power Drift [dB]    | 0.01              | 0.04              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 7. LTE Band 12, 50RB Mid @ QPSK - 10MHz, CH23095 , Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band                | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|---------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 12, E-UTRA/FDD | WCDMA, 10154-CAG | 707.5, 23095                    | 9.63              | 0.90                   | 53.9             |

### Hardware Setup

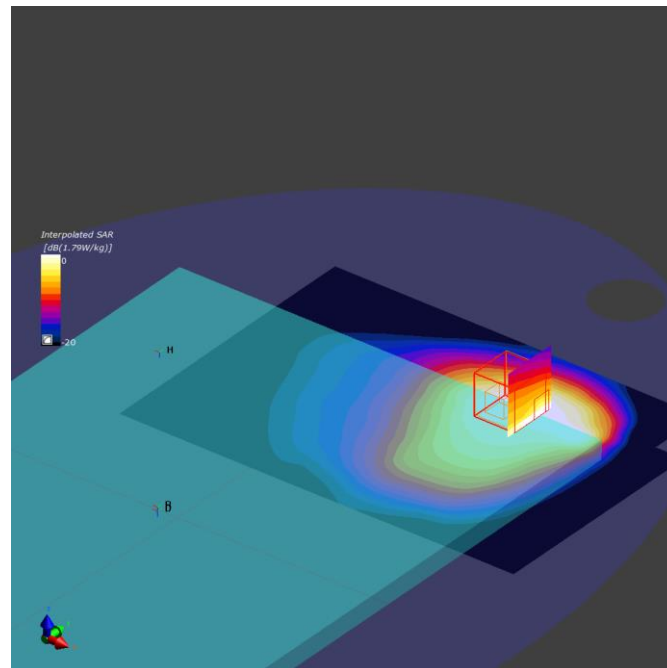
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-30, 14:34 | 2019-12-30, 14:39 |
| SAR1g [W/Kg]        | 0.789             | 0.859             |
| SAR10g [W/Kg]       | 0.524             | 0.501             |
| Power Drift [dB]    | -0.03             | -0.02             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 8. LTE Band 13, 50RB Mid @ QPSK - 10MHz, CH23230 , Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band                | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|---------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 13, E-UTRA/FDD | WCDMA, 10175-CAG | 782.0, 23230                    | 9.63              | 0.93                   | 53.7             |

### Hardware Setup

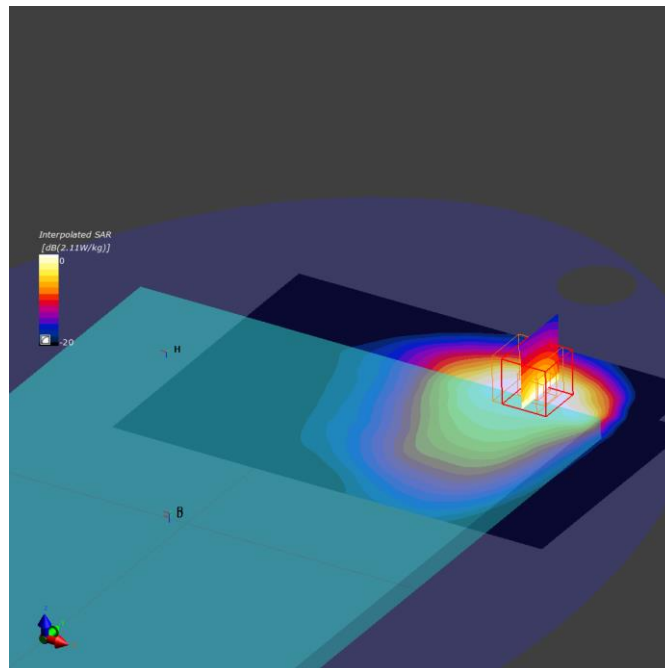
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-30, 14:55 | 2019-12-30, 15:00 |
| SAR1g [W/Kg]        | 0.881             | 1.05              |
| SAR10g [W/Kg]       | 0.569             | 0.557             |
| Power Drift [dB]    | -0.01             | -0.03             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 9. LTE Band 26, 50RB Mid @ QPSK - 15MHz, CH26965 , Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band               | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|--------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.0                    | Band 26 E-UTRA/FDD | WCDMA, 10181-CAE | 841.5, 26965                    | 9.53              | 0.95                   | 53.6             |

### Hardware Setup

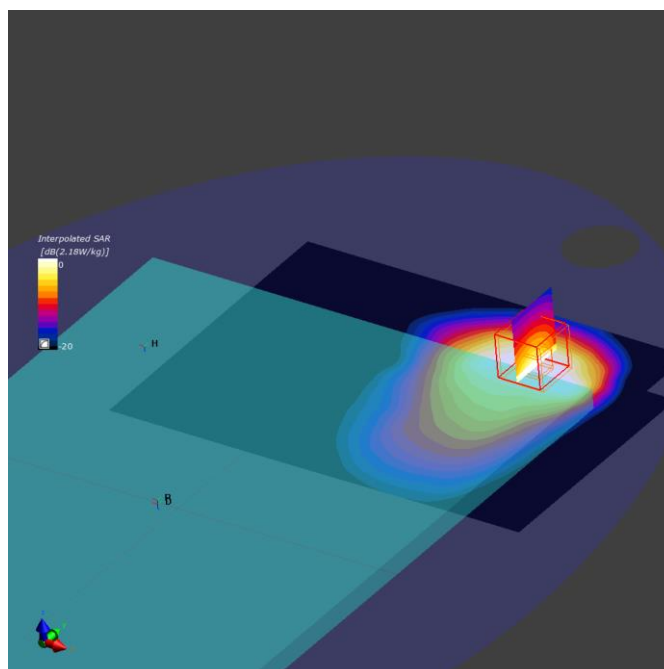
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-31, 09:41 | 2019-12-31, 09:46 |
| SAR1g [W/Kg]        | 0.830             | 1.09              |
| SAR10g [W/Kg]       | 0.545             | 0.562             |
| Power Drift [dB]    | 0.03              | -0.02             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 10. LTE Band 30, 50RB Mid @ QPSK - 10MHz, CH27710 , Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band                | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|---------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 30, E-UTRA/FDD | WCDMA, 10175-CAG | 2310.0, 27710                   | 7.49              | 1.92                   | 51.2             |

### Hardware Setup

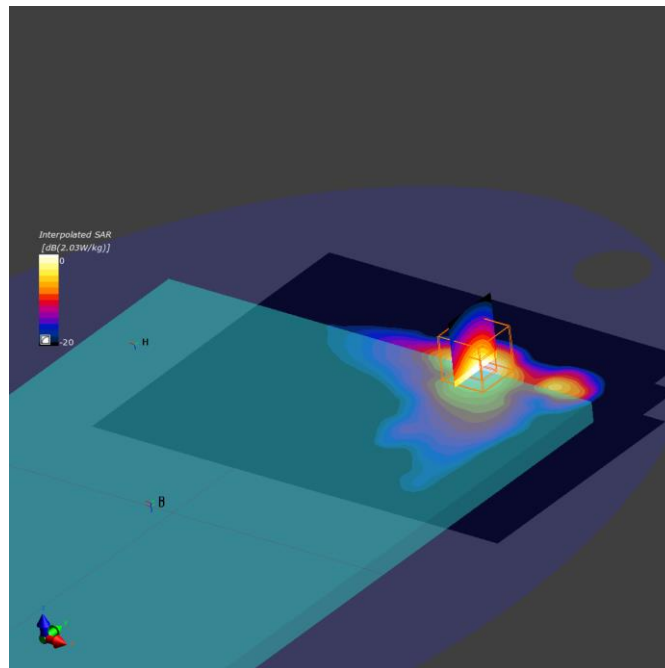
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 216.0 x 168.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 12.0 x 12.0       | 5.0 x 5.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-30, 15:23 | 2019-12-30, 15:29 |
| SAR1g [W/Kg]        | 0.887             | 0.950             |
| SAR10g [W/Kg]       | 0.394             | 0.408             |
| Power Drift [dB]    | -0.10             | 0.01              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 11. LTE Band 38, 1RB Mid @ QPSK - 20MHz, CH38150 , Main Antenna – Laptop

