# Industrial Internet Innovation Center (Shanghai) Co.,Ltd.

# RF TEST REPORT

| | |
|---|---|
| **PRODUCT** | Smart POS system |
| **BRAND** | SUNMI |
| **MODEL** | T6900 |
| **APPLICANT** | Shanghai Sunmi Technology Co.,Ltd. |
| **FCC ID** | 2AH25T6900P2 |
| **IC** | 22621-T6900P2 |
| **ISSUE DATE** | November 29, 2023 |
| **STANDARD(S)** | FCC Part 2, FCC Part 22, FCC Part 24, FCC Part 27, FCC Part 90,RSS-Gen Issue 5, RSS-130 Issue 2, RSS-133 Issue 6, RSS-139 Issue 4, RSS-132 Issue4 |

**Prepared by:** ***Wu Rui*** **Reviewed by:** ***Yang Fan*** **Approved by:** ***Zhang Min***

# CONTENTS

# 1. Summary of Test Report

## 1.1 Test Standard (s)

| No. | Test Standard | Title | Version |
|---|---|---|---|
| 1 | FCC Part 2 | FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS | 2021-10-01 |
| 2 | FCC Part 22 | PUBLIC MOBILE SERVICES | 2022-10-01 |
| 3 | FCC Part 24 | PERSONAL COMMUNICATIONS SERVICES | 2022-10-01 |
| 4 | FCC Part 27 | MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES | 2022-10-01 |
| 5 | FCC Part 90 | PRIVATE LAND MOBILE RADIO SERVICES | 2022-10-01 |
| 6 | RSS-Gen Issue 5 | RSS-Gen —General Requirements for Compliance of Radio Apparatus | 2021-02 |
| 7 | RSS-130 Issue 2 | Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz | 2019-02 |
| 8 | RSS-132 Issue 4 | Cellular Systems Operating in the Bands 824-849 MHz and 869-894 MHz | 2023-01 |
| 9 | RSS-133 Issue 6 | 2 GHz Personal Communications Services | 2018-01 |
| 10 | RSS-139 Issue 4 | Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz | 2022-10 |
| Note: FCC Part 2 have not been accredited by A2LA. | | | |

## 1.2 Reference Documents

| No. | Test Standard | Title | Version |
|---|---|---|---|
| 1 | ANSI/TIA-603-E | Land Mobile FM or PM Communications Equipment Measurement and Performance Standards | 2016 |
| 2 | ANSI C63.26 | American National Standard of Procedures for Compliance Testing of Licensed Transmitters Used in Licensed Radio | 2015 |
| 3 | KDB 971168 D01 | Measurement Guidance for Certification of Licensed Digital Transmitters | v03r01 |
| Note: KDB 971168 D01 have not been accredited by A2LA. | | | |

## 1.3 Summary of Test Results

LTE Band 12

| Items | Test Name | Sub-clause of FCC | Sub-clause of IC | Verdict |
|---|---|---|---|---|
| 1 | Output Power/ERP | 2.1046/27.50(c)(10) | RSS-130 4.6 | Pass |
| 2 | Emission Limit | 27.53(g), 2.1051 | RSS-130 4.7 | Pass |

| Items | Test Name | Sub-clause of FCC | Sub-clause of IC | Verdict |
|---|---|---|---|---|
| 3 | Frequency Stability | 27.54, 2.1055 | RSS-130 4.5 | Pass |
| 4 | Occupied Bandwidth | 2.1049 | RSS-Gen 6.7 | Pass |
| 5 | Emission Bandwidth | 2.1049/27.53(g) | RSS-Gen 6.7 | Pass |
| 6 | Band Edge Compliance | 27.53(g) | RSS-130 4.7 | Pass |
| 7 | Conducted Spurious Emission | 27.53(g), 2.1057 | RSS-130 4.7 | Pass |
| 8 | Peak to Average Power Ratio | 27.50 | RSS-130 4.6 | Pass |

LTE Band 25

| Items | Test Name | Clause in FCC rules | Sub-clause of IC | Verdict |
|---|---|---|---|---|
| 1 | Output Power/EIRP | 2.1046,24.232(c) | RSS-133 6.4 | Pass |
| 2 | Emission Limit | 2.1051,24.238(a) | RSS-133 6.5 | Pass |
| 3 | Frequency Stability | 2.1055,24.235 | RSS-133 6.3 | Pass |
| 4 | Occupied Bandwidth | 2.1049 | RSS-Gen 6.7 | Pass |
| 5 | Emission Bandwidth | 24.238(a) | RSS-Gen 6.7 | Pass |
| 6 | Band Edge Compliance | 24.238(a) | RSS-133 6.5 | Pass |
| 7 | Spurious Emission | 2.1057, 24.238(a) | RSS-133 6.5/ RSS-133 6.6NOTE2 | Pass |
| 8 | Peak to Average Power Ratio | 24.232(d) | RSS-133 6.4 | Pass |

LTE Band 26(Part 22) 824-849MHz

| Items | Test Name | Clause in FCC rules | Sub-clause of IC | Verdict |
|---|---|---|---|---|
| 1 | Output Power/ERP | 2.1046, 22.913(a) | RSS-132 5.4 | Pass |
| 2 | Emission Limit | 22.917, 2.1051 | RSS-132 5.5 | Pass |
| 3 | Frequency Stability | 2.1055 | RSS-132 5.3 | Pass |
| 4 | Occupied Bandwidth | 2.1049 | RSS-Gen 6.7 | Pass |
| 5 | Emission Bandwidth | 22.917 | RSS-Gen 6.7 | Pass |
| 6 | Band Edge Compliance | 22.917 | RSS-132 5.5 | Pass |
| 7 | Conducted Spurious Emission | 22.917, 2.1057 | RSS-132 5.5 | Pass |
| 8 | Peak to Average Power Ratio | 22.913(d) | RSS-132 5.4 | Pass |

LTE Band 26(Part 90) 814-824 MHz

| Items | Test Name | Clause in FCC rules | Verdict |
|---|---|---|---|
| 1 | Output Power/ERP | 2.1046/90.635(b) | Pass |
| 2 | Emission Limit | 90.669 | Pass |
| 3 | Frequency Stability | 90.213(a),2.1055 | Pass |

| | | | |
|---|---|---|---|
| 4 | Occupied Bandwidth | 2.1049 | Pass |
| 5 | Emission Bandwidth | 90.209 (b) | Pass |
| 6 | Band Edge Compliance | 90.669 | Pass |
| 7 | Conducted Spurious Emission | 90.669,2.1057 | Pass |

LTE Band 66

| Items | Test Name | Sub-clause of FCC | Sub-clause of IC | Verdict |
|---|---|---|---|---|
| 1 | Output Power/EIRP | 27.50(d)(4) | RSS-139 5.5 | Pass |
| 2 | Emission Limit | 27.53(h), 2.1051 | RSS-139 5.6 | Pass |
| 3 | Frequency Stability | 27.54, 2.1055 | RSS-139 5.4 | Pass |
| 4 | Occupied Bandwidth | 2.1049 | RSS-Gen 6.7 | Pass |
| 5 | Emission Bandwidth | 2.1049,27.53(h) | RSS-Gen 6.7 | Pass |
| 6 | Band Edge Compliance | 27.53(h) | RSS-139 5.6 | Pass |
| 7 | Conducted Spurious Emission | 27.53(h), 2.1057 | RSS-139 5.6 | Pass |
| 8 | Peak to Average Power Ratio | 27.50(d)(5) | RSS-139 5.5 | Pass |

Note1:

The T6900, manufactured by Shanghai Sunmi Technology Co.,Ltd. is a variant product for testing.

This project is a variant project based on the I22I30110-RF03-V03. Add FDD12/19/25/26/66 band by software(T6900P2-3 :Configuration1-standard) ,according to the discrepancy statement provided by the customer. So the use cases involved are tested.

Industrial Internet Innovation Center (Shanghai) Co., Ltd. only performed test cases which identified with Pass/Fail/Inc result in section 1.3.

Industrial Internet Innovation Center (Shanghai) Co., Ltd. has verified that the compliance of the tested device specified in section 4 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 1 of this test report.

Note2:

After verification, the received stray test data is greater than the limit value of 10dB. Therefore, the test data is not displayed.

## 1.4 Data Provided by Applicant

| No. | Item(s) | Data |
|---|---|---|
| 1 | LTE band 12 | -2.7 |
| 2 | LTE band 25 | -0.7 |
| 3 | LTE band 26 | -3.2 |
| 4 | LTE band 66 | 3.6 |

Note: The data of antenna gain is provided by Antenna specification may affect the validity of the test results in this report, and the impact and consequences of this shall be undertaken by the customer.

# 2. General Information of The Laboratory

## 2.1 Testing Laboratory

| | |
|---|---|
| Lab Name | Industrial Internet Innovation Center (Shanghai) Co.,Ltd. |
| Address | Building 4，No. 766，Jingang Road，Pudong，Shanghai，China |
| Telephone | 021-68866880 |
| FCC Registration No. | 708870 |
| FCC Designation No. | CN1364 |
| IC Designation No. | 10766A |
| CAB identifier | CN0067 |

## 2.2 Laboratory Environmental Requirements

| | |
|---|---|
| Temperature | 15℃~35℃ |
| Relative Humidity | 25%RH~75%RH |
| Atmospheric Pressure | 86kPa~106kPa |

## 2.3 Project Information

| | |
|---|---|
| Project Manager | Gao Hongning |
| Test Date | October 13, 2023 to November 14, 2023 |

# 3. General Information of The Customer

## 3.1 Applicant

| | |
|---|---|
| Company | Shanghai Sunmi Technology Co.,Ltd. |
| Address | Room 505, No.388, Song Hu Road, Yang Pu District, Shanghai, China |
| Telephone | +86-17302160204 |

## 3.2 Manufacturer

| | |
|---|---|
| Company | Shanghai Sunmi Technology Co.,Ltd. |
| Address | Room 505, No.388,Song Hu Road, Yang Pu District, Shanghai, China |
| Telephone | +86-17302160204 |

# 4. General Information of The Product

## 4.1 Product Description for Equipment under Test (EUT)

| | |
|---|---|
| Product | Smart POS system |
| Model | T6900 |
| Date of Receipt | S01aa/ S02aa: September 28,2023<br>S05:October 20,2023 |
| EUT ID* | S01aa/ S02aa/S05 |
| SN/IMEI | S01aa: 869325026801267<br>869325026801275<br>S02aa: 869325026812009<br>869325026812017<br>S05:N/A |
| Supported Radio Technology and Bands | GSM850/GSM900/DCS1800/PCS1900<br>WCDMA Band I/II/IV/V/VIII<br>LTE Band 1/2/3/4/5/7/12/17/19/25/26/28/38/41/66<br>BT 4.2 BLE/BR/EDR<br>WLAN 802.11b/g/n<br>WLAN 802.11a/n<br>GPS<br>NFC |
| HVIN | T6900P2-3 |
| Hardware Version | B1691_MAIN_PCB |
| Software Version | SP6359A-20230925115332 |
| FCC ID | 2AH25T6900P2 |
| IC | 22621-T6900P2 |
| NOTE1: EUT ID is the internal identification code of the laboratory.<br>NOTE2: Photographs of EUT are shown in ANNEX A of this test report.<br>NOTE3: Samples in the test report are provided by the customer. The test results are only applicable to the samples received by the laboratory. | |

## 4.2 Description for Auxiliary Equipment (AE)

| AE ID* | Description | Model | SN/Remark |
|---|---|---|---|
| AE1 | RF Cable | N/A | N/A |
| NOTE： AE ID is the internal identification code of the laboratory. | | | |

## 4.3 Additional Information

| | |
|---|---|
| Type of modulation | QPSK/16QAM |

# 5. Test Configuration Information

## 5.1 Laboratory Environmental Conditions

### 5.1.1 Permanent Facilities

| | | | |
|---|---|---|---|
| **Relative Humidity** | Min. = 45%, Max. = 55% | | |
| **Atmospheric Pressure** | 101kPa | | |
| **Temperature** | Normal | Minimum | Maximum |
| | 25℃ | 0℃ | 45℃ |
| **Working Voltage of EUT** | Normal | Minimum | Maximum |
| | 7.6V | 7.2V | 8.7V |

## 5.2 Test Equipments Utilized

Conduction test system

| No. | Name | Model | S/N | SW Version | HW Version | Manufacturer | Cal. Date | Cal. Interval |
|---|---|---|---|---|---|---|---|---|
| 1 | Software | Eagle V3.3 | N/A | V3.3 | N/A | 3IN | N/A | N/A |
| 2 | Frequency spectrum analyzer | FSQ | 101091 | V4.75 | V11.00 | R&S | 2023-07-26 | 1 Year |
| 3 | Wideband Radio Communication Tester | CMW 500 | 148874 | V3.5.136 | N/A | R&S | 2023-07-27 | 1 Year |
| 4 | Temperature Chamber | B-TF-107C | 201804107 | N/A | N/A | BoYi | 2023-06-28 | 1 Year |
| 5 | Programmable power supply | Keithley 2303 | 4039070 | N/A | N/A | Keithley | 2023-06-23 | 1 Year |
| 6 | RF Test Automation Box | RF 2021B | 2001 | V3.3 | N/A | RANATEC | N/A | N/A |

Radiated emission test system

| NO | Name | Model | S/N | SW Version | HW Version | Manufacturer | Cal. Date | Cal. Interval |
|---|---|---|---|---|---|---|---|---|
| 1 | Universal Radio Communication Tester | CMU200 | 123126 | V5.2.1 | B12 | R&S | 2022-10-17 | 1 Year |
| | | | | | | | 2023-10-16 | 1 Year |
| 2 | Universal Radio Communication Tester | CMW500 | 104178 | V3.7.20 | 1206.0600.00 | R&S | 2022-10-17 | 1 Year |
| | | | | | | | 2023-10-16 | 1 Year |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | EMI Test Receiver | ESU40 | 100307 | V5.1-24-3 | 01 | R&S | 2022-12-19 | 1 Year |
| 4 | TRILOG Broadband Antenna | VULB9163 | 01345 | N/A | N/A | Schwarzbeck | 2023-03-23 | 1 Year |
| 5 | Double- ridged Waveguide Antenna | ETS-3117 | 00135890 | N/A | N/A | ETS | 2022-03-09 | 2 Years |
| 6 | EMI Test Software | EMC32 V10.35.02 | N/A | N/A | N/A | R&S | N/A | N/A |

Anechoic chamber

Fully anechoic chamber by ETS.

## 5.3 Measurement Uncertainty

**Measurement Uncertainty of Radiation test**

| Frequency Range | Uncertainty(dB) |
|---|---|
| 30MHz ≤ f ≤ 1GHz | ±4.94 |
| 1GHz ≤ f ≤ 18GHz | ±5.02 |
| 18GHz ≤ f ≤ 40GHz | ±5.54 |

**Measurement Uncertainty of Conduction test**

| No | Item | Extended uncertainty （k=2） | |
|---|---|---|---|
| 1 | Frequency Tolerance | 23Hz | |
| 2 | RF Output Power | 0.7dB | |
| 3 | conducted spurious | 9kHz～3.6GHz | 1.5dB |
| | | 3.6GHz～8.4GHz | 2.8dB |
| | | 8.4GHz～12.75GHz | 3.4dB |
| 4 | EVM | 2.1% | |
| 6 | Occupied Bandwidth | Bandwidth 1.4MHz | 0.03MHz |
| | | Bandwidth 3MHz | 0.03MHz |
| | | Bandwidth 5MHz | 0.03MHz |
| | | Bandwidth 10MHz | 0.05MHz |
| | | Bandwidth 15MHz | 0.06MHz |
| | | Bandwidth 20MHz | 0.08MHz |
| 7 | Emission intermodulation | Adjacent channel | 1.4dB |
| | | Alternate channel | 1.4dB |
| 8 | Range of frequency | 0.08MHz | |

# 6. Test Results

## 6.1 Output Power

**Reference**

CFR part 2.1046/22.913(a) (5)/ 24.232(c)/27.50(c)(10)/27.50(d)(4)/ 90.635(b)
RSS-130 4.6/ RSS-132 5.4/RSS-133 6.4/RSS-139 5.5

### 6.1.1 Summary

22.913(a) (5) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.
24.232(c) Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.
27.50(c) (10) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698–746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.
27.50(d) (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band is limited to 1 watt EIRP.
90.635(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).
RSS-130 4.6:The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.
RSS-132 5.4 The equivalent radiated power (e.r.p.) shall not exceed 7 watts for mobile equipment and 3 watts for portable equipment.
RSS-133 6.4Mobile stations and hand-held portables are limited to 2 watts maximum e.i.r.p.
RSS-139 5.5Subscriber equipment: 30 dBm e.i.r.p./channel bandwidth
During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMW500) to ensure max power transmission and proper modulation. In all cases, output power is within the specified limits.
CMW500 setting：
1: CMW500 is connected to the DUT
2: Set RX Expected PEP to 30 dBm

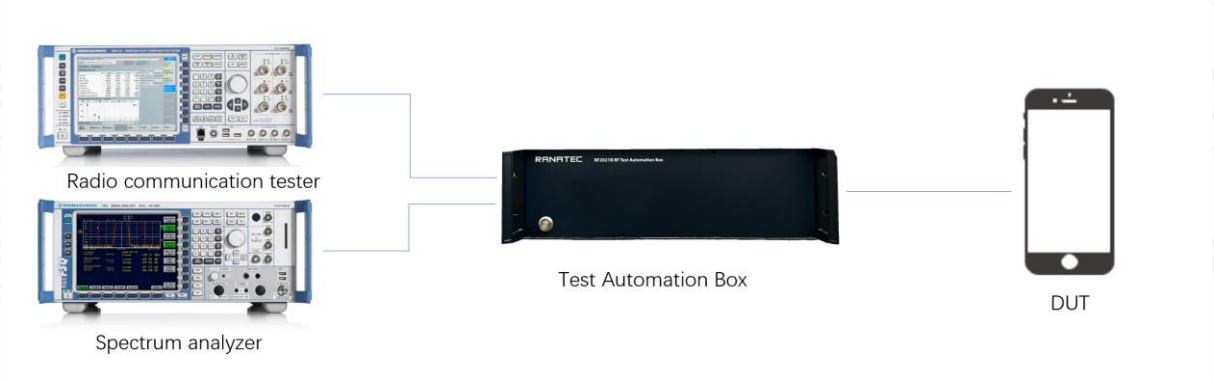
### 6.1.2 Method of Measurements

Method of measurements please refer to KDB971168 D01 v03 clause 5.
The EUT was set up for the max output power with pseudo random data modulation.
The power was measured with Rhode & Schwarz Spectrum Analyzer FSQ(peak).

### 6.1.3 Test procedures

The transmitter output port was connected to base station.
Set the EUT at maximum power through base station.
Select lowest, middle, and highest channels for each band and different modulation.
Measure maximum average power for other modulation signal.
The transmitter output power was connected to calibrated attenuator, the other end of which was connected to signal analyzer. Transmitter output power was read off the power in dBm. The power outputs at the transmitter antenna port was determined by adding the value of attenuator to the signal analyzer reading.

### 6.1.4 Test Setup




### 6.1.5 Output Power Measurement result

**LTE band 12**

| LTE B12 | | | Maximum Conducted Power (dBm) | | | |
|---|---|---|---|---|---|---|
| Modulation | RB | RB Offset | Tune up | 1.4MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 23017/699.7 | 23095/707.5 | 23173/715.3 |
| QPSK | 1 | Low | 23.50 | 22.01 | 22.04 | 22.06 |
| | | Middle | | 22.21 | 22.34 | 22.16 |
| | | High | | 22.08 | 22.08 | 22.11 |
| | 50% | Low | 22.50 | 21.14 | 21.18 | 21.19 |
| | | Middle | | 21.13 | 21.15 | 21.17 |
| | | High | | 21.07 | 21.12 | 21.15 |
| | 100% | / | 22.50 | 21.08 | 21.21 | 21.14 |
| 16QAM | 1 | Low | 22.50 | 21.19 | 21.21 | 21.20 |
| | | Middle | | 21.17 | 21.17 | 21.15 |
| | | High | | 21.19 | 21.23 | 21.16 |
| | 50% | Low | 21.50 | 20.08 | 20.08 | 20.18 |
| | | Middle | | 20.13 | 20.06 | 20.15 |
| | | High | | 20.14 | 20.08 | 20.18 |
| | 100% | / | 21.50 | 20.11 | 20.07 | 20.10 |
| Modulation | RB | RB Offset | Tune up | 3MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 23025/700.5 | 23095/707.5 | 23165/714.5 |
| QPSK | 1 | Low | 23.50 | 22.03 | 22.05 | 22.09 |
| | | Middle | | 22.24 | 22.31 | 22.20 |
| | | High | | 22.10 | 22.12 | 22.14 |
| | 50% | Low | 22.50 | 21.17 | 21.18 | 21.17 |
| | | Middle | | 21.16 | 21.18 | 21.14 |
| | | High | | 21.09 | 21.16 | 21.17 |
| | 100% | / | 22.50 | 21.12 | 21.23 | 21.18 |
| 16QAM | 1 | Low | 22.50 | 21.21 | 21.24 | 21.22 |
| | | Middle | | 21.20 | 21.21 | 21.18 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | High | | 21.22 | 21.25 | 21.19 |
| | 50% | Low | 21.50 | 20.11 | 20.13 | 20.22 |
| | | Middle | | 20.15 | 20.10 | 20.18 |
| | | High | | 20.17 | 20.13 | 20.22 |
| | 100% | / | 21.50 | 20.14 | 20.12 | 20.14 |
| Modulation | RB | RB Offset | Tune up | 5MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 23035/701.5 | 23095/707.5 | 23155/713.5 |
| QPSK | 1 | Low | 23.50 | 22.02 | 22.01 | 22.07 |
| | | Middle | | 22.22 | 22.32 | 22.17 |
| | | High | | 22.07 | 22.07 | 22.10 |
| | 50% | Low | 22.50 | 21.15 | 21.19 | 21.15 |
| | | Middle | | 21.13 | 21.18 | 21.17 |
| | | High | | 21.06 | 21.13 | 21.16 |
| | 100% | / | 22.50 | 21.10 | 21.19 | 21.13 |
| 16QAM | 1 | Low | 22.50 | 21.16 | 21.22 | 21.20 |
| | | Middle | | 21.18 | 21.18 | 21.16 |
| | | High | | 21.19 | 21.21 | 21.16 |
| | 50% | Low | 21.50 | 20.08 | 20.11 | 20.19 |
| | | Middle | | 20.12 | 20.05 | 20.14 |
| | | High | | 20.15 | 20.09 | 20.19 |
| | 100% | / | 21.50 | 20.11 | 20.07 | 20.10 |
| Modulation | RB | RB Offset | Tune up | 10MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 23060/704 | 23095/707.5 | 23130/711 |
| QPSK | 1 | Low | 23.50 | 21.99 | 21.97 | 22.04 |
| | | Middle | | 22.21 | 22.34 | 22.15 |
| | | High | | 22.05 | 22.06 | 22.07 |
| | 50% | Low | 22.50 | 21.12 | 21.14 | 21.16 |
| | | Middle | | 21.11 | 21.19 | 21.14 |
| | | High | | 21.03 | 21.08 | 21.12 |
| | 100% | / | 22.50 | 21.07 | 21.14 | 21.09 |
| 16QAM | 1 | Low | 22.50 | 21.11 | 21.18 | 21.15 |
| | | Middle | | 21.14 | 21.16 | 21.12 |
| | | High | | 21.17 | 21.18 | 21.14 |
| | 50% | Low | 21.50 | 20.05 | 20.07 | 20.16 |
| | | Middle | | 20.09 | 20.03 | 20.11 |
| | | High | | 20.12 | 20.04 | 20.15 |
| | 100% | / | 21.50 | 20.09 | 20.03 | 20.07 |

**LTE BAND 25**

| LTE B25 | | | Maximum Conducted Power (dBm) | |
|---|---|---|---|---|
| Modulation | RB | RB Offset | Tune up | 1.4MHz |
| | | | | Channel/Frequency(MHz) |

| | | | | 26047/1850.7 | 26365/1882.5 | 26683/1914.3 |
|---|---|---|---|---|---|---|
| QPSK | 1 | Low | 23.50 | 22.22 | 22.35 | 22.33 |
| | | Middle | | 22.56 | 22.64 | 22.49 |
| | | High | | 22.19 | 22.41 | 22.18 |
| | 50% | Low | 23.50 | 22.40 | 22.53 | 22.50 |
| | | Middle | | 22.38 | 22.58 | 22.48 |
| | | High | | 22.53 | 22.60 | 22.52 |
| | 100% | / | 22.50 | 21.55 | 21.57 | 21.54 |
| 16QAM | 1 | Low | 22.50 | 21.55 | 21.60 | 21.59 |
| | | Middle | | 21.53 | 21.26 | 21.52 |
| | | High | | 21.43 | 21.29 | 21.48 |
| | 50% | Low | 22.50 | 21.51 | 21.52 | 21.48 |
| | | Middle | | 21.45 | 21.50 | 21.50 |
| | | High | | 21.46 | 21.50 | 21.52 |
| | 100% | / | 21.50 | 20.55 | 20.62 | 20.65 |
| Modulation | RB | RB Offset | Tune up | 3MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 26055/1851.5 | 26365/1882.5 | 26675/1913.5 |
| QPSK | 1 | Low | 23.50 | 22.24 | 22.39 | 22.36 |
| | | Middle | | 22.54 | 22.67 | 22.53 |
| | | High | | 22.22 | 22.46 | 22.22 |
| | 50% | Low | 22.50 | 21.58 | 21.73 | 21.71 |
| | | Middle | | 21.58 | 21.76 | 21.68 |
| | | High | | 21.63 | 21.71 | 21.62 |
| | 100% | / | 22.50 | 21.55 | 21.61 | 21.57 |
| 16QAM | 1 | Low | 22.50 | 21.58 | 21.62 | 21.62 |
| | | Middle | | 21.56 | 21.26 | 21.56 |
| | | High | | 21.45 | 21.33 | 21.51 |
| | 50% | Low | 21.50 | 20.62 | 20.65 | 20.60 |
| | | Middle | | 20.56 | 20.63 | 20.62 |
| | | High | | 20.56 | 20.62 | 20.65 |
| | 100% | / | 21.50 | 20.58 | 20.66 | 20.68 |
| Modulation | RB | RB Offset | Tune up | 5MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 26065/1852.5 | 26365/1882.5 | 26665/1912.5 |
| QPSK | 1 | Low | 23.50 | 22.21 | 22.37 | 22.32 |
| | | Middle | | 22.52 | 22.63 | 22.50 |
| | | High | | 22.19 | 22.41 | 22.18 |
| | 50% | Low | 22.50 | 21.55 | 21.68 | 21.67 |
| | | Middle | | 21.56 | 21.72 | 21.63 |
| | | High | | 21.61 | 21.69 | 21.58 |
| | 100% | / | 22.50 | 21.55 | 21.60 | 21.55 |
| 16QAM | 1 | Low | 22.50 | 21.55 | 21.58 | 21.59 |
| | | Middle | | 21.53 | 21.24 | 21.53 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | High | | 21.42 | 21.31 | 21.47 |
| | 50% | Low | 21.50 | 20.60 | 20.61 | 20.57 |
| | | Middle | | 20.53 | 20.58 | 20.58 |
| | | High | | 20.53 | 20.57 | 20.61 |
| | 100% | / | 21.50 | 20.56 | 20.62 | 20.63 |
| Modulation | RB | RB Offset | Tune up | 10MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 26090/1855 | 26365/1882.5 | 26640/1910 |
| QPSK | 1 | Low | 23.50 | 22.23 | 22.38 | 22.35 |
| | | Middle | | 22.55 | 22.68 | 22.54 |
| | | High | | 22.21 | 22.45 | 22.21 |
| | 50% | Low | 22.50 | 21.50 | 21.65 | 21.63 |
| | | Middle | | 21.59 | 21.77 | 21.67 |
| | | High | | 21.63 | 21.73 | 21.63 |
| | 100% | / | 22.50 | 21.59 | 21.62 | 21.59 |
| 16QAM | 1 | Low | 22.50 | 21.57 | 21.61 | 21.61 |
| | | Middle | | 21.56 | 21.28 | 21.56 |
| | | High | | 21.45 | 21.33 | 21.50 |
| | 50% | Low | 21.50 | 20.63 | 20.66 | 20.61 |
| | | Middle | | 20.55 | 20.62 | 20.61 |
| | | High | | 20.56 | 20.62 | 20.65 |
| | 100% | / | 21.50 | 20.59 | 20.67 | 20.67 |
| Modulation | RB | RB Offset | Tune up | 15MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 26115/1857.5 | 26365/1882.5 | 26615/1907.5 |
| QPSK | 1 | Low | 23.50 | 22.22 | 22.34 | 22.33 |
| | | Middle | | 22.53 | 22.67 | 22.51 |
| | | High | | 22.18 | 22.40 | 22.17 |
| | 50% | Low | 22.50 | 21.48 | 21.61 | 21.60 |
| | | Middle | | 21.56 | 21.72 | 21.63 |
| | | High | | 21.60 | 21.70 | 21.59 |
| | 100% | / | 22.50 | 21.57 | 21.58 | 21.54 |
| 16QAM | 1 | Low | 22.50 | 21.52 | 21.59 | 21.59 |
| | | Middle | | 21.54 | 21.25 | 21.54 |
| | | High | | 21.42 | 21.29 | 21.47 |
| | 50% | Low | 21.50 | 20.60 | 20.64 | 20.58 |
| | | Middle | | 20.52 | 20.57 | 20.57 |
| | | High | | 20.54 | 20.58 | 20.62 |
| | 100% | / | 21.50 | 20.56 | 20.62 | 20.63 |
| Modulation | RB | RB Offset | Tune up | 20MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 26140/1860 | 26365/1882.5 | 26590/1905 |
| QPSK | 1 | Low | 23.50 | 22.27 | 22.38 | 22.38 |
| | | Middle | | 22.60 | 22.71 | 22.57 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | High | | 22.24 | 22.47 | 22.22 |
| | 50% | Low | 22.50 | 21.53 | 21.64 | 21.64 |
| | | Middle | | 21.54 | 21.68 | 21.60 |
| | | High | | 21.57 | 21.65 | 21.55 |
| | 100% | / | 22.50 | 21.54 | 21.53 | 21.50 |
| 16QAM | 1 | Low | 22.50 | 21.45 | 21.55 | 21.54 |
| | | Middle | | 21.50 | 21.23 | 21.50 |
| | | High | | 21.40 | 21.26 | 21.45 |
| | 50% | Low | 21.50 | 20.57 | 20.60 | 20.55 |
| | | Middle | | 20.49 | 20.55 | 20.54 |
| | | High | | 20.51 | 20.53 | 20.58 |
| | 100% | / | 21.50 | 20.54 | 20.58 | 20.60 |

