# FCC RADIO TEST REPORT

| | | |
|---|---|---|
| **FCC ID** | : | **XMR2021EM05G2** |
| **Equipment** | : | **LTE Module** |
| **Brand Name** | : | **Quectel Wireless Solutions Co., Ltd.** |
| **Model Name** | : | **EM05-G** |
| **Applicant** | : | **Quectel Wireless Solutions Co., Ltd.<br>Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 20023** |
| **Manufacturer** | : | **LCFC (HeFei) Electronics Technology Co., Ltd.<br>No. 3188-1, Yungu Road (Hefei Export Processing Zone), Hefei Economics & Technology Development Area, Anhui, CHINA** |
| **Standard** | : | **FCC 47 CFR Part 2, 22(H), 24(E), 27** |

**Equipment: Quectel EM05-G tested inside of Lenovo Notebook Computer.**

**The product was received on May 11, 2023 and testing was performed from May 22, 2023 to May 25, 2023. We, Sporton International Inc. Wensan 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 variant report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.**

Louis Wu

**Approved by: Louis Wu**

***Sporton International Inc. Wensan Laboratory***

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# History of this test report

| Report No. | Version | Description | Issue Date |
|---|---|---|---|
| FG2N1103-04B | 01 | Initial issue of report | Jun. 05, 2023 |
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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 71) | | |
| | §24.232 (c) §27.50 (h)(2) | Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 7) (Band 38) (Band 41) | | |
| | §27.50 (d)(4) | Equivalent Isotropic Radiated Power (Band 4) (Band 66) | | |
| - | §24.232 (d) §27.50 (d)(5) | Peak-to-Average Ratio | Not Required | - |
| - | §2.1049 | Occupied Bandwidth | Not Required | - |
| - | §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 71) | Not Required | - |
| | §2.1051 §27.53 (m)(4) | Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41) | | |
| - | §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 71) | Not Required | - |
| | §2.1051 §27.53 (m)(4) | Conducted Spurious Emission (Band 7) (Band 38) (Band 41) | | |
| - | §2.1055 §22.355 §24.235 §27.54 | Frequency Stability Temperature & Voltage | Not Required | - |

| 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 71) | Pass | 14.50 dB<br>under the limit at<br>1559.000 MHz |
| | §2.1051<br>§27.53 (m)(4) | Radiated Spurious Emission<br>(Band 7) (Band 38) (Band 41) | | |

**Note:**

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by host changing Marketing name, Model name, CPU and Motherboard. All the test cases were performed on original report which can be referred to Sporton Report Number FG2N1103B. Based on the original report, only worst cases were verified.

**Conformity Assessment Condition:**

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.

**Disclaimer:**

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

**Reviewed by: Sheng Kuo**

**Report Producer: Michelle Chen**

# 1 General Description

## 1.1 Product Feature of Equipment Under Test

| Product Feature | |
|---|---|
| **Equipment** | LTE Module |
| **Brand Name** | Quectel Wireless Solutions Co., Ltd. |
| **Model Name** | EM05-G |
| **FCC ID** | XMR2021EM05G2 |
| **Sample 1** | EUT with Host 1 |
| **Sample 2** | EUT with Host 2 |
| **EUT supports Radios application** | WCDMA/HSPA/LTE/GNSS |
| **EUT Stage** | Production Unit |

**Remark:**

1. The above EUT's information was declared by manufacturer.
2. Equipment: Quectel EM05-G tested inside of Lenovo Notebook Computer.

The product was installed into Notebook Computer (Brand Name: Lenovo, Model Name: TP00135C) during test, and the host information was recorded in the following table.

| Host Information | |
|---|---|
| **Host 1** | Host with Amphenol Taiwan Corporation Antenna |
| **Host 2** | Host with Speed Antenna |

| Antenna Information | | | | |
|---|---|---|---|---|
| **Main Antenna** | **Manufacturer** | AMPHENOL TAIWAN CORPORATION | **Peak gain(dBi)** | LTE Band 2 : -1.46<br>LTE Band 4 : -0.03<br>LTE Band 5 : -1.18<br>LTE Band 7 : 1.30<br>LTE Band 12 : -0.18<br>LTE Band 13 : 0.79<br>LTE Band 25 : -1.32<br>LTE Band 26 : -1.18<br>LTE Band 38 : 0.37<br>LTE Band 41 : 1.86<br>LTE Band 66 : -0.23<br>LTE Band 71 : -0.09 |
| | **Part number** | DC33001YA00 | **Type** | PIFA |
| | **Manufacturer** | Speed | **Peak gain(dBi)** | LTE Band 2 : -1.46<br>LTE Band 4 : -0.03<br>LTE Band 5 : -1.18<br>LTE Band 7 : 1.30<br>LTE Band 12 : -0.18<br>LTE Band 13 : 0.79<br>LTE Band 25 : -1.32<br>LTE Band 26 : -1.18<br>LTE Band 38 : 0.37<br>LTE Band 41 : 1.86<br>LTE Band 66 : -0.23<br>LTE Band 71 : -0.09 |
| | **Part number** | DC33001Y900 | **Type** | PIFA |

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

## 1.2 Product Specification of Equipment Under Test

| Product Specification is subject to this standard | |
|---|---|
| **Tx Frequency** | LTE Band 2: 1850.7 MHz ~ 1909.3 MHz<br>LTE Band 4: 1710.7 MHz ~ 1754.3 MHz<br>LTE Band 5: 824.7 MHz ~ 848.3 MHz<br>LTE Band 7: 2502.5 MHz ~ 2567.5 MHz<br>LTE Band 12: 699.7 MHz ~ 715.3 MHz<br>LTE Band 13: 779.5 MHz ~ 784.5 MHz<br>LTE Band 25: 1850.7 MHz ~ 1914.3 MHz<br>LTE Band 26: 824.7 MHz ~ 848.3 MHz<br>LTE Band 38: 2572.5 MHz ~ 2617.5 MHz<br>LTE Band 41: 2498.5 MHz ~ 2687.5 MHz<br>LTE Band 66: 1710.7 MHz ~ 1779.3 MHz<br>LTE Band 71: 665.5 MHz ~ 695.5 MHz |
| **Rx Frequency** | LTE Band 2: 1930.7 MHz ~ 1989.3 MHz<br>LTE Band 4: 2110.7 MHz ~ 2154.3 MHz<br>LTE Band 5: 869.7 MHz ~ 893.3 MHz<br>LTE Band 7: 2622.5MHz ~ 2687.5 MHz<br>LTE Band 12: 729.7 MHz ~ 745.3 MHz<br>LTE Band 13: 748.5 MHz ~ 753.5 MHz<br>LTE Band 25: 1930.7 MHz ~ 1994.3 MHz<br>LTE Band 26: 869.7 MHz ~ 893.3 MHz<br>LTE Band 38: 2572.5 MHz ~ 2617.5 MHz<br>LTE Band 41: 2498.5 MHz ~ 2687.5 MHz<br>LTE Band 66: 2110.7 MHz ~ 2199.3 MHz<br>LTE Band 71: 619.5 MHz ~ 649.5 MHz |
| **Bandwidth** | LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz<br>LTE Band 7: 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 12: 1.4MHz / 3MHz / 5MHz / 10MHz<br>LTE Band 13: 5MHz / 10MHz<br>LTE Band 25: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 26: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz<br>LTE Band 38: 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 41: 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 66: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 71: 5MHz / 10MHz / 15MHz / 20MHz |
| **Maximum Output Power to Antenna** | LTE Band 2 : 23.81 dBm<br>LTE Band 4 : 23.88 dBm<br>LTE Band 5 : 23.82 dBm<br>LTE Band 7 : 23.66 dBm<br>LTE Band 12 : 23.48 dBm<br>LTE Band 13 : 24.30 dBm<br>LTE Band 25 : 23.69 dBm<br>LTE Band 26 : 23.68 dBm<br>LTE Band 38 : 23.34 dBm<br>LTE Band 41 : 23.86 dBm<br>LTE Band 66 : 24.07 dBm<br>LTE Band 71 : 23.53 dBm |
| **Type of Modulation** | QPSK / 16QAM / 64QAM |

## 1.3 Modification of EUT

No modifications made to the EUT during the testing.