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band                | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|---------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | LAPTOP, 0.00                 | Band 38, E-UTRA/TDD | WCDMA, 10435-AAF | 2610.0, 38150                   | 7.17              | 2.21                   | 50.3             |

### Hardware Setup

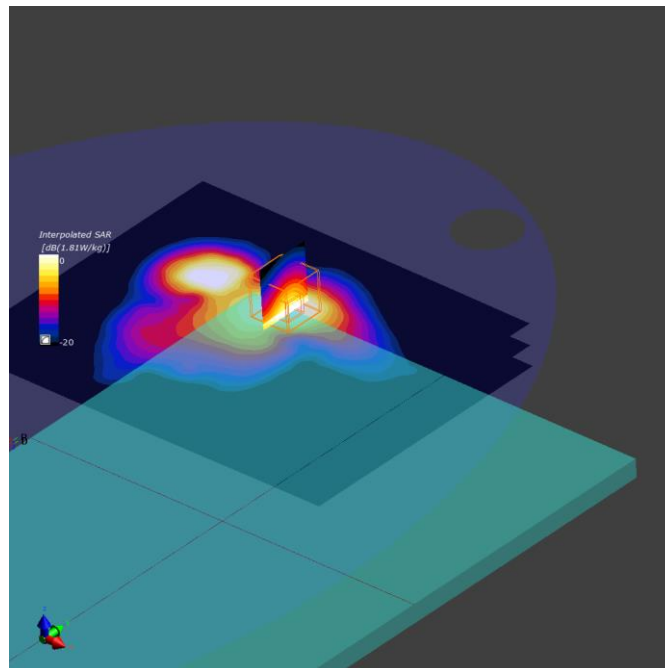
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2020-Jan-06 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 216.0 x 168.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 12.0 x 12.0       | 5.0 x 5.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2020-01-06, 14:31 | 2020-01-06, 14:37 |
| SAR1g [W/Kg]        | 0.673             | 0.854             |
| SAR10g [W/Kg]       | 0.325             | 0.370             |
| Power Drift [dB]    | 0.04              | 0.03              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 12. LTE Band 41, 1RB Mid @ QPSK - 20MHz, CH39750 , Main Antenna – Back Face

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band                | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|---------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | BACK, 0.00                   | Band 41, E-UTRA/TDD | WCDMA, 10435-AAF | 2506.0, 39750                   | 7.17              | 2.10                   | 50.6             |

### Hardware Setup

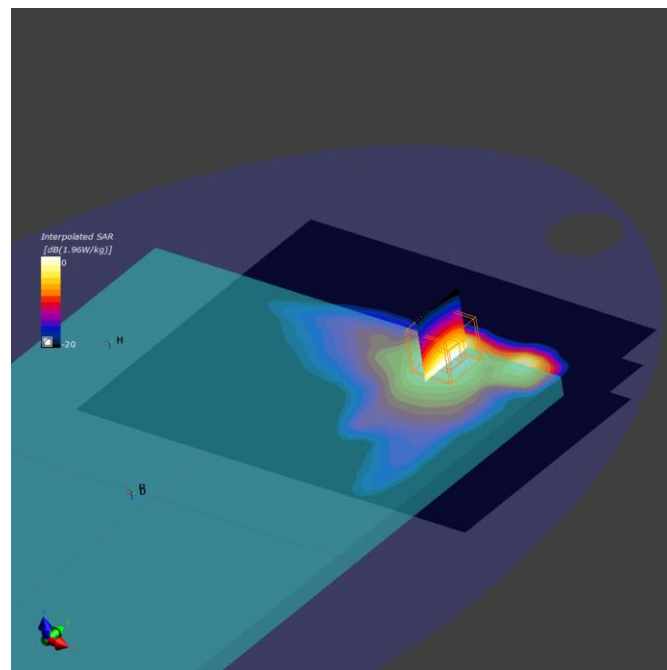
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2020-Jan-06 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 216.0 x 168.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 12.0 x 12.0       | 5.0 x 5.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2020-01-07, 08:56 | 2020-01-07, 09:03 |
| SAR1g [W/Kg]        | 0.837             | 0.957             |
| SAR10g [W/Kg]       | 0.399             | 0.444             |
| Power Drift [dB]    | -0.04             | 0.01              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



### 13. LTE Band 66, 50RB Mid @ QPSK - 20MHz, CH132072 , Main Antenna – Laptop

#### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HPN-I137, HP       | 324.0 x 225.0 x 10.0 | 00094300T3 | Convertible PC |

#### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band                | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|---------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | LAPTOP, 0.00                 | Band 66, E-UTRA/FDD | WCDMA, 10297-AAD | 1770.0, 132572                  | 8.26              | 1.49                   | 51.3             |

#### Hardware Setup

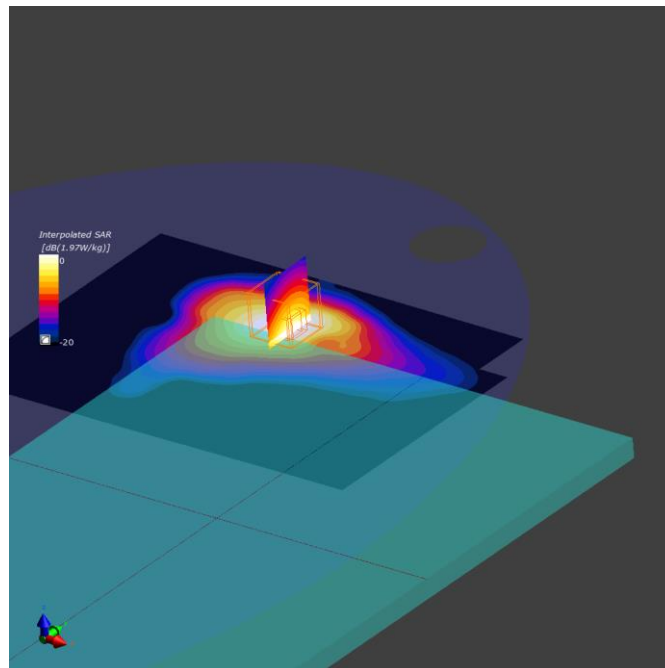
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2020-Jan-02 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

#### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 210.0 x 150.0     | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

#### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2020-01-02, 12:48 | 2020-01-02, 12:53 |
| SAR1g [W/Kg]        | 0.845             | 1.08              |
| SAR10g [W/Kg]       | 0.473             | 0.547             |
| Power Drift [dB]    | -0.03             | 0.02              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 14. System Check Body Liquid 750MHz

### Device under Test Properties

| Name, Manufacturer   | Dimensions [mm]   | S/N  | DUT Type          |
|----------------------|-------------------|------|-------------------|
| Dipole 750MHz, SPEAG | 50.0 x 10.0 x 8.0 | 1136 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 750.0, 0                        | 9.63              | 0.92                   | 53.8             |

