RF TEST REPORT

Report No.:	SET2019-07975
Product:	Mobile Data Terminal
FCC ID:	2AC6AC71B
Model No.:	C71
Applicant:	Shenzhen Chainway Information Technology Co.,Ltd.
Address:	9/F, Building 2, Daqian Industrial Park, Longchang Rd., District 67, Bao'an, Shenzhen, China.
Dates of Testing:	07/01/2019 — 10/09/2019
Issued by:	CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd.
Lab Location:	Building 28/29, East of Shigu Xili Industrial Zone, Nanshan District Shenzhen, Guangdong 518055, China. **Tel**：86 755 26627338 **Fax**：86 755 26627238

Test Report

Product ..... :	Mobile Data Terminal
Brand Name..... :	CHAINWAY
Trade Name ..... :	CHAINWAY
Applicant ..... :	Shenzhen Chainway Information Technology Co.,Ltd.
Applicant Address ..... :	9/F, Building 2, Daqian Industrial Park, Longchang Rd., District 67, Bao'an, Shenzhen China.
Manufacturer ..... :	Shenzhen Chainway Information Technology Co.,Ltd.
Manufacturer Address..... :	9/F, Building 2, Daqian Industrial Park, Longchang Rd., District 67, Bao'an, Shenzhen China.
Test Standards ..... :	47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(D), 27(F), 90S
Test Result……..:	PASS

Tested by ……..: Robin Luo 2019.10.09

Robin Luo, Test Engineer

Reviewed by……..: Chris You 2019.10.09

Chris You, Senior Engineer

Approved by……..: Shuangwen Zhang 2019.10.09

Shuangwen Zhang，Manager

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Change History		
Issue	Date	Reason for change
1.0	2019.10.09	First edition

1. GENERAL INFORMATION

1.1 EUT Description

EUT Type	Mobile Data Terminal
EUT supports Radios application	LTE Band 2/4/5/7/12/17/25/66
Frequency Range(Tx)	LTE Band 2: 1850.7MHz~1909.3MHz LTE Band 4: 1710.7MHz~1754.3MHz LTE Band 7: 2502.5MHz~2567.5MHz LTE Band 5: 824.7MHz~848.3MHz LTE Band 12: 699.7MHz~715.3MHz LTE Band 17: 706.5MHz~713.5MHz LTE Band 25: 1850.7MHz~1914.3MHz LTE Band 66: 1710.7MHz~1779.3MHz
Maximum Output Power to Antenna	LTE Band 2: 22.18dBm LTE Band 4: 21.83dBm LTE Band 5: 23.16dBm LTE Band 7: 21.52dBm LTE Band 12: 22.59dBm LTE Band 17: 22.66dBm LTE Band 25: 22.30dBm LTE Band 66: 21.81dBm
Bandwidth	LTE Band 2: 1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz LTE Band 4: 1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz LTE Band 5: 1.4MHz/3MHz/5MHz/10MHz LTE Band 7: 5MHz/10MHz/15MHz/20MHz LTE Band 12: 1.4MHz/3MHz/5MHz/10MHz LTE Band 17: 5MHz/10MHz LTE Band 25: 1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz LTE Band 66: 1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz
Modulation Type	QPSK/16QAM/64QAM(downlink only)
Antenna Type	Internal Antenna
Power supply	DC 3.8V from battery DC 5V from adapter

1.2 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

Band	Type of Modulation	BW (MHz)	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP(W)
LTE Band 2	QPSK	1.4	1M09G7D	—	0.162
LTE Band 2	16QAM	1.4	1M09W7D	—	0.160
LTE Band 2	QPSK	3	2M68G7D	—	0.149
LTE Band 2	16QAM	3	2M68W7D	—	0.147
LTE Band 2	QPSK	5	4M50G7D	—	0.108
LTE Band 2	16QAM	5	4M50W7D	—	0.108
LTE Band 2	QPSK	10	8M94G7D	0.011	0.111
LTE Band 2	16QAM	10	8M93W7D	—	0.117
LTE Band 2	QPSK	15	13M5G7D	—	0.094
LTE Band 2	16QAM	15	13M5W7D	—	0.095
LTE Band 2	QPSK	20	17M9G7D	—	0.121
LTE Band 2	16QAM	20	17M9W7D	—	0.122
LTE Band 4	QPSK	1.4	1M09G7D	__	0.126
LTE Band 4	16QAM	1.4	1M09W7D	__	0.101
LTE Band 4	QPSK	3	2M68G7D	__	0.127
LTE Band 4	16QAM	3	2M68W7D	__	0.144
LTE Band 4	QPSK	5	4M50G7D	__	0.169
LTE Band 4	16QAM	5	4M50W7D	__	0.146
LTE Band 4	QPSK	10	8M95G7D	0.011	0.134
LTE Band 4	16QAM	10	8M94W7D	__	0.116
LTE Band 4	QPSK	15	13M5G7D	__	0.105
LTE Band 4	16QAM	15	13M5W7D	__	0.085
LTE Band 4	QPSK	20	17M9G7D	__	0.107
LTE Band 4	16QAM	20	17M9W7D	—	0.089
LTE Band 5	QPSK	1.4	1M08G7D	—	0.172

LTE Band 5	16QAM	1.4	1M08W7D	—	0.181
LTE Band 5	QPSK	3	2M68G7D	—	0.175
LTE Band 5	16QAM	3	2M67W7D	—	0.185
LTE Band 5	QPSK	5	4M49G7D	—	0.136
LTE Band 5	16QAM	5	4M49W7D	—	0.141
LTE Band 5	QPSK	10	8M93G7D	0.018	0.176
LTE Band 5	16QAM	10	8M93W7D	—	0.190
LTE Band 7	QPSK	5	4M49G7D	—	0.130
LTE Band 7	16QAM	5	4M50W7D	—	0.132
LTE Band 7	QPSK	10	8M94G7D	0.009	0.129
LTE Band 7	16QAM	10	8M93W7D	—	0.136
LTE Band 7	QPSK	15	13M5G7D	—	0.132
LTE Band 7	16QAM	15	13M5W7D	—	0.110
LTE Band 7	QPSK	20	17M9G7D	—	0.108
LTE Band 7	16QAM	20	17M9W7D	—	0.107
LTE Band 12	QPSK	1.4	1M09G7D	—	0.088
LTE Band 12	16QAM	1.4	1M09W7D	—	0.072
LTE Band 12	QPSK	3	2M67G7D	—	0.125
LTE Band 12	16QAM	3	2M67W7D	—	0.073
LTE Band 12	QPSK	5	4M49G7D	—	0.091
LTE Band 12	16QAM	5	4M49W7D	—	0.074
LTE Band 12	QPSK	10	8M90G7D	0.018	0.101
LTE Band 12	16QAM	10	8M90W7D	—	0.082
LTE Band 17	QPSK	5	4M48G7D	—	0.102
LTE Band 17	16QAM	5	4M48W7D	—	0.065
LTE Band 17	QPSK	10	8M93G7D	0.020	0.101
LTE Band 17	16QAM	10	8M92W7D	—	0.069