**LTE BAND 26(part 22)**

| Band | Frequency (MHz) | BandWidth | RB size/offset | Power(dBm)-QPSK | Power(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part22 | 824.7 | 1.4 | One Rb High | 22.77 | 21.85 |
| FDD26_Part22 | 824.7 | 1.4 | One Rb Low | 22.78 | 21.84 |
| FDD26_Part22 | 824.7 | 1.4 | One Rb Middle | 22.87 | 22 |
| FDD26_Part22 | 824.7 | 1.4 | Half Rb Low | 22.9 | 22.13 |
| FDD26_Part22 | 824.7 | 1.4 | Half Rb Middle | 22.89 | 22.17 |
| FDD26_Part22 | 824.7 | 1.4 | Half Rb High | 22.88 | 22.17 |
| FDD26_Part22 | 824.7 | 1.4 | Fullrb | 21.93 | 20.92 |
| FDD26_Part22 | 825.5 | 3 | One Rb High | 22.88 | 22.11 |
| FDD26_Part22 | 825.5 | 3 | One Rb Low | 22.88 | 22.12 |
| FDD26_Part22 | 825.5 | 3 | One Rb Middle | 22.89 | 22.13 |
| FDD26_Part22 | 825.5 | 3 | Half Rb Low | 22.01 | 20.88 |
| FDD26_Part22 | 825.5 | 3 | Half Rb Middle | 21.96 | 20.93 |
| FDD26_Part22 | 825.5 | 3 | Half Rb High | 21.94 | 20.9 |
| FDD26_Part22 | 825.5 | 3 | Fullrb | 21.97 | 20.9 |
| FDD26_Part22 | 826.5 | 5 | One Rb High | 22.69 | 21.66 |
| FDD26_Part22 | 826.5 | 5 | One Rb Low | 22.39 | 21.64 |
| FDD26_Part22 | 826.5 | 5 | One Rb Middle | 22.5 | 21.73 |
| FDD26_Part22 | 826.5 | 5 | Half Rb Low | 21.45 | 20.5 |
| FDD26_Part22 | 826.5 | 5 | Half Rb Middle | 21.45 | 20.49 |
| FDD26_Part22 | 826.5 | 5 | Half Rb High | 21.39 | 20.48 |
| FDD26_Part22 | 826.5 | 5 | Fullrb | 21.45 | 20.43 |
| FDD26_Part22 | 829 | 10 | One Rb High | 22.78 | 22 |
| FDD26_Part22 | 829 | 10 | One Rb Low | 22.87 | 22.1 |
| FDD26_Part22 | 829 | 10 | One Rb Middle | 23.01 | 22.25 |
| FDD26_Part22 | 829 | 10 | Half Rb Low | 22.04 | 21.03 |
| FDD26_Part22 | 829 | 10 | Half Rb Middle | 22.04 | 21.04 |
| FDD26_Part22 | 829 | 10 | Half Rb High | 21.94 | 20.93 |
| FDD26_Part22 | 829 | 10 | Fullrb | 21.99 | 20.98 |
| FDD26_Part22 | 831.5 | 15 | One Rb High | 22.64 | 21.87 |
| FDD26_Part22 | 831.5 | 15 | One Rb Low | 22.82 | 22.05 |

| Band | Frequency (MHz) | BandWidth | RB size/offset | Power(dBm)-QPSK | Power(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part22 | 831.5 | 15 | One Rb Middle | 22.82 | 22.07 |
| FDD26_Part22 | 831.5 | 15 | Half Rb Low | 22.08 | 22.04 |
| FDD26_Part22 | 831.5 | 15 | Half Rb Middle | 22.06 | 22.05 |
| FDD26_Part22 | 831.5 | 15 | Half Rb High | 21.87 | 21.85 |
| FDD26_Part22 | 831.5 | 15 | Fullrb | 21.92 | 20.92 |
| FDD26_Part22 | 836.5 | 1.4 | One Rb High | 22.61 | 21.73 |
| FDD26_Part22 | 836.5 | 1.4 | One Rb Low | 22.64 | 21.75 |
| FDD26_Part22 | 836.5 | 1.4 | One Rb Middle | 22.84 | 21.9 |
| FDD26_Part22 | 836.5 | 1.4 | Half Rb Low | 22.79 | 22.05 |
| FDD26_Part22 | 836.5 | 1.4 | Half Rb Middle | 22.76 | 22.07 |
| FDD26_Part22 | 836.5 | 1.4 | Half Rb High | 22.75 | 22.07 |
| FDD26_Part22 | 836.5 | 1.4 | Fullrb | 21.79 | 20.79 |
| FDD26_Part22 | 836.5 | 3 | One Rb High | 22.76 | 21.83 |
| FDD26_Part22 | 836.5 | 3 | One Rb Low | 22.78 | 21.92 |
| FDD26_Part22 | 836.5 | 3 | One Rb Middle | 22.74 | 21.84 |
| FDD26_Part22 | 836.5 | 3 | Half Rb Low | 21.81 | 20.89 |
| FDD26_Part22 | 836.5 | 3 | Half Rb Middle | 21.81 | 20.88 |
| FDD26_Part22 | 836.5 | 3 | Half Rb High | 21.77 | 20.85 |
| FDD26_Part22 | 836.5 | 3 | Fullrb | 21.82 | 20.85 |
| FDD26_Part22 | 836.5 | 5 | One Rb High | 22.67 | 21.58 |
| FDD26_Part22 | 836.5 | 5 | One Rb Low | 22.71 | 21.6 |
| FDD26_Part22 | 836.5 | 5 | One Rb Middle | 22.78 | 21.73 |
| FDD26_Part22 | 836.5 | 5 | Half Rb Low | 21.82 | 20.87 |
| FDD26_Part22 | 836.5 | 5 | Half Rb Middle | 21.82 | 20.84 |
| FDD26_Part22 | 836.5 | 5 | Half Rb High | 21.76 | 20.78 |
| FDD26_Part22 | 836.5 | 5 | Fullrb | 21.82 | 20.85 |
| FDD26_Part22 | 836.5 | 10 | One Rb High | 22.71 | 22.32 |
| FDD26_Part22 | 836.5 | 10 | One Rb Low | 22.79 | 22.45 |
| FDD26_Part22 | 836.5 | 10 | One Rb Middle | 22.87 | 22.5 |
| FDD26_Part22 | 836.5 | 10 | Half Rb Low | 21.9 | 20.98 |
| FDD26_Part22 | 836.5 | 10 | Half Rb Middle | 21.92 | 20.98 |
| FDD26_Part22 | 836.5 | 10 | Half Rb High | 21.8 | 20.77 |
| FDD26_Part22 | 836.5 | 10 | Fullrb | 21.87 | 20.86 |
| FDD26_Part22 | 836.5 | 15 | One Rb High | 22.56 | 22.01 |
| FDD26_Part22 | 836.5 | 15 | One Rb Low | 22.49 | 21.94 |
| FDD26_Part22 | 836.5 | 15 | One Rb Middle | 22.39 | 21.92 |
| FDD26_Part22 | 836.5 | 15 | Half Rb Low | 21.99 | 21.99 |
| FDD26_Part22 | 836.5 | 15 | Half Rb Middle | 22 | 21.96 |
| FDD26_Part22 | 836.5 | 15 | Half Rb High | 21.86 | 21.88 |
| FDD26_Part22 | 836.5 | 15 | Fullrb | 21.38 | 20.35 |
| FDD26_Part22 | 848.3 | 1.4 | One Rb High | 22.37 | 21.58 |
| FDD26_Part22 | 848.3 | 1.4 | One Rb Low | 22.34 | 21.54 |
| FDD26_Part22 | 848.3 | 1.4 | One Rb Middle | 22.53 | 21.79 |
| FDD26_Part22 | 848.3 | 1.4 | Half Rb Low | 22.46 | 21.55 |

| Band | Frequency (MHz) | BandWidth | RB size/offset | Power(dBm)-QPSK | Power(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part22 | 848.3 | 1.4 | Half Rb Middle | 22.45 | 21.53 |
| FDD26_Part22 | 848.3 | 1.4 | Half Rb High | 22.45 | 21.54 |
| FDD26_Part22 | 848.3 | 1.4 | Fullrb | 21.47 | 20.47 |
| FDD26_Part22 | 847.5 | 3 | One Rb High | 22.4 | 21.64 |
| FDD26_Part22 | 847.5 | 3 | One Rb Low | 22.46 | 21.63 |
| FDD26_Part22 | 847.5 | 3 | One Rb Middle | 22.37 | 21.64 |
| FDD26_Part22 | 847.5 | 3 | Half Rb Low | 21.47 | 20.45 |
| FDD26_Part22 | 847.5 | 3 | Half Rb Middle | 21.47 | 20.45 |
| FDD26_Part22 | 847.5 | 3 | Half Rb High | 21.49 | 20.46 |
| FDD26_Part22 | 847.5 | 3 | Fullrb | 21.5 | 20.45 |
| FDD26_Part22 | 846.5 | 5 | One Rb High | 22.34 | 21.65 |
| FDD26_Part22 | 846.5 | 5 | One Rb Low | 22.35 | 21.63 |
| FDD26_Part22 | 846.5 | 5 | One Rb Middle | 22.48 | 21.75 |
| FDD26_Part22 | 846.5 | 5 | Half Rb Low | 21.5 | 20.59 |
| FDD26_Part22 | 846.5 | 5 | Half Rb Middle | 21.51 | 20.57 |
| FDD26_Part22 | 846.5 | 5 | Half Rb High | 21.41 | 20.5 |
| FDD26_Part22 | 846.5 | 5 | Fullrb | 21.52 | 20.53 |
| FDD26_Part22 | 844 | 10 | One Rb High | 22.36 | 21.65 |
| FDD26_Part22 | 844 | 10 | One Rb Low | 22.27 | 21.44 |
| FDD26_Part22 | 844 | 10 | One Rb Middle | 22.57 | 21.69 |
| FDD26_Part22 | 844 | 10 | Half Rb Low | 21.47 | 20.5 |
| FDD26_Part22 | 844 | 10 | Half Rb Middle | 21.49 | 20.49 |
| FDD26_Part22 | 844 | 10 | Half Rb High | 21.35 | 20.37 |
| FDD26_Part22 | 844 | 10 | Fullrb | 21.41 | 20.41 |
| FDD26_Part22 | 841.5 | 15 | One Rb High | 22.32 | 21.58 |
| FDD26_Part22 | 841.5 | 15 | One Rb Low | 22.27 | 21.4 |
| FDD26_Part22 | 841.5 | 15 | One Rb Middle | 22.32 | 21.51 |
| FDD26_Part22 | 841.5 | 15 | Half Rb Low | 21.41 | 21.41 |
| FDD26_Part22 | 841.5 | 15 | Half Rb Middle | 21.42 | 21.43 |
| FDD26_Part22 | 841.5 | 15 | Half Rb High | 21.59 | 21.57 |
| FDD26_Part22 | 841.5 | 15 | Fullrb | 21.35 | 20.33 |

**LTE BAND 26(part 90)**

| Band | Frequency (MHz) | BandWidth | RB size/offset | Power(dBm)-QPSK | Power(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part90 | 814.7 | 1.4 | One Rb High | 22.7 | 21.77 |
| FDD26_Part90 | 814.7 | 1.4 | One Rb Low | 22.72 | 21.77 |
| FDD26_Part90 | 814.7 | 1.4 | One Rb Middle | 22.72 | 21.51 |
| FDD26_Part90 | 814.7 | 1.4 | Half Rb Low | 22.43 | 21.6 |
| FDD26_Part90 | 814.7 | 1.4 | Half Rb Middle | 22.41 | 21.59 |
| FDD26_Part90 | 814.7 | 1.4 | Half Rb High | 22.38 | 21.61 |
| FDD26_Part90 | 814.7 | 1.4 | Fullrb | 21.33 | 20.32 |
| FDD26_Part90 | 815.5 | 3 | One Rb High | 22.35 | 21.49 |
| FDD26_Part90 | 815.5 | 3 | One Rb Low | 22.39 | 21.56 |
| FDD26_Part90 | 815.5 | 3 | One Rb Middle | 22.34 | 21.52 |

| Band | Frequency (MHz) | BandWidth | RB size/offset | Power(dBm)-QPSK | Power(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part90 | 815.5 | 3 | Half Rb Low | 21.38 | 20.33 |
| FDD26_Part90 | 815.5 | 3 | Half Rb Middle | 21.37 | 20.33 |
| FDD26_Part90 | 815.5 | 3 | Half Rb High | 21.33 | 20.32 |
| FDD26_Part90 | 815.5 | 3 | Fullrb | 21.36 | 20.32 |
| FDD26_Part90 | 816.5 | 5 | One Rb High | 22.3 | 21.56 |
| FDD26_Part90 | 816.5 | 5 | One Rb Low | 22.3 | 21.54 |
| FDD26_Part90 | 816.5 | 5 | One Rb Middle | 22.38 | 21.65 |
| FDD26_Part90 | 816.5 | 5 | Half Rb Low | 21.33 | 20.37 |
| FDD26_Part90 | 816.5 | 5 | Half Rb Middle | 21.31 | 20.36 |
| FDD26_Part90 | 816.5 | 5 | Half Rb High | 21.3 | 20.37 |
| FDD26_Part90 | 816.5 | 5 | Fullrb | 21.35 | 20.33 |
| FDD26_Part90 | 819 | 1.4 | One Rb High | 22.23 | 21.29 |
| FDD26_Part90 | 819 | 1.4 | One Rb Low | 22.29 | 21.29 |
| FDD26_Part90 | 819 | 1.4 | One Rb Middle | 22.43 | 21.42 |
| FDD26_Part90 | 819 | 1.4 | Half Rb Low | 22.39 | 21.58 |
| FDD26_Part90 | 819 | 1.4 | Half Rb Middle | 22.41 | 21.61 |
| FDD26_Part90 | 819 | 1.4 | Half Rb High | 22.41 | 21.61 |
| FDD26_Part90 | 819 | 1.4 | Fullrb | 21.33 | 20.34 |
| FDD26_Part90 | 819 | 3 | One Rb High | 22.33 | 21.93 |
| FDD26_Part90 | 819 | 3 | One Rb Low | 22.37 | 21.95 |
| FDD26_Part90 | 819 | 3 | One Rb Middle | 22.34 | 21.9 |
| FDD26_Part90 | 819 | 3 | Half Rb Low | 21.38 | 20.48 |
| FDD26_Part90 | 819 | 3 | Half Rb Middle | 21.34 | 20.48 |
| FDD26_Part90 | 819 | 3 | Half Rb High | 21.37 | 20.51 |
| FDD26_Part90 | 819 | 3 | Fullrb | 21.38 | 20.41 |
| FDD26_Part90 | 819 | 5 | One Rb High | 22.35 | 21.17 |
| FDD26_Part90 | 819 | 5 | One Rb Low | 22.32 | 21.11 |
| FDD26_Part90 | 819 | 5 | One Rb Middle | 22.44 | 21.28 |
| FDD26_Part90 | 819 | 5 | Half Rb Low | 21.33 | 20.32 |
| FDD26_Part90 | 819 | 5 | Half Rb Middle | 21.31 | 20.31 |
| FDD26_Part90 | 819 | 5 | Half Rb High | 21.37 | 20.37 |
| FDD26_Part90 | 819 | 5 | Fullrb | 21.36 | 20.38 |
| FDD26_Part90 | 819 | 10 | One Rb High | 22.41 | 21.97 |
| FDD26_Part90 | 819 | 10 | One Rb Low | 22.32 | 21.93 |
| FDD26_Part90 | 819 | 10 | One Rb Middle | 22.47 | 22.05 |
| FDD26_Part90 | 819 | 10 | Half Rb Low | 21.37 | 20.4 |
| FDD26_Part90 | 819 | 10 | Half Rb Middle | 21.37 | 20.41 |
| FDD26_Part90 | 819 | 10 | Half Rb High | 21.44 | 20.45 |
| FDD26_Part90 | 819 | 10 | Fullrb | 21.44 | 20.45 |
| FDD26_Part90 | 823.3 | 1.4 | One Rb High | 22.34 | 21.53 |
| FDD26_Part90 | 823.3 | 1.4 | One Rb Low | 22.35 | 21.52 |
| FDD26_Part90 | 823.3 | 1.4 | One Rb Middle | 22.52 | 21.7 |
| FDD26_Part90 | 823.3 | 1.4 | Half Rb Low | 22.45 | 21.44 |
| FDD26_Part90 | 823.3 | 1.4 | Half Rb Middle | 22.45 | 21.44 |

| Band | Frequency (MHz) | BandWidth | RB size/offset | Power(dBm)-QPSK | Power(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part90 | 823.3 | 1.4 | Half Rb High | 22.48 | 21.46 |
| FDD26_Part90 | 823.3 | 1.4 | Fullrb | 21.42 | 20.43 |
| FDD26_Part90 | 822.5 | 3 | One Rb High | 22.43 | 21.61 |
| FDD26_Part90 | 822.5 | 3 | One Rb Low | 22.39 | 21.57 |
| FDD26_Part90 | 822.5 | 3 | One Rb Middle | 22.41 | 21.58 |
| FDD26_Part90 | 822.5 | 3 | Half Rb Low | 21.41 | 20.36 |
| FDD26_Part90 | 822.5 | 3 | Half Rb Middle | 21.41 | 20.35 |
| FDD26_Part90 | 822.5 | 3 | Half Rb High | 21.4 | 20.35 |
| FDD26_Part90 | 822.5 | 3 | Fullrb | 21.41 | 20.37 |
| FDD26_Part90 | 821.5 | 5 | One Rb High | 22.37 | 21.63 |
| FDD26_Part90 | 821.5 | 5 | One Rb Low | 22.35 | 21.57 |
| FDD26_Part90 | 821.5 | 5 | One Rb Middle | 22.44 | 21.69 |
| FDD26_Part90 | 821.5 | 5 | Half Rb Low | 21.38 | 20.43 |
| FDD26_Part90 | 821.5 | 5 | Half Rb Middle | 21.38 | 20.41 |
| FDD26_Part90 | 821.5 | 5 | Half Rb High | 21.39 | 20.45 |
| FDD26_Part90 | 821.5 | 5 | Fullrb | 21.41 | 20.38 |

**LTE BAND 66**

| LTE B66 | | | Maximum Conducted Power (dBm) | | | |
|---|---|---|---|---|---|---|
| Modulation | RB | RB Offset | Tune up | 1.4MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 131979 | 132322 | 132665 |
| QPSK | 1 | Low | 22.50 | 21.84 | 21.86 | 21.80 |
| | | Middle | | 22.21 | 22.19 | 22.05 |
| | | High | | 21.82 | 21.66 | 21.65 |
| | 50% | Low | 22.50 | 22.12 | 22.16 | 22.08 |
| | | Middle | | 21.99 | 22.09 | 22.12 |
| | | High | | 22.10 | 22.04 | 22.10 |
| | 100% | / | 21.50 | 21.13 | 21.18 | 21.21 |
| 16QAM | 1 | Low | 21.50 | 21.21 | 21.23 | 21.18 |
| | | Middle | | 21.19 | 21.21 | 21.14 |
| | | High | | 21.09 | 21.04 | 21.18 |
| | 50% | Low | 21.50 | 21.07 | 21.04 | 21.09 |
| | | Middle | | 21.13 | 21.08 | 21.13 |
| | | High | | 21.04 | 20.98 | 20.98 |
| | 100% | / | 20.50 | 20.06 | 20.07 | 20.17 |
| Modulation | RB | RB Offset | Tune up | 3MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 131987 | 132322 | 132657 |
| QPSK | 1 | Low | 22.50 | 21.86 | 21.90 | 21.83 |
| | | Middle | | 22.21 | 22.18 | 22.09 |
| | | High | | 21.85 | 21.71 | 21.69 |
| | 50% | Low | 21.50 | 21.17 | 21.13 | 21.17 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Middle | | 21.11 | 21.16 | 21.17 |
| | | High | | 21.16 | 21.15 | 21.16 |
| | 100% | / | 21.50 | 21.13 | 21.22 | 21.24 |
| 16QAM | 1 | Low | 21.50 | 21.24 | 21.25 | 21.21 |
| | | Middle | | 21.22 | 21.21 | 21.18 |
| | | High | | 21.11 | 21.08 | 21.21 |
| | 50% | Low | 20.50 | 20.18 | 20.17 | 20.21 |
| | | Middle | | 20.24 | 20.21 | 20.25 |
| | | High | | 20.14 | 20.10 | 20.11 |
| | 100% | / | 20.50 | 20.09 | 20.11 | 20.20 |
| Modulation | RB | RB Offset | Tune up | 5MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 131997 | 132322 | 132647 |
| QPSK | 1 | Low | 22.50 | 21.83 | 21.88 | 21.79 |
| | | Middle | | 22.21 | 22.19 | 22.06 |
| | | High | | 21.82 | 21.66 | 21.65 |
| | 50% | Low | 21.50 | 21.18 | 21.16 | 21.17 |
| | | Middle | | 21.09 | 21.15 | 21.19 |
| | | High | | 21.18 | 21.13 | 21.16 |
| | 100% | / | 21.50 | 21.13 | 21.21 | 21.22 |
| 16QAM | 1 | Low | 21.50 | 21.21 | 21.21 | 21.18 |
| | | Middle | | 21.19 | 21.19 | 21.15 |
| | | High | | 21.08 | 21.06 | 21.17 |
| | 50% | Low | 20.50 | 20.16 | 20.13 | 20.18 |
| | | Middle | | 20.21 | 20.16 | 20.21 |
| | | High | | 20.11 | 20.05 | 20.07 |
| | 100% | / | 20.50 | 20.07 | 20.07 | 20.15 |
| Modulation | RB | RB Offset | Tune up | 10MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 132022 | 132322 | 132622 |
| QPSK | 1 | Low | 22.50 | 21.85 | 21.89 | 21.82 |
| | | Middle | | 22.18 | 22.16 | 22.10 |
| | | High | | 21.84 | 21.70 | 21.68 |
| | 50% | Low | 21.50 | 21.17 | 21.18 | 21.15 |
| | | Middle | | 21.12 | 21.15 | 21.16 |
| | | High | | 21.18 | 21.17 | 21.17 |
| | 100% | / | 21.50 | 21.17 | 21.23 | 21.26 |
| 16QAM | 1 | Low | 21.50 | 21.23 | 21.24 | 21.20 |
| | | Middle | | 21.22 | 21.23 | 21.18 |
| | | High | | 21.11 | 21.08 | 21.20 |
| | 50% | Low | 20.50 | 20.19 | 20.18 | 20.22 |
| | | Middle | | 20.23 | 20.20 | 20.24 |
| | | High | | 20.14 | 20.10 | 20.11 |
| | 100% | / | 20.50 | 20.10 | 20.12 | 20.19 |

| Modulation | RB | RB Offset | Tune up | 15MHz | | |
|---|---|---|---|---|---|---|
| | | | | Channel/Frequency(MHz) | | |
| | | | | 132047 | 132322 | 132597 |
| QPSK | 1 | Low | 22.50 | 21.84 | 21.85 | 21.80 |
| | | Middle | | 22.18 | 22.17 | 22.07 |
| | | High | | 21.81 | 21.65 | 21.64 |
| | 50% | Low | 21.50 | 21.16 | 21.18 | 21.18 |
| | | Middle | | 21.09 | 21.15 | 21.16 |
| | | High | | 21.17 | 21.14 | 21.17 |
| | 100% | / | 21.50 | 21.15 | 21.19 | 21.21 |
| 16QAM | 1 | Low | 21.50 | 21.18 | 21.22 | 21.18 |
| | | Middle | | 21.20 | 21.20 | 21.16 |
| | | High | | 21.08 | 21.04 | 21.17 |
| | 50% | Low | 20.50 | 20.16 | 20.16 | 20.19 |
| | | Middle | | 20.20 | 20.15 | 20.20 |
| | | High | | 20.12 | 20.06 | 20.08 |
| | 100% | / | 20.50 | 20.07 | 20.07 | 20.15 |
| Modulation | RB | RB Offset | Tune up | 20MHz | | |
| | | | | Channel/Frequency(MHz) | | |
| | | | | 132072 | 132322 | 132572 |
| QPSK | 1 | Low | 22.50 | 21.81 | 21.81 | 21.77 |
| | | Middle | | 22.21 | 22.22 | 22.05 |
| | | High | | 21.79 | 21.64 | 21.61 |
| | 50% | Low | 21.50 | 21.17 | 21.19 | 21.14 |
| | | Middle | | 21.07 | 21.11 | 21.16 |
| | | High | | 21.14 | 21.09 | 21.13 |
| | 100% | / | 21.50 | 21.12 | 21.14 | 21.17 |
| 16QAM | 1 | Low | 21.50 | 21.14 | 21.18 | 21.13 |
| | | Middle | | 21.16 | 21.18 | 21.12 |
| | | High | | 21.06 | 21.01 | 21.15 |
| | 50% | Low | 20.50 | 20.13 | 20.12 | 20.16 |
| | | Middle | | 20.17 | 20.13 | 20.17 |
| | | High | | 20.09 | 20.01 | 20.04 |
| | 100% | / | 20.50 | 20.05 | 20.03 | 20.12 |

### 6.1.6 EIRP/ERP

**LTE Band 12- ERP 27.50(c)**

**Limits:** ≤34.77dBm (3W)

**LTE Band 12_1.4MHz_QPSK**

| Frequency(MHz) | ERP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 699.7 | 17.36 | 34.77 | H |
| 707.5 | 17.49 | 34.77 | H |
| 715.3 | 17.31 | 34.77 | H |

**LTE Band 12_3MHz_QPSK**

| Frequency(MHz) | ERP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 700.5 | 17.39 | 34.77 | H |
| 707.5 | 17.46 | 34.77 | H |
| 714.5 | 17.35 | 34.77 | H |

**LTE Band 12_5MHz_QPSK**

| Frequency(MHz) | ERP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 701.5 | 17.37 | 34.77 | H |
| 707.5 | 17.47 | 34.77 | H |
| 713.5 | 17.32 | 34.77 | H |

**LTE Band 12_10MHz_QPSK**

| Frequency(MHz) | ERP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 704 | 17.36 | 34.77 | H |
| 707.5 | 17.49 | 34.77 | H |
| 711 | 17.30 | 34.77 | H |

**LTE Band 12_1.4MHz_16QAM**

| Frequency(MHz) | ERP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 699.7 | 16.34 | 34.77 | H |
| 707.5 | 16.38 | 34.77 | H |
| 715.3 | 16.35 | 34.77 | H |

**LTE Band 12_3MHz_16QAM**

| Frequency(MHz) | ERP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 700.5 | 16.37 | 34.77 | H |
| 707.5 | 16.40 | 34.77 | H |
| 714.5 | 16.37 | 34.77 | H |

**LTE Band 12_5MHz_16QAM**

| Frequency(MHz) | ERP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 701.5 | 16.34 | 34.77 | H |
| 707.5 | 16.37 | 34.77 | H |
| 713.5 | 16.35 | 34.77 | H |

**LTE Band 12_10MHz_16QAM**

| Frequency(MHz) | ERP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 704 | 16.32 | 34.77 | H |
| 707.5 | 16.33 | 34.77 | H |
| 711 | 16.30 | 34.77 | H |

**LTE Band 25- EIRP 24.229(c)**

**Limits:** ≤30dBm (1W)

**LTE Band 25_1.4MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1850.7 | 21.86 | 30.00 | H |
| 1882.5 | 21.94 | 30.00 | H |
| 1914.3 | 21.82 | 30.00 | H |

**LTE Band 25_3MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1851.5 | 21.84 | 30.00 | H |
| 1882.5 | 21.97 | 30.00 | H |
| 1913.5 | 21.83 | 30.00 | H |

**LTE Band 25_5MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1852.5 | 21.82 | 30.00 | H |
| 1882.5 | 21.93 | 30.00 | H |
| 1912.5 | 21.80 | 30.00 | H |

**LTE Band 25_10MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1855 | 21.85 | 30.00 | H |
| 1882.5 | 21.98 | 30.00 | H |
| 1910 | 21.84 | 30.00 | H |

**LTE Band 25_15MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1857.5 | 21.83 | 30.00 | H |
| 1882.5 | 21.97 | 30.00 | H |
| 1907.5 | 21.81 | 30.00 | H |

**LTE Band 25_20MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1860 | 21.90 | 30.00 | H |
| 1882.5 | 22.01 | 30.00 | H |
| 1905 | 21.87 | 30.00 | H |

**LTE Band 25_1.4MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1850.7 | 20.85 | 30.00 | H |
| 1882.5 | 20.90 | 30.00 | H |
| 1914.3 | 20.89 | 30.00 | H |

**LTE Band 25_3MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1851.5 | 20.88 | 30.00 | H |
| 1882.5 | 20.92 | 30.00 | H |
| 1913.5 | 20.92 | 30.00 | H |

**LTE Band 25_5MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1852.5 | 20.85 | 30.00 | H |
| 1882.5 | 20.88 | 30.00 | H |
| 1912.5 | 20.89 | 30.00 | H |

**LTE Band 25_10MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1855 | 20.87 | 30.00 | H |

| | | | |
|---|---|---|---|
| 1882.5 | 20.91 | 30.00 | H |
| 1910 | 20.91 | 30.00 | H |

**LTE Band 25_15MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1857.5 | 20.84 | 30.00 | H |
| 1882.5 | 20.89 | 30.00 | H |
| 1907.5 | 20.89 | 30.00 | H |

**LTE Band 25_20MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1860 | 20.80 | 30.00 | H |
| 1882.5 | 20.85 | 30.00 | H |
| 1905 | 20.84 | 30.00 | H |

**LTE Band 26_Part22- ERP 22.913(a) (5)**

**Limits:** ≤38.45dBm (7W)

| Band | Frequency (MHz) | BandWidth | RB size/offset | ERP(dBm)-QPSK | ERP(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part22 | 824.7 | 1.4 | One Rb High | 17.42 | 16.5 |
| FDD26_Part22 | 824.7 | 1.4 | One Rb Low | 17.43 | 16.49 |
| FDD26_Part22 | 824.7 | 1.4 | One Rb Middle | 17.52 | 16.65 |
| FDD26_Part22 | 824.7 | 1.4 | Half Rb Low | 17.55 | 16.78 |
| FDD26_Part22 | 824.7 | 1.4 | Half Rb Middle | 17.54 | 16.82 |
| FDD26_Part22 | 824.7 | 1.4 | Half Rb High | 17.53 | 16.82 |
| FDD26_Part22 | 824.7 | 1.4 | Fullrb | 16.58 | 15.57 |
| FDD26_Part22 | 825.5 | 3 | One Rb High | 17.53 | 16.76 |
| FDD26_Part22 | 825.5 | 3 | One Rb Low | 17.53 | 16.77 |
| FDD26_Part22 | 825.5 | 3 | One Rb Middle | 17.54 | 16.78 |
| FDD26_Part22 | 825.5 | 3 | Half Rb Low | 16.66 | 15.53 |
| FDD26_Part22 | 825.5 | 3 | Half Rb Middle | 16.61 | 15.58 |
| FDD26_Part22 | 825.5 | 3 | Half Rb High | 16.59 | 15.55 |
| FDD26_Part22 | 825.5 | 3 | Fullrb | 16.62 | 15.55 |
| FDD26_Part22 | 826.5 | 5 | One Rb High | 17.34 | 16.31 |
| FDD26_Part22 | 826.5 | 5 | One Rb Low | 17.04 | 16.29 |
| FDD26_Part22 | 826.5 | 5 | One Rb Middle | 17.15 | 16.38 |
| FDD26_Part22 | 826.5 | 5 | Half Rb Low | 16.1 | 15.15 |
| FDD26_Part22 | 826.5 | 5 | Half Rb Middle | 16.1 | 15.14 |
| FDD26_Part22 | 826.5 | 5 | Half Rb High | 16.04 | 15.13 |
| FDD26_Part22 | 826.5 | 5 | Fullrb | 16.1 | 15.08 |
| FDD26_Part22 | 829 | 10 | One Rb High | 17.43 | 16.65 |
| FDD26_Part22 | 829 | 10 | One Rb Low | 17.52 | 16.75 |
| FDD26_Part22 | 829 | 10 | One Rb Middle | 17.66 | 16.9 |
| FDD26_Part22 | 829 | 10 | Half Rb Low | 16.69 | 15.68 |
| FDD26_Part22 | 829 | 10 | Half Rb Middle | 16.69 | 15.69 |
| FDD26_Part22 | 829 | 10 | Half Rb High | 16.59 | 15.58 |
| FDD26_Part22 | 829 | 10 | Fullrb | 16.64 | 15.63 |

| Band | Frequency (MHz) | BandWidth | RB size/offset | ERP(dBm)-QPSK | ERP(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part22 | 831.5 | 15 | One Rb High | 17.29 | 16.52 |
| FDD26_Part22 | 831.5 | 15 | One Rb Low | 17.47 | 16.7 |
| FDD26_Part22 | 831.5 | 15 | One Rb Middle | 17.47 | 16.72 |
| FDD26_Part22 | 831.5 | 15 | Half Rb Low | 16.73 | 16.69 |
| FDD26_Part22 | 831.5 | 15 | Half Rb Middle | 16.71 | 16.7 |
| FDD26_Part22 | 831.5 | 15 | Half Rb High | 16.52 | 16.5 |
| FDD26_Part22 | 831.5 | 15 | Fullrb | 16.57 | 15.57 |
| FDD26_Part22 | 836.5 | 1.4 | One Rb High | 17.26 | 16.38 |
| FDD26_Part22 | 836.5 | 1.4 | One Rb Low | 17.29 | 16.4 |
| FDD26_Part22 | 836.5 | 1.4 | One Rb Middle | 17.49 | 16.55 |
| FDD26_Part22 | 836.5 | 1.4 | Half Rb Low | 17.44 | 16.7 |
| FDD26_Part22 | 836.5 | 1.4 | Half Rb Middle | 17.41 | 16.72 |
| FDD26_Part22 | 836.5 | 1.4 | Half Rb High | 17.4 | 16.72 |
| FDD26_Part22 | 836.5 | 1.4 | Fullrb | 16.44 | 15.44 |
| FDD26_Part22 | 836.5 | 3 | One Rb High | 17.41 | 16.48 |
| FDD26_Part22 | 836.5 | 3 | One Rb Low | 17.43 | 16.57 |
| FDD26_Part22 | 836.5 | 3 | One Rb Middle | 17.39 | 16.49 |
| FDD26_Part22 | 836.5 | 3 | Half Rb Low | 16.46 | 15.54 |
| FDD26_Part22 | 836.5 | 3 | Half Rb Middle | 16.46 | 15.53 |
| FDD26_Part22 | 836.5 | 3 | Half Rb High | 16.42 | 15.5 |
| FDD26_Part22 | 836.5 | 3 | Fullrb | 16.47 | 15.5 |
| FDD26_Part22 | 836.5 | 5 | One Rb High | 17.32 | 16.23 |
| FDD26_Part22 | 836.5 | 5 | One Rb Low | 17.36 | 16.25 |
| FDD26_Part22 | 836.5 | 5 | One Rb Middle | 17.43 | 16.38 |
| FDD26_Part22 | 836.5 | 5 | Half Rb Low | 16.47 | 15.52 |
| FDD26_Part22 | 836.5 | 5 | Half Rb Middle | 16.47 | 15.49 |
| FDD26_Part22 | 836.5 | 5 | Half Rb High | 16.41 | 15.43 |
| FDD26_Part22 | 836.5 | 5 | Fullrb | 16.47 | 15.5 |
| FDD26_Part22 | 836.5 | 10 | One Rb High | 17.36 | 16.97 |
| FDD26_Part22 | 836.5 | 10 | One Rb Low | 17.44 | 17.1 |
| FDD26_Part22 | 836.5 | 10 | One Rb Middle | 17.52 | 17.15 |
| FDD26_Part22 | 836.5 | 10 | Half Rb Low | 16.55 | 15.63 |
| FDD26_Part22 | 836.5 | 10 | Half Rb Middle | 16.57 | 15.63 |
| FDD26_Part22 | 836.5 | 10 | Half Rb High | 16.45 | 15.42 |
| FDD26_Part22 | 836.5 | 10 | Fullrb | 16.52 | 15.51 |
| FDD26_Part22 | 836.5 | 15 | One Rb High | 17.21 | 16.66 |
| FDD26_Part22 | 836.5 | 15 | One Rb Low | 17.14 | 16.59 |
| FDD26_Part22 | 836.5 | 15 | One Rb Middle | 17.04 | 16.57 |
| FDD26_Part22 | 836.5 | 15 | Half Rb Low | 16.64 | 16.64 |
| FDD26_Part22 | 836.5 | 15 | Half Rb Middle | 16.65 | 16.61 |
| FDD26_Part22 | 836.5 | 15 | Half Rb High | 16.51 | 16.53 |
| FDD26_Part22 | 836.5 | 15 | Fullrb | 16.03 | 15 |
| FDD26_Part22 | 848.3 | 1.4 | One Rb High | 17.02 | 16.23 |
| FDD26_Part22 | 848.3 | 1.4 | One Rb Low | 16.99 | 16.19 |

| Band | Frequency (MHz) | BandWidth | RB size/offset | ERP(dBm)-QPSK | ERP(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part22 | 848.3 | 1.4 | One Rb Middle | 17.18 | 16.44 |
| FDD26_Part22 | 848.3 | 1.4 | Half Rb Low | 17.11 | 16.2 |
| FDD26_Part22 | 848.3 | 1.4 | Half Rb Middle | 17.1 | 16.18 |
| FDD26_Part22 | 848.3 | 1.4 | Half Rb High | 17.1 | 16.19 |
| FDD26_Part22 | 848.3 | 1.4 | Fullrb | 16.12 | 15.12 |
| FDD26_Part22 | 847.5 | 3 | One Rb High | 17.05 | 16.29 |
| FDD26_Part22 | 847.5 | 3 | One Rb Low | 17.11 | 16.28 |
| FDD26_Part22 | 847.5 | 3 | One Rb Middle | 17.02 | 16.29 |
| FDD26_Part22 | 847.5 | 3 | Half Rb Low | 16.12 | 15.1 |
| FDD26_Part22 | 847.5 | 3 | Half Rb Middle | 16.12 | 15.1 |
| FDD26_Part22 | 847.5 | 3 | Half Rb High | 16.14 | 15.11 |
| FDD26_Part22 | 847.5 | 3 | Fullrb | 16.15 | 15.1 |
| FDD26_Part22 | 846.5 | 5 | One Rb High | 16.99 | 16.3 |
| FDD26_Part22 | 846.5 | 5 | One Rb Low | 17 | 16.28 |
| FDD26_Part22 | 846.5 | 5 | One Rb Middle | 17.13 | 16.4 |
| FDD26_Part22 | 846.5 | 5 | Half Rb Low | 16.15 | 15.24 |
| FDD26_Part22 | 846.5 | 5 | Half Rb Middle | 16.16 | 15.22 |
| FDD26_Part22 | 846.5 | 5 | Half Rb High | 16.06 | 15.15 |
| FDD26_Part22 | 846.5 | 5 | Fullrb | 16.17 | 15.18 |
| FDD26_Part22 | 844 | 10 | One Rb High | 17.01 | 16.3 |
| FDD26_Part22 | 844 | 10 | One Rb Low | 16.92 | 16.09 |
| FDD26_Part22 | 844 | 10 | One Rb Middle | 17.22 | 16.34 |
| FDD26_Part22 | 844 | 10 | Half Rb Low | 16.12 | 15.15 |
| FDD26_Part22 | 844 | 10 | Half Rb Middle | 16.14 | 15.14 |
| FDD26_Part22 | 844 | 10 | Half Rb High | 16 | 15.02 |
| FDD26_Part22 | 844 | 10 | Fullrb | 16.06 | 15.06 |
| FDD26_Part22 | 841.5 | 15 | One Rb High | 16.97 | 16.23 |
| FDD26_Part22 | 841.5 | 15 | One Rb Low | 16.92 | 16.05 |
| FDD26_Part22 | 841.5 | 15 | One Rb Middle | 16.97 | 16.16 |
| FDD26_Part22 | 841.5 | 15 | Half Rb Low | 16.06 | 16.06 |
| FDD26_Part22 | 841.5 | 15 | Half Rb Middle | 16.07 | 16.08 |
| FDD26_Part22 | 841.5 | 15 | Half Rb High | 16.24 | 16.22 |
| FDD26_Part22 | 841.5 | 15 | Fullrb | 16 | 14.98 |