## 1.4 Testing Location

| | |
|---|---|
| **Test Site** | Sporton International Inc. EMC & Wireless Communications Laboratory |
| **Test Site Location** | No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333 |
| **Test Site No.** | **Sporton Site No.** |
| | TH03-HY (TAF Code: 1190) |
| **Test Engineer** | Cotty Hsu |
| **Temperature (℃)** | 22.1~22.8 |
| **Relative Humidity (%)** | 53~55 |
| **Remark** | The Conducted test item subcontracted to Sporton International Inc. EMC & Wireless Communications Laboratory |

| | |
|---|---|
| **Test Site** | Sporton International Inc. Wensan Laboratory |
| **Test Site Location** | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010 |
| **Test Site No.** | **Sporton Site No.** |
| | 03CH16-HY |
| **Test Engineer** | Hao Qun, Gary Guo and Steven Wu |
| **Temperature (℃)** | 20~25 |
| **Relative Humidity (%)** | 50~65 |

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

FCC Designation No.: TW1190 and TW3786

## 1.5 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 the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.

# 2 Test Configuration of Equipment Under Test

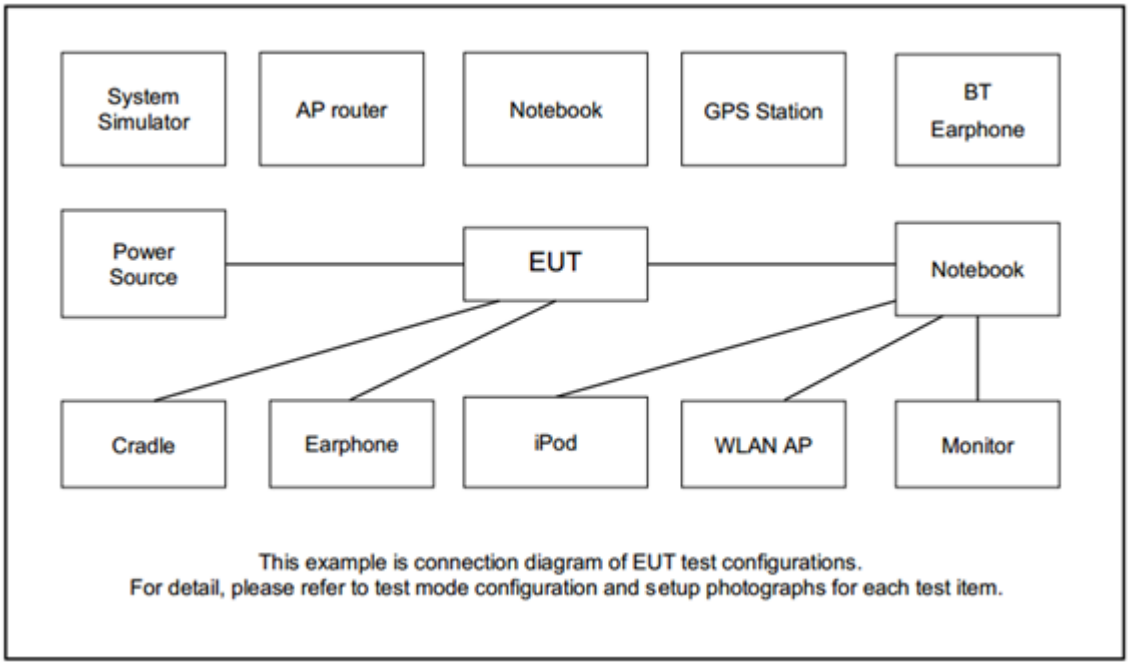
## 2.1 Test Mode

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.

| Test Items | Band | Bandwidth (MHz) | | | | | | Modulation | | RB # | | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1.4 | 3 | 5 | 10 | 15 | 20 | QPSK | 16QAM | 1 | Half | Full | L | M | H |
| Max. Output Power | 2 | v | v | v | v | v | v | v | v | v | | | v | v | v |
| | 4 | v | v | v | v | v | v | v | v | v | | | v | v | v |
| | 5 | v | v | v | v | - | - | v | v | v | | | v | v | v |
| | 7 | - | - | v | v | v | v | v | v | v | | | v | v | v |
| | 12 | v | v | v | v | - | - | v | v | v | | | v | v | v |
| | 13 | - | - | v | v | - | - | v | v | v | | | v | v | v |
| | 25 | v | v | v | v | v | v | v | v | v | | | v | v | v |
| | 26 | v | v | v | v | v | - | v | v | v | | | v | v | v |
| | 38 | - | - | v | v | v | v | v | v | v | | | v | v | v |
| | 41 | - | - | v | v | v | v | v | v | v | | | v | v | v |
| | 66 | v | v | v | v | v | v | v | v | v | | | v | v | v |
| | 71 | - | - | v | 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 | | | | | | |
| | 7 | - | - | 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 | | | | | | |
| | 38 | - | - | v | v | v | v | v | v | | | | | | |
| | 41 | - | - | v | v | v | v | v | v | | | | | | |
| | 66 | v | v | v | v | v | v | v | v | | | | | | |
| | 71 | - | - | v | v | v | v | v | v | | | | | | |

| Test Items | Band | Bandwidth (MHz) | | | | | | Modulation | | RB # | | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1.4 | 3 | 5 | 10 | 15 | 20 | QPSK | 16QAM | 1 | Half | Full | L | M | H |
| Radiated Spurious Emission | 2 | | | | v | | | v | | v | | | v | v | v |
| | 4 | | | | v | | | v | | v | | | v | v | v |
| | 5 | | | | v | - | - | v | | v | | | v | v | v |
| | 7 | - | - | | v | | | v | | v | | | v | v | v |
| | 12 | | | | v | - | - | v | | v | | | v | v | v |
| | 13 | - | - | v | v | - | - | v | | v | | | v | v | v |
| | 25 | | | | v | | | v | | v | | | v | v | v |
| | 26 | | | | v | | - | v | | v | | | v | v | v |
| | 38 | - | - | | v | | | v | | v | | | v | v | v |
| | 41 | - | - | | v | | | v | | v | | | v | v | v |
| | 66 | | | | v | | | v | | v | | | v | v | v |
| | 71 | - | - | | v | | | v | | v | | | 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.<br>4. All the radiated test cases were performed with Battery 1 and Sample 1. | | | | | | | | | | | | | | |

## 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. | Earphone | Lenovo | TS300-01MS21-8S | N/A | Unshielded, 1.2 m | N/A |
| 2. | 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 7 Channel and Frequency List | | | | |
|---|---|---|---|---|
| BW [MHz] | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 20 | Channel | 20850 | 21100 | 21350 |
| | Frequency | 2510 | 2535 | 2560 |
| 15 | Channel | 20825 | 21100 | 21375 |
| | Frequency | 2507.5 | 2535 | 2562.5 |
| 10 | Channel | 20800 | 21100 | 21400 |
| | Frequency | 2505 | 2535 | 2565 |
| 5 | Channel | 20775 | 21100 | 21425 |
| | Frequency | 2502.5 | 2535 | 2567.5 |

| 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 38 Channel and Frequency List | | | | |
|---|---|---|---|---|
| BW [MHz] | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 20 | Channel | 37850 | 38000 | 38150 |
| | Frequency | 2580.0 | 2595.0 | 2610.0 |
| 15 | Channel | 37825 | 38000 | 38175 |
| | Frequency | 2577.5 | 2595.0 | 2612.5 |
| 10 | Channel | 37800 | 38000 | 38200 |
| | Frequency | 2575.0 | 2595.0 | 2615.0 |
| 5 | Channel | 37775 | 38000 | 38225 |
| | Frequency | 2572.5 | 2595.0 | 2617.5 |

| LTE Band 41 Channel and Frequency List | | | | |
|---|---|---|---|---|
| BW [MHz] | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 20 | Channel | 39750 | 40620 | 41490 |
| | Frequency | 2506.0 | 2593.0 | 2680.0 |
| 15 | Channel | 39725 | 40620 | 41515 |
| | Frequency | 2503.5 | 2593.0 | 2682.5 |
| 10 | Channel | 39700 | 40620 | 41540 |
| | Frequency | 2501.0 | 2593.0 | 2685.0 |
| 5 | Channel | 39675 | 40620 | 41565 |
| | Frequency | 2498.5 | 2593.0 | 2687.5 |

| 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 71 Channel and Frequency List | | | | |
|---|---|---|---|---|
| BW [MHz] | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 20 | Channel | 133222 | 133297 | 133372 |
| | Frequency | 673.0 | 680.5 | 688.0 |
| 15 | Channel | 133197 | 133297 | 133397 |
| | Frequency | 670.5 | 680.5 | 690.5 |
| 10 | Channel | 133172 | 133297 | 133422 |
| | Frequency | 668.0 | 680.5 | 693.0 |
| 5 | Channel | 133147 | 133297 | 133447 |
| | Frequency | 665.5 | 680.5 | 695.5 |

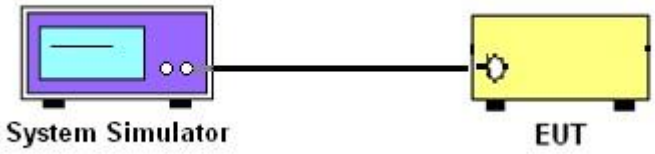
# 3 Conducted Test Items

## 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 and Band 13 and and Band 71

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25 and Band 7 and Band 38 and Band 41

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 = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

$P_T$ = transmitter output power in dBm

$G_T$ = gain of the transmitting antenna in dBi

$L_C$ = 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.

