

# **FCC CFR47 PART 22H, 24E, 27,90S CERTIFICATION TEST REPORT FCC ID:2ANMUC17**

**Product:** Smart phone  
**Trade Mark:** OUKITEL  
**Model No.:** C17 Plus  
**Family Model:** C17 S, C17 E, C17 Pro, C17, C17 Ultra, C17 MAX,  
C17 GT, C17 4G  
**Report No.:** N26042809827E  
**Issue Date:** Jul. 07, 2026

## **Prepared for**

SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD  
A2 2F BUILDING ENET NEW INDUSTRIAL PARK, DAFU INDUSTRIAL ZONE,  
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## **Prepared by**

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## TEST RESULT CERTIFICATION

**Applicant's name** ..... : SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD

**Address**..... : A2 2F BUILDING ENET NEW INDUSTRIAL PARK, DAFU  
INDUSTRIAL ZONE, GUANLAN,LONGHUA SHENZHEN, 518XXX  
China

**Manufacturer's Name**..... : SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD

**Address**..... : A2 2F BUILDING ENET NEW INDUSTRIAL PARK, DAFU  
INDUSTRIAL ZONE, GUANLAN,LONGHUA SHENZHEN, 518XXX  
China

**Product name**..... : Smart phone

**Model and/or type reference** .. : C17 Plus

**Trade Mark**..... : OUKITEL

**Family Model**..... : C17 S, C17 E, C17 Pro, C17, C17 Ultra, C17 MAX, C17 GT, C17 4G

**Test Sample Number**..... S2605070381-1#

**Standards**..... : FCC CFR 47 Part 22H, Part 24E, Part 27, Part 90S

**Test procedure** ..... : ANSI C63.26:2015  
ANSI/TIA-603-E-2016

This device described above has been tested by NTEK, and 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.

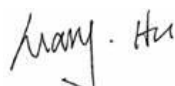
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**Date of Test** .....

Date (s) of performance of tests..... May. 12, 2026 ~ Jul. 07, 2026

Date of Issue ..... Jul. 07, 2026

Test Result..... **Pass**

Prepared By :   
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# TABLE OF CONTENTS

|                                             |    |
|---------------------------------------------|----|
| 1. GENERAL INFORMATION.....                 | 6  |
| 1.1 PRODUCT DESCRIPTION .....               | 6  |
| 1.2 RELATED SUBMITTAL(S) / GRANT (S).....   | 8  |
| 1.3 TEST METHODOLOGY .....                  | 8  |
| 1.4 TEST FACILITY .....                     | 8  |
| MEASUREMENT UNCERTAINTY .....               | 8  |
| 1.5 SPECIAL ACCESSORIES .....               | 8  |
| 1.6 WORST-CASE CONFIGURATION AND MODE ..... | 8  |
| 2. SYSTEM TEST CONFIGURATION .....          | 9  |
| 2.1 EUT CONFIGURATION .....                 | 9  |
| 2.2 EUT EXERCISE .....                      | 9  |
| 2.3 CONFIGURATION OF EUT SYSTEM .....       | 9  |
| 2.4 TEST SETUP .....                        | 10 |
| 3.TEST AND MEASUREMENT EQUIPMENT .....      | 11 |
| 4. OUTPUT POWER.....                        | 13 |
| 4.1 OUTPUT POWER MEASUREMENT .....          | 13 |
| 5. OCCUPIED BANDWIDTH .....                 | 15 |
| 6. BANDEDGE AND EMISSION MASK .....         | 16 |
| 7. OUT OF BAND EMISSIONS .....              | 18 |
| 7.1 MEASUREMENT METHOD .....                | 18 |
| 8. RADIATED MEASUREMENT .....               | 19 |
| 8.1. RADIATED POWER (ERP & EIRP) .....      | 19 |
| 8.2 LTE BAND 2 .....                        | 20 |
| 8.3 LTE BAND 4 .....                        | 24 |

|                                      |    |
|--------------------------------------|----|
| 8.4 LTE BAND 5 .....                 | 28 |
| 8.5 LTE BAND 7 .....                 | 30 |
| 8.6 LTE BAND 12 .....                | 32 |
| 8.7 LTE BAND 17 .....                | 34 |
| 8.8 LTE BAND 25 .....                | 36 |
| 8.9 LTE BAND 26 A.....               | 40 |
| 8.10 LTE BAND 26 B.....              | 42 |
| 8.11 LTE BAND 41 .....               | 44 |
| 8.12 LTE BAND 66 .....               | 46 |
| 9. SPURIOUS RADIATION EMISSION ..... | 50 |
| 9.1 LTE BAND 2 .....                 | 52 |
| 9.2 LTE BAND 4 .....                 | 54 |
| 9.3 LTE BAND 5 .....                 | 56 |
| 9.4 LTE BAND 7 .....                 | 58 |
| 9.5 LTE BAND 12 .....                | 60 |
| 9.6 LTE BAND 17 .....                | 62 |
| 9.7 LTE BAND 25 .....                | 64 |
| 9.8 LTE BAND 26 A.....               | 66 |
| 9.9 LTE BAND 26 B.....               | 68 |
| 9.10 LTE BAND 41 .....               | 70 |
| 9.11 LTE BAND 66 .....               | 72 |
| 10. FREQUENCY STABILITY .....        | 74 |
| 10.1 LTE BAND 2 .....                | 75 |
| 10.2 LTE BAND 4 .....                | 77 |
| 10.3 LTE BAND 5 .....                | 79 |
| 10.4 LTE BAND 7 .....                | 81 |
| 10.5 LTE BAND 12 .....               | 83 |
| 10.6 LTE BAND 17 .....               | 85 |
| 10.7 LTE BAND 25 .....               | 87 |

|                                                      |           |
|------------------------------------------------------|-----------|
| <b>10.8 LTE BAND 26 A .....</b>                      | <b>89</b> |
| <b>10.9 LTE BAND 26 B .....</b>                      | <b>91</b> |
| <b>10.10 LTE BAND 41 .....</b>                       | <b>93</b> |
| <b>10.11 LTE BAND 66 .....</b>                       | <b>95</b> |
| <b>11. PEAK-TO-AVERAGE RATIO.....</b>                | <b>97</b> |
| <b>11.1 Description of the PAR Measurement .....</b> | <b>97</b> |
| <b>11.2 Measuring Instruments .....</b>              | <b>97</b> |
| <b>11.3 Test Procedures .....</b>                    | <b>97</b> |
| <b>11.4 Test Setup .....</b>                         | <b>98</b> |

## 1. GENERAL INFORMATION

### 1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Designation: | Smart phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Trade Mark           | OUKITEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Model Name           | C17 Plus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Family Model         | C17 S, C17 E, C17 Pro, C17, C17 Ultra, C17 MAX, C17 GT, C17 4G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Model Difference     | All models have the same circuit and RF module, except for model names.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FCC ID:              | 2ANMUC17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Frequency Bands:     | U.S. Bands:<br><input checked="" type="checkbox"/> LTE FDD Band 2, 4, 5, 7, 12, 17, 25, 26, 66<br><input checked="" type="checkbox"/> LTE TDD Band 41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Frequency Range:     | LTE FDD Band 2 Uplink: 1850MHz-1910MHz,<br>Downlink: 1930MHz-1990MHz;<br>LTE FDD Band 4 Uplink: 1710MHz-1755MHz,<br>Downlink: 2110MHz-2155MHz;<br>LTE FDD Band 5 Uplink: 824MHz-849MHz,<br>Downlink: 869MHz-894MHz;<br>LTE-FDD Band 7 Uplink: 2500MHz-2570MHz,<br>Downlink: 2620MHz-2690MHz;<br>LTE FDD Band 12 Uplink: 699MHz-716MHz,<br>Downlink: 729MHz-746MHz;<br>LTE FDD Band 17 Uplink: 704MHz-716MHz,<br>Downlink: 734MHz-746MHz;<br>LTE FDD Band 25 Uplink: 1850MHz-1915MHz,<br>Downlink: 1930MHz-1995MHz;<br>LTE FDD Band 26A Uplink: 814MHz-824MHz,<br>Downlink: 859MHz-869MHz;<br>LTE FDD Band 26B Uplink: 824MHz-849MHz,<br>Downlink: 869MHz-894MHz;<br>LTE TDD Band 41 Uplink& Downlink: 2535MHz-2655MHz<br>LTE FDD Band 66 Uplink: 1710MHz-1780MHz,<br>Downlink: 2110MHz-2200MHz; |
| Type of Modulation:  | QPSK/16QAM/64QAM(Only Downlink)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power Class          | Class 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SIM Card:            | SIM 1 and SIM 2 is a chipset unit and tested as a single chipset. The SIM 1 is chosen for test.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Antenna:             | FPC Antenna                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Antenna gain:        | Band 2: -0.28 dBi, Band 4: -0.32 dBi, Band 5: -0.35 dBi, Band 7: -0.22 dBi,<br>Band 12: -0.90dBi, Band 17: -0.90dBi, Band25: -0.28dBi, Band 26: -0.35 dBi,<br>Band41: -0.22dBi; Band66: -0.32dBi;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|                                                                                                                                                            |                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Adapter                                                                                                                                                    | Model: HJ-PD18W-US<br>Input: 100-240V~50/60Hz 0.6A<br>Output: 5.0V $\overline{\text{---}}$ 3.0A 15.0W OR 9.0V $\overline{\text{---}}$ 2.0A 18.0W<br>OR 12.0V $\overline{\text{---}}$ 1.5A 18.0W MAX |
| Battery                                                                                                                                                    | DC 3.87V, 5000mAh, 19.35Wh                                                                                                                                                                          |
| Power supply                                                                                                                                               | DC 3.87V from battery or DC 5V/9V/12V from adapter                                                                                                                                                  |
| Extreme Vol. Limits:                                                                                                                                       | DC 3.29V to DC 4.45V (Nominal DC 3.87V) (Note 1)                                                                                                                                                    |
| HW Version                                                                                                                                                 | N/A                                                                                                                                                                                                 |
| SW Version                                                                                                                                                 | N/A                                                                                                                                                                                                 |
| ** Note1: The High Voltage DC 4.45V and Low Voltage 3.29V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage. |                                                                                                                                                                                                     |

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

This submittal(s) (test report) is intended for **FCC ID:2ANMUC17** filing to comply with the FCC Part 22H&24E&27&90S

## 1.3 TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI/TIA-603-E-2016, FCC CFR 47 Part 2, Part 22, Part 24, Part 27, Part 90S, ANSI C63.26:2015.

## 1.4 TEST FACILITY

The test site used to collect the radiated data is located at:

ShenZhen NTEK Testing Technology Co., Ltd.

No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China.

The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.26:2015& ANSI C63.4: 2014.

FCC Registration No.:463705

IC Registration No.:9270A,

CNAS Registration No.:L5516

## MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement, where expanded 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   | Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.5dB       |
|     |                                                                         |             |

## 1.5 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.

## 1.6 WORST-CASE CONFIGURATION AND MODE

The worst-case scenario for all measurements is based on the investigation results.

The device has LTE Bands of: Band 2/4/5/7/12/17/25/26/41/66

The RB Size was selected to measure for peak or average ERP and EIRP, which was based on the conducted power verification baseline data.

For the fundamental investigation of radiated emissions, the EUT is investigated for vertical and horizontal antenna orientations and X Y and Z orientations of the EUT alone. After the investigations the worst case was determined to be at X orientation for all LTE bands.

## 2. SYSTEM TEST CONFIGURATION

### 2.1 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.

### 2.2 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.

### 2.3 CONFIGURATION OF EUT SYSTEM

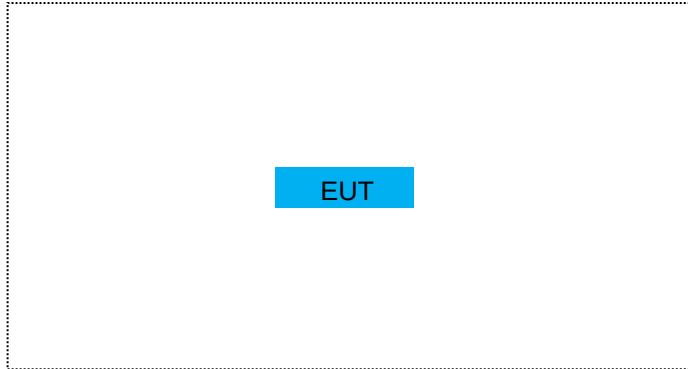
Table 2-1 Equipment Used in EUT System

| Item | Equipment   | Model No. | ID or Specification | Note |
|------|-------------|-----------|---------------------|------|
| 1    | Smart phone | C17 Plus  | FCC ID: 2ANMUC17    | EUT  |
|      |             |           |                     |      |
|      |             |           |                     |      |

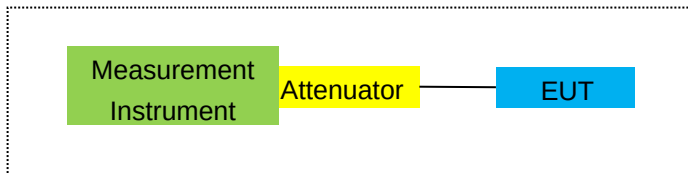
*Note: All the accessories have been used during the test.  
the following "EUT" in setup diagram means EUT system.*

## 2.4 TEST SETUP

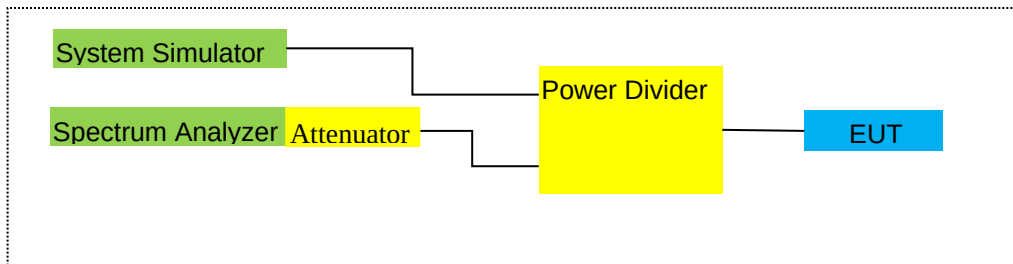
For Radiated Test Cases



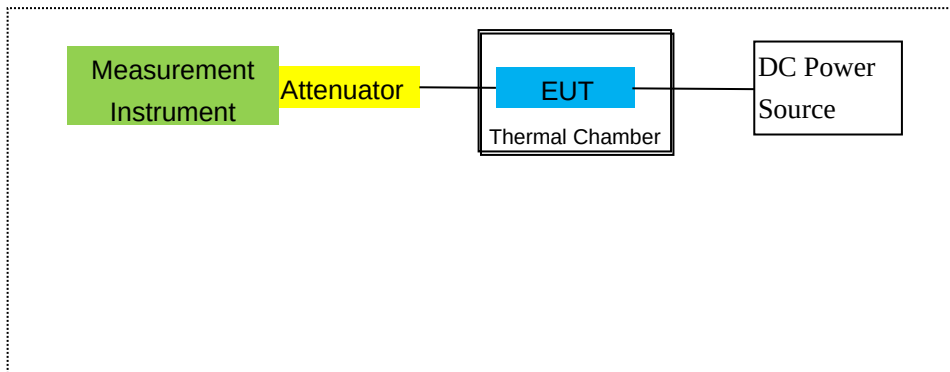
For Conducted Output Power



For Peak-to Average Ratio, Occupied Bandwidth, Conducted Band edge and Conducted Spurious Emission



For Frequency Stability



Note: EUT built-in battery-powered, the battery is fully-charged.

### 3.TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

| Item | Kind of Equipment     | Manufacturer | Type No.    | Serial No.   | Last calibration | Calibrated until | Calibration period |
|------|-----------------------|--------------|-------------|--------------|------------------|------------------|--------------------|
| 1    | MXA Signal Analyzer   | Agilent      | N9020A      | MY49100060   | 2026.04.08       | 2027.04.07       | 1 year             |
| 2    | Test Receiver         | R&S          | ESPI3       | 101417       | 2025.07.23       | 2026.07.22       | 1 year             |
| 3    | Log-Periodic Antenna  | SCHWARZBECK  | VULB 9162   | 584          | 2026.04.11       | 2027.04.10       | 3 year             |
| 4    | 50Ω Coaxial Switch    | Anritsu      | MP59B       | 6200983705   | 2024.04.26       | 2027.04.25       | 3 year             |
| 5    | Horn Antenna          | EM           | EM-AH-10180 | 2011071402   | 2024.05.12       | 2027.05.11       | 3 year             |
| 6    | Horn Ant              | Schwarzbeck  | BBHA 9170   | 9170-181     | 2024.05.12       | 2027.05.11       | 3 year             |
| 7    | Amplifier             | EM           | EM-30180    | 060538       | 2026.04.08       | 2027.04.07       | 1 year             |
| 8    | Loop Antenna          | ARA          | PLA-1030/B  | 1029         | 2026.04.08       | 2027.04.07       | 1 year             |
| 9    | Power Meter           | R&S          | NRVS        | 100696       | 2026.04.08       | 2027.04.07       | 1 year             |
| 10   | Power Sensor          | R&S          | URV5-Z4     | 0395.1619.05 | 2026.04.08       | 2027.04.07       | 1 year             |
| 11   | Test Cable            | N/A          | R-01        | N/A          | 2024.06.16       | 2027.06.15       | 3 year             |
| 12   | Test Cable            | N/A          | R-02        | N/A          | 2024.06.16       | 2027.06.15       | 3 year             |
| 13   | Test Cable            | N/A          | R-03        | N/A          | 2024.06.16       | 2027.06.15       | 3 year             |
| 14   | Test Receiver         | R&S          | ESCI        | 101160       | 2026.04.08       | 2027.04.07       | 1 year             |
| 15   | LISN                  | R&S          | ENV216      | 101313       | 2026.04.08       | 2027.04.07       | 1 year             |
| 16   | LISN                  | EMCO         | 3816/2      | 00042990     | 2026.04.08       | 2027.04.07       | 1 year             |
| 17   | 50Ω Coaxial Switch    | Anritsu      | MP59B       | 6200264417   | 2026.04.08       | 2027.04.07       | 1 year             |
| 18   | Passive Voltage Probe | R&S          | ESH2-Z3     | 100196       | 2026.04.08       | 2027.04.07       | 1 year             |
| 19   | Test Cable            | N/A          | C01         | N/A          | 2024.05.06       | 2027.05.05       | 3 year             |
| 20   | Test Cable            | N/A          | C02         | N/A          | 2024.05.06       | 2027.05.05       | 3 year             |
| 21   | Test Cable            | N/A          | C03         | N/A          | 2024.05.06       | 2027.05.05       | 3 year             |
| 22   | Attenuator            | MCE          | 24-10-34    | BN9258       | 2026.04.08       | 2027.04.07       | 1 year             |
| 23   | Spectrum Analyzer     | agilent      | e4440a      | us44300399   | 2026.04.08       | 2027.04.07       | 1 year             |
| 24   | test receiver         | R&S          | ESCI        | a0304218     | 2026.04.08       | 2027.04.07       | 1 year             |
| 25   | Communication Tester  | R&S          | CMU200      | A0304247     | 2026.04.08       | 2027.04.07       | 1 year             |
| 26   | Thermal               | Ten Billion  | TTC-B3C     | TBN-960502   | 2026.04.08       | 2027.04.07       | 1 year             |

|    | Chamber                     |             |            |             |            |            |        |
|----|-----------------------------|-------------|------------|-------------|------------|------------|--------|
| 27 | DC Power Source             | N/A         | PS-6005D   | 20170402923 | 2024.05.06 | 2027.05.05 | 3 year |
| 28 | MXG Vector Signal Generator | Agilent     | N5182A     | MY47070317  | 2026.04.08 | 2027.04.07 | 1 year |
| 29 | Communication Tester        | R&S         | CMW500     | 148500      | 2026.04.27 | 2027.04.26 | 1 year |
| 30 | Log-Periodic Antenna        | SCHWARZBECK | VULB 9168  | 1742        | 2025.11.01 | 2026.10.31 | 1 year |
| 31 | Horn Antenna                | SCHWARZBECK | BBHA 9120D | 2816        | 2024.05.18 | 2027.05.17 | 3 year |
| 32 | PSG Analog Signal Generator | Agilent     | E8257D     | MY51110112  | 2026.04.27 | 2027.04.26 | 1 year |

Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable& DC Power Source which is scheduled for calibration every 3 years

#### Measurement Software

| Item | Manufacturer | Software Name | Software Version | Description       |
|------|--------------|---------------|------------------|-------------------|
| 1    | MWRFTtest    | MTS 8200      | 2.0              | RF Conducted Test |
| 2    | Farad        | EZ-EMC_RE     | AIT-03A          | RadiatedTest      |
| 3    | raditeq      | RadiMation    | 2023.1.3         | RadiatedTest      |

## 4. OUTPUT POWER

### 4.1 OUTPUT POWER MEASUREMENT

#### LTE Measurement Procedure:

All LTE bands conducted power peak and average are obtained from the CMW500 telecommunication test set. The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

| Modulation | Channel bandwidth / Transmission bandwidth (RB) |         |       |        |        |        | MPR (dB) |
|------------|-------------------------------------------------|---------|-------|--------|--------|--------|----------|
|            | 1.4 MHz                                         | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |          |
| QPSK       | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 1      |
| 16 QAM     | ≤ 5                                             | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 1      |
| 16 QAM     | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS\_01".<sup>3</sup>

**Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)**

| Network Signalling value | Requirements (sub-clause) | E-UTRA Band              | Channel bandwidth (MHz) | Resources Blocks ( $N_{RB}$ ) | A-MPR (dB)    |
|--------------------------|---------------------------|--------------------------|-------------------------|-------------------------------|---------------|
| NS_01                    | 6.6.2.1.1                 | Table 5.5-1              | 1.4, 3, 5, 10, 15, 20   | Table 5.6-1                   | NA            |
| NS_03                    | 6.6.2.2.1                 | 2, 4, 10, 23, 25, 35, 36 | 3                       | >5                            | $\leq 1$      |
|                          |                           |                          | 5                       | >6                            | $\leq 1$      |
|                          |                           |                          | 10                      | >6                            | $\leq 1$      |
|                          |                           |                          | 15                      | >8                            | $\leq 1$      |
|                          |                           |                          | 20                      | >10                           | $\leq 1$      |
| NS_04                    | 6.6.2.2.2                 | 41                       | 5                       | >6                            | $\leq 1$      |
|                          |                           |                          | 10, 15, 20              | See Table 6.2.4-4             |               |
| NS_05                    | 6.6.3.3.1                 | 1                        | 10, 15, 20              | $\geq 50$                     | $\leq 1$      |
| NS_06                    | 6.6.2.2.3                 | 12, 13, 14, 17           | 1.4, 3, 5, 10           | Table 5.6-1                   | n/a           |
| NS_07                    | 6.6.2.2.3<br>6.6.3.3.2    | 13                       | 10                      | Table 6.2.4-2                 | Table 6.2.4-2 |
| NS_08                    | 6.6.3.3.3                 | 19                       | 10, 15                  | > 44                          | $\leq 3$      |
| NS_09                    | 6.6.3.3.4                 | 21                       | 10, 15                  | > 40                          | $\leq 1$      |
|                          |                           |                          |                         | > 55                          | $\leq 2$      |
| NS_10                    |                           | 20                       | 15, 20                  | Table 6.2.4-3                 | Table 6.2.4-3 |
| NS_11                    | 6.6.2.2.1                 | 23 <sup>1</sup>          | 1.4, 3, 5, 10           | Table 6.2.4-5                 | Table 6.2.4-5 |
| ..                       |                           |                          |                         |                               |               |
| NS_32                    | -                         | -                        | -                       | -                             | -             |

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

Test data reference attachment.

## 5. OCCUPIED BANDWIDTH

### RULE PART(S)

FCC: §2.1049

### LIMITS

For reporting purposes only

### TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

### MODES TESTED

Band 2/4/5/7/12/17/25/26/41/66

### RESULTS

**PASS**

Test data reference attachment.

## 6. BANDEDGE AND EMISSION MASK

### RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53, and §90.691

FCC: §22.359

### LIMITS

FCC: §22.917, §24.238, §27.53

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

(m)(4) For mobile digital stations, 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 than  $43 + 10 \log (P)$  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. Show citation box.

(c)(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations;

FCC: §90.691 Emission mask requirements for EA-based systems.

(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log_{10}(f/6.1)$  decibels or  $50 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

**TEST PROCEDURE**

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

Set a marker to point the corresponding band edge frequency in each test case.

Set resolution bandwidth to at least 1% of emission bandwidth.

**MODES TESTED**

Band 2/4/5/7/12/17/25/26/41/66

**RESULTS**

Test data reference attachment.

## 7. OUT OF BAND EMISSIONS

### RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53 and §90.691

### LIMITS

1. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.
2. The Band 7/41 emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

### TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

### **MODES TESTED**

Band 2/4/5/7/12/17/25/26/41/66

#### 7.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

Test data reference attachment.

## 8. RADIATED MEASUREMENT

### 8.1. RADIATED POWER (ERP & EIRP)

#### RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27.50 and §90.635

#### LIMITS:

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232 (c) Mobile and portable stations are limited to 2 watts EIRP.

27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.

27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.

27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

27.50 (h)(2) Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

90.635(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

#### TEST PROCEDURE

ANSI/TIA-603-E Clause 2.2.17

KDB 971168 v02r01 RF power output using broadband peak and average power meter method.