### Hardware Setup

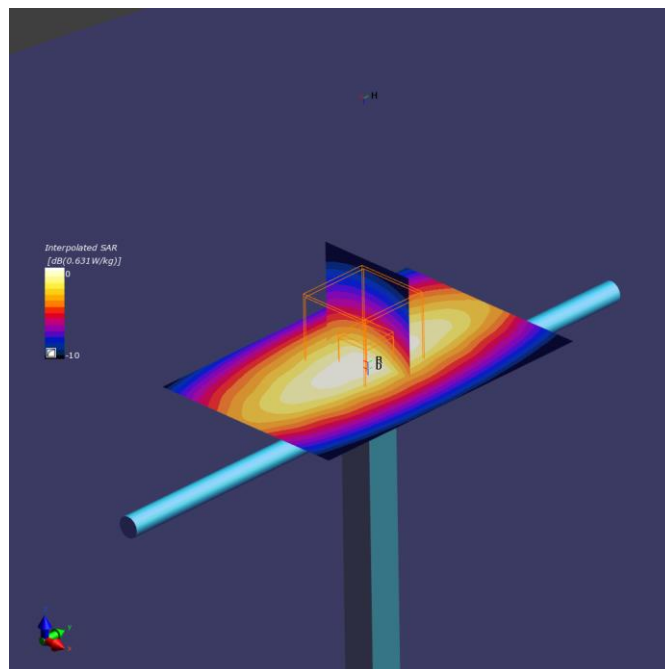
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 60.0 x 90.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-30, 17:53 | 2019-12-30, 17:58 |
| SAR1g [W/Kg]        | 0.373             | 0.376             |
| SAR10g [W/Kg]       | 0.247             | 0.249             |
| Power Drift [dB]    | 0.03              | -0.02             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 15. System Check Body Liquid 835MHz – 2019-12-24

### Device under Test Properties

| Name, Manufacturer   | Dimensions [mm]   | S/N   | DUT Type          |
|----------------------|-------------------|-------|-------------------|
| Dipole 835MHz, SPEAG | 50.0 x 10.0 x 8.0 | 4d192 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 835.0, 0                        | 9.53              | 1.01                   | 52.6             |

### Hardware Setup

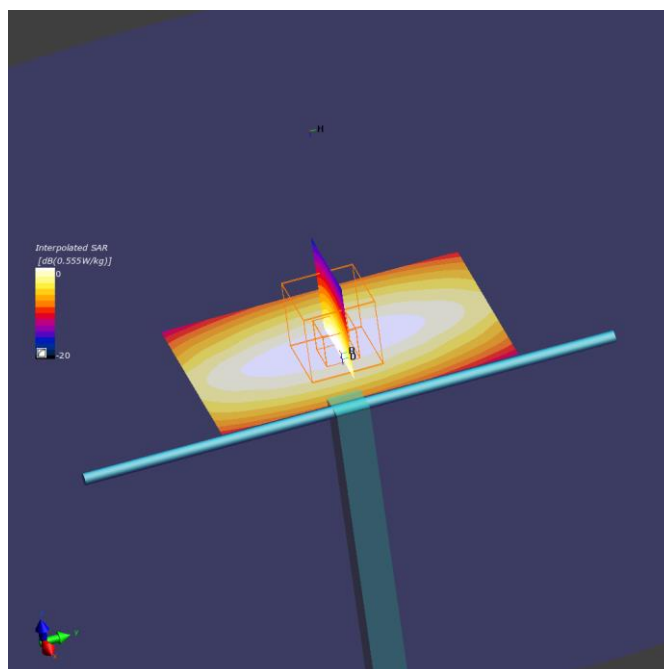
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-23 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 60.0 x 90.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-04-12, 08:49 | 2019-12-24, 16:48 |
| SAR1g [W/Kg]        | <b>0.528</b>      | 0.478             |
| SAR10g [W/Kg]       | <b>0.346</b>      | 0.311             |
| Power Drift [dB]    | -0.01             | -0.02             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 16. System Check Body Liquid 835MHz – 2019-12-31

### Device under Test Properties

| Name, Manufacturer   | Dimensions [mm]   | S/N   | DUT Type          |
|----------------------|-------------------|-------|-------------------|
| Dipole 835MHz, SPEAG | 50.0 x 10.0 x 8.0 | 4d192 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 835.0, 0                        | 9.53              | 0.95                   | 53.6             |

### Hardware Setup

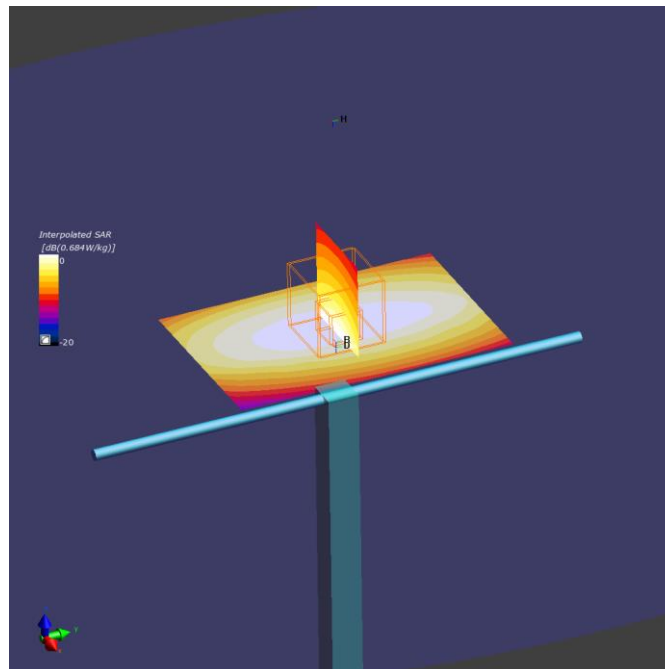
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 60.0 x 90.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-31, 16:29 | 2019-12-31, 16:34 |
| SAR1g [W/Kg]        | 0.435             | 0.457             |
| SAR10g [W/Kg]       | 0.287             | 0.299             |
| Power Drift [dB]    | -0.00             | 0.01              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 17. System Check Body Liquid 835MHz – 2020-01-24

### Device under Test Properties

| Name, Manufacturer   | Dimensions [mm]   | S/N   | DUT Type          |
|----------------------|-------------------|-------|-------------------|
| Dipole 835MHz, SPEAG | 50.0 x 10.0 x 8.0 | 4d192 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 835.0, 0                        | 9.53              | 0.99                   | 53.8             |

### Hardware Setup

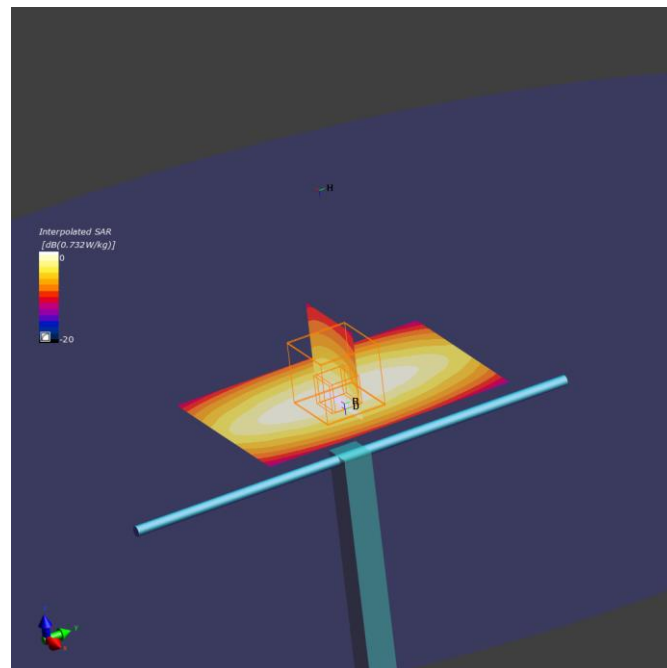
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2020-Jan-24 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 60.0 x 90.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2020-01-24, 17:59 | 2020-01-24, 18:04 |
| SAR1g [W/Kg]        | 0.480             | 0.493             |
| SAR10g [W/Kg]       | 0.312             | 0.325             |
| Power Drift [dB]    | -0.04             | -0.03             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | 1.07              | 1.07              |