**LTE Band 26_Part90- ERP 90.635(b)**

**Limits:** ≤50dBm(100W)

| Band | Frequency (MHz) | BandWidth | RB size/offset | ERP(dBm)-QPSK | ERP(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part90 | 814.7 | 1.4 | One Rb High | 19.5 | 18.57 |
| FDD26_Part90 | 814.7 | 1.4 | One Rb Low | 19.52 | 18.57 |
| FDD26_Part90 | 814.7 | 1.4 | One Rb Middle | 19.52 | 18.31 |
| FDD26_Part90 | 814.7 | 1.4 | Half Rb Low | 19.23 | 18.4 |
| FDD26_Part90 | 814.7 | 1.4 | Half Rb Middle | 19.21 | 18.39 |
| FDD26_Part90 | 814.7 | 1.4 | Half Rb High | 19.18 | 18.41 |

| Band | Frequency (MHz) | BandWidth | RB size/offset | ERP(dBm)-QPSK | ERP(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part90 | 814.7 | 1.4 | Fullrb | 18.13 | 17.12 |
| FDD26_Part90 | 815.5 | 3 | One Rb High | 19.15 | 18.29 |
| FDD26_Part90 | 815.5 | 3 | One Rb Low | 19.19 | 18.36 |
| FDD26_Part90 | 815.5 | 3 | One Rb Middle | 19.14 | 18.32 |
| FDD26_Part90 | 815.5 | 3 | Half Rb Low | 18.18 | 17.13 |
| FDD26_Part90 | 815.5 | 3 | Half Rb Middle | 18.17 | 17.13 |
| FDD26_Part90 | 815.5 | 3 | Half Rb High | 18.13 | 17.12 |
| FDD26_Part90 | 815.5 | 3 | Fullrb | 18.16 | 17.12 |
| FDD26_Part90 | 816.5 | 5 | One Rb High | 19.1 | 18.36 |
| FDD26_Part90 | 816.5 | 5 | One Rb Low | 19.1 | 18.34 |
| FDD26_Part90 | 816.5 | 5 | One Rb Middle | 19.18 | 18.45 |
| FDD26_Part90 | 816.5 | 5 | Half Rb Low | 18.13 | 17.17 |
| FDD26_Part90 | 816.5 | 5 | Half Rb Middle | 18.11 | 17.16 |
| FDD26_Part90 | 816.5 | 5 | Half Rb High | 18.1 | 17.17 |
| FDD26_Part90 | 816.5 | 5 | Fullrb | 18.15 | 17.13 |
| FDD26_Part90 | 819 | 1.4 | One Rb High | 19.03 | 18.09 |
| FDD26_Part90 | 819 | 1.4 | One Rb Low | 19.09 | 18.09 |
| FDD26_Part90 | 819 | 1.4 | One Rb Middle | 19.23 | 18.22 |
| FDD26_Part90 | 819 | 1.4 | Half Rb Low | 19.19 | 18.38 |
| FDD26_Part90 | 819 | 1.4 | Half Rb Middle | 19.21 | 18.41 |
| FDD26_Part90 | 819 | 1.4 | Half Rb High | 19.21 | 18.41 |
| FDD26_Part90 | 819 | 1.4 | Fullrb | 18.13 | 17.14 |
| FDD26_Part90 | 819 | 3 | One Rb High | 19.13 | 18.73 |
| FDD26_Part90 | 819 | 3 | One Rb Low | 19.17 | 18.75 |
| FDD26_Part90 | 819 | 3 | One Rb Middle | 19.14 | 18.7 |
| FDD26_Part90 | 819 | 3 | Half Rb Low | 18.18 | 17.28 |
| FDD26_Part90 | 819 | 3 | Half Rb Middle | 18.14 | 17.28 |
| FDD26_Part90 | 819 | 3 | Half Rb High | 18.17 | 17.31 |
| FDD26_Part90 | 819 | 3 | Fullrb | 18.18 | 17.21 |
| FDD26_Part90 | 819 | 5 | One Rb High | 19.15 | 17.97 |
| FDD26_Part90 | 819 | 5 | One Rb Low | 19.12 | 17.91 |
| FDD26_Part90 | 819 | 5 | One Rb Middle | 19.24 | 18.08 |
| FDD26_Part90 | 819 | 5 | Half Rb Low | 18.13 | 17.12 |
| FDD26_Part90 | 819 | 5 | Half Rb Middle | 18.11 | 17.11 |
| FDD26_Part90 | 819 | 5 | Half Rb High | 18.17 | 17.17 |
| FDD26_Part90 | 819 | 5 | Fullrb | 18.16 | 17.18 |
| FDD26_Part90 | 819 | 10 | One Rb High | 19.21 | 18.77 |
| FDD26_Part90 | 819 | 10 | One Rb Low | 19.12 | 18.73 |
| FDD26_Part90 | 819 | 10 | One Rb Middle | 19.27 | 18.85 |
| FDD26_Part90 | 819 | 10 | Half Rb Low | 18.17 | 17.2 |
| FDD26_Part90 | 819 | 10 | Half Rb Middle | 18.17 | 17.21 |
| FDD26_Part90 | 819 | 10 | Half Rb High | 18.24 | 17.25 |
| FDD26_Part90 | 819 | 10 | Fullrb | 18.24 | 17.25 |
| FDD26_Part90 | 823.3 | 1.4 | One Rb High | 19.14 | 18.33 |

| Band | Frequency (MHz) | BandWidth | RB size/offset | ERP(dBm)-QPSK | ERP(dBm)-16QAM |
|---|---|---|---|---|---|
| FDD26_Part90 | 823.3 | 1.4 | One Rb Low | 19.15 | 18.32 |
| FDD26_Part90 | 823.3 | 1.4 | One Rb Middle | 19.32 | 18.5 |
| FDD26_Part90 | 823.3 | 1.4 | Half Rb Low | 19.25 | 18.24 |
| FDD26_Part90 | 823.3 | 1.4 | Half Rb Middle | 19.25 | 18.24 |
| FDD26_Part90 | 823.3 | 1.4 | Half Rb High | 19.28 | 18.26 |
| FDD26_Part90 | 823.3 | 1.4 | Fullrb | 18.22 | 17.23 |
| FDD26_Part90 | 822.5 | 3 | One Rb High | 19.23 | 18.41 |
| FDD26_Part90 | 822.5 | 3 | One Rb Low | 19.19 | 18.37 |
| FDD26_Part90 | 822.5 | 3 | One Rb Middle | 19.21 | 18.38 |
| FDD26_Part90 | 822.5 | 3 | Half Rb Low | 18.21 | 17.16 |
| FDD26_Part90 | 822.5 | 3 | Half Rb Middle | 18.21 | 17.15 |
| FDD26_Part90 | 822.5 | 3 | Half Rb High | 18.2 | 17.15 |
| FDD26_Part90 | 822.5 | 3 | Fullrb | 18.21 | 17.17 |
| FDD26_Part90 | 821.5 | 5 | One Rb High | 19.17 | 18.43 |
| FDD26_Part90 | 821.5 | 5 | One Rb Low | 19.15 | 18.37 |
| FDD26_Part90 | 821.5 | 5 | One Rb Middle | 19.24 | 18.49 |
| FDD26_Part90 | 821.5 | 5 | Half Rb Low | 18.18 | 17.23 |
| FDD26_Part90 | 821.5 | 5 | Half Rb Middle | 18.18 | 17.21 |
| FDD26_Part90 | 821.5 | 5 | Half Rb High | 18.19 | 17.25 |
| FDD26_Part90 | 821.5 | 5 | Fullrb | 18.21 | 17.18 |

**LTE Band 66- EIRP 27.50(d)**

**Limits:** ≤30dBm (1W)

**LTE Band 66_1.4MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1710.7 | 25.81 | 30.00 | H |
| 1745 | 25.79 | 30.00 | H |
| 1779.3 | 25.72 | 30.00 | H |

**LTE Band 66_3MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1711.5 | 25.81 | 30.00 | H |
| 1745 | 25.78 | 30.00 | H |
| 1778.5 | 25.69 | 30.00 | H |

**LTE Band 66_5MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1712.5 | 25.81 | 30.00 | H |
| 1745 | 25.79 | 30.00 | H |
| 1777.5 | 25.66 | 30.00 | H |

**LTE Band 66_10MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1715 | 25.78 | 30.00 | H |
| 1745 | 25.76 | 30.00 | H |
| 1775 | 25.70 | 30.00 | H |

**LTE Band 66_15MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1717.5 | 25.78 | 30.00 | H |
| 1745 | 25.77 | 30.00 | H |
| 1772.5 | 25.67 | 30.00 | H |

**LTE Band 66_20MHz_QPSK**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1720 | 25.81 | 30.00 | H |
| 1745 | 25.82 | 30.00 | H |
| 1770 | 25.65 | 30.00 | H |

**LTE Band 66_1.4MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1710.7 | 24.81 | 30.00 | H |
| 1745 | 24.83 | 30.00 | H |
| 1779.3 | 24.78 | 30.00 | H |

**LTE Band 66_3MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1711.5 | 24.84 | 30.00 | H |
| 1745 | 24.85 | 30.00 | H |
| 1778.5 | 24.81 | 30.00 | H |

**LTE Band 66_5MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1712.5 | 24.81 | 30.00 | H |
| 1745 | 24.81 | 30.00 | H |
| 1777.5 | 24.78 | 30.00 | H |

**LTE Band 66_10MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1715 | 24.83 | 30.00 | H |
| 1745 | 24.84 | 30.00 | H |
| 1775 | 24.80 | 30.00 | H |

**LTE Band 66_15MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1717.5 | 24.80 | 30.00 | H |
| 1745 | 24.82 | 30.00 | H |
| 1772.5 | 24.78 | 30.00 | H |

**LTE Band 66_20MHz_16QAM**

| Frequency(MHz) | EIRP(dBm) | Limit(dBm) | Polarization |
|---|---|---|---|
| 1720 | 24.76 | 30.00 | H |
| 1745 | 24.78 | 30.00 | H |
| 1770 | 24.75 | 30.00 | H |

## 6.2 Emission Limt

**Reference**

CFR part 2.1051/22.917/27.53(g), 27.53(h)/90.669
RSS-130 4.7/RSS-132 5.5/RSS-133 6.5/ RSS-139 5.6

### 6.2.1 Summary

According to KDB 971168, a relaxation of the reference bandwidth is often provided for measurements within a specified frequency range at the edge of the authorized frequency block/band. This is often implemented by permitting the use of a narrower RBW (typically limited to a minimum RBW of 1% of the OBW) for measuring the out-of-band emissions without a requirement to integrate the result over the full reference bandwidth.

22.917 *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

27.53(g) For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. 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) (1) General protection levels. Except as otherwise specified below, for operations in the 1695–1710 MHz, 1710–1755 MHz, 1755–1780 MHz, 1915–1920 MHz, 1995–2000 MHz, 2000–2020 MHz, 2110–2155 MHz, 2155–2180 MHz, and 2180–2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

90.669 (a) On any frequency in an MTA licensee's spectrum block that is adjacent to a non-MTA frequency, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 plus 10 log10(P) decibels or 80 decibels, whichever is the lesser attenuation.

RSS-130 4.7 The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

RSS-132 5.5 Equipment shall meet the unwanted emission limits specified below:

In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB.

After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS-133 6.5 Equipment shall comply with the limits in (i) and (ii) below.

In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts).
After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.
RSS-139 5.6 The limit is -13 dBm/(1% of OB*) when the edge offset from the block or group of blocks is 1MHz, and -13 dBm/MHz when the edge offset is greater than 1MHz.

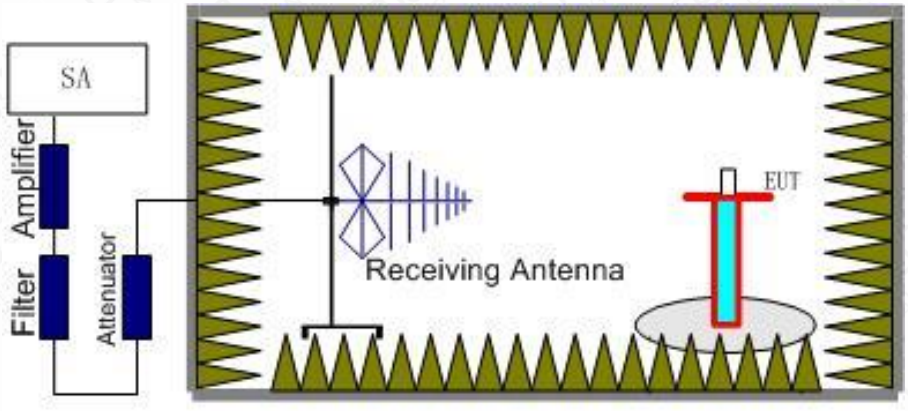
### 6.2.2 Method of Measurement

The measurements procedures in TIA-603E-2016 are used. This measurement is carried out in fully-anechoic chamber FAC-3.

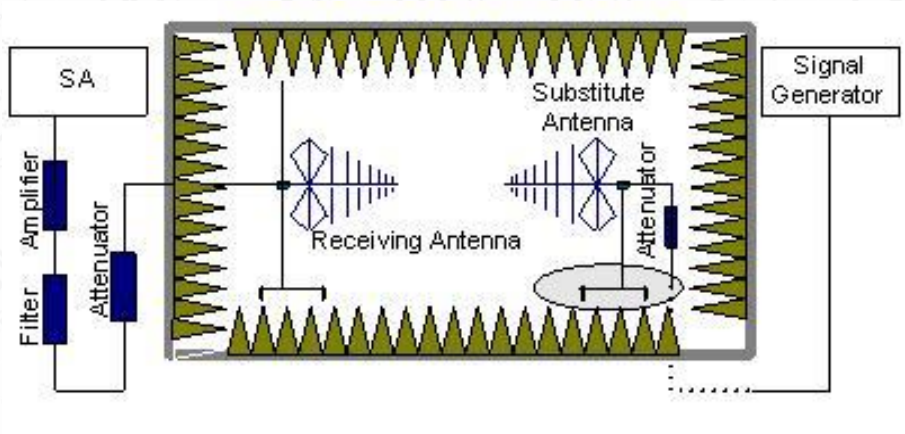
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz as outlined in Part 27.53(g), Part 27.53(h), RSS-130 4.7, RSS-139 5.6. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of the LTE Bands 12/25/26/66.

**The procedure of radiated spurious emissions is as follows:**

1.Below 1 GHz, EUT was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna. Above 1 GHz, EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna.EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.




2.The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3.The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.




In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna. Adjust the level of the signal generator output until the value of the receiver reaches the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4.The Path loss (Ppl) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (Ga) should be recorded after test.

An amplifier should be connected in for the test.

The Path loss (Ppl) is the summation of the cable loss and the gain of the amplifier.

The measurement results are obtained as described below:

Power (EIRP) =PMea- Ppl + Ga

5.This value is EIRP since the measurement is calibrated using an antenna of known gain (unit: dBi) and known input power.

6.ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

### 6.2.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the LTE Bands 5.It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the LTE Bands 5. Into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this. The evaluated frequency range is from 30MHz to 26GHz.

| BAND | Channel | | Result |
|---|---|---|---|
| 12 | L | 23017 | Pass |
| | M | 23095 | Pass |
| | H | 23173 | Pass |
| 25 | L | 26047 | Pass |
| | M | 26365 | Pass |

| | | | |
|---|---|---|---|
| | H | 26683 | Pass |
| 26 | L | 27033 | Pass |
| | M | 26915 | Pass |
| | H | 26797 | Pass |
| 66 | L | 131972 | Pass |
| | M | 132322 | Pass |
| | H | 132671 | Pass |

**RSE-LTE12-L**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 1399.4 | -48.38 | 4.0 | 5.3 | -47.08 | -13 | H |
| 2225.8 | -44.33 | 5.1 | 5.1 | -44.33 | -13 | H |
| 2903.8 | -42.12 | 5.8 | 6.7 | -41.22 | -13 | H |
| 3551.6 | -53.06 | 6.4 | 7.8 | -51.66 | -13 | H |
| 4654.4 | -53.61 | 7.5 | 9.0 | -52.11 | -13 | V |
| 6398.8 | -51.92 | 8.9 | 10.6 | -50.22 | -13 | V |

**RSE-LTE12-M**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 1414.7 | -49.13 | 4.0 | 5.3 | -47.83 | -13 | H |
| 2122.3 | -46.05 | 4.9 | 4.5 | -46.45 | -13 | V |
| 2828.8 | -41.76 | 5.8 | 6.1 | -41.46 | -13 | H |
| 3564.4 | -53.19 | 6.4 | 7.8 | -51.79 | -13 | V |
| 4249.6 | -54.49 | 7.1 | 8.9 | -52.69 | -13 | H |
| 5223.2 | -52.54 | 8.0 | 9.4 | -51.14 | -13 | H |

**RSE-LTE12-H**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 1430.6 | -46.54 | 4.1 | 5.3 | -45.34 | -13 | H |
| 2145.8 | -40.89 | 5.0 | 5.1 | -40.79 | -13 | V |
| 2888.8 | -40.43 | 5.8 | 6.7 | -39.53 | -13 | V |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3628.4 | -53.04 | 6.6 | 7.9 | -51.74 | -13 | H |
| 5091.6 | -52.42 | 7.9 | 9.6 | -50.72 | -13 | H |
| 7045.0 | -52.8 | 9.4 | 11.1 | -51.1 | -13 | H |

**RSE-LTE25-L**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 3702.0 | -51.2 | 6.6 | 7.9 | -49.9 | -13 | H |
| 5429.6 | -52.65 | 8.1 | 9.8 | -50.95 | -13 | H |
| 7216.8 | -53.41 | 9.5 | 11.4 | -51.51 | -13 | V |
| 9527.6 | -51.22 | 10.7 | 12.7 | -49.22 | -13 | H |
| 12874.6 | -43.99 | 13.0 | 12.3 | -44.69 | -13 | V |
| 16709.2 | -37.26 | 15.1 | 12.3 | -40.06 | -13 | H |

**RSE-LTE25-M**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 3767.2 | -50.89 | 6.6 | 7.9 | -49.59 | -13 | H |
| 5068.0 | -53.19 | 7.8 | 9.6 | -51.39 | -13 | H |
| 6322.0 | -51.72 | 8.8 | 10.3 | -50.22 | -13 | V |
| 8144.8 | -53.31 | 10.0 | 12.4 | -50.91 | -13 | H |
| 10110.8 | -48.23 | 11.3 | 12.5 | -47.03 | -13 | H |
| 12839.6 | -45.6 | 12.5 | 12.3 | -45.8 | -13 | H |

**RSE-LTE25-H**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 3824.8 | -45.05 | 6.7 | 7.9 | -43.85 | -13 | H |
| 5489.6 | -52.94 | 8.2 | 9.8 | -51.34 | -13 | H |
| 7332.4 | -53 | 9.6 | 11.4 | -51.2 | -13 | V |
| 9472.0 | -49.96 | 10.7 | 12.7 | -47.96 | -13 | V |
| 12061.2 | -47.24 | 12.6 | 12.3 | -47.54 | -13 | V |
| 15757.2 | -39.16 | 14.9 | 12.3 | -41.76 | -13 | H |

**RSE-LTE26-L**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 1635.5 | -43.75 | 4.2 | 4.7 | -43.25 | -13 | V |
| 2691.5 | -42.42 | 5.6 | 6.1 | -41.92 | -13 | H |
| 3172.0 | -52.91 | 6.0 | 6.9 | -52.01 | -13 | H |
| 3859.6 | -53.21 | 6.7 | 7.9 | -52.01 | -13 | H |
| 4907.6 | -52.83 | 7.7 | 9.6 | -50.93 | -13 | H |
| 6568.4 | -52.51 | 9.0 | 10.6 | -50.91 | -13 | V |

**RSE-LTE26-M**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 1660.1 | -44.9 | 4.5 | 4.7 | -44.7 | -13 | H |
| 2481.5 | -41.06 | 5.4 | 5.6 | -40.86 | -13 | H |
| 3115.2 | -52.8 | 6.0 | 6.7 | -52.1 | -13 | H |
| 4481.2 | -52.28 | 7.3 | 8.7 | -50.88 | -13 | H |
| 6312.0 | -52.69 | 8.8 | 10.3 | -51.19 | -13 | V |
| 8405.2 | -52.17 | 10.2 | 12.6 | -49.77 | -13 | V |

**RSE-LTE26-H**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 1695.0 | -46.26 | 4.5 | 4.7 | -46.06 | -13 | H |
| 2723.8 | -42.35 | 5.6 | 6.1 | -41.85 | -13 | V |
| 3574.0 | -52.84 | 6.4 | 7.8 | -51.44 | -13 | H |
| 4530.0 | -52.67 | 7.4 | 8.7 | -51.37 | -13 | H |
| 5982.0 | -53.56 | 8.6 | 10.2 | -51.96 | -13 | V |
| 8016.1 | -53.14 | 9.9 | 12.2 | -50.84 | -13 | H |

**RSE-LTE66-L**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 4427.6 | -50.47 | 7.3 | 8.7 | -49.07 | -13 | H |
| 6468.8 | -48.11 | 8.9 | 10.6 | -46.41 | -13 | V |
| 8723.2 | -49.31 | 10.4 | 12.7 | -47.01 | -13 | V |
| 11624.8 | -40.97 | 12.2 | 12.3 | -40.87 | -13 | H |
| 14330.2 | -38.83 | 13.6 | 12.3 | -40.13 | -13 | V |
| 17590.5 | -30.63 | 15.5 | 12.3 | -33.83 | -13 | V |

**RSE-LTE66-M**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 4303.2 | -51.02 | 7.1 | 8.9 | -49.22 | -13 | H |
| 5526.8 | -49.81 | 8.2 | 9.8 | -48.21 | -13 | H |
| 7134.4 | -49.65 | 9.4 | 11.4 | -47.65 | -13 | V |
| 9821.2 | -45.74 | 11.0 | 12.5 | -44.24 | -13 | H |
| 12951.2 | -39.74 | 13.2 | 12.3 | -40.64 | -13 | V |
| 16782.0 | -29.66 | 15.8 | 12.3 | -33.16 | -13 | V |

**RSE-LTE66-H**

| Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBd) | Peak ERP (dBm) | Limit （dBm） | Polarization |
|---|---|---|---|---|---|---|
| 3559.2 | -47.2 | 6.4 | 7.8 | -45.8 | -13 | H |
| 4404.0 | -49.64 | 7.3 | 8.7 | -48.24 | -13 | H |
| 5897.6 | -49.73 | 8.5 | 10.2 | -48.03 | -13 | V |
| 8202.8 | -49.59 | 10.1 | 12.4 | -47.29 | -13 | H |
| 11521.5 | -40.45 | 12.3 | 12.3 | -40.45 | -13 | V |
| 16293.8 | -32.12 | 14.7 | 12.3 | -34.52 | -13 | H |

## 6.3 Frqency Stability

**Reference**

CFR Part 2.1055/24.235/27.54/90.213(a)
Rule RSS-130 4.7/RSS-132 5.3/RSS-133 6.3/ Rule RSS-139 5.4

### 6.3.1 Summary

According to the JTC standard the frequency stability of the carrier shall be accurate to within 0.1 ppm of the received frequency from the base station. This accuracy is sufficient to meet Sec. 24.235, Frequency Stability. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d) (2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 7.2VDC and 8.7VDC, with a nominal voltage of 7.6VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress. For the purposes of measuring frequency stability these voltage limits are to be used.

### 6.3.2 Method of Measurement

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.
1.Measure the carrier frequency at room temperature.
2.Subject the EUT to overnight soak at -10℃.
3.With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on middle channel for LTE band 7. Measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4.Repeat the above measurements at 10℃ increments from -10℃ to +50℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5.Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
6.Subject the EUT to overnight soak at +50℃.
7.With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8.Repeat the above measurements at 10 ℃ decrements from +50℃ to -10℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
9.At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

### 6.3.3 Test Setup


### 6.3.4 Measurement results

| Temperature | Voltage | Band | BandWidth (MHz) | RbMode | QPSK (Hz) | Q16 (Hz) | QPSK (ppm) | Q16 (ppm) |
|---|---|---|---|---|---|---|---|---|
| Normal | Low | FDD12 | 1.4 | fullRB | -12.088 | -12.259 | 0.017 | 0.017 |
| Normal | Normal | FDD12 | 1.4 | fullRB | -14.763 | -13.161 | 0.021 | 0.019 |
| Normal | High | FDD12 | 1.4 | fullRB | -11.816 | 70.438 | 0.017 | 0.1 |
| 50 | Normal | FDD12 | 1.4 | fullRB | -6.094 | -12.875 | 0.009 | 0.018 |
| 40 | Normal | FDD12 | 1.4 | fullRB | -11.058 | -14.033 | 0.016 | 0.02 |
| 30 | Normal | FDD12 | 1.4 | fullRB | -9.828 | -12.388 | 0.014 | 0.018 |
| 20 | Normal | FDD12 | 1.4 | fullRB | -11.115 | -10.157 | 0.016 | 0.014 |
| 10 | Normal | FDD12 | 1.4 | fullRB | 15.335 | -12.703 | 0.022 | 0.018 |
| 0 | Normal | FDD12 | 1.4 | fullRB | -11.644 | -13.447 | 0.016 | 0.019 |
| -10 | Normal | FDD12 | 1.4 | fullRB | -9.642 | -13.819 | 0.014 | 0.02 |
| -20 | Normal | FDD12 | 1.4 | fullRB | -12.746 | -11.659 | 0.018 | 0.016 |
| -30 | Normal | FDD12 | 1.4 | fullRB | -15.006 | -6.895 | 0.021 | 0.01 |

| Temperature | Voltage | Band | BandWidth (MHz) | RbMode | QPSK (Hz) | Q16 (Hz) | QPSK (ppm) | Q16 (ppm) |
|---|---|---|---|---|---|---|---|---|
| Normal | Low | FDD25 | 1.4 | fullRB | -21.386 | -18.468 | 0.011 | 0.01 |
| Normal | Normal | FDD25 | 1.4 | fullRB | -13.804 | -13.776 | 0.007 | 0.007 |
| Normal | High | FDD25 | 1.4 | fullRB | -12.388 | -13.59 | 0.007 | 0.007 |
| 50 | Normal | FDD25 | 1.4 | fullRB | -16.952 | 11.415 | 0.009 | 0.006 |
| 40 | Normal | FDD25 | 1.4 | fullRB | -10.829 | -16.866 | 0.006 | 0.009 |
| 30 | Normal | FDD25 | 1.4 | fullRB | -11.988 | -28.667 | 0.006 | 0.015 |
| 20 | Normal | FDD25 | 1.4 | fullRB | -26.007 | -15.407 | 0.014 | 0.008 |
| 10 | Normal | FDD25 | 1.4 | fullRB | -12.431 | -13.804 | 0.007 | 0.007 |
| 0 | Normal | FDD25 | 1.4 | fullRB | 13.189 | -11.544 | 0.007 | 0.006 |
| -10 | Normal | FDD25 | 1.4 | fullRB | -14.019 | -12.503 | 0.007 | 0.007 |
| -20 | Normal | FDD25 | 1.4 | fullRB | -12.531 | -13.561 | 0.007 | 0.007 |
| -30 | Normal | FDD25 | 1.4 | fullRB | -17.481 | -13.432 | 0.009 | 0.007 |

| Temperature | Voltage | Band | BandWidth (MHz) | RbMode | QPSK (Hz) | Q16 (Hz) | QPSK (ppm) | Q16 (ppm) |
|---|---|---|---|---|---|---|---|---|
| Normal | Low | FDD26Part22 | 1.4 | fullRB | -12.331 | -22.845 | 0.015 | 0.027 |
| Normal | Normal | FDD26Part22 | 1.4 | fullRB | -10.228 | -20.785 | 0.012 | 0.025 |
| Normal | High | FDD26Part22 | 1.4 | fullRB | -11.044 | -21.157 | 0.013 | 0.025 |
| 50 | Normal | FDD26Part22 | 1.4 | fullRB | -9.971 | -19.312 | 0.012 | 0.023 |
| 40 | Normal | FDD26Part22 | 1.4 | fullRB | 3.991 | -13.432 | 0.005 | 0.016 |
| 30 | Normal | FDD26Part22 | 1.4 | fullRB | 4.392 | -16.708 | 0.005 | 0.02 |
| 20 | Normal | FDD26Part22 | 1.4 | fullRB | -6.309 | -19.326 | 0.008 | 0.023 |
| 10 | Normal | FDD26Part22 | 1.4 | fullRB | -5.05 | -19.455 | 0.006 | 0.023 |
| 0 | Normal | FDD26Part22 | 1.4 | fullRB | -6.423 | -23.618 | 0.008 | 0.028 |
| -10 | Normal | FDD26Part22 | 1.4 | fullRB | -14.62 | -24.505 | 0.017 | 0.029 |
| -20 | Normal | FDD26Part22 | 1.4 | fullRB | -14.791 | -23.117 | 0.018 | 0.028 |
| -30 | Normal | FDD26Part22 | 1.4 | fullRB | -9.027 | -25.12 | 0.011 | 0.03 |

| Temperature | Voltage | Band | BandWidth (MHz) | RbMode | QPSK (Hz) | Q16 (Hz) | QPSK (ppm) | Q16 (ppm) |
|---|---|---|---|---|---|---|---|---|
| Normal | Low | FDD26Part90 | 1.4 | fullRB | -12.875 | -32.043 | 0.016 | 0.039 |
| Normal | Normal | FDD26Part90 | 1.4 | fullRB | -15.721 | -28.281 | 0.019 | 0.035 |
| Normal | High | FDD26Part90 | 1.4 | fullRB | -14.491 | -28.281 | 0.018 | 0.035 |
| 50 | Normal | FDD26Part90 | 1.4 | fullRB | -14.162 | -30.341 | 0.017 | 0.037 |
| 40 | Normal | FDD26Part90 | 1.4 | fullRB | -14.334 | -24.862 | 0.018 | 0.03 |
| 30 | Normal | FDD26Part90 | 1.4 | fullRB | -11.272 | -27.68 | 0.014 | 0.034 |
| 20 | Normal | FDD26Part90 | 1.4 | fullRB | -14.234 | -28.51 | 0.017 | 0.035 |
| 10 | Normal | FDD26Part90 | 1.4 | fullRB | -17.71 | -32.158 | 0.022 | 0.039 |
| 0 | Normal | FDD26Part90 | 1.4 | fullRB | -8.54 | -26.765 | 0.01 | 0.033 |
| -10 | Normal | FDD26Part90 | 1.4 | fullRB | -3.104 | -20.442 | 0.004 | 0.025 |
| -20 | Normal | FDD26Part90 | 1.4 | fullRB | -7.267 | -22.43 | 0.009 | 0.027 |
| -30 | Normal | FDD26Part90 | 1.4 | fullRB | -7.567 | -20.771 | 0.009 | 0.025 |

| Temperature | Voltage | Band | BandWidth (MHz) | RbMode | QPSK (Hz) | Q16 (Hz) | QPSK (ppm) | Q16 (ppm) |
|---|---|---|---|---|---|---|---|---|
| Normal | Low | FDD66 | 1.4 | fullRB | -20.9 | 15.736 | 0.012 | 0.009 |
| Normal | Normal | FDD66 | 1.4 | fullRB | 10.185 | 17.495 | 0.006 | 0.01 |
| Normal | High | FDD66 | 1.4 | fullRB | -7.267 | 17.81 | 0.004 | 0.01 |
| 50 | Normal | FDD66 | 1.4 | fullRB | 9.112 | -20.456 | 0.005 | 0.012 |
| 40 | Normal | FDD66 | 1.4 | fullRB | -10.128 | -14.291 | 0.006 | 0.008 |
| 30 | Normal | FDD66 | 1.4 | fullRB | -10.085 | -16.05 | 0.006 | 0.009 |
| 20 | Normal | FDD66 | 1.4 | fullRB | 11.673 | -14.219 | 0.007 | 0.008 |
| 10 | Normal | FDD66 | 1.4 | fullRB | -14.048 | 9.47 | 0.008 | 0.005 |
| 0 | Normal | FDD66 | 1.4 | fullRB | -10.6 | 11.988 | 0.006 | 0.007 |
| -10 | Normal | FDD66 | 1.4 | fullRB | 7.195 | 15.221 | 0.004 | 0.009 |
| -20 | Normal | FDD66 | 1.4 | fullRB | -12.145 | 18.783 | 0.007 | 0.011 |
| -30 | Normal | FDD66 | 1.4 | fullRB | -11.401 | 12.932 | 0.007 | 0.007 |

## 6.4 Occupied Bandwidth

**Reference**

CFR Part 2.1049
RSS-Gen: 6.7

### 6.4.1 Summary

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated.

### 6.4.2 Method of Measurement

Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequencies of the US Cellular/PCS frequency bands. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.

The measurement method is from KDB 971168 4:

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).