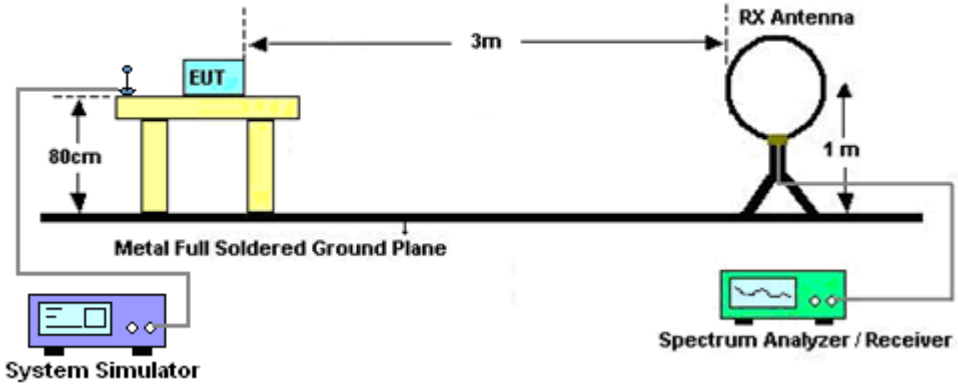
# 4 Radiated Test Items

## 4.1 Measuring Instruments

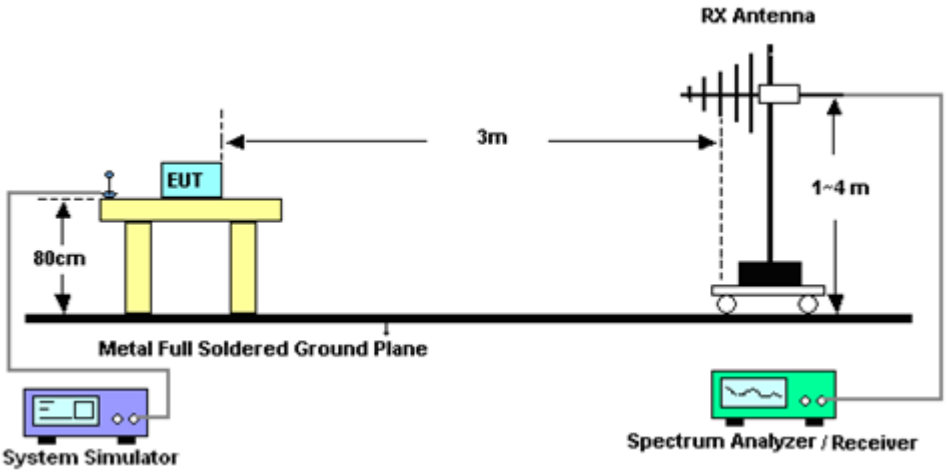
See list of measuring instruments of this test report.

### 4.1.1 Test Setup

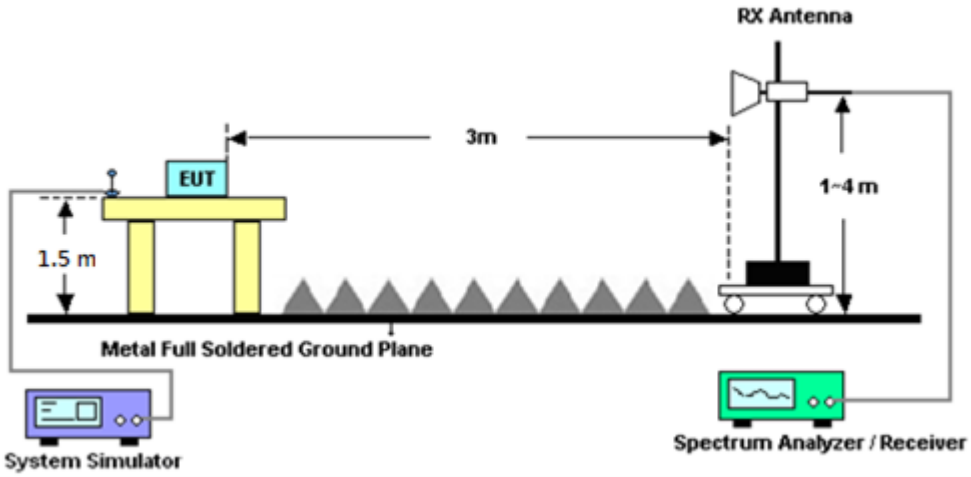
**For radiated test below 30MHz**



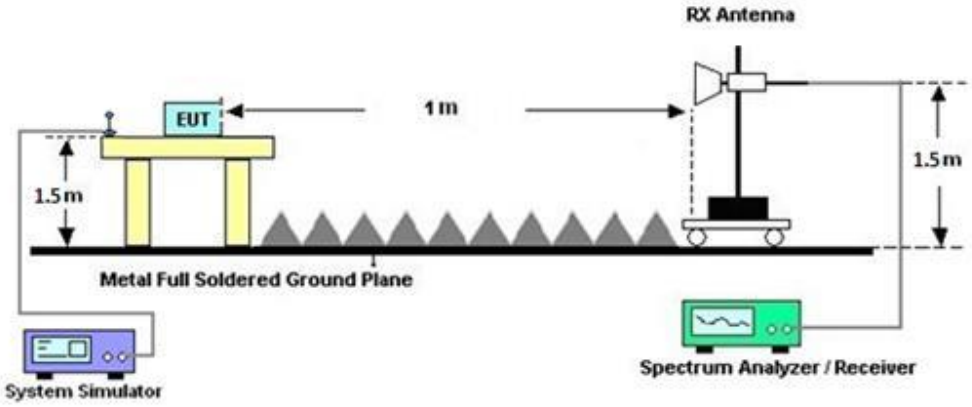

**For radiated test from 30MHz to 1GHz**



**For radiated test from 1GHz to 18GHz**




**For radiated test above 18GHz**




## 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 adequate comparison measurement 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 7, 38, 41

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

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)

    For LTE Band 7, 38, 41

    The limit line is derived from 55 + 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 |
|---|---|---|---|---|---|---|---|---|
| Loop Antenna | Rohde & Schwarz | HFH2-Z2 | 100488 | 9 kHz~30 MHz | Sep. 20, 2022 | May 22, 2023~ May 25, 2023 | Sep. 19, 2023 | Radiation (03CH16-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK | BBHA9170 | 00993 | 18GHz-40GHz | Nov. 24, 2022 | May 22, 2023~ May 25, 2023 | Nov. 23, 2023 | Radiation (03CH16-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK | BBHA9170 | 00994 | 18GHz-40GHz | Nov. 04, 2022 | May 22, 2023~ May 25, 2023 | Nov. 03, 2023 | Radiation (03CH16-HY) |
| Spectrum Analyzer | Keysight | N9010B | MY60241055 | 10Hz~44GHz | Jul. 22, 2022 | May 22, 2023~ May 25, 2023 | Jul. 21, 2023 | Radiation (03CH16-HY) |
| Preamplifier | EMEC | EM18G40G | 060801 | 18GHz~40GHz | Jun. 28, 2022 | May 22, 2023~ May 25, 2023 | Jun. 27, 2023 | Radiation (03CH16-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 102 | 804011/2,804 012/2 | 18-40G | Jan. 03, 2023 | May 22, 2023~ May 25, 2023 | Jan. 02, 2024 | Radiation (03CH16-HY) |
| Signal Generator | Agilent | MG3694C | 163401 | 0.1Hz~40GHz | Feb. 08, 2023 | May 22, 2023~ May 25, 2023 | Feb. 07, 2024 | Radiation (03CH16-HY) |
| Bilog Antenna | TESEQ | CBL 6111D & 00800N1D01N-06 | 40103 & 07 | 30MHz to 1GHz | Apr. 23, 2023 | May 22, 2023~ May 25, 2023 | Apr. 22, 2024 | Radiation (03CH16-HY) |
| Bilog Antenna | TESEQ | CBL 6111D & 00802N1D01N-06 | 47020 & 06 | 30MHz to 1GHz | Oct. 08, 2022 | May 22, 2023~ May 25, 2023 | Oct. 07, 2023 | Radiation (03CH16-HY) |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | 9120D-02114 | 1G~18GHz | Aug. 09, 2022 | May 22, 2023~ May 25, 2023 | Aug. 08, 2023 | Radiation (03CH16-HY) |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | 9120D-1522 | 1G~18GHz | Mar. 23, 2023 | May 22, 2023~ May 25, 2023 | Mar. 22, 2024 | Radiation (03CH16-HY) |
| Amplifier | SONOMA | 310N | 371607 | 9kHz~1G | Jul. 04, 2022 | May 22, 2023~ May 25, 2023 | Jul. 03, 2023 | Radiation (03CH16-HY) |
| Preamplifier | EMEC | EM1G18G | 060812 | 1-18GHz | Dec. 26, 2022 | May 22, 2023~ May 25, 2023 | Dec. 25, 2023 | Radiation (03CH16-HY) |
| Preamplifier | Keysight | 83017A | MY53270264 | 1GHz~26.5GHz | Dec. 09, 2022 | May 22, 2023~ May 25, 2023 | Dec. 08, 2023 | Radiation (03CH16-HY) |
| EMI Test Receiver | Keysight | N9038A | MY57290111 | 3Hz~26.5GHz | Dec. 15, 2022 | May 22, 2023~ May 25, 2023 | Dec. 14, 2023 | Radiation (03CH16-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 104 | 805935/4 | N/A | Aug. 09, 2022 | May 22, 2023~ May 25, 2023 | Aug. 08, 2023 | Radiation (03CH16-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 104 | 802434/4 | N/A | Aug. 09, 2022 | May 22, 2023~ May 25, 2023 | Aug. 08, 2023 | Radiation (03CH16-HY) |
| RF Cable | HUBER + SUHNER | SUCOFLEX 102 | EC-A5-300-5 757 | N/A | Aug. 09, 2022 | May 22, 2023~ May 25, 2023 | Aug. 08, 2023 | Radiation (03CH16-HY) |
| Software | Audix | E3 6.2009-8-24 | RK-001136 | N/A | N/A | May 22, 2023~ May 25, 2023 | N/A | Radiation (03CH16-HY) |
| Controller | ChainTek | 3000-1 | N/A | Control Turn table & Ant Mast | N/A | May 22, 2023~ May 25, 2023 | N/A | Radiation (03CH16-HY) |
| Antenna Mast | ChainTek | MBS-520-1 | N/A | 1m~4m | N/A | May 22, 2023~ May 25, 2023 | N/A | Radiation (03CH16-HY) |
| Turn Table | ChainTek | T-200-S-1 | N/A | 0~360 Degree | N/A | May 22, 2023~ May 25, 2023 | N/A | Radiation (03CH16-HY) |
| Radio Communication Analyzer | Anritsu | MT8821C | 6262025353 | LTE FDD/TDD LTE-2CC DLCA/ULCA | Oct. 13, 2022 | May 23, 2023 | Oct. 12, 2023 | Conducted (TH03-HY) |
| Coupler | Warison | 20dB 25W SMA Directional Coupler | #B | 1-18GHz | Jan. 06, 2023 | May 23, 2023 | Jan. 05, 2024 | Conducted (TH03-HY) |

