# FCC RF Test Report

| | |
|---|---|
| APPLICANT | : Motorola Mobility LLC |
| EQUIPMENT | : Mobile Cellular Phone |
| BRAND NAME | : Motorola |
| MODEL NAME | : XT2309-3 |
| FCC ID | : IHDT56AG9 |
| STANDARD | : 47 CFR Part 2, 22(H), 27(L), 27(F), 27(N) |
| CLASSIFICATION | : PCS Licensed Transmitter Held to Ear (PCE) |
| TEST DATE(S) | : Dec. 06, 2022 ~ Dec. 20, 2022 |

**We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.**

**The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.**

Jason Jia

**Approved by: Jason Jia**

ACCREDITED Cert #5145.02

***Sporton International Inc. (Kunshan)***
***No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300***
***People's Republic of China***

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# REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FG2O2807-01A | Rev. 01 | Initial issue of report | Jan. 10, 2023 |
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# SUMMARY OF TEST RESULT

| Report Section | FCC Rule | Description | Limit | Result | Remark |
|---|---|---|---|---|---|
| 3.4 | §2.1046 | Conducted Output Power | - | Report Only | - |
| | §22.913(a)(5) | Effective Radiated Power (Band 5B) | ERP < 7 Watt | PASS | - |
| | §27.50(b)(10) §27.50(c)(10) | Effective Radiated Power (Band 13) (Band 71) | ERP < 3 Watt | | - |
| | §27.50(d)(4) | Equivalent Isotropic Radiated Power (Band 66B) (Band 66C) | EIRP < 1Watt | | - |
| 3.5 | N/A | Peak-to-Average Ratio | <13 dB | PASS | - |
| 3.6 | §2.1049 | Occupied Bandwidth | - | Report Only | - |
| 3.7 | §2.1051 §22.917(a) §27.53(c)(2)(4) §27.53(g) §27.53(h) | Conducted Band Edge Measurement (Band 5B) (Band 13) (Band 66B) (Band 66C) (Band 71) | < 43+10log10(P[Watts]) | PASS | - |
| 3.8 | §2.1051 §22.917(a) §27.53(c)(2) §27.53(g) §27.53(h) | Conducted Spurious Emission (Band 5B) (Band 13) (Band 66B) (Band 66C) (Band 71) | < 43+10log10(P[Watts]) | PASS | - |
| 3.9 | §2.1055 §22.355 | Frequency Stability Temperature & Voltage | < 2.5 ppm for Part 22 | PASS | - |
| | §2.1055 §27.54 | | Within Authorized Band | | |
| 4.4 | §2.1053 §22.917(a) §27.53(c)(2) §27.53(f) §27.53(g) §27.53(h) | Radiated Spurious Emission (Band 5B) (Band 13) (Band 66B) (Band 66C) (Band 71) | < 43+10log$_{10}$(P[Watts]) | PASS | Under limit 24.34 dB at 1560.000 MHz |

**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.

# 1 General Description

## 1.1 Applicant

**Motorola Mobility LLC**
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

## 1.2 Manufacturer

**Motorola Mobility LLC**
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

## 1.3 Product Feature of Equipment Under Test

| Product Feature | |
|---|---|
| **Equipment** | Mobile Cellular Phone |
| **Brand Name** | Motorola |
| **Model Name** | XT2309-3 |
| **FCC ID** | IHDT56AG9 |
| **IMEI Code** | Conducted: 351347720007731<br>Radiation: 351347720008168 |
| **HW Version** | DVT2 |
| **SW Version** | T1TB33.20 |
| **EUT Stage** | Identical Prototype |

## 1.4 Product Specification of Equipment Under Test

| Standards-related Product Specification | |
|---|---|
| **Tx Frequency** | LTE Band 5 : 824 MHz ~ 849 MHz<br>LTE Band 13 : 777 MHz ~ 787 MHz<br>LTE Band 66 : 1710 MHz ~ 1780 MHz<br>LTE Band 71: 663 MHz ~ 698 MHz |
| **Rx Frequency** | LTE Band 5 : 869 MHz ~ 894 MHz<br>LTE Band 13 : 746 MHz ~ 756 MHz<br>LTE Band 66 : 2110 MHz~ 2200 MHz<br>LTE Band 71: 617 MHz ~ 652 MHz |
| **Bandwidth** | LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz<br>LTE Band 13 : 5MHz / 10MHz<br>LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz<br>LTE Band 71 : 5MHz / 10MHz / 15MHz / 20MHz |
| **Maximum Output Power to Antenna** | **<Ant.0>:**<br>LTE Band CA_5B : 22.81 dBm<br>LTE Band 13 : 22.97 dBm<br>LTE Band CA_66B : 22.91 dBm<br>LTE Band CA_66C : 23.48 dBm<br>LTE Band 71 : 22.85 dBm<br>**<Ant.1>:**<br>LTE Band CA_5B : 22.35 dBm<br>LTE Band 13 : 22.56 dBm<br>LTE Band CA_66B : 21.26 dBm |

| | |
|---|---|
| | LTE Band CA_66C : 22.51 dBm<br>LTE Band 71 : 22.43 dBm |
| **Antenna Gain** | **<Ant.0>:**<br>LTE Band 5 : -4.60 dBi<br>LTE Band 13 : -5.10 dBi<br>LTE Band 66 : -1.20 dBi<br>LTE Band 71 : -7.10 dBi<br>**<Ant.1>:**<br>LTE Band 5 : -5.10 dBi<br>LTE Band 13 : -6.50 dBi<br>LTE Band 66 : -2.80 dBi<br>LTE Band 71 : -8.50 dBi |
| **Type of Modulation** | QPSK / 16QAM / 64QAM / 256QAM |

**Note:** The maximum ERP/EIRP is calculated from maximum Output power and antenna gain, only the maximum ERP/EIRP of Ant.0.

## 1.5 Modification of EUT

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

## 1.6 Maximum ERP/EIRP Power and Emission Designator

| LTE Band 13 | | QPSK | | 16QAM/64QAM/256QAM | |
|---|---|---|---|---|---|
| **BW (MHz)** | **Frequency Range (MHz)** | **Maximum ERP(W)** | **Emission Designator (99%OBW)** | **Maximum ERP(W)** | **Emission Designator (99%OBW)** |
| **10** | 782.0 | 0.0373 | 9M01G7D | 0.0286 | 9M01W7D |
| **LTE Band 71** | | **QPSK** | | **16QAM/64QAM/256QAM** | |
| **BW (MHz)** | **Frequency Range (MHz)** | **Maximum ERP(W)** | **Emission Designator (99%OBW)** | **Maximum ERP(W)** | **Emission Designator (99%OBW)** |
| **20** | 673.0 ~ 688.0 | 0.0229 | 18M4G7D | 0.0178 | 18M2W7D |

| LTE Band CA_5B | QPSK | | 16QAM/64QAM/256QAM | |
|---|---|---|---|---|
| BW (MHz) | Maximum ERP(W) | Emission Designator (99%OBW) | Maximum ERP(W) | Emission Designator (99%OBW) |
| 10MHz+10MHz | 0.0404 | 18M8G7D | 0.0305 | 18M7W7D |
| **LTE Band CA_66B** | **QPSK** | | **16QAM/64QAM/256QAM** | |
| BW (MHz) | Maximum EIRP(W) | Emission Designator (99%OBW) | Maximum EIRP(W) | Emission Designator (99%OBW) |
| 10MHz+10MHz | 0.1483 | 18M7G7D | 0.1143 | 18M8W7D |
| **LTE Band CA_66C** | **QPSK** | | **16QAM/64QAM/256QAM** | |
| BW (MHz) | Maximum EIRP(W) | Emission Designator (99%OBW) | Maximum EIRP(W) | Emission Designator (99%OBW) |
| 20MHz+20MHz | 0.1690 | 38M0G7D | 0.1567 | 37M8W7D |

**Note:** All modulations have been tested, only the maximum bandwidth and the worst test results of PSK & QAM are shown in the report.

## 1.7 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

| Test Firm | Sporton International Inc. (Kunshan) | | |
|---|---|---|---|
| Test Site Location | No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China<br>TEL : +86-512-57900158<br>FAX : +86-512-57900958 | | |
| Test Site No. | Sporton Site No. | FCC Designation No. | FCC Test Firm Registration No. |
| | 03CH04-KS<br>TH01-KS | CN1257 | 314309 |

## 1.8 Test Software

| Item | Site | Manufacture | Name | Version |
|---|---|---|---|---|
| 1. | 03CH04-KS | AUDIX | E3 | 6.2009-8-24al |

## 1.9 Applicable Standards

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

- 47 CFR Part 2, 22(H), 27(L), 27(F), 27(N)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP 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.

## 1.10 Specification of Accessory

| Specification of Accessory | | | | |
|---|---|---|---|---|
| **AC Adapter 1(US)** | **Brand Name** | Motorola (Chenyang) | **Model Name** | MC-681N |
| **AC Adapter 2(US)** | **Brand Name** | Motorola (Acbel) | **Model Name** | MC-681N |
| **Battery** | **Brand Name** | Motorola(SCUD) | **Model Name** | PB50 |
| **USB Cable 1** | **Brand Name** | Motorola (Saibao) | **Model Name** | SC18D24968 |
| **USB Cable 2** | **Brand Name** | Motorola (Saibao) | **Model Name** | SC18D71644 |
| **Wireless Charging dock** | **Marketing Name** | TurboPower 15W Wireless Charging Stand | **Model Name** | MW - 03 |

# 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.

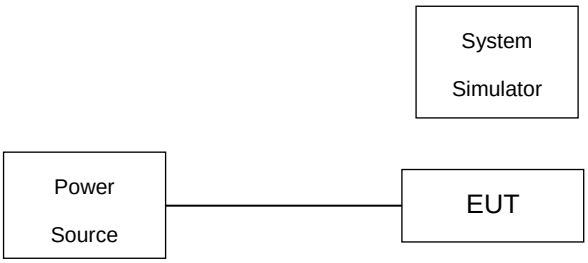
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission(Z plane).

| Test Items | Band | Bandwidth (MHz) | | | | | | Modulation | | | | RB # | | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1.4 | 3 | 5 | 10 | 15 | 20 | QPSK | 16QAM | 64QAM | 256QAM | 1 | Half | Full | L | M | H |
| Max. Output Power | 13 | - | - | v | v | - | - | v | v | v | v | v | | v | v | v | v |
| | 71 | - | - | v | v | v | v | v | v | v | v | v | | v | v | v | v |
| Peak-to-Average Ratio | 13 | - | - | | v | - | - | v | v | v | v | | | v | | v | |
| | 71 | - | - | | | | v | v | v | v | v | | | v | | v | |
| 26dB and 99% Bandwidth | 13 | - | - | | v | - | - | v | v | | | | | v | | v | |
| | 71 | - | - | | | | v | v | v | | | | | v | | v | |
| Conducted Band Edge | 13 | - | - | v | v | - | - | v | v | v | v | v | | v | v | | v |
| | 71 | - | - | v | v | v | v | v | v | v | v | v | | v | v | | v |
| Conducted Spurious Emission | 13 | - | - | v | v | - | - | v | | | | v | | | v | v | v |
| | 71 | - | - | v | v | v | v | v | | | | v | | | v | v | v |
| Frequency Stability | 13 | - | - | | v | - | - | v | | | | | | v | | v | |
| | 71 | - | - | | v | | | v | | | | | | v | | v | |
| E.R.P / E.I.R.P | 13 | - | - | v | v | - | - | v | v | v | v | v | | | v | v | v |
| | 71 | - | - | v | v | v | v | v | v | v | v | v | | | v | v | v |
| Radiated Spurious Emission | 13 | Worst Case | | | | | | | | | | | | | | v | |
| | 71 | Worst Case | | | | | | | | | | | | | | v | |
| Note | 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. | | | | | | | | | | | | | | | | |

| Test Items | Band | Bandwidth (MHz) | | | | | | | | Modulation | | | | RB # | | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10+10 | 15+5 | 5+15 | 10+5 | 5+10 | 5+5 | 5+3 | 3+5 | QPSK | 16QAM | 64QAM | 256QAM | 1 | Half | Full | L | M | H |
| Max. Output Power | 5B_CA | v | - | - | v | v | - | v | v | v | v | v | v | v | | | v | v | v |
| | 66B_CA | v | v | v | v | v | v | - | - | v | v | v | v | v | | | v | v | v |
| 26dB and 99% Bandwidth | 5B_CA | v | - | - | | | - | | | v | v | | | | | v | | v | |
| | 66B_CA | v | | | | | | - | - | v | v | | | | | v | | v | |
| Conducted Band Edge | 5B_CA | v | - | - | v | v | - | v | v | v | v | v | v | v | | v | v | | v |
| | 66B_CA | v | v | v | v | v | v | - | - | v | v | v | v | v | | v | v | | v |
| Conducted Spurious Emission | 5B_CA | v | - | - | v | v | - | v | v | v | | | | v | | | v | v | v |
| | 66B_CA | v | v | v | v | v | v | - | - | v | | | | v | | | v | v | v |
| Frequency Stability | 5B_CA | v | - | - | | | - | | | v | | | | | | v | | v | |
| | 66B_CA | v | | | | | | - | - | v | | | | | | v | | v | |
| E.I.R.P./E.R.P. | 5B_CA | v | - | - | v | v | - | v | v | v | v | v | v | v | | | v | v | v |
| | 66B_CA | v | v | v | v | v | v | - | - | v | v | v | v | v | | | v | v | v |
| Radiated Spurious Emission | 5B_CA | Worst Case | | | | | | | | | | | | | | | | v | |
| | 66B_CA | Worst Case | | | | | | | | | | | | | | | | v | |
| Note | 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 test items are based on engineering evaluation. | | | | | | | | | | | | | | | | | | |

| Test Items | Band | Bandwidth (MHz) | | | | | | | | | | Modulation | | | | RB # | | | Test Channel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20+20 | 20+15 | 20+10 | 20+5 | 15+20 | 15+15 | 15+10 | 10+20 | 10+15 | 5+20 | QPSK | 16QAM | 64QAM | 256QAM | 1 | Half | Full | L | M | H |
| Max. Output Power | 66C_CA | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | | | v | v | v |
| 26dB and 99% Bandwidth | 66C_CA | v | | | | | | | | | | v | v | | | | | v | | v | |
| Conducted Band Edge | 66C_CA | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | | v | v | | v |
| Conducted Spurious Emission | 66C_CA | v | v | v | v | v | v | v | v | v | v | v | | | | v | | | v | v | v |
| Frequency Stability | 66C_CA | v | | | | | | | | | | v | | | | | | v | | v | |
| E.I.R.P. | 66C_CA | v | v | v | v | v | v | v | v | v | v | v | v | v | v | v | | | v | v | v |
| Radiated Spurious Emission | 66C_CA | Worst Case | | | | | | | | | | | | | | | | | | v | |
| Note | 1. The mark "**v** " means that this configuration is chosen for testing<br>2. 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>3. All test items are based on engineering evaluation. | | | | | | | | | | | | | | | | | | | | |

## 2.2 Connection Diagram of Test System




This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

## 2.3 Support Unit used in test configuration and system

| Item | Equipment | Trade Name | Model No. | FCC ID | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| 1. | Power Supply | GWINSTEK | PSS-2002 | N/A | N/A | Unshielded, 1.8 m |
| 2. | LTE Base Station | Anritsu | MT8820/8821 | N/A | N/A | Unshielded, 1.8 m |

## 2.4 Measurement Results Explanation Example

**For all conducted test items:**

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

The spectrum analyzer offset is derived from RF cable loss.

*Offset = RF cable loss.*

Following shows an offset computation example with cable loss 4.8 dB.

Example :

*Offset(dB) = RF cable loss(dB).*

= 4.8 (dB)

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

| 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 71 Channel and Frequency List | | | | |
|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | **Lowest** | **Middle** | **Highest** |
| 20 | Channel | 133222 | 133322 | 133372 |
| | Frequency | 673.0 | 680.5 | 688.0 |
| 15 | Channel | 133197 | 133297 | 133397 |
| | Frequency | 670.5 | 680.5 | 690.5 |
| 10 | Channel | 133172 | 133272 | 133422 |
| | Frequency | 668.0 | 678.0 | 693.0 |
| 5 | Channel | 133147 | 133247 | 133447 |
| | Frequency | 665.5 | 675.5 | 695.5 |

| LTE Band 5B_CA Channel and Frequency List | | | | | |
|---|---|---|---|---|---|
| BW [MHz] | Channel/Frequency(MHz) | | Lowest | Middle | Highest |
| 3 + 5 | PCC | Channel | 20416 | 20501 | 20586 |
| | | Frequency | 825.6 | 834.1 | 842.6 |
| | SCC | Channel | 20455 | 20540 | 20625 |
| | | Frequency | 829.5 | 838.0 | 846.5 |
| 5 + 3 | PCC | Channel | 20425 | 20510 | 20595 |
| | | Frequency | 826.5 | 835.0 | 843.5 |
| | SCC | Channel | 20464 | 20549 | 20634 |
| | | Frequency | 830.4 | 838.9 | 847.4 |
| 5 + 10 | PCC | Channel | 20428 | 20478 | 20528 |
| | | Frequency | 826.8 | 831.8 | 836.8 |
| | SCC | Channel | 20500 | 20550 | 20600 |
| | | Frequency | 834 | 839 | 844 |
| 10 + 5 | PCC | Channel | 20450 | 20500 | 20550 |
| | | Frequency | 829 | 834 | 839 |
| | SCC | Channel | 20522 | 20572 | 20622 |
| | | Frequency | 836.2 | 841.2 | 846.2 |
| 10 + 10 | PCC | Channel | 20450 | 20476 | 20501 |
| | | Frequency | 829 | 831.6 | 834.1 |
| | SCC | Channel | 20549 | 20575 | 20600 |
| | | Frequency | 838.9 | 841.5 | 844 |

| LTE Band 66C_CA Channel and Frequency List | | | | | |
|---|---|---|---|---|---|
| BW [MHz] | Channel/Frequency(MHz) | | Lowest | Middle | Highest |
| 10 + 15 | PCC | Channel | 132025 | 132351 | 132477 |
| | | Frequency | 1715.3 | 1747.9 | 1760.5 |
| | SCC | Channel | 132145 | 132471 | 132597 |
| | | Frequency | 1727.3 | 1759.9 | 1772.5 |
| 15 + 10 | PCC | Channel | 132047 | 132373 | 132499 |
| | | Frequency | 1717.5 | 1750.1 | 1762.7 |
| | SCC | Channel | 132167 | 132493 | 132619 |
| | | Frequency | 1729.5 | 1762.1 | 1774.7 |
| 10 + 20 | PCC | Channel | 132027 | 132328 | 132428 |
| | | Frequency | 1715.5 | 1745.6 | 1755.6 |
| | SCC | Channel | 132171 | 132472 | 132572 |
| | | Frequency | 1729.9 | 1760 | 1770 |
| 20 + 10 | PCC | Channel | 132072 | 132373 | 132473 |
| | | Frequency | 1720 | 1750.1 | 1760.1 |
| | SCC | Channel | 132216 | 132517 | 132617 |
| | | Frequency | 1734.4 | 1764.5 | 1774.5 |
| 15 + 15 | PCC | Channel | 132047 | 132347 | 132447 |
| | | Frequency | 1717.5 | 1747.5 | 1757.5 |
| | SCC | Channel | 132197 | 132497 | 132597 |
| | | Frequency | 1732.5 | 1762.5 | 1772.5 |
| 15 + 20 | PCC | Channel | 132050 | 132325 | 132401 |
| | | Frequency | 1717.8 | 1745.3 | 1752.9 |
| | SCC | Channel | 132221 | 132496 | 132572 |
| | | Frequency | 1734.9 | 1762.4 | 1770 |
| 20 + 15 | PCC | Channel | 132072 | 132348 | 132423 |
| | | Frequency | 1720 | 1747.6 | 1755.1 |
| | SCC | Channel | 132243 | 132519 | 132594 |
| | | Frequency | 1737.1 | 1764.7 | 1772.2 |
| 20 + 5 | PCC | Channel | 132072 | 132397 | 132522 |
| | | Frequency | 1720 | 1752.5 | 1765 |
| | SCC | Channel | 132189 | 132514 | 132639 |
| | | Frequency | 1731.7 | 1764.2 | 1776.7 |
| 5 + 20 | PCC | Channel | 132005 | 132330 | 132455 |

| | | | | | |
|---|---|---|---|---|---|
| | | Frequency | 1713.3 | 1745.8 | 1758.3 |
| | SCC | Channel | 132122 | 132447 | 132572 |
| | | Frequency | 1725 | 1757.5 | 1770 |
| 20 + 20 | PCC | Channel | 132072 | 132323 | 132374 |
| | | Frequency | 1720 | 1745.1 | 1750.2 |
| | SCC | Channel | 132270 | 132521 | 132572 |
| | | Frequency | 1739.8 | 1764.9 | 1770 |

| LTE Band 66B_CA Channel and Frequency List | | | | | |
|---|---|---|---|---|---|
| **BW [MHz]** | **Channel/Frequency(MHz)** | | **Lowest** | **Middle** | **Highest** |
| 5 + 5 | PCC | Channel | 131997 | 132398 | 132599 |
| | | Frequency | 1712.5 | 1752.6 | 1772.7 |
| | SCC | Channel | 132045 | 132446 | 132647 |
| | | Frequency | 1717.3 | 1757.4 | 1777.5 |
| 5 + 10 | PCC | Channel | 132000 | 132375 | 132550 |
| | | Frequency | 1712.8 | 1750.3 | 1767.8 |
| | SCC | Channel | 132072 | 132447 | 132622 |
| | | Frequency | 1720 | 1757.5 | 1775 |
| 10 + 5 | PCC | Channel | 132022 | 132397 | 132572 |
| | | Frequency | 1715 | 1752.5 | 1770 |
| | SCC | Channel | 132094 | 132469 | 132644 |
| | | Frequency | 1722.2 | 1759.7 | 1777.2 |
| 5 + 15 | PCC | Channel | 132002 | 132353 | 132504 |
| | | Frequency | 1713 | 1748.1 | 1763.2 |
| | SCC | Channel | 132095 | 132446 | 132597 |
| | | Frequency | 1722.3 | 1757.4 | 1772.5 |
| 15 + 5 | PCC | Channel | 132047 | 132398 | 132549 |
| | | Frequency | 1717.5 | 1752.6 | 1767.7 |
| | SCC | Channel | 132140 | 132491 | 132642 |
| | | Frequency | 1726.8 | 1761.9 | 1777 |
| 10 + 10 | PCC | Channel | 132022 | 132373 | 132523 |
| | | Frequency | 1715 | 1750.1 | 1765.1 |
| | SCC | Channel | 132121 | 132472 | 132622 |
| | | Frequency | 1724.9 | 1760 | 1775 |

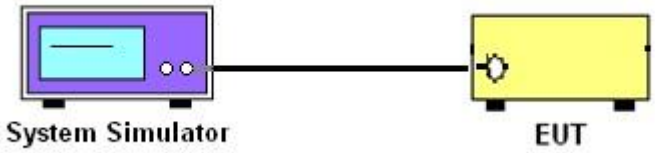
# 3 Conducted Test Items

## 3.1 Measuring Instruments

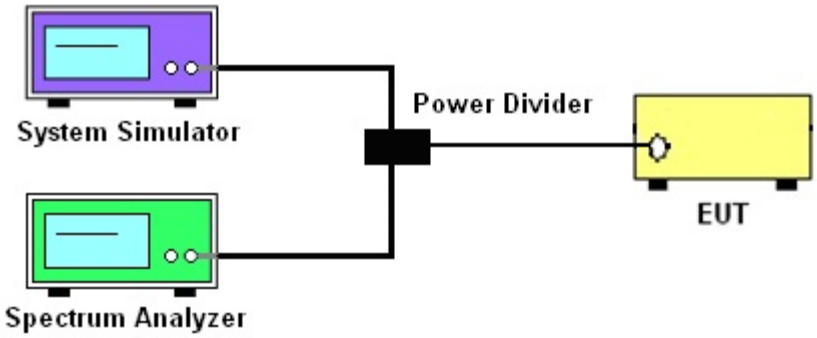
See list of measuring instruments of this test report.

