

# FCC TEST REPORT

**Product Name:** Smart phone  
**Trade Mark:** BLU  
**Model No.:** C9 MAX  
**Report Number:** 26030222836RFM-2  
**Test Standards:** FCC 47 CFR Part 22  
FCC 47 CFR Part 24  
FCC 47 CFR Part 27  
**FCC ID:** YHLBLU9CMAX  
**Test Result:** PASS  
**Date of Issue:** April 10, 2026

Prepared for:

**BLU Products, Inc.**  
**8600 NW 36th Street, Suite #300 | Miami, FL 33166**

Prepared by:

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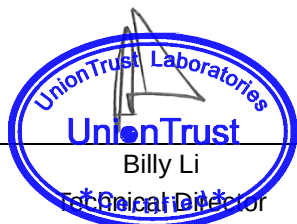
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April 10, 2026

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UTTR-RF-FCC4G-V1.1

## Version

| Version No. | Date           | Description |
|-------------|----------------|-------------|
| V1.0        | April 10, 2026 | Original    |



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## CONTENTS

|                                                        |           |
|--------------------------------------------------------|-----------|
| <b>1. GENERAL INFORMATION</b>                          | <b>4</b>  |
| 1.1 CLIENT INFORMATION                                 | 4         |
| 1.2 EUT INFORMATION                                    | 4         |
| 1.2.1 GENERAL DESCRIPTION OF EUT                       | 4         |
| 1.2.2 DESCRIPTION OF ACCESSORIES                       | 4         |
| 1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD  | 5         |
| 1.4 DESCRIPTION OF SUPPORT UNITS                       | 7         |
| 1.5 TEST LOCATION                                      | 7         |
| 1.6 TEST FACILITY                                      | 7         |
| 1.7 DEVIATION FROM STANDARDS                           | 7         |
| 1.8 ABNORMALITIES FROM STANDARD CONDITIONS             | 7         |
| 1.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER        | 8         |
| 1.10 MEASUREMENT UNCERTAINTY                           | 8         |
| <b>2. TEST SUMMARY</b>                                 | <b>9</b>  |
| <b>3. EQUIPMENT LIST</b>                               | <b>11</b> |
| <b>4. TEST CONFIGURATION</b>                           | <b>13</b> |
| 4.1 ENVIRONMENTAL CONDITIONS FOR TESTING               | 13        |
| 4.2 TEST SETUP                                         | 13        |
| 4.2.1 FOR RADIATED EMISSIONS TEST SETUP                | 13        |
| 4.2.2 FOR CONDUCTED RF TEST SETUP                      | 14        |
| 4.3 TEST CHANNELS                                      | 16        |
| 4.4 SYSTEM TEST CONFIGURATION                          | 17        |
| 4.5 PRE-SCAN                                           | 18        |
| <b>5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION</b>   | <b>19</b> |
| 5.1 REFERENCE DOCUMENTS FOR TESTING                    | 19        |
| 5.2 CONDUCTED OUTPUT POWER                             | 19        |
| 5.2.1 LTE BAND 2                                       | 20        |
| 5.2.2 LTE BAND 4                                       | 21        |
| 5.2.3 LTE BAND 5                                       | 22        |
| 5.2.4 LTE BAND 7                                       | 23        |
| 5.2.5 LTE BAND 38                                      | 24        |
| 5.3 ERP OR EIRP                                        | 25        |
| 5.3.1 LTE BAND 2                                       | 26        |
| 5.3.2 LTE BAND 4                                       | 27        |
| 5.3.3 LTE BAND 5                                       | 28        |
| 5.3.4 LTE BAND 7                                       | 29        |
| 5.3.5 LTE BAND 38                                      | 29        |
| 5.4 PEAK-TO-AVERAGE RATIO                              | 30        |
| 5.5 99%&26dB BANDWIDTH                                 | 31        |
| 5.6 BAND EDGE AT ANTENNA TERMINALS                     | 32        |
| 5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS            | 33        |
| 5.8 FIELD STRENGTH OF SPURIOUS RADIATION               | 34        |
| 5.8.1 LTE BAND 2                                       | 35        |
| 5.8.2 LTE BAND 4                                       | 36        |
| 5.8.3 LTE BAND 5                                       | 37        |
| 5.8.4 LTE BAND 7                                       | 38        |
| 5.8.5 LTE BAND 38                                      | 39        |
| 5.9 FREQUENCY STABILITY                                | 40        |
| <b>APPENDIX 1 PHOTOS OF TEST SETUP</b>                 | <b>41</b> |
| <b>APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS</b> | <b>41</b> |

## 1. GENERAL INFORMATION

### 1.1 CLIENT INFORMATION

|                                 |                                                   |
|---------------------------------|---------------------------------------------------|
| <b>Applicant:</b>               | BLU Products, Inc.                                |
| <b>Address of Applicant:</b>    | 8600 NW 36th Street, Suite #300   Miami, FL 33166 |
| <b>Manufacturer:</b>            | BLU Products, Inc.                                |
| <b>Address of Manufacturer:</b> | 8600 NW 36th Street, Suite #300   Miami, FL 33166 |

### 1.2 EUT INFORMATION

#### 1.2.1 General Description of EUT

|                                                             |                                                                                                                                          |                                                   |                               |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------|
| <b>Product Name:</b>                                        | Smart phone                                                                                                                              |                                                   |                               |
| <b>Model No.:</b>                                           | C9 MAX                                                                                                                                   |                                                   |                               |
| <b>Trade Mark:</b>                                          | BLU                                                                                                                                      |                                                   |                               |
| <b>DUT Stage:</b>                                           | Identical Prototype                                                                                                                      |                                                   |                               |
| <b>EUT Supports Function:</b><br>(Provided by the customer) | GSM Bands:                                                                                                                               | GSM850/PCS 1900                                   |                               |
|                                                             | UTRA Bands:                                                                                                                              | WCDMA Band II/ Band V                             |                               |
|                                                             | E-UTRA Bands:                                                                                                                            | FDD Band 2/ Band 4/ Band 5/ Band 7<br>TDD Band 38 |                               |
|                                                             | 2.4 GHz ISM Band:                                                                                                                        | IEEE 802.11b/g/n<br>Bluetooth 4.2                 |                               |
|                                                             | RNSS Band:                                                                                                                               | 1559 MHz to 1610 MHz                              | GPS/ BDS/ Galileo/<br>GLONASS |
|                                                             | BSR:                                                                                                                                     | VHF Band II                                       | FM                            |
|                                                             |                                                                                                                                          |                                                   |                               |
| <b>Sample Received Date:</b>                                | March 2, 2026                                                                                                                            |                                                   |                               |
| <b>Sample Tested Date:</b>                                  | March 3, 2026 to March 28, 2026                                                                                                          |                                                   |                               |
| <b>Remark:</b>                                              | The above EUT's information was provided by customer. Please refer to the specifications or user's manual for more detailed description. |                                                   |                               |

#### 1.2.2 Description of Accessories

Refer to Report 26030222836EMC-1 for accessories.

### 1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

|                                                    |                                     |           |
|----------------------------------------------------|-------------------------------------|-----------|
| <b>Support Networks:</b>                           | Single Carrier: LTE Band 2/4/5/7/38 |           |
| <b>Type of Modulation:</b>                         | QPSK, 16QAM                         |           |
| <b>Antenna Type:</b><br>(Provided by the customer) | PIFA Antenna                        |           |
| <b>Antenna Gain:</b><br>(Provided by the customer) | LTE Band 2:                         | -1.51 dBi |
|                                                    | LTE Band 4:                         | -1.13 dBi |
|                                                    | LTE Band 5:                         | -1.69 dBi |
|                                                    | LTE Band 7:                         | -1.79 dBi |
|                                                    | LTE Band 38:                        | -1.79 dBi |
| <b>Sample No.:</b>                                 | Radiated: S202603028012-ZJA02/6     |           |
|                                                    | Conducted: S202603028012-ZJA05/6    |           |
| <b>Normal Test Voltage:</b>                        | 3.85 Vdc                            |           |
| <b>Extreme Test Voltage:</b>                       | 3.6 to 4.35Vdc                      |           |
| <b>Extreme Test Temperature:</b>                   | -30 °C to +50 °C                    |           |

| Summary of Results: |       |            |                 |                           |                    |          |        |                     |
|---------------------|-------|------------|-----------------|---------------------------|--------------------|----------|--------|---------------------|
| Bands               | BW    | Modulation | Frequency Range | Max RF Output Power (dBm) |                    | ERP/EIRP | 99% BW | Emission Designator |
|                     | (MHz) |            | (MHz)           | Conducted (Average)       | ERP/EIRP (Average) | (W)      | (MHz)  |                     |
| 2                   | 1.4   | QPSK       | 1850.7-1909.3   | 21.21                     | 19.70              | 0.0933   | 1.0992 | 1M10G7D             |
|                     |       | 16QAM      |                 | 20.39                     | 18.88              | 0.0773   | 1.1030 | 1M10W7D             |
|                     | 3     | QPSK       | 1851.5-1908.5   | 21.03                     | 19.52              | 0.0895   | 2.7128 | 2M71G7D             |
|                     |       | 16QAM      |                 | 20.39                     | 18.88              | 0.0773   | 2.7105 | 2M71W7D             |
|                     | 5     | QPSK       | 1852.5-1907.5   | 21.11                     | 19.60              | 0.0912   | 4.5092 | 4M51G7D             |
|                     |       | 16QAM      |                 | 20.32                     | 18.81              | 0.0760   | 4.5297 | 4M53W7D             |
|                     | 10    | QPSK       | 1855.0-1905.0   | 21.15                     | 19.64              | 0.0920   | 8.9991 | 9M00G7D             |
|                     |       | 16QAM      |                 | 20.41                     | 18.90              | 0.0776   | 9.0119 | 9M01W7D             |
|                     | 15    | QPSK       | 1857.5-1902.5   | 21.18                     | 19.67              | 0.0927   | 13.502 | 13M5G7D             |
|                     |       | 16QAM      |                 | 20.40                     | 18.89              | 0.0774   | 13.497 | 13M5W7D             |
|                     | 20    | QPSK       | 1860.0-1900.0   | 21.22                     | 19.71              | 0.0935   | 18.050 | 18M1G7D             |
|                     |       | 16QAM      |                 | 20.51                     | 19.00              | 0.0794   | 18.012 | 18M1W7D             |
| 4                   | 1.4   | QPSK       | 1710.7-1754.3   | 22.14                     | 21.01              | 0.1262   | 1.0981 | 1M10G7D             |
|                     |       | 16QAM      |                 | 21.79                     | 20.66              | 0.1164   | 1.1012 | 1M10W7D             |
|                     | 3     | QPSK       | 1711.5-1753.5   | 22.04                     | 20.91              | 0.1233   | 2.7147 | 2M71G7D             |
|                     |       | 16QAM      |                 | 21.80                     | 20.67              | 0.1167   | 2.7088 | 2M71W7D             |
|                     | 5     | QPSK       | 1712.5-1752.5   | 22.06                     | 20.93              | 0.1239   | 4.5068 | 4M51G7D             |
|                     |       | 16QAM      |                 | 21.79                     | 20.66              | 0.1164   | 4.5305 | 4M53W7D             |
|                     | 10    | QPSK       | 1715-1750       | 22.08                     | 20.95              | 0.1245   | 9.0103 | 9M01G7D             |
|                     |       | 16QAM      |                 | 21.78                     | 20.65              | 0.1161   | 9.0016 | 9M00W7D             |
|                     | 15    | QPSK       | 1717.5-1747.5   | 22.13                     | 21.00              | 0.1259   | 13.516 | 13M5G7D             |
|                     |       | 16QAM      |                 | 21.77                     | 20.64              | 0.1159   | 13.502 | 13M5W7D             |
|                     | 20    | QPSK       | 1720-1745       | 22.19                     | 21.06              | 0.1276   | 18.014 | 18M0G7D             |

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| Summary of Results: |       |            |                 |                           |                    |          |        |                     |
|---------------------|-------|------------|-----------------|---------------------------|--------------------|----------|--------|---------------------|
| Bands               | BW    | Modulation | Frequency Range | Max RF Output Power (dBm) |                    | ERP/EIRP | 99% BW | Emission Designator |
|                     | (MHz) |            | (MHz)           | Conducted (Average)       | ERP/EIRP (Average) | (W)      | (MHz)  |                     |
|                     |       | 16QAM      |                 | 21.88                     | 20.75              | 0.1189   | 18.034 | 18M0W7D             |
| 5                   | 1.4   | QPSK       | 824.7-848.3     | 22.43                     | 18.59              | 0.0723   | 1.0965 | 1M10G7D             |
|                     |       | 16QAM      |                 | 21.86                     | 18.02              | 0.0634   | 1.1014 | 1M10W7D             |
|                     | 3     | QPSK       | 825.5-847.5     | 22.46                     | 18.62              | 0.0728   | 2.7186 | 2M72G7D             |
|                     |       | 16QAM      |                 | 21.92                     | 18.08              | 0.0643   | 2.7082 | 2M71W7D             |
|                     | 5     | QPSK       | 826.5-846.5     | 22.54                     | 18.70              | 0.0741   | 4.5076 | 4M51G7D             |
|                     |       | 16QAM      |                 | 21.86                     | 18.02              | 0.0634   | 4.5243 | 4M52W7D             |
|                     | 10    | QPSK       | 829-844         | 22.59                     | 18.75              | 0.0750   | 9.0016 | 9M00G7D             |
|                     |       | 16QAM      |                 | 21.98                     | 18.14              | 0.0652   | 8.9997 | 9M00W7D             |
| 7                   | 5     | QPSK       | 2502.5-2567.5   | 22.49                     | 20.70              | 0.1175   | 4.5094 | 4M51G7D             |
|                     |       | 16QAM      |                 | 22.13                     | 20.34              | 0.1081   | 4.5268 | 4M53W7D             |
|                     | 10    | QPSK       | 2505-2565       | 22.54                     | 20.75              | 0.1189   | 9.0100 | 9M01G7D             |
|                     |       | 16QAM      |                 | 22.01                     | 20.22              | 0.1052   | 9.0059 | 9M01W7D             |
|                     | 15    | QPSK       | 2507.5-2562.5   | 22.47                     | 20.68              | 0.1169   | 13.508 | 13M5G7D             |
|                     |       | 16QAM      |                 | 22.12                     | 20.33              | 0.1079   | 13.529 | 13M5W7D             |
|                     | 20    | QPSK       | 2510-2560       | 22.55                     | 20.76              | 0.1191   | 18.065 | 18M1G7D             |
|                     |       | 16QAM      |                 | 22.15                     | 20.36              | 0.1086   | 18.053 | 18M1W7D             |
| 38                  | 5     | QPSK       | 2572.5-2617.5   | 22.82                     | 21.03              | 0.1268   | 4.5037 | 4M50G7D             |
|                     |       | 16QAM      |                 | 22.53                     | 20.74              | 0.1186   | 4.5071 | 4M51W7D             |
|                     | 10    | QPSK       | 2575-2615       | 22.86                     | 21.07              | 0.1279   | 9.0048 | 9M00G7D             |
|                     |       | 16QAM      |                 | 22.44                     | 20.65              | 0.1161   | 8.9924 | 8M99W7D             |
|                     | 15    | QPSK       | 2577.5-2612.5   | 22.85                     | 21.06              | 0.1276   | 13.494 | 13M5G7D             |
|                     |       | 16QAM      |                 | 22.57                     | 20.78              | 0.1197   | 13.522 | 13M5W7D             |
|                     | 20    | QPSK       | 2580-2610       | 22.92                     | 21.13              | 0.1297   | 18.004 | 18M0G7D             |
|                     |       | 16QAM      |                 | 22.59                     | 20.80              | 0.1202   | 17.982 | 18M0W7D             |

