



# RF TEST REPORT

**Report No.:** 20230917G12965X-W11

**Product Name:** METAVERTU 2 5G digital mobile phone

**Model No.:** VTL-202301

**FCC ID:** 2A6IQ-VTL202301

**IC:** 28629-VTL202301

**Applicant:** VERTU INTERNATIONAL CORPORATION LIMITED

**Address:** Chase Business Centre 39-41 Chase Side London England N14 5BP

**Dates of Testing:** 09/29/2023 - 12/05/2023

**Issued by:** CCIC Southern Testing Co., Ltd.

**Lab Location:** Electronic Testing Building, No. 43 Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China.

**Tel:** 86 755 26627338      **Fax:** 86 755 26627238

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### Test Report

**Product** .....: METAVERTU 2 5G digital mobile phone

**Brand Name**.....: VERTU

**Trade Name** .....: VERTU

**Applicant**.....: VERTU INTERNATIONAL CORPORATION LIMITED

**Applicant Address** .....: Chase Business Centre 39-41 Chase Side London  
England N14 5BP

**Manufacturer** .....: Chengdu Vertu Business and Service Management Co.,  
Ltd

**Manufacturer Address** .....: 1601,16th Floor, No. 1577 Middle Section of Tianfu  
Avenue, Chengdu High-tech Zone, China (Sichuan) Pilot  
Free Trade Zone

**Test Standards** .....: 47 CFR Part 2/22/24/27  
RSS-Gen, Issue 5: Feb 2021  
RSS-130, issue 2: Feb 2019  
RSS-132, Issue 4: Jan 2023  
RSS-133, Issue 6: Jan 2018  
RSS-139-Issue 4: Sep 2022  
RSS-199, issue 4: July 2023

**Test Result**.....: Pass

**Tested by** .....: Kim Li 2023.12.08  
Kim Li, Test Engineer

**Reviewed by** .....: Chris You 2023.12.08  
Chris You, Senior Engineer

**Approved by** .....: Yang Fan 2023.12.08  
Yang Fan, Manager



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Change History		
Issue	Date	Reason for change
1.0	2023.12.08	First edition



## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	METAVERTU 2 5G digital mobile phone	
Model No.	VTL-202301	
Hardware Version	P10	
Software Version	13.0.0_6.01.01.01	
EUT supports Radios application	LTE Band 2/4/5/7/12/17/41	
Frequency Range(Tx)	LTE Band 2: 1850MHz~1910MHz LTE Band 4: 1710MHz~1755MHz LTE Band 5: 824MHz~849MHz LTE Band 7: 2500MHz~2570MHz	LTE Band 12: 699MHz~716MHz LTE Band 17: 704MHz~716MHz LTE Band 41: 2496MHz~2690MHz
Channel Bandwidth	LTE Band 2/4: 1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz LTE Band 5/12: 1.4MHz/3MHz/5MHz/10MHz LTE Band 7/41: 5MHz/10MHz/15MHz/20MHz LTE Band 17: 5MHz/10MHz	
Modulation Type	QPSK/16QAM/64QAM(downlink only)	
Maximum ERP/EIRP	LTE Band 2: 23.52dBm LTE Band 4: 24.44dBm LTE Band 5: 17.66dBm LTE Band 7: 23.98dBm	LTE Band 12: 20.54dBm LTE Band 17: 20.90dBm LTE Band 41: 23.49dBm
Antenna Type	Internal Antenna	
Power supply	Rechargeable Li-ion Polymer Battery DC3.89V/5100mAh	



## 1.2. EUT Antenna Information

The antenna gains and types provided by the manufacturer are as follows:

LTE Bands	Frequency Range (MHz)	Ant 1 Antenna Gain (dBi)	Ant 2 Antenna Gain (dBi)	Ant 3 Antenna Gain (dBi)	Ant 4 Antenna Gain (dBi)
Band 2	1850~1910	/	-1.6	/	-2.0
Band 4	1710~1755	/	-0.8	/	-3.3
Band 5	824~849	-6.6	/	-4.8	/
Band 7	2500~2570	/	-0.7	/	-3.7
Band 12	699~716	-4.2	/	-5.5	/
Band 17	704~716	-4.2	/	-5.5	/
Band 41	2496~2690	-2.5	-0.7	/	-3.7

Note 1: The information of antenna gain and cable loss is provided by the manufacturer and our lab is not responsible for the accuracy of the antenna gain and cable loss information.

Note 2: EUT supports DPDT(Double Pole Double Throw) transfer switch, LTE Band 5/12/17(TX) can switch between Ant1 and Ant3, LTE Band 2/4/7(TX) can switch between Ant2 and Ant4, LTE Band 41(TX) can switch between Ant1, Ant2 and Ant4.

### 1.3. Maximum ERP/EIRP, Frequency Tolerance and Emission Designator

Band	Type of Modulation	BW (MHz)	Emission Designator	Frequency Tolerance (ppm)	Maximum EIRP(W)
LTE Band 2	QPSK	1.4	1M10G7D	—	0.222
LTE Band 2	16QAM	1.4	1M10W7D	—	0.180
LTE Band 2	QPSK	3	2M68G7D	—	0.222
LTE Band 2	16QAM	3	2M68W7D	—	0.182
LTE Band 2	QPSK	5	4M53G7D	—	0.225
LTE Band 2	16QAM	5	4M51W7D	—	0.187
LTE Band 2	QPSK	10	8M95G7D	0.003	0.218
LTE Band 2	16QAM	10	8M94W7D	—	0.184
LTE Band 2	QPSK	15	13M5G7D	—	0.213
LTE Band 2	16QAM	15	13M5W7D	—	0.173
LTE Band 2	QPSK	20	17M9G7D	—	0.216
LTE Band 2	16QAM	20	17M9W7D	—	0.174
LTE Band 4	QPSK	1.4	1M10G7D	—	0.275
LTE Band 4	16QAM	1.4	1M11W7D	—	0.237
LTE Band 4	QPSK	3	2M69G7D	—	0.278
LTE Band 4	16QAM	3	2M69W7D	—	0.238
LTE Band 4	QPSK	5	4M52G7D	—	0.276
LTE Band 4	16QAM	5	4M52W7D	—	0.243
LTE Band 4	QPSK	10	8M94G7D	0.004	0.276
LTE Band 4	16QAM	10	8M95W7D	—	0.234
LTE Band 4	QPSK	15	13M5G7D	—	0.270
LTE Band 4	16QAM	15	13M5W7D	—	0.225
LTE Band 4	QPSK	20	17M9G7D	—	0.272
LTE Band 4	16QAM	20	17M9W7D	—	0.239
LTE Band 7	QPSK	5	4M52G7D	—	0.248
LTE Band 7	16QAM	5	4M51W7D	—	0.200
LTE Band 7	QPSK	10	8M95G7D	0.003	0.250
LTE Band 7	16QAM	10	8M94W7D	—	0.205
LTE Band 7	QPSK	15	13M5G7D	—	0.242



LTE Band 7	16QAM	15	13M5W7D	—	0.197
LTE Band 7	QPSK	20	17M9G7D	—	0.238
LTE Band 7	16QAM	20	17M9W7D	—	0.200
LTE Band 41	QPSK	5	4M49G7D	—	0.223
LTE Band 41	16QAM	5	4M49W7D	—	0.198
LTE Band 41	QPSK	10	8M93G7D	0.004	0.223
LTE Band 41	16QAM	10	8M94W7D	—	0.185
LTE Band 41	QPSK	15	13M5G7D	—	0.219
LTE Band 41	16QAM	15	13M5W7D	—	0.185
LTE Band 41	QPSK	20	17M9G7D	—	0.217
LTE Band 41	16QAM	20	17M9W7D	—	0.183





Band	Type of Modulation	BW (MHz)	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP(W)
LTE Band 5	QPSK	1.4	1M09G7D	—	0.058
LTE Band 5	16QAM	1.4	1M09W7D	—	0.048
LTE Band 5	QPSK	3	2M69G7D	—	0.057
LTE Band 5	16QAM	3	2M69W7D	—	0.047
LTE Band 5	QPSK	5	4M51G7D	—	0.058
LTE Band 5	16QAM	5	4M50W7D	—	0.047
LTE Band 5	QPSK	10	8M93G7D	0.005	0.057
LTE Band 5	16QAM	10	8M93W7D	—	0.048
LTE Band 12	QPSK	1.4	1M09G7D	—	0.110
LTE Band 12	16QAM	1.4	1M09W7D	—	0.091
LTE Band 12	QPSK	3	2M68G7D	—	0.112
LTE Band 12	16QAM	3	2M69W7D	—	0.090
LTE Band 12	QPSK	5	4M50G7D	—	0.113
LTE Band 12	16QAM	5	4M51W7D	—	0.089
LTE Band 12	QPSK	10	8M94G7D	0.005	0.109
LTE Band 12	16QAM	10	8M93W7D	—	0.091
LTE Band 17	QPSK	5	4M50G7D	—	0.123
LTE Band 17	16QAM	5	4M51W7D	—	0.101
LTE Band 17	QPSK	10	8M94G7D	0.005	0.121
LTE Band 17	16QAM	10	8M93W7D	—	0.100



## 1.4. Test Standards and Results

The purpose of the report is to conduct testing according to the following FCC/IC certification standards:

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22	Public Mobile Services
3	47 CFR Part 24	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services
5	RSS-Gen-Issue 5: Feb 2021	General Requirements for Compliance of Radio Apparatus
6	RSS-130-Issue 2: Feb 2019	Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz
7	RSS-132-Issue 4: Jan 2023	Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
8	RSS-133, Issue 6: Jan 2018	2 GHz Personal Communications Services
9	RSS-139-Issue 4: Sep 2022	Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz
10	RSS-199-Issue 4: July 2023	Broadband Radio Service (BRS) Equipment Operating in the Band 2500 - 2690 MHz
11	KDB 971168 D01 Power Meas License Digital Systems v03r01	Measurement Guidance For Certification of Licensed Digital Transmitters
12	KDB 412172 D01 Determining ERP and EIRP v01r01	Guidelines for Determining the Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) of an RF Transmitting Systems
13	ANSI/TIA-603-E-2016	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
14	ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

Test detailed items/section required by FCC/IC rules and results are as below:

No.	FCC Rule	IC Rule	Description	Limit	Result
1	2.1046	RSS-GEN,6.12	Conducted Output Power	Reporting Only	PASS
2	22.913(d) 24.232 (d) 27.50 (d)(5)	RSS-130, 4.6 RSS-132, 5.4 RSS-133, 6.4 RSS-139, 6.5 RSS-199, 4.4	Peak to Average Radio	< 13dB	PASS
3	24.232 (c)	RSS-133, 6.4	Equivalent Isotropic Radiated Power (Band 2)	EIRP < 2W	PASS
	22.913 (a)(5)	RSS-132, 5.4	Effective Radiated Power (FCC Band 5)	ERP < 7W	PASS



	27.50 (c)(10)	RSS-130,4.6.3	Effective Radiated Power (Band 12/17)	ERP < 3W	PASS
	27.50 (d)(4)	RSS-139,6.5	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1W	PASS
	27.50 (h)(2)	RSS-199,4.4	Equivalent Isotropic Radiated Power (Band 7/41)	EIRP < 2W	PASS
4	2.1049	RSS-GEN,6.7	Occupied Bandwidth	Reporting Only	PASS
5	2.1051 22.917 (a) 24.238 (a) 27.53 (c) 27.53 (g) 27.53 (h) 27.53 (m)(4)	RSS-GEN, 6.13 RSS-130,4.7 RSS-132,5.5 RSS-133,6.5 RSS-139,5.6 RSS-199,4.5	Conducted Spurious Emission and Conducted Band Edge (Band 2/4/5/12/17)	< 43+10log <sub>10</sub> (P[watt])	PASS
	Conducted Spurious Emission and Conducted Band Edge (Band 7/41)		Refer to 27.53(m)(4)	PASS	
6	2.1053 22.917 (a) 24.238 (a) 27.53 (c) 27.53 (g) 27.53 (h) 27.53 (m)(4)	RSS-GEN, 6.13 RSS-130,4.7 RSS-132,5.5 RSS-133,6.5 RSS-139,5.6 RSS-199,4.5	Radiated Spurious Emission (Band Band 2/4/5/12/17)	< 43+10log <sub>10</sub> (P[Watts])	PASS
			Radiated Spurious Emission (Band 7/41)	< 55+10log <sub>10</sub> (P[watt])	PASS
7	2.1055 22.335 24.235 27.54 90.213(a)	RSS-GEN,6.11 RSS-132,5.3 RSS-133,6.3 RSS-130,4.5 RSS-139,5.4 RSS-199, 4.3	Frequency Stability (FCC Band 5)	< ±2.5ppm	PASS
			Frequency Stability (FCC Band 2/4/7/12/17/41) (IC Band 4/5/7/12/17/41)	Within the Authorized Band	PASS

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B and ICES-003 Issue 7 October 2020, recorded in a separate test report.



### 1.5. Test Configuration of Equipment Under Test

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

Radiated measurements are performed by rotating the EUT in three(X: flat, Y: portrait, Z: landscape) different orthogonal test planes to find the maximum emission.

LTE Bands	Conducted Measurement	Radiated Measurement
LTE Band 2/4/7/41	Ant2	Ant 2
LTE Band 5	Ant3	Ant 3
LTE Band 12/17	Ant1	Ant 1

**Note: Conducted output power is measured on all antenna ports, other conducted items are measured on the maximum output power port.**

Test Items	Band	Bandwidth(MHz)						Modulation		RB Configuration			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Conducted Output Power and ERP/EIRP	2/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	5/12	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
	7/41			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	17			✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
Peak-to-Average Ratio	2/4						✓		✓	✓		✓	✓	✓	✓
	5/12				✓				✓	✓		✓	✓	✓	✓
	7/41						✓		✓	✓		✓	✓	✓	✓
	17				✓				✓	✓		✓	✓	✓	✓
99% OBW and 26dB EBW	2/4	✓	✓	✓	✓	✓	✓	✓	✓			✓		✓	
	5/12	✓	✓	✓	✓			✓	✓			✓		✓	
	7/41			✓	✓	✓	✓	✓	✓			✓		✓	
	17			✓	✓			✓	✓			✓		✓	
Conducted Band Edge	2/4	✓					✓	✓	✓	✓		✓	✓		✓
	5/12	✓			✓			✓	✓	✓		✓	✓		✓
	7/41			✓			✓	✓	✓	✓		✓	✓		✓
	17			✓	✓			✓	✓	✓		✓	✓		✓
Conducted Spurious Emission	2/4						✓	✓		✓			✓	✓	✓
	5/12				✓			✓		✓			✓	✓	✓
	7/41						✓	✓		✓			✓	✓	✓
	17				✓			✓		✓			✓	✓	✓
Frequency Stability	2/4				✓			✓				✓		✓	
	5/12				✓			✓				✓		✓	
	7/41				✓			✓				✓		✓	
	17				✓			✓				✓		✓	
Radiated Spurious Emission	2	Worst case												✓	
	4	Worst case												✓	



	5	Worst case		✓	
	7	Worst case		✓	
	12	Worst case		✓	
	17	Worst case		✓	
	41	Worst case		✓	
Note 1: The mark “✓” means that this configuration is chosen for testing.					

## 1.6. Measurement Results Explanation Example

### For all conduction test items:

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

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor..

Following shows an offset computation example with cable loss 4dB, 10dB attenuator.

Example: Offset (dB) = RF cable loss(dB) + attenuator factor(dB) = 1 + 10 = 14 (dB).

## 1.7. Laboratory Facilities

### FCC-Registration No.: 406086

CCIC Southern Testing Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Designation Number: CN1283, valid time is until June 30, 2025.

### ISED Registration: 11185A-1

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A-1 on Aug. 04, 2016, valid time is until June 30, 2025.

### A2LA Code: 5721.01

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025.

## 1.8. Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15°C - 35°C
Relative Humidity (%):	30% -60%
Atmospheric Pressure (kPa):	86kPa-106kPa

## 2. 47 CFR Part 2 and RSS-Gen Requirements

### 2.1. Conducted Output Power and ERP/EIRP

#### 2.1.1. Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2/7/41.

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

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

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12/17.

According to KDB 412172 D01 Determining ERP and EIRP v01r01.

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

$P_T$  = transmitter output power in dBm;

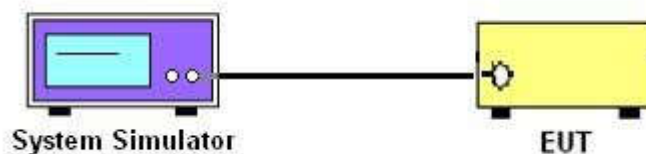
$G_T$  = gain of the transmitting antenna in dBi;

$L_C$  = signal attenuation in the connecting cable between the transmitter and antenna in dB.

#### 2.1.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

#### 2.1.3. Test Setup



#### 2.1.4. Test Procedures

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



### **2.1.5. Test Results of Conducted Output Power and ERP/EIRP**

Please refer to Appendix A for detail

## 2.2. Peak-to-average power ratio (PAPR)

### 2.2.1. Requirement

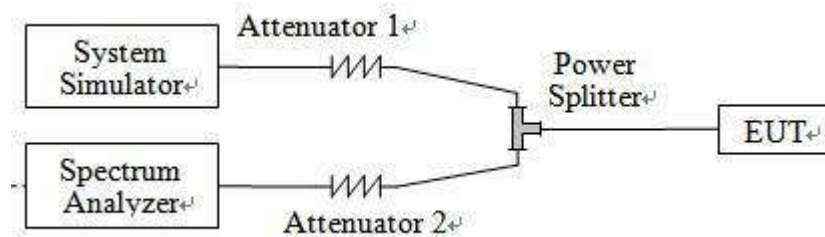
Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth.

In measuring transmissions in this band using an average power technique, the Peak-to-average power ratio (PAPR) of the transmission may not exceed 13 dB.

### 2.2.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.2.3. Test Description



### 2.2.4. Test Procedures

1. The testing follows the of KDB 971168 D01 v03r01 Section 5.7.2 and ANSI C63.26-2015 Section 5.2.3.4.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider, Path loss compensation is then performed on the spectrum analyzer and the system simulator respectively.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. Set resolution/measurement bandwidth  $\geq$  OBW or specified reference bandwidth.
5. Set the number of counts to a value that stabilizes the measured CCDF curve.
6. Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level.
7. Repeat step 3~6 at other frequency and modulations.





### **2.2.5. Test Results of Peak-to-average power ratio (PAPR)**

Please refer to Appendix A for detail

## 2.3. 99% Occupied Bandwidth and 26dB Emission Bandwidth

### 2.3.1. Requirement

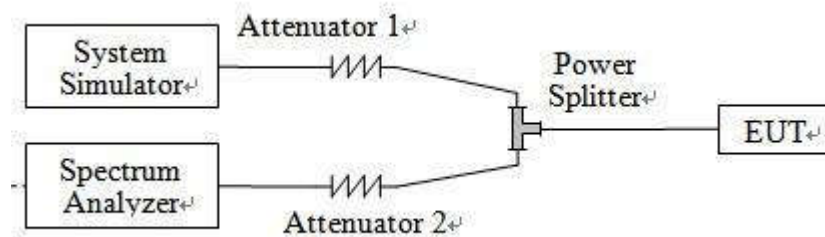
The Occupied Bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

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

### 2.3.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.3.3. Test Setup



### 2.3.4. Test Procedures

1. The testing follows the of KDB 971168 D01 v03r01 Section 4 and ANSI C63.26-2015 Section 5.4.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider, Path loss compensation is then performed on the spectrum analyzer and the system simulator respectively.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency.
4. Set span to be approximately 1.5 to 5 times the OBW.
5. The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW.
6. Set VBW  $\geq 3 \times$  RBW.
7. Set Detection mode = peak.
8. Set Trace mode = max hold.
9. Allow trace to stabilize.
10. Repeat step 3~9 at other frequency and modulations.



### **2.3.5. Test Result of 99% Occupied Bandwidth and 26dB Emission Bandwidth**

Please refer to Appendix A for detail



## 2.4. Conducted Band Edge

### 2.4.1. Requirement

#### **For Band 2 [Part 24.238 (a) ]:**

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

#### **For Band 4 [Part 27.53 (h) and RSS-139, 5.6 ]:**

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

#### **For Band 5 [Part 22.917(a) and RSS-132, 5.5 ]:**

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. In the spectrum below 1 GHz, instrumentation should employ a reference bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy, provided that the measured power is integrated over the full required reference bandwidth (i.e., 100 kHz or 1 percent of emission bandwidth, as specified).

#### **For Band 12 & 17 [Part 27.53 (g) and RSS-130, 4.7.1 ]:**

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

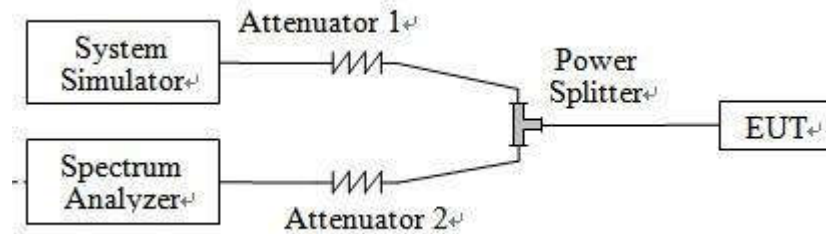
#### **For Band 7 & 41 [Part 27.53 (m)(4) and RSS-199, 4.5 ]:**

For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log(P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log(P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log(P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

### 2.4.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.4.3. Test Setup



### 2.4.4. Test Procedures

1. The testing follows the of KDB 971168 D01 v03r01 Section 6 and ANSI C63.26-2015 Section 5.7.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider, Path loss compensation is then performed on the spectrum analyzer and the system simulator respectively.
3. Span was set large enough so as to capture all out of band emissions near the Channel Edge.
4. Use  $RBW \geq 1\%$  EBW in the 1 megahertz bands immediately outside and adjacent to the licensee's authorized frequency channel, and use  $RBW = 1$  MHz outside 1 MHz of the authorized frequency channel.
5. Set  $VBW \geq 3 \times RBW$
6. Set Detector = power averaging (rms).
7. Set the number of points in sweep  $\geq 2 \times \text{span} / RBW$ .
8. Set sweep trigger to "free run."
9. Set the Sweep time  $> (\text{number of points in sweep}) \times (\text{transmitter period})$  (i.e., the transmit on-time + the off-time).
10. Perform a trace average of at least 100 traces.
11. Repeat step 3~10 at other frequency and modulations.



#### **2.4.5. Test Result of Conducted Band Edge**

Please refer to Appendix A for detail

## 2.5. Conducted Spurious Emission

### 2.5.1. Requirement

#### For Band 2 & 4 & 5 & 12 & 17:

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

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

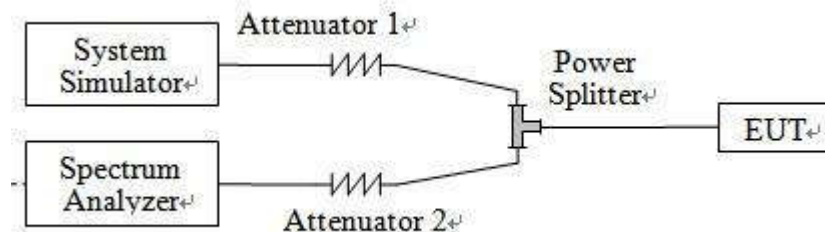
#### For Band 7 & 41:

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

### 2.5.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.5.3. Test Setup



### 2.5.4. Test Procedures

1. The testing follows the of KDB 971168 D01 v03r01 Section 6 and ANSI C63.26-2015 Section 5.7.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider, Path loss compensation is then performed on the spectrum analyzer and the system simulator respectively.
3. Set the spectrum analyzer start frequency to 9kHz and stop frequency to the tenth harmonic of the highest fundamental frequency.
4. Set RBW = 1MHz, VBW  $\geq 3 \times$  RBW
5. Set Detector = peak.
6. Set Trace mode = max hold.
7. Set Sweep time = auto-couple.



8. Identify and measure the highest spurious emission levels in each frequency range.
9. Compare the results with the corresponding limit in the applicable regulation.
10. Repeat step 3~9 at other frequency and modulations.

#### **2.5.5. Test Result of Conducted Spurious Emission**

Please refer to Appendix A for detail



## 2.6. Radiated Spurious Emission

### 2.6.1. Requirement

The radiated spurious emission was measured by substitution method according to ANSI/TIA-603-E-2016.

#### For Band 2 & 4 & 5 & 12 & 17:

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

#### For Band 7 & 41:

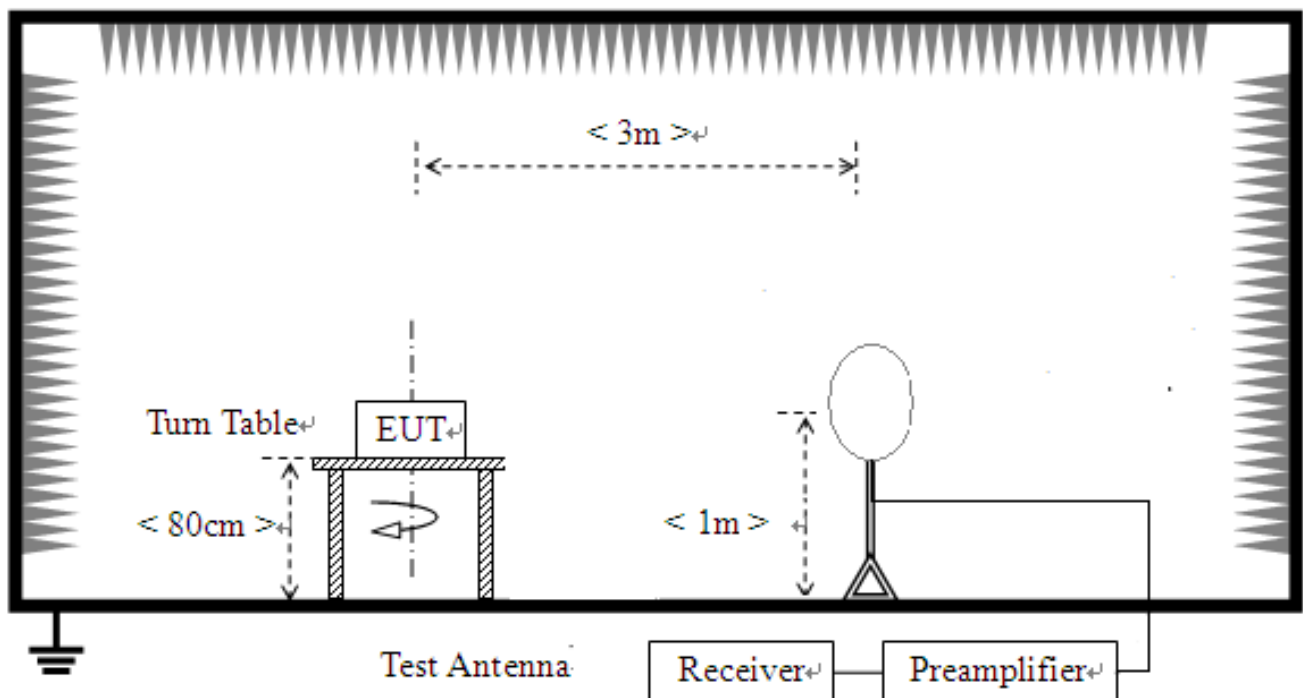
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

### 2.6.2. Measuring Instruments

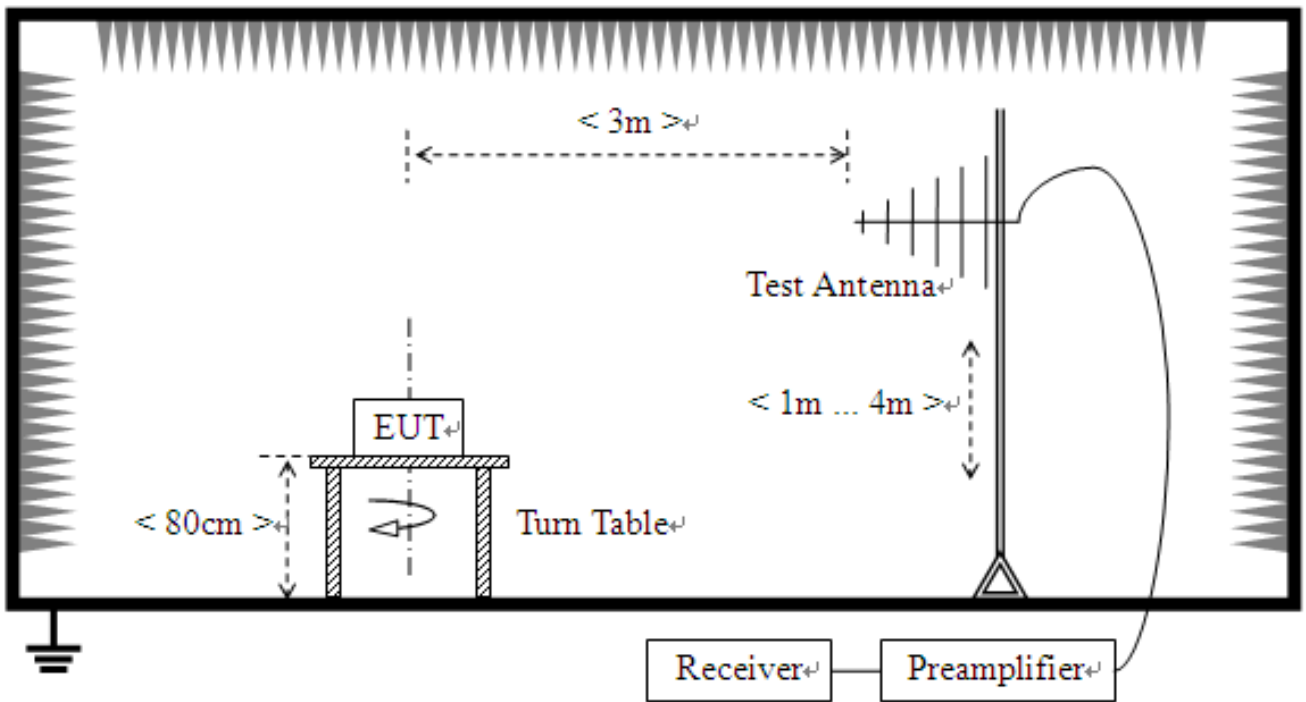
The measuring equipment is listed in the section 3 of this test report.

