# FCC RADIO TEST REPORT

| | | |
|---|---|---|
| **FCC ID** | : | **XV2SC415C61** |
| **Equipment** | : | **SC415 Universal Tank Monitor** |
| **Brand Name** | : | **Anova** |
| **Model Name** | : | **SC415C6-E2** |
| **Applicant** | : | **Silicon Controls Pty Ltd**<br>**Suite 1, 33 Waterloo Road; Macquarie Park NSW 2113 AUSTRALIA** |
| **Manufacturer** | : | **Silicon Controls Pty Ltd**<br>**Suite 1, 33 Waterloo Road; Macquarie Park NSW 2113 AUSTRALIA** |
| **Standard** | : | **FCC 47 CFR Part 2, 22(H), 24(E), 27** |

**The product was received on Jan. 21, 2021 and testing was started from Feb. 01, 2021 and completed on Feb. 18, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.**

**The test results in this partial report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.**

Louis Wu

**Approved by: Louis Wu**

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# Table of Contents

**History of this test report** ..... **3**
**Summary of Test Result** ..... **4**
**1 General Description** ..... **6**
1.1 Product Feature of Equipment Under Test ..... 6
1.2 Modification of EUT ..... 6
1.3 Testing Location ..... 6
1.4 Applicable Standards ..... 7
**2 Test Configuration of Equipment Under Test** ..... **8**
2.1 Test Mode ..... 8
2.2 Connection Diagram of Test System ..... 10
2.3 Support Unit used in test configuration and system ..... 10
2.4 Frequency List of Low/Middle/High Channels ..... 11
**3 Conducted Test Items** ..... **15**
3.1 Measuring Instruments ..... 15
3.2 Conducted Output Power and ERP/EIRP ..... 16
**4 Radiated Test Items** ..... **17**
4.1 Measuring Instruments ..... 17
4.2 Radiated Spurious Emission Measurement ..... 19
**5 List of Measuring Equipment** ..... **20**
**6 Uncertainty of Evaluation** ..... **21**
**Appendix A. Test Results of Conducted Test**
**Appendix B. Test Results of Radiated Test**
**Appendix C. Test Setup Photographs**

# History of this test report

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FG111807B | 01 | Initial issue of report | Jun. 04, 2021 |
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# Summary of Test Result

| Report Clause | Ref Std. Clause | Test Items | Result (PASS/FAIL) | Remark |
|---|---|---|---|---|
| 3.2 | §2.1046 | Conducted Output Power | Reporting only | - |
| | §22.913 (a)(5) | Effective Radiated Power (Band 5) (Band 26) | Pass | |
| | §27.50 (b)(10) §27.50 (c)(10) | Effective Radiated Power (Band 12) (Band 13) (Band 85) | | |
| | §24.232 (c) | Equivalent Isotropic Radiated Power (Band 2) (Band 25) | | |
| | §27.50 (d)(4) | Equivalent Isotropic Radiated Power (Band 4) (Band 66) | | |
| - | §24.232 (d) §27.50 (d)(5) | Peak-to-Average Ratio | - | See Note |
| - | §2.1049 | Occupied Bandwidth | - | See Note |
| - | §2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2)(4) §27.53 (g) §27.53 (h) | Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66) (Band 85) | - | See Note |
| - | §2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (g) §27.53 (h) | Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66) (Band 85) | - | See Note |
| - | §2.1055 §22.355 §24.235 §27.54 | Frequency Stability Temperature & Voltage | - | See Note |

| Report Clause | Ref Std. Clause | Test Items | Result (PASS/FAIL) | Remark |
|---|---|---|---|---|
| 4.2 | §2.1053<br>§22.917 (a)<br>§24.238 (a)<br>§27.53 (c)(2)<br>§27.53 (f)<br>§27.53 (g)<br>§27.53 (h) | Radiated Spurious Emission<br>(Band 2) (Band 4) (Band 5)<br>(Band 12) (Band 13) (Band 25)<br>(Band 26) (Band 66) (Band 85) | Pass | Under limit<br>3.16 dB at<br>1560.000 MHz |
| **Remark:** The module (Model: ME910G1-WW) makes no difference after verifying output power, this report reuses test data from the module report. | | | | |

| **Declaration of Conformity:** |
|---|
| The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. |
| **Comments and Explanations:** |
| The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification. |

**Reviewed by: Wii Chang**

**Report Producer: Cindy Liu**

# 1 General Description

## 1.1 Product Feature of Equipment Under Test

GSM and LTE.

| Product Specification subjective to this standard | |
|---|---|
| **Antenna Type** | WWAN: PCB Antenna |
| **Antenna Gain** | Band 2: 1.40dBi<br>Band 4: 1.60dBi<br>Band 5: 0.50dBi<br>Band 12: -1.30dBi<br>Band 13: -0.30dBi<br>Band 25: 1.40dBi<br>Band 26: 0.50dBi<br>Band 66: 1.60dBi<br>Band 85: -1.20dBi |

**Remark:** The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

## 1.2 Modification of EUT

No modifications are made to the EUT during all test items.

## 1.3 Testing Location

| **Test Site** | Sporton International Inc. EMC & Wireless Communications Laboratory | |
|---|---|---|
| **Test Site Location** | No.52 , Huaya 1st Rd., Guishan Dist.,<br>Taoyuan City 333, Taiwan (R.O.C.)<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 | |
| **Test Site No.** | **Sporton Site No.** | |
| | TH02-HY | 03CH07-HY |
| **Test Engineer** | Benjamin Lin | Jesse Wang, Stan Hsieh and Ken Wu |
| **Temperature** | 20~21℃ | 19~25℃ |
| **Relative Humidity** | 50~52% | 46~60% |

**Note:** The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190

## 1.4 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.26-2015
- ANSI / TIA-603-E
- FCC 47 CFR Part 2, 22(H), 24(E), 27
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01.

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.

# 2 Test Configuration of Equipment Under Test

## 2.1 Test Mode

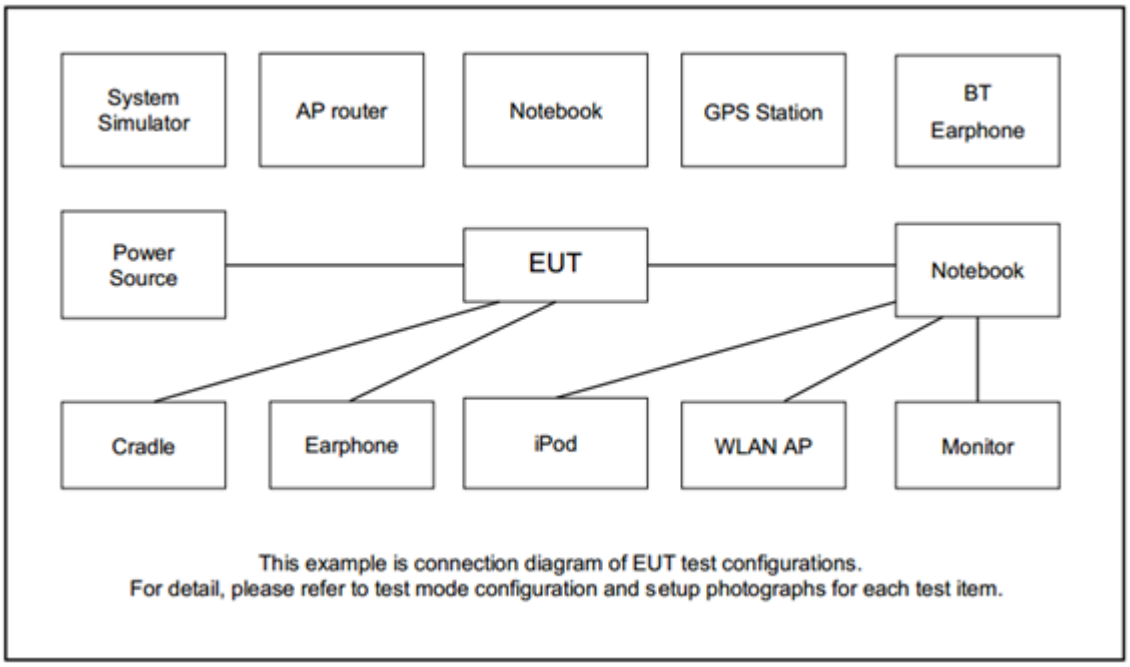
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

| Test Items | Band | Bandwidth (MHz) | | | | | | Modulation | | | RB # | | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1.4 | 3 | 5 | 10 | 15 | 20 | QPSK | 16QAM | 64QAM | 1 | Half | Full | L | M | H |
| Max. Output Power | 2 | v | v | v | v | v | v | v | v | | v | | v | v | v | v |
| | 4 | v | v | v | v | v | v | v | v | | v | | v | v | v | v |
| | 5 | v | v | v | v | - | - | v | v | | v | | v | v | v | v |
| | 12 | v | v | v | v | - | - | v | v | | v | | v | v | v | v |
| | 13 | - | - | v | v | - | - | v | v | | v | | v | v | v | v |
| | 25 | v | v | v | v | v | v | v | v | | v | | v | v | v | v |
| | 26 | v | v | v | v | v | - | v | v | | v | | v | v | v | v |
| | 66 | v | v | v | v | v | v | v | v | | v | | v | v | v | v |
| | 85 | - | - | v | v | - | - | v | v | | v | | v | v | v | v |
| E.R.P / E.I.R.P | 2 | v | v | v | v | v | v | v | v | | Max Power | | | | | |
| | 4 | v | v | v | v | v | v | v | v | | | | | | | |
| | 5 | v | v | v | v | - | - | v | v | | | | | | | |
| | 12 | v | v | v | v | - | - | v | v | | | | | | | |
| | 13 | - | - | v | v | - | - | v | v | | | | | | | |
| | 25 | v | v | v | v | v | v | v | v | | | | | | | |
| | 26 | v | v | v | v | v | - | v | v | | | | | | | |
| | 66 | v | v | v | v | v | v | v | v | | | | | | | |
| | 85 | - | - | v | v | - | - | v | v | | | | | | | |