## 3.2 Test Setup

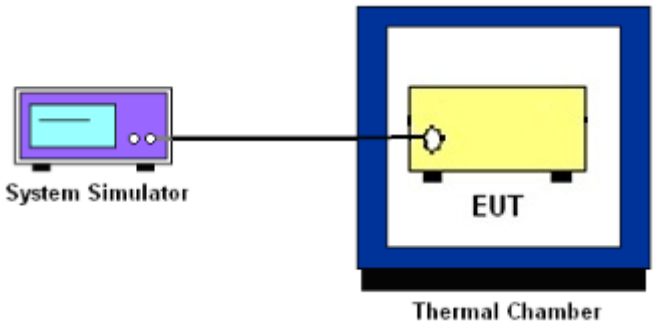
### 3.2.1 Conducted Output Power




### 3.2.2 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission




### 3.2.3 Frequency Stability




## 3.3 Test Result of Conducted Test

Please refer to Appendix A.

## 3.4 Conducted Output Power and ERP/EIRP

### 3.4.1 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 5B.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 13 and Band 71.

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 66B and Band 66C.

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

### 3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

## 3.5 Peak-to-Average Ratio

### 3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

### 3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

# 3.6 Occupied Bandwidth

## 3.6.1 Description of Occupied Bandwidth Measurement

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

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

## 3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

# 3.7 Conducted Band Edge

## 3.7.1 Description of Conducted Band Edge Measurement

22.917(a)

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

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least 65 + 10 log10 p(watts), dB, for mobile and portable equipment.

27.53 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h)

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

### 3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.
   Example:
   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
9. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

# 3.8 Conducted Spurious Emission

## 3.8.1 Description of Conducted Spurious Emission Measurement

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

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

## 3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

## 3.9 Frequency Stability

### 3.9.1 Description of Frequency Stability Measurement

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

### 3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

### 3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

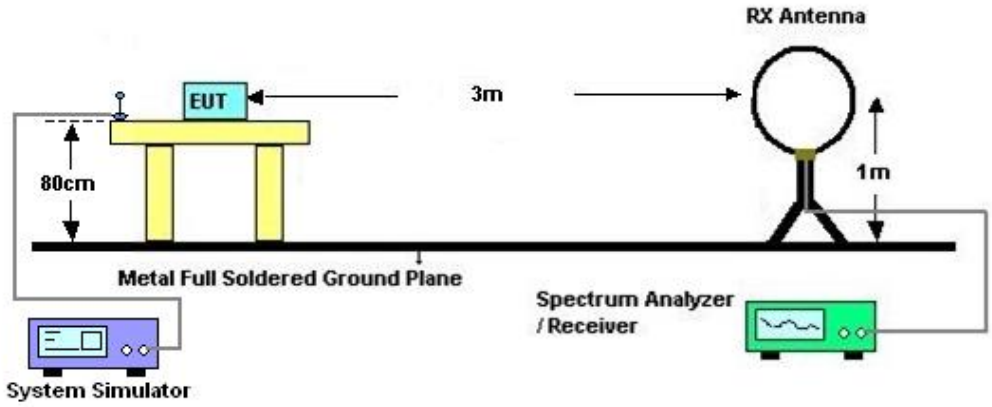
# 4 Radiated Test Items

## 4.1 Measuring Instruments

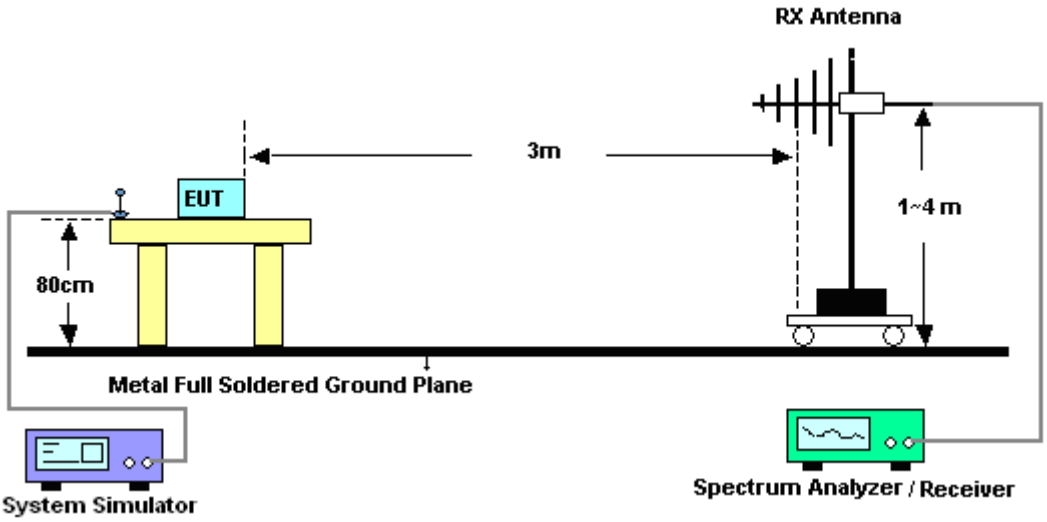
See list of measuring instruments of this test report.

## 4.2 Test Setup

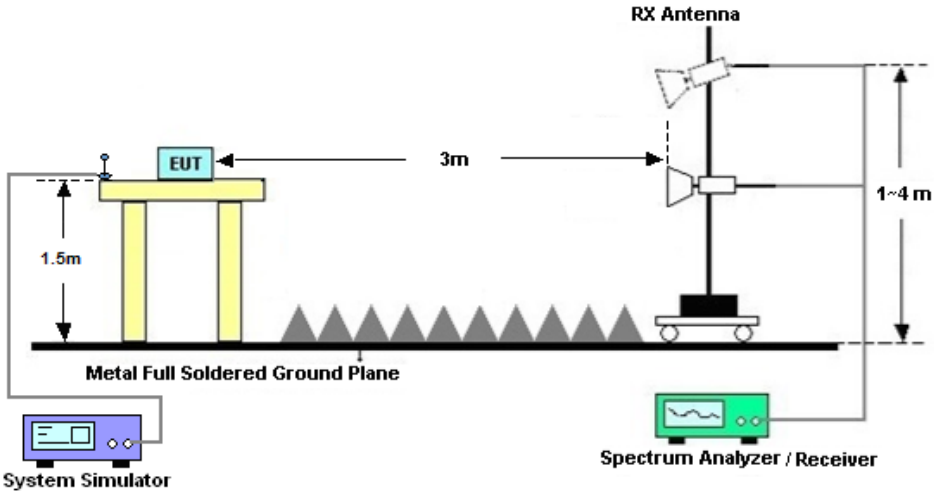
### 4.2.1 For radiated test below 30MHz




### 4.2.2 For radiated test from 30MHz to 1GHz



### 4.2.3 For radiated test above 1GHz




## 4.3 Test Result of Radiated Test

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.

Please refer to Appendix B.

# 4.4 Radiated Spurious Emission

## 4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. 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.

## 4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. 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)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

# 5 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---|---|---|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSV40 | 101040 | 10Hz~40GHz | Oct. 12, 2022 | Dec. 06, 2022~ Dec. 20, 2022 | Oct. 11, 2023 | Conducted (TH01-KS) |
| Power divider | STI | STI08-0055 | - | 0.5~40GHz | Aug. 25, 2022 | Dec. 06, 2022~ Dec. 20, 2022 | Aug. 24, 2023 | Conducted (TH01-KS) |
| Temperature & humidity chamber | Hongzhan | LP-150U | H2014011440 | -40~+150°C 20%~95%RH | Jul. 15, 2022 | Dec. 06, 2022~ Dec. 20, 2022 | Jul. 14, 2023 | Conducted (TH01-KS) |
| EXA Spectrum Analyzer | Keysight | N9010B | MY57471079 | 10Hz-44G,MAX 30dB | Oct. 12, 2022 | Dec. 16, 2022 | Oct. 11, 2023 | Radiation (03CH04-KS) |
| Loop Antenna | R&S | HFH2-Z2 | 100321 | 9kHz~30MHz | Oct. 29, 2022 | Dec. 16, 2022 | Oct. 28, 2023 | Radiation (03CH04-KS) |
| Bilog Antenna | TeseQ | CBL6111D | 49922 | 30MHz-1GHz | May 24, 2022 | Dec. 16, 2022 | May 23, 2023 | Radiation (03CH04-KS) |
| Horn Antenna | Schwarzbeck | BBHA9120D | 1284 | 1GHz~18GHz | Jan. 05, 2022 | Dec. 16, 2022 | Jan. 04, 2023 | Radiation (03CH04-KS) |
| SHF-EHF Horn | Com-power | AH-840 | 101070 | 18GHz~40GHz | Jan. 05, 2022 | Dec. 16, 2022 | Jan. 04, 2023 | Radiation (03CH04-KS) |
| Amplifier | SONOMA | 310N | 187289 | 9KHz-1GHz | Jan. 05, 2022 | Dec. 16, 2022 | Jan. 04, 2023 | Radiation (03CH04-KS) |
| Amplifier | MITEQ | EM18G40G GA | 060728 | 18~40GHz | Jan. 05, 2022 | Dec. 16, 2022 | Jan. 04, 2023 | Radiation (03CH04-KS) |
| Amplifier | Agilent | 8449B | 3008A02370 | 1Ghz-18Ghz | Oct. 12, 2022 | Dec. 16, 2022 | Oct. 11, 2023 | Radiation (03CH04-KS) |
| AC Power Source | Chroma | 61601 | F104090004 | N/A | NCR | Dec. 16, 2022 | NCR | Radiation (03CH04-KS) |
| Turn Table | ChamPro | EM 1000-T | 060762-T | 0~360 degree | NCR | Dec. 16, 2022 | NCR | Radiation (03CH04-KS) |
| Antenna Mast | ChamPro | EM 1000-A | 060762-A | 1 m~4 m | NCR | Dec. 16, 2022 | NCR | Radiation (03CH04-KS) |
| Antenna Mast | ChamPro | EM 1000-A | 060762-A | 1 m~4 m | NCR | Dec. 16, 2022 | NCR | Radiation (03CH04-KS) |

NCR: No Calibration Required

# 6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

**Uncertainty of Conducted Measurement**

| Test Item | Uncertainty |
|---|---|
| Conducted Power | ±0.46 dB |
| Conducted Emissions | ±0.48 dB |
| Occupied Channel Bandwidth | ±0.1 % |

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

| | |
|---|---|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 3.3dB |

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

| | |
|---|---|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 2.8dB |

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

| | |
|---|---|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 2.8dB |

# Appendix A. Test Results of Conducted Test

| Test Engineer : | Lex Wu | Temperature : | 22~23℃ |
|---|---|---|---|
| | | Relative Humidity : | 40~42% |

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

**LTE Band 13:**

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | ERP(W) | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | | 23230 | | | | |
| Frequency (MHz) | | | | | 782 | | | M | |
| 10 | QPSK | 1 | 0 | | 22.97 | | | 0.0373 | |
| 10 | QPSK | 1 | 49 | | 22.85 | | | 0.0363 | |
| 10 | QPSK | 50 | 0 | | 21.82 | | | 0.0286 | |
| 10 | 16QAM | 1 | 0 | | 21.82 | | | 0.0286 | |
| 10 | 64QAM | 1 | 0 | | 21.10 | | | 0.0243 | |
| 10 | 256QAM | 1 | 0 | | 18.12 | | | 0.0122 | |
| Channel | | | | 23205 | 23230 | 23255 | ERP(W) | | |
| Frequency (MHz) | | | | 779.5 | 782 | 784.5 | L | M | H |
| 5 | QPSK | 1 | 0 | 22.90 | 22.93 | 22.83 | 0.0367 | 0.0370 | 0.0361 |
| 5 | 16QAM | 1 | 0 | 21.74 | 21.79 | 21.76 | 0.0281 | 0.0284 | 0.0282 |

**LTE Band 71:**

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | ERP(W) | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 133222 | 133322 | 133372 | | | |
| Frequency (MHz) | | | | 673 | 683 | 688 | L | M | H |
| 20 | QPSK | 1 | 0 | 22.75 | 22.85 | 22.74 | 0.0224 | 0.0229 | 0.0223 |
| 20 | QPSK | 1 | 99 | 22.63 | 22.62 | 22.65 | 0.0218 | 0.0217 | 0.0219 |
| 20 | QPSK | 100 | 0 | 21.69 | 21.70 | 21.63 | 0.0175 | 0.0176 | 0.0173 |
| 20 | 16QAM | 1 | 0 | 21.71 | 21.61 | 21.75 | 0.0176 | 0.0172 | 0.0178 |
| 20 | 64QAM | 1 | 0 | 20.94 | 20.91 | 20.94 | 0.0148 | 0.0147 | 0.0148 |
| 20 | 256QAM | 1 | 0 | 17.90 | 18.01 | 17.89 | 0.0073 | 0.0075 | 0.0073 |
| Channel | | | | 133197 | 133297 | 133397 | EIRP(W) | | |
| Frequency (MHz) | | | | 670.5 | 680.5 | 690.5 | L | M | H |
| 15 | QPSK | 1 | 0 | 22.71 | 22.77 | 22.64 | 0.0222 | 0.0225 | 0.0218 |
| 15 | 16QAM | 1 | 0 | 21.57 | 21.57 | 21.68 | 0.0171 | 0.0171 | 0.0175 |
| Channel | | | | 133172 | 133272 | 133422 | EIRP(W) | | |
| Frequency (MHz) | | | | 668 | 678 | 693 | L | M | H |
| 10 | QPSK | 1 | 0 | 22.70 | 22.74 | 22.68 | 0.0221 | 0.0223 | 0.0220 |
| 10 | 16QAM | 1 | 0 | 21.64 | 21.53 | 21.63 | 0.0173 | 0.0169 | 0.0173 |
| Channel | | | | 133147 | 133247 | 133447 | EIRP(W) | | |
| Frequency (MHz) | | | | 665.5 | 675.5 | 695.5 | L | M | H |
| 5 | QPSK | 1 | 0 | 22.62 | 22.67 | 22.72 | 0.0217 | 0.0220 | 0.0222 |
| 5 | 16QAM | 1 | 0 | 21.56 | 21.56 | 21.68 | 0.0170 | 0.0170 | 0.0175 |

**LTE Band 5B_CA:**

| Combination 10MHz+10MHz (50RB+50RB) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Modulation | PCC | | SCC | | Measured Power | ERP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| L | QPSK | 1 | Max | 1 | 0 | 22.66 | 0.0390 |
| M | QPSK | 1 | Max | 1 | 0 | 22.81 | 0.0404 |
| H | QPSK | 1 | Max | 1 | 0 | 22.61 | 0.0385 |
| L | 16QAM | 1 | Max | 1 | 0 | 21.43 | 0.0294 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.59 | 0.0305 |
| H | 16QAM | 1 | Max | 1 | 0 | 21.39 | 0.0291 |
| L | 64QAM | 1 | Max | 1 | 0 | 20.69 | 0.0248 |
| M | 64QAM | 1 | Max | 1 | 0 | 20.78 | 0.0253 |
| H | 64QAM | 1 | Max | 1 | 0 | 20.64 | 0.0245 |
| L | 256QAM | 1 | Max | 1 | 0 | 17.79 | 0.0127 |
| M | 256QAM | 1 | Max | 1 | 0 | 17.96 | 0.0132 |
| H | 256QAM | 1 | Max | 1 | 0 | 17.77 | 0.0126 |
| Combination 10MHz+5MHz (50RB+25RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | ERP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.36 | 0.0364 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.47 | 0.0296 |
| Combination 5MHz+10MHz (25RB+50RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | ERP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.19 | 0.0350 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.39 | 0.0291 |
| Combination 5MHz+3MHz (25RB+15RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | ERP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.28 | 0.0357 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.47 | 0.0296 |
| Combination 3MHz+5MHz (15RB+25RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | ERP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.37 | 0.0365 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.34 | 0.0288 |

**LTE Band 66B_CA:**

| Combination 10MHz+10MHz (50RB+50RB) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| L | QPSK | 1 | Max | 1 | 0 | 22.86 | 0.1466 |
| M | QPSK | 1 | Max | 1 | 0 | 22.91 | 0.1483 |
| H | QPSK | 1 | Max | 1 | 0 | 22.80 | 0.1445 |
| L | 16QAM | 1 | Max | 1 | 0 | 21.69 | 0.1119 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.78 | 0.1143 |
| H | 16QAM | 1 | Max | 1 | 0 | 21.75 | 0.1135 |
| L | 64QAM | 1 | Max | 1 | 0 | 20.63 | 0.0877 |
| M | 64QAM | 1 | Max | 1 | 0 | 20.68 | 0.0887 |
| H | 64QAM | 1 | Max | 1 | 0 | 20.69 | 0.0889 |
| L | 256QAM | 1 | Max | 1 | 0 | 18.00 | 0.0479 |
| M | 256QAM | 1 | Max | 1 | 0 | 18.12 | 0.0492 |
| H | 256QAM | 1 | Max | 1 | 0 | 18.03 | 0.0482 |
| Combination 15MHz+5MHz (75RB+25RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.36 | 0.1306 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.49 | 0.1069 |
| Combination 5MHz+15MHz (25RB+75RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.47 | 0.1340 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.54 | 0.1081 |
| Combination 10MHz+5MHz (50RB+25RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.69 | 0.1409 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.37 | 0.1040 |
| Combination 5MHz+10MHz (25RB+50RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.74 | 0.1426 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.41 | 0.1050 |
| Combination 5MHz+5MHz (25RB+25RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.69 | 0.1409 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.36 | 0.1038 |

**LTE Band 66C_CA:**

| Combination 20MHz+20MHz (100RB+100RB) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| L | QPSK | 1 | Max | 1 | 0 | 23.41 | 0.1663 |
| M | QPSK | 1 | Max | 1 | 0 | 23.48 | 0.1690 |
| H | QPSK | 1 | Max | 1 | 0 | 23.36 | 0.1644 |
| L | 16QAM | 1 | Max | 1 | 0 | 23.08 | 0.1542 |
| M | 16QAM | 1 | Max | 1 | 0 | 23.15 | 0.1567 |
| H | 16QAM | 1 | Max | 1 | 0 | 23.01 | 0.1517 |
| L | 64QAM | 1 | Max | 1 | 0 | 22.84 | 0.1459 |
| M | 64QAM | 1 | Max | 1 | 0 | 22.96 | 0.1500 |
| H | 64QAM | 1 | Max | 1 | 0 | 22.71 | 0.1416 |
| L | 256QAM | 1 | Max | 1 | 0 | 22.38 | 0.1312 |
| M | 256QAM | 1 | Max | 1 | 0 | 22.47 | 0.1340 |
| H | 256QAM | 1 | Max | 1 | 0 | 22.19 | 0.1256 |
| Combination 20MHz+15MHz (100RB+75RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 22.07 | 0.1222 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.74 | 0.1132 |
| Combination 15MHz+20MHz (75RB+100RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 21.67 | 0.1114 |
| M | 16QAM | 1 | Max | 1 | 0 | 21.24 | 0.1009 |
| Combination 15MHz+15MHz (75RB+75RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 21.22 | 0.1005 |
| M | 16QAM | 1 | Max | 1 | 0 | 20.87 | 0.0927 |
| Combination 20MHz+10MHz (100RB+50RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 20.73 | 0.0897 |
| M | 16QAM | 1 | Max | 1 | 0 | 20.14 | 0.0783 |
| Combination 10MHz+20MHz (50RB+100RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 20.23 | 0.0800 |
| M | 16QAM | 1 | Max | 1 | 0 | 19.88 | 0.0738 |
| Combination 15MHz+10MHz (75RB+50RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 19.84 | 0.0731 |
| M | 16QAM | 1 | Max | 1 | 0 | 19.37 | 0.0656 |