LTE Band 25	QPSK	1.4	1M09G7D	—	0.122
LTE Band 25	16QAM	1.4	1M09W7D	—	0.102
LTE Band 25	QPSK	3	2M68G7D	—	0.124
LTE Band 25	16QAM	3	2M67W7D	—	0.110
LTE Band 25	QPSK	5	4M49G7D	—	0.133
LTE Band 25	16QAM	5	4M49W7D	—	0.106
LTE Band 25	QPSK	10	8M92G7D	0.003	0.151
LTE Band 25	16QAM	10	8M91W7D	—	0.121
LTE Band 25	QPSK	15	13M4G7D	—	0.153
LTE Band 25	16QAM	15	13M4W7D	—	0.123
LTE Band 25	QPSK	20	17M8G7D	—	0.156
LTE Band 25	16QAM	20	17M8W7D	—	0.125
LTE Band 66	QPSK	1.4	1M09G7D	—	0.123
LTE Band 66	16QAM	1.4	1M09W7D	—	0.095
LTE Band 66	QPSK	3	2M68G7D	—	0.127
LTE Band 66	16QAM	3	2M67W7D	—	0.102
LTE Band 66	QPSK	5	4M49G7D	—	0.126
LTE Band 66	16QAM	5	4M49W7D	—	0.104
LTE Band 66	QPSK	10	8M93G7D	0.009	0.126
LTE Band 66	16QAM	10	8M93W7D	—	0.086
LTE Band 66	QPSK	15	13M6G7D	—	0.124
LTE Band 66	16QAM	15	13M5W7D	—	0.100
LTE Band 66	QPSK	20	17M9G7D	—	0.129
LTE Band 66	16QAM	20	17M9W7D	—	0.103

1.3 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part24, Part27，for the EUT FCC ID Certification:

1. 47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(D), 27(F)

2. ANSI/TIA/EIA-603-D-2010

3. FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01

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

No.	Section	Description	Limit	Result
1	2.1046	Conducted RF Output Power	Reporting Only	PASS
2	§24.232(d)	Peak to Average Radio	＜13dB	PASS
3	§22.913(a)(2) §24.232(c) §27.50(h)(2) §27.50(a)(3)	Effective Radiated Power (Band 5) Equivalent Isotropic Radiated Power (Band 2/7/25)	EIRP < 7Watt EIRP < 2Watt EIRP < 250mW/5MHz	PASS
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12/17)	ERP < 3 Watt	PASS
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)	EIRP < 1Watt	PASS
4	2.1049	Occupied Bandwidth	Reporting Only	PASS
5	§2.1051 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(g) §27.53(h) 2.1051 27.53(m)(4)	Conducted Band Edge Measurement (Band 2/4/5/12/17/25/66) Band 7	＜43+10log10(P[watt]) ＜5.5MHz: -13dBm ≥5.5MHz: -25dBm (Band7)	PASS

6	2.1051 §22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	Conducted Spurious Emission Measurement (Band 2/4/5/12/17/25)	＜43+10log10(P[watt])	PASS
	2.1051 27.53(m)(4) 27.53(i)(4)	Conducted Spurious Emission (Band 7/41)	＜55+10log10(P[watt])	PASS
7	2.1053 §22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h) §90.691	Radiated Spurious Emission (Band 2/4/5/12/17/25)	＜43+10log10(P[watt])	PASS
	2.1053 27.53(m)(4) §90.691 27.53(i)(4)	Radiated Spurious Emission (Band 7)	＜55+10log10(P[watt])	PASS
8	2.1055 22.335 24.235 27.54	Frequency Stability	＜2.5ppm	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, recorded in a separate test report.

1.4 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 different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth(MHz)						Modulation		RB#			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	2	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	4	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	5	√	√	√	√			√	√	√	√	√	√	√	√
	7			√	√	√	√	√	√	√	√	√	√	√	√
	12	√	√	√	√			√	√	√	√	√	√	√	√
	17			√	√	√	√	√	√	√	√	√	√	√	√
	25	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	66	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Peak-to-Average Ratio	2						√		√	√		√	√	√	√
	4								√	√		√	√	√	√
	5				√				√	√		√	√	√	√
	7								√	√		√	√	√	√
	12								√	√		√	√	√	√
	17								√	√		√	√	√	√
	25						√		√	√		√	√	√	√
	66								√	√		√	√	√	√
26dB and 99% Bandwidth	2	√	√	√	√	√	√	√	√			√		√	
	4	√	√	√	√	√	√	√	√			√		√	
	5	√	√	√	√			√	√			√		√	
	7			√	√	√	√	√	√			√		√	
	12	√	√	√	√			√	√			√		√	
	17			√	√	√	√	√	√			√		√	
	25	√	√	√	√	√	√	√	√			√		√	
	66	√	√	√	√	√	√	√	√			√		√	
Conducted Band Edge	2	√	√	√	√	√	√	√	√	√		√	√		√
	4	√	√	√	√	√	√	√	√	√		√	√		√
	5	√	√	√	√			√	√	√		√	√		√
	7			√	√	√	√	√	√	√		√	√		√
	12	√	√	√	√			√	√	√		√	√		√
	17			√	√	√	√	√	√	√		√	√		√

	25	√	√	√	√	√	√	√	√	√		√	√		√
	66	√	√	√	√	√	√	√	√	√		√	√		√
Conducted Spurious Emission	2	√	√	√	√	√	√	√	√	√			√	√	√
	4	√	√	√	√	√	√	√	√	√			√	√	√
	5	√	√	√	√			√	√	√			√	√	√
	7			√	√	√	√	√	√	√			√	√	√
	12	√	√	√	√			√	√	√			√	√	√
	17			√	√	√	√	√	√	√			√	√	√
	25	√	√	√	√	√	√	√	√	√			√	√	√
	66	√	√	√	√	√	√	√	√	√			√	√	√
Frequency Stability	2				√			√				√		√	
	4				√			√				√		√	
	5				√			√				√		√	
	7				√			√				√		√	
	12				√			√				√		√	
	17				√			√				√		√	
	25				√			√				√		√	
	66				√			√				√		√	
ERP/EIRP	2	√	√	√	√	√	√	√	√	√			√	√	√
	4	√	√	√	√	√	√	√	√	√			√	√	√
	5	√	√	√	√			√	√	√			√	√	√
	7			√	√	√	√	√	√	√			√	√	√
	12	√	√	√	√			√	√	√			√	√	√
	17			√	√	√	√	√	√	√			√	√	√
	25	√	√	√	√	√	√	√	√	√			√	√	√
	66	√	√	√	√	√	√	√	√	√			√	√	√
Radiated Spurious Emission	2	Worst case												√	
	4	Worst case												√	
	5	Worst case												√	
	7	Worst case												√	
	12	Worst case												√	
	17	Worst case												√	
	25	Worst case												√	
	66	Worst case												√	
Note:1. The mark “√” means that this configuration is chosen for testing.															

1.5 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.
Following shows an offset computation example with cable loss 7dB and 10dB attenuator.

Example:

Offset (dB) = RF cable loss(dB) + attenuator factor(dB).
= 7 + 10 = 17 (dB)

1.6 Facilities and Accreditations

1.6.1 Test Facilities

CNAS-Lab Code: L1659

CCIC-SET is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

FCC-Registration No.: CN5031

CCIC Southern Electronic Product Testing (Shenzhen) 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: CN5031, valid time is until Dec. 31, 2019.

ISED Registration: 11185A-1

CAB identifier: CN0064

CCIC Southern Electronic Product Testing (Shenzhen) 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 Dec. 31, 2019.

NVLAP Lab Code: 201008-0

CCIC-SET is a third party testing organization accredited by NVLAP according to ISO/IEC 17025. The accreditation certificate number is 201008-0.