## 1.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

### 1) Support Equipment

| Description                   | Manufacturer | Model No. | Serial Number | Supplied by |
|-------------------------------|--------------|-----------|---------------|-------------|
| 2 way Divider <sup>Note</sup> | WOKEN        | N/A       | UTTL-EN020    | UnionTrust  |

### 2) Support Cable

| Cable No. | Description                   | Connector | Length    | Supplied by |
|-----------|-------------------------------|-----------|-----------|-------------|
| 1         | Antenna Cable <sup>Note</sup> | SMA       | 0.1 Meter | UnionTrust  |

Note: All test results of the conduction method data have been compensated for the Divider factor and cable loss.

## 1.5 TEST LOCATION

### Shenzhen UnionTrust Quality and Technology Co., Ltd.

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Telephone: +86 (0) 755 2823 0888

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## 1.6 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

### CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

### A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

### ISED Wireless Device Testing Laboratories

CAB identifier: CN0032

### FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

## 1.7 DEVIATION FROM STANDARDS

None.

## 1.8 ABNORMALITIES FROM STANDARD CONDITIONS

None.

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## 1.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

## 1.10 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| No. | Item                                    | Measurement Uncertainty                                                  |
|-----|-----------------------------------------|--------------------------------------------------------------------------|
| 1   | Conducted Output Power                  | ±0.7 dB                                                                  |
| 2   | 99%&26dB Bandwidth                      | ±1.86 %                                                                  |
| 3   | Emission Mask                           | ±2.7 dBm                                                                 |
| 4   | Spurious emissions at antenna terminals | ±2.7 dBm                                                                 |
| 5   | Field strength of spurious radiation    | 30 MHz-1 GHz: ±4.9 dB<br>1 GHz-18 GHz: ±4.8 dB<br>18 GHz-40 GHz: ±5.1 dB |
| 6   | Frequency stability                     | ±6.5 × 10 <sup>-8</sup>                                                  |
| 7   | Humidity                                | ±3.9 %                                                                   |
| 8   | Temperature                             | ±0.62 °C                                                                 |
| 9   | DC Voltages                             | ±0.68 %                                                                  |

## 2. TEST SUMMARY

| FCC 47 CFR Part 24 Test Cases (Band 2)     |                                                       |                                         |        |
|--------------------------------------------|-------------------------------------------------------|-----------------------------------------|--------|
| Test Item                                  | Test Requirement                                      | Test Method                             | Result |
| Equivalent Isotropic Radiated Power (EIRP) | FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Conducted Output Power                     | FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Peak-to-average ratio                      | FCC 47 CFR Part 24.232(d)                             | KDB 971168 D01v03r01                    | PASS   |
| 99%&26dB Bandwidth                         | FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 24.238(b) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Band Edge at antenna terminals             | FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)    | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Spurious emissions at antenna terminals    | FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)(b) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Field strength of spurious radiation       | FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 24.238(a)(b) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Frequency stability                        | FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 24.235       | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |

| FCC 47 CFR Part 27 Test Cases (LTE Band 4) |                                                         |                                         |        |
|--------------------------------------------|---------------------------------------------------------|-----------------------------------------|--------|
| Test Item                                  | Test Requirement                                        | Test Method                             | Result |
| Equivalent Isotropic Radiated Power (EIRP) | FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Conducted Output Power                     | FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Peak-to-average ratio                      | FCC 47 CFR Part 27.50(d)(5)                             | KDB 971168 D01v03r01                    | PASS   |
| 99%&26dB Bandwidth                         | FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 27.53(h)    | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Band Edge at antenna terminals             | FCC 47 CFR Part 27.53(h)(1)                             | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Spurious emissions at antenna terminals    | FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(h)       | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Field strength of spurious radiation       | FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(h)       | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Frequency stability                        | FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54          | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |

| FCC 47 CFR Part 22 Test Cases (Band 5)  |                                                       |                                         |        |
|-----------------------------------------|-------------------------------------------------------|-----------------------------------------|--------|
| Test Item                               | Test Requirement                                      | Test Method                             | Result |
| Effective Radiated Power (ERP)          | FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Conducted Output Power                  | FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Peak-to-average ratio                   | FCC 47 CFR Part 22.913(a)                             | KDB 971168 D01v03r01                    | PASS   |
| 99%&26dB Bandwidth                      | FCC 47 CFR Part 2.1049(h)                             | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Band Edge at antenna terminals          | FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)    | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Spurious emissions at antenna terminals | FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)(b) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Field strength of spurious radiation    | FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 22.917(a)(b) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Frequency stability                     | FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 22.355       | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |

| FCC 47 CFR Part 27 Test Cases (LTE Band 7& Band 38) |                                                         |                                         |        |
|-----------------------------------------------------|---------------------------------------------------------|-----------------------------------------|--------|
| Test Item                                           | Test Requirement                                        | Test Method                             | Result |
| Equivalent Isotropic Radiated Power (EIRP)          | FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(h)(2) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Conducted Output Power                              | FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(h)(2) | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Peak-to-average ratio                               | FCC 47 CFR Part 27.50(d)(5)                             | KDB 971168 D01v03r01                    | PASS   |
| 99%&26dB Bandwidth                                  | FCC 47 CFR Part 2.1049(h)                               | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Band Edge at antenna terminals                      | FCC 47 CFR Part 27.53(m)(4)                             | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Spurious emissions at antenna terminals             | FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(m)(4)    | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Field strength of spurious radiation                | FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(m)(4)    | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |
| Frequency stability                                 | FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54          | ANSI C63.26-2015 & KDB 971168 D01v03r01 | PASS   |

#### Disclaimer and Explanations:

The declared of product specification and data (e.g. antenna gain, RF specification, etc) for EUT presented in the report are provided by the customer, and the customer takes all the responsibilities for the accuracy of product specification.

### 3. EQUIPMENT LIST

| Radiated Emission Test Equipment List |                                                      |              |            |                            |                            |                            |
|---------------------------------------|------------------------------------------------------|--------------|------------|----------------------------|----------------------------|----------------------------|
| Used                                  | Equipment                                            | Manufacturer | Model No.  | Serial Number              | Cal. date                  | Cal. Due date              |
| <input checked="" type="checkbox"/>   | 3m SAC                                               | ETS-LINDGREN | 3M         | Euroshiedpn-CT001270-1317  | 11-Nov-2023                | 10-Nov-2026                |
| <input checked="" type="checkbox"/>   | Receiver                                             | R&S          | ESIB26     | 100114                     | 24-Oct-2025                | 23-Oct-2026                |
| <input checked="" type="checkbox"/>   | Broadband Antenna                                    | ETS-LINDGREN | 3142E      | 00201566                   | 27-Mar-2025                | 28-Mar-2026                |
| <input checked="" type="checkbox"/>   | 6dB Attenuator                                       | Talent       | RA6A5-N-18 | 18103001                   | 24-Oct-2025                | 23-Oct-2026                |
| <input checked="" type="checkbox"/>   | Preamplifier                                         | HP           | 8447F      | 2805A02960                 | 24-Oct-2025                | 23-Oct-2026                |
| <input checked="" type="checkbox"/>   | Double-Ridged Waveguide Horn Antenna (Pre-amplifier) | ETS-LINDGREN | 3116C-PA   | 00202652                   | 24-Oct-2025                | 23-Oct-2026                |
| <input checked="" type="checkbox"/>   | Pre-amplifier                                        | ETS-Lindgren | 00118384   | 00202652                   | 24-Oct-2025                | 23-Oct-2026                |
| <input checked="" type="checkbox"/>   | Double-Ridged Waveguide Horn Antenna (Pre-amplifier) | ETS-LINDGREN | 3117-PA    | 00201541                   | 29-Mar-2025                | 28-Mar-2026                |
| <input checked="" type="checkbox"/>   | Pre-amplifier                                        | ETS-Lindgren | 00118385   | 00201874                   | 28-Mar-2025<br>21-Mar-2026 | 27-Mar-2026<br>20-Mar-2027 |
| <input checked="" type="checkbox"/>   | Multi device Controller                              | ETS-LINDGREN | 7006-001   | 00160105                   | N/A                        | N/A                        |
| <input checked="" type="checkbox"/>   | Wideband Radio Communication Tester                  | R&S          | CMW500     | 119583                     | 28-Mar-2025<br>20-Mar-2026 | 27-Mar-2026<br>19-Mar-2027 |
| <input checked="" type="checkbox"/>   | Test Software                                        | Audix        | e3         | Software Version: 9.160323 |                            |                            |

| RF Conducted Test Equipment List    |                                     |              |               |                |                            |                            |
|-------------------------------------|-------------------------------------|--------------|---------------|----------------|----------------------------|----------------------------|
| Used                                | Equipment                           | Manufacturer | Model No.     | Serial Number  | Cal. date                  | Cal. Due date              |
| <input checked="" type="checkbox"/> | EXA Spectrum Analyzer               | KEYSIGHT     | N9010A        | MY51440197     | 28-Mar-2025<br>20-Mar-2026 | 27-Mar-2026<br>19-Mar-2027 |
| <input checked="" type="checkbox"/> | DC Source                           | KIKUSUI      | PWR400L       | LK003024       | N/A                        | N/A                        |
| <input checked="" type="checkbox"/> | Digital multimeter                  | FLUKE        | 15B MAX-01/CN | 65041218WS     | 03-Nov-2025                | 02-Nov-2026                |
| <input checked="" type="checkbox"/> | Temp & Humidity chamber             | Votisch      | VT4002        | 58566133290020 | 28-Mar-2025<br>20-Mar-2026 | 27-Mar-2026<br>19-Mar-2027 |
| <input checked="" type="checkbox"/> | Wideband Radio Communication Tester | R&S          | CMW500        | 119583         | 28-Mar-2025<br>20-Mar-2026 | 27-Mar-2026<br>19-Mar-2027 |

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UTTR-RF-FCC4G-V1.1



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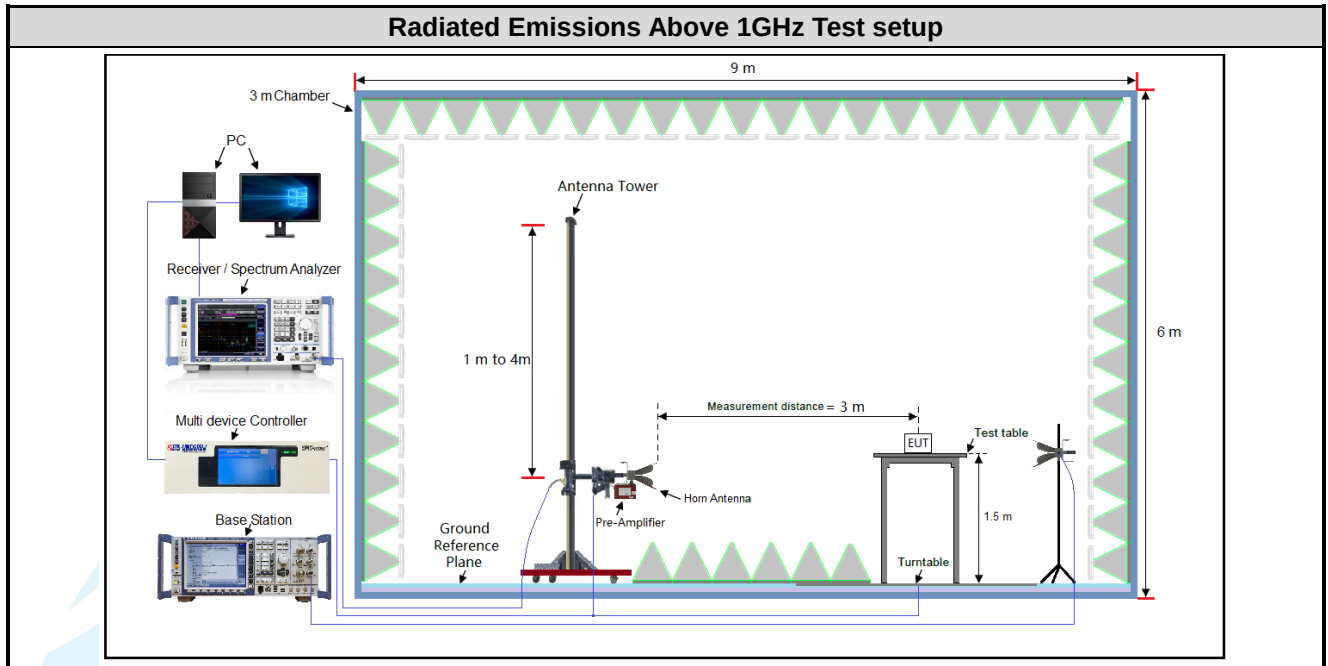
Fax: +86-755-28230886

