# FCC RF Test Report

| | | |
|---|---|---|
| APPLICANT | : | Motorola Mobility LLC |
| EQUIPMENT | : | Mobile Cellular Phone |
| BRAND NAME | : | Motorola |
| MODEL NAME | : | XT2523-3, XT2523-6 |
| FCC ID | : | IHDT56AT4 |
| STANDARD | : | 47 CFR Part 22(H) |
| CLASSIFICATION | : | Licensed Non-Broadcast Transmitter Held toEar(TNE) |
| TEST DATE(S) | : | Oct. 28, 2024 ~ Oct. 29, 2024 |

**We, Sporton International Inc. (Shenzhen), 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. (Shenzhen), the test report shall not be reproduced except in full.**

Jason Jia

**Approved by: Jason Jia**

ACCREDITED Cert #5145.01

***Sporton International Inc. (ShenZhen)***

***1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055***

***People's Republic of China***

# TABLE OF CONTENTS

**REVISION HISTORY** ..... **3**

**SUMMARY OF TEST RESULT** ..... **4**

**1 GENERAL DESCRIPTION** ..... **5**

1.1 Applicant ..... 5
1.2 Manufacturer ..... 5
1.3 Product Feature of Equipment Under Test ..... 5
1.4 Product Specification of Equipment Under Test ..... 5
1.5 Modification of EUT ..... 5
1.6 Maximum ERP Power and Emission Designator ..... 6
1.7 Testing Location ..... 6
1.8 Test Software ..... 6
1.9 Applicable Standards ..... 7
1.10 Specification of Accessory ..... 7

**2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST** ..... **8**

2.1 Test Mode ..... 8
2.2 Connection Diagram of Test System ..... 9
2.3 Support Unit used in test configuration and system ..... 9
2.4 Measurement Results Explanation Example ..... 9
2.5 Frequency List of Low/Middle/High Channels ..... 10

**3 CONDUCTED TEST ITEMS** ..... **11**

3.1 Measuring Instruments ..... 11
3.2 Test Setup ..... 11
3.3 Test Result of Conducted Test ..... 11
3.4 Conducted Output Power and ERP ..... 12
3.5 Peak-to-Average Ratio ..... 13
3.6 Occupied Bandwidth ..... 14
3.7 Conducted Band Edge ..... 15
3.8 Conducted Spurious Emission ..... 16
3.9 Frequency Stability ..... 17

**4 RADIATED TEST ITEMS** ..... **18**

4.1 Measuring Instruments ..... 18
4.2 Test Setup ..... 18
4.3 Test Result of Radiated Test ..... 19
4.4 Radiated Spurious Emission ..... 20

**5 LIST OF MEASURING EQUIPMENT** ..... **21**

**6 MEASUREMENT UNCERTAINTY** ..... **22**

**APPENDIX A. TEST RESULTS OF CONDUCTED TEST**

**APPENDIX B. TEST RESULTS OF RADIATED TEST**

**APPENDIX C. TEST SETUP PHOTOGRAPHS**

# REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FG480701-01A | Rev. 01 | Initial issue of report | Oct. 29, 2024 |
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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 5) | ERP < 7 Watt | PASS | - |
| 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) | Conducted Band Edge Measurement (Band 5) | < 43+10log10(P[Watts]) | PASS | - |
| 3.8 | §2.1051 §22.917(a) | Conducted Spurious Emission (Band 5) | < 43+10log10(P[Watts]) | PASS | - |
| 3.9 | §2.1055 §22.355 | Frequency Stability Temperature & Voltage | < 2.5 ppm for Part 22 | PASS | - |
| 4.4 | §2.1053 §22.917(a) | Radiated Spurious Emission (Band 5) | < 43+10log$_{10}$(P[Watts]) | PASS | Under limit 45.49 dB at 2496.27 MHz |

**Conformity Assessment Condition:**

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

**Disclaimer:**

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

# 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** | XT2523-3, XT2523-6 |
| **FCC ID** | IHDT56AT4 |
| **IMEI Code** | Conducted: 350288530019378/350288530019386<br>Radiation: 350288530017992/350288530018008 |
| **HW Version** | DVT2 |
| **SW Version** | VVTA35.44, UUTB34.23 |
| **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 |
| **Rx Frequency** | LTE Band 5 : 869 MHz ~ 894 MHz |
| **Bandwidth** | LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz |
| **Maximum Output Power to Antenna** | **<ANT0>** LTE Band 5 : 23.44 dBm<br>**<ANT3>** LTE Band 5 : 23.13 dBm |
| **Antenna Gain** | **<ANT0>** LTE Band 5 : -4.2 dBi<br>**<ANT3>** LTE Band 5 : -4 dBi |
| **Type of Modulation** | QPSK / 16QAM / 64QAM |

Note: The maximum ERP is calculated from max output power and max antenna gain, so only the maximum ERP of Antenna 0 for LTE Band5 is shown in the report.

## 1.5 Modification of EUT

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

## 1.6 Maximum ERP Power and Emission Designator

| LTE Band 5 | | QPSK | | 16QAM/64QAM | |
|---|---|---|---|---|---|
| BW (MHz) | Frequency Range (MHz) | Maximum ERP(W) | Emission Designator (99%OBW) | Maximum ERP(W) | Emission Designator (99%OBW) |
| **1.4** | 824.7 ~ 848.3 | 0.0489 | 1M09G7D | 0.0414 | 1M09W7D |
| **3** | 825.5 ~ 847.5 | 0.0495 | 2M70G7D | 0.0419 | 2M72W7D |
| **5** | 826.5 ~ 846.5 | 0.0499 | 4M50G7D | 0.0423 | 4M48W7D |
| **10** | 829.0 ~ 844.0 | 0.0512 | 9M07G7D | 0.0425 | 8M97W7D |

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

## 1.7 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

| | | | |
|---|---|---|---|
| **Test Firm** | Sporton International Inc. (ShenZhen) | | |
| **Test Site Location** | 1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China<br>TEL: +86-755-86379589<br>FAX: +86-755-86379595 | | |
| **Test Site No.** | **Sporton Site No.** | **FCC Designation No.** | **FCC Test Firm Registration No.** |
| | TH01-SZ | CN1256 | 421272 |

| | | | |
|---|---|---|---|
| **Test Firm** | Sporton International Inc. (ShenZhen) | | |
| **Test Site Location** | 101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China<br>TEL: +86-755-86066985 | | |
| **Test Site No.** | **Sporton Site No.** | **FCC Designation No.** | **FCC Test Firm Registration No.** |
| | 03CH01-SZ | CN1256 | 421272 |

## 1.8 Test Software

| Item | Site | Manufacture | Name | Version |
|---|---|---|---|---|
| 1. | 03CH01-SZ | AUDIX | E3 | 6.2009-8-24 |

## 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 22(H)
- 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

| Accessories Information | | | | |
|---|---|---|---|---|
| **AC Adapter 1(US)** | **Brand Name** | Motorola(AOHAI) | **Model Name** | MC-101 |
| **AC Adapter 1(EU)** | **Brand Name** | Motorola(AOHAI) | **Model Name** | MC-102 |
| **AC Adapter 1(UK)** | **Brand Name** | Motorola(AOHAI) | **Model Name** | MC-103 |
| **AC Adapter 1(IN)** | **Brand Name** | Motorola(AOHAI) | **Model Name** | MC-104 |
| **AC Adapter 1(AU)** | **Brand Name** | Motorola(AOHAI) | **Model Name** | MC-105 |
| **AC Adapter 1(AR)** | **Brand Name** | Motorola(AOHAI) | **Model Name** | MC-106 |
| **AC Adapter 2(US)** | **Brand Name** | Motorola(CHENYANG) | **Model Name** | MC-101 |
| **AC Adapter 2(EU)** | **Brand Name** | Motorola(CHENYANG) | **Model Name** | MC-102 |
| **AC Adapter 2(UK)** | **Brand Name** | Motorola(CHENYANG) | **Model Name** | MC-103 |
| **AC Adapter 2(AU)** | **Brand Name** | Motorola(CHENYANG) | **Model Name** | MC-105 |
| **AC Adapter 2(AR)** | **Brand Name** | Motorola(CHENYANG) | **Model Name** | MC-106 |
| **AC Adapter 2(BR)** | **Brand Name** | Motorola(CHENYANG) | **Model Name** | MC-107 |
| **AC Adapter 2(PRC)** | **Brand Name** | Motorola(CHENYANG) | **Model Name** | MC-108 |
| **AC Adapter 3(CHILE)** | **Brand Name** | Motorola(SALCOMP) | **Model Name** | MC-109 |
| **Battery 1** | **Brand Name** | Motorola(ATL) | **Model Name** | RL52 |
| **Battery 2** | **Brand Name** | Motorola(Jiade) | **Model Name** | RL52 |
| **Battery 3** | **Brand Name** | Motorola(Sunwoda) | **Model Name** | RL52 |
| **USB Cable 1** | **Brand Name** | Motorola(Yihuaxing) | **Model Name** | T365-020<br>T365-020-01<br>T365-020-02 |
| **USB Cable 2** | **Brand Name** | Motorola(WASHIN) | **Model Name** | HX-TL-01<br>HX-TL-08<br>HX-TL-07 |
| **USB Cable 3** | **Brand Name** | Motorola(Juwei) | **Model Name** | JWUB1614-T03H<br>JWUB1705-T03H<br>JWUB1856-T03H |
| **USB Cable 4** | **Brand Name** | Motorola(I-SHENG) | **Model Name** | SC18D38574 |

# 2 Test Configuration of Equipment Under Test

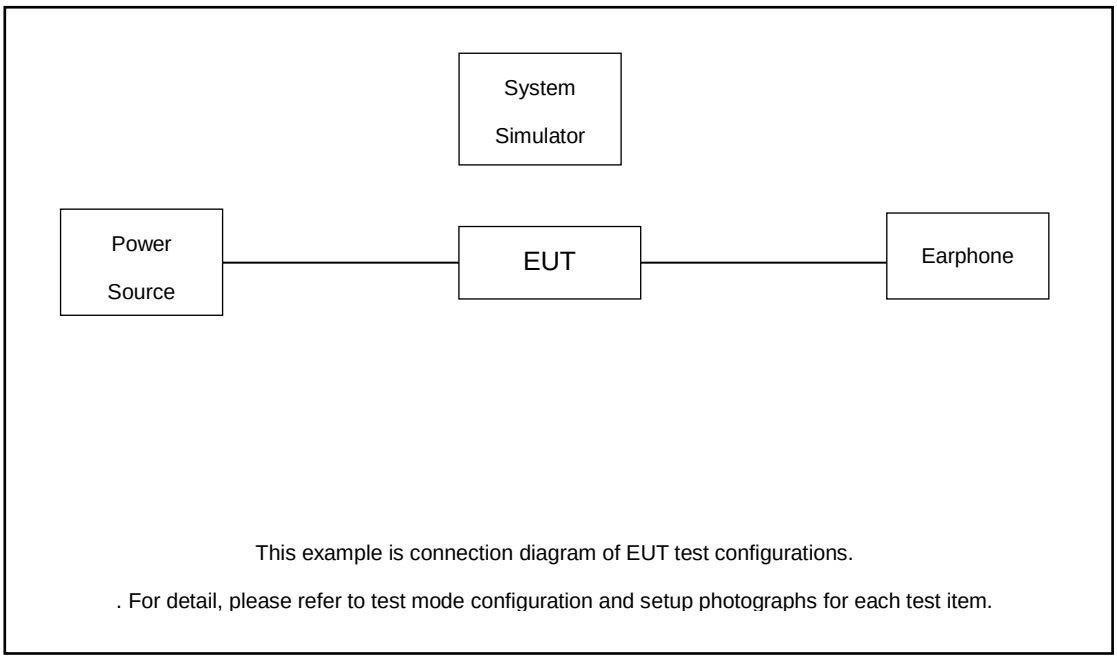
## 2.1 Test Mode

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. (X-Plane)

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

## 2.2 Connection Diagram of Test System




## 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 | MT8820C | 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 and attenuator factor 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 and attenuator factor.

*Offset = RF cable loss + attenuator factor.*

Following shows an offset computation example with cable loss 4.0 dB and 10dB attenuator.

Example :

*Offset(dB) = RF cable loss(dB) + attenuator factor(dB).*

= 4.0 + 10 = 14.0 (dB)

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

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

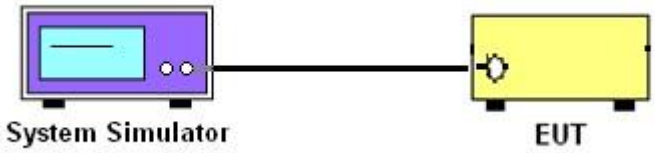
# 3 Conducted Test Items

## 3.1 Measuring Instruments

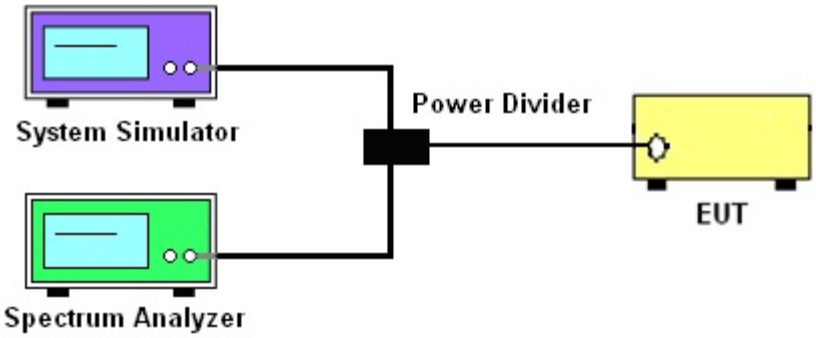
See list of measuring instruments of this test report.

## 3.2 Test Setup

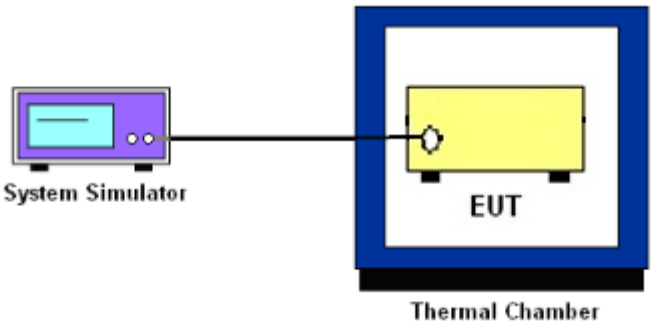
### 3.2.1 Conducted Output Power




### 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

### 3.4.1 Description of the Conducted Output Power Measurement and ERP Measurement

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

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

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.

## 3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
5. Set spectrum analyzer with RMS detector.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. 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.
8. 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.

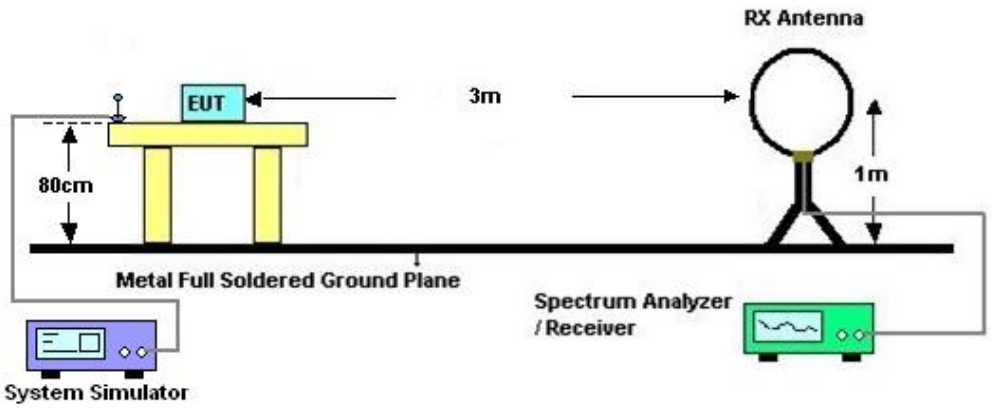
# 4 Radiated Test Items

## 4.1 Measuring Instruments

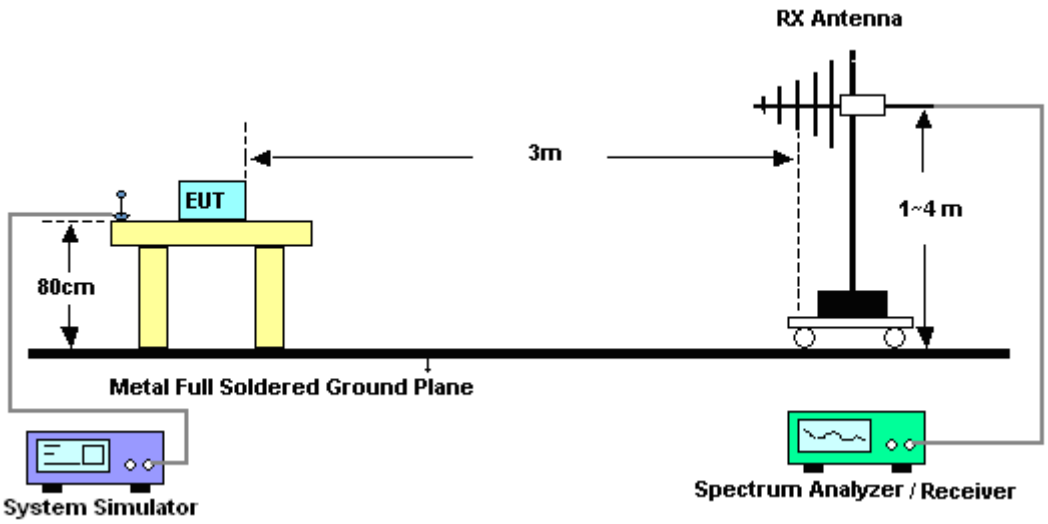
See list of measuring instruments of this test report.