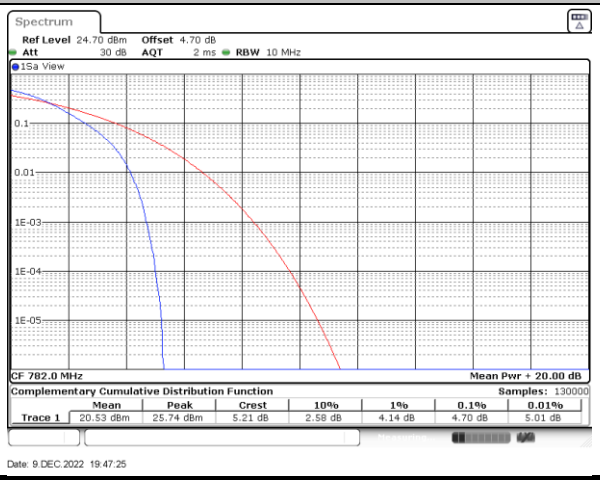
| Combination 10MHz+15MHz (50RB+75RB) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 19.12 | 0.0619 |
| M | 16QAM | 1 | Max | 1 | 0 | 18.96 | 0.0597 |
| Combination 20MHz+5MHz (100RB+25RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 18.95 | 0.0596 |
| M | 16QAM | 1 | Max | 1 | 0 | 18.67 | 0.0558 |
| Combination 5MHz+20MHz (25RB+100RB) | | | | | | | |
| Channel | Modulation | PCC | | SCC | | Measured Power | EIRP(W) |
| | | RB Size | RB offset | RB Size | RB offset | | |
| M | QPSK | 1 | Max | 1 | 0 | 18.37 | 0.0521 |
| M | 16QAM | 1 | Max | 1 | 0 | 18.20 | 0.0501 |

# LTE Band 13

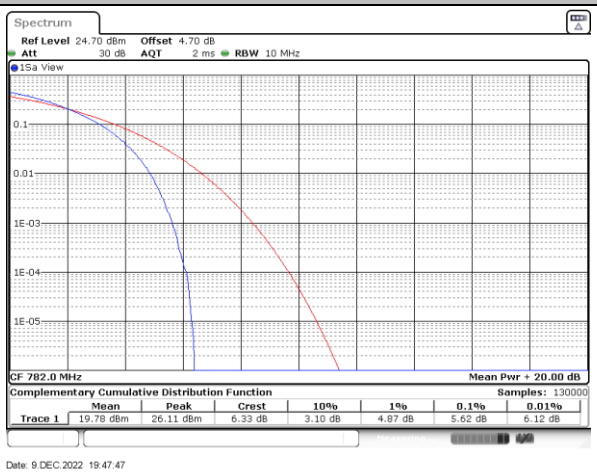
## Peak-to-Average Ratio

| Mode | LTE Band 13 / 10MHz | | | | |
|---|---|---|---|---|---|
| Mod. | QPSK | 16QAM | 64QAM | 256QAM | Limit: 13dB |
| RB Size | Full RB | Full RB | Full RB | Full RB | Result |
| Middle CH | 4.70 | 5.62 | 6.23 | 6.61 | PASS |

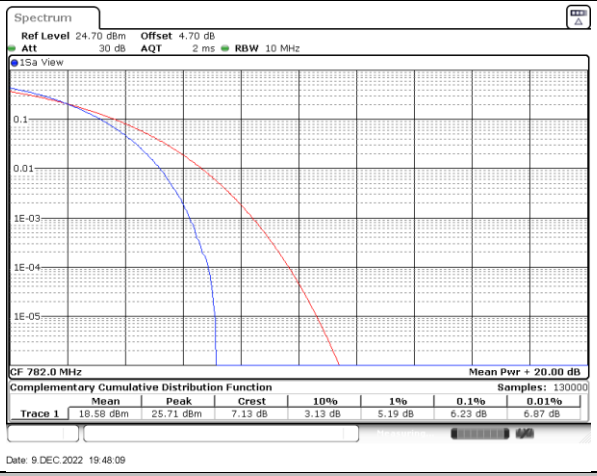
| LTE Band 13 / 10MHz |
|---|
| Middle Channel / Full RB/ QPSK |



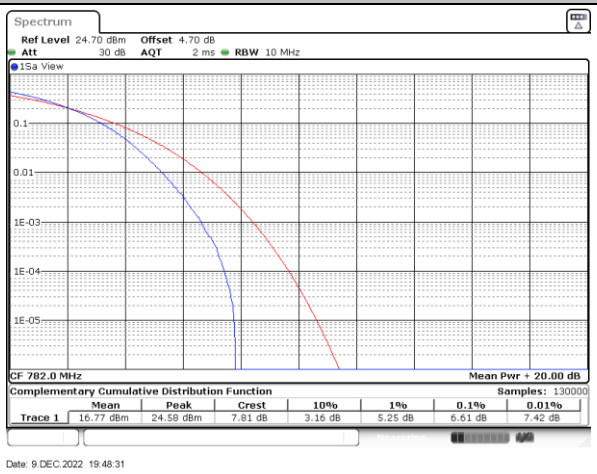
**Middle Channel / Full RB/ 16QAM**




**Middle Channel / Full RB/ 64QAM**



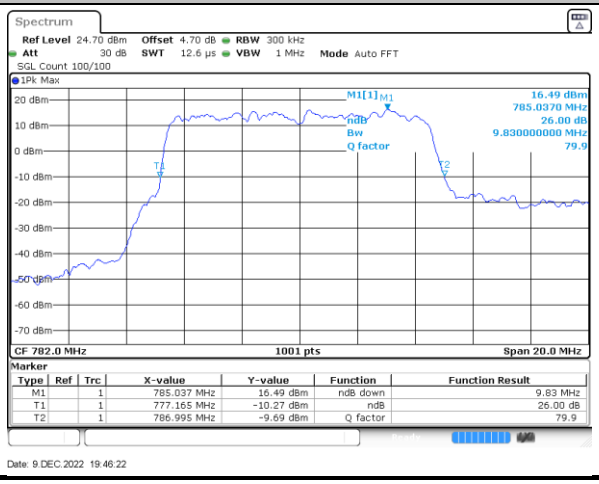

**Middle Channel / Full RB/ 256QAM**

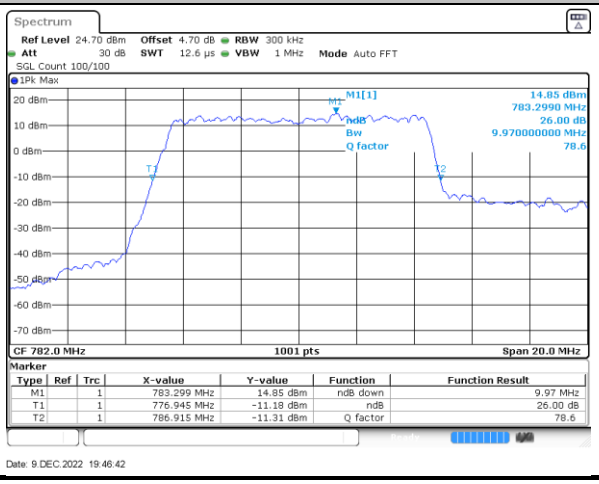


# 26dB Bandwidth

| Mode | LTE Band 13 : 26dB BW(MHz) | |
|---|---|---|
| BW | 10MHz | |
| Mod. | QPSK | 16QAM |
| Middle CH | 9.83 | 9.97 |

| LTE Band 13 | |
|---|---|
| Middle Channel / 10MHz / QPSK | Middle Channel / 10MHz / 16QAM |

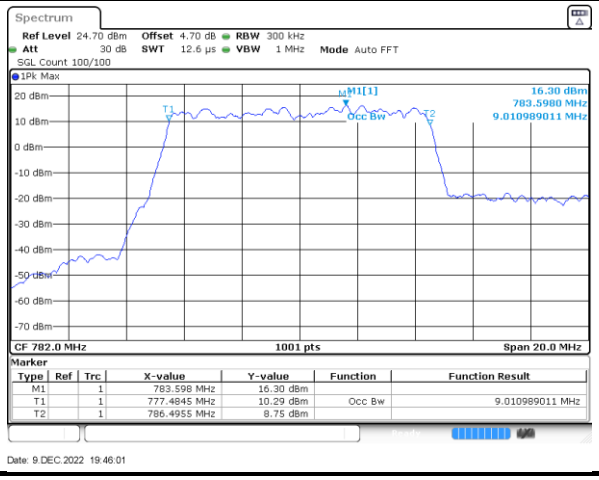


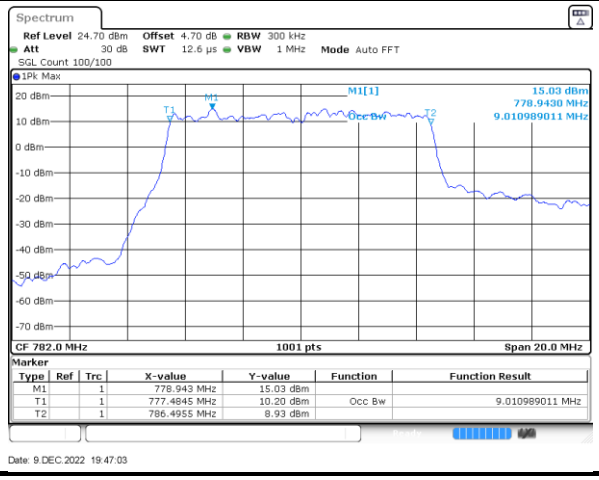



# Occupied Bandwidth

| Mode | LTE Band 13 : 99%OBW(MHz) | |
|---|---|---|
| BW | 10MHz | |
| Mod. | QPSK | 16QAM |
| Middle CH | 9.01 | 9.01 |

| LTE Band 13 | |
|---|---|
| Middle Channel / 10MHz / QPSK | Middle Channel / 10MHz / 16QAM |

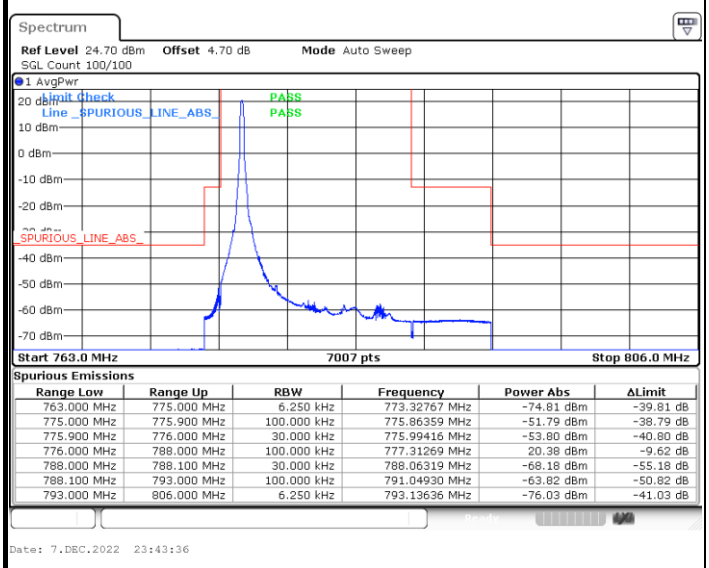


# Conducted Band Edge

## LTE Band 13 / 5MHz / QPSK

### Lowest Band Edge / 1 RB

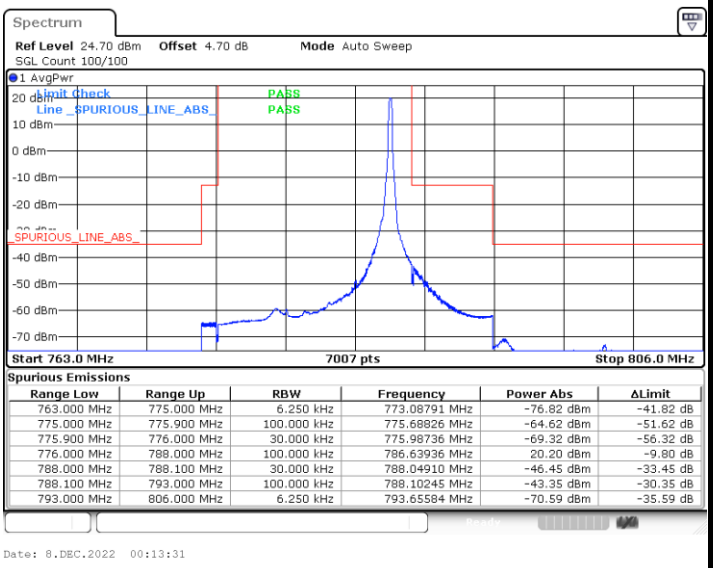



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 773.32767 MHz | -74.81 dBm | -39.81 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.86359 MHz | -51.79 dBm | -38.79 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99416 MHz | -53.80 dBm | -40.80 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.31269 MHz | 20.38 dBm | -9.62 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.06319 MHz | -68.18 dBm | -55.18 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 791.04930 MHz | -63.82 dBm | -50.82 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.13636 MHz | -76.03 dBm | -41.03 dB |

Date: 7.DEC.2022 23:43:36

### Highest Band Edge / 1 RB

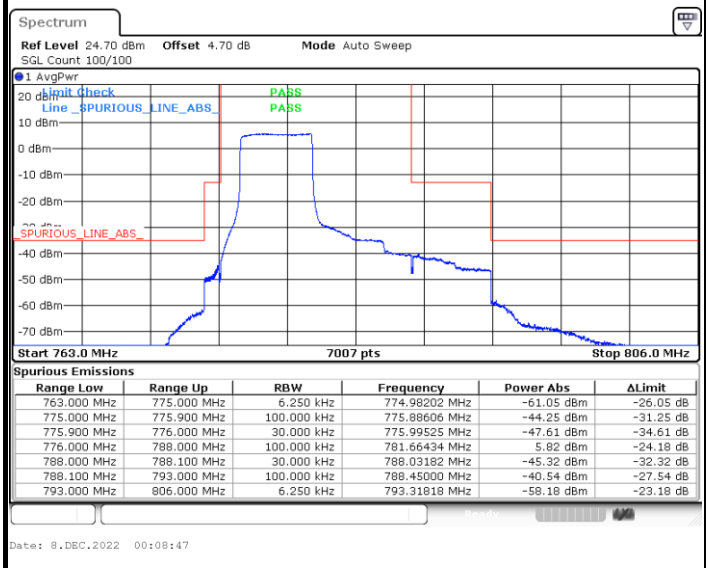



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 773.08791 MHz | -76.82 dBm | -41.82 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.68826 MHz | -64.62 dBm | -51.62 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.98736 MHz | -69.32 dBm | -56.32 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.63936 MHz | 20.20 dBm | -9.80 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.04910 MHz | -46.45 dBm | -33.45 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.10245 MHz | -43.35 dBm | -30.35 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.65584 MHz | -70.59 dBm | -35.59 dB |

Date: 8.DEC.2022 00:13:31

### Lowest Band Edge / Full RB

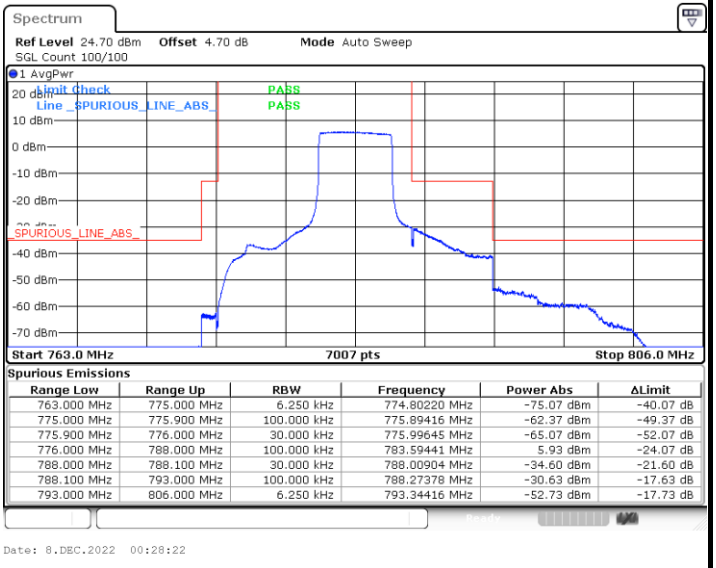



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.98202 MHz | -61.05 dBm | -26.05 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.88606 MHz | -44.25 dBm | -31.25 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99525 MHz | -47.61 dBm | -34.61 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 781.66434 MHz | 5.82 dBm | -24.18 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.03182 MHz | -45.32 dBm | -32.32 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.45000 MHz | -40.54 dBm | -27.54 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.31818 MHz | -58.18 dBm | -23.18 dB |

Date: 8.DEC.2022 00:08:47

### Highest Band Edge / Full RB



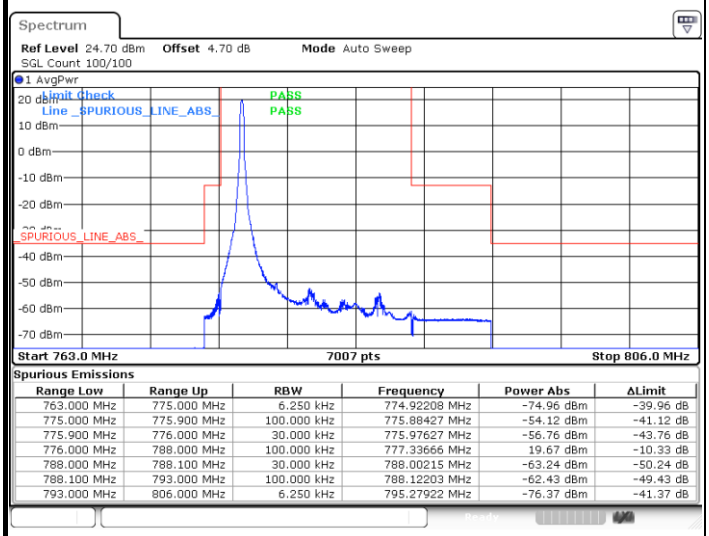

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.80220 MHz | -75.07 dBm | -40.07 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89416 MHz | -62.37 dBm | -49.37 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99645 MHz | -65.07 dBm | -52.07 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 783.59441 MHz | 5.93 dBm | -24.07 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.00904 MHz | -34.60 dBm | -21.60 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.27378 MHz | -30.63 dBm | -17.63 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.34416 MHz | -52.73 dBm | -17.73 dB |

Date: 8.DEC.2022 00:28:22

## LTE Band 13 / 5MHz / 16QAM

### Lowest Band Edge / 1RB

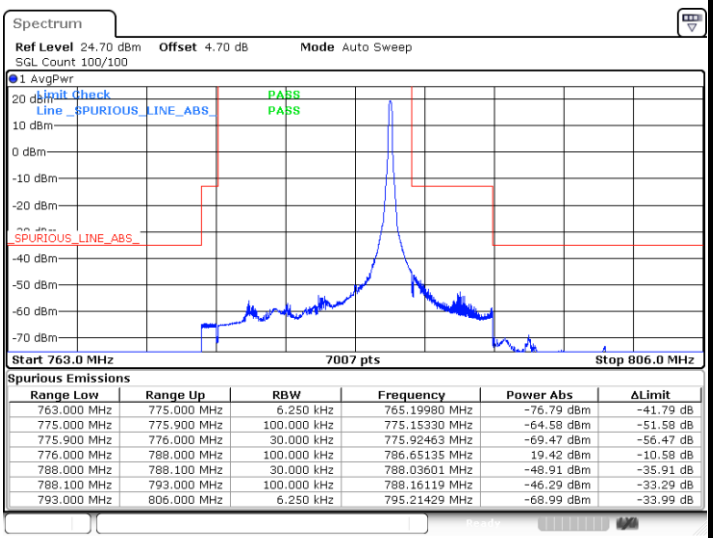



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.92208 MHz | -74.96 dBm | -39.96 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.88427 MHz | -54.12 dBm | -41.12 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.97627 MHz | -56.76 dBm | -43.76 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.33666 MHz | 19.67 dBm | -10.33 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.00215 MHz | -63.24 dBm | -50.24 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.12203 MHz | -62.43 dBm | -49.43 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 795.27922 MHz | -76.37 dBm | -41.37 dB |