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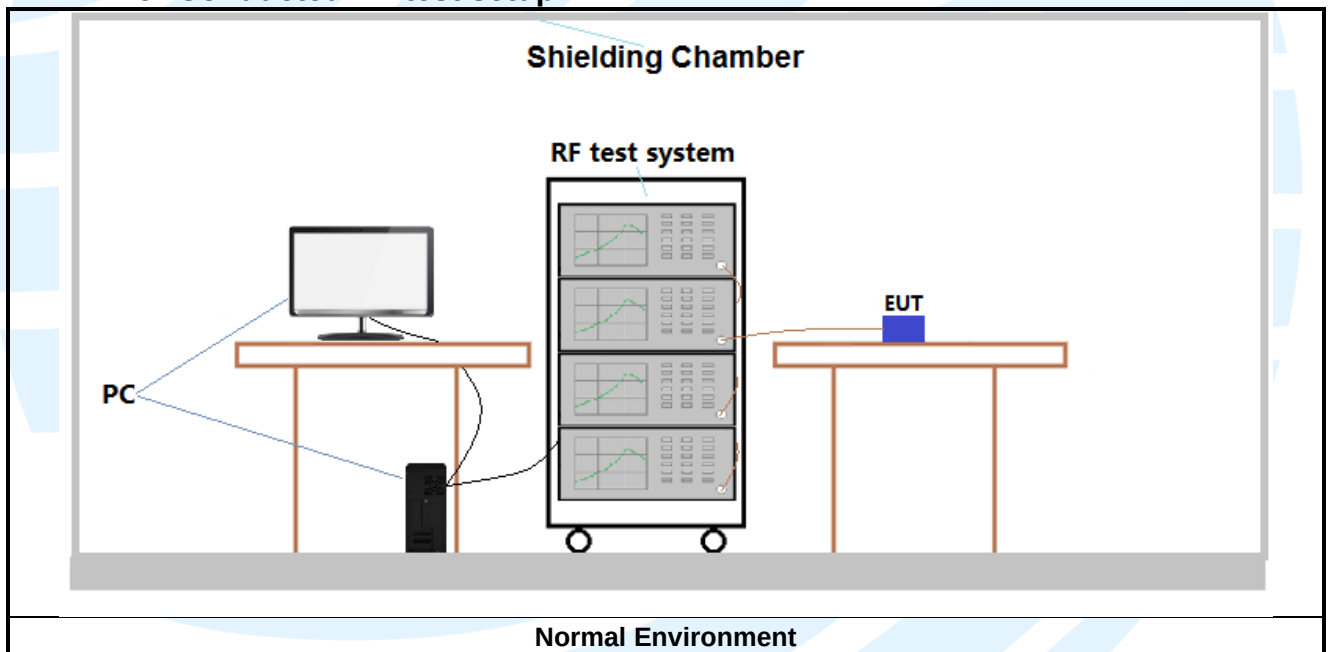
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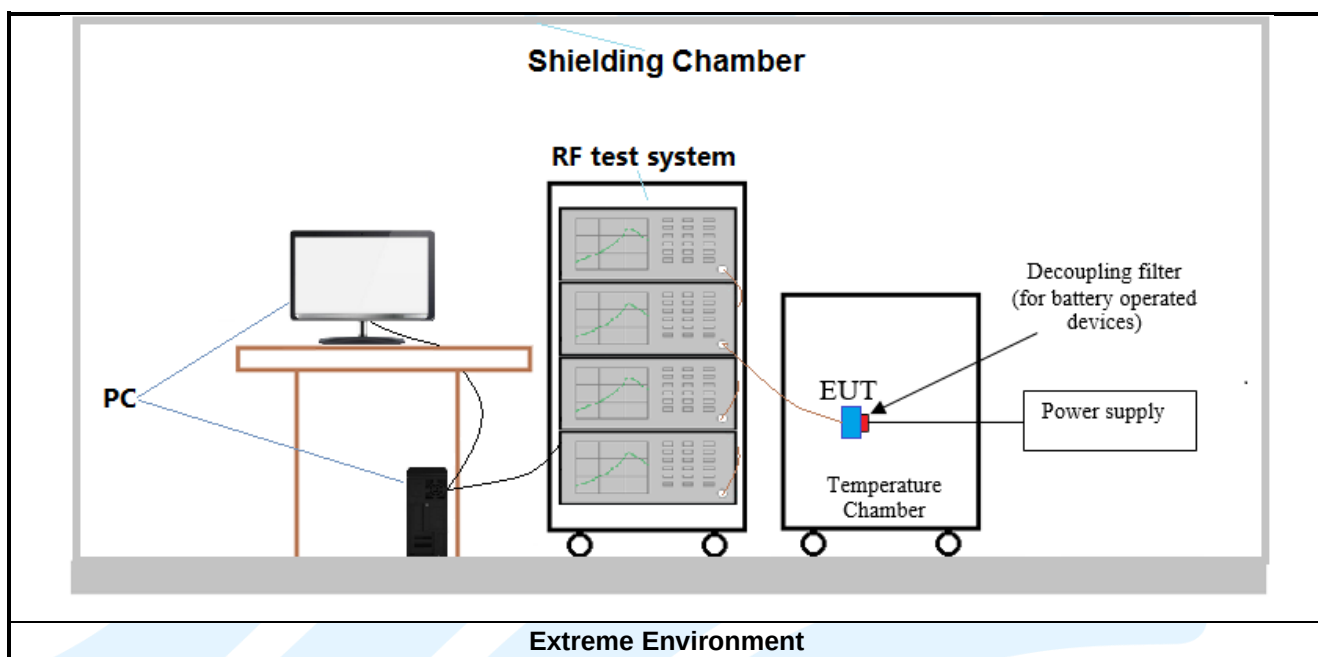
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#### 4.2.2 For Conducted RF test setup





### 4.3 TEST CHANNELS

| Band                            | Test Frequency ID | Bandwidth (MHz)   | Number [UL] | Frequency of Uplink (MHz) |
|---------------------------------|-------------------|-------------------|-------------|---------------------------|
| LTE Band 2<br>TX: 1850-1910MHz  | Low Range         | 1.4               | 18607       | 1850.7                    |
|                                 |                   | 3                 | 18615       | 1851.5                    |
|                                 |                   | 5                 | 18625       | 1852.5                    |
|                                 |                   | 10                | 18650       | 1855                      |
|                                 |                   | 15                | 18675       | 1857.5                    |
|                                 |                   | 20                | 18700       | 1860                      |
|                                 | Middle Range      | 1.4/3/5/10/15/20  | 18900       | 1880                      |
|                                 | High Range        | 1.4               | 19193       | 1909.3                    |
|                                 |                   | 3                 | 19185       | 1908.5                    |
|                                 |                   | 5                 | 19175       | 1907.5                    |
|                                 |                   | 10                | 19150       | 1905                      |
|                                 |                   | 15                | 19125       | 1902.5                    |
|                                 |                   | 20                | 19100       | 1900                      |
| LTE Band 4<br>TX: 1710-1755MHz  | Low Range         | 1.4               | 19957       | 1710.7                    |
|                                 |                   | 3                 | 19965       | 1711.5                    |
|                                 |                   | 5                 | 19975       | 1712.5                    |
|                                 |                   | 10                | 20000       | 1715                      |
|                                 |                   | 15                | 20025       | 1717.5                    |
|                                 |                   | 20                | 20050       | 1720                      |
|                                 | Middle Range      | 1.4/3/5/10/ 15/20 | 20175       | 1732.5                    |
|                                 | High Range        | 1.4               | 20393       | 1754.3                    |
|                                 |                   | 3                 | 20385       | 1753.5                    |
|                                 |                   | 5                 | 20375       | 1752.5                    |
|                                 |                   | 10                | 20350       | 1750                      |
|                                 |                   | 15                | 20325       | 1747.5                    |
|                                 |                   | 20                | 20300       | 1745                      |
| LTE band 5<br>TX: 824–849MHz    | Low Range         | 1.4               | 20407       | 824.7                     |
|                                 |                   | 3                 | 20415       | 825.5                     |
|                                 |                   | 5                 | 20425       | 826.5                     |
|                                 |                   | 10                | 20450       | 829                       |
|                                 | Middle Range      | 1.4/3/5/10        | 20525       | 836.5                     |
|                                 | High Range        | 1.4               | 20643       | 848.3                     |
|                                 |                   | 3                 | 20635       | 847.5                     |
|                                 |                   | 5                 | 20625       | 846.5                     |
|                                 |                   | 10                | 20600       | 844                       |
| LTE Band 7<br>TX: 2500-2570MHz  | Low Range         | 5                 | 20775       | 2502.5                    |
|                                 |                   | 10                | 20800       | 2505                      |
|                                 |                   | 15                | 20825       | 2507.5                    |
|                                 |                   | 20                | 20850       | 2510                      |
|                                 | Middle Range      | 5/10/15/20        | 21100       | 2535                      |
|                                 | High Range        | 5                 | 21425       | 2567.5                    |
|                                 |                   | 10                | 21400       | 2565                      |
|                                 |                   | 15                | 21375       | 2562.5                    |
| 20                              |                   | 21350             | 2560        |                           |
| LTE Band 38<br>TX: 2570-2620MHz | Low Range         | 5                 | 37775       | 2572.5                    |
|                                 |                   | 10                | 37800       | 2575                      |
|                                 |                   | 15                | 37825       | 2577.5                    |
|                                 |                   | 20                | 37850       | 2580                      |
|                                 | Middle Range      | 5/10/ 15/20       | 38000       | 2595                      |
|                                 | High Range        | 5                 | 38225       | 2617.5                    |
|                                 |                   | 10                | 38200       | 2615                      |
|                                 |                   | 15                | 38175       | 2612.5                    |
| 20                              |                   | 38150             | 2610        |                           |

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#### 4.4 SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. It was powered by a 3.85Vdc battery. Only the worst case data were recorded in this test report.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X/Y/Z axis, and antenna ports.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1 MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

## 4.5 PRE-SCAN

Pre-scan all bandwidth and RB, find worse case mode are chosen to the report, the LTE worse case mode applicability and tested channel detail as below:

| Item                                    | Band | Bandwidth(MHz) |   |   |    |    |    | Modulation |       | RB |      |      | Test Channel |   |   |
|-----------------------------------------|------|----------------|---|---|----|----|----|------------|-------|----|------|------|--------------|---|---|
|                                         |      | 1.4            | 3 | 5 | 10 | 15 | 20 | QPSK       | 16QAM | 1  | Half | Full | L            | M | H |
| Conducted output power                  | 2    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 4    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 5    | ☑              | ☑ | ☑ | ☑  | -- | -- | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 7    | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 38   | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
| 99%&26dB Bandwidth                      | 2    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 4    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 5    | ☑              | ☑ | ☑ | ☑  | -- | -- | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 7    | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 38   | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
| peak-to-average ratio                   | 2    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 4    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 5    | ☑              | ☑ | ☑ | ☑  | -- | -- | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 7    | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 38   | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
| Band Edge at antenna terminals          | 2    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 4    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 5    | ☑              | ☑ | ☑ | ☑  | -- | -- | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 7    | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 38   | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
| Spurious emissions at antenna terminals | 2    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 4    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 5    | ☑              | ☑ | ☑ | ☑  | -- | -- | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 7    | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 38   | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
| Field strength of spurious radiation    | 2    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 4    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 5    | ☑              | ☑ | ☑ | ☑  | -- | -- | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 7    | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 38   | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
| Frequency stability                     | 2    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 4    | ☑              | ☑ | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 5    | ☑              | ☑ | ☑ | ☑  | -- | -- | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 7    | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |
|                                         | 38   | -              | - | ☑ | ☑  | ☑  | ☑  | ☑          | ☑     | ☑  | ☑    | ☑    | ☑            | ☑ | ☑ |

## 5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

### 5.1 REFERENCE DOCUMENTS FOR TESTING

| No. | Identity           | Document Title                                                                                    |
|-----|--------------------|---------------------------------------------------------------------------------------------------|
| 1   | FCC 47 CFR Part 2  | Frequency allocations and radio treaty matters; general rules and regulations                     |
| 2   | FCC 47 CFR Part 22 | Public Mobile Services                                                                            |
| 3   | FCC 47 CFR Part 27 | Miscellaneous Wireless Communications Services                                                    |
| 4   | FCC 47 CFR Part 24 | Personal Communications Services                                                                  |
| 5   | ANSI C63.26-2015   | American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services |
| 6   | KDB 971168 D01     | KDB 971168 D01 Power Meas License Digital Systems v03r01                                          |

### 5.2 CONDUCTED OUTPUT POWER

**Test Requirement:** FCC 47 CFR Part 2.1046(a)  
**LTE Band 2:** FCC 47 CFR Part 24.232(c)  
**LTE Band 4 :** FCC 47 CFR Part 27.50(d)(4)  
**LTE Band 5:** FCC 47 CFR Part 22.913(a)  
**LTE Band 7 & Band 38:** FCC 47 CFR Part 27.50(h)(2)  
**Test Method:** KDB 971168 D01v03r01 & ANSI C63.26-2015

**Limit:**

**FCC 47 CFR Part 22.913(a):**

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

**FCC 47 CFR Part 24.232(c):**

Mobile and portable stations are limited to 2 watts EIRP.