KDB 971168 D01 Power Meas License Digital Systems v02r01, "Measurement Guidance for Certification of Licensed Digital Transmitters"

#### MODES TESTED

Band 2/4/5/7/12/17/25/26/41/66

#### RESULTS

Pass

## 8.2 LTE BAND 2

|                         |               | Radiated Power (EIRP) for Band 2 |                      |                        |                           |                               |              |                                |       |            |
|-------------------------|---------------|----------------------------------|----------------------|------------------------|---------------------------|-------------------------------|--------------|--------------------------------|-------|------------|
| Mode                    | RB/RB<br>SIZE | Frequency                        | Result               |                        |                           |                               |              |                                |       | Conclusion |
|                         |               |                                  | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP<br>Average<br>(dBm) | Max.<br>EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                         |               |                                  |                      |                        |                           |                               | Average      |                                | Limit |            |
|                         |               |                                  |                      |                        |                           |                               | (mW)         |                                | (W)   |            |
| 1.4MHz<br>Band<br>QPSK  | 6/0           | 1850.7                           | 16.46                | 3.76                   | 8.90                      | 21.60                         | 144.54       | Horizontal                     | 2     | Pass       |
|                         |               | 1880                             | 13.44                | 3.91                   | 8.90                      | 18.43                         | 69.66        | Horizontal                     | 2     | Pass       |
|                         |               | 1909.3                           | 13.95                | 3.93                   | 8.90                      | 18.92                         | 77.98        | Horizontal                     | 2     | Pass       |
| 3.0MHz<br>Band<br>QPSK  | 15/0          | 1851.5                           | 13.29                | 3.77                   | 8.90                      | 18.42                         | 69.50        | Horizontal                     | 2     | Pass       |
|                         |               | 1880                             | 13.90                | 3.91                   | 8.90                      | 18.89                         | 77.45        | Horizontal                     | 2     | Pass       |
|                         |               | 1908.5                           | 14.68                | 3.94                   | 8.90                      | 19.64                         | 92.04        | Horizontal                     | 2     | Pass       |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 1852.5                           | 15.16                | 3.77                   | 8.90                      | 20.29                         | 106.91       | Horizontal                     | 2     | Pass       |
|                         |               | 1880                             | 17.36                | 3.91                   | 8.90                      | 22.35                         | 171.79       | Horizontal                     | 2     | Pass       |
|                         |               | 1907.5                           | 15.61                | 3.94                   | 8.90                      | 20.57                         | 114.02       | Horizontal                     | 2     | Pass       |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 1855                             | 15.63                | 3.79                   | 8.90                      | 20.74                         | 118.58       | Horizontal                     | 2     | Pass       |
|                         |               | 1880                             | 17.03                | 3.95                   | 8.90                      | 21.98                         | 157.76       | Horizontal                     | 2     | Pass       |
|                         |               | 1905                             | 15.31                | 3.97                   | 8.90                      | 20.24                         | 105.68       | Horizontal                     | 2     | Pass       |
| 15.0MHz<br>Band<br>QPSK | 75/0          | 1857.5                           | 15.67                | 3.79                   | 8.90                      | 20.78                         | 119.67       | Horizontal                     | 2     | Pass       |
|                         |               | 1880                             | 15.82                | 3.95                   | 8.90                      | 20.77                         | 119.40       | Horizontal                     | 2     | Pass       |
|                         |               | 1902.5                           | 14.80                | 3.97                   | 8.90                      | 19.73                         | 93.97        | Horizontal                     | 2     | Pass       |
| 20.0MHz<br>Band<br>QPSK | 100/0         | 1860                             | 15.02                | 3.81                   | 8.90                      | 20.11                         | 102.57       | Horizontal                     | 2     | Pass       |
|                         |               | 1880                             | 13.89                | 3.96                   | 8.90                      | 18.83                         | 76.38        | Horizontal                     | 2     | Pass       |
|                         |               | 1900                             | 16.10                | 4.00                   | 8.90                      | 21.00                         | 125.89       | Horizontal                     | 2     | Pass       |
| 1.4MHz<br>Band<br>QPSK  | 6/0           | 1850.7                           | 15.09                | 3.76                   | 8.90                      | 20.23                         | 105.44       | Vertical                       | 2     | Pass       |
|                         |               | 1880                             | 14.56                | 3.91                   | 8.90                      | 19.55                         | 90.16        | Vertical                       | 2     | Pass       |
|                         |               | 1909.3                           | 15.21                | 3.93                   | 8.90                      | 20.18                         | 104.23       | Vertical                       | 2     | Pass       |
| 3.0MHz<br>Band<br>QPSK  | 15/0          | 1851.5                           | 14.55                | 3.77                   | 8.90                      | 19.68                         | 92.90        | Vertical                       | 2     | Pass       |
|                         |               | 1880                             | 15.59                | 3.91                   | 8.90                      | 20.58                         | 114.29       | Vertical                       | 2     | Pass       |
|                         |               | 1908.5                           | 13.93                | 3.94                   | 8.90                      | 18.89                         | 77.45        | Vertical                       | 2     | Pass       |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 1852.5                           | 15.35                | 3.77                   | 8.90                      | 20.48                         | 111.69       | Vertical                       | 2     | Pass       |
|                         |               | 1880                             | 14.74                | 3.91                   | 8.90                      | 19.73                         | 93.97        | Vertical                       | 2     | Pass       |
|                         |               | 1907.5                           | 16.60                | 3.94                   | 8.90                      | 21.56                         | 143.22       | Vertical                       | 2     | Pass       |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 1855                             | 14.33                | 3.79                   | 8.90                      | 19.44                         | 87.90        | Vertical                       | 2     | Pass       |
|                         |               | 1880                             | 12.48                | 3.95                   | 8.90                      | 17.43                         | 55.34        | Vertical                       | 2     | Pass       |
|                         |               | 1905                             | 12.96                | 3.97                   | 8.90                      | 17.89                         | 61.52        | Vertical                       | 2     | Pass       |
| 15.0MHz                 | 75/0          | 1857.5                           | 13.57                | 3.79                   | 8.90                      | 18.68                         | 73.79        | Vertical                       | 2     | Pass       |

|              |       |        |       |      |      |       |        |          |   |      |
|--------------|-------|--------|-------|------|------|-------|--------|----------|---|------|
| Band<br>QPSK |       | 1880   | 15.49 | 3.95 | 8.90 | 20.44 | 110.66 | Vertical | 2 | Pass |
|              |       | 1902.5 | 16.23 | 3.97 | 8.90 | 21.16 | 130.62 | Vertical | 2 | Pass |
| 20.0MHz      | 100/0 | 1860   | 17.34 | 3.81 | 8.90 | 22.43 | 174.98 | Vertical | 2 | Pass |
| Band         |       | 1880   | 15.28 | 3.96 | 8.90 | 20.22 | 105.20 | Vertical | 2 | Pass |
| QPSK         |       | 1900   | 15.10 | 4.00 | 8.90 | 20.00 | 100.00 | Vertical | 2 | Pass |

|                           |               | Radiated Power (EIRP) for Band 2 |                      |                        |                           |                               |              |                                |       |            |
|---------------------------|---------------|----------------------------------|----------------------|------------------------|---------------------------|-------------------------------|--------------|--------------------------------|-------|------------|
| Mode                      | RB/RB<br>SIZE | Frequency                        | Result               |                        |                           |                               |              |                                |       | Conclusion |
|                           |               |                                  | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP<br>Average<br>(dBm) | Max.<br>EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                           |               |                                  |                      |                        |                           |                               | Average      |                                | Limit |            |
|                           |               |                                  |                      |                        |                           |                               | (mW)         |                                | (W)   |            |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 1850.7                           | 14.60                | 3.76                   | 8.90                      | 20.89                         | 122.74       | Horizontal                     | 2     | Pass       |
|                           |               | 1880                             | 15.75                | 3.91                   | 8.90                      | 20.18                         | 104.23       | Horizontal                     | 2     | Pass       |
|                           |               | 1909.3                           | 15.45                | 3.93                   | 8.90                      | 20.46                         | 111.17       | Horizontal                     | 2     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 1851.5                           | 15.29                | 3.77                   | 8.90                      | 18.93                         | 78.16        | Horizontal                     | 2     | Pass       |
|                           |               | 1880                             | 14.95                | 3.91                   | 8.90                      | 19.60                         | 91.20        | Horizontal                     | 2     | Pass       |
|                           |               | 1908.5                           | 14.55                | 3.94                   | 8.90                      | 18.81                         | 76.03        | Horizontal                     | 2     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 1852.5                           | 15.14                | 3.77                   | 8.90                      | 20.35                         | 108.39       | Horizontal                     | 2     | Pass       |
|                           |               | 1880                             | 15.50                | 3.91                   | 8.90                      | 18.97                         | 78.89        | Horizontal                     | 2     | Pass       |
|                           |               | 1907.5                           | 14.00                | 3.94                   | 8.90                      | 18.85                         | 76.74        | Horizontal                     | 2     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 1855                             | 15.35                | 3.79                   | 8.90                      | 21.85                         | 153.11       | Horizontal                     | 2     | Pass       |
|                           |               | 1880                             | 14.05                | 3.95                   | 8.90                      | 20.02                         | 100.46       | Horizontal                     | 2     | Pass       |
|                           |               | 1905                             | 15.36                | 3.97                   | 8.90                      | 20.86                         | 121.90       | Horizontal                     | 2     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 1857.5                           | 13.68                | 3.79                   | 8.90                      | 19.31                         | 85.31        | Horizontal                     | 2     | Pass       |
|                           |               | 1880                             | 15.77                | 3.95                   | 8.90                      | 18.37                         | 68.71        | Horizontal                     | 2     | Pass       |
|                           |               | 1902.5                           | 15.65                | 3.97                   | 8.90                      | 21.41                         | 138.36       | Horizontal                     | 2     | Pass       |
| 20.0MHz<br>Band 16<br>QAM | 100/0         | 1860                             | 13.84                | 3.81                   | 8.90                      | 19.49                         | 88.92        | Horizontal                     | 2     | Pass       |
|                           |               | 1880                             | 16.17                | 3.96                   | 8.90                      | 19.14                         | 82.04        | Horizontal                     | 2     | Pass       |
|                           |               | 1900                             | 14.55                | 4.00                   | 8.90                      | 17.37                         | 54.58        | Horizontal                     | 2     | Pass       |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 1850.7                           | 14.61                | 3.76                   | 8.90                      | 19.78                         | 95.06        | Vertical                       | 2     | Pass       |
|                           |               | 1880                             | 15.84                | 3.91                   | 8.90                      | 19.18                         | 82.79        | Vertical                       | 2     | Pass       |
|                           |               | 1909.3                           | 15.13                | 3.93                   | 8.90                      | 20.63                         | 115.61       | Vertical                       | 2     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 1851.5                           | 13.77                | 3.77                   | 8.90                      | 18.70                         | 74.13        | Vertical                       | 2     | Pass       |
|                           |               | 1880                             | 14.83                | 3.91                   | 8.90                      | 20.43                         | 110.41       | Vertical                       | 2     | Pass       |
|                           |               | 1908.5                           | 14.56                | 3.94                   | 8.90                      | 19.43                         | 87.70        | Vertical                       | 2     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 1852.5                           | 13.76                | 3.77                   | 8.90                      | 21.99                         | 158.12       | Vertical                       | 2     | Pass       |
|                           |               | 1880                             | 15.05                | 3.91                   | 8.90                      | 21.58                         | 143.88       | Vertical                       | 2     | Pass       |
|                           |               | 1907.5                           | 15.69                | 3.94                   | 8.90                      | 20.22                         | 105.20       | Vertical                       | 2     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 1855                             | 13.98                | 3.79                   | 8.90                      | 20.82                         | 120.78       | Vertical                       | 2     | Pass       |
|                           |               | 1880                             | 15.57                | 3.95                   | 8.90                      | 19.26                         | 84.33        | Vertical                       | 2     | Pass       |
|                           |               | 1905                             | 15.12                | 3.97                   | 8.90                      | 20.37                         | 108.89       | Vertical                       | 2     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 1857.5                           | 13.85                | 3.79                   | 8.90                      | 18.85                         | 76.74        | Vertical                       | 2     | Pass       |
|                           |               | 1880                             | 14.87                | 3.95                   | 8.90                      | 20.99                         | 125.60       | Vertical                       | 2     | Pass       |
|                           |               | 1902.5                           | 13.66                | 3.97                   | 8.90                      | 20.57                         | 114.02       | Vertical                       | 2     | Pass       |

|                           |       |      |       |      |      |       |        |          |   |      |
|---------------------------|-------|------|-------|------|------|-------|--------|----------|---|------|
| 20.0MHz<br>Band 16<br>QAM | 100/0 | 1860 | 14.29 | 3.81 | 8.90 | 19.95 | 98.86  | Vertical | 2 | Pass |
|                           |       | 1880 | 14.90 | 3.96 | 8.90 | 22.13 | 163.31 | Vertical | 2 | Pass |
|                           |       | 1900 | 13.78 | 4.00 | 8.90 | 20.21 | 104.95 | Vertical | 2 | Pass |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

### 8.3 LTE BAND 4

|                         |               | Radiated Power (EIRP) for Band 4 |                      |                     |                           |                                   |                                     |                                    |       |            |
|-------------------------|---------------|----------------------------------|----------------------|---------------------|---------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------|------------|
| Mode                    | RB/RB<br>SIZE | Frequency                        | Result               |                     |                           |                                   |                                     |                                    |       | Conclusion |
|                         |               |                                  | SG<br>Level<br>(dBm) | Cable Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP<br><br>Average<br>(dBm) | Max.<br>EIRP<br><br>Average<br>(mW) | Polarization<br><br>Of Max.<br>ERP |       |            |
|                         |               |                                  |                      |                     |                           |                                   |                                     |                                    | Limit |            |
|                         |               |                                  |                      |                     |                           |                                   |                                     |                                    |       |            |
| 1.4MHz<br>Band<br>QPSK  | 6/0           | 1710.7                           | 13.87                | 3.12                | 8.90                      | 19.65                             | 92.26                               | Horizontal                         | 1     | Pass       |
|                         |               | 1732.5                           | 13.55                | 3.27                | 8.90                      | 19.18                             | 82.79                               | Horizontal                         | 1     | Pass       |
|                         |               | 1754.3                           | 15.76                | 3.29                | 8.90                      | 21.37                             | 137.09                              | Horizontal                         | 1     | Pass       |
| 3.0MHz<br>Band<br>QPSK  | 15/0          | 1711.5                           | 13.71                | 3.13                | 8.90                      | 19.48                             | 88.72                               | Horizontal                         | 1     | Pass       |
|                         |               | 1732.5                           | 13.02                | 3.27                | 8.90                      | 18.65                             | 73.28                               | Horizontal                         | 1     | Pass       |
|                         |               | 1753.5                           | 14.16                | 3.30                | 8.90                      | 19.76                             | 94.62                               | Horizontal                         | 1     | Pass       |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 1712.5                           | 14.42                | 3.13                | 8.90                      | 20.19                             | 104.47                              | Horizontal                         | 1     | Pass       |
|                         |               | 1732.5                           | 14.38                | 3.27                | 8.90                      | 20.01                             | 100.23                              | Horizontal                         | 1     | Pass       |
|                         |               | 1752.5                           | 13.11                | 3.30                | 8.90                      | 18.71                             | 74.30                               | Horizontal                         | 1     | Pass       |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 1715                             | 15.05                | 3.15                | 8.90                      | 20.80                             | 120.23                              | Horizontal                         | 1     | Pass       |
|                         |               | 1732.5                           | 14.99                | 3.31                | 8.90                      | 20.58                             | 114.29                              | Horizontal                         | 1     | Pass       |
|                         |               | 1750                             | 16.31                | 3.33                | 8.90                      | 21.88                             | 154.17                              | Horizontal                         | 1     | Pass       |
| 15.0MHz<br>Band<br>QPSK | 75/0          | 1717.5                           | 14.12                | 3.15                | 8.90                      | 19.87                             | 97.05                               | Horizontal                         | 1     | Pass       |
|                         |               | 1732.5                           | 15.27                | 3.31                | 8.90                      | 20.86                             | 121.90                              | Horizontal                         | 1     | Pass       |
|                         |               | 1747.5                           | 14.90                | 3.33                | 8.90                      | 20.47                             | 111.43                              | Horizontal                         | 1     | Pass       |
| 20.0MHz<br>Band<br>QPSK | 100/0         | 1720                             | 12.95                | 3.17                | 8.90                      | 18.68                             | 73.79                               | Horizontal                         | 1     | Pass       |
|                         |               | 1732.5                           | 13.11                | 3.32                | 8.90                      | 18.69                             | 73.96                               | Horizontal                         | 1     | Pass       |
|                         |               | 1745                             | 12.72                | 3.36                | 8.90                      | 18.26                             | 66.99                               | Horizontal                         | 1     | Pass       |
| 1.4MHz<br>Band<br>QPSK  | 6/0           | 1710.7                           | 13.99                | 3.12                | 8.90                      | 19.77                             | 94.84                               | Vertical                           | 1     | Pass       |
|                         |               | 1732.5                           | 15.00                | 3.27                | 8.90                      | 20.63                             | 115.61                              | Vertical                           | 1     | Pass       |
|                         |               | 1754.3                           | 13.63                | 3.29                | 8.90                      | 19.24                             | 83.95                               | Vertical                           | 1     | Pass       |
| 3.0MHz<br>Band<br>QPSK  | 15/0          | 1711.5                           | 14.91                | 3.13                | 8.90                      | 20.68                             | 116.95                              | Vertical                           | 1     | Pass       |
|                         |               | 1732.5                           | 15.21                | 3.27                | 8.90                      | 20.84                             | 121.34                              | Vertical                           | 1     | Pass       |
|                         |               | 1753.5                           | 16.26                | 3.30                | 8.90                      | 21.86                             | 153.46                              | Vertical                           | 1     | Pass       |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 1712.5                           | 14.43                | 3.13                | 8.90                      | 20.20                             | 104.71                              | Vertical                           | 1     | Pass       |
|                         |               | 1732.5                           | 16.50                | 3.27                | 8.90                      | 22.13                             | 163.31                              | Vertical                           | 1     | Pass       |
|                         |               | 1752.5                           | 13.16                | 3.30                | 8.90                      | 18.76                             | 75.16                               | Vertical                           | 1     | Pass       |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 1715                             | 12.44                | 3.15                | 8.90                      | 18.19                             | 65.92                               | Vertical                           | 1     | Pass       |
|                         |               | 1732.5                           | 14.45                | 3.31                | 8.90                      | 20.04                             | 100.93                              | Vertical                           | 1     | Pass       |
|                         |               | 1750                             | 14.67                | 3.33                | 8.90                      | 20.24                             | 105.68                              | Vertical                           | 1     | Pass       |

|         |       |        |       |      |      |       |        |          |   |      |
|---------|-------|--------|-------|------|------|-------|--------|----------|---|------|
| 15.0MHz | 75/0  | 1717.5 | 15.54 | 3.15 | 8.90 | 21.29 | 134.59 | Vertical | 1 | Pass |
| Band    |       | 1732.5 | 15.76 | 3.31 | 8.90 | 21.35 | 136.46 | Vertical | 1 | Pass |
| QPSK    |       | 1747.5 | 12.90 | 3.33 | 8.90 | 18.47 | 70.31  | Vertical | 1 | Pass |
| 20.0MHz | 100/0 | 1720   | 17.07 | 3.17 | 8.90 | 22.80 | 190.55 | Vertical | 1 | Pass |
| Band    |       | 1732.5 | 16.52 | 3.32 | 8.90 | 22.10 | 162.18 | Vertical | 1 | Pass |
| QPSK    |       | 1745   | 13.76 | 3.36 | 8.90 | 19.30 | 85.11  | Vertical | 1 | Pass |

|                           |               | Radiated Power (EIRP) for Band 4 |                      |                     |                           |           |              |                                    |       |            |
|---------------------------|---------------|----------------------------------|----------------------|---------------------|---------------------------|-----------|--------------|------------------------------------|-------|------------|
| Mode                      | RB/RB<br>SIZE | Frequency                        | Result               |                     |                           |           |              |                                    |       | Conclusion |
|                           |               |                                  | SG<br>Level<br>(dBm) | Cable Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP | Max.<br>EIRP | Polarization<br><br>Of Max.<br>ERP |       |            |
|                           |               |                                  |                      |                     |                           | Average   | Average      |                                    | Limit |            |
|                           |               |                                  |                      |                     |                           | (dBm)     | (mW)         |                                    | (W)   |            |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 1710.7                           | 14.86                | 3.12                | 8.90                      | 20.64     | 115.88       | Horizontal                         | 1     | Pass       |
|                           |               | 1732.5                           | 15.47                | 3.27                | 8.90                      | 21.10     | 128.82       | Horizontal                         | 1     | Pass       |
|                           |               | 1754.3                           | 16.00                | 3.29                | 8.90                      | 21.61     | 144.88       | Horizontal                         | 1     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 1711.5                           | 14.57                | 3.13                | 8.90                      | 20.34     | 108.14       | Horizontal                         | 1     | Pass       |
|                           |               | 1732.5                           | 16.28                | 3.27                | 8.90                      | 21.91     | 155.24       | Horizontal                         | 1     | Pass       |
|                           |               | 1753.5                           | 14.71                | 3.30                | 8.90                      | 20.31     | 107.40       | Horizontal                         | 1     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 1712.5                           | 15.86                | 3.13                | 8.90                      | 21.63     | 145.55       | Horizontal                         | 1     | Pass       |
|                           |               | 1732.5                           | 14.12                | 3.27                | 8.90                      | 19.75     | 94.41        | Horizontal                         | 1     | Pass       |
|                           |               | 1752.5                           | 16.45                | 3.30                | 8.90                      | 22.05     | 160.32       | Horizontal                         | 1     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 1715                             | 16.34                | 3.15                | 8.90                      | 22.09     | 161.81       | Horizontal                         | 1     | Pass       |
|                           |               | 1732.5                           | 14.50                | 3.31                | 8.90                      | 20.09     | 102.09       | Horizontal                         | 1     | Pass       |
|                           |               | 1750                             | 15.40                | 3.33                | 8.90                      | 20.97     | 125.03       | Horizontal                         | 1     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 1717.5                           | 15.99                | 3.15                | 8.90                      | 21.74     | 149.28       | Horizontal                         | 1     | Pass       |
|                           |               | 1732.5                           | 16.94                | 3.31                | 8.90                      | 22.53     | 179.06       | Horizontal                         | 1     | Pass       |
|                           |               | 1747.5                           | 16.31                | 3.33                | 8.90                      | 21.88     | 154.17       | Horizontal                         | 1     | Pass       |
| 20.0MHz<br>Band 16<br>QAM | 100/0         | 1720                             | 14.26                | 3.17                | 8.90                      | 19.99     | 99.77        | Horizontal                         | 1     | Pass       |
|                           |               | 1732.5                           | 17.42                | 3.32                | 8.90                      | 23.00     | 199.53       | Horizontal                         | 1     | Pass       |
|                           |               | 1745                             | 16.87                | 3.36                | 8.90                      | 22.41     | 174.18       | Horizontal                         | 1     | Pass       |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 1710.7                           | 16.68                | 3.12                | 8.90                      | 22.46     | 176.20       | Vertical                           | 1     | Pass       |
|                           |               | 1732.5                           | 15.40                | 3.27                | 8.90                      | 21.03     | 126.77       | Vertical                           | 1     | Pass       |
|                           |               | 1754.3                           | 15.71                | 3.29                | 8.90                      | 21.32     | 135.52       | Vertical                           | 1     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 1711.5                           | 14.83                | 3.13                | 8.90                      | 20.60     | 114.82       | Vertical                           | 1     | Pass       |
|                           |               | 1732.5                           | 16.04                | 3.27                | 8.90                      | 21.67     | 146.89       | Vertical                           | 1     | Pass       |
|                           |               | 1753.5                           | 16.32                | 3.30                | 8.90                      | 21.92     | 155.60       | Vertical                           | 1     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 1712.5                           | 15.75                | 3.13                | 8.90                      | 21.52     | 141.91       | Vertical                           | 1     | Pass       |
|                           |               | 1732.5                           | 15.10                | 3.27                | 8.90                      | 20.73     | 118.30       | Vertical                           | 1     | Pass       |
|                           |               | 1752.5                           | 15.74                | 3.30                | 8.90                      | 21.34     | 136.14       | Vertical                           | 1     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 1715                             | 15.99                | 3.15                | 8.90                      | 21.74     | 149.28       | Vertical                           | 1     | Pass       |
|                           |               | 1732.5                           | 17.39                | 3.31                | 8.90                      | 22.98     | 198.61       | Vertical                           | 1     | Pass       |
|                           |               | 1750                             | 16.77                | 3.33                | 8.90                      | 22.34     | 171.40       | Vertical                           | 1     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 1717.5                           | 14.51                | 3.15                | 8.90                      | 20.26     | 106.17       | Vertical                           | 1     | Pass       |
|                           |               | 1732.5                           | 14.77                | 3.31                | 8.90                      | 20.36     | 108.64       | Vertical                           | 1     | Pass       |
|                           |               | 1747.5                           | 16.10                | 3.33                | 8.90                      | 21.67     | 146.89       | Vertical                           | 1     | Pass       |

|         |       |        |       |      |      |       |        |          |   |      |
|---------|-------|--------|-------|------|------|-------|--------|----------|---|------|
| 20.0MHz | 100/0 | 1720   | 14.79 | 3.17 | 8.90 | 20.52 | 112.72 | Vertical | 1 | Pass |
| Band 16 |       | 1732.5 | 17.02 | 3.32 | 8.90 | 22.60 | 181.97 | Vertical | 1 | Pass |
| QAM     |       | 1745   | 16.30 | 3.36 | 8.90 | 21.84 | 152.76 | Vertical | 1 | Pass |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