### 2.6.3. Test Setup

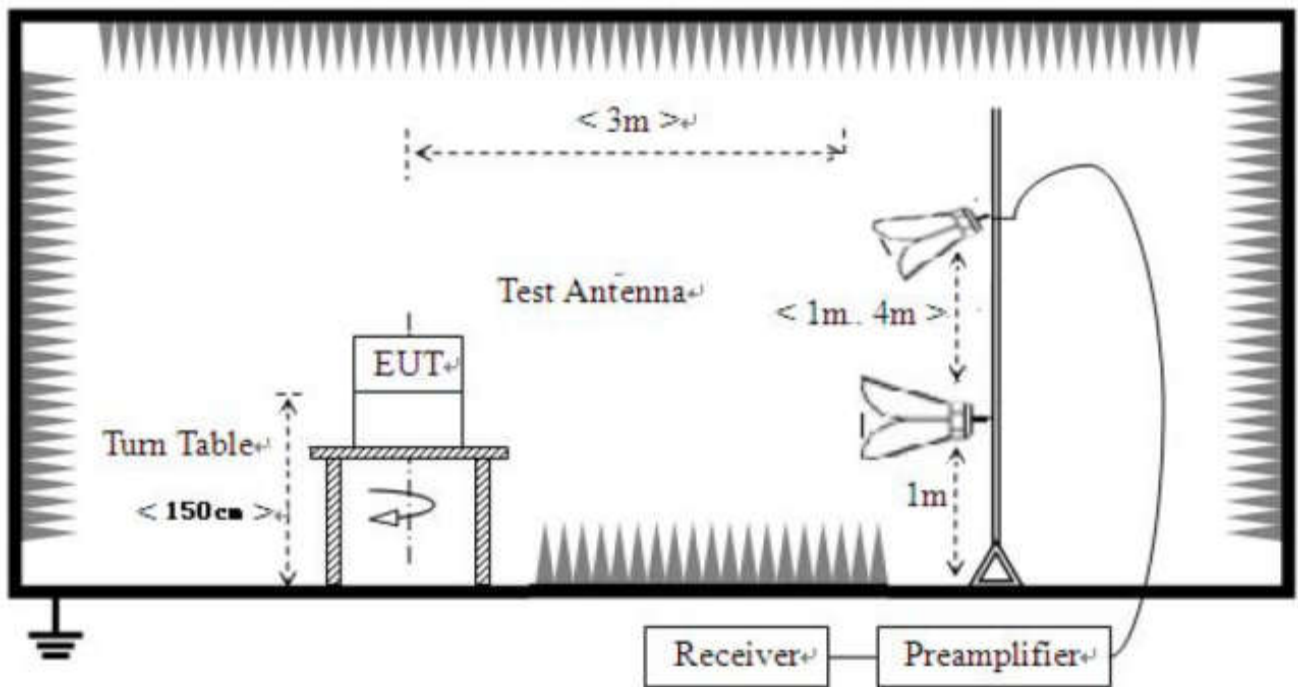
For radiated emissions from 9kHz to 30MHz



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



**For radiated emissions above 1GHz**



#### **2.6.4. Test Procedures**

1. The EUT was placed on a rotatable wooden table with 0.8 meter (for below 1GHz) / 1.5 meters (for above 1GHz) above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
11. All Spurious Emission tests were performed in X, Y, Z axis direction and low, middle, high channel. And only the worst axis test condition was recorded in this test report.
12. The spectrum is measured from 9 kHz to the 10<sup>th</sup> harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. The worst case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
13. The maximum RB configurations of the Radiated Spurious Emissions as RB Size full, RB Offset 0.

#### **2.6.5. Test Result of Radiated Spurious Emission**

Note: 1. The emission levels of above 18GHz are lower than the limit 20dB and not show in test report.

Note: 2. Absolute Level = Reading Level + Factor



LTE Band 2 QPSK 20MHz BW Middle Channel							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	660.815	-104.75	-69.94	-13.00	56.94	34.81	Horizontal
2	1546.92	-57.45	-59.08	-13.00	46.08	-1.63	Horizontal
3	3010.85	-56.88	-49.53	-13.00	36.53	7.35	Horizontal
4	5161.70	-58.04	-43.59	-13.00	30.59	14.45	Horizontal
5	7821.41	-59.52	-40.22	-13.00	27.22	19.30	Horizontal
6	17390.4	-64.38	-35.07	-13.00	22.07	29.31	Horizontal
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	646.258	-104.18	-71.16	-13.00	58.16	33.02	Vertical
2	1419.92	-57.19	-59.44	-13.00	46.44	-2.25	Vertical
3	3206.33	-57.29	-50.05	-13.00	37.05	7.24	Vertical
4	4797.33	-58.00	-43.31	-13.00	30.31	14.69	Vertical
5	7086.52	-57.91	-39.90	-13.00	26.90	18.01	Vertical
6	17288.1	-64.08	-35.36	-13.00	22.36	28.72	Vertical

LTE Band 4 QPSK 20MHz BW Middle Channel							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	684.107	-104.47	-69.89	-13.00	56.89	34.58	Horizontal
2	1235.61	-57.12	-59.41	-13.00	46.41	-2.29	Horizontal
3	1985.44	-57.62	-56.21	-13.00	43.21	1.41	Horizontal
4	4872.24	-58.70	-43.96	-13.00	30.96	14.74	Horizontal
5	7469.49	-60.04	-40.36	-13.00	27.36	19.68	Horizontal
6	17343.8	-65.22	-36.18	-13.00	23.18	29.04	Horizontal
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	781.640	-103.77	-67.70	-13.00	54.70	36.07	Vertical
2	1390.31	-57.27	-59.59	-13.00	46.59	-2.32	Vertical
3	2394.16	-58.23	-55.03	-13.00	42.03	3.20	Vertical
4	4925.62	-58.85	-44.25	-13.00	31.25	14.60	Vertical
5	7864.54	-59.62	-40.18	-13.00	27.18	19.44	Vertical
6	17293.2	-64.58	-35.83	-13.00	22.83	28.75	Vertical



LTE Band 5 QPSK 10MHz BW Middle Channel							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	649.169	-105.11	-70.34	-13.00	57.34	34.77	Horizontal
2	1548.62	-57.02	-58.63	-13.00	45.63	-1.61	Horizontal
3	3021.00	-57.45	-50.13	-13.00	37.13	7.32	Horizontal
4	4872.24	-58.86	-44.12	-13.00	31.12	14.74	Horizontal
5	7589.67	-59.29	-39.66	-13.00	26.66	19.63	Horizontal
6	17056.3	-63.33	-35.79	-13.00	22.79	27.54	Horizontal
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	615.687	-104.81	-71.87	-13.00	58.87	32.94	Vertical
2	1746.43	-57.80	-58.08	-13.00	45.08	-0.28	Vertical
3	3013.30	-57.02	-49.68	-13.00	36.68	7.34	Vertical
4	4919.67	-58.42	-43.78	-13.00	30.78	14.64	Vertical
5	7445.34	-60.05	-40.36	-13.00	27.36	19.69	Vertical
6	17414.0	-64.60	-35.46	-13.00	22.46	29.14	Vertical

LTE Band 7 QPSK 20MHz BW Middle Channel							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	499.95	-104.74	-72.09	-25.00	47.09	32.65	Horizontal
2	997.087	-103.60	-65.17	-25.00	40.17	38.43	Horizontal
3	3004.87	-58.37	-51.00	-25.00	26.00	7.37	Horizontal
4	4897.32	-59.36	-44.62	-25.00	19.62	14.74	Horizontal
5	7599.42	-60.08	-40.41	-25.00	15.41	19.67	Horizontal
6	12637.8	-61.12	-35.10	-25.00	10.10	26.02	Horizontal
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	73.6937	-90.55	-69.01	-25.00	44.01	21.54	Vertical
2	948.538	-103.21	-65.13	-25.00	40.13	38.08	Vertical
3	3009.75	-58.27	-50.92	-25.00	25.92	7.35	Vertical
4	5082.66	-59.27	-44.73	-25.00	19.73	14.54	Vertical
5	7662.83	-59.66	-40.13	-25.00	15.13	19.53	Vertical
6	12476.8	-61.58	-35.32	-25.00	10.32	26.26	Vertical



LTE Band 12 QPSK 10MHz BW Middle Channel							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	863.161	-104.40	-67.37	-13.00	54.37	37.03	Horizontal
2	1266.11	-56.93	-59.24	-13.00	46.24	-2.31	Horizontal
3	3091.70	-56.96	-49.77	-13.00	36.77	7.19	Horizontal
4	4867.51	-58.55	-43.80	-13.00	30.80	14.75	Horizontal
5	7571.85	-59.81	-40.17	-13.00	27.17	19.64	Horizontal
6	17299.6	-64.39	-35.60	-13.00	22.60	28.79	Horizontal
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	792.316	-104.32	-68.24	-13.00	55.24	36.08	Vertical
2	1457.42	-55.91	-58.03	-13.00	45.03	-2.12	Vertical
3	3008.75	-57.15	-49.80	-13.00	36.80	7.35	Vertical
4	4926.49	-58.47	-43.88	-13.00	30.88	14.59	Vertical
5	7550.00	-60.23	-40.58	-13.00	27.58	19.65	Vertical
6	17396.2	-65.67	-36.32	-13.00	23.32	29.35	Vertical

LTE Band 17 QPSK 10MHz BW Middle Channel							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	781.155	-104.35	-68.56	-13.00	55.56	35.79	Horizontal
2	1744.73	-57.70	-58.00	-13.00	45.00	-0.30	Horizontal
3	3193.73	-57.36	-50.10	-13.00	37.10	7.26	Horizontal
4	4859.11	-59.00	-44.26	-13.00	31.26	14.74	Horizontal
5	7762.76	-58.99	-39.73	-13.00	26.73	19.26	Horizontal
6	17357.6	-64.78	-35.66	-13.00	22.66	29.12	Horizontal
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	797.653	-105.28	-69.19	-13.00	56.19	36.09	Vertical
2	1527.72	-57.15	-58.91	-13.00	45.91	-1.76	Vertical
3	3009.27	-55.71	-48.37	-13.00	35.37	7.34	Vertical
4	5181.30	-58.32	-43.92	-13.00	30.92	14.40	Vertical
5	7827.16	-59.43	-40.11	-13.00	27.11	19.32	Vertical
6	17270.2	-64.90	-36.27	-13.00	23.27	28.63	Vertical



LTE Band 41 QPSK 20MHz BW Middle Channel							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	686.376	-104.70	-70.13	-25.00	45.13	34.57	Horizontal
2	848.528	-104.37	-67.23	-25.00	42.23	37.14	Horizontal
3	3009.75	-57.71	-50.36	-25.00	25.36	7.35	Horizontal
4	4882.69	-58.48	-43.74	-25.00	18.74	14.74	Horizontal
5	7379.94	-59.91	-40.64	-25.00	15.64	19.27	Horizontal
6	12511.0	-62.14	-35.65	-25.00	10.65	26.49	Horizontal
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	90.2002	-95.49	-72.17	-25.00	47.17	23.32	Vertical
2	949.509	-103.47	-65.37	-25.00	40.37	38.10	Vertical
3	3136.56	-58.45	-51.24	-25.00	26.24	7.21	Vertical
4	4799.77	-59.02	-44.29	-25.00	19.29	14.73	Vertical
5	7516.50	-59.66	-39.59	-25.00	14.59	20.07	Vertical
6	12515.8	-61.42	-34.96	-25.00	9.96	26.46	Vertical

## 2.7. Frequency Stability

### 2.7.1. Requirement

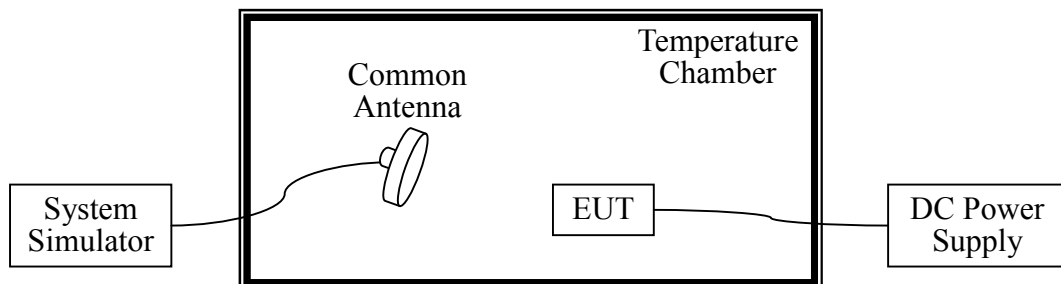
According to FCC requirement, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) of the center frequency. According to FCC section 2.1055, the test conditions are:

- (1) The temperature is varied from  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  at intervals of not more than  $10^{\circ}\text{C}$ .
- (2) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

### 2.7.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

### 2.7.3. Test Setup



### 2.7.4. Test Procedures

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to  $-30^{\circ}\text{C}$  and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
4. The nominal, highest and lowest extreme voltages were tested, which are specified by the applicant; the normal temperature here used is  $20^{\circ}\text{C}$ .
5. The variation in frequency was measured for the worst case.





### **2.7.5. Test Result of Frequency Stability**

Please refer to Appendix A for detail



### 3. List of measuring equipment

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI Test Receiver	ROHDE&SCHWARZ	ESW26	A180502935	2023.06.08	2024.06.07
2	5M Anechoic Chamber	Albatross	SAC-5MAC 12.8x6.8x6.4m	A0304210	2022.06.09	2026.06.08
3	Loop Antenna	Schwarz beck	HFH2-Z2	A0304220	2022.05.02	2025.05.01
4	Broadband antenna (30MHz~1GHz)	R&S	HL562	A0304224	2023.06.08	2024.06.07
5	EMI Horn Ant. (1-18G)	ETC	1209	A150402241	2021.01.02	2024.01.01
6	Horn antenna (18GHz~26.5GHz)	AR	AT4510	A0804450	2023.06.01	2024.05.31
7	Amplifier 30M~1GHz	MILMEGA	80RF1000-1000	A140101634	2022.12.13	2023.12.12
8	Amplifier 1G~18GHz	MILMEGA	AS0104R-800/400	A160302517	2022.12.13	2023.12.12
9	Spectrum Analyzer	KEYSIGHT	N9030A	A160702554	2023.02.20	2024.02.19
10	Test Receiver	R&S	ESIB7	A0501375	2023.03.16	2024.03.15
11	Broadband Ant.	ETC	2786	A150402240	2021.09.16	2024.03.03
12	3M Anechoic Chamber	Albatross	SAC-3MAC 9*6*6m	A0412375	2019.03.26	2024.03.25
13	Constant Temperature Humidity Chamber	ESPEC	SU-642	A150802409	2023.03.18	2024.03.17
14	Wideband Radio Communication tester	R&S	CMW500	A141001983	2022.12.13	2023.12.12
15	Wideband Radio Communication tester	R&S	CMW500	A150802214	2023.06.01	2024.05.31
16	Test Receiver	KEYSIGHT	N9038A	A141202036	2023.06.12	2024.06.11
17	LISN	ROHDE&SCHWARZ	ENV216	A140701847	2023.06.08	2024.06.07
18	Power Supply	R&S	WYJ-60100	A141102031	2023.07.12	2026.07.11

#### 4. Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All the measurement uncertainty value were shown with a coverage  $K=2$  to indicate 95% level of confidence . The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

##### Uncertainty of Conducted Emission Measurement (150kHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	2.8dB
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##### Uncertainty of Radiated Emission Measurement (9kHz~30MHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	3.5dB
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##### Uncertainty of Radiated Emission Measurement (30MHz~1GHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	3.91dB
--	--------

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

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	4.5dB
--	-------

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

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	4.9dB
--	-------

##### Uncertainty of RF Conducted Measurement (9kHz~40GHz)

Measuring Uncertainty for a level of confidence of 95%( $U=2Uc(y)$ )	1.2dB
--	-------



### APPENDIX A

#### Conducted Output Power and ERP/EIRP

##### LTE Band 2-Ant2:

LTE Band 2 - 1.4MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18607	18900	19193			
			1850.7MHz	1880.0MHz	1909.3MHz			
QPSK	1	0	24.67	24.83	24.96	-1.60	23.46	33.00
	1	2	24.81	24.84	25.06			
	1	5	24.73	24.87	25.03			
	3	0	23.62	23.84	24.01			
	3	1	23.69	23.88	24.00			
	3	2	23.63	23.87	23.82			
16QAM	6	0	23.61	23.90	23.96	-1.60	22.55	33.00
	1	0	23.74	23.92	24.09			
	1	2	23.84	23.86	24.11			
	1	5	23.73	23.93	24.15			
	3	0	22.67	22.93	23.14			
	3	1	22.81	22.94	23.06			
	3	2	22.76	22.87	23.00			
6	0	22.71	22.80	22.93				
LTE Band 2 - 3MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18615	18900	19185			
			1851.5MHz	1880.0MHz	1908.5MHz			
QPSK	1	0	24.77	24.74	24.91	-1.60	23.46	33.00
	1	7	24.96	24.70	24.98			
	1	14	24.83	24.86	25.06			
	8	0	23.82	23.73	24.01			
	8	4	23.75	23.94	24.00			
	8	7	23.63	23.65	23.88			
	15	0	23.72	23.85	23.92			
16QAM	1	0	23.74	23.98	24.05	-1.60	22.60	33.00
	1	7	23.95	23.93	24.11			
	1	14	23.83	24.04	24.20			
	8	0	22.87	23.06	23.05			
	8	4	22.91	22.89	23.07			
	8	7	22.76	23.04	23.01			
	15	0	22.81	22.74	22.89			



LTE Band 2 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18625	18900	19175			
			1852.5MHz	1880.0MHz	1907.5MHz			
QPSK	1	0	24.71	24.83	24.97	-1.60	23.52	33.00
	1	12	24.65	24.86	24.91			
	1	24	24.88	24.99	25.12			
	12	0	23.73	23.84	23.93			
	12	6	23.69	23.84	23.91			
	12	11	23.67	23.91	24.00			
	25	0	23.59	23.85	23.91			
16QAM	1	0	23.75	24.03	24.17	-1.60	22.73	33.00
	1	12	23.68	23.94	24.05			
	1	24	23.92	24.25	24.33			
	12	0	22.73	22.82	22.83			
	12	6	22.67	22.94	22.85			
	12	11	22.69	22.89	22.98			
	25	0	22.72	22.87	22.91			
LTE Band 2 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18650	18900	19150			
			1855.0MHz	1880.0MHz	1905.0MHz			
QPSK	1	0	24.74	24.85	24.98	-1.60	23.39	33.00
	1	24	24.68	24.82	24.65			
	1	49	24.57	24.86	24.99			
	25	0	23.67	23.85	23.83			
	25	12	23.68	23.83	23.85			
	25	24	23.72	23.98	24.04			
	50	0	23.65	23.90	23.92			
16QAM	1	0	23.71	24.10	24.21	-1.60	22.64	33.00
	1	24	23.98	23.88	23.84			
	1	49	23.81	24.08	24.24			
	25	0	22.79	22.86	22.97			
	25	12	22.69	22.87	22.91			
	25	24	22.77	22.97	23.07			
	50	0	22.76	22.88	23.00			



LTE Band 2 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18675	18900	19125			
			1857.5MHz	1880.0MHz	1902.5MHz			
QPSK	1	0	24.66	24.63	24.77	-1.60	23.28	33.00
	1	37	24.49	24.59	24.65			
	1	74	24.52	24.68	24.88			
	36	0	23.69	23.86	23.95			
	36	16	23.61	23.84	23.76			
	36	35	23.71	23.84	23.80			
	75	0	23.57	23.71	23.85			
16QAM	1	0	23.73	23.82	23.84	-1.60	22.38	33.00
	1	37	23.68	23.84	23.76			
	1	74	23.56	23.92	23.98			
	36	0	22.52	22.82	22.90			
	36	16	22.59	22.79	22.83			
	36	35	22.68	22.94	22.92			
	75	0	22.63	22.73	22.87			
LTE Band 2 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18700	18900	19100			
			1860.0MHz	1880.0MHz	1900.0MHz			
QPSK	1	0	24.71	24.73	24.84	-1.60	23.35	33.00
	1	49	24.89	24.65	24.95			
	1	99	24.72	24.83	24.68			
	50	0	23.69	23.71	23.75			
	50	24	23.51	23.72	23.77			
	50	49	23.61	23.84	23.86			
	100	0	23.47	23.75	23.71			
16QAM	1	0	23.53	23.79	24.01	-1.60	22.41	33.00
	1	49	23.58	23.63	23.89			
	1	99	23.36	23.92	23.72			
	50	0	23.52	22.71	22.77			
	50	24	23.49	22.71	22.75			
	50	49	23.68	22.86	22.88			
	100	0	22.53	22.76	22.78			



**LTE Band 2-Ant4:**

LTE Band 2 - 1.4MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18607	18900	19193			
			1850.7MHz	1880.0MHz	1909.3MHz			
QPSK	1	0	23.56	23.70	23.53	-2.00	21.70	33.00
	1	2	23.39	23.64	23.66			
	1	5	23.43	23.69	23.47			
	3	0	22.51	22.70	22.40			
	3	1	22.41	22.69	22.53			
	3	2	22.47	22.68	22.57			
	6	0	20.77	22.64	22.55			
16QAM	1	0	22.76	22.91	22.72	-2.00	20.93	33.00
	1	2	22.61	22.93	22.91			
	1	5	22.56	22.81	22.72			
	3	0	21.56	21.61	21.61			
	3	1	21.71	21.54	21.65			
	3	2	21.43	21.68	21.49			
	6	0	21.41	21.59	21.57			
LTE Band 2 - 3MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18615	18900	19185			
			1851.5MHz	1880.0MHz	1908.5MHz			
QPSK	1	0	23.52	23.58	23.49	-2.00	21.69	33.00
	1	7	23.57	23.63	23.59			
	1	14	23.63	23.69	23.64			
	8	0	22.61	22.68	22.66			
	8	4	22.67	22.68	22.62			
	8	7	22.71	22.75	22.68			
	15	0	22.63	22.65	22.59			
16QAM	1	0	22.72	22.75	22.74	-2.00	20.90	33.00
	1	7	22.69	22.73	22.71			
	1	14	22.78	22.90	22.82			
	8	0	21.68	21.77	21.71			
	8	4	21.67	21.70	21.73			
	8	7	21.75	21.84	21.76			
	15	0	21.58	21.63	21.59			



LTE Band 2 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18625	18900	19175			
			1852.5MHz	1880.0MHz	1907.5MHz			
QPSK	1	0	23.64	23.71	23.68	-2.00	21.71	33.00
	1	12	23.59	23.69	23.67			
	1	24	23.60	23.65	23.59			
	12	0	22.65	22.67	22.63			
	12	6	22.63	22.68	22.62			
	12	11	22.71	22.75	22.69			
	25	0	22.63	22.65	22.63			
16QAM	1	0	22.71	22.72	22.61	-2.00	20.84	33.00
	1	12	22.76	22.81	22.71			
	1	24	22.74	22.84	22.73			
	12	0	21.66	21.72	21.63			
	12	6	21.65	21.67	21.59			
	12	11	21.74	21.79	21.73			
	25	0	21.58	21.69	21.65			
LTE Band 2 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18650	18900	19150			
			1855.0MHz	1880.0MHz	1905.0MHz			
QPSK	1	0	23.57	23.63	23.58	-2.00	21.70	33.00
	1	24	23.61	23.70	23.66			
	1	49	22.62	22.65	22.57			
	25	0	22.59	22.69	22.63			
	25	12	22.63	22.76	22.71			
	25	24	22.65	22.70	22.64			
	50	0	22.58	22.66	22.60			
16QAM	1	0	22.79	22.87	22.74	-2.00	20.87	33.00
	1	24	22.68	22.78	22.76			
	1	49	22.74	22.85	22.82			
	25	0	21.63	21.73	21.69			
	25	12	21.71	21.78	21.67			
	25	24	21.74	21.79	21.76			
	50	0	21.63	21.68	21.66			





LTE Band 2 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18675	18900	19125			
			1857.5MHz	1880.0MHz	1902.5MHz			
QPSK	1	0	23.63	23.45	23.28	-2.00	21.66	33.00
	1	37	23.66	23.43	23.34			
	1	74	23.49	23.44	23.29			
	36	0	22.64	22.62	22.49			
	36	16	22.72	22.57	22.43			
	36	35	22.58	22.65	22.57			
	75	0	22.61	22.53	22.48			
16QAM	1	0	22.70	22.64	22.53	-2.00	20.71	33.00
	1	37	22.68	22.69	22.51			
	1	74	22.71	22.67	22.57			
	36	0	21.68	21.57	21.43			
	36	16	21.66	21.69	21.56			
	36	35	21.59	21.71	21.64			
	75	0	21.50	21.53	21.36			
LTE Band 2 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			18700	18900	19100			
			1860.0MHz	1880.0MHz	1900.0MHz			
QPSK	1	0	23.39	23.50	23.43	-2.00	21.58	33.00
	1	49	23.31	23.48	23.46			
	1	99	23.39	23.58	23.52			
	50	0	22.69	22.55	22.54			
	50	24	22.53	22.59	22.56			
	50	49	22.41	22.62	22.60			
	100	0	22.47	22.57	22.55			
16QAM	1	0	22.66	22.55	22.70	-2.00	20.73	33.00
	1	49	22.51	22.64	22.73			
	1	99	22.48	22.68	22.64			
	50	0	21.41	21.58	21.55			
	50	24	21.38	21.56	21.52			
	50	49	21.54	21.64	21.63			
	100	0	21.50	21.57	21.56			



**LTE Band 4-Ant2:**

<b>LTE Band 4 - 1.4MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			19957	20175	20393			
			1710.7MHz	1732.5MHz	1754.3MHz			
QPSK	1	0	25.01	25.11	25.09	-0.80	24.39	30.00
	1	2	25.19	25.18	24.93			
	1	5	25.10	25.11	25.07			
	3	0	24.13	24.10	24.05			
	3	1	24.04	24.04	24.02			
	3	2	24.11	25.03	24.01			
16QAM	6	0	24.13	24.06	24.01	-0.80	23.74	30.00
	1	0	24.54	24.43	24.54			
	1	2	24.47	24.47	24.46			
	1	5	24.50	24.42	24.42			
	3	0	23.37	23.33	23.21			
	3	1	23.38	23.29	23.37			
	3	2	23.39	23.31	23.29			
6	0	23.35	23.24	23.18				
<b>LTE Band 4 - 3MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			19965	20175	20385			
			1711.5MHz	1732.5MHz	1753.5MHz			
QPSK	1	0	25.18	25.09	25.21	-0.80	24.44	30.00
	1	7	25.12	25.10	25.14			
	1	14	25.19	25.24	25.22			
	8	0	24.32	24.18	24.05			
	8	4	24.33	24.20	24.22			
	8	7	24.31	24.28	24.12			
	15	0	24.36	24.26	24.04			
16QAM	1	0	24.35	24.23	24.44	-0.80	23.77	30.00
	1	7	24.45	24.32	24.42			
	1	14	24.57	24.40	24.32			
	8	0	23.32	23.27	23.41			
	8	4	23.35	23.27	23.57			
	8	7	23.30	23.36	23.39			
	15	0	23.36	23.28	23.13			