Date: 7.DEC.2022 23:45:28

### Highest Band Edge / 1 RB

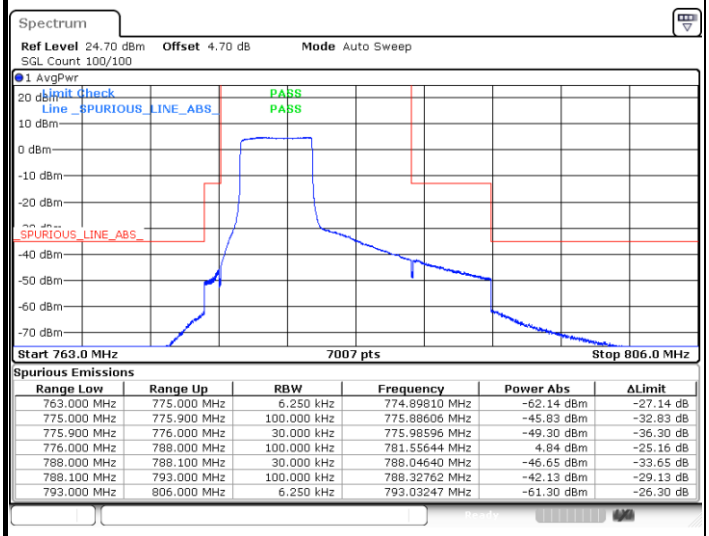



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 765.19980 MHz | -76.79 dBm | -41.79 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.15330 MHz | -64.58 dBm | -51.58 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.92463 MHz | -69.47 dBm | -56.47 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.65135 MHz | 19.42 dBm | -10.58 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.03601 MHz | -48.91 dBm | -35.91 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.16119 MHz | -46.29 dBm | -33.29 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 795.21429 MHz | -68.99 dBm | -33.99 dB |

Date: 8.DEC.2022 00:15:23

### Lowest Band Edge / Full RB

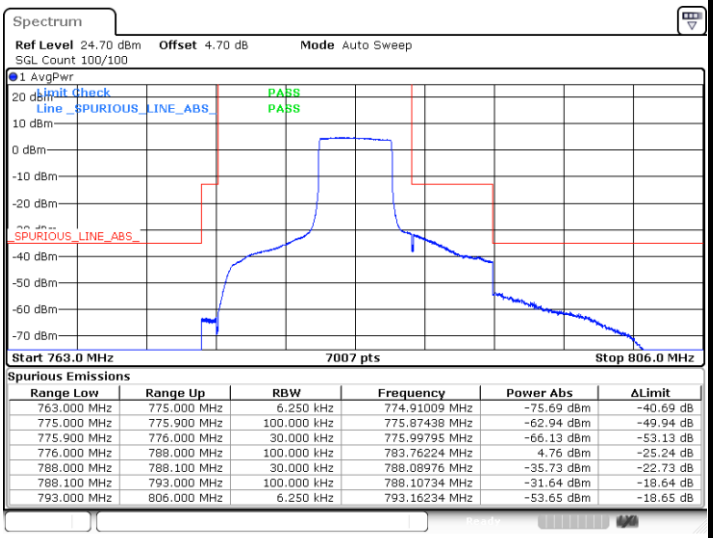



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.89810 MHz | -62.14 dBm | -27.14 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.88606 MHz | -45.83 dBm | -32.83 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.98596 MHz | -49.30 dBm | -36.30 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 781.55644 MHz | 4.84 dBm | -25.16 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.04640 MHz | -46.65 dBm | -33.65 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.32762 MHz | -42.13 dBm | -29.13 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.03247 MHz | -61.30 dBm | -26.30 dB |

Date: 8.DEC.2022 00:06:55

### Highest Band Edge / Full RB



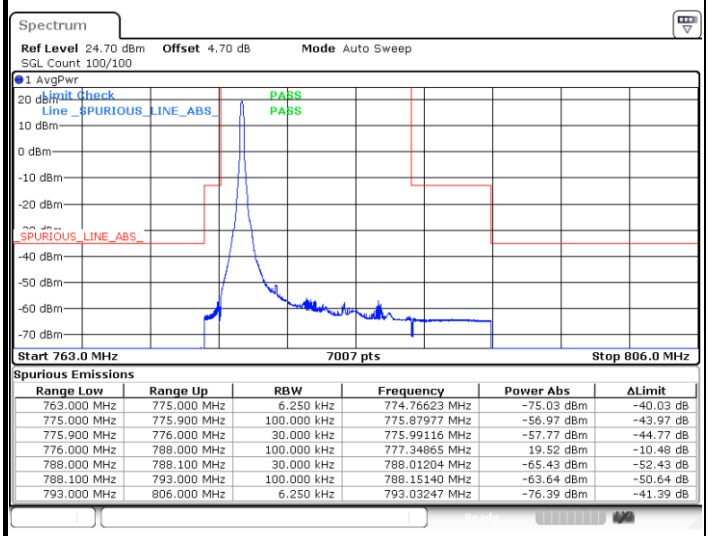

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.91009 MHz | -75.69 dBm | -40.69 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.87438 MHz | -62.94 dBm | -49.94 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99795 MHz | -66.13 dBm | -53.13 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 783.76224 MHz | 4.76 dBm | -25.24 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.08976 MHz | -35.73 dBm | -22.73 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.10734 MHz | -31.64 dBm | -18.64 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.16234 MHz | -53.65 dBm | -18.65 dB |

Date: 8.DEC.2022 00:26:30

## LTE Band 13 / 5MHz / 64QAM

### Lowest Band Edge / 1RB

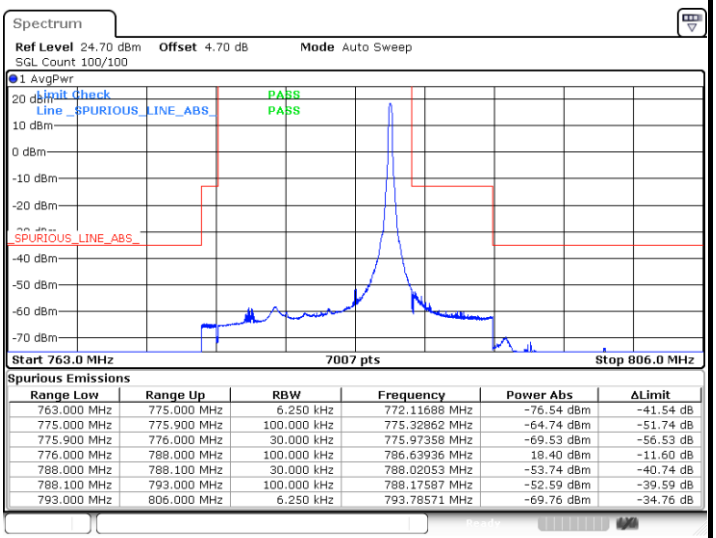



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.76623 MHz | -75.03 dBm | -40.03 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.87977 MHz | -56.97 dBm | -43.97 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99116 MHz | -57.77 dBm | -44.77 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.34865 MHz | 19.52 dBm | -10.48 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.01204 MHz | -65.43 dBm | -52.43 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.15140 MHz | -63.64 dBm | -50.64 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.03247 MHz | -76.39 dBm | -41.39 dB |

Date: 7.DEC.2022 23:47:20

### Highest Band Edge / 1 RB

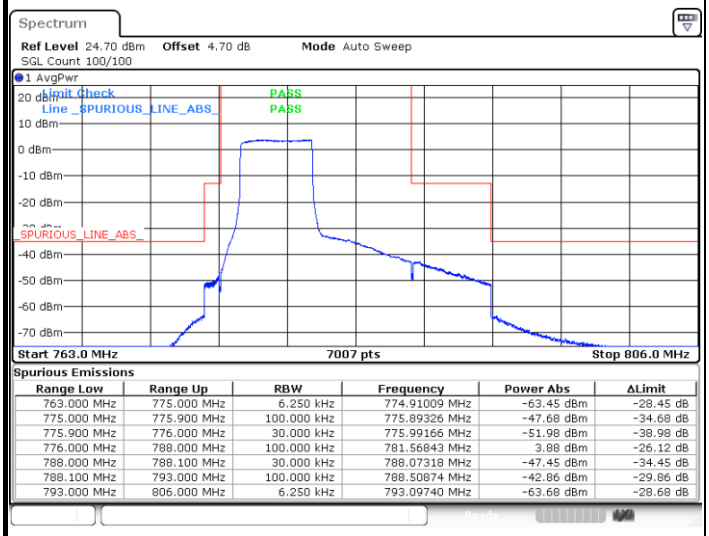



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 772.11688 MHz | -76.54 dBm | -41.54 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.32862 MHz | -64.74 dBm | -51.74 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.97358 MHz | -69.53 dBm | -56.53 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.63936 MHz | 18.40 dBm | -11.60 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.02053 MHz | -53.74 dBm | -40.74 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.17587 MHz | -52.59 dBm | -39.59 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.78571 MHz | -69.76 dBm | -34.76 dB |

Date: 8.DEC.2022 00:17:15

### Lowest Band Edge / Full RB

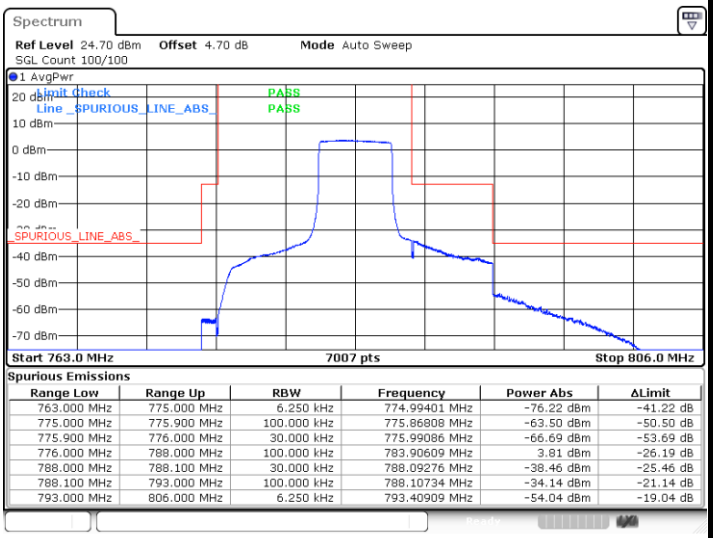



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.91009 MHz | -63.45 dBm | -28.45 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89326 MHz | -47.68 dBm | -34.68 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99166 MHz | -51.98 dBm | -38.98 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 781.56843 MHz | 3.88 dBm | -26.12 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.07318 MHz | -47.45 dBm | -34.45 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.50874 MHz | -42.86 dBm | -29.86 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.09740 MHz | -63.68 dBm | -28.68 dB |

Date: 8.DEC.2022 00:05:02

### Highest Band Edge / Full RB



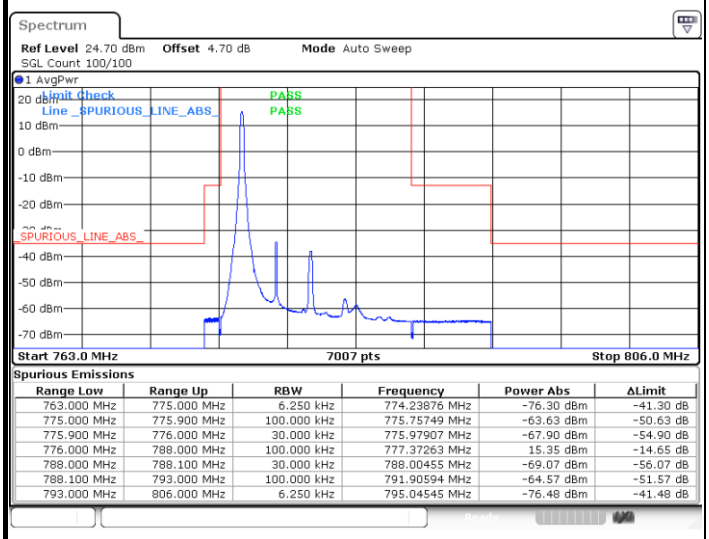

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.99401 MHz | -76.22 dBm | -41.22 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.86808 MHz | -63.50 dBm | -50.50 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99086 MHz | -66.69 dBm | -53.69 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 783.90609 MHz | 3.81 dBm | -26.19 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.09276 MHz | -38.46 dBm | -25.46 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.10734 MHz | -34.14 dBm | -21.14 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.40909 MHz | -54.04 dBm | -19.04 dB |

Date: 8.DEC.2022 00:24:37

## LTE Band 13 / 5MHz / 256QAM

### Lowest Band Edge / 1RB

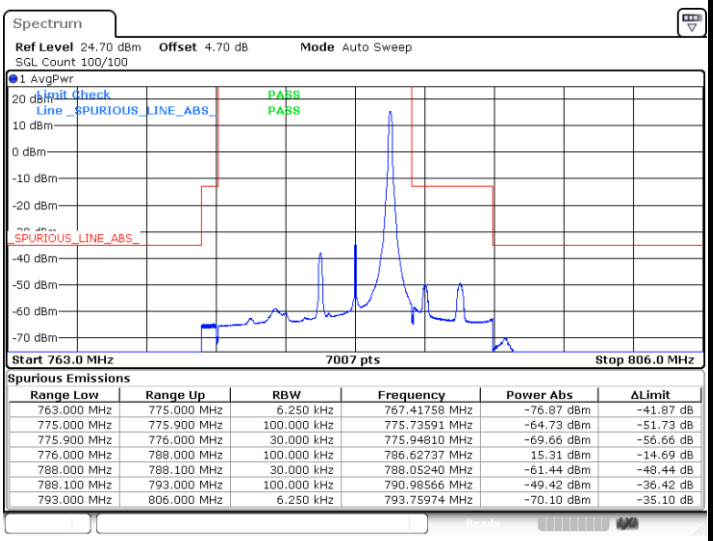



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.23876 MHz | -76.30 dBm | -41.30 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.75749 MHz | -63.63 dBm | -50.63 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.97907 MHz | -67.90 dBm | -54.90 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.37263 MHz | 15.35 dBm | -14.65 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.00455 MHz | -69.07 dBm | -56.07 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 791.90594 MHz | -64.57 dBm | -51.57 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 795.04545 MHz | -76.48 dBm | -41.48 dB |

Date: 7.DEC.2022 23:49:13

### Highest Band Edge / 1 RB

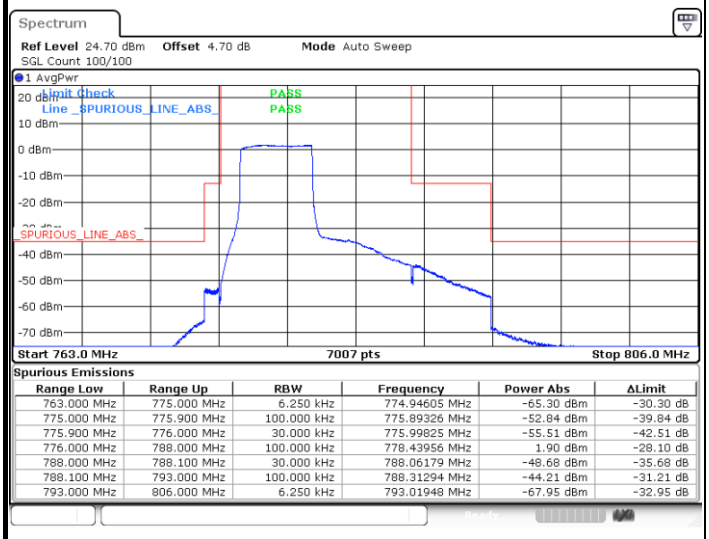



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 767.41758 MHz | -76.87 dBm | -41.87 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.73591 MHz | -64.73 dBm | -51.73 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.94810 MHz | -69.66 dBm | -56.66 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.62737 MHz | 15.31 dBm | -14.69 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.05240 MHz | -61.44 dBm | -48.44 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 790.98566 MHz | -49.42 dBm | -36.42 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.75974 MHz | -70.10 dBm | -35.10 dB |

Date: 8.DEC.2022 00:19:08

### Lowest Band Edge / Full RB

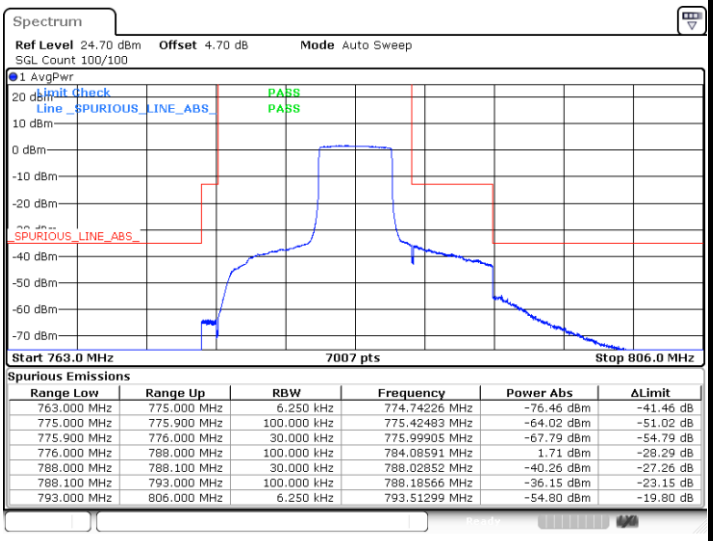



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.94605 MHz | -65.30 dBm | -30.30 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89326 MHz | -52.84 dBm | -39.84 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99825 MHz | -55.51 dBm | -42.51 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 778.43956 MHz | 1.90 dBm | -28.10 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.06179 MHz | -48.68 dBm | -35.68 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.31294 MHz | -44.21 dBm | -31.21 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.01948 MHz | -67.95 dBm | -32.95 dB |

Date: 8.DEC.2022 00:03:06

### Highest Band Edge / Full RB



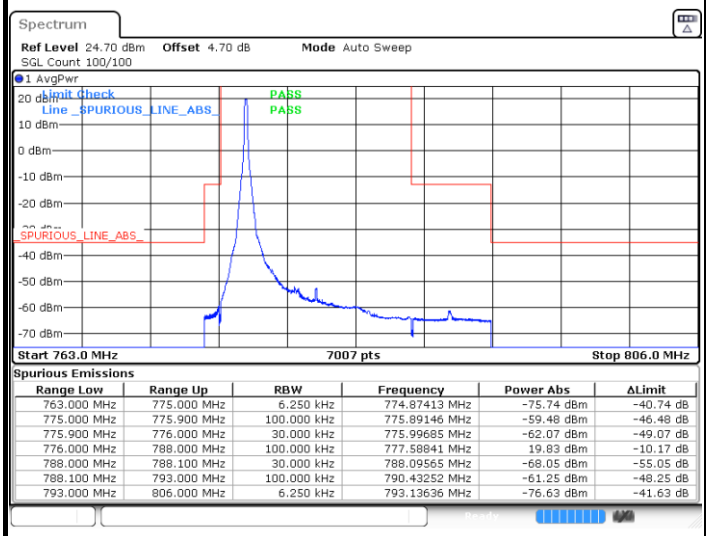

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.74226 MHz | -76.46 dBm | -41.46 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.42483 MHz | -64.02 dBm | -51.02 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99905 MHz | -67.79 dBm | -54.79 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 784.08591 MHz | 1.71 dBm | -28.29 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.02852 MHz | -40.26 dBm | -27.26 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.18566 MHz | -36.15 dBm | -23.15 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.51299 MHz | -54.80 dBm | -19.80 dB |

Date: 8.DEC.2022 00:22:45

## LTE Band 13 / 10MHz / QPSK

### middle Band Edge / 1 RB

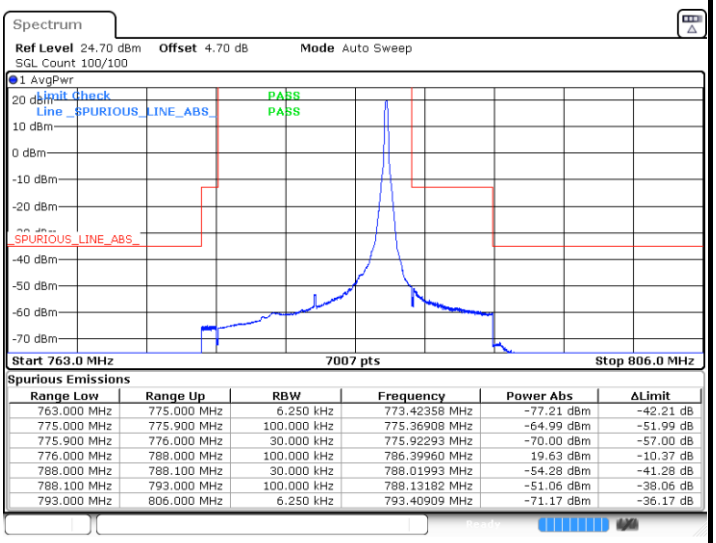



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.87413 MHz | -75.74 dBm | -40.74 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89146 MHz | -59.48 dBm | -46.48 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99685 MHz | -62.07 dBm | -49.07 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.58841 MHz | 19.83 dBm | -10.17 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.09565 MHz | -68.05 dBm | -55.05 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 790.43252 MHz | -61.25 dBm | -48.25 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.13636 MHz | -76.63 dBm | -41.63 dB |