# 6 Measurement Uncertainty

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

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **2.98 dB** |

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

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **3.54 dB** |

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

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **3.79 dB** |

# Appendix A. Test Results of Conducted Test

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

| LTE Band 2 Maximum Average Power [dBm] (GT - LC = -1.46 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.59 | 23.33 | 23.76 | 22.30 | 0.1698 |
| 20 | 1 | 0 | 16-QAM | 22.62 | 22.88 | 22.94 | 21.48 | 0.1406 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 2 Maximum Average Power [dBm] (GT - LC = -1.46 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 15 | 1 | 0 | QPSK | 23.45 | 23.47 | 23.80 | 22.34 | 0.1714 |
| 15 | 1 | 0 | 16-QAM | 22.70 | 22.91 | 22.97 | 21.51 | 0.1416 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 2 Maximum Average Power [dBm] (GT - LC = -1.46 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 10 | 1 | 0 | QPSK | 23.52 | 23.38 | 23.75 | 22.29 | 0.1694 |
| 10 | 1 | 0 | 16-QAM | 22.18 | 22.93 | 22.82 | 21.47 | 0.1403 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 2 Maximum Average Power [dBm] (GT - LC = -1.46 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 5 | 1 | 0 | QPSK | 23.54 | 23.38 | 23.68 | 22.22 | 0.1667 |
| 5 | 1 | 0 | 16-QAM | 22.74 | 22.89 | 22.86 | 21.43 | 0.1390 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 2 Maximum Average Power [dBm] (GT - LC = -1.46 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 3 | 1 | 0 | QPSK | 23.60 | 23.33 | 23.81 | 22.35 | 0.1718 |
| 3 | 1 | 0 | 16-QAM | 22.60 | 23.02 | 22.93 | 21.56 | 0.1432 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 2 Maximum Average Power [dBm] (GT - LC = -1.46 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 1.4 | 1 | 0 | QPSK | 23.51 | 23.36 | 23.74 | 22.28 | 0.1690 |
| 1.4 | 1 | 0 | 16-QAM | 22.69 | 23.00 | 22.80 | 21.54 | 0.1426 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 25 Maximum Average Power [dBm] (GT - LC = -1.32 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.47 | 23.67 | 23.52 | 22.35 | 0.1718 |
| 20 | 1 | 0 | 16-QAM | 22.69 | 22.41 | 21.96 | 21.37 | 0.1371 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 25 Maximum Average Power [dBm] (GT - LC = -1.32 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 15 | 1 | 0 | QPSK | 23.54 | 23.57 | 23.48 | 22.25 | 0.1679 |
| 15 | 1 | 0 | 16-QAM | 22.70 | 22.48 | 22.02 | 21.38 | 0.1374 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 25 Maximum Average Power [dBm] (GT - LC = -1.32 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 10 | 1 | 0 | QPSK | 23.56 | 23.60 | 23.51 | 22.28 | 0.1690 |
| 10 | 1 | 0 | 16-QAM | 22.75 | 22.49 | 22.05 | 21.43 | 0.1390 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 25 Maximum Average Power [dBm] (GT - LC = -1.32 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 5 | 1 | 0 | QPSK | 23.52 | 23.69 | 23.58 | 22.37 | 0.1726 |
| 5 | 1 | 0 | 16-QAM | 22.79 | 22.47 | 22.09 | 21.47 | 0.1403 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 25 Maximum Average Power [dBm] (GT - LC = -1.32 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 3 | 1 | 0 | QPSK | 23.47 | 23.64 | 23.56 | 22.32 | 0.1706 |
| 3 | 1 | 0 | 16-QAM | 22.82 | 22.52 | 22.11 | 21.50 | 0.1413 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 25 Maximum Average Power [dBm] (GT - LC = -1.32 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 1.4 | 1 | 0 | QPSK | 23.54 | 23.62 | 23.41 | 22.30 | 0.1698 |
| 1.4 | 1 | 0 | 16-QAM | 22.69 | 22.42 | 21.98 | 21.37 | 0.1371 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 4 Maximum Average Power [dBm] (GT - LC = -0.03 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.33 | 23.74 | 23.57 | 23.71 | 0.2350 |
| 20 | 1 | 0 | 16-QAM | 22.80 | 22.77 | 23.22 | 23.19 | 0.2084 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 4 Maximum Average Power [dBm] (GT - LC = -0.03 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 15 | 1 | 0 | QPSK | 23.29 | 23.80 | 23.71 | 23.77 | 0.2382 |
| 15 | 1 | 0 | 16-QAM | 22.79 | 22.84 | 23.06 | 23.03 | 0.2009 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 4 Maximum Average Power [dBm] (GT - LC = -0.03 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 10 | 1 | 0 | QPSK | 23.37 | 23.78 | 23.67 | 23.75 | 0.2371 |
| 10 | 1 | 0 | 16-QAM | 22.68 | 22.49 | 22.90 | 22.87 | 0.1936 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 4 Maximum Average Power [dBm] (GT - LC = -0.03 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 5 | 1 | 0 | QPSK | 23.27 | 23.72 | 23.63 | 23.69 | 0.2339 |
| 5 | 1 | 0 | 16-QAM | 22.71 | 22.79 | 23.05 | 23.02 | 0.2004 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 4 Maximum Average Power [dBm] (GT - LC = -0.03 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 3 | 1 | 0 | QPSK | 23.39 | 23.79 | 23.70 | 23.76 | 0.2377 |
| 3 | 1 | 0 | 16-QAM | 22.74 | 22.85 | 23.20 | 23.17 | 0.2075 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 4 Maximum Average Power [dBm] (GT - LC = -0.03 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 1.4 | 1 | 0 | QPSK | 23.46 | 23.88 | 23.72 | 23.85 | 0.2427 |
| 1.4 | 1 | 0 | 16-QAM | 22.70 | 22.77 | 23.21 | 23.18 | 0.2080 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 5 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | 23.38 | 23.54 | 23.73 | 20.40 | 0.1096 |
| 10 | 1 | 0 | 16-QAM | 22.77 | 22.69 | 22.84 | 19.51 | 0.0893 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 5 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 5 | 1 | 0 | QPSK | 23.33 | 23.60 | 23.76 | 20.43 | 0.1104 |
| 5 | 1 | 0 | 16-QAM | 22.90 | 22.83 | 22.78 | 19.57 | 0.0906 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 5 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 3 | 1 | 0 | QPSK | 23.30 | 23.62 | 23.82 | 20.49 | 0.1119 |
| 3 | 1 | 0 | 16-QAM | 22.92 | 22.82 | 22.74 | 19.59 | 0.0910 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 5 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 1.4 | 1 | 0 | QPSK | 23.39 | 23.44 | 23.70 | 20.37 | 0.1089 |
| 1.4 | 1 | 0 | 16-QAM | 23.03 | 22.73 | 22.76 | 19.70 | 0.0933 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.3 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.22 | 23.38 | 23.66 | 24.96 | 0.3133 |
| 20 | 1 | 0 | 16-QAM | 22.51 | 22.20 | 22.78 | 24.08 | 0.2559 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.3 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 15 | 1 | 0 | QPSK | 23.38 | 23.34 | 23.56 | 24.86 | 0.3062 |
| 15 | 1 | 0 | 16-QAM | 22.48 | 22.10 | 22.85 | 24.15 | 0.2600 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.3 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 10 | 1 | 0 | QPSK | 23.29 | 23.38 | 23.58 | 24.88 | 0.3076 |
| 10 | 1 | 0 | 16-QAM | 22.43 | 22.17 | 22.87 | 24.17 | 0.2612 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.3 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 5 | 1 | 0 | QPSK | 23.20 | 23.42 | 23.54 | 24.84 | 0.3048 |
| 5 | 1 | 0 | 16-QAM | 22.50 | 22.22 | 22.90 | 24.20 | 0.2630 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 12 Maximum Average Power [dBm] (GT - LC = -0.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | 23.03 | 23.12 | 23.45 | 21.12 | 0.1294 |
| 10 | 1 | 0 | 16-QAM | 22.05 | 22.52 | 22.68 | 20.35 | 0.1084 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 12 Maximum Average Power [dBm] (GT - LC = -0.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 5 | 1 | 0 | QPSK | 23.07 | 23.13 | 23.44 | 21.11 | 0.1291 |
| 5 | 1 | 0 | 16-QAM | 22.05 | 22.54 | 22.71 | 20.38 | 0.1091 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 12 Maximum Average Power [dBm] (GT - LC = -0.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 3 | 1 | 0 | QPSK | 23.12 | 23.20 | 23.48 | 21.15 | 0.1303 |
| 3 | 1 | 0 | 16-QAM | 22.09 | 22.48 | 22.78 | 20.45 | 0.1109 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 12 Maximum Average Power [dBm] (GT - LC = -0.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 1.4 | 1 | 0 | QPSK | 23.06 | 23.19 | 23.38 | 21.05 | 0.1274 |
| 1.4 | 1 | 0 | 16-QAM | 22.03 | 22.50 | 22.64 | 20.31 | 0.1074 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 13 Maximum Average Power [dBm] (GT - LC = 0.79 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | - | 24.30 | - | 22.94 | 0.1968 |
| 10 | 1 | 0 | 16-QAM | | 22.98 | | 21.62 | 0.1452 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 13 Maximum Average Power [dBm] (GT - LC = 0.79 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 5 | 1 | 0 | QPSK | 24.03 | 23.70 | 23.66 | 22.67 | 0.1849 |
| 5 | 1 | 0 | 16-QAM | 22.81 | 22.40 | 23.22 | 21.86 | 0.1535 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 15 | 1 | 0 | QPSK | 23.47 | 23.68 | 23.47 | 20.35 | 0.1084 |
| 15 | 1 | 0 | 16-QAM | 22.73 | 22.48 | 22.13 | 19.40 | 0.0871 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | 23.63 | 23.55 | 23.13 | 20.30 | 0.1072 |
| 10 | 1 | 0 | 16-QAM | 22.56 | 22.56 | 22.17 | 19.23 | 0.0838 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 5 | 1 | 0 | QPSK | 23.53 | 23.60 | 23.59 | 20.27 | 0.1064 |
| 5 | 1 | 0 | 16-QAM | 22.77 | 22.47 | 22.11 | 19.44 | 0.0879 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 3 | 1 | 0 | QPSK | 23.52 | 23.54 | 23.44 | 20.21 | 0.1050 |
| 3 | 1 | 0 | 16-QAM | 22.65 | 22.47 | 22.06 | 19.32 | 0.0855 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.18 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 1.4 | 1 | 0 | QPSK | 23.61 | 23.68 | 23.43 | 20.35 | 0.1084 |
| 1.4 | 1 | 0 | 16-QAM | 22.66 | 22.54 | 22.10 | 19.33 | 0.0857 |
| Limit | ERP < 7W | | | Result | | | Pass | |