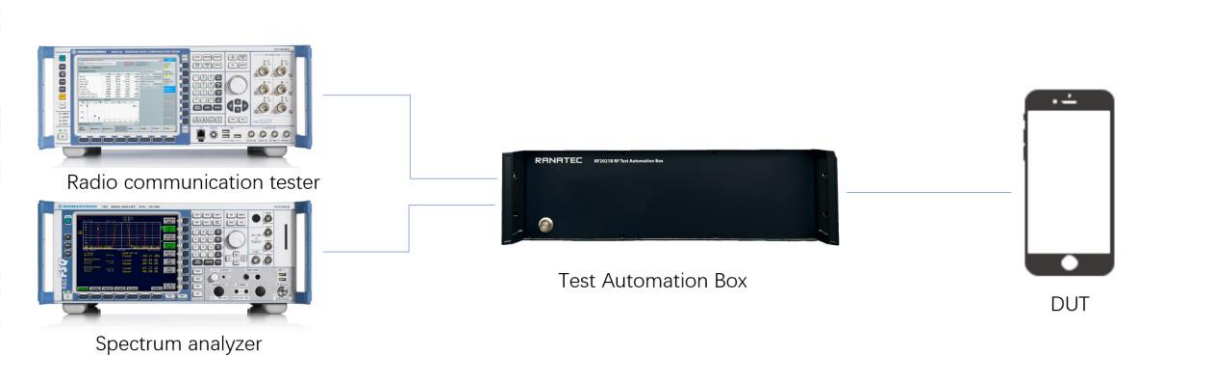
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

d) Set the detection mode to peak, and the trace mode to max hold.

e) Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

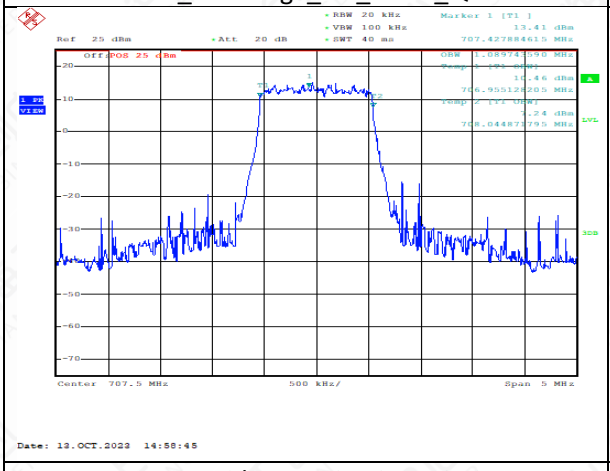
### 6.4.3 Test Setup



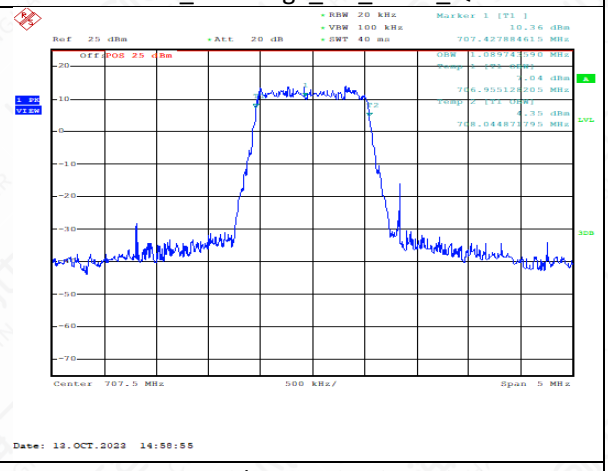
### 6.4.4 Measurement Results

| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD12 | MidRange | 1.4 | 707.5 | 1.09 | 1.09 |
| FDD12 | MidRange | 3 | 707.5 | 2.68 | 2.69 |
| FDD12 | MidRange | 5 | 707.5 | 4.52 | 4.47 |
| FDD12 | MidRange | 10 | 707.5 | 8.99 | 8.94 |

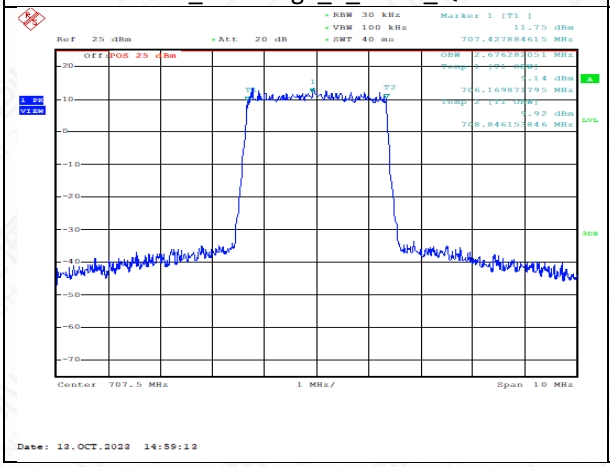
FDD12_MidRange_1.4_707.5_QPSK



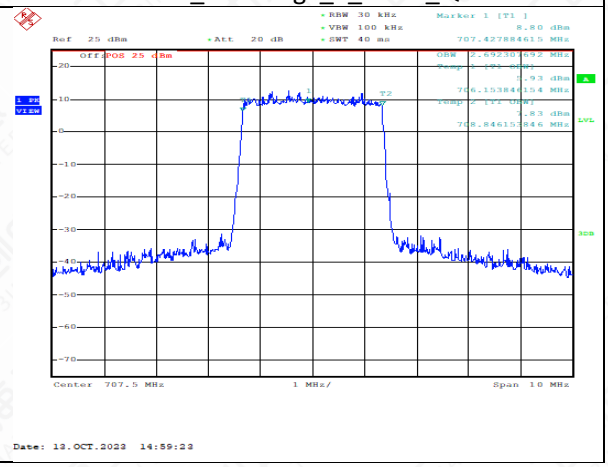
FDD12_MidRange_1.4_707.5_Q16



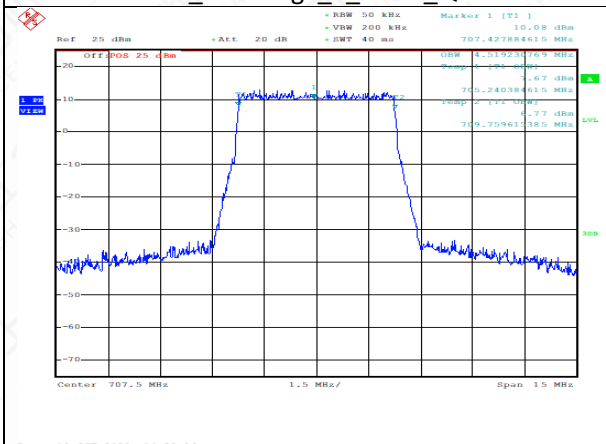
FDD12_MidRange_3_707.5_QPSK



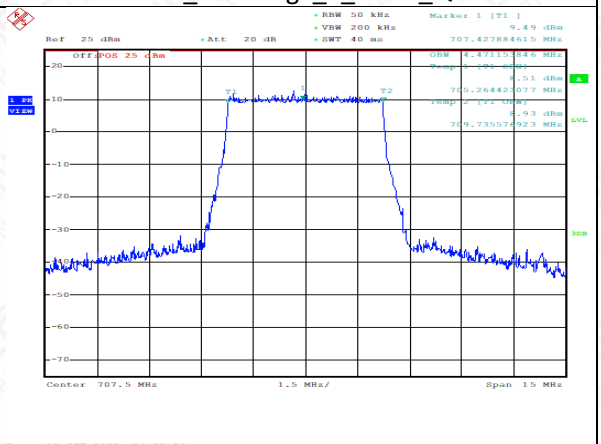
FDD12_MidRange_3_707.5_Q16



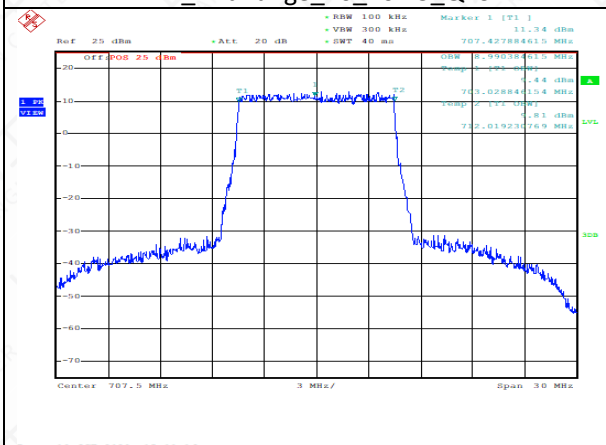
FDD12_MidRange_5_707.5_QPSK



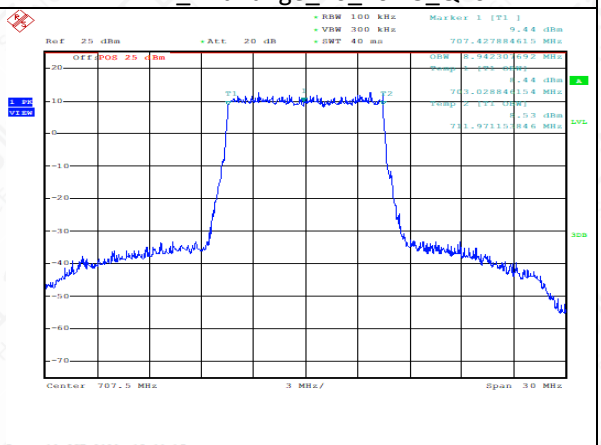

FDD12_MidRange_5_707.5_Q16




FDD12_MidRange_10_707.5_QPSK

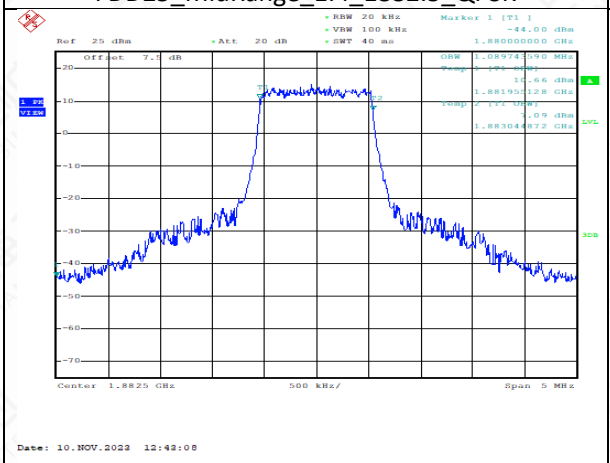



FDD12_MidRange_10_707.5_Q16

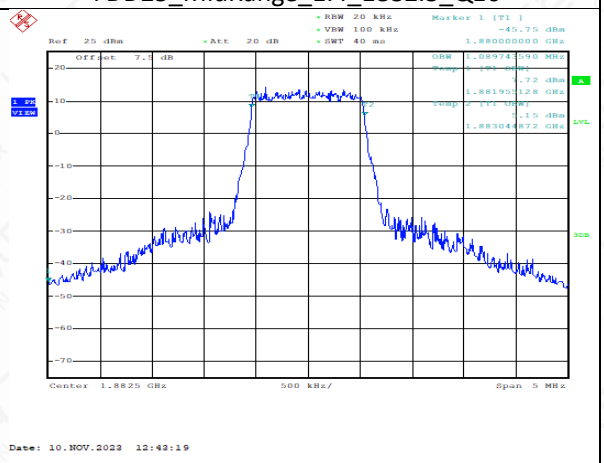


| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD25 | MidRange | 1.4 | 1882.5 | 1.09 | 1.09 |
| FDD25 | MidRange | 3 | 1882.5 | 2.68 | 2.69 |
| FDD25 | MidRange | 5 | 1882.5 | 4.52 | 4.52 |
| FDD25 | MidRange | 10 | 1882.5 | 8.94 | 8.94 |
| FDD25 | MidRange | 15 | 1882.5 | 13.49 | 13.49 |
| FDD25 | MidRange | 20 | 1882.5 | 17.98 | 17.89 |

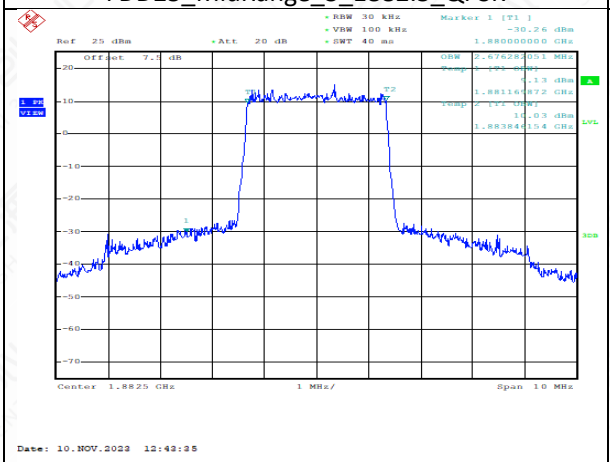
FDD25_MidRange_1.4_1882.5_QPSK



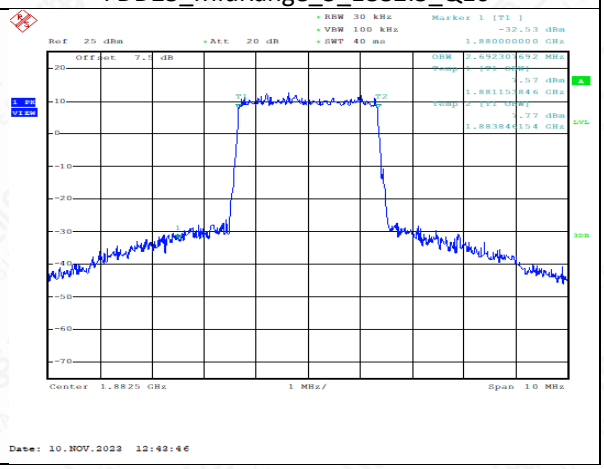
FDD25_MidRange_1.4_1882.5_Q16



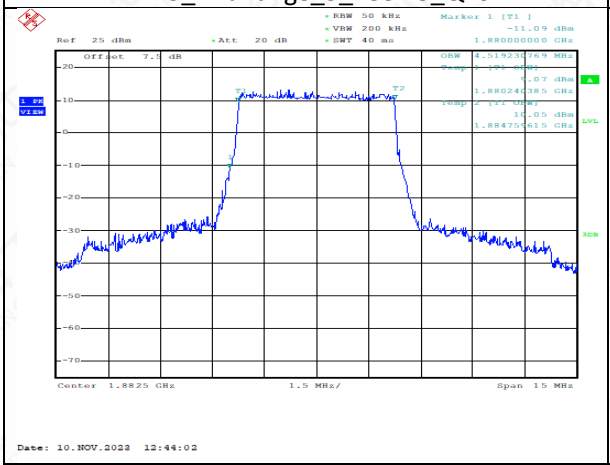
FDD25_MidRange_3_1882.5_QPSK



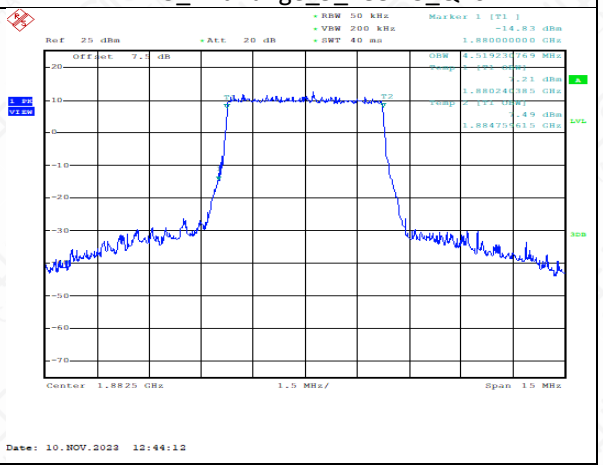
FDD25_MidRange_3_1882.5_Q16



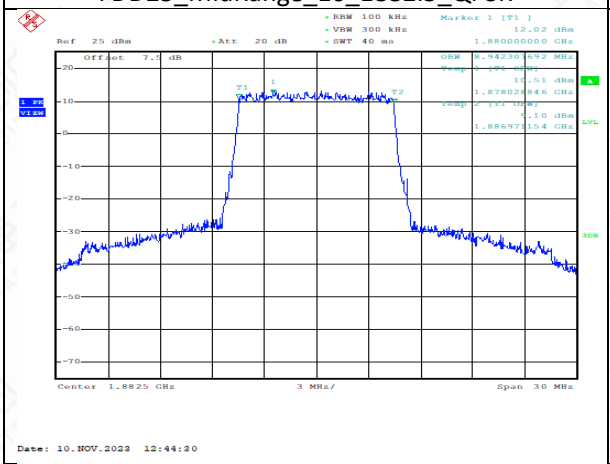
FDD25_MidRange_5_1882.5_QPSK



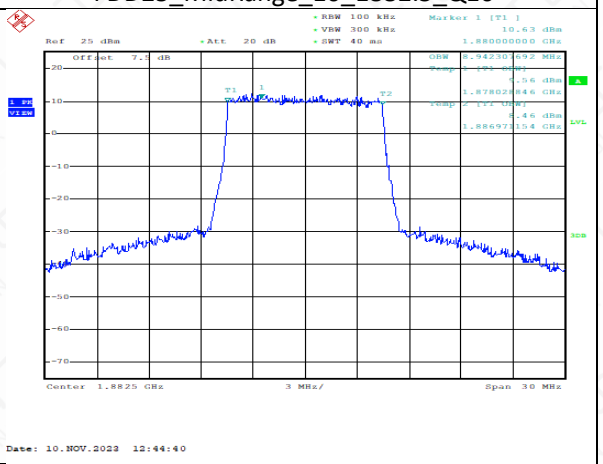

FDD25_MidRange_5_1882.5_Q16



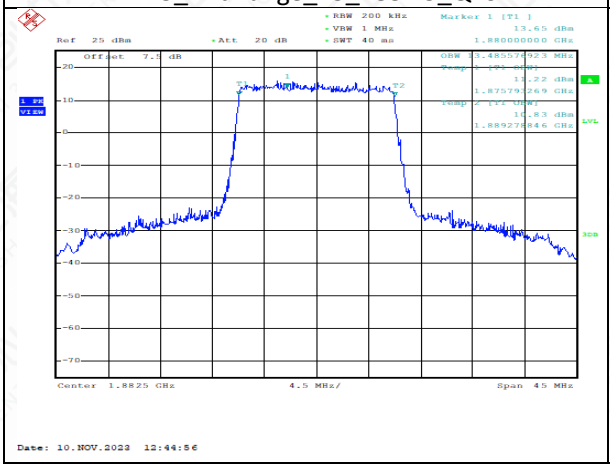

FDD25_MidRange_10_1882.5_QPSK



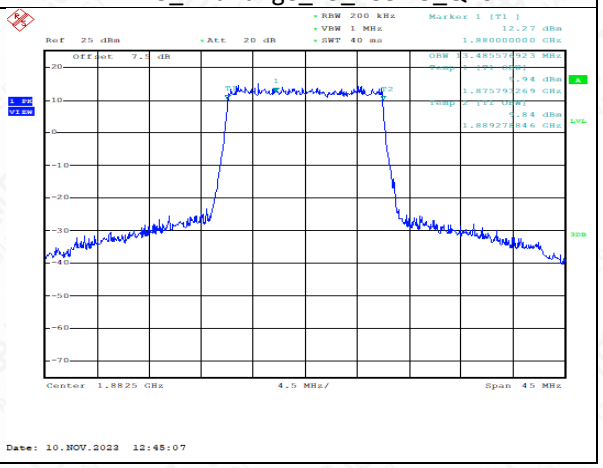

FDD25_MidRange_10_1882.5_Q16



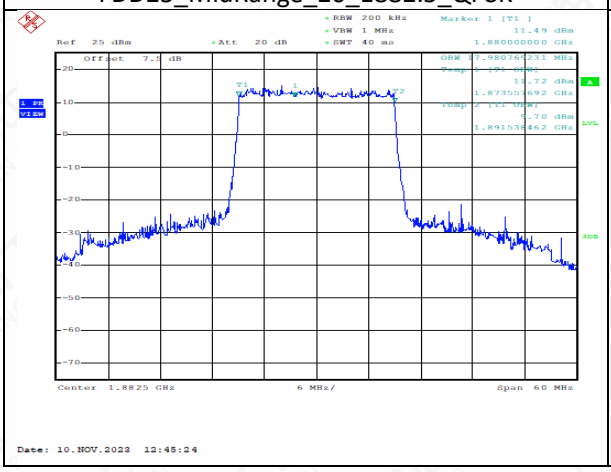

FDD25_MidRange_15_1882.5_QPSK



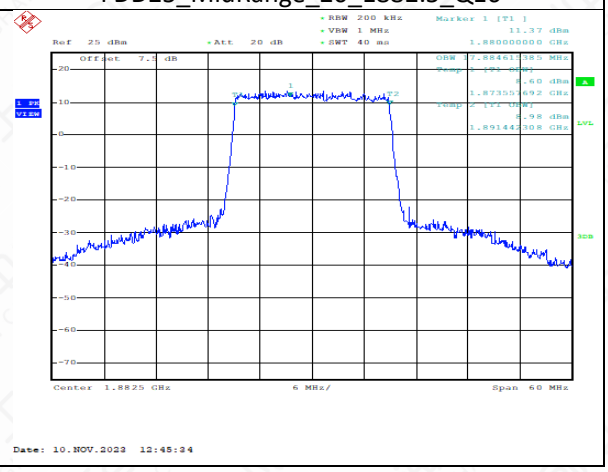

FDD25_MidRange_15_1882.5_Q16



FDD25_MidRange_20_1882.5_QPSK

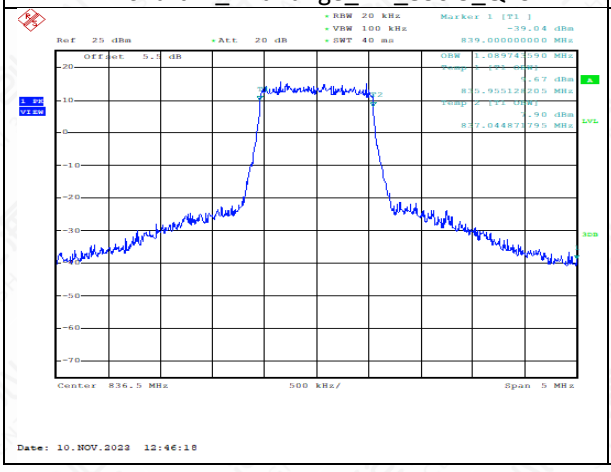


FDD25_MidRange_20_1882.5_Q16

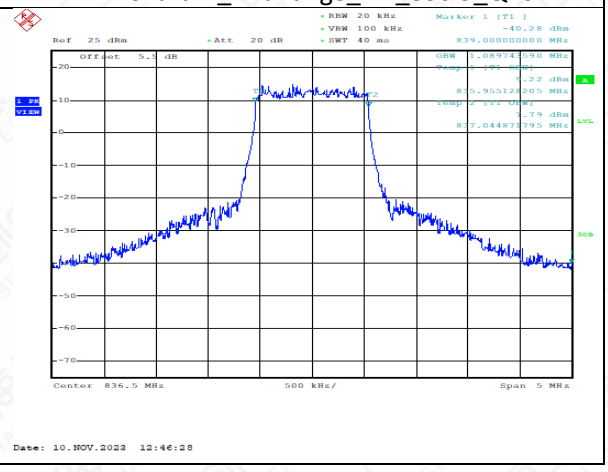


| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD26Part22 | MidRange | 1.4 | 836.5 | 1.09 | 1.09 |
| FDD26Part22 | MidRange | 3 | 836.5 | 2.68 | 2.68 |
| FDD26Part22 | MidRange | 5 | 836.5 | 4.47 | 4.50 |
| FDD26Part22 | MidRange | 10 | 836.5 | 8.99 | 8.94 |
| FDD26Part22 | MidRange | 15 | 836.5 | 13.49 | 13.41 |

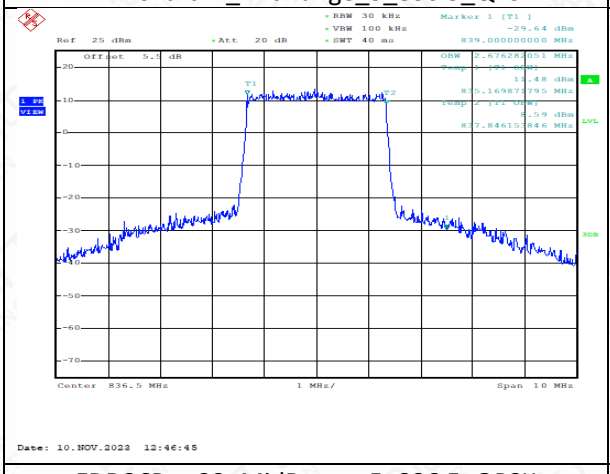
FDD26Part22_MidRange_1.4_836.5_QPSK



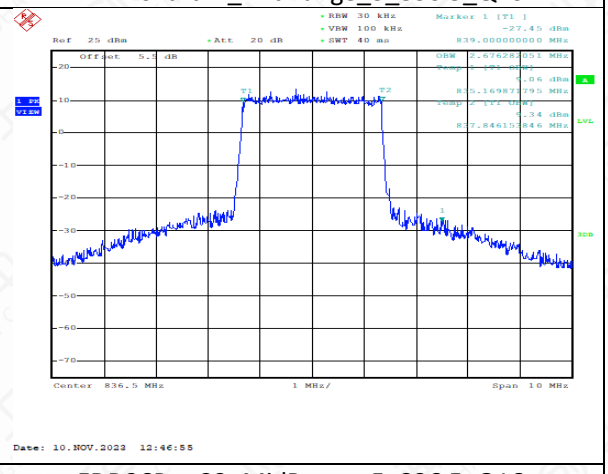
FDD26Part22_MidRange_1.4_836.5_Q16



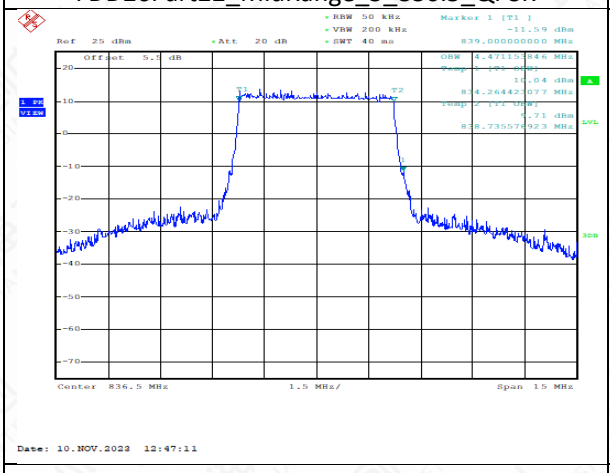
FDD26Part22_MidRange_3_836.5_QPSK



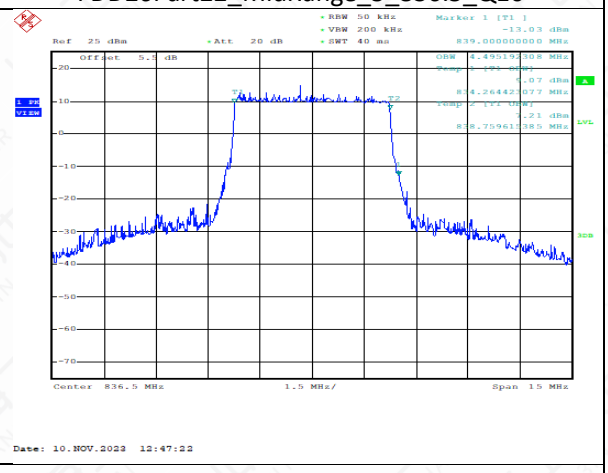

FDD26Part22_MidRange_3_836.5_Q16



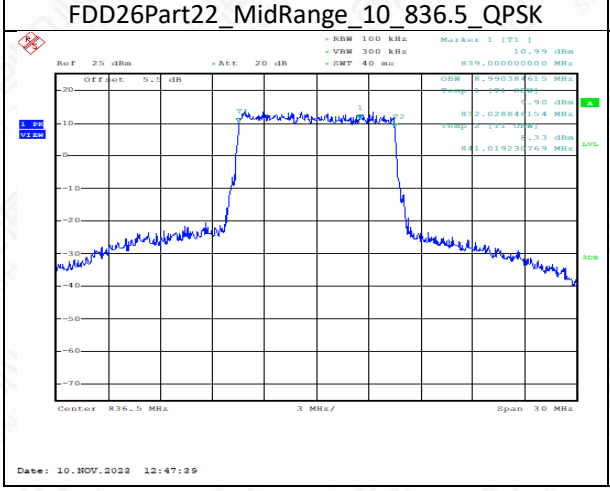

FDD26Part22_MidRange_5_836.5_QPSK



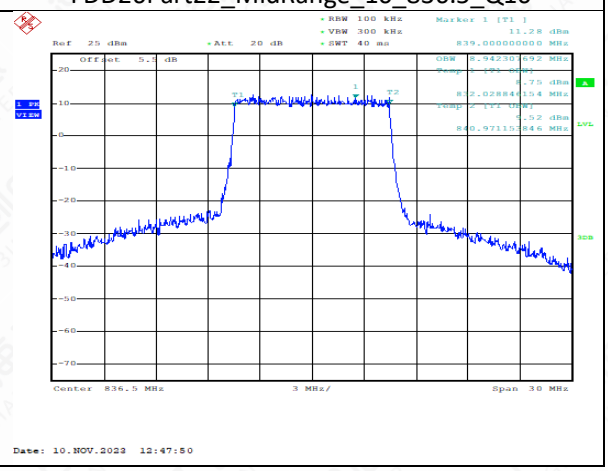

FDD26Part22_MidRange_5_836.5_Q16



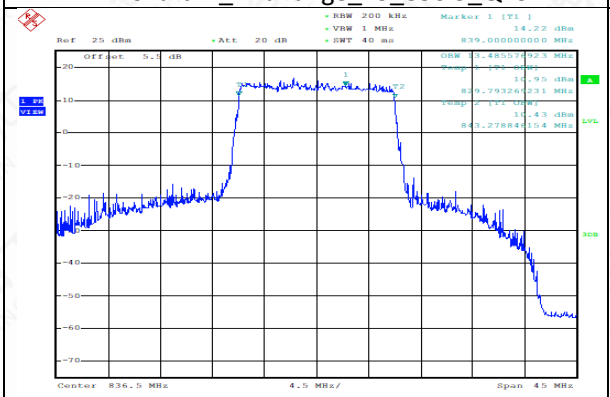

FDD26Part22_MidRange_10_836.5_QPSK



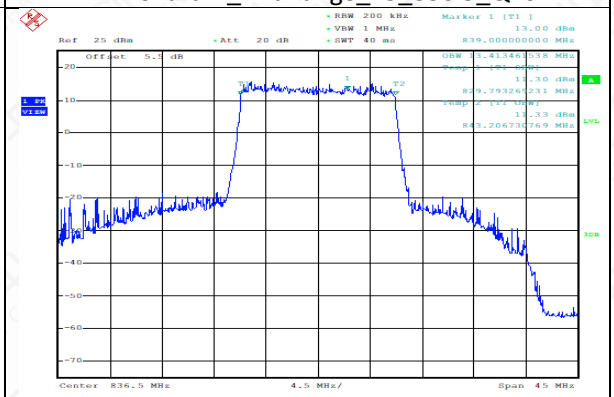

FDD26Part22_MidRange_10_836.5_Q16



FDD26Part22_MidRange_15_836.5_QPSK

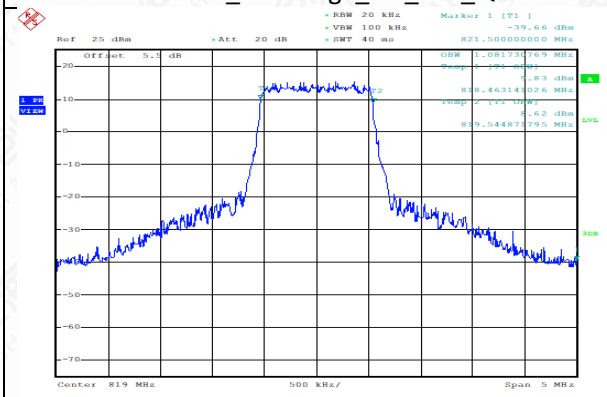



FDD26Part22_MidRange_15_836.5_Q16

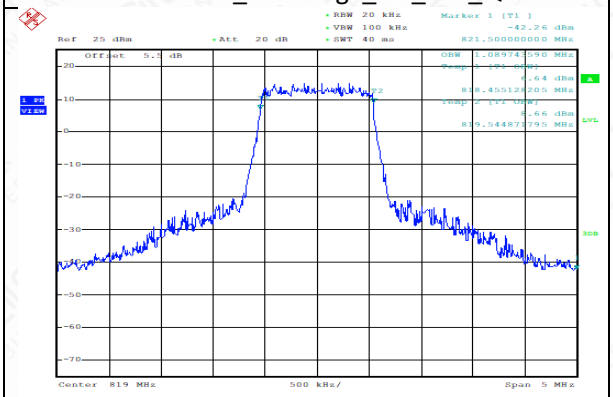



| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD26Part90 | MidRange | 1.4 | 819 | 1.08 | 1.09 |
| FDD26Part90 | MidRange | 3 | 819 | 2.69 | 2.69 |
| FDD26Part90 | MidRange | 5 | 819 | 4.52 | 4.47 |
| FDD26Part90 | MidRange | 10 | 819 | 8.94 | 8.94 |