Date: 9.DEC.2022 19:23:10

### middle Band Edge / 1 RB

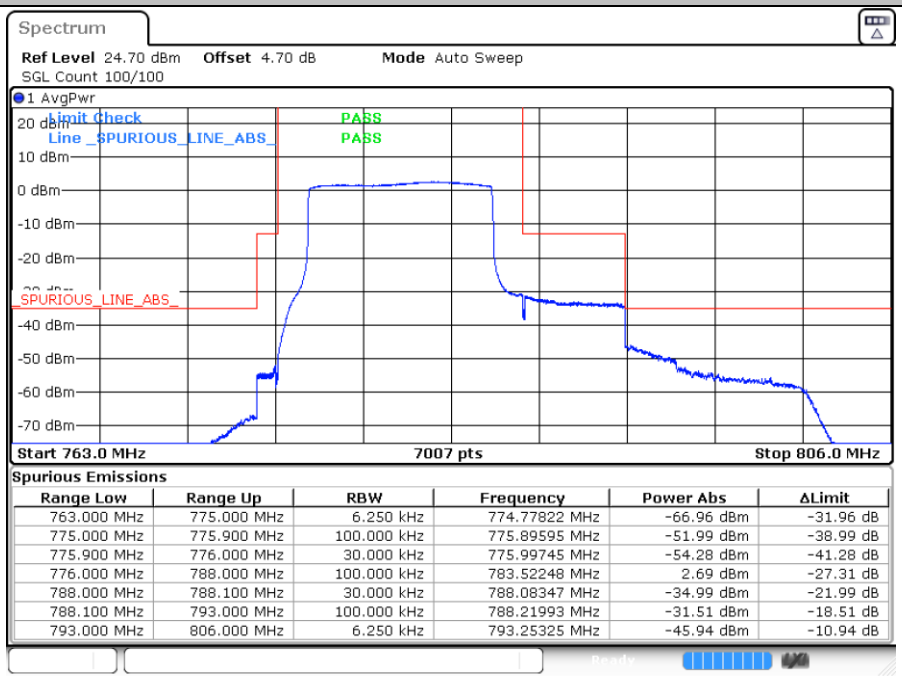



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 773.42358 MHz | -77.21 dBm | -42.21 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.36908 MHz | -64.99 dBm | -51.99 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.92293 MHz | -70.00 dBm | -57.00 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.39960 MHz | 19.63 dBm | -10.37 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.01993 MHz | -54.28 dBm | -41.28 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.13182 MHz | -51.06 dBm | -38.06 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.40909 MHz | -71.17 dBm | -36.17 dB |

Date: 9.DEC.2022 19:40:14

### Middle Band Edge / Full RB



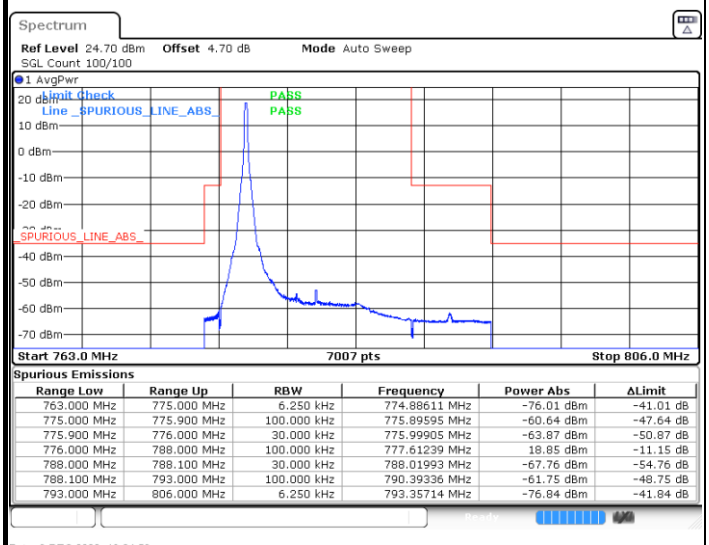

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.77822 MHz | -66.96 dBm | -31.96 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89595 MHz | -51.99 dBm | -38.99 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99745 MHz | -54.28 dBm | -41.28 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 783.52248 MHz | 2.69 dBm | -27.31 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.08347 MHz | -34.99 dBm | -21.99 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.21993 MHz | -31.51 dBm | -18.51 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.25325 MHz | -45.94 dBm | -10.94 dB |

Date: 9.DEC.2022 19:38:26

## LTE Band 13 / 10MHz / 16QAM

### middle Band Edge / 1 RB

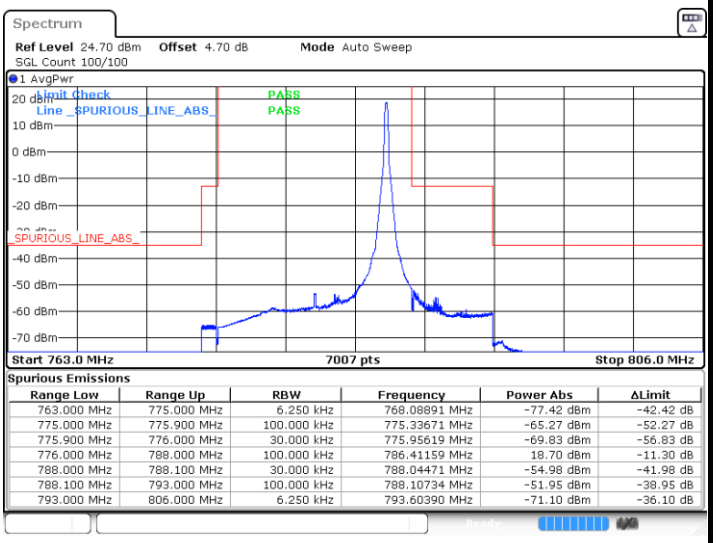



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.88611 MHz | -76.01 dBm | -41.01 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89595 MHz | -60.64 dBm | -47.64 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99905 MHz | -63.87 dBm | -50.87 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.61239 MHz | 18.85 dBm | -11.15 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.01993 MHz | -67.76 dBm | -54.76 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 790.39336 MHz | -61.75 dBm | -48.75 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.35714 MHz | -76.84 dBm | -41.84 dB |

Date: 9.DEC.2022 19:24:59

### middle Band Edge / 1 RB

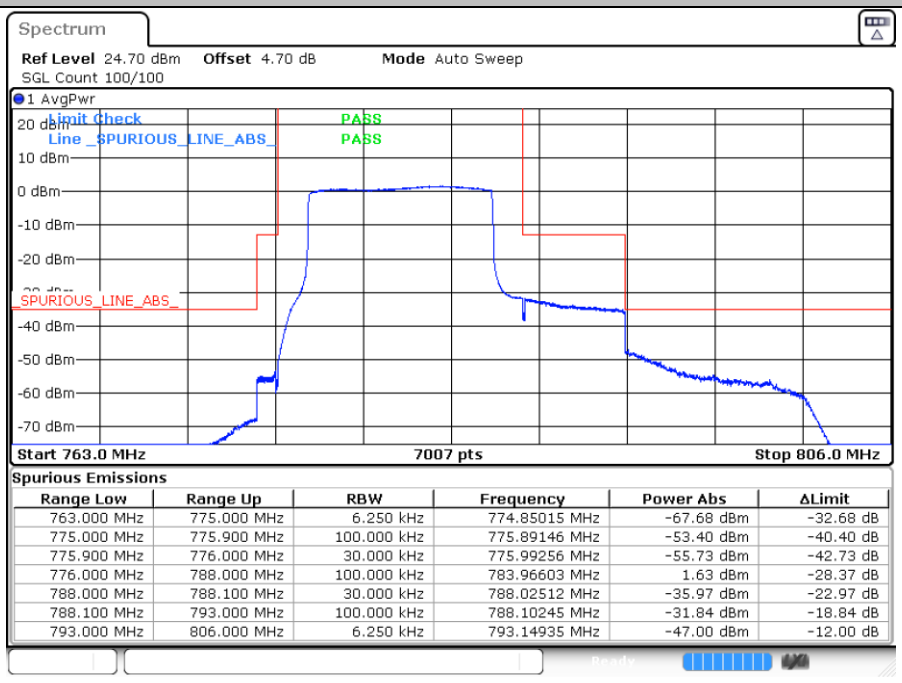



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 768.08891 MHz | -77.42 dBm | -42.42 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.33671 MHz | -65.27 dBm | -52.27 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.95619 MHz | -69.83 dBm | -56.83 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.41159 MHz | 18.70 dBm | -11.30 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.04471 MHz | -54.98 dBm | -41.98 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.10734 MHz | -51.95 dBm | -38.95 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.60390 MHz | -71.10 dBm | -36.10 dB |

Date: 9.DEC.2022 19:42:03

### middle Band Edge / Full RB



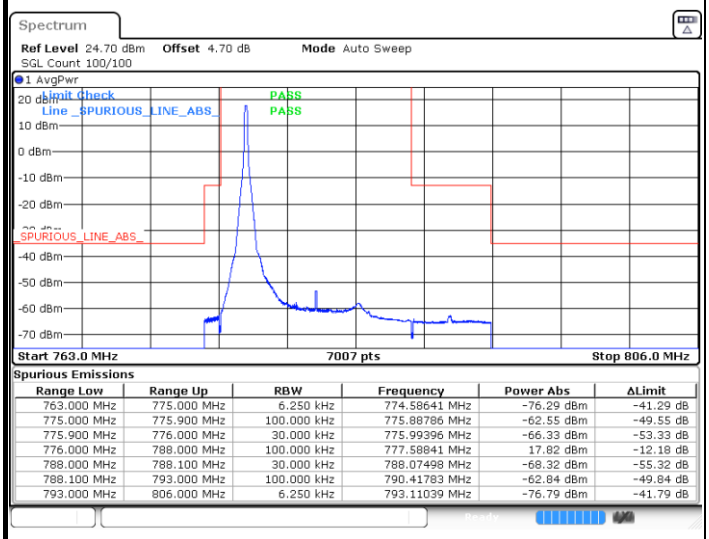

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.85015 MHz | -67.68 dBm | -32.68 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89146 MHz | -53.40 dBm | -40.40 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99256 MHz | -55.73 dBm | -42.73 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 783.96603 MHz | 1.63 dBm | -28.37 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.02512 MHz | -35.97 dBm | -22.97 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.10245 MHz | -31.84 dBm | -18.84 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.14935 MHz | -47.00 dBm | -12.00 dB |

Date: 9.DEC.2022 19:36:37

## LTE Band 13 / 10MHz / 64QAM

### middle Band Edge / 1 RB

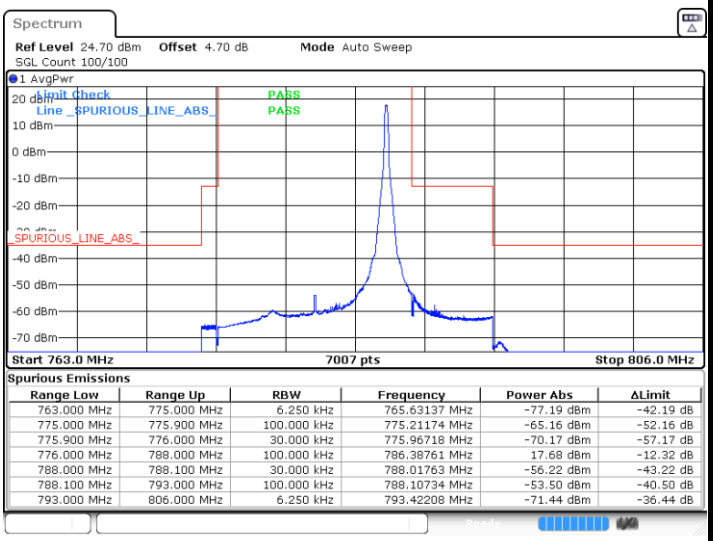



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.58641 MHz | -76.29 dBm | -41.29 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.88786 MHz | -62.55 dBm | -49.55 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99396 MHz | -66.33 dBm | -53.33 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.58841 MHz | 17.82 dBm | -12.18 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.07498 MHz | -68.32 dBm | -55.32 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 790.41783 MHz | -62.84 dBm | -49.84 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.11039 MHz | -76.79 dBm | -41.79 dB |

Date: 9.DEC.2022 19:29:22

### middle Band Edge / 1 RB

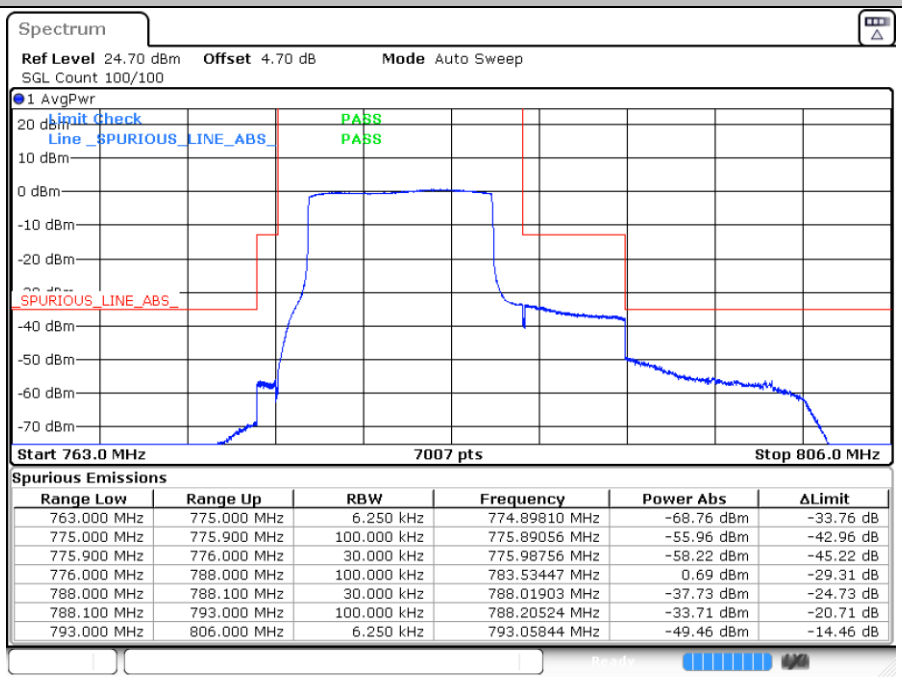



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 765.63137 MHz | -77.19 dBm | -42.19 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.21174 MHz | -65.16 dBm | -52.16 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.96718 MHz | -70.17 dBm | -57.17 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.38761 MHz | 17.68 dBm | -12.32 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.01763 MHz | -56.22 dBm | -43.22 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.10734 MHz | -53.50 dBm | -40.50 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.42208 MHz | -71.44 dBm | -36.44 dB |

Date: 9.DEC.2022 19:43:52

### middle Band Edge / Full RB



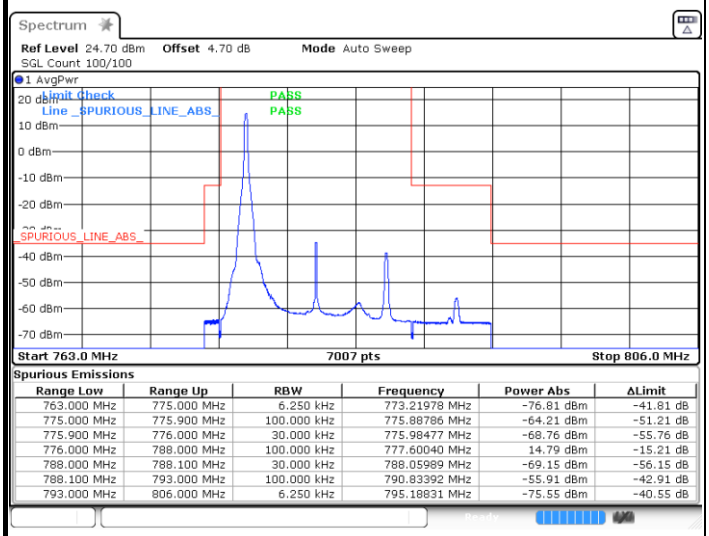

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.89810 MHz | -68.76 dBm | -33.76 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.89056 MHz | -55.96 dBm | -42.96 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.98756 MHz | -58.22 dBm | -45.22 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 783.53447 MHz | 0.69 dBm | -29.31 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.01903 MHz | -37.73 dBm | -24.73 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.20524 MHz | -33.71 dBm | -20.71 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.05844 MHz | -49.46 dBm | -14.46 dB |

Date: 9.DEC.2022 19:34:48

## LTE Band 13 / 10MHz / 256QAM

### middle Band Edge / 1 RB

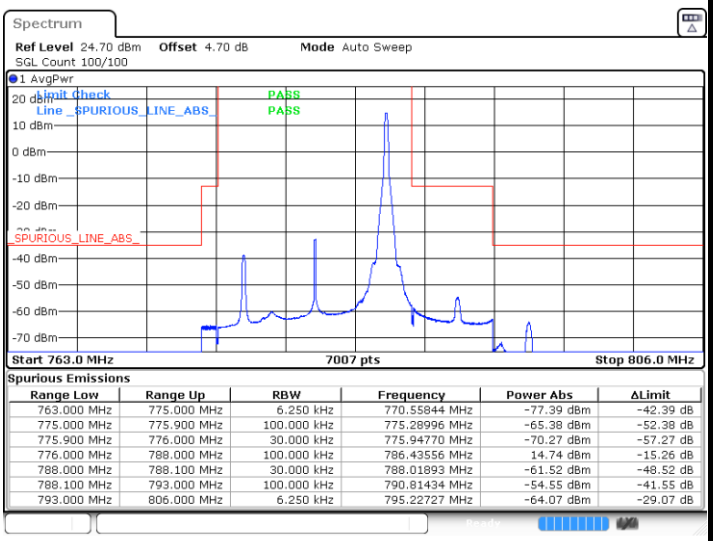



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 773.21978 MHz | -76.81 dBm | -41.81 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.88786 MHz | -64.21 dBm | -51.21 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.98477 MHz | -68.76 dBm | -55.76 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 777.60040 MHz | 14.79 dBm | -15.21 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.05989 MHz | -69.15 dBm | -56.15 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 790.83392 MHz | -55.91 dBm | -42.91 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 795.18831 MHz | -75.55 dBm | -40.55 dB |

Date: 9.DEC.2022 19:31:11

### middle Band Edge / 1 RB

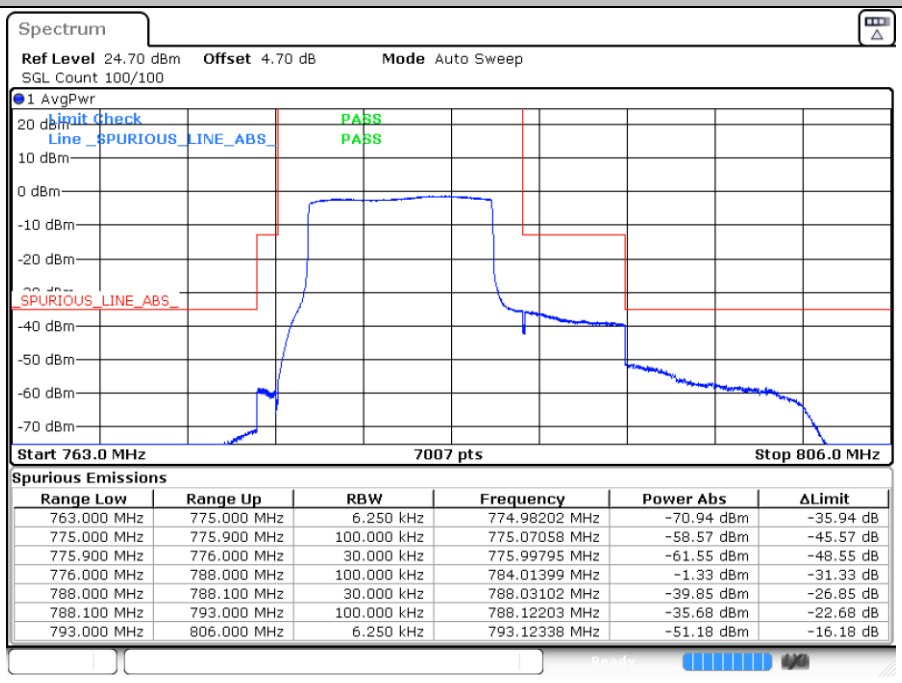



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 770.55844 MHz | -77.39 dBm | -42.39 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.28996 MHz | -65.38 dBm | -52.38 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.94770 MHz | -70.27 dBm | -57.27 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 786.43556 MHz | 14.74 dBm | -15.26 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.01893 MHz | -61.52 dBm | -48.52 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 790.81434 MHz | -54.55 dBm | -41.55 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 795.22727 MHz | -64.07 dBm | -29.07 dB |

Date: 9.DEC.2022 19:45:40

### middle Band Edge / Full RB




Spurious Emissions

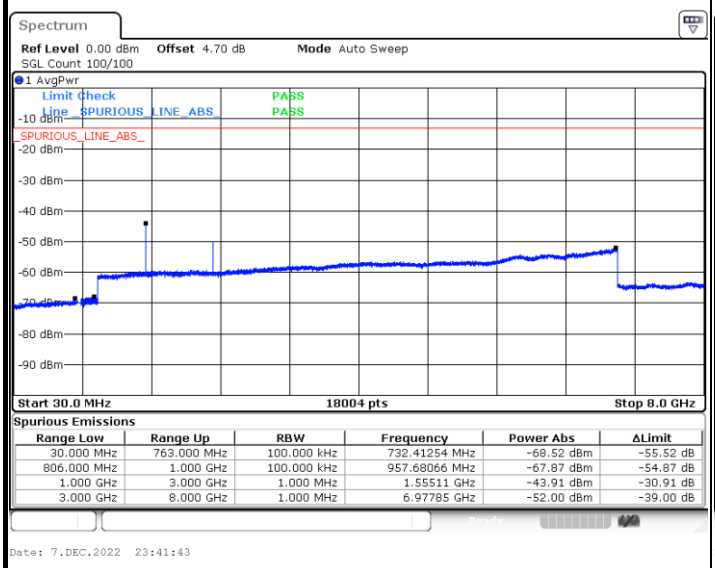
| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 763.000 MHz | 775.000 MHz | 6.250 kHz | 774.98202 MHz | -70.94 dBm | -35.94 dB |
| 775.000 MHz | 775.900 MHz | 100.000 kHz | 775.07058 MHz | -58.57 dBm | -45.57 dB |
| 775.900 MHz | 776.000 MHz | 30.000 kHz | 775.99795 MHz | -61.55 dBm | -48.55 dB |
| 776.000 MHz | 788.000 MHz | 100.000 kHz | 784.01399 MHz | -1.33 dBm | -31.33 dB |
| 788.000 MHz | 788.100 MHz | 30.000 kHz | 788.03102 MHz | -39.85 dBm | -26.85 dB |
| 788.100 MHz | 793.000 MHz | 100.000 kHz | 788.12203 MHz | -35.68 dBm | -22.68 dB |
| 793.000 MHz | 806.000 MHz | 6.250 kHz | 793.12338 MHz | -51.18 dBm | -16.18 dB |