## 18. System Check Body Liquid 1750MHz – 2019-12-24

### Device under Test Properties

| Name, Manufacturer    | Dimensions [mm]   | S/N  | DUT Type          |
|-----------------------|-------------------|------|-------------------|
| Dipole 1750MHz, SPEAG | 50.0 x 10.0 x 8.0 | 1133 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 1750.0, 0                       | 8.26              | 1.48                   | 51.6             |

### Hardware Setup

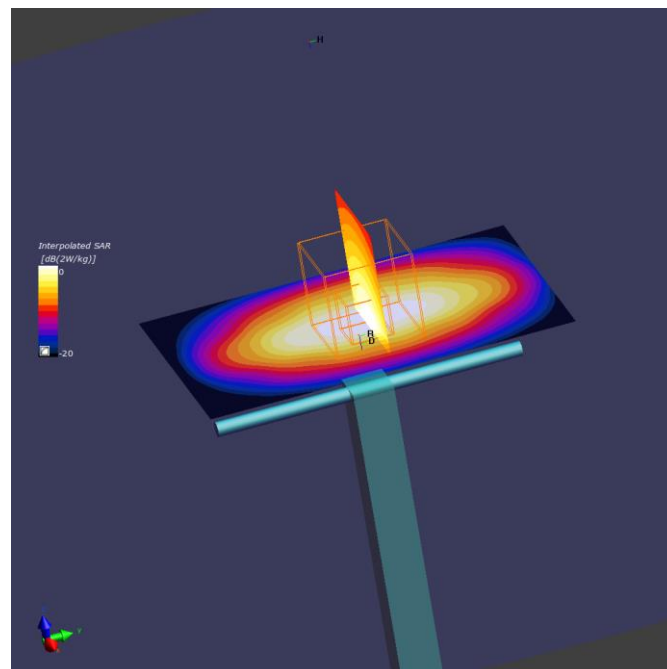
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-23 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 60.0 x 90.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                  | Area Scan         | Zoom Scan         |
|------------------|-------------------|-------------------|
| Date             | 2019-12-24, 16:33 | 2019-12-24, 16:38 |
| SAR1g [W/Kg]     | 1.60              | 1.69              |
| SAR10g [W/Kg]    | 0.839             | 0.895             |
| Power Drift [dB] | -0.01             | -0.03             |
| Power Scaling    | Disabled          | Disabled          |
| Scaling Factor   |                   |                   |
| [dB]             |                   |                   |
| TSL Correction   | Positive Only     | Positive Only     |



## 19. System Check Body Liquid 1750MHz – 2020-01-02

### Device under Test Properties

| Name, Manufacturer    | Dimensions [mm]   | S/N  | DUT Type          |
|-----------------------|-------------------|------|-------------------|
| Dipole 1750MHz, SPEAG | 50.0 x 10.0 x 8.0 | 1133 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 1750.0, 0                       | 8.26              | 1.47                   | 51.3             |

### Hardware Setup

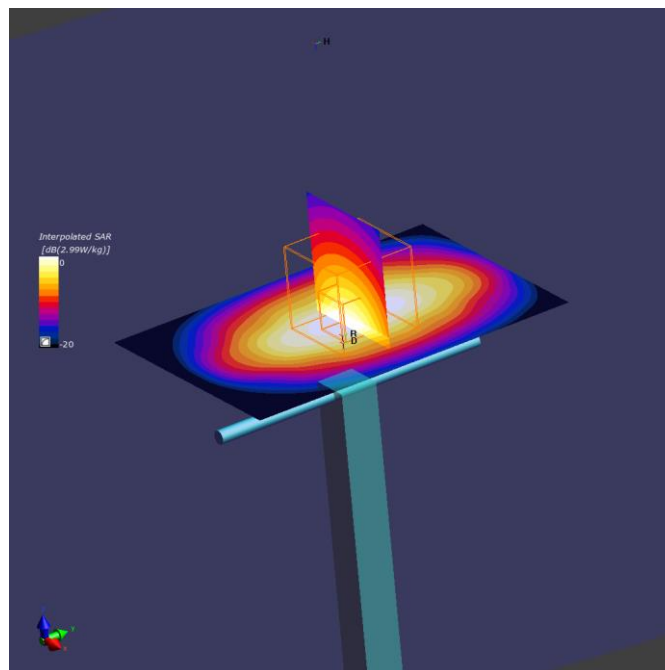
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2020-Jan-02 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 60.0 x 90.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2020-01-02, 17:32 | 2020-01-02, 17:37 |
| SAR1g [W/Kg]        | 1.67              | 1.69              |
| SAR10g [W/Kg]       | 0.873             | 0.893             |
| Power Drift [dB]    | -0.05             | -0.02             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 20. System Check Body Liquid 1900MHz – 2019-12-24

### Device under Test Properties

| Name, Manufacturer    | Dimensions [mm]   | S/N   | DUT Type          |
|-----------------------|-------------------|-------|-------------------|
| Dipole 1900MHz, SPEAG | 50.0 x 10.0 x 8.0 | 5d197 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 1900.0, 0                       | 7.89              | 1.58                   | 51.4             |

### Hardware Setup

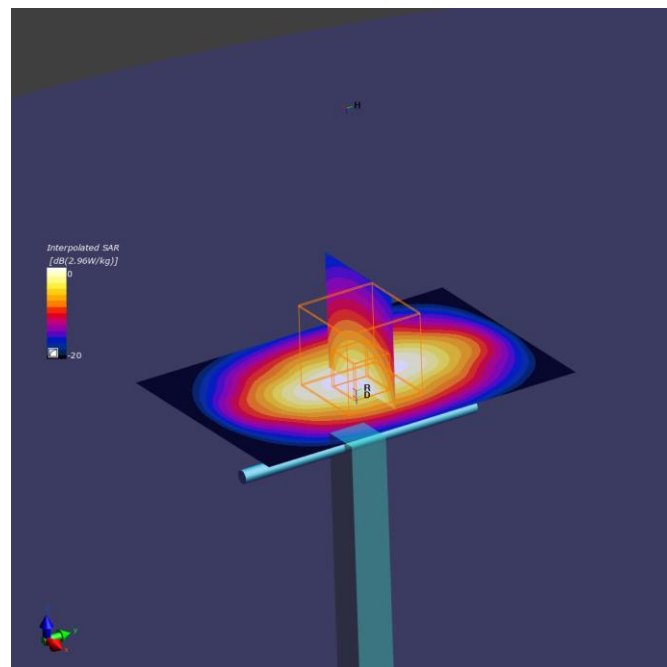
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-23 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 60.0 x 90.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-24, 17:01 | 2019-12-24, 17:06 |
| SAR1g [W/Kg]        | 1.87              | 1.88              |
| SAR10g [W/Kg]       | 0.944             | 0.975             |
| Power Drift [dB]    | -0.01             | 0.00              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 21. System Check Body Liquid 1900MHz – 2019-12-30

### Device under Test Properties

| Name, Manufacturer    | Dimensions [mm]   | S/N   | DUT Type          |
|-----------------------|-------------------|-------|-------------------|
| Dipole 1900MHz, SPEAG | 50.0 x 10.0 x 8.0 | 5d197 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 1900.0, 0                       | 7.89              | 1.58                   | 51.8             |