LTE Band 4 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			19975	20175	20375			
			1712.5MHz	1732.5MHz	1752.5MHz			
QPSK	1	0	25.06	25.01	25.07	-0.80	24.41	30.00
	1	12	25.10	25.04	25.14			
	1	24	25.12	25.09	25.21			
	12	0	24.36	24.22	24.15			
	12	6	24.39	24.22	24.17			
	12	11	24.35	24.25	24.22			
	25	0	24.36	24.29	24.15			
16QAM	1	0	24.35	24.36	24.29	-0.80	23.86	30.00
	1	12	24.37	24.29	24.38			
	1	24	24.66	24.54	24.47			
	12	0	23.40	23.28	23.15			
	12	6	23.33	23.15	23.23			
	12	11	23.35	23.25	23.28			
	25	0	23.36	23.30	23.20			
LTE Band 4 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20000	20175	20350			
			1715.0MHz	1732.5MHz	1750.0MHz			
QPSK	1	0	25.10	25.10	25.09	-0.80	24.41	30.00
	1	24	25.12	25.07	25.21			
	1	49	25.17	25.15	25.16			
	25	0	24.38	24.24	24.22			
	25	12	24.38	24.26	24.19			
	25	24	24.34	24.27	24.27			
	50	0	24.38	24.30	24.26			
16QAM	1	0	24.49	24.28	24.40	-0.80	23.7	30.00
	1	24	24.50	24.31	24.33			
	1	49	24.49	24.36	24.41			
	25	0	23.40	23.26	23.18			
	25	12	23.33	23.30	23.23			
	25	24	23.41	23.36	23.26			
	50	0	23.37	23.31	23.20			



LTE Band 4 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20025	20175	20325			
			1717.5MHz	1732.5MHz	1747.5MHz			
QPSK	1	0	25.00	24.95	25.04	-0.80	24.31	30.00
	1	37	25.05	25.11	24.90			
	1	74	25.07	24.98	24.96			
	36	0	24.38	24.22	24.12			
	36	16	24.20	24.22	24.36			
	36	35	24.36	24.10	24.24			
	75	0	24.19	24.10	24.08			
16QAM	1	0	24.15	24.30	24.24	-0.80	23.53	30.00
	1	37	24.33	24.24	24.10			
	1	74	24.30	24.22	24.21			
	36	0	23.28	23.18	23.26			
	36	16	23.22	23.36	23.24			
	36	35	23.29	23.19	23.16			
	75	0	23.15	23.23	23.10			
LTE Band 4 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20050	20175	20300			
			1720.0MHz	1732.5MHz	1745.0MHz			
QPSK	1	0	25.04	24.99	25.06	-0.80	24.34	30.00
	1	49	25.12	25.14	25.06			
	1	99	25.02	25.07	25.09			
	50	0	24.17	24.11	24.08			
	50	24	24.10	24.06	24.05			
	50	49	24.16	24.14	24.11			
	100	0	24.15	24.13	24.06			
16QAM	1	0	24.15	24.14	24.21	-0.80	23.78	30.00
	1	49	24.36	24.41	24.08			
	1	99	24.58	24.14	24.23			
	50	0	23.17	23.14	23.05			
	50	24	23.17	23.12	23.09			
	50	49	23.14	23.09	23.11			
	100	0	23.21	23.15	23.06			



**LTE Band 4-Ant4:**

LTE Band 4 - 1.4MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			19957	20175	20393			
			1710.7MHz	1732.5MHz	1754.3MHz			
QPSK	1	0	23.94	23.97	24.03	-3.30	20.78	30.00
	1	2	23.95	23.99	24.08			
	1	5	24.03	23.98	24.03			
	3	0	22.97	23.01	23.02			
	3	1	23.02	22.93	23.03			
	3	2	22.94	22.98	23.07			
16QAM	6	0	22.99	22.99	23.01	-3.30	19.91	30.00
	1	0	23.03	23.11	23.19			
	1	2	23.19	23.21	23.11			
	1	5	23.15	23.10	23.16			
	3	0	22.11	22.00	22.09			
	3	1	22.05	22.14	22.16			
	3	2	22.01	22.04	22.06			
6	0	22.09	22.06	21.99				
LTE Band 4 - 3MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			19965	20175	20385			
			1711.5MHz	1732.5MHz	1753.5MHz			
QPSK	1	0	23.71	23.88	23.69	-3.30	20.64	30.00
	1	7	23.68	23.79	23.57			
	1	14	23.79	23.94	23.76			
	8	0	22.77	22.93	22.74			
	8	4	22.76	22.90	22.76			
	8	7	22.82	22.98	22.82			
	15	0	22.76	22.96	22.81			
16QAM	1	0	22.74	22.92	22.83	-3.30	19.87	30.00
	1	7	22.76	22.95	22.79			
	1	14	22.97	23.17	22.96			
	8	0	21.78	21.91	21.73			
	8	4	21.83	21.96	21.86			
	8	7	21.81	22.01	21.84			
	15	0	21.76	22.03	21.83			



LTE Band 4 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			19975	20175	20375			
			1712.5MHz	1732.5MHz	1752.5MHz			
QPSK	1	0	23.72	23.86	23.69	-3.30	20.81	30.00
	1	12	23.74	23.90	23.70			
	1	24	23.96	24.11	23.87			
	12	0	22.73	22.93	22.76			
	12	6	22.76	22.90	22.77			
	12	11	22.77	22.99	22.83			
	25	0	22.84	23.00	22.76			
16QAM	1	0	22.96	23.08	22.82	-3.30	19.89	30.00
	1	12	23.06	23.18	22.99			
	1	24	23.04	23.19	23.04			
	12	0	21.84	21.96	21.74			
	12	6	21.79	21.95	21.76			
	12	11	21.86	22.02	21.85			
	25	0	21.84	22.06	21.81			
LTE Band 4 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20000	20175	20350			
			1715.0MHz	1732.5MHz	1750.0MHz			
QPSK	1	0	23.95	23.87	24.03	-3.30	20.73	30.00
	1	24	23.96	23.90	23.97			
	1	49	23.98	23.94	24.01			
	25	0	23.05	22.93	22.96			
	25	12	23.05	22.96	23.02			
	25	24	23.02	23.02	23.06			
	50	0	23.01	22.95	23.02			
16QAM	1	0	23.17	23.24	23.28	-3.30	19.98	30.00
	1	24	23.17	23.19	23.23			
	1	49	23.09	23.08	23.09			
	25	0	22.09	21.98	22.10			
	25	12	22.06	21.97	22.05			
	25	24	22.03	22.05	22.11			
	50	0	22.02	22.03	22.10			



LTE Band 4 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20025	20175	20325			
			1717.5MHz	1732.5MHz	1747.5MHz			
QPSK	1	0	23.68	23.77	23.78	-3.30	20.48	30.00
	1	37	23.75	23.73	23.78			
	1	74	23.74	23.72	23.72			
	36	0	22.99	22.98	22.97			
	36	16	22.92	22.85	22.96			
	36	35	23.02	22.77	23.07			
	75	0	22.82	22.83	22.87			
16QAM	1	0	22.92	22.86	22.99	-3.30	19.80	30.00
	1	37	22.99	22.91	23.10			
	1	74	22.93	22.94	22.95			
	36	0	21.97	21.83	21.96			
	36	16	21.93	21.97	21.94			
	36	35	22.09	21.82	21.86			
	75	0	21.88	21.86	21.88			
LTE Band 4 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20050	20175	20300			
			1720.0MHz	1732.5MHz	1745.0MHz			
QPSK	1	0	23.79	23.88	23.86	-3.30	20.64	30.00
	1	49	23.94	23.82	23.81			
	1	99	23.77	23.73	23.75			
	50	0	22.85	22.79	22.79			
	50	24	22.83	22.87	22.80			
	50	49	22.88	22.89	22.90			
	100	0	22.89	22.87	22.80			
16QAM	1	0	22.90	23.09	22.98	-3.30	19.79	30.00
	1	49	22.91	22.92	22.92			
	1	99	23.08	23.06	22.96			
	50	0	21.79	21.83	21.84			
	50	24	21.86	21.86	21.86			
	50	49	21.84	21.91	21.89			
	100	0	21.81	21.79	21.80			



**LTE Band 5-Ant1:**

<b>LTE Band 5 - 1.4MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			20407	20525	20643			
			824.7MHz	836.5MHz	848.3MHz			
QPSK	1	0	23.88	24.23	24.09	-6.60	15.48	38.45
	1	2	23.76	24.06	24.13			
	1	5	23.61	24.22	24.12			
	3	0	22.73	23.11	23.11			
	3	1	22.94	23.13	23.12			
	3	2	22.80	23.12	23.04			
	6	0	22.81	23.06	22.96			
16QAM	1	0	23.06	23.36	23.13	-6.60	14.61	38.45
	1	2	23.17	23.22	23.29			
	1	5	23.04	23.21	23.30			
	3	0	21.94	22.01	22.15			
	3	1	21.72	21.84	22.07			
	3	2	21.86	22.07	22.09			
	6	0	21.81	21.89	22.02			
<b>LTE Band 5 - 3MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			20415	20525	20635			
			825.5MHz	836.5MHz	847.5MHz			
QPSK	1	0	24.07	24.09	24.11	-6.60	15.45	38.45
	1	7	23.92	23.99	23.84			
	1	14	24.20	24.19	24.12			
	8	0	23.12	23.16	23.21			
	8	4	23.14	23.13	23.05			
	8	7	23.21	23.18	23.09			
	15	0	23.11	23.13	23.04			
16QAM	1	0	23.18	23.32	23.11	-6.60	14.68	38.45
	1	7	23.16	23.25	23.18			
	1	14	23.28	23.43	23.38			
	8	0	22.28	22.22	22.16			
	8	4	22.11	22.14	22.07			
	8	7	22.14	22.20	22.13			
	15	0	22.05	22.10	22.07			





LTE Band 5 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			20425	20525	20625			
			826.5MHz	836.5MHz	846.5MHz			
QPSK	1	0	24.00	24.09	24.04	-6.60	15.42	38.45
	1	12	24.08	24.17	24.02			
	1	24	24.15	24.08	24.13			
	12	0	23.02	23.11	23.08			
	12	6	23.04	23.12	23.15			
	12	11	23.11	23.15	23.06			
	25	0	23.09	23.10	23.02			
16QAM	1	0	23.28	23.35	23.29	-6.60	14.70	38.45
	1	12	23.17	23.32	23.24			
	1	24	23.34	23.45	23.41			
	12	0	21.96	22.14	22.09			
	12	6	22.10	22.09	22.03			
	12	11	22.19	22.20	22.14			
	25	0	22.14	22.11	22.08			
LTE Band 5 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			20450	20525	20600			
			829.0MHz	836.5MHz	844.0MHz			
QPSK	1	0	24.14	24.06	23.93	-6.60	15.40	38.45
	1	24	24.08	24.03	24.15			
	1	49	24.07	24.12	24.06			
	25	0	23.09	23.11	23.06			
	25	12	23.08	23.10	23.07			
	25	24	23.15	23.12	23.14			
	50	0	23.11	23.09	23.06			
16QAM	1	0	23.29	23.22	23.18	-6.60	14.54	38.45
	1	24	23.17	23.25	23.27			
	1	49	23.26	23.24	23.22			
	25	0	22.09	22.17	22.17			
	25	12	22.10	22.18	22.11			
	25	24	22.16	22.16	22.12			
	50	0	22.16	22.10	22.16			



**LTE Band 5-Ant3:**

<b>LTE Band 5 - 1.4MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			20407	20525	20643			
			824.7MHz	836.5MHz	848.3MHz			
QPSK	1	0	24.44	24.49	24.47	-4.80	17.60	38.45
	1	2	24.41	24.52	24.52			
	1	5	24.47	24.51	24.55			
	3	0	23.40	23.47	23.51			
	3	1	23.40	23.50	23.53			
	3	2	23.39	23.53	23.53			
16QAM	6	0	23.42	23.43	23.51	-4.80	16.78	38.45
	1	0	23.50	23.68	23.64			
	1	2	23.53	23.60	23.73			
	1	5	23.58	23.72	23.66			
	3	0	22.54	22.56	22.69			
	3	1	22.48	22.57	22.51			
	3	2	22.45	22.55	22.49			
6	0	22.43	22.51	22.56				
<b>LTE Band 5 - 3MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			20415	20525	20635			
			825.5MHz	836.5MHz	847.5MHz			
QPSK	1	0	24.29	24.45	24.36	-4.80	17.57	38.45
	1	7	24.18	24.36	24.18			
	1	14	24.36	24.52	24.37			
	8	0	23.41	23.51	23.36			
	8	4	23.28	23.46	23.29			
	8	7	23.33	23.53	23.37			
	15	0	23.26	23.43	23.36			
16QAM	1	0	23.39	23.50	23.35	-4.80	16.76	38.45
	1	7	23.41	23.56	23.38			
	1	14	23.56	23.71	23.62			
	8	0	22.43	22.50	22.34			
	8	4	22.26	22.48	22.27			
	8	7	22.43	22.57	22.39			
	15	0	22.28	22.45	22.32			



LTE Band 5 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			20425	20525	20625			
			826.5MHz	836.5MHz	846.5MHz			
QPSK	1	0	24.37	24.50	24.49	-4.80	17.66	38.45
	1	12	24.40	24.51	24.45			
	1	24	24.52	24.61	24.50			
	12	0	23.37	23.48	23.49			
	12	6	23.38	23.46	23.43			
	12	11	23.45	23.53	23.53			
	25	0	23.45	23.46	23.43			
16QAM	1	0	23.48	23.58	23.56	-4.80	16.75	38.45
	1	12	23.61	23.52	23.68			
	1	24	23.64	23.65	23.70			
	12	0	22.45	22.40	22.58			
	12	6	22.31	22.46	22.51			
	12	11	22.52	22.49	22.42			
	25	0	22.46	22.48	22.46			
LTE Band 5 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			20450	20525	20600			
			829.0MHz	836.5MHz	844.0MHz			
QPSK	1	0	24.45	24.49	24.42	-4.80	17.57	38.45
	1	24	24.40	24.51	24.52			
	1	49	24.40	24.51	24.46			
	25	0	23.40	23.46	23.46			
	25	12	23.42	23.47	23.46			
	25	24	23.44	23.54	23.54			
	50	0	23.48	23.47	23.55			
16QAM	1	0	23.69	23.65	23.65	-4.80	16.77	38.45
	1	24	23.55	23.58	23.70			
	1	49	23.59	23.72	23.60			
	25	0	22.45	22.56	22.49			
	25	12	22.48	22.56	22.49			
	25	24	22.53	22.57	22.55			
	50	0	22.51	22.49	22.57			



**LTE Band 7-Ant2:**

LTE Band 7 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20775	21100	21425			
			2502.5MHz	2535.0MHz	2567.5MHz			
QPSK	1	0	24.57	24.62	24.30	-0.70	23.94	33.00
	1	12	24.56	24.59	24.58			
	1	24	24.51	24.60	24.64			
	12	0	23.59	23.57	23.59			
	12	6	23.52	23.57	23.58			
	12	11	23.60	23.63	23.63			
16QAM	25	0	23.50	23.57	23.61	-0.70	23.02	33.00
	1	0	23.61	23.69	23.57			
	1	12	23.70	23.64	23.66			
	1	24	23.68	23.71	23.72			
	12	0	22.64	22.64	22.54			
	12	6	22.63	22.52	22.49			
	12	11	22.65	22.63	22.67			
25	0	22.61	22.58	22.59				
LTE Band 7 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20800	21100	21400			
			2505.0MHz	2535.0MHz	2565.0MHz			
QPSK	1	0	24.55	24.54	24.59	-0.70	23.98	33.00
	1	24	24.50	24.56	24.67			
	1	49	24.55	24.58	24.68			
	25	0	23.53	23.60	23.64			
	25	12	23.57	23.59	23.63			
	25	24	23.61	23.63	23.59			
	50	0	23.50	23.57	23.61			
16QAM	1	0	23.69	23.74	23.57	-0.70	23.12	33.00
	1	24	23.65	23.82	23.68			
	1	49	23.72	23.72	23.79			
	25	0	22.57	22.57	22.65			
	25	12	22.56	22.58	22.65			
	25	24	22.64	22.71	22.75			
	50	0	22.63	22.61	22.69			



LTE Band 7 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20825	21100	21375			
			2507.5MHz	2535.0MHz	2562.5MHz			
QPSK	1	0	24.33	24.40	24.45	-0.70	23.84	33.00
	1	37	24.42	24.44	24.47			
	1	74	24.45	24.46	24.54			
	36	0	23.54	23.63	23.65			
	36	16	23.47	23.64	23.73			
	36	35	23.48	23.42	23.51			
	75	0	23.46	23.39	23.55			
16QAM	1	0	23.45	23.51	23.48	-0.70	22.95	33.00
	1	37	23.40	23.51	23.60			
	1	74	23.60	23.58	23.65			
	36	0	22.60	22.67	22.61			
	36	16	22.51	22.43	22.66			
	36	35	22.55	22.49	22.52			
	75	0	22.51	22.42	22.55			
LTE Band 7 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20850	21100	21350			
			2510.0MHz	2535.0MHz	2560.0MHz			
QPSK	1	0	24.28	24.43	24.47	-0.70	23.77	33.00
	1	49	24.34	24.43	24.47			
	1	99	24.30	24.43	24.42			
	50	0	23.35	23.45	23.49			
	50	24	23.36	23.42	23.49			
	50	49	23.42	23.47	23.52			
	100	0	23.48	23.45	23.49			
16QAM	1	0	23.37	23.53	23.64	-0.70	23.02	33.00
	1	49	23.49	23.63	23.60			
	1	99	23.47	23.55	23.72			
	50	0	22.36	22.47	22.51			
	50	24	22.42	22.44	22.49			
	50	49	22.48	22.49	22.52			
	100	0	22.45	22.45	22.51			



**LTE Band 7-Ant4:**

LTE Band 7 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20775	21100	21425			
			2502.5MHz	2535.0MHz	2567.5MHz			
QPSK	1	0	22.76	22.76	22.66	-3.70	19.24	33.00
	1	12	22.80	22.78	22.79			
	1	24	22.82	22.91	22.94			
	12	0	21.82	21.77	21.80			
	12	6	21.82	21.77	21.77			
	12	11	21.84	21.85	21.87			
25	0	21.82	21.74	21.78				
16QAM	1	0	21.91	21.83	21.85	-3.70	18.38	33.00
	1	12	21.89	21.96	21.95			
	1	24	22.07	22.08	22.06			
	12	0	20.92	20.69	20.85			
	12	6	20.82	20.79	20.82			
	12	11	20.86	20.83	20.85			
25	0	20.85	20.78	20.79				
LTE Band 7 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20800	21100	21400			
			2505.0MHz	2535.0MHz	2565.0MHz			
QPSK	1	0	22.77	22.73	22.75	-3.70	19.13	33.00
	1	24	22.75	22.79	22.78			
	1	49	22.76	22.75	22.83			
	25	0	21.79	21.78	21.80			
	25	12	21.76	21.79	21.82			
	25	24	21.86	21.84	21.88			
50	0	21.85	21.76	21.90				
16QAM	1	0	21.97	21.97	22.02	-3.70	18.41	33.00
	1	24	21.89	22.04	22.11			
	1	49	21.85	22.00	22.11			
	25	0	20.83	20.77	20.80			
	25	12	20.79	20.80	20.79			
	25	24	20.87	20.87	20.87			
50	0	20.86	20.76	20.92				



LTE Band 7 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20825	21100	21375			
			2507.5MHz	2535.0MHz	2562.5MHz			
QPSK	1	0	22.50	22.43	22.51	-3.70	18.87	33.00
	1	37	22.53	22.56	22.57			
	1	74	22.57	22.57	22.50			
	36	0	21.69	21.79	21.83			
	36	16	21.76	21.68	21.77			
	36	35	21.64	21.69	21.70			
	75	0	21.69	21.63	21.70			
16QAM	1	0	21.66	21.76	21.75	-3.70	18.19	33.00
	1	37	21.89	21.72	21.76			
	1	74	21.78	21.82	21.72			
	36	0	20.66	20.73	20.77			
	36	16	20.87	20.81	20.86			
	36	35	20.72	20.77	20.68			
	75	0	20.73	20.61	20.71			
LTE Band 7 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			20850	21100	21350			
			2510.0MHz	2535.0MHz	2560.0MHz			
QPSK	1	0	22.79	22.76	22.73	-3.70	19.16	33.00
	1	49	22.75	22.77	22.86			
	1	99	22.81	22.80	22.77			
	50	0	21.60	21.63	21.63			
	50	24	21.66	21.64	21.66			
	50	49	21.67	21.67	21.68			
	100	0	21.70	21.63	21.67			
16QAM	1	0	21.84	21.62	21.65	-3.70	18.22	33.00
	1	49	21.77	21.79	21.81			
	1	99	21.76	21.92	21.84			
	50	0	20.64	20.67	20.63			
	50	24	20.65	20.65	20.68			
	50	49	20.66	20.72	20.70			
	100	0	20.70	20.64	20.66			



**LTE Band 12-Ant1:**

<b>LTE Band 12 - 1.4MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23017	23095	23173			
			699.7MHz	707.5MHz	715.3MHz			
QPSK	1	0	24.47	24.54	24.60	-4.20	20.41	33.77
	1	2	24.49	24.51	24.58			
	1	5	24.48	24.55	24.61			
	3	0	23.56	23.49	23.58			
	3	1	23.47	23.54	23.53			
	3	2	23.52	23.50	23.56			
16QAM	6	0	23.54	23.55	23.55	-4.20	19.58	33.77
	1	0	23.54	23.75	23.76			
	1	2	23.63	23.57	23.74			
	1	5	23.69	23.62	23.78			
	3	0	22.65	22.54	22.64			
	3	1	22.60	22.60	22.56			
	3	2	22.63	22.61	22.59			
6	0	22.61	22.43	22.59				
<b>LTE Band 12 - 3MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23025	23095	23165			
			700.5MHz	707.5MHz	714.5MHz			
QPSK	1	0	24.54	24.44	24.51	-4.20	20.50	33.77
	1	7	24.56	24.45	24.50			
	1	14	24.70	24.51	24.64			
	8	0	23.60	23.49	23.52			
	8	4	23.65	23.48	23.50			
	8	7	23.58	23.56	23.58			
	15	0	23.61	23.47	23.56			
16QAM	1	0	23.62	23.59	23.65	-4.20	19.55	33.77
	1	7	23.69	23.57	23.75			
	1	14	23.70	23.62	23.73			
	8	0	23.55	22.58	22.54			
	8	4	23.50	22.53	22.59			
	8	7	23.63	22.59	22.59			
	15	0	22.65	22.44	22.59			





LTE Band 12 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23035	23095	23155			
			701.5MHz	707.5MHz	713.5MHz			
QPSK	1	0	24.51	24.55	24.35	-4.20	20.54	33.77
	1	12	24.47	24.55	24.43			
	1	24	24.69	24.74	24.54			
	12	0	23.50	23.51	23.36			
	12	6	23.49	23.49	23.27			
	12	11	23.56	23.55	23.46			
	25	0	23.56	23.48	23.50			
16QAM	1	0	23.64	23.50	23.47	-4.20	19.49	33.77
	1	12	23.54	23.58	23.50			
	1	24	23.63	23.69	23.59			
	12	0	22.44	22.49	22.64			
	12	6	22.52	22.50	22.57			
	12	11	22.57	22.58	22.36			
	25	0	22.56	22.50	22.42			
LTE Band 12 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23060	23095	23130			
			704.0MHz	707.5MHz	711.0MHz			
QPSK	1	0	24.48	24.54	24.55	-4.20	20.39	33.77
	1	24	24.50	24.59	24.53			
	1	49	24.57	24.56	24.56			
	25	0	23.50	23.54	23.56			
	25	12	23.52	23.54	23.57			
	25	24	23.57	23.58	23.59			
	50	0	23.57	23.53	23.55			
16QAM	1	0	23.66	23.68	23.74	-4.20	19.60	33.77
	1	24	23.78	23.75	23.70			
	1	49	23.80	23.71	23.74			
	25	0	22.52	22.55	22.54			
	25	12	22.56	22.54	22.57			
	25	24	22.61	22.64	22.63			
	50	0	22.56	22.55	22.51			



**LTE Band 12-Ant3:**

<b>LTE Band 12 - 1.4MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23017	23095	23173			
			699.7MHz	707.5MHz	715.3MHz			
QPSK	1	0	24.36	24.39	24.30	-5.50	18.89	33.77
	1	2	24.35	24.33	24.35			
	1	5	24.33	24.35	24.25			
	3	0	23.34	23.22	23.24			
	3	1	23.32	23.28	23.30			
	3	2	23.23	23.25	23.18			
16QAM	6	0	23.22	23.26	23.24	-5.50	16.98	33.77
	1	0	22.29	22.48	22.35			
	1	2	22.35	22.34	22.38			
	1	5	22.32	22.46	22.37			
	3	0	22.32	22.34	22.26			
	3	1	22.24	22.29	22.26			
	3	2	22.30	22.30	22.26			
6	0	22.27	22.19	22.21				
<b>LTE Band 12 - 3MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23025	23095	23165			
			700.5MHz	707.5MHz	714.5MHz			
QPSK	1	0	24.18	24.32	24.26	-5.50	18.82	33.77
	1	7	24.02	24.28	24.17			
	1	14	24.23	24.30	24.22			
	8	0	22.98	23.19	22.99			
	8	4	22.96	23.17	22.09			
	8	7	23.04	23.27	23.11			
	15	0	23.05	23.19	23.02			
16QAM	1	0	23.03	23.28	23.03	-5.50	17.92	33.77
	1	7	23.12	23.39	23.18			
	1	14	23.24	23.42	23.22			
	8	0	22.06	22.28	22.02			
	8	4	22.01	22.24	22.06			
	8	7	22.03	22.31	22.11			
	15	0	22.01	22.20	22.04			



LTE Band 12 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23035	23095	23155			
			701.5MHz	707.5MHz	713.5MHz			
QPSK	1	0	24.21	24.30	24.16	-5.50	18.84	33.77
	1	12	24.23	24.31	24.27			
	1	24	24.12	24.34	24.03			
	12	0	22.96	23.17	22.96			
	12	6	22.97	23.17	22.98			
	12	11	23.06	23.21	23.12			
	25	0	22.94	23.16	23.08			
16QAM	1	0	23.11	23.35	23.17	-5.50	17.96	33.77
	1	12	23.06	23.12	23.01			
	1	24	23.28	23.46	23.22			
	12	0	22.01	22.19	21.97			
	12	6	22.14	22.32	22.12			
	12	11	22.13	22.24	22.01			
	25	0	22.07	22.22	22.05			
LTE Band 12 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23060	23095	23130			
			704.0MHz	707.5MHz	711.0MHz			
QPSK	1	0	24.27	24.28	24.26	-5.50	18.87	33.77
	1	24	24.37	24.33	24.35			
	1	49	24.28	24.35	24.30			
	25	0	23.21	23.25	23.24			
	25	12	23.20	23.23	23.24			
	25	24	23.29	23.27	23.27			
	50	0	23.30	23.23	23.22			
16QAM	1	0	23.27	23.31	23.27	-5.50	17.95	33.77
	1	24	23.35	23.45	23.42			
	1	49	23.40	23.43	23.44			
	25	0	22.24	22.26	22.27			
	25	12	22.23	22.25	22.26			
	25	24	22.28	22.32	22.30			
	50	0	22.27	22.23	22.22			



**LTE Band 17-Ant1:**

LTE Band 17 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23755	23790	23825			
			706.5MHz	710.0MHz	713.5MHz			
QPSK	1	0	24.91	24.92	24.98	-4.20	20.90	33.77
	1	12	24.82	24.95	24.99			
	1	24	24.96	25.10	25.08			
	12	0	23.86	23.89	23.98			
	12	6	23.86	23.94	23.96			
	12	11	23.94	24.00	24.02			
25	0	23.95	23.92	23.94				
16QAM	1	0	23.99	24.09	24.09	-4.20	20.04	33.77
	1	12	24.03	24.18	24.17			
	1	24	24.14	24.24	24.22			
	12	0	22.94	22.92	22.99			
	12	6	22.89	22.92	22.99			
	12	11	23.02	23.02	23.09			
	25	0	22.96	22.92	22.96			
LTE Band 17 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23780	23790	23800			
			709.0MHz	710.0MHz	711.0MHz			
QPSK	1	0	24.94	24.99	24.96	-4.20	20.81	33.77
	1	24	24.87	24.90	24.87			
	1	49	24.94	25.01	24.96			
	25	0	23.91	23.95	23.95			
	25	12	23.91	23.92	23.94			
	25	24	24.00	24.02	24.00			
	50	0	24.01	23.94	23.96			
16QAM	1	0	24.10	24.19	24.20	-4.20	20.00	33.77
	1	24	24.08	24.09	24.09			
	1	49	24.09	24.16	24.19			
	25	0	22.89	22.96	23.01			
	25	12	22.95	22.98	23.00			
	25	24	22.96	23.05	23.10			
	50	0	23.01	22.96	22.94			



