



RADIO TEST REPORT

Report No.:STS2007325W08

Issued for

Shenzhen Grand Time Technology Co.,Ltd  
Unit 1202, 12th floor, Konka R&D Building, Science and  
Technology South 12th Road, Nanshan District, Shenzhen,  
China.

|                |                                                                                              |
|----------------|----------------------------------------------------------------------------------------------|
| Product Name:  | 4G body worn camera                                                                          |
| Brand Name:    | N/A                                                                                          |
| Model Name:    | F2                                                                                           |
| Series Model:  | F1, F1P, F1B, F1S, F2B, F2P, F2S, F3P, F3B, F3S, F4P, F4B, F4S, F5P, F5B, F5S, F6P, F6B, F6S |
| FCC ID:        | 2AM6P-F2                                                                                     |
| Test Standard: | 47 CFR Part 2, 24(E), 27                                                                     |

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**TEST RESULT CERTIFICATION**

**Applicant's Name** .....: Shenzhen Grand Time Technology Co.,Ltd  
Unit 1202, 12th floor, Konka R&D Building, Science and  
**Address** .....: Technology South 12th Road, Nanshan District, Shenzhen,  
China.  
**Manufacturer's Name** .....: Shenzhen Grand Time Technology Co.,Ltd  
Unit 1202, 12th floor, Konka R&D Building, Science and  
**Address** .....: Technology South 12th Road, Nanshan District, Shenzhen,  
China.

**Product Description**

**Product Name** .....: 4G body worn camera  
**Brand Name** .....: N/A  
**Model Name** .....: F2  
**Series Model** .....: F1, F1P, F1B, F1S, F2B, F2P, F2S, F3P, F3B, F3S, F4P, F4B,  
F4S, F5P, F5B, F5S, F6P, F6B, F6S  
**Test Standards**.....: 47 CFR Part 2, 24(E), 27  
**Test Procedure** .....: KDB 971168 D01 v03r01, ANSI C63.26 2015

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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**Date of Test**.....:

**Date of receipt of test item**.....: 30 July 2020  
**Date (s) of performance of tests**.: 30 July 2020 ~ 13 Oct. 2020  
**Date of Issue** .....: 13 Oct. 2020  
**Test Result** .....: Pass

Testing Engineer :

(Chris Chen)

Technical Manager :

(Sean she)

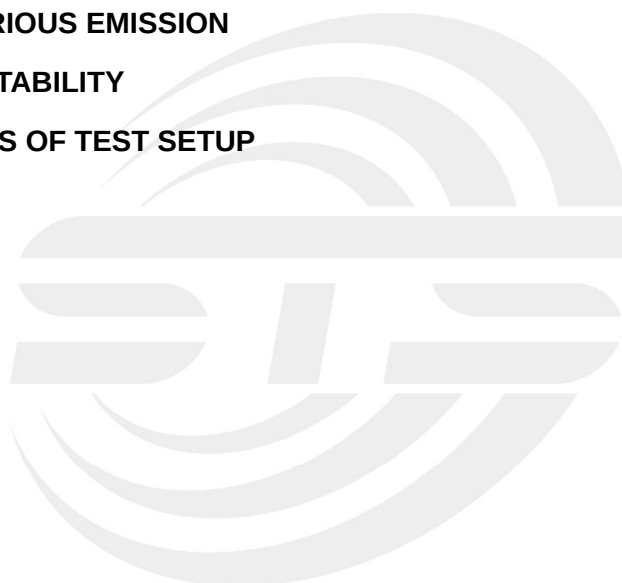
Authorized Signatory :

(Vita Li)





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**Revision History**

| Rev. | Issue Date   | Report NO.    | Effect Page | Contents      |
|------|--------------|---------------|-------------|---------------|
| 00   | 13 Oct. 2020 | STS2007325W08 | ALL         | Initial Issue |
|      |              |               |             |               |





## 1. TEST FACTORY & MEASUREMENT UNCERTAINTY

### 1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

### 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

| No. | Item                              | Uncertainty          |
|-----|-----------------------------------|----------------------|
| 1   | RF output power, conducted        | $\pm 0.68\text{dB}$  |
| 2   | Unwanted Emissions, conducted     | $\pm 2.988\text{dB}$ |
| 3   | All emissions, radiated 30-1GHz   | $\pm 5.6\text{dB}$   |
| 4   | All emissions, radiated 1G-6GHz   | $\pm 5.5\text{dB}$   |
| 5   | All emissions, radiated >6G       | $\pm 5.8\text{dB}$   |
| 6   | Conducted Emission (9KHz-150KHz)  | $\pm 3.37\text{dB}$  |
| 7   | Conducted Emission (150KHz-30MHz) | $\pm 3.83\text{dB}$  |



## 2. GENERAL INFORMATION

### 2.1 TECHNICAL SPECIFICATIONS AND REGULATIONS

#### 2.1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

|                         |                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------|
| Product Name            | 4G body worn camera                                                                                        |
| Trade Name              | N/A                                                                                                        |
| Model Name              | F2                                                                                                         |
| Series Model            | F1, F1P, F1B, F1S, F2B, F2P, F2S, F3P, F3B, F3S, F4P, F4B, F4S, F5P, F5B, F5S, F6P, F6B, F6S               |
| Model Difference        | Only different in model name                                                                               |
| Frequency Bands         | U.S. Bands:<br>LTE FDD Band 2      LTE FDD Band 4<br>LTE FDD Band 5      LTE FDD Band 7<br>LTE TDD Band 41 |
| SIM Card                | Only support single SIM Card.                                                                              |
| Antenna                 | PIFA                                                                                                       |
| Antenna gain            | LTEB2: 0.8dBi<br>LTEB4/B5: 0.7dBi<br>LTEB7/B41: 0.6dBi                                                     |
| Battery parameter       | Rated Voltage: 3.8V<br>Charge Limit: 4.35V<br>Capacity: 3500mA                                             |
| Adapter                 | Input: AC 100-240 50/60Hz 0.3A<br>Output: DC 5.0V 2A                                                       |
| Extreme Vol. Limits     | 3.6V to 4.35V (Nominal 3.8V)                                                                               |
| Extreme Temp. Tolerance | -30℃ to +50℃                                                                                               |
| Hardware version number | ET9210-MB-V2.0                                                                                             |
| Software version number | ET921_BASE_5mo_20200622_V001                                                                               |



## 2.1.2 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

| Product Specification Subjective To This Standard |                                                                                                                                                                                                                                                        |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tx Frequency                                      | LTE Band 2:1850~1910MHz<br>LTE Band 4:1710~1755MHz<br>LTE Band 5:824~849MHz<br>LTE Band 7:2500~2570MHz<br>LTE Band 41:2555~2655MHz                                                                                                                     |
| Rx Frequency                                      | LTE Band 2:1930 ~1990MHz<br>LTE Band 4:2110~2155MHz<br>LTE Band 5:869~894MHz<br>LTE Band 7:2620~2690MHz<br>LTE Band 41:2555~2655MHz                                                                                                                    |
| Bandwidth                                         | LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz /20MHz<br>LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz<br>LTE Band 7: 5MHz / 10MHz / 15MHz /20MHz<br>LTE Band 41: 5MHz / 10MHz / 15MHz /20MHz |
| Maximum Output Power                              | LTE Band 2: 22.86 dBm<br>LTE Band 4: 22.85 dBm<br>LTE Band 5: 25.16 dBm<br>LTE Band 7: 20.69 dBm<br>LTE Band 41: 21.58 dBm                                                                                                                             |

| RF Function | Band        | Mode | Modulation  | Power Class | Ant Gain(dBi)                                         | Ant Type | SIM Card                      |
|-------------|-------------|------|-------------|-------------|-------------------------------------------------------|----------|-------------------------------|
| LTE         | FDD:2/4/5/7 | \    | QPSK, 16QAM | 3           | LTE B2:0.8                                            | PIFA     | 1<br>SIM 1 is used to tested. |
|             | TDD:41      |      |             |             | LTE B4:0.7<br>LTE B5:0.7<br>LTE B7:0.6<br>LTE B41:0.6 |          |                               |



## 2.1.3 EMISSION DESIGNATOR

| LTE Band 2  | Emission Designator | Emission Designator |
|-------------|---------------------|---------------------|
| BW(MHz)     | (99%OBW)QPSK        | (99%OBW)16QAM       |
| 1.4         | 1M10G7D             | 1M10W7D             |
| 3           | 2M68G7D             | 2M67W7D             |
| 5           | 4M60G7D             | 4M51W7D             |
| 10          | 8M94G7D             | 8M94W7D             |
| 15          | 13M5G7D             | 13M5W7D             |
| 20          | 17M9G7D             | 17M9W7D             |
| LTE Band 4  | Emission Designator | Emission Designator |
| BW(MHz)     | (99%OBW)QPSK        | (99%OBW)16QAM       |
| 1.4         | 1M10G7D             | 1M10W7D             |
| 3           | 2M68G7D             | 2M68W7D             |
| 5           | 4M51G7D             | 4M50W7D             |
| 10          | 8M93G7D             | 8M93W7D             |
| 15          | 13M5G7D             | 13M5W7D             |
| 20          | 17M9G7D             | 17M9W7D             |
| LTE Band 5  | Emission Designator | Emission Designator |
| BW(MHz)     | (99%OBW)QPSK        | (99%OBW)16QAM       |
| 1.4         | 1M10G7D             | 1M10W7D             |
| 3           | 2M68G7D             | 2M68W7D             |
| 5           | 4M51G7D             | 4M50W7D             |
| 10          | 8M94G7D             | 8M94W7D             |
| LTE Band 7  | Emission Designator | Emission Designator |
| BW(MHz)     | (99%OBW)QPSK        | (99%OBW)16QAM       |
| 5           | 4M51G7D             | 4M51W7D             |
| 10          | 8M95G7D             | 8M95W7D             |
| 15          | 13M5G7D             | 13M5W7D             |
| 20          | 17M9G7D             | 17M9W7D             |
| LTE Band 41 | Emission Designator | Emission Designator |
| BW(MHz)     | (99%OBW)QPSK        | (99%OBW)16QAM       |
| 5           | 4M51G7D             | 4M50W7D             |
| 10          | 8M93G7D             | 8M94W7D             |
| 15          | 13M5G7D             | 13M5W7D             |
| 20          | 17M9G7D             | 17M9W7D             |



#### 2.1.4 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 v03r01 and ANSI C63.26 2015 Power Meas. License Digital Systems with maximum output power. Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Remark:

1. The mark 'v' means that this configuration is chosen for testing
2. The mark '-' means that this bandwidth is not supported.
3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated.

| ITEMS                       | Band | Bandwidth (MHz) |   |   |    |    |    | Modulation |       | RB # |      |      | Test Channel |   |   |
|-----------------------------|------|-----------------|---|---|----|----|----|------------|-------|------|------|------|--------------|---|---|
|                             |      | 1.4             | 3 | 5 | 10 | 15 | 20 | QPSK       | 16QAM | 1    | Half | Full | L            | M | H |
| Max. Output Power           | 2    | v               | v | v | v  | v  | v  | v          | v     | v    | v    | v    | v            | v | v |
|                             | 4    | v               | v | v | v  | v  | v  | v          | v     | v    | v    | v    | v            | v | v |
|                             | 5    | v               | v | v | v  |    |    | v          | v     | v    | v    | v    | v            | v | v |
|                             | 7    |                 |   | v | v  | v  | v  | v          | v     | v    | v    | v    | v            | v | v |
|                             | 41   |                 |   | v | v  | v  | v  | v          | v     | v    | v    | v    | v            | v | v |
| Peak&Avera Ratio            | 2    |                 |   |   |    |    | v  | v          | v     | v    |      | v    | v            | v | v |
|                             | 4    |                 |   |   |    |    | v  | v          | v     | v    |      | v    | v            | v | v |
|                             | 5    |                 |   |   | v  |    |    | v          | v     | v    |      | v    | v            | v | v |
|                             | 7    |                 |   |   |    |    | v  | v          | v     | v    |      | v    | v            | v | v |
|                             | 41   |                 |   |   |    |    | v  | v          | v     | v    |      | v    | v            | v | v |
| 26dB&99% Bandwidth          | 2    | v               | v | v | v  | v  | v  | v          | v     |      |      | v    | v            | v | v |
|                             | 4    | v               | v | v | v  | v  | v  | v          | v     |      |      | v    | v            | v | v |
|                             | 5    | v               | v | v | v  |    |    | v          | v     |      |      | v    | v            | v | v |
|                             | 7    |                 |   | v | v  | v  | v  | v          | v     |      |      | v    | v            | v | v |
|                             | 41   |                 |   | v | v  | v  | v  | v          | v     |      |      | v    | v            | v | v |
| Conducted Band Edge         | 2    | v               | v | v | v  | v  | v  | v          | v     | v    |      | v    | v            | v | v |
|                             | 4    | v               | v | v | v  | v  | v  | v          | v     | v    |      | v    | v            | v | v |
|                             | 5    | v               | v | v | v  |    |    | v          | v     | v    |      | v    | v            | v | v |
|                             | 7    |                 |   | v | v  | v  | v  | v          | v     | v    |      | v    | v            | v | v |
|                             | 41   |                 |   | v | v  | v  | v  | v          | v     | v    |      | v    | v            | v | v |
| Conducted Spurious Emission | 2    | v               | v | v | v  | v  | v  | v          | v     | v    |      |      | v            | v | v |
|                             | 4    | v               | v | v | v  | v  | v  | v          | v     | v    |      |      | v            | v | v |
|                             | 5    | v               | v | v | v  |    |    | v          | v     | v    |      |      | v            | v | v |
|                             | 7    |                 |   | v | v  | v  | v  | v          | v     | v    |      |      | v            | v | v |
|                             | 41   |                 |   | v | v  | v  | v  | v          | v     | v    |      |      | v            | v | v |
| Frequency Stability         | 2    |                 |   |   | v  |    |    | v          |       |      |      | v    |              | v |   |
|                             | 4    |                 |   |   | v  |    |    | v          |       |      |      | v    |              | v |   |
|                             | 5    |                 |   |   | v  |    |    | v          |       |      |      | v    |              | v |   |
|                             | 7    |                 |   |   | v  |    |    | v          |       |      |      | v    |              | v |   |
|                             | 41   |                 |   |   | v  |    |    | v          |       |      |      | v    |              | v |   |



|                                  |    |   |   |   |   |   |   |   |   |   |  |  |   |   |   |
|----------------------------------|----|---|---|---|---|---|---|---|---|---|--|--|---|---|---|
| E.R.P.&<br>E.I.R.P.              | 2  | v | v | v | v | v | v | v | v | v |  |  | v | v | v |
|                                  | 4  | v | v | v | v | v | v | v | v | v |  |  | v | v | v |
|                                  | 5  | v | v | v | v |   |   | v | v | v |  |  | v | v | v |
|                                  | 7  |   |   | v | v | v | v | v | v | v |  |  | v | v | v |
|                                  | 41 |   |   | v | v | v | v | v | v | v |  |  | v | v | v |
| Radiated<br>Spurious<br>Emission | 2  | v | v | v | v | v | v | v |   | v |  |  | v | v | v |
|                                  | 4  | v | v | v | v | v | v | v |   | v |  |  | v | v | v |
|                                  | 5  | v | v | v | v |   |   | v |   | v |  |  | v | v | v |
|                                  | 7  |   |   | v | v | v | v | v |   | v |  |  | v | v | v |
|                                  | 41 |   |   | v | v | v | v | v |   | v |  |  | v | v | v |





#### 2.1.5 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for filing to comply with the 47 CFR Part 2, 24(E), 27.

#### 2.1.6 SPECIAL ACCESSORIES

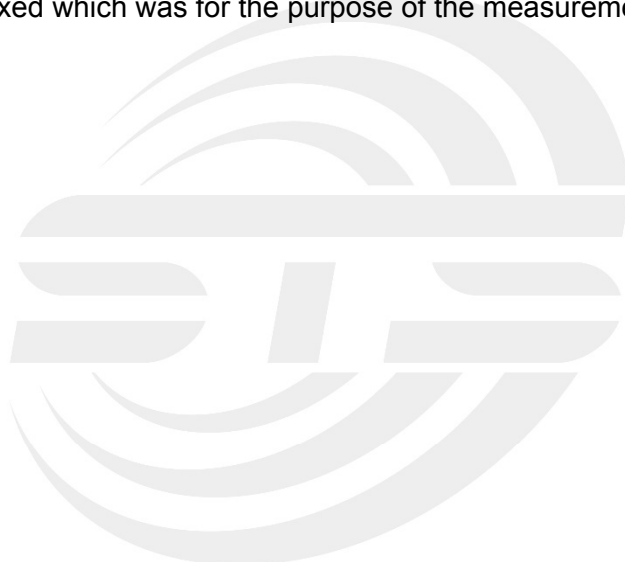
The battery and the charger, earphone supplied by the applicant were used as accessories and being tested with eut intended for fcc grant together.

#### 2.1.7 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

#### 2.1.8 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.





### 2.1.9 CONFIGURATION OF EUT SYSTEM

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

E-1  
EUT

Table 2-1 Equipment Used in EUT System

| Item | Equipment | Model No. | Length | Note |
|------|-----------|-----------|--------|------|
| N/A  | N/A       | N/A       | N/A    | N/A  |
|      |           |           |        |      |
|      |           |           |        |      |
|      |           |           |        |      |

Note:

(1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



## 2.1.10 MEASUREMENT INSTRUMENTS

The radiated emission testing was performed according to the procedures of ANSI C63.26 2015 and FCC CFR 47 rules of 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057.

## Radiation Test equipment

| Kind of Equipment                | Manufacturer | Type No.         | Serial No.   | Last calibration | Calibrated until |
|----------------------------------|--------------|------------------|--------------|------------------|------------------|
| Test Receiver                    | R&S          | ESCI             | 101427       | 2020.09.30       | 2021.09.29       |
| Signal Analyzer                  | Agilent      | N9020A           | MY51110105   | 2020.03.05       | 2021.03.04       |
| Signal generator                 | Agilent      | 83752A           | 3610A02740   | 2020.09.30       | 2021.09.29       |
| Wireless Communications Test Set | R&S          | CMW 500          | 133884       | 2020.03.05       | 2021.03.04       |
| Bilog Antenna                    | TESEQ        | CBL6111D         | 34678        | 2017.11.02       | 2020.11.01       |
| Horn Antenna                     | SCHWARZBECK  | BBHA 9120D(1201) | 9120D-1343   | 2018.10.19       | 2021.10.18       |
| Bilog Antenna                    | TESEQ        | CBL6111D         | 45873        | 2018.10.26       | 2021.10.25       |
| Horn Antenna                     | SCHWARZBECK  | BBHA 9120D(1201) | 9120D-2014   | 2019.10.15       | 2022.10.14       |
| SHF-EHF Horn Antenna (18G-40GHz) | A-INFO       | LB-180400-KF     | J211020657   | 2018.03.11       | 2021.03.10       |
| Pre-Amplifier (0.1M-3GHz)        | EM           | EM330            | 060665       | 2020.09.30       | 2021.09.29       |
| Pre-Amplifier (1G-18GHz)         | SKET         | LNPA-01018G-45   | SK2018080901 | 2020.09.30       | 2021.09.29       |
| Pre-Amplifier (18G-40GHz)        | SKET         | LNPA-1840-50     | SK2018101801 | 2020.09.30       | 2021.09.29       |
| Turn table                       | EM           | SC100_1          | 60531        | N/A              | N/A              |
| Antenna mast                     | EM           | SC100            | N/A          | N/A              | N/A              |
| Temperature & Humidity           | HH660        | Mieo             | N/A          | 2019.10.17       | 2020.10.16       |
| Test SW                          | BULUN        | BL410-E/18.905   |              |                  |                  |

## RF Connected Test

| Kind of Equipment                    | Manufacturer | Type No.        | Serial No. | Last calibration | Calibrated until |
|--------------------------------------|--------------|-----------------|------------|------------------|------------------|
| Universal Radio communication tester | R&S          | CMU200          | 119907     | 2020.10.11       | 2021.10.10       |
| Wireless Communications Test Set     | R&S          | CMW 500         | 133884     | 2020.03.05       | 2021.03.04       |
| Signal Analyzer                      | Agilent      | N9020A          | MY49100060 | 2020.09.30       | 2021.09.29       |
| Temperature & Humidity               | HH660        | Mieo            | N/A        | 2019.10.17       | 2020.10.16       |
| Test SW                              | FARAD        | LZ-RF /LzRf-3A3 |            |                  |                  |



## 2.1.11 MEASUREMENT RESULTS EXPLANATION EXAMPLE

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

*Offset = RF Cable Loss + Attenuator Factor.*



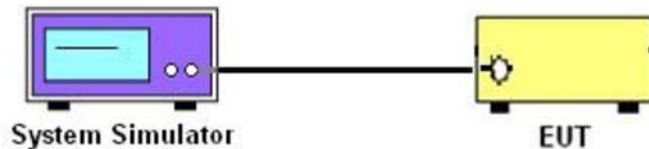
### 3. CONDUCTED OUTPUT POWER

#### 3.1 DESCRIPTION OF THE CONDUCTED OUTPUT POWER MEASUREMENT

##### 3.1.1 MEASUREMENT METHOD

A system simulator was used to establish communication with the eut. Its parameters were set to force the eut transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.  
Configuration follows KDB 971168 D01 v03r01.

##### 3.1.2 TEST SETUP



##### 3.1.3 TEST PROCEDURES

1. The transmitter output port was connected to system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest/middle/highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.