### Hardware Setup

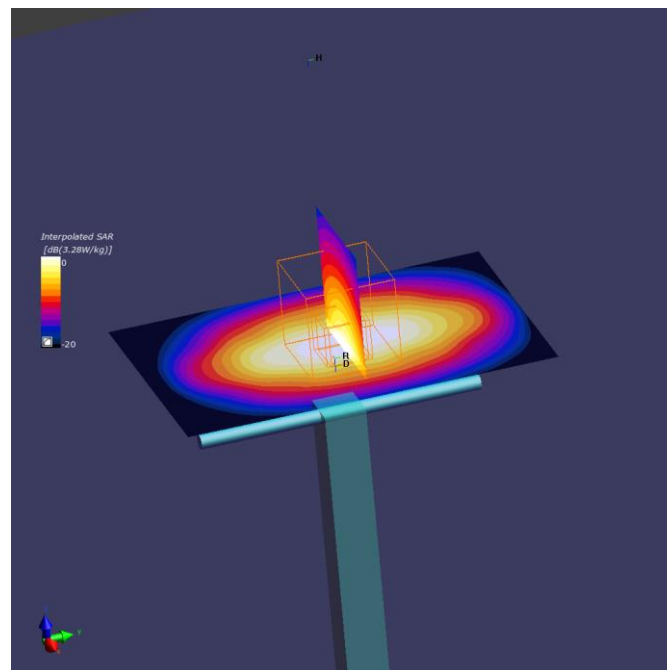
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 60.0 x 90.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-30, 18:16 | 2019-12-30, 18:20 |
| SAR1g [W/Kg]        | 1.83              | 1.84              |
| SAR10g [W/Kg]       | 0.925             | 0.958             |
| Power Drift [dB]    | 0.00              | 0.00              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 22. System Check Body Liquid 2300MHz

### Device under Test Properties

| Name, Manufacturer    | Dimensions [mm]   | S/N  | DUT Type          |
|-----------------------|-------------------|------|-------------------|
| Dipole 2300MHz, SPEAG | 50.0 x 10.0 x 8.0 | 1046 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 2300.0, 0                       | 7.49              | 1.91                   | 51.2             |

### Hardware Setup

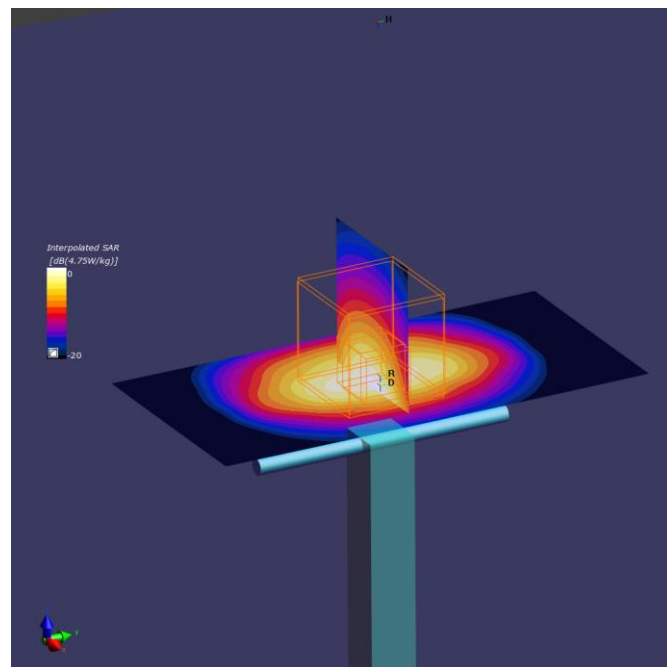
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 48.0 x 96.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 12.0 x 12.0       | 5.0 x 5.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-30, 18:25 | 2019-12-30, 18:31 |
| SAR1g [W/Kg]        | 2.36              | 2.38              |
| SAR10g [W/Kg]       | 1.10              | 1.13              |
| Power Drift [dB]    | 0.01              | -0.04             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 23. System Check Body Liquid 2600MHz – 2019-12-31

### Device under Test Properties

| Name, Manufacturer    | Dimensions [mm]   | S/N  | DUT Type          |
|-----------------------|-------------------|------|-------------------|
| Dipole 2600MHz, SPEAG | 50.0 x 10.0 x 8.0 | 1100 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 2600.0, 0                       | 7.17              | 2.21                   | 50.6             |

### Hardware Setup

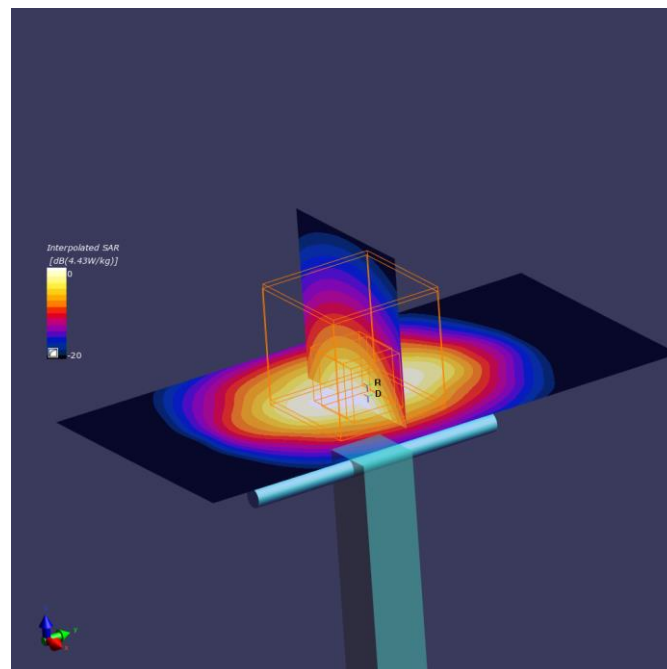
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2019-Dec-30 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 48.0 x 96.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 12.0 x 12.0       | 5.0 x 5.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2019-12-31, 16:50 | 2019-12-31, 16:56 |
| SAR1g [W/Kg]        | 2.53              | 2.82              |
| SAR10g [W/Kg]       | 1.12              | 1.24              |
| Power Drift [dB]    | -0.04             | -0.01             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 24. System Check Body Liquid 2600MHz – 2020-01-06

### Device under Test Properties

| Name, Manufacturer    | Dimensions [mm]   | S/N  | DUT Type          |
|-----------------------|-------------------|------|-------------------|
| Dipole 2600MHz, SPEAG | 50.0 x 10.0 x 8.0 | 1100 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 2600.0, 0                       | 7.17              | 2.20                   | 50.3             |

### Hardware Setup

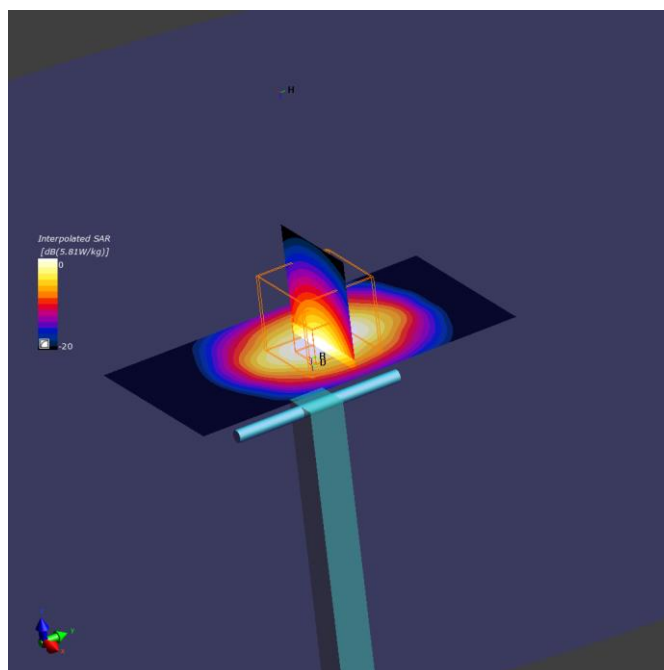
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2020-Jan-06 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 48.0 x 96.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 12.0 x 12.0       | 5.0 x 5.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2020-01-06, 16:18 | 2020-01-06, 16:24 |
| SAR1g [W/Kg]        | 2.65              | 2.76              |
| SAR10g [W/Kg]       | 1.15              | 1.22              |
| Power Drift [dB]    | -0.05             | -0.06             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