| LTE Band 38 Maximum Average Power [dBm] (GT - LC = 0.37 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.34 | 23.18 | 23.00 | 23.71 | 0.2350 |
| 20 | 1 | 0 | 16-QAM | 21.87 | 21.82 | 21.80 | 22.24 | 0.1675 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 38 Maximum Average Power [dBm] (GT - LC = 0.37 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 15 | 1 | 0 | QPSK | 23.20 | 23.13 | 23.09 | 23.57 | 0.2275 |
| 15 | 1 | 0 | 16-QAM | 21.88 | 21.74 | 21.69 | 22.25 | 0.1679 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 38 Maximum Average Power [dBm] (GT - LC = 0.37 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 10 | 1 | 0 | QPSK | 23.25 | 23.18 | 23.03 | 23.62 | 0.2301 |
| 10 | 1 | 0 | 16-QAM | 21.95 | 21.79 | 21.74 | 22.32 | 0.1706 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 38 Maximum Average Power [dBm] (GT - LC = 0.37 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 5 | 1 | 0 | QPSK | 23.18 | 23.12 | 22.95 | 23.55 | 0.2265 |
| 5 | 1 | 0 | 16-QAM | 21.91 | 21.75 | 21.68 | 22.28 | 0.1690 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.86 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.09 | 23.18 | 23.76 | 25.62 | 0.3648 |
| 20 | 1 | 0 | 16-QAM | 21.95 | 22.28 | 21.94 | 24.14 | 0.2594 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.86 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 15 | 1 | 0 | QPSK | 23.19 | 23.12 | 23.82 | 25.68 | 0.3698 |
| 15 | 1 | 0 | 16-QAM | 21.99 | 22.31 | 21.97 | 24.17 | 0.2612 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.86 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 10 | 1 | 0 | QPSK | 23.13 | 23.20 | 23.86 | 25.72 | 0.3733 |
| 10 | 1 | 0 | 16-QAM | 21.96 | 22.34 | 21.95 | 24.20 | 0.2630 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.86 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 5 | 1 | 0 | QPSK | 23.02 | 23.12 | 23.75 | 25.61 | 0.3639 |
| 5 | 1 | 0 | 16-QAM | 21.93 | 22.22 | 21.96 | 24.08 | 0.2559 |
| Limit | EIRP < 2W | | | Result | | | Pass | |

| LTE Band 66 Maximum Average Power [dBm] (GT - LC = -0.23 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 20 | 1 | 0 | QPSK | 23.38 | 23.96 | 23.76 | 23.73 | 0.2360 |
| 20 | 1 | 0 | 16-QAM | 22.25 | 23.29 | 23.05 | 23.06 | 0.2023 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 66 Maximum Average Power [dBm] (GT - LC = -0.23 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 15 | 1 | 0 | QPSK | 23.51 | 23.97 | 23.84 | 23.74 | 0.2366 |
| 15 | 1 | 0 | 16-QAM | 22.21 | 23.34 | 22.91 | 23.11 | 0.2046 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 66 Maximum Average Power [dBm] (GT - LC = -0.23 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 10 | 1 | 0 | QPSK | 23.43 | 23.99 | 23.84 | 23.76 | 0.2377 |
| 10 | 1 | 0 | 16-QAM | 22.18 | 23.27 | 22.95 | 23.04 | 0.2014 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 66 Maximum Average Power [dBm] (GT - LC = -0.23 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 5 | 1 | 0 | QPSK | 23.41 | 24.07 | 23.92 | 23.84 | 0.2421 |
| 5 | 1 | 0 | 16-QAM | 22.22 | 23.23 | 22.99 | 23.00 | 0.1995 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 66 Maximum Average Power [dBm] (GT - LC = -0.23 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 3 | 1 | 0 | QPSK | 23.38 | 24.05 | 23.83 | 23.82 | 0.2410 |
| 3 | 1 | 0 | 16-QAM | 22.19 | 23.23 | 22.94 | 23.00 | 0.1995 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 66 Maximum Average Power [dBm] (GT - LC = -0.23 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | EIRP (dBm) | EIRP (W) |
| 1.4 | 1 | 0 | QPSK | 23.52 | 24.01 | 23.85 | 23.78 | 0.2388 |
| 1.4 | 1 | 0 | 16-QAM | 22.18 | 23.24 | 23.05 | 23.01 | 0.2000 |
| Limit | EIRP < 1W | | | Result | | | Pass | |

| LTE Band 71 Maximum Average Power [dBm] (GT - LC = -0.09 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 20 | 1 | 0 | QPSK | 23.19 | 23.36 | 23.49 | 21.25 | 0.1334 |
| 20 | 1 | 0 | 16-QAM | 22.23 | 22.23 | 22.99 | 20.75 | 0.1189 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 71 Maximum Average Power [dBm] (GT - LC = -0.09 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 15 | 1 | 0 | QPSK | 23.28 | 23.42 | 23.53 | 21.29 | 0.1346 |
| 15 | 1 | 0 | 16-QAM | 22.29 | 22.35 | 23.06 | 20.82 | 0.1208 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 71 Maximum Average Power [dBm] (GT - LC = -0.09 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 10 | 1 | 0 | QPSK | 23.21 | 23.37 | 23.49 | 21.25 | 0.1334 |
| 10 | 1 | 0 | 16-QAM | 22.21 | 22.33 | 23.00 | 20.76 | 0.1191 |
| Limit | ERP < 3W | | | Result | | | Pass | |

| LTE Band 71 Maximum Average Power [dBm] (GT - LC = -0.09 dB) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BW [MHz] | RB Size | RB Offset | Mod | Lowest | Middle | Highest | ERP (dBm) | ERP (W) |
| 5 | 1 | 0 | QPSK | 23.15 | 23.47 | 23.39 | 21.23 | 0.1327 |
| 5 | 1 | 0 | 16-QAM | 22.22 | 22.31 | 22.99 | 20.75 | 0.1189 |
| Limit | ERP < 3W | | | Result | | | Pass | |