## 4.2 Test Setup

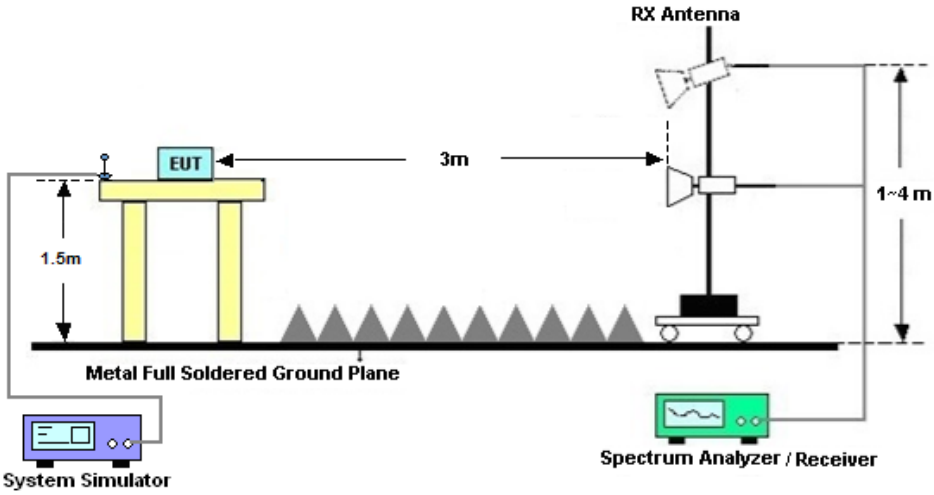
### 4.2.1 For radiated test below 30MHz




### 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.

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 | 101078 | 10Hz~40GHz | Apr. 09, 2024 | Oct. 29, 2024 | Apr. 08, 2025 | Conducted (TH01-SZ) |
| DC Power Supply | TTI | PL330P | 290070 | Max 32V，3A | Oct. 15, 2024 | Oct. 29, 2024 | Oct. 14, 2025 | Conducted (TH01-SZ) |
| Power Divider | TOJOIN | PS-2SM-04 265 | 60.06.020.007 7 | 0.4GHz~26.5GHz | Dec. 25, 2023 | Oct. 29, 2024 | Dec. 24, 2024 | Conducted (TH01-SZ) |
| Thermal Chamber | Ten Billion Hongzhangroup | LP-150U | H2014081803 | -40~+150°C | Jul. 03, 2024 | Oct. 29, 2024 | Jul. 02, 2025 | Conducted (TH01-SZ) |
| EMI Test Receiver&SA | Agilent | N9038A | MY52260185 | 20Hz~26.5GHz | Dec. 27, 2023 | Oct. 28, 2024 | Dec. 26, 2024 | Radiation (03CH01-SZ) |
| Loop Antenna | R&S | HFH2-Z2E | 101141 | 9kHz~30MHz | Dec. 29, 2023 | Oct. 28, 2024 | Dec. 28, 2024 | Radiation (03CH01-SZ) |
| Bilog Antenna | TeseQ | CBL6112D | 35407 | 30MHz-2GHz | Oct. 24, 2023 | Oct. 28, 2024 | Oct. 23, 2025 | Radiation (03CH01-SZ) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117 | 00119436 | 1GHz~18GHz | Jul. 04, 2024 | Oct. 28, 2024 | Jul. 03, 2025 | Radiation (03CH01-SZ) |
| SHF-EHF Horn | com-power | AH-840 | 101071 | 18Ghz-40GHz | Apr. 09,2024 | Oct. 28, 2024 | Apr. 08,2025 | Radiation (03CH01-SZ) |
| LF Amplifier | Burgeon | BPA-530 | 102209 | 0.01~3000Mhz | Apr. 09, 2024 | Oct. 28, 2024 | Apr. 08, 2025 | Radiation (03CH01-SZ) |
| HF Amplifier | MITEQ | AMF-7D-00 101800-30-1 | 1943528 | 1GHz~18GHz | Oct. 17, 2024 | Oct. 28, 2024 | Oct. 16, 2025 | Radiation (03CH01-SZ) |
| HF Amplifier | KEYSIGHT | 83017A | MY53270105 | 0.5GHz~26.5Ghz | Oct. 17, 2024 | Oct. 28, 2024 | Oct. 16, 2025 | Radiation (03CH01-SZ |
| HF Amplifier | MITEQ | TTA1840-35 -HG | 1871923 | 18GHz~40GHz | Jul. 03, 2024 | Oct. 28, 2024 | Jul. 02, 2025 | Radiation (03CH01-SZ) |
| AC Power Source | Chroma | 61601 | 61601000198 5 | N/A | Oct. 17, 2024 | Oct. 28, 2024 | Oct. 16, 2025 | Radiation (03CH01-SZ) |
| Turn Table | EM | EM1000 | N/A | 0~360 degree | NCR | Oct. 28, 2024 | NCR | Radiation (03CH01-SZ) |
| Antenna Mast | EM | EM1000 | N/A | 1 m~4 m | NCR | Oct. 28, 2024 | NCR | Radiation (03CH01-SZ) |

NCR: No Calibration Required

# 6 Measurement Uncertainty

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 Spurious Emission & Bandedge | ±1.34 dB |
| Occupied Channel Bandwidth | ±0.012 MHz |
| Conducted Power | ±1.34 dB |
| Peak to Average Ratio | ±1.34 dB |
| Frequency Stability | ±1.3 Hz |

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

| | |
|---|---|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 2.48 dB |

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

| | |
|---|---|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 3.53 dB |

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

| | |
|---|---|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 4.02 dB |

**---------- THE END ----------**

# Appendix A. Test Results of Conducted Test

| Test Engineer : | Jason Wang | Temperature : | 22~23℃ |
|---|---|---|---|
| | | Relative Humidity : | 40~42% |

## Conducted Output Power(Average power) and ERP

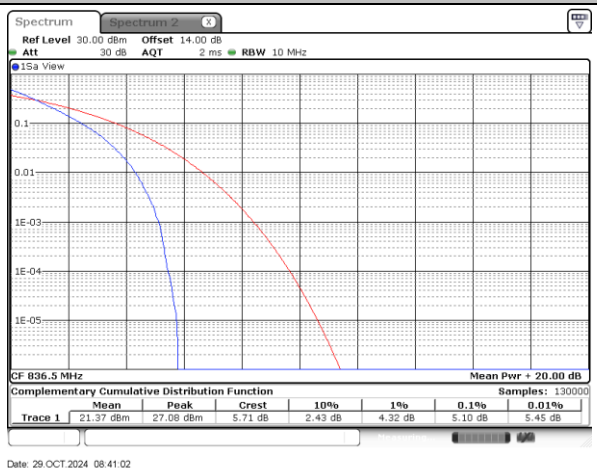
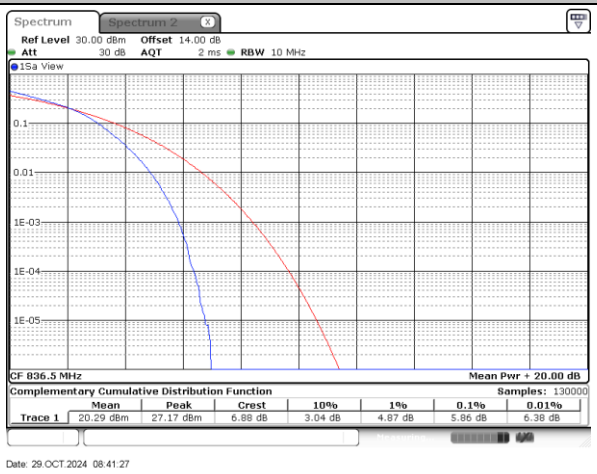
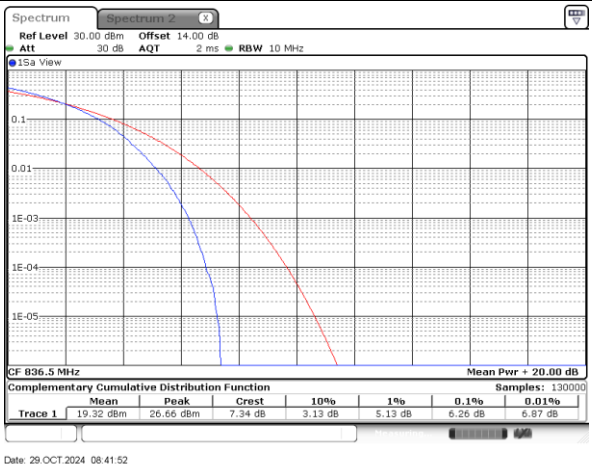
**LTE Band5 Ant0**

| BW [MHz] | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | ERP(W) | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | | | | 20450 | 20525 | 20600 | | | |
| Frequency (MHz) | | | | 829 | 836.5 | 844 | L | M | H |
| 10 | QPSK | 1 | 0 | 23.34 | 23.35 | 23.35 | 0.0500 | 0.0501 | 0.0501 |
| 10 | QPSK | 1 | 25 | 23.43 | 23.44 | 23.43 | 0.0511 | 0.0512 | 0.0511 |
| 10 | QPSK | 1 | 49 | 23.34 | 23.29 | 23.29 | 0.0500 | 0.0494 | 0.0494 |
| 10 | QPSK | 25 | 0 | 22.49 | 22.53 | 22.45 | 0.0411 | 0.0415 | 0.0407 |
| 10 | QPSK | 25 | 12 | 22.45 | 22.44 | 22.42 | 0.0407 | 0.0406 | 0.0405 |
| 10 | QPSK | 25 | 25 | 22.48 | 22.45 | 22.34 | 0.0410 | 0.0407 | 0.0397 |
| 10 | QPSK | 50 | 0 | 22.48 | 22.50 | 22.45 | 0.0410 | 0.0412 | 0.0407 |
| 10 | 16QAM | 1 | 0 | 22.50 | 22.63 | 22.58 | 0.0412 | 0.0425 | 0.0420 |
| 10 | 64QAM | 1 | 0 | 21.43 | 21.53 | 21.47 | 0.0322 | 0.0330 | 0.0325 |
| Channel | | | | 20425 | 20525 | 20625 | ERP(W) | | |
| Frequency (MHz) | | | | 826.5 | 836.5 | 846.5 | L | M | H |
| 5 | QPSK | 1 | 0 | 23.22 | 23.33 | 23.31 | 0.0486 | 0.0499 | 0.0497 |
| 5 | 16QAM | 1 | 0 | 22.45 | 22.61 | 22.51 | 0.0407 | 0.0423 | 0.0413 |
| Channel | | | | 20415 | 20525 | 20635 | ERP(W) | | |
| Frequency (MHz) | | | | 825.5 | 836.5 | 847.5 | L | M | H |
| 3 | QPSK | 1 | 0 | 23.20 | 23.30 | 23.30 | 0.0484 | 0.0495 | 0.0495 |
| 3 | 16QAM | 1 | 0 | 22.48 | 22.57 | 22.48 | 0.0410 | 0.0419 | 0.0410 |
| Channel | | | | 20407 | 20525 | 20643 | ERP(W) | | |
| Frequency (MHz) | | | | 824.7 | 836.5 | 848.3 | L | M | H |
| 1.4 | QPSK | 1 | 0 | 23.23 | 23.24 | 23.22 | 0.0488 | 0.0489 | 0.0486 |
| 1.4 | 16QAM | 1 | 0 | 22.35 | 22.51 | 22.52 | 0.0398 | 0.0413 | 0.0414 |

# LTE Band 5

## Peak-to-Average Ratio

| Mode | LTE Band 5 / 10MHz | | | |
|---|---|---|---|---|
| Mod. | QPSK | 16QAM | 64QAM | Limit: 13dB |
| RB Size | Full RB | Full RB | Full RB | Result |
| Middle CH | 5.10 | 5.86 | 6.26 | PASS |

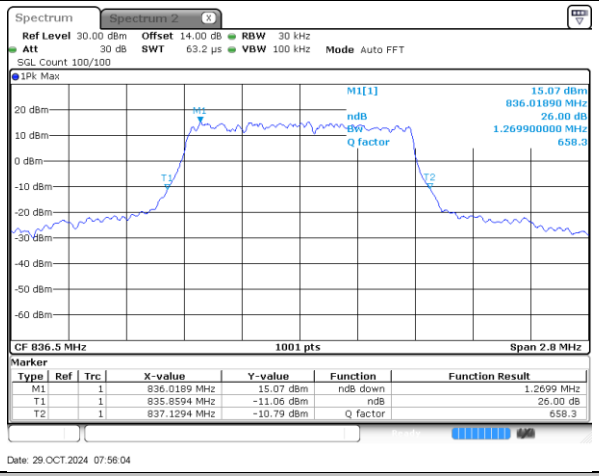
| LTE Band 5 / 10MHz / QPSK | LTE Band 5 / 10MHz / 16QAM |
|---|---|
| **Middle Channel / Full RB** | **Middle Channel / Full RB** |
|  |  |
| **LTE Band 5 / 10MHz / 64QAM** | |
| **Middle Channel / Full RB** | |
|  | |

# 26dB Bandwidth

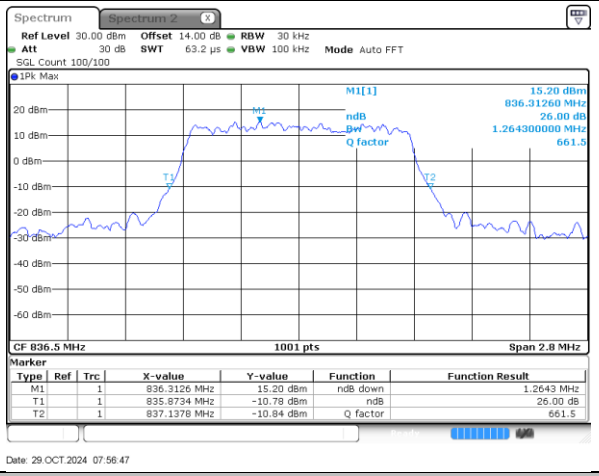
| Mode | LTE Band 5 : 26dB BW(MHz) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Middle CH | 1.27 | 1.26 | 2.96 | 2.97 | 4.93 | 4.84 | 9.79 | 9.71 | - | - | - | - |

## LTE Band 5

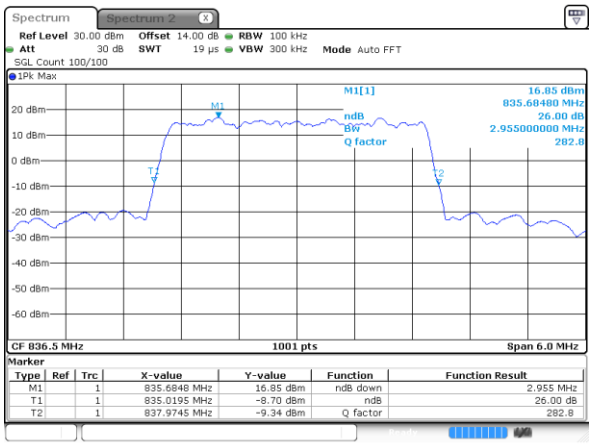
### Middle Channel / 1.4MHz / QPSK



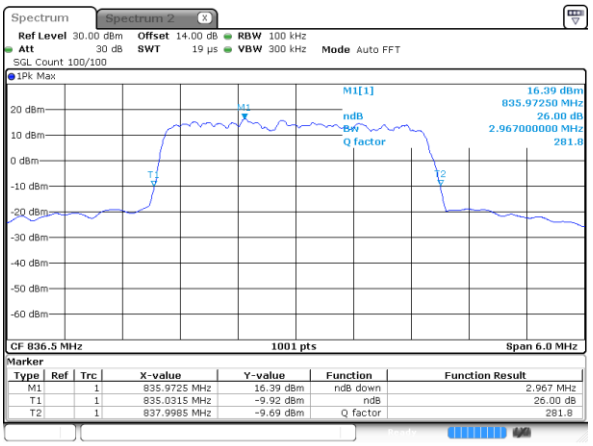

### Middle Channel / 1.4MHz / 16QAM



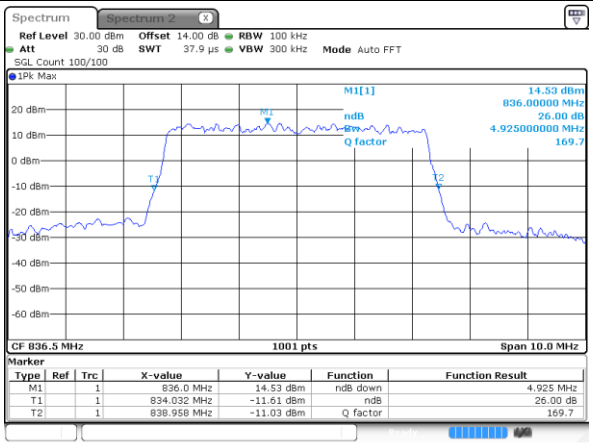

### Middle Channel / 3MHz / QPSK



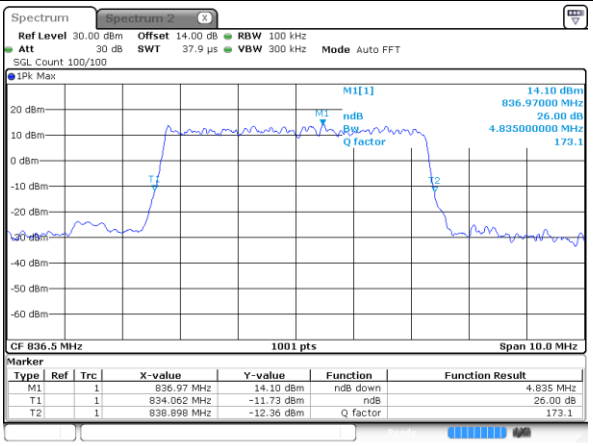

### Middle Channel / 3MHz / 16QAM

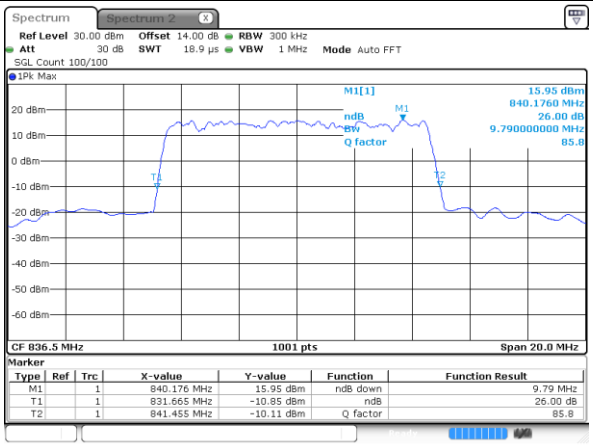
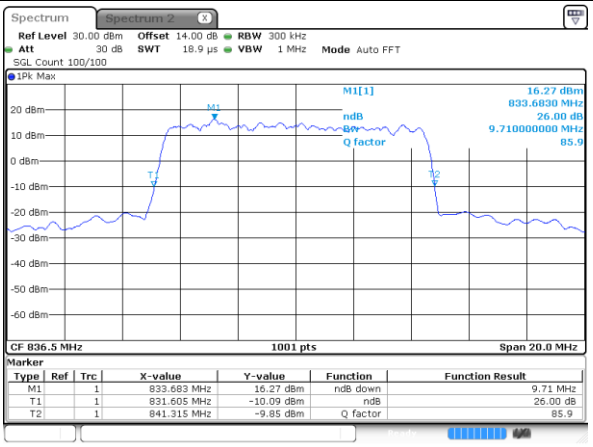