## 3.1.4 TEST RESULTS

| LTE Band 2 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 1.4                                    | 1       | 0         | QPSK   | 22.51  | 22.49  | 22.57   |
| 1.4                                    | 1       | 2         |        | 22.23  | 22.24  | 22.32   |
| 1.4                                    | 1       | 5         |        | 21.97  | 22.03  | 22.05   |
| 1.4                                    | 3       | 0         |        | 21.74  | 21.78  | 21.83   |
| 1.4                                    | 3       | 1         |        | 21.51  | 21.51  | 21.62   |
| 1.4                                    | 3       | 2         |        | 21.22  | 21.23  | 21.34   |
| 1.4                                    | 6       | 0         |        | 20.95  | 20.93  | 21.12   |
| 1.4                                    | 1       | 0         | 16-QAM | 22.25  | 22.22  | 22.33   |
| 1.4                                    | 1       | 2         |        | 21.98  | 22.00  | 22.07   |
| 1.4                                    | 1       | 5         |        | 21.75  | 21.72  | 21.82   |
| 1.4                                    | 3       | 0         |        | 21.53  | 21.51  | 21.62   |
| 1.4                                    | 3       | 1         |        | 21.31  | 21.24  | 21.39   |
| 1.4                                    | 3       | 2         |        | 21.05  | 21.03  | 21.17   |
| 1.4                                    | 6       | 0         |        | 20.81  | 20.82  | 20.95   |
| 3                                      | 1       | 0         | QPSK   | 22.54  | 22.44  | 22.67   |
| 3                                      | 1       | 7         |        | 22.27  | 22.19  | 22.41   |
| 3                                      | 1       | 14        |        | 22.02  | 21.99  | 22.18   |
| 3                                      | 8       | 0         |        | 21.80  | 21.71  | 21.90   |
| 3                                      | 8       | 4         |        | 21.59  | 21.45  | 21.67   |
| 3                                      | 8       | 7         |        | 21.38  | 21.22  | 21.46   |
| 3                                      | 15      | 0         |        | 21.13  | 20.99  | 21.26   |
| 3                                      | 1       | 0         | 16-QAM | 22.30  | 22.19  | 22.38   |
| 3                                      | 1       | 7         |        | 22.05  | 21.90  | 22.17   |
| 3                                      | 1       | 14        |        | 21.77  | 21.61  | 21.94   |
| 3                                      | 8       | 0         |        | 21.53  | 21.40  | 21.69   |
| 3                                      | 8       | 4         |        | 21.32  | 21.17  | 21.47   |
| 3                                      | 8       | 7         |        | 21.06  | 20.93  | 21.20   |
| 3                                      | 15      | 0         |        | 20.83  | 20.63  | 20.92   |



| LTE Band 2 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 5                                      | 1       | 0         | QPSK   | 22.46  | 22.45  | 22.44   |
| 5                                      | 1       | 12        |        | 22.20  | 22.22  | 22.20   |
| 5                                      | 1       | 24        |        | 21.94  | 22.01  | 21.96   |
| 5                                      | 12      | 0         |        | 21.73  | 21.74  | 21.75   |
| 5                                      | 12      | 6         |        | 21.51  | 21.50  | 21.53   |
| 5                                      | 12      | 11        |        | 21.25  | 21.23  | 21.29   |
| 5                                      | 25      | 0         |        | 21.03  | 21.01  | 21.07   |
| 5                                      | 1       | 0         | 16-QAM | 22.24  | 22.16  | 22.24   |
| 5                                      | 1       | 12        |        | 22.01  | 21.94  | 22.00   |
| 5                                      | 1       | 24        |        | 21.79  | 21.66  | 21.73   |
| 5                                      | 12      | 0         |        | 21.53  | 21.39  | 21.45   |
| 5                                      | 12      | 6         |        | 21.30  | 21.09  | 21.20   |
| 5                                      | 12      | 11        |        | 21.06  | 20.84  | 20.94   |
| 5                                      | 25      | 0         |        | 20.80  | 20.56  | 20.70   |
| 10                                     | 1       | 0         | QPSK   | 22.68  | 22.55  | 22.38   |
| 10                                     | 1       | 24        |        | 22.44  | 22.26  | 22.15   |
| 10                                     | 1       | 49        |        | 22.22  | 21.98  | 21.88   |
| 10                                     | 25      | 0         |        | 21.97  | 21.76  | 21.63   |
| 10                                     | 25      | 12        |        | 21.76  | 21.56  | 21.33   |
| 10                                     | 25      | 24        |        | 21.47  | 21.32  | 21.11   |
| 10                                     | 50      | 0         |        | 21.25  | 21.04  | 20.84   |
| 10                                     | 1       | 0         | 16-QAM | 22.43  | 22.27  | 22.14   |
| 10                                     | 1       | 24        |        | 22.14  | 22.04  | 21.84   |
| 10                                     | 1       | 49        |        | 21.86  | 21.80  | 21.63   |
| 10                                     | 25      | 0         |        | 21.57  | 21.53  | 21.40   |
| 10                                     | 25      | 12        |        | 21.28  | 21.26  | 21.17   |
| 10                                     | 25      | 24        |        | 21.07  | 21.01  | 20.89   |
| 10                                     | 50      | 0         |        | 20.83  | 20.77  | 20.67   |



| LTE Band 2 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 15                                     | 1       | 0         | QPSK   | 22.31  | 22.46  | 22.71   |
| 15                                     | 1       | 37        |        | 22.10  | 22.18  | 22.50   |
| 15                                     | 1       | 74        |        | 21.89  | 21.94  | 22.27   |
| 15                                     | 36      | 0         |        | 21.65  | 21.73  | 22.05   |
| 15                                     | 36      | 18        |        | 21.37  | 21.46  | 21.83   |
| 15                                     | 36      | 39        |        | 21.15  | 21.21  | 21.54   |
| 15                                     | 75      | 0         |        | 20.89  | 20.99  | 21.26   |
| 15                                     | 1       | 0         | 16-QAM | 22.04  | 22.18  | 22.46   |
| 15                                     | 1       | 38        |        | 21.78  | 21.95  | 22.21   |
| 15                                     | 1       | 75        |        | 21.54  | 21.71  | 21.92   |
| 15                                     | 36      | 0         |        | 21.28  | 21.44  | 21.68   |
| 15                                     | 36      | 18        |        | 21.04  | 21.22  | 21.41   |
| 15                                     | 36      | 39        |        | 20.78  | 21.00  | 21.21   |
| 15                                     | 75      | 0         |        | 20.50  | 20.72  | 20.91   |
| 20                                     | 1       | 0         | QPSK   | 22.79  | 22.86  | 22.74   |
| 20                                     | 1       | 49        |        | 22.49  | 22.61  | 22.50   |
| 20                                     | 1       | 99        |        | 22.20  | 22.34  | 22.22   |
| 20                                     | 50      | 0         |        | 22.00  | 22.11  | 21.93   |
| 20                                     | 50      | 24        |        | 21.76  | 21.85  | 21.68   |
| 20                                     | 50      | 49        |        | 21.56  | 21.59  | 21.40   |
| 20                                     | 100     | 0         |        | 21.33  | 21.32  | 21.14   |
| 20                                     | 1       | 0         | 16-QAM | 22.58  | 22.61  | 22.47   |
| 20                                     | 1       | 49        |        | 22.28  | 22.38  | 22.23   |
| 20                                     | 1       | 99        |        | 22.05  | 22.10  | 22.02   |
| 20                                     | 50      | 0         |        | 21.83  | 21.81  | 21.77   |
| 20                                     | 50      | 24        |        | 21.60  | 21.52  | 21.51   |
| 20                                     | 50      | 49        |        | 21.40  | 21.25  | 21.29   |
| 20                                     | 100     | 0         |        | 21.19  | 21.03  | 21.08   |



| LTE Band 4 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 1.4                                    | 1       | 0         | QPSK   | 22.63  | 22.59  | 22.61   |
| 1.4                                    | 1       | 2         |        | 22.34  | 22.35  | 22.38   |
| 1.4                                    | 1       | 5         |        | 22.12  | 22.06  | 22.15   |
| 1.4                                    | 3       | 0         |        | 21.91  | 21.84  | 21.90   |
| 1.4                                    | 3       | 1         |        | 21.69  | 21.58  | 21.61   |
| 1.4                                    | 3       | 2         |        | 21.44  | 21.38  | 21.33   |
| 1.4                                    | 6       | 0         |        | 21.16  | 21.11  | 21.13   |
| 1.4                                    | 1       | 0         | 16-QAM | 22.39  | 22.29  | 22.35   |
| 1.4                                    | 1       | 2         |        | 22.11  | 22.01  | 22.11   |
| 1.4                                    | 1       | 5         |        | 21.87  | 21.74  | 21.90   |
| 1.4                                    | 3       | 0         |        | 21.64  | 21.48  | 21.65   |
| 1.4                                    | 3       | 1         |        | 21.35  | 21.27  | 21.40   |
| 1.4                                    | 3       | 2         |        | 21.10  | 20.98  | 21.19   |
| 1.4                                    | 6       | 0         |        | 20.81  | 20.71  | 20.97   |
| 3                                      | 1       | 0         | QPSK   | 22.58  | 22.55  | 22.60   |
| 3                                      | 1       | 7         |        | 22.38  | 22.26  | 22.32   |
| 3                                      | 1       | 14        |        | 22.09  | 22.05  | 22.11   |
| 3                                      | 8       | 0         |        | 21.81  | 21.79  | 21.85   |
| 3                                      | 8       | 4         |        | 21.58  | 21.57  | 21.63   |
| 3                                      | 8       | 7         |        | 21.30  | 21.33  | 21.41   |
| 3                                      | 15      | 0         |        | 21.05  | 21.11  | 21.20   |
| 3                                      | 1       | 0         | 16-QAM | 22.32  | 22.30  | 22.35   |
| 3                                      | 1       | 7         |        | 22.11  | 22.05  | 22.08   |
| 3                                      | 1       | 14        |        | 21.81  | 21.76  | 21.80   |
| 3                                      | 8       | 0         |        | 21.52  | 21.52  | 21.56   |
| 3                                      | 8       | 4         |        | 21.25  | 21.24  | 21.36   |
| 3                                      | 8       | 7         |        | 20.99  | 21.03  | 21.08   |
| 3                                      | 15      | 0         |        | 20.79  | 20.74  | 20.79   |



| LTE Band 4 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 5                                      | 1       | 0         | QPSK   | 22.53  | 22.36  | 22.40   |
| 5                                      | 1       | 12        |        | 22.30  | 22.14  | 22.13   |
| 5                                      | 1       | 24        |        | 22.05  | 21.87  | 21.92   |
| 5                                      | 12      | 0         |        | 21.81  | 21.61  | 21.62   |
| 5                                      | 12      | 6         |        | 21.55  | 21.37  | 21.36   |
| 5                                      | 12      | 11        |        | 21.27  | 21.09  | 21.12   |
| 5                                      | 25      | 0         |        | 21.05  | 20.86  | 20.85   |
| 5                                      | 1       | 0         | 16-QAM | 22.26  | 22.10  | 22.11   |
| 5                                      | 1       | 12        |        | 22.03  | 21.83  | 21.90   |
| 5                                      | 1       | 24        |        | 21.83  | 21.55  | 21.60   |
| 5                                      | 12      | 0         |        | 21.58  | 21.35  | 21.34   |
| 5                                      | 12      | 6         |        | 21.32  | 21.08  | 21.09   |
| 5                                      | 12      | 11        |        | 21.06  | 20.82  | 20.88   |
| 5                                      | 25      | 0         |        | 20.80  | 20.62  | 20.67   |
| 10                                     | 1       | 0         | QPSK   | 22.45  | 22.49  | 22.37   |
| 10                                     | 1       | 24        |        | 22.15  | 22.21  | 22.10   |
| 10                                     | 1       | 49        |        | 21.86  | 21.99  | 21.89   |
| 10                                     | 25      | 0         |        | 21.56  | 21.78  | 21.60   |
| 10                                     | 25      | 12        |        | 21.35  | 21.50  | 21.39   |
| 10                                     | 25      | 24        |        | 21.12  | 21.24  | 21.18   |
| 10                                     | 50      | 0         |        | 20.88  | 20.94  | 20.94   |
| 10                                     | 1       | 0         | 16-QAM | 22.19  | 22.25  | 22.09   |
| 10                                     | 1       | 24        |        | 21.98  | 21.97  | 21.80   |
| 10                                     | 1       | 49        |        | 21.75  | 21.76  | 21.56   |
| 10                                     | 25      | 0         |        | 21.46  | 21.56  | 21.30   |
| 10                                     | 25      | 12        |        | 21.18  | 21.35  | 21.02   |
| 10                                     | 25      | 24        |        | 20.94  | 21.14  | 20.82   |
| 10                                     | 50      | 0         |        | 20.70  | 20.94  | 20.56   |



| LTE Band 4 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 15                                     | 1       | 0         | QPSK   | 22.69  | 22.42  | 22.45   |
| 15                                     | 1       | 37        |        | 22.46  | 22.15  | 22.19   |
| 15                                     | 1       | 74        |        | 22.17  | 21.86  | 21.98   |
| 15                                     | 36      | 0         |        | 21.93  | 21.62  | 21.78   |
| 15                                     | 36      | 18        |        | 21.71  | 21.37  | 21.54   |
| 15                                     | 36      | 39        |        | 21.47  | 21.08  | 21.34   |
| 15                                     | 75      | 0         |        | 21.22  | 20.85  | 21.04   |
| 15                                     | 1       | 0         | 16-QAM | 22.46  | 22.19  | 22.18   |
| 15                                     | 1       | 38        |        | 22.17  | 21.94  | 21.90   |
| 15                                     | 1       | 75        |        | 21.96  | 21.71  | 21.70   |
| 15                                     | 36      | 0         |        | 21.72  | 21.43  | 21.45   |
| 15                                     | 36      | 18        |        | 21.45  | 21.13  | 21.22   |
| 15                                     | 36      | 39        |        | 21.19  | 20.87  | 21.01   |
| 15                                     | 75      | 0         |        | 20.92  | 20.60  | 20.78   |
| 20                                     | 1       | 0         | QPSK   | 22.78  | 22.73  | 22.85   |
| 20                                     | 1       | 49        |        | 22.48  | 22.48  | 22.61   |
| 20                                     | 1       | 99        |        | 22.19  | 22.21  | 22.39   |
| 20                                     | 50      | 0         |        | 21.99  | 21.99  | 22.10   |
| 20                                     | 50      | 24        |        | 21.69  | 21.78  | 21.84   |
| 20                                     | 50      | 49        |        | 21.42  | 21.48  | 21.57   |
| 20                                     | 100     | 0         |        | 21.20  | 21.19  | 21.30   |
| 20                                     | 1       | 0         | 16-QAM | 22.51  | 22.50  | 22.60   |
| 20                                     | 1       | 49        |        | 22.26  | 22.25  | 22.38   |
| 20                                     | 1       | 99        |        | 21.97  | 21.98  | 22.14   |
| 20                                     | 50      | 0         |        | 21.73  | 21.70  | 21.89   |
| 20                                     | 50      | 24        |        | 21.47  | 21.42  | 21.62   |
| 20                                     | 50      | 49        |        | 21.20  | 21.22  | 21.37   |
| 20                                     | 100     | 0         |        | 20.90  | 20.97  | 21.11   |



| LTE Band 5 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 1.4                                    | 1       | 0         | QPSK   | 24.83  | 24.90  | 24.82   |
| 1.4                                    | 1       | 2         |        | 24.56  | 24.68  | 24.57   |
| 1.4                                    | 1       | 5         |        | 24.33  | 24.41  | 24.30   |
| 1.4                                    | 3       | 0         |        | 24.04  | 24.14  | 24.03   |
| 1.4                                    | 3       | 1         |        | 23.78  | 23.86  | 23.76   |
| 1.4                                    | 3       | 2         |        | 23.55  | 23.65  | 23.54   |
| 1.4                                    | 6       | 0         |        | 23.28  | 23.42  | 23.26   |
| 1.4                                    | 1       | 0         | 16-QAM | 24.55  | 24.65  | 24.53   |
| 1.4                                    | 1       | 2         |        | 24.29  | 24.35  | 24.29   |
| 1.4                                    | 1       | 5         |        | 23.99  | 24.08  | 24.06   |
| 1.4                                    | 3       | 0         |        | 23.70  | 23.84  | 23.83   |
| 1.4                                    | 3       | 1         |        | 23.50  | 23.61  | 23.59   |
| 1.4                                    | 3       | 2         |        | 23.28  | 23.33  | 23.34   |
| 1.4                                    | 6       | 0         |        | 23.00  | 23.12  | 23.05   |
| 3                                      | 1       | 0         | QPSK   | 24.85  | 24.62  | 24.55   |
| 3                                      | 1       | 7         |        | 24.56  | 24.40  | 24.32   |
| 3                                      | 1       | 14        |        | 24.28  | 24.13  | 24.11   |
| 3                                      | 8       | 0         |        | 24.03  | 23.86  | 23.89   |
| 3                                      | 8       | 4         |        | 23.75  | 23.61  | 23.62   |
| 3                                      | 8       | 7         |        | 23.53  | 23.38  | 23.34   |
| 3                                      | 15      | 0         |        | 23.31  | 23.15  | 23.07   |
| 3                                      | 1       | 0         | 16-QAM | 24.63  | 24.39  | 24.29   |
| 3                                      | 1       | 7         |        | 24.34  | 24.10  | 24.09   |
| 3                                      | 1       | 14        |        | 24.08  | 23.88  | 23.86   |
| 3                                      | 8       | 0         |        | 23.85  | 23.64  | 23.64   |
| 3                                      | 8       | 4         |        | 23.63  | 23.40  | 23.36   |
| 3                                      | 8       | 7         |        | 23.37  | 23.13  | 23.16   |
| 3                                      | 15      | 0         |        | 23.14  | 22.91  | 22.86   |



| LTE Band 5 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 5                                      | 1       | 0         | QPSK   | 24.55  | 24.81  | 24.59   |
| 5                                      | 1       | 12        |        | 24.33  | 24.54  | 24.33   |
| 5                                      | 1       | 24        |        | 24.07  | 24.33  | 24.08   |
| 5                                      | 12      | 0         |        | 23.83  | 24.06  | 23.87   |
| 5                                      | 12      | 6         |        | 23.55  | 23.77  | 23.59   |
| 5                                      | 12      | 11        |        | 23.30  | 23.47  | 23.34   |
| 5                                      | 25      | 0         |        | 23.04  | 23.24  | 23.09   |
| 5                                      | 1       | 0         | 16-QAM | 24.25  | 24.54  | 24.36   |
| 5                                      | 1       | 12        |        | 24.04  | 24.34  | 24.10   |
| 5                                      | 1       | 24        |        | 23.76  | 24.10  | 23.80   |
| 5                                      | 12      | 0         |        | 23.55  | 23.81  | 23.54   |
| 5                                      | 12      | 6         |        | 23.33  | 23.61  | 23.34   |
| 5                                      | 12      | 11        |        | 23.06  | 23.33  | 23.08   |
| 5                                      | 25      | 0         |        | 22.86  | 23.05  | 22.80   |
| 10                                     | 1       | 0         | QPSK   | 24.98  | 25.16  | 25.07   |
| 10                                     | 1       | 24        |        | 24.74  | 24.88  | 24.84   |
| 10                                     | 1       | 49        |        | 24.53  | 24.63  | 24.60   |
| 10                                     | 25      | 0         |        | 24.30  | 24.33  | 24.31   |
| 10                                     | 25      | 12        |        | 24.00  | 24.05  | 24.04   |
| 10                                     | 25      | 24        |        | 23.71  | 23.81  | 23.84   |
| 10                                     | 50      | 0         |        | 23.49  | 23.60  | 23.62   |
| 10                                     | 1       | 0         | 16-QAM | 24.73  | 24.90  | 24.82   |
| 10                                     | 1       | 24        |        | 24.52  | 24.62  | 24.61   |
| 10                                     | 1       | 49        |        | 24.25  | 24.38  | 24.36   |
| 10                                     | 25      | 0         |        | 24.04  | 24.13  | 24.10   |
| 10                                     | 25      | 12        |        | 23.78  | 23.90  | 23.80   |
| 10                                     | 25      | 24        |        | 23.55  | 23.64  | 23.52   |
| 10                                     | 50      | 0         |        | 23.26  | 23.35  | 23.29   |



| LTE Band 7 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 5                                      | 1       | 0         | QPSK   | 20.37  | 20.52  | 20.48   |
| 5                                      | 1       | 12        |        | 20.08  | 20.31  | 20.25   |
| 5                                      | 1       | 24        |        | 19.80  | 20.06  | 20.02   |
| 5                                      | 12      | 0         |        | 19.51  | 19.80  | 19.78   |
| 5                                      | 12      | 6         |        | 19.28  | 19.58  | 19.57   |
| 5                                      | 12      | 11        |        | 19.02  | 19.34  | 19.33   |
| 5                                      | 25      | 0         |        | 18.76  | 19.09  | 19.09   |
| 5                                      | 1       | 0         | 16-QAM | 20.13  | 20.23  | 20.26   |
| 5                                      | 1       | 12        |        | 19.88  | 19.93  | 20.04   |
| 5                                      | 1       | 24        |        | 19.65  | 19.68  | 19.83   |
| 5                                      | 12      | 0         |        | 19.43  | 19.40  | 19.62   |
| 5                                      | 12      | 6         |        | 19.16  | 19.11  | 19.32   |
| 5                                      | 12      | 11        |        | 18.87  | 18.88  | 19.08   |
| 5                                      | 25      | 0         |        | 18.64  | 18.62  | 18.88   |
| 10                                     | 1       | 0         | QPSK   | 20.23  | 20.26  | 20.35   |
| 10                                     | 1       | 24        |        | 19.93  | 20.00  | 20.07   |
| 10                                     | 1       | 49        |        | 19.72  | 19.80  | 19.82   |
| 10                                     | 25      | 0         |        | 19.43  | 19.55  | 19.55   |
| 10                                     | 25      | 12        |        | 19.18  | 19.27  | 19.32   |
| 10                                     | 25      | 24        |        | 18.92  | 18.98  | 19.07   |
| 10                                     | 50      | 0         |        | 18.69  | 18.71  | 18.79   |
| 10                                     | 1       | 0         | 16-QAM | 19.98  | 20.06  | 20.05   |
| 10                                     | 1       | 24        |        | 19.76  | 19.83  | 19.84   |
| 10                                     | 1       | 49        |        | 19.48  | 19.60  | 19.54   |
| 10                                     | 25      | 0         |        | 19.22  | 19.32  | 19.29   |
| 10                                     | 25      | 12        |        | 18.96  | 19.02  | 19.00   |
| 10                                     | 25      | 24        |        | 18.70  | 18.78  | 18.71   |
| 10                                     | 50      | 0         |        | 18.49  | 18.50  | 18.50   |