**FCC 47 CFR Part 27.50(d)(4):**

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

**FCC 47 CFR Part 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.

**Test Procedure:**

The EUT was set up for the maximum power with CMW500, and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

### 5.2.1 LTE Band 2

| Conducted Power(dBm) |           |         |        |       |        |        |       |        |
|----------------------|-----------|---------|--------|-------|--------|--------|-------|--------|
| Modulation           |           |         | QPSK   |       |        | 16QAM  |       |        |
| Band                 | Bandwidth | RB      | 18607  | 18900 | 19193  | 18607  | 18900 | 19193  |
|                      | (MHz)     |         | 1850.7 | 1880  | 1909.3 | 1850.7 | 1880  | 1909.3 |
| 2                    | 1.4       | 1RB#0   | 21.10  | 21.10 | 20.85  | 20.32  | 20.39 | 20.13  |
|                      |           | 1RB#2   | 21.05  | 21.21 | 21.08  | 19.76  | 20.09 | 20.14  |
|                      |           | 1RB#5   | 21.01  | 20.82 | 20.94  | 20.22  | 20.34 | 19.99  |
|                      |           | 3RB#0   | 20.41  | 20.47 | 20.33  | 19.22  | 19.26 | 19.38  |
|                      |           | 3RB#1   | 20.37  | 20.40 | 20.40  | 19.16  | 19.04 | 19.35  |
|                      |           | 3RB#3   | 20.43  | 20.31 | 20.20  | 19.04  | 19.14 | 19.51  |
|                      |           | 6RB#0   | 20.34  | 20.52 | 20.54  | 19.08  | 19.24 | 19.30  |
| Band                 | Bandwidth | RB      | 18615  | 18900 | 19185  | 18615  | 18900 | 19185  |
|                      | (MHz)     |         | 1851.5 | 1880  | 1908.5 | 1851.5 | 1880  | 1908.5 |
| 2                    | 3         | 1RB#0   | 20.96  | 21.00 | 20.77  | 20.33  | 20.39 | 19.97  |
|                      |           | 1RB#8   | 20.99  | 21.14 | 21.03  | 19.68  | 20.15 | 20.12  |
|                      |           | 1RB#14  | 20.85  | 20.83 | 20.81  | 20.13  | 20.36 | 20.10  |
|                      |           | 8RB#0   | 20.31  | 20.46 | 20.43  | 19.11  | 19.37 | 19.37  |
|                      |           | 8RB#4   | 20.33  | 20.55 | 20.34  | 19.12  | 19.11 | 19.32  |
|                      |           | 8RB#7   | 20.31  | 20.41 | 20.34  | 19.10  | 19.16 | 19.51  |
|                      |           | 15RB#0  | 20.33  | 20.38 | 20.49  | 19.21  | 19.07 | 19.40  |
| Band                 | Bandwidth | RB      | 18625  | 18900 | 19175  | 18625  | 18900 | 19175  |
|                      | (MHz)     |         | 1852.5 | 1880  | 1907.5 | 1852.5 | 1880  | 1907.5 |
| 2                    | 5         | 1RB#0   | 21.11  | 21.02 | 20.84  | 20.26  | 20.32 | 19.98  |
|                      |           | 1RB#12  | 21.10  | 21.04 | 21.08  | 19.58  | 20.19 | 20.20  |
|                      |           | 1RB#24  | 20.96  | 20.82 | 20.90  | 20.15  | 20.20 | 20.13  |
|                      |           | 12RB#0  | 20.24  | 20.42 | 20.44  | 19.21  | 19.41 | 19.28  |
|                      |           | 12RB#6  | 20.40  | 20.48 | 20.30  | 19.04  | 19.09 | 19.44  |
|                      |           | 12RB#13 | 20.48  | 20.35 | 20.23  | 19.13  | 19.05 | 19.51  |
|                      |           | 25RB#0  | 20.43  | 20.42 | 20.48  | 19.18  | 19.12 | 19.42  |
| Band                 | Bandwidth | RB      | 18650  | 18900 | 19150  | 18650  | 18900 | 19150  |
|                      | (MHz)     |         | 1855   | 1880  | 1905   | 1855   | 1880  | 1905   |
| 2                    | 10        | 1RB#0   | 21.05  | 21.04 | 20.89  | 20.21  | 20.41 | 20.15  |
|                      |           | 1RB#24  | 21.15  | 21.07 | 21.04  | 19.59  | 20.04 | 20.23  |
|                      |           | 1RB#49  | 20.92  | 20.98 | 20.88  | 20.13  | 20.19 | 20.10  |
|                      |           | 25RB#0  | 20.39  | 20.39 | 20.36  | 19.09  | 19.42 | 19.44  |
|                      |           | 25RB#12 | 20.34  | 20.48 | 20.33  | 19.13  | 19.13 | 19.28  |
|                      |           | 25RB#25 | 20.37  | 20.32 | 20.28  | 19.06  | 19.18 | 19.40  |
|                      |           | 50RB#0  | 20.38  | 20.51 | 20.54  | 19.04  | 19.14 | 19.42  |
| Band                 | Bandwidth | RB      | 18675  | 18900 | 19125  | 18675  | 18900 | 19125  |
|                      | (MHz)     |         | 1857.5 | 1880  | 1902.5 | 1857.5 | 1880  | 1902.5 |
| 2                    | 15        | 1RB#0   | 21.04  | 21.09 | 20.84  | 20.19  | 20.40 | 20.10  |
|                      |           | 1RB#38  | 20.97  | 21.18 | 21.03  | 19.75  | 20.11 | 20.23  |
|                      |           | 1RB#74  | 21.03  | 20.98 | 20.87  | 20.27  | 20.24 | 20.05  |
|                      |           | 38RB#0  | 20.36  | 20.54 | 20.33  | 19.17  | 19.39 | 19.42  |
|                      |           | 38RB#18 | 20.32  | 20.50 | 20.40  | 19.12  | 19.11 | 19.32  |
|                      |           | 38RB#37 | 20.36  | 20.40 | 20.25  | 19.12  | 19.22 | 19.49  |
|                      |           | 75RB#0  | 20.30  | 20.50 | 20.43  | 19.03  | 19.06 | 19.40  |
| Band                 | Bandwidth | RB      | 18700  | 18900 | 19100  | 18700  | 18900 | 19100  |
|                      | (MHz)     |         | 1860   | 1880  | 1900   | 1860   | 1880  | 1900   |
| 2                    | 20        | 1RB#0   | 21.12  | 21.15 | 20.96  | 20.34  | 20.51 | 20.15  |
|                      |           | 1RB#49  | 21.17  | 21.22 | 21.14  | 19.77  | 20.22 | 20.27  |
|                      |           | 1RB#99  | 21.04  | 21.00 | 21.00  | 20.32  | 20.37 | 20.17  |
|                      |           | 50RB#0  | 20.44  | 20.58 | 20.49  | 19.27  | 19.46 | 19.48  |
|                      |           | 50RB#25 | 20.43  | 20.57 | 20.45  | 19.19  | 19.17 | 19.45  |
|                      |           | 50RB#50 | 20.51  | 20.47 | 20.37  | 19.15  | 19.25 | 19.55  |
|                      |           | 100RB#0 | 20.49  | 20.54 | 20.55  | 19.23  | 19.25 | 19.47  |

## 5.2.2 LTE Band 4

|            |                 |         | Conducted Power(dBm) |        |        |        |        |        |
|------------|-----------------|---------|----------------------|--------|--------|--------|--------|--------|
| Modulation |                 |         | QPSK                 |        |        | 16QAM  |        |        |
| Band       | Bandwidth (MHz) | RB      | 19957                | 20175  | 20393  | 19957  | 20175  | 20393  |
|            |                 |         | 1710.7               | 1732.5 | 1754.3 | 1710.7 | 1732.5 | 1754.3 |
| 4          | 1.4             | 1RB#0   | 22.03                | 22.14  | 21.90  | 21.79  | 21.76  | 21.60  |
|            |                 | 1RB#2   | 21.97                | 21.90  | 21.93  | 21.56  | 21.69  | 21.12  |
|            |                 | 1RB#5   | 21.84                | 21.90  | 21.78  | 21.52  | 21.70  | 21.23  |
|            |                 | 3RB#0   | 21.65                | 21.41  | 21.36  | 20.65  | 20.44  | 20.49  |
|            |                 | 3RB#1   | 21.42                | 21.24  | 21.40  | 20.56  | 20.51  | 20.45  |
|            |                 | 3RB#3   | 21.39                | 21.22  | 21.23  | 20.55  | 20.45  | 20.63  |
|            |                 | 6RB#0   | 21.48                | 21.47  | 21.52  | 20.44  | 20.68  | 20.50  |
| Band       | Bandwidth (MHz) | RB      | 19965                | 20175  | 20385  | 19965  | 20175  | 20385  |
|            |                 |         | 1711.5               | 1732.5 | 1753.5 | 1711.5 | 1732.5 | 1753.5 |
| 4          | 3               | 1RB#0   | 21.89                | 22.04  | 21.82  | 21.80  | 21.76  | 21.44  |
|            |                 | 1RB#8   | 21.91                | 21.83  | 21.88  | 21.48  | 21.75  | 21.10  |
|            |                 | 1RB#14  | 21.68                | 21.91  | 21.65  | 21.43  | 21.72  | 21.34  |
|            |                 | 8RB#0   | 21.55                | 21.40  | 21.46  | 20.54  | 20.55  | 20.48  |
|            |                 | 8RB#4   | 21.38                | 21.39  | 21.34  | 20.52  | 20.58  | 20.42  |
|            |                 | 8RB#7   | 21.27                | 21.32  | 21.37  | 20.61  | 20.47  | 20.63  |
|            |                 | 15RB#0  | 21.47                | 21.33  | 21.47  | 20.57  | 20.51  | 20.60  |
| Band       | Bandwidth (MHz) | RB      | 19975                | 20175  | 20375  | 19975  | 20175  | 20375  |
|            |                 |         | 1712.5               | 1732.5 | 1752.5 | 1712.5 | 1732.5 | 1752.5 |
| 4          | 5               | 1RB#0   | 22.04                | 22.06  | 21.89  | 21.73  | 21.69  | 21.45  |
|            |                 | 1RB#12  | 22.02                | 21.73  | 21.93  | 21.38  | 21.79  | 21.18  |
|            |                 | 1RB#24  | 21.79                | 21.90  | 21.74  | 21.45  | 21.56  | 21.37  |
|            |                 | 12RB#0  | 21.48                | 21.36  | 21.47  | 20.64  | 20.59  | 20.39  |
|            |                 | 12RB#6  | 21.45                | 21.32  | 21.30  | 20.44  | 20.56  | 20.54  |
|            |                 | 12RB#13 | 21.44                | 21.26  | 21.26  | 20.64  | 20.36  | 20.63  |
|            |                 | 25RB#0  | 21.57                | 21.37  | 21.46  | 20.54  | 20.56  | 20.62  |
| Band       | Bandwidth (MHz) | RB      | 20000                | 20175  | 20350  | 20000  | 20175  | 20350  |
|            |                 |         | 1715                 | 1732.5 | 1750   | 1715   | 1732.5 | 1750   |
| 4          | 10              | 1RB#0   | 21.98                | 22.08  | 21.94  | 21.68  | 21.78  | 21.62  |
|            |                 | 1RB#24  | 22.07                | 21.76  | 21.89  | 21.39  | 21.64  | 21.21  |
|            |                 | 1RB#49  | 21.75                | 22.06  | 21.72  | 21.43  | 21.55  | 21.34  |
|            |                 | 25RB#0  | 21.63                | 21.33  | 21.39  | 20.52  | 20.60  | 20.55  |
|            |                 | 25RB#12 | 21.39                | 21.32  | 21.33  | 20.53  | 20.60  | 20.38  |
|            |                 | 25RB#25 | 21.33                | 21.23  | 21.31  | 20.57  | 20.49  | 20.52  |
|            |                 | 50RB#0  | 21.52                | 21.46  | 21.52  | 20.40  | 20.58  | 20.62  |
| Band       | Bandwidth (MHz) | RB      | 20025                | 20175  | 20325  | 20025  | 20175  | 20325  |
|            |                 |         | 1717.5               | 1732.5 | 1747.5 | 1717.5 | 1732.5 | 1747.5 |
| 4          | 15              | 1RB#0   | 21.97                | 22.13  | 21.89  | 21.66  | 21.77  | 21.57  |
|            |                 | 1RB#38  | 21.89                | 21.87  | 21.88  | 21.55  | 21.71  | 21.21  |
|            |                 | 1RB#74  | 21.86                | 22.06  | 21.71  | 21.57  | 21.60  | 21.29  |
|            |                 | 38RB#0  | 21.60                | 21.48  | 21.36  | 20.60  | 20.57  | 20.53  |
|            |                 | 38RB#18 | 21.37                | 21.34  | 21.40  | 20.54  | 20.58  | 20.42  |
|            |                 | 38RB#37 | 21.32                | 21.31  | 21.28  | 20.63  | 20.53  | 20.61  |
|            |                 | 75RB#0  | 21.44                | 21.45  | 21.41  | 20.52  | 20.50  | 20.60  |
| Band       | Bandwidth (MHz) | RB      | 20050                | 20175  | 20300  | 20050  | 20175  | 20300  |
|            |                 |         | 1720                 | 1732.5 | 1745   | 1720   | 1732.5 | 1745   |
| 4          | 20              | 1RB#0   | 22.05                | 22.19  | 22.01  | 21.81  | 21.88  | 21.62  |
|            |                 | 1RB#49  | 22.09                | 21.91  | 21.99  | 21.57  | 21.82  | 21.25  |
|            |                 | 1RB#99  | 21.87                | 22.08  | 21.84  | 21.62  | 21.73  | 21.41  |
|            |                 | 50RB#0  | 21.68                | 21.52  | 21.52  | 20.70  | 20.64  | 20.59  |
|            |                 | 50RB#25 | 21.48                | 21.41  | 21.45  | 20.59  | 20.64  | 20.55  |
|            |                 | 50RB#50 | 21.47                | 21.38  | 21.40  | 20.66  | 20.56  | 20.67  |
|            |                 | 100RB#0 | 21.63                | 21.49  | 21.53  | 20.59  | 20.69  | 20.67  |