| Test Items | Band | Bandwidth (MHz) | | | | | | Modulation | | | RB # | | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1.4 | 3 | 5 | 10 | 15 | 20 | QPSK | 16QAM | 64QAM | 1 | Half | Full | L | M | H |
| Radiated Spurious Emission | 2 | Worst Case | | | | | | | | | | | | v | v | v |
| | 4 | Worst Case | | | | | | | | | | | | v | v | v |
| | 5 | Worst Case | | | | | | | | | | | | v | v | v |
| | 12 | Worst Case | | | | | | | | | | | | v | v | v |
| | 13 | Worst Case | | | | | | | | | | | | v | v | v |
| | 25 | Worst Case | | | | | | | | | | | | v | v | v |
| | 26 | Worst Case | | | | | | | | | | | | v | v | v |
| | 66 | Worst Case | | | | | | | | | | | | v | v | v |
| | 85 | Worst Case | | | | | | | | | | | | v | v | v |
| Remark | 1. The mark "**v** " means that this configuration is chosen for testing<br>2. The mark "-" means that this bandwidth is not supported.<br>3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. | | | | | | | | | | | | | | | |

## 2.2 Connection Diagram of Test System




## 2.3 Support Unit used in test configuration and system

| Item | Equipment | Brand Name | Model No. | FCC ID | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| 1. | System Simulator | Anritsu | MT8821C | N/A | N/A | Unshielded, 1.8 m |

## 2.4 Frequency List of Low/Middle/High Channels

| LTE Band 2 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 20 | Channel | 18700 | 18900 | 19100 |
| | Frequency | 1860 | 1880 | 1900 |
| 15 | Channel | 18675 | 18900 | 19125 |
| | Frequency | 1857.5 | 1880 | 1902.5 |
| 10 | Channel | 18650 | 18900 | 19150 |
| | Frequency | 1855 | 1880 | 1905 |
| 5 | Channel | 18625 | 18900 | 19175 |
| | Frequency | 1852.5 | 1880 | 1907.5 |
| 3 | Channel | 18615 | 18900 | 19185 |
| | Frequency | 1851.5 | 1880 | 1908.5 |
| 1.4 | Channel | 18607 | 18900 | 19193 |
| | Frequency | 1850.7 | 1880 | 1909.3 |

| LTE Band 4 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 20 | Channel | 20050 | 20175 | 20300 |
| | Frequency | 1720 | 1732.5 | 1745 |
| 15 | Channel | 20025 | 20175 | 20325 |
| | Frequency | 1717.5 | 1732.5 | 1747.5 |
| 10 | Channel | 20000 | 20175 | 20350 |
| | Frequency | 1715 | 1732.5 | 1750 |
| 5 | Channel | 19975 | 20175 | 20375 |
| | Frequency | 1712.5 | 1732.5 | 1752.5 |
| 3 | Channel | 19965 | 20175 | 20385 |
| | Frequency | 1711.5 | 1732.5 | 1753.5 |
| 1.4 | Channel | 19957 | 20175 | 20393 |
| | Frequency | 1710.7 | 1732.5 | 1754.3 |

| LTE Band 5 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 10 | Channel | 20450 | 20525 | 20600 |
| | Frequency | 829 | 836.5 | 844 |
| 5 | Channel | 20425 | 20525 | 20625 |
| | Frequency | 826.5 | 836.5 | 846.5 |
| 3 | Channel | 20415 | 20525 | 20635 |
| | Frequency | 825.5 | 836.5 | 847.5 |
| 1.4 | Channel | 20407 | 20525 | 20643 |
| | Frequency | 824.7 | 836.5 | 848.3 |

| LTE Band 12 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 10 | Channel | 23060 | 23095 | 23130 |
| | Frequency | 704 | 707.5 | 711 |
| 5 | Channel | 23035 | 23095 | 23155 |
| | Frequency | 701.5 | 707.5 | 713.5 |
| 3 | Channel | 23025 | 23095 | 23165 |
| | Frequency | 700.5 | 707.5 | 714.5 |
| 1.4 | Channel | 23017 | 23095 | 23173 |
| | Frequency | 699.7 | 707.5 | 715.3 |

| LTE Band 13 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 10 | Channel | - | 23230 | - |
| | Frequency | - | 782 | - |
| 5 | Channel | 23205 | 23230 | 23255 |
| | Frequency | 779.5 | 782 | 784.5 |

| LTE Band 25 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 20 | Channel | 26140 | 26340 | 26590 |
| | Frequency | 1860 | 1880 | 1905 |
| 15 | Channel | 26115 | 26340 | 26615 |
| | Frequency | 1857.5 | 1880 | 1907.5 |
| 10 | Channel | 26090 | 26340 | 26640 |
| | Frequency | 1855 | 1880 | 1910 |
| 5 | Channel | 26065 | 26340 | 26665 |
| | Frequency | 1852.5 | 1880 | 1912.5 |
| 3 | Channel | 26055 | 26340 | 26675 |
| | Frequency | 1851.5 | 1880 | 1913.5 |
| 1.4 | Channel | 26047 | 26340 | 26683 |
| | Frequency | 1850.7 | 1880 | 1914.3 |

| LTE Band 26 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 15 | Channel | 26865 | 26915 | 26965 |
| | Frequency | 831.5 | 836.5 | 841.5 |
| 10 | Channel | 26840 | 26915 | 26990 |
| | Frequency | 829.0 | 836.5 | 844.0 |
| 5 | Channel | 26815 | 26915 | 27015 |
| | Frequency | 826.5 | 836.5 | 846.5 |
| 3 | Channel | 26805 | 26915 | 27025 |
| | Frequency | 825.5 | 836.5 | 847.5 |
| 1.4 | Channel | 26797 | 26915 | 27033 |
| | Frequency | 824.7 | 836.5 | 848.3 |

| LTE Band 66 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 20 | Channel | 132072 | 132322 | 132572 |
| | Frequency | 1720 | 1745 | 1770 |
| 15 | Channel | 132047 | 132322 | 132597 |
| | Frequency | 1717.5 | 1745 | 1772.5 |
| 10 | Channel | 132022 | 132322 | 132622 |
| | Frequency | 1715 | 1745 | 1775 |
| 5 | Channel | 131997 | 132322 | 132647 |
| | Frequency | 1712.5 | 1745 | 1777.5 |
| 3 | Channel | 131987 | 132322 | 132657 |
| | Frequency | 1711.5 | 1745 | 1778.5 |
| 1.4 | Channel | 131979 | 132322 | 132665 |
| | Frequency | 1710.7 | 1745 | 1779.3 |

| LTE Band 85 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 10 | Channel | 134052 | 134092 | 134132 |
| | Frequency | 703 | 707 | 711 |
| 5 | Channel | 134027 | 134092 | 134157 |
| | Frequency | 700.5 | 707 | 713.5 |

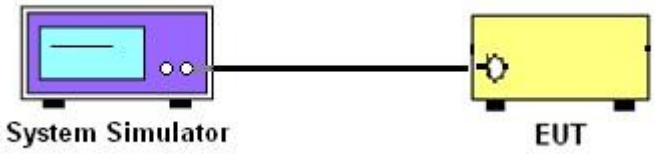
# 3 Conducted Test Items

## 3.1 Measuring Instruments

See list of measuring instruments of this test report.

### 3.1.1 Test Setup

### 3.1.2 Conducted Output Power




### 3.1.3 Test Result of Conducted Test

Please refer to Appendix A.