**LTE Band 17-Ant3:**

LTE Band 17 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23755	23790	23825			
			706.5MHz	710.0MHz	713.5MHz			
QPSK	1	0	24.31	24.32	24.27	-5.50	18.92	33.77
	1	12	24.21	24.34	24.34			
	1	24	24.38	24.42	24.37			
	12	0	23.17	23.17	23.20			
	12	6	23.26	23.19	23.17			
	12	11	23.18	23.22	23.23			
16QAM	25	0	23.23	23.16	23.19	-5.50	18.01	33.77
	1	0	23.36	23.35	23.32			
	1	12	23.34	23.32	23.36			
	1	24	23.42	23.51	23.43			
	12	0	22.10	22.27	22.24			
	12	6	22.21	22.17	22.17			
	12	11	22.21	22.20	22.27			
25	0	22.22	22.17	22.16				
LTE Band 17 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. ERP (dBm)	ERP Limit (dBm)
			23780	23790	23800			
			709.0MHz	710.0MHz	711.0MHz			
QPSK	1	0	24.34	24.26	24.28	-5.50	18.84	33.77
	1	24	24.27	24.29	24.30			
	1	49	24.29	24.30	24.33			
	25	0	23.23	23.21	23.21			
	25	12	23.17	23.18	23.19			
	25	24	23.24	23.25	23.26			
	50	0	23.27	23.16	23.18			
16QAM	1	0	23.41	23.37	23.43	-5.50	17.93	33.77
	1	24	23.32	23.33	23.19			
	1	49	23.43	23.31	23.39			
	25	0	22.21	22.18	22.23			
	25	12	22.21	22.20	22.22			
	25	24	22.25	22.29	22.29			
	50	0	22.25	22.18	22.18			



**LTE Band 41-Ant1:**

<b>LTE Band 41 - 5MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40265	40740	41215			
			2557.5MHz	2605.0MHz	2652.5MHz			
QPSK	1	0	21.47	21.66	21.29	-2.50	19.26	33.00
	1	12	21.38	21.56	21.33			
	1	24	21.59	21.76	21.43			
	12	0	20.42	20.59	20.33			
	12	6	20.46	20.50	20.31			
	12	11	20.48	20.69	20.38			
16QAM	25	0	20.41	20.55	20.31	-2.50	18.20	33.00
	1	0	20.64	20.64	20.38			
	1	12	20.49	20.60	20.50			
	1	24	20.65	20.70	20.47			
	12	0	19.52	19.67	19.63			
	12	6	19.56	19.64	19.67			
	12	11	19.57	19.59	19.65			
25	0	19.48	19.61	19.58				
<b>LTE Band 41 - 10MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40290	40740	41190			
			2560.0MHz	2605.0MHz	2650.0MHz			
QPSK	1	0	21.35	21.54	21.39	-2.50	19.11	33.00
	1	24	21.33	21.50	21.46			
	1	49	21.40	21.61	21.49			
	25	0	20.30	20.30	20.34			
	25	12	20.28	20.28	20.34			
	25	24	20.22	20.36	20.32			
	50	0	20.14	20.24	20.22			
16QAM	1	0	20.26	20.42	20.32	-2.50	18.01	33.00
	1	24	20.37	20.29	20.51			
	1	49	20.24	20.30	20.48			
	25	0	19.21	19.32	19.62			
	25	12	19.24	19.32	19.59			
	25	24	19.33	19.44	19.50			
	50	0	19.12	19.25	19.36			



LTE Band 41 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40315	40740	41165			
			2562.5MHz	2605.0MHz	2647.5MHz			
QPSK	1	0	21.41	21.59	21.35	-2.50	19.09	33.00
	1	37	21.34	21.53	21.51			
	1	74	21.37	21.56	21.49			
	36	0	20.37	20.57	20.33			
	36	16	20.38	20.55	20.42			
	36	35	20.45	20.61	20.30			
	75	0	20.33	20.43	20.26			
16QAM	1	0	20.56	20.67	20.32	-2.50	18.17	33.00
	1	37	20.39	20.58	20.43			
	1	74	20.38	20.57	20.41			
	36	0	19.35	19.49	19.37			
	36	16	19.39	19.57	19.34			
	36	35	19.51	19.68	19.29			
	75	0	19.42	19.48	19.26			
LTE Band 41 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40340	40740	41140			
			2565.0MHz	2605.0MHz	2645.0MHz			
QPSK	1	0	21.30	21.48	21.35	-2.50	19.08	33.00
	1	49	21.28	21.58	21.44			
	1	99	21.35	21.42	21.33			
	50	0	20.28	20.47	20.28			
	50	24	20.26	20.43	20.32			
	50	49	20.34	20.52	20.23			
	100	0	20.26	20.44	20.23			
16QAM	1	0	20.43	20.62	20.32	-2.50	18.12	33.00
	1	49	20.38	20.57	20.49			
	1	99	20.29	20.60	20.42			
	50	0	19.50	19.68	19.47			
	50	24	19.61	19.69	19.46			
	50	49	19.42	19.56	19.68			
	100	0	19.42	19.56	19.45			



**LTE Band 41-Ant2:**

<b>LTE Band 41 - 5MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40265	40740	41215			
			2557.5MHz	2605.0MHz	2652.5MHz			
QPSK	1	0	24.17	24.02	24.07	-0.70	23.49	33.00
	1	12	24.10	24.09	23.85			
	1	24	24.19	24.11	24.03			
	12	0	23.19	23.07	23.10			
	12	6	23.20	23.09	23.11			
	12	11	23.12	23.14	23.17			
25	0	23.22	23.08	23.03				
16QAM	1	0	23.61	23.38	23.40	-0.70	22.97	33.00
	1	12	23.47	23.44	23.32			
	1	24	23.66	23.67	23.45			
	12	0	22.48	22.39	22.20			
	12	6	22.37	22.48	22.39			
	12	11	22.54	22.30	22.23			
	25	0	22.41	22.29	22.22			
<b>LTE Band 41 - 10MHz Bandwidth</b>								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40290	40740	41190			
			2560.0MHz	2605.0MHz	2650.0MHz			
QPSK	1	0	24.16	24.15	24.14	-0.70	23.49	33.00
	1	24	24.13	24.09	24.13			
	1	49	24.19	24.10	24.09			
	25	0	23.27	23.13	23.10			
	25	12	23.24	23.20	23.15			
	25	24	23.32	23.16	23.17			
	50	0	23.34	23.19	23.09			
16QAM	1	0	23.38	23.38	23.31	-0.70	22.68	33.00
	1	24	23.33	23.34	23.19			
	1	49	23.30	23.38	23.24			
	25	0	22.27	22.11	22.14			
	25	12	22.20	22.15	22.10			
	25	24	22.31	22.20	22.21			
	50	0	22.22	22.18	22.14			





LTE Band 41 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40315	40740	41165			
			2562.5MHz	2605.0MHz	2647.5MHz			
QPSK	1	0	23.96	23.98	24.05	-0.70	23.41	33.00
	1	37	24.11	23.89	23.89			
	1	74	24.04	23.86	24.01			
	36	0	23.25	23.09	23.16			
	36	16	23.30	23.23	23.09			
	36	35	23.16	23.13	23.15			
	75	0	23.11	23.04	23.02			
16QAM	1	0	23.21	23.16	23.10	-0.70	22.66	33.00
	1	37	23.36	23.09	23.11			
	1	74	23.25	23.27	23.17			
	36	0	22.30	22.06	22.01			
	36	16	22.22	22.17	22.19			
	36	35	22.20	22.01	22.13			
	75	0	22.15	21.96	21.93			
LTE Band 41 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40340	40740	41140			
			2565.0MHz	2605.0MHz	2645.0MHz			
QPSK	1	0	23.98	23.99	24.05	-0.70	23.37	33.00
	1	49	24.05	24.07	24.01			
	1	99	24.02	24.03	23.92			
	50	0	23.12	23.01	22.90			
	50	24	23.10	23.05	22.96			
	50	49	23.08	23.03	23.04			
	100	0	23.09	22.97	22.93			
16QAM	1	0	23.17	23.18	23.16	-0.70	22.62	33.00
	1	49	23.28	23.32	23.02			
	1	99	23.30	23.16	23.27			
	50	0	22.12	21.97	21.94			
	50	24	22.10	21.98	22.05			
	50	49	22.12	22.03	22.11			
	100	0	22.05	21.95	21.94			



**LTE Band 41-Ant4:**

LTE Band 41 - 5MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40265	40740	41215			
			2557.5MHz	2605.0MHz	2652.5MHz			
QPSK	1	0	23.29	23.42	23.31	-3.70	19.86	33.00
	1	12	23.25	23.36	23.35			
	1	24	23.29	23.56	23.31			
	12	0	22.32	22.42	22.40			
	12	6	22.34	22.40	22.41			
	12	11	22.29	22.49	22.35			
16QAM	25	0	22.29	22.44	22.30	-3.70	18.94	33.00
	1	0	22.38	22.57	22.52			
	1	12	22.37	22.54	22.51			
	1	24	22.47	22.64	22.56			
	12	0	21.39	21.49	21.63			
	12	6	21.33	21.55	21.52			
	12	11	21.43	21.61	21.49			
25	0	21.34	21.54	21.46				
LTE Band 41 - 10MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40290	40740	41190			
			2560.0MHz	2605.0MHz	2650.0MHz			
QPSK	1	0	23.23	23.39	23.37	-3.70	19.75	33.00
	1	24	23.25	23.30	23.45			
	1	49	23.24	23.36	23.19			
	25	0	22.28	22.45	22.30			
	25	12	22.39	22.45	22.31			
	25	24	22.33	22.51	22.35			
	50	0	22.37	22.42	22.28			
16QAM	1	0	22.32	22.53	22.39	-3.70	18.96	33.00
	1	24	22.38	22.50	22.44			
	1	49	22.42	22.66	22.35			
	25	0	21.27	21.50	21.46			
	25	12	21.28	21.49	21.48			
	25	24	21.39	21.55	21.52			
	50	0	21.32	21.48	21.37			



LTE Band 41 - 15MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40315	40740	41165			
			2562.5MHz	2605.0MHz	2647.5MHz			
QPSK	1	0	23.19	23.21	23.25	-3.70	19.61	33.00
	1	37	23.31	23.25	23.13			
	1	74	23.15	23.13	23.21			
	36	0	22.29	22.47	22.43			
	36	16	22.31	22.48	22.38			
	36	35	22.27	22.55	22.52			
	75	0	22.25	22.44	22.33			
16QAM	1	0	22.55	22.45	22.50	-3.70	18.98	33.00
	1	37	22.46	22.48	22.33			
	1	74	22.43	22.68	22.42			
	36	0	21.40	21.45	21.40			
	36	16	21.53	21.44	21.37			
	36	35	21.46	21.55	21.56			
	75	0	21.35	21.34	21.39			
LTE Band 41 - 20MHz Bandwidth								
Modulation	RB Size	RB Offset	Average Power (dBm)			Ant. Gain (dBi)	Max. EIRP (dBm)	EIRP Limit (dBm)
			40340	40740	41140			
			2565.0MHz	2605.0MHz	2645.0MHz			
QPSK	1	0	23.26	23.66	23.47	-3.70	19.96	33.00
	1	49	23.41	23.35	23.61			
	1	99	23.33	23.43	23.35			
	50	0	22.34	22.33	22.31			
	50	24	22.28	22.35	22.28			
	50	49	22.24	22.41	22.43			
	100	0	22.27	22.32	22.29			
16QAM	1	0	22.39	22.47	22.39	-3.70	18.85	33.00
	1	49	22.41	22.40	22.27			
	1	99	22.47	22.55	22.18			
	50	0	21.30	21.29	21.44			
	50	24	21.28	21.28	21.46			
	50	49	21.36	21.37	21.54			
	100	0	21.27	21.31	21.33			

**Peak To Average Ratio**

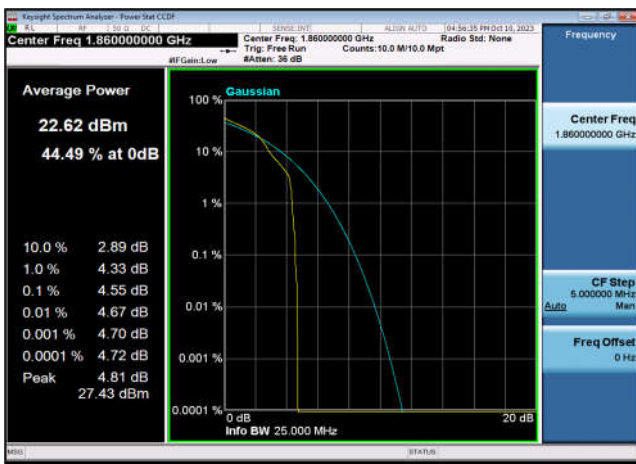
PeakToAveragePowerRatio NormalTC_NormalVol							
Band	Range	BandWidth	RbMode	Modulation	PAPR (dBm)	Limit (dBm)	Result
FDD02	LowRange	20	OneRB_high	Q16	4.55	13.00	Pass
FDD02	LowRange	20	fullRB	Q16	5.85	13.00	Pass
FDD02	MidRange	20	OneRB_high	Q16	4.73	13.00	Pass
FDD02	MidRange	20	fullRB	Q16	5.82	13.00	Pass
FDD02	HighRange	20	OneRB_high	Q16	4.41	13.00	Pass
FDD02	HighRange	20	fullRB	Q16	5.84	13.00	Pass
FDD04	LowRange	20	OneRB_high	Q16	4.43	13.00	Pass
FDD04	LowRange	20	fullRB	Q16	5.65	13.00	Pass
FDD04	MidRange	20	OneRB_high	Q16	4.46	13.00	Pass
FDD04	MidRange	20	fullRB	Q16	5.84	13.00	Pass
FDD04	HighRange	20	OneRB_high	Q16	5.34	13.00	Pass
FDD04	HighRange	20	fullRB	Q16	6.10	13.00	Pass
FDD07	LowRange	20	OneRB_high	Q16	3.77	13.00	Pass
FDD07	LowRange	20	fullRB	Q16	5.01	13.00	Pass
FDD07	MidRange	20	OneRB_high	Q16	3.90	13.00	Pass
FDD07	MidRange	20	fullRB	Q16	4.92	13.00	Pass
FDD07	HighRange	20	OneRB_high	Q16	4.07	13.00	Pass
FDD07	HighRange	20	fullRB	Q16	5.00	13.00	Pass
TDD41	LowRange	20	OneRB_high	Q16	5.42	13.00	Pass
TDD41	LowRange	20	fullRB	Q16	5.92	13.00	Pass
TDD41	MidRange	20	OneRB_high	Q16	4.87	13.00	Pass
TDD41	MidRange	20	fullRB	Q16	5.94	13.00	Pass
TDD41	HighRange	20	OneRB_high	Q16	5.33	13.00	Pass
TDD41	HighRange	20	fullRB	Q16	5.93	13.00	Pass
FDD05	LowRange	10	OneRB_high	Q16	3.65	13.00	Pass
FDD05	LowRange	10	fullRB	Q16	4.97	13.00	Pass
FDD05	MidRange	10	OneRB_high	Q16	3.71	13.00	Pass
FDD05	MidRange	10	fullRB	Q16	5.01	13.00	Pass
FDD05	HighRange	10	OneRB_high	Q16	3.73	13.00	Pass
FDD05	HighRange	10	fullRB	Q16	5.00	13.00	Pass



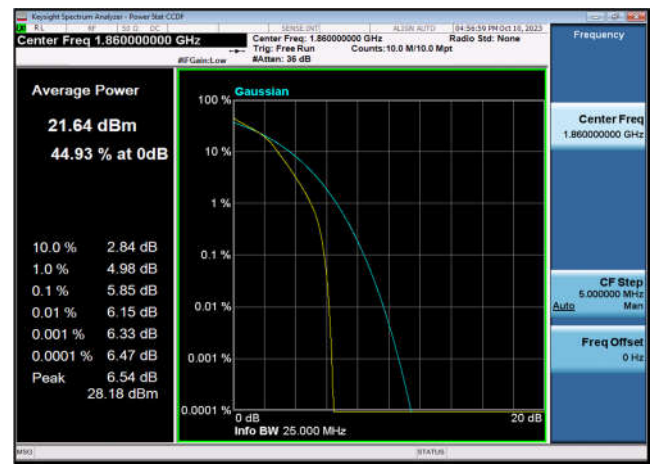
FDD12	LowRange	10	OneRB_high	Q16	3.64	13.00	Pass
FDD12	LowRange	10	fullRB	Q16	4.96	13.00	Pass
FDD12	MidRange	10	OneRB_high	Q16	3.70	13.00	Pass
FDD12	MidRange	10	fullRB	Q16	5.02	13.00	Pass
FDD12	HighRange	10	OneRB_high	Q16	3.77	13.00	Pass
FDD12	HighRange	10	fullRB	Q16	5.07	13.00	Pass
FDD17	LowRange	10	OneRB_high	Q16	4.53	13.00	Pass
FDD17	LowRange	10	fullRB	Q16	5.80	13.00	Pass
FDD17	MidRange	10	OneRB_high	Q16	4.59	13.00	Pass
FDD17	MidRange	10	fullRB	Q16	5.89	13.00	Pass
FDD17	HighRange	10	OneRB_high	Q16	4.63	13.00	Pass
FDD17	HighRange	10	fullRB	Q16	5.89	13.00	Pass



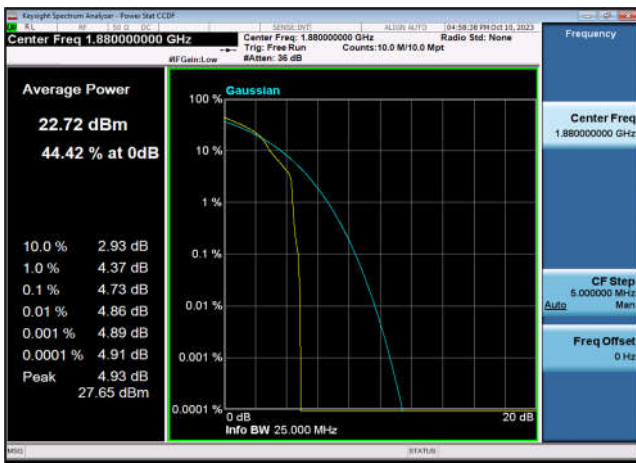
FDD02\_LowRange\_20MHz\_1860\_OneRB\_high\_Q16



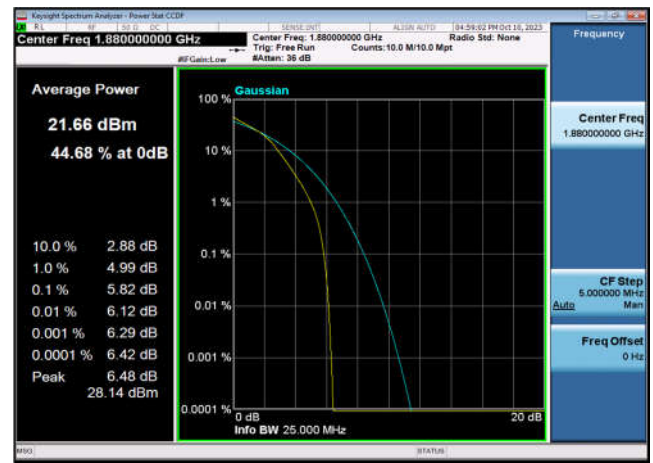
FDD02\_LowRange\_20MHz\_1860\_fullRB\_Q16



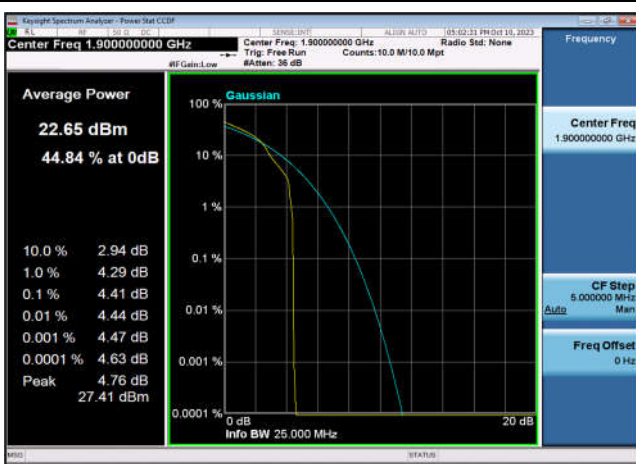
FDD02\_MidRange\_20MHz\_1880\_OneRB\_high\_Q16



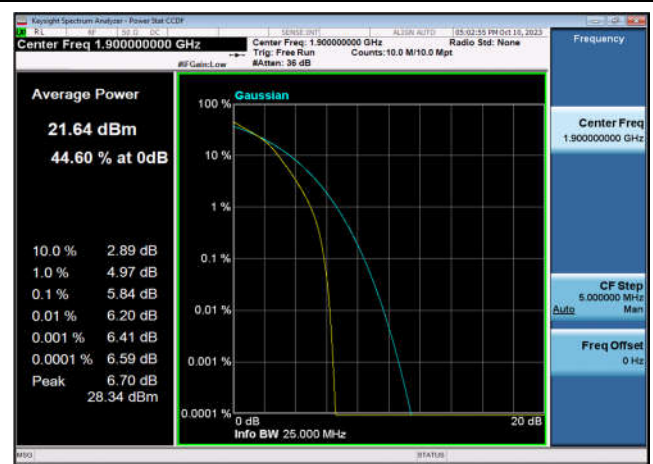
FDD02\_MidRange\_20MHz\_1880\_fullRB\_Q16



FDD02\_HighRange\_20MHz\_1900\_OneRB\_high\_Q16

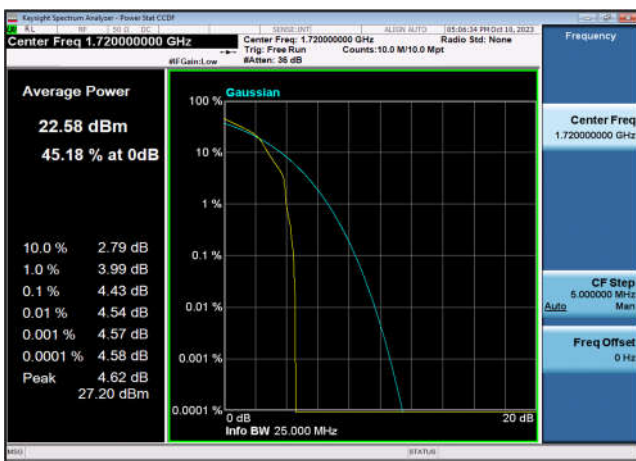


FDD02\_HighRange\_20MHz\_1900\_fullRB\_Q16

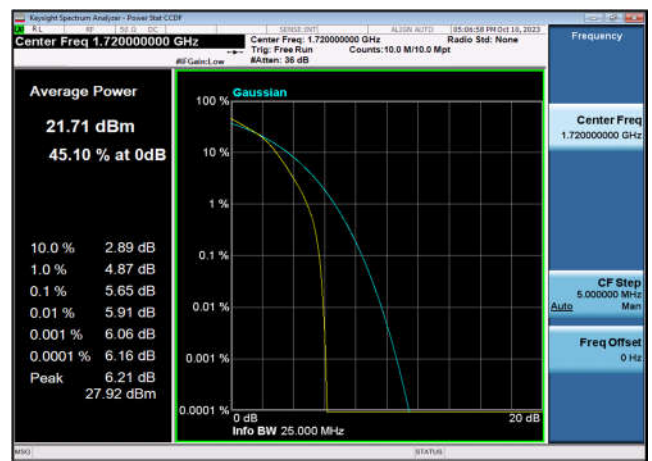




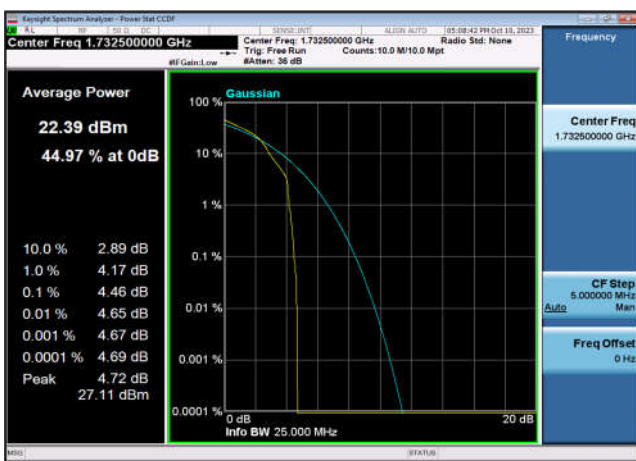
FDD04\_LowRange\_20MHz\_1720\_OneRB\_high\_Q16



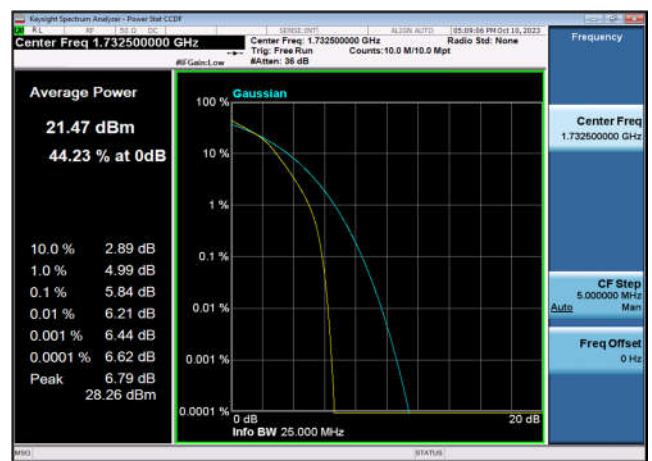
FDD04\_LowRange\_20MHz\_1720\_fullRB\_Q16



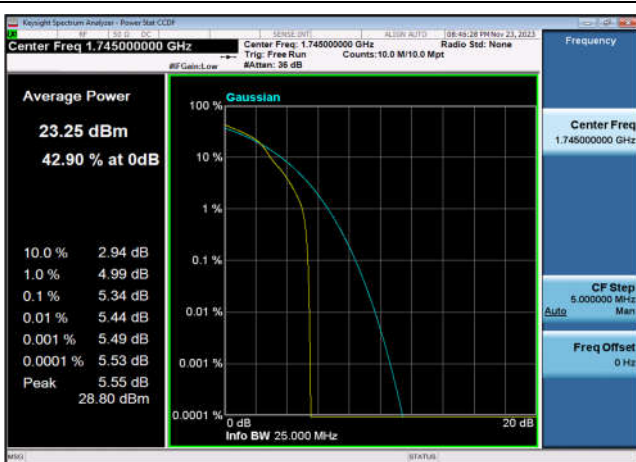
FDD04\_MidRange\_20MHz\_1732.5\_OneRB\_high\_Q16



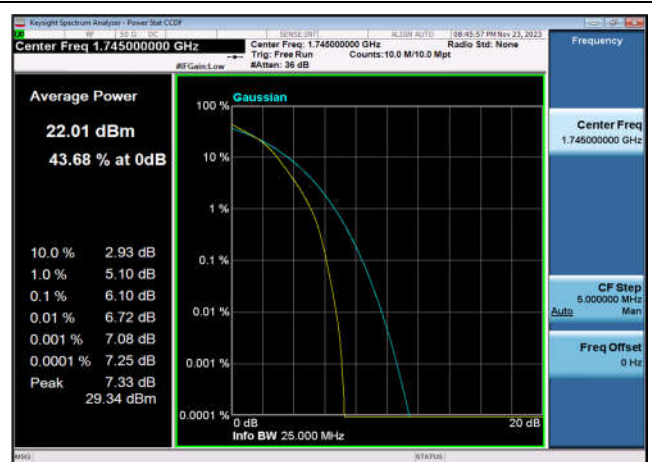
FDD04\_MidRange\_20MHz\_1732.5\_fullRB\_Q16