## 8.4 LTE BAND 5

| Radiated Power (ERP) for Band 5 |                   |                   |             |                        |                           |                |           |             |                                 |           |                |
|---------------------------------|-------------------|-------------------|-------------|------------------------|---------------------------|----------------|-----------|-------------|---------------------------------|-----------|----------------|
| Mode                            | RB/R<br>B<br>SIZE | Freque<br>nc<br>y | Result      |                        |                           |                |           |             |                                 |           | Conclusio<br>n |
|                                 |                   |                   | SG<br>Level | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Correctio<br>n | Max. EIRP | Max.<br>ERP | Polarizatio<br>n Of Max.<br>ERP |           |                |
|                                 |                   |                   | (dBm<br>)   |                        |                           | (dB)           | Average   | Averag<br>e |                                 | Limi<br>t |                |
|                                 |                   |                   |             |                        |                           | (dBm)          | (mW)      | (W)         |                                 |           |                |
| 1.4MHz<br>Band<br>QPSK          | 6/0               | 824.7             | 19.12       | 2.01                   | 5.30                      | 2.15           | 20.26     | 106.17      | Horizontal                      | 7         | Pass           |
|                                 |                   | 836.5             | 21.16       | 2.01                   | 5.30                      | 2.15           | 22.30     | 169.82      | Horizontal                      | 7         | Pass           |
|                                 |                   | 848.3             | 19.85       | 2.02                   | 5.70                      | 2.15           | 21.38     | 137.40      | Horizontal                      | 7         | Pass           |
| 3.0MHz<br>Band<br>QPSK          | 15/0              | 825.5             | 21.09       | 2.01                   | 5.30                      | 2.15           | 22.23     | 167.11      | Horizontal                      | 7         | Pass           |
|                                 |                   | 836.5             | 21.30       | 2.01                   | 5.30                      | 2.15           | 22.44     | 175.39      | Horizontal                      | 7         | Pass           |
|                                 |                   | 847.5             | 20.78       | 2.02                   | 5.70                      | 2.15           | 22.31     | 170.22      | Horizontal                      | 7         | Pass           |
| 5.0MHz<br>Band<br>QPSK          | 25/0              | 826.5             | 19.36       | 2.01                   | 5.30                      | 2.15           | 20.50     | 112.20      | Horizontal                      | 7         | Pass           |
|                                 |                   | 836.5             | 20.67       | 2.01                   | 5.30                      | 2.15           | 21.81     | 151.71      | Horizontal                      | 7         | Pass           |
|                                 |                   | 846.5             | 21.65       | 2.02                   | 5.70                      | 2.15           | 23.18     | 207.97      | Horizontal                      | 7         | Pass           |
| 10.0MH<br>z Band<br>QPSK        | 50/0              | 829               | 20.28       | 2.01                   | 5.30                      | 2.15           | 21.42     | 138.68      | Horizontal                      | 7         | Pass           |
|                                 |                   | 836.5             | 19.94       | 2.01                   | 5.30                      | 2.15           | 21.08     | 128.23      | Horizontal                      | 7         | Pass           |
|                                 |                   | 844               | 18.81       | 2.02                   | 5.70                      | 2.15           | 20.34     | 108.14      | Horizontal                      | 7         | Pass           |
| 1.4MHz<br>Band<br>QPSK          | 6/0               | 824.7             | 21.57       | 2.01                   | 5.30                      | 2.15           | 22.71     | 186.64      | Vertical                        | 7         | Pass           |
|                                 |                   | 836.5             | 21.75       | 2.01                   | 5.30                      | 2.15           | 22.89     | 194.54      | Vertical                        | 7         | Pass           |
|                                 |                   | 848.3             | 20.17       | 2.02                   | 5.70                      | 2.15           | 21.70     | 147.91      | Vertical                        | 7         | Pass           |
| 3.0MHz<br>Band<br>QPSK          | 15/0              | 825.5             | 20.90       | 2.01                   | 5.30                      | 2.15           | 22.04     | 159.96      | Vertical                        | 7         | Pass           |
|                                 |                   | 836.5             | 20.55       | 2.01                   | 5.30                      | 2.15           | 21.69     | 147.57      | Vertical                        | 7         | Pass           |
|                                 |                   | 847.5             | 18.80       | 2.02                   | 5.70                      | 2.15           | 20.33     | 107.89      | Vertical                        | 7         | Pass           |
| 5.0MHz<br>Band<br>QPSK          | 25/0              | 826.5             | 18.97       | 2.01                   | 5.30                      | 2.15           | 20.11     | 102.57      | Vertical                        | 7         | Pass           |
|                                 |                   | 836.5             | 21.57       | 2.01                   | 5.30                      | 2.15           | 22.71     | 186.64      | Vertical                        | 7         | Pass           |
|                                 |                   | 846.5             | 19.80       | 2.02                   | 5.70                      | 2.15           | 21.33     | 135.83      | Vertical                        | 7         | Pass           |
| 10.0MH<br>z Band<br>QPSK        | 50/0              | 829               | 18.31       | 2.01                   | 5.30                      | 2.15           | 19.45     | 88.10       | Vertical                        | 7         | Pass           |
|                                 |                   | 836.5             | 22.78       | 2.01                   | 5.30                      | 2.15           | 23.92     | 246.60      | Vertical                        | 7         | Pass           |
|                                 |                   | 844               | 20.25       | 2.02                   | 5.70                      | 2.15           | 21.78     | 150.66      | Vertical                        | 7         | Pass           |

|                           |               | Radiated Power (ERP) for Band 5 |             |                        |                           |            |           |             |                                |       |            |
|---------------------------|---------------|---------------------------------|-------------|------------------------|---------------------------|------------|-----------|-------------|--------------------------------|-------|------------|
| Mode                      | RB/RB<br>SIZE | Frequency                       | Result      |                        |                           |            |           |             |                                |       | Conclusion |
|                           |               |                                 | SG<br>Level | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Correction | Max. EIRP | Max.<br>ERP | Polarization<br>Of Max.<br>ERP |       |            |
|                           |               |                                 |             |                        |                           | (dB)       | Average   | Average     |                                | Limit |            |
|                           |               |                                 |             |                        |                           |            | (dBm)     | (mW)        |                                | (W)   |            |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 824.7                           | 18.97       | 2.01                   | 5.30                      | 2.15       | 20.11     | 102.57      | Horizontal                     | 7     | Pass       |
|                           |               | 836.5                           | 18.76       | 2.01                   | 5.30                      | 2.15       | 19.9      | 97.72       | Horizontal                     | 7     | Pass       |
|                           |               | 848.3                           | 16.99       | 2.02                   | 5.70                      | 2.15       | 18.52     | 71.12       | Horizontal                     | 7     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 825.5                           | 18.15       | 2.01                   | 5.30                      | 2.15       | 19.29     | 84.92       | Horizontal                     | 7     | Pass       |
|                           |               | 836.5                           | 16.88       | 2.01                   | 5.30                      | 2.15       | 18.02     | 63.39       | Horizontal                     | 7     | Pass       |
|                           |               | 847.5                           | 18.24       | 2.02                   | 5.70                      | 2.15       | 19.77     | 94.84       | Horizontal                     | 7     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 826.5                           | 17.86       | 2.01                   | 5.30                      | 2.15       | 19        | 79.43       | Horizontal                     | 7     | Pass       |
|                           |               | 836.5                           | 17.22       | 2.01                   | 5.30                      | 2.15       | 18.36     | 68.55       | Horizontal                     | 7     | Pass       |
|                           |               | 846.5                           | 17.89       | 2.02                   | 5.70                      | 2.15       | 19.42     | 87.50       | Horizontal                     | 7     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 829                             | 17.30       | 2.01                   | 5.30                      | 2.15       | 18.44     | 69.82       | Horizontal                     | 7     | Pass       |
|                           |               | 836.5                           | 17.15       | 2.01                   | 5.30                      | 2.15       | 18.29     | 67.45       | Horizontal                     | 7     | Pass       |
|                           |               | 844                             | 17.60       | 2.02                   | 5.70                      | 2.15       | 19.13     | 81.85       | Horizontal                     | 7     | Pass       |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 824.7                           | 19.16       | 2.01                   | 5.30                      | 2.15       | 20.3      | 107.15      | Vertical                       | 7     | Pass       |
|                           |               | 836.5                           | 18.52       | 2.01                   | 5.30                      | 2.15       | 19.66     | 92.47       | Vertical                       | 7     | Pass       |
|                           |               | 848.3                           | 18.19       | 2.02                   | 5.70                      | 2.15       | 19.72     | 93.76       | Vertical                       | 7     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 825.5                           | 17.21       | 2.01                   | 5.30                      | 2.15       | 18.35     | 68.39       | Vertical                       | 7     | Pass       |
|                           |               | 836.5                           | 18.32       | 2.01                   | 5.30                      | 2.15       | 19.46     | 88.31       | Vertical                       | 7     | Pass       |
|                           |               | 847.5                           | 16.57       | 2.02                   | 5.70                      | 2.15       | 18.1      | 64.57       | Vertical                       | 7     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 826.5                           | 17.41       | 2.01                   | 5.30                      | 2.15       | 18.55     | 71.61       | Vertical                       | 7     | Pass       |
|                           |               | 836.5                           | 15.84       | 2.01                   | 5.30                      | 2.15       | 16.98     | 49.89       | Vertical                       | 7     | Pass       |
|                           |               | 846.5                           | 18.20       | 2.02                   | 5.70                      | 2.15       | 19.73     | 93.97       | Vertical                       | 7     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 829                             | 16.63       | 2.01                   | 5.30                      | 2.15       | 17.77     | 59.84       | Vertical                       | 7     | Pass       |
|                           |               | 836.5                           | 19.33       | 2.01                   | 5.30                      | 2.15       | 20.47     | 111.43      | Vertical                       | 7     | Pass       |
|                           |               | 844                             | 19.53       | 2.02                   | 5.70                      | 2.15       | 21.06     | 127.64      | Vertical                       | 7     | Pass       |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

ERP(dBm)=EIRP-2.15

### 8.5 LTE BAND 7

|         |               | Radiated Power (EIRP) for Band 7 |                      |                        |                           |           |           |                                |       |            |
|---------|---------------|----------------------------------|----------------------|------------------------|---------------------------|-----------|-----------|--------------------------------|-------|------------|
| Mode    | RB/RB<br>SIZE | Frequency                        | Result               |                        |                           |           |           |                                |       | Conclusion |
|         |               |                                  | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP | Max. EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|         |               |                                  |                      |                        |                           | Average   | Average   |                                | Limit |            |
|         |               |                                  |                      |                        |                           | (dBm)     | (mW)      |                                | (W)   |            |
| 5.0MHz  | 25/0          | 2502.5                           | 16.21                | 4.54                   | 9.00                      | 20.67     | 116.68    | Horizontal                     | 2     | Pass       |
| Band    |               | 2535                             | 17.62                | 4.69                   | 9.00                      | 21.93     | 155.96    | Horizontal                     | 2     | Pass       |
| QPSK    |               | 2567.5                           | 13.62                | 4.71                   | 9.00                      | 17.91     | 61.80     | Horizontal                     | 2     | Pass       |
| 10.0MHz | 50/0          | 2505                             | 13.46                | 4.55                   | 9.00                      | 17.91     | 61.80     | Horizontal                     | 2     | Pass       |
| Band    |               | 2535                             | 16.68                | 4.69                   | 9.00                      | 20.99     | 125.60    | Horizontal                     | 2     | Pass       |
| QPSK    |               | 2565                             | 15.49                | 4.72                   | 9.00                      | 19.77     | 94.84     | Horizontal                     | 2     | Pass       |
| 15.0MHz | 75/0          | 2507.5                           | 16.86                | 4.55                   | 9.00                      | 21.31     | 135.21    | Horizontal                     | 2     | Pass       |
| Band    |               | 2535                             | 15.16                | 4.69                   | 9.00                      | 19.47     | 88.51     | Horizontal                     | 2     | Pass       |
| QPSK    |               | 2562.5                           | 16.08                | 4.72                   | 9.00                      | 20.36     | 108.64    | Horizontal                     | 2     | Pass       |
| 20.0MHz | 100/0         | 2510                             | 13.93                | 4.57                   | 9.00                      | 18.36     | 68.55     | Horizontal                     | 2     | Pass       |
| Band    |               | 2535                             | 15.76                | 4.73                   | 9.00                      | 20.03     | 100.69    | Horizontal                     | 2     | Pass       |
| QPSK    |               | 2560                             | 15.99                | 4.75                   | 9.00                      | 20.24     | 105.68    | Horizontal                     | 2     | Pass       |
| 5.0MHz  | 25/0          | 2502.5                           | 15.25                | 4.54                   | 9.00                      | 19.71     | 93.54     | Vertical                       | 2     | Pass       |
| Band    |               | 2535                             | 17.38                | 4.69                   | 9.00                      | 21.69     | 147.57    | Vertical                       | 2     | Pass       |
| QPSK    |               | 2567.5                           | 16.83                | 4.71                   | 9.00                      | 21.12     | 129.42    | Vertical                       | 2     | Pass       |
| 10.0MHz | 50/0          | 2505                             | 15.07                | 4.55                   | 9.00                      | 19.52     | 89.54     | Vertical                       | 2     | Pass       |
| Band    |               | 2535                             | 17.05                | 4.69                   | 9.00                      | 21.36     | 136.77    | Vertical                       | 2     | Pass       |
| QPSK    |               | 2565                             | 16.10                | 4.72                   | 9.00                      | 20.38     | 109.14    | Vertical                       | 2     | Pass       |
| 15.0MHz | 75/0          | 2507.5                           | 16.31                | 4.55                   | 9.00                      | 20.76     | 119.12    | Vertical                       | 2     | Pass       |
| Band    |               | 2535                             | 16.41                | 4.69                   | 9.00                      | 20.72     | 118.03    | Vertical                       | 2     | Pass       |
| QPSK    |               | 2562.5                           | 14.86                | 4.72                   | 9.00                      | 19.14     | 82.04     | Vertical                       | 2     | Pass       |
| 20.0MHz | 100/0         | 2510                             | 17.96                | 4.57                   | 9.00                      | 22.39     | 173.38    | Vertical                       | 2     | Pass       |
| Band    |               | 2535                             | 17.04                | 4.73                   | 9.00                      | 21.31     | 135.21    | Vertical                       | 2     | Pass       |
| QPSK    |               | 2560                             | 18.91                | 4.75                   | 9.00                      | 23.16     | 207.01    | Vertical                       | 2     | Pass       |

|                           |            | Radiated Power (EIRP) for Band 7 |                   |                     |                        |           |           |                                |       |            |
|---------------------------|------------|----------------------------------|-------------------|---------------------|------------------------|-----------|-----------|--------------------------------|-------|------------|
| Mode                      | RB/RB SIZE | Frequency                        | Result            |                     |                        |           |           |                                |       | Conclusion |
|                           |            |                                  | SG Level<br>(dBm) | Cable Loss<br>(dBm) | Antenna Factor<br>(dB) | Max. EIRP | Max. EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                           |            |                                  |                   |                     |                        | Average   | Average   |                                | Limit |            |
|                           |            |                                  |                   |                     |                        | (dBm)     | (mW)      |                                | (W)   |            |
| 5.0MHz<br>Band 16<br>QAM  | 25/0       | 2502.5                           | 17.42             | 4.54                | 9.00                   | 21.88     | 154.17    | Horizontal                     | 2     | Pass       |
|                           |            | 2535                             | 17.68             | 4.69                | 9.00                   | 21.99     | 158.12    | Horizontal                     | 2     | Pass       |
|                           |            | 2567.5                           | 17.10             | 4.71                | 9.00                   | 21.39     | 137.72    | Horizontal                     | 2     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0       | 2505                             | 17.26             | 4.55                | 9.00                   | 21.71     | 148.25    | Horizontal                     | 2     | Pass       |
|                           |            | 2535                             | 17.65             | 4.69                | 9.00                   | 21.96     | 157.04    | Horizontal                     | 2     | Pass       |
|                           |            | 2565                             | 17.30             | 4.72                | 9.00                   | 21.58     | 143.88    | Horizontal                     | 2     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0       | 2507.5                           | 16.67             | 4.55                | 9.00                   | 21.12     | 129.42    | Horizontal                     | 2     | Pass       |
|                           |            | 2535                             | 17.96             | 4.69                | 9.00                   | 22.27     | 168.66    | Horizontal                     | 2     | Pass       |
|                           |            | 2562.5                           | 15.94             | 4.72                | 9.00                   | 20.22     | 105.20    | Horizontal                     | 2     | Pass       |
| 20.0MHz<br>Band 16<br>QAM | 100/0      | 2510                             | 16.68             | 4.57                | 9.00                   | 21.11     | 129.12    | Horizontal                     | 2     | Pass       |
|                           |            | 2535                             | 16.12             | 4.73                | 9.00                   | 20.39     | 109.40    | Horizontal                     | 2     | Pass       |
|                           |            | 2560                             | 18.16             | 4.75                | 9.00                   | 22.41     | 174.18    | Horizontal                     | 2     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0       | 2502.5                           | 17.63             | 4.54                | 9.00                   | 22.09     | 161.81    | Vertical                       | 2     | Pass       |
|                           |            | 2535                             | 17.00             | 4.69                | 9.00                   | 21.31     | 135.21    | Vertical                       | 2     | Pass       |
|                           |            | 2567.5                           | 17.68             | 4.71                | 9.00                   | 21.97     | 157.40    | Vertical                       | 2     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0       | 2505                             | 17.65             | 4.55                | 9.00                   | 22.1      | 162.18    | Vertical                       | 2     | Pass       |
|                           |            | 2535                             | 16.05             | 4.69                | 9.00                   | 20.36     | 108.64    | Vertical                       | 2     | Pass       |
|                           |            | 2565                             | 16.78             | 4.72                | 9.00                   | 21.06     | 127.64    | Vertical                       | 2     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0       | 2507.5                           | 17.86             | 4.55                | 9.00                   | 22.31     | 170.22    | Vertical                       | 2     | Pass       |
|                           |            | 2535                             | 17.40             | 4.69                | 9.00                   | 21.71     | 148.25    | Vertical                       | 2     | Pass       |
|                           |            | 2562.5                           | 15.09             | 4.72                | 9.00                   | 19.37     | 86.50     | Vertical                       | 2     | Pass       |
| 20.0MHz<br>Band 16<br>QAM | 100/0      | 2510                             | 18.01             | 4.57                | 9.00                   | 22.44     | 175.39    | Vertical                       | 2     | Pass       |
|                           |            | 2535                             | 17.95             | 4.73                | 9.00                   | 22.22     | 166.72    | Vertical                       | 2     | Pass       |
|                           |            | 2560                             | 17.99             | 4.75                | 9.00                   | 22.24     | 167.49    | Vertical                       | 2     | Pass       |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

## 8.6 LTE BAND 12

|                         |               | Radiated Power (ERP) for Band 12 |                      |                        |                           |                        |                                   |                                     |                                    |       |                |
|-------------------------|---------------|----------------------------------|----------------------|------------------------|---------------------------|------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------|----------------|
| Mode                    | RB/RB<br>SIZE | Frequency                        | Result               |                        |                           |                        |                                   |                                     |                                    |       | Conclusio<br>n |
|                         |               |                                  | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Correction<br><br>(dB) | Max. EIRP<br><br>Average<br>(dBm) | Max.<br>EIRP<br><br>Average<br>(mW) | Polarization<br><br>Of Max.<br>ERP |       |                |
|                         |               |                                  |                      |                        |                           |                        |                                   |                                     |                                    | Limit |                |
|                         |               |                                  |                      |                        |                           |                        |                                   |                                     |                                    |       |                |
| 1.4MHz<br>Band<br>QPSK  | 6/0           | 699.7                            | 19.11                | 1.91                   | 5.60                      | 2.15                   | 20.65                             | 116.14                              | Horizontal                         | 3     | Pass           |
|                         |               | 707.5                            | 19.51                | 1.91                   | 5.70                      | 2.15                   | 21.15                             | 130.32                              | Horizontal                         | 3     | Pass           |
|                         |               | 715.3                            | 17.30                | 1.93                   | 5.80                      | 2.15                   | 19.02                             | 79.80                               | Horizontal                         | 3     | Pass           |
| 3.0MHz<br>Band<br>QPSK  | 15/0          | 700.5                            | 17.61                | 1.91                   | 5.60                      | 2.15                   | 19.15                             | 82.22                               | Horizontal                         | 3     | Pass           |
|                         |               | 707.5                            | 18.42                | 1.91                   | 5.70                      | 2.15                   | 20.06                             | 101.39                              | Horizontal                         | 3     | Pass           |
|                         |               | 714.5                            | 18.45                | 1.93                   | 5.80                      | 2.15                   | 20.17                             | 103.99                              | Horizontal                         | 3     | Pass           |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 701.5                            | 18.57                | 1.91                   | 5.60                      | 2.15                   | 20.11                             | 102.57                              | Horizontal                         | 3     | Pass           |
|                         |               | 707.5                            | 19.27                | 1.91                   | 5.70                      | 2.15                   | 20.91                             | 123.31                              | Horizontal                         | 3     | Pass           |
|                         |               | 713.5                            | 18.91                | 1.92                   | 5.80                      | 2.15                   | 20.64                             | 115.88                              | Horizontal                         | 3     | Pass           |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 704                              | 18.45                | 1.91                   | 5.60                      | 2.15                   | 19.99                             | 99.77                               | Horizontal                         | 3     | Pass           |
|                         |               | 707.5                            | 18.18                | 1.91                   | 5.70                      | 2.15                   | 19.82                             | 95.94                               | Horizontal                         | 3     | Pass           |
|                         |               | 711                              | 17.58                | 1.92                   | 5.80                      | 2.15                   | 19.31                             | 85.31                               | Horizontal                         | 3     | Pass           |
| 1.4MHz<br>Band<br>QPSK  | 6/0           | 699.7                            | 17.50                | 1.91                   | 5.60                      | 2.15                   | 19.04                             | 80.17                               | Vertical                           | 3     | Pass           |
|                         |               | 707.5                            | 18.20                | 1.91                   | 5.70                      | 2.15                   | 19.84                             | 96.38                               | Vertical                           | 3     | Pass           |
|                         |               | 715.3                            | 17.68                | 1.93                   | 5.80                      | 2.15                   | 19.40                             | 87.10                               | Vertical                           | 3     | Pass           |
| 3.0MHz<br>Band<br>QPSK  | 15/0          | 700.5                            | 18.61                | 1.91                   | 5.60                      | 2.15                   | 20.15                             | 103.51                              | Vertical                           | 3     | Pass           |
|                         |               | 707.5                            | 17.22                | 1.91                   | 5.70                      | 2.15                   | 18.86                             | 76.91                               | Vertical                           | 3     | Pass           |
|                         |               | 714.5                            | 20.52                | 1.93                   | 5.80                      | 2.15                   | 22.24                             | 167.49                              | Vertical                           | 3     | Pass           |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 701.5                            | 17.73                | 1.91                   | 5.60                      | 2.15                   | 19.27                             | 84.53                               | Vertical                           | 3     | Pass           |
|                         |               | 707.5                            | 18.75                | 1.91                   | 5.70                      | 2.15                   | 20.39                             | 109.40                              | Vertical                           | 3     | Pass           |
|                         |               | 713.5                            | 18.24                | 1.92                   | 5.80                      | 2.15                   | 19.97                             | 99.31                               | Vertical                           | 3     | Pass           |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 704                              | 17.89                | 1.91                   | 5.60                      | 2.15                   | 19.43                             | 87.70                               | Vertical                           | 3     | Pass           |
|                         |               | 707.5                            | 18.10                | 1.91                   | 5.70                      | 2.15                   | 19.74                             | 94.19                               | Vertical                           | 3     | Pass           |
|                         |               | 711                              | 20.83                | 1.92                   | 5.80                      | 2.15                   | 22.56                             | 180.30                              | Vertical                           | 3     | Pass           |

|                           |               | Radiated Power (ERP) for Band 12 |             |                        |                           |            |           |              |                                |       |            |
|---------------------------|---------------|----------------------------------|-------------|------------------------|---------------------------|------------|-----------|--------------|--------------------------------|-------|------------|
| Mode                      | RB/RB<br>SIZE | Frequency                        | Result      |                        |                           |            |           |              |                                |       | Conclusion |
|                           |               |                                  | SG<br>Level | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Correction | Max. EIRP | Max.<br>EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                           |               |                                  |             |                        |                           | (dB)       | Average   | Average      |                                | Limit |            |
|                           |               |                                  |             |                        |                           |            | (dBm)     | (mW)         |                                | (W)   |            |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 699.7                            | 19.45       | 1.91                   | 5.60                      | 2.15       | 20.99     | 125.60       | Horizontal                     | 3     | Pass       |
|                           |               | 707.5                            | 18.77       | 1.91                   | 5.70                      | 2.15       | 20.41     | 109.90       | Horizontal                     | 3     | Pass       |
|                           |               | 715.3                            | 19.53       | 1.93                   | 5.80                      | 2.15       | 21.25     | 133.35       | Horizontal                     | 3     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 700.5                            | 20.72       | 1.91                   | 5.60                      | 2.15       | 22.26     | 168.27       | Horizontal                     | 3     | Pass       |
|                           |               | 707.5                            | 18.94       | 1.91                   | 5.70                      | 2.15       | 20.58     | 114.29       | Horizontal                     | 3     | Pass       |
|                           |               | 714.5                            | 19.13       | 1.93                   | 5.80                      | 2.15       | 20.85     | 121.62       | Horizontal                     | 3     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 701.5                            | 18.41       | 1.91                   | 5.60                      | 2.15       | 19.95     | 98.86        | Horizontal                     | 3     | Pass       |
|                           |               | 707.5                            | 21.52       | 1.91                   | 5.70                      | 2.15       | 23.16     | 207.01       | Horizontal                     | 3     | Pass       |
|                           |               | 713.5                            | 20.25       | 1.92                   | 5.80                      | 2.15       | 21.98     | 157.76       | Horizontal                     | 3     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 704                              | 20.07       | 1.91                   | 5.60                      | 2.15       | 21.61     | 144.88       | Horizontal                     | 3     | Pass       |
|                           |               | 707.5                            | 20.16       | 1.91                   | 5.70                      | 2.15       | 21.8      | 151.36       | Horizontal                     | 3     | Pass       |
|                           |               | 711                              | 20.13       | 1.92                   | 5.80                      | 2.15       | 21.86     | 153.46       | Horizontal                     | 3     | Pass       |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 699.7                            | 18.49       | 1.91                   | 5.60                      | 2.15       | 20.03     | 100.69       | Vertical                       | 3     | Pass       |
|                           |               | 707.5                            | 21.81       | 1.91                   | 5.70                      | 2.15       | 23.45     | 221.31       | Vertical                       | 3     | Pass       |
|                           |               | 715.3                            | 20.11       | 1.93                   | 5.80                      | 2.15       | 21.83     | 152.41       | Vertical                       | 3     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 700.5                            | 21.15       | 1.91                   | 5.60                      | 2.15       | 22.69     | 185.78       | Vertical                       | 3     | Pass       |
|                           |               | 707.5                            | 20.02       | 1.91                   | 5.70                      | 2.15       | 21.66     | 146.55       | Vertical                       | 3     | Pass       |
|                           |               | 714.5                            | 21.74       | 1.93                   | 5.80                      | 2.15       | 23.46     | 221.82       | Vertical                       | 3     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 701.5                            | 20.98       | 1.91                   | 5.60                      | 2.15       | 22.52     | 178.65       | Vertical                       | 3     | Pass       |
|                           |               | 707.5                            | 21.24       | 1.91                   | 5.70                      | 2.15       | 22.88     | 194.09       | Vertical                       | 3     | Pass       |
|                           |               | 713.5                            | 19.57       | 1.92                   | 5.80                      | 2.15       | 21.3      | 134.90       | Vertical                       | 3     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 704                              | 21.95       | 1.91                   | 5.60                      | 2.15       | 23.49     | 223.36       | Vertical                       | 3     | Pass       |
|                           |               | 707.5                            | 20.75       | 1.91                   | 5.70                      | 2.15       | 22.39     | 173.38       | Vertical                       | 3     | Pass       |
|                           |               | 711                              | 20.68       | 1.92                   | 5.80                      | 2.15       | 22.41     | 174.18       | Vertical                       | 3     | Pass       |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