### 5.2.3 LTE Band 5

| Conducted Power(dBm) |                    |         |       |       |       |       |       |       |
|----------------------|--------------------|---------|-------|-------|-------|-------|-------|-------|
| Modulation           |                    |         | QPSK  |       |       | 16QAM |       |       |
| Band                 | Bandwidth<br>(MHz) | RB      | 20407 | 20525 | 20643 | 20407 | 20525 | 20643 |
|                      |                    |         | 824.7 | 836.5 | 848.3 | 824.7 | 836.5 | 848.3 |
| 5                    | 1.4                | 1RB#0   | 22.28 | 22.35 | 22.37 | 21.52 | 21.15 | 21.86 |
|                      |                    | 1RB#2   | 22.43 | 22.42 | 22.21 | 21.74 | 21.75 | 21.65 |
|                      |                    | 1RB#5   | 22.28 | 22.36 | 22.41 | 21.39 | 21.09 | 21.75 |
|                      |                    | 3RB#0   | 21.89 | 21.98 | 21.85 | 21.36 | 21.10 | 20.96 |
|                      |                    | 3RB#1   | 22.01 | 21.85 | 21.75 | 21.28 | 20.84 | 20.92 |
|                      |                    | 3RB#3   | 21.94 | 21.91 | 22.31 | 21.22 | 21.19 | 21.28 |
|                      |                    | 6RB#0   | 21.82 | 21.78 | 22.06 | 21.29 | 20.80 | 20.93 |
| Band                 | Bandwidth<br>(MHz) | RB      | 20415 | 20525 | 20635 | 20415 | 20525 | 20635 |
|                      |                    |         | 825.5 | 836.5 | 847.5 | 825.5 | 836.5 | 847.5 |
| 5                    | 3                  | 1RB#0   | 22.35 | 22.37 | 22.46 | 21.36 | 21.03 | 21.82 |
|                      |                    | 1RB#8   | 22.30 | 22.44 | 22.11 | 21.84 | 21.92 | 21.83 |
|                      |                    | 1RB#14  | 22.37 | 22.30 | 22.39 | 21.42 | 21.10 | 21.78 |
|                      |                    | 8RB#0   | 21.97 | 21.84 | 21.83 | 21.24 | 21.07 | 21.05 |
|                      |                    | 8RB#4   | 21.98 | 21.74 | 21.85 | 21.21 | 20.83 | 20.87 |
|                      |                    | 8RB#7   | 21.86 | 21.92 | 22.15 | 21.19 | 21.24 | 21.30 |
|                      |                    | 15RB#0  | 21.77 | 21.79 | 22.00 | 21.36 | 20.83 | 21.05 |
| Band                 | Bandwidth<br>(MHz) | RB      | 20425 | 20525 | 20625 | 20425 | 20525 | 20625 |
|                      |                    |         | 826.5 | 836.5 | 846.5 | 826.5 | 836.5 | 846.5 |
| 5                    | 5                  | 1RB#0   | 22.25 | 22.25 | 22.54 | 21.46 | 21.09 | 21.79 |
|                      |                    | 1RB#12  | 22.37 | 22.50 | 22.21 | 21.85 | 21.78 | 21.82 |
|                      |                    | 1RB#24  | 22.35 | 22.35 | 22.47 | 21.40 | 21.13 | 21.86 |
|                      |                    | 12RB#0  | 22.03 | 21.93 | 21.76 | 21.32 | 21.08 | 21.02 |
|                      |                    | 12RB#6  | 21.91 | 21.88 | 21.79 | 21.31 | 20.77 | 20.98 |
|                      |                    | 12RB#13 | 21.92 | 22.00 | 22.17 | 21.25 | 21.14 | 21.35 |
|                      |                    | 25RB#0  | 21.67 | 21.80 | 22.11 | 21.19 | 20.84 | 21.06 |
| Band                 | Bandwidth<br>(MHz) | RB      | 20450 | 20525 | 20600 | 20450 | 20525 | 20600 |
|                      |                    |         | 829   | 836.5 | 844   | 829   | 836.5 | 844   |
| 5                    | 10                 | 1RB#0   | 22.43 | 22.40 | 22.54 | 21.53 | 21.23 | 21.98 |
|                      |                    | 1RB#24  | 22.45 | 22.59 | 22.31 | 21.90 | 21.95 | 21.84 |
|                      |                    | 1RB#49  | 22.39 | 22.40 | 22.52 | 21.43 | 21.19 | 21.93 |
|                      |                    | 25RB#0  | 22.06 | 21.98 | 21.93 | 21.42 | 21.16 | 21.11 |
|                      |                    | 25RB#12 | 22.07 | 21.92 | 21.95 | 21.36 | 20.96 | 21.07 |
|                      |                    | 25RB#25 | 21.98 | 22.08 | 22.31 | 21.29 | 21.25 | 21.43 |
|                      |                    | 50RB#0  | 21.87 | 21.92 | 22.13 | 21.38 | 20.91 | 21.09 |

### 5.2.4 LTE Band 7

| Conducted Power(dBm) |                    |         |        |       |        |        |       |        |
|----------------------|--------------------|---------|--------|-------|--------|--------|-------|--------|
| Modulation           |                    |         | QPSK   |       |        | 16QAM  |       |        |
| Band                 | Bandwidth<br>(MHz) | RB      | 20775  | 21100 | 21425  | 20775  | 21100 | 21425  |
|                      |                    |         | 2502.5 | 2535  | 2567.5 | 2502.5 | 2535  | 2567.5 |
| 7                    | 5                  | 1RB#0   | 22.38  | 22.49 | 22.40  | 21.97  | 22.02 | 21.89  |
|                      |                    | 1RB#12  | 22.27  | 22.15 | 22.15  | 21.81  | 21.58 | 22.05  |
|                      |                    | 1RB#24  | 22.43  | 22.47 | 22.30  | 22.03  | 21.88 | 22.13  |
|                      |                    | 12RB#0  | 21.59  | 21.82 | 21.79  | 20.87  | 20.93 | 20.74  |
|                      |                    | 12RB#6  | 21.79  | 21.89 | 21.78  | 20.77  | 20.94 | 20.94  |
|                      |                    | 12RB#13 | 21.60  | 21.76 | 21.82  | 20.92  | 20.76 | 21.00  |
|                      |                    | 25RB#0  | 21.77  | 21.72 | 21.66  | 20.94  | 20.81 | 20.91  |
| Band                 | Bandwidth<br>(MHz) | RB      | 20800  | 21100 | 21400  | 20800  | 21100 | 21400  |
|                      |                    |         | 2505   | 2535  | 2565   | 2505   | 2535  | 2565   |
| 7                    | 10                 | 1RB#0   | 22.40  | 22.39 | 22.46  | 22.01  | 21.92 | 21.94  |
|                      |                    | 1RB#24  | 22.38  | 22.14 | 22.19  | 21.70  | 21.58 | 21.93  |
|                      |                    | 1RB#49  | 22.42  | 22.54 | 22.43  | 22.00  | 21.89 | 21.97  |
|                      |                    | 25RB#0  | 21.67  | 21.84 | 21.73  | 20.85  | 20.84 | 20.84  |
|                      |                    | 25RB#12 | 21.80  | 21.80 | 21.71  | 20.87  | 20.90 | 20.78  |
|                      |                    | 25RB#25 | 21.59  | 21.75 | 21.86  | 20.91  | 20.84 | 21.00  |
|                      |                    | 50RB#0  | 21.81  | 21.58 | 21.79  | 20.88  | 20.94 | 20.85  |
| Band                 | Bandwidth<br>(MHz) | RB      | 20825  | 21100 | 21375  | 20825  | 21100 | 21375  |
|                      |                    |         | 2507.5 | 2535  | 2562.5 | 2507.5 | 2535  | 2562.5 |
| 7                    | 15                 | 1RB#0   | 22.34  | 22.43 | 22.44  | 22.12  | 21.96 | 21.93  |
|                      |                    | 1RB#38  | 22.27  | 22.25 | 22.26  | 21.80  | 21.74 | 22.10  |
|                      |                    | 1RB#74  | 22.47  | 22.41 | 22.40  | 21.96  | 21.93 | 22.02  |
|                      |                    | 38RB#0  | 21.66  | 21.76 | 21.85  | 20.84  | 20.93 | 20.89  |
|                      |                    | 38RB#18 | 21.92  | 21.83 | 21.71  | 20.91  | 20.90 | 20.89  |
|                      |                    | 38RB#37 | 21.74  | 21.77 | 21.89  | 20.94  | 20.78 | 20.82  |
|                      |                    | 75RB#0  | 21.71  | 21.60 | 21.63  | 20.87  | 20.81 | 20.88  |
| Band                 | Bandwidth<br>(MHz) | RB      | 20850  | 21100 | 21350  | 20850  | 21100 | 21350  |
|                      |                    |         | 2510   | 2535  | 2560   | 2510   | 2535  | 2560   |
| 7                    | 20                 | 1RB#0   | 22.53  | 22.55 | 22.47  | 22.13  | 22.06 | 22.04  |
|                      |                    | 1RB#49  | 22.45  | 22.26 | 22.35  | 21.84  | 21.75 | 22.11  |
|                      |                    | 1RB#99  | 22.47  | 22.55 | 22.49  | 22.07  | 21.99 | 22.15  |
|                      |                    | 50RB#0  | 21.77  | 21.84 | 21.87  | 21.00  | 20.97 | 20.93  |
|                      |                    | 50RB#25 | 21.93  | 21.89 | 21.83  | 20.91  | 20.96 | 20.97  |
|                      |                    | 50RB#50 | 21.77  | 21.94 | 21.89  | 20.97  | 20.94 | 21.01  |
|                      |                    | 100RB#0 | 21.82  | 21.78 | 21.81  | 20.95  | 20.96 | 20.96  |

### 5.2.5 LTE Band 38

|            |                    |       | Conducted Power(dBm) |       |        |        |       |        |
|------------|--------------------|-------|----------------------|-------|--------|--------|-------|--------|
| Modulation |                    |       | QPSK                 |       |        | 16QAM  |       |        |
| Band       | Bandwidth<br>(MHz) | RB    | 37775                | 38000 | 38225  | 37775  | 38000 | 38225  |
|            |                    |       | 2572.5               | 2595  | 2617.5 | 2572.5 | 2595  | 2617.5 |
| 38         | 5                  | 1@0   | 22.41                | 22.67 | 22.78  | 22.33  | 22.41 | 22.48  |
|            |                    | 1@12  | 22.65                | 22.81 | 22.47  | 22.42  | 22.01 | 22.32  |
|            |                    | 1@24  | 22.57                | 22.82 | 22.82  | 22.42  | 22.53 | 22.32  |
|            |                    | 12@0  | 21.97                | 22.07 | 22.08  | 21.27  | 21.19 | 21.07  |
|            |                    | 12@7  | 22.10                | 22.09 | 22.04  | 21.14  | 21.26 | 21.09  |
|            |                    | 12@13 | 21.80                | 22.08 | 21.88  | 21.19  | 21.08 | 21.02  |
|            |                    | 25@0  | 22.05                | 22.20 | 22.00  | 21.03  | 21.18 | 21.22  |
| Band       | Bandwidth<br>(MHz) | RB    | 37800                | 38000 | 38200  | 37800  | 38000 | 38200  |
|            |                    |       | 2575                 | 2595  | 2615   | 2575   | 2595  | 2615   |
| 38         | 10                 | 1@0   | 22.26                | 22.50 | 22.76  | 22.41  | 22.43 | 22.37  |
|            |                    | 1@25  | 22.54                | 22.86 | 22.48  | 22.37  | 22.03 | 22.31  |
|            |                    | 1@49  | 22.51                | 22.73 | 22.71  | 22.43  | 22.44 | 22.35  |
|            |                    | 25@0  | 22.11                | 22.13 | 22.21  | 21.32  | 21.28 | 21.21  |
|            |                    | 25@12 | 22.16                | 22.12 | 22.02  | 21.22  | 21.15 | 20.98  |
|            |                    | 25@25 | 21.85                | 22.13 | 21.93  | 21.20  | 21.15 | 21.03  |
|            |                    | 50@0  | 21.88                | 22.13 | 22.00  | 21.11  | 21.19 | 21.03  |
| Band       | Bandwidth<br>(MHz) | RB    | 37825                | 38000 | 38175  | 37825  | 38000 | 38175  |
|            |                    |       | 2577.5               | 2595  | 2612.5 | 2577.5 | 2595  | 2612.5 |
| 38         | 15                 | 1@0   | 22.26                | 22.62 | 22.68  | 22.39  | 22.41 | 22.34  |
|            |                    | 1@37  | 22.67                | 22.79 | 22.51  | 22.47  | 21.93 | 22.16  |
|            |                    | 1@74  | 22.43                | 22.85 | 22.82  | 22.41  | 22.57 | 22.36  |
|            |                    | 36@0  | 22.07                | 22.21 | 22.13  | 21.20  | 21.32 | 21.22  |
|            |                    | 36@20 | 22.09                | 22.04 | 22.00  | 21.21  | 21.20 | 21.11  |
|            |                    | 36@39 | 21.89                | 22.14 | 22.02  | 21.19  | 21.14 | 21.00  |
|            |                    | 75@0  | 21.88                | 22.17 | 22.04  | 21.08  | 21.28 | 21.12  |
| Band       | Bandwidth<br>(MHz) | RB    | 37850                | 38000 | 38150  | 37850  | 38000 | 38150  |
|            |                    |       | 2580                 | 2595  | 2610   | 2580   | 2595  | 2610   |
| 38         | 20                 | 1@0   | 22.42                | 22.68 | 22.84  | 22.48  | 22.52 | 22.51  |
|            |                    | 1@49  | 22.71                | 22.92 | 22.66  | 22.56  | 22.10 | 22.34  |
|            |                    | 1@99  | 22.57                | 22.88 | 22.84  | 22.57  | 22.59 | 22.44  |
|            |                    | 50@0  | 22.15                | 22.24 | 22.22  | 21.40  | 21.36 | 21.25  |
|            |                    | 50@24 | 22.22                | 22.17 | 22.19  | 21.25  | 21.35 | 21.16  |
|            |                    | 50@50 | 21.98                | 22.17 | 22.07  | 21.36  | 21.27 | 21.10  |
|            |                    | 100@0 | 22.06                | 22.26 | 22.18  | 21.19  | 21.30 | 21.22  |

### 5.3 ERP OR EIRP

**Test Requirement:** FCC 47 CFR Part 2.1046(a)  
**LTE Band 2:** FCC 47 CFR Part 24.232(c)  
**LTE Band 4 :** FCC 47 CFR Part 27.50(d)(4)  
**LTE Band 5:** FCC 47 CFR Part 22.913(a)  
**LTE Band 7 & Band 38:** FCC 47 CFR Part 27.50(h)(2)  
**Test Method:** KDB 971168 D01v03r01 Section 5.6 & ANSI C63.26-2015

**Limit:**

**FCC 47 CFR Part 22.913(a):**

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

**FCC 47 CFR Part 24.232(c):**

Mobile and portable stations are limited to 2 watts EIRP.