## 25. System Check Body Liquid 2600MHz – 2020-01-06

### Device under Test Properties

| Name, Manufacturer    | Dimensions [mm]   | S/N  | DUT Type          |
|-----------------------|-------------------|------|-------------------|
| Dipole 2600MHz, SPEAG | 50.0 x 10.0 x 8.0 | 1100 | Validation Dipole |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band | Group, UID | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------|------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | ,                            |      | , 0--      | 2600.0, 0                       | 7.17              | 2.20                   | 50.3             |

### Hardware Setup

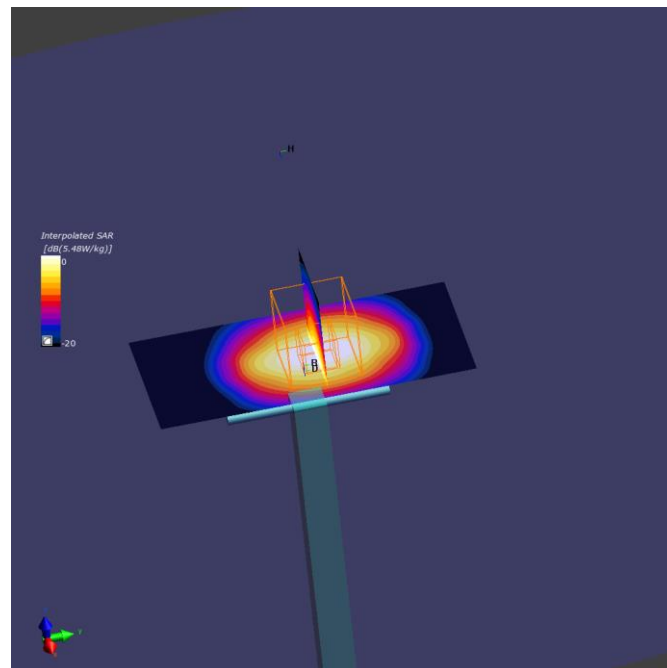
| Phantom                            | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|------------------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) - 2048 | MBBL-600-6000 , 2020-Jan-06 | EX3DV4 - SN3978, 2019-05-21 | DAE4 Sn1429, 2019-05-17 |

### Scan Setup

|                     | Area Scan         | Zoom Scan            |
|---------------------|-------------------|----------------------|
| Grid Extents [mm]   | 48.0 x 96.0       | 30.0 x 30.0 x 30.0   |
| Grid Steps [mm]     | 12.0 x 12.0       | 5.0 x 5.0 x 5.0      |
| Sensor Surface [mm] | 3.0               | 1.4                  |
| Graded Grid         | No                | No                   |
| Grading Ratio       | n/a               | n/a                  |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA    |
| Surface Detection   | Yes               | 6-point verification |
| Scan Method         | Measured          | Measured             |

### Measurement Results

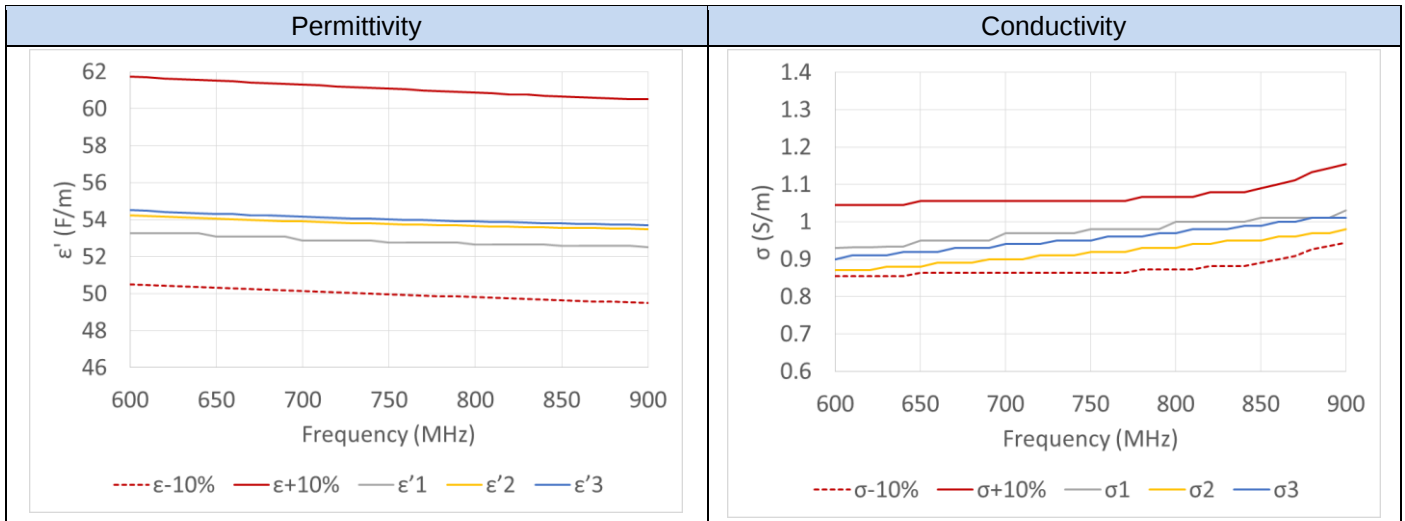
|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2020-01-07, 16:03 | 2020-01-07, 16:09 |
| SAR1g [W/Kg]        | 2.44              | 2.63              |
| SAR10g [W/Kg]       | 1.08              | 1.17              |
| Power Drift [dB]    | -0.03             | -0.02             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |



# Annex D. TSL Dielectric Parameters

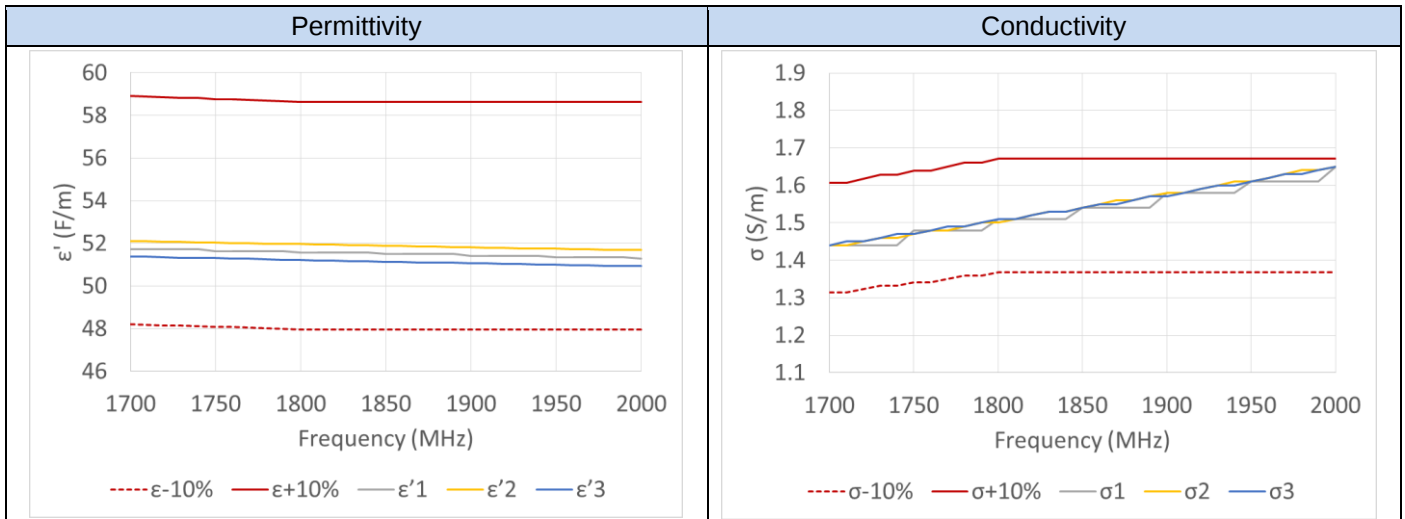
## D.1 Body 600MHz-9000MHz

| Freq.<br>(MHz) |                   |                | 2019-12-23          |                  | 2019-12-30          |                  | 2020-01-23          |                  |
|----------------|-------------------|----------------|---------------------|------------------|---------------------|------------------|---------------------|------------------|
|                | Target            |                | Measured            |                  | Measured            |                  | Measured            |                  |
|                | $\epsilon'$ (F/m) | $\sigma$ (S/m) | $\epsilon'_1$ (F/m) | $\sigma_1$ (S/m) | $\epsilon'_2$ (F/m) | $\sigma_2$ (S/m) | $\epsilon'_3$ (F/m) | $\sigma_3$ (S/m) |
| 600            | 56.12             | 0.95           | 53.27               | 0.93             | 54.25               | 0.87             | 54.51               | 0.90             |
| 610            | 56.08             | 0.95           | 53.27               | 0.93             | 54.21               | 0.87             | 54.47               | 0.91             |
| 620            | 56.04             | 0.95           | 53.27               | 0.93             | 54.17               | 0.87             | 54.43               | 0.91             |
| 630            | 56.00             | 0.95           | 53.27               | 0.93             | 54.13               | 0.88             | 54.39               | 0.91             |
| 640            | 55.96             | 0.95           | 53.27               | 0.93             | 54.10               | 0.88             | 54.35               | 0.92             |
| 650            | 55.92             | 0.96           | 53.07               | 0.95             | 54.06               | 0.88             | 54.32               | 0.92             |
| 660            | 55.88             | 0.96           | 53.07               | 0.95             | 54.03               | 0.89             | 54.29               | 0.92             |
| 670            | 55.84             | 0.96           | 53.07               | 0.95             | 54.00               | 0.89             | 54.25               | 0.93             |
| 680            | 55.80             | 0.96           | 53.07               | 0.95             | 53.96               | 0.89             | 54.22               | 0.93             |
| 690            | 55.76             | 0.96           | 53.07               | 0.95             | 53.93               | 0.90             | 54.19               | 0.93             |
| 700            | 55.73             | 0.96           | 52.89               | 0.97             | 53.90               | 0.90             | 54.16               | 0.94             |
| 710            | 55.69             | 0.96           | 52.89               | 0.97             | 53.87               | 0.90             | 54.13               | 0.94             |
| 720            | 55.65             | 0.96           | 52.89               | 0.97             | 53.85               | 0.91             | 54.10               | 0.94             |
| 730            | 55.61             | 0.96           | 52.89               | 0.97             | 53.82               | 0.91             | 54.07               | 0.95             |
| 740            | 55.57             | 0.96           | 52.89               | 0.97             | 53.79               | 0.91             | 54.05               | 0.95             |
| 750            | 55.53             | 0.96           | 52.76               | 0.98             | 53.77               | 0.92             | 54.02               | 0.95             |
| 760            | 55.49             | 0.96           | 52.76               | 0.98             | 53.74               | 0.92             | 54.00               | 0.96             |
| 770            | 55.45             | 0.96           | 52.76               | 0.98             | 53.72               | 0.92             | 53.97               | 0.96             |
| 780            | 55.41             | 0.97           | 52.76               | 0.98             | 53.70               | 0.93             | 53.95               | 0.96             |
| 790            | 55.38             | 0.97           | 52.76               | 0.98             | 53.68               | 0.93             | 53.93               | 0.97             |
| 800            | 55.34             | 0.97           | 52.65               | 1.00             | 53.66               | 0.93             | 53.90               | 0.97             |
| 810            | 55.30             | 0.97           | 52.65               | 1.00             | 53.64               | 0.94             | 53.88               | 0.98             |
| 820            | 55.26             | 0.98           | 52.65               | 1.00             | 53.62               | 0.94             | 53.86               | 0.98             |
| 830            | 55.23             | 0.98           | 52.65               | 1.00             | 53.60               | 0.95             | 53.84               | 0.98             |
| 840            | 55.19             | 0.98           | 52.65               | 1.00             | 53.58               | 0.95             | 53.82               | 0.99             |
| 850            | 55.15             | 0.99           | 52.57               | 1.01             | 53.56               | 0.95             | 53.80               | 0.99             |
| 860            | 55.12             | 1.00           | 52.57               | 1.01             | 53.55               | 0.96             | 53.78               | 1.00             |
| 870            | 55.09             | 1.01           | 52.57               | 1.01             | 53.54               | 0.96             | 53.76               | 1.00             |
| 880            | 55.06             | 1.03           | 52.57               | 1.01             | 53.53               | 0.97             | 53.74               | 1.01             |
| 890            | 55.03             | 1.04           | 52.57               | 1.01             | 53.51               | 0.97             | 53.72               | 1.01             |
| 900            | 55.00             | 1.05           | 52.51               | 1.03             | 53.50               | 0.98             | 53.70               | 1.01             |