FDD04\_HighRange\_20MHz\_1745\_OneRB\_high\_Q16

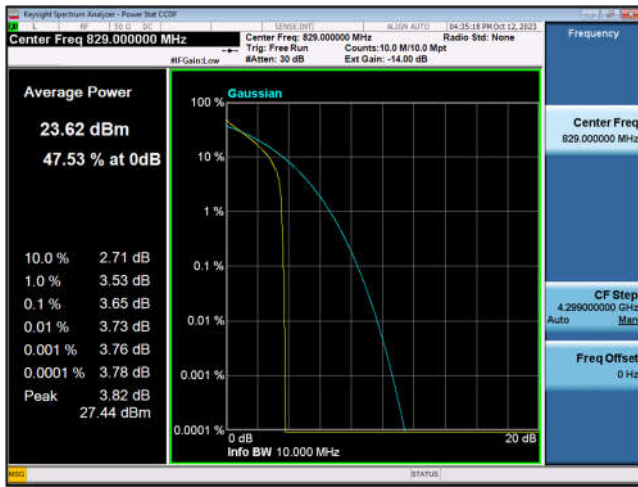


FDD04\_HighRange\_20MHz\_1745\_fullRB\_Q16

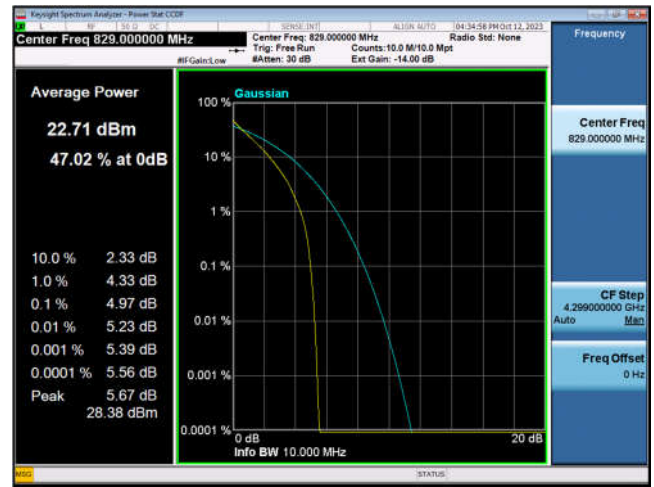




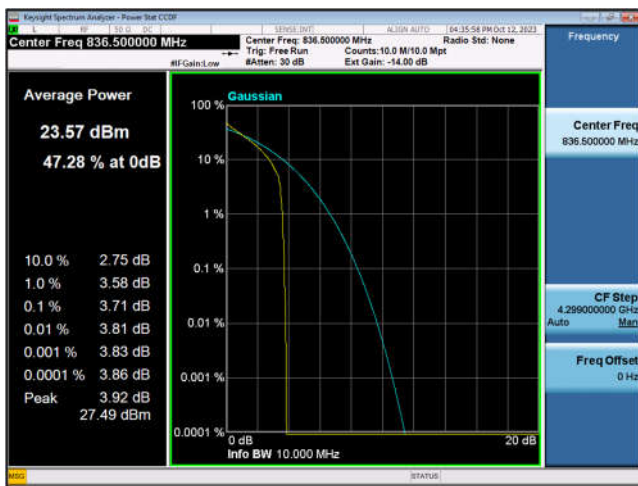
FDD05\_LowRange\_10MHz\_829\_OneRB\_high\_Q16



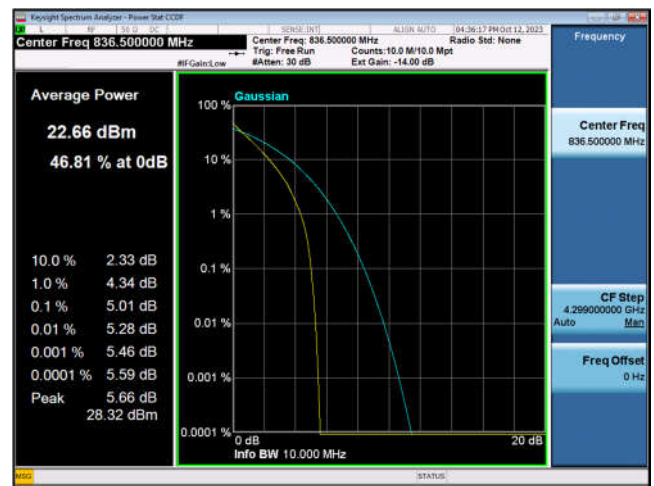
FDD05\_LowRange\_10MHz\_829\_fullRB\_Q16



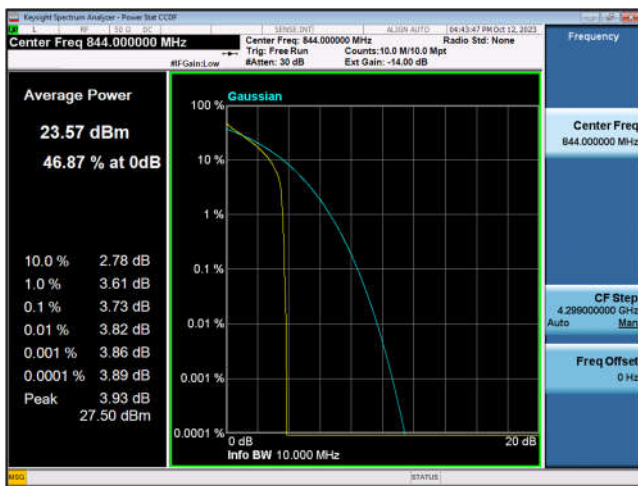
FDD05\_MidRange\_10MHz\_836.5\_OneRB\_high\_Q16



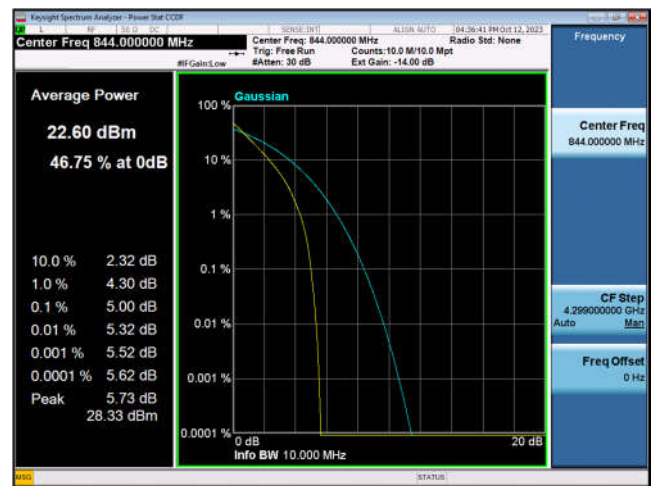
FDD05\_MidRange\_10MHz\_836.5\_fullRB\_Q16



FDD05\_HighRange\_10MHz\_844\_OneRB\_high\_Q16



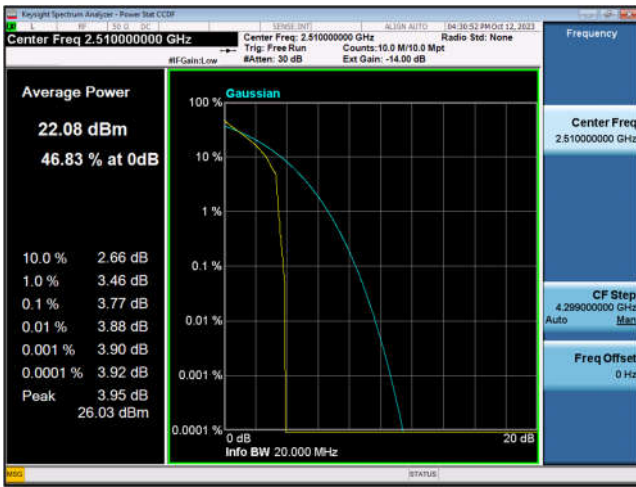
FDD05\_HighRange\_10MHz\_844\_fullRB\_Q16



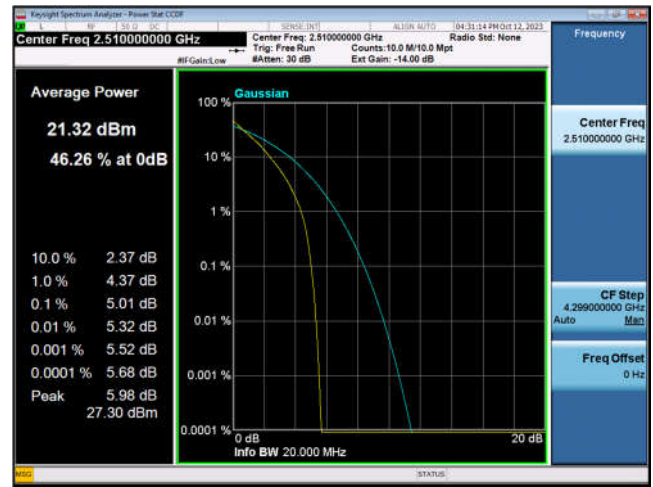




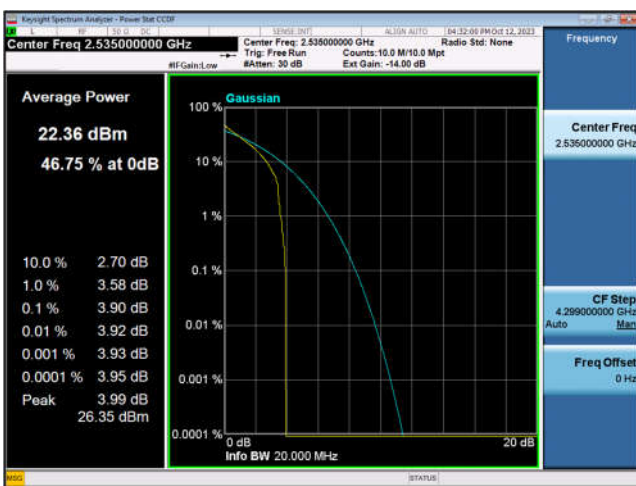
FDD07\_LowRange\_20MHz\_2510\_OneRB\_high\_Q16



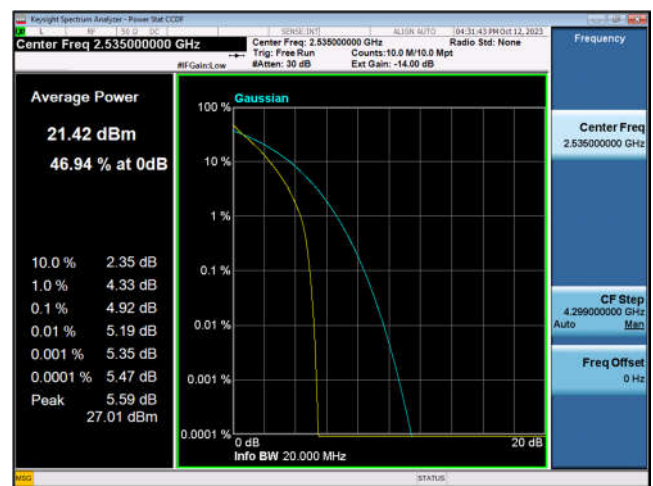
FDD07\_LowRange\_20MHz\_2510\_fullIRB\_Q16



FDD07\_MidRange\_20MHz\_2535\_OneRB\_high\_Q16



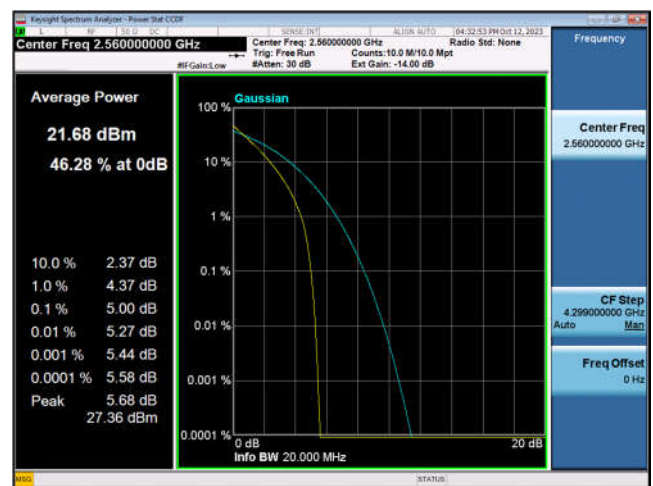
FDD07\_MidRange\_20MHz\_2535\_fullIRB\_Q16



FDD07\_HighRange\_20MHz\_2560\_OneRB\_high\_Q16

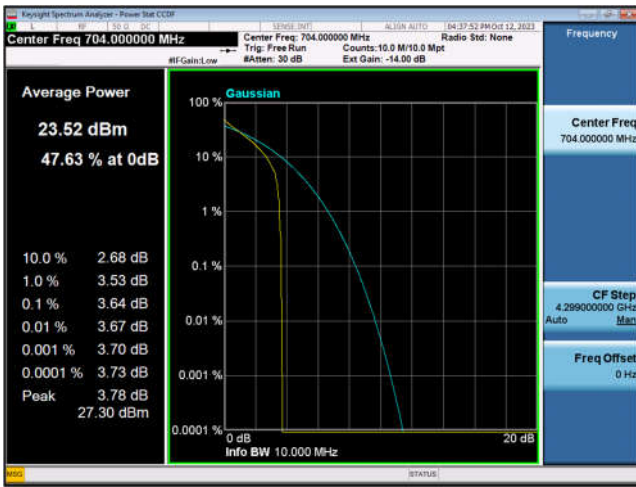


FDD07\_HighRange\_20MHz\_2560\_fullIRB\_Q16

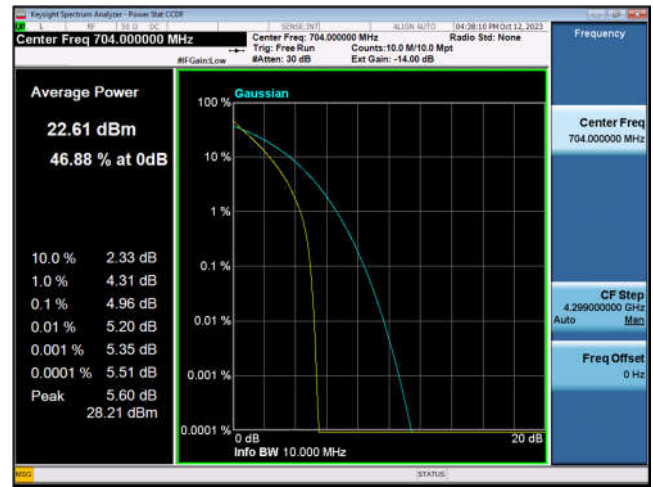




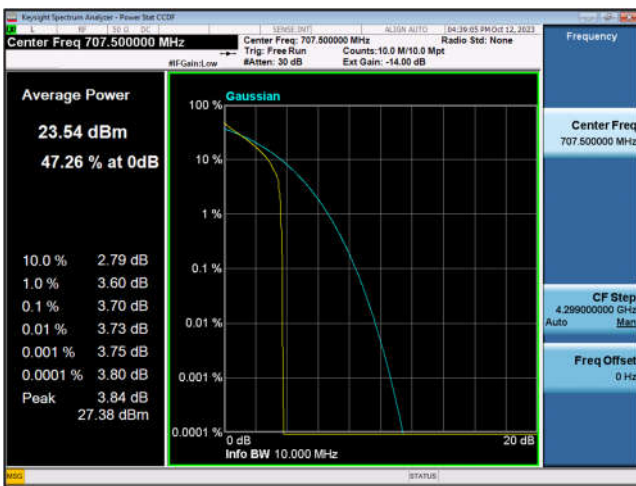
FDD12\_LowRange\_10MHz\_704\_OneRB\_high\_Q16



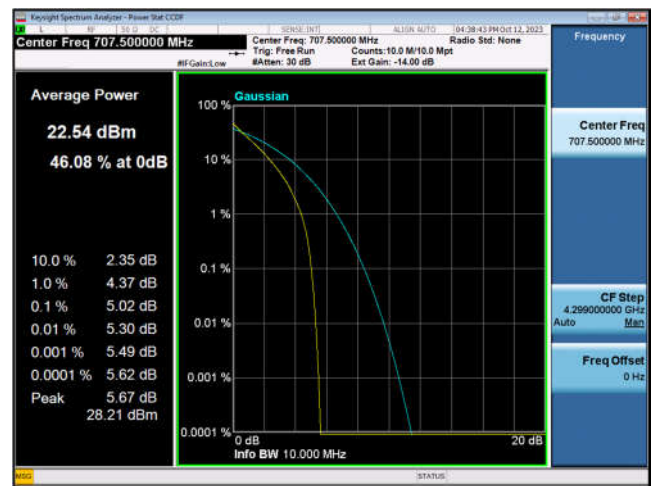
FDD12\_LowRange\_10MHz\_704\_fullIRB\_Q16



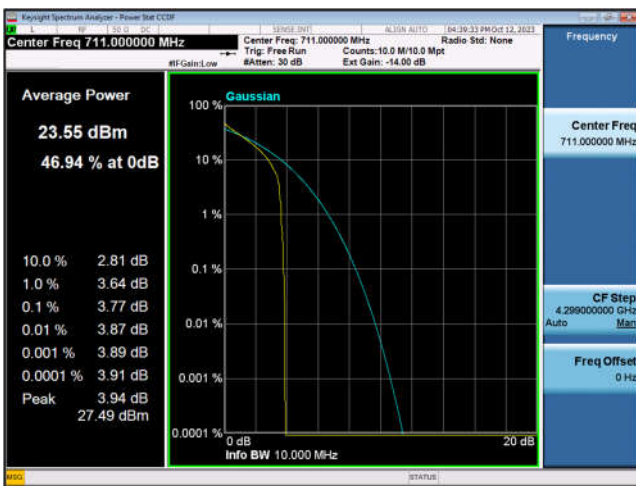
FDD12\_MidRange\_10MHz\_707.5\_OneRB\_high\_Q16



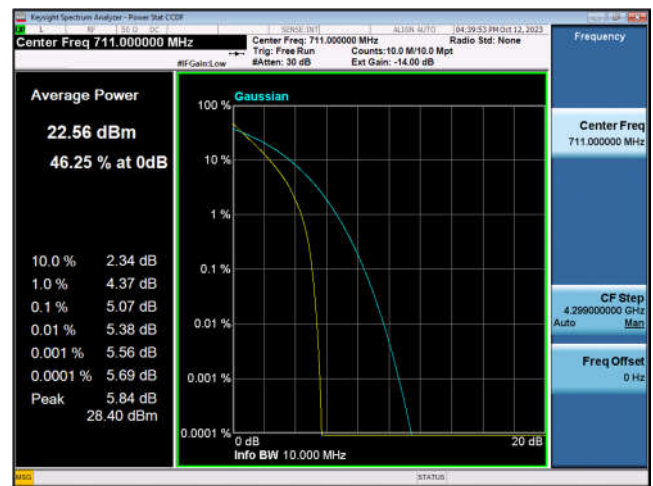
FDD12\_MidRange\_10MHz\_707.5\_fullIRB\_Q16



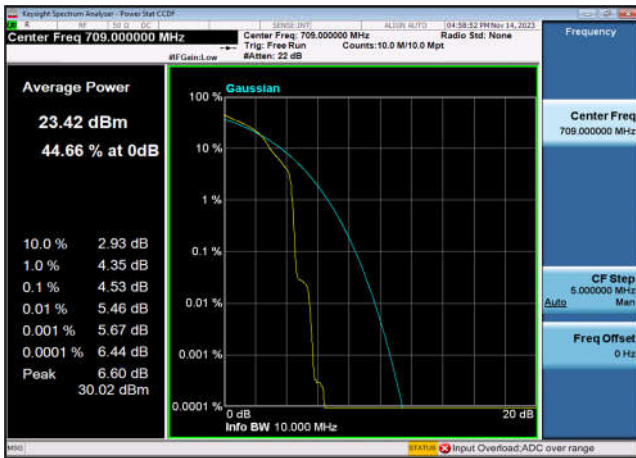
FDD12\_HighRange\_10MHz\_711\_OneRB\_high\_Q16



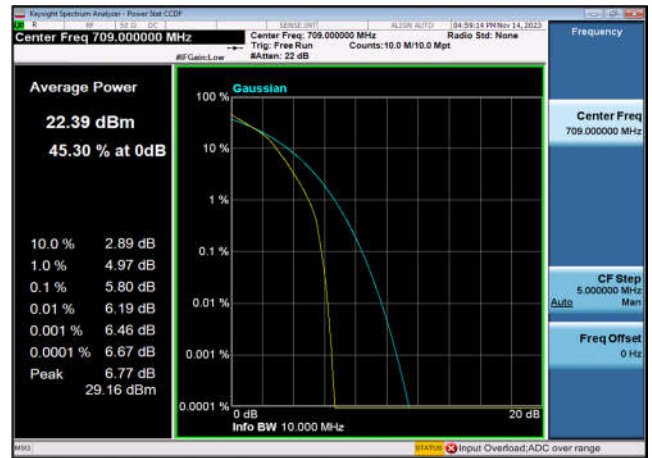
FDD12\_HighRange\_10MHz\_711\_fullIRB\_Q16



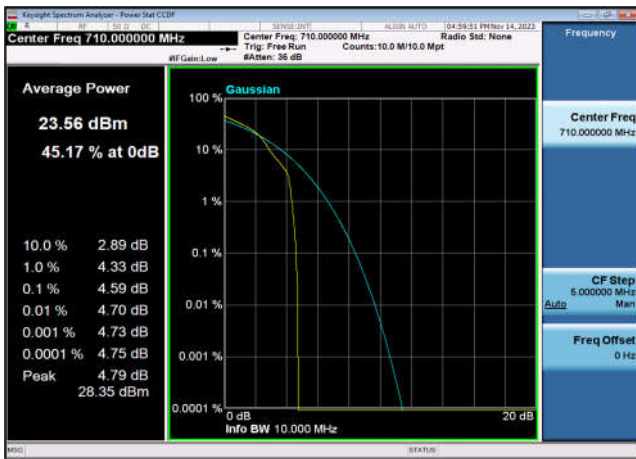
FDD17\_LowRange\_10MHz\_709\_OneRB\_high\_Q16



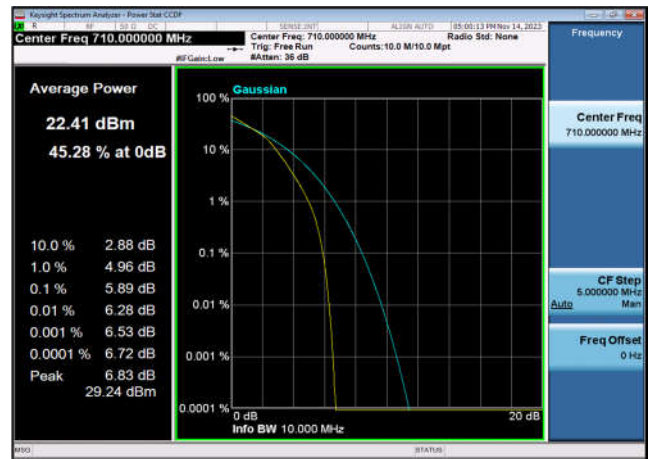
FDD17\_LowRange\_10MHz\_709\_fullIRB\_Q16



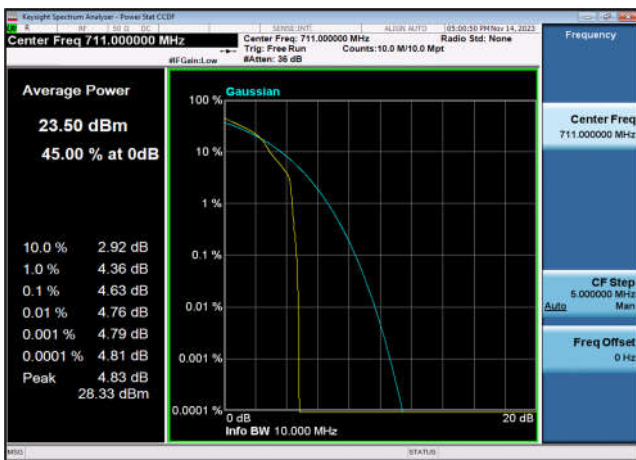
FDD17\_MidRange\_10MHz\_710\_OneRB\_high\_Q16



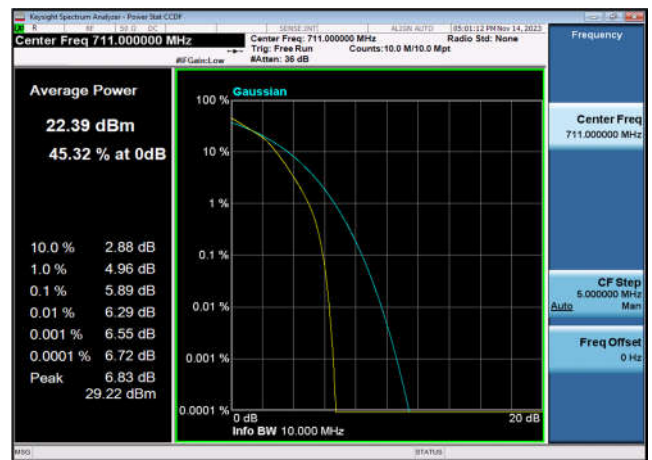
FDD17\_MidRange\_10MHz\_710\_fullIRB\_Q16



FDD17\_HighRange\_10MHz\_711\_OneRB\_high\_Q16

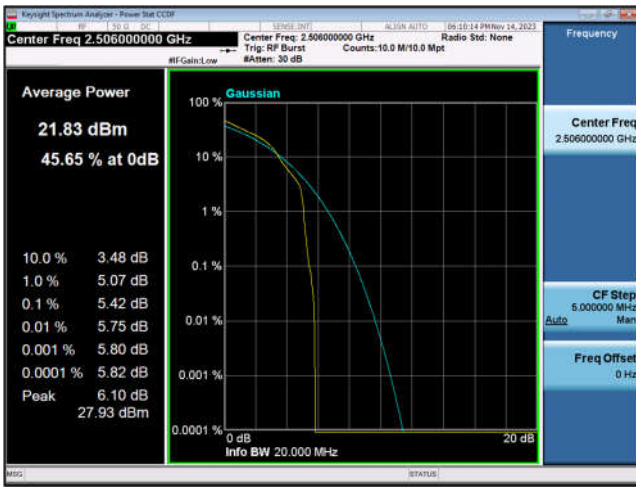


FDD17\_HighRange\_10MHz\_711\_fullIRB\_Q16

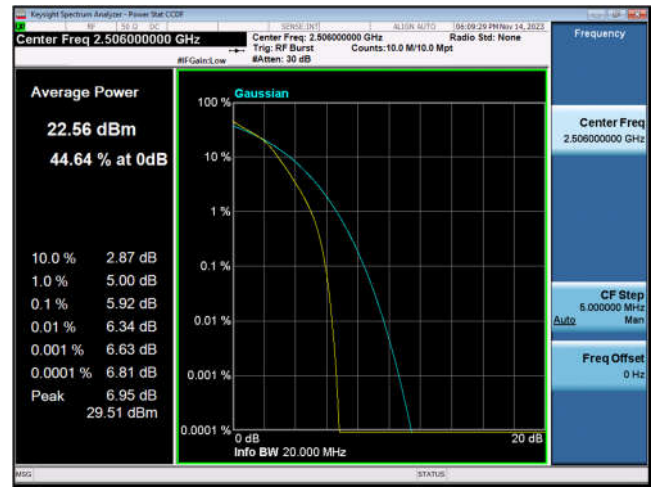




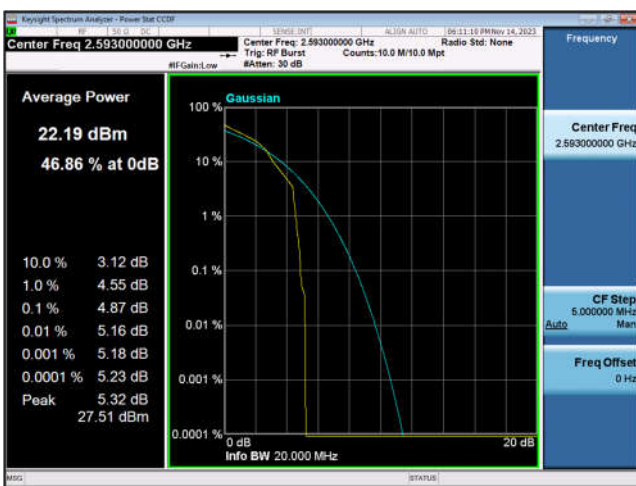
TDD41\_LowRange\_20MHz\_2565\_OneRB\_high\_Q16



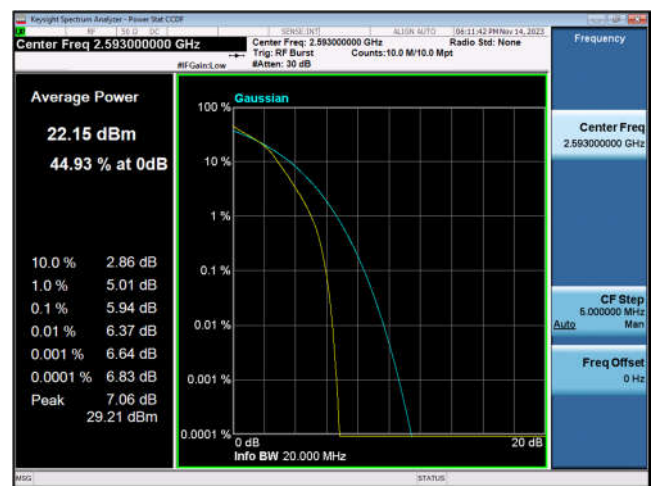
TDD41\_LowRange\_20MHz\_2565\_fullIRB\_Q16