Date: 9.DEC.2022 19:33:00

# Conducted Spurious Emission

## LTE Band 13 / 5MHz

### Lowest Channel / QPSK

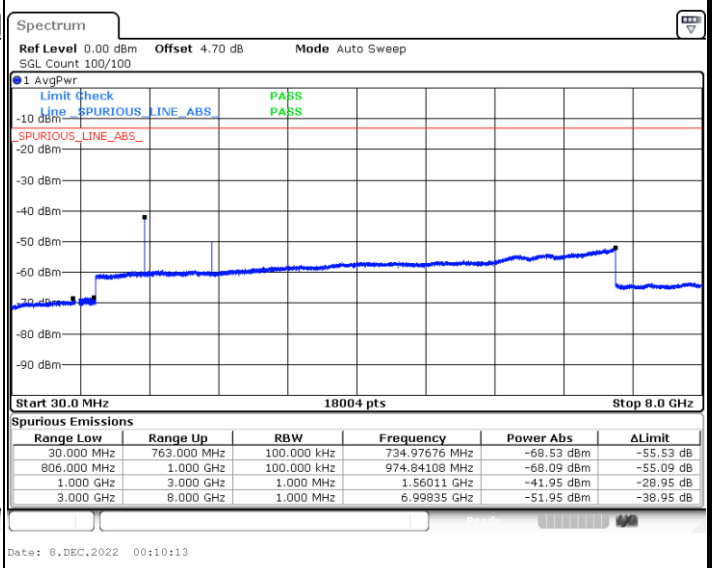



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 763.000 MHz | 100.000 kHz | 732.41254 MHz | -68.52 dBm | -55.52 dB |
| 806.000 MHz | 1.000 GHz | 100.000 kHz | 957.68066 MHz | -67.87 dBm | -54.87 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 1.55511 GHz | -43.91 dBm | -30.91 dB |
| 3.000 GHz | 8.000 GHz | 1.000 MHz | 6.97785 GHz | -52.00 dBm | -39.00 dB |

Date: 7.DEC.2022 23:41:43

### Middle Channel / QPSK

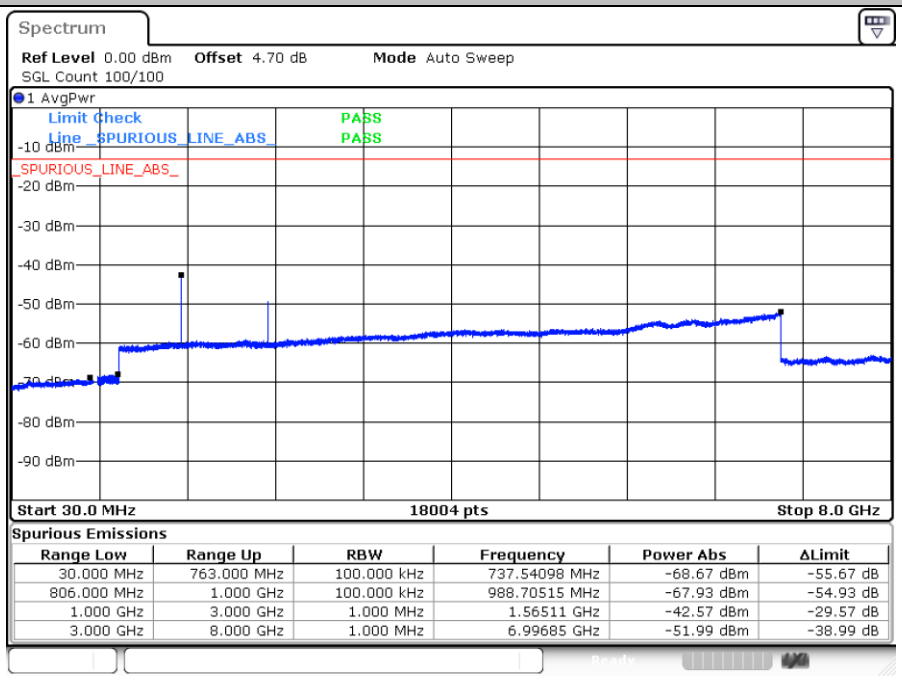



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 763.000 MHz | 100.000 kHz | 734.97676 MHz | -68.53 dBm | -55.53 dB |
| 806.000 MHz | 1.000 GHz | 100.000 kHz | 974.84108 MHz | -68.09 dBm | -55.09 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 1.56011 GHz | -41.95 dBm | -28.95 dB |
| 3.000 GHz | 8.000 GHz | 1.000 MHz | 6.99835 GHz | -51.95 dBm | -38.95 dB |

Date: 8.DEC.2022 00:10:13

### Highest Channel / QPSK

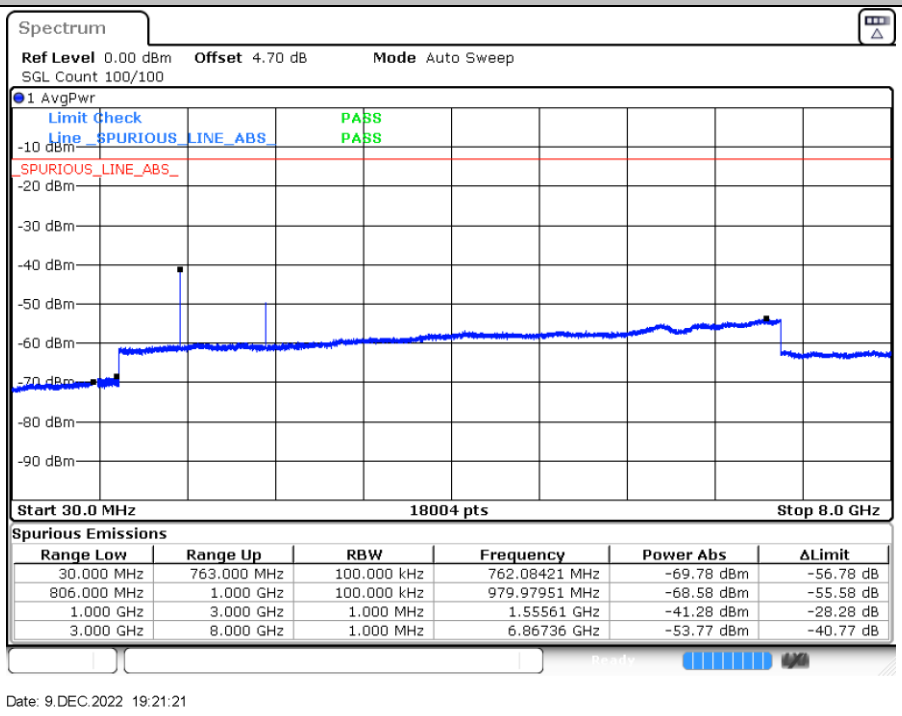



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 763.000 MHz | 100.000 kHz | 737.54098 MHz | -68.67 dBm | -55.67 dB |
| 806.000 MHz | 1.000 GHz | 100.000 kHz | 988.70515 MHz | -67.93 dBm | -54.93 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 1.56511 GHz | -42.57 dBm | -29.57 dB |
| 3.000 GHz | 8.000 GHz | 1.000 MHz | 6.99685 GHz | -51.99 dBm | -38.99 dB |

Date: 8.DEC.2022 00:11:38

| LTE Band 13 / 10MHz |
|---|
| Middle Channel / QPSK |



# Frequency Stability

| Test Conditions | | LTE Band 13 (QPSK) / Middle Channel | Limit |
|---|---|---|---|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0193 | PASS |
| 40 | Normal Voltage | 0.0065 | |
| 30 | Normal Voltage | 0.0157 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0021 | |
| 0 | Normal Voltage | 0.0028 | |
| -10 | Normal Voltage | 0.0115 | |
| -20 | Normal Voltage | 0.0042 | |
| -30 | Normal Voltage | 0.0052 | |
| 20 | Maximum Voltage | 0.0138 | |
| 20 | Normal Voltage | 0.0019 | |
| 20 | Battery End Point | 0.0036 | |

**Note:**

**1.** Normal Voltage =3.89 V. ; Battery End Point (BEP) =3.4V. ; Maximum Voltage =4.48 V.

**2.** The frequency fundamental emissions stay within the authorized frequency block.

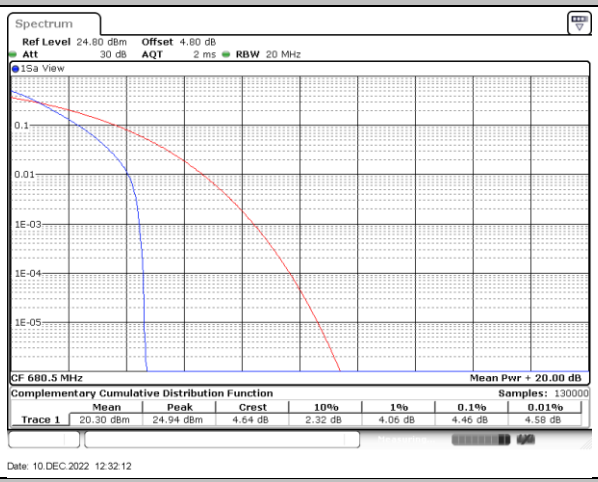
# LTE Band 71

## Peak-to-Average Ratio

| Mode | LTE Band 71 / 20MHz | | | | |
|---|---|---|---|---|---|
| Mod. | QPSK | 16QAM | 64QAM | 256QAM | Limit: 13dB |
| RB Size | Full RB | Full RB | Full RB | Full RB | Result |
| Middle CH | 4.46 | 5.68 | 6.26 | **6.55** | PASS |

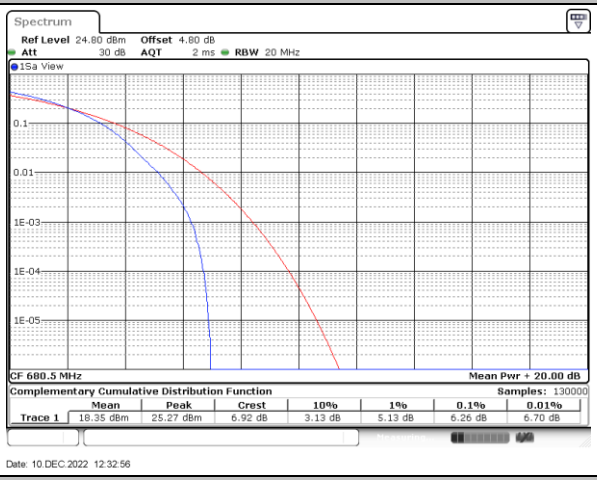
**LTE Band 71 / 20MHz**

**Middle Channel / Full RB / QPSK**




**Middle Channel / Full RB / 16QAM**

**Middle Channel / Full RB / 64QAM**



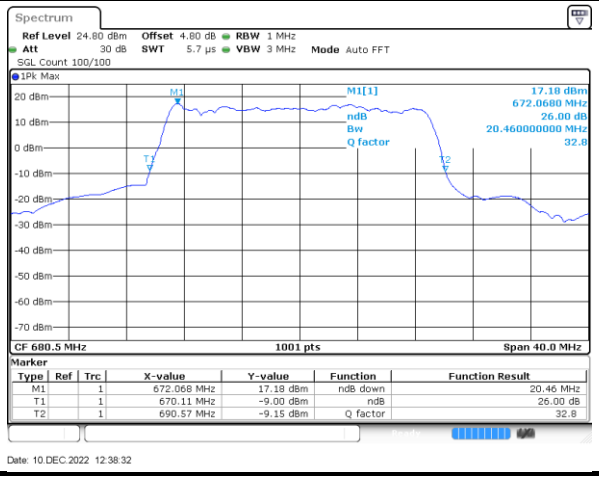

**Middle Channel / Full RB / 256QAM**

# 26dB Bandwidth

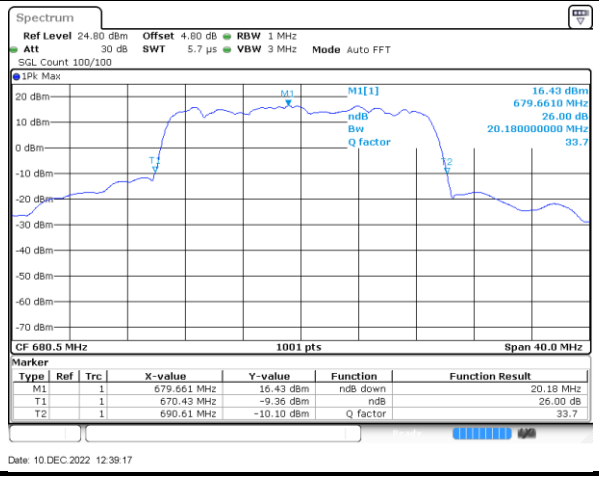
| Mode | LTE Band 71 : 26dB BW(MHz) | |
|---|---|---|
| BW | 20MHz | |
| Mod. | QPSK | 16QAM |
| Middle CH | 20.46 | 20.18 |

**LTE Band 71**

**Middle Channel / 20MHz / QPSK**



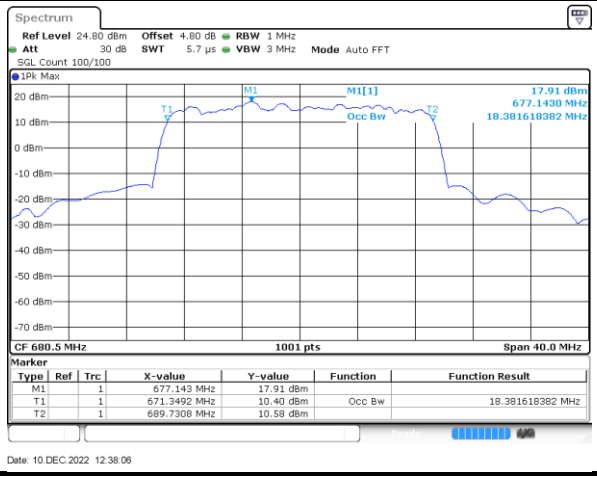

**Middle Channel / 20MHz / 16QAM**

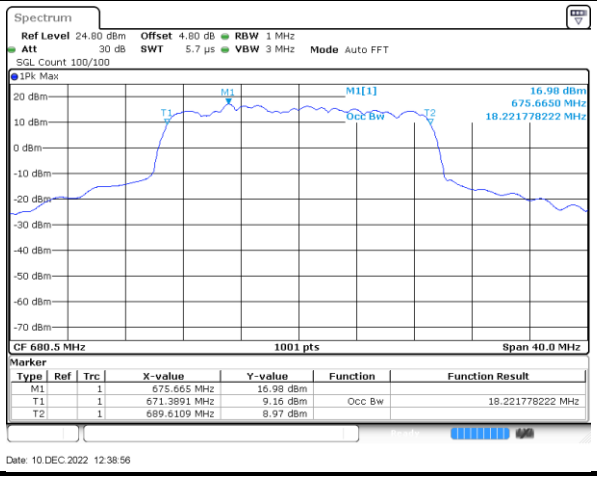


# Occupied Bandwidth

| Mode | LTE Band 71 : 99%OBW(MHz) | |
|---|---|---|
| BW | 20MHz | |
| Mod. | QPSK | 16QAM |
| Middle CH | 18.38 | 18.22 |

| LTE Band 71 | |
|---|---|
| Middle Channel / 20MHz / QPSK | Middle Channel / 20MHz / 16QAM |

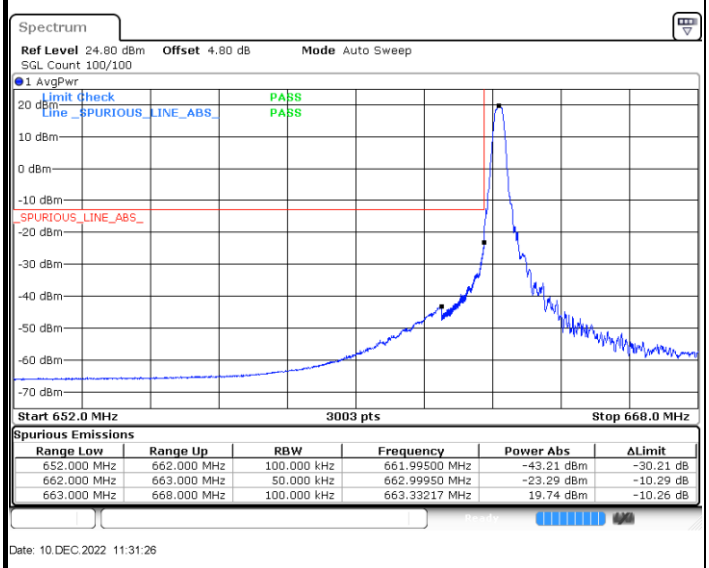


# Conducted Band Edge

## LTE Band 71 / 5MHz / QPSK

### Lowest Band Edge / 1 RB

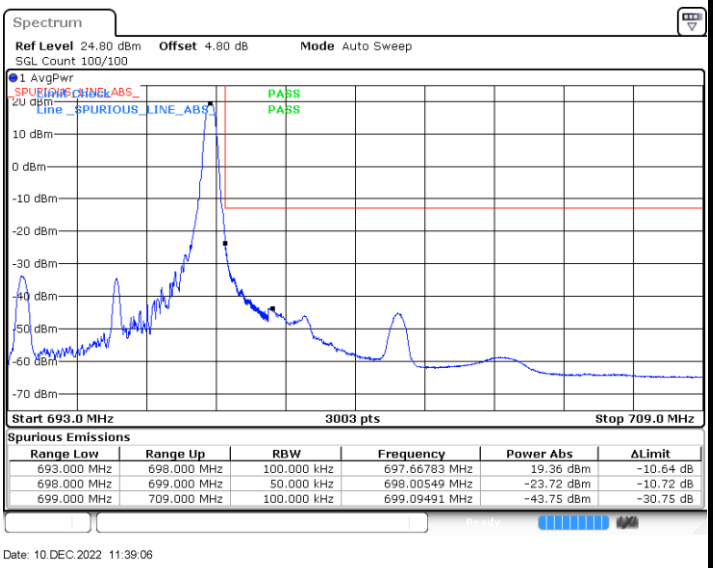



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 652.000 MHz | 662.000 MHz | 100.000 kHz | 661.99500 MHz | -43.21 dBm | -30.21 dB |
| 662.000 MHz | 663.000 MHz | 50.000 kHz | 662.99950 MHz | -23.29 dBm | -10.29 dB |
| 663.000 MHz | 668.000 MHz | 100.000 kHz | 663.33217 MHz | 19.74 dBm | -10.26 dB |

Date: 10.DEC.2022 11:31:26

### Highest Band Edge / 1 RB

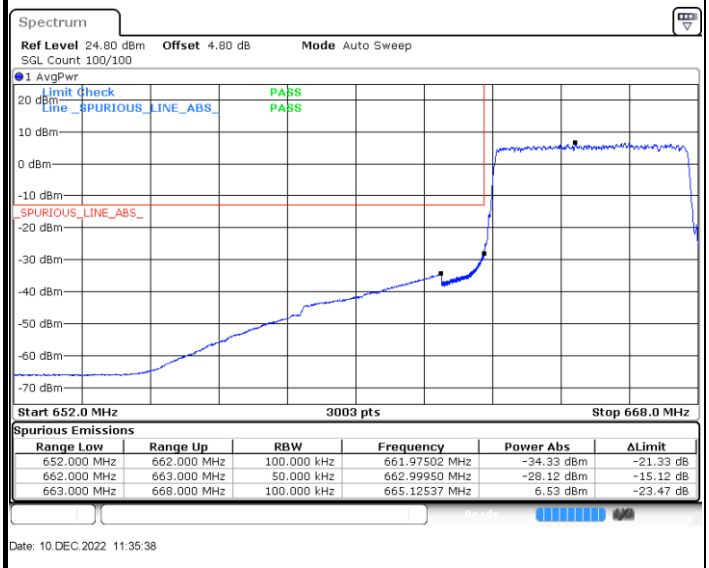



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 693.000 MHz | 698.000 MHz | 100.000 kHz | 697.66783 MHz | 19.36 dBm | -10.64 dB |
| 698.000 MHz | 699.000 MHz | 50.000 kHz | 698.00549 MHz | -23.72 dBm | -10.72 dB |
| 699.000 MHz | 709.000 MHz | 100.000 kHz | 699.09491 MHz | -43.75 dBm | -30.75 dB |