## D.2 Body 1700MHz-2000MHz

| Freq.<br>(MHz) |                   |                | 2019-12-23             |                     | 2019-12-30             |                     | 2019-01-02             |                     |
|----------------|-------------------|----------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|
|                | Target            |                | Measured               |                     | Measured               |                     | Measured               |                     |
|                | $\epsilon'$ (F/m) | $\sigma$ (S/m) | $\epsilon'_1$<br>(F/m) | $\sigma_1$<br>(S/m) | $\epsilon'_2$<br>(F/m) | $\sigma_2$<br>(S/m) | $\epsilon'_3$<br>(F/m) | $\sigma_3$<br>(S/m) |
| 1700           | 53.56             | 1.46           | 51.72                  | 1.44                | 52.10                  | 1.44                | 51.39                  | 1.44                |
| 1710           | 53.54             | 1.46           | 51.72                  | 1.44                | 52.09                  | 1.44                | 51.37                  | 1.45                |
| 1720           | 53.51             | 1.47           | 51.72                  | 1.44                | 52.07                  | 1.45                | 51.35                  | 1.45                |
| 1730           | 53.48             | 1.48           | 51.72                  | 1.44                | 52.06                  | 1.46                | 51.33                  | 1.46                |
| 1740           | 53.46             | 1.48           | 51.72                  | 1.44                | 52.04                  | 1.46                | 51.32                  | 1.47                |
| <b>1750</b>    | 53.43             | 1.49           | 51.64                  | 1.48                | 52.03                  | 1.47                | 51.30                  | 1.47                |
| 1760           | 53.41             | 1.49           | 51.64                  | 1.48                | 52.01                  | 1.48                | 51.28                  | 1.48                |
| 1770           | 53.38             | 1.50           | 51.64                  | 1.48                | 52.00                  | 1.48                | 51.27                  | 1.49                |
| 1780           | 53.35             | 1.51           | 51.64                  | 1.48                | 51.98                  | 1.49                | 51.25                  | 1.49                |
| 1790           | 53.33             | 1.51           | 51.64                  | 1.48                | 51.97                  | 1.50                | 51.23                  | 1.50                |
| 1800           | 53.30             | 1.52           | 51.56                  | 1.51                | 51.96                  | 1.50                | 51.22                  | 1.51                |
| 1810           | 53.30             | 1.52           | 51.56                  | 1.51                | 51.94                  | 1.51                | 51.20                  | 1.51                |
| 1820           | 53.30             | 1.52           | 51.56                  | 1.51                | 51.93                  | 1.52                | 51.19                  | 1.52                |
| 1830           | 53.30             | 1.52           | 51.56                  | 1.51                | 51.92                  | 1.53                | 51.17                  | 1.53                |
| 1840           | 53.30             | 1.52           | 51.56                  | 1.51                | 51.90                  | 1.53                | 51.15                  | 1.53                |
| 1850           | 53.30             | 1.52           | 51.49                  | 1.54                | 51.89                  | 1.54                | 51.14                  | 1.54                |
| 1860           | 53.30             | 1.52           | 51.49                  | 1.54                | 51.88                  | 1.55                | 51.12                  | 1.55                |
| 1870           | 53.30             | 1.52           | 51.49                  | 1.54                | 51.86                  | 1.56                | 51.11                  | 1.55                |
| 1880           | 53.30             | 1.52           | 51.49                  | 1.54                | 51.85                  | 1.56                | 51.09                  | 1.56                |
| 1890           | 53.30             | 1.52           | 51.49                  | 1.54                | 51.83                  | 1.57                | 51.08                  | 1.57                |
| <b>1900</b>    | 53.30             | 1.52           | 51.42                  | 1.58                | 51.82                  | 1.58                | 51.06                  | 1.57                |
| 1910           | 53.30             | 1.52           | 51.42                  | 1.58                | 51.80                  | 1.58                | 51.05                  | 1.58                |
| 1920           | 53.30             | 1.52           | 51.42                  | 1.58                | 51.79                  | 1.59                | 51.03                  | 1.59                |
| 1930           | 53.30             | 1.52           | 51.42                  | 1.58                | 51.77                  | 1.60                | 51.02                  | 1.60                |
| 1940           | 53.30             | 1.52           | 51.42                  | 1.58                | 51.76                  | 1.61                | 51.01                  | 1.60                |
| 1950           | 53.30             | 1.52           | 51.35                  | 1.61                | 51.74                  | 1.61                | 50.99                  | 1.61                |
| 1960           | 53.30             | 1.52           | 51.35                  | 1.61                | 51.73                  | 1.62                | 50.98                  | 1.62                |
| 1970           | 53.30             | 1.52           | 51.35                  | 1.61                | 51.72                  | 1.63                | 50.97                  | 1.63                |
| 1980           | 53.30             | 1.52           | 51.35                  | 1.61                | 51.70                  | 1.64                | 50.95                  | 1.63                |
| 1990           | 53.30             | 1.52           | 51.35                  | 1.61                | 51.69                  | 1.64                | 50.94                  | 1.64                |
| 2000           | 53.30             | 1.52           | 51.29                  | 1.65                | 51.68                  | 1.65                | 50.93                  | 1.65                |



### D.3 Body 2300MHz-2700MHz

| Freq.<br>(MHz) |                   |                | 2019-12-30          |                  | 2020-01-06          |                  |
|----------------|-------------------|----------------|---------------------|------------------|---------------------|------------------|
|                | Target            |                | Measured            |                  | Measured            |                  |
|                | $\epsilon'$ (F/m) | $\sigma$ (S/m) | $\epsilon'_1$ (F/m) | $\sigma_1$ (S/m) | $\epsilon'_2$ (F/m) | $\sigma_2$ (S/m) |
| 2300           | 52.90             | 1.81           | 51.19               | 1.91             | 50.88               | 1.90             |
| 2310           | 52.89             | 1.82           | 51.17               | 1.92             | 50.86               | 1.91             |
| 2320           | 52.87             | 1.83           | 51.15               | 1.93             | 50.85               | 1.92             |
| 2330           | 52.86             | 1.84           | 51.14               | 1.94             | 50.83               | 1.93             |
| 2340           | 52.85             | 1.84           | 51.12               | 1.95             | 50.82               | 1.94             |
| 2350           | 52.83             | 1.85           | 51.10               | 1.96             | 50.80               | 1.95             |
| 2360           | 52.82             | 1.86           | 51.09               | 1.97             | 50.79               | 1.96             |
| 2370           | 52.81             | 1.87           | 51.07               | 1.98             | 50.78               | 1.97             |
| 2380           | 52.79             | 1.88           | 51.06               | 1.99             | 50.76               | 1.98             |
| 2390           | 52.78             | 1.89           | 51.04               | 2.00             | 50.75               | 1.99             |
| 2400           | 52.77             | 1.90           | 51.03               | 2.01             | 50.74               | 2.00             |
| 2410           | 52.75             | 1.91           | 51.01               | 2.02             | 50.72               | 2.01             |
| 2420           | 52.74             | 1.92           | 51.00               | 2.03             | 50.71               | 2.02             |
| 2430           | 52.73             | 1.93           | 50.98               | 2.04             | 50.69               | 2.03             |
| 2440           | 52.71             | 1.94           | 50.96               | 2.05             | 50.68               | 2.04             |
| 2450           | 52.70             | 1.95           | 50.95               | 2.06             | 50.66               | 2.05             |
| 2460           | 52.69             | 1.96           | 50.93               | 2.07             | 50.65               | 2.06             |
| 2470           | 52.67             | 1.98           | 50.91               | 2.08             | 50.63               | 2.07             |
| 2480           | 52.66             | 1.99           | 50.90               | 2.09             | 50.62               | 2.08             |
| 2490           | 52.65             | 2.01           | 50.88               | 2.10             | 50.60               | 2.09             |
| 2500           | 52.64             | 2.02           | 50.86               | 2.11             | 50.58               | 2.10             |
| 2510           | 52.62             | 2.04           | 50.84               | 2.12             | 50.56               | 2.11             |
| 2520           | 52.61             | 2.05           | 50.82               | 2.13             | 50.54               | 2.12             |
| 2530           | 52.60             | 2.06           | 50.80               | 2.14             | 50.52               | 2.13             |
| 2540           | 52.59             | 2.08           | 50.78               | 2.15             | 50.50               | 2.14             |
| 2550           | 52.57             | 2.09           | 50.76               | 2.16             | 50.47               | 2.15             |
| 2560           | 52.56             | 2.11           | 50.73               | 2.17             | 50.45               | 2.16             |
| 2570           | 52.55             | 2.12           | 50.71               | 2.18             | 50.42               | 2.17             |
| 2580           | 52.53             | 2.13           | 50.69               | 2.19             | 50.40               | 2.18             |
| 2590           | 52.52             | 2.15           | 50.66               | 2.20             | 50.37               | 2.19             |
| 2600           | 52.51             | 2.16           | 50.64               | 2.21             | 50.34               | 2.20             |
| 2610           | 52.50             | 2.18           | 50.62               | 2.22             | 50.32               | 2.21             |
| 2620           | 52.48             | 2.19           | 50.59               | 2.23             | 50.29               | 2.22             |
| 2630           | 52.47             | 2.21           | 50.57               | 2.24             | 50.26               | 2.23             |
| 2640           | 52.46             | 2.22           | 50.54               | 2.25             | 50.23               | 2.24             |
| 2650           | 52.45             | 2.23           | 50.52               | 2.26             | 50.20               | 2.25             |
| 2660           | 52.43             | 2.25           | 50.49               | 2.27             | 50.18               | 2.26             |
| 2670           | 52.42             | 2.26           | 50.47               | 2.28             | 50.15               | 2.27             |
| 2680           | 52.41             | 2.28           | 50.44               | 2.29             | 50.12               | 2.28             |
| 2690           | 52.39             | 2.29           | 50.42               | 2.30             | 50.09               | 2.29             |
| 2700           | 52.38             | 2.30           | 50.39               | 2.31             | 50.06               | 2.30             |