## 3.2 Conducted Output Power and ERP/EIRP

### 3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

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

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5 and Band 26

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, Band 13 and Band 85

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4 and Band 66

According to KDB 412172 D01 Power Approach,

EIRP = PT + GT – LC, ERP = EIRP -2.15, where

PT = transmitter output power in dBm

GT = gain of the transmitting antenna in dBi

LC = signal attenuation in the connecting cable between the transmitter and antenna in Db

### 3.2.2 Test Procedures

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

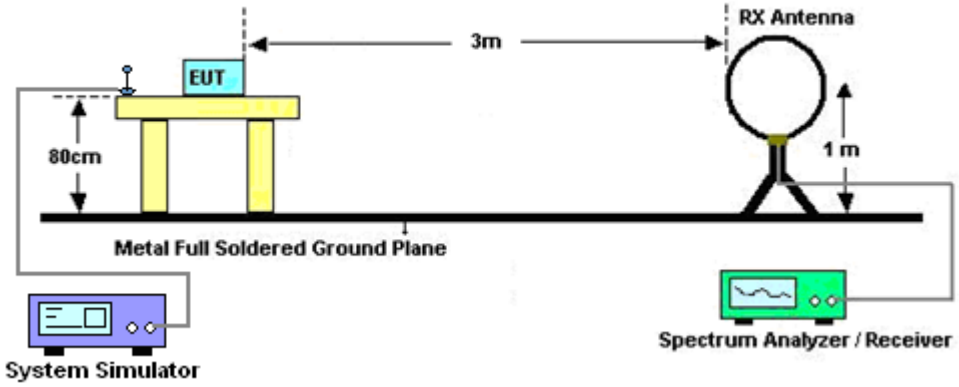
# 4 Radiated Test Items

## 4.1 Measuring Instruments

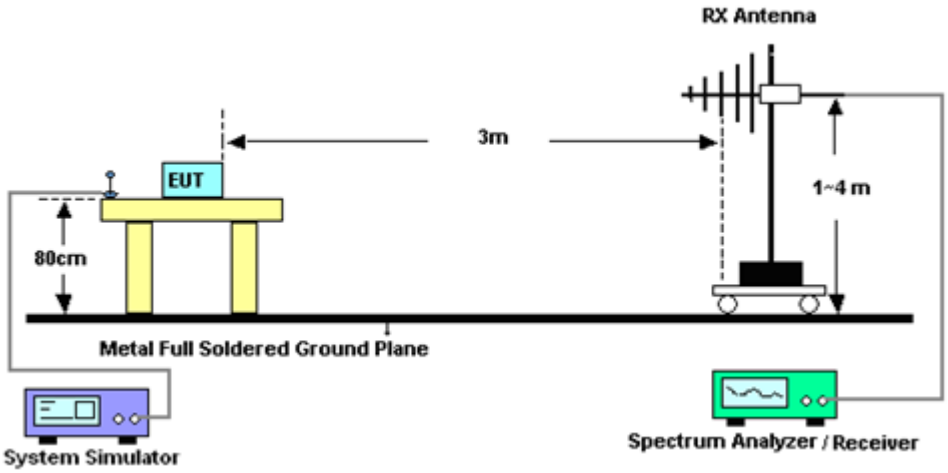
See list of measuring instruments of this test report.

### 4.1.1 Test Setup

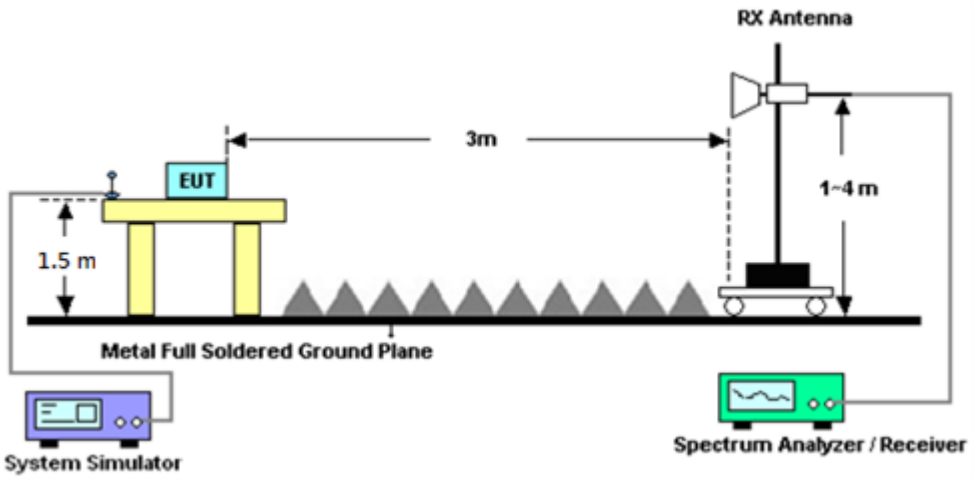
**For radiated test below 30MHz**




**For radiated test from 30MHz to 1GHz**



**For radiated test above 1GHz**




## 4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

**Note:**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

## 4.2 Radiated Spurious Emission Measurement

### 4.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For LTE Band 13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

### 4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

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

    ERP (dBm) = EIRP - 2.15

# 5 List of Measuring Equipment

| Instrument | Brand Name | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---|---|---|---|---|---|---|---|---|
| Base Station(Measure) | Anritsu | MT8821C | 6201664755 | 2/3/4G/LTE FDD/TDD with44)/LTE-3CC DLCA/2CC ULCA, CatM1/NB1/NB2 | Jul. 12, 2020 | Feb. 01, 2021~ Feb. 08, 2021 | Jul. 11, 2021 | Conducted (TH02-HY) |
| Coupler | Warison | 20dB 25W SMA Directional Coupler | #A | 1-18GHz | Jan. 12, 2021 | Feb. 01, 2021~ Feb. 08, 2021 | Jan. 11, 2022 | Conducted (TH02-HY) |
| Bilog Antenna | TESEQ | CBL 6111D & 00800N1D01N-06 | 35419 & 03 | 30MHz~1GHz | Apr. 29, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Apr. 28, 2021 | Radiation (03CH07-HY) |
| Double Ridge Horn Antenna | ESCO | 3117 | 00075962 | 1GHz ~ 18GHz | Dec. 01, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Nov. 30, 2021 | Radiation (03CH07-HY) |
| Loop Antenna | Rohde & Schwarz | HFH2-Z2 | 100315 | 9 kHz~30 MHz | Jan. 04, 2021 | Feb. 05, 2021~ Feb. 18, 2021 | Jan. 03, 2022 | Radiation (03CH07-HY) |
| Preamplifier | Agilent | 8449B | 3008A02362 | 1GHz~26.5GHz | Oct. 31, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Oct. 30, 2021 | Radiation (03CH07-HY) |
| Spectrum Analyzer | Agilent | N9030A | MY52350276 | 3Hz~44GHz | Jun. 09, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Jun. 08, 2021 | Radiation (03CH07-HY) |
| Filter | Microwave | H1G013G1 | SN477215 | 1GHz High Pass Filter | Oct. 31, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Oct. 30, 2021 | Radiation (03CH07-HY) |
| Filter | Microwave | H3G018G1 | SN477219 | 3GHz High Pass Filter | Oct. 31, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Oct. 30, 2021 | Radiation (03CH07-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 102 | MY2858/2,801606/2 | 18GHz~40GHz | Feb. 25, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Feb. 24, 2021 | Radiation (03CH07-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 104 | MY24971/4, MY28655/4 | 9kHz~30MHz | Feb. 25, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Feb. 24, 2021 | Radiation (03CH07-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 104 | MY28655/4, MY24971/4, MY15682/4 | 30MHz~1GHz | Feb. 25, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Feb. 24, 2021 | Radiation (03CH07-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 104 | MY28655/4, MY24971/4, MY15682/4 | 1GHz~18GHz | Feb. 25, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Feb. 24, 2021 | Radiation (03CH07-HY) |
| Controller | ChainTek | Chaintek 3000 | N/A | Control Turn table | N/A | Feb. 05, 2021~ Feb. 18, 2021 | N/A | Radiation (03CH07-HY) |
| Controller | Max-Full | MF7802 | MF780208368 | Control Ant Mast | N/A | Feb. 05, 2021~ Feb. 18, 2021 | N/A | Radiation (03CH07-HY) |
| Antenna Mast | Max-Full | MFA520BS | N/A | 1m~4m | N/A | Feb. 05, 2021~ Feb. 18, 2021 | N/A | Radiation (03CH07-HY) |
| Turn Table | ChainTek | Chaintek 3000 | N/A | 0~360 Degree | N/A | Feb. 05, 2021~ Feb. 18, 2021 | N/A | Radiation (03CH07-HY) |
| USB Data Logger | TECPEL | TR-32 | HE17XB2495 | N/A | N/A | Feb. 05, 2021~ Feb. 18, 2021 | N/A | Radiation (03CH07-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK | BBHA 9170 | BBHA9170251 | 18GHz~40GHz | Dec. 02, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Dec. 01, 2021 | Radiation (03CH07-HY) |
| Double Ridge Horn Antenna | EMCO | 3117 | 00227880 | 1 -18 GHz | N/A | Feb. 05, 2021~ Feb. 18, 2021 | N/A | Radiation (03CH07-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170980 | 18GHz-40GHz | N/A | Feb. 05, 2021~ Feb. 18, 2021 | N/A | Radiation (03CH07-HY) |
| Signal Generator | Rohde & Schwarz | SMF100A | 101107 | 100kHz~40GHz | Dec. 04, 2020 | Feb. 05, 2021~ Feb. 18, 2021 | Dec. 03, 2021 | Radiation (03CH07-HY) |