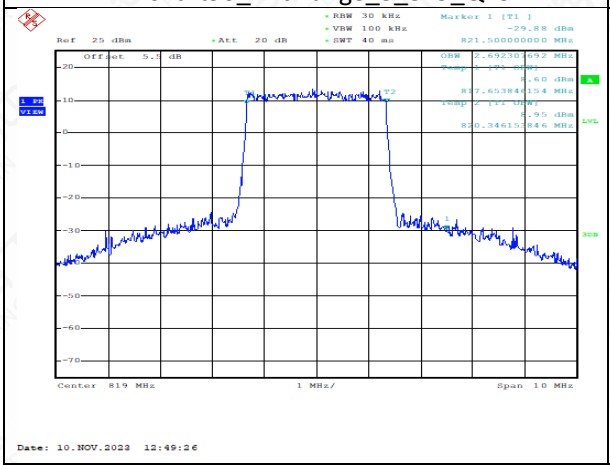
FDD26Part90_MidRange_1.4_819_QPSK



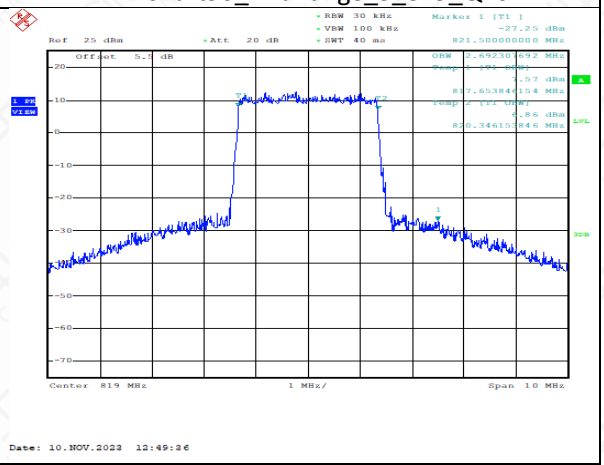

FDD26Part90_MidRange_1.4_819_Q16



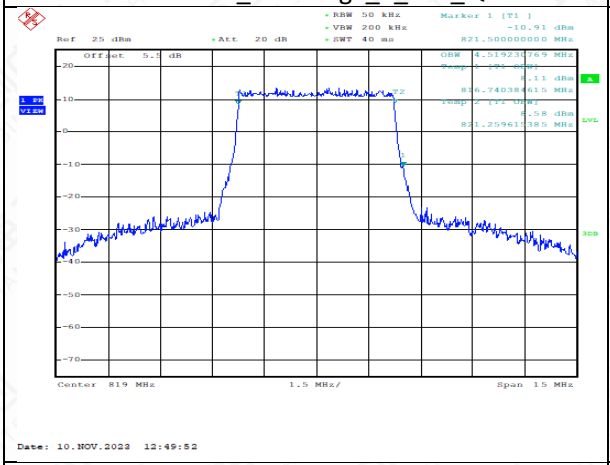
FDD26Part90_MidRange_3_819_QPSK



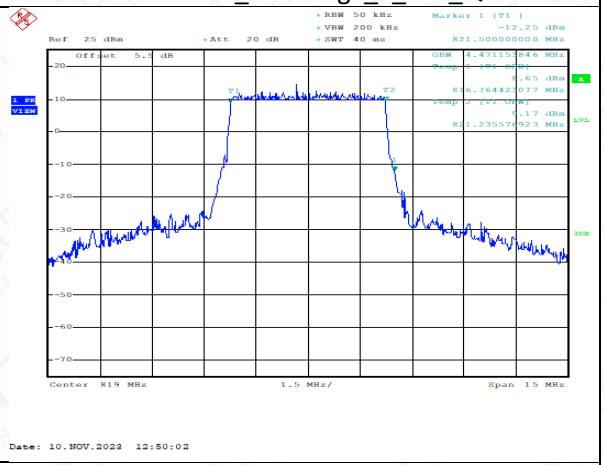

FDD26Part90_MidRange_3_819_Q16



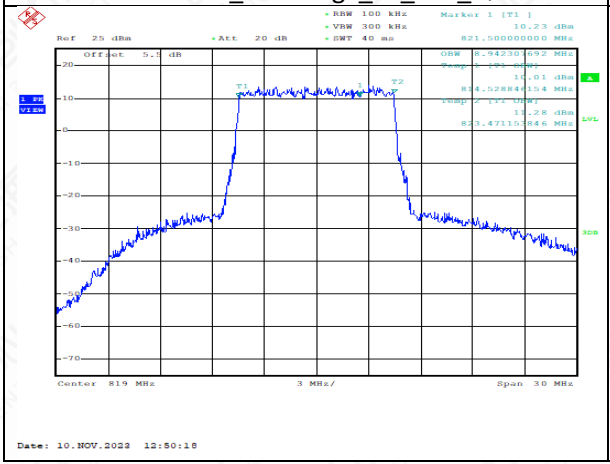

FDD26Part90_MidRange_5_819_QPSK



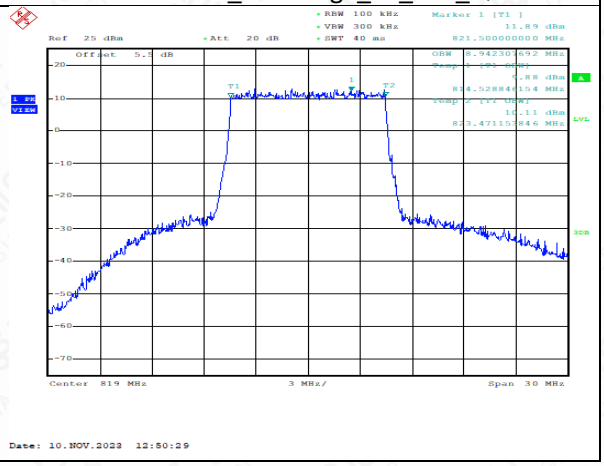

FDD26Part90_MidRange_5_819_Q16




FDD26Part90_MidRange_10_819_QPSK

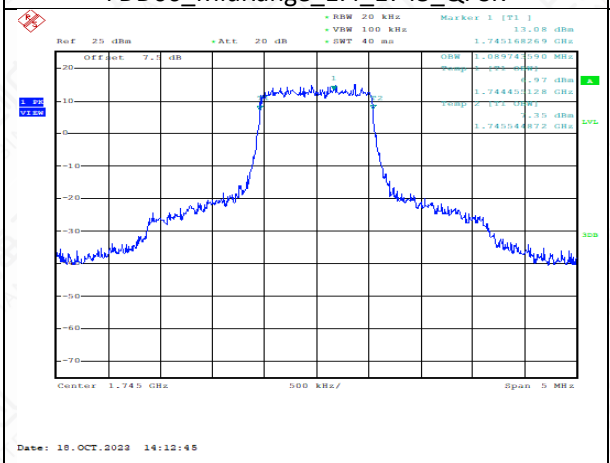



FDD26Part90_MidRange_10_819_Q16

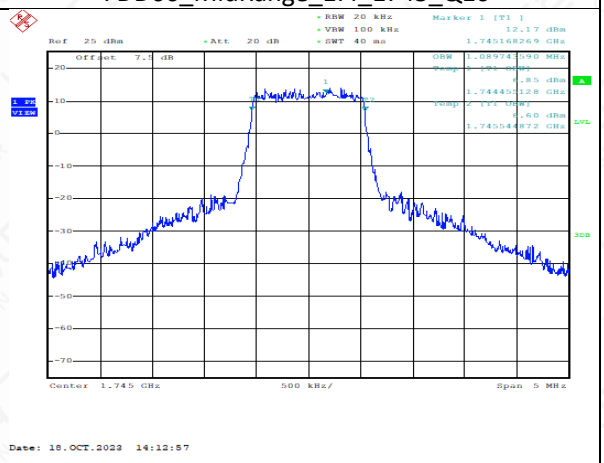


| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD66 | MidRange | 1.4 | 1745 | 1.09 | 1.09 |
| FDD66 | MidRange | 3 | 1745 | 2.68 | 2.69 |
| FDD66 | MidRange | 5 | 1745 | 4.50 | 4.50 |
| FDD66 | MidRange | 10 | 1745 | 8.99 | 8.94 |
| FDD66 | MidRange | 15 | 1745 | 13.49 | 13.49 |
| FDD66 | MidRange | 20 | 1745 | 17.89 | 17.98 |

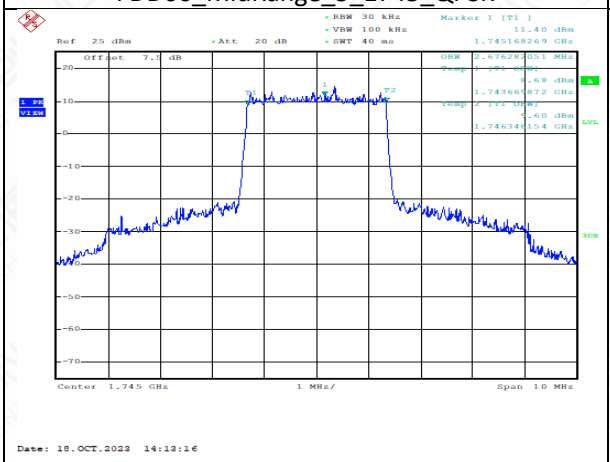
FDD66_MidRange_1.4_1745_QPSK



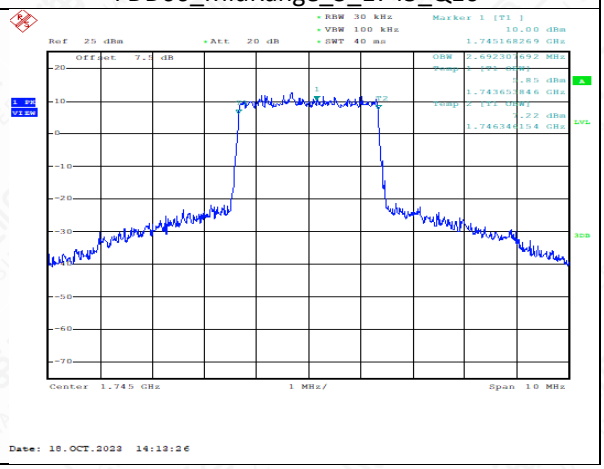
FDD66_MidRange_1.4_1745_Q16



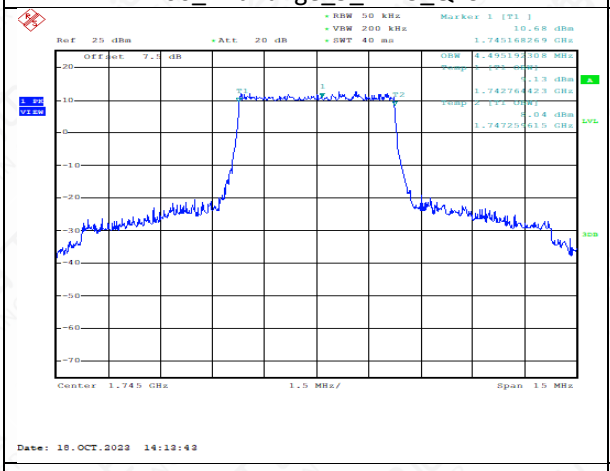
FDD66_MidRange_3_1745_QPSK



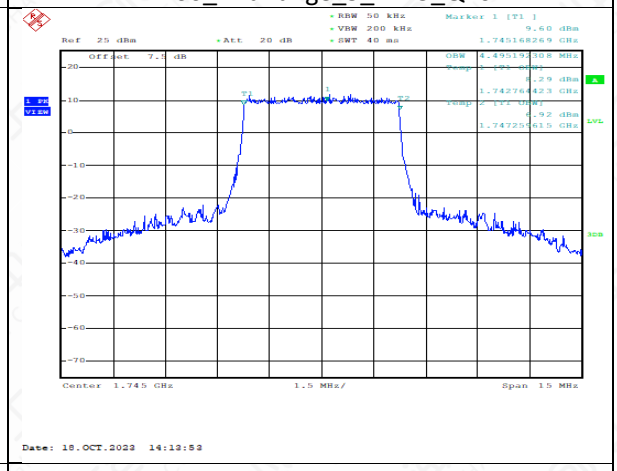
FDD66_MidRange_3_1745_Q16



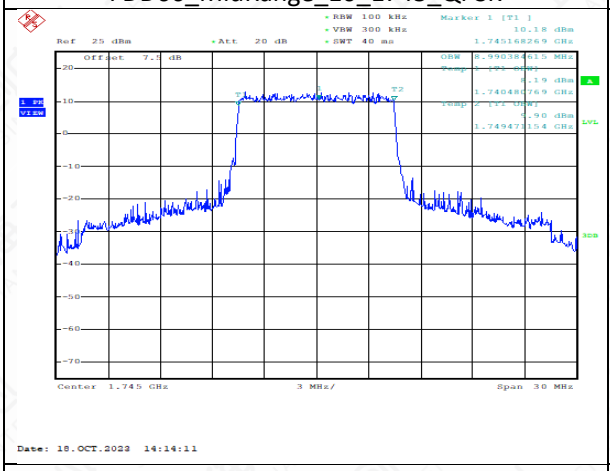
FDD66_MidRange_5_1745_QPSK



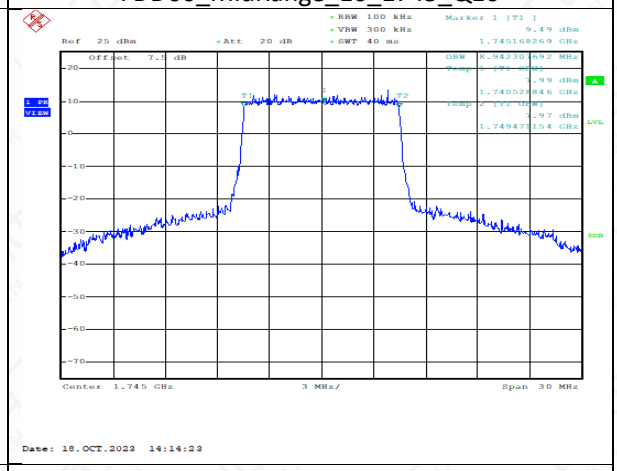

FDD66_MidRange_5_1745_Q16



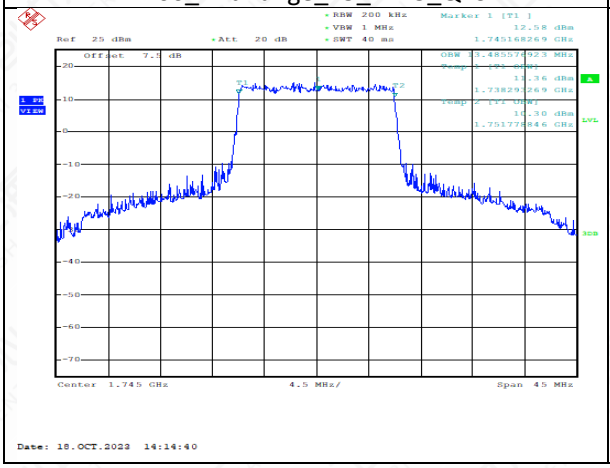

FDD66_MidRange_10_1745_QPSK



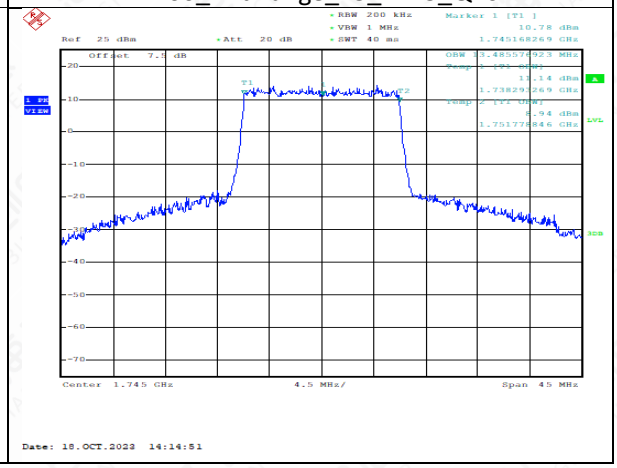

FDD66_MidRange_10_1745_Q16

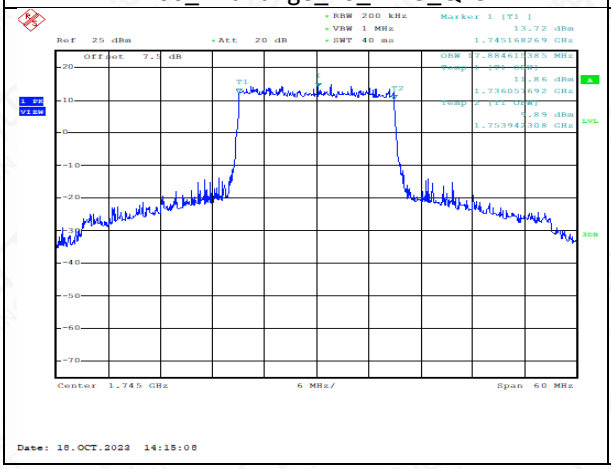
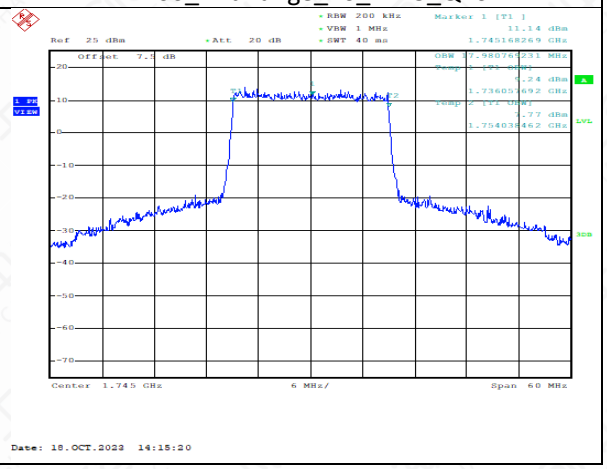



FDD66_MidRange_15_1745_QPSK




FDD66_MidRange_15_1745_Q16



| FDD66_MidRange_20_1745_QPSK | FDD66_MidRange_20_1745_Q16 |
| --- | --- |
|  |  |

## 6.5 Emission Bandwidth

### Reference

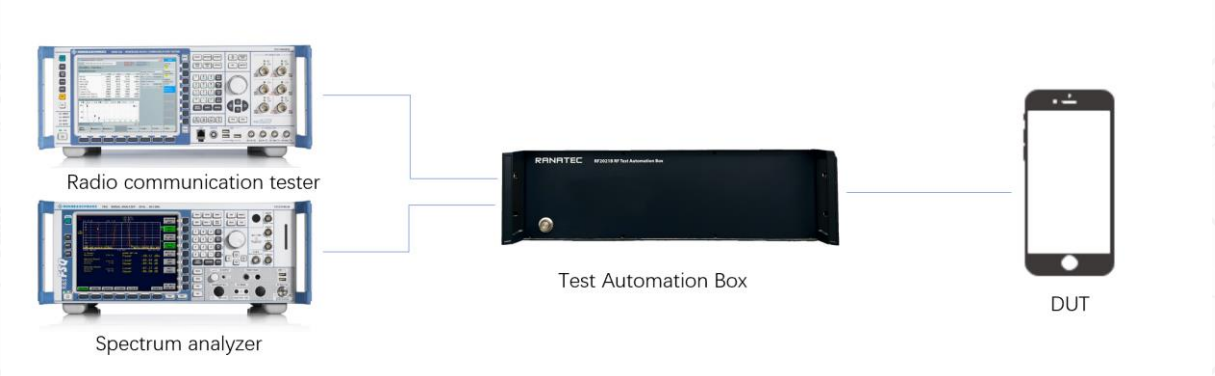
CFR Part 2.1049/22.917/24.238(a)/27.53(g)/27.53(h)/ 90.209 (b)

RSS-Gen: 6.7

### 6.5.1 Method of Measurement

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the followinag pages.

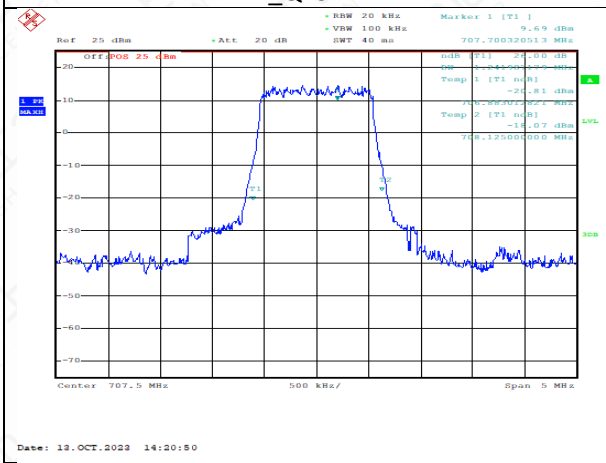
### 6.5.2 Test Setup



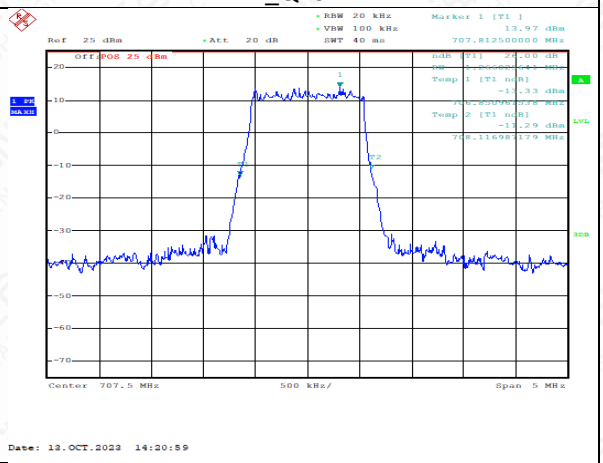

### 6.5.3 Measurement results

| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD12 | MidRange | 1.4 | 707.5 | 1.27 | 1.27 |
| FDD12 | MidRange | 3 | 707.5 | 2.88 | 2.87 |
| FDD12 | MidRange | 5 | 707.5 | 5.00 | 5.02 |
| FDD12 | MidRange | 10 | 707.5 | 9.90 | 9.86 |

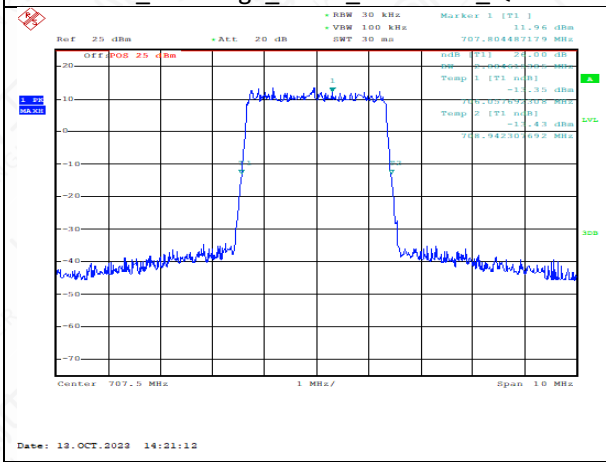
FDD12_MidRange_1.4MHz_707.5MHz_QPSK



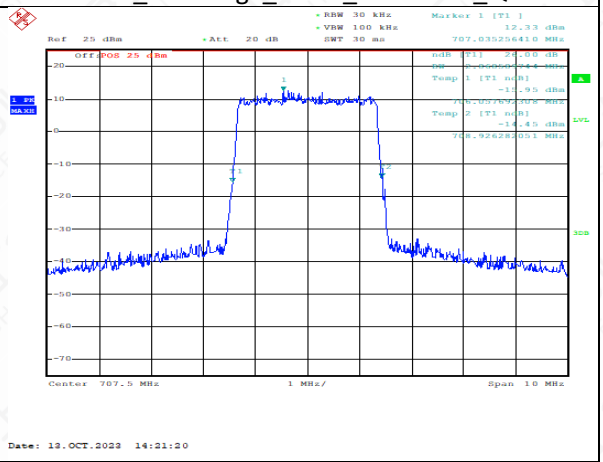

FDD12_MidRange_1.4MHz_707.5MHz_Q16



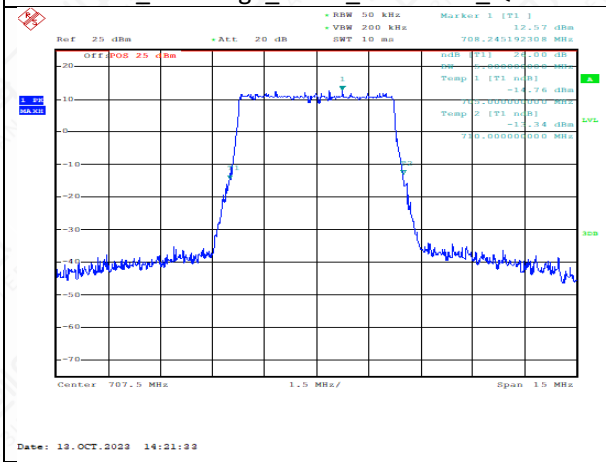

FDD12_MidRange_3MHz_707.5MHz_QPSK



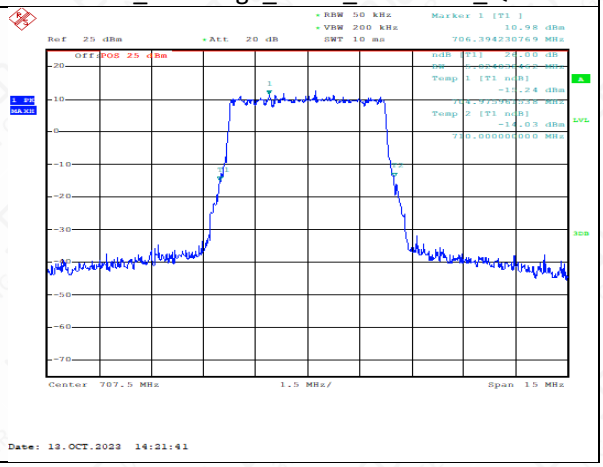

FDD12_MidRange_3MHz_707.5MHz_Q16



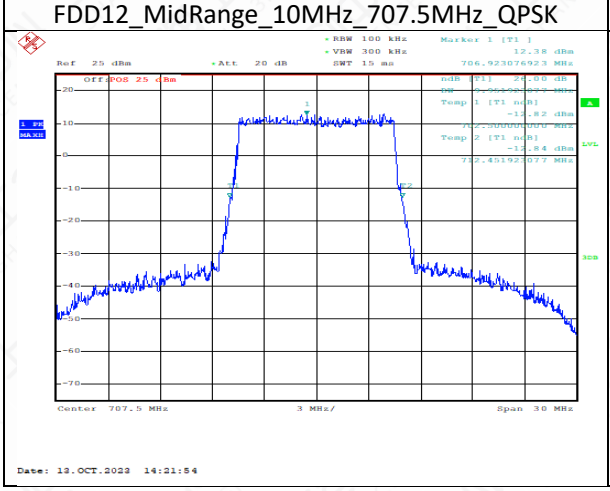

FDD12_MidRange_5MHz_707.5MHz_QPSK



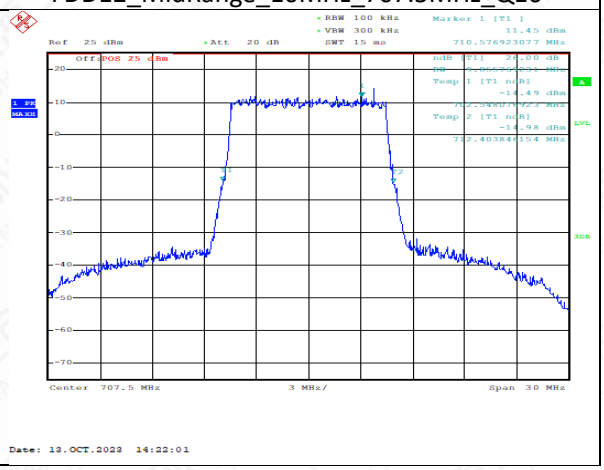

FDD12_MidRange_5MHz_707.5MHz_Q16



FDD12_MidRange_10MHz_707.5MHz_QPSK

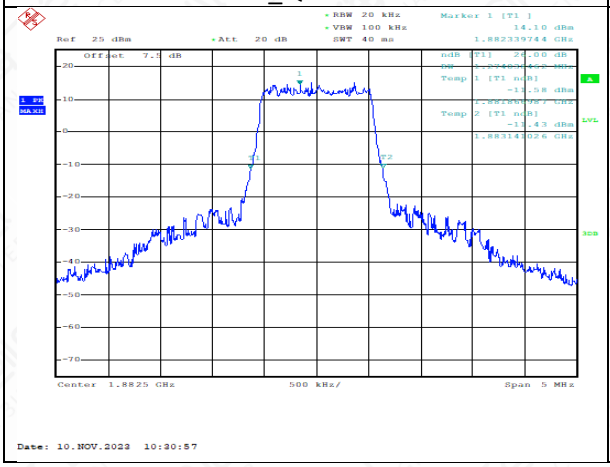



FDD12_MidRange_10MHz_707.5MHz_Q16

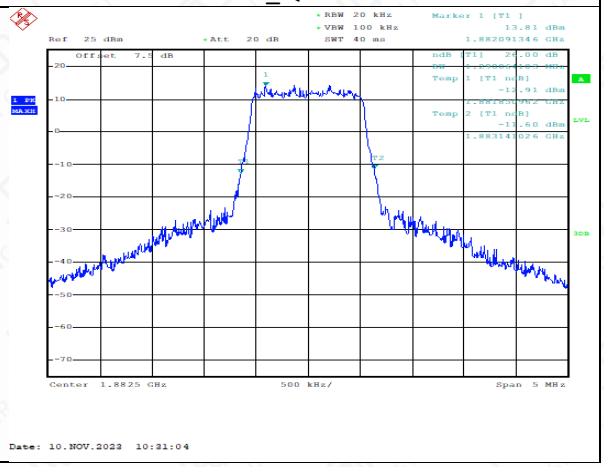



| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD25 | MidRange | 1.4 | 1882.5 | 1.27 | 1.28 |
| FDD25 | MidRange | 3 | 1882.5 | 2.88 | 2.85 |
| FDD25 | MidRange | 5 | 1882.5 | 4.98 | 5.02 |
| FDD25 | MidRange | 10 | 1882.5 | 9.90 | 9.86 |
| FDD25 | MidRange | 15 | 1882.5 | 14.64 | 14.86 |
| FDD25 | MidRange | 20 | 1882.5 | 19.23 | 19.42 |

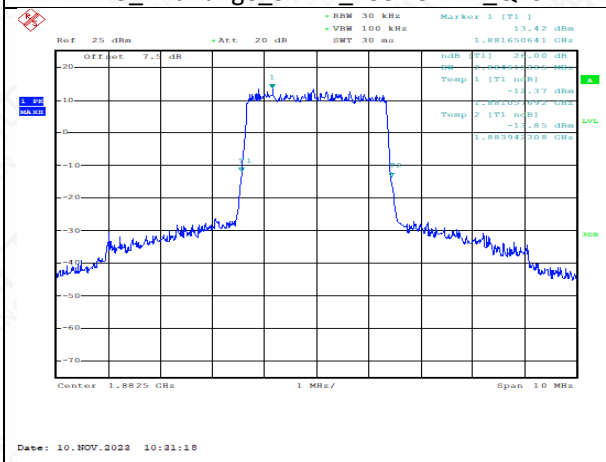
FDD25_MidRange_1.4MHz_1882.5MHz _QPSK



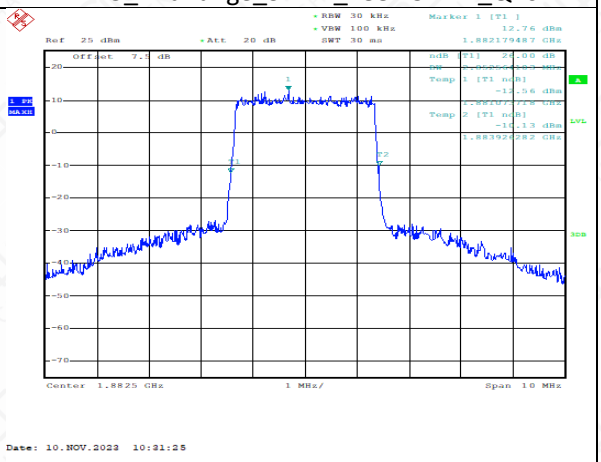

FDD25_MidRange_1.4MHz_1882.5MHz _Q16



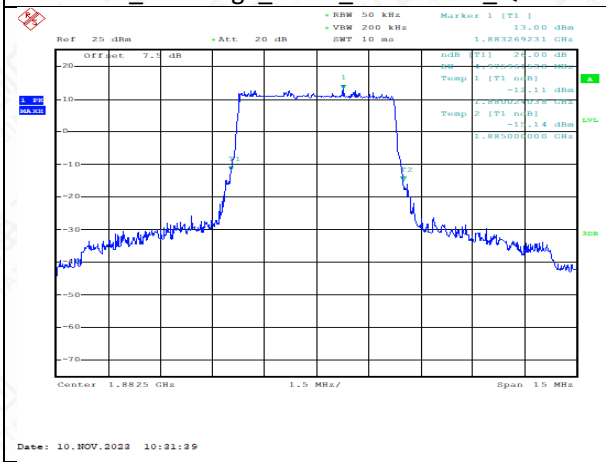
FDD25_MidRange_3MHz_1882.5MHz_QPSK



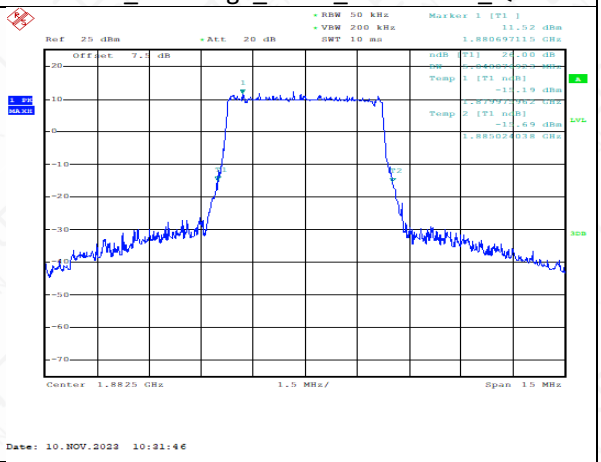

FDD25_MidRange_3MHz_1882.5MHz_Q16



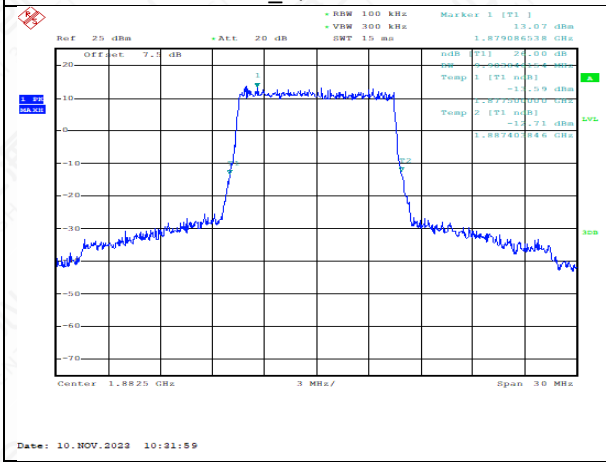

FDD25_MidRange_5MHz_1882.5MHz_QPSK



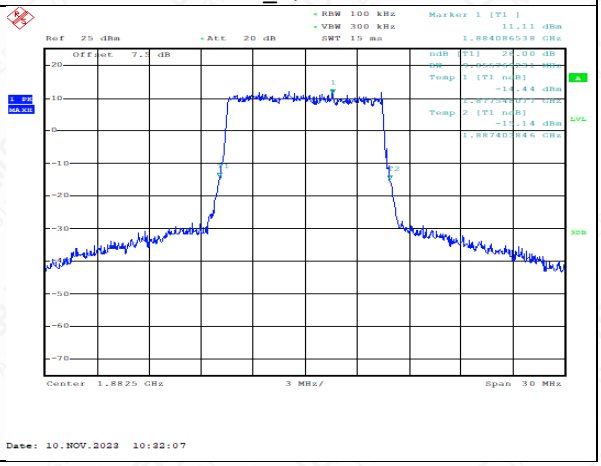

FDD25_MidRange_5MHz_1882.5MHz_Q16



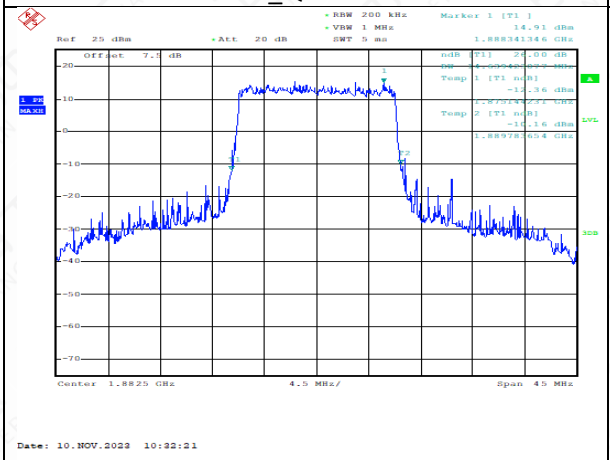

FDD25_MidRange_10MHz_1882.5MHz_QPSK



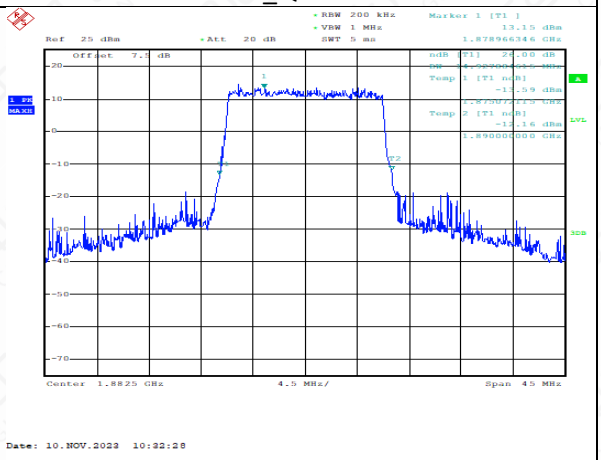

FDD25_MidRange_10MHz_1882.5MHz_Q16



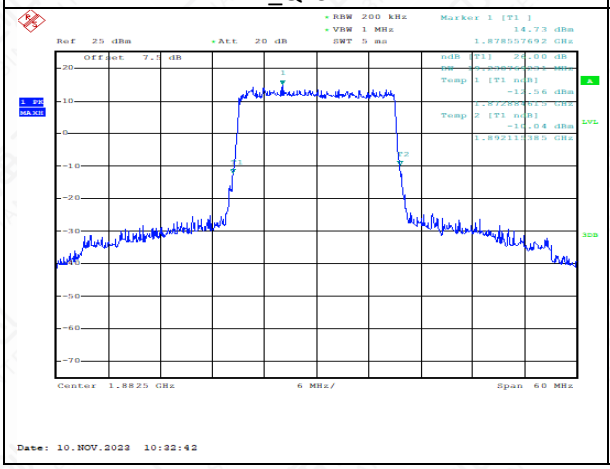
FDD25_MidRange_15MHz_1882.5MHz _QPSK



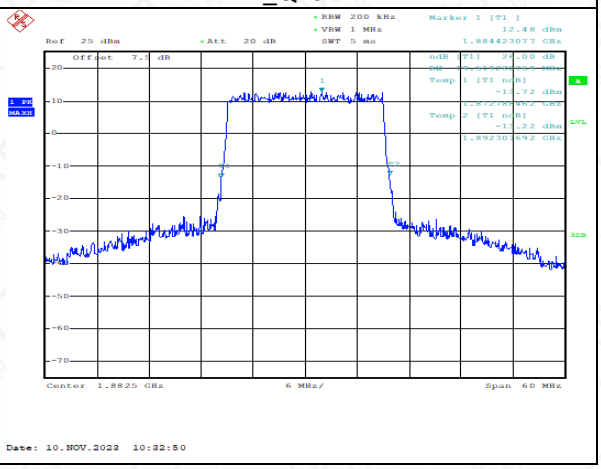

FDD25_MidRange_15MHz_1882.5MHz _Q16




FDD25_MidRange_20MHz_1882.5MHz _QPSK

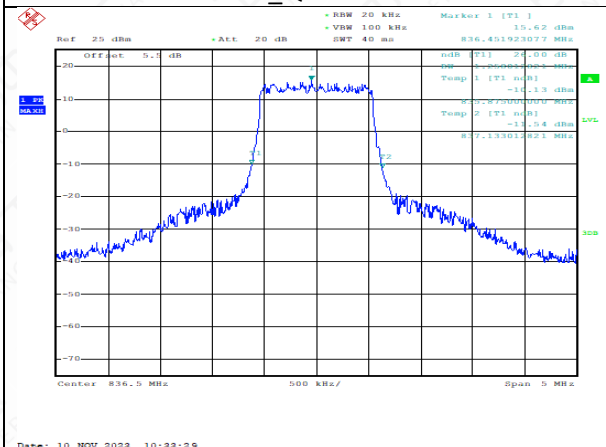



FDD25_MidRange_20MHz_1882.5MHz _Q16

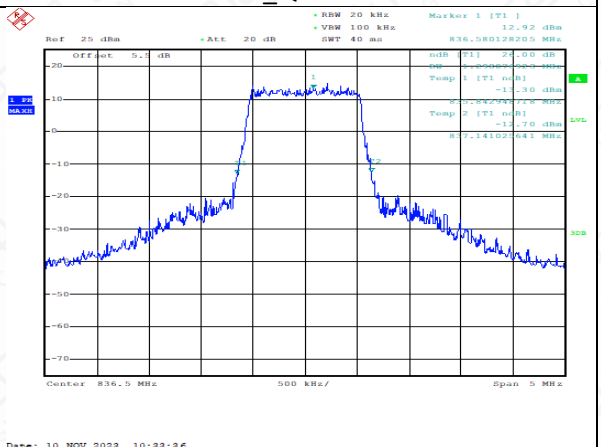



| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD26Part22 | MidRange | 1.4 | 836.5 | 1.26 | 1.30 |
| FDD26Part22 | MidRange | 3 | 836.5 | 2.87 | 2.85 |
| FDD26Part22 | MidRange | 5 | 836.5 | 5.02 | 5.02 |
| FDD26Part22 | MidRange | 10 | 836.5 | 9.71 | 9.71 |
| FDD26Part22 | MidRange | 15 | 836.5 | 14.64 | 14.42 |