| LTE Band 7 Maximum Average Power [dBm] |         |           |        |        |        |         |
|----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                               | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 15                                     | 1       | 0         | QPSK   | 20.30  | 20.47  | 20.16   |
| 15                                     | 1       | 37        |        | 20.05  | 20.18  | 19.87   |
| 15                                     | 1       | 74        |        | 19.80  | 19.93  | 19.62   |
| 15                                     | 36      | 0         |        | 19.58  | 19.71  | 19.34   |
| 15                                     | 36      | 18        |        | 19.37  | 19.49  | 19.12   |
| 15                                     | 36      | 39        |        | 19.10  | 19.22  | 18.86   |
| 15                                     | 75      | 0         |        | 18.81  | 18.92  | 18.63   |
| 15                                     | 1       | 0         | 16-QAM | 20.01  | 20.24  | 19.95   |
| 15                                     | 1       | 38        |        | 19.80  | 19.97  | 19.74   |
| 15                                     | 1       | 75        |        | 19.56  | 19.74  | 19.52   |
| 15                                     | 36      | 0         |        | 19.31  | 19.51  | 19.24   |
| 15                                     | 36      | 18        |        | 19.10  | 19.21  | 19.00   |
| 15                                     | 36      | 39        |        | 18.90  | 19.00  | 18.73   |
| 15                                     | 75      | 0         |        | 18.70  | 18.75  | 18.52   |
| 20                                     | 1       | 0         | QPSK   | 20.53  | 20.60  | 20.69   |
| 20                                     | 1       | 49        |        | 20.27  | 20.39  | 20.43   |
| 20                                     | 1       | 99        |        | 20.03  | 20.17  | 20.18   |
| 20                                     | 50      | 0         |        | 19.81  | 19.87  | 19.97   |
| 20                                     | 50      | 24        |        | 19.56  | 19.67  | 19.73   |
| 20                                     | 50      | 49        |        | 19.30  | 19.45  | 19.46   |
| 20                                     | 100     | 0         |        | 19.08  | 19.19  | 19.24   |
| 20                                     | 1       | 0         | 16-QAM | 20.29  | 20.33  | 20.41   |
| 20                                     | 1       | 49        |        | 20.00  | 20.07  | 20.16   |
| 20                                     | 1       | 99        |        | 19.75  | 19.83  | 19.95   |
| 20                                     | 50      | 0         |        | 19.55  | 19.61  | 19.73   |
| 20                                     | 50      | 24        |        | 19.34  | 19.39  | 19.43   |
| 20                                     | 50      | 49        |        | 19.10  | 19.18  | 19.22   |
| 20                                     | 100     | 0         |        | 18.80  | 18.95  | 18.93   |



| LTE Band 41 Maximum Average Power [dBm] |         |           |        |        |        |         |
|-----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                                | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 5                                       | 1       | 0         | QPSK   | 21.29  | 21.21  | 21.42   |
| 5                                       | 1       | 12        |        | 21.03  | 20.99  | 21.18   |
| 5                                       | 1       | 24        |        | 20.75  | 20.76  | 20.92   |
| 5                                       | 12      | 0         |        | 20.49  | 20.51  | 20.69   |
| 5                                       | 12      | 6         |        | 20.20  | 20.23  | 20.43   |
| 5                                       | 12      | 11        |        | 19.95  | 19.99  | 20.19   |
| 5                                       | 25      | 0         |        | 19.71  | 19.72  | 19.97   |
| 5                                       | 1       | 0         | 16-QAM | 21.09  | 20.94  | 21.13   |
| 5                                       | 1       | 12        |        | 20.88  | 20.64  | 20.89   |
| 5                                       | 1       | 24        |        | 20.64  | 20.39  | 20.62   |
| 5                                       | 12      | 0         |        | 20.41  | 20.12  | 20.39   |
| 5                                       | 12      | 6         |        | 20.20  | 19.92  | 20.17   |
| 5                                       | 12      | 11        |        | 19.91  | 19.63  | 19.93   |
| 5                                       | 25      | 0         |        | 19.69  | 19.34  | 19.70   |
| 10                                      | 1       | 0         | QPSK   | 21.34  | 21.09  | 21.48   |
| 10                                      | 1       | 24        |        | 21.06  | 20.85  | 21.24   |
| 10                                      | 1       | 49        |        | 20.79  | 20.56  | 20.97   |
| 10                                      | 25      | 0         |        | 20.52  | 20.27  | 20.72   |
| 10                                      | 25      | 12        |        | 20.27  | 19.98  | 20.42   |
| 10                                      | 25      | 24        |        | 20.04  | 19.74  | 20.16   |
| 10                                      | 50      | 0         |        | 19.81  | 19.47  | 19.89   |
| 10                                      | 1       | 0         | 16-QAM | 21.05  | 20.81  | 21.27   |
| 10                                      | 1       | 24        |        | 20.79  | 20.56  | 21.02   |
| 10                                      | 1       | 49        |        | 20.50  | 20.35  | 20.76   |
| 10                                      | 25      | 0         |        | 20.24  | 20.14  | 20.50   |
| 10                                      | 25      | 12        |        | 20.02  | 19.92  | 20.25   |
| 10                                      | 25      | 24        |        | 19.76  | 19.62  | 20.04   |
| 10                                      | 50      | 0         |        | 19.54  | 19.33  | 19.83   |



| LTE Band 41 Maximum Average Power [dBm] |         |           |        |        |        |         |
|-----------------------------------------|---------|-----------|--------|--------|--------|---------|
| BW [MHz]                                | RB Size | RB Offset | Mod    | Lowest | Middle | Highest |
| 15                                      | 1       | 0         | QPSK   | 21.36  | 21.28  | 21.45   |
| 15                                      | 1       | 37        |        | 21.11  | 21.02  | 21.24   |
| 15                                      | 1       | 74        |        | 20.88  | 20.76  | 20.96   |
| 15                                      | 36      | 0         |        | 20.60  | 20.53  | 20.70   |
| 15                                      | 36      | 18        |        | 20.31  | 20.27  | 20.41   |
| 15                                      | 36      | 39        |        | 20.01  | 20.00  | 20.20   |
| 15                                      | 75      | 0         |        | 19.80  | 19.76  | 19.98   |
| 15                                      | 1       | 0         | 16-QAM | 21.15  | 21.00  | 21.18   |
| 15                                      | 1       | 38        |        | 20.95  | 20.76  | 20.93   |
| 15                                      | 1       | 75        |        | 20.69  | 20.50  | 20.64   |
| 15                                      | 36      | 0         |        | 20.48  | 20.24  | 20.39   |
| 15                                      | 36      | 18        |        | 20.20  | 20.01  | 20.14   |
| 15                                      | 36      | 39        |        | 19.98  | 19.72  | 19.87   |
| 15                                      | 75      | 0         |        | 19.71  | 19.45  | 19.65   |
| 20                                      | 1       | 0         | QPSK   | 21.58  | 21.46  | 21.53   |
| 20                                      | 1       | 49        |        | 21.35  | 21.23  | 21.31   |
| 20                                      | 1       | 99        |        | 21.10  | 20.99  | 21.09   |
| 20                                      | 50      | 0         |        | 20.89  | 20.75  | 20.84   |
| 20                                      | 50      | 24        |        | 20.59  | 20.50  | 20.58   |
| 20                                      | 50      | 49        |        | 20.36  | 20.28  | 20.29   |
| 20                                      | 100     | 0         |        | 20.12  | 20.00  | 20.02   |
| 20                                      | 1       | 0         | 16-QAM | 21.28  | 21.17  | 21.26   |
| 20                                      | 1       | 49        |        | 21.04  | 20.95  | 20.97   |
| 20                                      | 1       | 99        |        | 20.78  | 20.66  | 20.73   |
| 20                                      | 50      | 0         |        | 20.49  | 20.39  | 20.50   |
| 20                                      | 50      | 24        |        | 20.25  | 20.09  | 20.28   |
| 20                                      | 50      | 49        |        | 19.99  | 19.84  | 20.05   |
| 20                                      | 100     | 0         |        | 19.76  | 19.63  | 19.78   |

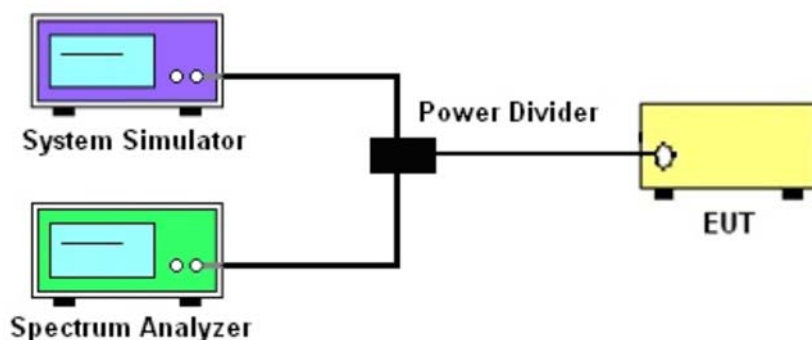
## 4. PEAK-TO-AVERAGE RATIO

### 4.1 DESCRIPTION OF THE CONDUCTED OUTPUT POWER MEASUREMENT

#### 4.1.1 MEASUREMENT METHOD

Use one of the procedures presented in 4.1.3 to measure the total peak power and record as PPK. Use one of the applicable procedures presented 4.1.3 to measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:  
 $PAPR (dB) = PPK (dBm) - PAvg (dBm)$ .

#### 4.1.2 TEST SETUP



#### 4.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.7 and ANSI C63.26 2015 Section 5.2.6.
2. The EUT was connected to spectrum and system simulator via a power divider
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Set the test probe and measure the peak and average power of the spectrum analyzer
5. Record the deviation as Peak to Average Ratio.

|             | LTE    |        |        |        |         |         |
|-------------|--------|--------|--------|--------|---------|---------|
| LTE BW      | 1.4M   | 3M     | 5M     | 10M    | 15M     | 20M     |
| Span        | 3MHz   | 6MHz   | 10MHz  | 20MHz  | 30MHz   | 40MHz   |
| RBW         | 30kHz  | 30kHz  | 100kHz | 100kHz | 300kHz  | 300kHz  |
| VBW         | 100kHz | 100kHz | 300kHz | 300kHz | 1000kHz | 1000kHz |
| Detector    | PK/AVG | PK/AVG | PK/AVG | PK/AVG | PK/AVG  | PK/AVG  |
| Trace       | Max    | Max    | Max    | Max    | Max     | Max     |
| Sweep Count | Auto   | Auto   | Auto   | Auto   | Auto    | Auto    |



## 4.1.4 TEST RESULTS

| LTE Band 2 PAR [dBm] |         |            |        |        |         |
|----------------------|---------|------------|--------|--------|---------|
| BW [MHz]             | RB Size | Modulation | Lowest | Middle | Highest |
|                      |         |            | P-A    | P-A    | P-A     |
| 20                   | 1       | QPSK       | 4.63   | 5.48   | 4.92    |
| 20                   | 100     |            | 5.74   | 5.47   | 5.57    |
| 20                   | 1       | 16-QAM     | 6.17   | 5.9    | 5.52    |
| 20                   | 100     |            | 6.6    | 6.14   | 6.36    |
| Limit                |         |            | ≤13dB  |        |         |

| LTE Band 4 PAR [dBm] |         |            |        |        |         |
|----------------------|---------|------------|--------|--------|---------|
| BW [MHz]             | RB Size | Modulation | Lowest | Middle | Highest |
|                      |         |            | P-A    | P-A    | P-A     |
| 20                   | 1       | QPSK       | 5.39   | 5.09   | 5.17    |
| 20                   | 100     |            | 5.83   | 5.51   | 5.63    |
| 20                   | 1       | 16-QAM     | 5.65   | 6.42   | 5.76    |
| 20                   | 100     |            | 6.49   | 6.29   | 6.36    |
| Limit                |         |            | ≤13dB  |        |         |

| LTE Band 5 PAR [dBm] |         |            |        |        |         |
|----------------------|---------|------------|--------|--------|---------|
| BW [MHz]             | RB Size | Modulation | Lowest | Middle | Highest |
|                      |         |            | P-A    | P-A    | P-A     |
| 10                   | 1       | QPSK       | 5.46   | 4.37   | 5.76    |
| 10                   | 50      |            | 5.4    | 5.48   | 5.56    |
| 10                   | 1       | 16-QAM     | 5.89   | 5.1    | 5.98    |
| 10                   | 50      |            | 6.26   | 6.26   | 6.31    |
| Limit                |         |            | ≤13dB  |        |         |

| LTE Band 7 PAR [dBm] |         |            |        |        |         |
|----------------------|---------|------------|--------|--------|---------|
| BW [MHz]             | RB Size | Modulation | Lowest | Middle | Highest |
|                      |         |            | P-A    | P-A    | P-A     |
| 20                   | 1       | QPSK       | 4.2    | 5.72   | 4.82    |
| 20                   | 100     |            | 5.35   | 5.9    | 5.33    |
| 20                   | 1       | 16-QAM     | 4.81   | 6.39   | 6       |
| 20                   | 100     |            | 6.04   | 6.64   | 6.19    |
| Limit                |         |            | ≤13dB  |        |         |



| LTE Band 41PAR [dBm] |         |            |        |        |         |
|----------------------|---------|------------|--------|--------|---------|
| BW [MHz]             | RB Size | Modulation | Lowest | Middle | Highest |
|                      |         |            | P-A    | P-A    | P-A     |
| 20                   | 1       | QPSK       | 5.02   | 5.11   | 4.86    |
| 20                   | 100     |            | 5.49   | 5.59   | 5.67    |
| 20                   | 1       | 16-QAM     | 5.86   | 5.45   | 5.39    |
| 20                   | 100     |            | 6.22   | 6.38   | 6.35    |
| Limit                |         |            | ≤13dB  |        |         |

Note: Test chart See Appendix D



## 5. RADIATED POWER AND EFFECTIVE ISOTROPIC RADIATED POWER

### 5.1 DESCRIPTION OF THE ERP/EIRP MEASUREMENT

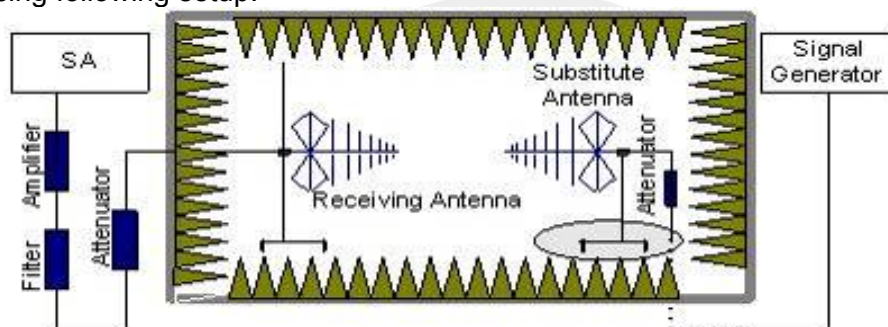
#### 5.1.1 MEASUREMENT METHOD

Effective radiated power output measurements by substitution method according to ANSI C63.26 2015, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems. Mobile and portable (hand-held) stations operating are limited to average ERP, Equivalent isotropic radiated power output measurements by substitution method according to ANSI C63.26 2015, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas, Mobile and portable (hand-held) stations operating are limited to average EIRP.

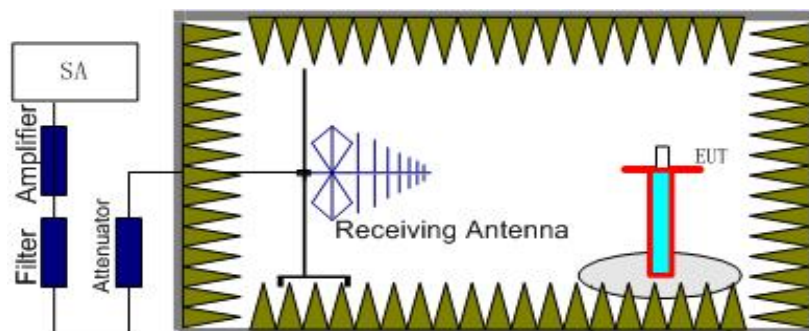
#### 5.1.2 TEST SETUP

The procedure of radiated spurious emissions is as follows:

a) Pre-calibration With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as,  $RSE = R_x (\text{dBuV}) + CL (\text{dB}) + SA (\text{dB}) + \text{Gain} (\text{dBi}) - 107 (\text{dBuV to dBm})$  The SA is calibrated using following setup.



b) EUT was placed on a 1.5m non-conductive stand at a 3 m test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 m from the test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic measured with peak detector and 1MHz bandwidth.



Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of any band into any of the other blocks.

The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below:

$\text{Power} = \text{PMea} + \text{ARpl}$



### 5.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01v03r01 Section 5.6 and ANSI C63.26 2015 Section 5.2.
2. The EUT was placed on a non-conductive rotating platform 1.5 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with Peak detector.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 m in both horizontally and vertically polarized orientations.
4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to ANSI C63.26 2015. The EUT was replaced by dipole antenna (substitution antenna) at same location and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor,  $EIRP/ERP = LVL + \text{Correction factor}$ .
5. RB Set greater than bandwidth, VB Set spectrum analyzer Maximum support.





## 5.1.4 TEST RESULTS

Note: Test is divided into three directions, X/Y/Z. X pattern for the worst.