1.6.2 Test Environment Conditions

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

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

2. 47 CFR PART 2 REQUIREMENTS

2.1 Conducted RF Output Power

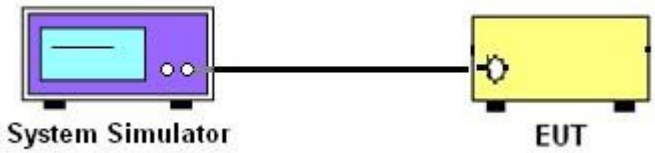
2.1.1 Requirement

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).

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

Please refer to Appendix A for detail

2.2 Peak to Average Radio

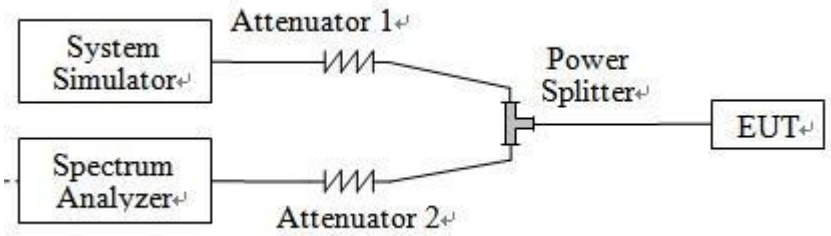
2.2.1 Definition

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

2.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

2.2.3 Test Description



2.2.4 Test Procedures

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

2.2.5 Test Results of Peak-to-Average Ratio

Please refer to Appendix A for detail

2.3 99% Occupied Bandwidth and 26dB Bandwidth

2.3.1 Definition

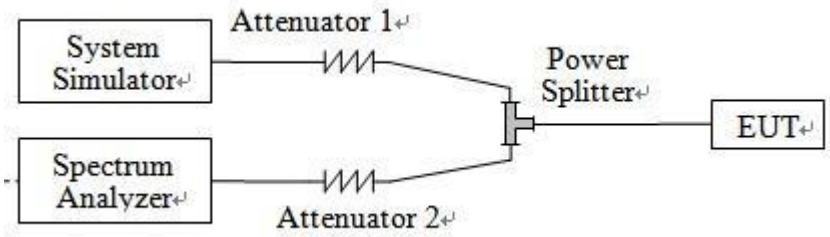
According to FCC section 2.1049, the occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

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

2.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

2.3.3 Test Setup



2.3.4 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF power with full RB sizes were measured.

2.3.5 Test Result of 99% Occupied Bandwidth and 26dB Bandwidth

Please refer to Appendix A for detail

2.4 Frequency Stability

2.4.1 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 ±0.00025% (±2.5ppm) of the center frequency. According to FCC section 2.1055, the test conditions are:

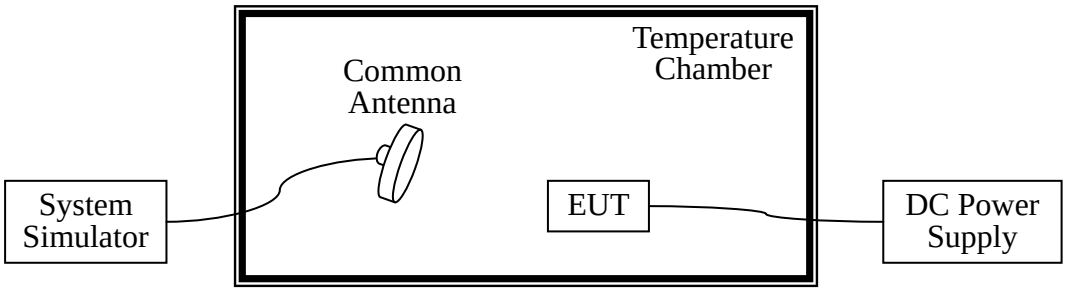
(a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.

(b) 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.

2.4.2 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 EUT was set up in the thermal chamber and connected with the system simulator.

2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized

before testing. Power was applied and the maximum change in frequency was recorded within one minute.

3. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
4. The nominal, highest and lowest extreme voltages were tested, which are specified by the applicant; the normal temperature here used is 25°C.
5. The variation in frequency was measured for the worst case.

2.4.5 Test Result of Frequency Stability

Please refer to Appendix A for detail

2.5 Conducted Out of Band Emissions

2.5.1 Requirement

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:

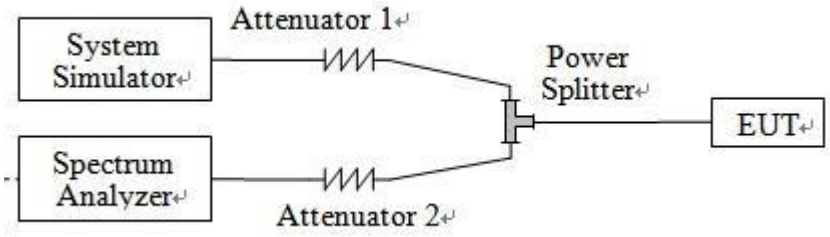
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

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

2.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

2.5.3 Test Setup



2.5.4 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.

5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

   = -13dBm.
8. For Band 7

   The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [55 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [55 + 10log(P)] (dB)

   = -25dBm.
10. For 9KHz to 30MHz: the amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

2.5.5 Test Result of Conducted Spurious Emission

Please refer to Appendix A for detail

2.6 Conducted Band Edge

2.6.1 Description of Conducted Band Edge Measurement

22.917(a)

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

24.238(a)

For operations in the 1850 -1910 MHz band, the FCC limit is 43 + 10log10 (P [Watts]) dB below the transmitter power P(Watts) in a 1MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53(h)

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53(g)

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

27.53(a)

(4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;

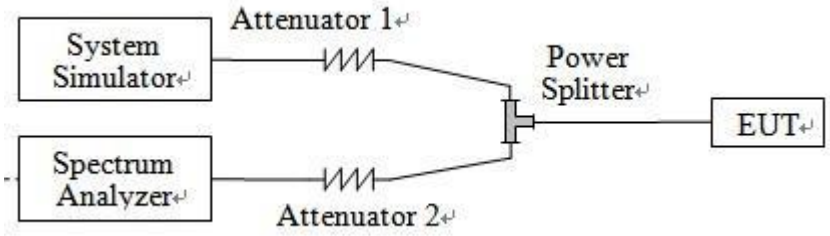
27.53m(4)

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 that 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.

2.6.2 Measuring Instruments

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

2.6.3 Test Setup



2.6.4 Test Procedures

1. The testing follows FCC KDB 971168 v03r01 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.
   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
9. For LTE Band 7 the other 40 dB, and 55 dB have additionally applied same calculation above.