### Middle Channel / 5MHz / QPSK




### Middle Channel / 5MHz / 16QAM



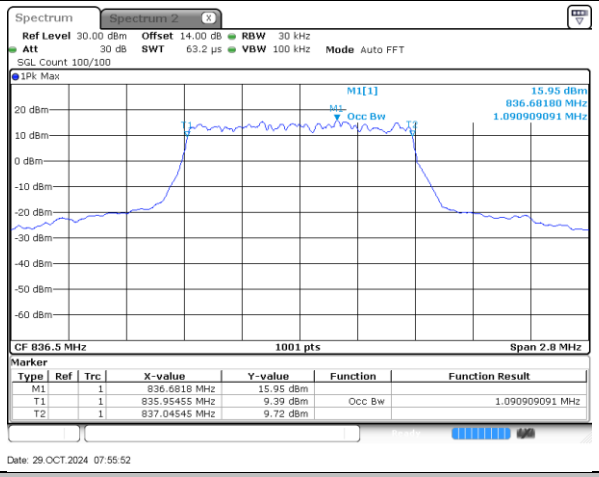
| LTE Band 5 | |
|---|---|
| **Middle Channel / 10MHz / QPSK** | **Middle Channel / 10MHz / 16QAM** |
|  |  |

# Occupied Bandwidth

| Mode | LTE Band 5 : 99%OBW(MHz) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Middle CH | 1.09 | 1.09 | 2.70 | 2.72 | 4.50 | 4.48 | 9.07 | 8.97 | - | - | - | - |

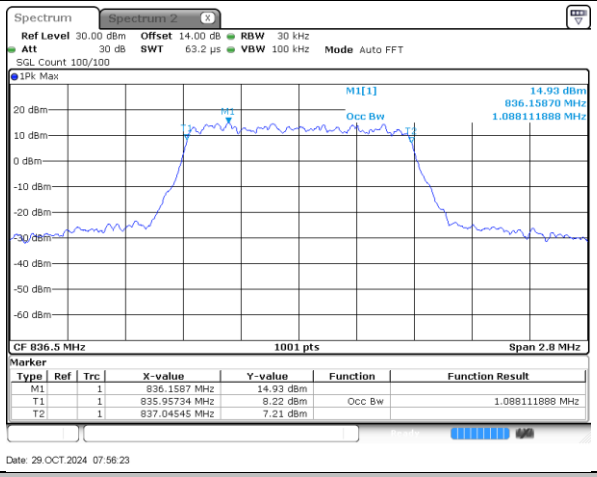
## LTE Band 5

### Middle Channel / 1.4MHz / QPSK



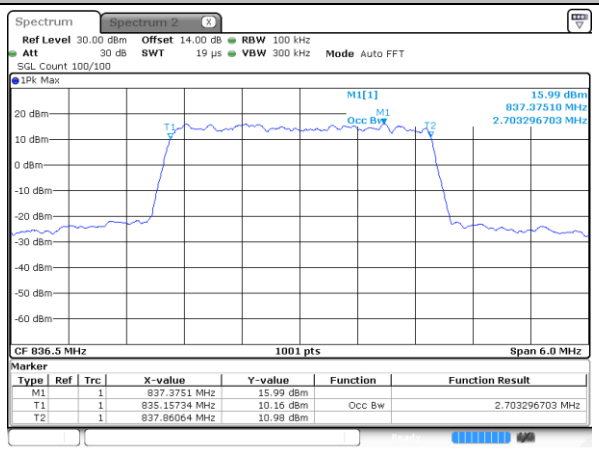

Date: 29.OCT.2024 07:55:52

### Middle Channel / 1.4MHz / 16QAM



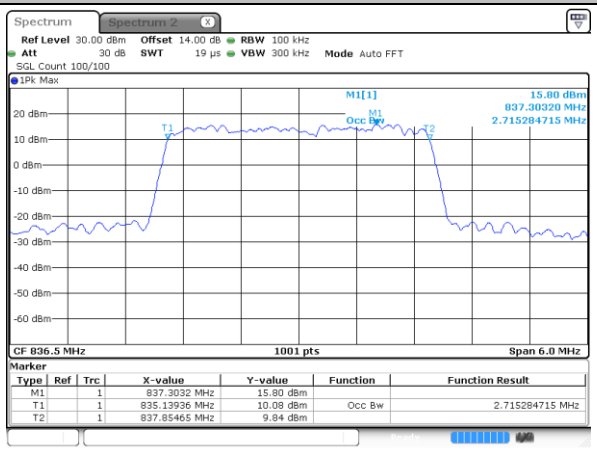

Date: 29.OCT.2024 07:56:23

### Middle Channel / 3MHz / QPSK



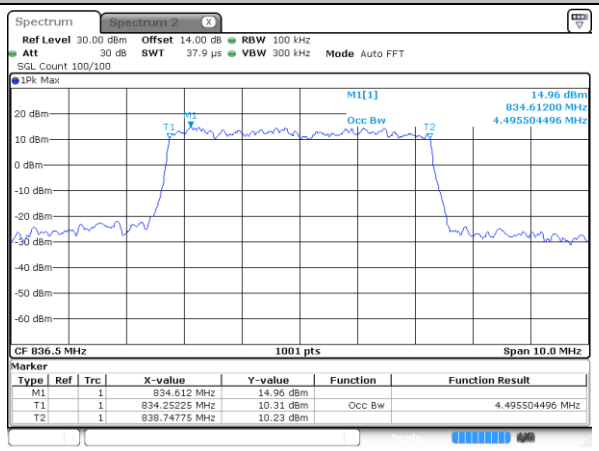

Date: 29.OCT.2024 08:11:59

### Middle Channel / 3MHz / 16QAM



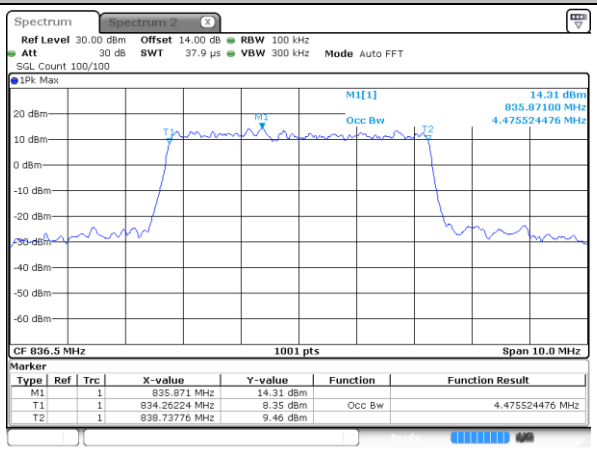

Date: 29.OCT.2024 08:12:37

### Middle Channel / 5MHz / QPSK

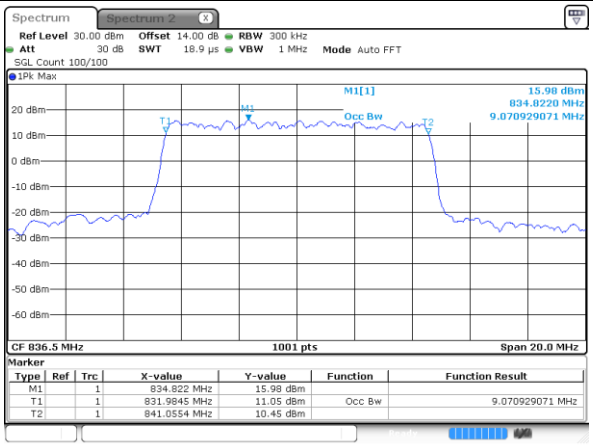
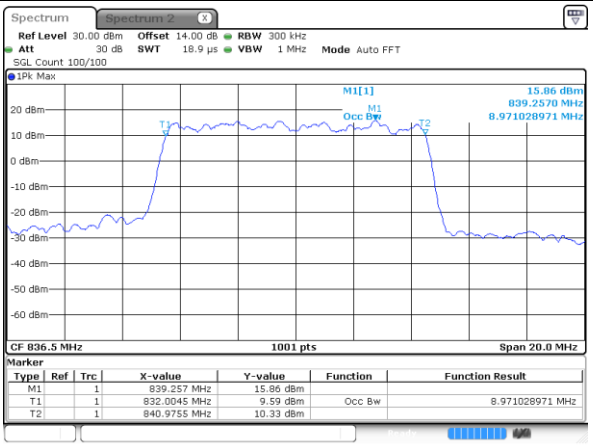



Date: 29.OCT.2024 08:25:56

### Middle Channel / 5MHz / 16QAM



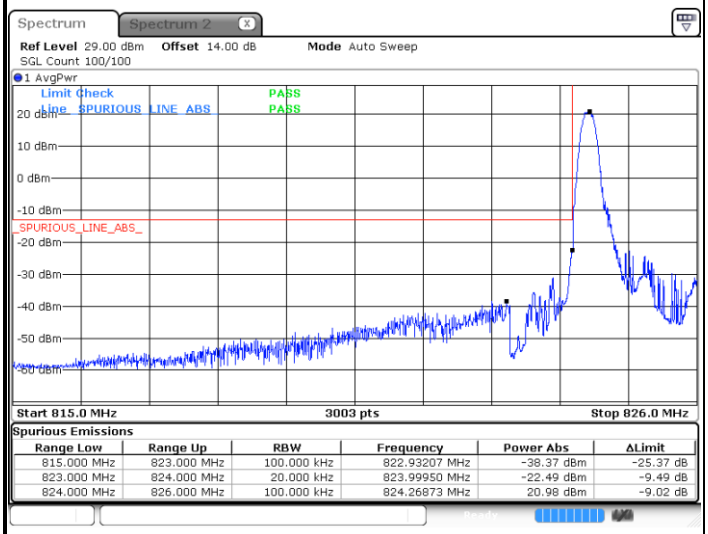

Date: 29.OCT.2024 08:26:34

| LTE Band 5 | |
|---|---|
| **Middle Channel / 10MHz / QPSK** | **Middle Channel / 10MHz / 16QAM** |
|  |  |

# Conducted Band Edge

## LTE Band 5 / 1.4MHz / QPSK

### Lowest Band Edge / 1RB

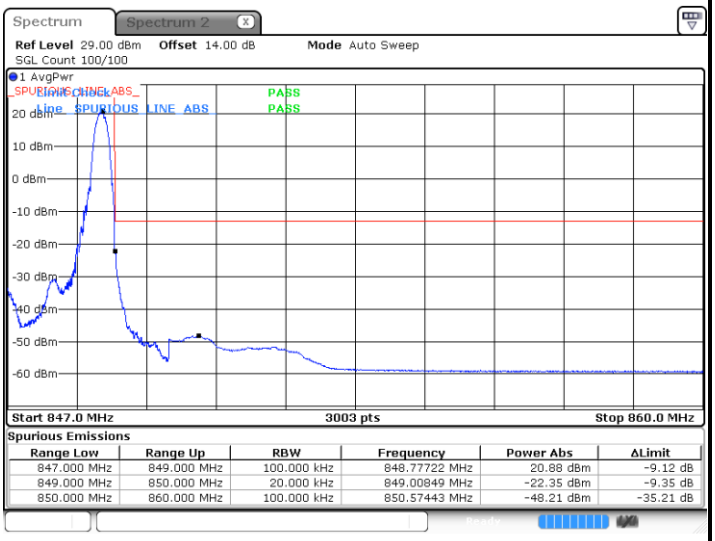



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.93207 MHz | -38.37 dBm | -25.37 dB |
| 823.000 MHz | 824.000 MHz | 20.000 kHz | 823.99950 MHz | -22.49 dBm | -9.49 dB |
| 824.000 MHz | 826.000 MHz | 100.000 kHz | 824.26873 MHz | 20.98 dBm | -9.02 dB |

Date: 29.OCT.2024 07:58:06

### Highest Band Edge / 1RB

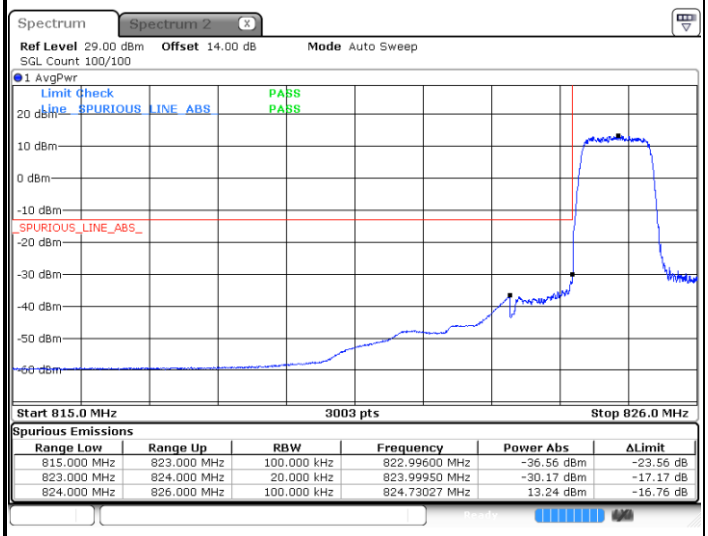



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 847.000 MHz | 849.000 MHz | 100.000 kHz | 848.77722 MHz | 20.88 dBm | -9.12 dB |
| 849.000 MHz | 850.000 MHz | 20.000 kHz | 849.00849 MHz | -22.35 dBm | -9.35 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.57443 MHz | -48.21 dBm | -35.21 dB |

Date: 29.OCT.2024 07:58:54

### Lowest Band Edge / Full RB

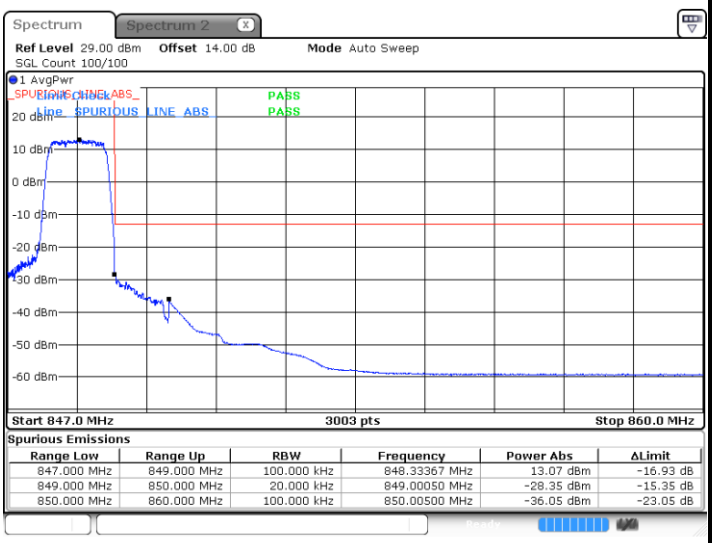



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.99600 MHz | -36.56 dBm | -23.56 dB |
| 823.000 MHz | 824.000 MHz | 20.000 kHz | 823.99950 MHz | -30.17 dBm | -17.17 dB |
| 824.000 MHz | 826.000 MHz | 100.000 kHz | 824.73027 MHz | 13.24 dBm | -16.76 dB |

Date: 29.OCT.2024 07:52:29

### Highest Band Edge / Full RB



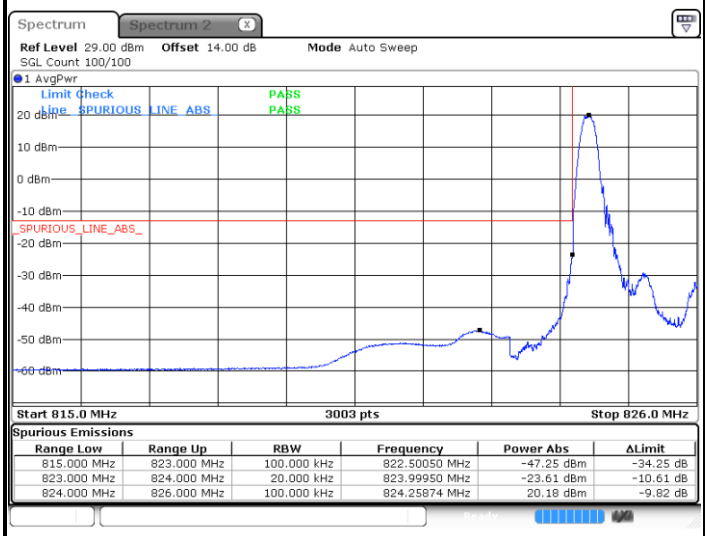

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 847.000 MHz | 849.000 MHz | 100.000 kHz | 848.33367 MHz | 13.07 dBm | -16.93 dB |
| 849.000 MHz | 850.000 MHz | 20.000 kHz | 849.00050 MHz | -28.35 dBm | -15.35 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.00500 MHz | -36.05 dBm | -23.05 dB |

Date: 29.OCT.2024 08:51:07

## LTE Band 5 / 1.4MHz / 16QAM

### Lowest Band Edge / 1 RB

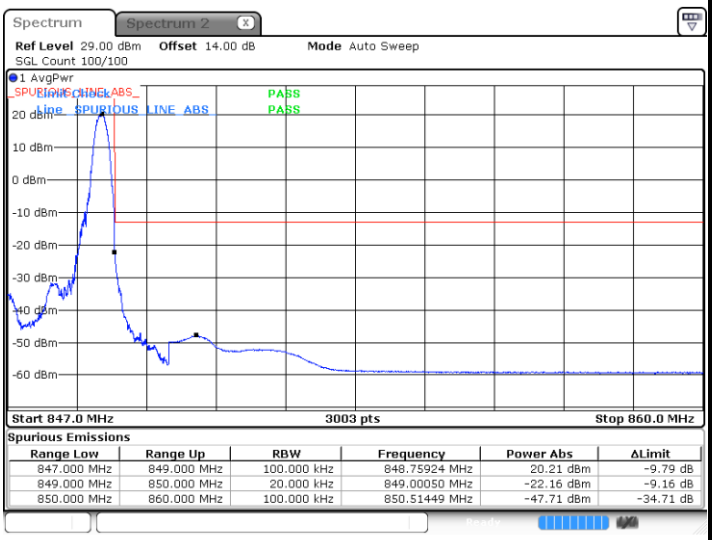



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.50050 MHz | -47.25 dBm | -34.25 dB |
| 823.000 MHz | 824.000 MHz | 20.000 kHz | 823.99950 MHz | -23.61 dBm | -10.61 dB |
| 824.000 MHz | 826.000 MHz | 100.000 kHz | 824.25874 MHz | 20.18 dBm | -9.82 dB |