# 6 Uncertainty of Evaluation

**Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **3.35** |

**Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **3.81** |

**Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **4.85** |

# Appendix A. Test Results of Conducted Test

## Conducted Output Power(Average power & ERP/EIRP)

| LTE Band 2 Maximum Average Power [dBm] (GT - LC = 1.4 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.60 | 23.43 | 23.57 | 25.00 | 0.3162 |
| 20 | 1 | 5 | | 23.34 | 23.25 | 23.30 | | |
| 20 | 6 | 0 | | 23.50 | 23.51 | 23.52 | | |
| 20 | 1 | 0 | 16-QAM | 23.54 | 23.54 | 23.50 | 24.94 | 0.3119 |
| 20 | 1 | 5 | | 23.31 | 23.27 | 23.28 | | |
| 20 | 5 | 0 | | 23.25 | 23.15 | 23.10 | | |
| 15 | 1 | 0 | QPSK | 23.46 | 23.25 | 23.46 | 24.86 | 0.3062 |
| 15 | 1 | 5 | | 23.21 | 23.11 | 23.21 | | |
| 15 | 6 | 0 | | 23.45 | 23.32 | 23.35 | | |
| 15 | 1 | 0 | 16-QAM | 23.63 | 23.35 | 23.56 | 25.03 | 0.3184 |
| 15 | 1 | 5 | | 23.41 | 23.23 | 23.34 | | |
| 15 | 5 | 0 | | 23.40 | 23.00 | 23.31 | | |
| 10 | 1 | 0 | QPSK | 23.58 | 23.50 | 23.51 | 24.98 | 0.3148 |
| 10 | 1 | 5 | | 23.40 | 23.27 | 23.38 | | |
| 10 | 6 | 0 | | 22.54 | 22.42 | 22.39 | | |
| 10 | 1 | 0 | 16-QAM | 23.45 | 23.35 | 23.40 | 24.85 | 0.3055 |
| 10 | 1 | 5 | | 23.20 | 23.08 | 23.23 | | |
| 10 | 5 | 0 | | 23.22 | 23.00 | 23.10 | | |
| 5 | 1 | 0 | QPSK | 23.44 | 23.38 | 23.39 | 24.84 | 0.3048 |
| 5 | 1 | 5 | | 23.31 | 23.14 | 23.09 | | |
| 5 | 6 | 0 | | 22.50 | 22.41 | 22.40 | | |
| 5 | 1 | 0 | 16-QAM | 23.51 | 23.54 | 23.48 | 24.94 | 0.3119 |
| 5 | 1 | 5 | | 23.32 | 23.16 | 23.18 | | |
| 5 | 5 | 0 | | 23.31 | 23.10 | 23.10 | | |
| 3 | 1 | 0 | QPSK | 23.67 | 23.58 | 23.56 | 25.07 | 0.3214 |
| 3 | 1 | 5 | | 23.59 | 23.47 | 23.38 | | |
| 3 | 6 | 0 | | 21.54 | 21.50 | 21.47 | | |
| 3 | 1 | 0 | 16-QAM | 22.68 | 22.66 | 22.63 | 24.08 | 0.2559 |
| 3 | 1 | 5 | | 22.57 | 22.53 | 22.44 | | |
| 3 | 5 | 0 | | 22.51 | 22.48 | 22.43 | | |
| 1.4 | 1 | 0 | QPSK | 23.61 | 23.67 | 23.65 | 25.07 | 0.3214 |
| 1.4 | 1 | 5 | | 23.59 | 23.65 | 23.60 | | |
| 1.4 | 6 | 0 | | 21.92 | 21.47 | 21.48 | | |
| 1.4 | 1 | 0 | 16-QAM | 22.76 | 22.74 | 22.71 | 25.01 | 0.3170 |
| 1.4 | 1 | 5 | | 22.64 | 22.65 | 22.51 | | |
| 1.4 | 5 | 0 | | 22.63 | 23.61 | 22.10 | | |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 25 Maximum Average Power [dBm] (GT - LC = 1.4 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.58 | 23.31 | 23.65 | 25.05 | 0.3199 |
| 20 | 1 | 5 | | 23.42 | 23.16 | 23.53 | | |
| 20 | 6 | 0 | | 23.60 | 23.35 | 23.61 | | |
| 20 | 1 | 0 | 16-QAM | 23.69 | 23.45 | 23.59 | 25.09 | 0.3228 |
| 20 | 1 | 5 | | 23.29 | 23.16 | 23.44 | | |
| 20 | 6 | 0 | | 23.60 | 23.46 | 23.59 | | |
| 15 | 1 | 0 | QPSK | 23.55 | 23.36 | 23.63 | 25.03 | 0.3184 |
| 15 | 1 | 5 | | 23.32 | 23.11 | 23.36 | | |
| 15 | 6 | 0 | | 23.43 | 23.34 | 23.49 | | |
| 15 | 1 | 0 | 16-QAM | 23.62 | 23.46 | 23.73 | 25.13 | 0.3258 |
| 15 | 1 | 5 | | 23.41 | 23.34 | 23.61 | | |
| 15 | 6 | 0 | | 23.53 | 23.49 | 23.66 | | |
| 10 | 1 | 0 | QPSK | 23.58 | 23.43 | 23.64 | 25.04 | 0.3192 |
| 10 | 1 | 5 | | 23.38 | 23.24 | 23.51 | | |
| 10 | 6 | 0 | | 22.56 | 22.48 | 22.68 | | |
| 10 | 1 | 0 | 16-QAM | 23.52 | 23.37 | 23.57 | 24.97 | 0.3141 |
| 10 | 1 | 5 | | 23.22 | 23.20 | 23.40 | | |
| 10 | 6 | 0 | | 22.71 | 22.39 | 22.83 | | |
| 5 | 1 | 0 | QPSK | 23.47 | 23.42 | 23.55 | 24.95 | 0.3126 |
| 5 | 1 | 5 | | 23.29 | 23.28 | 23.36 | | |
| 5 | 6 | 0 | | 22.60 | 22.53 | 22.68 | | |
| 5 | 1 | 0 | 16-QAM | 23.60 | 23.52 | 23.65 | 25.05 | 0.3199 |
| 5 | 1 | 5 | | 23.34 | 23.26 | 23.43 | | |
| 5 | 6 | 0 | | 21.66 | 21.54 | 21.74 | | |
| 3 | 1 | 0 | QPSK | 23.64 | 23.66 | 23.66 | 25.06 | 0.3206 |
| 3 | 1 | 5 | | 23.49 | 23.49 | 23.51 | | |
| 3 | 6 | 0 | | 21.50 | 21.57 | 21.72 | | |
| 3 | 1 | 0 | 16-QAM | 22.62 | 22.73 | 22.74 | 24.14 | 0.2594 |
| 3 | 1 | 5 | | 22.37 | 22.56 | 22.64 | | |
| 3 | 6 | 0 | | 21.72 | 21.87 | 21.90 | | |
| 1.4 | 1 | 0 | QPSK | 23.74 | 23.73 | 23.69 | 25.14 | 0.3266 |
| 1.4 | 1 | 5 | | 23.61 | 23.68 | 23.65 | | |
| 1.4 | 6 | 0 | | 21.83 | 21.57 | 21.67 | | |
| 1.4 | 1 | 0 | 16-QAM | 22.76 | 22.83 | 22.95 | 24.35 | 0.2723 |
| 1.4 | 1 | 5 | | 22.65 | 22.64 | 22.79 | | |
| 1.4 | 6 | 0 | | 21.60 | 21.64 | 21.66 | | |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.6 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.00 | 22.97 | 23.13 | 24.78 | 0.3006 |
| 20 | 1 | 5 | | 22.83 | 22.83 | 23.03 | | |
| 20 | 6 | 0 | | 22.97 | 23.03 | 23.18 | | |
| 20 | 1 | 0 | 16-QAM | 22.94 | 23.06 | 23.20 | 24.80 | 0.3020 |
| 20 | 1 | 5 | | 22.66 | 22.80 | 22.97 | | |
| 20 | 6 | 0 | | 22.61 | 22.85 | 23.00 | | |
| 15 | 1 | 0 | QPSK | 22.97 | 23.04 | 23.33 | 24.93 | 0.3112 |
| 15 | 1 | 5 | | 22.78 | 22.81 | 23.05 | | |
| 15 | 6 | 0 | | 22.89 | 22.91 | 23.19 | | |
| 15 | 1 | 0 | 16-QAM | 23.01 | 23.13 | 23.17 | 24.77 | 0.2999 |
| 15 | 1 | 5 | | 22.79 | 22.86 | 23.07 | | |
| 15 | 6 | 0 | | 22.80 | 22.81 | 23.05 | | |
| 10 | 1 | 0 | QPSK | 23.01 | 23.11 | 23.26 | 24.86 | 0.3062 |
| 10 | 1 | 5 | | 22.79 | 22.88 | 23.05 | | |
| 10 | 6 | 0 | | 22.04 | 22.10 | 22.27 | | |
| 10 | 1 | 0 | 16-QAM | 22.83 | 22.91 | 23.23 | 24.83 | 0.3041 |
| 10 | 1 | 5 | | 22.59 | 22.67 | 22.98 | | |
| 10 | 6 | 0 | | 22.59 | 22.60 | 23.00 | | |
| 5 | 1 | 0 | QPSK | 22.98 | 23.13 | 23.21 | 24.81 | 0.3027 |
| 5 | 1 | 5 | | 22.83 | 22.93 | 23.03 | | |
| 5 | 6 | 0 | | 22.02 | 22.16 | 22.39 | | |
| 5 | 1 | 0 | 16-QAM | 23.08 | 23.17 | 23.35 | 24.95 | 0.3126 |
| 5 | 1 | 5 | | 22.69 | 22.92 | 23.12 | | |
| 5 | 6 | 0 | | 22.59 | 22.82 | 23.10 | | |
| 3 | 1 | 0 | QPSK | 23.22 | 23.30 | 23.38 | 24.98 | 0.3148 |
| 3 | 1 | 5 | | 22.97 | 23.06 | 23.28 | | |
| 3 | 6 | 0 | | 20.93 | 21.09 | 21.33 | | |
| 3 | 1 | 0 | 16-QAM | 22.00 | 22.06 | 22.32 | 23.92 | 0.2466 |
| 3 | 1 | 5 | | 21.85 | 21.99 | 22.20 | | |
| 3 | 6 | 0 | | 21.90 | 22.00 | 22.01 | | |
| 1.4 | 1 | 0 | QPSK | 23.22 | 23.31 | 23.40 | 25.00 | 0.3162 |
| 1.4 | 1 | 5 | | 23.12 | 23.19 | 23.16 | | |
| 1.4 | 6 | 0 | | 21.24 | 21.08 | 21.27 | | |
| 1.4 | 1 | 0 | 16-QAM | 22.28 | 22.40 | 22.42 | 24.02 | 0.2523 |
| 1.4 | 1 | 5 | | 22.11 | 22.31 | 22.19 | | |
| 1.4 | 6 | 0 | | 22.10 | 22.30 | 22.10 | | |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 5 Maximum Average Power [dBm] (GT - LC = 0.5 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | 23.43 | 23.47 | 23.33 | 21.82 | 0.1521 |
| 10 | 1 | 5 | | 23.25 | 23.29 | 23.31 | | |
| 10 | 6 | 0 | | 22.40 | 22.39 | 22.44 | | |
| 10 | 1 | 0 | 16-QAM | 23.08 | 23.18 | 23.21 | 21.56 | 0.1432 |
| 10 | 1 | 5 | | 22.95 | 22.91 | 22.94 | | |
| 10 | 6 | 0 | | 22.98 | 22.81 | 22.95 | | |
| 5 | 1 | 0 | QPSK | 23.36 | 23.23 | 23.28 | 21.71 | 0.1483 |
| 5 | 1 | 5 | | 23.20 | 23.15 | 23.12 | | |
| 5 | 6 | 0 | | 22.36 | 22.34 | 22.28 | | |
| 5 | 1 | 0 | 16-QAM | 23.39 | 23.24 | 23.26 | 21.74 | 0.1493 |
| 5 | 1 | 5 | | 22.97 | 22.93 | 22.96 | | |
| 5 | 6 | 0 | | 23.00 | 22.95 | 22.98 | | |
| 3 | 1 | 0 | QPSK | 23.20 | 23.33 | 23.21 | 21.68 | 0.1472 |