2.6.5 Test Result of Conducted Band Edge

Please refer to Appendix A for detail

2.7 Transmitter Radiated Power (EIRP/ERP)

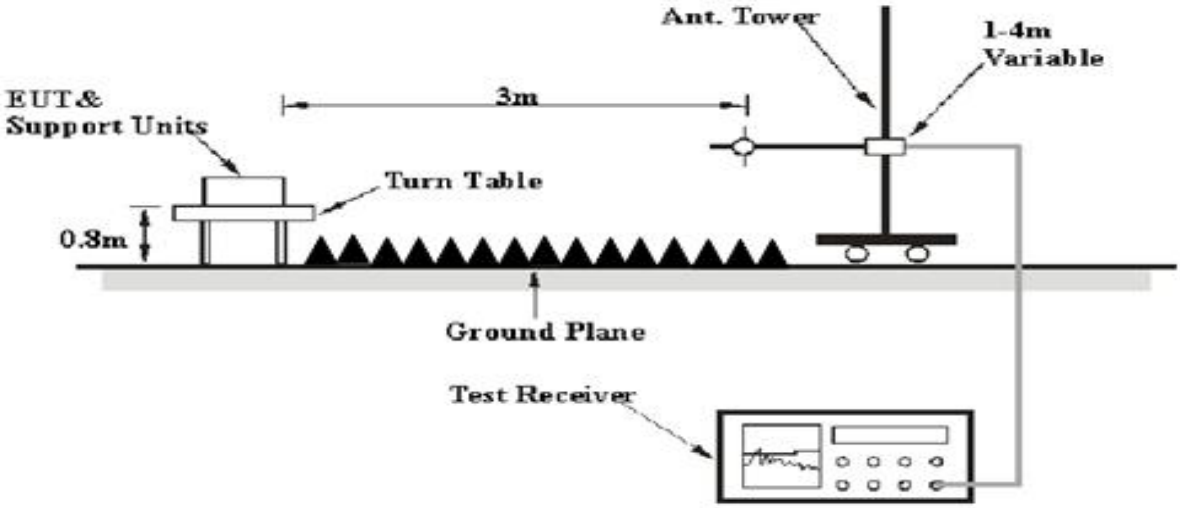
2.7.1 Requirement

Effective radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-D-2010, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v03r01. Mobile and portable (hand-held) stations operating are limited to average ERP of 7 watts with LTE band 5 and 3 watts with LTE band 12/17.
Equivalent isotropic radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-D-2010, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v03r01. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 / 25 /7 and 1 watt with LTE band 4 and 66.

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 placed on a turntable with 1.5 meter height in a fully anechoic chamber.
2. The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer which used a channel power option across EUT's signal bandwidth per section 4.0 of KDB 971168 D01v03r01.
4. The table was rotated 360 degrees to determine the position of the highest radiated power.
5. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
6. Taking the record of maximum ERP/EIRP.
7. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
8. The conducted power at the terminal of the dipole antenna is measured.
9. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
10. ERP/EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs

    Ps (dBm)：Input power to substitution antenna.

    Gs (dBi or dBd)：Substitution antenna Gain.

    Et = Rt + AF

    Es = Rs + AF

    AF (dB/m)：Receive antenna factor

    Rt：The highest received signal in spectrum analyzer for EUT.

    Rs：The highest received signal in spectrum analyzer for substitution antenna.

2.7.5 Test Result of ERP/EIRP

1. LTE Band 2 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	Verdict
			RB Size	RB Offset			
2	1.4	QPSK	1	3	1850.7	21.72	PASS
2	1.4	QPSK	1	3	1880	22.09	PASS
2	1.4	QPSK	1	3	1909.3	21.77	PASS
2	1.4	16QAM	1	0	1850.7	20.86	PASS
2	1.4	16QAM	1	0	1880	21.36	PASS
2	1.4	16QAM	1	0	1909.3	22.03	PASS
2	3	QPSK	1	8	1851.5	21.40	PASS
2	3	QPSK	1	8	1880	21.44	PASS
2	3	QPSK	1	8	1908.5	21.72	PASS
2	3	16QAM	1	0	1851.5	21.68	PASS
2	3	16QAM	1	0	1880	21.65	PASS
2	3	16QAM	1	0	1908.5	21.66	PASS
2	5	QPSK	1	0	1852.5	20.32	PASS
2	5	QPSK	1	0	1880	20.29	PASS
2	5	QPSK	1	0	1907.5	20.31	PASS
2	5	16QAM	1	24	1852.5	20.35	PASS
2	5	16QAM	1	24	1880	20.34	PASS
2	5	16QAM	1	24	1907.5	20.32	PASS
2	10	QPSK	1	49	1855	20.44	PASS
2	10	QPSK	1	49	1880	20.46	PASS
2	10	QPSK	1	49	1905	20.43	PASS
2	10	16QAM	1	0	1855	20.69	PASS
2	10	16QAM	1	0	1880	20.67	PASS
2	10	16QAM	1	0	1905	20.70	PASS
2	15	QPSK	1	74	1857.5	19.73	PASS
2	15	QPSK	1	74	1880	19.70	PASS
2	15	QPSK	1	74	1902.5	19.75	PASS
2	15	16QAM	1	0	1857.5	19.77	PASS
2	15	16QAM	1	0	1880	19.75	PASS
2	15	16QAM	1	0	1902.5	19.78	PASS
2	20	QPSK	1	0	1860	20.80	PASS
2	20	QPSK	1	0	1880	20.82	PASS
2	20	QPSK	1	0	1900	20.81	PASS
2	20	16QAM	1	0	1860	20.85	PASS
2	20	16QAM	1	0	1880	20.82	PASS
2	20	16QAM	1	0	1900	20.72	PASS

2. LTE Band 4 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	Verdict
			RB Size	RB Offset			
4	1.4	QPSK	1	0	1710.7	20.91	PASS
4	1.4	QPSK	1	0	1732.5	20.99	PASS
4	1.4	QPSK	1	0	1754.3	20.94	PASS
4	1.4	16QAM	1	3	1710.7	20.01	PASS
4	1.4	16QAM	1	3	1732.5	20.04	PASS
4	1.4	16QAM	1	3	1754.3	20.01	PASS
4	3	QPSK	1	0	1711.5	21.02	PASS
4	3	QPSK	1	0	1732.5	21.03	PASS
4	3	QPSK	1	0	1753.5	21.01	PASS
4	3	16QAM	1	14	1711.5	21.57	PASS
4	3	16QAM	1	14	1732.5	21.55	PASS
4	3	16QAM	1	14	1753.5	21.53	PASS
4	5	QPSK	1	0	1712.5	22.26	PASS
4	5	QPSK	1	0	1732.5	22.25	PASS
4	5	QPSK	1	0	1752.5	22.28	PASS
4	5	16QAM	1	0	1712.5	21.64	PASS
4	5	16QAM	1	0	1732.5	21.60	PASS
4	5	16QAM	1	0	1752.5	21.62	PASS
4	10	QPSK	1	0	1715	21.27	PASS
4	10	QPSK	1	0	1732.5	21.25	PASS
4	10	QPSK	1	0	1750	21.24	PASS
4	10	16QAM	1	24	1715	20.61	PASS
4	10	16QAM	1	24	1732.5	20.63	PASS
4	10	16QAM	1	24	1750	20.60	PASS
4	15	QPSK	1	74	1717.5	20.17	PASS
4	15	QPSK	1	74	1732.5	20.20	PASS
4	15	QPSK	1	74	1747.5	20.18	PASS
4	15	16QAM	1	74	1717.5	19.31	PASS
4	15	16QAM	1	74	1732.5	19.26	PASS
4	15	16QAM	1	74	1747.5	19.28	PASS
4	20	QPSK	1	0	1720	20.24	PASS
4	20	QPSK	1	0	1732.5	20.27	PASS
4	20	QPSK	1	0	1745	20.29	PASS
4	20	16QAM	1	0	1720	19.38	PASS
4	20	16QAM	1	0	1732.5	19.41	PASS
4	20	16QAM	1	0	1745	19.48	PASS