Date: 29.OCT.2024 07:57:34

### Highest Band Edge / 1 RB

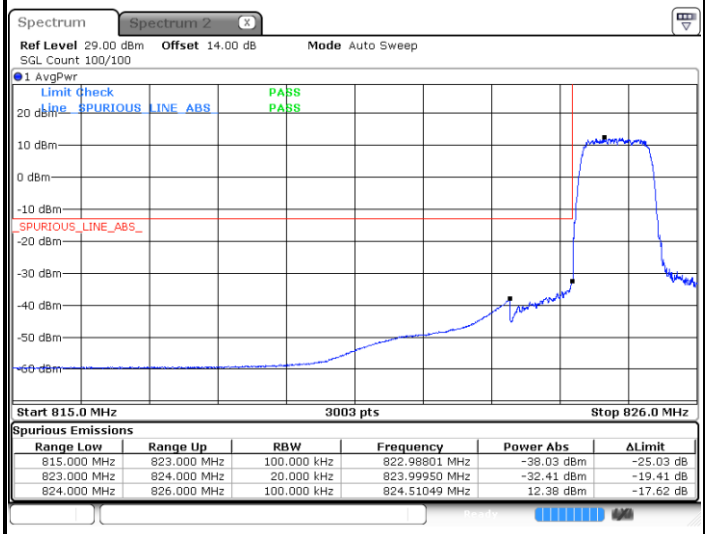



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 847.000 MHz | 849.000 MHz | 100.000 kHz | 848.75924 MHz | 20.21 dBm | -9.79 dB |
| 849.000 MHz | 850.000 MHz | 20.000 kHz | 849.00050 MHz | -22.16 dBm | -9.16 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.51449 MHz | -47.71 dBm | -34.71 dB |

Date: 29.OCT.2024 08:01:54

### Lowest Band Edge / Full RB

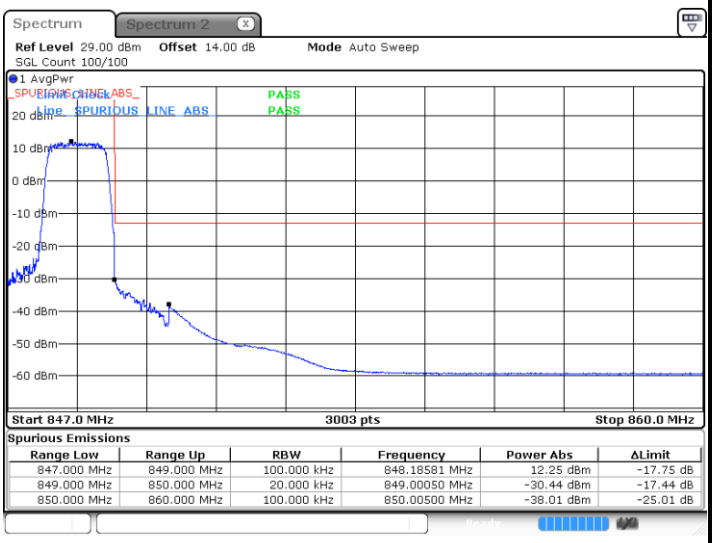



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.98801 MHz | -38.03 dBm | -25.03 dB |
| 823.000 MHz | 824.000 MHz | 20.000 kHz | 823.99950 MHz | -32.41 dBm | -19.41 dB |
| 824.000 MHz | 826.000 MHz | 100.000 kHz | 824.51049 MHz | 12.38 dBm | -17.62 dB |

Date: 29.OCT.2024 07:53:35

### Highest Band Edge / Full RB



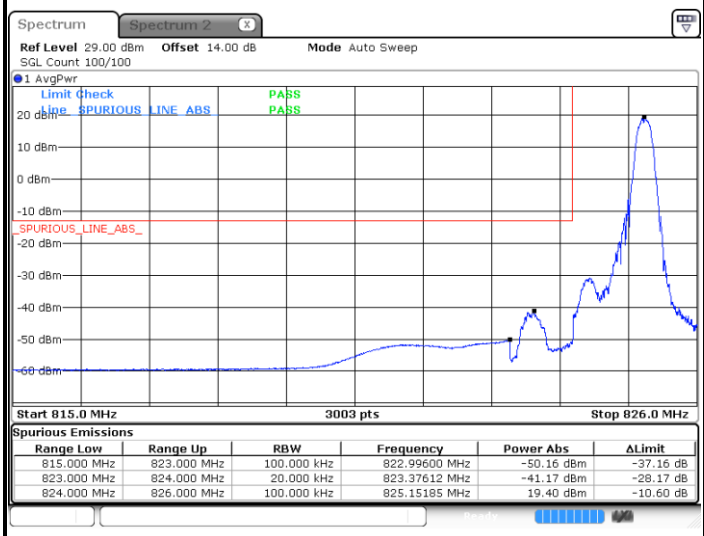

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 847.000 MHz | 849.000 MHz | 100.000 kHz | 848.18581 MHz | 12.25 dBm | -17.75 dB |
| 849.000 MHz | 850.000 MHz | 20.000 kHz | 849.00050 MHz | -30.44 dBm | -17.44 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.00500 MHz | -38.01 dBm | -25.01 dB |

Date: 29.OCT.2024 08:57:14

## LTE Band 5 / 1.4MHz / 64QAM

### Lowest Band Edge / 1 RB

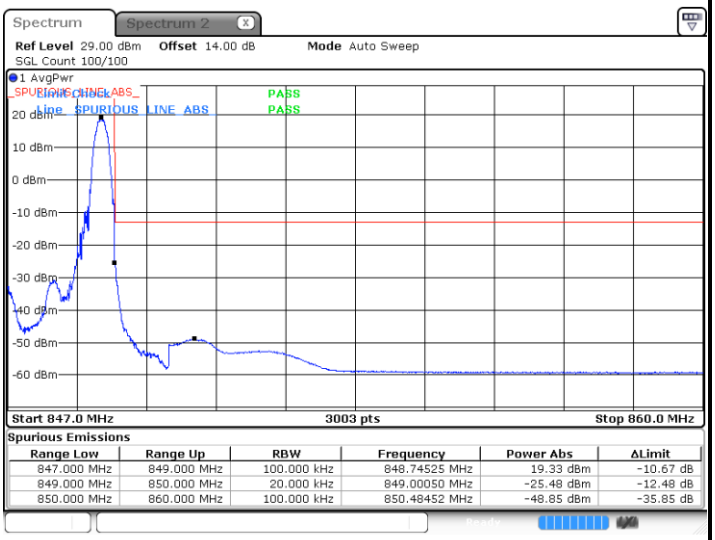



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.99600 MHz | -50.16 dBm | -37.16 dB |
| 823.000 MHz | 824.000 MHz | 20.000 kHz | 823.37612 MHz | -41.17 dBm | -28.17 dB |
| 824.000 MHz | 826.000 MHz | 100.000 kHz | 825.15185 MHz | 19.40 dBm | -10.60 dB |

Date: 29.OCT.2024 07:59:42

### Highest Band Edge / 1 RB

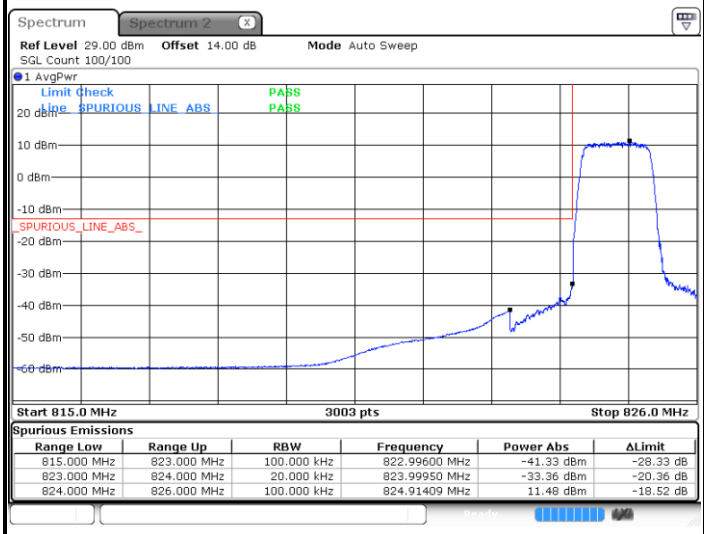



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 847.000 MHz | 849.000 MHz | 100.000 kHz | 848.74525 MHz | 19.33 dBm | -10.67 dB |
| 849.000 MHz | 850.000 MHz | 20.000 kHz | 849.00050 MHz | -25.48 dBm | -12.48 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.48452 MHz | -48.85 dBm | -35.85 dB |

Date: 29.OCT.2024 08:04:23

### Lowest Band Edge / Full RB

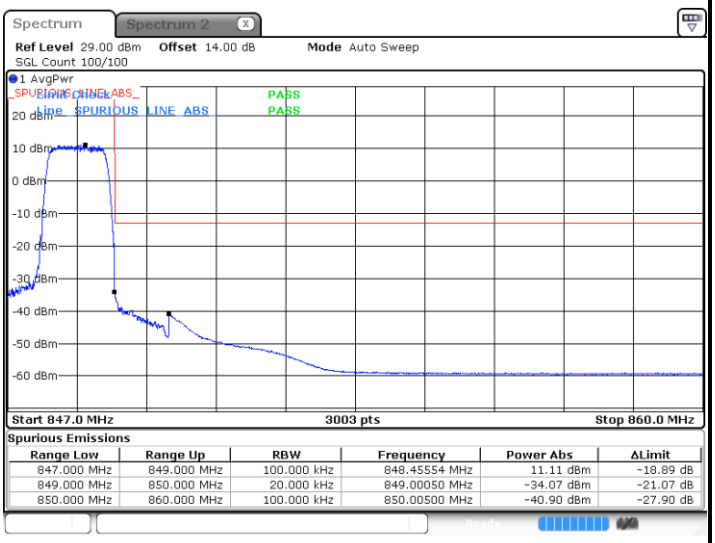



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.99600 MHz | -41.33 dBm | -28.33 dB |
| 823.000 MHz | 824.000 MHz | 20.000 kHz | 823.99950 MHz | -33.36 dBm | -20.36 dB |
| 824.000 MHz | 826.000 MHz | 100.000 kHz | 824.91409 MHz | 11.48 dBm | -18.52 dB |

Date: 29.OCT.2024 07:54:08

### Highest Band Edge / Full RB



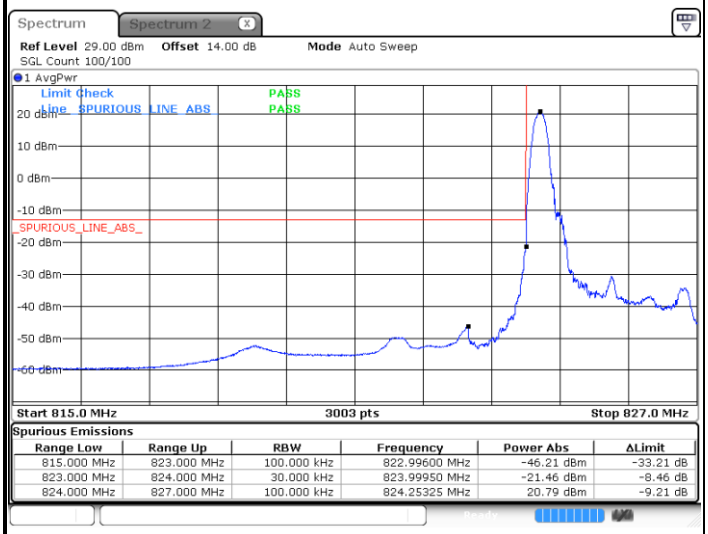

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 847.000 MHz | 849.000 MHz | 100.000 kHz | 848.45554 MHz | 11.11 dBm | -18.89 dB |
| 849.000 MHz | 850.000 MHz | 20.000 kHz | 849.00050 MHz | -34.07 dBm | -21.07 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.00500 MHz | -40.90 dBm | -27.90 dB |

Date: 29.OCT.2024 09:00:48

## LTE Band 5 / 3MHz / QPSK

### Lowest Band Edge / 1RB

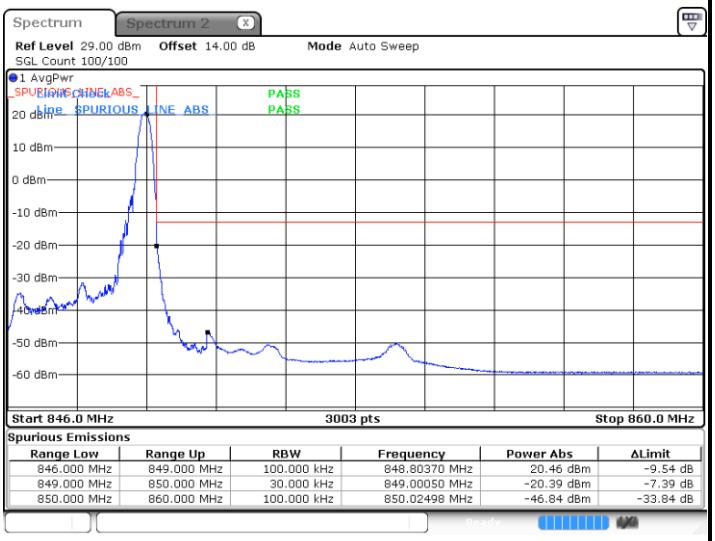



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.99600 MHz | -46.21 dBm | -33.21 dB |
| 823.000 MHz | 824.000 MHz | 30.000 kHz | 823.99950 MHz | -21.46 dBm | -8.46 dB |
| 824.000 MHz | 827.000 MHz | 100.000 kHz | 824.25325 MHz | 20.79 dBm | -9.21 dB |

Date: 29.OCT.2024 08:06:04

### Highest Band Edge / 1RB

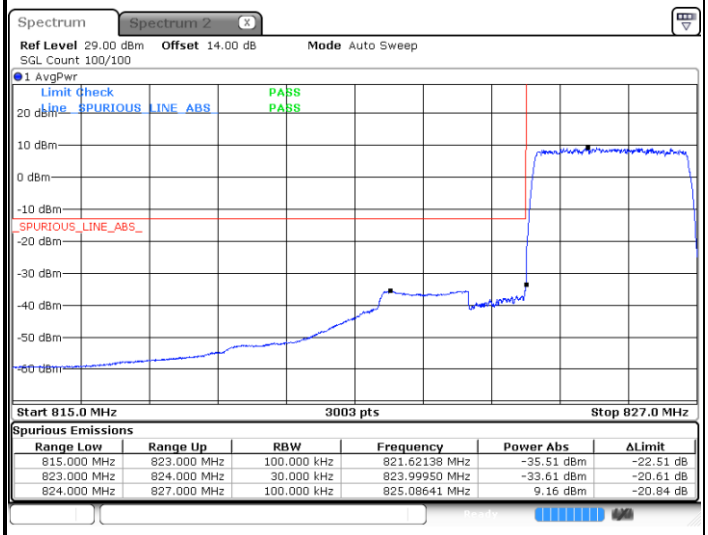



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 846.000 MHz | 849.000 MHz | 100.000 kHz | 848.80370 MHz | 20.46 dBm | -9.54 dB |
| 849.000 MHz | 850.000 MHz | 30.000 kHz | 849.00050 MHz | -20.39 dBm | -7.39 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.02498 MHz | -46.84 dBm | -33.84 dB |

Date: 29.OCT.2024 08:13:40

### Lowest Band Edge / Full RB

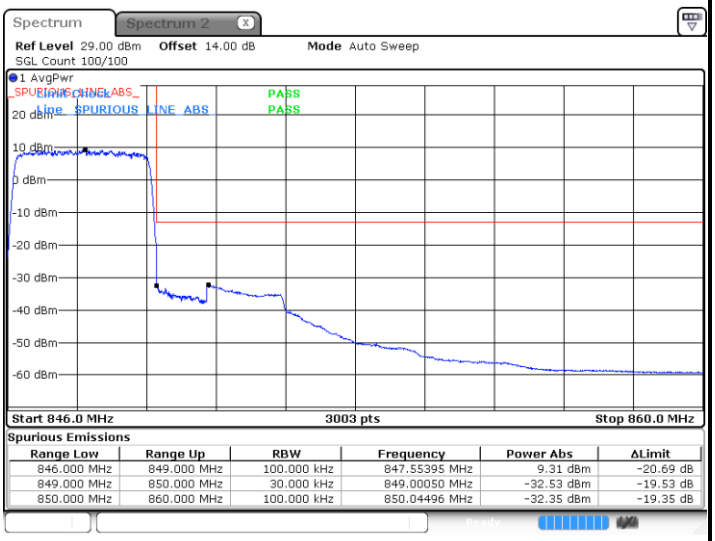



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 821.62138 MHz | -35.51 dBm | -22.51 dB |
| 823.000 MHz | 824.000 MHz | 30.000 kHz | 823.99950 MHz | -33.61 dBm | -20.61 dB |
| 824.000 MHz | 827.000 MHz | 100.000 kHz | 825.08641 MHz | 9.16 dBm | -20.84 dB |

Date: 29.OCT.2024 08:08:31

### Highest Band Edge / Full RB



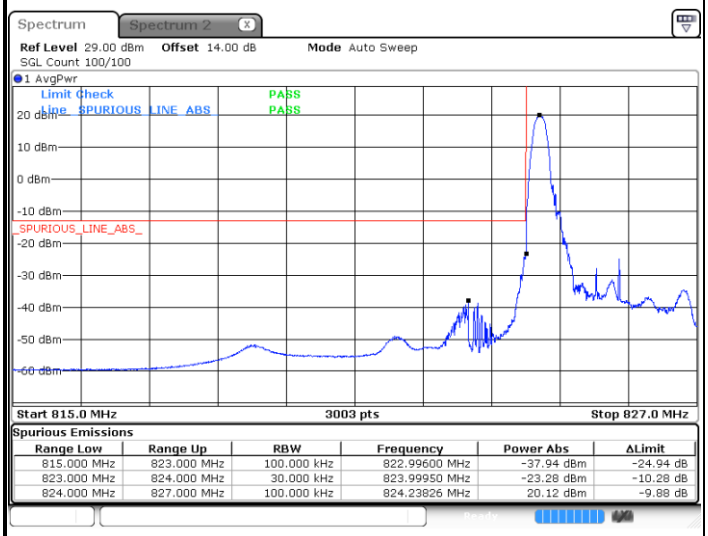

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 846.000 MHz | 849.000 MHz | 100.000 kHz | 847.55395 MHz | 9.31 dBm | -20.69 dB |
| 849.000 MHz | 850.000 MHz | 30.000 kHz | 849.00050 MHz | -32.53 dBm | -19.53 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.04496 MHz | -32.35 dBm | -19.35 dB |