| Radiated Power (EIRP) for LTE Band 2 / 1.4M |               |        |         |                       |               |               |                        |                                 |            |
|---------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                  | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                             | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                        | 1             | 0      | Lowest  | 11.79                 | 2.37          | 10.40         | 19.82                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 11.7                  | 2.39          | 10.42         | 19.73                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 11.87                 | 2.40          | 10.44         | 19.91                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 13.24                 | 2.37          | 10.40         | 21.27                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 13.19                 | 2.39          | 10.42         | 21.22                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 13.18                 | 2.40          | 10.44         | 21.22                  | Vertical                        | Pass       |
| 16QAM                                       | 1             | 0      | Lowest  | 11.59                 | 2.37          | 10.40         | 19.62                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 11.36                 | 2.39          | 10.42         | 19.39                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 11.43                 | 2.40          | 10.44         | 19.47                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 13.01                 | 2.37          | 10.40         | 21.04                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 12.79                 | 2.39          | 10.42         | 20.82                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 12.92                 | 2.40          | 10.44         | 20.96                  | Vertical                        | Pass       |
| Limit                                       | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 2 / 3M |               |        |         |                       |               |               |                        |                                 |            |
|-------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                           | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                      | 1             | 0      | Lowest  | 11.75                 | 2.37          | 10.40         | 19.78                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 11.72                 | 2.39          | 10.42         | 19.75                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 11.85                 | 2.40          | 10.44         | 19.89                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 13.24                 | 2.37          | 10.40         | 21.27                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 13.18                 | 2.39          | 10.42         | 21.21                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 13.27                 | 2.40          | 10.44         | 21.31                  | Vertical                        | Pass       |
| 16QAM                                     | 1             | 0      | Lowest  | 11.6                  | 2.37          | 10.40         | 19.63                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 11.45                 | 2.39          | 10.42         | 19.48                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 11.52                 | 2.40          | 10.44         | 19.56                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 12.93                 | 2.37          | 10.40         | 20.96                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 12.8                  | 2.39          | 10.42         | 20.83                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 12.98                 | 2.40          | 10.44         | 21.02                  | Vertical                        | Pass       |
| Limit                                     | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (EIRP) for LTE Band 2 / 5M |               |        |         |                       |               |               |                        |                                 |            |
|-------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                           | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                      | 1             | 0      | Lowest  | 11.77                 | 2.37          | 10.40         | 19.80                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 11.72                 | 2.39          | 10.42         | 19.75                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 11.65                 | 2.40          | 10.44         | 19.69                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 13.2                  | 2.37          | 10.40         | 21.23                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 13.15                 | 2.39          | 10.42         | 21.18                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 13                    | 2.40          | 10.44         | 21.04                  | Vertical                        | Pass       |
| 16QAM                                     | 1             | 0      | Lowest  | 11.44                 | 2.37          | 10.40         | 19.47                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 11.44                 | 2.39          | 10.42         | 19.47                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 11.5                  | 2.40          | 10.44         | 19.54                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 12.89                 | 2.37          | 10.40         | 20.92                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 12.91                 | 2.39          | 10.42         | 20.94                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 12.98                 | 2.40          | 10.44         | 21.02                  | Vertical                        | Pass       |
| Limit                                     | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 2 / 10M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 11.93                 | 2.37          | 10.40         | 19.96                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 11.75                 | 2.39          | 10.42         | 19.78                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.71                 | 2.40          | 10.44         | 19.75                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.32                 | 2.37          | 10.40         | 21.35                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.21                 | 2.39          | 10.42         | 21.24                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.06                 | 2.40          | 10.44         | 21.10                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 11.81                 | 2.37          | 10.40         | 19.84                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 11.67                 | 2.39          | 10.42         | 19.70                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.45                 | 2.40          | 10.44         | 19.49                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.2                  | 2.37          | 10.40         | 21.23                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13                    | 2.39          | 10.42         | 21.03                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 12.78                 | 2.40          | 10.44         | 20.82                  | Vertical                        | Pass       |
| Limit                                      | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (EIRP) for LTE Band 2 / 15M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 1.59                  | 2.37          | 10.40         | 9.62                   | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 11.83                 | 2.39          | 10.42         | 19.86                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 12.08                 | 2.40          | 10.44         | 20.12                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 12.98                 | 2.37          | 10.40         | 21.01                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.2                  | 2.39          | 10.42         | 21.23                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.39                 | 2.40          | 10.44         | 21.43                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 11.3                  | 2.37          | 10.40         | 19.33                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 11.4                  | 2.39          | 10.42         | 19.43                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.74                 | 2.40          | 10.44         | 19.78                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 12.64                 | 2.37          | 10.40         | 20.67                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 12.89                 | 2.39          | 10.42         | 20.92                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.13                 | 2.40          | 10.44         | 21.17                  | Vertical                        | Pass       |
| Limit                                      | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 2 / 20M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 12.2                  | 2.37          | 10.40         | 20.23                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 12.31                 | 2.39          | 10.42         | 20.34                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.9                  | 2.40          | 10.44         | 19.94                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.52                 | 2.37          | 10.40         | 21.55                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.62                 | 2.39          | 10.42         | 21.65                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.38                 | 2.40          | 10.44         | 21.42                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 11.69                 | 2.37          | 10.40         | 19.72                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 11.84                 | 2.39          | 10.42         | 19.87                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.74                 | 2.40          | 10.44         | 19.78                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.15                 | 2.37          | 10.40         | 21.18                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.25                 | 2.39          | 10.42         | 21.28                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.2                  | 2.40          | 10.44         | 21.24                  | Vertical                        | Pass       |
| Limit                                      | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (EIRP) for LTE Band 4 / 1.4M |               |        |         |                       |               |               |                        |                                 |            |
|---------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                  | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                             | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                        | 1             | 0      | Lowest  | 12.24                 | 2.35          | 10.13         | 20.02                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 12.21                 | 2.36          | 10.16         | 20.01                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 12.18                 | 2.37          | 10.22         | 20.03                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 13.62                 | 2.35          | 10.13         | 21.40                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 13.58                 | 2.36          | 10.16         | 21.38                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 13.55                 | 2.37          | 10.22         | 21.40                  | Vertical                        | Pass       |
| 16QAM                                       | 1             | 0      | Lowest  | 11.95                 | 2.35          | 10.13         | 19.73                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 11.68                 | 2.36          | 10.16         | 19.48                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 11.9                  | 2.37          | 10.22         | 19.75                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 13.37                 | 2.35          | 10.13         | 21.15                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 13.11                 | 2.36          | 10.16         | 20.91                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 13.24                 | 2.37          | 10.22         | 21.09                  | Vertical                        | Pass       |
| Limit                                       | EIRP<1W=30dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 4 / 3M |               |        |         |                       |               |               |                        |                                 |            |
|-------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                           | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                      | 1             | 0      | Lowest  | 12.05                 | 2.35          | 10.13         | 19.83                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 12.04                 | 2.36          | 10.16         | 19.84                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 12.04                 | 2.37          | 10.22         | 19.89                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 13.54                 | 2.35          | 10.13         | 21.32                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 13.46                 | 2.36          | 10.16         | 21.26                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 13.47                 | 2.37          | 10.22         | 21.32                  | Vertical                        | Pass       |
| 16QAM                                     | 1             | 0      | Lowest  | 11.77                 | 2.35          | 10.13         | 19.55                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 11.79                 | 2.36          | 10.16         | 19.59                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 11.73                 | 2.37          | 10.22         | 19.58                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 13.21                 | 2.35          | 10.13         | 20.99                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 13.25                 | 2.36          | 10.16         | 21.05                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 13.12                 | 2.37          | 10.22         | 20.97                  | Vertical                        | Pass       |
| Limit                                     | EIRP<1W=30dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (EIRP) for LTE Band 4 / 5M |               |        |         |                       |               |               |                        |                                 |            |
|-------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                           | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                      | 1             | 0      | Lowest  | 12.02                 | 2.35          | 10.13         | 19.80                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 12.03                 | 2.36          | 10.16         | 19.83                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 11.8                  | 2.37          | 10.22         | 19.65                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 13.43                 | 2.35          | 10.13         | 21.21                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 13.33                 | 2.36          | 10.16         | 21.13                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 13.25                 | 2.37          | 10.22         | 21.10                  | Vertical                        | Pass       |
| 16QAM                                     | 1             | 0      | Lowest  | 11.74                 | 2.35          | 10.13         | 19.52                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 11.61                 | 2.36          | 10.16         | 19.41                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 11.69                 | 2.37          | 10.22         | 19.54                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 13.16                 | 2.35          | 10.13         | 20.94                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 13.06                 | 2.36          | 10.16         | 20.86                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 13.04                 | 2.37          | 10.22         | 20.89                  | Vertical                        | Pass       |
| Limit                                     | EIRP<1W=30dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 4 / 10M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 11.9                  | 2.35          | 10.13         | 19.68                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 12.16                 | 2.36          | 10.16         | 19.96                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.75                 | 2.37          | 10.22         | 19.60                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.31                 | 2.35          | 10.13         | 21.09                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.49                 | 2.36          | 10.16         | 21.29                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.18                 | 2.37          | 10.22         | 21.03                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 11.87                 | 2.35          | 10.13         | 19.65                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 11.85                 | 2.36          | 10.16         | 19.65                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.48                 | 2.37          | 10.22         | 19.33                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.21                 | 2.35          | 10.13         | 20.99                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.22                 | 2.36          | 10.16         | 21.02                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 12.87                 | 2.37          | 10.22         | 20.72                  | Vertical                        | Pass       |
| Limit                                      | EIRP<1W=30dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (EIRP) for LTE Band 4 / 15M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 12.23                 | 2.35          | 10.13         | 20.01                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 12.06                 | 2.36          | 10.16         | 19.86                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.78                 | 2.37          | 10.22         | 19.63                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.55                 | 2.35          | 10.13         | 21.33                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.41                 | 2.36          | 10.16         | 21.21                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.22                 | 2.37          | 10.22         | 21.07                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 11.95                 | 2.35          | 10.13         | 19.73                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 11.6                  | 2.36          | 10.16         | 19.40                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 11.63                 | 2.37          | 10.22         | 19.48                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.42                 | 2.35          | 10.13         | 21.20                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.09                 | 2.36          | 10.16         | 20.89                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 12.94                 | 2.37          | 10.22         | 20.79                  | Vertical                        | Pass       |
| Limit                                      | EIRP<1W=30dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 4 / 20M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 12.23                 | 2.35          | 10.13         | 20.01                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 12.27                 | 2.36          | 10.16         | 20.07                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 12.26                 | 2.37          | 10.22         | 20.11                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.61                 | 2.35          | 10.13         | 21.39                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.67                 | 2.36          | 10.16         | 21.47                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.64                 | 2.37          | 10.22         | 21.49                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 11.96                 | 2.35          | 10.13         | 19.74                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 11.95                 | 2.36          | 10.16         | 19.75                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 12.03                 | 2.37          | 10.22         | 19.88                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 13.44                 | 2.35          | 10.13         | 21.22                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 13.44                 | 2.36          | 10.16         | 21.24                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 13.44                 | 2.37          | 10.22         | 21.29                  | Vertical                        | Pass       |
| Limit                                      | EIRP<1W=30dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (ERP) for LTE Band 5 / 1.4M |                 |        |         |                       |               |               |                          |                     |                                |            |
|--------------------------------------------|-----------------|--------|---------|-----------------------|---------------|---------------|--------------------------|---------------------|--------------------------------|------------|
| Modulation                                 | RB              |        | Channel | Result                |               |               |                          |                     |                                | Conclusion |
|                                            | Size            | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | correction<br>factor(dB) | PMeas<br>E.R.P(dBm) | Polarization<br>Of Max.<br>ERP |            |
| QPSK                                       | 1               | 0      | Lowest  | 18.82                 | 1.27          | 6.70          | 2.15                     | 22.10               | Horizontal                     | Pass       |
|                                            | 1               | 0      | Middle  | 19.09                 | 1.28          | 6.70          | 2.15                     | 22.36               | Horizontal                     | Pass       |
|                                            | 1               | 0      | Highest | 18.93                 | 1.29          | 6.70          | 2.15                     | 22.19               | Horizontal                     | Pass       |
|                                            | 1               | 0      | Lowest  | 20.24                 | 1.27          | 6.70          | 2.15                     | 23.52               | Vertical                       | Pass       |
|                                            | 1               | 0      | Middle  | 20.4                  | 1.28          | 6.70          | 2.15                     | 23.67               | Vertical                       | Pass       |
|                                            | 1               | 0      | Highest | 20.32                 | 1.29          | 6.70          | 2.15                     | 23.58               | Vertical                       | Pass       |
| 16QAM                                      | 1               | 0      | Lowest  | 18.75                 | 1.27          | 6.70          | 2.15                     | 22.03               | Horizontal                     | Pass       |
|                                            | 1               | 0      | Middle  | 18.7                  | 1.28          | 6.70          | 2.15                     | 21.97               | Horizontal                     | Pass       |
|                                            | 1               | 0      | Highest | 18.54                 | 1.29          | 6.70          | 2.15                     | 21.80               | Horizontal                     | Pass       |
|                                            | 1               | 0      | Lowest  | 20.07                 | 1.27          | 6.70          | 2.15                     | 23.35               | Vertical                       | Pass       |
|                                            | 1               | 0      | Middle  | 20.09                 | 1.28          | 6.70          | 2.15                     | 23.36               | Vertical                       | Pass       |
|                                            | 1               | 0      | Highest | 20                    | 1.29          | 6.70          | 2.15                     | 23.26               | Vertical                       | Pass       |
| Limit                                      | ERP<7W=38.45dBm |        |         |                       |               |               |                          |                     |                                |            |

| Radiated Power (ERP) for LTE Band 5 / 3M |                 |        |         |                       |               |               |                          |                     |                                |            |
|------------------------------------------|-----------------|--------|---------|-----------------------|---------------|---------------|--------------------------|---------------------|--------------------------------|------------|
| Modulation                               | RB              |        | Channel | Result                |               |               |                          |                     |                                | Conclusion |
|                                          | Size            | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | correction<br>factor(dB) | PMeas<br>E.R.P(dBm) | Polarization<br>Of Max.<br>ERP |            |
| QPSK                                     | 1               | 0      | Lowest  | 18.86                 | 1.27          | 6.70          | 2.15                     | 22.14               | Horizontal                     | Pass       |
|                                          | 1               | 0      | Middle  | 18.82                 | 1.28          | 6.70          | 2.15                     | 22.09               | Horizontal                     | Pass       |
|                                          | 1               | 0      | Highest | 18.62                 | 1.29          | 6.70          | 2.15                     | 21.88               | Horizontal                     | Pass       |
|                                          | 1               | 0      | Lowest  | 20.29                 | 1.27          | 6.70          | 2.15                     | 23.57               | Vertical                       | Pass       |
|                                          | 1               | 0      | Middle  | 20.13                 | 1.28          | 6.70          | 2.15                     | 23.40               | Vertical                       | Pass       |
|                                          | 1               | 0      | Highest | 20.01                 | 1.29          | 6.70          | 2.15                     | 23.27               | Vertical                       | Pass       |
| 16QAM                                    | 1               | 0      | Lowest  | 18.5                  | 1.27          | 6.70          | 2.15                     | 21.78               | Horizontal                     | Pass       |
|                                          | 1               | 0      | Middle  | 18.35                 | 1.28          | 6.70          | 2.15                     | 21.62               | Horizontal                     | Pass       |
|                                          | 1               | 0      | Highest | 18.38                 | 1.29          | 6.70          | 2.15                     | 21.64               | Horizontal                     | Pass       |
|                                          | 1               | 0      | Lowest  | 19.96                 | 1.27          | 6.70          | 2.15                     | 23.24               | Vertical                       | Pass       |
|                                          | 1               | 0      | Middle  | 19.77                 | 1.28          | 6.70          | 2.15                     | 23.04               | Vertical                       | Pass       |
|                                          | 1               | 0      | Highest | 19.7                  | 1.29          | 6.70          | 2.15                     | 22.96               | Vertical                       | Pass       |
| Limit                                    | ERP<7W=38.45dBm |        |         |                       |               |               |                          |                     |                                |            |



| Radiated Power (ERP) for LTE Band 5 / 5M |                 |        |         |                       |               |               |                          |                     |                |            |
|------------------------------------------|-----------------|--------|---------|-----------------------|---------------|---------------|--------------------------|---------------------|----------------|------------|
| Modulation                               | RB              |        | Channel | Result                |               |               |                          |                     |                | Conclusion |
|                                          |                 |        |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | correction<br>factor(dB) | PMeas<br>E.R.P(dBm) | Polarization   |            |
|                                          | Size            | Offset |         |                       |               |               |                          |                     | Of Max.<br>ERP |            |
| QPSK                                     | 1               | 0      | Lowest  | 18.52                 | 1.27          | 6.70          | 2.15                     | 21.80               | Horizontal     | Pass       |
|                                          | 1               | 0      | Middle  | 18.66                 | 1.28          | 6.70          | 2.15                     | 21.93               | Horizontal     | Pass       |
|                                          | 1               | 0      | Highest | 18.74                 | 1.29          | 6.70          | 2.15                     | 22.00               | Horizontal     | Pass       |
|                                          | 1               | 0      | Lowest  | 19.96                 | 1.27          | 6.70          | 2.15                     | 23.24               | Vertical       | Pass       |
|                                          | 1               | 0      | Middle  | 20.14                 | 1.28          | 6.70          | 2.15                     | 23.41               | Vertical       | Pass       |
|                                          | 1               | 0      | Highest | 20.11                 | 1.29          | 6.70          | 2.15                     | 23.37               | Vertical       | Pass       |
| 16QAM                                    | 1               | 0      | Lowest  | 18.29                 | 1.27          | 6.70          | 2.15                     | 21.57               | Horizontal     | Pass       |
|                                          | 1               | 0      | Middle  | 18.46                 | 1.28          | 6.70          | 2.15                     | 21.73               | Horizontal     | Pass       |
|                                          | 1               | 0      | Highest | 18.32                 | 1.29          | 6.70          | 2.15                     | 21.58               | Horizontal     | Pass       |
|                                          | 1               | 0      | Lowest  | 19.77                 | 1.27          | 6.70          | 2.15                     | 23.05               | Vertical       | Pass       |
|                                          | 1               | 0      | Middle  | 19.93                 | 1.28          | 6.70          | 2.15                     | 23.20               | Vertical       | Pass       |
|                                          | 1               | 0      | Highest | 19.76                 | 1.29          | 6.70          | 2.15                     | 23.02               | Vertical       | Pass       |
| Limit                                    | ERP<7W=38.45dBm |        |         |                       |               |               |                          |                     |                |            |

| Radiated Power (ERP) for LTE Band 5 / 10M |                 |        |         |                       |               |               |                          |                     |                |            |
|-------------------------------------------|-----------------|--------|---------|-----------------------|---------------|---------------|--------------------------|---------------------|----------------|------------|
| Modulation                                | RB              |        | Channel | Result                |               |               |                          |                     |                | Conclusion |
|                                           |                 |        |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | correction<br>factor(dB) | PMeas<br>E.R.P(dBm) | Polarization   |            |
|                                           | Size            | Offset |         |                       |               |               |                          |                     | Of Max.<br>ERP |            |
| QPSK                                      | 1               | 0      | Lowest  | 19.13                 | 1.27          | 6.70          | 2.15                     | 22.41               | Horizontal     | Pass       |
|                                           | 1               | 0      | Middle  | 19.08                 | 1.28          | 6.70          | 2.15                     | 22.35               | Horizontal     | Pass       |
|                                           | 1               | 0      | Highest | 18.99                 | 1.29          | 6.70          | 2.15                     | 22.25               | Horizontal     | Pass       |
|                                           | 1               | 0      | Lowest  | 20.47                 | 1.27          | 6.70          | 2.15                     | 23.75               | Vertical       | Pass       |
|                                           | 1               | 0      | Middle  | 20.53                 | 1.28          | 6.70          | 2.15                     | 23.80               | Vertical       | Pass       |
|                                           | 1               | 0      | Highest | 20.48                 | 1.29          | 6.70          | 2.15                     | 23.74               | Vertical       | Pass       |
| 16QAM                                     | 1               | 0      | Lowest  | 18.73                 | 1.27          | 6.70          | 2.15                     | 22.01               | Horizontal     | Pass       |
|                                           | 1               | 0      | Middle  | 19.07                 | 1.28          | 6.70          | 2.15                     | 22.34               | Horizontal     | Pass       |
|                                           | 1               | 0      | Highest | 18.92                 | 1.29          | 6.70          | 2.15                     | 22.18               | Horizontal     | Pass       |
|                                           | 1               | 0      | Lowest  | 20.17                 | 1.27          | 6.70          | 2.15                     | 23.45               | Vertical       | Pass       |
|                                           | 1               | 0      | Middle  | 20.39                 | 1.28          | 6.70          | 2.15                     | 23.66               | Vertical       | Pass       |
|                                           | 1               | 0      | Highest | 20.28                 | 1.29          | 6.70          | 2.15                     | 23.54               | Vertical       | Pass       |
| Limit                                     | ERP<7W=38.45dBm |        |         |                       |               |               |                          |                     |                |            |



| Radiated Power (EIRP) for LTE Band 7 / 5M |               |        |         |                       |               |               |                        |                                 |            |
|-------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                           | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                      | 1             | 0      | Lowest  | 8.37                  | 2.56          | 10.60         | 16.41                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 9.75                  | 2.67          | 10.65         | 17.73                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 9.76                  | 2.72          | 10.70         | 17.74                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 9.76                  | 2.56          | 10.60         | 17.80                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 11.22                 | 2.67          | 10.65         | 19.20                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 11.22                 | 2.72          | 10.70         | 19.20                  | Vertical                        | Pass       |
| 16QAM                                     | 1             | 0      | Lowest  | 9.42                  | 2.56          | 10.60         | 17.46                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 9.46                  | 2.67          | 10.65         | 17.44                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 9.43                  | 2.72          | 10.70         | 17.41                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 10.75                 | 2.56          | 10.60         | 18.79                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 10.87                 | 2.67          | 10.65         | 18.85                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 10.9                  | 2.72          | 10.70         | 18.88                  | Vertical                        | Pass       |
| Limit                                     | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 7 / 10M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 9.44                  | 2.56          | 10.60         | 17.48                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 9.63                  | 2.67          | 10.65         | 17.61                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 9.69                  | 2.72          | 10.70         | 17.67                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 10.91                 | 2.56          | 10.60         | 18.95                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 10.97                 | 2.67          | 10.65         | 18.95                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 11.11                 | 2.72          | 10.70         | 19.09                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 9.34                  | 2.56          | 10.60         | 17.38                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 9.38                  | 2.67          | 10.65         | 17.36                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 9.33                  | 2.72          | 10.70         | 17.31                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 10.66                 | 2.56          | 10.60         | 18.70                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 10.81                 | 2.67          | 10.65         | 18.79                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 10.82                 | 2.72          | 10.70         | 18.80                  | Vertical                        | Pass       |
| Limit                                      | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (EIRP) for LTE Band 7 / 15M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 9.51                  | 2.56          | 10.60         | 17.55                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 9.76                  | 2.67          | 10.65         | 17.74                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 9.33                  | 2.72          | 10.70         | 17.31                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 10.98                 | 2.56          | 10.60         | 19.02                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 11.17                 | 2.67          | 10.65         | 19.15                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 10.8                  | 2.72          | 10.70         | 18.78                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 9.29                  | 2.56          | 10.60         | 17.33                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 9.41                  | 2.67          | 10.65         | 17.39                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 9.27                  | 2.72          | 10.70         | 17.25                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 10.68                 | 2.56          | 10.60         | 18.72                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 10.91                 | 2.67          | 10.65         | 18.89                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 10.73                 | 2.72          | 10.70         | 18.71                  | Vertical                        | Pass       |
| Limit                                      | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 7 / 20M |               |        |         |                       |               |               |                        |                                 |            |
|--------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                 | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                            | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                       | 1             | 0      | Lowest  | 9.7                   | 2.56          | 10.60         | 17.74                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 9.94                  | 2.67          | 10.65         | 17.92                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 10.07                 | 2.72          | 10.70         | 18.05                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 11.16                 | 2.56          | 10.60         | 19.20                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 11.36                 | 2.67          | 10.65         | 19.34                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 11.43                 | 2.72          | 10.70         | 19.41                  | Vertical                        | Pass       |
| 16QAM                                      | 1             | 0      | Lowest  | 9.43                  | 2.56          | 10.60         | 17.47                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Middle  | 9.61                  | 2.67          | 10.65         | 17.59                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Highest | 9.65                  | 2.72          | 10.70         | 17.63                  | Horizontal                      | Pass       |
|                                            | 1             | 0      | Lowest  | 10.9                  | 2.56          | 10.60         | 18.94                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Middle  | 11.01                 | 2.67          | 10.65         | 18.99                  | Vertical                        | Pass       |
|                                            | 1             | 0      | Highest | 11.09                 | 2.72          | 10.70         | 19.07                  | Vertical                        | Pass       |
| Limit                                      | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (EIRP) for LTE Band41 / 5M |               |        |         |                       |               |               |                        |                                 |            |
|-------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                           | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                      | 1             | 0      | Lowest  | 10.61                 | 2.56          | 10.60         | 18.65                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 10.51                 | 2.67          | 10.65         | 18.49                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 10.77                 | 2.72          | 10.70         | 18.75                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 11.96                 | 2.56          | 10.60         | 20.00                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 11.97                 | 2.67          | 10.65         | 19.95                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 12.12                 | 2.72          | 10.70         | 20.10                  | Vertical                        | Pass       |
| 16QAM                                     | 1             | 0      | Lowest  | 10.36                 | 2.56          | 10.60         | 18.40                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Middle  | 10.28                 | 2.67          | 10.65         | 18.26                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Highest | 10.42                 | 2.72          | 10.70         | 18.40                  | Horizontal                      | Pass       |
|                                           | 1             | 0      | Lowest  | 11.7                  | 2.56          | 10.60         | 19.74                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Middle  | 11.67                 | 2.67          | 10.65         | 19.65                  | Vertical                        | Pass       |
|                                           | 1             | 0      | Highest | 11.91                 | 2.72          | 10.70         | 19.89                  | Vertical                        | Pass       |
| Limit                                     | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 41 / 10M |               |        |         |                       |               |               |                        |                                 |            |
|---------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                  | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                             | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                        | 1             | 0      | Lowest  | 10.64                 | 2.56          | 10.60         | 18.68                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 10.26                 | 2.67          | 10.65         | 18.24                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 10.64                 | 2.72          | 10.70         | 18.62                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 12.09                 | 2.56          | 10.60         | 20.13                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 11.73                 | 2.67          | 10.65         | 19.71                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 12.1                  | 2.72          | 10.70         | 20.08                  | Vertical                        | Pass       |
| 16QAM                                       | 1             | 0      | Lowest  | 10.32                 | 2.56          | 10.60         | 18.36                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 10.02                 | 2.67          | 10.65         | 18.00                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 10.44                 | 2.72          | 10.70         | 18.42                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 11.65                 | 2.56          | 10.60         | 19.69                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 11.49                 | 2.67          | 10.65         | 19.47                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 11.89                 | 2.72          | 10.70         | 19.87                  | Vertical                        | Pass       |
| Limit                                       | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |



| Radiated Power (EIRP) for LTE Band 41 / 15M |               |        |         |                       |               |               |                        |                                 |            |
|---------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                  | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                             | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                        | 1             | 0      | Lowest  | 10.47                 | 2.56          | 10.60         | 18.51                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 10.53                 | 2.67          | 10.65         | 18.51                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 10.84                 | 2.72          | 10.70         | 18.82                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 11.92                 | 2.56          | 10.60         | 19.96                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 11.91                 | 2.67          | 10.65         | 19.89                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 12.26                 | 2.72          | 10.70         | 20.24                  | Vertical                        | Pass       |
| 16QAM                                       | 1             | 0      | Lowest  | 10.34                 | 2.56          | 10.60         | 18.38                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 10.39                 | 2.67          | 10.65         | 18.37                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 10.55                 | 2.72          | 10.70         | 18.53                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 11.72                 | 2.56          | 10.60         | 19.76                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 11.79                 | 2.67          | 10.65         | 19.77                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 11.93                 | 2.72          | 10.70         | 19.91                  | Vertical                        | Pass       |
| Limit                                       | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |

| Radiated Power (EIRP) for LTE Band 41 / 20M |               |        |         |                       |               |               |                        |                                 |            |
|---------------------------------------------|---------------|--------|---------|-----------------------|---------------|---------------|------------------------|---------------------------------|------------|
| Modulation                                  | RB            |        | Channel | Result                |               |               |                        |                                 | Conclusion |
|                                             | Size          | Offset |         | S<br>G.Level<br>(dBm) | Cable<br>loss | Gain<br>(dBi) | PMeas<br>E.I.R.P.(dBm) | Polarization<br>Of Max.<br>EIRP |            |
| QPSK                                        | 1             | 0      | Lowest  | 10.89                 | 2.56          | 10.60         | 18.93                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 10.73                 | 2.67          | 10.65         | 18.71                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 10.89                 | 2.72          | 10.70         | 18.87                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 12.3                  | 2.56          | 10.60         | 20.34                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 12.11                 | 2.67          | 10.65         | 20.09                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 12.2                  | 2.72          | 10.70         | 20.18                  | Vertical                        | Pass       |
| 16QAM                                       | 1             | 0      | Lowest  | 10.51                 | 2.56          | 10.60         | 18.55                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Middle  | 10.47                 | 2.67          | 10.65         | 18.45                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Highest | 10.44                 | 2.72          | 10.70         | 18.42                  | Horizontal                      | Pass       |
|                                             | 1             | 0      | Lowest  | 11.85                 | 2.56          | 10.60         | 19.89                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Middle  | 11.8                  | 2.67          | 10.65         | 19.78                  | Vertical                        | Pass       |
|                                             | 1             | 0      | Highest | 11.92                 | 2.72          | 10.70         | 19.90                  | Vertical                        | Pass       |
| Limit                                       | EIRP<2W=33dBm |        |         |                       |               |               |                        |                                 |            |