ERP(dBm)=EIRP-2.15

### 8.7 LTE BAND 17

| Radiated Power (ERP) for Band 17 |            |           |          |                  |                     |            |           |           |                          |       |            |
|----------------------------------|------------|-----------|----------|------------------|---------------------|------------|-----------|-----------|--------------------------|-------|------------|
| Mode                             | RB/RB SIZE | Frequency | Result   |                  |                     |            |           |           |                          |       | Conclusion |
|                                  |            |           | SG Level | Cable Loss (dBm) | Antenna Factor (dB) | Correction | Max. EIRP | Max. EIRP | Polarization Of Max. ERP | Limit |            |
|                                  |            |           | (dBm)    |                  |                     |            | Average   | Average   |                          | (W)   |            |
| 5.0MHz Band QPSK                 | 25/0       | 706.5     | 18.60    | 1.91             | 5.60                | 2.15       | 20.14     | 103.28    | Vertical                 | 3     | Pass       |
|                                  |            | 710       | 20.04    | 1.91             | 5.70                | 2.15       | 21.68     | 147.23    | Vertical                 | 3     | Pass       |
|                                  |            | 713.5     | 20.13    | 1.92             | 5.80                | 2.15       | 21.86     | 153.46    | Vertical                 | 3     | Pass       |
| 10.0MHz Band QPSK                | 50/0       | 709       | 18.79    | 1.91             | 5.60                | 2.15       | 20.33     | 107.89    | Vertical                 | 3     | Pass       |
|                                  |            | 710       | 19.21    | 1.91             | 5.70                | 2.15       | 20.85     | 121.62    | Vertical                 | 3     | Pass       |
|                                  |            | 711       | 17.44    | 1.92             | 5.80                | 2.15       | 19.17     | 82.60     | Vertical                 | 3     | Pass       |
| 5.0MHz Band QPSK                 | 25/0       | 706.5     | 18.71    | 1.91             | 5.60                | 2.15       | 20.25     | 105.93    | Horizontal               | 3     | Pass       |
|                                  |            | 710       | 17.57    | 1.91             | 5.70                | 2.15       | 19.21     | 83.37     | Horizontal               | 3     | Pass       |
|                                  |            | 713.5     | 18.87    | 1.92             | 5.80                | 2.15       | 20.6      | 114.82    | Horizontal               | 3     | Pass       |
| 10.0MHz Band QPSK                | 50/0       | 709       | 20.31    | 1.91             | 5.60                | 2.15       | 21.85     | 153.11    | Horizontal               | 3     | Pass       |
|                                  |            | 710       | 20.83    | 1.91             | 5.70                | 2.15       | 22.47     | 176.60    | Horizontal               | 3     | Pass       |
|                                  |            | 711       | 19.37    | 1.92             | 5.80                | 2.15       | 21.1      | 128.82    | Horizontal               | 3     | Pass       |

|                           |               | Radiated Power (ERP) for Band 17 |             |                        |                           |            |           |              |                                    |       |            |
|---------------------------|---------------|----------------------------------|-------------|------------------------|---------------------------|------------|-----------|--------------|------------------------------------|-------|------------|
| Mode                      | RB/RB<br>SIZE | Frequency                        | Result      |                        |                           |            |           |              |                                    |       | Conclusion |
|                           |               |                                  | SG<br>Level | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Correction | Max. EIRP | Max.<br>EIRP | Polarization<br><br>Of Max.<br>ERP |       |            |
|                           |               |                                  |             |                        |                           |            | Average   | Average      |                                    | Limit |            |
|                           |               |                                  |             |                        |                           |            | (dB)      | (dBm)        |                                    | (mW)  |            |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 706.5                            | 16.81       | 1.91                   | 5.6                       | 2.15       | 21.57     | 143.55       | Vertical                           | 3     | Pass       |
|                           |               | 710                              | 16.39       | 1.91                   | 5.7                       | 2.15       | 20.79     | 119.95       | Vertical                           | 3     | Pass       |
|                           |               | 713.5                            | 17.43       | 1.92                   | 5.8                       | 2.15       | 21.96     | 157.04       | Vertical                           | 3     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 709                              | 15.91       | 1.91                   | 5.6                       | 2.15       | 21.52     | 141.91       | Vertical                           | 3     | Pass       |
|                           |               | 710                              | 15.84       | 1.91                   | 5.7                       | 2.15       | 21.67     | 146.89       | Vertical                           | 3     | Pass       |
|                           |               | 711                              | 15.59       | 1.92                   | 5.8                       | 2.15       | 21.7      | 147.91       | Vertical                           | 3     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 706.5                            | 17.52       | 1.91                   | 5.6                       | 2.15       | 21.67     | 146.89       | Horizontal                         | 3     | Pass       |
|                           |               | 710                              | 17.46       | 1.91                   | 5.7                       | 2.15       | 21.64     | 145.88       | Horizontal                         | 3     | Pass       |
|                           |               | 713.5                            | 16.25       | 1.92                   | 5.8                       | 2.15       | 21.58     | 143.88       | Horizontal                         | 3     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 709                              | 17.30       | 1.91                   | 5.6                       | 2.15       | 22.27     | 168.66       | Horizontal                         | 3     | Pass       |
|                           |               | 710                              | 17.57       | 1.91                   | 5.7                       | 2.15       | 22.5      | 177.83       | Horizontal                         | 3     | Pass       |
|                           |               | 711                              | 16.65       | 1.92                   | 5.8                       | 2.15       | 22.04     | 159.96       | Horizontal                         | 3     | Pass       |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

ERP(dBm)=EIRP-2.15

## 8.8 LTE BAND 25

|                         |               | Radiated Power (EIRP) for Band 25 |                      |                        |                           |           |           |                                |       |            |
|-------------------------|---------------|-----------------------------------|----------------------|------------------------|---------------------------|-----------|-----------|--------------------------------|-------|------------|
| Mode                    | RB/RB<br>SIZE | Frequency                         | Result               |                        |                           |           |           |                                |       | Conclusion |
|                         |               |                                   | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP | Max. EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                         |               |                                   |                      |                        |                           | Average   | Average   |                                | Limit |            |
|                         |               |                                   |                      |                        |                           | (dBm)     | (mW)      |                                | (W)   |            |
| 1.4MHz<br>Band<br>QPSK  | 6/0           | 1850.7                            | 15.66                | 3.12                   | 8.90                      | 21.44     | 139.32    | Horizontal                     | 2     | Pass       |
|                         |               | 1882.5                            | 15.00                | 3.27                   | 8.90                      | 20.63     | 115.61    | Horizontal                     | 2     | Pass       |
|                         |               | 1914.3                            | 15.99                | 3.29                   | 8.90                      | 21.60     | 144.54    | Horizontal                     | 2     | Pass       |
| 3.0MHz<br>Band<br>QPSK  | 15/0          | 1851.5                            | 15.08                | 3.13                   | 8.90                      | 20.85     | 121.62    | Horizontal                     | 2     | Pass       |
|                         |               | 1882.5                            | 16.37                | 3.27                   | 8.90                      | 22.00     | 158.49    | Horizontal                     | 2     | Pass       |
|                         |               | 1913.5                            | 14.90                | 3.30                   | 8.90                      | 20.50     | 112.20    | Horizontal                     | 2     | Pass       |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 1852.5                            | 14.18                | 3.13                   | 8.90                      | 19.95     | 98.86     | Horizontal                     | 2     | Pass       |
|                         |               | 1882.5                            | 14.89                | 3.27                   | 8.90                      | 20.52     | 112.72    | Horizontal                     | 2     | Pass       |
|                         |               | 1912.5                            | 14.92                | 3.30                   | 8.90                      | 20.52     | 112.72    | Horizontal                     | 2     | Pass       |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 1855                              | 15.44                | 3.15                   | 8.90                      | 21.19     | 131.52    | Horizontal                     | 2     | Pass       |
|                         |               | 1882.5                            | 15.24                | 3.31                   | 8.90                      | 20.83     | 121.06    | Horizontal                     | 2     | Pass       |
|                         |               | 1910                              | 15.28                | 3.33                   | 8.90                      | 20.85     | 121.62    | Horizontal                     | 2     | Pass       |
| 15.0MHz<br>Band<br>QPSK | 75/0          | 1857.5                            | 16.33                | 3.15                   | 8.90                      | 22.08     | 161.44    | Horizontal                     | 2     | Pass       |
|                         |               | 1882.5                            | 15.88                | 3.31                   | 8.90                      | 21.47     | 140.28    | Horizontal                     | 2     | Pass       |
|                         |               | 1907.5                            | 16.36                | 3.33                   | 8.90                      | 21.93     | 155.96    | Horizontal                     | 2     | Pass       |
| 20.0MHz<br>Band<br>QPSK | 100/0         | 1860                              | 13.45                | 3.17                   | 8.90                      | 19.18     | 82.79     | Horizontal                     | 2     | Pass       |
|                         |               | 1882.5                            | 14.88                | 3.32                   | 8.90                      | 20.46     | 111.17    | Horizontal                     | 2     | Pass       |
|                         |               | 1905                              | 15.07                | 3.36                   | 8.90                      | 20.61     | 115.08    | Horizontal                     | 2     | Pass       |
| 1.4MHz<br>Band<br>QPSK  | 6/0           | 1850.7                            | 15.40                | 3.12                   | 8.90                      | 21.18     | 131.22    | Vertical                       | 2     | Pass       |
|                         |               | 1882.5                            | 14.74                | 3.27                   | 8.90                      | 20.37     | 108.89    | Vertical                       | 2     | Pass       |
|                         |               | 1914.3                            | 14.69                | 3.29                   | 8.90                      | 20.30     | 107.15    | Vertical                       | 2     | Pass       |
| 3.0MHz<br>Band<br>QPSK  | 15/0          | 1851.5                            | 15.35                | 3.13                   | 8.90                      | 21.12     | 129.42    | Vertical                       | 2     | Pass       |
|                         |               | 1882.5                            | 15.77                | 3.27                   | 8.90                      | 21.40     | 138.04    | Vertical                       | 2     | Pass       |
|                         |               | 1913.5                            | 14.95                | 3.30                   | 8.90                      | 20.55     | 113.50    | Vertical                       | 2     | Pass       |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 1852.5                            | 15.61                | 3.13                   | 8.90                      | 21.38     | 137.40    | Vertical                       | 2     | Pass       |
|                         |               | 1882.5                            | 14.89                | 3.27                   | 8.90                      | 20.52     | 112.72    | Vertical                       | 2     | Pass       |
|                         |               | 1912.5                            | 14.47                | 3.30                   | 8.90                      | 20.07     | 101.62    | Vertical                       | 2     | Pass       |
| 10.0MHz<br>Band         | 50/0          | 1855                              | 14.67                | 3.15                   | 8.90                      | 20.42     | 110.15    | Vertical                       | 2     | Pass       |
|                         |               | 1882.5                            | 16.29                | 3.31                   | 8.90                      | 21.88     | 154.17    | Vertical                       | 2     | Pass       |

|         |       |        |       |      |      |       |        |          |   |      |
|---------|-------|--------|-------|------|------|-------|--------|----------|---|------|
| QPSK    |       | 1910   | 14.05 | 3.33 | 8.90 | 19.62 | 91.62  | Vertical | 2 | Pass |
| 15.0MHz | 75/0  | 1857.5 | 14.60 | 3.15 | 8.90 | 20.35 | 108.39 | Vertical | 2 | Pass |
| Band    |       | 1882.5 | 15.73 | 3.31 | 8.90 | 21.32 | 135.52 | Vertical | 2 | Pass |
| QPSK    |       | 1907.5 | 14.06 | 3.33 | 8.90 | 19.63 | 91.83  | Vertical | 2 | Pass |
| 20.0MHz | 100/0 | 1860   | 12.94 | 3.17 | 8.90 | 18.67 | 73.62  | Vertical | 2 | Pass |
| Band    |       | 1882.5 | 16.03 | 3.32 | 8.90 | 21.61 | 144.88 | Vertical | 2 | Pass |
| QPSK    |       | 1905   | 16.71 | 3.36 | 8.90 | 22.25 | 167.88 | Vertical | 2 | Pass |

|                           |               | Radiated Power (EIRP) for Band 25 |             |                        |                           |           |              |                                |       |            |
|---------------------------|---------------|-----------------------------------|-------------|------------------------|---------------------------|-----------|--------------|--------------------------------|-------|------------|
| Mode                      | RB/RB<br>SIZE | Frequency                         | Result      |                        |                           |           |              |                                |       | Conclusion |
|                           |               |                                   | SG<br>Level | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP | Max.<br>EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                           |               |                                   |             |                        |                           | Average   | Average      |                                | Limit |            |
|                           |               |                                   |             |                        |                           | (dBm)     | (mW)         |                                | (W)   |            |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 1850.7                            | 15.15       | 3.12                   | 8.90                      | 20.93     | 123.88       | Horizontal                     | 2     | Pass       |
|                           |               | 1882.5                            | 14.35       | 3.27                   | 8.90                      | 19.98     | 99.54        | Horizontal                     | 2     | Pass       |
|                           |               | 1914.3                            | 15.00       | 3.29                   | 8.90                      | 20.61     | 115.08       | Horizontal                     | 2     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 1851.5                            | 15.04       | 3.13                   | 8.90                      | 20.81     | 120.50       | Horizontal                     | 2     | Pass       |
|                           |               | 1882.5                            | 15.88       | 3.27                   | 8.90                      | 21.51     | 141.58       | Horizontal                     | 2     | Pass       |
|                           |               | 1913.5                            | 15.62       | 3.30                   | 8.90                      | 21.22     | 132.43       | Horizontal                     | 2     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 1852.5                            | 15.35       | 3.13                   | 8.90                      | 21.12     | 129.42       | Horizontal                     | 2     | Pass       |
|                           |               | 1882.5                            | 15.82       | 3.27                   | 8.90                      | 21.45     | 139.64       | Horizontal                     | 2     | Pass       |
|                           |               | 1912.5                            | 15.56       | 3.30                   | 8.90                      | 21.16     | 130.62       | Horizontal                     | 2     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 1855                              | 15.75       | 3.15                   | 8.90                      | 21.5      | 141.25       | Horizontal                     | 2     | Pass       |
|                           |               | 1882.5                            | 14.52       | 3.31                   | 8.90                      | 20.11     | 102.57       | Horizontal                     | 2     | Pass       |
|                           |               | 1910                              | 14.34       | 3.33                   | 8.90                      | 19.91     | 97.95        | Horizontal                     | 2     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 1857.5                            | 15.82       | 3.15                   | 8.90                      | 21.57     | 143.55       | Horizontal                     | 2     | Pass       |
|                           |               | 1882.5                            | 15.67       | 3.31                   | 8.90                      | 21.26     | 133.66       | Horizontal                     | 2     | Pass       |
|                           |               | 1907.5                            | 14.42       | 3.33                   | 8.90                      | 19.99     | 99.77        | Horizontal                     | 2     | Pass       |
| 20.0MHz<br>Band 16<br>QAM | 100/0         | 1860                              | 14.43       | 3.17                   | 8.90                      | 20.16     | 103.75       | Horizontal                     | 2     | Pass       |
|                           |               | 1882.5                            | 15.65       | 3.32                   | 8.90                      | 21.23     | 132.74       | Horizontal                     | 2     | Pass       |
|                           |               | 1905                              | 13.97       | 3.36                   | 8.90                      | 19.51     | 89.33        | Horizontal                     | 2     | Pass       |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 1850.7                            | 15.27       | 3.12                   | 8.90                      | 21.05     | 127.35       | Vertical                       | 2     | Pass       |
|                           |               | 1882.5                            | 14.82       | 3.27                   | 8.90                      | 20.45     | 110.92       | Vertical                       | 2     | Pass       |
|                           |               | 1914.3                            | 14.58       | 3.29                   | 8.90                      | 20.19     | 104.47       | Vertical                       | 2     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 1851.5                            | 15.12       | 3.13                   | 8.90                      | 20.89     | 122.74       | Vertical                       | 2     | Pass       |
|                           |               | 1882.5                            | 15.93       | 3.27                   | 8.90                      | 21.56     | 143.22       | Vertical                       | 2     | Pass       |
|                           |               | 1913.5                            | 15.38       | 3.30                   | 8.90                      | 20.98     | 125.31       | Vertical                       | 2     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 1852.5                            | 15.42       | 3.13                   | 8.90                      | 21.19     | 131.52       | Vertical                       | 2     | Pass       |
|                           |               | 1882.5                            | 14.63       | 3.27                   | 8.90                      | 20.26     | 106.17       | Vertical                       | 2     | Pass       |
|                           |               | 1912.5                            | 15.60       | 3.30                   | 8.90                      | 21.2      | 131.83       | Vertical                       | 2     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 1855                              | 14.51       | 3.15                   | 8.90                      | 20.26     | 106.17       | Vertical                       | 2     | Pass       |
|                           |               | 1882.5                            | 15.83       | 3.31                   | 8.90                      | 21.42     | 138.68       | Vertical                       | 2     | Pass       |
|                           |               | 1910                              | 15.71       | 3.33                   | 8.90                      | 21.28     | 134.28       | Vertical                       | 2     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 1857.5                            | 14.13       | 3.15                   | 8.90                      | 19.88     | 97.27        | Vertical                       | 2     | Pass       |
|                           |               | 1882.5                            | 15.10       | 3.31                   | 8.90                      | 20.69     | 117.22       | Vertical                       | 2     | Pass       |
|                           |               | 1907.5                            | 14.76       | 3.33                   | 8.90                      | 20.33     | 107.89       | Vertical                       | 2     | Pass       |

|                           |       |        |       |      |      |       |        |          |   |      |
|---------------------------|-------|--------|-------|------|------|-------|--------|----------|---|------|
| 20.0MHz<br>Band 16<br>QAM | 100/0 | 1860   | 15.58 | 3.17 | 8.90 | 21.31 | 135.21 | Vertical | 2 | Pass |
|                           |       | 1882.5 | 16.40 | 3.32 | 8.90 | 21.98 | 157.76 | Vertical | 2 | Pass |
|                           |       | 1905   | 15.11 | 3.36 | 8.90 | 20.65 | 116.14 | Vertical | 2 | Pass |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

## 8.9 LTE BAND 26 A

| Radiated Power (ERP) for Band 26(814-824) |            |           |          |            |                |            |           |           |              |              |            |
|-------------------------------------------|------------|-----------|----------|------------|----------------|------------|-----------|-----------|--------------|--------------|------------|
| Mode                                      | RB/RB SIZE | Frequency | Result   |            |                |            |           |           |              | Limit<br>(W) | Conclusion |
|                                           |            |           | SG Level | Cable Loss | Antenna Factor | Correction | Max. EIRP | Max. EIRP | Polarization |              |            |
|                                           |            |           | (dBm)    | (dBm)      | (dB)           | (dB)       | Average   | Average   | Of Max. ERP  |              |            |
| 1.4MHz<br>BW<br>QPSK                      | 6/0        | 814.7     | 22.03    | 3.76       | 5.30           | 2.15       | 21.42     | 138.68    | Horizontal   | 100          | Pass       |
|                                           |            | 819       | 22.06    | 3.91       | 5.30           | 2.15       | 21.30     | 134.90    | Horizontal   | 100          | Pass       |
|                                           |            | 823.3     | 22.37    | 3.93       | 5.70           | 2.15       | 21.99     | 158.12    | Horizontal   | 100          | Pass       |
| 3.0MHz<br>BW<br>QPSK                      | 15/0       | 815.5     | 22.33    | 3.77       | 5.30           | 2.15       | 21.71     | 148.25    | Horizontal   | 100          | Pass       |
|                                           |            | 819       | 22.33    | 3.91       | 5.30           | 2.15       | 21.57     | 143.55    | Horizontal   | 100          | Pass       |
|                                           |            | 822.5     | 22.82    | 3.94       | 5.70           | 2.15       | 22.43     | 174.98    | Horizontal   | 100          | Pass       |
| 5.0MHz<br>BW<br>QPSK                      | 25/0       | 816.5     | 21.85    | 3.77       | 5.30           | 2.15       | 21.23     | 132.74    | Horizontal   | 100          | Pass       |
|                                           |            | 819       | 21.69    | 3.91       | 5.30           | 2.15       | 20.93     | 123.88    | Horizontal   | 100          | Pass       |
|                                           |            | 821.5     | 21.71    | 3.94       | 5.70           | 2.15       | 21.32     | 135.52    | Horizontal   | 100          | Pass       |
| 10.0MHz<br>BW<br>QPSK                     | 50/0       | 819       | 22.45    | 3.91       | 5.30           | 2.15       | 21.69     | 147.57    | Horizontal   | 100          | Pass       |
| 1.4MHz<br>BW<br>QPSK                      | 6/0        | 814.7     | 22.35    | 3.79       | 5.30           | 2.15       | 21.71     | 148.25    | Vertical     | 100          | Pass       |
|                                           |            | 819       | 22.50    | 3.95       | 5.70           | 2.15       | 22.10     | 162.18    | Vertical     | 100          | Pass       |
|                                           |            | 823.3     | 23.17    | 3.97       | 5.30           | 2.15       | 22.35     | 171.79    | Vertical     | 100          | Pass       |
| 3.0MHz<br>BW<br>QPSK                      | 15/0       | 815.5     | 22.76    | 3.77       | 5.30           | 2.15       | 22.14     | 163.68    | Vertical     | 100          | Pass       |
|                                           |            | 819       | 21.92    | 3.91       | 5.70           | 2.15       | 21.56     | 143.22    | Vertical     | 100          | Pass       |
|                                           |            | 822.5     | 22.67    | 3.94       | 5.30           | 2.15       | 21.88     | 154.17    | Vertical     | 100          | Pass       |
| 5.0MHz<br>BW<br>QPSK                      | 25/0       | 816.5     | 23.05    | 3.77       | 5.30           | 2.15       | 22.43     | 174.98    | Vertical     | 100          | Pass       |
|                                           |            | 819       | 22.19    | 3.91       | 5.70           | 2.15       | 21.83     | 152.41    | Vertical     | 100          | Pass       |
|                                           |            | 821.5     | 22.95    | 3.94       | 5.30           | 2.15       | 22.16     | 164.44    | Vertical     | 100          | Pass       |
| 10.0MHz<br>BW<br>QPSK                     | 50/0       | 819       | 23.62    | 3.91       | 5.30           | 2.15       | 22.86     | 193.20    | Vertical     | 100          | Pass       |

|                         |               | Radiated Power (ERP) for Band 26(814-824) |             |                        |                           |            |           |              |                                |       |            |
|-------------------------|---------------|-------------------------------------------|-------------|------------------------|---------------------------|------------|-----------|--------------|--------------------------------|-------|------------|
| Mode                    | RB/RB<br>SIZE | Frequency                                 | Result      |                        |                           |            |           |              |                                |       | Conclusion |
|                         |               |                                           | SG<br>Level | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Correction | Max. EIRP | Max.<br>EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                         |               |                                           | (dBm)       |                        |                           | (dB)       | Average   | Average      |                                | Limit |            |
|                         |               |                                           |             |                        |                           |            | (dBm)     | (mW)         |                                | (W)   |            |
| 1.4MHz<br>BW 16<br>QAM  | 6/0           | 814.7                                     | 22.74       | 3.76                   | 5.30                      | 2.15       | 22.13     | 163.31       | Horizontal                     | 100   | Pass       |
|                         |               | 819                                       | 23.43       | 3.91                   | 5.30                      | 2.15       | 22.67     | 184.93       | Horizontal                     | 100   | Pass       |
|                         |               | 823.3                                     | 22.69       | 3.93                   | 5.70                      | 2.15       | 22.31     | 170.22       | Horizontal                     | 100   | Pass       |
| 3.0MHz<br>BW 16<br>QAM  | 15/0          | 815.5                                     | 22.37       | 3.77                   | 5.30                      | 2.15       | 21.75     | 149.62       | Horizontal                     | 100   | Pass       |
|                         |               | 819                                       | 23.32       | 3.91                   | 5.30                      | 2.15       | 22.56     | 180.30       | Horizontal                     | 100   | Pass       |
|                         |               | 822.5                                     | 22.35       | 3.94                   | 5.70                      | 2.15       | 21.96     | 157.04       | Horizontal                     | 100   | Pass       |
| 5.0MHz<br>BW 16<br>QAM  | 25/0          | 816.5                                     | 23.21       | 3.77                   | 5.30                      | 2.15       | 22.59     | 181.55       | Horizontal                     | 100   | Pass       |
|                         |               | 819                                       | 21.82       | 3.91                   | 5.30                      | 2.15       | 21.06     | 127.64       | Horizontal                     | 100   | Pass       |
|                         |               | 821.5                                     | 23.03       | 3.94                   | 5.70                      | 2.15       | 22.64     | 183.65       | Horizontal                     | 100   | Pass       |
| 10.0MHz<br>BW 16<br>QAM | 50/0          | 819                                       | 22.66       | 3.91                   | 5.30                      | 2.15       | 21.90     | 154.88       | Horizontal                     | 100   | Pass       |
| 1.4MHz<br>BW 16<br>QAM  | 6/0           | 814.7                                     | 22.55       | 3.79                   | 5.30                      | 2.15       | 21.91     | 155.24       | Vertical                       | 100   | Pass       |
|                         |               | 819                                       | 22.94       | 3.95                   | 5.70                      | 2.15       | 22.54     | 179.47       | Vertical                       | 100   | Pass       |
|                         |               | 823.3                                     | 22.55       | 3.97                   | 5.30                      | 2.15       | 21.73     | 148.94       | Vertical                       | 100   | Pass       |
| 3.0MHz<br>BW 16<br>QAM  | 15/0          | 815.5                                     | 23.00       | 3.77                   | 5.30                      | 2.15       | 22.38     | 172.98       | Vertical                       | 100   | Pass       |
|                         |               | 819                                       | 21.70       | 3.91                   | 5.70                      | 2.15       | 21.34     | 136.14       | Vertical                       | 100   | Pass       |
|                         |               | 822.5                                     | 22.63       | 3.94                   | 5.30                      | 2.15       | 21.84     | 152.76       | Vertical                       | 100   | Pass       |
| 5.0MHz<br>BW 16<br>QAM  | 25/0          | 816.5                                     | 22.48       | 3.77                   | 5.30                      | 2.15       | 21.86     | 153.46       | Vertical                       | 100   | Pass       |
|                         |               | 819                                       | 22.16       | 3.91                   | 5.70                      | 2.15       | 21.80     | 151.36       | Vertical                       | 100   | Pass       |
|                         |               | 821.5                                     | 22.90       | 3.94                   | 5.30                      | 2.15       | 22.11     | 162.55       | Vertical                       | 100   | Pass       |
| 10.0MHz<br>BW 16<br>QAM | 50/0          | 819                                       | 23.68       | 3.91                   | 5.30                      | 2.15       | 22.92     | 195.88       | Vertical                       | 100   | Pass       |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