# Appendix B. Test Results of Radiated Test

## LTE Band 2

| LTE Band 2 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3700 | -45.00 | -13 | -32.00 | -66.67 | -55.47 | 1.23 | 11.70 | H |
| | 5550 | -50.33 | -13 | -37.33 | -77.04 | -60.7 | 1.63 | 12.00 | H |
| | 7400 | -45.01 | -13 | -32.01 | -76.14 | -53.98 | 1.93 | 10.90 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3700 | -46.36 | -13 | -33.36 | -68.02 | -56.83 | 1.23 | 11.70 | V |
| | 5550 | -50.22 | -13 | -37.22 | -76.96 | -60.59 | 1.63 | 12.00 | V |
| | 7400 | -45.09 | -13 | -32.09 | -75.98 | -54.06 | 1.93 | 10.90 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3749 | -44.00 | -13 | -31.00 | -66.01 | -54.24 | 1.26 | 11.50 | H |
| | 5625 | -49.66 | -13 | -36.66 | -76.75 | -60.07 | 1.64 | 12.05 | H |
| | 7498 | -44.70 | -13 | -31.70 | -75.78 | -54.05 | 1.94 | 11.29 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3749 | -44.93 | -13 | -31.93 | -66.92 | -55.17 | 1.26 | 11.50 | V |
| | 5625 | -49.49 | -13 | -36.49 | -76.47 | -59.9 | 1.64 | 12.05 | V |
| | 7498 | -45.09 | -13 | -32.09 | -76.04 | -54.44 | 1.94 | 11.29 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 3798 | -39.89 | -13 | -26.89 | -62.24 | -49.8 | 1.30 | 11.21 | H |
| | 5697 | -49.44 | -13 | -36.44 | -76.82 | -59.51 | 1.65 | 11.72 | H |
| | 7596 | -44.83 | -13 | -31.83 | -75.94 | -54.4 | 1.94 | 11.51 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3798 | -43.47 | -13 | -30.47 | -65.79 | -53.38 | 1.30 | 11.21 | V |
| | 5697 | -49.94 | -13 | -36.94 | -77.13 | -60.01 | 1.65 | 11.72 | V |
| | 7596 | -44.96 | -13 | -31.96 | -75.81 | -54.53 | 1.94 | 11.51 | 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 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3420 | -40.14 | -13 | -27.14 | -61.03 | -50.29 | 1.09 | 11.24 | H |
| | 5130 | -50.27 | -13 | -37.27 | -77.11 | -59.98 | 1.55 | 11.26 | H |
| | 6840 | -45.41 | -13 | -32.41 | -75.87 | -54.55 | 1.84 | 10.98 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3420 | -41.12 | -13 | -28.12 | -62.02 | -51.27 | 1.09 | 11.24 | V |
| | 5130 | -50.98 | -13 | -37.98 | -77.62 | -60.69 | 1.55 | 11.26 | V |
| | 6840 | -46.31 | -13 | -33.31 | -75.81 | -55.45 | 1.84 | 10.98 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3455 | -41.90 | -13 | -28.90 | -62.82 | -52.13 | 1.08 | 11.31 | H |
| | 5182.5 | -50.15 | -13 | -37.15 | -76.88 | -59.96 | 1.56 | 11.36 | H |
| | 6910 | -45.49 | -13 | -32.49 | -76.04 | -54.71 | 1.86 | 11.08 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3455 | -44.72 | -13 | -31.72 | -65.72 | -54.951 | 1.08 | 11.31 | V |
| | 5182.5 | -50.34 | -13 | -37.34 | -76.95 | -60.1476 | 1.56 | 11.36 | V |
| | 6910 | -46.05 | -13 | -33.05 | -75.72 | -55.2744 | 1.86 | 11.08 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 3490 | -47.53 | -13 | -34.53 | -68.48 | -57.84 | 1.07 | 11.38 | H |
| | 5235 | -50.09 | -13 | -37.09 | -76.82 | -59.92 | 1.57 | 11.40 | H |
| | 6980 | -45.76 | -13 | -32.76 | -76.36 | -54.95 | 1.87 | 11.06 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3490 | -47.29 | -13 | -34.29 | -68.39 | -57.6 | 1.07 | 11.38 | V |
| | 5235 | -50.14 | -13 | -37.14 | -76.78 | -59.97 | 1.57 | 11.40 | V |
| | 6980 | -46.22 | -13 | -33.22 | -76.05 | -55.41 | 1.87 | 11.06 | 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 ) | EIRP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1649 | -55.14 | -13 | -42.14 | -67.62 | -61.03 | 0.95 | 8.99 | H |
| | 2473 | -50.78 | -13 | -37.78 | -67.23 | -57.72 | 1.05 | 10.15 | H |
| | 3298 | -55.21 | -13 | -42.21 | -75.22 | -62.94 | 1.11 | 10.99 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1649 | -58.24 | -13 | -45.24 | -70.71 | -64.13 | 0.95 | 8.99 | V |
| | 2473 | -52.10 | -13 | -39.10 | -68.50 | -59.04 | 1.05 | 10.15 | V |
| | 3298 | -55.37 | -13 | -42.37 | -75.22 | -63.10 | 1.11 | 10.99 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1664 | -54.91 | -13 | -41.91 | -67.43 | -60.97 | 0.95 | 9.17 | H |
| | 2496 | -47.49 | -13 | -34.49 | -64.04 | -54.47 | 1.06 | 10.19 | H |
| | 3328 | -53.36 | -13 | -40.36 | -73.38 | -61.16 | 1.10 | 11.06 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1664 | -58.57 | -13 | -45.57 | -71.1 | -64.63 | 0.95 | 9.17 | V |
| | 2496 | -50.28 | -13 | -37.28 | -66.76 | -57.26 | 1.06 | 10.19 | V |
| | 3328 | -54.85 | -13 | -41.85 | -74.75 | -62.65 | 1.10 | 11.06 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1679 | -50.16 | -13 | -37.16 | -62.71 | -56.40 | 0.95 | 9.35 | H |
| | 2518 | -44.34 | -13 | -31.34 | -61.05 | -51.36 | 1.06 | 10.24 | H |
| | 3358 | -54.75 | -13 | -41.75 | -74.80 | -62.62 | 1.10 | 11.12 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1679 | -54.41 | -13 | -41.41 | -67.00 | -60.65 | 0.95 | 9.35 | V |
| | 2518 | -46.77 | -13 | -33.77 | -63.37 | -53.79 | 1.06 | 10.24 | V |
| | 3358 | -55.09 | -13 | -42.09 | -75.06 | -62.96 | 1.10 | 11.12 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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