## 6. OCCUPIED BANDWIDTH

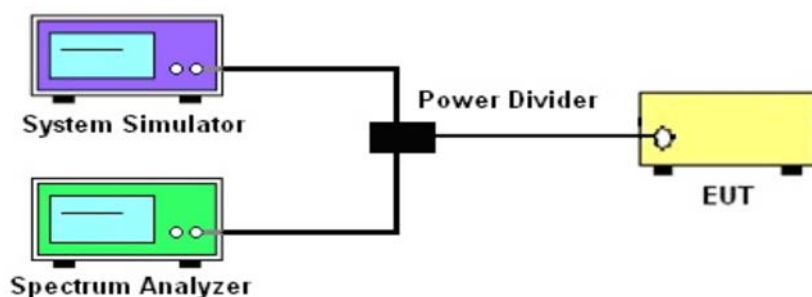
### 6.1 DESCRIPTION OF OCCUPIED BANDWIDTH MEASUREMENT

#### 6.1.1 MEASUREMENT METHOD

1.The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

2.The 26 db emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 db below the maximum in-band spectral density of the modulated signal. spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

#### 6.1.2 TEST SETUP



#### 6.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01 v03r01 Section 4.2 and 4.3.
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Set the test probe and measure the Occupied Bandwidth of the spectrum analyzer.
5. Measure and record the Occupied Bandwidth from the Spectrum Analyzer.

|             | LTE    |        |        |        |         |         |
|-------------|--------|--------|--------|--------|---------|---------|
| LTE BW      | 1.4M   | 3M     | 5M     | 10M    | 15M     | 20M     |
| Span        | 3MHz   | 6MHz   | 10MHz  | 20MHz  | 30MHz   | 40MHz   |
| RBW         | 30kHz  | 30kHz  | 100kHz | 100kHz | 300kHz  | 300kHz  |
| VBW         | 100kHz | 100kHz | 300kHz | 300kHz | 1000kHz | 1000kHz |
| Detector    | PK     | PK     | PK     | PK     | PK      | PK      |
| Trace       | Max    | Max    | Max    | Max    | Max     | Max     |
| Sweep Count | Auto   | Auto   | Auto   | Auto   | Auto    | Auto    |



## 6.1.4 MEASUREMENT RESULT

| LTE Band 2 Bandwidth [MHz] |        |        |         |        |         |         |         |
|----------------------------|--------|--------|---------|--------|---------|---------|---------|
| BW [MHz]                   | Mode   | Lowest |         | Middle |         | Highest |         |
|                            |        | 99% BW | 26dB BW | 99% BW | 26dB BW | 99% BW  | 26dB BW |
| 1.4                        | QPSK   | 1.102  | 1.28    | 1.0928 | 1.282   | 1.0968  | 1.299   |
| 1.4                        | 16-QAM | 1.089  | 1.28    | 1.093  | 1.279   | 1.098   | 1.303   |
| 3                          | QPSK   | 2.68   | 2.865   | 2.6774 | 2.866   | 2.676   | 2.849   |
| 3                          | 16-QAM | 1.672  | 2.863   | 2.6738 | 2.852   | 2.671   | 1.862   |
| 5                          | QPSK   | 4.491  | 4.909   | 4.605  | 4.933   | 4.496   | 4.941   |
| 5                          | 16-QAM | 4.506  | 4.932   | 4.503  | 4.938   | 4.481   | 4.897   |
| 10                         | QPSK   | 8.935  | 9.58    | 8.929  | 9.537   | 8.939   | 9.892   |
| 10                         | 16-QAM | 8.935  | 9.502   | 8.933  | 9.547   | 8.9238  | 9.545   |
| 15                         | QPSK   | 13.484 | 14.71   | 13.461 | 14.8    | 13.45   | 14.66   |
| 15                         | 16-QAM | 13.478 | 14.58   | 13.466 | 14.57   | 13.44   | 14.59   |
| 20                         | QPSK   | 17.93  | 19.15   | 17.911 | 19.15   | 17.887  | 19.13   |
| 20                         | 16-QAM | 17.852 | 19.14   | 17.902 | 19.25   | 17.882  | 19.1    |

| LTE Band 4 Bandwidth [MHz] |        |        |         |        |         |         |         |
|----------------------------|--------|--------|---------|--------|---------|---------|---------|
| BW [MHz]                   | Mode   | Lowest |         | Middle |         | Highest |         |
|                            |        | 99% BW | 26dB BW | 99% BW | 26dB BW | 99% BW  | 26dB BW |
| 1.4                        | QPSK   | 1.0989 | 1.313   | 1.1028 | 1.284   | 1.0927  | 1.281   |
| 1.4                        | 16-QAM | 1.0986 | 1.306   | 1.088  | 1.278   | 1.094   | 1.283   |
| 3                          | QPSK   | 2.6812 | 2.86    | 2.676  | 2.868   | 2.6732  | 2.848   |
| 3                          | 16-QAM | 2.674  | 2.871   | 2.6757 | 2.856   | 2.672   | 2.861   |
| 5                          | QPSK   | 4.5    | 4.941   | 4.5103 | 4.943   | 4.497   | 4.944   |
| 5                          | 16-QAM | 4.502  | 4.937   | 4.5    | 4.931   | 4.4775  | 4.906   |
| 10                         | QPSK   | 8.93   | 9.523   | 8.935  | 9.566   | 8.934   | 9.642   |
| 10                         | 16-QAM | 8.934  | 9.479   | 8.93   | 9.554   | 8.932   | 9.535   |
| 15                         | QPSK   | 13.466 | 14.72   | 13.468 | 14.67   | 13.477  | 14.7    |
| 15                         | 16-QAM | 13.457 | 14.58   | 13.473 | 14.58   | 13.462  | 14.62   |
| 20                         | QPSK   | 17.918 | 19.38   | 17.885 | 19.11   | 17.906  | 19.28   |
| 20                         | 16-QAM | 17.9   | 19.18   | 17.933 | 19.14   | 17.92   | 19.26   |

| LTE Band 5 Bandwidth [MHz] |        |        |         |        |         |         |         |
|----------------------------|--------|--------|---------|--------|---------|---------|---------|
| BW [MHz]                   | Mode   | Lowest |         | Middle |         | Highest |         |
|                            |        | 99% BW | 26dB BW | 99% BW | 26dB BW | 99% BW  | 26dB BW |
| 1.4                        | QPSK   | 1.092  | 1.282   | 1.0972 | 1.301   | 1.1031  | 1.278   |
| 1.4                        | 16-QAM | 1.0929 | 1.285   | 1.0992 | 1.308   | 1.089   | 1.28    |
| 3                          | QPSK   | 2.6738 | 2.849   | 2.6816 | 2.861   | 2.679   | 2.865   |
| 3                          | 16-QAM | 2.67   | 2.853   | 2.6732 | 2.866   | 2.676   | 2.859   |
| 5                          | QPSK   | 4.502  | 4.934   | 4.505  | 4.918   | 4.499   | 4.928   |
| 5                          | 16-QAM | 4.502  | 4.928   | 4.504  | 4.94    | 4.483   | 4.901   |
| 10                         | QPSK   | 8.933  | 9.558   | 8.938  | 9.553   | 8.927   | 9.532   |
| 10                         | 16-QAM | 8.932  | 9.574   | 8.943  | 9.503   | 8.9314  | 9.534   |



| LTE Band 7 Bandwidth [MHz]  |        |        |         |        |         |         |         |
|-----------------------------|--------|--------|---------|--------|---------|---------|---------|
| BW [MHz]                    | Mode   | Lowest |         | Middle |         | Highest |         |
|                             |        | 99% BW | 26dB BW | 99% BW | 26dB BW | 99% BW  | 26dB BW |
| 5                           | QPSK   | 4.507  | 5.741   | 4.491  | 4.924   | 4.497   | 5.26    |
| 5                           | 16-QAM | 4.499  | 5.265   | 4.511  | 4.944   | 4.513   | 4.962   |
| 10                          | QPSK   | 8.929  | 9.576   | 8.945  | 9.624   | 8.94    | 9.636   |
| 10                          | 16-QAM | 8.934  | 9.569   | 8.937  | 9.568   | 8.952   | 9.685   |
| 15                          | QPSK   | 13.454 | 14.64   | 13.466 | 14.71   | 13.417  | 14.5    |
| 15                          | 16-QAM | 13.45  | 14.56   | 13.473 | 14.6    | 13.459  | 14.53   |
| 20                          | QPSK   | 17.856 | 19.07   | 17.919 | 17.34   | 17.908  | 19.32   |
| 20                          | 16-QAM | 17.917 | 19.21   | 17.933 | 19.2    | 17.877  | 19.09   |
| LTE Band 41 Bandwidth [MHz] |        |        |         |        |         |         |         |
| BW [MHz]                    | Mode   | Lowest |         | Middle |         | Highest |         |
|                             |        | 99% BW | 26dB BW | 99% BW | 26dB BW | 99% BW  | 26dB BW |
| 5                           | QPSK   | 4.495  | 5.046   | 4.4882 | 4.929   | 4.506   | 5.039   |
| 5                           | 16-QAM | 4.496  | 5.018   | 4.495  | 5.147   | 4.486   | 4.986   |
| 10                          | QPSK   | 8.932  | 9.869   | 8.934  | 9.818   | 8.9337  | 9.594   |
| 10                          | 16-QAM | 8.932  | 9.968   | 8.944  | 9.401   | 8.925   | 9.447   |
| 15                          | QPSK   | 13.452 | 14.82   | 13.433 | 15.33   | 13.478  | 15.1    |
| 15                          | 16-QAM | 13.493 | 15.09   | 13.485 | 15.25   | 13.472  | 15.17   |
| 20                          | QPSK   | 17.872 | 19.09   | 17.931 | 19.13   | 17.873  | 19.54   |
| 20                          | 16-QAM | 17.875 | 19.23   | 17.901 | 19.28   | 17.889  | 19.61   |

Note: Test chart See Appendix A



## 7. CONDUCTED BAND EDGE

### 7.1 DESCRIPTION OF CONDUCTED BAND EDGE MEASUREMENT

#### 7.1.1 MEASUREMENT METHOD

##### 1. §22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

##### 2. §24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed

##### 3. §27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

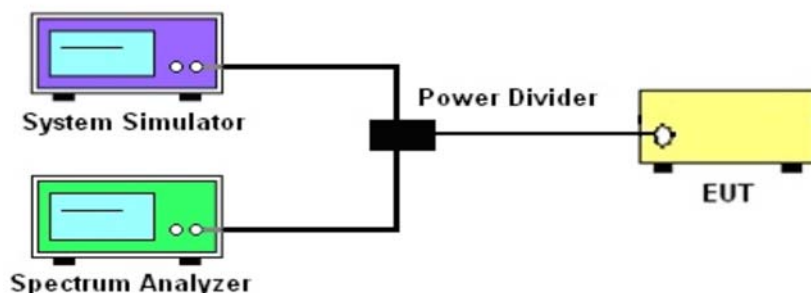
##### 4. §27.53(m)(4)

For operations in the 2500 MHz ~ 2570 MHz band this section, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

##### 5. §27.53 (g)

For operations in the 698 -746 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

## 7.1.2 TEST SETUP



## 7.1.3 TEST PROCEDURES

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0 and ANSI C63.26 2015 Section 5.7.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured. Set RBW  $\geq 1\%$  EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Set spectrum analyzer with RMS/AVG detector.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from  $43 + 10\log(P)$  dB below the transmitter power P(Watts)
 
$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13\text{dBm}.$$

Band 7:

$$= P(W) - [55 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [55 + 10\log(P)] \text{ (dB)}$$

$$= -25\text{dBm}.$$

|             | LTE    |        |        |        |         |         |
|-------------|--------|--------|--------|--------|---------|---------|
| LTE BW      | 1.4M   | 3M     | 5M     | 10M    | 15M     | 20M     |
| Span        | 12MHz  | 13MHz  | 15MHz  | 20MHz  | 25MHz   | 30MHz   |
| RBW         | 30kHz  | 30kHz  | 100kHz | 100kHz | 300kHz  | 300kHz  |
| VBW         | 100kHz | 100kHz | 300kHz | 300kHz | 1000kHz | 1000kHz |
| Detector    | RMS    | RMS    | RMS    | RMS    | RMS     | RMS     |
| Trace       | Max    | Max    | Max    | Max    | Max     | Max     |
| Sweep Count | Auto   | Auto   | Auto   | Auto   | Auto    | Auto    |

## 7.1.4 MEASUREMENT RESULT

Note: Test chart See Appendix B

## 8. CONDUCTED SPURIOUS EMISSION

### 8.1 DESCRIPTION OF CONDUCTED SPURIOUS EMISSION MEASUREMENT

#### 8.1.1 MEASUREMENT METHOD

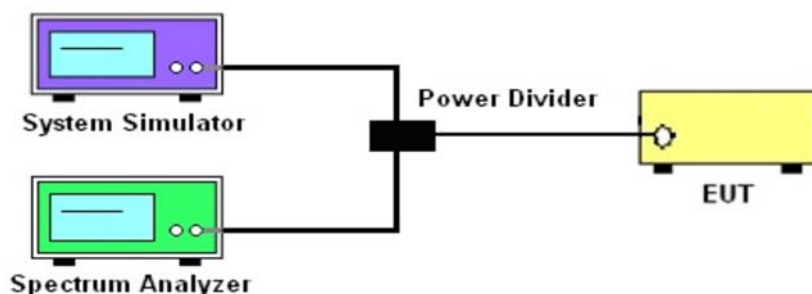
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 7:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

#### 8.1.2 TEST SETUP



#### 8.1.3 TEST PROCEDURES

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0 and ANSI C63.26 2015 Section 5.7.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement
4. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from  $43 + 10\log(P)$  dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)] \text{ (dB)} = [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$   
 $= -13\text{dBm}.$

For Band 7:  $P(W) - [43 + 10\log(P)] \text{ (dB)} = -25\text{dBm}$

|          | LTE     |         |         |         |         |         |
|----------|---------|---------|---------|---------|---------|---------|
| LTE BW   | 1.4M    | 3M      | 5M      | 10M     | 15M     | 20M     |
| Span     | Auto    | Auto    | Auto    | Auto    | Auto    | Auto    |
| RBW      | 1000kHz | 1000kHz | 1000kHz | 1000kHz | 1000kHz | 1000kHz |
| VBW      | 3000kHz | 3000kHz | 3000kHz | 3000kHz | 3000kHz | 3000kHz |
| Detector | PK      | PK      | PK      | PK      | PK      | PK      |
| Trace    | Max     | Max     | Max     | Max     | Max     | Max     |

#### 8.1.4 TEST RESULTS

Note: Test chart See Appendix C

## 9. RADIATED SPURIOUS EMISSION

### 9.1 DESCRIPTION OF RADIATED SPURIOUS EMISSION

#### 9.1.1 MEASUREMENT METHOD

The radiated spurious emission was measured by substitution method according to ANSI C63.26 2015. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 7 The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

#### 9.1.2 TEST SETUP

The procedure of radiated spurious emissions is as follows:

a) Pre-calibration With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as,  $RSE = Rx (dBuV) + CL (dB) + SA (dB) + Gain (dBi) - 107 (dBuV \text{ to } dBm)$  The SA is calibrated using following setup.

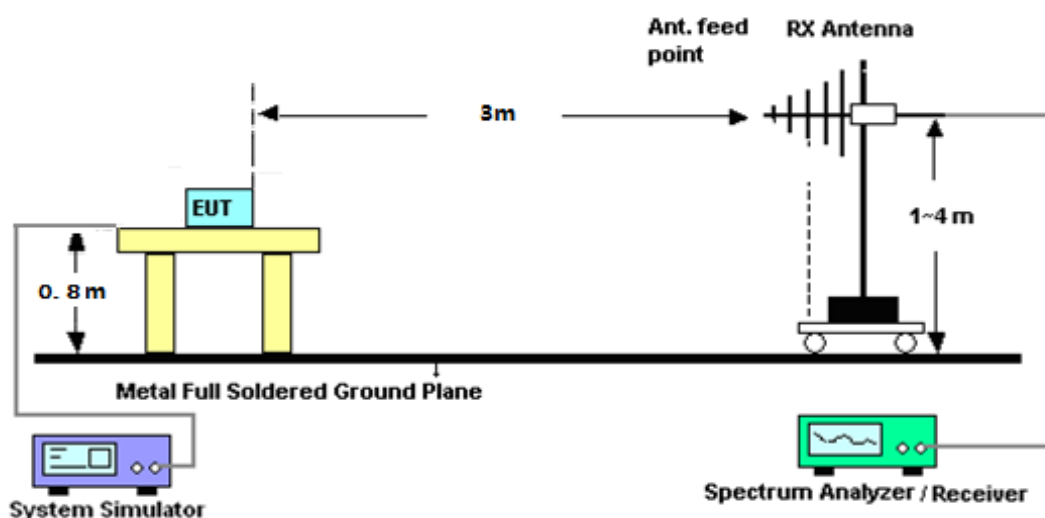
b) EUT was placed on 1.5 m non-conductive stand at a 3 m test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 m from the test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic measured with peak detector and 1MHz bandwidth.

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of any band into any of the other blocks.