Date: 29.OCT.2024 08:16:13

## LTE Band 5 / 3MHz / 16QAM

### Lowest Band Edge / 1 RB

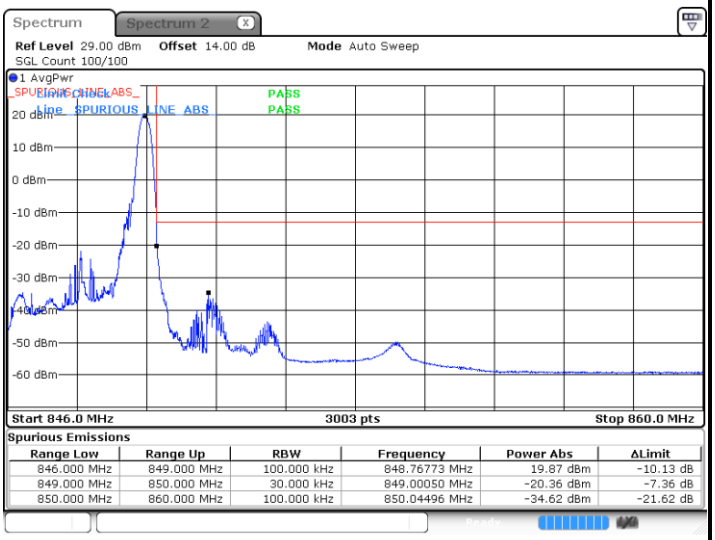



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.99600 MHz | -37.94 dBm | -24.94 dB |
| 823.000 MHz | 824.000 MHz | 30.000 kHz | 823.99950 MHz | -23.28 dBm | -10.28 dB |
| 824.000 MHz | 827.000 MHz | 100.000 kHz | 824.23826 MHz | 20.12 dBm | -9.88 dB |

Date: 29.OCT.2024 08:06:53

### Highest Band Edge / 1 RB

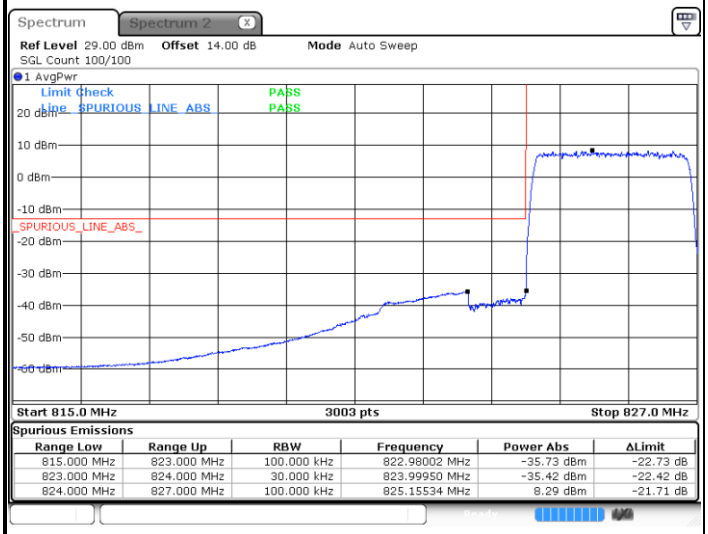



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 846.000 MHz | 849.000 MHz | 100.000 kHz | 848.76773 MHz | 19.87 dBm | -10.13 dB |
| 849.000 MHz | 850.000 MHz | 30.000 kHz | 849.00050 MHz | -20.36 dBm | -7.36 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.04496 MHz | -34.62 dBm | -21.62 dB |

Date: 29.OCT.2024 08:14:35

### Lowest Band Edge / Full RB

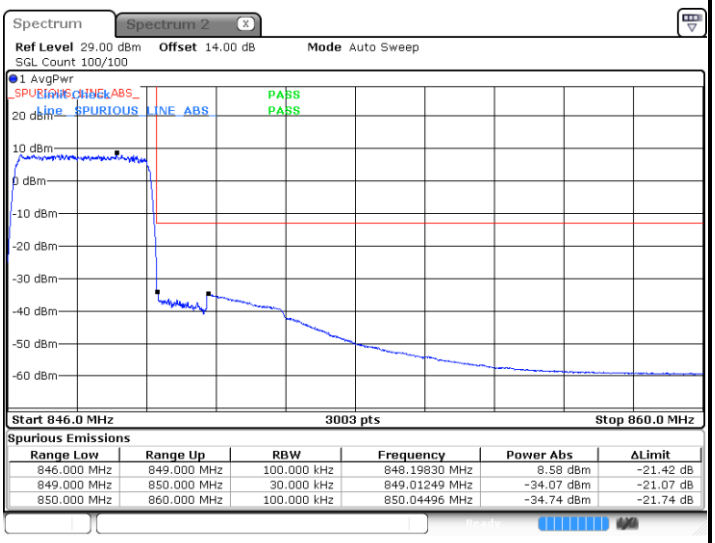



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.98002 MHz | -35.73 dBm | -22.73 dB |
| 823.000 MHz | 824.000 MHz | 30.000 kHz | 823.99950 MHz | -35.42 dBm | -22.42 dB |
| 824.000 MHz | 827.000 MHz | 100.000 kHz | 825.15534 MHz | 8.29 dBm | -21.71 dB |

Date: 29.OCT.2024 08:09:20

### Highest Band Edge / Full RB



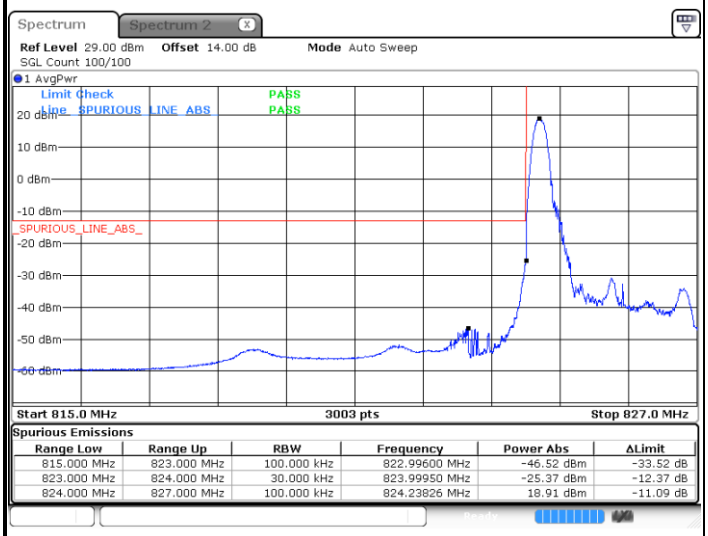

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 846.000 MHz | 849.000 MHz | 100.000 kHz | 848.19830 MHz | 8.58 dBm | -21.42 dB |
| 849.000 MHz | 850.000 MHz | 30.000 kHz | 849.01249 MHz | -34.07 dBm | -21.07 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.04496 MHz | -34.74 dBm | -21.74 dB |

Date: 29.OCT.2024 08:17:02

## LTE Band 5 / 3MHz / 64QAM

### Lowest Band Edge / 1 RB

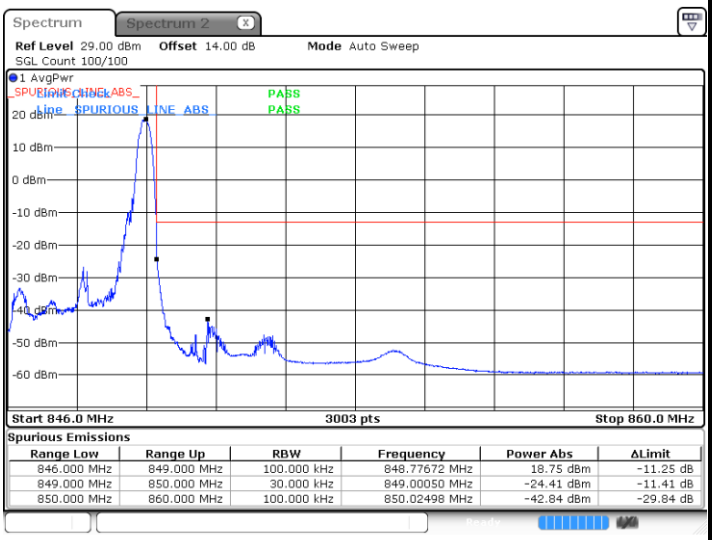



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.99600 MHz | -46.52 dBm | -33.52 dB |
| 823.000 MHz | 824.000 MHz | 30.000 kHz | 823.99950 MHz | -25.37 dBm | -12.37 dB |
| 824.000 MHz | 827.000 MHz | 100.000 kHz | 824.23826 MHz | 18.91 dBm | -11.09 dB |

Date: 29.OCT.2024 08:07:42

### Highest Band Edge / 1 RB

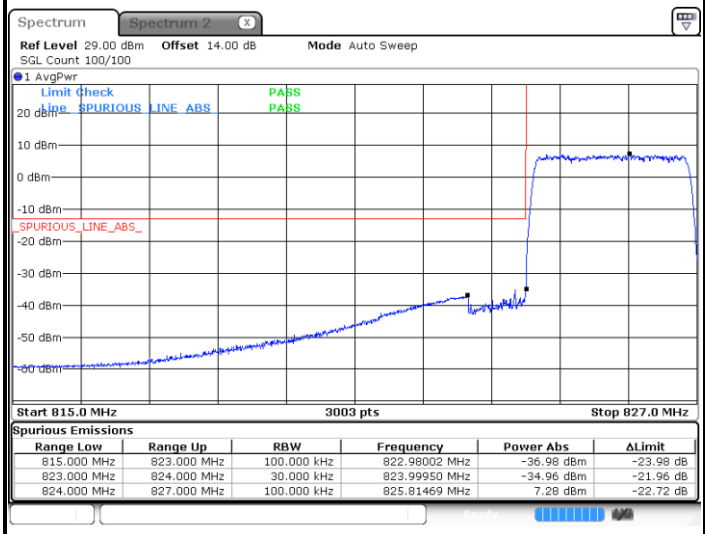



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 846.000 MHz | 849.000 MHz | 100.000 kHz | 848.77672 MHz | 18.75 dBm | -11.25 dB |
| 849.000 MHz | 850.000 MHz | 30.000 kHz | 849.00050 MHz | -24.41 dBm | -11.41 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.02498 MHz | -42.84 dBm | -29.84 dB |

Date: 29.OCT.2024 08:15:24

### Lowest Band Edge / Full RB

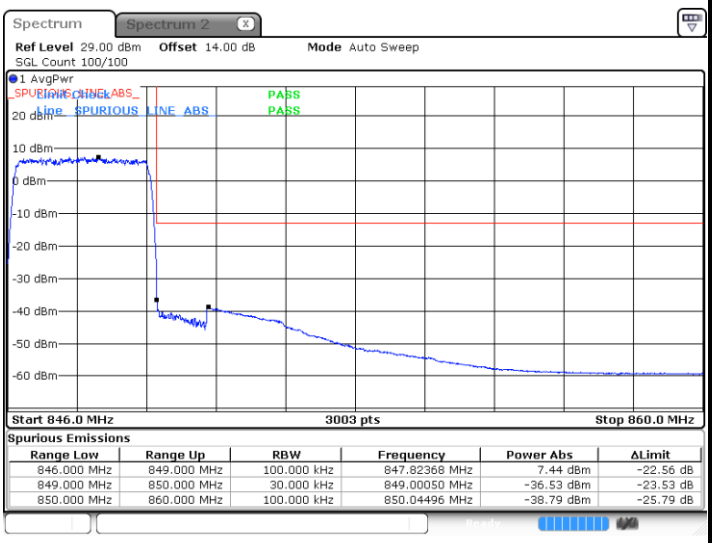



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.98002 MHz | -36.98 dBm | -23.98 dB |
| 823.000 MHz | 824.000 MHz | 30.000 kHz | 823.99950 MHz | -34.96 dBm | -21.96 dB |
| 824.000 MHz | 827.000 MHz | 100.000 kHz | 825.81469 MHz | 7.28 dBm | -22.72 dB |

Date: 29.OCT.2024 08:10:09

### Highest Band Edge / Full RB



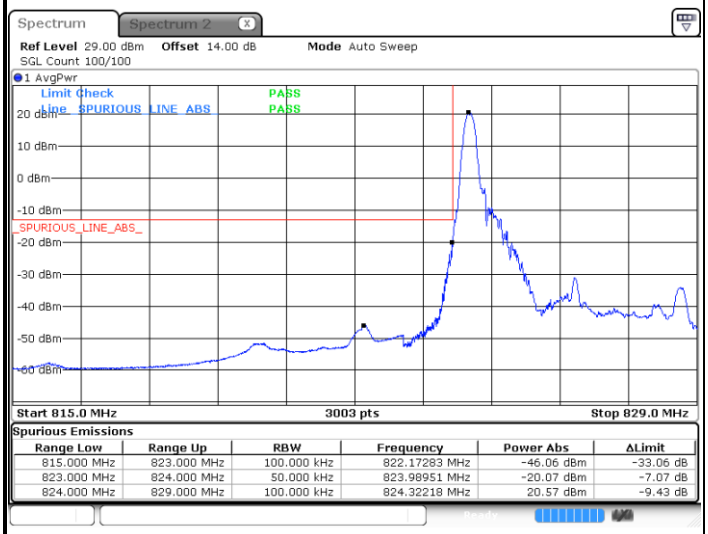

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 846.000 MHz | 849.000 MHz | 100.000 kHz | 847.82368 MHz | 7.44 dBm | -22.56 dB |
| 849.000 MHz | 850.000 MHz | 30.000 kHz | 849.00050 MHz | -36.53 dBm | -23.53 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.04496 MHz | -38.79 dBm | -25.79 dB |

Date: 29.OCT.2024 08:17:51

## LTE Band 5 / 5MHz / QPSK

### Lowest Band Edge / 1RB

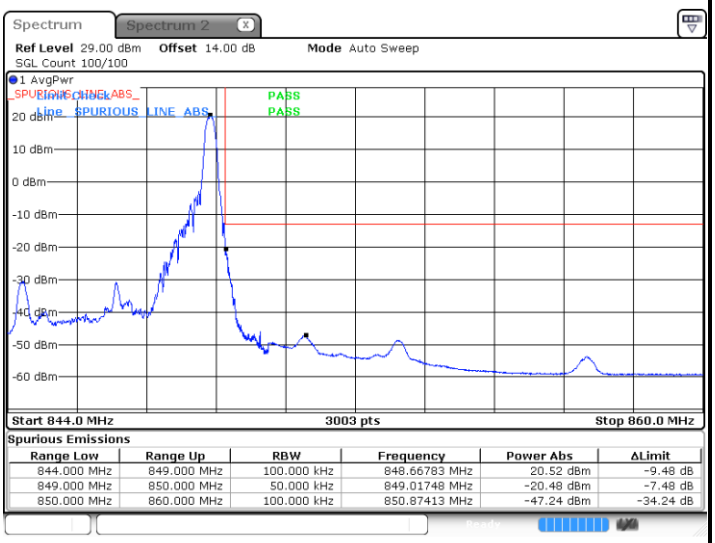



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.17283 MHz | -46.06 dBm | -33.06 dB |
| 823.000 MHz | 824.000 MHz | 50.000 kHz | 823.98951 MHz | -20.07 dBm | -7.07 dB |
| 824.000 MHz | 829.000 MHz | 100.000 kHz | 824.32218 MHz | 20.57 dBm | -9.43 dB |

Date: 29.OCT.2024 08:20:02

### Highest Band Edge / 1RB

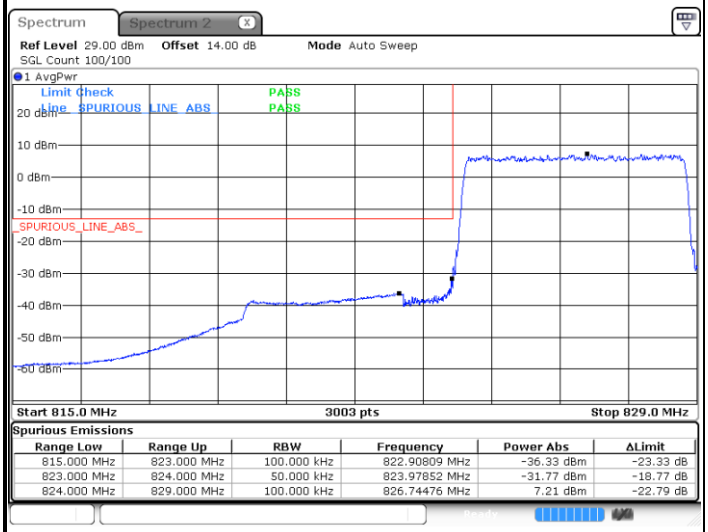



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 844.000 MHz | 849.000 MHz | 100.000 kHz | 848.66783 MHz | 20.52 dBm | -9.48 dB |
| 849.000 MHz | 850.000 MHz | 50.000 kHz | 849.01748 MHz | -20.48 dBm | -7.48 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.87413 MHz | -47.24 dBm | -34.24 dB |

Date: 29.OCT.2024 08:27:36

### Lowest Band Edge / Full RB

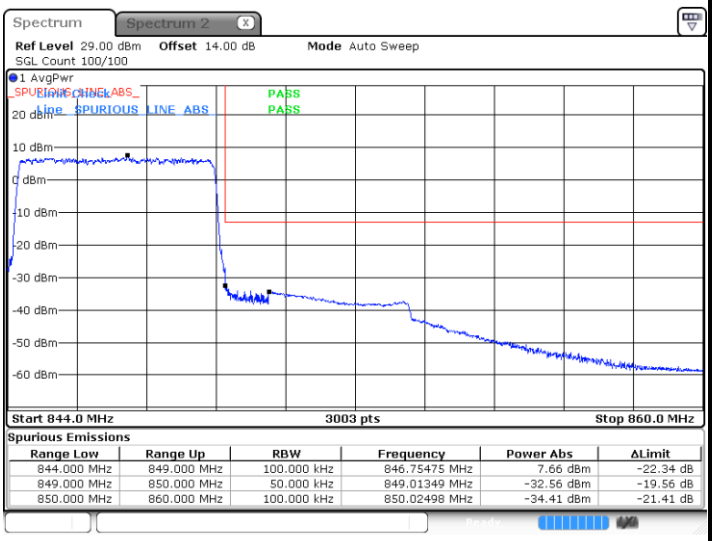



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.90809 MHz | -36.33 dBm | -23.33 dB |
| 823.000 MHz | 824.000 MHz | 50.000 kHz | 823.97852 MHz | -31.77 dBm | -18.77 dB |
| 824.000 MHz | 829.000 MHz | 100.000 kHz | 826.74476 MHz | 7.21 dBm | -22.79 dB |