Date: 10.DEC.2022 11:39:06

### Lowest Band Edge / Full RB

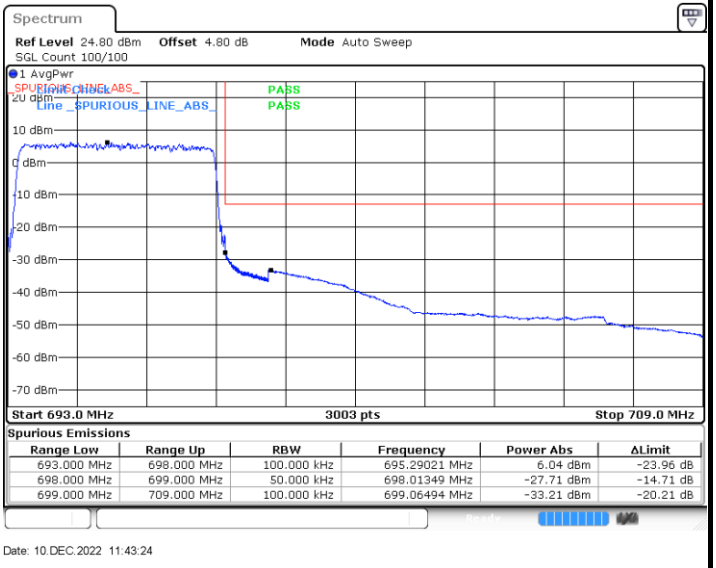



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 652.000 MHz | 662.000 MHz | 100.000 kHz | 661.97502 MHz | -34.33 dBm | -21.33 dB |
| 662.000 MHz | 663.000 MHz | 50.000 kHz | 662.99950 MHz | -28.12 dBm | -15.12 dB |
| 663.000 MHz | 668.000 MHz | 100.000 kHz | 665.12537 MHz | 6.53 dBm | -23.47 dB |

Date: 10.DEC.2022 11:35:38

### Highest Band Edge / Full RB



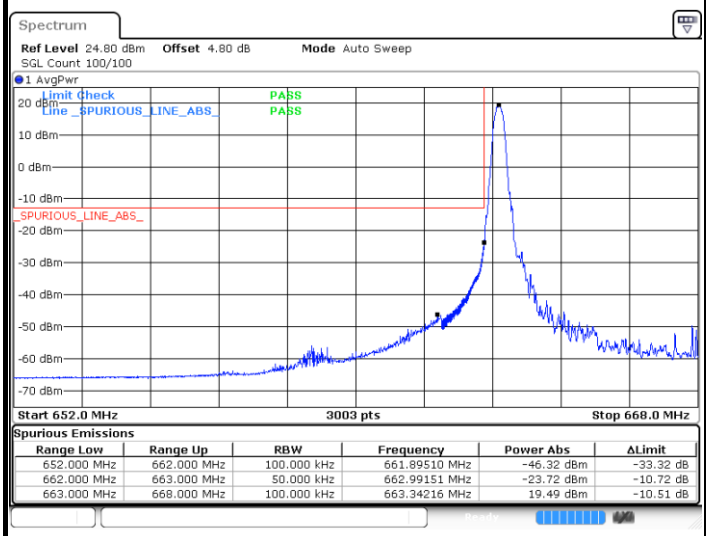

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 693.000 MHz | 698.000 MHz | 100.000 kHz | 695.29021 MHz | 6.04 dBm | -23.96 dB |
| 698.000 MHz | 699.000 MHz | 50.000 kHz | 698.01349 MHz | -27.71 dBm | -14.71 dB |
| 699.000 MHz | 709.000 MHz | 100.000 kHz | 699.06494 MHz | -33.21 dBm | -20.21 dB |

Date: 10.DEC.2022 11:43:24

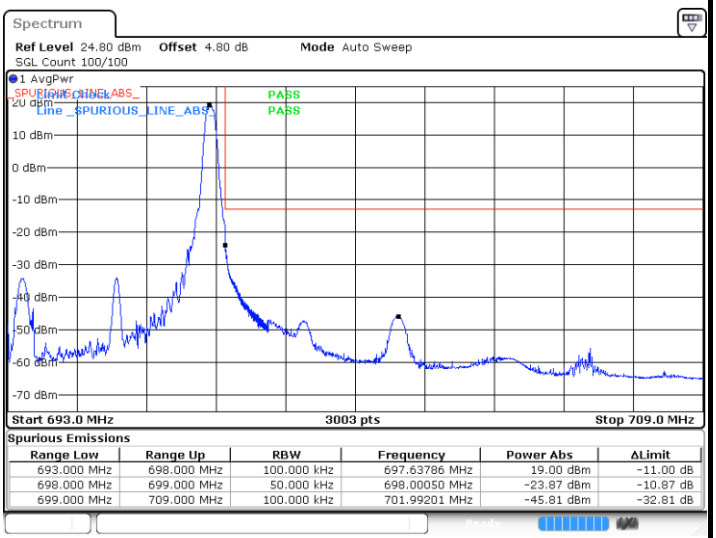
## LTE Band 71 / 5MHz / 16QAM

### Lowest Band Edge / 1 RB



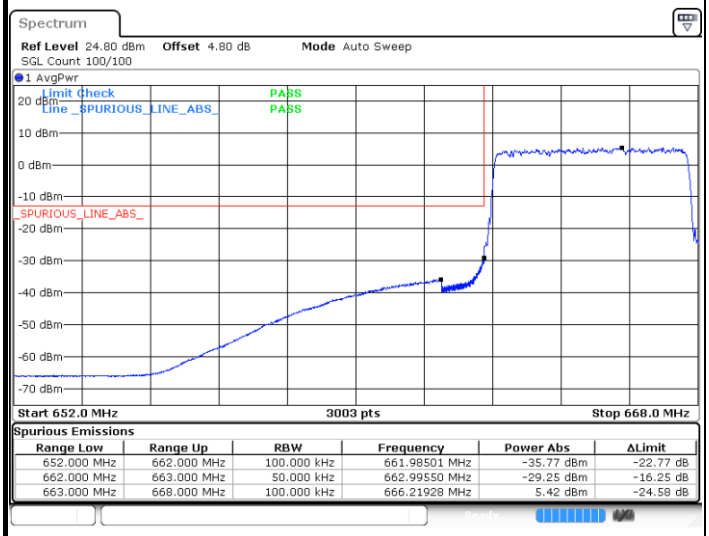

Date: 10.DEC.2022 11:32:16

### Highest Band Edge / 1 RB



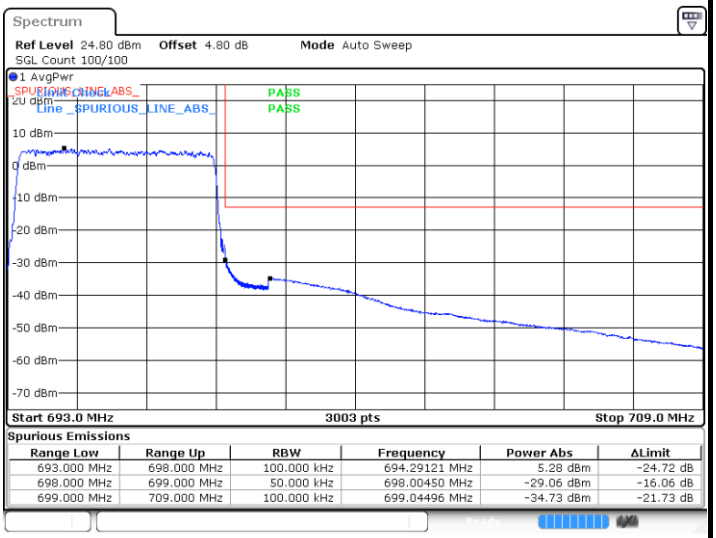

Date: 10.DEC.2022 11:39:58

### Lowest Band Edge / Full RB




Date: 10.DEC.2022 11:34:48

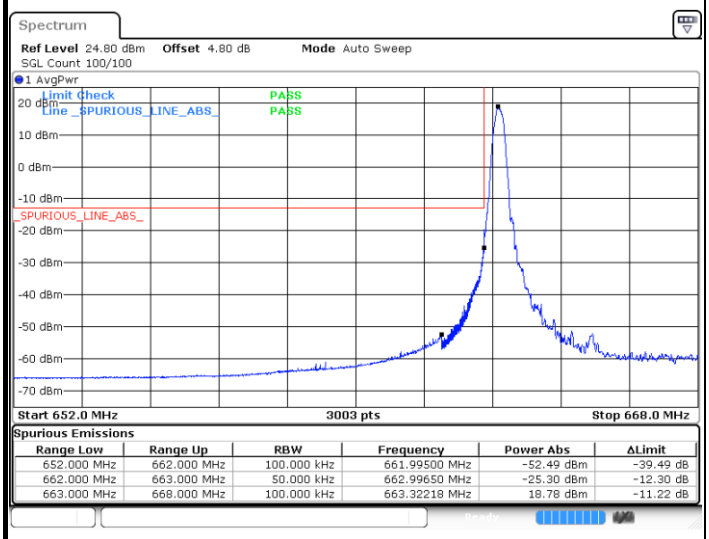
### Highest Band Edge / Full RB




Date: 10.DEC.2022 11:42:32

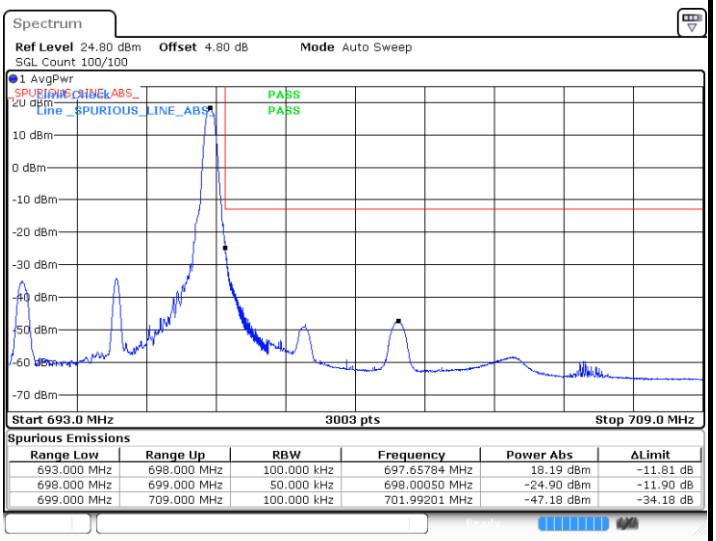
## LTE Band 71 / 5MHz / 64QAM

### Lowest Band Edge / 1RB



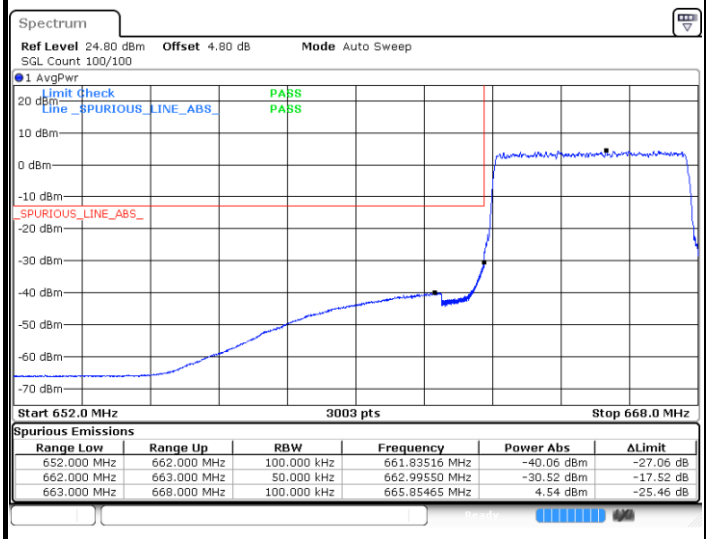

Date: 10.DEC.2022 11:33:07

### Highest Band Edge / 1 RB



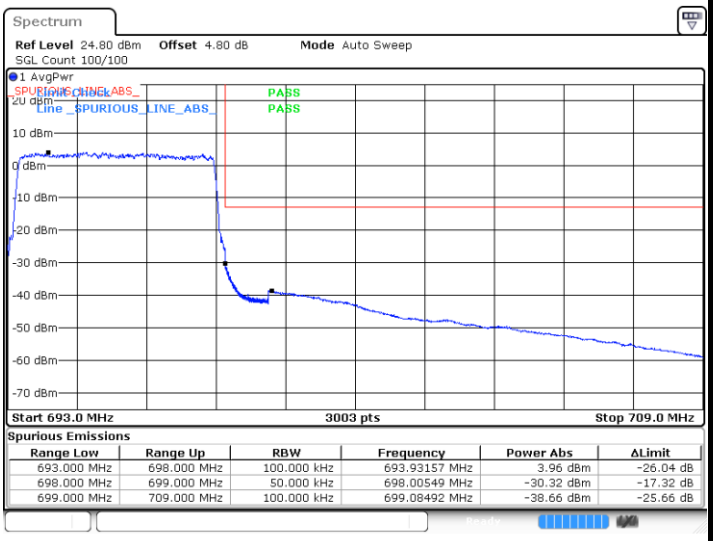

Date: 10.DEC.2022 11:40:49

### Lowest Band Edge / Full RB




Date: 10.DEC.2022 11:33:57

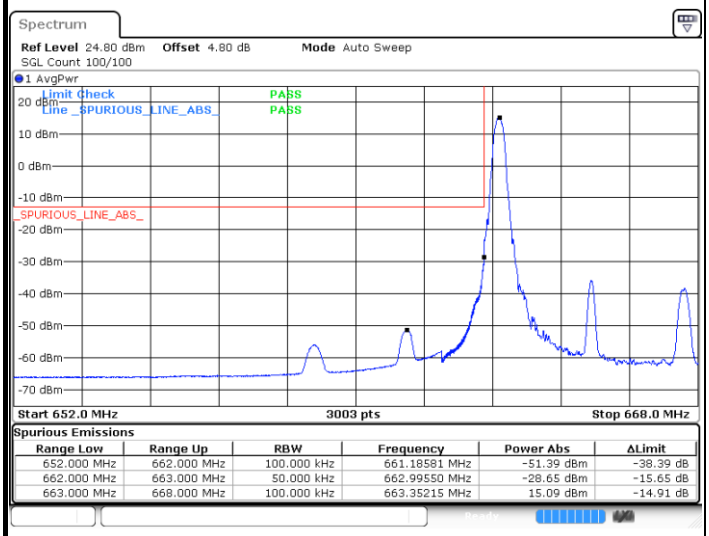
### Highest Band Edge / Full RB




Date: 10.DEC.2022 11:41:41

## LTE Band 71 / 5MHz / 256QAM

### Lowest Band Edge / 1RB

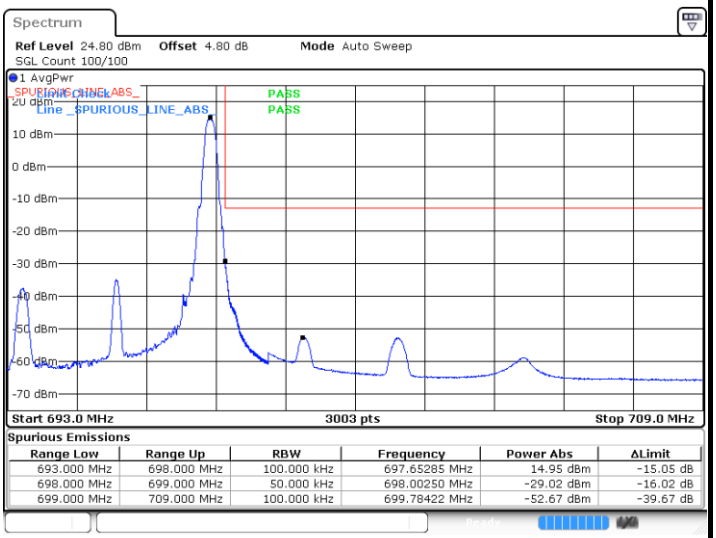



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 652.000 MHz | 662.000 MHz | 100.000 kHz | 661.18581 MHz | -51.39 dBm | -38.39 dB |
| 662.000 MHz | 663.000 MHz | 50.000 kHz | 662.99550 MHz | -28.65 dBm | -15.65 dB |
| 663.000 MHz | 668.000 MHz | 100.000 kHz | 663.35215 MHz | 15.09 dBm | -14.91 dB |

Date: 10.DEC.2022 12:51:50

### Highest Band Edge / 1 RB

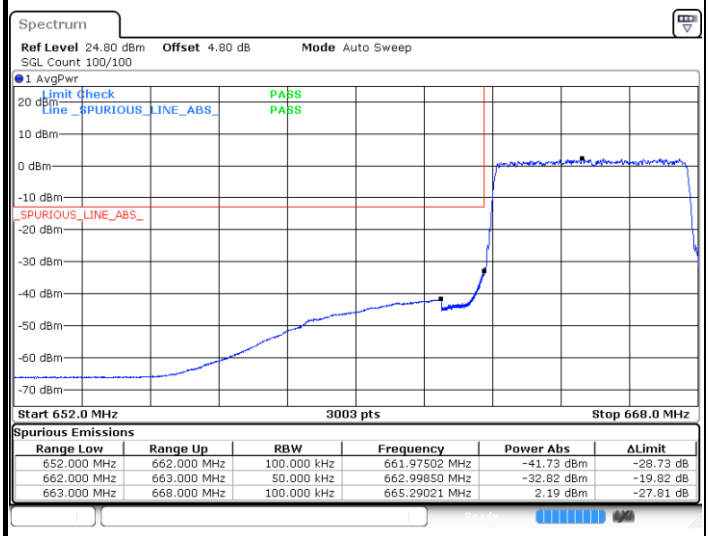



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 693.000 MHz | 698.000 MHz | 100.000 kHz | 697.65285 MHz | 14.95 dBm | -15.05 dB |
| 698.000 MHz | 699.000 MHz | 50.000 kHz | 698.00250 MHz | -29.02 dBm | -16.02 dB |
| 699.000 MHz | 709.000 MHz | 100.000 kHz | 699.78422 MHz | -52.67 dBm | -39.67 dB |

Date: 10.DEC.2022 12:54:39

### Lowest Band Edge / Full RB

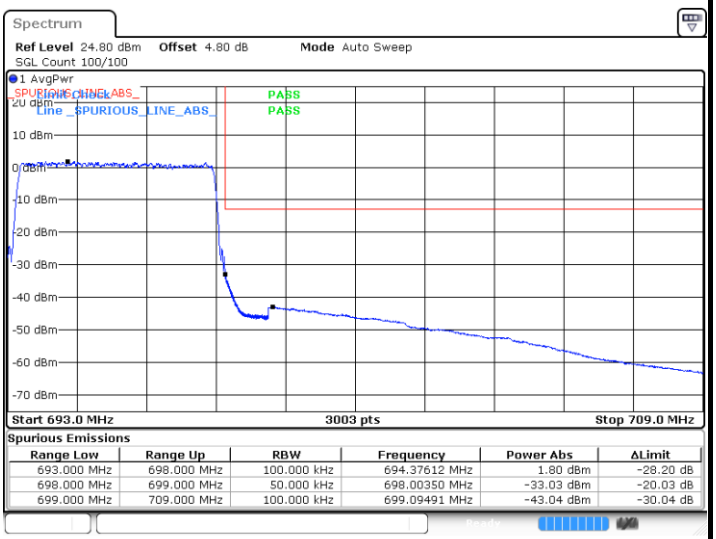



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 652.000 MHz | 662.000 MHz | 100.000 kHz | 661.97502 MHz | -41.73 dBm | -28.73 dB |
| 662.000 MHz | 663.000 MHz | 50.000 kHz | 662.99850 MHz | -32.82 dBm | -19.82 dB |
| 663.000 MHz | 668.000 MHz | 100.000 kHz | 665.29021 MHz | 2.19 dBm | -27.81 dB |

Date: 10.DEC.2022 12:52:40

### Highest Band Edge / Full RB



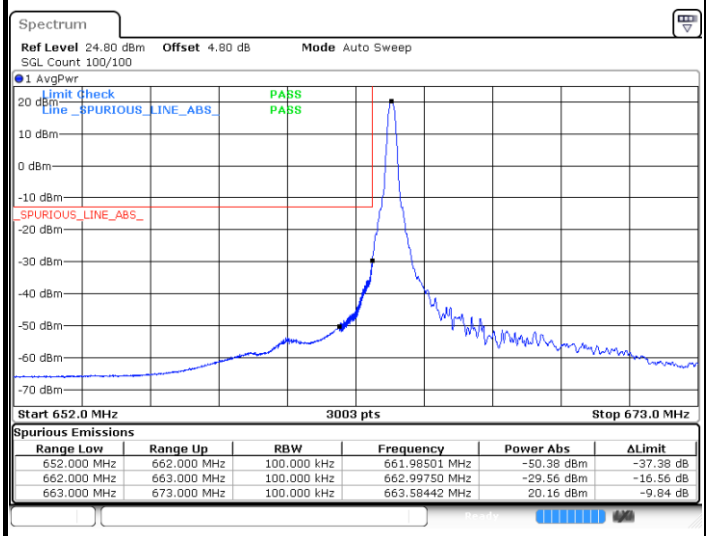

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 693.000 MHz | 698.000 MHz | 100.000 kHz | 694.37612 MHz | 1.80 dBm | -28.20 dB |
| 698.000 MHz | 699.000 MHz | 50.000 kHz | 698.00350 MHz | -33.03 dBm | -20.03 dB |
| 699.000 MHz | 709.000 MHz | 100.000 kHz | 699.09491 MHz | -43.04 dBm | -30.04 dB |