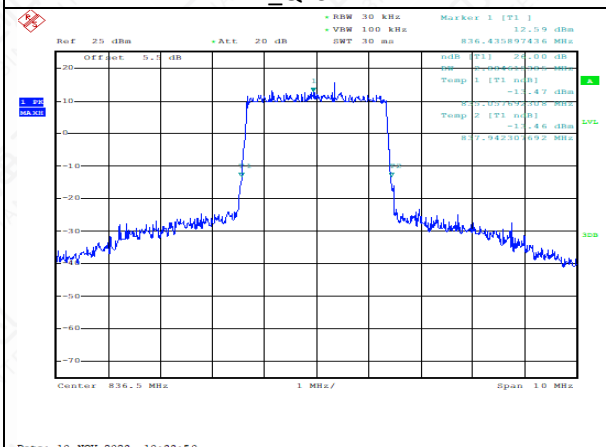
FDD26Part22_MidRange_1.4MHz_836.5MHz_QPSK



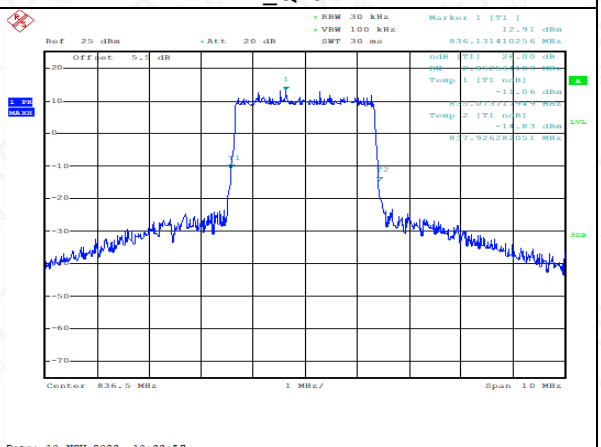

FDD26Part22_MidRange_1.4MHz_836.5MHz_Q16



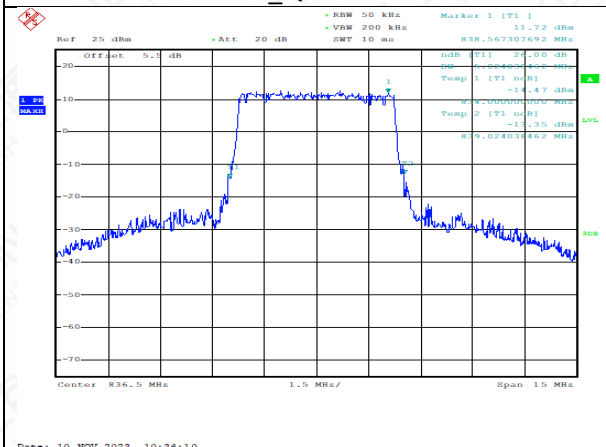

FDD26Part22_MidRange_3MHz_836.5MHz_QPSK



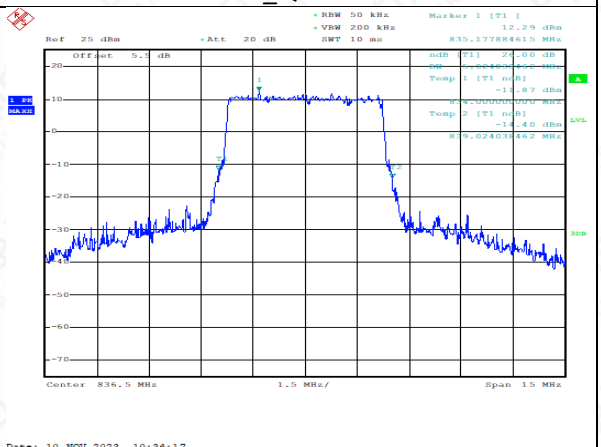

FDD26Part22_MidRange_3MHz_836.5MHz_Q16



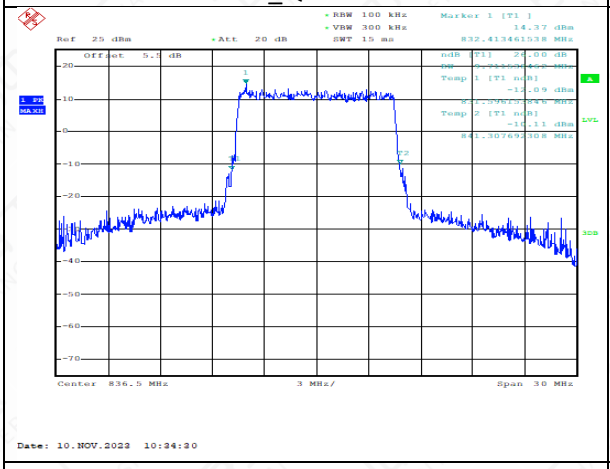

FDD26Part22_MidRange_5MHz_836.5MHz_QPSK



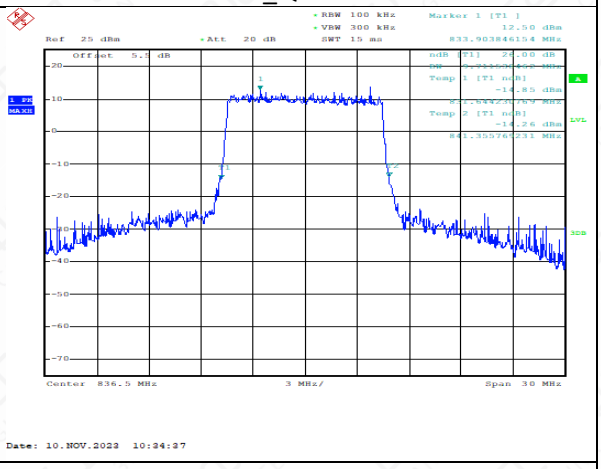

FDD26Part22_MidRange_5MHz_836.5MHz_Q16



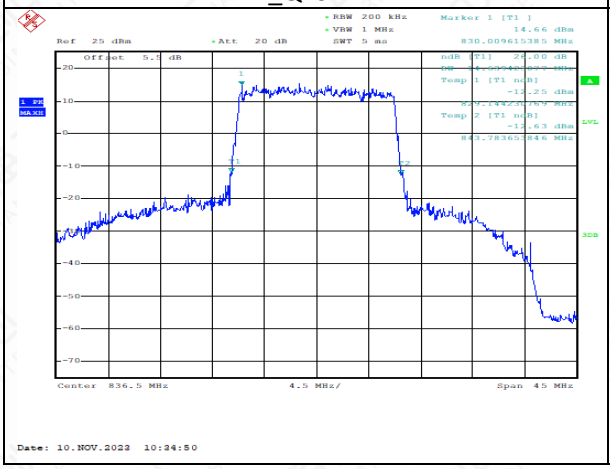
FDD26Part22_MidRange_10MHz_836.5MHz_QPSK



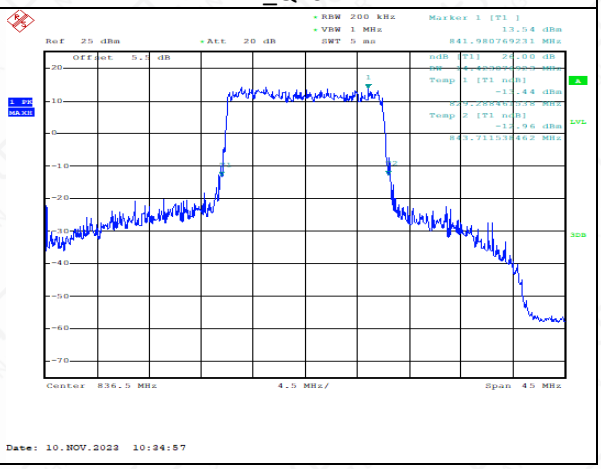

FDD26Part22_MidRange_10MHz_836.5MHz_Q16




FDD26Part22_MidRange_15MHz_836.5MHz_QPSK

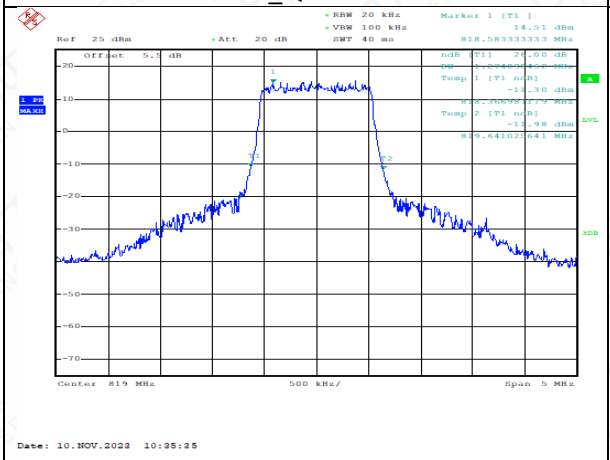



FDD26Part22_MidRange_15MHz_836.5MHz_Q16

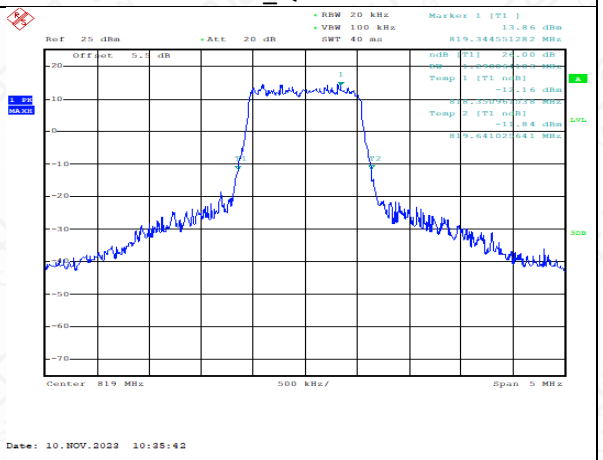



| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD26Part90 | MidRange | 1.4 | 819 | 1.27 | 1.29 |
| FDD26Part90 | MidRange | 3 | 819 | 2.90 | 2.87 |
| FDD26Part90 | MidRange | 5 | 819 | 5.05 | 5.00 |
| FDD26Part90 | MidRange | 10 | 819 | 9.81 | 9.86 |

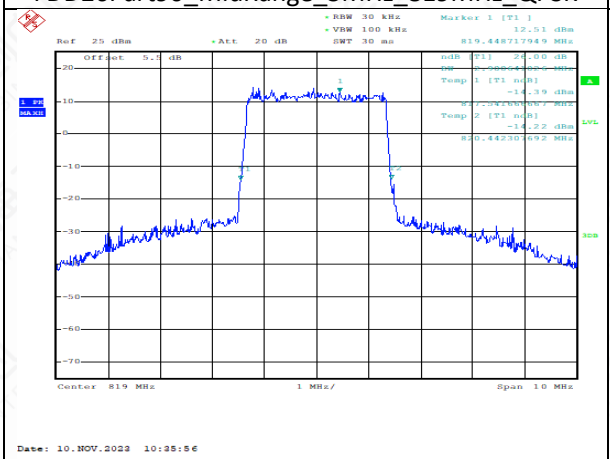
FDD26Part90_MidRange_1.4MHz_819MHz_QPSK



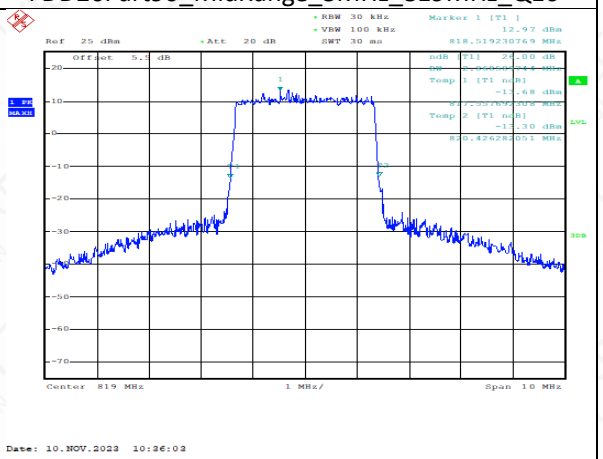

FDD26Part90_MidRange_1.4MHz_819MHz_Q16



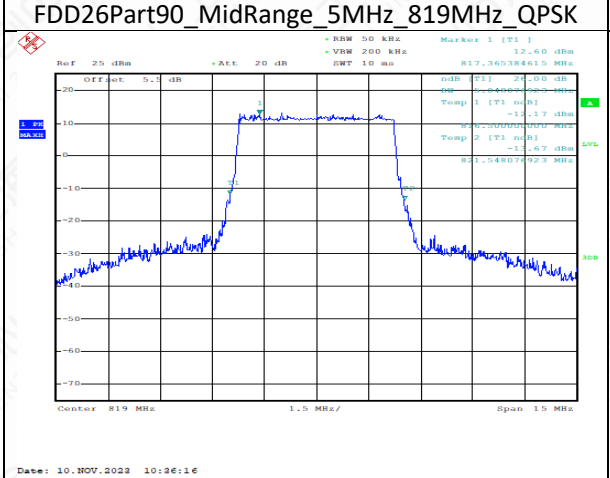

FDD26Part90_MidRange_3MHz_819MHz_QPSK



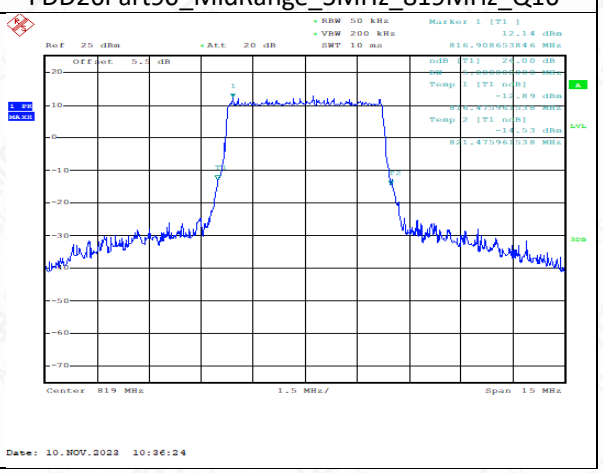

FDD26Part90_MidRange_3MHz_819MHz_Q16



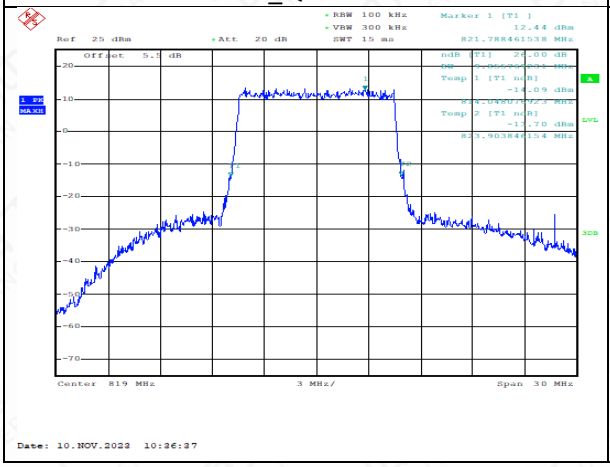

FDD26Part90_MidRange_5MHz_819MHz_QPSK



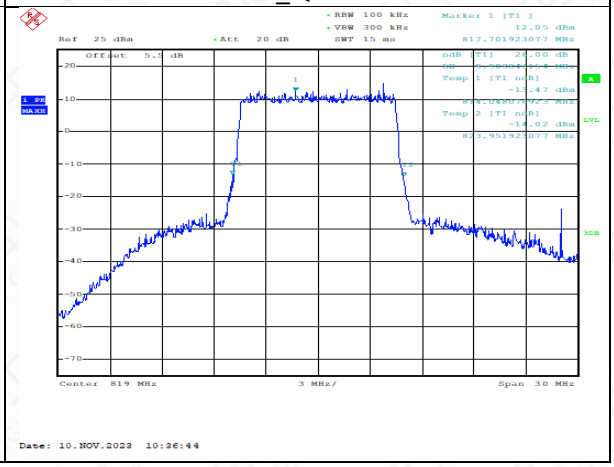

FDD26Part90_MidRange_5MHz_819MHz_Q16



FDD26Part90_MidRange_10MHz_819MHz_QPSK

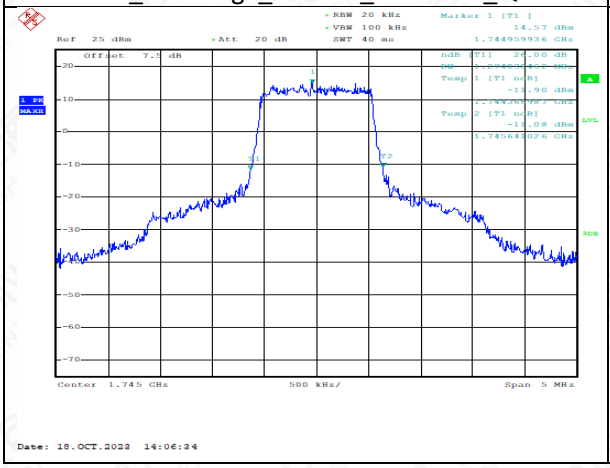



FDD26Part90_MidRange_10MHz_819MHz_Q16

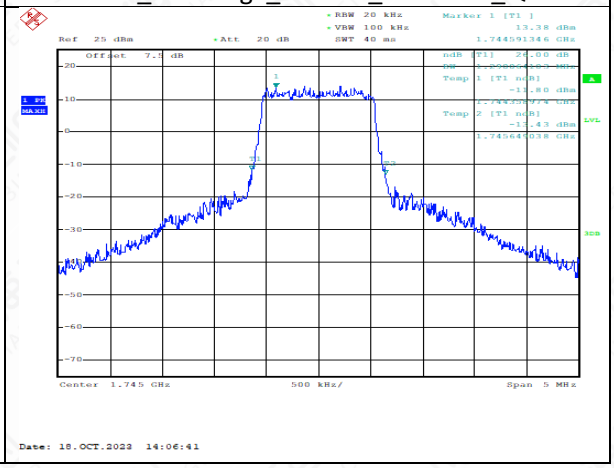



| Band | Range | BandWidth | Frequency(MHz) | QPSK(MHz) | Q16(MHz) |
|---|---|---|---|---|---|
| FDD66 | MidRange | 1.4 | 1745 | 1.27 | 1.29 |
| FDD66 | MidRange | 3 | 1745 | 2.90 | 2.87 |
| FDD66 | MidRange | 5 | 1745 | 5.00 | 4.95 |
| FDD66 | MidRange | 10 | 1745 | 9.86 | 9.81 |
| FDD66 | MidRange | 15 | 1745 | 14.71 | 14.78 |
| FDD66 | MidRange | 20 | 1745 | 19.23 | 19.42 |

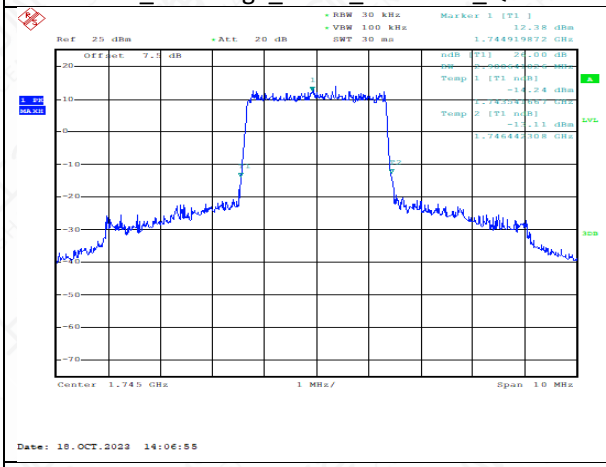
FDD66_MidRange_1.4MHz_1745MHz_QPSK



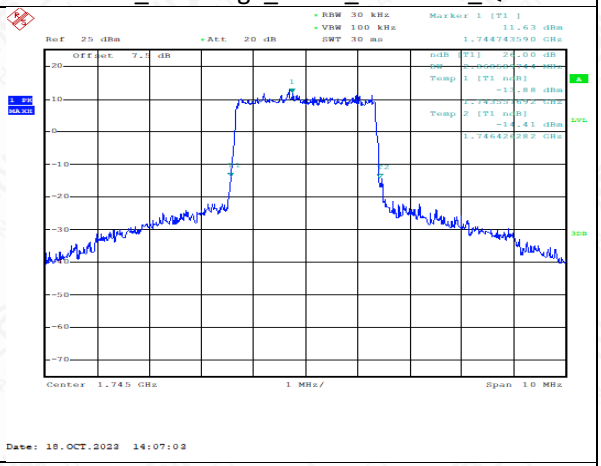

FDD66_MidRange_1.4MHz_1745MHz_Q16



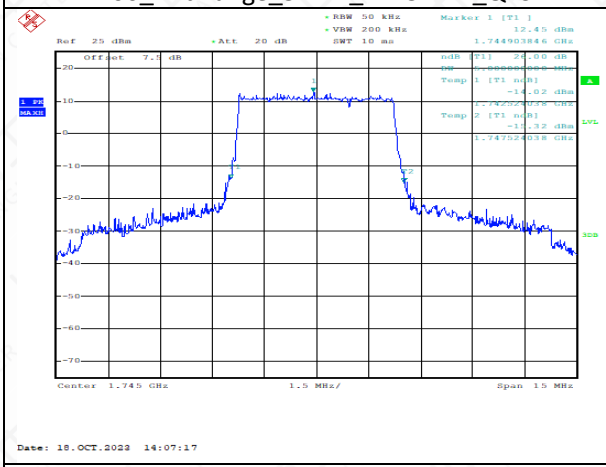
FDD66_MidRange_3MHz_1745MHz_QPSK



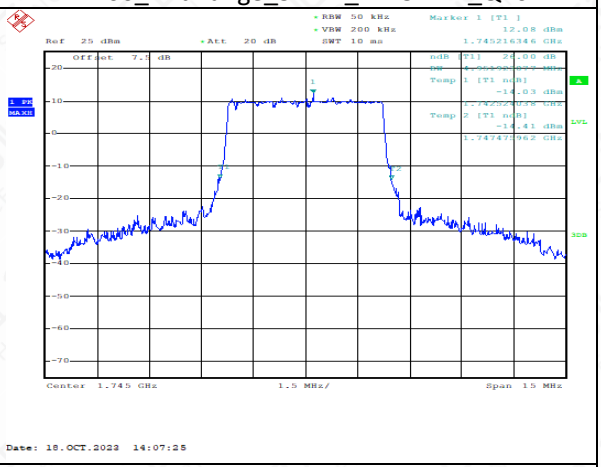

FDD66_MidRange_3MHz_1745MHz_Q16



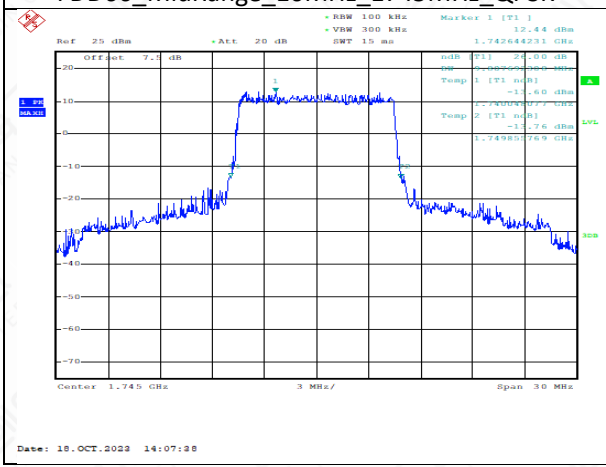

FDD66_MidRange_5MHz_1745MHz_QPSK



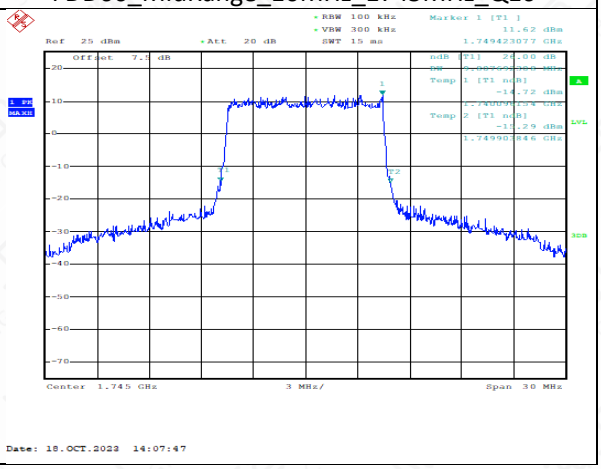

FDD66_MidRange_5MHz_1745MHz_Q16



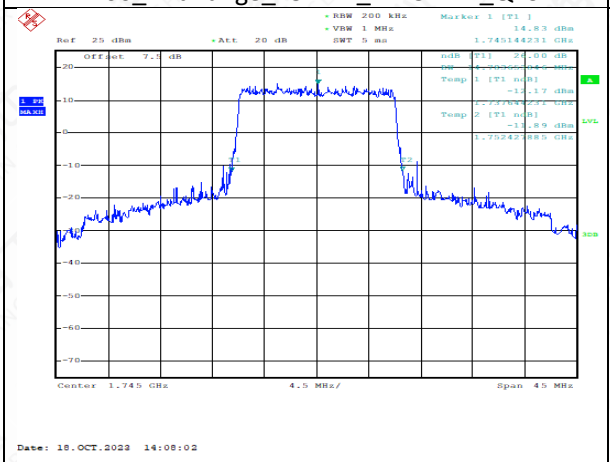

FDD66_MidRange_10MHz_1745MHz_QPSK



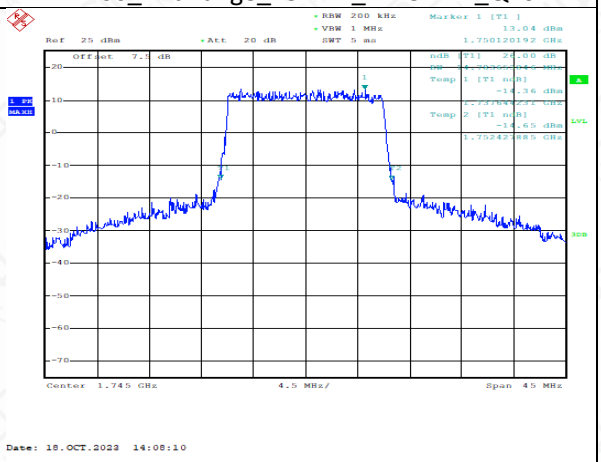

FDD66_MidRange_10MHz_1745MHz_Q16



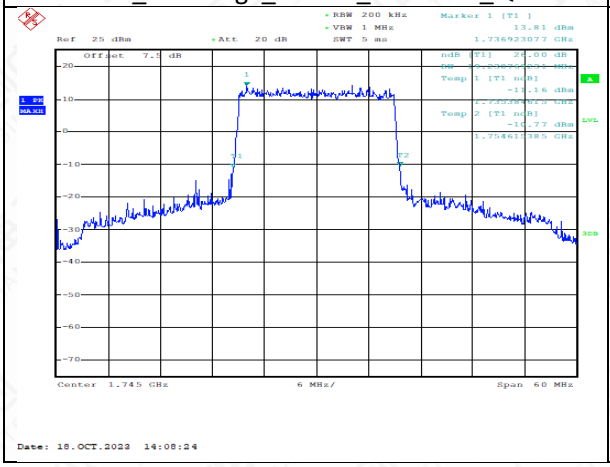
FDD66_MidRange_15MHz_1745MHz_QPSK



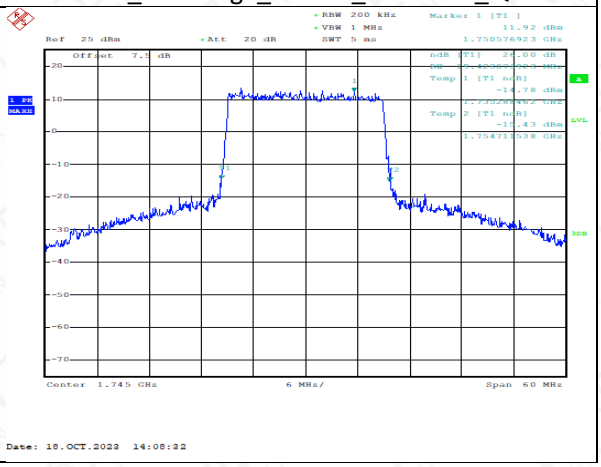

FDD66_MidRange_15MHz_1745MHz_Q16




FDD66_MidRange_20MHz_1745MHz_QPSK




FDD66_MidRange_20MHz_1745MHz_Q16



## 6.6 Band Edge Compliance

**Reference**

CFR Part 27.53(g)/22.917/24.238(a)/27.53(h)/90.669

RSS-130 4.7/RSS-132 5.5/RSS-133 6.5/RSS-139 5.6

**6.6.1 Summary**

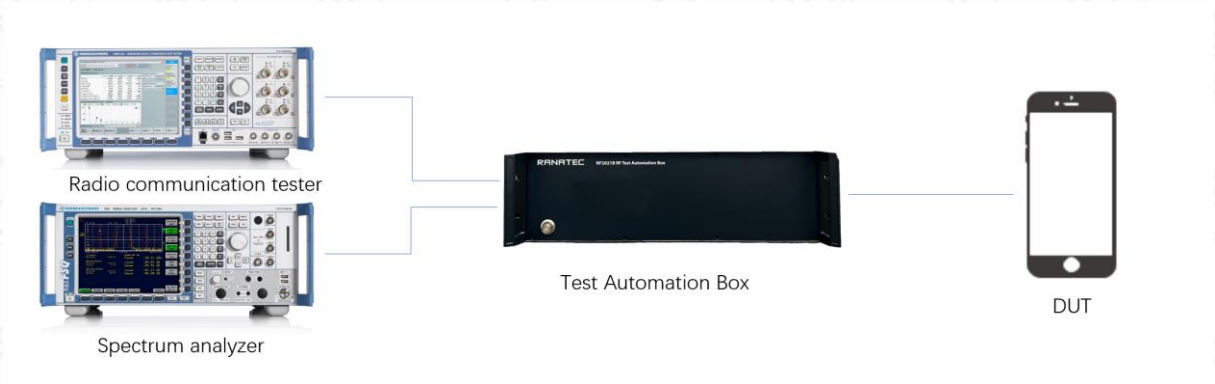
22.917 Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
24.238 (a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
27.53(g) For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. 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) (1) General protection levels. Except as otherwise specified below, for operations in the 1710–1755 MHz, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.
90.669 (a) On any frequency in an MTA licensee's spectrum block that is adjacent to a non-MTA frequency, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 plus 10 log10(P) decibels or 80 decibels, whichever is the lesser attenuation.
RSS-130 4.7 The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.
RSS-132 5.5 Equipment shall meet the unwanted emission limits specified below:
In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB.
After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.
RSS-133 6.5 Equipment shall comply with the limits in (i) and (ii) below.
In the 1.0 MHz bands immediately outside and adjacent to the equipment’s operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts).
After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.
RSS-139 5.6 The limit is -13 dBm/(1% of OB*) when the edge offset from the block or group of blocks is 1MHz, and -13 dBm/MHz when the edge offset is greater than 1MHz.