Date: 29.OCT.2024 08:22:29

### Highest Band Edge / Full RB



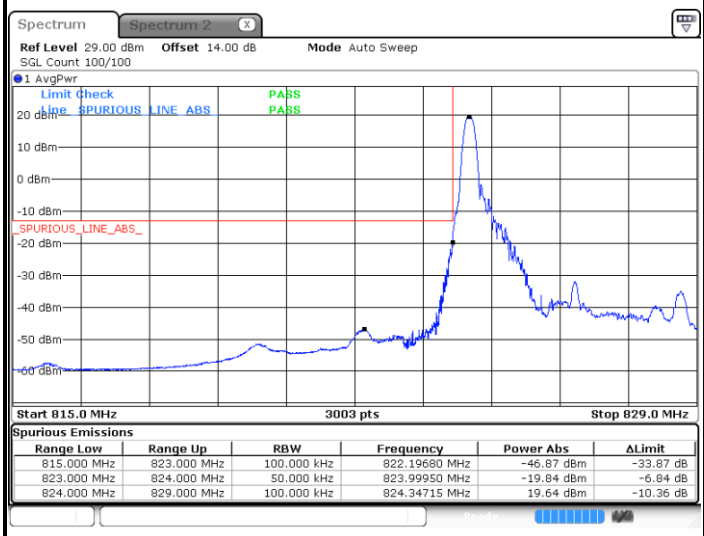

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 844.000 MHz | 849.000 MHz | 100.000 kHz | 846.75475 MHz | 7.66 dBm | -22.34 dB |
| 849.000 MHz | 850.000 MHz | 50.000 kHz | 849.01349 MHz | -32.56 dBm | -19.56 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.02498 MHz | -34.41 dBm | -21.41 dB |

Date: 29.OCT.2024 08:30:03

## LTE Band 5 / 5MHz / 16QAM

### Lowest Band Edge / 1 RB




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.19680 MHz | -46.87 dBm | -33.87 dB |
| 823.000 MHz | 824.000 MHz | 50.000 kHz | 823.99950 MHz | -19.84 dBm | -6.84 dB |
| 824.000 MHz | 829.000 MHz | 100.000 kHz | 824.34715 MHz | 19.64 dBm | -10.36 dB |

Date: 29.OCT.2024 08:20:51

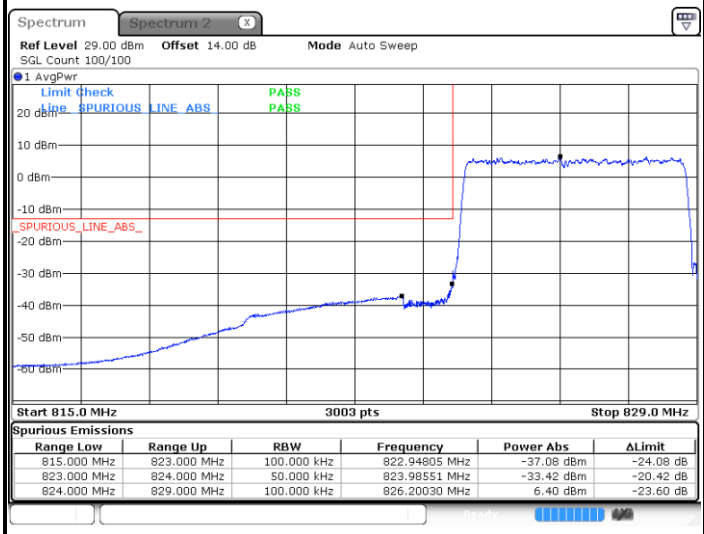
### Highest Band Edge / 1 RB

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 844.000 MHz | 849.000 MHz | 100.000 kHz | 848.63786 MHz | 20.06 dBm | -9.94 dB |
| 849.000 MHz | 850.000 MHz | 50.000 kHz | 849.00549 MHz | -19.24 dBm | -6.24 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.78422 MHz | -46.37 dBm | -33.37 dB |

Date: 29.OCT.2024 08:28:25

### Lowest Band Edge / Full RB

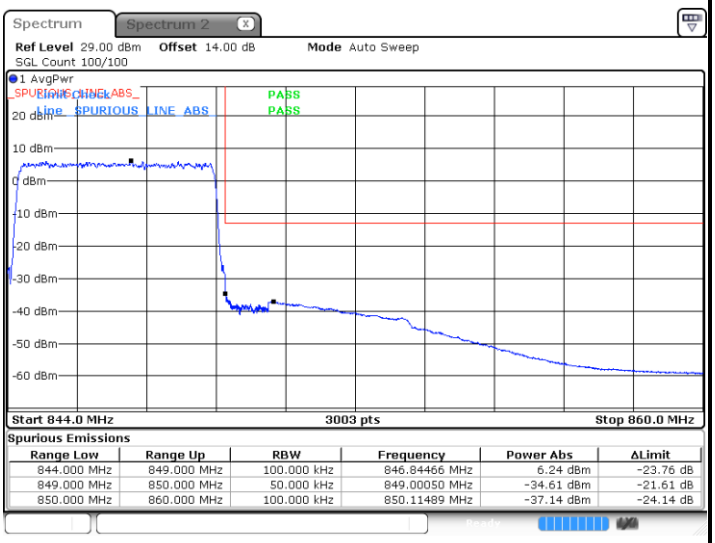



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.94805 MHz | -37.08 dBm | -24.08 dB |
| 823.000 MHz | 824.000 MHz | 50.000 kHz | 823.98551 MHz | -33.42 dBm | -20.42 dB |
| 824.000 MHz | 829.000 MHz | 100.000 kHz | 826.20030 MHz | 6.40 dBm | -23.60 dB |

Date: 29.OCT.2024 08:23:18

### Highest Band Edge / Full RB



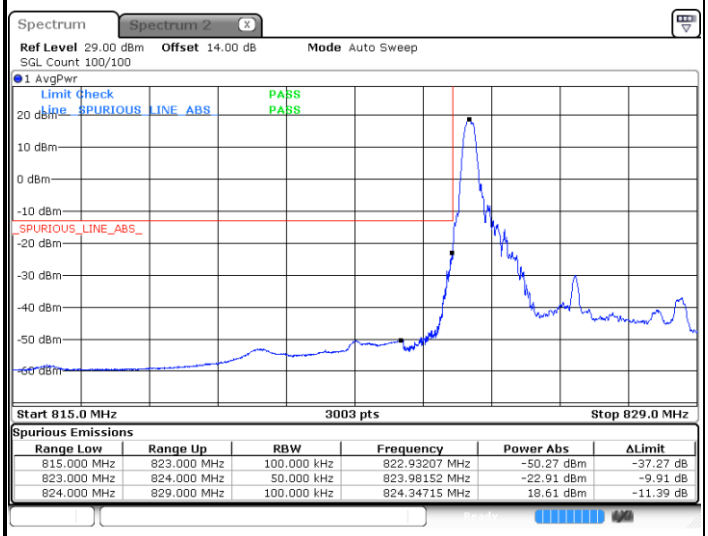

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 844.000 MHz | 849.000 MHz | 100.000 kHz | 846.84466 MHz | 6.24 dBm | -23.76 dB |
| 849.000 MHz | 850.000 MHz | 50.000 kHz | 849.00050 MHz | -34.61 dBm | -21.61 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.11489 MHz | -37.14 dBm | -24.14 dB |

Date: 29.OCT.2024 08:30:52

## LTE Band 5 / 5MHz / 64QAM

### Lowest Band Edge / 1 RB

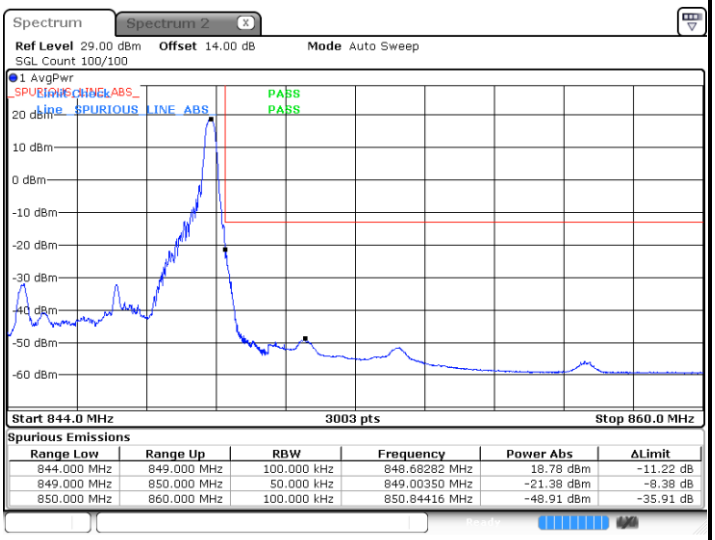



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.93207 MHz | -50.27 dBm | -37.27 dB |
| 823.000 MHz | 824.000 MHz | 50.000 kHz | 823.98152 MHz | -22.91 dBm | -9.91 dB |
| 824.000 MHz | 829.000 MHz | 100.000 kHz | 824.34715 MHz | 18.61 dBm | -11.39 dB |

Date: 29.OCT.2024 08:21:40

### Highest Band Edge / 1 RB

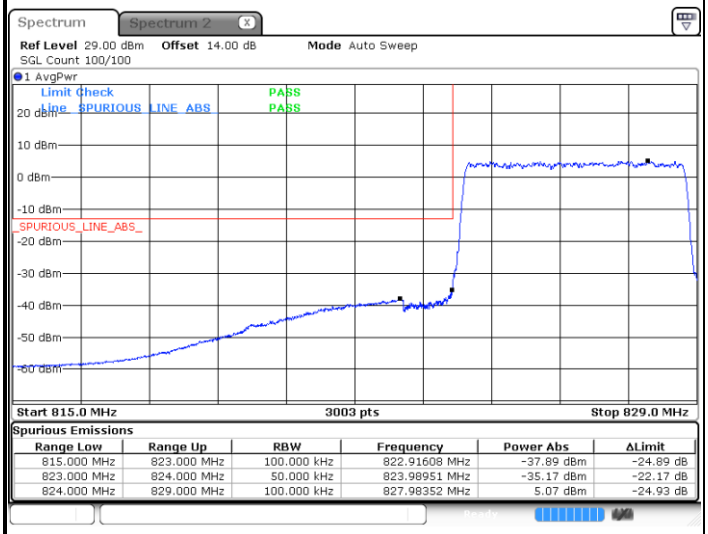



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 844.000 MHz | 849.000 MHz | 100.000 kHz | 848.68282 MHz | 18.78 dBm | -11.22 dB |
| 849.000 MHz | 850.000 MHz | 50.000 kHz | 849.00350 MHz | -21.38 dBm | -8.38 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.84416 MHz | -48.91 dBm | -35.91 dB |

Date: 29.OCT.2024 08:29:14

### Lowest Band Edge / Full RB

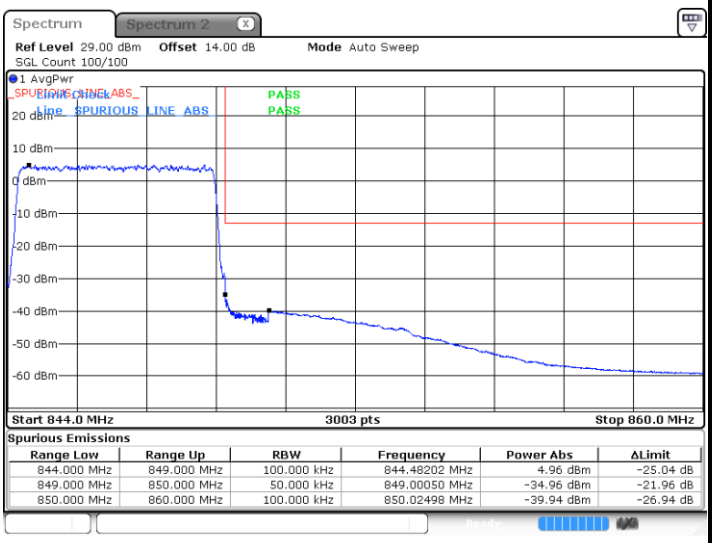



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.91608 MHz | -37.89 dBm | -24.89 dB |
| 823.000 MHz | 824.000 MHz | 50.000 kHz | 823.98951 MHz | -35.17 dBm | -22.17 dB |
| 824.000 MHz | 829.000 MHz | 100.000 kHz | 827.98352 MHz | 5.07 dBm | -24.93 dB |

Date: 29.OCT.2024 08:24:07

### Highest Band Edge / Full RB



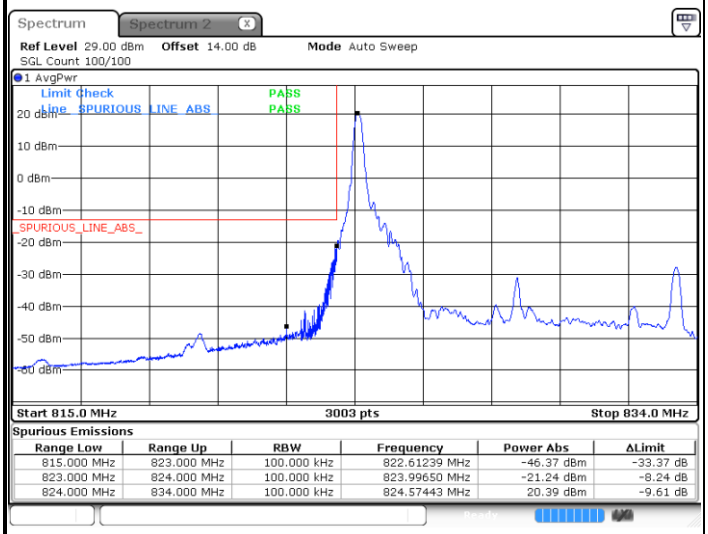

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 844.000 MHz | 849.000 MHz | 100.000 kHz | 844.48202 MHz | 4.96 dBm | -25.04 dB |
| 849.000 MHz | 850.000 MHz | 50.000 kHz | 849.00050 MHz | -34.96 dBm | -21.96 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.02498 MHz | -39.94 dBm | -26.94 dB |

Date: 29.OCT.2024 08:31:41

## LTE Band 5 / 10MHz / QPSK

### Lowest Band Edge / 1RB

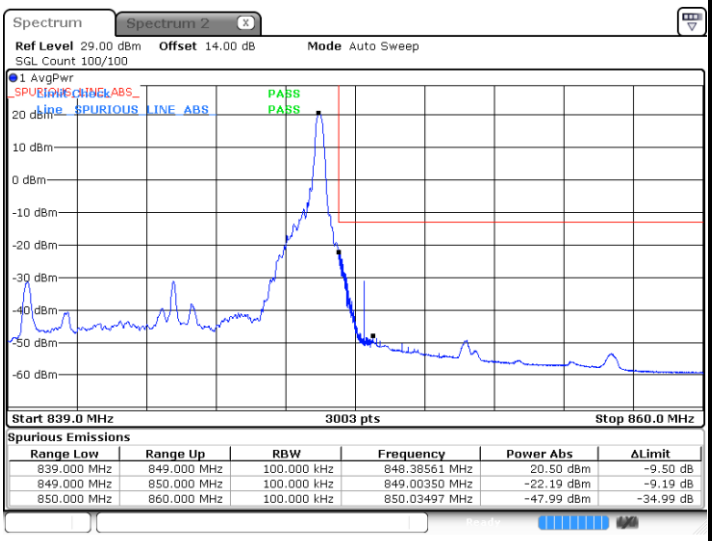



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.61239 MHz | -46.37 dBm | -33.37 dB |
| 823.000 MHz | 824.000 MHz | 100.000 kHz | 823.99650 MHz | -21.24 dBm | -8.24 dB |
| 824.000 MHz | 834.000 MHz | 100.000 kHz | 824.57443 MHz | 20.39 dBm | -9.61 dB |

Date: 29.OCT.2024 08:33:52

### Highest Band Edge / 1RB

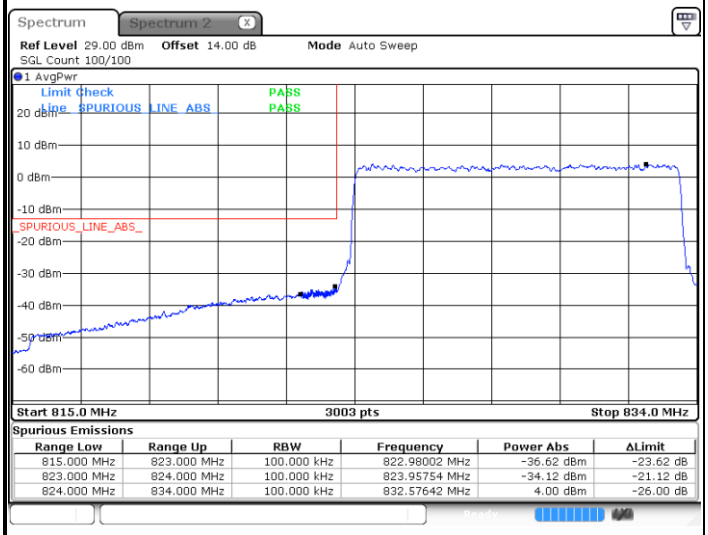



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 839.000 MHz | 849.000 MHz | 100.000 kHz | 848.38561 MHz | 20.50 dBm | -9.50 dB |
| 849.000 MHz | 850.000 MHz | 100.000 kHz | 849.00350 MHz | -22.19 dBm | -9.19 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.03497 MHz | -47.99 dBm | -34.99 dB |

Date: 29.OCT.2024 08:42:40

### Lowest Band Edge / Full RB

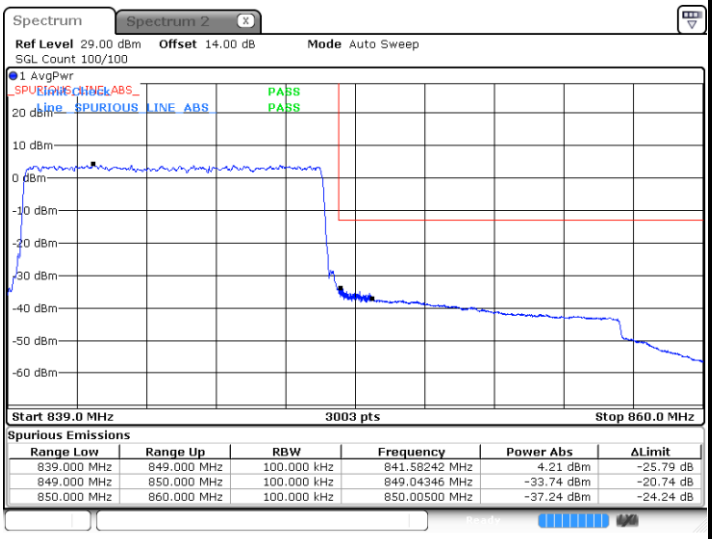



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.98002 MHz | -36.62 dBm | -23.62 dB |
| 823.000 MHz | 824.000 MHz | 100.000 kHz | 823.95754 MHz | -34.12 dBm | -21.12 dB |
| 824.000 MHz | 834.000 MHz | 100.000 kHz | 832.57642 MHz | 4.00 dBm | -26.00 dB |