3. LTE Band 5 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	Verdict
			RB Size	RB Offset			
5	1.4	QPSK	1	3	824.7	22.33	PASS
5	1.4	QPSK	1	3	836.5	22.36	PASS
5	1.4	QPSK	1	3	848.3	22.35	PASS
5	1.4	16QAM	1	3	824.7	22.40	PASS
5	1.4	16QAM	1	3	836.5	22.38	PASS
5	1.4	16QAM	1	3	848.3	22.57	PASS
5	3	QPSK	1	0	825.5	22.40	PASS
5	3	QPSK	1	0	836.5	22.44	PASS
5	3	QPSK	1	0	847.5	22.42	PASS
5	3	16QAM	1	0	825.5	22.68	PASS
5	3	16QAM	1	0	836.5	22.65	PASS
5	3	16QAM	1	0	847.5	22.66	PASS
5	5	QPSK	1	0	826.5	21.33	PASS
5	5	QPSK	1	0	836.5	21.30	PASS
5	5	QPSK	1	0	846.5	21.31	PASS
5	5	16QAM	1	0	826.5	21.48	PASS
5	5	16QAM	1	0	836.5	21.45	PASS
5	5	16QAM	1	0	846.5	21.46	PASS
5	10	QPSK	1	49	829.0	22.18	PASS
5	10	QPSK	1	49	836.5	22.19	PASS
5	10	QPSK	1	49	844.0	22.45	PASS
5	10	16QAM	1	0	829.0	22.78	PASS
5	10	16QAM	1	0	836.5	22.37	PASS
5	10	16QAM	1	0	844.0	22.24	PASS

4. LTE Band 7 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	Verdict
			RB Size	RB Offset			
7	5	QPSK	1	12	2502.5	21.04	PASS
7	5	QPSK	1	0	2535	21.08	PASS
7	5	QPSK	1	24	2567.5	21.14	PASS
7	5	16QAM	1	24	2502.5	21.20	PASS
7	5	16QAM	1	24	2535	21.13	PASS
7	5	16QAM	1	0	2567.5	21.18	PASS
7	10	QPSK	1	24	2505	21.11	PASS
7	10	QPSK	1	49	2535	21.06	PASS
7	10	QPSK	1	24	2565	21.01	PASS
7	10	16QAM	1	24	2505	21.42	PASS
7	10	16QAM	1	49	2535	21.35	PASS
7	10	16QAM	1	24	2565	21.33	PASS
7	15	QPSK	1	37	2507.5	20.23	PASS
7	15	QPSK	1	74	2535	20.25	PASS
7	15	QPSK	1	0	2562.5	21.19	PASS
7	15	16QAM	1	37	2507.5	20.36	PASS
7	15	16QAM	1	18	2535	20.41	PASS
7	15	16QAM	1	0	2562.5	20.39	PASS
7	20	QPSK	1	0	2510	20.25	PASS
7	20	QPSK	1	0	2535	20.33	PASS
7	20	QPSK	1	0	2560	20.31	PASS
7	20	16QAM	1	0	2510	20.29	PASS
7	20	16QAM	1	0	2535	19.42	PASS
7	20	16QAM	1	0	2560	19.35	PASS

5.LTE Band 12 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	Verdict
			RB Size	RB Offset			
12	1.4	QPSK	1	0	699.7	19.42	PASS
12	1.4	QPSK	1	0	707.5	19.40	PASS
12	1.4	QPSK	1	0	715.3	19.43	PASS
12	1.4	16QAM	1	0	699.7	18.58	PASS
12	1.4	16QAM	1	0	707.5	18.57	PASS
12	1.4	16QAM	1	0	715.3	18.55	PASS
12	3	QPSK	1	0	700.5	19.98	PASS
12	3	QPSK	1	0	707.5	20.97	PASS
12	3	QPSK	1	0	714.5	20.95	PASS
12	3	16QAM	1	8	700.5	18.63	PASS
12	3	16QAM	1	8	707.5	18.65	PASS
12	3	16QAM	1	8	714.5	18.66	PASS
12	5	QPSK	1	24	701.5	19.58	PASS
12	5	QPSK	1	24	707.5	19.56	PASS
12	5	QPSK	1	24	713.5	19.54	PASS
12	5	16QAM	1	0	701.5	18.68	PASS
12	5	16QAM	1	0	707.5	18.71	PASS
12	5	16QAM	1	0	713.5	18.70	PASS
12	10	QPSK	1	49	704	19.99	PASS
12	10	QPSK	1	49	707.5	20.01	PASS
12	10	QPSK	1	49	711	20.03	PASS
12	10	16QAM	1	0	704	19.16	PASS
12	10	16QAM	1	0	707.5	19.15	PASS
12	10	16QAM	1	0	711	19.12	PASS

6.LTE Band 17 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	Verdict
			RB Size	RB Offset			
17	5	QPSK	1	24	706.5	19.99	PASS
17	5	QPSK	1	24	710	20.03	PASS
17	5	QPSK	1	12	713.5	20.09	PASS
17	5	16QAM	1	24	706.5	18.15	PASS
17	5	16QAM	1	24	710	18.08	PASS
17	5	16QAM	1	12	713.5	18.13	PASS
17	10	QPSK	1	49	709	20.06	PASS
17	10	QPSK	1	49	710	20.01	PASS
17	10	QPSK	1	49	711	19.96	PASS
17	10	16QAM	1	24	709	18.37	PASS
17	10	16QAM	1	49	710	18.30	PASS
17	10	16QAM	1	24	711	18.28	PASS

7.LTE Band 25 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	Verdict
			RB Size	RB Offset			
25	1.4	QPSK	1	0	1850.7	20.83	PASS
25	1.4	QPSK	1	0	1882.5	20.86	PASS
25	1.4	QPSK	1	0	1914.3	20.85	PASS
25	1.4	16QAM	1	3	1850.7	20.10	PASS
25	1.4	16QAM	1	3	1882.5	20.08	PASS
25	1.4	16QAM	1	3	1914.3	20.07	PASS
25	3	QPSK	1	0	1851.5	20.90	PASS
25	3	QPSK	1	0	1882.5	20.94	PASS
25	3	QPSK	1	0	1913.5	20.92	PASS
25	3	16QAM	1	0	1851.5	20.40	PASS
25	3	16QAM	1	0	1882.5	20.37	PASS
25	3	16QAM	1	0	1913.5	20.38	PASS
25	5	QPSK	1	0	1852.5	21.24	PASS
25	5	QPSK	1	0	1882.5	21.21	PASS
25	5	QPSK	1	0	1912.5	21.23	PASS
25	5	16QAM	1	24	1852.5	20.27	PASS
25	5	16QAM	1	24	1882.5	20.26	PASS
25	5	16QAM	1	24	1912.5	20.24	PASS
25	10	QPSK	1	0	1855.0	21.77	PASS
25	10	QPSK	1	0	1882.5	21.79	PASS
25	10	QPSK	1	0	1910.0	21.76	PASS
25	10	16QAM	1	0	1855.0	20.80	PASS
25	10	16QAM	1	0	1882.5	20.78	PASS
25	10	16QAM	1	0	1910.0	20.81	PASS
25	15	QPSK	1	74	1857.5	21.84	PASS
25	15	QPSK	1	74	1882.5	21.81	PASS
25	15	QPSK	1	74	1907.5	21.86	PASS
25	15	16QAM	1	0	1857.5	20.88	PASS
25	15	16QAM	1	0	1882.5	20.86	PASS
25	15	16QAM	1	0	1907.5	20.89	PASS
25	20	QPSK	1	0	1860.0	21.91	PASS
25	20	QPSK	1	0	1882.5	21.93	PASS
25	20	QPSK	1	0	1905.0	21.92	PASS
25	20	16QAM	1	0	1860.0	20.96	PASS
25	20	16QAM	1	0	1882.5	20.93	PASS
25	20	16QAM	1	0	1905.0	20.94	PASS