# LTE Band 26

| LTE Band 26 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1649 | -55.41 | -13 | -42.41 | -67.89 | -61.30 | 0.95 | 8.99 | H |
| | 2473 | -51.71 | -13 | -38.71 | -68.16 | -58.65 | 1.05 | 10.15 | H |
| | 3298 | -55.36 | -13 | -42.36 | -75.37 | -63.09 | 1.11 | 10.99 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1649 | -57.52 | -13 | -44.52 | -69.99 | -63.41 | 0.95 | 8.99 | V |
| | 2473 | -53.47 | -13 | -40.47 | -69.87 | -60.41 | 1.05 | 10.15 | V |
| | 3298 | -55.23 | -13 | -42.23 | -75.08 | -62.96 | 1.11 | 10.99 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1664 | -55.22 | -13 | -42.22 | -67.74 | -61.28 | 0.95 | 9.17 | H |
| | 2496 | -48.10 | -13 | -35.10 | -64.65 | -55.08 | 1.06 | 10.19 | H |
| | 3328 | -53.94 | -13 | -40.94 | -73.96 | -61.74 | 1.10 | 11.06 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1664 | -59.35 | -13 | -46.35 | -71.88 | -65.41 | 0.95 | 9.17 | V |
| | 2496 | -51.45 | -13 | -38.45 | -67.93 | -58.43 | 1.06 | 10.19 | V |
| | 3328 | -54.73 | -13 | -41.73 | -74.63 | -62.53 | 1.10 | 11.06 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1679 | -51.80 | -13 | -38.80 | -64.35 | -58.04 | 0.95 | 9.35 | H |
| | 2518 | -47.12 | -13 | -34.12 | -63.83 | -54.14 | 1.06 | 10.24 | H |
| | 3358 | -55.05 | -13 | -42.05 | -75.10 | -62.92 | 1.10 | 11.12 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1679 | -55.18 | -13 | -42.18 | -67.77 | -61.42 | 0.95 | 9.35 | V |
| | 2518 | -48.77 | -13 | -35.77 | -65.37 | -55.79 | 1.06 | 10.24 | V |
| | 3358 | -55.71 | -13 | -42.71 | -75.68 | -63.58 | 1.10 | 11.12 | 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 ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1399 | -47.78 | -13 | -34.78 | -59.29 | -51.93 | 0.90 | 7.19 | H |
| | 2098 | -56.63 | -13 | -43.63 | -71.75 | -62.71 | 0.98 | 9.21 | H |
| | 2798 | -53.94 | -13 | -40.94 | -71.51 | -61.06 | 1.13 | 10.40 | H |
| | 3497 | -37.95 | -13 | -24.95 | -58.14 | -46.12 | 1.07 | 11.39 | H |
| | 4197 | -44.53 | -13 | -31.53 | -67.23 | -52.19 | 1.49 | 11.30 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1399 | -50.63 | -13 | -37.63 | -62.39 | -54.78 | 0.90 | 7.19 | V |
| | 2098 | -57.76 | -13 | -44.76 | -72.68 | -63.84 | 0.98 | 9.21 | V |
| | 2798 | -54.15 | -13 | -41.15 | -71.70 | -61.27 | 1.13 | 10.40 | V |
| | 3497 | -38.93 | -13 | -25.93 | -59.28 | -47.10 | 1.07 | 11.39 | V |
| | 4197 | -45.27 | -13 | -32.27 | -67.86 | -52.93 | 1.49 | 11.30 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1406 | -47.78 | -13 | -34.78 | -59.33 | -51.97 | 0.90 | 7.24 | H |
| | 2109 | -53.48 | -13 | -40.48 | -68.68 | -59.57 | 0.98 | 9.22 | H |
| | 2812 | -54.71 | -13 | -41.71 | -72.37 | -61.88 | 1.13 | 10.45 | H |
| | 3515 | -39.65 | -13 | -26.65 | -59.85 | -47.82 | 1.08 | 11.40 | H |
| | 4218 | -45.86 | -13 | -32.86 | -68.68 | -53.55 | 1.49 | 11.34 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1406 | -50.63 | -13 | -37.63 | -62.42 | -54.82 | 0.90 | 7.24 | V |
| | 2109 | -55.90 | -13 | -42.90 | -70.89 | -61.99 | 0.98 | 9.22 | V |
| | 2812 | -55.69 | -13 | -42.69 | -73.33 | -62.86 | 1.13 | 10.45 | V |
| | 3515 | -42.50 | -13 | -29.50 | -62.84 | -50.67 | 1.08 | 11.40 | V |
| | 4218 | -45.82 | -13 | -32.82 | -68.54 | -53.51 | 1.49 | 11.34 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1413 | -49.60 | -13 | -36.60 | -61.22 | -53.82 | 0.90 | 7.28 | H |
| | 2119 | -54.63 | -13 | -41.63 | -69.91 | -60.73 | 0.98 | 9.24 | H |
| | 3532 | -46.07 | -13 | -33.07 | -66.26 | -54.23 | 1.09 | 11.40 | H |
| | 4239 | -47.13 | -13 | -34.13 | -70.08 | -54.86 | 1.50 | 11.38 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1413 | -52.68 | -13 | -39.68 | -64.53 | -56.90 | 0.90 | 7.28 | V |
| | 2119 | -57.68 | -13 | -44.68 | -72.74 | -63.78 | 0.98 | 9.24 | V |
| | 3532 | -49.32 | -13 | -36.32 | -69.63 | -57.48 | 1.09 | 11.40 | V |
| | 4239 | -47.59 | -13 | -34.59 | -70.45 | -55.32 | 1.50 | 11.38 | 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 ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1554 | -57.30 | -13 | -44.30 | -69.65 | -62.70 | 0.95 | 8.50 | H |
| | 2332 | -49.78 | -13 | -36.78 | -65.85 | -56.93 | 1.03 | 10.33 | H |
| | 3109 | -55.99 | -13 | -42.99 | -75.49 | -62.89 | 1.15 | 10.20 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1554 | -59.16 | -13 | -46.16 | -71.53 | -64.56 | 0.95 | 8.50 | V |
| | 2332 | -50.50 | -13 | -37.50 | -66.47 | -57.65 | 1.03 | 10.33 | V |
| | 3109 | -53.15 | -13 | -40.15 | -72.52 | -60.05 | 1.15 | 10.20 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1559 | -56.65 | -42.15 | -14.50 | -69.00 | -62.05 | 0.95 | 8.50 | H |
| | 2339 | -54.91 | -13 | -41.91 | -70.99 | -62.09 | 1.03 | 10.36 | H |
| | 3119 | -55.74 | -13 | -42.74 | -75.30 | -62.64 | 1.15 | 10.20 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1559 | -58.48 | -42.15 | -16.33 | -70.83 | -63.88 | 0.95 | 8.50 | V |
| | 2339 | -56.20 | -13 | -43.20 | -72.19 | -63.38 | 1.03 | 10.36 | V |
| | 3119 | -54.61 | -13 | -41.61 | -74.02 | -61.51 | 1.15 | 10.20 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1564 | -60.56 | -42.15 | -18.41 | -72.91 | -65.96 | 0.95 | 8.50 | H |
| | 2347 | -61.01 | -13 | -48.01 | -77.10 | -68.22 | 1.03 | 10.39 | H |
| | 3129 | -56.90 | -13 | -43.90 | -76.50 | -63.81 | 1.14 | 10.20 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1564 | -56.89 | -42.15 | -14.74 | -69.23 | -62.29 | 0.95 | 8.50 | V |
| | 2347 | -51.57 | -13 | -38.57 | -67.58 | -58.78 | 1.03 | 10.39 | V |
| | 3129 | -56.17 | -13 | -43.17 | -75.60 | -63.08 | 1.14 | 10.20 | V |
| | | | | | | | | | 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 | 1555 | -56.61 | -13 | -43.61 | -68.96 | -62.01 | 0.95 | 8.50 | H |
| | 2332 | -49.73 | -13 | -36.73 | -65.8 | -56.88 | 1.03 | 10.33 | H |
| | 3110 | -55.94 | -13 | -42.94 | -75.45 | -62.84 | 1.15 | 10.20 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1555 | -57.85 | -13 | -44.85 | -70.21 | -63.25 | 0.95 | 8.50 | V |
| | 2332 | -52.53 | -13 | -39.53 | -68.5 | -59.68 | 1.03 | 10.33 | V |
| | 3110 | -53.16 | -13 | -40.16 | -72.54 | -60.06 | 1.15 | 10.20 | V |
| | | | | | | | | | 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 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3700 | -44.94 | -13 | -31.94 | -66.61 | -55.41 | 1.23 | 11.70 | H |
| | 5550 | -50.28 | -13 | -37.28 | -76.99 | -60.65 | 1.63 | 12.00 | H |
| | 7400 | -44.58 | -13 | -31.58 | -75.71 | -53.55 | 1.93 | 10.90 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3700 | -45.71 | -13 | -32.71 | -67.37 | -56.18 | 1.23 | 11.70 | V |
| | 5550 | -50.42 | -13 | -37.42 | -77.16 | -60.79 | 1.63 | 12.00 | V |
| | 7400 | -44.95 | -13 | -31.95 | -75.84 | -53.92 | 1.93 | 10.90 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3749 | -44.35 | -13 | -31.35 | -66.36 | -54.59 | 1.26 | 11.50 | H |
| | 5623.5 | -49.69 | -13 | -36.69 | -76.78 | -60.1 | 1.64 | 12.05 | H |
| | 7498 | -44.93 | -13 | -31.93 | -76.01 | -54.28 | 1.94 | 11.29 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3749 | -45.57 | -13 | -32.57 | -67.56 | -55.81 | 1.26 | 11.50 | V |
| | 5623.5 | -49.92 | -13 | -36.92 | -76.89 | -60.33 | 1.64 | 12.05 | V |
| | 7498 | -44.92 | -13 | -31.92 | -75.87 | -54.27 | 1.94 | 11.29 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 3812 | -38.54 | -13 | -25.54 | -60.95 | -48.35 | 1.31 | 11.13 | H |
| | 5718 | -48.72 | -13 | -35.72 | -76.18 | -58.69 | 1.65 | 11.63 | H |
| | 7624 | -44.26 | -13 | -31.26 | -75.44 | -53.72 | 1.94 | 11.40 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3812 | -40.87 | -13 | -27.87 | -63.24 | -50.68 | 1.31 | 11.13 | V |
| | 5718 | -49.29 | -13 | -36.29 | -76.54 | -59.26 | 1.65 | 11.63 | V |
| | 7624 | -44.54 | -13 | -31.54 | -75.46 | -54 | 1.94 | 11.40 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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

# LTE Band 71

| LTE Band 71 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 1327 | -46.03 | -13 | -33.03 | -57.87 | -49.74 | 0.86 | 6.72 | H |
| | 1990 | -55.44 | -13 | -42.44 | -69.74 | -61.99 | 0.96 | 9.66 | H |
| | 2654 | -56.87 | -13 | -43.87 | -74.29 | -63.83 | 1.09 | 10.21 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1327 | -50.53 | -13 | -37.53 | -62.57 | -54.24 | 0.86 | 6.72 | V |
| | 1990 | -59.69 | -13 | -46.69 | -73.92 | -66.24 | 0.96 | 9.66 | V |
| | 2654 | -57.71 | -13 | -44.71 | -74.93 | -64.67 | 1.09 | 10.21 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 1352 | -50.05 | -13 | -37.05 | -61.77 | -53.94 | 0.87 | 6.91 | H |
| | 2028 | -55.42 | -13 | -42.42 | -70.02 | -61.79 | 0.97 | 9.49 | H |
| | 2704 | -57.18 | -13 | -44.18 | -74.65 | -64.23 | 1.10 | 10.31 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1352 | -53.82 | -13 | -40.82 | -65.76 | -57.71 | 0.87 | 6.91 | V |
| | 2028 | -56.78 | -13 | -43.78 | -71.26 | -63.15 | 0.97 | 9.49 | V |
| | 2704 | -57.77 | -13 | -44.77 | -75.1 | -64.82 | 1.10 | 10.31 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 1377 | -48.95 | -13 | -35.95 | -60.57 | -52.98 | 0.88 | 7.06 | H |
| | 2065 | -51.82 | -13 | -38.82 | -66.69 | -58.04 | 0.97 | 9.34 | H |
| | 2754 | -57.56 | -13 | -44.56 | -75.09 | -64.69 | 1.12 | 10.40 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1377 | -50.90 | -13 | -37.90 | -62.75 | -54.93 | 0.88 | 7.06 | V |
| | 2065 | -55.08 | -13 | -42.08 | -69.79 | -61.30 | 0.97 | 9.34 | V |
| | 2754 | -57.48 | -13 | -44.48 | -74.93 | -64.61 | 1.12 | 10.40 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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