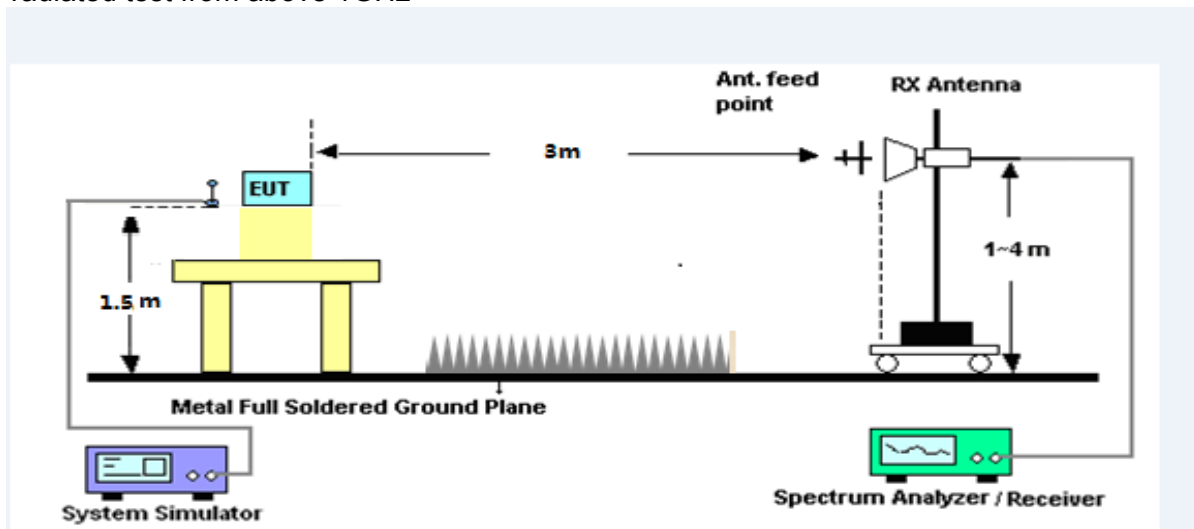
The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below:

Power=PMea+ARpl

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



### 9.1.3 TEST PROCEDURES

1. The testing FCC KDB 971168 D01 Section 7 and ANSI C63.26 2015 Section 5.5.
2. The EUT was placed on a rotatable wooden table with 1.5 meter above ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from  $43 + 10\log(P)$  dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)]$  (dB)  
 $= [30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (dB)  
 $= -13$  dBm

For Band 7:

The limit line is derived from  $55 + 10\log(P)$  dB below the transmitter power P(Watts)  
 $= [30 + 10\log(P)]$  (dBm) -  $[55 + 10\log(P)]$  (dB)  
 $= -25$  dBm

EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain

ERP (dBm) = EIRP - 2.15



## 9.1.4 TEST RESULTS

| LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |            |             |              |          |
|-------------------------------------------------------------------------------------|---------------|----------|-------|------------|-------------|--------------|----------|
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea (dBm) | Limit (dBm) | Margin (dBm) | Polarity |
| 3703.94                                                                             | -33.52        | 12.60    | 12.93 | -33.85     | -13.00      | -20.85       | H        |
| 5557.17                                                                             | -35.41        | 13.10    | 17.11 | -39.42     | -13.00      | -26.42       | H        |
| 7409.47                                                                             | -32.31        | 11.50    | 22.20 | -43.01     | -13.00      | -30.01       | H        |
| 3703.94                                                                             | -34.93        | 12.60    | 12.93 | -35.26     | -13.00      | -22.26       | V        |
| 5557.17                                                                             | -35.15        | 13.10    | 17.11 | -39.16     | -13.00      | -26.16       | V        |
| 7409.47                                                                             | -32.05        | 11.50    | 22.20 | -42.75     | -13.00      | -29.75       | V        |
| LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |            |             |              |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea (dBm) | Limit (dBm) | Margin (dBm) | Polarity |
| 3759.54                                                                             | -34.15        | 12.60    | 12.93 | -34.48     | -13.00      | -21.48       | H        |
| 5639.84                                                                             | -34.59        | 13.10    | 17.11 | -38.60     | -13.00      | -25.60       | H        |
| 7519.91                                                                             | -32.91        | 11.50    | 22.20 | -43.61     | -13.00      | -30.61       | H        |
| 3759.54                                                                             | -35.37        | 12.60    | 12.93 | -35.70     | -13.00      | -22.70       | V        |
| 5639.84                                                                             | -35.11        | 13.10    | 17.11 | -39.12     | -13.00      | -26.12       | V        |
| 7519.91                                                                             | -32.52        | 11.50    | 22.20 | -43.22     | -13.00      | -30.22       | V        |
| LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |            |             |              |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea (dBm) | Limit (dBm) | Margin (dBm) | Polarity |
| 3818.04                                                                             | -33.74        | 12.60    | 12.93 | -34.07     | -13.00      | -21.07       | H        |
| 5727.22                                                                             | -35.26        | 13.10    | 17.11 | -39.27     | -13.00      | -26.27       | H        |
| 7636.90                                                                             | -32.86        | 11.50    | 22.20 | -43.56     | -13.00      | -30.56       | H        |
| 3818.04                                                                             | -34.60        | 12.60    | 12.93 | -34.93     | -13.00      | -21.93       | V        |
| 5727.22                                                                             | -34.35        | 13.10    | 17.11 | -38.36     | -13.00      | -25.36       | V        |
| 7636.90                                                                             | -32.60        | 11.50    | 22.20 | -43.30     | -13.00      | -30.30       | V        |



| LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |        |        |        |          |
|-----------------------------------------------------------------------------------|---------------|----------|-------|--------|--------|--------|----------|
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3703.89                                                                           | -33.77        | 12.60    | 12.93 | -34.10 | -13.00 | -21.10 | H        |
| 5557.19                                                                           | -34.48        | 13.10    | 17.11 | -38.49 | -13.00 | -25.49 | H        |
| 7409.47                                                                           | -32.38        | 11.50    | 22.20 | -43.08 | -13.00 | -30.08 | H        |
| 3703.89                                                                           | -34.68        | 12.60    | 12.93 | -35.01 | -13.00 | -22.01 | V        |
| 5557.19                                                                           | -34.53        | 13.10    | 17.11 | -38.54 | -13.00 | -25.54 | V        |
| 7409.47                                                                           | -32.20        | 11.50    | 22.20 | -42.90 | -13.00 | -29.90 | V        |
| LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |        |        |        |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3759.55                                                                           | -33.55        | 12.60    | 12.93 | -33.88 | -13.00 | -20.88 | H        |
| 5639.77                                                                           | -34.99        | 13.10    | 17.11 | -39.00 | -13.00 | -26.00 | H        |
| 7519.99                                                                           | -32.26        | 11.50    | 22.20 | -42.96 | -13.00 | -29.96 | H        |
| 3759.55                                                                           | -34.70        | 12.60    | 12.93 | -35.03 | -13.00 | -22.03 | V        |
| 5639.77                                                                           | -34.92        | 13.10    | 17.11 | -38.93 | -13.00 | -25.93 | V        |
| 7519.99                                                                           | -32.99        | 11.50    | 22.20 | -43.69 | -13.00 | -30.69 | V        |
| LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |        |        |        |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3817.92                                                                           | -34.02        | 12.60    | 12.93 | -34.35 | -13.00 | -21.35 | H        |
| 5727.52                                                                           | -34.98        | 13.10    | 17.11 | -38.99 | -13.00 | -25.99 | H        |
| 7636.56                                                                           | -33.39        | 11.50    | 22.20 | -44.09 | -13.00 | -31.09 | H        |
| 3817.92                                                                           | -35.66        | 12.60    | 12.93 | -35.99 | -13.00 | -22.99 | V        |
| 5727.52                                                                           | -33.83        | 13.10    | 17.11 | -37.84 | -13.00 | -24.84 | V        |
| 7636.56                                                                           | -32.87        | 11.50    | 22.20 | -43.57 | -13.00 | -30.57 | V        |



| LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |        |        |        |          |
|-----------------------------------------------------------------------------------|---------------|----------|-------|--------|--------|--------|----------|
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3704.77                                                                           | -33.51        | 12.60    | 12.93 | -33.84 | -13.00 | -20.84 | H        |
| 5557.56                                                                           | -34.75        | 13.10    | 17.11 | -38.76 | -13.00 | -25.76 | H        |
| 7410.07                                                                           | -33.12        | 11.50    | 22.20 | -43.82 | -13.00 | -30.82 | H        |
| 3704.77                                                                           | -35.77        | 12.60    | 12.93 | -36.10 | -13.00 | -23.10 | V        |
| 5557.56                                                                           | -34.91        | 13.10    | 17.11 | -38.92 | -13.00 | -25.92 | V        |
| 7410.07                                                                           | -32.83        | 11.50    | 22.20 | -43.53 | -13.00 | -30.53 | V        |
| LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |        |        |        |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3759.97                                                                           | -33.79        | 12.60    | 12.93 | -34.12 | -13.00 | -21.12 | H        |
| 5639.66                                                                           | -34.27        | 13.10    | 17.11 | -38.28 | -13.00 | -25.28 | H        |
| 7520.22                                                                           | -32.82        | 11.50    | 22.20 | -43.52 | -13.00 | -30.52 | H        |
| 3759.97                                                                           | -34.97        | 12.60    | 12.93 | -35.30 | -13.00 | -22.30 | V        |
| 5639.66                                                                           | -34.81        | 13.10    | 17.11 | -38.82 | -13.00 | -25.82 | V        |
| 7520.22                                                                           | -32.90        | 11.50    | 22.20 | -43.60 | -13.00 | -30.60 | V        |
| LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |        |        |        |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3814.08                                                                           | -34.62        | 12.60    | 12.93 | -34.95 | -13.00 | -21.95 | H        |
| 5721.42                                                                           | -34.28        | 13.10    | 17.11 | -38.29 | -13.00 | -25.29 | H        |
| 7628.78                                                                           | -33.22        | 11.50    | 22.20 | -43.92 | -13.00 | -30.92 | H        |
| 3814.08                                                                           | -35.44        | 12.60    | 12.93 | -35.77 | -13.00 | -22.77 | V        |
| 5721.42                                                                           | -33.81        | 13.10    | 17.11 | -37.82 | -13.00 | -24.82 | V        |
| 7628.78                                                                           | -32.65        | 11.50    | 22.20 | -43.35 | -13.00 | -30.35 | V        |



| LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3710.16                                                                            | -34.18        | 12.60    | 12.93 | -34.51        | -13.00         | -21.51          | H        |
| 5565.55                                                                            | -34.28        | 13.10    | 17.11 | -38.29        | -13.00         | -25.29          | H        |
| 7420.72                                                                            | -33.16        | 11.50    | 22.20 | -43.86        | -13.00         | -30.86          | H        |
| 3710.16                                                                            | -34.88        | 12.60    | 12.93 | -35.21        | -13.00         | -22.21          | V        |
| 5565.55                                                                            | -33.83        | 13.10    | 17.11 | -37.84        | -13.00         | -24.84          | V        |
| 7420.72                                                                            | -31.95        | 11.50    | 22.20 | -42.65        | -13.00         | -29.65          | V        |
| LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3759.81                                                                            | -34.03        | 12.60    | 12.93 | -34.36        | -13.00         | -21.36          | H        |
| 5639.76                                                                            | -34.09        | 13.10    | 17.11 | -38.10        | -13.00         | -25.10          | H        |
| 7520.09                                                                            | -33.32        | 11.50    | 22.20 | -44.02        | -13.00         | -31.02          | H        |
| 3759.81                                                                            | -35.74        | 12.60    | 12.93 | -36.07        | -13.00         | -23.07          | V        |
| 5639.76                                                                            | -34.98        | 13.10    | 17.11 | -38.99        | -13.00         | -25.99          | V        |
| 7520.09                                                                            | -32.98        | 11.50    | 22.20 | -43.68        | -13.00         | -30.68          | V        |
| LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3809.04                                                                            | -33.55        | 12.60    | 12.93 | -33.88        | -13.00         | -20.88          | H        |
| 5713.34                                                                            | -34.67        | 13.10    | 17.11 | -38.68        | -13.00         | -25.68          | H        |
| 7617.72                                                                            | -33.16        | 11.50    | 22.20 | -43.86        | -13.00         | -30.86          | H        |
| 3809.04                                                                            | -34.92        | 12.60    | 12.93 | -35.25        | -13.00         | -22.25          | V        |
| 5713.34                                                                            | -33.92        | 13.10    | 17.11 | -37.93        | -13.00         | -24.93          | V        |
| 7617.72                                                                            | -33.03        | 11.50    | 22.20 | -43.73        | -13.00         | -30.73          | V        |



| LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3715.93                                                                            | -34.71        | 12.60    | 12.93 | -35.04        | -13.00         | -22.04          | H        |
| 5573.82                                                                            | -34.68        | 13.10    | 17.11 | -38.69        | -13.00         | -25.69          | H        |
| 7618.44                                                                            | -33.46        | 11.50    | 22.20 | -44.16        | -13.00         | -31.16          | H        |
| 3715.93                                                                            | -35.32        | 12.60    | 12.93 | -35.65        | -13.00         | -22.65          | V        |
| 5573.82                                                                            | -34.52        | 13.10    | 17.11 | -38.53        | -13.00         | -25.53          | V        |
| 7618.44                                                                            | -32.04        | 11.50    | 22.20 | -42.74        | -13.00         | -29.74          | V        |
| LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3759.80                                                                            | -34.80        | 12.60    | 12.93 | -35.13        | -13.00         | -22.13          | H        |
| 5639.85                                                                            | -35.14        | 13.10    | 17.11 | -39.15        | -13.00         | -26.15          | H        |
| 7519.82                                                                            | -32.43        | 11.50    | 22.20 | -43.13        | -13.00         | -30.13          | H        |
| 3759.80                                                                            | -34.82        | 12.60    | 12.93 | -35.15        | -13.00         | -22.15          | V        |
| 5639.85                                                                            | -34.85        | 13.10    | 17.11 | -38.86        | -13.00         | -25.86          | V        |
| 7519.82                                                                            | -32.85        | 11.50    | 22.20 | -43.55        | -13.00         | -30.55          | V        |
| LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3803.26                                                                            | -33.91        | 12.60    | 12.93 | -34.24        | -13.00         | -21.24          | H        |
| 5705.20                                                                            | -34.02        | 13.10    | 17.11 | -38.03        | -13.00         | -25.03          | H        |
| 7606.94                                                                            | -32.40        | 11.50    | 22.20 | -43.10        | -13.00         | -30.10          | H        |
| 3803.26                                                                            | -35.04        | 12.60    | 12.93 | -35.37        | -13.00         | -22.37          | V        |
| 5705.20                                                                            | -33.91        | 13.10    | 17.11 | -37.92        | -13.00         | -24.92          | V        |
| 7606.94                                                                            | -31.89        | 11.50    | 22.20 | -42.59        | -13.00         | -29.59          | V        |



| LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3721.07                                                                            | -34.33        | 12.60    | 12.93 | -34.66        | -13.00         | -21.66          | H        |
| 5581.22                                                                            | -34.80        | 13.10    | 17.11 | -38.81        | -13.00         | -25.81          | H        |
| 7441.46                                                                            | -33.09        | 11.50    | 22.20 | -43.79        | -13.00         | -30.79          | H        |
| 3721.07                                                                            | -35.65        | 12.60    | 12.93 | -35.98        | -13.00         | -22.98          | V        |
| 5581.22                                                                            | -34.06        | 13.10    | 17.11 | -38.07        | -13.00         | -25.07          | V        |
| 7441.46                                                                            | -32.51        | 11.50    | 22.20 | -43.21        | -13.00         | -30.21          | V        |
| LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3759.56                                                                            | -34.36        | 12.60    | 12.93 | -34.69        | -13.00         | -21.69          | H        |
| 5639.80                                                                            | -35.39        | 13.10    | 17.11 | -39.40        | -13.00         | -26.40          | H        |
| 7520.18                                                                            | -33.42        | 11.50    | 22.20 | -44.12        | -13.00         | -31.12          | H        |
| 3759.56                                                                            | -35.67        | 12.60    | 12.93 | -36.00        | -13.00         | -23.00          | V        |
| 5639.80                                                                            | -34.56        | 13.10    | 17.11 | -38.57        | -13.00         | -25.57          | V        |
| 7520.18                                                                            | -32.22        | 11.50    | 22.20 | -42.92        | -13.00         | -29.92          | V        |
| LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3798.10                                                                            | -34.83        | 12.60    | 12.93 | -35.16        | -13.00         | -22.16          | H        |
| 5697.08                                                                            | -34.78        | 13.10    | 17.11 | -38.79        | -13.00         | -25.79          | H        |
| 7597.01                                                                            | -32.23        | 11.50    | 22.20 | -42.93        | -13.00         | -29.93          | H        |
| 3798.10                                                                            | -34.73        | 12.60    | 12.93 | -35.06        | -13.00         | -22.06          | V        |
| 5697.08                                                                            | -34.67        | 13.10    | 17.11 | -38.68        | -13.00         | -25.68          | V        |
| 7597.01                                                                            | -32.69        | 11.50    | 22.20 | -43.39        | -13.00         | -30.39          | V        |



| LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|-------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3420.96                                                                             | -33.55        | 12.90    | 12.56 | -33.21        | -13.00         | -20.21          | H        |
| 5132.12                                                                             | -34.43        | 13.10    | 16.32 | -37.65        | -13.00         | -24.65          | H        |
| 6842.35                                                                             | -33.23        | 12.33    | 21.13 | -42.03        | -13.00         | -29.03          | H        |
| 3420.96                                                                             | -35.29        | 12.90    | 12.56 | -34.95        | -13.00         | -21.95          | V        |
| 5132.12                                                                             | -34.37        | 13.10    | 16.32 | -37.59        | -13.00         | -24.59          | V        |
| 6842.35                                                                             | -31.78        | 12.33    | 21.13 | -40.58        | -13.00         | -27.58          | V        |
| LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3464.87                                                                             | -34.69        | 12.90    | 12.56 | -34.35        | -13.00         | -21.35          | H        |
| 5196.73                                                                             | -35.10        | 13.10    | 16.32 | -38.32        | -13.00         | -25.32          | H        |
| 6930.13                                                                             | -32.43        | 12.33    | 21.13 | -41.23        | -13.00         | -28.23          | H        |
| 3464.87                                                                             | -35.61        | 12.90    | 12.56 | -35.27        | -13.00         | -22.27          | V        |
| 5196.73                                                                             | -34.68        | 13.10    | 16.32 | -37.90        | -13.00         | -24.90          | V        |
| 6930.13                                                                             | -32.55        | 12.33    | 21.13 | -41.35        | -13.00         | -28.35          | V        |
| LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3508.03                                                                             | -34.56        | 12.90    | 12.56 | -34.22        | -13.00         | -21.22          | H        |
| 5262.38                                                                             | -34.66        | 13.10    | 16.32 | -37.88        | -13.00         | -24.88          | H        |
| 7015.37                                                                             | -33.26        | 12.33    | 21.13 | -42.06        | -13.00         | -29.06          | H        |
| 3508.03                                                                             | -34.83        | 12.90    | 12.56 | -34.49        | -13.00         | -21.49          | V        |
| 5262.38                                                                             | -34.12        | 13.10    | 16.32 | -37.34        | -13.00         | -24.34          | V        |
| 7015.37                                                                             | -32.44        | 12.33    | 21.13 | -41.24        | -13.00         | -28.24          | V        |



| LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |        |        |        |          |
|-----------------------------------------------------------------------------------|---------------|----------|-------|--------|--------|--------|----------|
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3423.93                                                                           | -33.51        | 12.90    | 12.56 | -33.17 | -13.00 | -20.17 | H        |
| 5136.02                                                                           | -34.36        | 13.10    | 16.32 | -37.58 | -13.00 | -24.58 | H        |
| 6848.80                                                                           | -32.23        | 12.33    | 21.13 | -41.03 | -13.00 | -28.03 | H        |
| 3423.93                                                                           | -35.76        | 12.90    | 12.56 | -35.42 | -13.00 | -22.42 | V        |
| 5136.02                                                                           | -34.72        | 13.10    | 16.32 | -37.94 | -13.00 | -24.94 | V        |
| 6848.80                                                                           | -31.97        | 12.33    | 21.13 | -40.77 | -13.00 | -27.77 | V        |
| LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |        |        |        |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3464.69                                                                           | -34.30        | 12.90    | 12.56 | -33.96 | -13.00 | -20.96 | H        |
| 5196.93                                                                           | -35.40        | 13.10    | 16.32 | -38.62 | -13.00 | -25.62 | H        |
| 6929.94                                                                           | -33.57        | 12.33    | 21.13 | -42.37 | -13.00 | -29.37 | H        |
| 3464.69                                                                           | -35.11        | 12.90    | 12.56 | -34.77 | -13.00 | -21.77 | V        |
| 5196.93                                                                           | -34.11        | 13.10    | 16.32 | -37.33 | -13.00 | -24.33 | V        |
| 6929.94                                                                           | -32.44        | 12.33    | 21.13 | -41.24 | -13.00 | -28.24 | V        |
| LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |        |        |        |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3506.16                                                                           | -34.17        | 12.90    | 12.56 | -33.83 | -13.00 | -20.83 | H        |
| 5261.98                                                                           | -35.39        | 13.10    | 16.32 | -38.61 | -13.00 | -25.61 | H        |
| 7012.68                                                                           | -33.00        | 12.33    | 21.13 | -41.80 | -13.00 | -28.80 | H        |
| 3506.16                                                                           | -35.20        | 12.90    | 12.56 | -34.86 | -13.00 | -21.86 | V        |
| 5261.98                                                                           | -35.17        | 13.10    | 16.32 | -38.39 | -13.00 | -25.39 | V        |
| 7012.68                                                                           | -31.98        | 12.33    | 21.13 | -40.78 | -13.00 | -27.78 | V        |



| LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |        |        |        |          |
|-----------------------------------------------------------------------------------|---------------|----------|-------|--------|--------|--------|----------|
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3424.89                                                                           | -34.92        | 12.90    | 12.56 | -34.58 | -13.00 | -21.58 | H        |
| 5137.12                                                                           | -34.44        | 13.10    | 16.32 | -37.66 | -13.00 | -24.66 | H        |
| 6849.80                                                                           | -32.63        | 12.33    | 21.13 | -41.43 | -13.00 | -28.43 | H        |
| 3424.89                                                                           | -35.32        | 12.90    | 12.56 | -34.98 | -13.00 | -21.98 | V        |
| 5137.12                                                                           | -33.97        | 13.10    | 16.32 | -37.19 | -13.00 | -24.19 | V        |
| 6849.80                                                                           | -32.27        | 12.33    | 21.13 | -41.07 | -13.00 | -28.07 | V        |
| LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |        |        |        |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3464.71                                                                           | -34.84        | 12.90    | 12.56 | -34.50 | -13.00 | -21.50 | H        |
| 5196.77                                                                           | -35.07        | 13.10    | 16.32 | -38.29 | -13.00 | -25.29 | H        |
| 6929.82                                                                           | -33.05        | 12.33    | 21.13 | -41.85 | -13.00 | -28.85 | H        |
| 3464.71                                                                           | -34.68        | 12.90    | 12.56 | -34.34 | -13.00 | -21.34 | V        |
| 5196.77                                                                           | -34.70        | 13.10    | 16.32 | -37.92 | -13.00 | -24.92 | V        |
| 6929.82                                                                           | -32.54        | 12.33    | 21.13 | -41.34 | -13.00 | -28.34 | V        |
| LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |        |        |        |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea   | Limit  | Margin | Polarity |
|                                                                                   |               |          |       | (dBm)  | (dBm)  | (dBm)  |          |
| 3505.22                                                                           | -34.34        | 12.90    | 12.56 | -34.00 | -13.00 | -21.00 | H        |
| 5257.15                                                                           | -34.85        | 13.10    | 16.32 | -38.07 | -13.00 | -25.07 | H        |
| 7010.14                                                                           | -33.00        | 12.33    | 21.13 | -41.80 | -13.00 | -28.80 | H        |
| 3505.22                                                                           | -35.27        | 12.90    | 12.56 | -34.93 | -13.00 | -21.93 | V        |
| 5257.15                                                                           | -33.81        | 13.10    | 16.32 | -37.03 | -13.00 | -24.03 | V        |
| 7010.14                                                                           | -32.36        | 12.33    | 21.13 | -41.16 | -13.00 | -28.16 | V        |



| LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3430.20                                                                            | -34.39        | 12.90    | 12.56 | -34.05        | -13.00         | -21.05          | H        |
| 5145.05                                                                            | -35.34        | 13.10    | 16.32 | -38.56        | -13.00         | -25.56          | H        |
| 6860.48                                                                            | -33.40        | 12.33    | 21.13 | -42.20        | -13.00         | -29.20          | H        |
| 3430.20                                                                            | -35.42        | 12.90    | 12.56 | -35.08        | -13.00         | -22.08          | V        |
| 5145.05                                                                            | -34.60        | 13.10    | 16.32 | -37.82        | -13.00         | -24.82          | V        |
| 6860.48                                                                            | -32.64        | 12.33    | 21.13 | -41.44        | -13.00         | -28.44          | V        |
| LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3464.39                                                                            | -33.55        | 12.90    | 12.56 | -33.21        | -13.00         | -20.21          | H        |
| 5196.38                                                                            | -34.28        | 13.10    | 16.32 | -37.50        | -13.00         | -24.50          | H        |
| 6929.39                                                                            | -33.36        | 12.33    | 21.13 | -42.16        | -13.00         | -29.16          | H        |
| 3464.39                                                                            | -35.51        | 12.90    | 12.56 | -35.17        | -13.00         | -22.17          | V        |
| 5196.38                                                                            | -34.96        | 13.10    | 16.32 | -38.18        | -13.00         | -25.18          | V        |
| 6929.39                                                                            | -32.79        | 12.33    | 21.13 | -41.59        | -13.00         | -28.59          | V        |
| LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3500.06                                                                            | -34.44        | 12.90    | 12.56 | -34.10        | -13.00         | -21.10          | H        |
| 5250.11                                                                            | -35.07        | 13.10    | 16.32 | -38.29        | -13.00         | -25.29          | H        |
| 6999.93                                                                            | -33.05        | 12.33    | 21.13 | -41.85        | -13.00         | -28.85          | H        |
| 3500.06                                                                            | -34.70        | 12.90    | 12.56 | -34.36        | -13.00         | -21.36          | V        |
| 5250.11                                                                            | -33.79        | 13.10    | 16.32 | -37.01        | -13.00         | -24.01          | V        |
| 6999.93                                                                            | -32.22        | 12.33    | 21.13 | -41.02        | -13.00         | -28.02          | V        |



| LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3434.77                                                                            | -33.79        | 12.90    | 12.56 | -33.45        | -13.00         | -20.45          | H        |
| 5152.36                                                                            | -34.03        | 13.10    | 16.32 | -37.25        | -13.00         | -24.25          | H        |
| 6870.43                                                                            | -33.30        | 12.33    | 21.13 | -42.10        | -13.00         | -29.10          | H        |
| 3434.77                                                                            | -34.87        | 12.90    | 12.56 | -34.53        | -13.00         | -21.53          | V        |
| 5152.36                                                                            | -35.03        | 13.10    | 16.32 | -38.25        | -13.00         | -25.25          | V        |
| 6870.43                                                                            | -32.42        | 12.33    | 21.13 | -41.22        | -13.00         | -28.22          | V        |
| LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3464.75                                                                            | -34.41        | 12.90    | 12.56 | -34.07        | -13.00         | -21.07          | H        |
| 5196.44                                                                            | -34.87        | 13.10    | 16.32 | -38.09        | -13.00         | -25.09          | H        |
| 6930.15                                                                            | -32.30        | 12.33    | 21.13 | -41.10        | -13.00         | -28.10          | H        |
| 3464.75                                                                            | -35.15        | 12.90    | 12.56 | -34.81        | -13.00         | -21.81          | V        |
| 5196.44                                                                            | -35.05        | 13.10    | 16.32 | -38.27        | -13.00         | -25.27          | V        |
| 6930.15                                                                            | -32.34        | 12.33    | 21.13 | -41.14        | -13.00         | -28.14          | V        |
| LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3495.42                                                                            | -33.60        | 12.90    | 12.56 | -33.26        | -13.00         | -20.26          | H        |
| 5242.28                                                                            | -35.29        | 13.10    | 16.32 | -38.51        | -13.00         | -25.51          | H        |
| 6990.17                                                                            | -33.47        | 12.33    | 21.13 | -42.27        | -13.00         | -29.27          | H        |
| 3495.42                                                                            | -34.81        | 12.90    | 12.56 | -34.47        | -13.00         | -21.47          | V        |
| 5242.28                                                                            | -34.67        | 13.10    | 16.32 | -37.89        | -13.00         | -24.89          | V        |
| 6990.17                                                                            | -32.44        | 12.33    | 21.13 | -41.24        | -13.00         | -28.24          | V        |



| LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3440.20                                                                            | -34.83        | 12.90    | 12.56 | -34.49        | -13.00         | -21.49          | H        |
| 5160.34                                                                            | -35.06        | 13.10    | 16.32 | -38.28        | -13.00         | -25.28          | H        |
| 6880.61                                                                            | -32.96        | 12.33    | 21.13 | -41.76        | -13.00         | -28.76          | H        |
| 3440.20                                                                            | -35.08        | 12.90    | 12.56 | -34.74        | -13.00         | -21.74          | V        |
| 5160.34                                                                            | -34.73        | 13.10    | 16.32 | -37.95        | -13.00         | -24.95          | V        |
| 6880.61                                                                            | -32.30        | 12.33    | 21.13 | -41.10        | -13.00         | -28.10          | V        |
| LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3464.86                                                                            | -34.60        | 12.90    | 12.56 | -34.26        | -13.00         | -21.26          | H        |
| 5196.68                                                                            | -34.93        | 13.10    | 16.32 | -38.15        | -13.00         | -25.15          | H        |
| 6929.98                                                                            | -32.68        | 12.33    | 21.13 | -41.48        | -13.00         | -28.48          | H        |
| 3464.86                                                                            | -35.89        | 12.90    | 12.56 | -35.55        | -13.00         | -22.55          | V        |
| 5196.68                                                                            | -35.07        | 13.10    | 16.32 | -38.29        | -13.00         | -25.29          | V        |
| 6929.98                                                                            | -31.96        | 12.33    | 21.13 | -40.76        | -13.00         | -27.76          | V        |
| LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 3490.38                                                                            | -33.81        | 12.90    | 12.56 | -33.47        | -13.00         | -20.47          | H        |
| 5235.03                                                                            | -34.92        | 13.10    | 16.32 | -38.14        | -13.00         | -25.14          | H        |
| 6979.83                                                                            | -33.40        | 12.33    | 21.13 | -42.20        | -13.00         | -29.20          | H        |
| 3490.38                                                                            | -35.83        | 12.90    | 12.56 | -35.49        | -13.00         | -22.49          | V        |
| 5235.03                                                                            | -35.00        | 13.10    | 16.32 | -38.22        | -13.00         | -25.22          | V        |
| 6979.83                                                                            | -32.66        | 12.33    | 21.13 | -41.46        | -13.00         | -28.46          | V        |



| LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|-------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1648.82                                                                             | -34.83        | 9.56     | 9.72  | -34.99        | -13.00         | -21.99          | H        |
| 2473.39                                                                             | -35.12        | 10.50    | 10.86 | -35.48        | -13.00         | -22.48          | H        |
| 3298.43                                                                             | -32.89        | 12.78    | 11.57 | -31.68        | -13.00         | -18.68          | H        |
| 1648.82                                                                             | -35.05        | 9.56     | 9.72  | -35.21        | -13.00         | -22.21          | V        |
| 2473.39                                                                             | -34.66        | 10.50    | 10.86 | -35.02        | -13.00         | -22.02          | V        |
| 3298.43                                                                             | -33.15        | 12.78    | 11.57 | -31.94        | -13.00         | -18.94          | V        |
| LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1672.75                                                                             | -34.10        | 9.56     | 9.72  | -34.26        | -13.00         | -21.26          | H        |
| 2508.92                                                                             | -34.41        | 10.50    | 10.86 | -34.77        | -13.00         | -21.77          | H        |
| 3345.71                                                                             | -32.86        | 12.78    | 11.57 | -31.65        | -13.00         | -18.65          | H        |
| 1672.75                                                                             | -35.72        | 9.56     | 9.72  | -35.88        | -13.00         | -22.88          | V        |
| 2508.92                                                                             | -34.57        | 10.50    | 10.86 | -34.93        | -13.00         | -21.93          | V        |
| 3345.71                                                                             | -32.60        | 12.78    | 11.57 | -31.39        | -13.00         | -18.39          | V        |
| LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1695.93                                                                             | -33.54        | 9.56     | 9.72  | -33.70        | -13.00         | -20.70          | H        |
| 2544.73                                                                             | -34.53        | 10.50    | 10.86 | -34.89        | -13.00         | -21.89          | H        |
| 3392.85                                                                             | -33.64        | 12.78    | 11.57 | -32.43        | -13.00         | -19.43          | H        |
| 1695.93                                                                             | -34.99        | 9.56     | 9.72  | -35.15        | -13.00         | -22.15          | V        |
| 2544.73                                                                             | -34.47        | 10.50    | 10.86 | -34.83        | -13.00         | -21.83          | V        |
| 3392.85                                                                             | -32.94        | 12.78    | 11.57 | -31.73        | -13.00         | -18.73          | V        |



| LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|-----------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1650.41                                                                           | -34.65        | 9.56     | 9.72  | -34.81        | -13.00         | -21.81          | H        |
| 2475.84                                                                           | -34.40        | 10.50    | 10.86 | -34.76        | -13.00         | -21.76          | H        |
| 3301.60                                                                           | -32.95        | 12.78    | 11.57 | -31.74        | -13.00         | -18.74          | H        |
| 1650.41                                                                           | -35.07        | 9.56     | 9.72  | -35.23        | -13.00         | -22.23          | V        |
| 2475.84                                                                           | -34.26        | 10.50    | 10.86 | -34.62        | -13.00         | -21.62          | V        |
| 3301.60                                                                           | -32.39        | 12.78    | 11.57 | -31.18        | -13.00         | -18.18          | V        |
| LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1672.26                                                                           | -34.42        | 9.56     | 9.72  | -34.58        | -13.00         | -21.58          | H        |
| 2508.91                                                                           | -34.12        | 10.50    | 10.86 | -34.48        | -13.00         | -21.48          | H        |
| 3345.46                                                                           | -33.07        | 12.78    | 11.57 | -31.86        | -13.00         | -18.86          | H        |
| 1672.26                                                                           | -35.94        | 9.56     | 9.72  | -36.10        | -13.00         | -23.10          | V        |
| 2508.91                                                                           | -33.77        | 10.50    | 10.86 | -34.13        | -13.00         | -21.13          | V        |
| 3345.46                                                                           | -32.04        | 12.78    | 11.57 | -30.83        | -13.00         | -17.83          | V        |
| LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1694.36                                                                           | -33.75        | 9.56     | 9.72  | -33.91        | -13.00         | -20.91          | H        |
| 2541.79                                                                           | -35.14        | 10.50    | 10.86 | -35.50        | -13.00         | -22.50          | H        |
| 3389.20                                                                           | -33.17        | 12.78    | 11.57 | -31.96        | -13.00         | -18.96          | H        |
| 1694.36                                                                           | -34.87        | 9.56     | 9.72  | -35.03        | -13.00         | -22.03          | V        |
| 2541.79                                                                           | -34.34        | 10.50    | 10.86 | -34.70        | -13.00         | -21.70          | V        |
| 3389.20                                                                           | -32.09        | 12.78    | 11.57 | -30.88        | -13.00         | -17.88          | V        |



| LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|-----------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1652.46                                                                           | -34.54        | 9.56     | 9.72  | -34.70        | -13.00         | -21.70          | H        |
| 2478.54                                                                           | -34.95        | 10.50    | 10.86 | -35.31        | -13.00         | -22.31          | H        |
| 3305.58                                                                           | -32.79        | 12.78    | 11.57 | -31.58        | -13.00         | -18.58          | H        |
| 1652.46                                                                           | -34.96        | 9.56     | 9.72  | -35.12        | -13.00         | -22.12          | V        |
| 2478.54                                                                           | -35.01        | 10.50    | 10.86 | -35.37        | -13.00         | -22.37          | V        |
| 3305.58                                                                           | -32.76        | 12.78    | 11.57 | -31.55        | -13.00         | -18.55          | V        |
| LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1672.49                                                                           | -34.45        | 9.56     | 9.72  | -34.61        | -13.00         | -21.61          | H        |
| 2508.77                                                                           | -35.28        | 10.50    | 10.86 | -35.64        | -13.00         | -22.64          | H        |
| 3345.48                                                                           | -32.30        | 12.78    | 11.57 | -31.09        | -13.00         | -18.09          | H        |
| 1672.49                                                                           | -35.13        | 9.56     | 9.72  | -35.29        | -13.00         | -22.29          | V        |
| 2508.77                                                                           | -35.22        | 10.50    | 10.86 | -35.58        | -13.00         | -22.58          | V        |
| 3345.48                                                                           | -32.82        | 12.78    | 11.57 | -31.61        | -13.00         | -18.61          | V        |
| LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1692.10                                                                           | -33.78        | 9.56     | 9.72  | -33.94        | -13.00         | -20.94          | H        |
| 2538.73                                                                           | -34.71        | 10.50    | 10.86 | -35.07        | -13.00         | -22.07          | H        |
| 3385.92                                                                           | -33.36        | 12.78    | 11.57 | -32.15        | -13.00         | -19.15          | H        |
| 1692.10                                                                           | -35.31        | 9.56     | 9.72  | -35.47        | -13.00         | -22.47          | V        |
| 2538.73                                                                           | -35.25        | 10.50    | 10.86 | -35.61        | -13.00         | -22.61          | V        |
| 3385.92                                                                           | -32.99        | 12.78    | 11.57 | -31.78        | -13.00         | -18.78          | V        |



| LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1657.85                                                                            | -33.59        | 9.56     | 9.72  | -33.75        | -13.00         | -20.75          | H        |
| 2486.33                                                                            | -34.67        | 10.50    | 10.86 | -35.03        | -13.00         | -22.03          | H        |
| 3315.27                                                                            | -32.94        | 12.78    | 11.57 | -31.73        | -13.00         | -18.73          | H        |
| 1657.85                                                                            | -35.16        | 9.56     | 9.72  | -35.32        | -13.00         | -22.32          | V        |
| 2486.33                                                                            | -33.89        | 10.50    | 10.86 | -34.25        | -13.00         | -21.25          | V        |
| 3315.27                                                                            | -33.09        | 12.78    | 11.57 | -31.88        | -13.00         | -18.88          | V        |
| LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1672.50                                                                            | -34.83        | 9.56     | 9.72  | -34.99        | -13.00         | -21.99          | H        |
| 2509.02                                                                            | -34.94        | 10.50    | 10.86 | -35.30        | -13.00         | -22.30          | H        |
| 3345.48                                                                            | -32.74        | 12.78    | 11.57 | -31.53        | -13.00         | -18.53          | H        |
| 1672.50                                                                            | -35.19        | 9.56     | 9.72  | -35.35        | -13.00         | -22.35          | V        |
| 2509.02                                                                            | -34.85        | 10.50    | 10.86 | -35.21        | -13.00         | -22.21          | V        |
| 3345.48                                                                            | -31.96        | 12.78    | 11.57 | -30.75        | -13.00         | -17.75          | V        |
| LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 1687.60                                                                            | -34.24        | 9.56     | 9.72  | -34.40        | -13.00         | -21.40          | H        |
| 2531.29                                                                            | -34.15        | 10.50    | 10.86 | -34.51        | -13.00         | -21.51          | H        |
| 3375.41                                                                            | -33.60        | 12.78    | 11.57 | -32.39        | -13.00         | -19.39          | H        |
| 1687.60                                                                            | -35.66        | 9.56     | 9.72  | -35.82        | -13.00         | -22.82          | V        |
| 2531.29                                                                            | -34.74        | 10.50    | 10.86 | -35.10        | -13.00         | -22.10          | V        |
| 3375.41                                                                            | -33.08        | 12.78    | 11.57 | -31.87        | -13.00         | -18.87          | V        |



| LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|-----------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5005.22                                                                           | -34.00        | 12.66    | 15.86 | -37.20        | -25.00         | -12.20          | H        |
| 7507.84                                                                           | -35.19        | 11.46    | 19.28 | -43.01        | -25.00         | -18.01          | H        |
| 10010.16                                                                          | -32.95        | 12.79    | 23.19 | -43.35        | -25.00         | -18.35          | H        |
| 5005.22                                                                           | -35.46        | 12.66    | 15.86 | -38.66        | -25.00         | -13.66          | V        |
| 7507.84                                                                           | -34.88        | 11.46    | 19.28 | -42.70        | -25.00         | -17.70          | V        |
| 10010.16                                                                          | -33.12        | 12.79    | 23.19 | -43.52        | -25.00         | -18.52          | V        |
| LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5070.04                                                                           | -33.45        | 12.72    | 15.86 | -36.59        | -25.00         | -11.59          | H        |
| 7604.95                                                                           | -34.23        | 11.46    | 19.28 | -42.05        | -25.00         | -17.05          | H        |
| 10139.93                                                                          | -32.33        | 12.09    | 23.19 | -43.43        | -25.00         | -18.43          | H        |
| 5070.04                                                                           | -35.74        | 12.72    | 15.86 | -38.88        | -25.00         | -13.88          | V        |
| 7604.95                                                                           | -34.47        | 11.46    | 19.28 | -42.29        | -25.00         | -17.29          | V        |
| 10139.93                                                                          | -31.92        | 12.09    | 23.19 | -43.02        | -25.00         | -18.02          | V        |
| LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                    | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5133.71                                                                           | -33.71        | 12.76    | 15.86 | -36.81        | -25.00         | -11.81          | H        |
| 7701.27                                                                           | -34.48        | 11.45    | 19.28 | -42.31        | -25.00         | -17.31          | H        |
| 10268.16                                                                          | -32.47        | 12.28    | 23.19 | -43.38        | -25.00         | -18.38          | H        |
| 5133.71                                                                           | -35.14        | 12.76    | 15.86 | -38.24        | -25.00         | -13.24          | V        |
| 7701.27                                                                           | -34.75        | 11.45    | 19.28 | -42.58        | -25.00         | -17.58          | V        |
| 10268.16                                                                          | -32.93        | 12.28    | 23.19 | -43.84        | -25.00         | -18.84          | V        |



| LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5010.28                                                                            | -33.63        | 12.66    | 15.86 | -36.83        | -25.00         | -11.83          | H        |
| 7515.74                                                                            | -35.10        | 11.46    | 19.28 | -42.92        | -25.00         | -17.92          | H        |
| 10020.54                                                                           | -33.32        | 12.79    | 23.19 | -43.72        | -25.00         | -18.72          | H        |
| 5010.28                                                                            | -34.73        | 12.66    | 15.86 | -37.93        | -25.00         | -12.93          | V        |
| 7515.74                                                                            | -34.31        | 11.46    | 19.28 | -42.13        | -25.00         | -17.13          | V        |
| 10020.54                                                                           | -33.21        | 12.79    | 23.19 | -43.61        | -25.00         | -18.61          | V        |
| LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5069.96                                                                            | -33.50        | 12.72    | 15.86 | -36.64        | -25.00         | -11.64          | H        |
| 7604.90                                                                            | -34.59        | 11.46    | 19.28 | -42.41        | -25.00         | -17.41          | H        |
| 10139.76                                                                           | -32.67        | 12.09    | 23.19 | -43.77        | -25.00         | -18.77          | H        |
| 5069.96                                                                            | -35.92        | 12.72    | 15.86 | -39.06        | -25.00         | -14.06          | V        |
| 7604.90                                                                            | -34.47        | 11.46    | 19.28 | -42.29        | -25.00         | -17.29          | V        |
| 10139.76                                                                           | -32.33        | 12.09    | 23.19 | -43.43        | -25.00         | -18.43          | V        |
| LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5129.33                                                                            | -33.52        | 12.76    | 15.86 | -36.62        | -25.00         | -11.62          | H        |
| 7693.89                                                                            | -34.69        | 11.45    | 19.28 | -42.52        | -25.00         | -17.52          | H        |
| 10258.84                                                                           | -32.65        | 12.28    | 23.19 | -43.56        | -25.00         | -18.56          | H        |
| 5129.33                                                                            | -35.81        | 12.76    | 15.86 | -38.91        | -25.00         | -13.91          | V        |
| 7693.89                                                                            | -34.34        | 11.45    | 19.28 | -42.17        | -25.00         | -17.17          | V        |
| 10258.84                                                                           | -32.25        | 12.28    | 23.19 | -43.16        | -25.00         | -18.16          | V        |



| LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5015.64                                                                            | -33.46        | 12.66    | 15.86 | -36.66        | -25.00         | -11.66          | H        |
| 7523.92                                                                            | -35.34        | 11.46    | 19.28 | -43.16        | -25.00         | -18.16          | H        |
| 10031.65                                                                           | -33.16        | 12.79    | 23.19 | -43.56        | -25.00         | -18.56          | H        |
| 5015.64                                                                            | -35.28        | 12.66    | 15.86 | -38.48        | -25.00         | -13.48          | V        |
| 7523.92                                                                            | -34.10        | 11.46    | 19.28 | -41.92        | -25.00         | -16.92          | V        |
| 10031.65                                                                           | -32.59        | 12.79    | 23.19 | -42.99        | -25.00         | -17.99          | V        |
| LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5069.59                                                                            | -34.81        | 12.72    | 15.86 | -37.95        | -25.00         | -12.95          | H        |
| 7604.71                                                                            | -34.51        | 11.46    | 19.28 | -42.33        | -25.00         | -17.33          | H        |
| 10139.95                                                                           | -33.50        | 12.09    | 23.19 | -44.60        | -25.00         | -19.60          | H        |
| 5069.59                                                                            | -35.29        | 12.72    | 15.86 | -38.43        | -25.00         | -13.43          | V        |
| 7604.71                                                                            | -34.39        | 11.46    | 19.28 | -42.21        | -25.00         | -17.21          | V        |
| 10139.95                                                                           | -33.03        | 12.09    | 23.19 | -44.13        | -25.00         | -19.13          | V        |
| LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5123.21                                                                            | -34.53        | 12.76    | 15.86 | -37.63        | -25.00         | -12.63          | H        |
| 7523.75                                                                            | -35.32        | 11.45    | 19.28 | -43.15        | -25.00         | -18.15          | H        |
| 10032.10                                                                           | -32.80        | 12.28    | 23.19 | -43.71        | -25.00         | -18.71          | H        |
| 5123.21                                                                            | -35.91        | 12.76    | 15.86 | -39.01        | -25.00         | -14.01          | V        |
| 7523.75                                                                            | -34.72        | 11.45    | 19.28 | -42.55        | -25.00         | -17.55          | V        |
| 10032.10                                                                           | -32.09        | 12.28    | 23.19 | -43.00        | -25.00         | -18.00          | V        |



| LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5020.88                                                                            | -34.65        | 12.66    | 15.86 | -37.85        | -25.00         | -12.85          | H        |
| 7530.98                                                                            | -34.37        | 11.46    | 19.28 | -42.19        | -25.00         | -17.19          | H        |
| 10258.76                                                                           | -32.41        | 12.79    | 23.19 | -42.81        | -25.00         | -17.81          | H        |
| 5020.88                                                                            | -34.89        | 12.66    | 15.86 | -38.09        | -25.00         | -13.09          | V        |
| 7530.98                                                                            | -33.92        | 11.46    | 19.28 | -41.74        | -25.00         | -16.74          | V        |
| 10258.76                                                                           | -32.68        | 12.79    | 23.19 | -43.08        | -25.00         | -18.08          | V        |
| LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5069.87                                                                            | -33.52        | 12.72    | 15.86 | -36.66        | -25.00         | -11.66          | H        |
| 7604.77                                                                            | -35.11        | 11.46    | 19.28 | -42.93        | -25.00         | -17.93          | H        |
| 10139.94                                                                           | -33.42        | 12.09    | 23.19 | -44.52        | -25.00         | -19.52          | H        |
| 5069.87                                                                            | -35.07        | 12.72    | 15.86 | -38.21        | -25.00         | -13.21          | V        |
| 7604.77                                                                            | -34.63        | 11.46    | 19.28 | -42.45        | -25.00         | -17.45          | V        |
| 10139.94                                                                           | -32.80        | 12.09    | 23.19 | -43.90        | -25.00         | -18.90          | V        |
| LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5118.63                                                                            | -34.21        | 12.76    | 15.86 | -37.31        | -25.00         | -12.31          | H        |
| 7678.07                                                                            | -34.15        | 11.45    | 19.28 | -41.98        | -25.00         | -16.98          | H        |
| 10237.93                                                                           | -33.42        | 12.28    | 23.19 | -44.33        | -25.00         | -19.33          | H        |
| 5118.63                                                                            | -35.14        | 12.76    | 15.86 | -38.24        | -25.00         | -13.24          | V        |
| 7678.07                                                                            | -34.96        | 11.45    | 19.28 | -42.79        | -25.00         | -17.79          | V        |
| 10237.93                                                                           | -32.81        | 12.28    | 23.19 | -43.72        | -25.00         | -18.72          | V        |



| LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5115.23                                                                            | -34.42        | 12.66    | 15.86 | -37.62        | -25.00         | -12.62          | H        |
| 7672.68                                                                            | -34.98        | 11.46    | 19.28 | -42.80        | -25.00         | -17.80          | H        |
| 10230.06                                                                           | -32.99        | 12.79    | 23.19 | -43.39        | -25.00         | -18.39          | H        |
| 4997.04                                                                            | -35.41        | 12.66    | 15.86 | -38.61        | -25.00         | -13.61          | V        |
| 7495.85                                                                            | -34.66        | 11.46    | 19.28 | -42.48        | -25.00         | -17.48          | V        |
| 9994.41                                                                            | -33.11        | 12.79    | 23.19 | -43.51        | -25.00         | -18.51          | V        |
| LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5209.99                                                                            | -34.29        | 12.72    | 15.86 | -37.43        | -25.00         | -12.43          | H        |
| 7815.17                                                                            | -35.43        | 11.46    | 19.28 | -43.25        | -25.00         | -18.25          | H        |
| 10420.20                                                                           | -33.56        | 12.09    | 23.19 | -44.66        | -25.00         | -19.66          | H        |
| 5209.99                                                                            | -35.12        | 12.72    | 15.86 | -38.26        | -25.00         | -13.26          | V        |
| 7815.17                                                                            | -35.14        | 11.46    | 19.28 | -42.96        | -25.00         | -17.96          | V        |
| 10420.20                                                                           | -31.86        | 12.09    | 23.19 | -42.96        | -25.00         | -17.96          | V        |
| LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                     | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5304.84                                                                            | -34.55        | 12.76    | 15.86 | -37.65        | -25.00         | -12.65          | H        |
| 7957.53                                                                            | -35.40        | 11.45    | 19.28 | -43.23        | -25.00         | -18.23          | H        |
| 10610.21                                                                           | -33.17        | 12.28    | 23.19 | -44.08        | -25.00         | -19.08          | H        |
| 5304.84                                                                            | -34.65        | 12.76    | 15.86 | -37.75        | -25.00         | -12.75          | V        |
| 7957.53                                                                            | -33.78        | 11.45    | 19.28 | -41.61        | -25.00         | -16.61          | V        |
| 10610.21                                                                           | -32.42        | 12.28    | 23.19 | -43.33        | -25.00         | -18.33          | V        |



| LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|-------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5120.00                                                                             | -33.88        | 12.66    | 15.86 | -37.08        | -25.00         | -12.08          | H        |
| 7679.94                                                                             | -34.12        | 11.46    | 19.28 | -41.94        | -25.00         | -16.94          | H        |
| 10240.11                                                                            | -32.96        | 12.79    | 23.19 | -43.36        | -25.00         | -18.36          | H        |
| 5120.00                                                                             | -35.15        | 12.66    | 15.86 | -38.35        | -25.00         | -13.35          | V        |
| 7679.94                                                                             | -34.80        | 11.46    | 19.28 | -42.62        | -25.00         | -17.62          | V        |
| 10240.11                                                                            | -32.31        | 12.79    | 23.19 | -42.71        | -25.00         | -17.71          | V        |
| LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5209.96                                                                             | -34.26        | 12.72    | 15.86 | -37.40        | -25.00         | -12.40          | H        |
| 7815.08                                                                             | -34.14        | 11.46    | 19.28 | -41.96        | -25.00         | -16.96          | H        |
| 10420.31                                                                            | -32.81        | 12.09    | 23.19 | -43.91        | -25.00         | -18.91          | H        |
| 5209.96                                                                             | -34.55        | 12.72    | 15.86 | -37.69        | -25.00         | -12.69          | V        |
| 7815.08                                                                             | -33.85        | 11.46    | 19.28 | -41.67        | -25.00         | -16.67          | V        |
| 10420.31                                                                            | -33.00        | 12.09    | 23.19 | -44.10        | -25.00         | -19.10          | V        |
| LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5300.08                                                                             | -33.60        | 12.76    | 15.86 | -36.70        | -25.00         | -11.70          | H        |
| 7950.04                                                                             | -35.47        | 11.45    | 19.28 | -43.30        | -25.00         | -18.30          | H        |
| 10599.74                                                                            | -32.55        | 12.28    | 23.19 | -43.46        | -25.00         | -18.46          | H        |
| 5300.08                                                                             | -35.12        | 12.76    | 15.86 | -38.22        | -25.00         | -13.22          | V        |
| 7950.04                                                                             | -34.23        | 11.45    | 19.28 | -42.06        | -25.00         | -17.06          | V        |
| 10599.74                                                                            | -32.54        | 12.28    | 23.19 | -43.45        | -25.00         | -18.45          | V        |



| LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |               |                |                 |          |
|-------------------------------------------------------------------------------------|---------------|----------|-------|---------------|----------------|-----------------|----------|
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5124.84                                                                             | -33.58        | 12.66    | 15.86 | -36.78        | -25.00         | -11.78          | H        |
| 7687.68                                                                             | -34.64        | 11.46    | 19.28 | -42.46        | -25.00         | -17.46          | H        |
| 10250.37                                                                            | -32.65        | 12.79    | 23.19 | -43.05        | -25.00         | -18.05          | H        |
| 5124.84                                                                             | -35.31        | 12.66    | 15.86 | -38.51        | -25.00         | -13.51          | V        |
| 7687.68                                                                             | -35.25        | 11.46    | 19.28 | -43.07        | -25.00         | -18.07          | V        |
| 10250.37                                                                            | -33.07        | 12.79    | 23.19 | -43.47        | -25.00         | -18.47          | V        |
| LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5210.19                                                                             | -34.15        | 12.72    | 15.86 | -37.29        | -25.00         | -12.29          | H        |
| 7815.29                                                                             | -34.45        | 11.46    | 19.28 | -42.27        | -25.00         | -17.27          | H        |
| 10420.02                                                                            | -32.62        | 12.09    | 23.19 | -43.72        | -25.00         | -18.72          | H        |
| 5210.19                                                                             | -35.85        | 12.72    | 15.86 | -38.99        | -25.00         | -13.99          | V        |
| 7815.29                                                                             | -35.11        | 11.46    | 19.28 | -42.93        | -25.00         | -17.93          | V        |
| 10420.02                                                                            | -31.73        | 12.09    | 23.19 | -42.83        | -25.00         | -17.83          | V        |
| LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |               |                |                 |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea<br>(dBm) | Limit<br>(dBm) | Margin<br>(dBm) | Polarity |
| 5297.93                                                                             | -34.74        | 12.76    | 15.86 | -37.84        | -25.00         | -12.84          | H        |
| 7942.48                                                                             | -34.07        | 11.45    | 19.28 | -41.90        | -25.00         | -16.90          | H        |
| 10589.84                                                                            | -33.55        | 12.28    | 23.19 | -44.46        | -25.00         | -19.46          | H        |
| 5297.93                                                                             | -34.88        | 12.76    | 15.86 | -37.98        | -25.00         | -12.98          | V        |
| 7942.48                                                                             | -34.94        | 11.45    | 19.28 | -42.77        | -25.00         | -17.77          | V        |
| 10589.84                                                                            | -31.73        | 12.28    | 23.19 | -42.64        | -25.00         | -17.64          | V        |



| LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest  |               |          |       |            |             |              |          |
|-------------------------------------------------------------------------------------|---------------|----------|-------|------------|-------------|--------------|----------|
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea (dBm) | Limit (dBm) | Margin (dBm) | Polarity |
| 5129.97                                                                             | -34.67        | 12.66    | 15.86 | -37.87     | -25.00      | -12.87       | H        |
| 7694.79                                                                             | -34.50        | 11.46    | 19.28 | -42.32     | -25.00      | -17.32       | H        |
| 10260.14                                                                            | -32.55        | 12.79    | 23.19 | -42.95     | -25.00      | -17.95       | H        |
| 5129.97                                                                             | -35.70        | 12.66    | 15.86 | -38.90     | -25.00      | -13.90       | V        |
| 7694.79                                                                             | -34.59        | 11.46    | 19.28 | -42.41     | -25.00      | -17.41       | V        |
| 10260.14                                                                            | -31.82        | 12.79    | 23.19 | -42.22     | -25.00      | -17.22       | V        |
| LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle  |               |          |       |            |             |              |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea (dBm) | Limit (dBm) | Margin (dBm) | Polarity |
| 5209.86                                                                             | -34.88        | 12.72    | 15.86 | -38.02     | -25.00      | -13.02       | H        |
| 7815.18                                                                             | -34.91        | 11.46    | 19.28 | -42.73     | -25.00      | -17.73       | H        |
| 10420.25                                                                            | -32.26        | 12.09    | 23.19 | -43.36     | -25.00      | -18.36       | H        |
| 5209.86                                                                             | -34.61        | 12.72    | 15.86 | -37.75     | -25.00      | -12.75       | V        |
| 7815.18                                                                             | -34.59        | 11.46    | 19.28 | -42.41     | -25.00      | -17.41       | V        |
| 10420.25                                                                            | -31.77        | 12.09    | 23.19 | -42.87     | -25.00      | -17.87       | V        |
| LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest |               |          |       |            |             |              |          |
| Frequency(MHz)                                                                      | S G.Lev (dBm) | Ant(dBi) | Loss  | PMea (dBm) | Limit (dBm) | Margin (dBm) | Polarity |
| 5289.95                                                                             | -34.73        | 12.76    | 15.86 | -37.83     | -25.00      | -12.83       | H        |
| 7935.03                                                                             | -34.68        | 11.45    | 19.28 | -42.51     | -25.00      | -17.51       | H        |
| 10580.15                                                                            | -33.21        | 12.28    | 23.19 | -44.12     | -25.00      | -19.12       | H        |
| 5289.95                                                                             | -34.95        | 12.76    | 15.86 | -38.05     | -25.00      | -13.05       | V        |
| 7935.03                                                                             | -34.43        | 11.45    | 19.28 | -42.26     | -25.00      | -17.26       | V        |
| 10580.15                                                                            | -32.95        | 12.28    | 23.19 | -43.86     | -25.00      | -18.86       | V        |

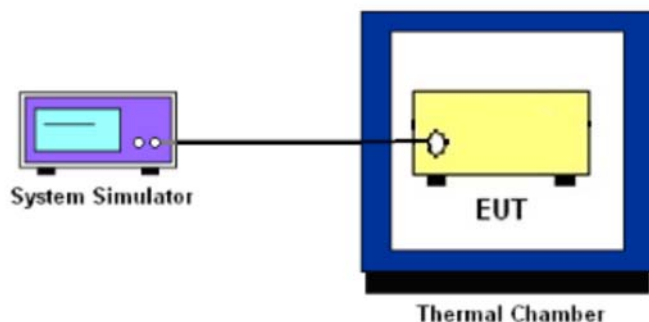
## 10. FREQUENCY STABILITY

### 10.1 DESCRIPTION OF FREQUENCY STABILITY MEASUREMENT

#### 10.1.1 MEASUREMENT METHOD

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) of the center frequency.

#### 10.1.2 TEST SETUP



#### 10.1.3 TEST PROCEDURES FOR TEMPERATURE VARIATION

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to  $-30^{\circ}\text{C}$  and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

#### 10.1.4 TEST PROCEDURES FOR VOLTAGE VARIATION

1. The testing follows FCC KDB 971168 D01v01r03 Section 9.
2. The EUT was placed in a temperature chamber at  $25 \pm 5^{\circ}\text{C}$  and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.



## 10.1.5 TEST RESULTS

| LTE Band 2 (QPSK) / 1880MHz / BW10M |                 |            |            |        |        |
|-------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                    | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                     | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                  | Normal Voltage  | 26.41      | 0.014      | 2.5ppm | PASS   |
| 40                                  |                 | 15.92      | 0.008      |        |        |
| 30                                  |                 | 20.97      | 0.011      |        |        |
| 20                                  |                 | 29.24      | 0.016      |        |        |
| 10                                  |                 | 13.53      | 0.007      |        |        |
| 0                                   |                 | 28.06      | 0.015      |        |        |
| -10                                 |                 | 30.38      | 0.016      |        |        |
| -20                                 |                 | 29.82      | 0.016      |        |        |
| -30                                 |                 | 17.10      | 0.009      |        |        |
| 20                                  | Maximum Voltage | 35.31      | 0.019      |        |        |
| 20                                  | BEP             | 32.93      | 0.018      |        |        |

| LTE Band 2 (QPSK) / 1880MHz / BW20M |                 |            |            |        |        |
|-------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                    | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                     | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                  | Normal Voltage  | 19.60      | 0.010      | 2.5ppm | PASS   |
| 40                                  |                 | 25.62      | 0.014      |        |        |
| 30                                  |                 | 27.30      | 0.015      |        |        |
| 20                                  |                 | 31.76      | 0.017      |        |        |
| 10                                  |                 | 31.64      | 0.017      |        |        |
| 0                                   |                 | 31.23      | 0.017      |        |        |
| -10                                 |                 | 11.66      | 0.006      |        |        |
| -20                                 |                 | 23.05      | 0.012      |        |        |
| -30                                 |                 | 19.21      | 0.010      |        |        |
| 20                                  | Maximum Voltage | 27.09      | 0.014      |        |        |
| 20                                  | BEP             | 12.73      | 0.007      |        |        |



| LTE Band 4 (QPSK) / 1733MHz / BW10M |                 |            |            |        |        |
|-------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                    | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                     | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                  | Normal Voltage  | 35.00      | 0.020      | 2.5ppm | PASS   |
| 40                                  |                 | 31.31      | 0.018      |        |        |
| 30                                  |                 | 24.67      | 0.014      |        |        |
| 20                                  |                 | 15.59      | 0.009      |        |        |
| 10                                  |                 | 26.01      | 0.015      |        |        |
| 0                                   |                 | 19.86      | 0.011      |        |        |
| -10                                 |                 | 33.75      | 0.019      |        |        |
| -20                                 |                 | 22.82      | 0.013      |        |        |
| -30                                 |                 | 18.67      | 0.011      |        |        |
| 20                                  | Maximum Voltage | 19.48      | 0.011      |        |        |
| 20                                  | BEP             | 15.23      | 0.009      |        |        |

| LTE Band 4 (QPSK) / 1733MHz / BW20M |                 |            |            |        |        |
|-------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                    | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                     | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                  | Normal Voltage  | 20.44      | 0.012      | 2.5ppm | PASS   |
| 40                                  |                 | 12.37      | 0.007      |        |        |
| 30                                  |                 | 20.52      | 0.012      |        |        |
| 20                                  |                 | 29.42      | 0.017      |        |        |
| 10                                  |                 | 21.85      | 0.013      |        |        |
| 0                                   |                 | 28.09      | 0.016      |        |        |
| -10                                 |                 | 22.84      | 0.013      |        |        |
| -20                                 |                 | 31.41      | 0.018      |        |        |
| -30                                 |                 | 35.54      | 0.021      |        |        |
| 20                                  | Maximum Voltage | 29.60      | 0.017      |        |        |
| 20                                  | BEP             | 13.07      | 0.008      |        |        |



| LTE Band 5 (QPSK) / 836.5MHz / BW5M |                 |            |            |        |        |
|-------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                    | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                     | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                  | Normal Voltage  | 34.66      | 0.049      | 2.5ppm | PASS   |
| 40                                  |                 | 14.30      | 0.020      |        |        |
| 30                                  |                 | 27.74      | 0.039      |        |        |
| 20                                  |                 | 14.84      | 0.021      |        |        |
| 10                                  |                 | 12.48      | 0.018      |        |        |
| 0                                   |                 | 31.21      | 0.044      |        |        |
| -10                                 |                 | 36.23      | 0.005      |        |        |
| -20                                 |                 | 32.04      | 0.045      |        |        |
| -30                                 |                 | 24.97      | 0.035      |        |        |
| 20                                  | Maximum Voltage | 28.01      | 0.039      |        |        |
| 20                                  | BEP             | 12.42      | 0.017      |        |        |

| LTE Band 5 (QPSK) / 836.5MHz / BW10M |                 |            |            |        |        |
|--------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                     | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                      | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                   | Normal Voltage  | 15.51      | 0.022      | 2.5ppm | PASS   |
| 40                                   |                 | 14.69      | 0.021      |        |        |
| 30                                   |                 | 20.69      | 0.029      |        |        |
| 20                                   |                 | 17.05      | 0.024      |        |        |
| 10                                   |                 | 34.40      | 0.048      |        |        |
| 0                                    |                 | 15.18      | 0.021      |        |        |
| -10                                  |                 | 20.06      | 0.003      |        |        |
| -20                                  |                 | 15.29      | 0.022      |        |        |
| -30                                  |                 | 24.51      | 0.035      |        |        |
| 20                                   | Maximum Voltage | 21.46      | 0.030      |        |        |
| 20                                   | BEP             | 33.39      | 0.047      |        |        |



| LTE Band 7 (QPSK) / 2535MHz / BW10M |                 |            |            |        |        |
|-------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                    | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                     | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                  | Normal Voltage  | 32.92      | 0.013      | 2.5ppm | PASS   |
| 40                                  |                 | 17.94      | 0.007      |        |        |
| 30                                  |                 | 32.53      | 0.013      |        |        |
| 20                                  |                 | 17.28      | 0.007      |        |        |
| 10                                  |                 | 34.17      | 0.013      |        |        |
| 0                                   |                 | 14.10      | 0.006      |        |        |
| -10                                 |                 | 20.56      | 0.008      |        |        |
| -20                                 |                 | 34.75      | 0.014      |        |        |
| -30                                 |                 | 23.80      | 0.009      |        |        |
| 20                                  | Maximum Voltage | 27.76      | 0.011      |        |        |
| 20                                  | BEP             | 25.37      | 0.010      |        |        |

| LTE Band 7 (QPSK) / 2535MHz / BW20M |                 |            |            |        |        |
|-------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                    | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                     | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                  | Normal Voltage  | 16.28      | 0.006      | 2.5ppm | PASS   |
| 40                                  |                 | 14.68      | 0.006      |        |        |
| 30                                  |                 | 12.65      | 0.005      |        |        |
| 20                                  |                 | 25.60      | 0.010      |        |        |
| 10                                  |                 | 33.82      | 0.013      |        |        |
| 0                                   |                 | 32.59      | 0.013      |        |        |
| -10                                 |                 | 31.91      | 0.013      |        |        |
| -20                                 |                 | 20.15      | 0.008      |        |        |
| -30                                 |                 | 35.29      | 0.014      |        |        |
| 20                                  | Maximum Voltage | 36.26      | 0.014      |        |        |
| 20                                  | BEP             | 23.60      | 0.009      |        |        |



| LTE Band 41 (QPSK) / 2605MHz / BW10M |                 |            |            |        |        |
|--------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                     | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                      | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                   | Normal Voltage  | 21.87      | 0.009      | 2.5ppm | PASS   |
| 40                                   |                 | 24.55      | 0.010      |        |        |
| 30                                   |                 | 28.59      | 0.011      |        |        |
| 20                                   |                 | 23.30      | 0.009      |        |        |
| 10                                   |                 | 27.73      | 0.011      |        |        |
| 0                                    |                 | 32.63      | 0.013      |        |        |
| -10                                  |                 | 13.74      | 0.005      |        |        |
| -20                                  |                 | 11.53      | 0.005      |        |        |
| -30                                  |                 | 28.25      | 0.011      |        |        |
| 20                                   | Maximum Voltage | 12.57      | 0.005      |        |        |
| 20                                   | BEP             | 34.88      | 0.014      |        |        |

| LTE Band 41 (QPSK) / 2605MHz / BW20M |                 |            |            |        |        |
|--------------------------------------|-----------------|------------|------------|--------|--------|
| Temperature (°C)                     | Voltage         | Freq. Dev. | Freq. Dev. | Limit  | Result |
|                                      | (Volt)          | (Hz)       | (ppm)      |        |        |
| 50                                   | Normal Voltage  | 22.39      | 0.009      | 2.5ppm | PASS   |
| 40                                   |                 | 32.02      | 0.013      |        |        |
| 30                                   |                 | 36.11      | 0.014      |        |        |
| 20                                   |                 | 26.14      | 0.010      |        |        |
| 10                                   |                 | 13.95      | 0.006      |        |        |
| 0                                    |                 | 22.49      | 0.009      |        |        |
| -10                                  |                 | 32.97      | 0.013      |        |        |
| -20                                  |                 | 27.91      | 0.011      |        |        |
| -30                                  |                 | 18.74      | 0.007      |        |        |
| 20                                   | Maximum Voltage | 13.99      | 0.006      |        |        |
| 20                                   | BEP             | 25.46      | 0.010      |        |        |



## APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※