Date: 29.OCT.2024 08:36:19

### Highest Band Edge / Full RB



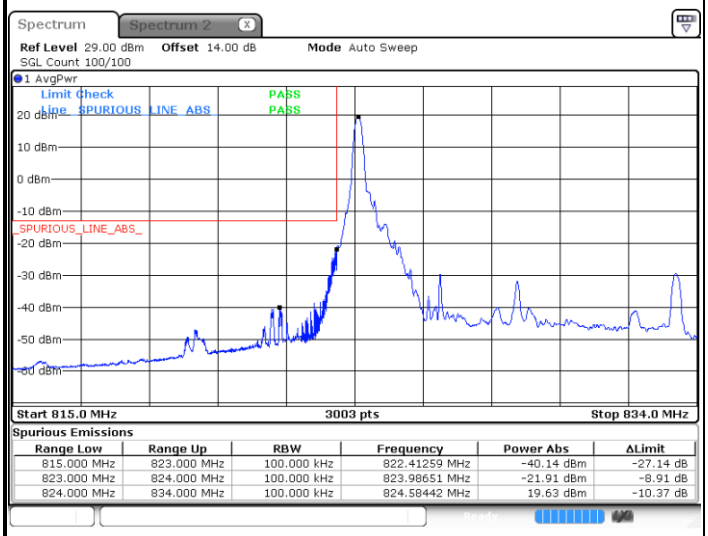

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 839.000 MHz | 849.000 MHz | 100.000 kHz | 841.58242 MHz | 4.21 dBm | -25.79 dB |
| 849.000 MHz | 850.000 MHz | 100.000 kHz | 849.04346 MHz | -33.74 dBm | -20.74 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.00500 MHz | -37.24 dBm | -24.24 dB |

Date: 29.OCT.2024 08:45:07

## LTE Band 5 / 10MHz / 16QAM

### Lowest Band Edge / 1 RB

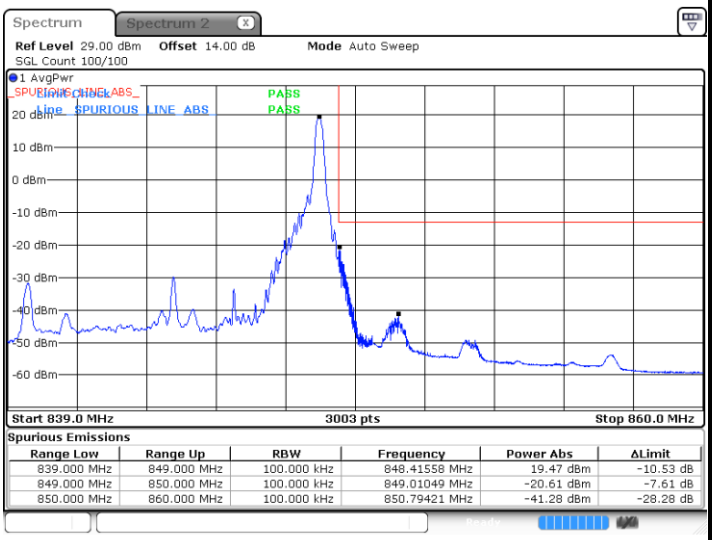



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.41259 MHz | -40.14 dBm | -27.14 dB |
| 823.000 MHz | 824.000 MHz | 100.000 kHz | 823.98651 MHz | -21.91 dBm | -8.91 dB |
| 824.000 MHz | 834.000 MHz | 100.000 kHz | 824.58442 MHz | 19.63 dBm | -10.37 dB |

Date: 29.OCT.2024 08:34:41

### Highest Band Edge / 1 RB

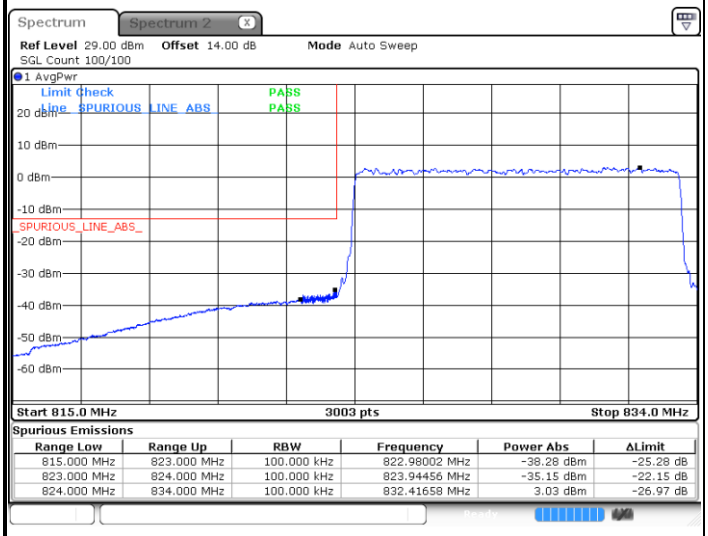



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 839.000 MHz | 849.000 MHz | 100.000 kHz | 848.41558 MHz | 19.47 dBm | -10.53 dB |
| 849.000 MHz | 850.000 MHz | 100.000 kHz | 849.01049 MHz | -20.61 dBm | -7.61 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.79421 MHz | -41.28 dBm | -28.28 dB |

Date: 29.OCT.2024 08:43:29

### Lowest Band Edge / Full RB

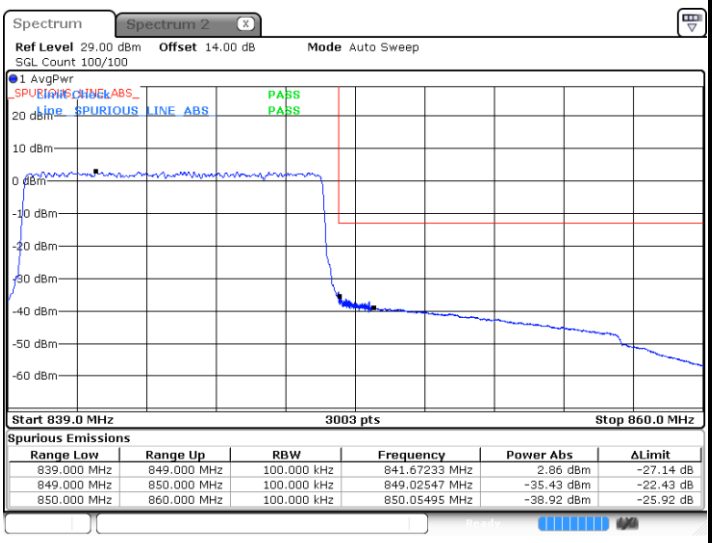



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.98002 MHz | -38.28 dBm | -25.28 dB |
| 823.000 MHz | 824.000 MHz | 100.000 kHz | 823.94456 MHz | -35.15 dBm | -22.15 dB |
| 824.000 MHz | 834.000 MHz | 100.000 kHz | 832.41658 MHz | 3.03 dBm | -26.97 dB |

Date: 29.OCT.2024 08:37:08

### Highest Band Edge / Full RB



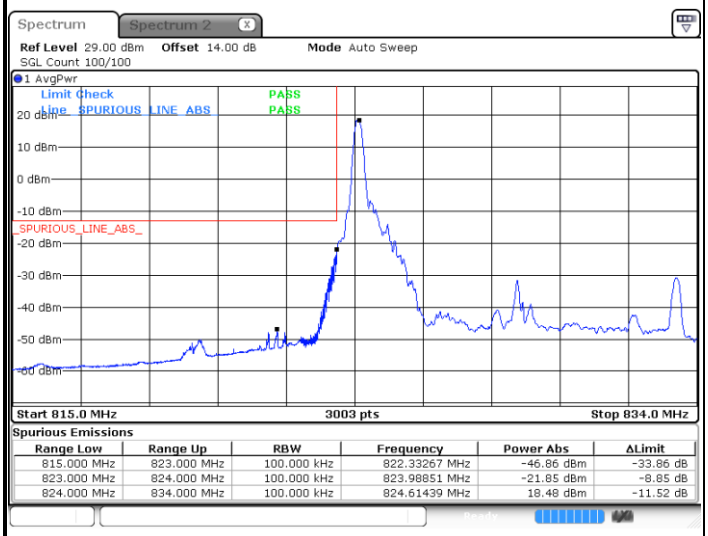

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 839.000 MHz | 849.000 MHz | 100.000 kHz | 841.67233 MHz | 2.86 dBm | -27.14 dB |
| 849.000 MHz | 850.000 MHz | 100.000 kHz | 849.02547 MHz | -35.43 dBm | -22.43 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.05495 MHz | -38.92 dBm | -25.92 dB |

Date: 29.OCT.2024 08:45:56

## LTE Band 5 / 10MHz / 64QAM

### Lowest Band Edge / 1 RB

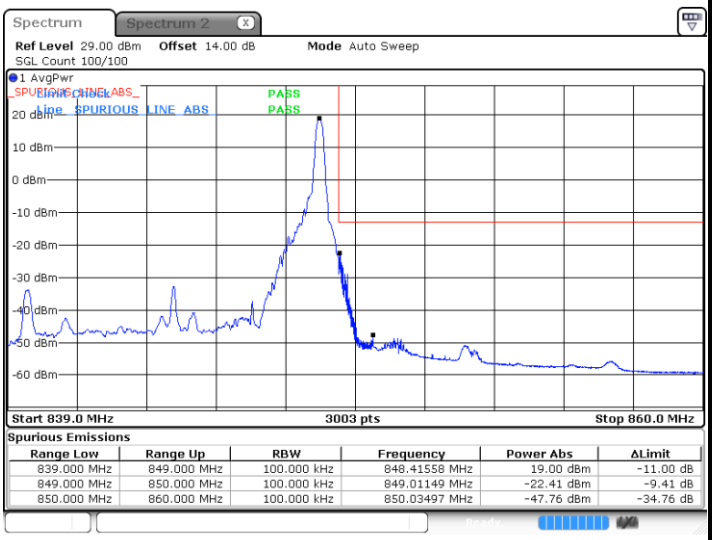



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.33267 MHz | -46.86 dBm | -33.86 dB |
| 823.000 MHz | 824.000 MHz | 100.000 kHz | 823.98851 MHz | -21.85 dBm | -8.85 dB |
| 824.000 MHz | 834.000 MHz | 100.000 kHz | 824.61439 MHz | 18.48 dBm | -11.52 dB |

Date: 29.OCT.2024 08:35:30

### Highest Band Edge / 1 RB

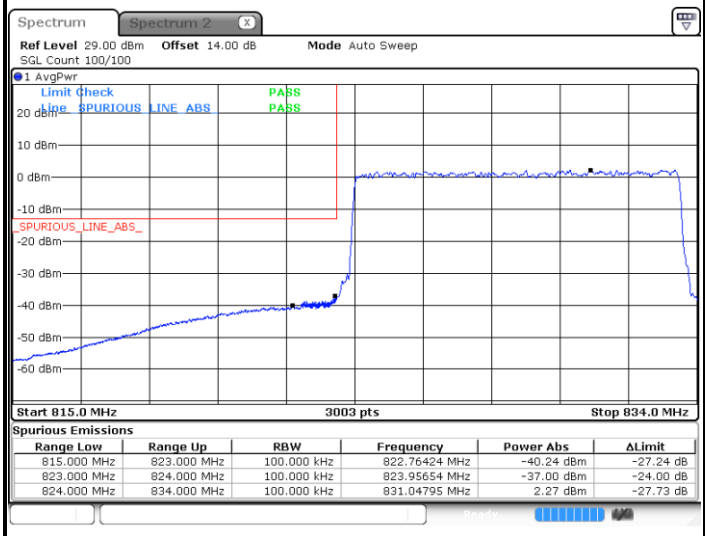



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 839.000 MHz | 849.000 MHz | 100.000 kHz | 848.41558 MHz | 19.00 dBm | -11.00 dB |
| 849.000 MHz | 850.000 MHz | 100.000 kHz | 849.01149 MHz | -22.41 dBm | -9.41 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.03497 MHz | -47.76 dBm | -34.76 dB |

Date: 29.OCT.2024 08:44:18

### Lowest Band Edge / Full RB

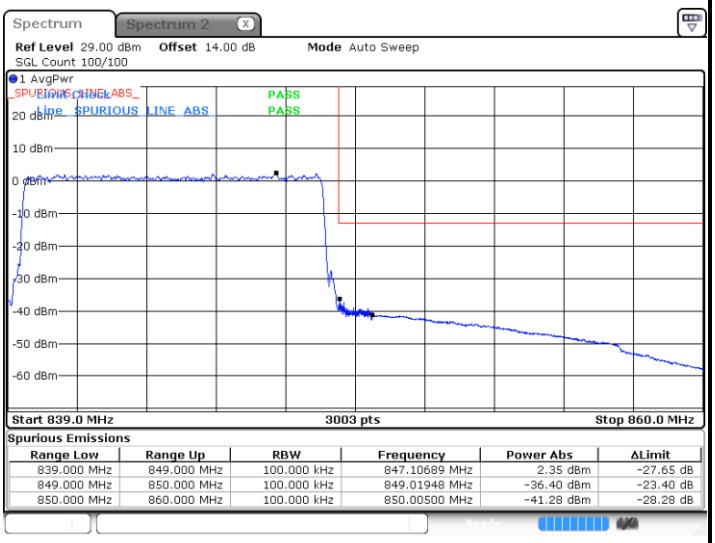



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 815.000 MHz | 823.000 MHz | 100.000 kHz | 822.76424 MHz | -40.24 dBm | -27.24 dB |
| 823.000 MHz | 824.000 MHz | 100.000 kHz | 823.95654 MHz | -37.00 dBm | -24.00 dB |
| 824.000 MHz | 834.000 MHz | 100.000 kHz | 831.04795 MHz | 2.27 dBm | -27.73 dB |

Date: 29.OCT.2024 08:37:57

### Highest Band Edge / Full RB




Spurious Emissions

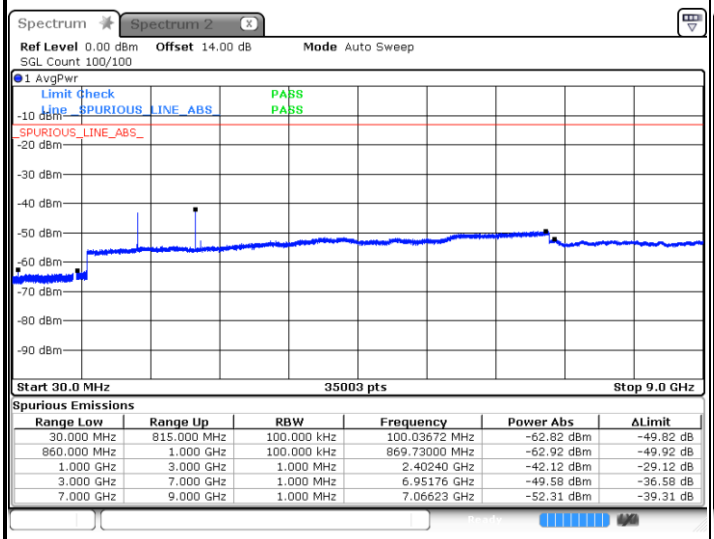
| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 839.000 MHz | 849.000 MHz | 100.000 kHz | 847.10689 MHz | 2.35 dBm | -27.65 dB |
| 849.000 MHz | 850.000 MHz | 100.000 kHz | 849.01948 MHz | -36.40 dBm | -23.40 dB |
| 850.000 MHz | 860.000 MHz | 100.000 kHz | 850.00500 MHz | -41.28 dBm | -28.28 dB |

Date: 29.OCT.2024 08:46:45

# Conducted Spurious Emission

## LTE Band 5 / 1.4MHz

### Lowest Channel / QPSK

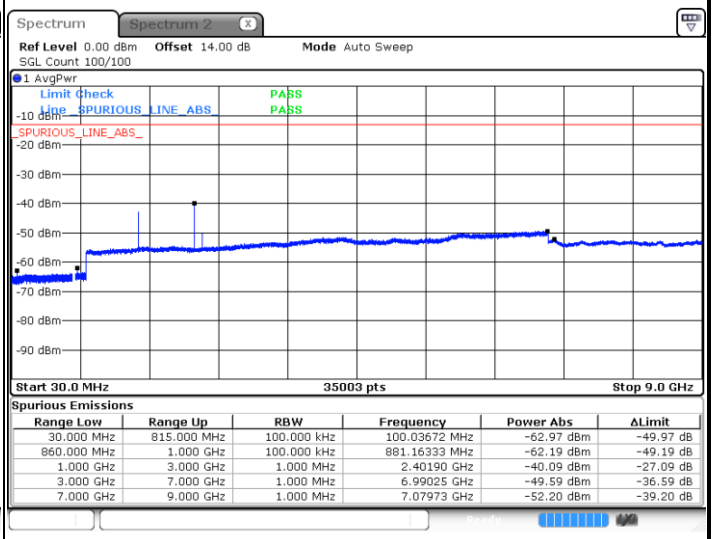



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 100.03672 MHz | -62.82 dBm | -49.82 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 869.73000 MHz | -62.92 dBm | -49.92 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40240 GHz | -42.12 dBm | -29.12 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.95176 GHz | -49.58 dBm | -36.58 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.06623 GHz | -52.31 dBm | -39.31 dB |

Date: 29.OCT.2024 07:54:45

### Middle Channel / QPSK

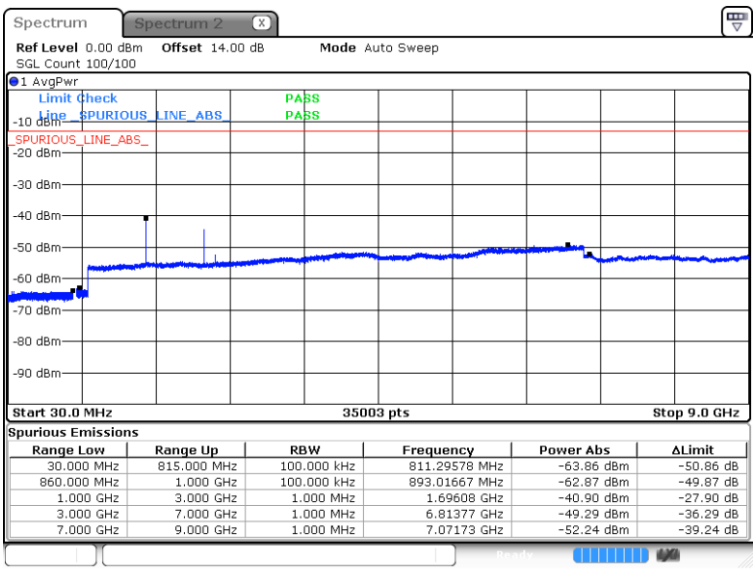



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 100.03672 MHz | -62.97 dBm | -49.97 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 881.16333 MHz | -62.19 dBm | -49.19 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40190 GHz | -40.09 dBm | -27.09 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.99025 GHz | -49.59 dBm | -36.59 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.07973 GHz | -52.20 dBm | -39.20 dB |