RSS-139 5.6 The limit is -13 dBm/(1% of OB*) when the edge offset from the block or group of blocks is 1MHz, and -13 dBm/MHz when the edge offset is greater than 1MHz.

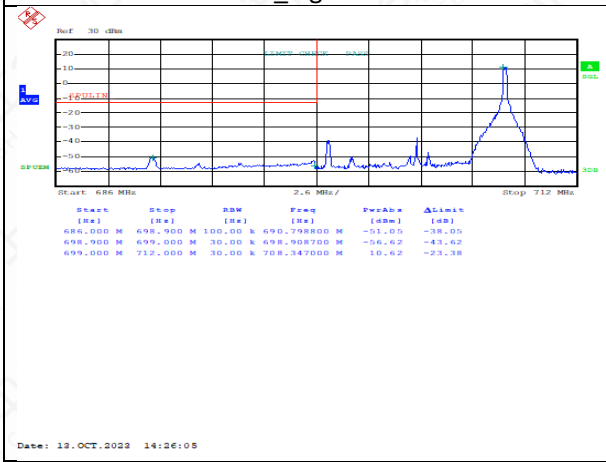
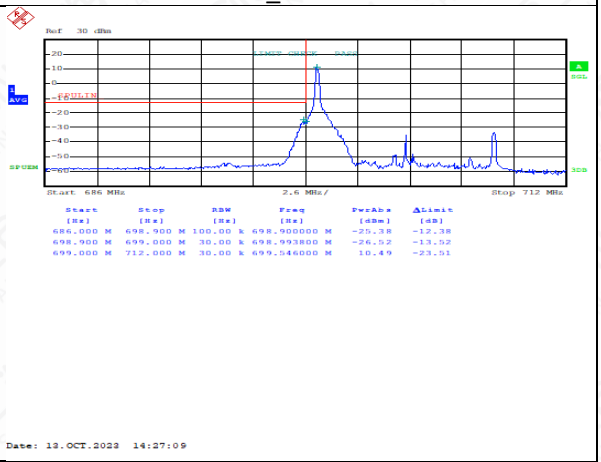
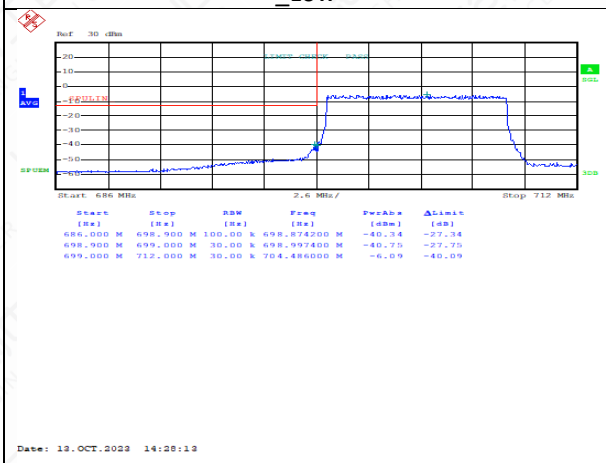
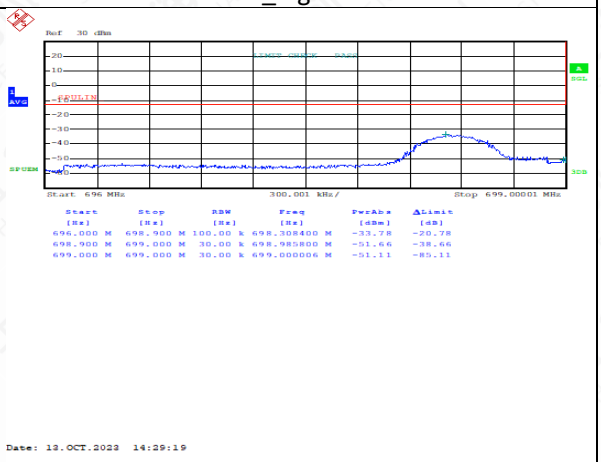
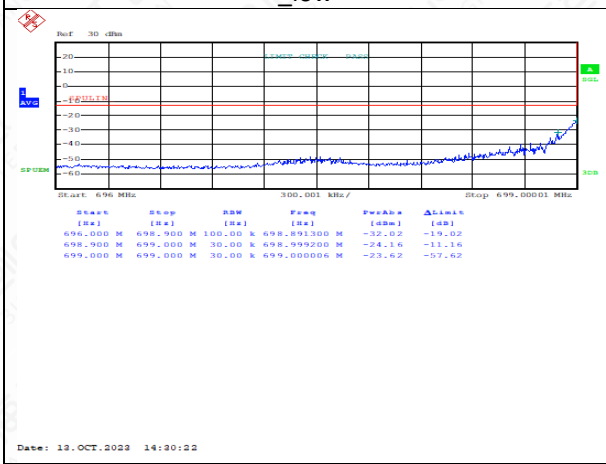
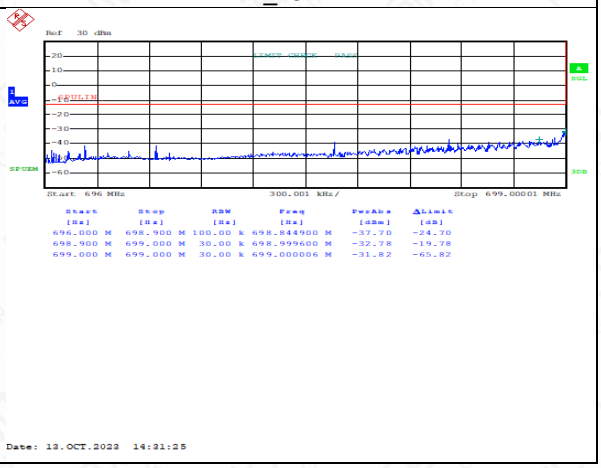
**6.6.2 Method of Measurement**

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6.0
The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser.the other end of which was connected to a Base Station Simulator, The Base Station Simulator was set toforce the EUT to its maximum power setting. The tests were performed at two freguencies (low channel andhigh channel).in the 1MHz bands immediately outside and adiacent to the frequency block a resolutionbandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may beemployed. The EUT emission bandwidth is measured as the width of the sicnal between two points. outsideof which al emission are attenuated at east 26dB below the transm itter power The viceo banowioth of thespectrum analvzer was set at thrice the resolution bandwidth. Detector Mode was set to rms.

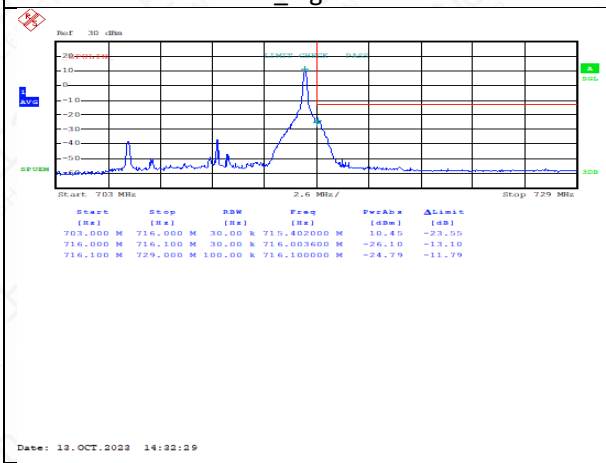
**6.6.3 Test Setup**



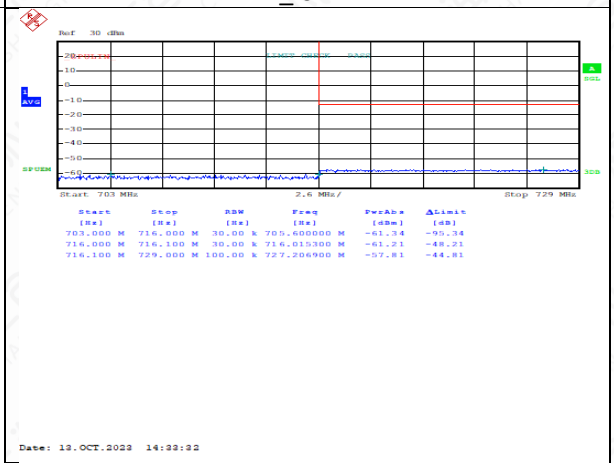
### 6.6.4 Measurement result

| | |
|---|---|
| FDD12LowRange_10MHz_QPSK_OneRB_high | FDD12LowRange_10MHz_QPSK_OneRB_low |
|  |  |
| FDD12LowRange_10MHz_QPSK_FullRB_Low | FDD12LowRange_1.4MHz_QPSK_OneRB_high |
|  |  |
| FDD12LowRange_1.4MHz_QPSK_OneRB_low | FDD12LowRange_1.4MHz_QPSK_FullRB_Low |
|  |  |

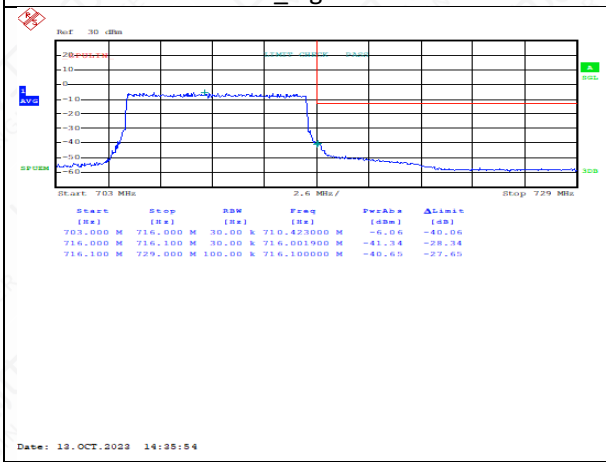
FDD12HighRange_10MHz_QPSK_OneRB_high



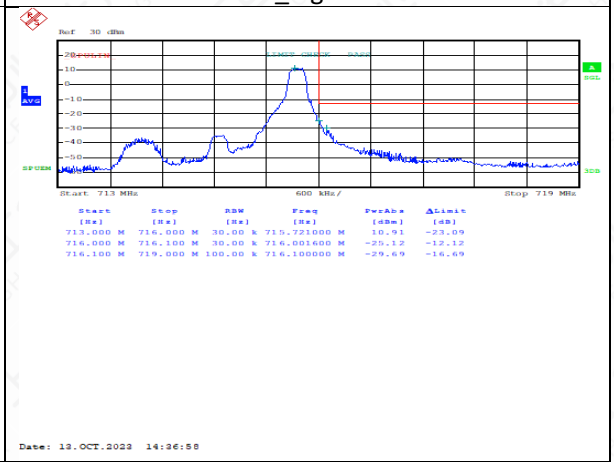

FDD12HighRange_10MHz_QPSK_OneRB_low



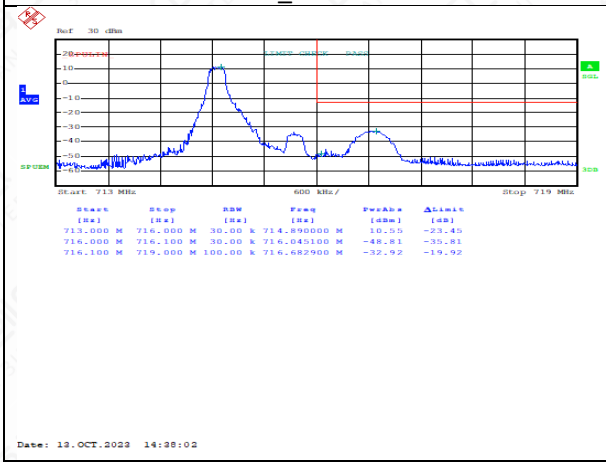

FDD12HighRange_10MHz_QPSK_FullRB_high



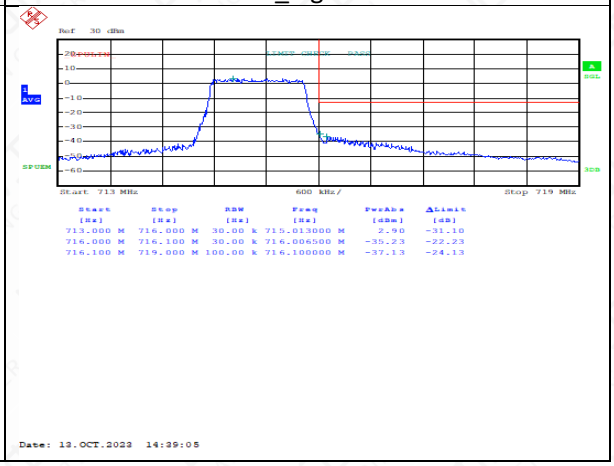

FDD12HighRange_1.4MHz_QPSK_OneRB_high



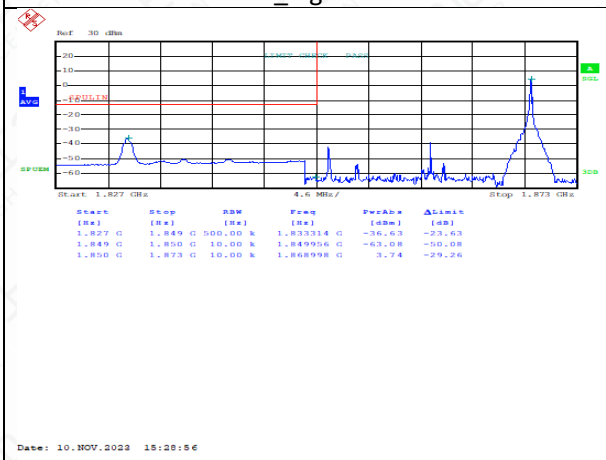

FDD12HighRange_1.4MHz_QPSK_OneRB_low



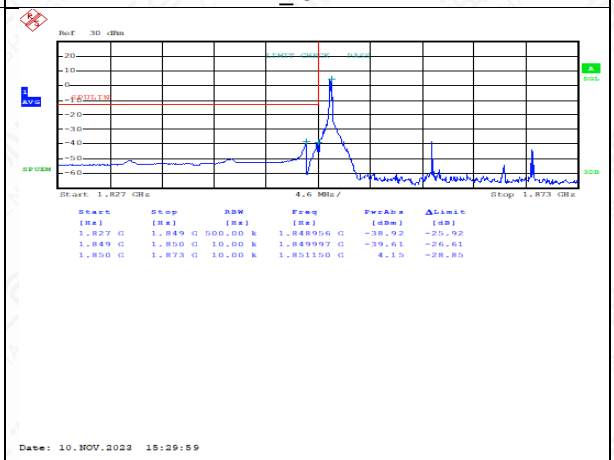

FDD12HighRange_1.4MHz_QPSK_FullRB_high



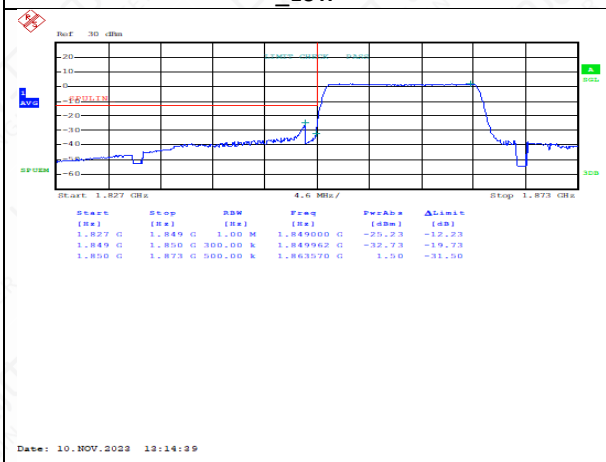
FDD25LowRange_20MHz_QPSK_OneRB_high



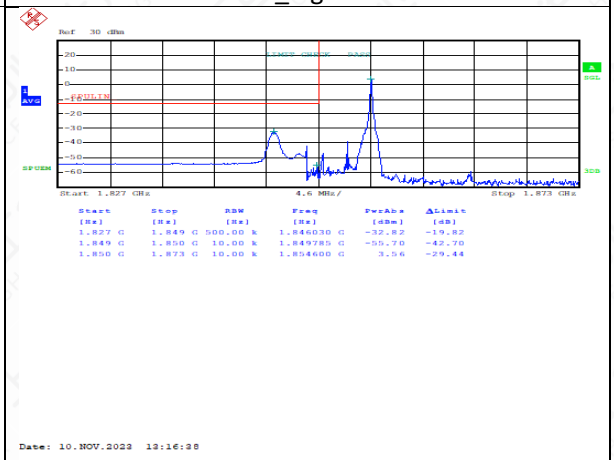

FDD25LowRange_20MHz_QPSK_OneRB_low



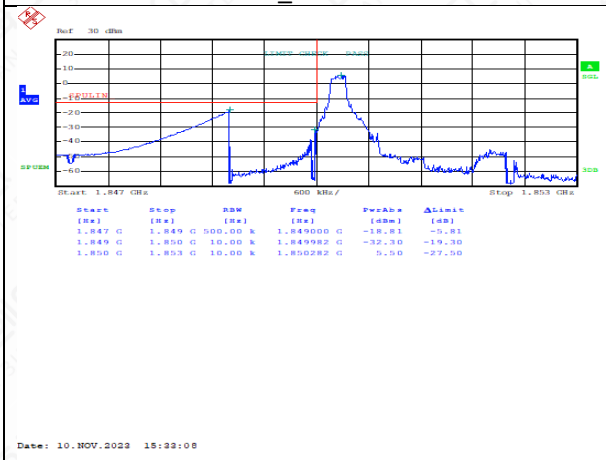

FDD25LowRange_20MHz_QPSK_FullRB_Low



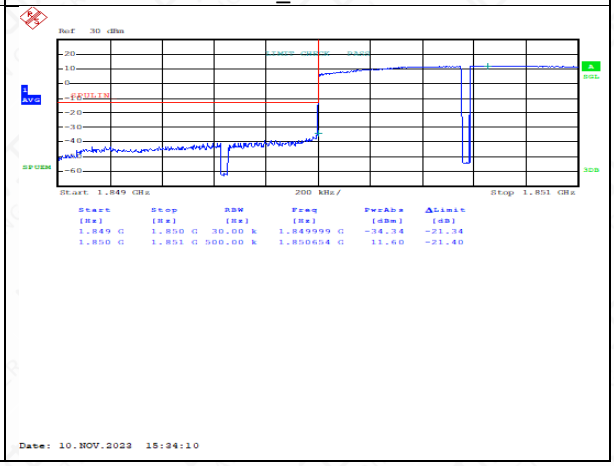

FDD25LowRange_1.4MHz_QPSK_OneRB_high

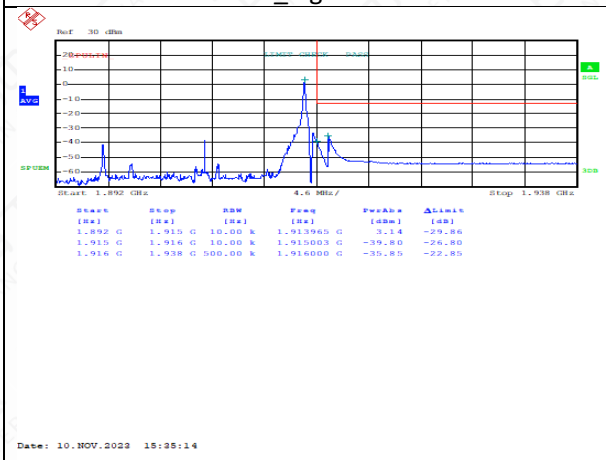
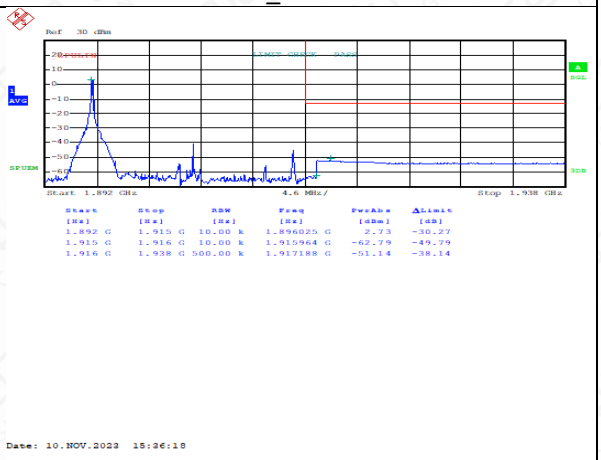
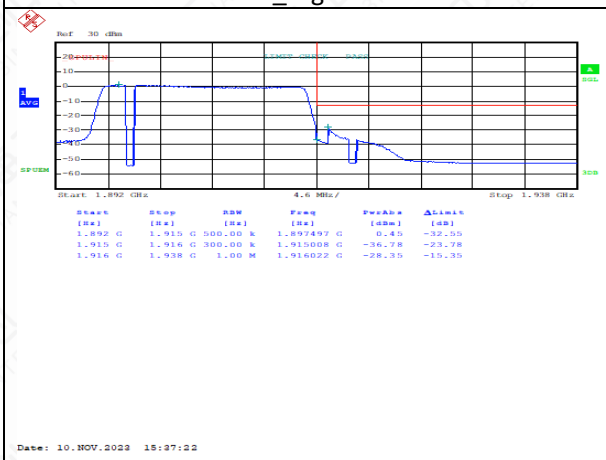
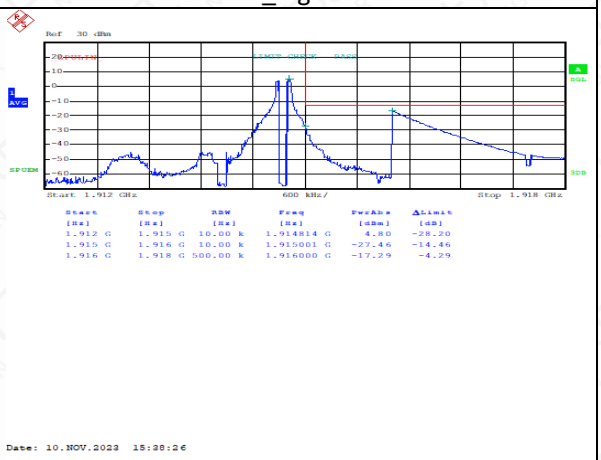
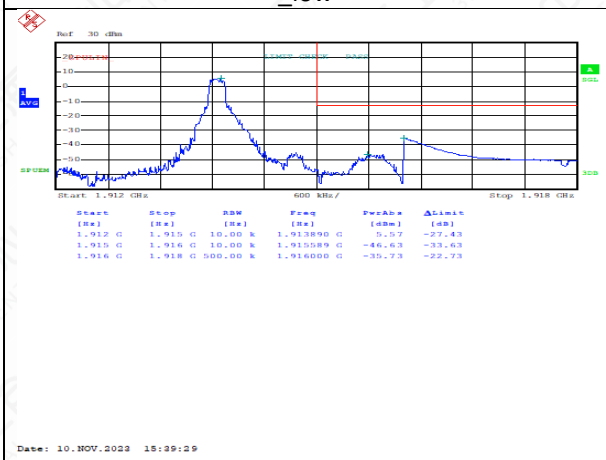
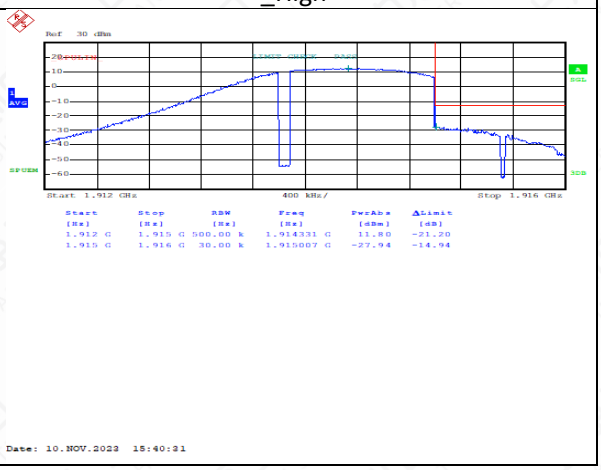


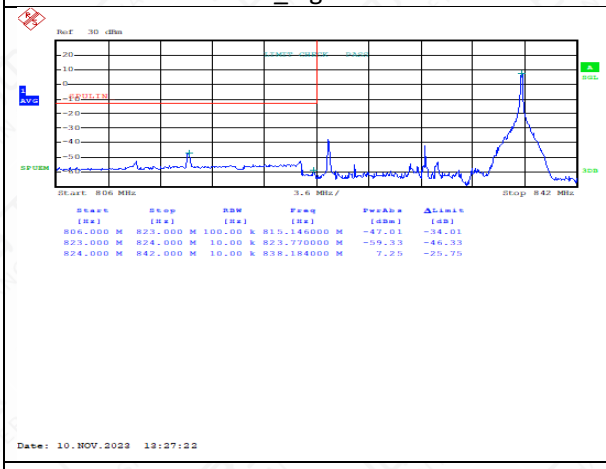
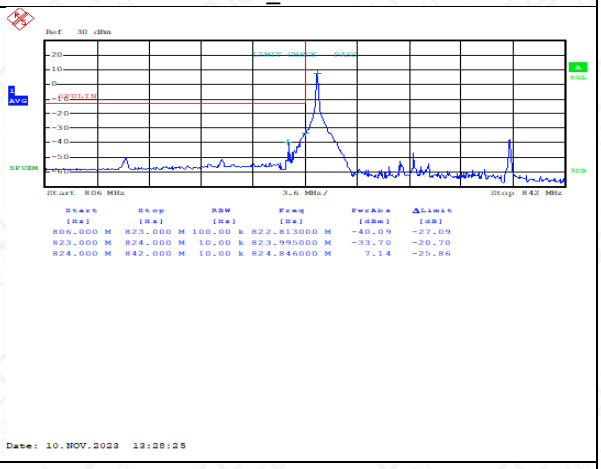
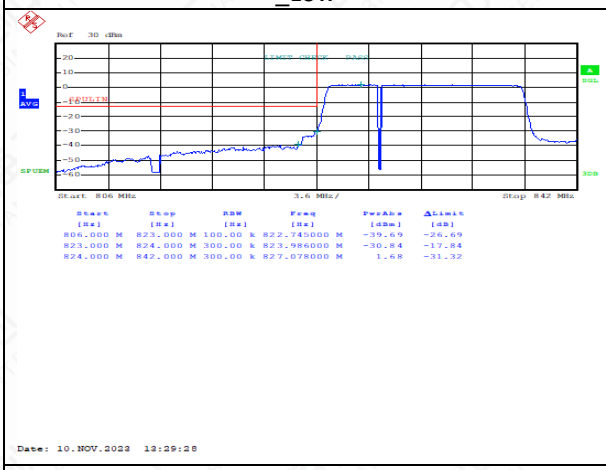
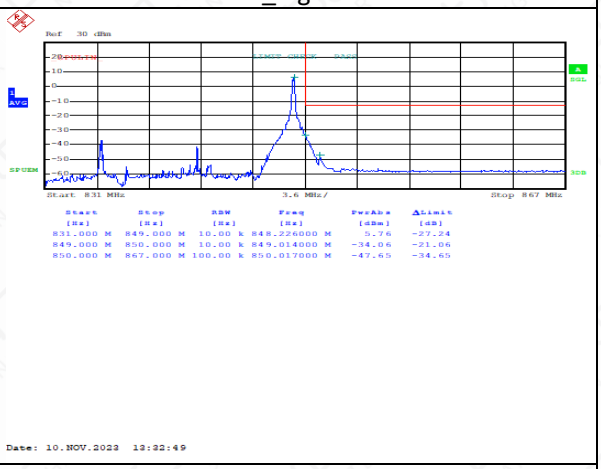
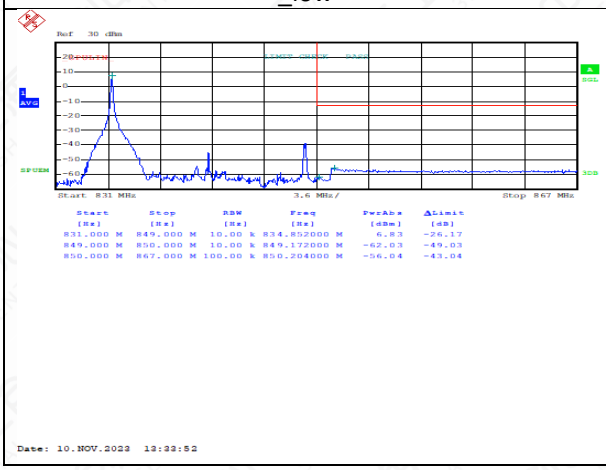
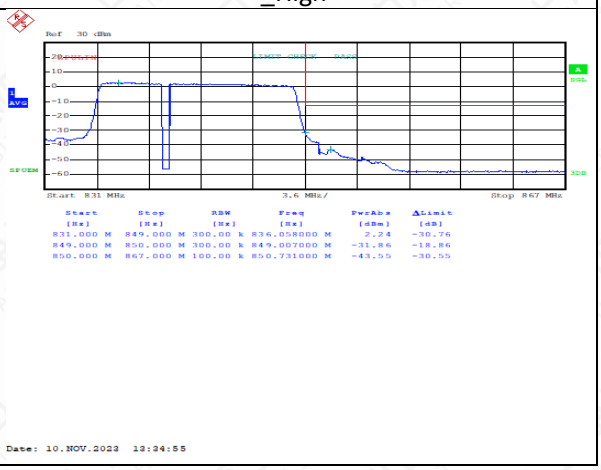

FDD25LowRange_1.4MHz_QPSK_OneRB_low



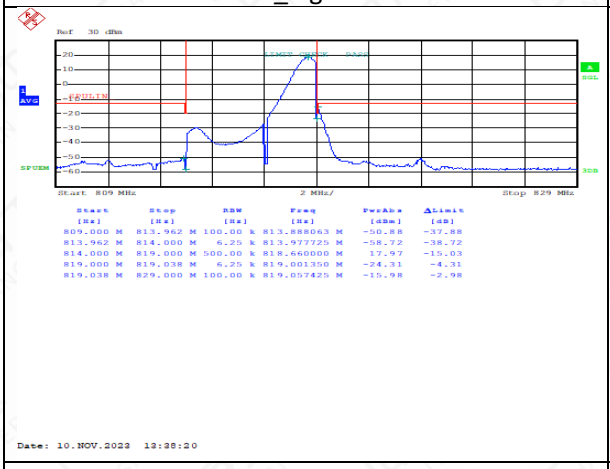

FDD25LowRange_1.4MHz_QPSK_FullRB_Low



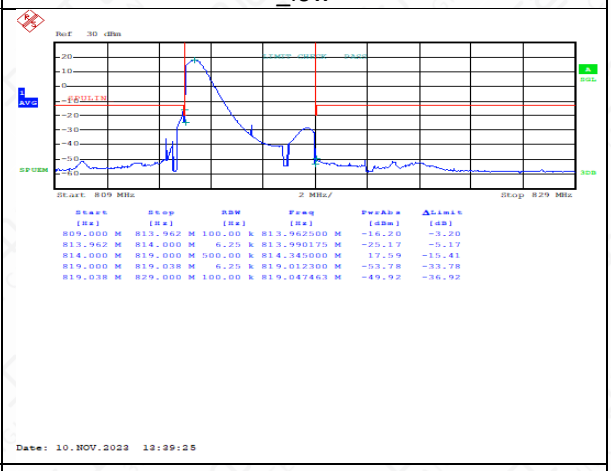
| | |
|---|---|
| FDD25HighRange_20MHz_QPSK_OneRB_high | FDD25HighRange_20MHz_QPSK_OneRB_low |
|  |  |
| FDD25HighRange_20MHz_QPSK_FullRB_High | FDD25HighRange_1.4MHz_QPSK_OneRB_high |
|  |  |
| FDD25HighRange_1.4MHz_QPSK_OneRB_low | FDD25HighRange_1.4MHz_QPSK_FullRB_High |
|  |  |

| FDD26Part22LowRange_15MHz_QPSK_OneRB_high | FDD26Part22LowRange_15MHz_QPSK_OneRB_low |
|---|---|
|  |  |
| FDD26Part22LowRange_15MHz_QPSK_FullRB_Low | FDD26Part22HighRange_15MHz_QPSK_OneRB_high |
|  |  |
| FDD26Part22HighRange_15MHz_QPSK_OneRB_low | FDD26Part22HighRange_15MHz_QPSK_FullRB_High |
|  |  |

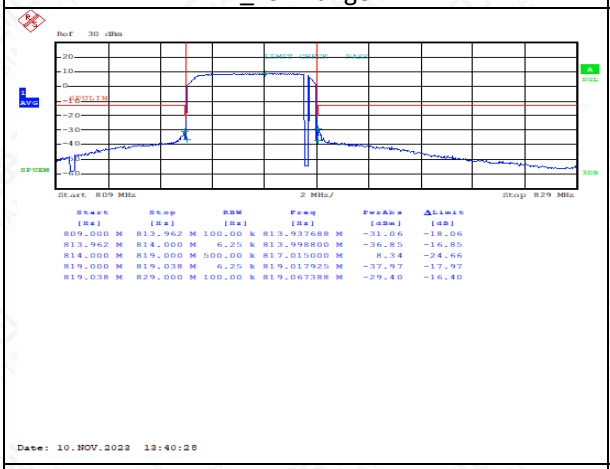
FDD26Part90LowRange_5MHz_QPSK_OneRB_high