| 3 | 1 | 5 | | 23.16 | 23.19 | 23.00 | | |
| 3 | 6 | 0 | | 21.32 | 21.36 | 21.23 | | |
| 3 | 1 | 0 | 16-QAM | 22.23 | 22.38 | 22.17 | 20.73 | 0.1183 |
| 3 | 1 | 5 | | 22.17 | 22.24 | 21.79 | | |
| 3 | 6 | 0 | | 22.10 | 22.10 | 21.70 | | |
| 1.4 | 1 | 0 | QPSK | 23.47 | 23.49 | 23.23 | 21.84 | 0.1528 |
| 1.4 | 1 | 5 | | 23.32 | 23.41 | 22.89 | | |
| 1.4 | 6 | 0 | | 21.30 | 21.24 | 21.10 | | |
| 1.4 | 1 | 0 | 16-QAM | 22.38 | 23.48 | 22.26 | 21.83 | 0.1524 |
| 1.4 | 1 | 5 | | 22.28 | 23.33 | 22.12 | | |
| 1.4 | 6 | 0 | | 22.10 | 23.10 | 22.10 | | |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 12 Maximum Average Power [dBm] (GT - LC = -1.3 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | 23.85 | 23.82 | 23.85 | 20.40 | 0.1096 |
| 10 | 1 | 5 | | 23.71 | 23.74 | 23.69 | | |
| 10 | 6 | 0 | | 22.86 | 22.79 | 22.88 | | |
| 10 | 1 | 0 | 16-QAM | 23.59 | 23.50 | 23.64 | 20.19 | 0.1045 |
| 10 | 1 | 5 | | 23.55 | 23.39 | 23.58 | | |
| 10 | 6 | 0 | | 22.85 | 22.86 | 22.89 | | |
| 5 | 1 | 0 | QPSK | 23.71 | 23.78 | 23.57 | 20.33 | 0.1079 |
| 5 | 1 | 5 | | 23.74 | 23.68 | 23.51 | | |
| 5 | 6 | 0 | | 22.81 | 22.89 | 22.74 | | |
| 5 | 1 | 0 | 16-QAM | 23.73 | 23.88 | 23.71 | 20.43 | 0.1104 |
| 5 | 1 | 5 | | 23.54 | 23.65 | 23.38 | | |
| 5 | 6 | 0 | | 21.82 | 23.81 | 21.73 | | |
| 3 | 1 | 0 | QPSK | 23.91 | 23.74 | 23.63 | 20.46 | 0.1112 |
| 3 | 1 | 5 | | 23.70 | 23.45 | 23.52 | | |
| 3 | 6 | 0 | | 21.74 | 21.93 | 21.66 | | |
| 3 | 1 | 0 | 16-QAM | 22.82 | 22.83 | 22.73 | 19.38 | 0.0867 |
| 3 | 1 | 5 | | 22.71 | 22.47 | 22..54 | | |
| 3 | 6 | 0 | | 21.96 | 22.02 | 21.93 | | |
| 1.4 | 1 | 0 | QPSK | 24.09 | 23.87 | 23.80 | 20.64 | 0.1159 |
| 1.4 | 1 | 5 | | 23.90 | 23.81 | 23.72 | | |
| 1.4 | 6 | 0 | | 21.77 | 21.69 | 21.64 | | |
| 1.4 | 1 | 0 | 16-QAM | 23.04 | 23.04 | 22.89 | 19.59 | 0.0910 |
| 1.4 | 1 | 5 | | 22.91 | 22.95 | 22.79 | | |
| 1.4 | 6 | 0 | | 21.67 | 21.62 | 21.44 | | |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 13 Maximum Average Power [dBm] (GT - LC = -0.3 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | - | 23.88 | - | 20.43 | 0.1104 |
| 10 | 1 | 5 | | | 23.82 | | | |
| 10 | 6 | 0 | | | 22.89 | | | |
| 10 | 1 | 0 | 16-QAM | | 23.79 | | 20.34 | 0.1081 |
| 10 | 1 | 5 | | | 23.61 | | | |
| 10 | 6 | 0 | | | 22.97 | | | |
| 5 | 1 | 0 | QPSK | 23.79 | 23.97 | 23.88 | 20.52 | 0.1127 |
| 5 | 1 | 5 | | 23.71 | 23.74 | 23.71 | | |
| 5 | 6 | 0 | | 22.87 | 22.88 | 22.95 | | |
| 5 | 1 | 0 | 16-QAM | 23.93 | 23.93 | 24.03 | 20.58 | 0.1143 |
| 5 | 1 | 5 | | 23.65 | 23.68 | 23.76 | | |
| 5 | 6 | 0 | | 21.97 | 22.02 | 21.96 | | |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 26 Maximum Average Power [dBm] (GT - LC = 0.5 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 15 | 1 | 0 | QPSK | 23.70 | 23.71 | 23.67 | 20.26 | 0.1062 |
| 15 | 1 | 5 | | 23.56 | 23.53 | 23.47 | | |
| 15 | 6 | 0 | | 22.73 | 23.65 | 23.59 | | |
| 15 | 1 | 0 | 16-QAM | 23.73 | 23.79 | 23.86 | 20.41 | 0.1099 |
| 15 | 1 | 5 | | 23.45 | 23.53 | 23.61 | | |
| 15 | 6 | 0 | | 21.71 | 23.76 | 23.71 | | |
| 10 | 1 | 0 | QPSK | 23.75 | 23.66 | 23.78 | 20.33 | 0.1079 |
| 10 | 1 | 5 | | 23.74 | 23.62 | 23.57 | | |
| 10 | 6 | 0 | | 22.79 | 22.69 | 22.57 | | |
| 10 | 1 | 0 | 16-QAM | 23.57 | 23.54 | 23.67 | 20.22 | 0.1052 |
| 10 | 1 | 5 | | 23.52 | 23.24 | 23.43 | | |
| 10 | 6 | 0 | | 22.74 | 22.68 | 22.56 | | |
| 5 | 1 | 0 | QPSK | 23.65 | 23.54 | 23.56 | 20.20 | 0.1047 |
| 5 | 1 | 5 | | 23.61 | 23.46 | 23.39 | | |
| 5 | 6 | 0 | | 22.75 | 22.60 | 22.54 | | |
| 5 | 1 | 0 | 16-QAM | 23.78 | 23.68 | 23.65 | 20.33 | 0.1079 |
| 5 | 1 | 5 | | 23.63 | 23.30 | 23.32 | | |
| 5 | 6 | 0 | | 21.82 | 21.39 | 21.45 | | |
| 3 | 1 | 0 | QPSK | 23.67 | 23.50 | 23.49 | 20.22 | 0.1052 |
| 3 | 1 | 5 | | 23.54 | 23.31 | 23.27 | | |
| 3 | 6 | 0 | | 21.65 | 21.51 | 21.38 | | |
| 3 | 1 | 0 | 16-QAM | 22.62 | 22.49 | 22.45 | 19.17 | 0.0826 |
| 3 | 1 | 5 | | 22.54 | 22.35 | 22.28 | | |
| 3 | 6 | 0 | | 21.89 | 21.73 | 21.63 | | |
| 1.4 | 1 | 0 | QPSK | 23.84 | 23.82 | 23.87 | 20.42 | 0.1102 |
| 1.4 | 1 | 5 | | 23.79 | 23.77 | 23.71 | | |
| 1.4 | 6 | 0 | | 21.48 | 21.39 | 21.18 | | |
| 1.4 | 1 | 0 | 16-QAM | 22.78 | 22.74 | 22.68 | 19.33 | 0.0857 |
| 1.4 | 1 | 5 | | 22.53 | 22.49 | 22.54 | | |
| 1.4 | 6 | 0 | | 21.55 | 21.02 | 21.18 | | |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.6 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.03 | 22.96 | 22.73 | 24.68 | 0.2938 |
| 20 | 1 | 5 | | 22.75 | 22.81 | 22.54 | | |
| 20 | 6 | 0 | | 22.90 | 22.84 | 22.69 | | |
| 20 | 1 | 0 | 16-QAM | 23.08 | 22.94 | 22.78 | 24.69 | 0.2944 |
| 20 | 1 | 5 | | 22.80 | 22.68 | 22.44 | | |
| 20 | 6 | 0 | | 22.97 | 23.00 | 22.71 | | |
| 15 | 1 | 0 | QPSK | 23.09 | 22.91 | 22.64 | 24.73 | 0.2972 |
| 15 | 1 | 5 | | 22.84 | 22.74 | 22.40 | | |
| 15 | 6 | 0 | | 22.96 | 22.86 | 22.50 | | |
| 15 | 1 | 0 | 16-QAM | 23.02 | 23.13 | 22.65 | 24.73 | 0.2972 |
| 15 | 1 | 5 | | 22.78 | 22.86 | 22.54 | | |
| 15 | 6 | 0 | | 23.02 | 23.00 | 22.62 | | |
| 10 | 1 | 0 | QPSK | 23.04 | 21.22 | 22.57 | 24.64 | 0.2911 |
| 10 | 1 | 5 | | 22.86 | 22.90 | 22.32 | | |
| 10 | 6 | 0 | | 22.07 | 22.67 | 21.63 | | |
| 10 | 1 | 0 | 16-QAM | 22.85 | 22.07 | 22.48 | 24.72 | 0.2965 |
| 10 | 1 | 5 | | 22.71 | 22.89 | 22.18 | | |
| 10 | 6 | 0 | | 22.08 | 22.65 | 21.76 | | |
| 5 | 1 | 0 | QPSK | 23.06 | 22.96 | 23.12 | 24.72 | 0.2965 |
| 5 | 1 | 5 | | 22.78 | 22.70 | 23.01 | | |
| 5 | 6 | 0 | | 22.00 | 22.09 | 22.22 | | |
| 5 | 1 | 0 | 16-QAM | 23.05 | 23.04 | 23.11 | 24.71 | 0.2958 |
| 5 | 1 | 5 | | 22.67 | 22.79 | 22.74 | | |
| 5 | 6 | 0 | | 21.22 | 21.22 | 21.25 | | |
| 3 | 1 | 0 | QPSK | 23.11 | 23.08 | 23.07 | 24.71 | 0.2958 |
| 3 | 1 | 5 | | 22.85 | 22.84 | 22.89 | | |
| 3 | 6 | 0 | | 21.18 | 21.16 | 21.13 | | |
| 3 | 1 | 0 | 16-QAM | 22.06 | 22.04 | 22.18 | 24.93 | 0.3112 |
| 3 | 1 | 5 | | 21.89 | 22.04 | 22.11 | | |
| 3 | 6 | 0 | | 21.25 | 21.35 | 21.41 | | |
| 1.4 | 1 | 0 | QPSK | 23.18 | 23.16 | 23.33 | 24.93 | 0.3112 |
| 1.4 | 1 | 5 | | 23.06 | 23.01 | 23.10 | | |
| 1.4 | 6 | 0 | | 21.18 | 21.14 | 21.04 | | |
| 1.4 | 1 | 0 | 16-QAM | 22.29 | 22.41 | 22.31 | 24.01 | 0.2518 |
| 1.4 | 1 | 5 | | 22.22 | 22.17 | 22.05 | | |
| 1.4 | 6 | 0 | | 21.20 | 21.26 | 21.07 | | |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 85 Maximum Average Power [dBm] (GT - LC = -1.2 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | 23.83 | 23.70 | 23.65 | 20.48 | 0.1117 |
| 10 | 1 | 5 | | 23.66 | 23.53 | 23.48 | | |
| 10 | 6 | 0 | | 22.82 | 22.69 | 22.64 | | |
| 10 | 1 | 0 | 16-QAM | 23.68 | 23.56 | 23.43 | 20.36 | 0.1086 |
| 10 | 1 | 5 | | 23.45 | 23.44 | 23.28 | | |
| 10 | 6 | 0 | | 22.88 | 22.71 | 22.55 | | |
| 5 | 1 | 0 | QPSK | 23.71 | 23.47 | 23.61 | 20.44 | 0.1107 |
| 5 | 1 | 5 | | 23.69 | 23.36 | 23.42 | | |
| 5 | 6 | 0 | | 22.78 | 22.61 | 22.59 | | |
| 5 | 1 | 0 | 16-QAM | 23.79 | 23.59 | 23.53 | 20.44 | 0.1107 |
| 5 | 1 | 5 | | 23.53 | 23.30 | 23.24 | | |
| 5 | 6 | 0 | | 21.53 | 21.27 | 21.65 | | |
| Limit | ERP < 3W | | | Result | | | Pass | |