**FCC 47 CFR Part 27.50(d)(4):**

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

**FCC 47 CFR Part 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.

**Test Procedure:**

According to KDB 412172 D01 Power Approach,

- **ERP or EIRP =  $P_T + G_T - L_C$**
- **ERP = EIRP - 2.15**

where

- **$P_T$**  = transmitter output power, expressed in dBW, dBm, or PSD;
- **$G_T$**  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
- **$L_C$**  = **signal attenuation in the connecting cable between the transmitter and antenna, in dB.**

**Test Setup:** Refer to section 4.2.1 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** See table below

**Note:** The maximum ERP/EIRP is calculated from max output power and antenna gain, the antenna gain provided by the customer, and the customer takes all the responsibilities for the accuracy of antenna gain.

### 5.3.1 LTE Band 2

| Channel                   | Maximum EIRP (dBm) |       |             | Maximum EIRP (W) |        |           | Result |
|---------------------------|--------------------|-------|-------------|------------------|--------|-----------|--------|
|                           | QPSK               | 16QAM | Limit (dBm) | QPSK             | 16QAM  | Limit (W) |        |
| Channel Bandwidth: 1.4MHz |                    |       |             |                  |        |           |        |
| Lowest                    | 19.54              | 18.81 | 33.01       | 0.0899           | 0.0760 | 2         | Pass   |
| Middle                    | 19.70              | 18.88 | 33.01       | 0.0933           | 0.0773 | 2         | Pass   |
| Highest                   | 19.57              | 18.62 | 33.01       | 0.0906           | 0.0728 | 2         | Pass   |
| Channel Bandwidth: 3MHz   |                    |       |             |                  |        |           |        |
| Lowest                    | 19.48              | 18.82 | 33.01       | 0.0887           | 0.0762 | 2         | Pass   |
| Middle                    | 19.63              | 18.88 | 33.01       | 0.0918           | 0.0773 | 2         | Pass   |
| Highest                   | 19.52              | 18.46 | 33.01       | 0.0895           | 0.0701 | 2         | Pass   |
| Channel Bandwidth: 5MHz   |                    |       |             |                  |        |           |        |
| Lowest                    | 19.60              | 18.75 | 33.01       | 0.0912           | 0.0750 | 2         | Pass   |
| Middle                    | 19.51              | 18.81 | 33.01       | 0.0893           | 0.0760 | 2         | Pass   |
| Highest                   | 19.33              | 18.47 | 33.01       | 0.0857           | 0.0703 | 2         | Pass   |
| Channel Bandwidth: 10MHz  |                    |       |             |                  |        |           |        |
| Lowest                    | 19.64              | 18.70 | 33.01       | 0.0920           | 0.0741 | 2         | Pass   |
| Middle                    | 19.56              | 18.90 | 33.01       | 0.0904           | 0.0776 | 2         | Pass   |
| Highest                   | 19.53              | 18.64 | 33.01       | 0.0897           | 0.0731 | 2         | Pass   |
| Channel Bandwidth: 15MHz  |                    |       |             |                  |        |           |        |
| Lowest                    | 19.46              | 18.68 | 33.01       | 0.0883           | 0.0738 | 2         | Pass   |
| Middle                    | 19.67              | 18.89 | 33.01       | 0.0927           | 0.0774 | 2         | Pass   |
| Highest                   | 19.52              | 18.59 | 33.01       | 0.0895           | 0.0723 | 2         | Pass   |
| Channel Bandwidth: 20MHz  |                    |       |             |                  |        |           |        |
| Lowest                    | 19.66              | 18.83 | 33.01       | 0.0925           | 0.0764 | 2         | Pass   |
| Middle                    | 19.71              | 19.00 | 33.01       | 0.0935           | 0.0794 | 2         | Pass   |
| Highest                   | 19.63              | 18.64 | 33.01       | 0.0918           | 0.0731 | 2         | Pass   |

### 5.3.2 LTE Band 4

| Channel                   | Maximum EIRP (dBm) |       |             | Maximum EIRP (W) |        |           | Result |
|---------------------------|--------------------|-------|-------------|------------------|--------|-----------|--------|
|                           | QPSK               | 16QAM | Limit (dBm) | QPSK             | 16QAM  | Limit (W) |        |
| Channel Bandwidth: 1.4MHz |                    |       |             |                  |        |           |        |
| Lowest                    | 20.90              | 20.66 | 30.00       | 0.1230           | 0.1164 | 1         | Pass   |
| Middle                    | 21.01              | 20.63 | 30.00       | 0.1262           | 0.1156 | 1         | Pass   |
| Highest                   | 20.77              | 20.47 | 30.00       | 0.1194           | 0.1114 | 1         | Pass   |
| Channel Bandwidth: 3MHz   |                    |       |             |                  |        |           |        |
| Lowest                    | 20.76              | 20.67 | 30.00       | 0.1191           | 0.1167 | 1         | Pass   |
| Middle                    | 20.91              | 20.63 | 30.00       | 0.1233           | 0.1156 | 1         | Pass   |
| Highest                   | 20.69              | 20.31 | 30.00       | 0.1172           | 0.1074 | 1         | Pass   |
| Channel Bandwidth: 5MHz   |                    |       |             |                  |        |           |        |
| Lowest                    | 20.91              | 20.25 | 30.00       | 0.1233           | 0.1059 | 1         | Pass   |
| Middle                    | 20.93              | 20.66 | 30.00       | 0.1239           | 0.1164 | 1         | Pass   |
| Highest                   | 20.76              | 20.05 | 30.00       | 0.1191           | 0.1012 | 1         | Pass   |
| Channel Bandwidth: 10MHz  |                    |       |             |                  |        |           |        |
| Lowest                    | 20.85              | 20.55 | 30.00       | 0.1216           | 0.1135 | 1         | Pass   |
| Middle                    | 20.95              | 20.65 | 30.00       | 0.1245           | 0.1161 | 1         | Pass   |
| Highest                   | 20.81              | 20.49 | 30.00       | 0.1205           | 0.1119 | 1         | Pass   |
| Channel Bandwidth: 15MHz  |                    |       |             |                  |        |           |        |
| Lowest                    | 20.84              | 20.53 | 30.00       | 0.1213           | 0.1130 | 1         | Pass   |
| Middle                    | 21.00              | 20.64 | 30.00       | 0.1259           | 0.1159 | 1         | Pass   |
| Highest                   | 20.76              | 20.44 | 30.00       | 0.1191           | 0.1107 | 1         | Pass   |
| Channel Bandwidth: 20MHz  |                    |       |             |                  |        |           |        |
| Lowest                    | 20.92              | 20.68 | 30.00       | 0.1236           | 0.1169 | 1         | Pass   |
| Middle                    | 21.06              | 20.75 | 30.00       | 0.1276           | 0.1189 | 1         | Pass   |
| Highest                   | 20.88              | 20.49 | 30.00       | 0.1225           | 0.1119 | 1         | Pass   |

### 5.3.3 LTE Band 5

| Channel                   | Maximum ERP (dBm) |       |             | Maximum ERP (W) |        |           | Result |
|---------------------------|-------------------|-------|-------------|-----------------|--------|-----------|--------|
|                           | QPSK              | 16QAM | Limit (dBm) | QPSK            | 16QAM  | Limit (W) |        |
| Channel Bandwidth: 1.4MHz |                   |       |             |                 |        |           |        |
| Lowest                    | 18.59             | 17.68 | 38.45       | 0.0723          | 0.0586 | 7         | Pass   |
| Middle                    | 18.58             | 17.31 | 38.45       | 0.0721          | 0.0538 | 7         | Pass   |
| Highest                   | 18.37             | 18.02 | 38.45       | 0.0687          | 0.0634 | 7         | Pass   |
| Channel Bandwidth: 3MHz   |                   |       |             |                 |        |           |        |
| Lowest                    | 18.51             | 18.00 | 38.45       | 0.0710          | 0.0631 | 7         | Pass   |
| Middle                    | 18.53             | 18.08 | 38.45       | 0.0713          | 0.0643 | 7         | Pass   |
| Highest                   | 18.62             | 17.99 | 38.45       | 0.0728          | 0.0630 | 7         | Pass   |
| Channel Bandwidth: 5MHz   |                   |       |             |                 |        |           |        |
| Lowest                    | 18.41             | 17.56 | 38.45       | 0.0693          | 0.0570 | 7         | Pass   |
| Middle                    | 18.41             | 17.29 | 38.45       | 0.0693          | 0.0536 | 7         | Pass   |
| Highest                   | 18.70             | 18.02 | 38.45       | 0.0741          | 0.0634 | 7         | Pass   |
| Channel Bandwidth: 10MHz  |                   |       |             |                 |        |           |        |
| Lowest                    | 18.61             | 17.69 | 38.45       | 0.0726          | 0.0587 | 7         | Pass   |
| Middle                    | 18.75             | 17.39 | 38.45       | 0.0750          | 0.0548 | 7         | Pass   |
| Highest                   | 18.47             | 18.14 | 38.45       | 0.0703          | 0.0652 | 7         | Pass   |

### 5.3.4 LTE Band 7

| Channel                  | Maximum EIRP (dBm) |       |             | Maximum EIRP (W) |        |           | Result |
|--------------------------|--------------------|-------|-------------|------------------|--------|-----------|--------|
|                          | QPSK               | 16QAM | Limit (dBm) | QPSK             | 16QAM  | Limit (W) |        |
| Channel Bandwidth: 5MHz  |                    |       |             |                  |        |           |        |
| Lowest                   | 20.59              | 20.24 | 33.01       | 0.1146           | 0.1057 | 2         | Pass   |
| Middle                   | 20.70              | 20.09 | 33.01       | 0.1175           | 0.1021 | 2         | Pass   |
| Highest                  | 20.61              | 20.34 | 33.01       | 0.1151           | 0.1081 | 2         | Pass   |
| Channel Bandwidth: 10MHz |                    |       |             |                  |        |           |        |
| Lowest                   | 20.63              | 20.22 | 33.01       | 0.1156           | 0.1052 | 2         | Pass   |
| Middle                   | 20.75              | 20.13 | 33.01       | 0.1189           | 0.1030 | 2         | Pass   |
| Highest                  | 20.64              | 20.15 | 33.01       | 0.1159           | 0.1035 | 2         | Pass   |
| Channel Bandwidth: 15MHz |                    |       |             |                  |        |           |        |
| Lowest                   | 20.68              | 20.33 | 33.01       | 0.1169           | 0.1079 | 2         | Pass   |
| Middle                   | 20.62              | 20.17 | 33.01       | 0.1153           | 0.1040 | 2         | Pass   |
| Highest                  | 20.61              | 20.14 | 33.01       | 0.1151           | 0.1033 | 2         | Pass   |
| Channel Bandwidth: 20MHz |                    |       |             |                  |        |           |        |
| Lowest                   | 20.74              | 20.28 | 33.01       | 0.1186           | 0.1067 | 2         | Pass   |
| Middle                   | 20.76              | 20.20 | 33.01       | 0.1191           | 0.1047 | 2         | Pass   |
| Highest                  | 20.68              | 20.36 | 33.01       | 0.1169           | 0.1086 | 2         | Pass   |

### 5.3.5 LTE Band 38

| Channel                  | Maximum EIRP (dBm) |       |             | Maximum EIRP (W) |        |           | Result |
|--------------------------|--------------------|-------|-------------|------------------|--------|-----------|--------|
|                          | QPSK               | 16QAM | Limit (dBm) | QPSK             | 16QAM  | Limit (W) |        |
| Channel Bandwidth: 5MHz  |                    |       |             |                  |        |           |        |
| Lowest                   | 20.78              | 20.63 | 38.45       | 0.1197           | 0.1156 | 2         | Pass   |
| Middle                   | 21.03              | 20.74 | 38.45       | 0.1268           | 0.1186 | 2         | Pass   |
| Highest                  | 21.03              | 20.53 | 38.45       | 0.1268           | 0.1130 | 2         | Pass   |
| Channel Bandwidth: 10MHz |                    |       |             |                  |        |           |        |
| Lowest                   | 20.75              | 20.64 | 38.45       | 0.1189           | 0.1159 | 2         | Pass   |
| Middle                   | 21.07              | 20.65 | 38.45       | 0.1279           | 0.1161 | 2         | Pass   |
| Highest                  | 20.69              | 20.56 | 38.45       | 0.1172           | 0.1138 | 2         | Pass   |
| Channel Bandwidth: 15MHz |                    |       |             |                  |        |           |        |
| Lowest                   | 20.64              | 20.62 | 38.45       | 0.1159           | 0.1153 | 2         | Pass   |
| Middle                   | 21.06              | 20.78 | 38.45       | 0.1276           | 0.1197 | 2         | Pass   |
| Highest                  | 21.03              | 20.57 | 38.45       | 0.1268           | 0.1140 | 2         | Pass   |
| Channel Bandwidth: 20MHz |                    |       |             |                  |        |           |        |
| Lowest                   | 20.92              | 20.78 | 38.45       | 0.1236           | 0.1197 | 2         | Pass   |
| Middle                   | 21.13              | 20.80 | 38.45       | 0.1297           | 0.1202 | 2         | Pass   |
| Highest                  | 20.87              | 20.65 | 38.45       | 0.1222           | 0.1161 | 2         | Pass   |

## 5.4 PEAK-TO-AVERAGE RATIO

**Test Requirement:** LTE Band 2: FCC 47 CFR Part 24.232(d)  
LTE Band 4: FCC 47 CFR Part 27.50(d)(5)  
LTE Band 5: FCC 47 CFR Part 22.913(a)  
LTE Band 7 & Band 38: FCC 47 CFR Part 27.50(d)(5)

**Test Method:** KDB 971168 D01v03r01 Section 5.7

**Limit:** In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

**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.

- Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth
- Set the number of counts to a value that stabilizes the measured CCDF curve
- Record the maximum PAPR level associated with a probability of 0.1 %

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** Please refer to Appendix A

## 5.5 99%&26DB BANDWIDTH

**Test Requirement:** FCC 47 CFR Part 2.1049(h)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01 Section 4

**Limit:** No Limit, 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 99% and -26dB bandwidths was also measured and recorded.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** Please refer to Appendix A

## 5.6 BAND EDGE AT ANTENNA TERMINALS

**Test Requirement:** LTE Band 2: FCC 47 CFR Part 24.238(a)  
LTE Band 4 : FCC 47 CFR Part 27.53(h)(1)  
LTE Band 5: FCC 47 CFR Part 22.917(a)  
LTE Band 7&Band 38: FCC 47 CFR Part 27.53(m)(4)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limit:**

**FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a):**

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. The emission limit equal to -13 dBm.