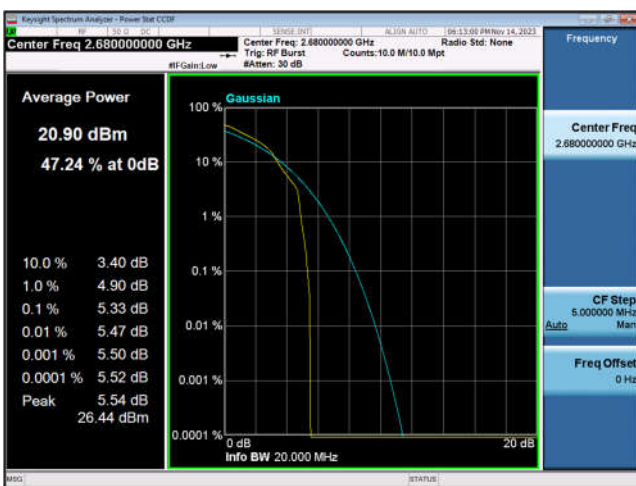
TDD41\_MidRange\_20MHz\_2595\_OneRB\_high\_Q16



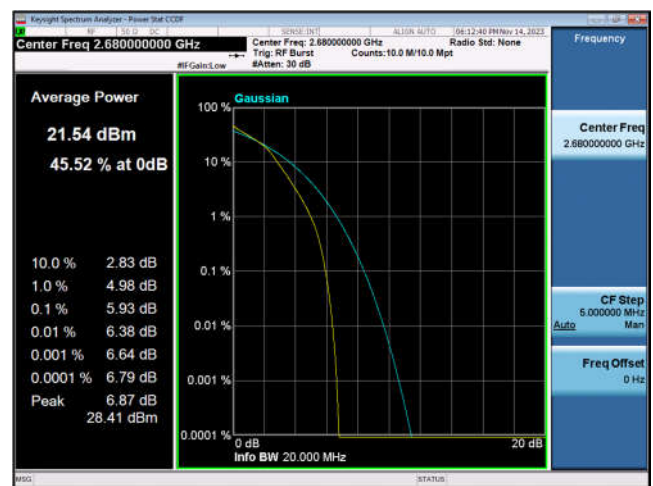
TDD41\_MidRange\_20MHz\_2595\_fullIRB\_Q16



TDD41\_HighRange\_20MHz\_2645\_OneRB\_high\_Q16



TDD41\_HighRange\_20MHz\_2645\_fullIRB\_Q16





### 99% Occupied Bandwidth and 26dB Emission Bandwidth

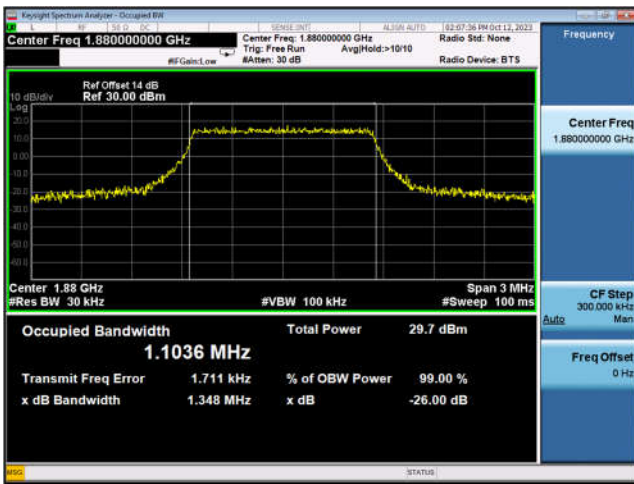
Occupied Bandwidth NormalTC_NormalVol						
Band	Range	BandWidth	Frequency (MHz)	Modulation	99% OBW (MHz)	26dB EBW (MHz)
FDD02	MidRange	1.4	1880	QPSK	1.1036	1.348
FDD02	MidRange	1.4	1880	Q16	1.1004	1.377
FDD02	MidRange	3	1880	QPSK	2.6851	2.952
FDD02	MidRange	3	1880	Q16	2.6852	2.992
FDD02	MidRange	5	1880	QPSK	4.5251	5.144
FDD02	MidRange	5	1880	Q16	4.5125	5.149
FDD02	MidRange	10	1880	QPSK	8.9500	9.738
FDD02	MidRange	10	1880	Q16	8.9442	9.768
FDD02	MidRange	15	1880	QPSK	13.478	14.99
FDD02	MidRange	15	1880	Q16	13.491	14.92
FDD02	MidRange	20	1880	QPSK	17.918	19.55
FDD02	MidRange	20	1880	Q16	17.906	19.62
FDD04	MidRange	1.4	1732.5	QPSK	1.0994	1.366
FDD04	MidRange	1.4	1732.5	Q16	1.1052	1.379
FDD04	MidRange	3	1732.5	QPSK	2.6880	3.029
FDD04	MidRange	3	1732.5	Q16	2.6869	2.968
FDD04	MidRange	5	1732.5	QPSK	4.5170	5.212
FDD04	MidRange	5	1732.5	Q16	4.5172	5.139
FDD04	MidRange	10	1732.5	QPSK	8.9397	9.795
FDD04	MidRange	10	1732.5	Q16	8.9475	9.829
FDD04	MidRange	15	1732.5	QPSK	13.481	14.77
FDD04	MidRange	15	1732.5	Q16	13.468	14.97
FDD04	MidRange	20	1732.5	QPSK	17.905	19.50
FDD04	MidRange	20	1732.5	Q16	17.884	19.63
FDD05	MidRange	1.4	836.5	QPSK	1.090	1.319
FDD05	MidRange	1.4	836.5	Q16	1.093	1.324
FDD05	MidRange	3	836.5	QPSK	2.686	2.925
FDD05	MidRange	3	836.5	Q16	2.689	2.931
FDD05	MidRange	5	836.5	QPSK	4.509	4.917
FDD05	MidRange	5	836.5	Q16	4.498	4.974



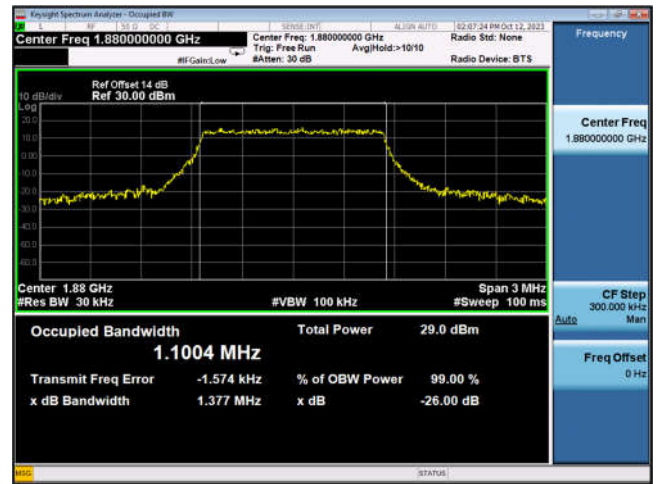
FDD05	MidRange	10	836.5	QPSK	8.930	9.451
FDD05	MidRange	10	836.5	Q16	8.931	9.467
FDD07	MidRange	5	2535	QPSK	4.5167	5.131
FDD07	MidRange	5	2535	Q16	4.5138	5.141
FDD07	MidRange	10	2535	QPSK	8.9475	9.827
FDD07	MidRange	10	2535	Q16	8.9413	9.682
FDD07	MidRange	15	2535	QPSK	13.518	15.04
FDD07	MidRange	15	2535	Q16	13.499	14.89
FDD07	MidRange	20	2535	QPSK	17.921	19.53
FDD07	MidRange	20	2535	Q16	17.927	19.61
FDD12	MidRange	1.4	707.5	QPSK	1.093	1.303
FDD12	MidRange	1.4	707.5	Q16	1.087	1.312
FDD12	MidRange	3	707.5	QPSK	2.682	2.895
FDD12	MidRange	3	707.5	Q16	2.686	2.913
FDD12	MidRange	5	707.5	QPSK	4.500	4.897
FDD12	MidRange	5	707.5	Q16	4.508	4.914
FDD12	MidRange	10	707.5	QPSK	8.935	9.507
FDD12	MidRange	10	707.5	Q16	8.929	9.426
FDD17	MidRange	5	710	QPSK	4.502	4.972
FDD17	MidRange	5	710	Q16	4.508	4.948
FDD17	MidRange	10	710	QPSK	8.936	9.461
FDD17	MidRange	10	710	Q16	8.925	9.458
TDD41	MidRange	5	2595	QPSK	4.492	4.860
TDD41	MidRange	5	2595	Q16	4.487	4.994
TDD41	MidRange	10	2595	QPSK	8.927	9.463
TDD41	MidRange	10	2595	Q16	8.940	9.489
TDD41	MidRange	15	2595	QPSK	13.466	14.31
TDD41	MidRange	15	2595	Q16	13.451	14.25
TDD41	MidRange	20	2595	QPSK	17.887	18.77
TDD41	MidRange	20	2595	Q16	17.912	18.78



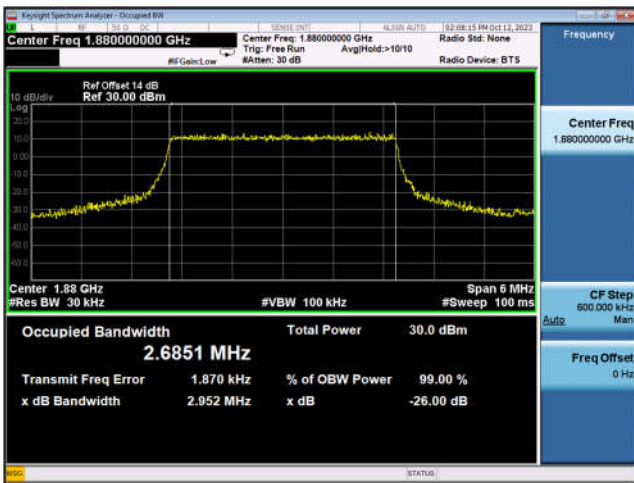
FDD02\_MidRange\_1.4\_1880\_QPSK



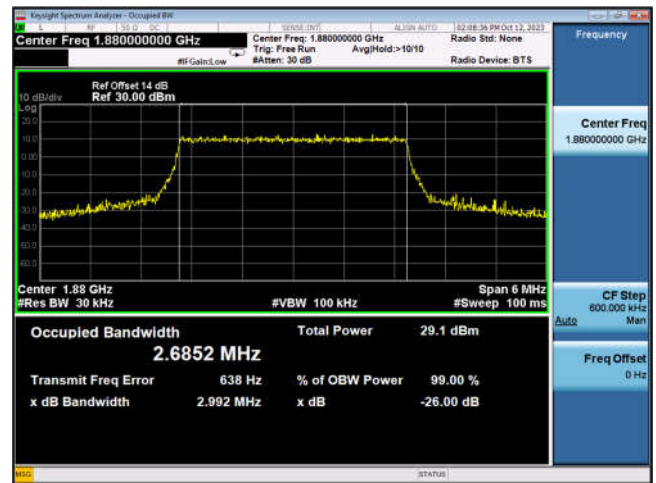
FDD02\_MidRange\_1.4\_1880\_Q16



FDD02\_MidRange\_3\_1880\_QPSK



FDD02\_MidRange\_3\_1880\_Q16



FDD02\_MidRange\_5\_1880\_QPSK



FDD02\_MidRange\_5\_1880\_Q16

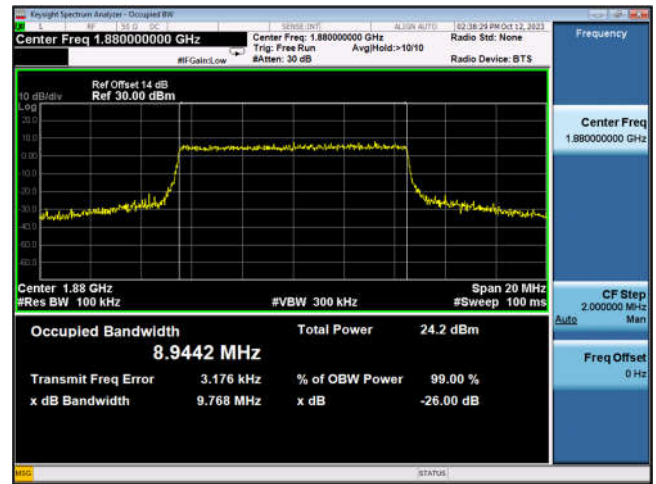




FDD02\_MidRange\_10\_1880\_QPSK



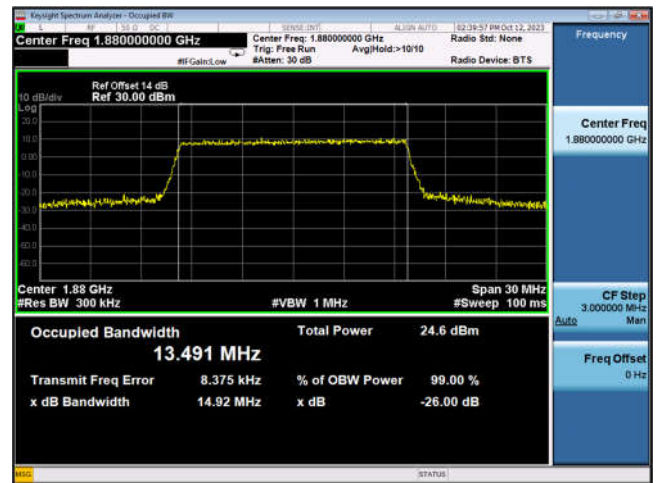
FDD02\_MidRange\_10\_1880\_Q16



FDD02\_MidRange\_15\_1880\_QPSK



FDD02\_MidRange\_15\_1880\_Q16



FDD02\_MidRange\_20\_1880\_QPSK



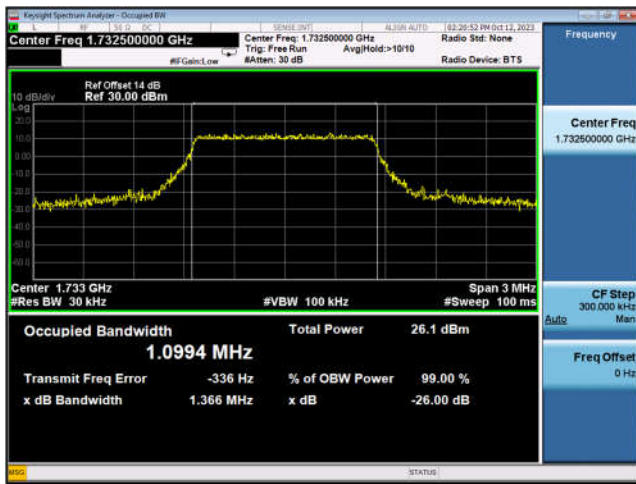
FDD02\_MidRange\_20\_1880\_Q16



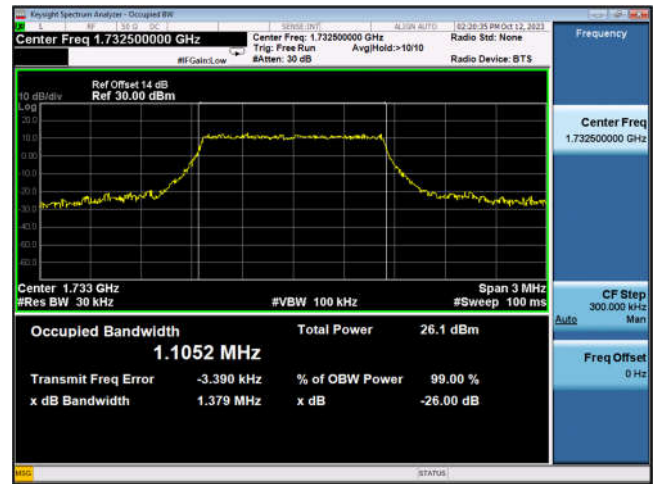




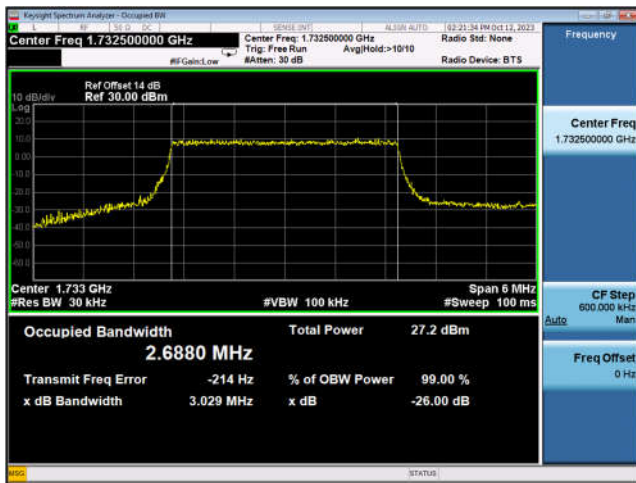
FDD04\_MidRange\_1.4\_1732.5\_QPSK



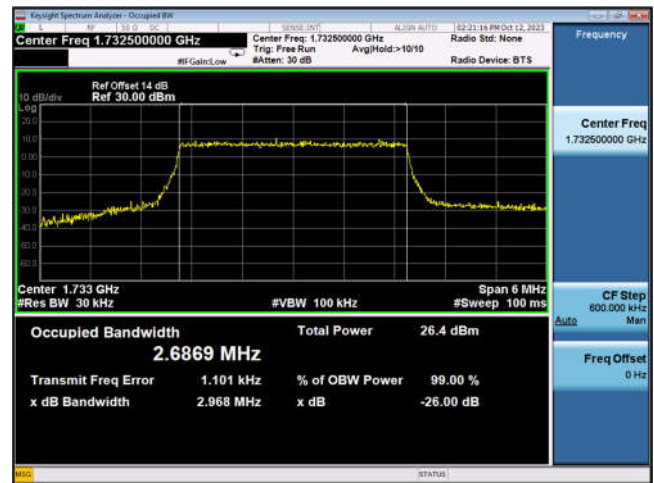
FDD04\_MidRange\_1.4\_1732.5\_Q16



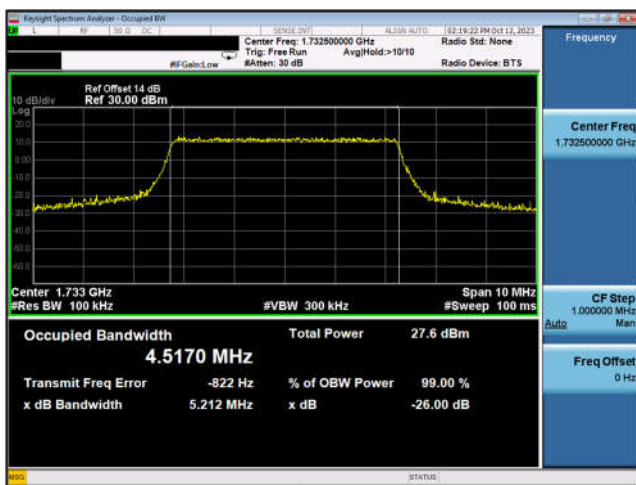
FDD04\_MidRange\_3\_1732.5\_QPSK



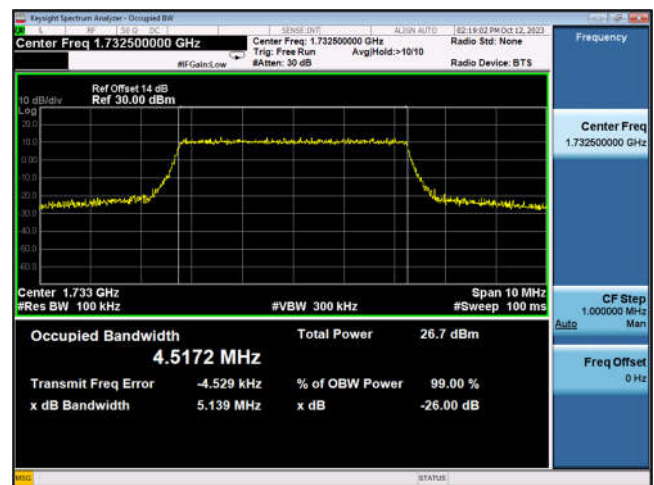
FDD04\_MidRange\_3\_1732.5\_Q16



FDD04\_MidRange\_5\_1732.5\_QPSK

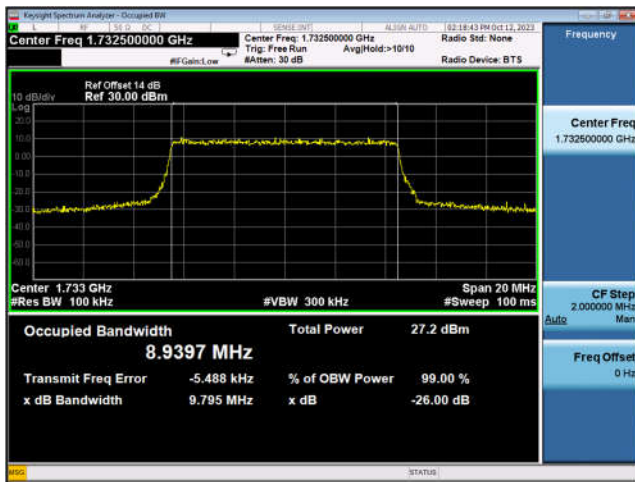


FDD04\_MidRange\_5\_1732.5\_Q16

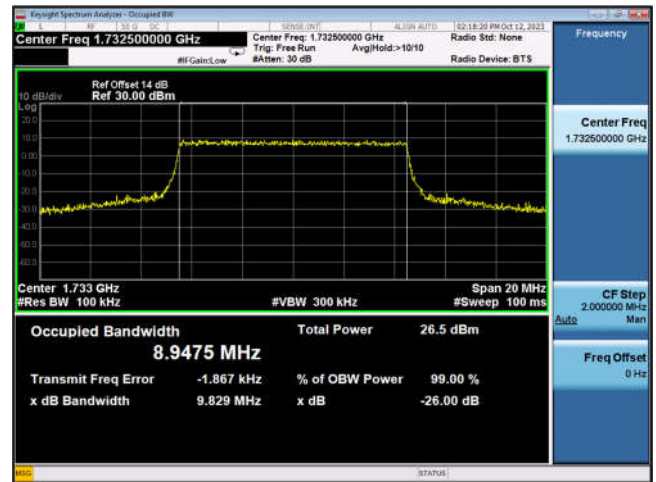




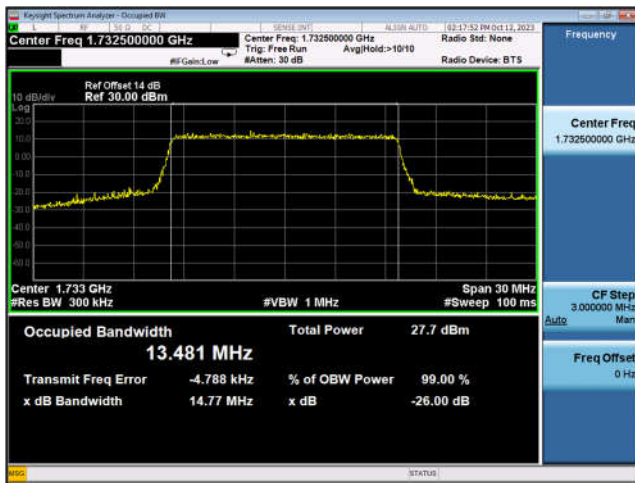
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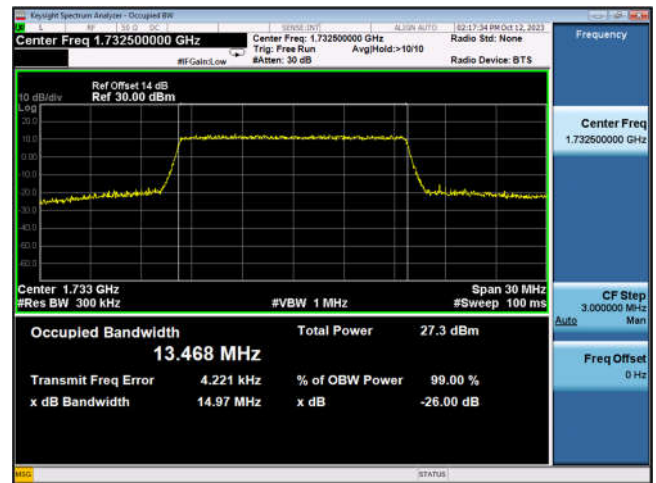
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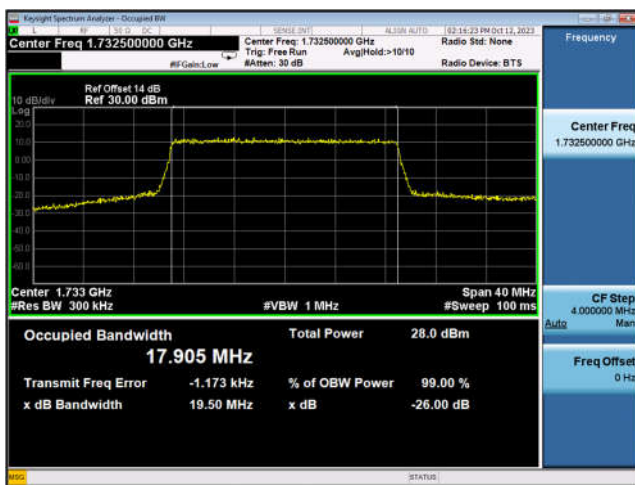
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FDD04\_MidRange\_15\_1732.5\_Q16