# Appendix B. Test Results of Radiated Test

## LTE Band 2

| LTE Band 2 / 20MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3702 | -47.73 | -13 | -34.73 | -68.53 | -54.3 | 1.67 | 8.24 | H |
| | 5550 | -56.53 | -13 | -43.53 | -81.64 | -63.6 | 2.65 | 9.72 | H |
| | 7400 | -54.06 | -13 | -41.06 | -81.47 | -63.2 | 2.46 | 11.60 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3702 | -51.13 | -13 | -38.13 | -72.23 | -57.7 | 1.67 | 8.24 | V |
| | 5550 | -56.23 | -13 | -43.23 | -81.83 | -63.3 | 2.65 | 9.72 | V |
| | 7400 | -53.96 | -13 | -40.96 | -81.42 | -63.1 | 2.46 | 11.60 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3744 | -48.99 | -13 | -35.99 | -69.79 | -55.6 | 1.68 | 8.29 | H |
| | 5610 | -56.04 | -13 | -43.04 | -81.62 | -63.1 | 2.69 | 9.74 | H |
| | 7480 | -53.28 | -13 | -40.28 | -80.88 | -62.6 | 2.44 | 11.76 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3744 | -50.79 | -13 | -37.79 | -71.24 | -57.4 | 1.68 | 8.29 | V |
| | 5610 | -55.94 | -13 | -42.94 | -81.48 | -63 | 2.69 | 9.74 | V |
| | 7480 | -53.78 | -13 | -40.78 | -81.34 | -63.1 | 2.44 | 11.76 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 3786 | -49.95 | -13 | -36.95 | -71.04 | -56.6 | 1.69 | 8.34 | H |
| | 5670 | -55.45 | -13 | -42.45 | -81.64 | -62.5 | 2.72 | 9.77 | H |
| | 7560 | -53.47 | -13 | -40.47 | -80.99 | -62.9 | 2.41 | 11.84 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3786 | -53.05 | -13 | -40.05 | -73.89 | -59.7 | 1.69 | 8.34 | V |
| | 5670 | -55.45 | -13 | -42.45 | -81.43 | -62.5 | 2.72 | 9.77 | V |
| | 7560 | -53.37 | -13 | -40.37 | -80.85 | -62.8 | 2.41 | 11.84 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

# LTE Band 25

| LTE Band 25 / 20MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3702 | -50.09 | -13 | -37.09 | -71.32 | -56.66 | 1.67 | 8.24 | H |
| | 5550 | -55.82 | -13 | -42.82 | -81.79 | -62.89 | 2.65 | 9.72 | H |
| | 7400 | -54.19 | -13 | -41.19 | -81.77 | -63.33 | 2.46 | 11.60 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3702 | -51.67 | -13 | -38.67 | -72.89 | -58.24 | 1.67 | 8.24 | V |
| | 5550 | -55.15 | -13 | -42.15 | -81.09 | -62.22 | 2.65 | 9.72 | V |
| | 7400 | -53.97 | -13 | -40.97 | -81.64 | -63.11 | 2.46 | 11.60 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3750 | -51.04 | -13 | -38.04 | -72.17 | -57.66 | 1.68 | 8.30 | H |
| | 5625 | -55.97 | -13 | -42.97 | -81.79 | -63.02 | 2.70 | 9.75 | H |
| | 7500 | -54.65 | -13 | -41.65 | -82.06 | -64.02 | 2.43 | 11.80 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3750 | -51.97 | -13 | -38.97 | -73.03 | -58.59 | 1.68 | 8.30 | V |
| | 5625 | -55.97 | -13 | -42.97 | -81.96 | -63.02 | 2.70 | 9.75 | V |
| | 7500 | -53.21 | -13 | -40.21 | -80.98 | -62.58 | 2.43 | 11.80 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 3792 | -51.16 | -13 | -38.16 | -72.35 | -57.81 | 1.70 | 8.35 | H |
| | 5685 | -55.23 | -13 | -42.23 | -81.56 | -62.27 | 2.73 | 9.77 | H |
| | 7580 | -53.87 | -13 | -40.87 | -81.77 | -63.31 | 2.40 | 11.85 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3792 | -53.15 | -13 | -40.15 | -74.38 | -59.8 | 1.70 | 8.35 | V |
| | 5685 | -55.25 | -13 | -42.25 | -81.57 | -62.29 | 2.73 | 9.77 | V |
| | 7580 | -52.97 | -13 | -39.97 | -81.12 | -62.41 | 2.40 | 11.85 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