Date: 29.OCT.2024 07:55:35

### Highest Channel / QPSK



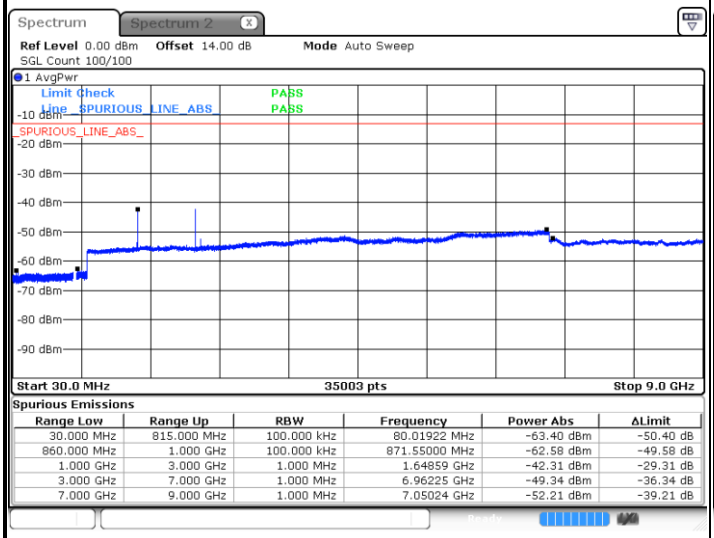

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 811.29578 MHz | -63.86 dBm | -50.86 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 893.01667 MHz | -62.87 dBm | -49.87 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 1.69608 GHz | -40.90 dBm | -27.90 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.81377 GHz | -49.29 dBm | -36.29 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.07173 GHz | -52.24 dBm | -39.24 dB |

Date: 29.OCT.2024 08:03:22

## LTE Band 5 / 3MHz

### Lowest Channel / QPSK

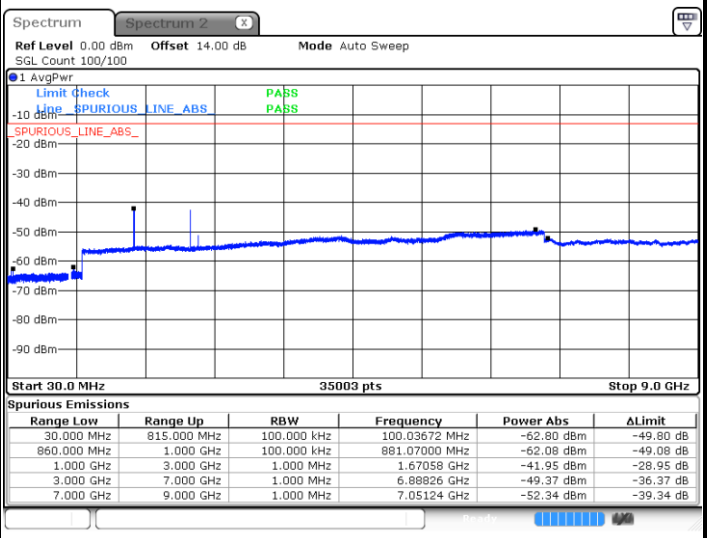



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 80.01922 MHz | -63.40 dBm | -50.40 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 871.55000 MHz | -62.58 dBm | -49.58 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 1.64859 GHz | -42.31 dBm | -29.31 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.96225 GHz | -49.34 dBm | -36.34 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.05024 GHz | -52.21 dBm | -39.21 dB |

Date: 29.OCT.2024 08:10:53

### Middle Channel / QPSK

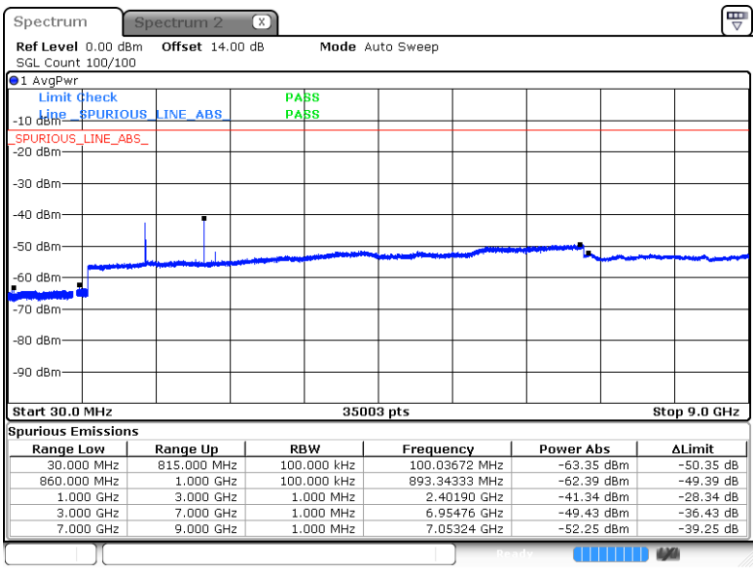



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 100.03672 MHz | -62.80 dBm | -49.80 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 881.07000 MHz | -62.08 dBm | -49.08 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 1.67058 GHz | -41.95 dBm | -28.95 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.88826 GHz | -49.37 dBm | -36.37 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.05124 GHz | -52.34 dBm | -39.34 dB |

Date: 29.OCT.2024 08:11:35

### Highest Channel / QPSK



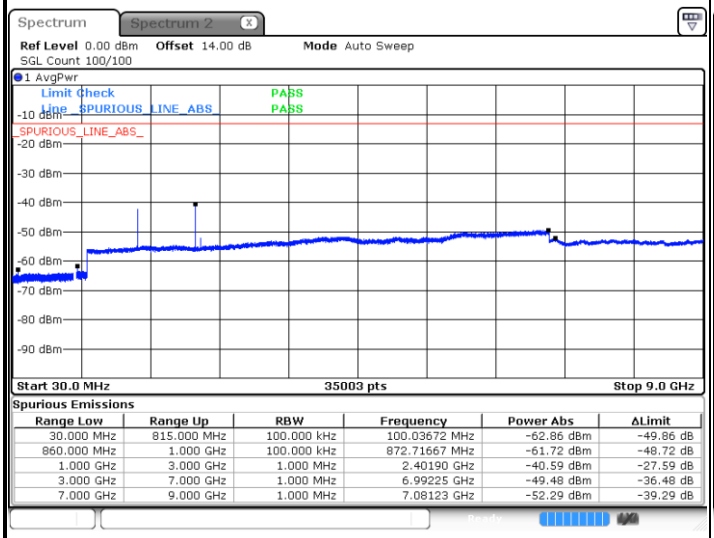

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 100.03672 MHz | -63.35 dBm | -50.35 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 893.34333 MHz | -62.39 dBm | -49.39 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40190 GHz | -41.34 dBm | -28.34 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.95476 GHz | -49.43 dBm | -36.43 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.05324 GHz | -52.25 dBm | -39.25 dB |

Date: 29.OCT.2024 08:18:34

## LTE Band 5 / 5MHz

### Lowest Channel / QPSK

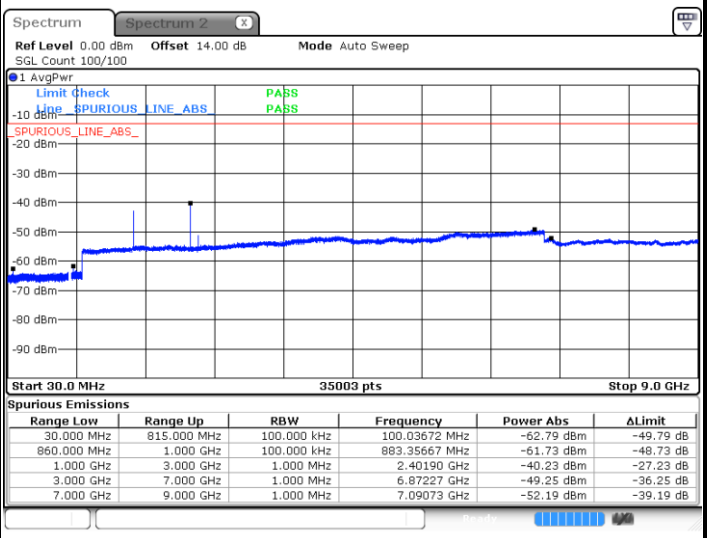



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 100.03672 MHz | -62.86 dBm | -49.86 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 872.71667 MHz | -61.72 dBm | -48.72 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40190 GHz | -40.59 dBm | -27.59 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.99225 GHz | -49.48 dBm | -36.48 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.08123 GHz | -52.29 dBm | -39.29 dB |

Date: 29.OCT.2024 08:24:50

### Middle Channel / QPSK

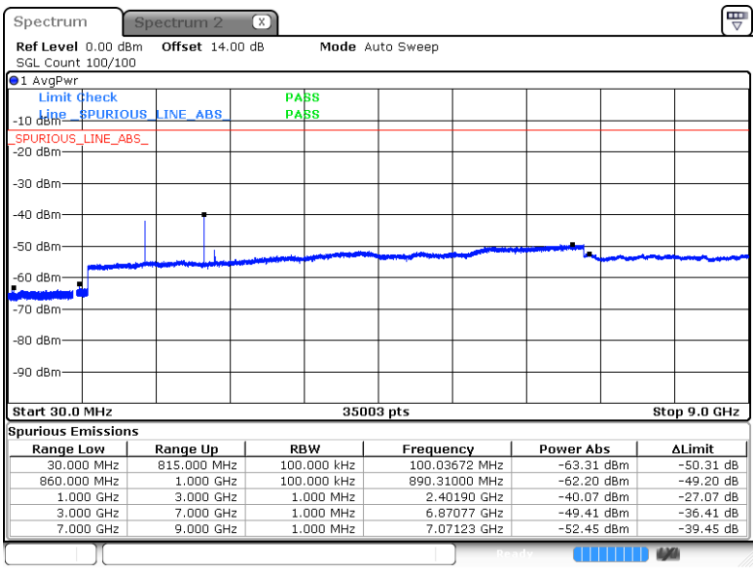



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 100.03672 MHz | -62.79 dBm | -49.79 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 883.35667 MHz | -61.73 dBm | -48.73 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40190 GHz | -40.23 dBm | -27.23 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.87227 GHz | -49.25 dBm | -36.25 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.09073 GHz | -52.19 dBm | -39.19 dB |

Date: 29.OCT.2024 08:25:33

### Highest Channel / QPSK



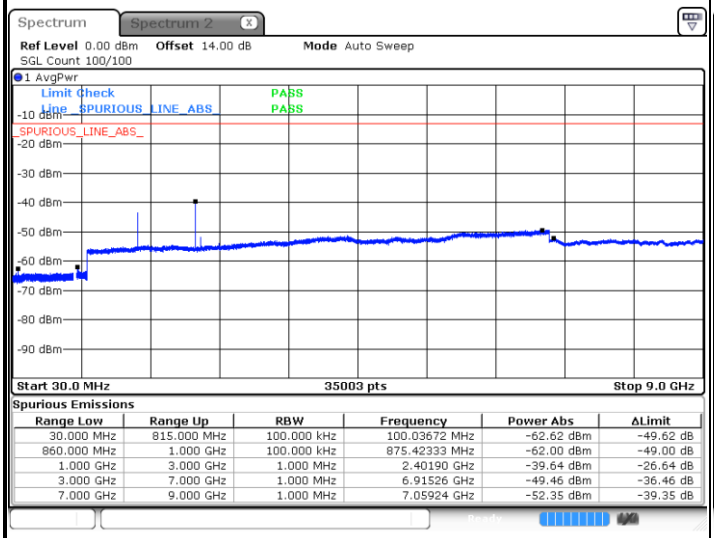

Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 100.03672 MHz | -63.31 dBm | -50.31 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 890.31000 MHz | -62.20 dBm | -49.20 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40190 GHz | -40.07 dBm | -27.07 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.87077 GHz | -49.41 dBm | -36.41 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.07123 GHz | -52.45 dBm | -39.45 dB |

Date: 29.OCT.2024 08:32:24

## LTE Band 5 / 10MHz

### Lowest Channel / QPSK

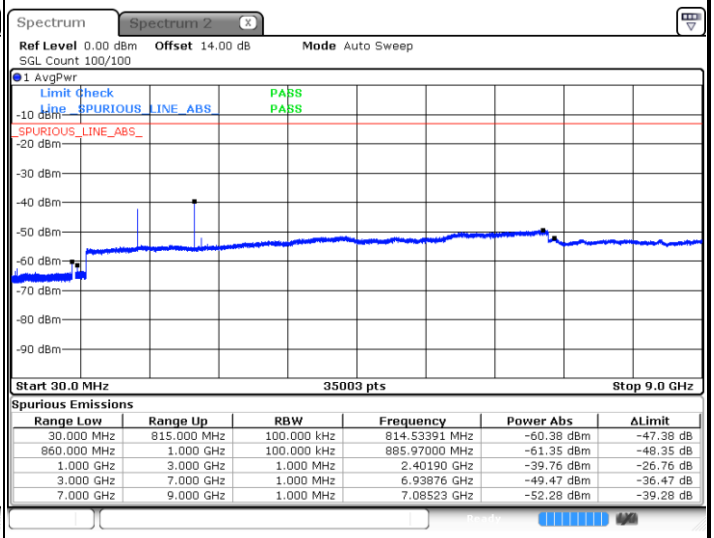



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 100.03672 MHz | -62.62 dBm | -49.62 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 875.42333 MHz | -62.00 dBm | -49.00 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40190 GHz | -39.64 dBm | -26.64 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.91526 GHz | -49.46 dBm | -36.46 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.05924 GHz | -52.35 dBm | -39.35 dB |

Date: 29.OCT.2024 08:38:40

### Middle Channel / QPSK

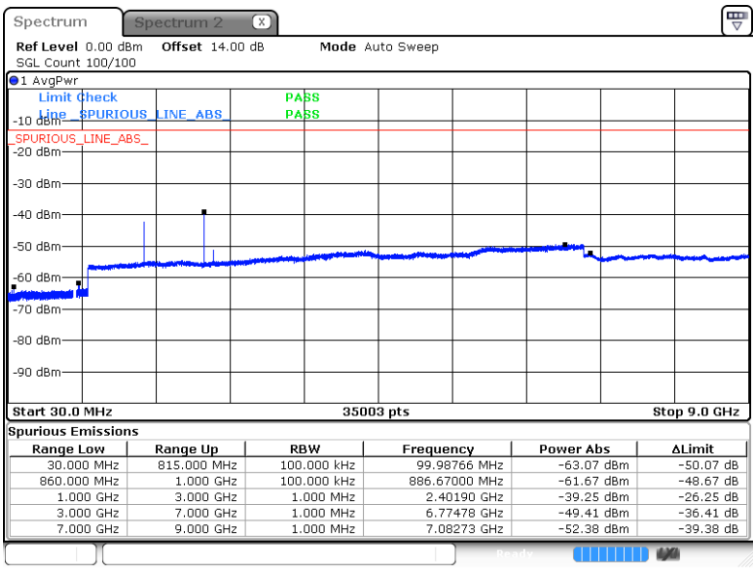



Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 814.53391 MHz | -60.38 dBm | -47.38 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 885.97000 MHz | -61.35 dBm | -48.35 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40190 GHz | -39.76 dBm | -26.76 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.93876 GHz | -49.47 dBm | -36.47 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.08523 GHz | -52.28 dBm | -39.28 dB |

Date: 29.OCT.2024 08:39:23

### Highest Channel / QPSK




Spurious Emissions

| Range Low | Range Up | RBW | Frequency | Power Abs | ΔLimit |
|---|---|---|---|---|---|
| 30.000 MHz | 815.000 MHz | 100.000 kHz | 99.98766 MHz | -63.07 dBm | -50.07 dB |
| 860.000 MHz | 1.000 GHz | 100.000 kHz | 886.67000 MHz | -61.67 dBm | -48.67 dB |
| 1.000 GHz | 3.000 GHz | 1.000 MHz | 2.40190 GHz | -39.25 dBm | -26.25 dB |
| 3.000 GHz | 7.000 GHz | 1.000 MHz | 6.77478 GHz | -49.41 dBm | -36.41 dB |
| 7.000 GHz | 9.000 GHz | 1.000 MHz | 7.08273 GHz | -52.38 dBm | -39.38 dB |

Date: 29.OCT.2024 08:47:29

# Frequency Stability

| Test Conditions | | LTE Band 5 (QPSK) / Middle Channel | Limit |
|---|---|---|---|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | 2.5ppm |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0026 | PASS |
| 40 | Normal Voltage | 0.0031 | |
| 30 | Normal Voltage | 0.0023 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0013 | |
| 0 | Normal Voltage | 0.0025 | |
| -10 | Normal Voltage | 0.0018 | |
| -20 | Normal Voltage | 0.0016 | |
| -30 | Normal Voltage | 0.0024 | |
| 20 | Maximum Voltage | 0.0031 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0044 | |

**Note:**

1. Normal Voltage = 3.91 V. ; Minimum Voltage = 3.5 V. ; Maximum Voltage = 4.45 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

# Appendix B. Test Results of Radiated Test

## Radiated Spurious Emission

| Test Engineer : | Jia Kuang | Temperature : | 22~25℃ |
|---|---|---|---|
| | | Relative Humidity : | 48~52% |

| LTE Band 5 / 20MHz / QPSK/Ant0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Channel | Frequency ( MHz ) | ERP ( dBm ) | Limit ( dBm ) | Over Limit ( dB ) | SPA Reading (dBm) | S.G. Power ( dBm ) | TX Cable loss ( dB ) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 1664.18 | -64.27 | -13 | -51.27 | -76.47 | -67.52 | 4.00 | 9.40 | H |
| | 2496.27 | -58.49 | -13 | -45.49 | -77.86 | -62.06 | 4.88 | 10.60 | H |
| | 3328.36 | -58.86 | -13 | -45.86 | -80.11 | -63.79 | 5.52 | 12.60 | H |
| | 1664.18 | -64.90 | -13 | -51.90 | -77.77 | -68.15 | 4.00 | 9.40 | V |
| | 2496.27 | -60.06 | -13 | -47.06 | -79.69 | -63.63 | 4.88 | 10.60 | V |
| | 3328.36 | -58.88 | -13 | -45.88 | -80.63 | -63.81 | 5.52 | 12.60 | V |

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