ERP(dBm)=EIRP-2.15

## 8.10 LTE BAND 26 B

|                      |                   | Radiated Power (ERP) for Band 26(824-849) |             |                        |                            |            |             |             |                                 |       |            |
|----------------------|-------------------|-------------------------------------------|-------------|------------------------|----------------------------|------------|-------------|-------------|---------------------------------|-------|------------|
| Mode                 | RB/R<br>B<br>SIZE | Frequency                                 | Result      |                        |                            |            |             |             |                                 |       | Conclusion |
|                      |                   |                                           | SG<br>Level | Cable<br>Loss<br>(dBm) | Antenn<br>a Factor<br>(dB) | Correction | Max.<br>ERP | Max.<br>ERP | Polarizati<br>on Of<br>Max. ERP |       |            |
|                      |                   |                                           |             |                        |                            | (dB)       | Average     | Average     |                                 | Limit |            |
|                      |                   |                                           |             |                        |                            |            | (dBm)       | (mW)        |                                 |       |            |
| 1.4MHz<br>Band QPSK  | 6/0               | 824.7                                     | 21.92       | 2.01                   | 5.30                       | 2.15       | 23.06       | 202.30      | Horizontal                      | 7     | Pass       |
|                      |                   | 836.5                                     | 20.46       | 2.01                   | 5.30                       | 2.15       | 21.60       | 144.54      | Horizontal                      | 7     | Pass       |
|                      |                   | 848.3                                     | 20.52       | 2.02                   | 5.70                       | 2.15       | 22.05       | 160.32      | Horizontal                      | 7     | Pass       |
| 3.0MHz<br>Band QPSK  | 15/0              | 825.5                                     | 20.64       | 2.01                   | 5.30                       | 2.15       | 21.78       | 150.66      | Horizontal                      | 7     | Pass       |
|                      |                   | 836.5                                     | 21.27       | 2.01                   | 5.30                       | 2.15       | 22.41       | 174.18      | Horizontal                      | 7     | Pass       |
|                      |                   | 847.5                                     | 20.51       | 2.02                   | 5.70                       | 2.15       | 22.04       | 159.96      | Horizontal                      | 7     | Pass       |
| 5.0MHz<br>Band QPSK  | 25/0              | 826.5                                     | 19.68       | 2.01                   | 5.30                       | 2.15       | 20.82       | 120.78      | Horizontal                      | 7     | Pass       |
|                      |                   | 836.5                                     | 19.19       | 2.01                   | 5.30                       | 2.15       | 20.33       | 107.89      | Horizontal                      | 7     | Pass       |
|                      |                   | 846.5                                     | 21.01       | 2.02                   | 5.70                       | 2.15       | 22.54       | 179.47      | Horizontal                      | 7     | Pass       |
| 10.0MHz<br>Band QPSK | 50/0              | 829                                       | 20.01       | 2.01                   | 5.30                       | 2.15       | 21.15       | 130.32      | Horizontal                      | 7     | Pass       |
|                      |                   | 836.5                                     | 19.69       | 2.01                   | 5.30                       | 2.15       | 20.83       | 121.06      | Horizontal                      | 7     | Pass       |
|                      |                   | 844                                       | 19.02       | 2.02                   | 5.70                       | 2.15       | 20.55       | 113.50      | Horizontal                      | 7     | Pass       |
| 15.0MHz<br>Band QPSK | 75/0              | 831.5                                     | 21.45       | 2.01                   | 5.30                       | 2.15       | 22.59       | 181.55      | Vertical                        | 7     | Pass       |
|                      |                   | 836.5                                     | 20.61       | 2.01                   | 5.30                       | 2.15       | 21.75       | 149.62      | Vertical                        | 7     | Pass       |
|                      |                   | 841.5                                     | 20.45       | 2.02                   | 5.70                       | 2.15       | 21.98       | 157.76      | Vertical                        | 7     | Pass       |
| 1.4MHz<br>Band QPSK  | 6/0               | 824.7                                     | 20.98       | 2.01                   | 5.30                       | 2.15       | 22.12       | 162.93      | Vertical                        | 7     | Pass       |
|                      |                   | 836.5                                     | 21.10       | 2.01                   | 5.30                       | 2.15       | 22.24       | 167.49      | Vertical                        | 7     | Pass       |
|                      |                   | 848.3                                     | 20.93       | 2.02                   | 5.70                       | 2.15       | 22.46       | 176.20      | Vertical                        | 7     | Pass       |
| 3.0MHz<br>Band QPSK  | 15/0              | 825.5                                     | 20.09       | 2.01                   | 5.30                       | 2.15       | 21.23       | 132.74      | Vertical                        | 7     | Pass       |
|                      |                   | 836.5                                     | 20.48       | 2.01                   | 5.30                       | 2.15       | 21.62       | 145.21      | Vertical                        | 7     | Pass       |
|                      |                   | 847.5                                     | 20.63       | 2.02                   | 5.70                       | 2.15       | 22.16       | 164.44      | Vertical                        | 7     | Pass       |
| 5.0MHz<br>Band QPSK  | 25/0              | 826.5                                     | 20.41       | 2.01                   | 5.30                       | 2.15       | 21.55       | 142.89      | Vertical                        | 7     | Pass       |
|                      |                   | 836.5                                     | 21.17       | 2.01                   | 5.30                       | 2.15       | 22.31       | 170.22      | Vertical                        | 7     | Pass       |
|                      |                   | 846.5                                     | 20.16       | 2.02                   | 5.70                       | 2.15       | 21.69       | 147.57      | Vertical                        | 7     | Pass       |
| 10.0MHz<br>Band QPSK | 50/0              | 829                                       | 20.64       | 2.01                   | 5.30                       | 2.15       | 21.78       | 150.66      | Vertical                        | 7     | Pass       |
|                      |                   | 836.5                                     | 22.01       | 2.01                   | 5.30                       | 2.15       | 23.15       | 206.54      | Vertical                        | 7     | Pass       |
|                      |                   | 844                                       | 21.76       | 2.02                   | 5.70                       | 2.15       | 23.29       | 213.30      | Vertical                        | 7     | Pass       |
| 15.0MHz<br>Band QPSK | 75/0              | 831.5                                     | 21.00       | 2.01                   | 5.30                       | 2.15       | 22.14       | 163.68      | Vertical                        | 7     | Pass       |
|                      |                   | 836.5                                     | 22.61       | 2.01                   | 5.30                       | 2.15       | 23.75       | 237.14      | Vertical                        | 7     | Pass       |
|                      |                   | 841.5                                     | 20.18       | 2.02                   | 5.70                       | 2.15       | 21.71       | 148.25      | Vertical                        | 7     | Pass       |

|                           |                   | Radiated Power (ERP) for Band 26(824-849) |             |                        |                               |                |              |              |                                 |       |            |
|---------------------------|-------------------|-------------------------------------------|-------------|------------------------|-------------------------------|----------------|--------------|--------------|---------------------------------|-------|------------|
| Mode                      | RB/R<br>B<br>SIZE | Freque<br>nc<br>y                         | Result      |                        |                               |                |              |              |                                 |       | Conclusion |
|                           |                   |                                           | SG<br>Level | Cable<br>Loss<br>(dBm) | Anten<br>na<br>Factor<br>(dB) | Correctio<br>n | Max.<br>EIRP | Max.<br>EIRP | Polarizatio<br>n Of Max.<br>ERP |       |            |
|                           |                   |                                           | (dBm)       |                        |                               | (dB)           | Average      | Average      |                                 | Limit |            |
|                           |                   |                                           |             |                        |                               |                | (dBm)        | (mW)         |                                 | (W)   |            |
| 1.4MHz<br>Band 16<br>QAM  | 6/0               | 824.7                                     | 21.40       | 2.01                   | 5.30                          | 2.15           | 22.54        | 179.47       | Horizontal                      | 7     | Pass       |
|                           |                   | 836.5                                     | 19.84       | 2.01                   | 5.30                          | 2.15           | 20.98        | 125.31       | Horizontal                      | 7     | Pass       |
|                           |                   | 848.3                                     | 19.40       | 2.02                   | 5.70                          | 2.15           | 20.93        | 123.88       | Horizontal                      | 7     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0              | 825.5                                     | 18.90       | 2.01                   | 5.30                          | 2.15           | 20.04        | 100.93       | Horizontal                      | 7     | Pass       |
|                           |                   | 836.5                                     | 20.68       | 2.01                   | 5.30                          | 2.15           | 21.82        | 152.05       | Horizontal                      | 7     | Pass       |
|                           |                   | 847.5                                     | 20.17       | 2.02                   | 5.70                          | 2.15           | 21.70        | 147.91       | Horizontal                      | 7     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0              | 826.5                                     | 19.81       | 2.01                   | 5.30                          | 2.15           | 20.95        | 124.45       | Horizontal                      | 7     | Pass       |
|                           |                   | 836.5                                     | 19.85       | 2.01                   | 5.30                          | 2.15           | 20.99        | 125.60       | Horizontal                      | 7     | Pass       |
|                           |                   | 846.5                                     | 18.62       | 2.02                   | 5.70                          | 2.15           | 20.15        | 103.51       | Horizontal                      | 7     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0              | 829                                       | 19.28       | 2.01                   | 5.30                          | 2.15           | 20.42        | 110.15       | Horizontal                      | 7     | Pass       |
|                           |                   | 836.5                                     | 21.75       | 2.01                   | 5.30                          | 2.15           | 22.89        | 194.54       | Horizontal                      | 7     | Pass       |
|                           |                   | 844                                       | 19.77       | 2.02                   | 5.70                          | 2.15           | 21.30        | 134.90       | Horizontal                      | 7     | Pass       |
| 15.0MHz<br>Band QPSK      | 75/0              | 831.5                                     | 19.94       | 2.01                   | 5.30                          | 2.15           | 21.08        | 128.23       | Horizontal                      | 7     | Pass       |
|                           |                   | 836.5                                     | 20.20       | 2.01                   | 5.30                          | 2.15           | 21.34        | 136.14       | Horizontal                      | 7     | Pass       |
|                           |                   | 841.5                                     | 20.21       | 2.02                   | 5.70                          | 2.15           | 21.74        | 149.28       | Horizontal                      | 7     | Pass       |
| 1.4MHz<br>Band 16<br>QAM  | 6/0               | 824.7                                     | 19.63       | 2.01                   | 5.30                          | 2.15           | 20.77        | 119.40       | Vertical                        | 7     | Pass       |
|                           |                   | 836.5                                     | 21.32       | 2.01                   | 5.30                          | 2.15           | 22.46        | 176.20       | Vertical                        | 7     | Pass       |
|                           |                   | 848.3                                     | 20.59       | 2.02                   | 5.70                          | 2.15           | 22.12        | 162.93       | Vertical                        | 7     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0              | 825.5                                     | 19.66       | 2.01                   | 5.30                          | 2.15           | 20.80        | 120.23       | Vertical                        | 7     | Pass       |
|                           |                   | 836.5                                     | 19.37       | 2.01                   | 5.30                          | 2.15           | 20.51        | 112.46       | Vertical                        | 7     | Pass       |
|                           |                   | 847.5                                     | 19.68       | 2.02                   | 5.70                          | 2.15           | 21.21        | 132.13       | Vertical                        | 7     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0              | 826.5                                     | 20.38       | 2.01                   | 5.30                          | 2.15           | 21.52        | 141.91       | Vertical                        | 7     | Pass       |
|                           |                   | 836.5                                     | 19.43       | 2.01                   | 5.30                          | 2.15           | 20.57        | 114.02       | Vertical                        | 7     | Pass       |
|                           |                   | 846.5                                     | 21.71       | 2.02                   | 5.70                          | 2.15           | 23.24        | 210.86       | Vertical                        | 7     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0              | 829                                       | 22.03       | 2.01                   | 5.30                          | 2.15           | 23.17        | 207.49       | Vertical                        | 7     | Pass       |
|                           |                   | 836.5                                     | 21.72       | 2.01                   | 5.30                          | 2.15           | 22.86        | 193.20       | Vertical                        | 7     | Pass       |
|                           |                   | 844                                       | 19.28       | 2.02                   | 5.70                          | 2.15           | 20.81        | 120.50       | Vertical                        | 7     | Pass       |
| 15.0MHz<br>Band QPSK      | 75/0              | 831.5                                     | 20.80       | 2.01                   | 5.30                          | 2.15           | 21.94        | 156.31       | Vertical                        | 7     | Pass       |
|                           |                   | 836.5                                     | 20.92       | 2.01                   | 5.30                          | 2.15           | 22.06        | 160.69       | Vertical                        | 7     | Pass       |
|                           |                   | 841.5                                     | 22.24       | 2.02                   | 5.70                          | 2.15           | 23.77        | 238.23       | Vertical                        | 7     | Pass       |

Note: SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

ERP(dBm)=EIRP-2.15

### 8.11 LTE BAND 41

|                         |               | Radiated Power (EIRP) for Band 41 |                      |                        |                           |           |           |                                |       |            |
|-------------------------|---------------|-----------------------------------|----------------------|------------------------|---------------------------|-----------|-----------|--------------------------------|-------|------------|
| Mode                    | RB/RB<br>SIZE | Frequency                         | Result               |                        |                           |           |           |                                |       | Conclusion |
|                         |               |                                   | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP | Max. EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                         |               |                                   |                      |                        |                           | Average   | Average   |                                | Limit |            |
|                         |               |                                   |                      |                        |                           | (dBm)     | (mW)      |                                | (W)   |            |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 2537.50                           | 17.34                | 4.54                   | 9.00                      | 21.8      | 151.36    | Horizontal                     | 2     | Pass       |
|                         |               | 2595.00                           | 16.78                | 4.69                   | 9.00                      | 21.09     | 128.53    | Horizontal                     | 2     | Pass       |
|                         |               | 2652.50                           | 15.74                | 4.71                   | 9.00                      | 20.03     | 100.69    | Horizontal                     | 2     | Pass       |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 2540.00                           | 17.07                | 4.55                   | 9.00                      | 21.52     | 141.91    | Horizontal                     | 2     | Pass       |
|                         |               | 2595.00                           | 16.65                | 4.69                   | 9.00                      | 20.96     | 124.74    | Horizontal                     | 2     | Pass       |
|                         |               | 2650.00                           | 15.44                | 4.72                   | 9.00                      | 19.72     | 93.76     | Horizontal                     | 2     | Pass       |
| 15.0MHz<br>Band<br>QPSK | 75/0          | 2542.50                           | 14.58                | 4.55                   | 9.00                      | 19.03     | 79.98     | Horizontal                     | 2     | Pass       |
|                         |               | 2595.00                           | 16.56                | 4.69                   | 9.00                      | 20.87     | 122.18    | Horizontal                     | 2     | Pass       |
|                         |               | 2647.50                           | 17.20                | 4.72                   | 9.00                      | 21.48     | 140.60    | Horizontal                     | 2     | Pass       |
| 20.0MHz<br>Band<br>QPSK | 100/0         | 2545.00                           | 15.53                | 4.57                   | 9.00                      | 19.96     | 99.08     | Horizontal                     | 2     | Pass       |
|                         |               | 2595.00                           | 16.30                | 4.73                   | 9.00                      | 20.57     | 114.02    | Horizontal                     | 2     | Pass       |
|                         |               | 2645.00                           | 16.91                | 4.75                   | 9.00                      | 21.16     | 130.62    | Horizontal                     | 2     | Pass       |
| 5.0MHz<br>Band<br>QPSK  | 25/0          | 2537.50                           | 17.35                | 4.54                   | 9.00                      | 21.81     | 151.71    | Vertical                       | 2     | Pass       |
|                         |               | 2595.00                           | 15.58                | 4.69                   | 9.00                      | 19.89     | 97.50     | Vertical                       | 2     | Pass       |
|                         |               | 2652.50                           | 15.60                | 4.71                   | 9.00                      | 19.89     | 97.50     | Vertical                       | 2     | Pass       |
| 10.0MHz<br>Band<br>QPSK | 50/0          | 2540.00                           | 14.90                | 4.55                   | 9.00                      | 19.35     | 86.10     | Vertical                       | 2     | Pass       |
|                         |               | 2595.00                           | 15.42                | 4.69                   | 9.00                      | 19.73     | 93.97     | Vertical                       | 2     | Pass       |
|                         |               | 2650.00                           | 16.42                | 4.72                   | 9.00                      | 20.7      | 117.49    | Vertical                       | 2     | Pass       |
| 15.0MHz<br>Band<br>QPSK | 75/0          | 2542.50                           | 14.89                | 4.55                   | 9.00                      | 19.34     | 85.90     | Vertical                       | 2     | Pass       |
|                         |               | 2595.00                           | 17.57                | 4.69                   | 9.00                      | 21.88     | 154.17    | Vertical                       | 2     | Pass       |
|                         |               | 2647.50                           | 17.25                | 4.72                   | 9.00                      | 21.53     | 142.23    | Vertical                       | 2     | Pass       |
| 20.0MHz<br>Band<br>QPSK | 100/0         | 2545.00                           | 17.55                | 4.57                   | 9.00                      | 21.98     | 157.76    | Vertical                       | 2     | Pass       |
|                         |               | 2595.00                           | 15.75                | 4.73                   | 9.00                      | 20.02     | 100.46    | Vertical                       | 2     | Pass       |
|                         |               | 2645.00                           | 16.44                | 4.75                   | 9.00                      | 20.69     | 117.22    | Vertical                       | 2     | Pass       |

|                           |               | Radiated Power (EIRP) for Band 41 |             |                        |                           |           |              |                                |       |            |
|---------------------------|---------------|-----------------------------------|-------------|------------------------|---------------------------|-----------|--------------|--------------------------------|-------|------------|
| Mode                      | RB/RB<br>SIZE | Frequency                         | Result      |                        |                           |           |              |                                |       | Conclusion |
|                           |               |                                   | SG<br>Level | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP | Max.<br>EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                           |               |                                   |             |                        |                           | Average   | Average      |                                | Limit |            |
|                           |               |                                   |             |                        |                           | (dBm)     | (mW)         |                                | (W)   |            |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 2537.50                           | 16.28       | 4.54                   | 9.00                      | 20.74     | 118.58       | Horizontal                     | 2     | Pass       |
|                           |               | 2595.00                           | 16.89       | 4.69                   | 9.00                      | 21.20     | 131.83       | Horizontal                     | 2     | Pass       |
|                           |               | 2652.50                           | 17.07       | 4.71                   | 9.00                      | 21.36     | 136.77       | Horizontal                     | 2     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 2540.00                           | 17.19       | 4.55                   | 9.00                      | 21.64     | 145.88       | Horizontal                     | 2     | Pass       |
|                           |               | 2595.00                           | 17.81       | 4.69                   | 9.00                      | 22.12     | 162.93       | Horizontal                     | 2     | Pass       |
|                           |               | 2650.00                           | 18.02       | 4.72                   | 9.00                      | 22.30     | 169.82       | Horizontal                     | 2     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 2542.50                           | 16.71       | 4.55                   | 9.00                      | 21.16     | 130.62       | Horizontal                     | 2     | Pass       |
|                           |               | 2595.00                           | 17.49       | 4.69                   | 9.00                      | 21.80     | 151.36       | Horizontal                     | 2     | Pass       |
|                           |               | 2647.50                           | 18.11       | 4.72                   | 9.00                      | 22.39     | 173.38       | Horizontal                     | 2     | Pass       |
| 20.0MHz<br>Band 16<br>QAM | 100/0         | 2545.00                           | 16.36       | 4.57                   | 9.00                      | 20.79     | 119.95       | Horizontal                     | 2     | Pass       |
|                           |               | 2595.00                           | 18.40       | 4.73                   | 9.00                      | 22.67     | 184.93       | Horizontal                     | 2     | Pass       |
|                           |               | 2645.00                           | 17.11       | 4.75                   | 9.00                      | 21.36     | 136.77       | Horizontal                     | 2     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 2537.50                           | 17.58       | 4.54                   | 9.00                      | 22.04     | 159.96       | Vertical                       | 2     | Pass       |
|                           |               | 2595.00                           | 16.21       | 4.69                   | 9.00                      | 20.52     | 112.72       | Vertical                       | 2     | Pass       |
|                           |               | 2652.50                           | 17.43       | 4.71                   | 9.00                      | 21.72     | 148.59       | Vertical                       | 2     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 2540.00                           | 16.69       | 4.55                   | 9.00                      | 21.14     | 130.02       | Vertical                       | 2     | Pass       |
|                           |               | 2595.00                           | 17.27       | 4.69                   | 9.00                      | 21.58     | 143.88       | Vertical                       | 2     | Pass       |
|                           |               | 2650.00                           | 15.35       | 4.72                   | 9.00                      | 19.63     | 91.83        | Vertical                       | 2     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 2542.50                           | 16.34       | 4.55                   | 9.00                      | 20.79     | 119.95       | Vertical                       | 2     | Pass       |
|                           |               | 2595.00                           | 17.30       | 4.69                   | 9.00                      | 21.61     | 144.88       | Vertical                       | 2     | Pass       |
|                           |               | 2647.50                           | 17.20       | 4.72                   | 9.00                      | 21.48     | 140.60       | Vertical                       | 2     | Pass       |
| 20.0MHz<br>Band 16<br>QAM | 100/0         | 2545.00                           | 17.17       | 4.57                   | 9.00                      | 21.60     | 144.54       | Vertical                       | 2     | Pass       |
|                           |               | 2595.00                           | 17.33       | 4.73                   | 9.00                      | 21.60     | 144.54       | Vertical                       | 2     | Pass       |
|                           |               | 2645.00                           | 18.44       | 4.75                   | 9.00                      | 22.69     | 185.78       | Vertical                       | 2     | Pass       |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