Date: 10.DEC.2022 12:53:44

## LTE Band 71 / 10MHz / QPSK

### Lowest Band Edge / 1 RB

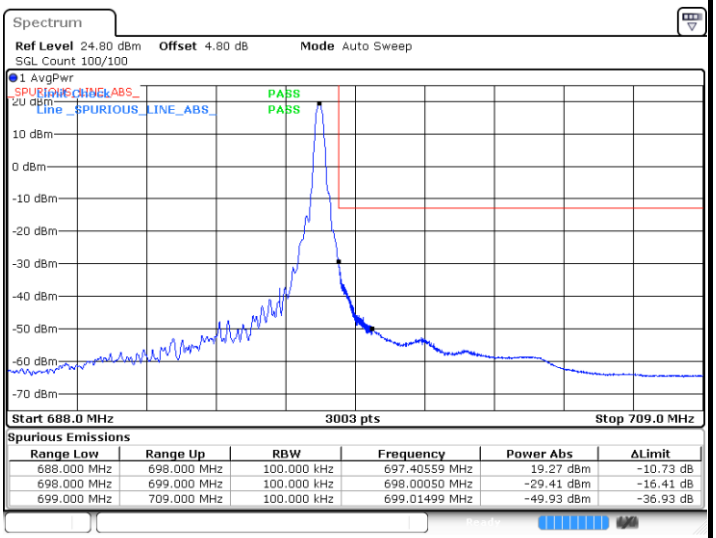



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 652.000 MHz | 662.000 MHz | 100.000 kHz | 661.98501 MHz | -50.38 dBm | -37.38 dB |
| 662.000 MHz | 663.000 MHz | 100.000 kHz | 662.99750 MHz | -29.56 dBm | -16.56 dB |
| 663.000 MHz | 673.000 MHz | 100.000 kHz | 663.58442 MHz | 20.16 dBm | -9.84 dB |

Date: 10.DEC.2022 11:48:24

### Highest Band Edge / 1 RB

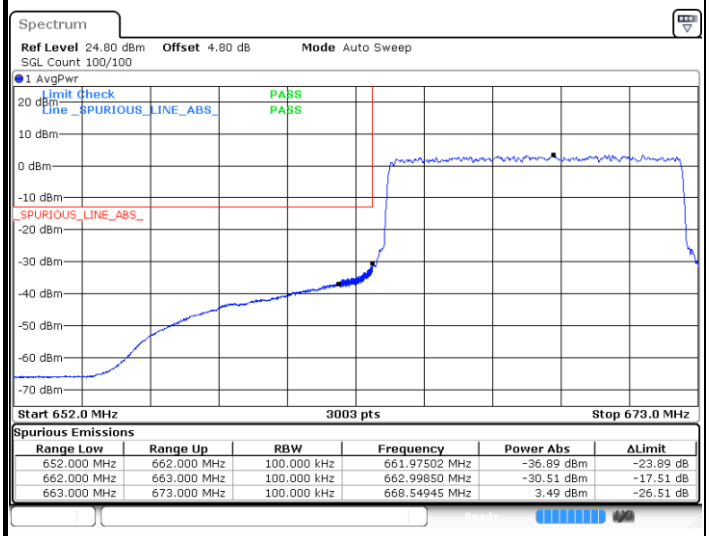



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 688.000 MHz | 698.000 MHz | 100.000 kHz | 697.40559 MHz | 19.27 dBm | -10.73 dB |
| 698.000 MHz | 699.000 MHz | 100.000 kHz | 698.00050 MHz | -29.41 dBm | -16.41 dB |
| 699.000 MHz | 709.000 MHz | 100.000 kHz | 699.01499 MHz | -49.93 dBm | -36.93 dB |

Date: 10.DEC.2022 11:53:10

### Lowest Band Edge / Full RB

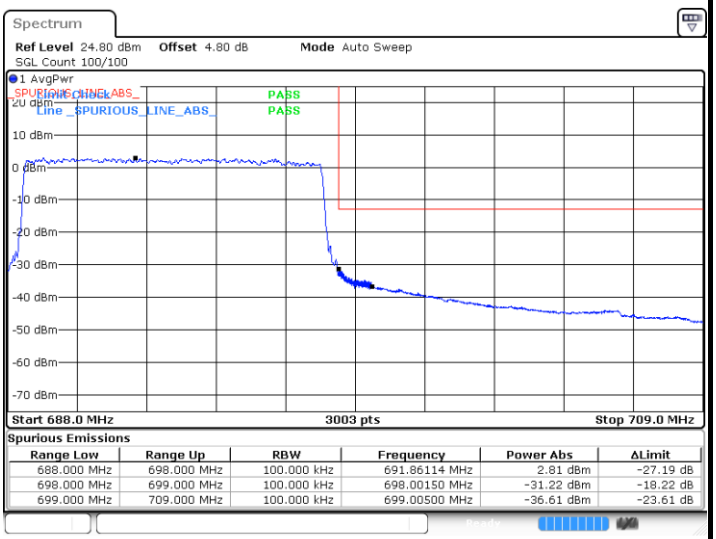



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 652.000 MHz | 662.000 MHz | 100.000 kHz | 661.97502 MHz | -36.89 dBm | -23.89 dB |
| 662.000 MHz | 663.000 MHz | 100.000 kHz | 662.99850 MHz | -30.51 dBm | -17.51 dB |
| 663.000 MHz | 673.000 MHz | 100.000 kHz | 668.54945 MHz | 3.49 dBm | -26.51 dB |

Date: 10.DEC.2022 11:44:15

### Highest Band Edge / Full RB



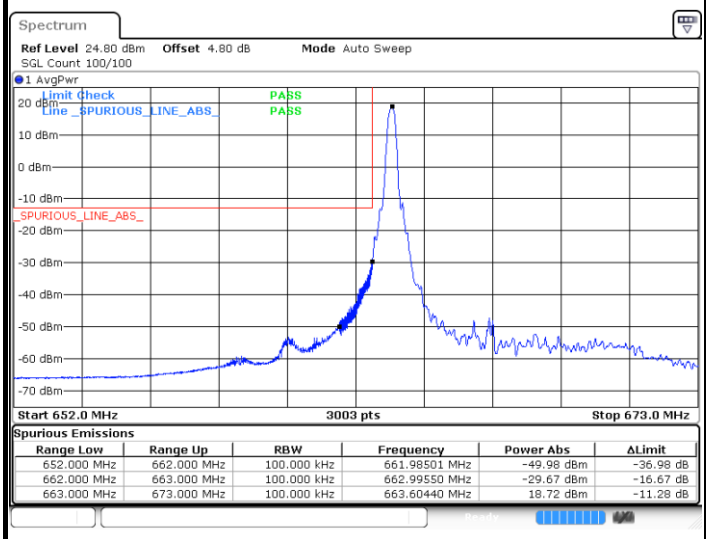

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 688.000 MHz | 698.000 MHz | 100.000 kHz | 691.86114 MHz | 2.81 dBm | -27.19 dB |
| 698.000 MHz | 699.000 MHz | 100.000 kHz | 698.00150 MHz | -31.22 dBm | -18.22 dB |
| 699.000 MHz | 709.000 MHz | 100.000 kHz | 699.00500 MHz | -36.61 dBm | -23.61 dB |

Date: 10.DEC.2022 11:57:20

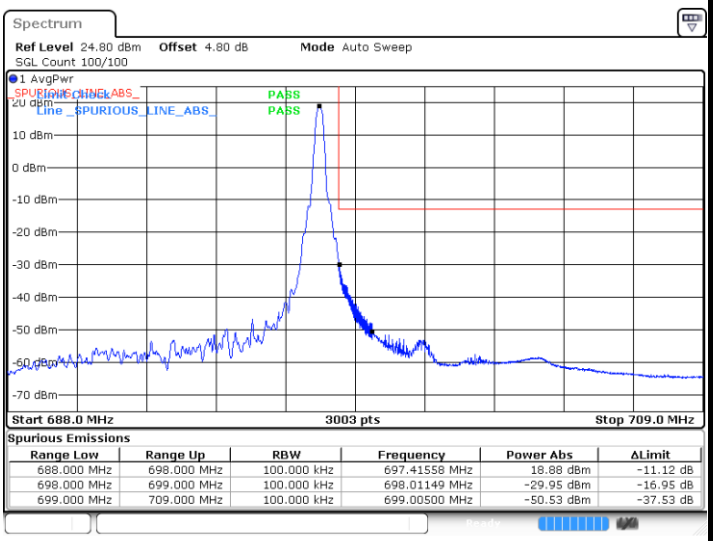
## LTE Band 71 / 10MHz / 16QAM

### Lowest Band Edge / 1 RB



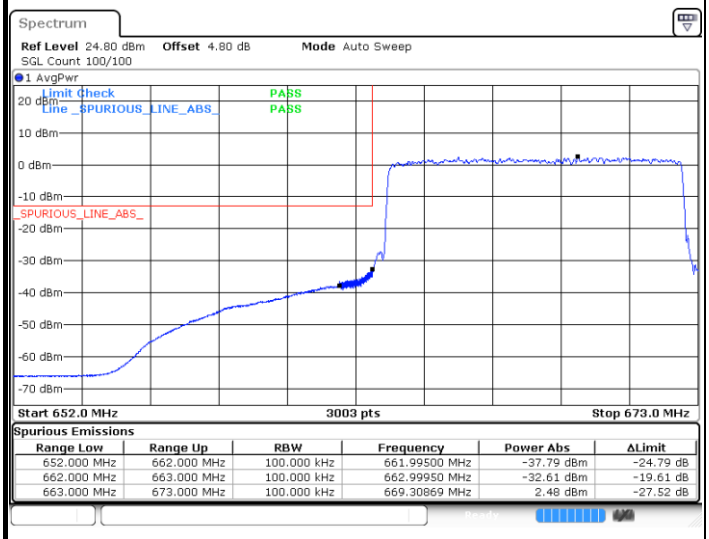

Date: 10.DEC.2022 11:47:34

### Highest Band Edge / 1 RB



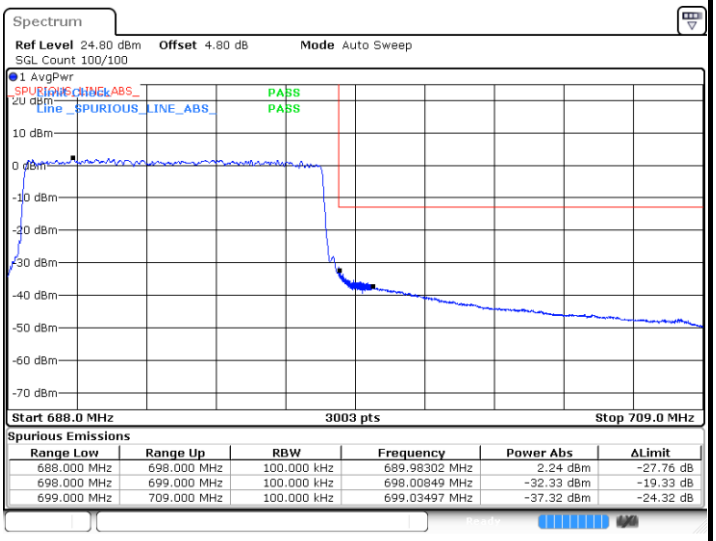

Date: 10.DEC.2022 11:54:00

### Lowest Band Edge / Full RB




Date: 10.DEC.2022 11:45:05

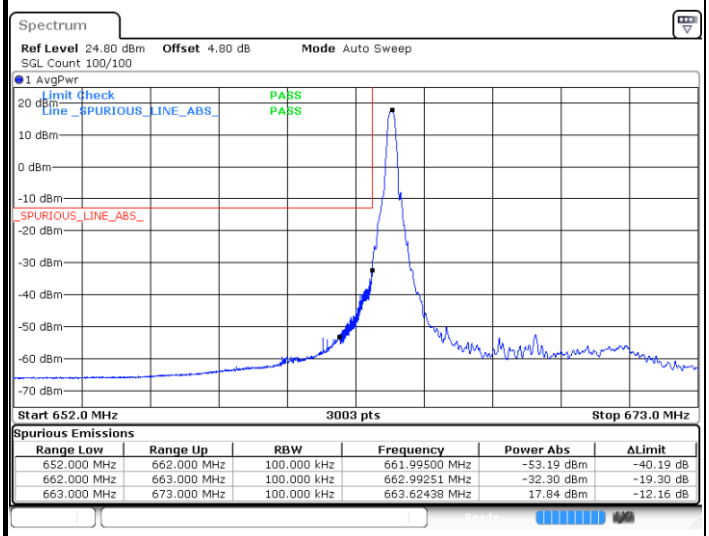
### Highest Band Edge / Full RB




Date: 10.DEC.2022 11:56:30

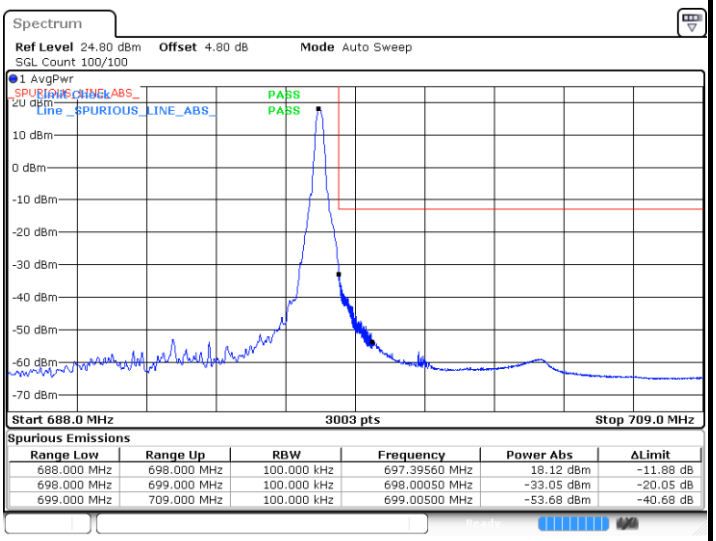
## LTE Band 71 / 10MHz / 64QAM

### Lowest Band Edge / 1 RB



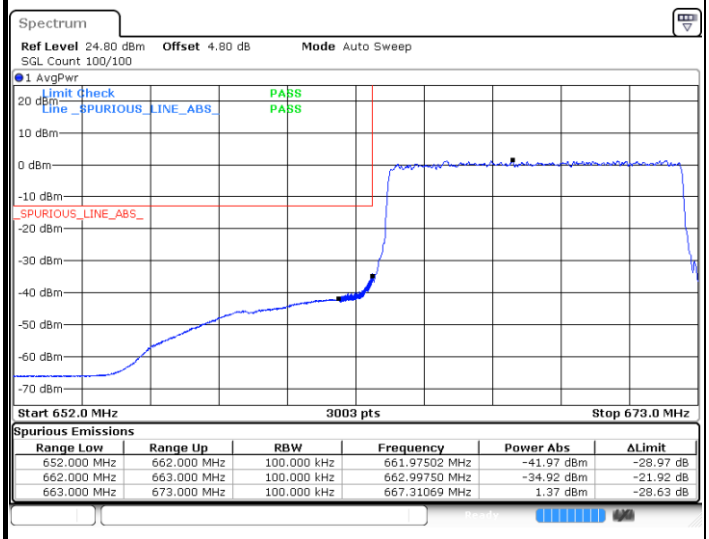

Date: 10.DEC.2022 11:46:45

### Highest Band Edge / 1 RB



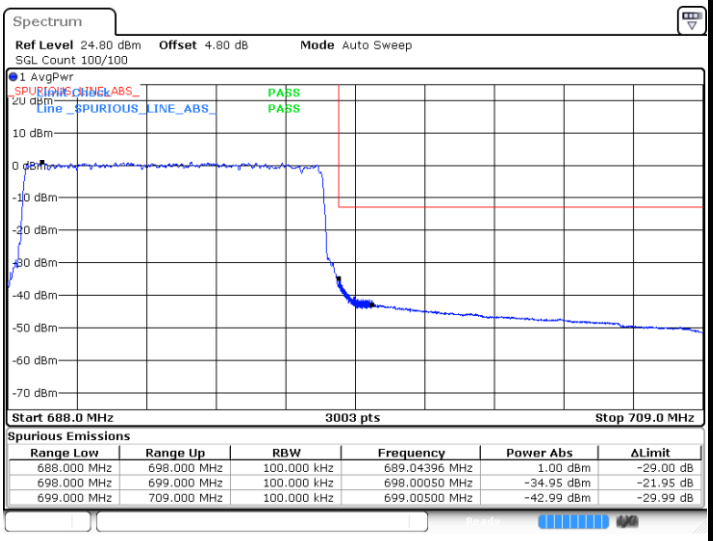

Date: 10.DEC.2022 11:54:50

### Lowest Band Edge / Full RB




Date: 10.DEC.2022 11:45:55

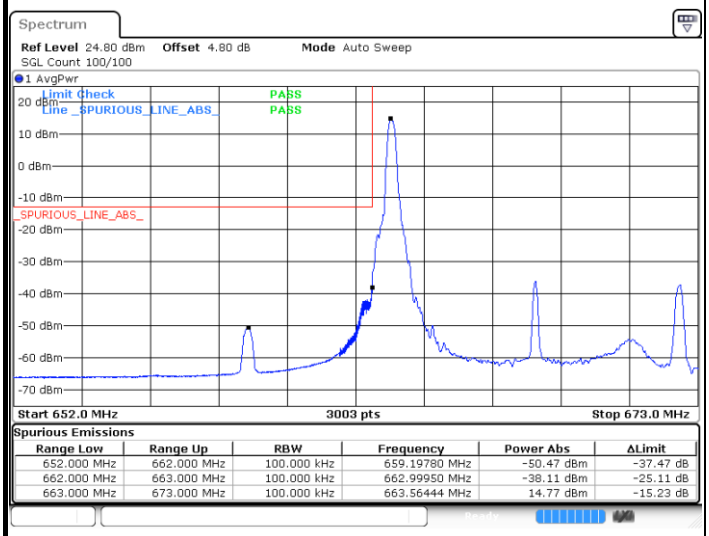
### Highest Band Edge / Full RB




Date: 10.DEC.2022 11:55:40

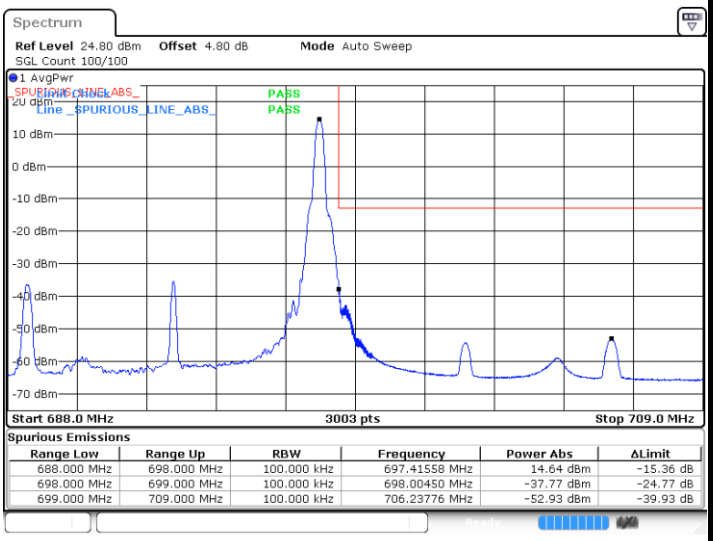
## LTE Band 71 / 10MHz / 256QAM

### Lowest Band Edge / 1 RB



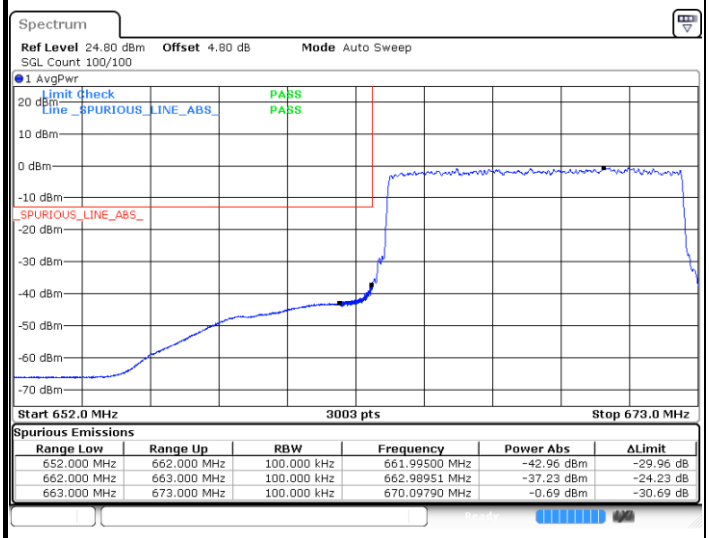

Date: 10.DEC.2022 12:47:21

### Highest Band Edge / 1 RB



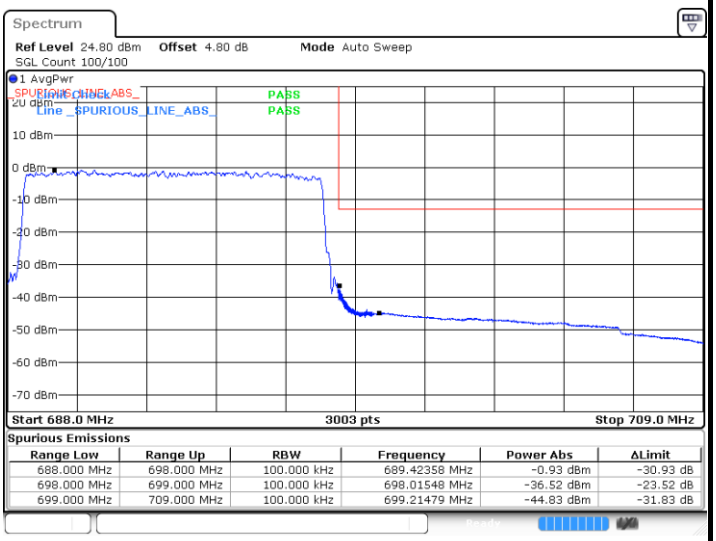

Date: 10.DEC.2022 12:50:22

### Lowest Band Edge / Full RB




Date: 10.DEC.2022 12:48:08

### Highest Band Edge / Full RB




Date: 10.DEC.2022 12:49:33