**FCC 47 CFR Part 27.53(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.

**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.

For each band edge measurement:

- 1) Set the spectrum analyzer span to include the block edge frequency.
- 2) Set a marker to point the corresponding band edge frequency in each test case.
- 3) Set display line at -13 dBm
- 4) Set resolution bandwidth to at least 1% of emission bandwidth.
- 5) Set spectrum analyzer with RMS detector.
- 6) Record the max trace plot into the test report

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** Please refer to Appendix A

## 5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

**Test Requirement:** LTE Band 2: FCC 47 CFR Part 24.238(a)  
LTE Band 4: FCC 47 CFR Part 27.53(h)  
LTE Band 5: FCC 47 CFR Part 22.917(a)  
LTE Band 7&Band 38: FCC 47 CFR Part 27.53(m)(4)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limit:**

**FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a):**

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. The emission limit equal to -13 dBm.

**FCC 47 CFR Part 27.53(m)(4):**

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  $55 + 10 \log(P)$  dB. The emission limit equal to -25 dBm.

**Test Procedure:**

The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range. b. Measuring frequency range is from 30 MHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

**Test Mode:** Link mode

**Test Results:** Pass

**Test Data:** Please refer to Appendix A

## 5.8 FIELD STRENGTH OF SPURIOUS RADIATION

**Test Requirement:** LTE Band 2: FCC 47 CFR Part 24.238(a)  
LTE Band 4: FCC 47 CFR Part 27.53(h)  
LTE Band 5: FCC 47 CFR Part 22.917(a)  
LTE Band 7&Band 38: FCC 47 CFR Part 27.53(m)(4)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Receiver Setup:**

| Frequency        | Detector   | RBW     | VBW     | Remark |
|------------------|------------|---------|---------|--------|
| 0.009 MHz-30 MHz | Peak       | 10 kHz  | 30 KHz  | Peak   |
| 30 MHz-1 GHz     | Quasi-peak | 100 kHz | 300 KHz | Peak   |
| Above 1 GHz      | Peak       | 1 MHz   | 3 MHz   | Peak   |

**Limits:**

**FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a):**

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. The emission limit equal to -13 dBm.

**FCC 47 CFR Part 27.53(m)(4):**

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  $55 + 10 \log(P)$  dB. The emission limit equal to -25 dBm.

**Test Setup:** Refer to section 4.2.1 for details.

**Test Procedures:** KDB 971168 D01v03r01 Section 7

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Pass

**The worst measurement data as follows:**

### 5.8.1 LTE Band 2

| LTE Band 2_20 MHz_QPSK |                    |                        |                                |                         |                |                |            |
|------------------------|--------------------|------------------------|--------------------------------|-------------------------|----------------|----------------|------------|
| No.                    | Frequency<br>(MHz) | SA<br>Reading<br>(dBm) | Correction<br>factor<br>(dB/m) | EIRP<br>Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Ant. Pol.  |
| Lowest Channel         |                    |                        |                                |                         |                |                |            |
| 1                      | 48.378             | -72.68                 | 24.85                          | -47.83                  | -13.00         | -34.83         | Horizontal |
| 2                      | 815.635            | -80.76                 | 43.58                          | -37.18                  | -13.00         | -24.18         | Horizontal |
| 3                      | 906.304            | -81.59                 | 45.37                          | -36.22                  | -13.00         | -23.22         | Horizontal |
| 4                      | 3720.000           | -61.52                 | 11.06                          | -50.46                  | -13.00         | -37.46         | Horizontal |
| 5                      | 5580.000           | -58.45                 | 12.39                          | -46.06                  | -13.00         | -33.06         | Horizontal |
| 6                      | 47.703             | -72.93                 | 25.15                          | -47.78                  | -13.00         | -34.78         | Vertical   |
| 7                      | 554.171            | -80.96                 | 39.56                          | -41.40                  | -13.00         | -28.40         | Vertical   |
| 8                      | 821.387            | -81.60                 | 43.99                          | -37.61                  | -13.00         | -24.61         | Vertical   |
| 9                      | 3720.000           | -61.90                 | 11.06                          | -50.84                  | -13.00         | -37.84         | Vertical   |
| 10                     | 5580.000           | -56.04                 | 12.39                          | -43.65                  | -13.00         | -30.65         | Vertical   |
| Middle Channel         |                    |                        |                                |                         |                |                |            |
| 1                      | 51.900             | -70.70                 | 23.80                          | -46.90                  | -13.00         | -33.90         | Horizontal |
| 2                      | 708.694            | -80.03                 | 41.95                          | -38.08                  | -13.00         | -25.08         | Horizontal |
| 3                      | 979.139            | -81.68                 | 45.47                          | -36.21                  | -13.00         | -23.21         | Horizontal |
| 4                      | 3760.000           | -62.53                 | 11.30                          | -51.23                  | -13.00         | -38.23         | Horizontal |
| 5                      | 5640.000           | -60.75                 | 12.52                          | -48.23                  | -13.00         | -35.23         | Horizontal |
| 6                      | 53.379             | -70.00                 | 23.05                          | -46.95                  | -13.00         | -33.95         | Vertical   |
| 7                      | 598.707            | -80.34                 | 40.26                          | -40.08                  | -13.00         | -27.08         | Vertical   |
| 8                      | 868.886            | -81.38                 | 44.75                          | -36.63                  | -13.00         | -23.63         | Vertical   |
| 9                      | 3760.000           | -62.73                 | 11.30                          | -51.43                  | -13.00         | -38.43         | Vertical   |
| 10                     | 5640.000           | -61.63                 | 12.52                          | -49.11                  | -13.00         | -36.11         | Vertical   |
| Highest Channel        |                    |                        |                                |                         |                |                |            |
| 1                      | 50.108             | -72.23                 | 24.50                          | -47.73                  | -13.00         | -34.73         | Horizontal |
| 2                      | 723.793            | -81.57                 | 42.03                          | -39.54                  | -13.00         | -26.54         | Horizontal |
| 3                      | 868.886            | -81.64                 | 44.75                          | -36.89                  | -13.00         | -23.89         | Horizontal |
| 4                      | 3800.000           | -57.06                 | 11.53                          | -45.53                  | -13.00         | -32.53         | Horizontal |
| 5                      | 5700.000           | -61.23                 | 12.64                          | -48.59                  | -13.00         | -35.59         | Horizontal |
| 6                      | 51.176             | -72.89                 | 24.30                          | -48.59                  | -13.00         | -35.59         | Vertical   |
| 7                      | 749.676            | -81.32                 | 42.15                          | -39.17                  | -13.00         | -26.17         | Vertical   |
| 8                      | 868.886            | -81.55                 | 44.75                          | -36.80                  | -13.00         | -23.80         | Vertical   |
| 9                      | 3800.000           | -61.69                 | 11.53                          | -50.16                  | -13.00         | -37.16         | Vertical   |
| 10                     | 5700.000           | -61.60                 | 12.64                          | -48.96                  | -13.00         | -35.96         | Vertical   |

### 5.8.2 LTE Band 4

| LTE Band 4_20 MHz_QPSK |                    |                        |                                |                         |                |                |            |
|------------------------|--------------------|------------------------|--------------------------------|-------------------------|----------------|----------------|------------|
| No.                    | Frequency<br>(MHz) | SA<br>Reading<br>(dBm) | Correction<br>factor<br>(dB/m) | EIRP<br>Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Ant. Pol.  |
| Lowest Channel         |                    |                        |                                |                         |                |                |            |
| 1                      | 30.000             | -81.37                 | 34.15                          | -47.22                  | -13.00         | -34.22         | Horizontal |
| 2                      | 50.461             | -71.27                 | 24.46                          | -46.81                  | -13.00         | -33.81         | Horizontal |
| 3                      | 893.656            | -79.65                 | 44.95                          | -34.70                  | -13.00         | -21.70         | Horizontal |
| 4                      | 3440.000           | -57.81                 | 9.61                           | -48.20                  | -13.00         | -35.20         | Horizontal |
| 5                      | 5160.000           | -57.82                 | 11.62                          | -46.20                  | -13.00         | -33.20         | Horizontal |
| 6                      | 32.184             | -78.06                 | 32.21                          | -45.85                  | -13.00         | -32.85         | Vertical   |
| 7                      | 48.378             | -72.40                 | 24.85                          | -47.55                  | -13.00         | -34.55         | Vertical   |
| 8                      | 919.132            | -81.98                 | 45.27                          | -36.71                  | -13.00         | -23.71         | Vertical   |
| 9                      | 3440.000           | -60.86                 | 9.61                           | -51.25                  | -13.00         | -38.25         | Vertical   |
| 10                     | 5160.000           | -60.92                 | 11.62                          | -49.30                  | -13.00         | -36.30         | Vertical   |
| Middle Channel         |                    |                        |                                |                         |                |                |            |
| 1                      | 30.212             | -80.90                 | 33.71                          | -47.19                  | -13.00         | -34.19         | Horizontal |
| 2                      | 47.703             | -71.80                 | 25.15                          | -46.65                  | -13.00         | -33.65         | Horizontal |
| 3                      | 906.304            | -81.71                 | 45.37                          | -36.34                  | -13.00         | -23.34         | Horizontal |
| 4                      | 3465.000           | -52.59                 | 9.68                           | -42.91                  | -13.00         | -29.91         | Horizontal |
| 5                      | 5197.500           | -57.15                 | 11.69                          | -45.46                  | -13.00         | -32.46         | Horizontal |
| 6                      | 53.379             | -70.27                 | 23.05                          | -47.22                  | -13.00         | -34.22         | Vertical   |
| 7                      | 708.694            | -81.37                 | 41.95                          | -39.42                  | -13.00         | -26.42         | Vertical   |
| 8                      | 838.887            | -82.04                 | 43.96                          | -38.08                  | -13.00         | -25.08         | Vertical   |
| 9                      | 3465.000           | -54.84                 | 9.68                           | -45.16                  | -13.00         | -32.16         | Vertical   |
| 10                     | 5197.500           | -62.01                 | 11.69                          | -50.32                  | -13.00         | -37.32         | Vertical   |
| Highest Channel        |                    |                        |                                |                         |                |                |            |
| 1                      | 32.184             | -80.60                 | 32.21                          | -48.39                  | -13.00         | -35.39         | Horizontal |
| 2                      | 51.900             | -70.26                 | 23.80                          | -46.46                  | -13.00         | -33.46         | Horizontal |
| 3                      | 986.044            | -81.27                 | 45.67                          | -35.60                  | -13.00         | -22.60         | Horizontal |
| 4                      | 3490.000           | -57.03                 | 9.74                           | -47.29                  | -13.00         | -34.29         | Horizontal |
| 5                      | 5235.000           | -60.32                 | 11.76                          | -48.56                  | -13.00         | -35.56         | Horizontal |
| 6                      | 50.461             | -71.76                 | 24.46                          | -47.30                  | -13.00         | -34.30         | Vertical   |
| 7                      | 827.179            | -81.26                 | 43.91                          | -37.35                  | -13.00         | -24.35         | Vertical   |
| 8                      | 906.304            | -81.35                 | 45.37                          | -35.98                  | -13.00         | -22.98         | Vertical   |
| 9                      | 3490.000           | -58.32                 | 9.74                           | -48.58                  | -13.00         | -35.58         | Vertical   |
| 10                     | 5235.000           | -60.93                 | 11.76                          | -49.17                  | -13.00         | -36.17         | Vertical   |