## 8.12 LTE BAND 66

|                         | Radiated Power (EIRP) for Band 66 |                          |                         |                        |                           |                               |                              |                                        |             |                      |              |
|-------------------------|-----------------------------------|--------------------------|-------------------------|------------------------|---------------------------|-------------------------------|------------------------------|----------------------------------------|-------------|----------------------|--------------|
| Mode                    | RB/RB<br>SIZE                     | Frequency                | Result                  |                        |                           |                               |                              |                                        |             | Conclusion           |              |
|                         |                                   |                          | SG<br>Level<br>(dBm)    | Cable<br>Loss<br>(dBm) | Antenna<br>Factor<br>(dB) | Max. EIRP<br>Average<br>(dBm) | Max. EIRP<br>Average<br>(mW) | Polarization<br>Of Max.<br>ERP         |             |                      | Limit<br>(W) |
|                         |                                   |                          |                         |                        |                           |                               |                              |                                        |             |                      |              |
|                         |                                   |                          |                         |                        |                           |                               |                              |                                        |             |                      |              |
| 1.4MHz<br>Band<br>QPSK  | 6/0                               | 1710.7<br>1745<br>1779.3 | 15.09<br>13.86<br>16.28 | 3.12<br>3.27<br>3.29   | 8.90<br>8.90<br>8.90      | 20.54<br>19.66<br>21.75       | 113.24<br>92.47<br>149.62    | Horizontal<br>Horizontal<br>Horizontal | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 3.0MHz<br>Band<br>QPSK  | 15/0                              | 1711.5<br>1745<br>1778.5 | 14.20<br>14.87<br>15.56 | 3.13<br>3.27<br>3.30   | 8.90<br>8.90<br>8.90      | 20.02<br>21.39<br>19.76       | 100.46<br>137.72<br>94.62    | Horizontal<br>Horizontal<br>Horizontal | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 5.0MHz<br>Band<br>QPSK  | 25/0                              | 1712.5<br>1745<br>1777.5 | 16.05<br>16.21<br>14.87 | 3.13<br>3.27<br>3.30   | 8.90<br>8.90<br>8.90      | 21.01<br>20.79<br>19.11       | 126.18<br>119.95<br>81.47    | Horizontal<br>Horizontal<br>Horizontal | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 10.0MHz<br>Band<br>QPSK | 50/0                              | 1715<br>1745<br>1775     | 15.19<br>15.29<br>16.10 | 3.15<br>3.31<br>3.33   | 8.90<br>8.90<br>8.90      | 20.69<br>20.89<br>21.80       | 117.22<br>122.74<br>151.36   | Horizontal<br>Horizontal<br>Horizontal | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 15.0MHz<br>Band<br>QPSK | 75/0                              | 1717.5<br>1745<br>1772.5 | 15.36<br>15.89<br>16.64 | 3.15<br>3.31<br>3.33   | 8.90<br>8.90<br>8.90      | 20.58<br>21.72<br>21.74       | 114.29<br>148.59<br>149.28   | Horizontal<br>Horizontal<br>Horizontal | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 20.0MHz<br>Band<br>QPSK | 100/0                             | 1720<br>1745<br>1770     | 13.97<br>15.42<br>15.22 | 3.17<br>3.32<br>3.36   | 8.90<br>8.90<br>8.90      | 21.27<br>22.62<br>21.24       | 133.97<br>182.81<br>133.05   | Horizontal<br>Horizontal<br>Horizontal | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 1.4MHz<br>Band<br>QPSK  | 6/0                               | 1710.7<br>1745<br>1779.3 | 15.71<br>16.21<br>15.56 | 3.12<br>3.27<br>3.29   | 8.90<br>8.90<br>8.90      | 19.42<br>22.26<br>20.96       | 87.50<br>168.27<br>124.74    | Vertical<br>Vertical<br>Vertical       | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 3.0MHz<br>Band<br>QPSK  | 15/0                              | 1711.5<br>1745<br>1778.5 | 16.08<br>16.14<br>16.41 | 3.13<br>3.27<br>3.30   | 8.90<br>8.90<br>8.90      | 21.29<br>22.70<br>21.44       | 134.59<br>186.21<br>139.32   | Vertical<br>Vertical<br>Vertical       | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 5.0MHz<br>Band<br>QPSK  | 25/0                              | 1712.5<br>1745<br>1777.5 | 15.17<br>15.65<br>14.24 | 3.13<br>3.27<br>3.30   | 8.90<br>8.90<br>8.90      | 21.40<br>21.03<br>19.54       | 138.04<br>126.77<br>89.95    | Vertical<br>Vertical<br>Vertical       | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |
| 10.0MHz<br>Band<br>QPSK | 50/0                              | 1715<br>1745<br>1775     | 12.72<br>16.63<br>15.66 | 3.15<br>3.31<br>3.33   | 8.90<br>8.90<br>8.90      | 17.30<br>22.10<br>19.45       | 53.70<br>162.18<br>88.10     | Vertical<br>Vertical<br>Vertical       | 1<br>1<br>1 | Pass<br>Pass<br>Pass |              |

|         |       |        |       |      |      |       |        |          |   |      |
|---------|-------|--------|-------|------|------|-------|--------|----------|---|------|
| 15.0MHz | 75/0  | 1717.5 | 16.69 | 3.15 | 8.90 | 21.52 | 141.91 | Vertical | 1 | Pass |
| Band    |       | 1745   | 16.08 | 3.31 | 8.90 | 21.23 | 132.74 | Vertical | 1 | Pass |
| QPSK    |       | 1772.5 | 15.30 | 3.33 | 8.90 | 22.25 | 167.88 | Vertical | 1 | Pass |
| 20.0MHz | 100/0 | 1720   | 17.39 | 3.17 | 8.90 | 22.86 | 193.20 | Vertical | 1 | Pass |
| Band    |       | 1745   | 17.54 | 3.32 | 8.90 | 22.71 | 186.64 | Vertical | 1 | Pass |
| QPSK    |       | 1770   | 14.41 | 3.36 | 8.90 | 20.89 | 122.74 | Vertical | 1 | Pass |

|                           |               | Radiated Power (EIRP) for Band 66 |                      |               |                           |                               |              |                                |       |            |
|---------------------------|---------------|-----------------------------------|----------------------|---------------|---------------------------|-------------------------------|--------------|--------------------------------|-------|------------|
| Mode                      | RB/RB<br>SIZE | Frequency                         | Result               |               |                           |                               |              |                                |       | Conclusion |
|                           |               |                                   | SG<br>Level<br>(dBm) | Cable<br>Loss | Antenna<br>Factor<br>(dB) | Max. EIRP<br>Average<br>(dBm) | Max.<br>EIRP | Polarization<br>Of Max.<br>ERP |       |            |
|                           |               |                                   |                      |               |                           |                               |              |                                | (dBm) |            |
|                           |               |                                   |                      |               |                           |                               |              |                                | (mW)  |            |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 1710.7                            | 15.06                | 3.12          | 8.9                       | 20.84                         | 121.34       | Horizontal                     | 1     | Pass       |
|                           |               | 1745                              | 14.91                | 3.27          | 8.9                       | 20.54                         | 113.24       | Horizontal                     | 1     | Pass       |
|                           |               | 1779.3                            | 14.91                | 3.29          | 8.9                       | 20.52                         | 112.72       | Horizontal                     | 1     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 1711.5                            | 15.69                | 3.13          | 8.9                       | 21.46                         | 139.96       | Horizontal                     | 1     | Pass       |
|                           |               | 1745                              | 14.47                | 3.27          | 8.9                       | 20.10                         | 102.33       | Horizontal                     | 1     | Pass       |
|                           |               | 1778.5                            | 15.01                | 3.3           | 8.9                       | 20.61                         | 115.08       | Horizontal                     | 1     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 1712.5                            | 14.38                | 3.13          | 8.9                       | 20.15                         | 103.51       | Horizontal                     | 1     | Pass       |
|                           |               | 1745                              | 13.04                | 3.27          | 8.9                       | 18.67                         | 73.62        | Horizontal                     | 1     | Pass       |
|                           |               | 1777.5                            | 13.80                | 3.3           | 8.9                       | 19.40                         | 87.10        | Horizontal                     | 1     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 1715                              | 15.42                | 3.15          | 8.9                       | 21.17                         | 130.92       | Horizontal                     | 1     | Pass       |
|                           |               | 1745                              | 14.00                | 3.31          | 8.9                       | 19.59                         | 90.99        | Horizontal                     | 1     | Pass       |
|                           |               | 1775                              | 12.93                | 3.33          | 8.9                       | 18.50                         | 70.79        | Horizontal                     | 1     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 1717.5                            | 13.38                | 3.15          | 8.9                       | 19.13                         | 81.85        | Horizontal                     | 1     | Pass       |
|                           |               | 1745                              | 14.89                | 3.31          | 8.9                       | 20.48                         | 111.69       | Horizontal                     | 1     | Pass       |
|                           |               | 1772.5                            | 13.84                | 3.33          | 8.9                       | 19.41                         | 87.30        | Horizontal                     | 1     | Pass       |
| 20.0MHz<br>Band 16<br>QAM | 100/0         | 1720                              | 14.59                | 3.17          | 8.9                       | 20.32                         | 107.65       | Horizontal                     | 1     | Pass       |
|                           |               | 1745                              | 15.00                | 3.32          | 8.9                       | 20.58                         | 114.29       | Horizontal                     | 1     | Pass       |
|                           |               | 1770                              | 14.92                | 3.36          | 8.9                       | 20.46                         | 111.17       | Horizontal                     | 1     | Pass       |
| 1.4MHz<br>Band 16<br>QAM  | 6/0           | 1710.7                            | 15.17                | 3.12          | 8.9                       | 20.95                         | 124.45       | Vertical                       | 1     | Pass       |
|                           |               | 1745                              | 14.69                | 3.27          | 8.9                       | 20.32                         | 107.65       | Vertical                       | 1     | Pass       |
|                           |               | 1779.3                            | 14.25                | 3.29          | 8.9                       | 19.86                         | 96.83        | Vertical                       | 1     | Pass       |
| 3.0MHz<br>Band 16<br>QAM  | 15/0          | 1711.5                            | 14.04                | 3.13          | 8.9                       | 19.81                         | 95.72        | Vertical                       | 1     | Pass       |
|                           |               | 1745                              | 14.36                | 3.27          | 8.9                       | 19.99                         | 99.77        | Vertical                       | 1     | Pass       |
|                           |               | 1778.5                            | 14.34                | 3.3           | 8.9                       | 19.94                         | 98.63        | Vertical                       | 1     | Pass       |
| 5.0MHz<br>Band 16<br>QAM  | 25/0          | 1712.5                            | 15.51                | 3.13          | 8.9                       | 21.28                         | 134.28       | Vertical                       | 1     | Pass       |
|                           |               | 1745                              | 15.13                | 3.27          | 8.9                       | 20.76                         | 119.12       | Vertical                       | 1     | Pass       |
|                           |               | 1777.5                            | 13.86                | 3.3           | 8.9                       | 19.46                         | 88.31        | Vertical                       | 1     | Pass       |
| 10.0MHz<br>Band 16<br>QAM | 50/0          | 1715                              | 13.30                | 3.15          | 8.9                       | 19.05                         | 80.35        | Vertical                       | 1     | Pass       |
|                           |               | 1745                              | 15.39                | 3.31          | 8.9                       | 20.98                         | 125.31       | Vertical                       | 1     | Pass       |
|                           |               | 1775                              | 15.45                | 3.33          | 8.9                       | 21.02                         | 126.47       | Vertical                       | 1     | Pass       |
| 15.0MHz<br>Band 16<br>QAM | 75/0          | 1717.5                            | 13.72                | 3.15          | 8.9                       | 19.47                         | 88.51        | Vertical                       | 1     | Pass       |
|                           |               | 1745                              | 15.05                | 3.31          | 8.9                       | 20.64                         | 115.88       | Vertical                       | 1     | Pass       |
|                           |               | 1772.5                            | 14.99                | 3.33          | 8.9                       | 20.56                         | 113.76       | Vertical                       | 1     | Pass       |

|         |       |      |       |      |     |       |        |          |   |      |
|---------|-------|------|-------|------|-----|-------|--------|----------|---|------|
| 20.0MHz | 100/0 | 1720 | 14.76 | 3.17 | 8.9 | 20.49 | 111.94 | Vertical | 1 | Pass |
| Band 16 |       | 1745 | 14.97 | 3.32 | 8.9 | 20.55 | 113.50 | Vertical | 1 | Pass |
| QAM     |       | 1770 | 16.23 | 3.36 | 8.9 | 21.77 | 150.31 | Vertical | 1 | Pass |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

## 9. SPURIOUS RADIATION EMISSION

### RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53 and §90.691

### LIMIT

§22.917 (e) and §24.238 and §90.691 (a): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

§27.53 (g) For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB.

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB.

### TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. 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. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. 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. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth ( i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth in the 1 MHz band immediately outside and adjacent to the channel edge of the equipment. Beyond the 1 MHz band immediately outside the channel edge of the equipment, a resolution bandwidth of 1 MHz shall be employed. A narrower resolution bandwidth is allowed to be used provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz or 1% of the occupied bandwidth as applicable.

The power of any unwanted emissions measured from the channel edge of the equipment shall be attenuated below the transmitter power,  $P$  (dBW), as follows:

- a. for base station and subscriber equipment, other than mobile subscriber equipment, the attenuation shall not be less than  $43 + 10 \log_{10}(p)$ , dB; and
- b. for mobile subscriber equipment, the attenuation shall not be less than  $43 + 10 \log_{10}(p)$ , dB at the channel edges and  $55 + 10 \log_{10}(p)$  at 5.5 MHz away and beyond the channel edges where  $p$  in (a) and (b) is the transmitter power measured in watts.

**MODES TESTED**

LTE Band 2/4/5/7/12/17/25/26/41/66

**RESULTS**

PASS

## 9.1 LTE BAND 2

### QPSK EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

| Test Results for Low Channel 1850.7MHz  |               |                |                    |                     |             |             |            |
|-----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3701.4                                  | -50.26        | 4.04           | 33.51              | -20.79              | -13         | -7.79       | Horizontal |
| 3701.4                                  | -53.09        | 4.04           | 33.51              | -23.62              | -13         | -10.62      | Vertical   |
| 5552.1                                  | -56.90        | 5.24           | 35.84              | -26.30              | -13         | -13.30      | Vertical   |
| 5552.1                                  | -55.36        | 5.24           | 35.84              | -24.76              | -13         | -11.76      | Horizontal |
| Test Results for Mid Channel 1880MHz    |               |                |                    |                     |             |             |            |
| 3760                                    | -49.64        | 4.04           | 33.56              | -20.12              | -13         | -7.12       | Horizontal |
| 3760                                    | -53.97        | 4.04           | 33.56              | -24.45              | -13         | -11.45      | Vertical   |
| 5640                                    | -57.06        | 5.24           | 35.91              | -26.39              | -13         | -13.39      | Vertical   |
| 5640                                    | -57.46        | 5.24           | 35.91              | -26.79              | -13         | -13.79      | Horizontal |
| Test Results for High Channel 1909.3MHz |               |                |                    |                     |             |             |            |
| 3818.6                                  | -53.37        | 4.04           | 34.00              | -23.41              | -13         | -10.41      | Horizontal |
| 3818.6                                  | -49.23        | 4.04           | 34.00              | -19.27              | -13         | -6.27       | Vertical   |
| 5727.9                                  | -53.27        | 5.24           | 36.04              | -22.47              | -13         | -9.47       | Vertical   |
| 5727.9                                  | -53.51        | 5.24           | 36.04              | -22.71              | -13         | -9.71       | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)**

| Test Results for Low Channel 1860MHz  |               |                |                    |                     |             |             |            |
|---------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                        | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3720                                  | -52.94        | 4.07           | 33.54              | -23.47              | -13         | -10.47      | Horizontal |
| 3720                                  | -50.07        | 4.07           | 33.54              | -20.60              | -13         | -7.60       | Vertical   |
| 5580                                  | -53.63        | 5.28           | 35.86              | -23.05              | -13         | -10.05      | Vertical   |
| 5580                                  | -51.46        | 5.28           | 35.86              | -20.88              | -13         | -7.88       | Horizontal |
| Test Results for Mid Channel 1880MHz  |               |                |                    |                     |             |             |            |
| 3760                                  | -54.26        | 4.04           | 33.56              | -24.74              | -13         | -11.74      | Horizontal |
| 3760                                  | -52.84        | 4.04           | 33.56              | -23.32              | -13         | -10.32      | Vertical   |
| 5640                                  | -49.94        | 5.24           | 35.91              | -19.27              | -13         | -6.27       | Vertical   |
| 5640                                  | -55.00        | 5.24           | 35.91              | -24.33              | -13         | -11.33      | Horizontal |
| Test Results for High Channel 1900MHz |               |                |                    |                     |             |             |            |
| 3800                                  | -47.86        | 4.04           | 34.00              | -17.90              | -13         | -4.90       | Horizontal |
| 3800                                  | -53.20        | 4.04           | 34.00              | -23.24              | -13         | -10.24      | Vertical   |
| 5700                                  | -55.95        | 5.24           | 36.04              | -25.15              | -13         | -12.15      | Vertical   |
| 5700                                  | -51.60        | 5.24           | 36.04              | -20.80              | -13         | -7.80       | Horizontal |

Note:  $P_{Mea}(dBm) = Power(dBm) + AR_{pl}(dBm)$

. Over Limit = :  $P_{Mea}(dBm) - Limit(dBm)$

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

## 9.2 LTE BAND 4

### QPSK EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

| Test Results for Low Channel 1710.7MHz  |               |                |                    |                     |             |             |            |
|-----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3421.4                                  | -50.68        | 4.02           | 29.80              | -24.90              | -13         | -11.90      | Horizontal |
| 3421.4                                  | -52.72        | 4.02           | 29.80              | -26.94              | -13         | -13.94      | Vertical   |
| 5132.1                                  | -53.51        | 5.24           | 35.84              | -22.91              | -13         | -9.91       | Vertical   |
| 5132.1                                  | -51.55        | 5.24           | 35.84              | -20.95              | -13         | -7.95       | Horizontal |
| Test Results for Mid Channel 1732.5MHz  |               |                |                    |                     |             |             |            |
| 3465                                    | -47.24        | 4.03           | 30.00              | -21.27              | -13         | -8.27       | Horizontal |
| 3465                                    | -50.57        | 4.03           | 30.00              | -24.60              | -13         | -11.60      | Vertical   |
| 5197.5                                  | -54.95        | 5.25           | 35.86              | -24.34              | -13         | -11.34      | Vertical   |
| 5197.5                                  | -53.13        | 5.25           | 35.86              | -22.52              | -13         | -9.52       | Horizontal |
| Test Results for High Channel 1754.3MHz |               |                |                    |                     |             |             |            |
| 3508.6                                  | -54.44        | 4.05           | 30.01              | -28.48              | -13         | -15.48      | Horizontal |
| 3508.6                                  | -50.18        | 4.05           | 30.01              | -24.22              | -13         | -11.22      | Vertical   |
| 5262.9                                  | -52.01        | 5.26           | 35.86              | -21.41              | -13         | -8.41       | Vertical   |
| 5262.9                                  | -55.86        | 5.26           | 35.86              | -25.26              | -13         | -12.26      | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)**

| Test Results for Low Channel 1720MHz   |               |                |                    |                     |             |             |            |
|----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3440                                   | -51.57        | 4.02           | 29.80              | -25.79              | -13         | -12.79      | Horizontal |
| 3440                                   | -49.90        | 4.02           | 29.80              | -24.12              | -13         | -11.12      | Vertical   |
| 5160                                   | -55.95        | 5.24           | 35.84              | -25.35              | -13         | -12.35      | Vertical   |
| 5160                                   | -50.23        | 5.24           | 35.84              | -19.63              | -13         | -6.63       | Horizontal |
| Test Results for Mid Channel 1732.5MHz |               |                |                    |                     |             |             |            |
| 3465                                   | -47.97        | 4.03           | 30.00              | -22.00              | -13         | -9.00       | Horizontal |
| 3465                                   | -51.11        | 4.03           | 30.00              | -25.14              | -13         | -12.14      | Vertical   |
| 5197.5                                 | -52.93        | 5.25           | 35.86              | -22.32              | -13         | -9.32       | Vertical   |
| 5197.5                                 | -50.57        | 5.25           | 35.86              | -19.96              | -13         | -6.96       | Horizontal |
| Test Results for High Channel 1745MHz  |               |                |                    |                     |             |             |            |
| 2490                                   | -48.26        | 2.91           | 27.68              | -23.49              | -13         | -10.49      | Horizontal |
| 3490                                   | -51.09        | 2.91           | 27.68              | -26.32              | -13         | -13.32      | Vertical   |
| 5235                                   | -53.49        | 5.26           | 35.86              | -22.89              | -13         | -9.89       | Vertical   |
| 5235                                   | -51.99        | 5.26           | 35.86              | -21.39              | -13         | -8.39       | Horizontal |

Note: P<sub>Mea</sub>(dBm)= Power(dBm)+ AR<sub>pl</sub> (dBm)

. Over Limit= : P<sub>Mea</sub>(dBm)-Limit(dBm)

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

### 9.3 LTE BAND 5

#### QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

| Test Results for Low Channel 824.7MHz  |               |                |                    |                     |             |             |            |
|----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1649.4                                 | -50.54        | 2.78           | 27.50              | -25.82              | -13         | -12.82      | Horizontal |
| 1649.4                                 | -48.57        | 2.78           | 27.50              | -23.85              | -13         | -10.85      | Vertical   |
| 2474.1                                 | -56.91        | 2.90           | 27.80              | -32.01              | -13         | -19.01      | Vertical   |
| 2474.1                                 | -57.03        | 2.90           | 27.80              | -32.13              | -13         | -19.13      | Horizontal |
| Test Results For Mid Channel 836.5MHz  |               |                |                    |                     |             |             |            |
| 1673                                   | -51.51        | 2.78           | 27.48              | -26.81              | -13         | -13.81      | Horizontal |
| 1673                                   | -54.13        | 2.78           | 27.48              | -29.43              | -13         | -16.43      | Vertical   |
| 2509.5                                 | -51.48        | 2.91           | 27.70              | -26.69              | -13         | -13.69      | Vertical   |
| 2509.5                                 | -56.72        | 2.91           | 27.70              | -31.93              | -13         | -18.93      | Horizontal |
| Test Results for High Channel 848.3MHz |               |                |                    |                     |             |             |            |
| 1696.6                                 | -52.49        | 2.78           | 27.43              | -27.84              | -13         | -14.84      | Horizontal |
| 1696.6                                 | -50.48        | 2.78           | 27.43              | -25.83              | -13         | -12.83      | Vertical   |
| 2544.9                                 | -50.57        | 2.92           | 27.74              | -25.75              | -13         | -12.75      | Vertical   |
| 2544.9                                 | -54.31        | 2.92           | 27.74              | -29.49              | -13         | -16.49      | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 5 (10MHZ BANDWIDTH)**

| Test Results for Low Channel 829MHz   |               |                |                    |                     |             |             |            |
|---------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                        | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1658                                  | -47.85        | 2.78           | 27.50              | -23.13              | -13         | -10.13      | Horizontal |
| 1658                                  | -47.03        | 2.78           | 27.50              | -22.31              | -13         | -9.31       | Vertical   |
| 2487                                  | -55.22        | 2.90           | 27.80              | -30.32              | -13         | -17.32      | Vertical   |
| 2487                                  | -53.26        | 2.90           | 27.80              | -28.36              | -13         | -15.36      | Horizontal |
| Test Results for Mid Channel 836.5MHz |               |                |                    |                     |             |             |            |
| 1673                                  | -50.65        | 2.78           | 27.48              | -25.95              | -13         | -12.95      | Horizontal |
| 1673                                  | -50.83        | 2.78           | 27.48              | -26.13              | -13         | -13.13      | Vertical   |
| 2509.5                                | -56.07        | 2.91           | 27.70              | -31.28              | -13         | -18.28      | Vertical   |
| 2509.5                                | -50.17        | 2.91           | 27.70              | -25.38              | -13         | -12.38      | Horizontal |
| Test Results for High Channel 844MHz  |               |                |                    |                     |             |             |            |
| 1688                                  | -54.55        | 2.78           | 27.43              | -29.90              | -13         | -16.90      | Horizontal |
| 1688                                  | -51.50        | 2.78           | 27.43              | -26.85              | -13         | -13.85      | Vertical   |
| 2532                                  | -57.10        | 2.92           | 27.74              | -32.28              | -13         | -19.28      | Vertical   |
| 2532                                  | -53.19        | 2.92           | 27.74              | -28.37              | -13         | -15.37      | Horizontal |

Note: P<sub>Mea</sub>(dBm)= Power(dBm)+ AR<sub>pl</sub> (dBm)

. Over Limit= : P<sub>Mea</sub>(dBm)-Limit(dBm)

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

#### 9.4 LTE BAND 7

##### QPSK EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

| Test Results for Low Channel 2502.5MHz  |               |                |                    |                     |             |             |            |
|-----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 5005                                    | -57.08        | 5.23           | 35.81              | -26.50              | -25         | -1.50       | Horizontal |
| 5005                                    | -59.70        | 5.23           | 35.81              | -29.12              | -25         | -4.12       | Vertical   |
| 7507.5                                  | -64.52        | 5.67           | 36.85              | -33.34              | -25         | -8.34       | Vertical   |
| 7507.5                                  | -61.57        | 5.67           | 36.85              | -30.39              | -25         | -5.39       | Horizontal |
| Test Results for Mid Channel 2535MHz    |               |                |                    |                     |             |             |            |
| 5070                                    | -59.79        | 5.23           | 35.82              | -29.20              | -25         | -4.20       | Horizontal |
| 5070                                    | -60.09        | 5.23           | 35.82              | -29.50              | -25         | -4.50       | Vertical   |
| 7605                                    | -64.87        | 5.67           | 36.85              | -33.69              | -25         | -8.69       | Vertical   |
| 7605                                    | -59.73        | 5.67           | 36.85              | -28.55              | -25         | -3.55       | Horizontal |
| Test Results for High Channel 2567.5MHz |               |                |                    |                     |             |             |            |
| 5135                                    | -61.92        | 5.24           | 35.83              | -31.33              | -25         | -6.33       | Horizontal |
| 5135                                    | -59.91        | 5.24           | 35.83              | -29.32              | -25         | -4.32       | Vertical   |
| 7702.5                                  | -62.32        | 5.68           | 36.87              | -31.13              | -25         | -6.13       | Vertical   |
| 7702.5                                  | -59.91        | 5.68           | 36.87              | -28.72              | -25         | -3.72       | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)**

| Test Results for Low Channel 2510MHz  |               |                |                    |                     |             |             |            |
|---------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                        | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 5020                                  | -60.03        | 5.23           | 35.82              | -29.44              | -25         | -4.44       | Horizontal |
| 5020                                  | -58.47        | 5.23           | 35.82              | -27.88              | -25         | -2.88       | Vertical   |
| 7530                                  | -62.90        | 5.67           | 36.86              | -31.71              | -25         | -6.71       | Vertical   |
| 7530                                  | -63.60        | 5.67           | 36.86              | -32.41              | -25         | -7.41       | Horizontal |
| Test Results for Mid Channel 2535MHz  |               |                |                    |                     |             |             |            |
| 5070                                  | -57.49        | 5.23           | 35.82              | -26.90              | -25         | -1.90       | Horizontal |
| 5070                                  | -58.76        | 5.23           | 35.82              | -28.17              | -25         | -3.17       | Vertical   |
| 7605                                  | -62.84        | 5.67           | 36.85              | -31.66              | -25         | -6.66       | Vertical   |
| 7605                                  | -59.88        | 5.67           | 36.85              | -28.70              | -25         | -3.70       | Horizontal |
| Test Results for High Channel 2560MHz |               |                |                    |                     |             |             |            |
| 5120                                  | -58.98        | 5.24           | 35.83              | -28.39              | -25         | -3.39       | Horizontal |
| 5120                                  | -57.72        | 5.24           | 35.83              | -27.13              | -25         | -2.13       | Vertical   |
| 7680                                  | -63.82        | 5.70           | 36.88              | -32.64              | -25         | -7.64       | Vertical   |
| 7680                                  | -61.26        | 5.70           | 36.88              | -30.08              | -25         | -5.08       | Horizontal |

Note: Spurious Emission Level = Spectrum Analyzer Read Value + Cable Loss+ Antenna Factor + 11.74