8. LTE Band 66 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	EIRP (dBm)	Verdict
			RB Size	RB Offset			
66	1.4	QPSK	1	0	1710.7	20.91	PASS
66	1.4	QPSK	1	0	1732.5	20.71	PASS
66	1.4	QPSK	1	0	1754.3	20.66	PASS
66	1.4	16QAM	1	3	1710.7	19.73	PASS
66	1.4	16QAM	1	3	1732.5	19.76	PASS
66	1.4	16QAM	1	3	1754.3	19.73	PASS
66	3	QPSK	1	0	1711.5	21.04	PASS
66	3	QPSK	1	0	1732.5	21.05	PASS
66	3	QPSK	1	0	1753.5	20.73	PASS
66	3	16QAM	1	14	1711.5	20.09	PASS
66	3	16QAM	1	14	1732.5	20.07	PASS
66	3	16QAM	1	14	1753.5	20.05	PASS
66	5	QPSK	1	0	1712.5	20.98	PASS
66	5	QPSK	1	0	1732.5	20.97	PASS
66	5	QPSK	1	0	1752.5	21.00	PASS
66	5	16QAM	1	0	1712.5	20.16	PASS
66	5	16QAM	1	0	1732.5	20.02	PASS
66	5	16QAM	1	0	1752.5	20.04	PASS
66	10	QPSK	1	0	1715	20.99	PASS
66	10	QPSK	1	0	1732.5	20.97	PASS
66	10	QPSK	1	0	1750	20.96	PASS
66	10	16QAM	1	24	1715	19.33	PASS
66	10	16QAM	1	24	1732.5	19.35	PASS
66	10	16QAM	1	24	1750	19.32	PASS
66	15	QPSK	1	74	1717.5	20.89	PASS
66	15	QPSK	1	74	1732.5	20.92	PASS
66	15	QPSK	1	74	1747.5	20.90	PASS
66	15	16QAM	1	74	1717.5	19.93	PASS
66	15	16QAM	1	74	1732.5	19.98	PASS
66	15	16QAM	1	74	1747.5	20.00	PASS
66	20	QPSK	1	0	1720	21.06	PASS
66	20	QPSK	1	0	1732.5	21.09	PASS
66	20	QPSK	1	0	1745	21.01	PASS
66	20	16QAM	1	0	1720	20.00	PASS
66	20	16QAM	1	0	1732.5	20.13	PASS
66	20	16QAM	1	0	1745	20.12	PASS

2.8 Radiated Out of Band Emissions

2.8.1 Requirement

The radiated spurious emission was measured by substitution method according to ANSI / TIA /EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For Band 7

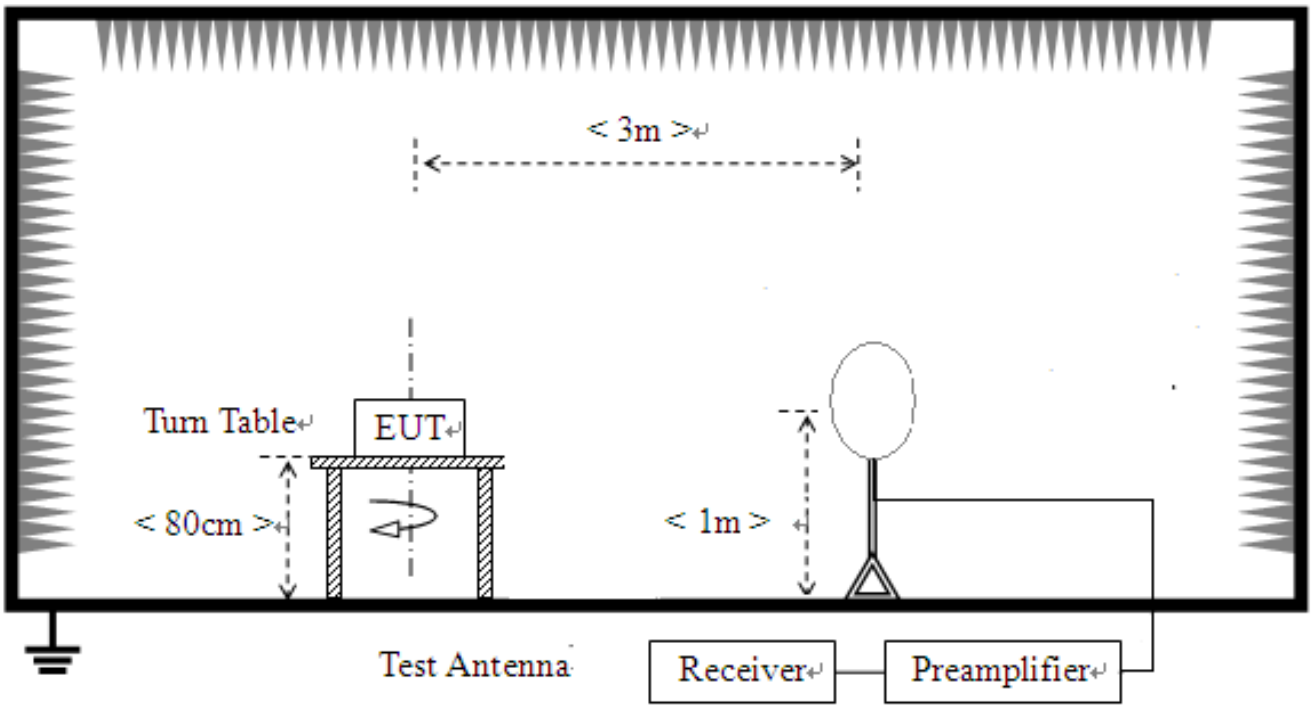
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 55 + 10 log (P) dB.

2.8.2 Measuring Instruments

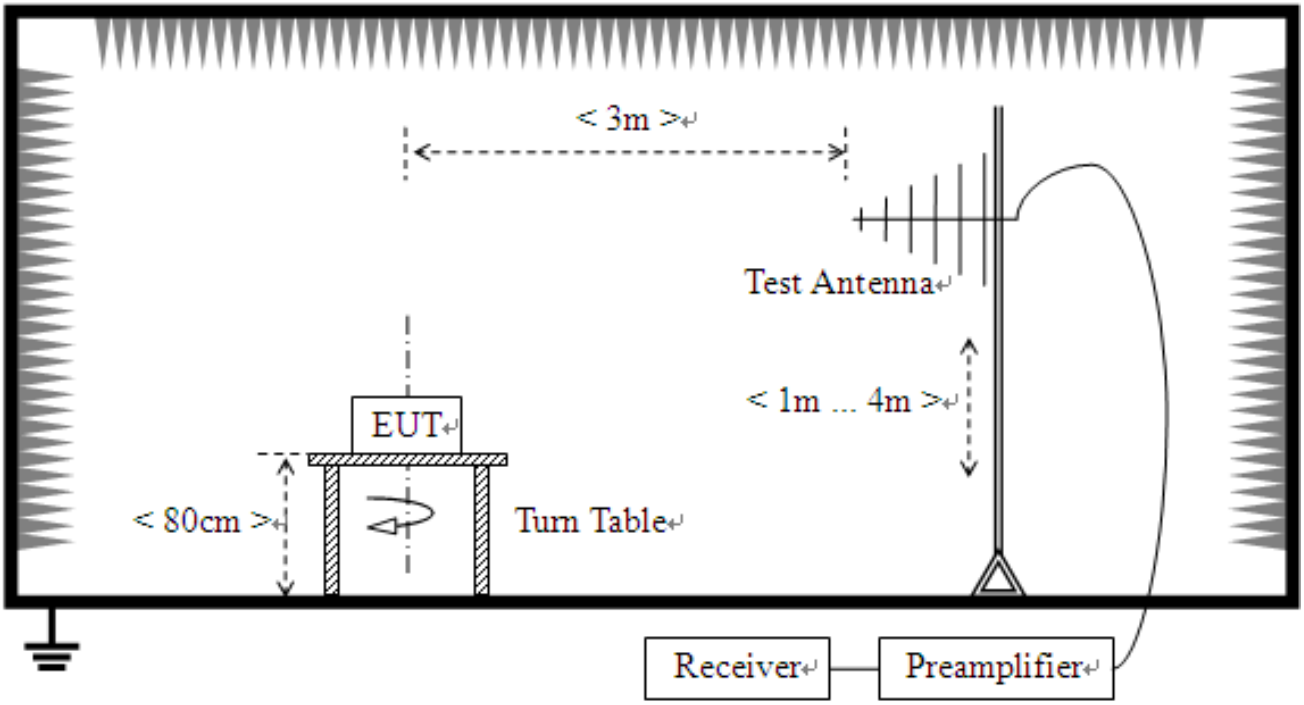
The measuring equipment is listed in the section 3 of this test report.