### 5.8.3 LTE Band 5

| LTE Band 5_ 10 MHz_ QPSK |                    |                        |                                |                         |                |                |            |
|--------------------------|--------------------|------------------------|--------------------------------|-------------------------|----------------|----------------|------------|
| No.                      | Frequency<br>(MHz) | SA<br>Reading<br>(dBm) | Correction<br>factor<br>(dB/m) | EIRP<br>Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Ant. Pol.  |
| Lowest Channel           |                    |                        |                                |                         |                |                |            |
| 1                        | 53.756             | -70.35                 | 22.56                          | -47.79                  | -13.00         | -34.79         | Horizontal |
| 2                        | 520.208            | -80.64                 | 39.18                          | -41.46                  | -13.00         | -28.46         | Horizontal |
| 3                        | 972.283            | -82.19                 | 45.42                          | -36.77                  | -13.00         | -23.77         | Horizontal |
| 4                        | 1658.000           | -61.24                 | 2.10                           | -59.14                  | -13.00         | -46.14         | Horizontal |
| 5                        | 2487.000           | -61.10                 | 6.30                           | -54.80                  | -13.00         | -41.80         | Horizontal |
| 6                        | 51.176             | -71.42                 | 24.30                          | -47.12                  | -13.00         | -34.12         | Vertical   |
| 7                        | 531.291            | -80.58                 | 39.35                          | -41.23                  | -13.00         | -28.23         | Vertical   |
| 8                        | 919.132            | -81.69                 | 45.27                          | -36.42                  | -13.00         | -23.42         | Vertical   |
| 9                        | 1658.000           | -60.55                 | 2.10                           | -58.45                  | -13.00         | -45.45         | Vertical   |
| 10                       | 2487.000           | -61.35                 | 6.30                           | -55.05                  | -13.00         | -42.05         | Vertical   |
| Middle Channel           |                    |                        |                                |                         |                |                |            |
| 1                        | 51.176             | -72.52                 | 24.30                          | -48.22                  | -13.00         | -35.22         | Horizontal |
| 2                        | 655.977            | -80.26                 | 41.08                          | -39.18                  | -13.00         | -26.18         | Horizontal |
| 3                        | 925.613            | -81.83                 | 45.33                          | -36.50                  | -13.00         | -23.50         | Horizontal |
| 4                        | 1673.000           | -60.22                 | 2.22                           | -58.00                  | -13.00         | -45.00         | Horizontal |
| 5                        | 2509.500           | -61.30                 | 6.38                           | -54.92                  | -13.00         | -41.92         | Horizontal |
| 6                        | 30.639             | -77.63                 | 32.81                          | -44.82                  | -13.00         | -31.82         | Vertical   |
| 7                        | 728.897            | -80.22                 | 42.03                          | -38.19                  | -13.00         | -25.19         | Vertical   |
| 8                        | 912.695            | -81.94                 | 45.32                          | -36.62                  | -13.00         | -23.62         | Vertical   |
| 9                        | 1673.000           | -60.46                 | 2.22                           | -58.24                  | -13.00         | -45.24         | Vertical   |
| 10                       | 2509.500           | -62.27                 | 6.38                           | -55.89                  | -13.00         | -42.89         | Vertical   |
| Highest Channel          |                    |                        |                                |                         |                |                |            |
| 1                        | 52.634             | -70.91                 | 23.60                          | -47.31                  | -13.00         | -34.31         | Horizontal |
| 2                        | 821.387            | -82.36                 | 43.99                          | -38.37                  | -13.00         | -25.37         | Horizontal |
| 3                        | 986.044            | -82.21                 | 45.67                          | -36.54                  | -13.00         | -23.54         | Horizontal |
| 4                        | 1688.000           | -60.67                 | 2.36                           | -58.31                  | -13.00         | -45.31         | Horizontal |
| 5                        | 2532.000           | -61.99                 | 6.47                           | -55.52                  | -13.00         | -42.52         | Horizontal |
| 6                        | 51.900             | -71.30                 | 23.80                          | -47.50                  | -13.00         | -34.50         | Vertical   |
| 7                        | 101.893            | -75.99                 | 22.67                          | -53.32                  | -13.00         | -40.32         | Vertical   |
| 8                        | 899.958            | -80.37                 | 45.27                          | -35.10                  | -13.00         | -22.10         | Vertical   |
| 9                        | 1688.000           | -60.27                 | 2.36                           | -57.91                  | -13.00         | -44.91         | Vertical   |
| 10                       | 2532.000           | -63.15                 | 6.47                           | -56.68                  | -13.00         | -43.68         | Vertical   |

#### 5.8.4 LTE Band 7

| LTE Band 7_ 20 MHz_ QPSK |                    |                        |                                |                         |                |                |            |
|--------------------------|--------------------|------------------------|--------------------------------|-------------------------|----------------|----------------|------------|
| No.                      | Frequency<br>(MHz) | SA<br>Reading<br>(dBm) | Correction<br>factor<br>(dB/m) | EIRP<br>Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Ant. Pol.  |
| Lowest Channel           |                    |                        |                                |                         |                |                |            |
| 1                        | 50.108             | -72.13                 | 24.50                          | -47.63                  | -25.00         | -22.63         | Horizontal |
| 2                        | 104.798            | -78.28                 | 22.98                          | -55.30                  | -25.00         | -30.30         | Horizontal |
| 3                        | 972.283            | -81.55                 | 45.42                          | -36.13                  | -25.00         | -11.13         | Horizontal |
| 4                        | 5020.000           | -60.51                 | 11.38                          | -49.13                  | -25.00         | -24.13         | Horizontal |
| 5                        | 7530.000           | -61.13                 | 14.22                          | -46.91                  | -25.00         | -21.91         | Horizontal |
| 6                        | 48.378             | -73.17                 | 24.85                          | -48.32                  | -25.00         | -23.32         | Vertical   |
| 7                        | 104.798            | -77.22                 | 22.98                          | -54.24                  | -25.00         | -29.24         | Vertical   |
| 8                        | 906.304            | -81.41                 | 45.37                          | -36.04                  | -25.00         | -11.04         | Vertical   |
| 9                        | 5020.000           | -60.71                 | 11.38                          | -49.33                  | -25.00         | -24.33         | Vertical   |
| 10                       | 7530.000           | -61.92                 | 14.22                          | -47.70                  | -25.00         | -22.70         | Vertical   |
| Middle Channel           |                    |                        |                                |                         |                |                |            |
| 1                        | 30.639             | -78.74                 | 32.81                          | -45.93                  | -25.00         | -20.93         | Horizontal |
| 2                        | 47.703             | -72.38                 | 25.15                          | -47.23                  | -25.00         | -22.23         | Horizontal |
| 3                        | 862.802            | -81.03                 | 44.29                          | -36.74                  | -25.00         | -11.74         | Horizontal |
| 4                        | 5070.000           | -61.80                 | 11.47                          | -50.33                  | -25.00         | -25.33         | Horizontal |
| 5                        | 7605.000           | -61.63                 | 14.19                          | -47.44                  | -25.00         | -22.44         | Horizontal |
| 6                        | 51.176             | -71.45                 | 24.30                          | -47.15                  | -25.00         | -22.15         | Vertical   |
| 7                        | 569.969            | -79.90                 | 39.50                          | -40.40                  | -25.00         | -15.40         | Vertical   |
| 8                        | 793.028            | -79.82                 | 43.22                          | -36.60                  | -25.00         | -11.60         | Vertical   |
| 9                        | 5070.000           | -59.34                 | 11.47                          | -47.87                  | -25.00         | -22.87         | Vertical   |
| 10                       | 7605.000           | -61.34                 | 14.19                          | -47.15                  | -25.00         | -22.15         | Vertical   |
| Highest Channel          |                    |                        |                                |                         |                |                |            |
| 1                        | 554.171            | -80.74                 | 39.56                          | -41.18                  | -25.00         | -16.18         | Horizontal |
| 2                        | 827.179            | -80.71                 | 43.91                          | -36.80                  | -25.00         | -11.80         | Horizontal |
| 3                        | 925.613            | -80.55                 | 45.33                          | -35.22                  | -25.00         | -10.22         | Horizontal |
| 4                        | 5120.000           | -61.89                 | 11.55                          | -50.34                  | -25.00         | -25.34         | Horizontal |
| 5                        | 7680.000           | -62.33                 | 14.16                          | -48.17                  | -25.00         | -23.17         | Horizontal |
| 6                        | 51.900             | -71.35                 | 23.80                          | -47.55                  | -25.00         | -22.55         | Vertical   |
| 7                        | 538.811            | -80.42                 | 39.28                          | -41.14                  | -25.00         | -16.14         | Vertical   |
| 8                        | 906.304            | -82.05                 | 45.37                          | -36.68                  | -25.00         | -11.68         | Vertical   |
| 9                        | 5120.000           | -61.03                 | 11.55                          | -49.48                  | -25.00         | -24.48         | Vertical   |
| 10                       | 7680.000           | -62.65                 | 14.16                          | -48.49                  | -25.00         | -23.49         | Vertical   |

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UTTR-RF-FCC4G-V1.1

### 5.8.5 LTE Band 38

| LTE Band 38_ 20 MHz_ QPSK |                    |                        |                                |                         |                |                |            |
|---------------------------|--------------------|------------------------|--------------------------------|-------------------------|----------------|----------------|------------|
| No.                       | Frequency<br>(MHz) | SA<br>Reading<br>(dBm) | Correction<br>factor<br>(dB/m) | EIRP<br>Result<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Ant. Pol.  |
| Lowest Channel            |                    |                        |                                |                         |                |                |            |
| 1                         | 47.703             | -72.31                 | 25.15                          | -47.16                  | -25.00         | -22.16         | Horizontal |
| 2                         | 51.176             | -72.02                 | 24.30                          | -47.72                  | -25.00         | -22.72         | Horizontal |
| 3                         | 919.132            | -81.15                 | 45.27                          | -35.88                  | -25.00         | -10.88         | Horizontal |
| 4                         | 5160.000           | -60.40                 | 11.62                          | -48.78                  | -25.00         | -23.78         | Horizontal |
| 5                         | 7740.000           | -62.20                 | 14.14                          | -48.06                  | -25.00         | -23.06         | Horizontal |
| 6                         | 51.176             | -71.20                 | 24.30                          | -46.90                  | -25.00         | -21.90         | Vertical   |
| 7                         | 103.335            | -77.28                 | 22.96                          | -54.32                  | -25.00         | -29.32         | Vertical   |
| 8                         | 906.304            | -81.07                 | 45.37                          | -35.70                  | -25.00         | -10.70         | Vertical   |
| 9                         | 5160.000           | -62.01                 | 11.62                          | -50.39                  | -25.00         | -25.39         | Vertical   |
| 10                        | 7740.000           | -60.27                 | 14.14                          | -46.13                  | -25.00         | -21.13         | Vertical   |
| Middle Channel            |                    |                        |                                |                         |                |                |            |
| 1                         | 51.900             | -71.90                 | 23.80                          | -48.10                  | -25.00         | -23.10         | Horizontal |
| 2                         | 535.038            | -81.60                 | 39.42                          | -42.18                  | -25.00         | -17.18         | Horizontal |
| 3                         | 952.000            | -81.39                 | 45.21                          | -36.18                  | -25.00         | -11.18         | Horizontal |
| 4                         | 5190.000           | -61.78                 | 11.67                          | -50.11                  | -25.00         | -25.11         | Horizontal |
| 5                         | 7785.000           | -61.65                 | 14.12                          | -47.53                  | -25.00         | -22.53         | Horizontal |
| 6                         | 50.461             | -71.47                 | 24.46                          | -47.01                  | -25.00         | -22.01         | Vertical   |
| 7                         | 602.929            | -79.98                 | 40.30                          | -39.68                  | -25.00         | -14.68         | Vertical   |
| 8                         | 906.304            | -80.47                 | 45.37                          | -35.10                  | -25.00         | -10.10         | Vertical   |
| 9                         | 5190.000           | -61.47                 | 11.67                          | -49.80                  | -25.00         | -24.80         | Vertical   |
| 10                        | 7785.000           | -60.89                 | 14.12                          | -46.77                  | -25.00         | -21.77         | Vertical   |
| Highest Channel           |                    |                        |                                |                         |                |                |            |
| 1                         | 47.703             | -73.63                 | 25.15                          | -48.48                  | -25.00         | -23.48         | Horizontal |
| 2                         | 660.602            | -80.55                 | 40.98                          | -39.57                  | -25.00         | -14.57         | Horizontal |
| 3                         | 932.141            | -82.20                 | 44.98                          | -37.22                  | -25.00         | -12.22         | Horizontal |
| 4                         | 5220.000           | -63.88                 | 11.73                          | -52.15                  | -25.00         | -27.15         | Horizontal |
| 5                         | 7830.000           | -62.15                 | 14.11                          | -48.04                  | -25.00         | -23.04         | Horizontal |
| 6                         | 52.634             | -70.89                 | 23.60                          | -47.29                  | -25.00         | -22.29         | Vertical   |
| 7                         | 104.064            | -77.40                 | 22.90                          | -54.50                  | -25.00         | -29.50         | Vertical   |
| 8                         | 972.283            | -81.34                 | 45.42                          | -35.92                  | -25.00         | -10.92         | Vertical   |
| 9                         | 5220.000           | -63.79                 | 11.73                          | -52.06                  | -25.00         | -27.06         | Vertical   |
| 10                        | 7830.000           | -62.06                 | 14.11                          | -47.95                  | -25.00         | -22.95         | Vertical   |

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UTTR-RF-FCC4G-V1.1

## 5.9 FREQUENCY STABILITY

**Test Requirement:** FCC 47 CFR Part 2.1055 &  
FCC 47 CFR Part 22.355 &  
FCC 47 CFR Part 24.235 &  
FCC 47 CFR Part 27.54

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limits:**

**FCC 47 CFR Part 22.355, FCC 47 CFR Part 90.213**

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

**FCC 47 CFR Part 24.235, FCC 47 CFR Part 27.54**

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

**Test Setup:** Refer to section 4.2.2 for details.

**Test Procedures:**

- 1) Use CMW 500 with Frequency Error measurement capability.
  - a) Temp. =  $-30^{\circ}$  to  $+50^{\circ}\text{C}$
  - b) Voltage = low voltage, 3.6 Vdc, Normal, 3.85 Vdc and High voltage, 4.35 Vdc.

- 2) Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to  $20^{\circ}\text{C}$  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.

- 3) Frequency Stability vs Voltage:

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

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Please refer to Appendix A

## APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

## APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

\*\*\* End of Report \*\*\*

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The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of UnionTrust, this report can't be reproduced except in full.

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