. Margin = Spurious Emission Level - Limit

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

## 9.5 LTE BAND 12

### QPSK EIRP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

| Test Results for Low Channel 699.7MHz  |               |                |                    |                     |             |             |            |
|----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1399.4                                 | -54.36        | 2.60           | 27.2               | -29.76              | -13         | -16.76      | Horizontal |
| 1399.4                                 | -50.72        | 2.60           | 27.2               | -26.12              | -13         | -13.12      | Vertical   |
| 2099.1                                 | -57.94        | 2.85           | 27.54              | -33.25              | -13         | -20.25      | Vertical   |
| 2099.1                                 | -50.90        | 2.85           | 27.54              | -26.21              | -13         | -13.21      | Horizontal |
| Test Results For Mid Channel 707.5MHz  |               |                |                    |                     |             |             |            |
| 1415                                   | -51.61        | 2.61           | 27.28              | -26.94              | -13         | -13.94      | Horizontal |
| 1415                                   | -48.18        | 2.61           | 27.28              | -23.51              | -13         | -10.51      | Vertical   |
| 2122.5                                 | -51.19        | 2.87           | 27.59              | -26.47              | -13         | -13.47      | Vertical   |
| 2122.5                                 | -51.49        | 2.87           | 27.59              | -26.77              | -13         | -13.77      | Horizontal |
| Test Results for High Channel 715.3MHz |               |                |                    |                     |             |             |            |
| 1430.6                                 | -48.07        | 2.63           | 27.28              | -23.42              | -13         | -10.42      | Horizontal |
| 1430.6                                 | -47.51        | 2.63           | 27.28              | -22.86              | -13         | -9.86       | Vertical   |
| 2145.9                                 | -56.41        | 2.88           | 27.60              | -31.69              | -13         | -18.69      | Vertical   |
| 2145.9                                 | -56.39        | 2.88           | 27.60              | -31.67              | -13         | -18.67      | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 12 (10MHZ BANDWIDTH)**

| Test Results for Low Channel 704MHz   |               |                |                    |                     |             |             |            |
|---------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                        | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1408                                  | -49.96        | 2.61           | 27.26              | -25.31              | -13         | -12.31      | Horizontal |
| 1408                                  | -52.73        | 2.61           | 27.26              | -28.08              | -13         | -15.08      | Vertical   |
| 2112                                  | -49.71        | 2.87           | 27.58              | -25.00              | -13         | -12.00      | Vertical   |
| 2112                                  | -53.48        | 2.87           | 27.58              | -28.77              | -13         | -15.77      | Horizontal |
| Test Results for Mid Channel 707.5MHz |               |                |                    |                     |             |             |            |
| 1415                                  | -51.18        | 2.61           | 27.28              | -26.51              | -13         | -13.51      | Horizontal |
| 1415                                  | -47.17        | 2.61           | 27.28              | -22.50              | -13         | -9.50       | Vertical   |
| 2122.5                                | -49.78        | 2.87           | 27.59              | -25.06              | -13         | -12.06      | Vertical   |
| 2122.5                                | -49.64        | 2.87           | 27.59              | -24.92              | -13         | -11.92      | Horizontal |
| Test Results for High Channel 711MHz  |               |                |                    |                     |             |             |            |
| 1422                                  | -49.51        | 2.62           | 27.28              | -24.85              | -13         | -11.85      | Horizontal |
| 1422                                  | -52.22        | 2.62           | 27.28              | -27.56              | -13         | -14.56      | Vertical   |
| 2133                                  | -50.31        | 2.87           | 27.60              | -25.58              | -13         | -12.58      | Vertical   |
| 2133                                  | -50.79        | 2.87           | 27.60              | -26.06              | -13         | -13.06      | Horizontal |

Note: P<sub>Mea</sub>(dBm)= Power(dBm)+ AR<sub>pl</sub> (dBm)

. Over Limit= : P<sub>Mea</sub>(dBm)-Limit(dBm)

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

## 9.6 LTE BAND 17

### QPSK EIRP POWER FOR LTE BAND 17 (5MHZ BANDWIDTH)

| Test Results for Low Channel 706.5MHz  |               |                |                    |                     |             |             |            |
|----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1413                                   | -47.21        | 2.61           | 27.28              | -22.54              | -13         | -9.54       | Horizontal |
| 1413                                   | -53.53        | 2.61           | 27.28              | -28.86              | -13         | -15.86      | Vertical   |
| 2119.5                                 | -54.66        | 2.87           | 27.59              | -29.94              | -13         | -16.94      | Vertical   |
| 2119.5                                 | -54.13        | 2.87           | 27.59              | -29.41              | -13         | -16.41      | Horizontal |
| Test Results For Mid Channel 710MHz    |               |                |                    |                     |             |             |            |
| 1420                                   | -47.92        | 2.62           | 27.30              | -23.24              | -13         | -10.24      | Horizontal |
| 1420                                   | -49.13        | 2.62           | 27.30              | -24.45              | -13         | -11.45      | Vertical   |
| 2130                                   | -55.13        | 2.87           | 27.62              | -30.38              | -13         | -17.38      | Vertical   |
| 2130                                   | -50.17        | 2.87           | 27.62              | -25.42              | -13         | -12.42      | Horizontal |
| Test Results for High Channel 713.5MHz |               |                |                    |                     |             |             |            |
| 1427                                   | -54.50        | 2.66           | 27.28              | -29.88              | -13         | -16.88      | Horizontal |
| 1427                                   | -48.72        | 2.66           | 27.28              | -24.10              | -13         | -11.10      | Vertical   |
| 2140.5                                 | -55.08        | 2.88           | 27.60              | -30.36              | -13         | -17.36      | Vertical   |
| 2140.5                                 | -53.17        | 2.88           | 27.60              | -28.45              | -13         | -15.45      | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 17 (10MHZ BANDWIDTH)**

| Test Results for Low Channel 709MHz  |               |                |                    |                     |             |             |            |
|--------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                       | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1418                                 | -54.52        | 2.62           | 27.30              | -29.84              | -13         | -16.84      | Horizontal |
| 1418                                 | -51.68        | 2.62           | 27.30              | -27.00              | -13         | -14.00      | Vertical   |
| 2127                                 | -57.07        | 2.87           | 27.62              | -32.32              | -13         | -19.32      | Vertical   |
| 2127                                 | -55.61        | 2.87           | 27.62              | -30.86              | -13         | -17.86      | Horizontal |
| Test Results for Mid Channel 710MHz  |               |                |                    |                     |             |             |            |
| 1420                                 | -49.20        | 2.62           | 27.30              | -24.52              | -13         | -11.52      | Horizontal |
| 1420                                 | -49.64        | 2.62           | 27.30              | -24.96              | -13         | -11.96      | Vertical   |
| 2130                                 | -53.58        | 2.87           | 27.62              | -28.83              | -13         | -15.83      | Vertical   |
| 2130                                 | -53.64        | 2.87           | 27.62              | -28.89              | -13         | -15.89      | Horizontal |
| Test Results for High Channel 711MHz |               |                |                    |                     |             |             |            |
| 1422                                 | -53.78        | 2.62           | 27.30              | -29.10              | -13         | -16.10      | Horizontal |
| 1422                                 | -57.31        | 2.62           | 27.30              | -32.63              | -13         | -19.63      | Vertical   |
| 2133                                 | -56.72        | 2.87           | 27.62              | -31.97              | -13         | -18.97      | Vertical   |
| 2133                                 | -54.67        | 2.87           | 27.62              | -29.92              | -13         | -16.92      | Horizontal |

Note: Spurious Emission Level = Spectrum Analyzer Read Value + Cable Loss+ Antenna Factor + 11.74  
 . Margin = Spurious Emission Level - Limit  
 . Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

## 9.7 LTE BAND 25

### QPSK EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

| Test Results for Low Channel 1710.7MHz  |               |                |                    |                     |             |             |            |
|-----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3701.4                                  | -52.34        | 2.61           | 27.26              | -27.69              | -13         | -14.69      | Horizontal |
| 3701.4                                  | -47.21        | 2.61           | 27.26              | -22.56              | -13         | -9.56       | Vertical   |
| 5552.1                                  | -50.75        | 2.87           | 27.58              | -26.04              | -13         | -13.04      | Vertical   |
| 5552.1                                  | -57.07        | 2.87           | 27.58              | -32.36              | -13         | -19.36      | Horizontal |
| Test Results for Mid Channel 1732.5MHz  |               |                |                    |                     |             |             |            |
| 3765                                    | -51.38        | 2.63           | 27.28              | -26.73              | -13         | -13.73      | Horizontal |
| 3765                                    | -48.71        | 2.63           | 27.28              | -24.06              | -13         | -11.06      | Vertical   |
| 5647.5                                  | -50.79        | 2.88           | 27.62              | -26.05              | -13         | -13.05      | Vertical   |
| 5647.5                                  | -51.68        | 2.88           | 27.62              | -26.94              | -13         | -13.94      | Horizontal |
| Test Results for High Channel 1754.3MHz |               |                |                    |                     |             |             |            |
| 3828.6                                  | -53.43        | 2.65           | 27.28              | -28.80              | -13         | -15.80      | Horizontal |
| 3828.6                                  | -47.45        | 2.65           | 27.28              | -22.82              | -13         | -9.82       | Vertical   |
| 5742.9                                  | -55.64        | 2.88           | 27.70              | -30.82              | -13         | -17.82      | Vertical   |
| 5742.9                                  | -50.32        | 2.88           | 27.70              | -25.50              | -13         | -12.50      | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 25 (20MHZ BANDWIDTH)**

| Test Results for Low Channel 1720MHz   |               |                |                    |                     |             |             |            |
|----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3720                                   | -47.87        | 2.62           | 27.30              | -23.19              | -13         | -10.19      | Horizontal |
| 3720                                   | -51.14        | 2.62           | 27.30              | -26.46              | -13         | -13.46      | Vertical   |
| 5580                                   | -53.04        | 2.87           | 27.62              | -28.29              | -13         | -15.29      | Vertical   |
| 5580                                   | -49.09        | 2.87           | 27.62              | -24.34              | -13         | -11.34      | Horizontal |
| Test Results for Mid Channel 1732.5MHz |               |                |                    |                     |             |             |            |
| 3765                                   | -50.73        | 2.64           | 27.33              | -26.04              | -13         | -13.04      | Horizontal |
| 3765                                   | -47.58        | 2.64           | 27.33              | -22.89              | -13         | -9.89       | Vertical   |
| 5647.5                                 | -52.83        | 2.88           | 27.67              | -28.04              | -13         | -15.04      | Vertical   |
| 5647.5                                 | -57.40        | 2.88           | 27.67              | -32.61              | -13         | -19.61      | Horizontal |
| Test Results for High Channel 1745MHz  |               |                |                    |                     |             |             |            |
| 3810                                   | -52.47        | 2.64           | 27.33              | -27.78              | -13         | -14.78      | Horizontal |
| 3810                                   | -49.84        | 2.64           | 27.33              | -25.15              | -13         | -12.15      | Vertical   |
| 5715                                   | -50.24        | 2.88           | 27.67              | -25.45              | -13         | -12.45      | Vertical   |
| 5715                                   | -54.75        | 2.88           | 27.67              | -29.96              | -13         | -16.96      | Horizontal |

### 9.8 LTE BAND 26 A

#### QPSK EIRP POWER FOR LTE BAND 26A(814MHz~824MHz) (1.4MHZ BANDWIDTH)

| Test Results for Low Channel 814.7MHz  |               |                |                    |                     |             |             |            |
|----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1629.4                                 | -53.62        | 2.78           | 27.5               | -28.90              | -13         | -15.90      | Horizontal |
| 1629.4                                 | -54.77        | 2.78           | 27.5               | -30.05              | -13         | -17.05      | Vertical   |
| 2444.1                                 | -50.77        | 2.9            | 27.8               | -25.87              | -13         | -12.87      | Vertical   |
| 2444.1                                 | -55.76        | 2.9            | 27.8               | -30.86              | -13         | -17.86      | Horizontal |
| Test Results For Mid Channel 819MHz    |               |                |                    |                     |             |             |            |
| 1638                                   | -49.77        | 2.8            | 27.48              | -25.09              | -13         | -12.09      | Horizontal |
| 1638                                   | -47.20        | 2.8            | 27.48              | -22.52              | -13         | -9.52       | Vertical   |
| 2457.5                                 | -54.40        | 2.91           | 27.7               | -29.61              | -13         | -16.61      | Vertical   |
| 2457.5                                 | -49.05        | 2.91           | 27.7               | -24.26              | -13         | -11.26      | Horizontal |
| Test Results for High Channel 823.3MHz |               |                |                    |                     |             |             |            |
| 1646.6                                 | -52.87        | 2.82           | 27.43              | -28.26              | -13         | -15.26      | Horizontal |
| 1646.6                                 | -47.90        | 2.82           | 27.43              | -23.29              | -13         | -10.29      | Vertical   |
| 2469.9                                 | -49.30        | 2.92           | 27.74              | -24.48              | -13         | -11.48      | Vertical   |
| 2469.9                                 | -49.42        | 2.92           | 27.74              | -24.60              | -13         | -11.60      | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 26A(814MHz~824MHz) (10MHZ BANDWIDTH)**

| Test Results for Channel 819MHz |               |                |                    |                     |             |             |            |
|---------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                  | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1638                            | -51.68        | 2.82           | 27.43              | -27.07              | -13         | -14.07      | Horizontal |
| 1638                            | -52.27        | 2.82           | 27.43              | -27.66              | -13         | -14.66      | Vertical   |
| 2457.5                          | -57.74        | 2.91           | 27.74              | -32.91              | -13         | -19.91      | Vertical   |
| 2457.5                          | -49.89        | 2.91           | 27.74              | -25.06              | -13         | -12.06      | Horizontal |

# 9.9 LTE BAND 26 B

## **QPSK EIRP POWER FOR LTE BAND 26B(824MHz~849MHz) (1.4MHZ BANDWIDTH)**

| Test Results for Low Channel 824.7MHz  |               |                |                    |                     |             |             |            |
|----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1649.4                                 | -49.82        | 2.78           | 27.28              | -25.32              | -13         | -12.32      | Horizontal |
| 1649.4                                 | -54.71        | 2.78           | 27.28              | -30.21              | -13         | -17.21      | Vertical   |
| 2474.1                                 | -51.87        | 2.9            | 27.59              | -27.18              | -13         | -14.18      | Vertical   |
| 2474.1                                 | -49.80        | 2.9            | 27.59              | -25.11              | -13         | -12.11      | Horizontal |
| Test Results For Mid Channel 836.5MHz  |               |                |                    |                     |             |             |            |
| 1673                                   | -50.92        | 2.78           | 27.3               | -26.40              | -13         | -13.40      | Horizontal |
| 1673                                   | -53.08        | 2.78           | 27.3               | -28.56              | -13         | -15.56      | Vertical   |
| 2509.4                                 | -56.46        | 2.91           | 27.62              | -31.75              | -13         | -18.75      | Vertical   |
| 2509.4                                 | -51.19        | 2.91           | 27.62              | -26.48              | -13         | -13.48      | Horizontal |
| Test Results for High Channel 848.3MHz |               |                |                    |                     |             |             |            |
| 1696.6                                 | -54.81        | 2.78           | 27.28              | -30.31              | -13         | -17.31      | Horizontal |
| 1696.6                                 | -51.24        | 2.78           | 27.28              | -26.74              | -13         | -13.74      | Vertical   |
| 2544.9                                 | -50.90        | 2.92           | 27.6               | -26.22              | -13         | -13.22      | Vertical   |
| 2544.9                                 | -51.55        | 2.92           | 27.6               | -26.87              | -13         | -13.87      | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 26B(824MHz~849MHz) (15MHZ BANDWIDTH)**

| Test Results for Low Channel 831.5MHz  |               |                |                    |                     |             |             |            |
|----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1663                                   | -48.47        | 2.78           | 27.3               | -23.95              | -13         | -10.95      | Horizontal |
| 1663                                   | -54.79        | 2.78           | 27.3               | -30.27              | -13         | -17.27      | Vertical   |
| 2494.5                                 | -56.14        | 2.9            | 27.62              | -31.42              | -13         | -18.42      | Vertical   |
| 2494.5                                 | -50.32        | 2.9            | 27.62              | -25.60              | -13         | -12.60      | Horizontal |
| Test Results for Mid Channel 836.5MHz  |               |                |                    |                     |             |             |            |
| 1673                                   | -49.33        | 2.78           | 27.3               | -24.81              | -13         | -11.81      | Horizontal |
| 1673                                   | -51.05        | 2.78           | 27.3               | -26.53              | -13         | -13.53      | Vertical   |
| 2509.5                                 | -56.78        | 2.91           | 27.62              | -32.07              | -13         | -19.07      | Vertical   |
| 2509.5                                 | -53.71        | 2.91           | 27.62              | -29.00              | -13         | -16.00      | Horizontal |
| Test Results for High Channel 841.5MHz |               |                |                    |                     |             |             |            |
| 1683                                   | -51.79        | 2.78           | 27.3               | -27.27              | -13         | -14.27      | Horizontal |
| 1683                                   | -53.84        | 2.78           | 27.3               | -29.32              | -13         | -16.32      | Vertical   |
| 2524.5                                 | -51.52        | 2.92           | 27.62              | -26.82              | -13         | -13.82      | Vertical   |
| 2524.5                                 | -51.62        | 2.92           | 27.62              | -26.92              | -13         | -13.92      | Horizontal |

## 9.10 LTE BAND 41

### QPSK EIRP POWER FOR LTE BAND 41 (5MHZ BANDWIDTH)

| Test Results for Low Channel 2537.5MHz  |               |                |                    |                     |             |             |            |
|-----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 5125                                    | -57.15        | 2.63           | 27.26              | -32.52              | -25         | -7.52       | Horizontal |
| 5125                                    | -55.80        | 2.63           | 27.26              | -31.17              | -25         | -6.17       | Vertical   |
| 7687.5                                  | -57.20        | 2.67           | 27.58              | -32.29              | -25         | -7.29       | Vertical   |
| 7687.5                                  | -58.63        | 2.67           | 27.58              | -33.72              | -25         | -8.72       | Horizontal |
| Test Results For Mid Channel 2595MHz    |               |                |                    |                     |             |             |            |
| 5205                                    | -56.17        | 2.62           | 27.28              | -31.51              | -25         | -6.51       | Horizontal |
| 5205                                    | -55.17        | 2.62           | 27.28              | -30.51              | -25         | -5.51       | Vertical   |
| 7807.5                                  | -57.02        | 2.85           | 27.62              | -32.25              | -25         | -7.25       | Vertical   |
| 7807.5                                  | -61.80        | 2.85           | 27.62              | -37.03              | -25         | -12.03      | Horizontal |
| Test Results for High Channel 2652.5MHz |               |                |                    |                     |             |             |            |
| 5285                                    | -54.65        | 2.64           | 27.28              | -30.01              | -25         | -5.01       | Horizontal |
| 5285                                    | -57.41        | 2.64           | 27.28              | -32.77              | -25         | -7.77       | Vertical   |
| 7927.5                                  | -60.94        | 2.85           | 27.70              | -36.09              | -25         | -11.09      | Vertical   |
| 7927.5                                  | -59.60        | 2.85           | 27.70              | -34.75              | -25         | -9.75       | Horizontal |

**QPSK EIRP POWER FOR LTE BAND 41 (20MHZ BANDWIDTH)**

| Test Results for Low Channel 2545MHz  |               |                |                    |                     |             |             |            |
|---------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                        | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 5140                                  | -56.80        | 2.63           | 27.30              | -32.13              | -25         | -7.13       | Horizontal |
| 5140                                  | -57.28        | 2.63           | 27.30              | -32.61              | -25         | -7.61       | Vertical   |
| 7710                                  | -56.78        | 2.67           | 27.62              | -31.83              | -25         | -6.83       | Vertical   |
| 7710                                  | -59.92        | 2.67           | 27.62              | -34.97              | -25         | -9.97       | Horizontal |
| Test Results for Mid Channel 2595MHz  |               |                |                    |                     |             |             |            |
| 5205                                  | -54.52        | 2.62           | 27.33              | -29.81              | -25         | -4.81       | Horizontal |
| 5205                                  | -55.07        | 2.62           | 27.33              | -30.36              | -25         | -5.36       | Vertical   |
| 7807.5                                | -60.40        | 2.85           | 27.67              | -35.58              | -25         | -10.58      | Vertical   |
| 7807.5                                | -58.30        | 2.85           | 27.67              | -33.48              | -25         | -8.48       | Horizontal |
| Test Results for High Channel 2645MHz |               |                |                    |                     |             |             |            |
| 5270                                  | -53.82        | 2.64           | 27.33              | -29.13              | -25         | -4.13       | Horizontal |
| 5270                                  | -57.41        | 2.64           | 27.33              | -32.72              | -25         | -7.72       | Vertical   |
| 7905                                  | -56.02        | 2.85           | 27.67              | -31.20              | -25         | -6.20       | Vertical   |
| 7905                                  | -56.75        | 2.85           | 27.67              | -31.93              | -25         | -6.93       | Horizontal |

## 9.11 LTE BAND 66

### QPSK EIRP POWER FOR LTE BAND 66 (1.4MHZ BANDWIDTH)

| Test Results for Low Channel 1710.7MHz  |               |                |                    |                     |             |             |            |
|-----------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3421.4                                  | -51.29        | 2.61           | 27.28              | -26.62              | -13         | -13.62      | Horizontal |
| 3421.4                                  | -47.08        | 2.61           | 27.28              | -22.41              | -13         | -9.41       | Vertical   |
| 5132.1                                  | -57.57        | 2.87           | 27.59              | -32.85              | -13         | -19.85      | Vertical   |
| 5132.1                                  | -53.60        | 2.87           | 27.59              | -28.88              | -13         | -15.88      | Horizontal |
| Test Results for Mid Channel 1745MHz    |               |                |                    |                     |             |             |            |
| 3490                                    | -52.86        | 2.62           | 27.3               | -28.18              | -13         | -15.18      | Horizontal |
| 3490                                    | -53.42        | 2.62           | 27.3               | -28.74              | -13         | -15.74      | Vertical   |
| 5337.9                                  | -57.13        | 2.87           | 27.62              | -32.38              | -13         | -19.38      | Vertical   |
| 5337.9                                  | -56.88        | 2.87           | 27.62              | -32.13              | -13         | -19.13      | Horizontal |
| Test Results for High Channel 1779.3MHz |               |                |                    |                     |             |             |            |
| 3558.6                                  | -54.14        | 2.66           | 27.28              | -29.52              | -13         | -16.52      | Horizontal |
| 3558.6                                  | -52.36        | 2.66           | 27.28              | -27.74              | -13         | -14.74      | Vertical   |
| 5337.9                                  | -57.87        | 2.88           | 27.6               | -33.15              | -13         | -20.15      | Vertical   |
| 5337.9                                  | -53.62        | 2.88           | 27.6               | -28.90              | -13         | -15.90      | Horizontal |

### QPSK EIRP POWER FOR LTE BAND 66 (20MHZ BANDWIDTH)

| Test Results for Low Channel 1720MHz  |               |                |                    |                     |             |             |            |
|---------------------------------------|---------------|----------------|--------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                        | SG Level(dBm) | Cable Loss(dB) | Antenna Factor(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3440                                  | -52.03        | 2.62           | 27.3               | -27.35              | -13         | -14.35      | Horizontal |
| 3440                                  | -53.12        | 2.62           | 27.3               | -28.44              | -13         | -15.44      | Vertical   |
| 5160                                  | -54.48        | 2.87           | 27.62              | -29.73              | -13         | -16.73      | Vertical   |
| 5160                                  | -55.09        | 2.87           | 27.62              | -30.34              | -13         | -17.34      | Horizontal |
| Test Results for Mid Channel 1745MHz  |               |                |                    |                     |             |             |            |
| 3490                                  | -49.62        | 2.62           | 27.3               | -24.94              | -13         | -11.94      | Horizontal |
| 3490                                  | -51.24        | 2.62           | 27.3               | -26.56              | -13         | -13.56      | Vertical   |
| 5337.9                                | -57.50        | 2.87           | 27.62              | -32.75              | -13         | -19.75      | Vertical   |
| 5337.9                                | -56.07        | 2.87           | 27.62              | -31.32              | -13         | -18.32      | Horizontal |
| Test Results for High Channel 1770MHz |               |                |                    |                     |             |             |            |
| 3540                                  | -47.99        | 2.62           | 27.3               | -23.31              | -13         | -10.31      | Horizontal |
| 3540                                  | -52.87        | 2.62           | 27.3               | -28.19              | -13         | -15.19      | Vertical   |
| 5310                                  | -52.81        | 2.87           | 27.62              | -28.06              | -13         | -15.06      | Vertical   |
| 5310                                  | -50.31        | 2.87           | 27.62              | -25.56              | -13         | -12.56      | Horizontal |

Note: P<sub>Mea</sub>(dBm)= Power(dBm)+ AR<sub>pl</sub> (dBm)

. Over Limit= : P<sub>Mea</sub>(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

## 10. FREQUENCY STABILITY

### RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54, §90.213

### LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of  $\pm 2.5$  ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

### TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

Temp. =  $-30^{\circ}$  to  $+50^{\circ}\text{C}$

Voltage = low voltage, DC 3.29V, Normal, DC 3.87V and High voltage, DC 4.45V.

### Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to  $-30^{\circ}\text{C}$  and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until  $+50^{\circ}\text{C}$  is reached.

### Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

### MODES TESTED

LTE Band 2/4/5/7/12/17/25/26/41/66

### RESULTS

See the following pages.