# LTE Band 4

| LTE Band 4 / 20MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3420 | -53.48 | -13 | -40.48 | -74.22 | -59.55 | 1.58 | 7.65 | H |
| | 5130 | -56.12 | -13 | -43.12 | -80.75 | -63.41 | 2.41 | 9.70 | H |
| | 6840 | -54.84 | -13 | -41.84 | -81.95 | -62.81 | 2.64 | 10.61 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3420 | -52.46 | -13 | -39.46 | -73.4 | -58.53 | 1.58 | 7.65 | V |
| | 5130 | -56.33 | -13 | -43.33 | -80.9 | -63.62 | 2.41 | 9.70 | V |
| | 6840 | -54.68 | -13 | -41.68 | -81.88 | -62.65 | 2.64 | 10.61 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3450 | -52.45 | -13 | -39.45 | -73.34 | -58.64 | 1.59 | 7.78 | H |
| | 5160 | -55.31 | -13 | -42.31 | -80.15 | -62.58 | 2.43 | 9.70 | H |
| | 6900 | -54.29 | -13 | -41.29 | -81.48 | -62.35 | 2.62 | 10.68 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3450 | -53.59 | -13 | -40.59 | -74.56 | -59.78 | 1.59 | 7.78 | V |
| | 5160 | -56.08 | -13 | -43.08 | -80.72 | -63.35 | 2.43 | 9.70 | V |
| | 6900 | -55.96 | -13 | -42.96 | -81.18 | -64.02 | 2.62 | 10.68 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 3474 | -51.21 | -13 | -38.21 | -72.38 | -57.5 | 1.60 | 7.89 | H |
| | 5208 | -54.86 | -13 | -41.86 | -79.72 | -62.1 | 2.46 | 9.70 | H |
| | 6960 | -53.45 | -13 | -40.45 | -80.57 | -61.6 | 2.60 | 10.75 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3474 | -53.81 | -13 | -40.81 | -74.43 | -60.1 | 1.60 | 7.89 | V |
| | 5208 | -57.26 | -13 | -44.26 | -77.69 | -64.5 | 2.46 | 9.70 | V |
| | 6960 | -53.45 | -13 | -40.45 | -80.8 | -61.6 | 2.60 | 10.75 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

# LTE Band 5

| LTE Band 5 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1648 | -56.94 | -13 | -43.94 | -68.53 | -58.7 | 0.98 | 4.89 | H |
| | 2472 | -61.72 | -13 | -48.72 | -77.87 | -63.6 | 1.28 | 5.32 | H |
| | 3296 | -59.09 | -13 | -46.09 | -77.69 | -62.5 | 1.54 | 7.10 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1648 | -55.74 | -13 | -42.74 | -68.01 | -57.5 | 0.98 | 4.89 | V |
| | 2472 | -59.62 | -13 | -46.62 | -76.9 | -61.5 | 1.28 | 5.32 | V |
| | 3296 | -58.79 | -13 | -45.79 | -78.25 | -62.2 | 1.54 | 7.10 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1664 | -59.79 | -13 | -46.79 | -71.5 | -61.50 | 0.98 | 4.84 | H |
| | 2496 | -60.55 | -13 | -47.55 | -77.42 | -62.5 | 1.29 | 5.39 | H |
| | 3328 | -58.86 | -13 | -45.86 | -78.02 | -62.4 | 1.55 | 7.24 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1664 | -58.99 | -13 | -45.99 | -71.09 | -60.7 | 0.98 | 4.84 | V |
| | 2496 | -59.15 | -13 | -46.15 | -76.32 | -61.1 | 1.29 | 5.39 | V |
| | 3328 | -58.06 | -13 | -45.06 | -77.84 | -61.6 | 1.55 | 7.24 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1680 | -57.93 | -13 | -44.93 | -69.83 | -59.58 | 0.99 | 4.80 | H |
| | 2517 | -61.33 | -13 | -48.33 | -78.34 | -63.3 | 1.30 | 5.41 | H |
| | 3356 | -59.14 | -13 | -46.14 | -78.51 | -62.8 | 1.56 | 7.37 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1680 | -58.65 | -13 | -45.65 | -70.83 | -60.3 | 0.99 | 4.80 | V |
| | 2517 | -59.33 | -13 | -46.33 | -76.52 | -61.3 | 1.30 | 5.41 | V |
| | 3356 | -59.14 | -13 | -46.14 | -78.57 | -62.8 | 1.56 | 7.37 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

# LTE Band 12

| LTE Band 12 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1400 | -42.85 | -13 | -29.85 | -53.07 | -44.51 | 0.87 | 4.68 | H |
| | 2096 | -57.15 | -13 | -44.15 | -72.60 | -58.02 | 1.16 | 4.19 | H |
| | 2800 | -54.77 | -13 | -41.77 | -72.35 | -56.88 | 1.38 | 5.64 | H |
| | 3496 | -52.92 | -13 | -39.92 | -73.50 | -57.15 | 1.60 | 7.98 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1400 | -47.66 | -13 | -34.66 | -58.49 | -49.32 | 0.87 | 4.68 | V |
| | 2096 | -55.81 | -13 | -42.81 | -71.42 | -56.68 | 1.16 | 4.19 | V |
| | 2800 | -51.41 | -13 | -38.41 | -69.76 | -53.52 | 1.38 | 5.64 | V |
| | 3496 | -54.99 | -13 | -41.99 | -75.40 | -59.22 | 1.60 | 7.98 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1408 | -35.21 | -13 | -22.21 | -45.50 | -36.92 | 0.87 | 4.73 | H |
| | 2112 | -48.77 | -13 | -35.77 | -64.16 | -49.69 | 1.17 | 4.24 | H |
| | 2816 | -51.55 | -13 | -38.55 | -69.30 | -53.66 | 1.39 | 5.65 | H |
| | 3520 | -52.39 | -13 | -39.39 | -72.83 | -56.65 | 1.61 | 8.02 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1408 | -36.55 | -13 | -23.55 | -47.32 | -38.26 | 0.87 | 4.73 | V |
| | 2112 | -51.13 | -13 | -38.13 | -66.70 | -52.05 | 1.17 | 4.24 | V |
| | 2816 | -49.91 | -13 | -36.91 | -68.24 | -52.02 | 1.39 | 5.65 | V |
| | 3520 | -50.89 | -13 | -37.89 | -71.32 | -55.15 | 1.61 | 8.02 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1416 | -34.80 | -13 | -21.80 | -45.21 | -36.55 | 0.87 | 4.78 | H |
| | 2120 | -41.77 | -13 | -28.77 | -57.31 | -42.71 | 1.17 | 4.26 | H |
| | 2824 | -47.89 | -13 | -34.89 | -65.00 | -50.01 | 1.39 | 5.66 | H |
| | 3536 | -47.88 | -13 | -34.88 | -68.41 | -52.16 | 1.62 | 8.04 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1416 | -38.06 | -13 | -25.06 | -48.88 | -39.81 | 0.87 | 4.78 | V |
| | 2120 | -45.07 | -13 | -32.07 | -61.87 | -46.01 | 1.17 | 4.26 | V |
| | 2824 | -44.23 | -13 | -31.23 | -62.68 | -46.35 | 1.39 | 5.66 | V |
| | 3536 | -51.33 | -13 | -38.33 | -71.89 | -55.61 | 1.62 | 8.04 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