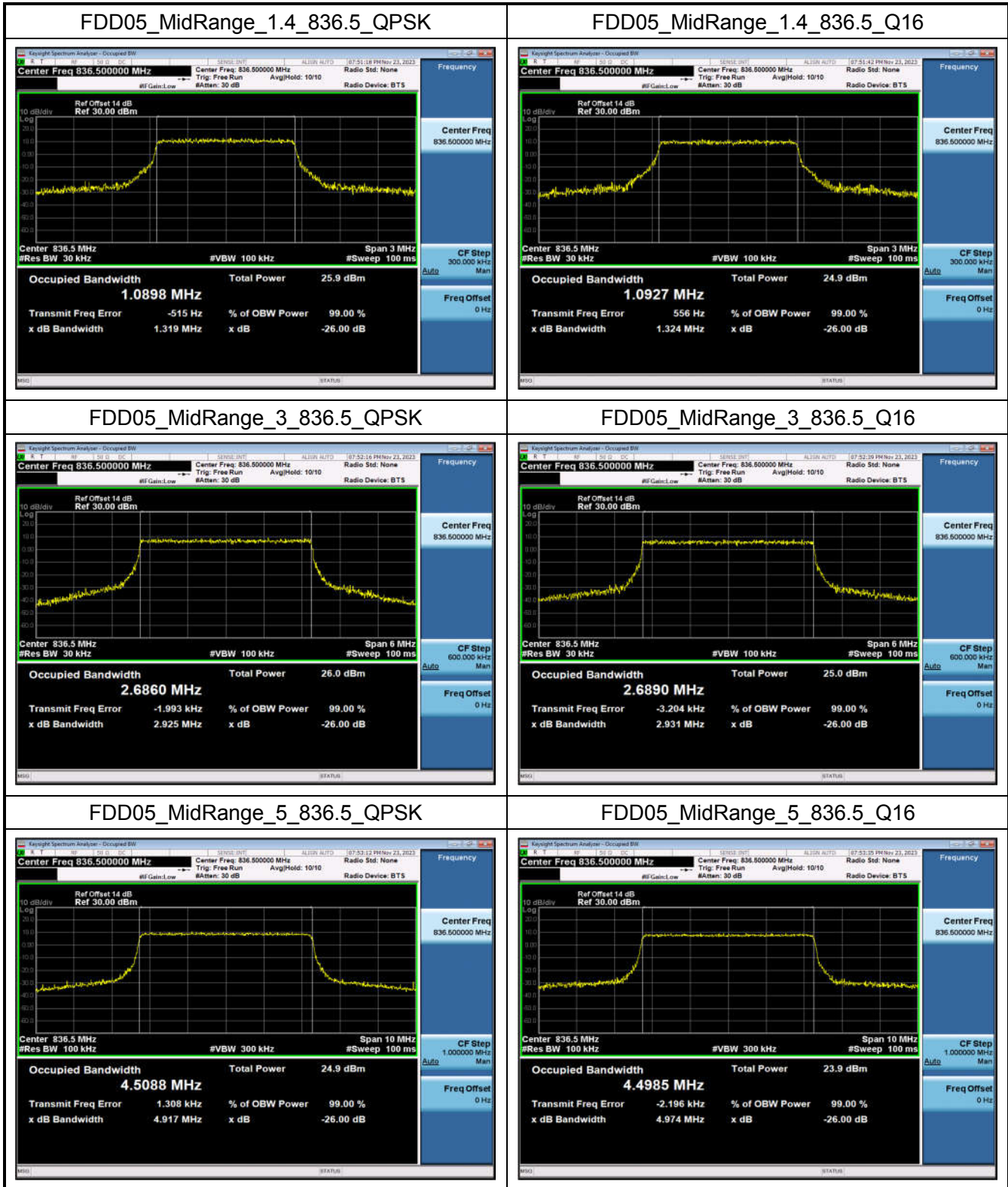


FDD04\_MidRange\_20\_1732.5\_QPSK



FDD04\_MidRange\_20\_1732.5\_Q16

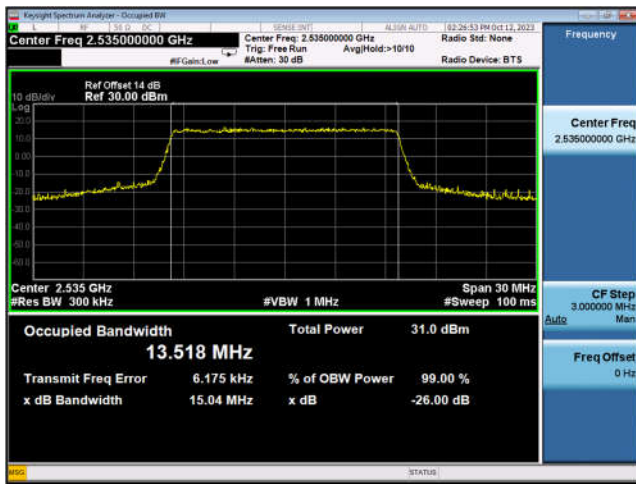




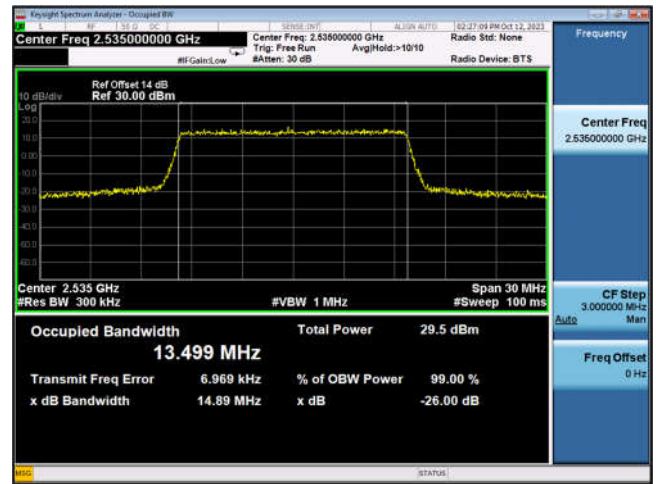




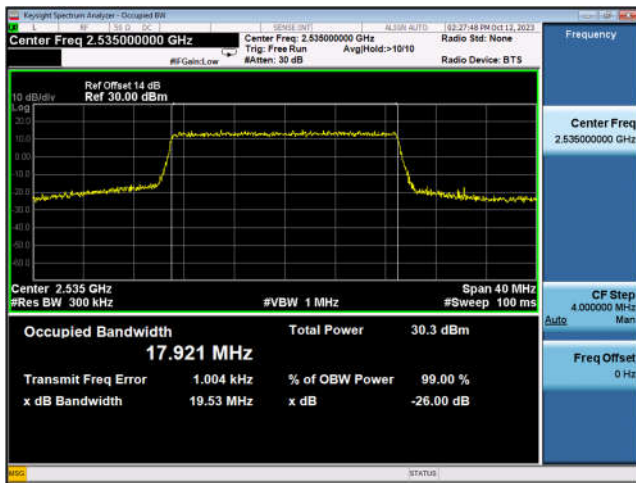
FDD07\_MidRange\_15\_2535\_QPSK



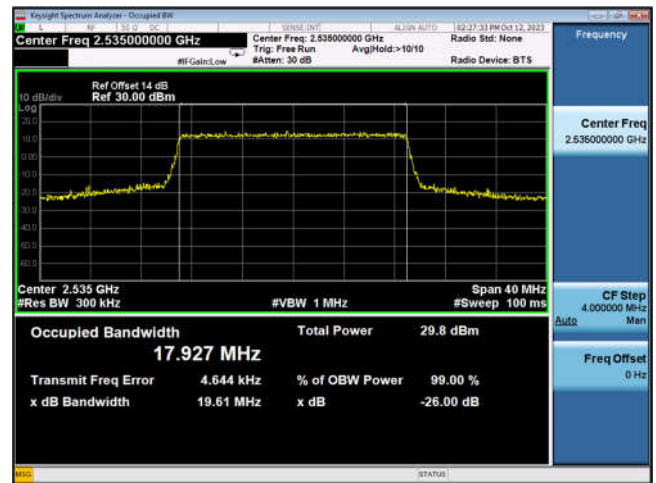
FDD07\_MidRange\_15\_2535\_Q16



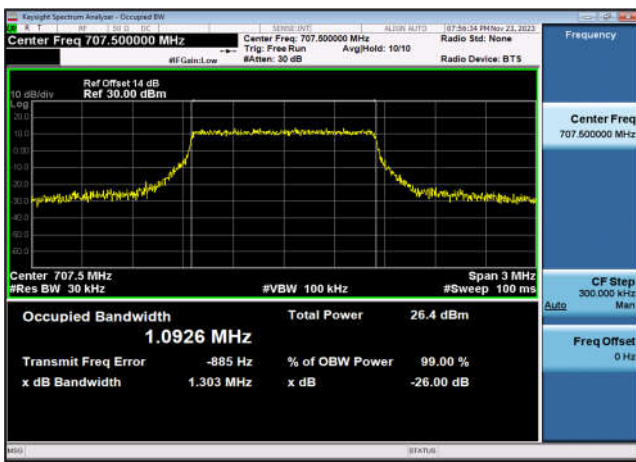
FDD07\_MidRange\_20\_2535\_QPSK



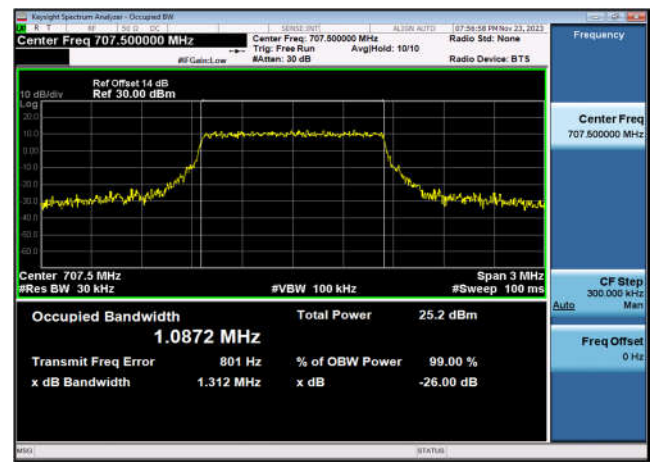
FDD07\_MidRange\_20\_2535\_Q16



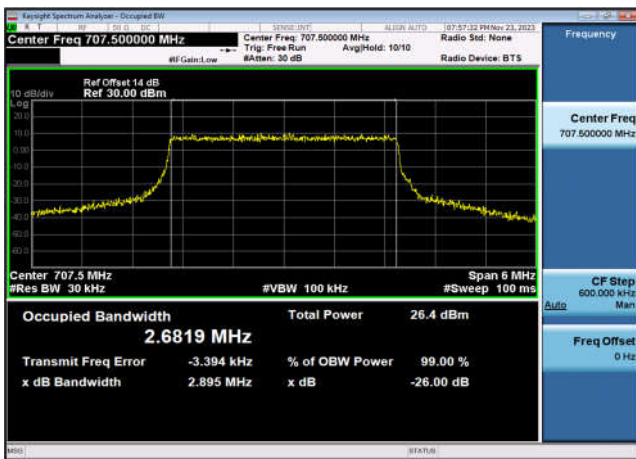
FDD12\_MidRange\_1.4\_707.5\_QPSK



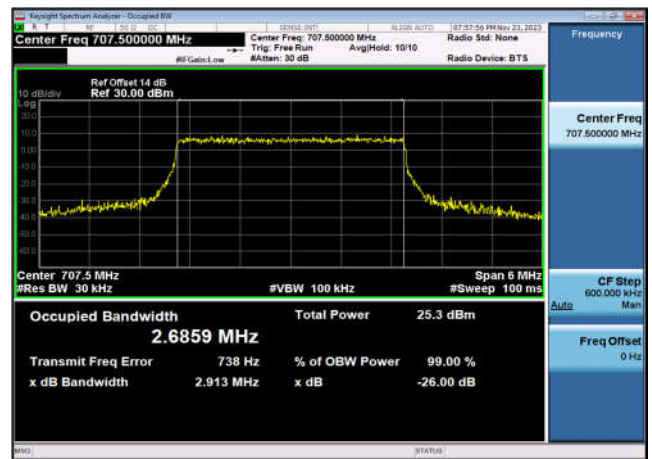
FDD12\_MidRange\_1.4\_707.5\_Q16



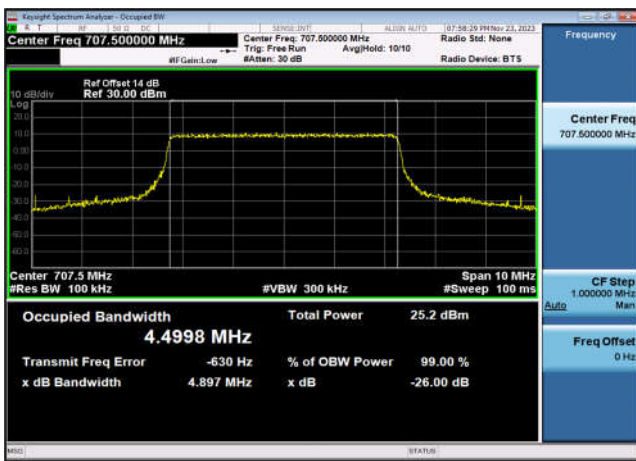
FDD12\_MidRange\_3\_707.5\_QPSK



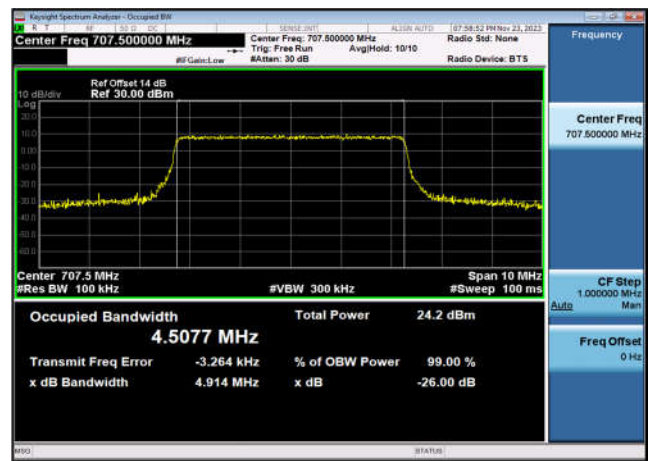
FDD12\_MidRange\_3\_707.5\_Q16



FDD12\_MidRange\_5\_707.5\_QPSK



FDD12\_MidRange\_5\_707.5\_Q16



FDD12\_MidRange\_10\_707.5\_QPSK

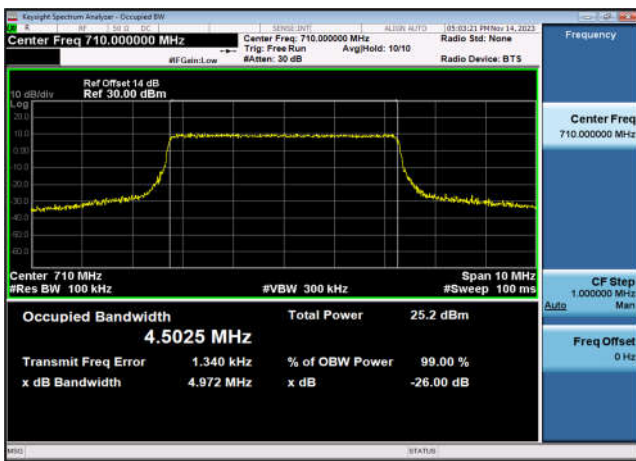


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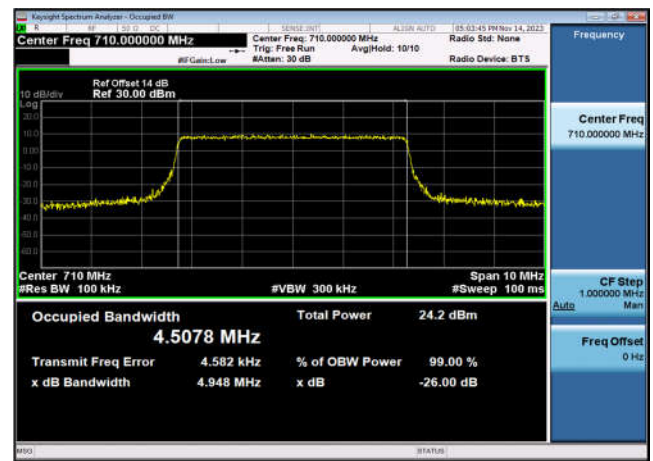




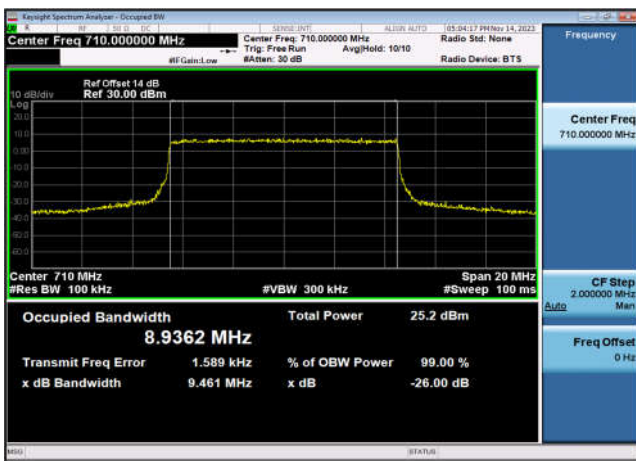
FDD17\_MidRange\_5\_710\_QPSK



FDD17\_MidRange\_5\_710\_Q16



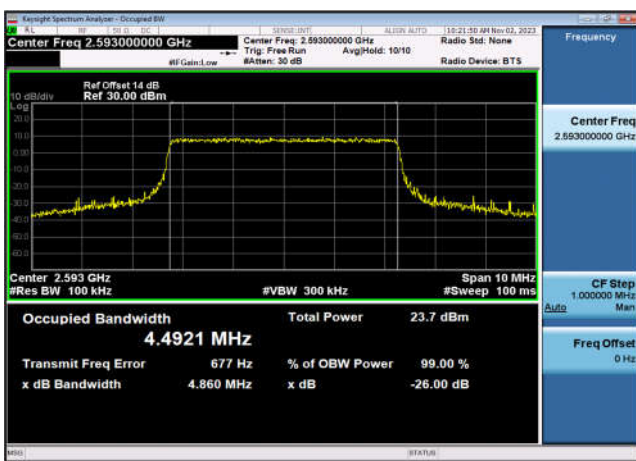
FDD17\_MidRange\_10\_710\_QPSK



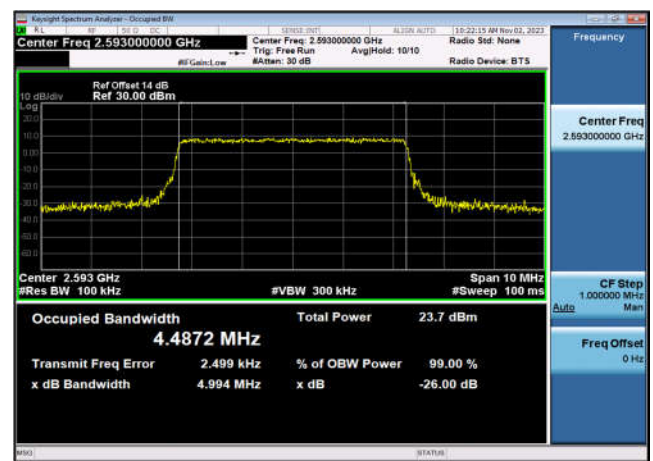
FDD17\_MidRange\_10\_710\_Q16



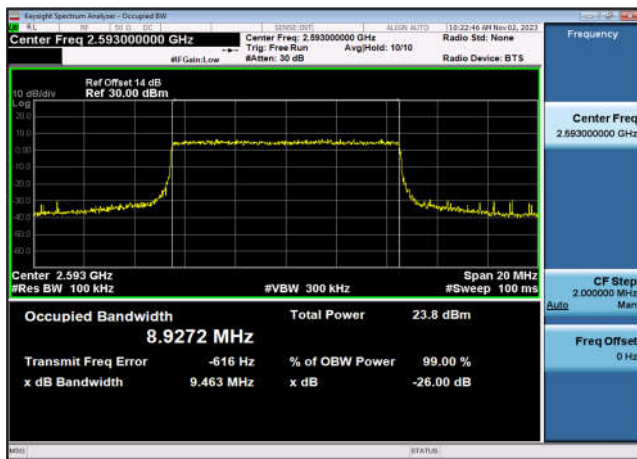
TDD41\_MidRange\_5\_2593\_QPSK



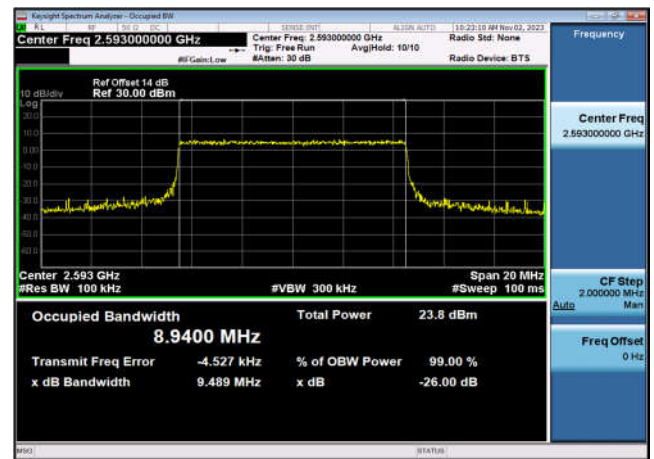
TDD41\_MidRange\_5\_2593\_Q16



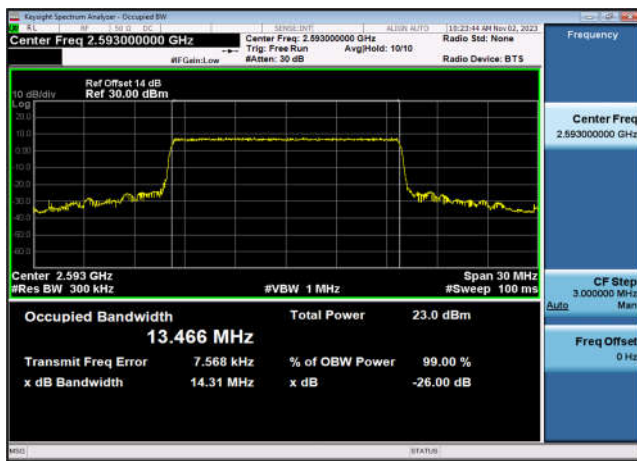
TDD41\_MidRange\_10\_2593\_QPSK



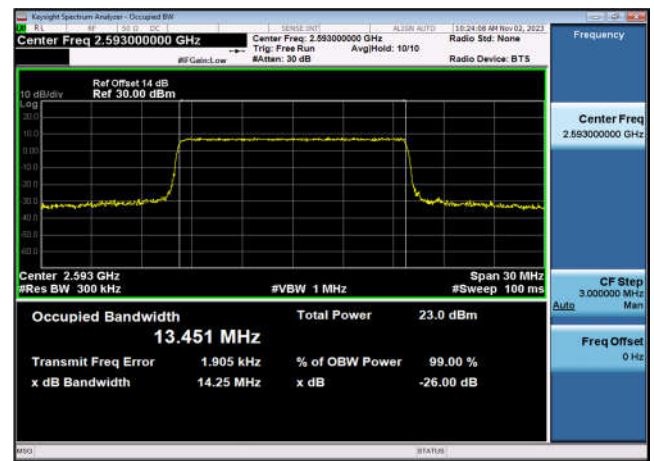
TDD41\_MidRange\_10\_2593\_Q16



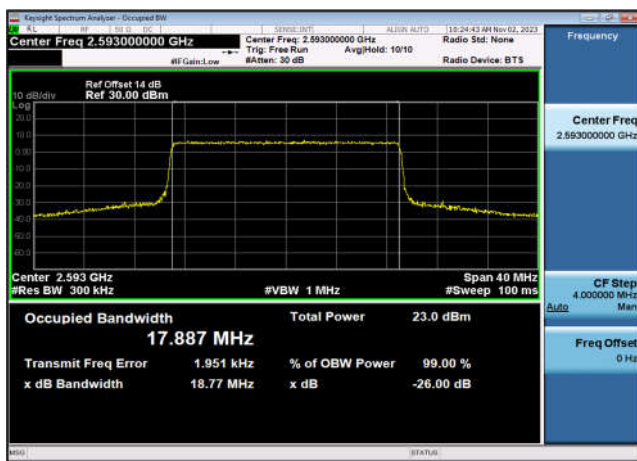
TDD41\_MidRange\_15\_2593\_QPSK



TDD41\_MidRange\_15\_2593\_Q16



TDD41\_MidRange\_20\_2593\_QPSK



TDD41\_MidRange\_20\_2593\_Q16







### Frequency Stability

Frequency Stability NormalTC_NormalVol									
Temperature	Voltage	Band	BandWidth (MHz)	RbMode	Modulation	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Result
Normal	Low	FDD02	10	fullRB	QPSK	-4.263	0.002	/	Pass
Normal	Normal	FDD02	10	fullRB	QPSK	-3.977	0.002	/	Pass
Normal	High	FDD02	10	fullRB	QPSK	-5.021	0.003	/	Pass
50	Normal	FDD02	10	fullRB	QPSK	-5.894	0.003	/	Pass
40	Normal	FDD02	10	fullRB	QPSK	-5.150	0.003	/	Pass
30	Normal	FDD02	10	fullRB	QPSK	3.462	0.002	/	Pass
20	Normal	FDD02	10	fullRB	QPSK	-4.535	0.002	/	Pass
10	Normal	FDD02	10	fullRB	QPSK	-5.937	0.003	/	Pass
0	Normal	FDD02	10	fullRB	QPSK	-3.104	0.002	/	Pass
-10	Normal	FDD02	10	fullRB	QPSK	-3.419	0.002	/	Pass
-20	Normal	FDD02	10	fullRB	QPSK	-4.835	0.003	/	Pass
-30	Normal	FDD02	10	fullRB	QPSK	3.648	0.002	/	Pass
Normal	Low	FDD04	10	fullRB	QPSK	-3.748	0.002	/	Pass
Normal	Normal	FDD04	10	fullRB	QPSK	4.020	0.002	/	Pass
Normal	High	FDD04	10	fullRB	QPSK	4.764	0.003	/	Pass
50	Normal	FDD04	10	fullRB	QPSK	4.692	0.003	/	Pass
40	Normal	FDD04	10	fullRB	QPSK	-3.376	0.002	/	Pass
30	Normal	FDD04	10	fullRB	QPSK	-3.147	0.002	/	Pass
20	Normal	FDD04	10	fullRB	QPSK	-5.364	0.003	/	Pass
10	Normal	FDD04	10	fullRB	QPSK	-4.420	0.003	/	Pass
0	Normal	FDD04	10	fullRB	QPSK	-3.233	0.002	/	Pass
-10	Normal	FDD04	10	fullRB	QPSK	-4.649	0.003	/	Pass
-20	Normal	FDD04	10	fullRB	QPSK	-6.423	0.004	/	Pass
-30	Normal	FDD04	10	fullRB	QPSK	-3.548	0.002	/	Pass
Normal	Low	FDD05	10	fullRB	QPSK	-3.633	0.004	±2.5	Pass
Normal	Normal	FDD05	10	fullRB	QPSK	-1.402	0.002	±2.5	Pass
Normal	High	FDD05	10	fullRB	QPSK	-2.260	0.003	±2.5	Pass
50	Normal	FDD05	10	fullRB	QPSK	-2.632	0.003	±2.5	Pass
40	Normal	FDD05	10	fullRB	QPSK	-2.146	0.003	±2.5	Pass
30	Normal	FDD05	10	fullRB	QPSK	2.418	0.003	±2.5	Pass



20	Normal	FDD05	10	fullRB	QPSK	-1.860	0.002	±2.5	Pass
10	Normal	FDD05	10	fullRB	QPSK	2.074	0.002	±2.5	Pass
0	Normal	FDD05	10	fullRB	QPSK	-2.060	0.002	±2.5	Pass
-10	Normal	FDD05	10	fullRB	QPSK	3.905	0.005	±2.5	Pass
-20	Normal	FDD05	10	fullRB	QPSK	3.090	0.004	±2.5	Pass
-30	Normal	FDD05	10	fullRB	QPSK	2.589	0.003	±2.5	Pass
Normal	Low	FDD07	10	fullRB	QPSK	-4.649	0.002	/	Pass
Normal	Normal	FDD07	10	fullRB	QPSK	5.479	0.002	/	Pass
Normal	High	FDD07	10	fullRB	QPSK	-6.537	0.003	/	Pass
50	Normal	FDD07	10	fullRB	QPSK	4.807	0.002	/	Pass
40	Normal	FDD07	10	fullRB	QPSK	4.907	0.002	/	Pass
30	Normal	FDD07	10	fullRB	QPSK	6.223	0.002	/	Pass
20	Normal	FDD07	10	fullRB	QPSK	5.479	0.002	/	Pass
10	Normal	FDD07	10	fullRB	QPSK	7.553	0.003	/	Pass
0	Normal	FDD07	10	fullRB	QPSK	5.565	0.002	/	Pass
-10	Normal	FDD07	10	fullRB	QPSK	5.479	0.002	/	Pass
-20	Normal	FDD07	10	fullRB	QPSK	4.592	0.002	/	Pass
-30	Normal	FDD07	10	fullRB	QPSK	5.307	0.002	/	Pass
Normal	Low	FDD12	10	fullRB	QPSK	-3.819	0.005	/	Pass
Normal	Normal	FDD12	10	fullRB	QPSK	1.516	0.002	/	Pass
Normal	High	FDD12	10	fullRB	QPSK	2.103	0.003	/	Pass
50	Normal	FDD12	10	fullRB	QPSK	2.160	0.003	/	Pass
40	Normal	FDD12	10	fullRB	QPSK	1.860	0.003	/	Pass
30	Normal	FDD12	10	fullRB	QPSK	-2.947	0.004	/	Pass
20	Normal	FDD12	10	fullRB	QPSK	2.375	0.003	/	Pass
10	Normal	FDD12	10	fullRB	QPSK	-2.861	0.004	/	Pass
0	Normal	FDD12	10	fullRB	QPSK	-2.089	0.003	/	Pass
-10	Normal	FDD12	10	fullRB	QPSK	2.875	0.004	/	Pass
-20	Normal	FDD12	10	fullRB	QPSK	-2.289	0.003	/	Pass
-30	Normal	FDD12	10	fullRB	QPSK	-2.632	0.004	/	Pass
Normal	Low	FDD17	10	fullRB	QPSK	-2.875	0.004	/	Pass
Normal	Normal	FDD17	10	fullRB	QPSK	-3.405	0.005	/	Pass
Normal	High	FDD17	10	fullRB	QPSK	1.888	0.003	/	Pass
50	Normal	FDD17	10	fullRB	QPSK	-2.532	0.004	/	Pass
40	Normal	FDD17	10	fullRB	QPSK	-1.702	0.002	/	Pass



30	Normal	FDD17	10	fullRB	QPSK	2.146	0.003	/	Pass
20	Normal	FDD17	10	fullRB	QPSK	-2.947	0.004	/	Pass
10	Normal	FDD17	10	fullRB	QPSK	-2.217	0.003	/	Pass
0	Normal	FDD17	10	fullRB	QPSK	-2.303	0.003	/	Pass
-10	Normal	FDD17	10	fullRB	QPSK	-3.676	0.005	/	Pass
-20	Normal	FDD17	10	fullRB	QPSK	-1.917	0.003	/	Pass
-30	Normal	FDD17	10	fullRB	QPSK	2.046	0.003	/	Pass
Normal	Low	TDD41	10	fullRB	QPSK	-9.499	0.004	/	Pass
Normal	Normal	TDD41	10	fullRB	QPSK	6.323	0.002	/	Pass
Normal	High	TDD41	10	fullRB	QPSK	-9.856	0.004	/	Pass
50	Normal	TDD41	10	fullRB	QPSK	-5.636	0.002	/	Pass
40	Normal	TDD41	10	fullRB	QPSK	-5.035	0.002	/	Pass
30	Normal	TDD41	10	fullRB	QPSK	-6.080	0.002	/	Pass
20	Normal	TDD41	10	fullRB	QPSK	-5.922	0.002	/	Pass
10	Normal	TDD41	10	fullRB	QPSK	-5.951	0.002	/	Pass
0	Normal	TDD41	10	fullRB	QPSK	-7.768	0.003	/	Pass
-10	Normal	TDD41	10	fullRB	QPSK	-8.454	0.003	/	Pass
-20	Normal	TDD41	10	fullRB	QPSK	-8.225	0.003	/	Pass
-30	Normal	TDD41	10	fullRB	QPSK	5.507	0.002	/	Pass

Note 1: Normal Voltage = 3.91V, Low Voltage = 3.65V, High Voltage = 4.50V, Normal Temperature = 20 °C.