## 10.1 LTE BAND 2

Band 2 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

### Frequency error vs. Voltage

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 1880               | 3                       | 0.00160                 | 2.5            |
| 3.87             | 1880               | 0                       | 0.00000                 | 2.5            |
| 4.45             | 1880               | 18                      | 0.00957                 | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 1880               | 16                      | 0.00851                 | 2.5            |
| Extreme (50C)       | 1880               | 8                       | 0.00426                 | 2.5            |
| Extreme (40C)       | 1880               | 22                      | 0.01170                 | 2.5            |
| Extreme (30C)       | 1880               | 5                       | 0.00266                 | 2.5            |
| Extreme (10C)       | 1880               | 22                      | 0.01170                 | 2.5            |
| Extreme (0C)        | 1880               | 11                      | 0.00585                 | 2.5            |
| Extreme (-10C)      | 1880               | 11                      | 0.00585                 | 2.5            |
| Extreme (-20C)      | 1880               | 27                      | 0.01436                 | 2.5            |
| Extreme (-30C)      | 1880               | 9                       | 0.00479                 | 2.5            |

**Band 2 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 1880               | 16                      | 0.00851                 | 2.5            |
| 3.87             | 1880               | 25                      | 0.01330                 | 2.5            |
| 4.45             | 1880               | 18                      | 0.00957                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 1880               | 14                      | 0.00745                 | 2.5            |
| Extreme (50C)       | 1880               | 21                      | 0.01117                 | 2.5            |
| Extreme (40C)       | 1880               | 16                      | 0.00851                 | 2.5            |
| Extreme (30C)       | 1880               | 2                       | 0.00106                 | 2.5            |
| Extreme (10C)       | 1880               | 23                      | 0.01223                 | 2.5            |
| Extreme (0C)        | 1880               | 15                      | 0.00798                 | 2.5            |
| Extreme (-10C)      | 1880               | 6                       | 0.00319                 | 2.5            |
| Extreme (-20C)      | 1880               | 20                      | 0.01064                 | 2.5            |
| Extreme (-30C)      | 1880               | 16                      | 0.00851                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 10.2 LTE BAND 4

Band 4 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

### Frequency error vs. Voltage

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 1732.5             | 20                      | 0.01154                 | 2.5            |
| 3.87             | 1732.5             | 12                      | 0.00693                 | 2.5            |
| 4.45             | 1732.5             | 24                      | 0.01385                 | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 1732.5             | 2                       | 0.00115                 | 2.5            |
| Extreme (50C)       | 1732.5             | 20                      | 0.01154                 | 2.5            |
| Extreme (40C)       | 1732.5             | 15                      | 0.00866                 | 2.5            |
| Extreme (30C)       | 1732.5             | 14                      | 0.00808                 | 2.5            |
| Extreme (10C)       | 1732.5             | 15                      | 0.00866                 | 2.5            |
| Extreme (0C)        | 1732.5             | 22                      | 0.01270                 | 2.5            |
| Extreme (-10C)      | 1732.5             | 2                       | 0.00115                 | 2.5            |
| Extreme (-20C)      | 1732.5             | 13                      | 0.00750                 | 2.5            |
| Extreme (-30C)      | 1732.5             | 26                      | 0.01501                 | 2.5            |

**Band 4 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 1732.5             | 21                      | 0.01212                 | 2.5            |
| 3.87             | 1732.5             | 24                      | 0.01385                 | 2.5            |
| 4.45             | 1732.5             | 19                      | 0.01097                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 1732.5             | 13                      | 0.00750                 | 2.5            |
| Extreme (50C)       | 1732.5             | 8                       | 0.00462                 | 2.5            |
| Extreme (40C)       | 1732.5             | 20                      | 0.01154                 | 2.5            |
| Extreme (30C)       | 1732.5             | 6                       | 0.00346                 | 2.5            |
| Extreme (10C)       | 1732.5             | 4                       | 0.00231                 | 2.5            |
| Extreme (0C)        | 1732.5             | 18                      | 0.01039                 | 2.5            |
| Extreme (-10C)      | 1732.5             | 3                       | 0.00173                 | 2.5            |
| Extreme (-20C)      | 1732.5             | 14                      | 0.00808                 | 2.5            |
| Extreme (-30C)      | 1732.5             | 21                      | 0.01212                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

### 10.3 LTE BAND 5

Band 5 QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 836.5              | 8                       | 0.00956                 | 2.5            |
| 3.87             | 836.5              | 16                      | 0.01913                 | 2.5            |
| 4.45             | 836.5              | 14                      | 0.01674                 | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 836.5              | 2                       | 0.00239                 | 2.5            |
| Extreme (50C)       | 836.5              | 15                      | 0.01793                 | 2.5            |
| Extreme (40C)       | 836.5              | 23                      | 0.02750                 | 2.5            |
| Extreme (30C)       | 836.5              | 17                      | 0.02032                 | 2.5            |
| Extreme (10C)       | 836.5              | 20                      | 0.02391                 | 2.5            |
| Extreme (0C)        | 836.5              | 6                       | 0.00717                 | 2.5            |
| Extreme (-10C)      | 836.5              | 1                       | 0.00120                 | 2.5            |
| Extreme (-20C)      | 836.5              | 4                       | 0.00478                 | 2.5            |
| Extreme (-30C)      | 836.5              | 1                       | 0.00120                 | 2.5            |

**Band 5 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 836.5              | 7                       | 0.00837                 | 2.5            |
| 3.87             | 836.5              | 17                      | 0.02032                 | 2.5            |
| 4.45             | 836.5              | 12                      | 0.01435                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 836.5              | 24                      | 0.02869                 | 2.5            |
| Extreme (50C)       | 836.5              | 23                      | 0.02750                 | 2.5            |
| Extreme (40C)       | 836.5              | 9                       | 0.01076                 | 2.5            |
| Extreme (30C)       | 836.5              | 19                      | 0.02271                 | 2.5            |
| Extreme (10C)       | 836.5              | 18                      | 0.02152                 | 2.5            |
| Extreme (0C)        | 836.5              | 11                      | 0.01315                 | 2.5            |
| Extreme (-10C)      | 836.5              | 24                      | 0.02869                 | 2.5            |
| Extreme (-20C)      | 836.5              | 19                      | 0.02271                 | 2.5            |
| Extreme (-30C)      | 836.5              | 17                      | 0.02032                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 10.4 LTE BAND 7

Band 7 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

### Frequency error vs. Voltage

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 2535               | 10                      | 0.00395                 | 2.5            |
| 3.87             | 2535               | 15                      | 0.00592                 | 2.5            |
| 4.45             | 2535               | 20                      | 0.00789                 | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 2535               | 22                      | 0.00868                 | 2.5            |
| Extreme (50C)       | 2535               | 12                      | 0.00473                 | 2.5            |
| Extreme (40C)       | 2535               | 13                      | 0.00513                 | 2.5            |
| Extreme (30C)       | 2535               | 12                      | 0.00473                 | 2.5            |
| Extreme (10C)       | 2535               | 10                      | 0.00395                 | 2.5            |
| Extreme (0C)        | 2535               | 11                      | 0.00434                 | 2.5            |
| Extreme (-10C)      | 2535               | 12                      | 0.00473                 | 2.5            |
| Extreme (-20C)      | 2535               | 16                      | 0.00631                 | 2.5            |
| Extreme (-30C)      | 2535               | 11                      | 0.00434                 | 2.5            |

**Band 7 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 2535               | 18                      | 0.00710                 | 2.5            |
| 3.87             | 2535               | 18                      | 0.00710                 | 2.5            |
| 4.45             | 2535               | 8                       | 0.00316                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 2535               | 0                       | 0.00000                 | 2.5            |
| Extreme (50C)       | 2535               | 9                       | 0.00355                 | 2.5            |
| Extreme (40C)       | 2535               | 13                      | 0.00513                 | 2.5            |
| Extreme (30C)       | 2535               | 26                      | 0.01026                 | 2.5            |
| Extreme (10C)       | 2535               | 10                      | 0.00395                 | 2.5            |
| Extreme (0C)        | 2535               | 22                      | 0.00868                 | 2.5            |
| Extreme (-10C)      | 2535               | 16                      | 0.00631                 | 2.5            |
| Extreme (-20C)      | 2535               | 25                      | 0.00986                 | 2.5            |
| Extreme (-30C)      | 2535               | 11                      | 0.00434                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 10.5 LTE BAND 12

Band 12 QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0

### Frequency error vs. Voltage

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 707.5              | 18                      | 0.02544                 | 2.5            |
| 3.87             | 707.5              | 17                      | 0.02403                 | 2.5            |
| 4.45             | 707.5              | 3                       | 0.00424                 | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 707.5              | 27                      | 0.03816                 | 2.5            |
| Extreme (50C)       | 707.5              | 25                      | 0.03534                 | 2.5            |
| Extreme (40C)       | 707.5              | 7                       | 0.00989                 | 2.5            |
| Extreme (30C)       | 707.5              | 26                      | 0.03675                 | 2.5            |
| Extreme (10C)       | 707.5              | 12                      | 0.01696                 | 2.5            |
| Extreme (0C)        | 707.5              | 0                       | 0.00000                 | 2.5            |
| Extreme (-10C)      | 707.5              | 1                       | 0.00141                 | 2.5            |
| Extreme (-20C)      | 707.5              | 17                      | 0.02403                 | 2.5            |
| Extreme (-30C)      | 707.5              | 17                      | 0.02403                 | 2.5            |

**Band 12 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)**

**Frequency error vs. Voltage**

| Voltage [Vdc] | Frequency [MHz] | Frequency* Error[Hz] | Frequency Error[ppm] | Limit [ppm] |
|---------------|-----------------|----------------------|----------------------|-------------|
| 3.29          | 707.5           | 4                    | 0.00565              | 2.5         |
| 3.87          | 707.5           | 11                   | 0.01555              | 2.5         |
| 4.45          | 707.5           | 24                   | 0.03392              | 2.5         |

**Frequency error vs. Temperature**

| Temperature [°C] | Frequency [MHz] | Frequency* Error[Hz] | Frequency Error[ppm] | Limit [ppm] |
|------------------|-----------------|----------------------|----------------------|-------------|
| Normal (25C)     | 707.5           | 5                    | 0.00707              | 2.5         |
| Extreme (50C)    | 707.5           | 5                    | 0.00707              | 2.5         |
| Extreme (40C)    | 707.5           | 6                    | 0.00848              | 2.5         |
| Extreme (30C)    | 707.5           | 8                    | 0.01131              | 2.5         |
| Extreme (10C)    | 707.5           | 11                   | 0.01555              | 2.5         |
| Extreme (0C)     | 707.5           | 12                   | 0.01696              | 2.5         |
| Extreme (-10C)   | 707.5           | 20                   | 0.02827              | 2.5         |
| Extreme (-20C)   | 707.5           | 6                    | 0.00848              | 2.5         |
| Extreme (-30C)   | 707.5           | 16                   | 0.02262              | 2.5         |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 10.6 LTE BAND 17

### Band 17 QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 710.0              | 15                      | 0.02113                 | 2.5            |
| 3.87             | 710.0              | 25                      | 0.03521                 | 2.5            |
| 4.45             | 710.0              | 26                      | 0.03662                 | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 710.0              | 10                      | 0.01409                 | 2.5            |
| Extreme (50C)       | 710.0              | 16                      | 0.02254                 | 2.5            |
| Extreme (40C)       | 710.0              | 12                      | 0.01690                 | 2.5            |
| Extreme (30C)       | 710.0              | 1                       | 0.00141                 | 2.5            |
| Extreme (10C)       | 710.0              | 18                      | 0.02535                 | 2.5            |
| Extreme (0C)        | 710.0              | 21                      | 0.02958                 | 2.5            |
| Extreme (-10C)      | 710.0              | 1                       | 0.00141                 | 2.5            |
| Extreme (-20C)      | 710.0              | 3                       | 0.00423                 | 2.5            |
| Extreme (-30C)      | 710.0              | 20                      | 0.02817                 | 2.5            |

**Band 17 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 710.0              | 13                      | 0.01831                 | 2.5            |
| 3.87             | 710.0              | 10                      | 0.01409                 | 2.5            |
| 4.45             | 710.0              | 3                       | 0.00423                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 710.0              | 20                      | 0.02817                 | 2.5            |
| Extreme (50C)       | 710.0              | 1                       | 0.00141                 | 2.5            |
| Extreme (40C)       | 710.0              | 18                      | 0.02535                 | 2.5            |
| Extreme (30C)       | 710.0              | 13                      | 0.01831                 | 2.5            |
| Extreme (10C)       | 710.0              | 14                      | 0.01972                 | 2.5            |
| Extreme (0C)        | 710.0              | 21                      | 0.02958                 | 2.5            |
| Extreme (-10C)      | 710.0              | 17                      | 0.02394                 | 2.5            |
| Extreme (-20C)      | 710.0              | 13                      | 0.01831                 | 2.5            |
| Extreme (-30C)      | 710.0              | 3                       | 0.00423                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 10.7 LTE BAND 25

### QPSK, (20MHz BANDWIDTH)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 1882.5             | 10                      | 0.00531                 | 2.5            |
| 3.87             | 1882.5             | 7                       | 0.00372                 | 2.5            |
| 4.45             | 1882.5             | 27                      | 0.01434                 | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 1882.5             | 11                      | 0.00584                 | 2.5            |
| Extreme (50C)       | 1882.5             | 20                      | 0.01062                 | 2.5            |
| Extreme (40C)       | 1882.5             | 8                       | 0.00425                 | 2.5            |
| Extreme (30C)       | 1882.5             | 7                       | 0.00372                 | 2.5            |
| Extreme (10C)       | 1882.5             | 5                       | 0.00266                 | 2.5            |
| Extreme (0C)        | 1882.5             | 21                      | 0.01116                 | 2.5            |
| Extreme (-10C)      | 1882.5             | 24                      | 0.01275                 | 2.5            |
| Extreme (-20C)      | 1882.5             | 1                       | 0.00053                 | 2.5            |
| Extreme (-30C)      | 1882.5             | 27                      | 0.01434                 | 2.5            |

**16QAM, (20MHz BANDWIDTH)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------|--------------------|-------------------------|-------------------------|----------------|
| 3.29             | 1882.5             | 18                      | 0.00956                 | 2.5            |
| 3.87             | 1882.5             | 16                      | 0.00850                 | 2.5            |
| 4.45             | 1882.5             | 10                      | 0.00531                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C] | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------|--------------------|-------------------------|-------------------------|----------------|
| Normal (25C)        | 1882.5             | 22                      | 0.01169                 | 2.5            |
| Extreme (50C)       | 1882.5             | 19                      | 0.01009                 | 2.5            |
| Extreme (40C)       | 1882.5             | 2                       | 0.00106                 | 2.5            |
| Extreme (30C)       | 1882.5             | 11                      | 0.00584                 | 2.5            |
| Extreme (10C)       | 1882.5             | 6                       | 0.00319                 | 2.5            |
| Extreme (0C)        | 1882.5             | 18                      | 0.00956                 | 2.5            |
| Extreme (-10C)      | 1882.5             | 13                      | 0.00691                 | 2.5            |
| Extreme (-20C)      | 1882.5             | 6                       | 0.00319                 | 2.5            |
| Extreme (-30C)      | 1882.5             | 22                      | 0.01169                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 10.8 LTE BAND 26 A

### Band 26A QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-----------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 26 QPSK, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH) |                    |                         |                         |                |
| 3.29                                                            | 819                | 4                       | 0.00488                 | 2.5            |
| 3.87                                                            | 819                | 9                       | 0.01099                 | 2.5            |
| 4.45                                                            | 819                | 25                      | 0.03053                 | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[°C]                                             | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-----------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 26 QPSK, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH) |                    |                         |                         |                |
| Normal (25C)                                                    | 819                | 12                      | 0.01465                 | 2.5            |
| Extreme (50C)                                                   | 819                | 15                      | 0.01832                 | 2.5            |
| Extreme (40C)                                                   | 819                | 0                       | 0.00000                 | 2.5            |
| Extreme (30C)                                                   | 819                | 21                      | 0.02564                 | 2.5            |
| Extreme (10C)                                                   | 819                | 21                      | 0.02564                 | 2.5            |
| Extreme (0C)                                                    | 819                | 10                      | 0.01221                 | 2.5            |
| Extreme (-10C)                                                  | 819                | 3                       | 0.00366                 | 2.5            |
| Extreme (-20C)                                                  | 819                | 14                      | 0.01709                 | 2.5            |
| Extreme (-30C)                                                  | 819                | 20                      | 0.02442                 | 2.5            |

**Band 26A 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc]                                                 | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 26 16QAM, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH) |                    |                         |                         |                |
| 3.29                                                             | 819                | 9                       | 0.01099                 | 2.5            |
| 3.87                                                             | 819                | 26                      | 0.03175                 | 2.5            |
| 4.45                                                             | 819                | 7                       | 0.00855                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C]                                              | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 26 16QAM, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH) |                    |                         |                         |                |
| Normal (25C)                                                     | 819                | 13                      | 0.01587                 | 2.5            |
| Extreme (50C)                                                    | 819                | 8                       | 0.00977                 | 2.5            |
| Extreme (40C)                                                    | 819                | 3                       | 0.00366                 | 2.5            |
| Extreme (30C)                                                    | 819                | 13                      | 0.01587                 | 2.5            |
| Extreme (10C)                                                    | 819                | 3                       | 0.00366                 | 2.5            |
| Extreme (0C)                                                     | 819                | 0                       | 0.00000                 | 2.5            |
| Extreme (-10C)                                                   | 819                | 25                      | 0.03053                 | 2.5            |
| Extreme (-20C)                                                   | 819                | 27                      | 0.03297                 | 2.5            |
| Extreme (-30C)                                                   | 819                | 17                      | 0.02076                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 10.9 LTE BAND 26 B

### Band 26A QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                      | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 26 QPSK, (CH 26740 RB size 75 RB Offset 0 10MHz) |                    |                         |                         |                |
| 3.29                                                  | 836.5              | 14                      | 0.01674                 | 2.5            |
| 3.87                                                  | 836.5              | 16                      | 0.01913                 | 2.5            |
| 4.45                                                  | 836.5              | 11                      | 0.01315                 | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[°C]                                   | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 26 QPSK, (CH 26740 RB size 75 RB Offset 0 10MHz) |                    |                         |                         |                |
| Normal (25C)                                          | 836.5              | 3                       | 0.00359                 | 2.5            |
| Extreme (50C)                                         | 836.5              | 21                      | 0.02510                 | 2.5            |
| Extreme (40C)                                         | 836.5              | 7                       | 0.00837                 | 2.5            |
| Extreme (30C)                                         | 836.5              | 7                       | 0.00837                 | 2.5            |
| Extreme (10C)                                         | 836.5              | 14                      | 0.01674                 | 2.5            |
| Extreme (0C)                                          | 836.5              | 16                      | 0.01913                 | 2.5            |
| Extreme (-10C)                                        | 836.5              | 25                      | 0.02989                 | 2.5            |
| Extreme (-20C)                                        | 836.5              | 3                       | 0.00359                 | 2.5            |
| Extreme (-30C)                                        | 836.5              | 25                      | 0.02989                 | 2.5            |

**Band 26A 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc]                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|--------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 26 16QAM, (CH 26740 RB size 75 RB Offset 0 10MHz) |                    |                         |                         |                |
| 3.29                                                   | 836.5              | 23                      | 0.02750                 | 2.5            |
| 3.87                                                   | 836.5              | 14                      | 0.01674                 | 2.5            |
| 4.45                                                   | 836.5              | 11                      | 0.01315                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C]                                    | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|--------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 26 16QAM, (CH 26740 RB size 75 RB Offset 0 10MHz) |                    |                         |                         |                |
| Normal (25C)                                           | 836.5              | 11                      | 0.01315                 | 2.5            |
| Extreme (50C)                                          | 836.5              | 12                      | 0.01435                 | 2.5            |
| Extreme (40C)                                          | 836.5              | 23                      | 0.02750                 | 2.5            |
| Extreme (30C)                                          | 836.5              | 4                       | 0.00478                 | 2.5            |
| Extreme (10C)                                          | 836.5              | 16                      | 0.01913                 | 2.5            |
| Extreme (0C)                                           | 836.5              | 14                      | 0.01674                 | 2.5            |
| Extreme (-10C)                                         | 836.5              | 18                      | 0.02152                 | 2.5            |
| Extreme (-20C)                                         | 836.5              | 24                      | 0.01124                 | 2.5            |
| Extreme (-30C)                                         | 836.5              | 14                      | 0.00729                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 10.10 LTE BAND 41

### QPSK, (20MHz BANDWIDTH)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                         | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|--------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.29                                                                     | 2595               | 13                      | 0.00501                 | 2.5            |
| 3.87                                                                     | 2595               | 14                      | 0.00539                 | 2.5            |
| 4.45                                                                     | 2595               | 10                      | 0.00385                 | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[°C]                                                      | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|--------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                             | 2595               | 24                      | 0.00925                 | 2.5            |
| Extreme (50C)                                                            | 2595               | 19                      | 0.00732                 | 2.5            |
| Extreme (40C)                                                            | 2595               | 22                      | 0.00848                 | 2.5            |
| Extreme (30C)                                                            | 2595               | 3                       | 0.00116                 | 2.5            |
| Extreme (10C)                                                            | 2595               | 24                      | 0.00925                 | 2.5            |
| Extreme (0C)                                                             | 2595               | 23                      | 0.00886                 | 2.5            |
| Extreme (-10C)                                                           | 2595               | 3                       | 0.00116                 | 2.5            |
| Extreme (-20C)                                                           | 2595               | 27                      | 0.01040                 | 2.5            |
| Extreme (-30C)                                                           | 2595               | 22                      | 0.00848                 | 2.5            |

**16QAM, (20MHz BANDWIDTH)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc]                                                          | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.29                                                                      | 2595               | 7                       | 0.00270                 | 2.5            |
| 3.87                                                                      | 2595               | 15                      | 0.00578                 | 2.5            |
| 4.45                                                                      | 2595               | 23                      | 0.00886                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C]                                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                              | 2595               | 20                      | 0.00771                 | 2.5            |
| Extreme (50C)                                                             | 2595               | 21                      | 0.00809                 | 2.5            |
| Extreme (40C)                                                             | 2595               | 18                      | 0.00694                 | 2.5            |
| Extreme (30C)                                                             | 2595               | 15                      | 0.00578                 | 2.5            |
| Extreme (10C)                                                             | 2595               | 1                       | 0.00039                 | 2.5            |
| Extreme (0C)                                                              | 2595               | 14                      | 0.00539                 | 2.5            |
| Extreme (-10C)                                                            | 2595               | 14                      | 0.00539                 | 2.5            |
| Extreme (-20C)                                                            | 2595               | 15                      | 0.00578                 | 2.5            |
| Extreme (-30C)                                                            | 2595               | 2                       | 0.00077                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

### 10.11 LTE BAND 66 QPSK, (20MHz BANDWIDTH)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                  | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH) |                    |                         |                         |                |
| 3.29                                                              | 1745               | 11                      | 0.00630                 | 2.5            |
| 3.87                                                              | 1745               | 17                      | 0.00974                 | 2.5            |
| 4.45                                                              | 1745               | 27                      | 0.01547                 | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[°C]                                               | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH) |                    |                         |                         |                |
| Normal (25C)                                                      | 1745               | 21                      | 0.01203                 | 2.5            |
| Extreme (50C)                                                     | 1745               | 8                       | 0.00458                 | 2.5            |
| Extreme (40C)                                                     | 1745               | 17                      | 0.00974                 | 2.5            |
| Extreme (30C)                                                     | 1745               | 19                      | 0.01089                 | 2.5            |
| Extreme (10C)                                                     | 1745               | 15                      | 0.00860                 | 2.5            |
| Extreme (0C)                                                      | 1745               | 3                       | 0.00172                 | 2.5            |
| Extreme (-10C)                                                    | 1745               | 9                       | 0.00516                 | 2.5            |
| Extreme (-20C)                                                    | 1745               | 11                      | 0.00630                 | 2.5            |
| Extreme (-30C)                                                    | 1745               | 8                       | 0.00458                 | 2.5            |

**16QAM, (20MHz BANDWIDTH)**

**Frequency error vs. Voltage**

| Voltage<br>[Vdc]                                                          | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.29                                                                      | 1745               | 20                      | 0.01146                 | 2.5            |
| 3.87                                                                      | 1745               | 17                      | 0.00974                 | 2.5            |
| 4.45                                                                      | 1745               | 9                       | 0.00516                 | 2.5            |

**Frequency error vs. Temperature**

| Temperature<br>[°C]                                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|---------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                              | 1745               | 15                      | 0.00860                 | 2.5            |
| Extreme (50C)                                                             | 1745               | 14                      | 0.00802                 | 2.5            |
| Extreme (40C)                                                             | 1745               | 4                       | 0.00229                 | 2.5            |
| Extreme (30C)                                                             | 1745               | 1                       | 0.00057                 | 2.5            |
| Extreme (10C)                                                             | 1745               | 17                      | 0.00974                 | 2.5            |
| Extreme (0C)                                                              | 1745               | 2                       | 0.00115                 | 2.5            |
| Extreme (-10C)                                                            | 1745               | 19                      | 0.01089                 | 2.5            |
| Extreme (-20C)                                                            | 1745               | 10                      | 0.00573                 | 2.5            |
| Extreme (-30C)                                                            | 1745               | 11                      | 0.00630                 | 2.5            |

**\*Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

## 11. Peak-to-Average Ratio

### 11.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

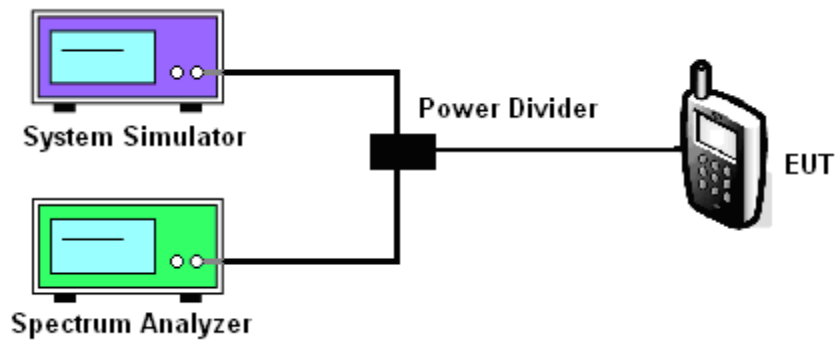
### 11.2 Measuring Instruments

See list of measuring instruments of this test report.

### 11.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. 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.
3. For LTE operating modes:
  - a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
  - b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

#### 11.4 Test Setup



#### MODES TESTED

LTE Band 2/4/5/7/12/17/25/26/41/66

Test data reference attachment.

-----END OF REPORT-----