# LTE Band 13

| LTE Band 13 / 5MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1552 | -41.98 | -13 | -28.98 | -52.99 | -44.05 | 0.94 | 5.15 | H |
| | 2336 | -44.86 | -13 | -31.86 | -61.61 | -46.38 | 1.24 | 4.91 | H |
| | 3112 | -43.73 | -13 | -30.73 | -62.27 | -46.39 | 1.48 | 6.29 | H |
| | 3888 | -46.96 | -13 | -33.96 | -67.49 | -51.55 | 1.73 | 8.47 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1552 | -49.59 | -13 | -36.59 | -60.99 | -51.66 | 0.94 | 5.15 | V |
| | 2336 | -45.19 | -13 | -32.19 | -62.40 | -46.71 | 1.24 | 4.91 | V |
| | 3112 | -45.56 | -13 | -32.56 | -64.95 | -48.22 | 1.48 | 6.29 | V |
| | 3888 | -50.80 | -13 | -37.80 | -71.56 | -55.39 | 1.73 | 8.47 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1560 | -45.31 | -42.15 | -3.16 | -56.60 | -47.35 | 0.94 | 5.13 | H |
| | 2336 | -47.07 | -13 | -34.07 | -63.67 | -48.59 | 1.24 | 4.91 | H |
| | 3120 | -45.36 | -13 | -32.36 | -63.95 | -48.05 | 1.49 | 6.33 | H |
| | 3896 | -50.21 | -13 | -37.21 | -70.84 | -54.81 | 1.73 | 8.48 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1560 | -51.01 | -42.15 | -8.86 | -62.82 | -53.05 | 0.94 | 5.13 | V |
| | 2336 | -48.69 | -13 | -35.69 | -65.90 | -50.21 | 1.24 | 4.91 | V |
| | 3120 | -48.33 | -13 | -35.33 | -67.54 | -51.02 | 1.49 | 6.33 | V |
| | 3896 | -49.22 | -13 | -36.22 | -69.88 | -53.82 | 1.73 | 8.48 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1568 | -47.16 | -42.15 | -5.01 | -58.30 | -49.18 | 0.94 | 5.11 | H |
| | 2344 | -49.01 | -13 | -36.01 | -65.80 | -50.55 | 1.24 | 4.93 | H |
| | 3128 | -50.53 | -13 | -37.53 | -69.14 | -53.26 | 1.49 | 6.36 | H |
| | 3912 | -55.00 | -13 | -42.00 | -75.39 | -59.61 | 1.73 | 8.49 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1568 | -53.03 | -42.15 | -10.88 | -64.62 | -55.05 | 0.94 | 5.11 | V |
| | 2344 | -50.27 | -13 | -37.27 | -67.41 | -51.81 | 1.24 | 4.93 | V |
| | 3128 | -48.82 | -13 | -35.82 | -68.17 | -51.55 | 1.49 | 6.36 | V |
| | 3912 | -52.20 | -13 | -39.20 | -72.89 | -56.81 | 1.73 | 8.49 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 13 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 1552 | -42.95 | -13 | -29.95 | -53.68 | -45.02 | 0.94 | 5.15 | H |
| | 2336 | -43.63 | -13 | -30.63 | -60.42 | -45.15 | 1.24 | 4.91 | H |
| | 3112 | -44.63 | -13 | -31.63 | -63.25 | -47.29 | 1.48 | 6.29 | H |
| | 3888 | -48.29 | -13 | -35.29 | -68.75 | -52.88 | 1.73 | 8.47 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1552 | -45.02 | -13 | -32.02 | -56.67 | -47.09 | 0.94 | 5.15 | V |
| | 2336 | -44.36 | -13 | -31.36 | -61.52 | -45.88 | 1.24 | 4.91 | V |
| | 3112 | -44.53 | -13 | -31.53 | -63.86 | -47.19 | 1.48 | 6.29 | V |
| | 3888 | -49.12 | -13 | -36.12 | -69.85 | -53.71 | 1.73 | 8.47 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

# LTE Band 26

| LTE Band 26 / 15MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1648 | -61.59 | -13 | -48.59 | -73.47 | -63.35 | 0.98 | 4.89 | H |
| | 2472 | -59.87 | -13 | -46.87 | -77.08 | -61.75 | 1.28 | 5.32 | H |
| | 3296 | -58.37 | -13 | -45.37 | -77.71 | -61.78 | 1.54 | 7.10 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1648 | -59.81 | -13 | -46.81 | -72.16 | -61.57 | 0.98 | 4.89 | V |
| | 2472 | -59.27 | -13 | -46.27 | -76.92 | -61.15 | 1.28 | 5.32 | V |
| | 3296 | -58.32 | -13 | -45.32 | -77.99 | -61.73 | 1.54 | 7.10 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1664 | -58.28 | -13 | -45.28 | -70.32 | -59.99 | 0.98 | 4.84 | H |
| | 2487 | -59.92 | -13 | -46.92 | -77.11 | -61.84 | 1.29 | 5.36 | H |
| | 3316 | -57.94 | -13 | -44.94 | -77.39 | -61.43 | 1.55 | 7.19 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1664 | -56.86 | -13 | -43.86 | -69.37 | -58.57 | 0.98 | 4.84 | V |
| | 2487 | -58.27 | -13 | -45.27 | -75.9 | -60.19 | 1.29 | 5.36 | V |
| | 3316 | -57.75 | -13 | -44.75 | -77.48 | -61.24 | 1.55 | 7.19 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1672 | -58.86 | -13 | -45.86 | -71.04 | -60.54 | 0.99 | 4.82 | H |
| | 2505 | -60.37 | -13 | -47.37 | -77.64 | -62.33 | 1.29 | 5.40 | H |
| | 3340 | -58.30 | -13 | -45.30 | -77.91 | -61.89 | 1.55 | 7.30 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1672 | -57.94 | -13 | -44.94 | -70.58 | -59.62 | 0.99 | 4.82 | V |
| | 2505 | -59.61 | -13 | -46.61 | -77.34 | -61.57 | 1.29 | 5.40 | V |
| | 3340 | -58.29 | -13 | -45.29 | -78.11 | -61.88 | 1.55 | 7.30 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

# LTE Band 66

| LTE Band 66 / 20MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3420 | -48.73 | -13 | -35.73 | -68.94 | -54.8 | 1.58 | 7.65 | H |
| | 5130 | -55.81 | -13 | -42.81 | -79.54 | -63.1 | 2.41 | 9.70 | H |
| | 6840 | -54.43 | -13 | -41.43 | -80.83 | -62.4 | 2.64 | 10.61 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3420 | -51.53 | -13 | -38.53 | -71.79 | -57.6 | 1.58 | 7.65 | V |
| | 5130 | -55.81 | -13 | -42.81 | -79.83 | -63.1 | 2.41 | 9.70 | V |
| | 6840 | -54.53 | -13 | -41.53 | -81.14 | -62.5 | 2.64 | 10.61 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3474 | -53.81 | -13 | -40.81 | -74.58 | -60.1 | 1.60 | 7.89 | H |
| | 5205 | -55.86 | -13 | -42.86 | -79.98 | -63.1 | 2.46 | 9.70 | H |
| | 6940 | -54.18 | -13 | -41.18 | -80.85 | -62.3 | 2.61 | 10.73 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3474 | -55.51 | -13 | -42.51 | -75.86 | -61.8 | 1.60 | 7.89 | V |
| | 5205 | -56.06 | -13 | -43.06 | -80.12 | -63.3 | 2.46 | 9.70 | V |
| | 6940 | -53.98 | -13 | -40.98 | -80.38 | -62.1 | 2.61 | 10.73 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 3522 | -51.78 | -13 | -38.78 | -72.57 | -58.2 | 1.61 | 8.03 | H |
| | 5280 | -55.50 | -13 | -42.50 | -80.15 | -62.7 | 2.50 | 9.70 | H |
| | 7040 | -54.10 | -13 | -41.10 | -80.77 | -62.4 | 2.58 | 10.88 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3522 | -54.68 | -13 | -41.68 | -74.89 | -61.1 | 1.61 | 8.03 | V |
| | 5280 | -55.50 | -13 | -42.50 | -79.86 | -62.7 | 2.50 | 9.70 | V |
| | 7040 | -53.90 | -13 | -40.90 | -80.66 | -62.2 | 2.58 | 10.88 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

# LTE Band 85

| LTE Band 85 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1400 | -39.44 | -13 | -26.44 | -49.65 | -41.10 | 0.87 | 4.68 | H |
| | 2096 | -51.93 | -13 | -38.93 | -67.42 | -52.80 | 1.16 | 4.19 | H |
| | 2792 | -55.00 | -13 | -42.00 | -72.49 | -57.10 | 1.38 | 5.63 | H |
| | 3496 | -52.97 | -13 | -39.97 | -73.30 | -57.20 | 1.60 | 7.98 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1400 | -42.54 | -13 | -29.54 | -53.19 | -44.20 | 0.87 | 4.68 | V |
| | 2096 | -53.03 | -13 | -40.03 | -68.70 | -53.90 | 1.16 | 4.19 | V |
| | 2792 | -54.20 | -13 | -41.20 | -72.17 | -56.30 | 1.38 | 5.63 | V |
| | 3496 | -55.07 | -13 | -42.07 | -75.02 | -59.30 | 1.60 | 7.98 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1408 | -35.19 | -13 | -22.19 | -45.29 | -36.90 | 0.87 | 4.73 | H |
| | 2112 | -46.28 | -13 | -33.28 | -61.67 | -47.20 | 1.17 | 4.24 | H |
| | 2808 | -46.19 | -13 | -33.19 | -63.37 | -48.30 | 1.39 | 5.65 | H |
| | 3512 | -41.94 | -13 | -28.94 | -62.25 | -46.20 | 1.61 | 8.01 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1408 | -39.49 | -13 | -26.49 | -49.97 | -41.20 | 0.87 | 4.73 | V |
| | 2112 | -43.58 | -13 | -30.58 | -59.44 | -44.50 | 1.17 | 4.24 | V |
| | 2808 | -44.99 | -13 | -31.99 | -63.19 | -47.10 | 1.39 | 5.65 | V |
| | 3512 | -47.94 | -13 | -34.94 | -68.01 | -52.20 | 1.61 | 8.01 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1416 | -34.45 | -13 | -21.45 | -44.44 | -36.20 | 0.87 | 4.78 | H |
| | 2120 | -39.16 | -13 | -26.16 | -54.60 | -40.10 | 1.17 | 4.26 | H |
| | 2824 | -40.98 | -13 | -27.98 | -58.50 | -43.10 | 1.39 | 5.66 | H |
| | 3536 | -39.02 | -13 | -26.02 | -59.53 | -43.30 | 1.62 | 8.04 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1416 | -37.05 | -13 | -24.05 | -47.65 | -38.80 | 0.87 | 4.78 | V |
| | 2120 | -39.86 | -13 | -26.86 | -55.87 | -40.80 | 1.17 | 4.26 | V |
| | 2824 | -40.38 | -13 | -27.38 | -58.63 | -42.50 | 1.39 | 5.66 | V |
| | 3536 | -46.52 | -13 | -33.52 | -66.59 | -50.80 | 1.62 | 8.04 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.