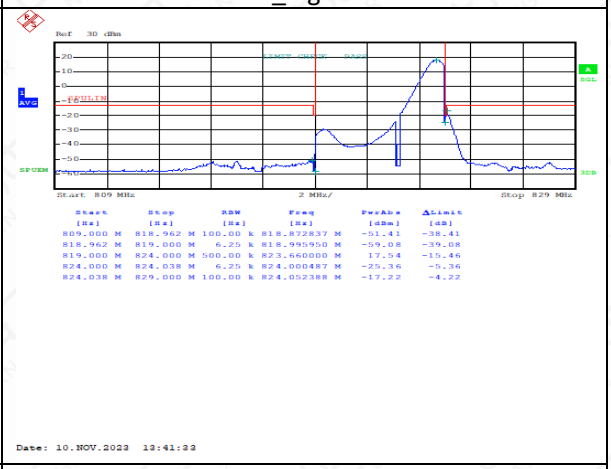

FDD26Part90LowRange_5MHz_QPSK_OneRB_low



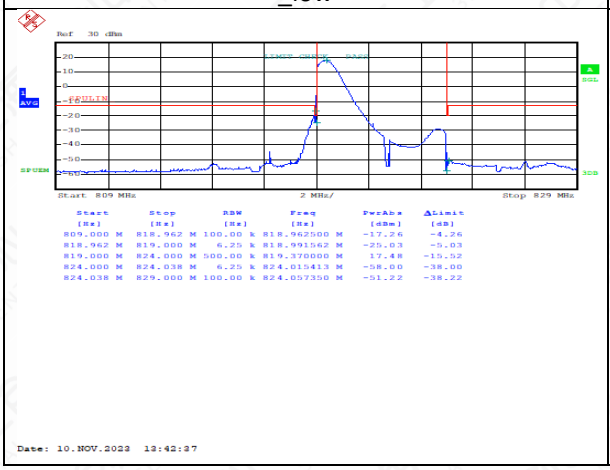

FDD26Part90LowRange_5MHz_QPSK_FullRB_LowRange



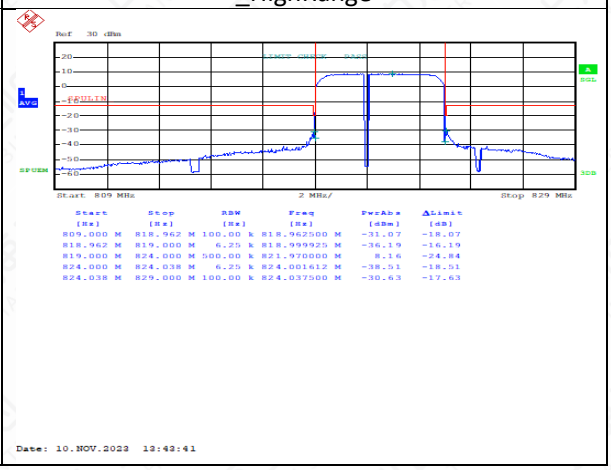

FDD26Part90HighRange_5MHz_QPSK_OneRB_high



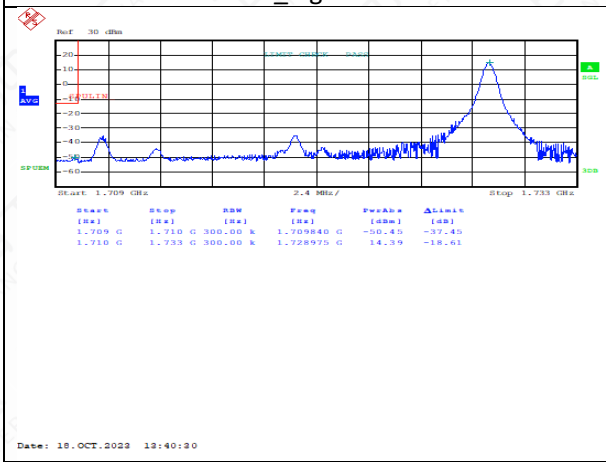

FDD26Part90HighRange_5MHz_QPSK_OneRB_low



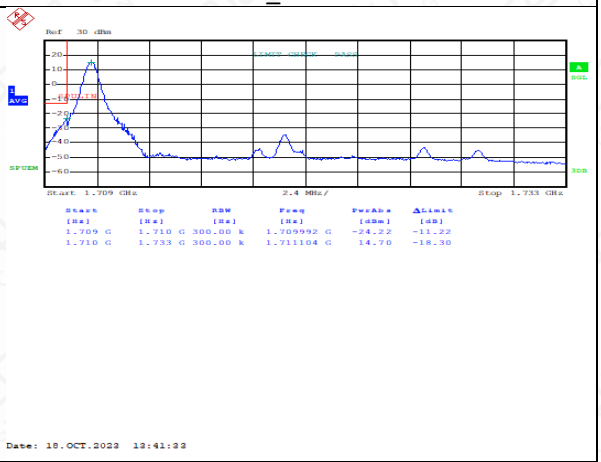

FDD26Part90HighRange_5MHz_QPSK_FullRB_HighRange



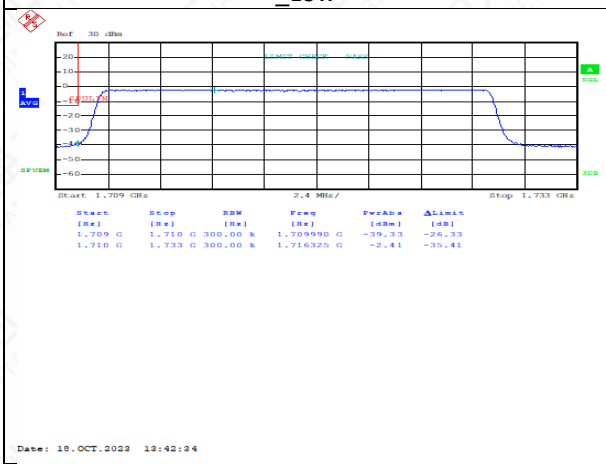
FDD66LowRange_20MHz_QPSK_OneRB_high



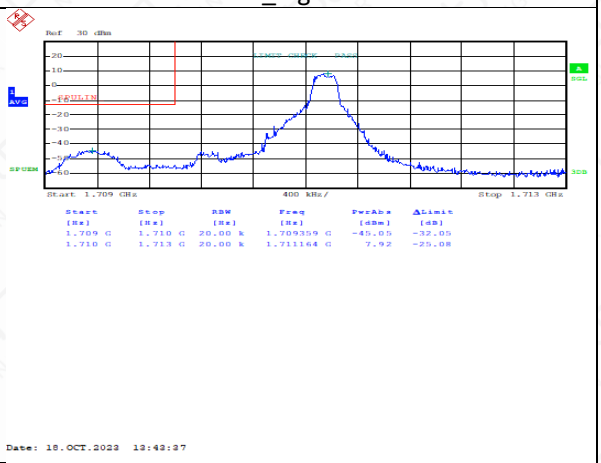

FDD66LowRange_20MHz_QPSK_OneRB_low



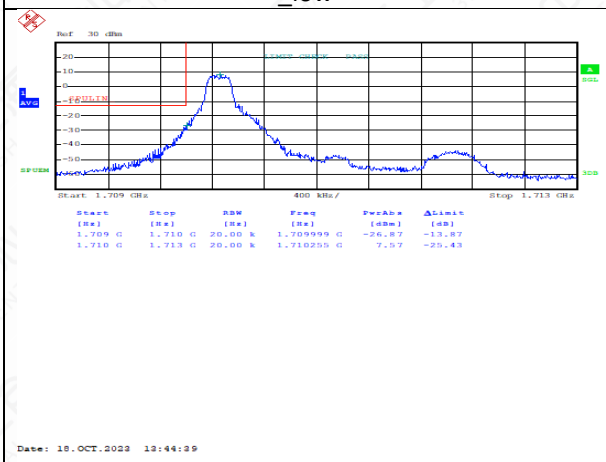

FDD66LowRange_20MHz_QPSK_FullRB_Low



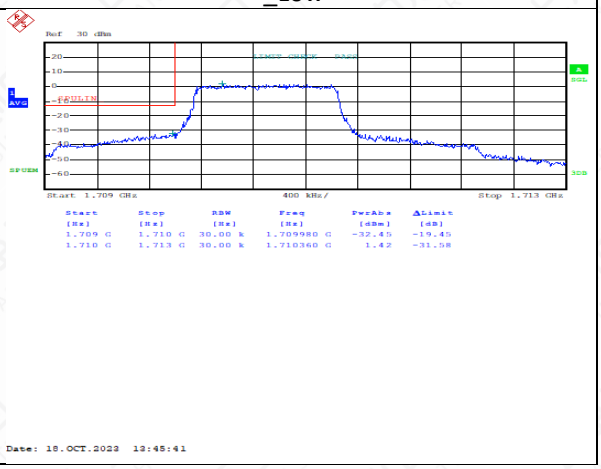

FDD66LowRange_1.4MHz_QPSK_OneRB_high



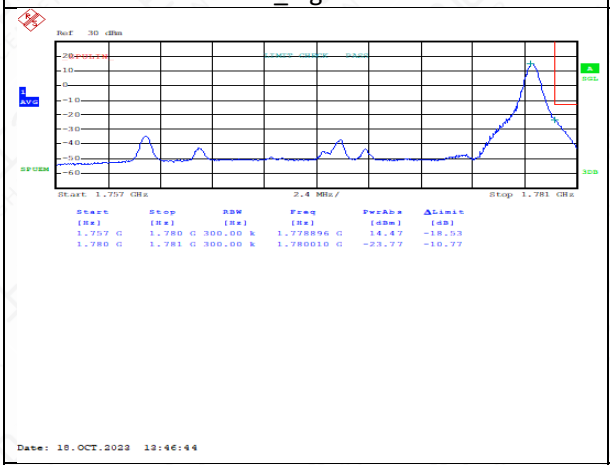

FDD66LowRange_1.4MHz_QPSK_OneRB_low



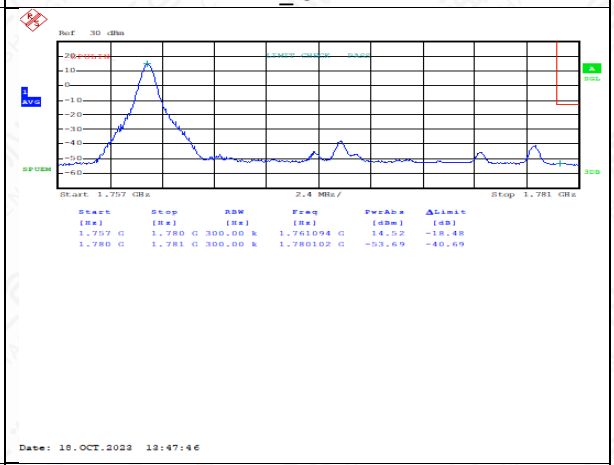

FDD66LowRange_1.4MHz_QPSK_FullRB_Low



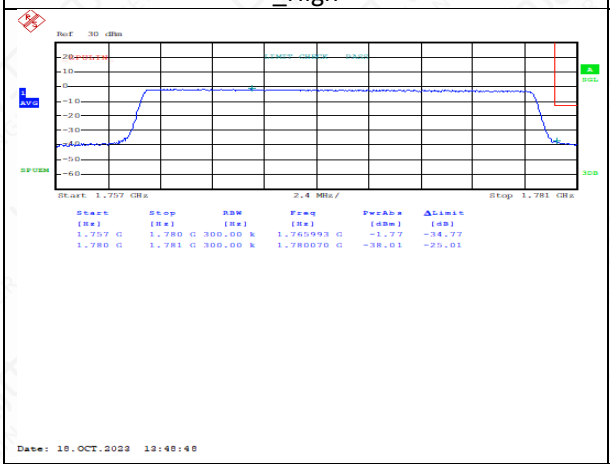
FDD66HighRange_20MHz_QPSK_OneRB_high



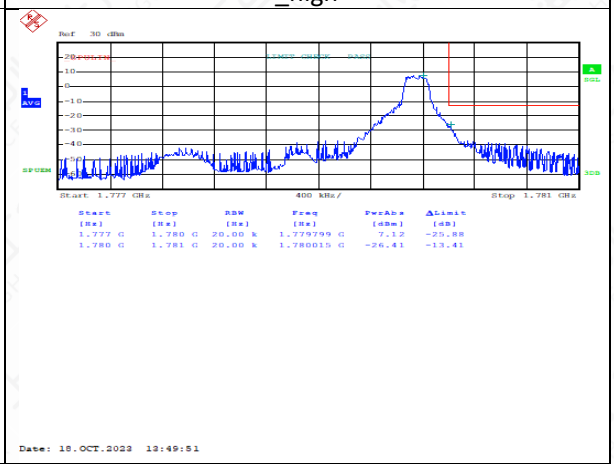

FDD66HighRange_20MHz_QPSK_OneRB_low



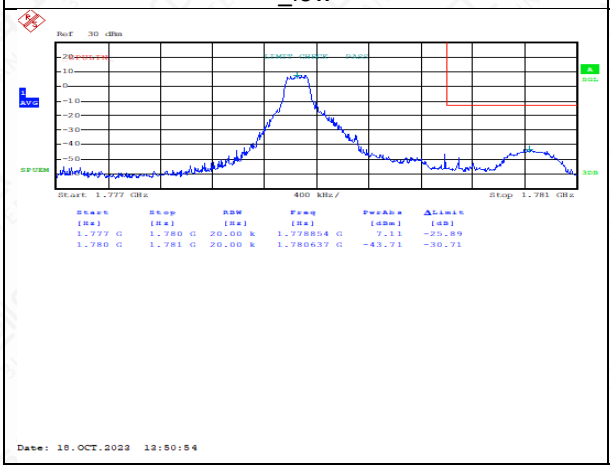

FDD66HighRange_20MHz_QPSK_FullRB_High



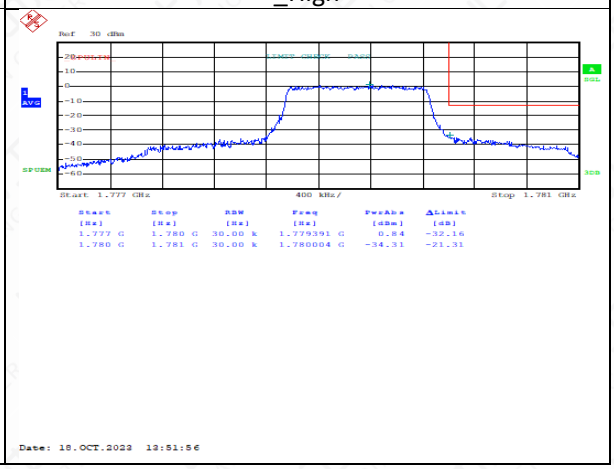

FDD66HighRange_1.4MHz_QPSK_OneRB_high




FDD66HighRange_1.4MHz_QPSK_OneRB_low




FDD66HighRange_1.4MHz_QPSK_FullRB_High



## 6.7 Conducted Spurious Emission

**Reference**

FR Part 2.1057/27.53(g)/22.917/24.238(a)/27.53(h)/90.669

RSS-130 4.7/RSS-132 5.5/RSS-133 6.5/RSS-139 5.6

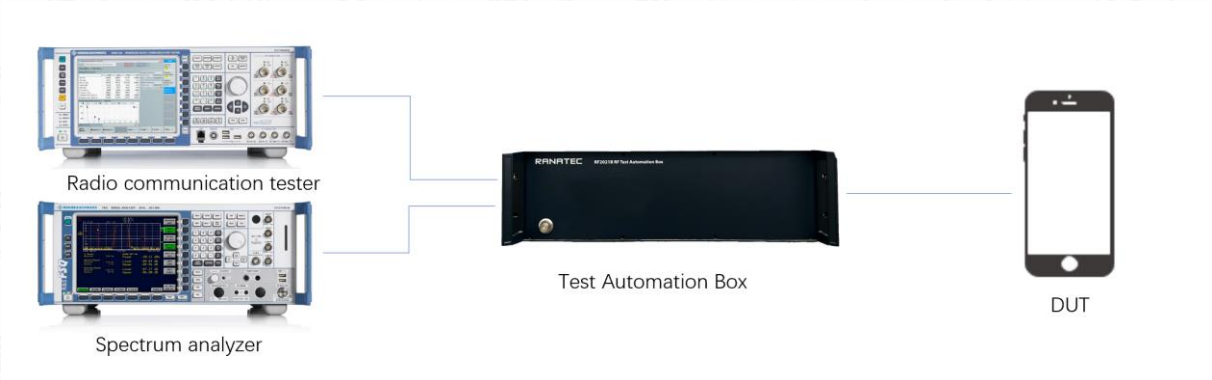
### 6.7.1 Summary

22.917 Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
24.238 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
27.53(g) For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. 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) (1) General protection levels. Except as otherwise specified below, for operations in the 1710–1755 MHz, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.
90.669 (a) On any frequency in an MTA licensee's spectrum block that is adjacent to a non-MTA frequency, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 plus 10 log10(P) decibels or 80 decibels, whichever is the lesser attenuation.
RSS-130 4.7 The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.
RSS-132 5.5 Equipment shall meet the unwanted emission limits specified below:
In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB.
After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.
RSS-133 6.5 Equipment shall comply with the limits in (i) and (ii) below.
In the 1.0 MHz bands immediately outside and adjacent to the equipment’s operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts).
After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.
RSS-139 5.6 The limit is -13 dBm/(1% of OB*) when the edge offset from the block or group of blocks is 1MHz, and -13 dBm/MHz when the edge offset is greater than 1MHz.

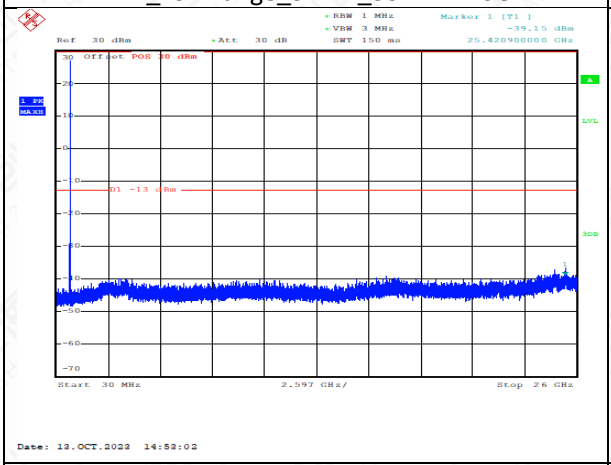
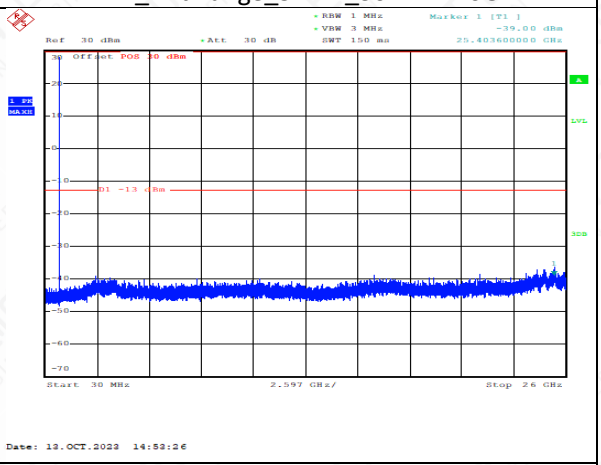
### 6.7.2 Method of Measurement

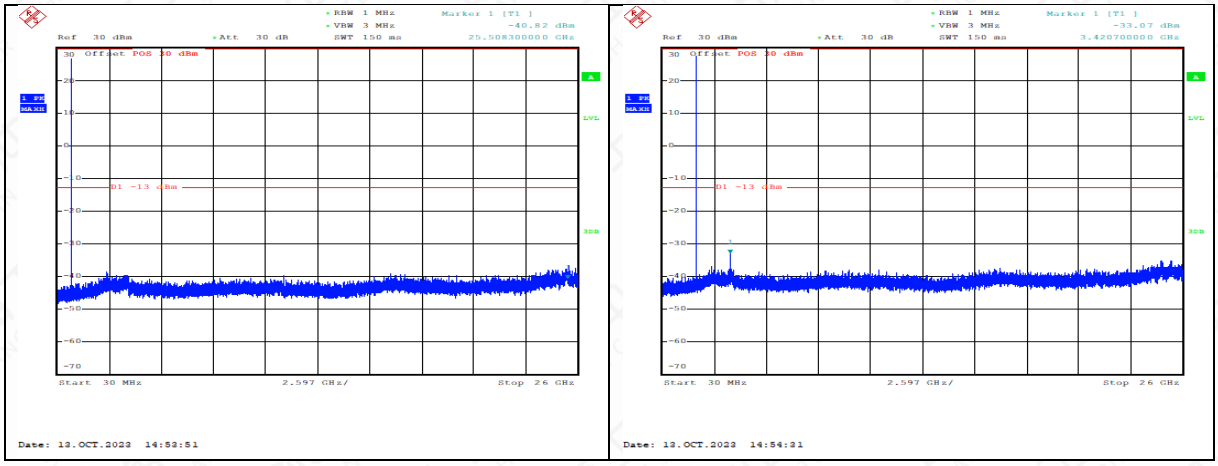
The following steps outline the procedure used to measure the conducted emissions from the EUT.
1.Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the mobile station equipment tested, this equates to a frequency range of 13 MHz to 9 GHz, data taken from 10 MHz to 25 GHz.
2.Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
3.The number of sweep points of spectrum analyzer is set to 30001 which is greater than span/RBW.

### 6.7.3 Test Setup

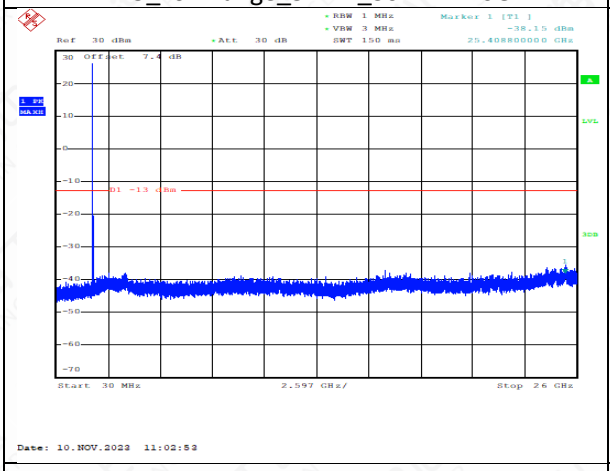



### 6.7.4 Measurement result

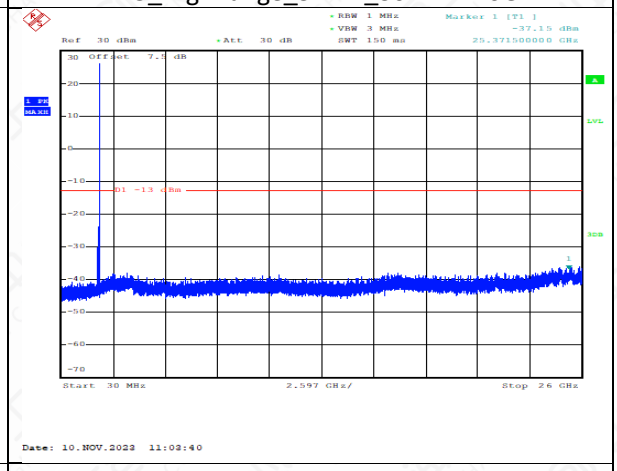
| FDD12_LowRange_5MHz_30MHz~26GHz | FDD12_MidRange_5MHz_30MHz~26GHz |
|---|---|
|  |  |
| FDD12_HighRange_5MHz_30MHz~26GHz | FDD66_LowRange_5MHz_30MHz~26GHz |


RBW 1 MHz
VBW 3 MHz
SWT 150 ms
Marker 1 [T1 ]
-40.82 dBm
25.508300000 GHz
Ref 30 dBm
Att 30 dB
Offset POS 30 dBm
D1 -13 dBm
Start 30 MHz
2.597 GHz/
Stop 26 GHz
Date: 13.OCT.2023 14:53:51
RBW 1 MHz
VBW 3 MHz
SWT 150 ms
Marker 1 [T1 ]
-33.07 dBm
3.420700000 GHz
Ref 30 dBm
Att 30 dB
Offset POS 30 dBm
D1 -13 dBm
Start 30 MHz
2.597 GHz/
Stop 26 GHz
Date: 13.OCT.2023 14:54:31

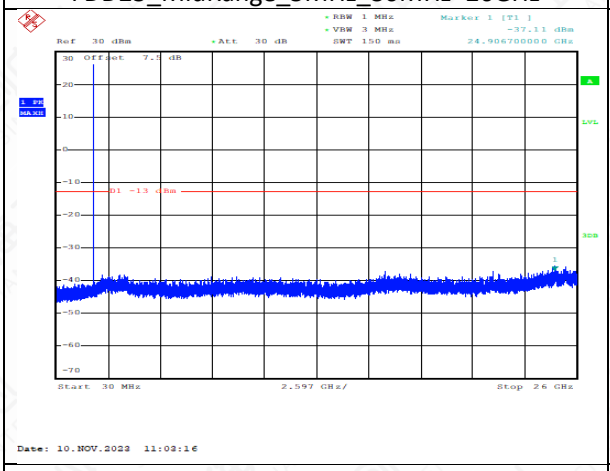
FDD25_LowRange_5MHz_30MHz~26GHz



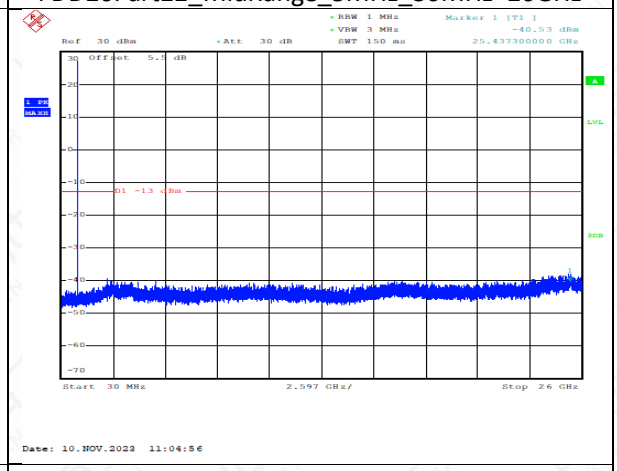

FDD25_HighRange_5MHz_30MHz~26GHz



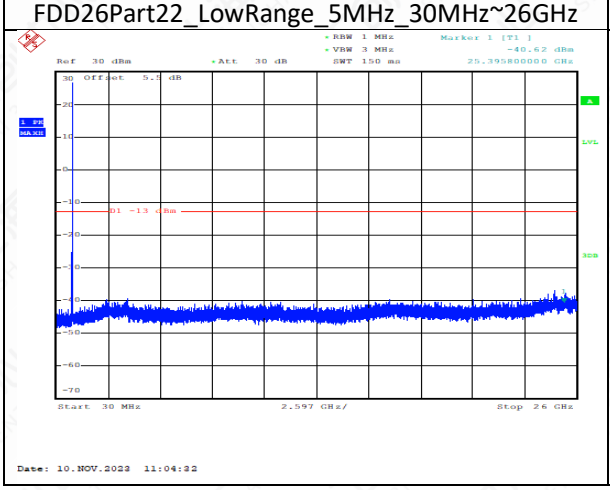

FDD25_MidRange_5MHz_30MHz~26GHz



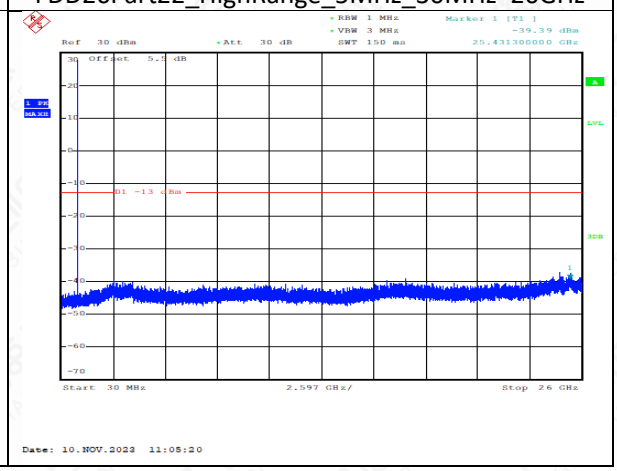

FDD26Part22_MidRange_5MHz_30MHz~26GHz

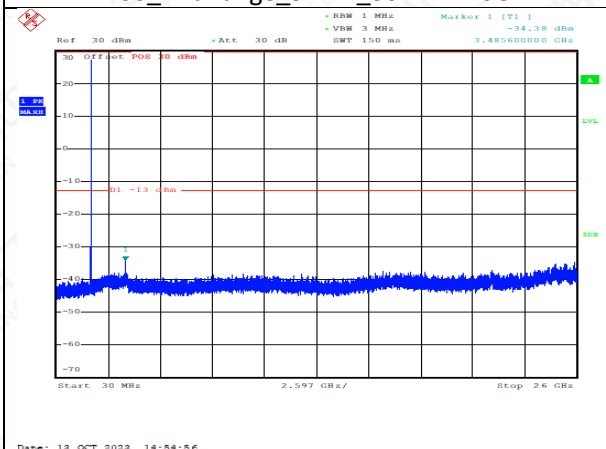
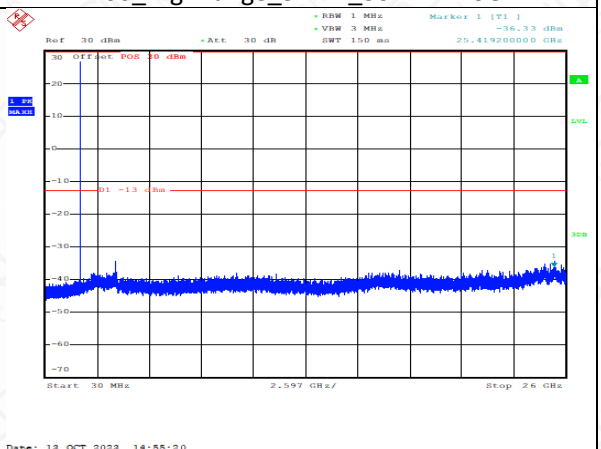
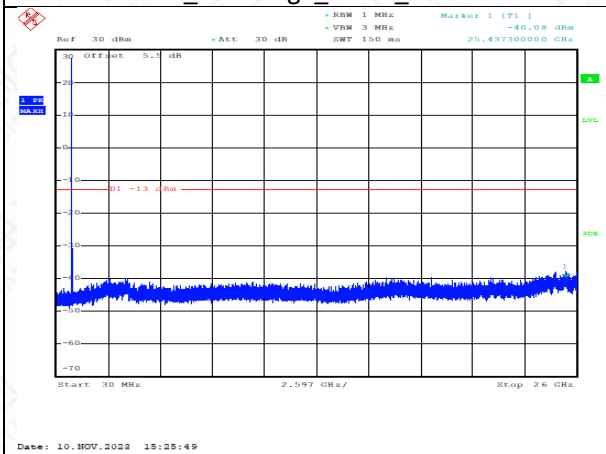
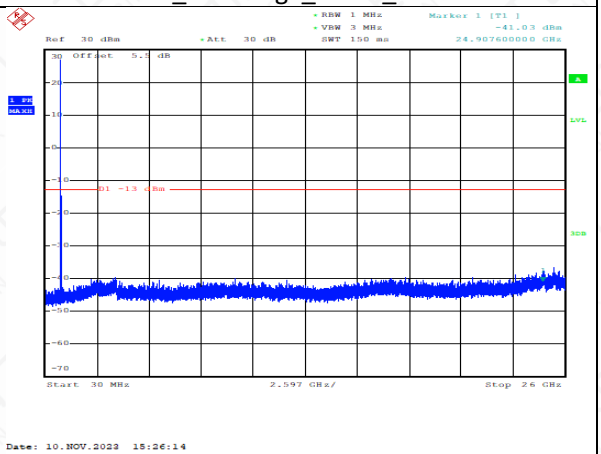
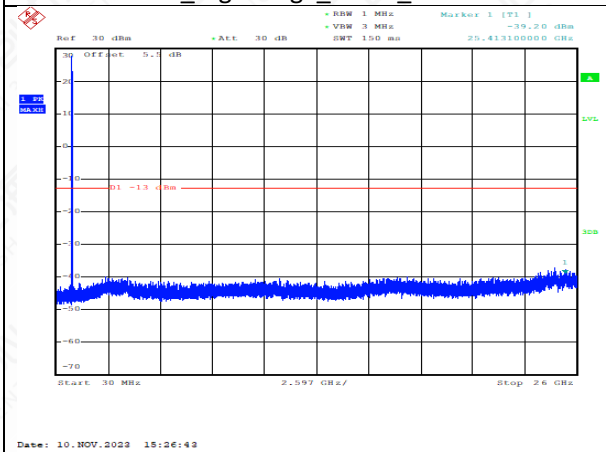



FDD26Part22_LowRange_5MHz_30MHz~26GHz




FDD26Part22_HighRange_5MHz_30MHz~26GHz



| | |
|---|---|
| FDD66_MidRange_5MHz_30MHz~26GHz | FDD66_HighRange_5MHz_30MHz~26GHz |
|  |  |
| FDD26Part90_LowRange_5MHz_30MHz~26GHz | FDD26Part90_MidRange_5MHz_30MHz~26GHz |
|  |  |
| FDD26Part90_HighRange_5MHz_30MHz~26GHz | / |
|  | / |

## 6.8 Peak-To-Average Power Ratio

**Reference**

CFR Part 22.913(d)/24.232(d)/27.50
RSS 130 4.6/RSS-132 5.4/ RSS-133 6.4/ RSS-139 5.5

**6.8.1 Summary**

CFR Part 22.913(d)/24.232(d)/27.50/ RSS-133 6.4/RSS 130 4.6/ RSS-139 5.5 :The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB

**6.8.2 Method of Measurement**

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.
According to KDB 971168 5.7:
a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
c) Set the number of counts to a value that stabilizes the measured CCDF curve;
d) Set the measurement interval to 1 ms
e) Record the maximum PAPR level associated with a probability of 0.1%

**6.8.3 Test Setup**


**6.8.4 Measurement results**

| Band | Range | BandWidth | RbMode | QPSK(dBm) | Q16(dBm) |
|---|---|---|---|---|---|
| FDD12 | LowRange | 10 | fullRB | 5.71 | 6.47 |
| FDD12 | MidRange | 10 | fullRB | 5.74 | 6.44 |
| FDD12 | HighRange | 10 | fullRB | 5.64 | 6.38 |
| FDD25 | LowRange | 20 | fullRB | 5.03 | 6.28 |

| Band | Range | BandWidth | RbMode | QPSK(dBm) | Q16(dBm) |
|---|---|---|---|---|---|
| FDD25 | MidRange | 20 | fullRB | 8.30 | 6.22 |
| FDD25 | HighRange | 20 | fullRB | 4.97 | 9.71 |
| FDD26Part22 | LowRange | 15 | fullRB | 4.52 | 5.71 |
| FDD26Part22 | MidRange | 15 | fullRB | 4.52 | 5.74 |
| FDD26Part22 | HighRange | 15 | fullRB | 4.55 | 5.83 |
| FDD26Part90 | LowRange | 5 | fullRB | 5.00 | 5.77 |
| FDD26Part90 | MidRange | 5 | fullRB | 5.67 | 6.44 |
| FDD26Part90 | HighRange | 5 | fullRB | 5.77 | 6.47 |
| FDD66 | LowRange | 20 | fullRB | 5.00 | 6.22 |
| FDD66 | MidRange | 20 | fullRB | 4.97 | 6.25 |
| FDD66 | HighRange | 20 | fullRB | 4.97 | 6.22 |

## Annex A: Revised History

| Version | Revised Content |
|---|---|
| V00 | Initial |
| V01 | Add standard RSS-132 for LTE B26 |

## Annex B: Accreditation Certificate

Accredited Laboratory

A2LA has accredited

INDUSTRIAL INTERNET INNOVATION CENTER (SHANGHAI) CO., LTD.

*Shanghai, People's Republic of China*

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 20th day of September 2023.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3682.01
Valid to February 28, 2025

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*

**END OF REPORT**