2.8.3 Test Setup

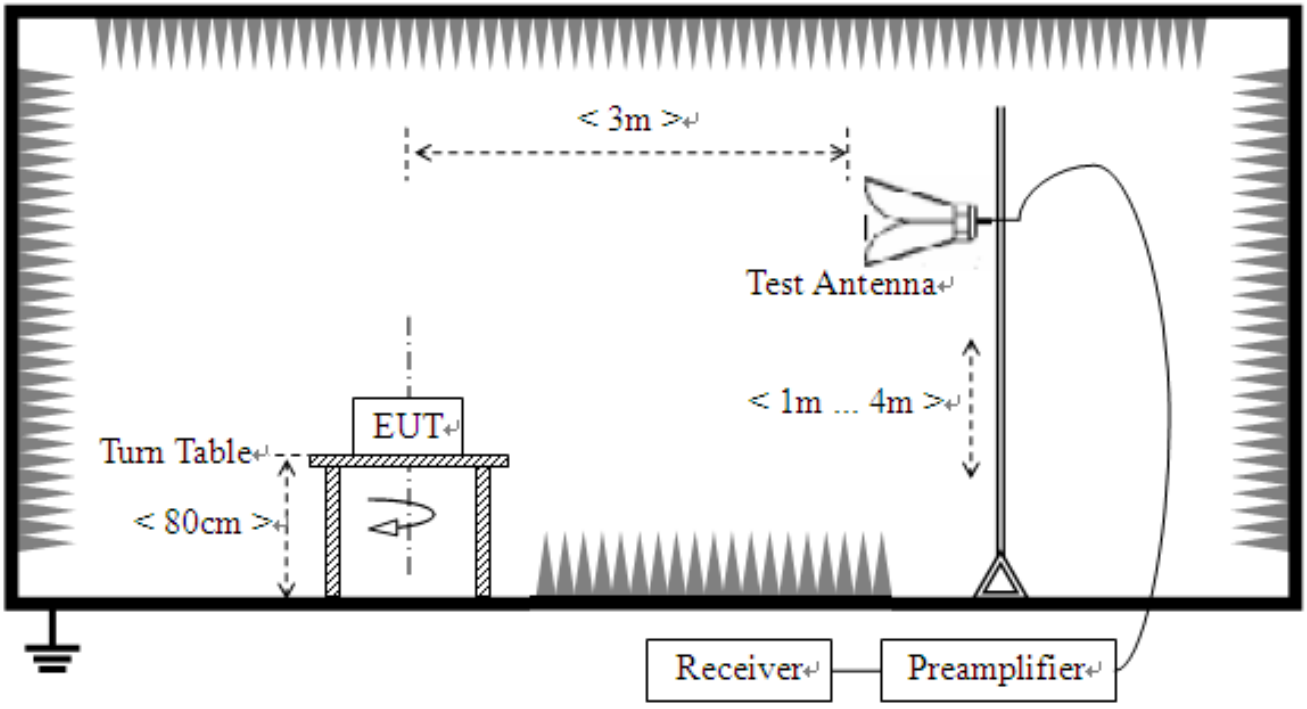
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



2.8.4 Test Procedures

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

    = P(W)- [43 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

    = -13dBm.

    <For Band 7>

    The limit line is derived from 55+ 10log(P)dB below the transmitter power P(Watts)

    = P(W)- [55 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [55 + 10log(P)] (dB)

    = -25dBm.
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^{th} 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 1, RB Offset 0

2.8.5 Test Result (Plots) of Radiated Spurious Emission

Note: 1. within 30MHz-1GHz were found more than 20dB below limit line

Note: 2. Absolute Level=Reading Level + Factor

LTE Band 2 QPSK 20MHz BW Middle Channel

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	46.5065	-94.18	-74.58	-13.00	61.58	19.60	Horizontal
2	874.744	-98.16	-63.72	-13.00	50.72	34.44	Horizontal
3	3208.60	-54.02	-45.14	-13.00	32.14	8.88	Horizontal
4	3880.94	-53.41	-45.01	-13.00	32.01	8.40	Horizontal
5	6972.48	-53.64	-38.55	-13.00	25.55	15.09	Horizontal
6	13995.9	-59.75	-35.92	-13.00	22.92	23.83	Horizontal

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	79.5195	-92.44	-70.98	-13.00	57.98	21.46	Vertical
2	1300.15	-54.73	-57.50	-13.00	44.50	-2.77	Vertical
3	3189.09	-54.82	-45.91	-13.00	32.91	8.91	Vertical
4	6510.25	-55.14	-41.14	-13.00	28.14	14.00	Vertical
5	12303.1	-56.71	-37.05	-13.00	24.05	19.66	Vertical
6	17807.9	-59.85	-31.12	-13.00	18.12	28.73	Vertical

LTE Band 4 QPSK 20MHz BW Middle Channel

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	46.5065	-92.24	-72.64	-13.00	59.64	19.60	Horizontal
2	935.915	-96.11	-61.50	-13.00	48.50	34.61	Horizontal
3	4017.50	-53.74	-44.91	-13.00	31.91	8.83	Horizontal
4	7020.51	-55.75	-40.65	-13.00	27.65	15.10	Horizontal
5	13977.9	-58.39	-35.02	-13.00	22.02	23.37	Horizontal
6	17099.5	-56.10	-29.83	-13.00	16.83	26.27	Horizontal

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	79.5195	-93.29	-71.83	-13.00	58.83	21.46	Vertical
2	3177.08	-54.55	-45.94	-13.00	32.94	8.61	Vertical
3	3877.93	-54.18	-45.94	-13.00	32.94	8.24	Vertical
4	6138.06	-54.42	-40.81	-13.00	27.81	13.61	Vertical
5	12843.4	-56.11	-36.30	-13.00	23.30	19.81	Vertical
6	17819.9	-59.47	-30.75	-13.00	17.75	28.72	Vertical

LTE Band 5 QPSK 10MHz BW Middle Channel

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	34.8549	-99.00	-76.73	-13.00	63.73	22.27	Horizontal
2	66.8969	-90.22	-71.63	-13.00	58.63	18.59	Horizontal
3	124.184	-98.65	-79.51	-13.00	66.51	19.14	Horizontal
4	3225.11	-54.45	-45.90	-13.00	32.90	8.55	Horizontal
5	3972.48	-54.51	-45.77	-13.00	32.77	8.74	Horizontal
6	6468.23	-54.51	-39.66	-13.00	26.66	14.85	Horizontal