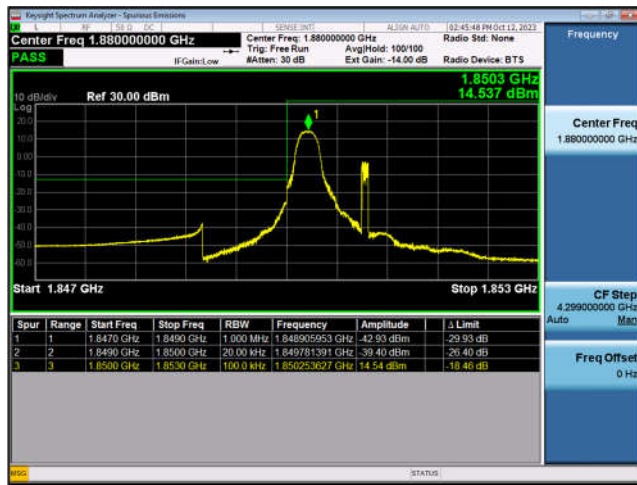
Note 2: For FCC, the limit value of LTE Band 5 is  $\pm 2.5\text{ppm}$ ; For IC, the limit value of LTE Band 2 is  $\pm 2.5\text{ppm}$ .

Note 3: Judge based on the measured frequency error result, the fundamental wave emission of Band 2/4/5/7/12/17/41 is kept within the authorized frequency band.

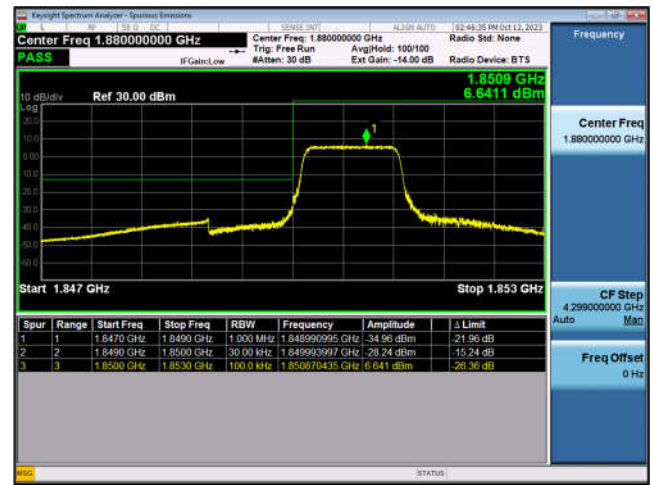
# Conducted Band Edge

## LTE Band 2:

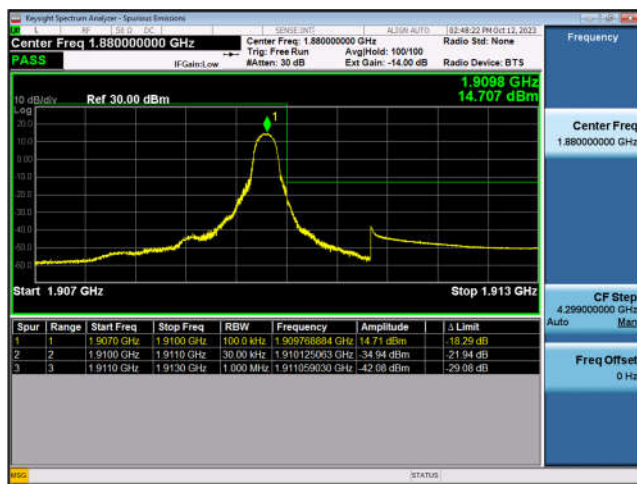
LTE Band 2-1.4MHz-QPSK-LCH-1RB#0



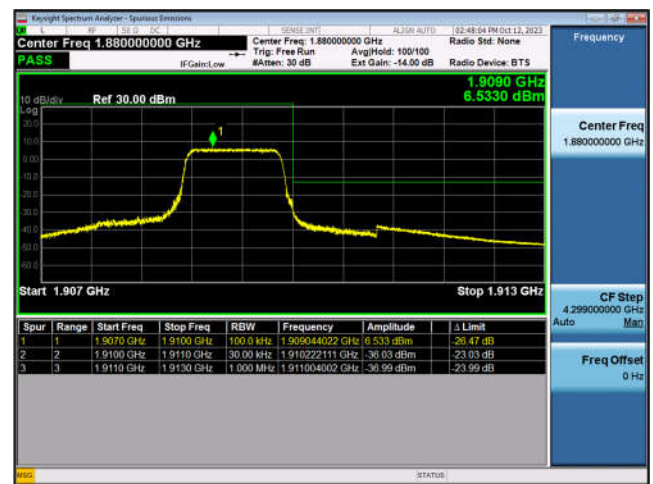
LTE Band 2-1.4MHz-QPSK-LCH-6RB#0



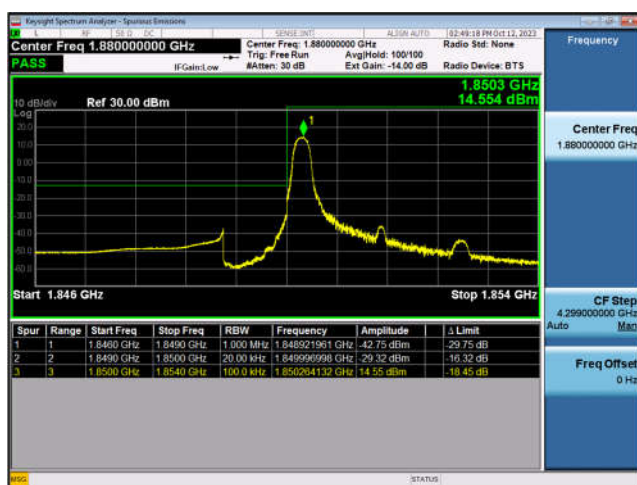
LTE Band 2-1.4MHz-QPSK-HCH-1RB#5



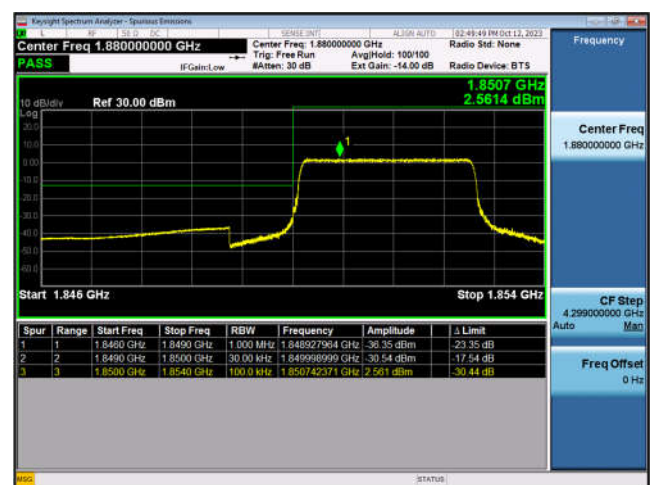
LTE Band 2-1.4MHz-QPSK-HCH-6RB#0



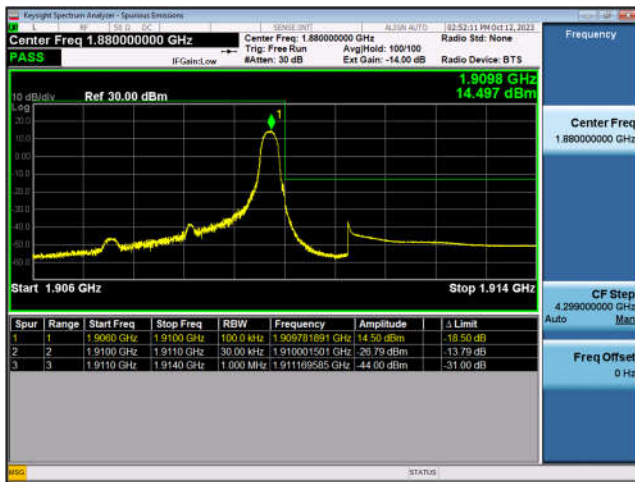
LTE Band 2-3MHz-QPSK-LCH-1RB#0



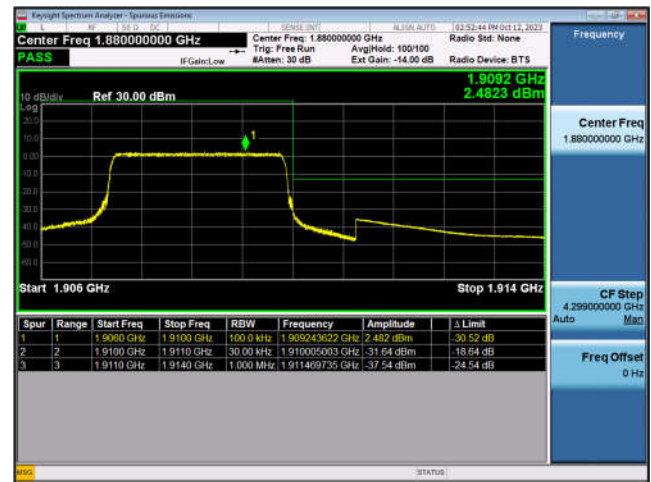
LTE Band 2-3MHz-QPSK-LCH-15RB#0



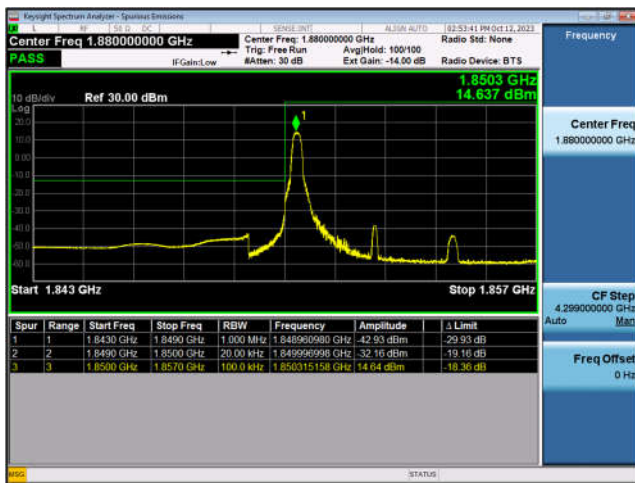
LTE Band 2-3MHz-QPSK-HCH-1RB#14



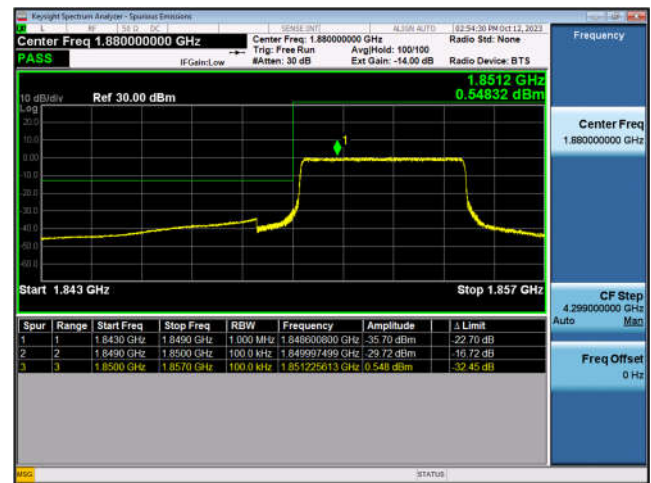
LTE Band 2-3MHz-QPSK-HCH-15RB#0



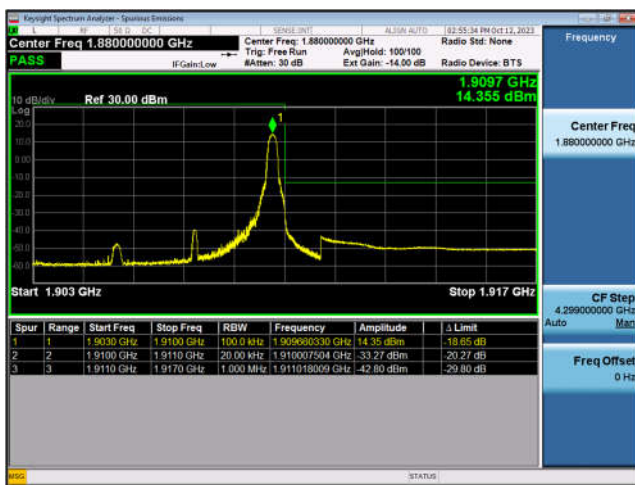
LTE Band 2-5MHz-QPSK-LCH-1RB#0



LTE Band 2-5MHz-QPSK-LCH-25RB#0



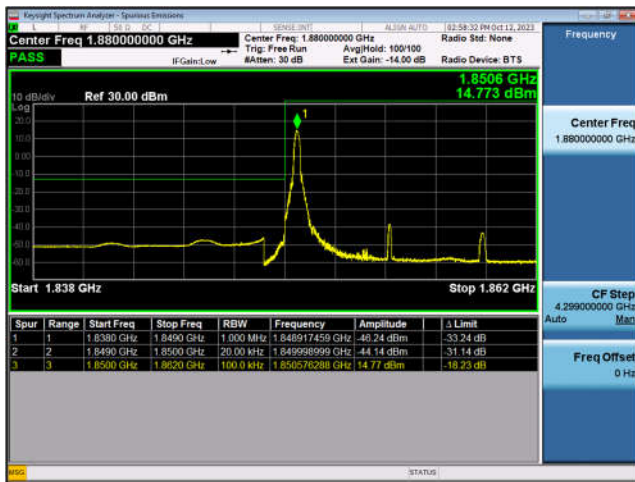
LTE Band 2-5MHz-QPSK-HCH-1RB#24



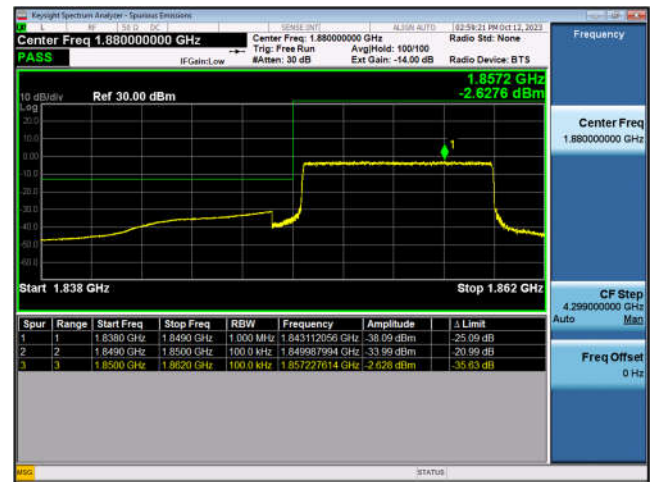
LTE Band 2-5MHz-QPSK-HCH-25RB#0



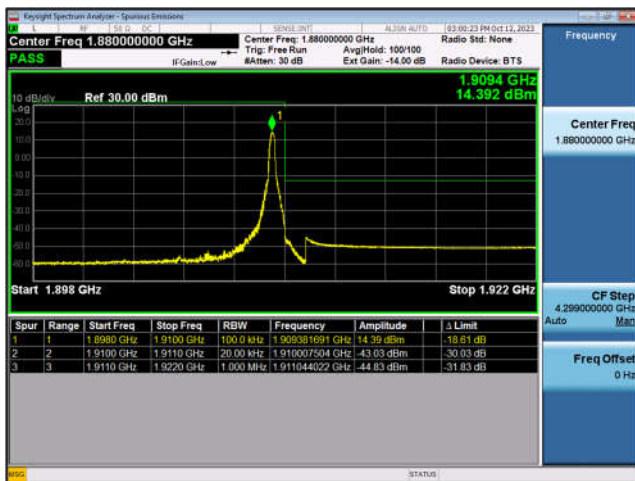
LTE Band 2-10MHz-QPSK-LCH-1RB#0



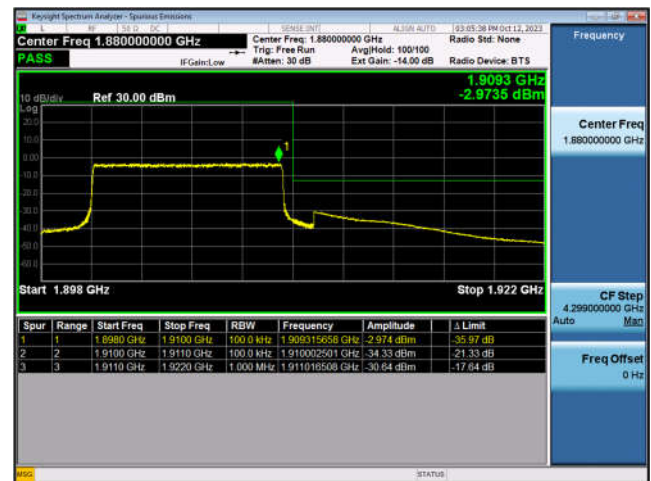
LTE Band 2-10MHz-QPSK-LCH-50RB#0



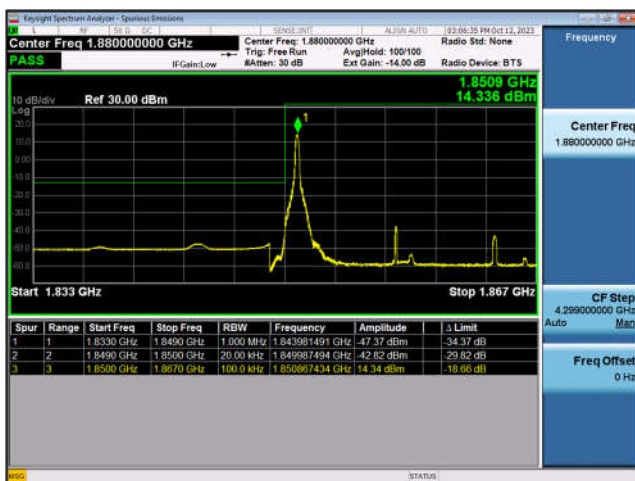
LTE Band 2-10MHz-QPSK-HCH-1RB#49



LTE Band 2-10MHz-QPSK-HCH-50RB#0



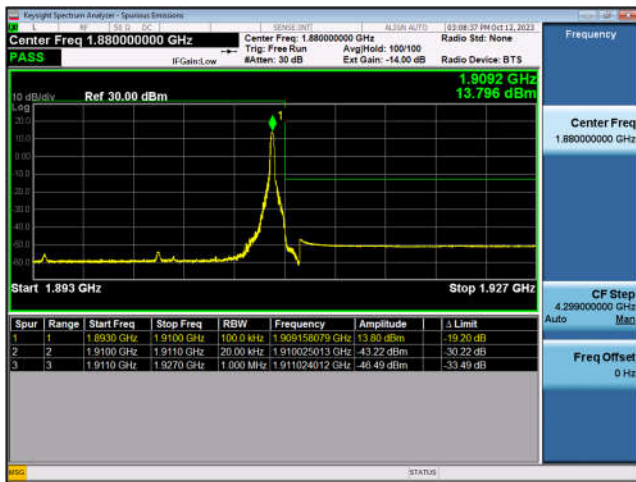
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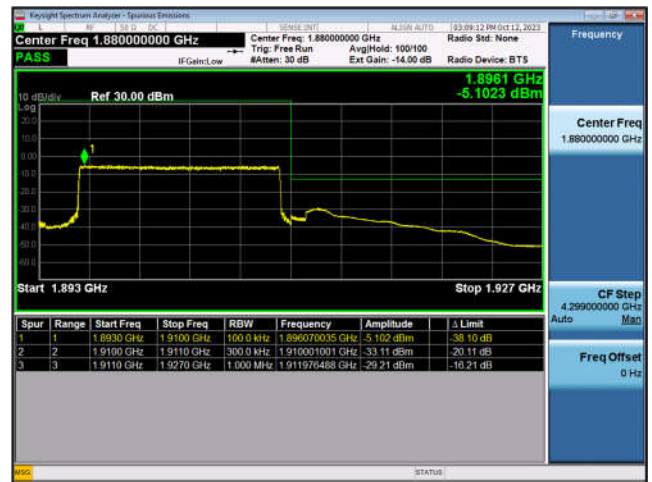
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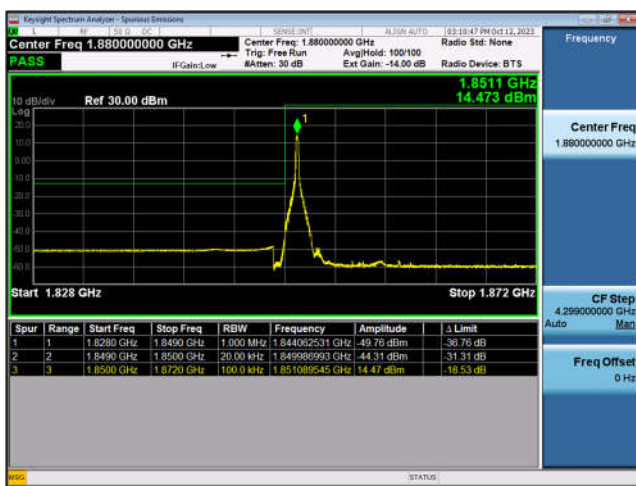
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LTE Band 2-15MHz-QPSK-HCH-75RB#0



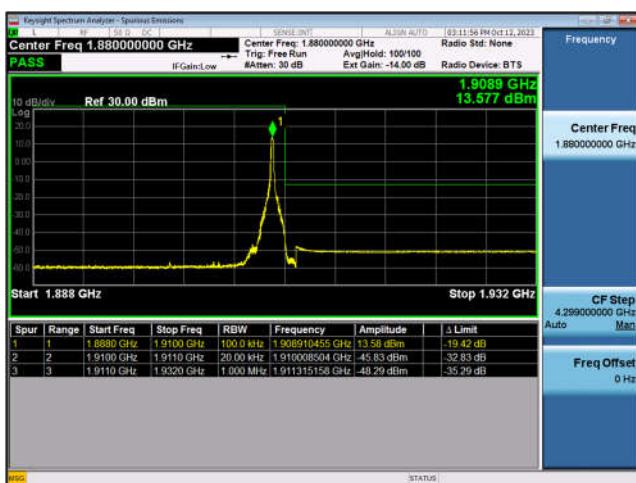
LTE Band 2-20MHz-QPSK-LCH-1RB#0



LTE Band 2-20MHz-QPSK-LCH-100RB#0



LTE Band 2-20MHz-QPSK-HCH-1RB#99



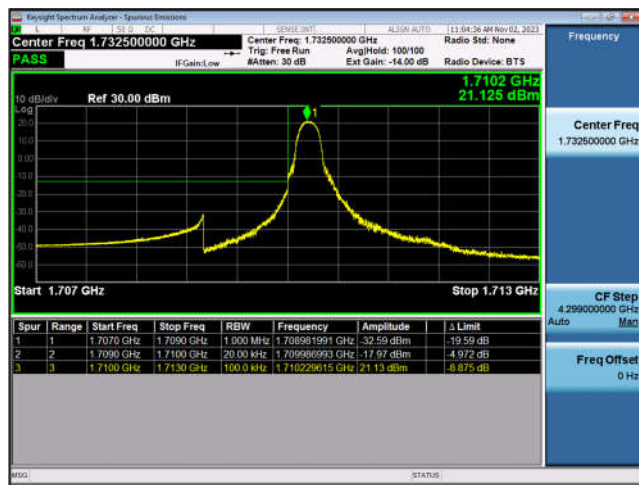
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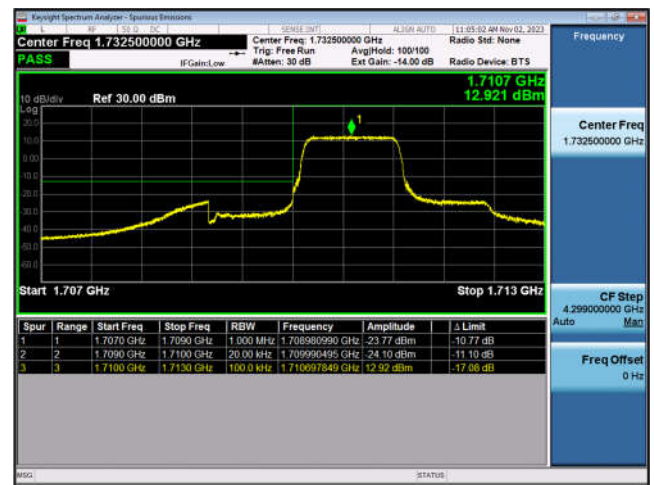


### LTE Band 4:

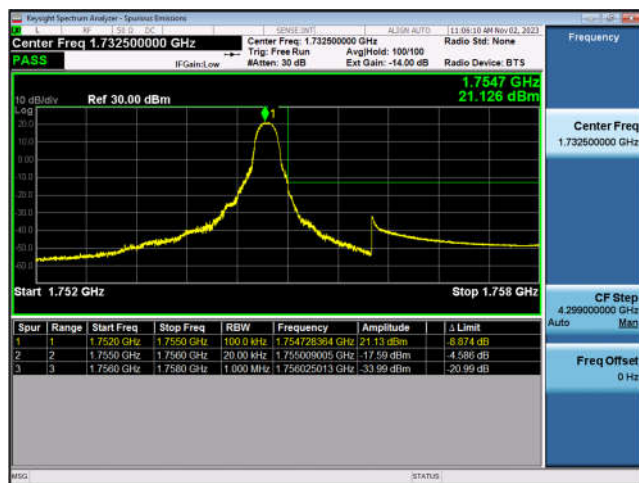
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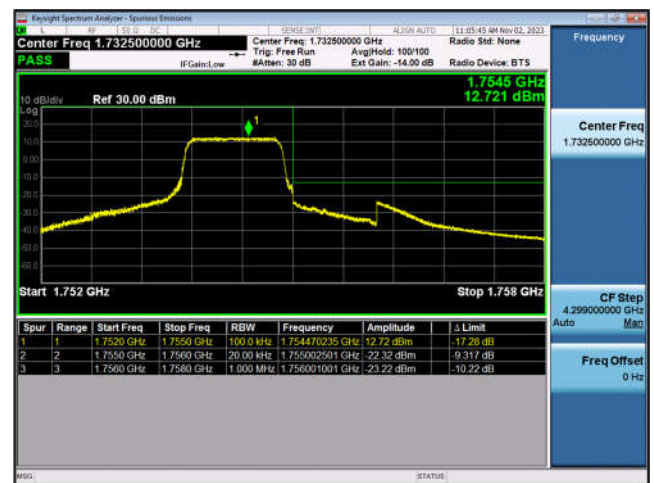
#### LTE Band 4-1.4MHz-QPSK-LCH-6RB#0



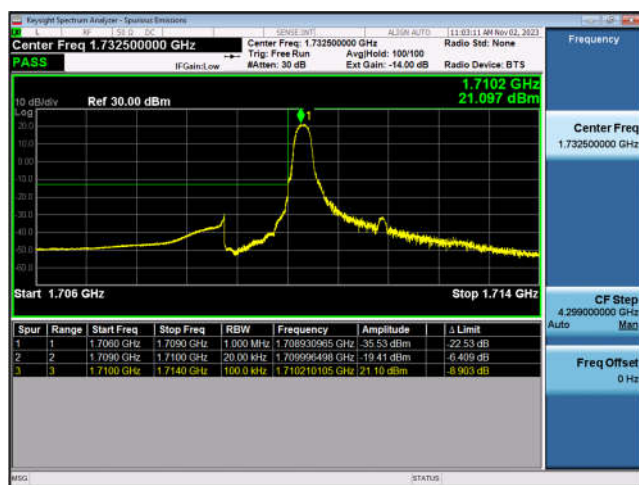
#### LTE Band 4-1.4MHz-QPSK-HCH-1RB#5



#### LTE Band 4-1.4MHz-QPSK-HCH-6RB#0



#### LTE Band 4-3MHz-QPSK-LCH-1RB#0



#### LTE Band 4-3MHz-QPSK-LCH-15RB#0