# LTE Band 7

| LTE Band 7 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5001 | -59.21 | -25 | -34.21 | -49.19 | -68.59 | 1.52 | 10.90 | H |
| | 7501 | -60.03 | -25 | -35.03 | -55.33 | -69.4 | 1.94 | 11.31 | H |
| | 10002 | -57.63 | -25 | -32.63 | -56.22 | -67.1 | 2.33 | 11.80 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 5001 | -57.12 | -25 | -32.12 | -46.67 | -66.5 | 1.52 | 10.90 | V |
| | 7501 | -60.34 | -25 | -35.34 | -55.51 | -69.71 | 1.94 | 11.31 | V |
| | 10002 | -57.04 | -25 | -32.04 | -56.33 | -66.51 | 2.33 | 11.80 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 5061 | -63.05 | -25 | -38.05 | -52.98 | -72.48 | 1.53 | 10.97 | H |
| | 7591 | -60.59 | -25 | -35.59 | -55.99 | -70.17 | 1.94 | 11.52 | H |
| | 10122 | -56.64 | -25 | -31.64 | -55.39 | -65.98 | 2.34 | 11.68 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 5061 | -58.78 | -25 | -33.78 | -48.38 | -68.21 | 1.53 | 10.97 | V |
| | 7591 | -60.31 | -25 | -35.31 | -55.46 | -69.89 | 1.94 | 11.52 | V |
| | 10122 | -56.15 | -25 | -31.15 | -55.65 | -65.49 | 2.34 | 11.68 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 5121 | -62.50 | -25 | -37.50 | -52.38 | -72.2 | 1.54 | 11.24 | H |
| | 7681 | -59.92 | -25 | -34.92 | -55.64 | -69.28 | 1.94 | 11.30 | H |
| | 10242 | -57.16 | -25 | -32.16 | -56.07 | -66.5 | 2.34 | 11.68 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 5121 | -59.16 | -25 | -34.16 | -48.81 | -68.86 | 1.54 | 11.24 | V |
| | 7681 | -59.40 | -25 | -34.40 | -54.86 | -68.76 | 1.94 | 11.30 | V |
| | 10242 | -56.25 | -25 | -31.25 | -55.96 | -65.59 | 2.34 | 11.68 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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

# LTE Band 38

| LTE Band 38 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5141 | -57.97 | -25 | -32.97 | -47.82 | -67.7 | 1.55 | 11.28 | H |
| | 7711 | -59.64 | -25 | -34.64 | -55.45 | -68.97 | 1.94 | 11.28 | H |
| | 10282 | -57.81 | -25 | -32.81 | -56.77 | -67.23 | 2.35 | 11.76 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 5141 | -54.22 | -25 | -29.22 | -43.88 | -63.95 | 1.55 | 11.28 | V |
| | 7711 | -59.78 | -25 | -34.78 | -55.34 | -69.11 | 1.94 | 11.28 | V |
| | 10282 | -56.79 | -25 | -31.79 | -56.57 | -66.21 | 2.35 | 11.76 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 5181 | -54.90 | -25 | -29.90 | -44.72 | -64.71 | 1.56 | 11.36 | H |
| | 7771 | -59.88 | -25 | -34.88 | -55.92 | -69.09 | 1.95 | 11.16 | H |
| | 10362 | -57.83 | -25 | -32.83 | -56.88 | -67.28 | 2.35 | 11.80 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 5181 | -52.31 | -25 | -27.31 | -42 | -62.12 | 1.56 | 11.36 | V |
| | 7771 | -58.79 | -25 | -33.79 | -54.58 | -68 | 1.95 | 11.16 | V |
| | 10362 | -56.45 | -25 | -31.45 | -56.35 | -65.9 | 2.35 | 11.80 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 5221 | -56.51 | -25 | -31.51 | -46.36 | -66.35 | 1.56 | 11.40 | H |
| | 7831 | -59.82 | -25 | -34.82 | -56.05 | -68.97 | 1.95 | 11.10 | H |
| | 10442 | -57.35 | -25 | -32.35 | -56.5 | -66.79 | 2.36 | 11.80 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 5221 | -53.92 | -25 | -28.92 | -43.68 | -63.76 | 1.56 | 11.40 | V |
| | 7831 | -59.75 | -25 | -34.75 | -55.75 | -68.9 | 1.95 | 11.10 | V |
| | 10442 | -56.56 | -25 | -31.56 | -56.6 | -66 | 2.36 | 11.80 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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

# LTE Band 41

| LTE Band 41 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 4993 | -58.73 | -25 | -33.73 | -48.67 | -68.14 | 1.52 | 10.93 | H |
| | 7489 | -61.01 | -25 | -36.01 | -56.3 | -70.33 | 1.94 | 11.26 | H |
| | 9986 | -57.94 | -25 | -32.94 | -56.57 | -67.47 | 2.33 | 11.86 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 4993 | -56.24 | -25 | -31.24 | -45.75 | -65.65 | 1.52 | 10.93 | V |
| | 7489 | -60.85 | -25 | -35.85 | -56 | -70.17 | 1.94 | 11.26 | V |
| | 9986 | -56.95 | -25 | -31.95 | 56.25 | -66.48 | 2.33 | 11.86 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 5177 | -55.90 | -25 | -30.90 | -45.72 | -65.7 | 1.56 | 11.35 | H |
| | 7765 | -59.57 | -25 | -34.57 | -55.59 | -68.79 | 1.95 | 11.17 | H |
| | 10354 | -56.97 | -25 | -31.97 | -56.02 | -66.42 | 2.35 | 11.80 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 5177 | -53.06 | -25 | -28.06 | -42.75 | -62.86 | 1.56 | 11.35 | V |
| | 7765 | -56.23 | -25 | -31.23 | -51.99 | -65.45 | 1.95 | 11.17 | V |
| | 10354 | -56.44 | -25 | -31.44 | -56.33 | -65.89 | 2.35 | 11.80 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 5361 | -64.91 | -25 | -39.91 | -55.06 | -75.22 | 1.59 | 11.90 | H |
| | 8041 | -59.27 | -25 | -34.27 | -55.93 | -68.41 | 1.96 | 11.10 | H |
| | 10722 | -56.99 | -25 | -31.99 | -57.25 | -66.21 | 2.38 | 11.60 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 5361 | -62.46 | -25 | -37.46 | -52.55 | -72.77 | 1.59 | 11.90 | V |
| | 8041 | -58.80 | -25 | -33.80 | -55.35 | -67.94 | 1.96 | 11.10 | V |
| | 10722 | -56.32 | -25 | -31.32 | -57.38 | -65.54 | 2.38 | 11.60 | 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 / 10MHz / QPSK | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | EIRP ( dBm ) | Limit ( dBm ) | Margin ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 3420 | -40.52 | -13 | -27.52 | -61.41 | -50.67 | 1.09 | 11.24 | H |
| | 5130 | -50.49 | -13 | -37.49 | -77.33 | -60.20 | 1.55 | 11.26 | H |
| | 6840 | -45.71 | -13 | -32.71 | -76.17 | -54.85 | 1.84 | 10.98 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3420 | -42.98 | -13 | -29.98 | -63.88 | -53.13 | 1.09 | 11.24 | V |
| | 5130 | -50.92 | -13 | -37.92 | -77.56 | -60.63 | 1.55 | 11.26 | V |
| | 6840 | -46.51 | -13 | -33.51 | -76.01 | -55.65 | 1.84 | 10.98 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3483 | -45.40 | -13 | -32.40 | -66.34 | -55.69 | 1.07 | 11.37 | H |
| | 5224.5 | -50.53 | -13 | -37.53 | -77.25 | -60.37 | 1.56 | 11.40 | H |
| | 6966 | -46.13 | -13 | -33.13 | -76.71 | -55.30 | 1.86 | 11.03 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3483 | -47.52 | -13 | -34.52 | -68.6 | -57.81 | 1.07 | 11.37 | V |
| | 5224.5 | -50.60 | -13 | -37.60 | -77.23 | -60.44 | 1.56 | 11.40 | V |
| | 6966 | -46.62 | -13 | -33.62 | -76.4 | -55.79 | 1.86 | 11.03 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Highest | 3539 | -54.26 | -13 | -41.26 | -75.23 | -64.56 | 1.10 | 11.40 | H |
| | 5308.5 | -50.47 | -13 | -37.47 | -77.26 | -60.54 | 1.58 | 11.65 | H |
| | 7078 | -44.82 | -13 | -31.82 | -75.74 | -53.83 | 1.88 | 10.89 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3539 | -52.62 | -13 | -39.62 | -73.69 | -62.92 | 1.10 | 11.40 | V |
| | 5308.5 | -50.55 | -13 | -37.55 | -77.27 | -60.62 | 1.58 | 11.65 | V |
| | 7078 | -45.66 | -13 | -32.66 | -75.91 | -54.67 | 1.88 | 10.89 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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