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	63.9840	-94.23	-74.45	-13.00	61.45	19.78	Vertical
2	82.4324	-96.60	-74.80	-13.00	61.80	21.80	Vertical
3	3049.52	-52.85	-46.29	-13.00	33.29	6.56	Vertical
4	3876.43	-53.59	-45.34	-13.00	32.34	8.25	Vertical
5	6486.24	-54.71	-40.67	-13.00	27.67	14.04	Vertical
6	10814.4	-55.50	-37.48	-13.00	24.48	18.02	Vertical

LTE Band 7 QPSK 20MHz BW Middle Channel

NO.	Freq. [MHz]	Reading Level [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	46.5065	-91.72	-72.12	-25	47.12	19.60	Horizontal
2	79.5195	-98.00	-79.47	-25	54.47	18.53	Horizontal
3	874.7447	-97.42	-62.98	-25	37.98	34.44	Horizontal
4	1261.1306	-51.07	-55.24	-25	30.24	-4.17	Horizontal
5	3970.9855	-53.22	-44.49	-25	19.49	8.73	Horizontal
6	6870.4352	-54.95	-40.13	-25	15.13	14.82	Horizontal

NO.	Freq. [MHz]	Reading Level [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	80.4905	-90.76	-69.19	-25	44.19	21.57	Vertical
2	1264.1321	-50.72	-54.98	-25	29.98	-4.26	Vertical
3	4082.0410	-53.36	-45.5	-25	20.5	7.86	Vertical
4	4965.9830	-54.66	-45.45	-25	20.45	9.21	Vertical
5	7002.5013	-54.75	-41.01	-25	16.01	13.74	Vertical
6	14284.142	-57.88	-35.55	-25	10.55	22.33	Vertical

` LTE Band 12 QPSK 10MHz BW Middle Channel

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	79.5195	-92.41	-73.88	-13.00	60.88	18.53	Horizontal
2	2076.53	-53.02	-51.54	-13.00	38.54	1.48	Horizontal
3	3229.61	-54.61	-46.15	-13.00	33.15	8.46	Horizontal
4	3868.93	-53.00	-44.54	-13.00	31.54	8.46	Horizontal
5	6504.25	-54.77	-39.80	-13.00	26.80	14.97	Horizontal
6	14314.1	-57.90	-35.12	-13.00	22.12	22.78	Horizontal
7	79.5195	-92.41	-73.88	-13.00	60.88	18.53	Horizontal

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	47.4775	-91.82	-73.09	-13.00	60.09	18.73	Vertical
2	79.5195	-97.44	-75.98	-13.00	62.98	21.46	Vertical
3	2291.64	-52.89	-49.47	-13.00	36.47	3.42	Vertical
4	3213.10	-54.67	-45.81	-13.00	32.81	8.86	Vertical
5	6408.20	-55.31	-41.02	-13.00	28.02	14.29	Vertical
6	17399.6	-56.59	-29.26	-13.00	16.26	27.33	Vertical

LTE Band 17 QPSK 10MHz BW Middle Channel `

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	352.362	-92.64	-65.25	-13.00	52.25	27.39	Horizontal
2	1345.17	-51.31	-54.91	-13.00	41.91	-3.60	Horizontal
3	1679.33	-52.27	-54.16	-13.00	41.16	-1.89	Horizontal
4	3222.11	-54.02	-45.41	-13.00	32.41	8.61	Horizontal
5	6222.11	-54.96	-40.67	-13.00	27.67	14.29	Horizontal
6	13995.9	-58.10	-34.27	-13.00	21.27	23.83	Horizontal

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	230.020	-88.43	-66.93	-13.00	53.93	21.50	Vertical
2	1298.14	-52.42	-55.36	-13.00	42.36	-2.94	Vertical
3	2394.69	-53.19	-48.81	-13.00	35.81	4.38	Vertical
4	3226.61	-54.32	-45.79	-13.00	32.79	8.53	Vertical
5	6054.02	-53.50	-40.20	-13.00	27.20	13.30	Vertical
6	14032.0	-57.64	-34.67	-13.00	21.67	22.97	Vertical

LTE Band 25 QPSK 20MHz BW Middle Channel

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	57.1872	-89.53	-70.84	-13.00	57.84	18.69	Horizontal
2	3201.10	-54.49	-45.46	-13.00	32.46	9.03	Horizontal
3	3844.92	-53.95	-45.36	-13.00	32.36	8.59	Horizontal
4	6198.09	-54.36	-40.15	-13.00	27.15	14.21	Horizontal
5	12975.4	-58.25	-36.56	-13.00	23.56	21.69	Horizontal
6	17429.7	-59.16	-32.19	-13.00	19.19	26.97	Horizontal

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	80.4905	-94.31	-72.74	-13.00	59.74	21.57	Vertical
2	245.555	-98.56	-75.76	-13.00	62.76	22.80	Vertical
3	733.954	-102.98	-70.20	-13.00	57.20	32.78	Vertical
4	3201.10	-55.06	-45.91	-13.00	32.91	9.15	Vertical
5	6498.24	-54.58	-40.58	-13.00	27.58	14.00	Vertical
6	14476.2	-58.73	-35.82	-13.00	22.82	22.91	Vertical

LTE Band 66 QPSK 20MHz BW Middle Channel

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	57.1872	-88.30	-69.61	-13.00	56.61	18.69	Horizontal
2	148.458	-95.95	-75.94	-13.00	62.94	20.01	Horizontal
3	3202.60	-53.85	-44.85	-13.00	31.85	9.00	Horizontal
4	4056.52	-53.80	-45.14	-13.00	32.14	8.66	Horizontal
5	6636.31	-55.35	-40.82	-13.00	27.82	14.53	Horizontal
6	14308.1	-57.46	-34.64	-13.00	21.64	22.82	Horizontal

Suspected List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	65.9259	-90.32	-70.33	-13.00	57.33	19.99	Vertical
2	249.439	-98.74	-75.69	-13.00	62.69	23.05	Vertical
3	3264.13	-53.39	-45.79	-13.00	32.79	7.60	Vertical
4	6456.22	-53.54	-39.41	-13.00	26.41	14.13	Vertical
5	10796.3	-57.63	-39.63	-13.00	26.63	18.00	Vertical
6	13989.9	-58.88	-35.53	-13.00	22.53	23.35	Vertical

3. LIST OF MEASURING EQUIPMENT

Description	Manufacturer	Model	Serial No.	Cal. Date	Due Date	Remark
EMI Test Receiver	R&S	ESIB26	A0304218	2019.09.19	2020.10.18	Radiation
Loop Antenna	Schwarz beck	HFH2-Z2	100047	2019.04.26	2022.04.25	Radiation
Broadband antenna (30MHz~1GHz)	R&S	HL562	101341	2017.07.14	2020.07.13	Radiation
Broadband antenna (30MHz~1GHz)	R&S	HL562	101339	2017.07.14	2020.07.13	Radiation
Double ridge horn antenna (1GHz~18GHz)	R&S	HF906	100150	2019.04.27	2022.04.26	Radiation
Double ridge horn antenna (1GHz~18GHz)	R&S	HF906	100149	2019.04.17	2022.04.16	Radiation
Horn antenna (18GHz~26.5GHz)	AR	AT4002A	305753	2017.11.10	2020.11.09	Radiation
Horn antenna (18GHz~26.5GHz)	AR	AT4003A	0329293	2018.09.17	2020.09.16	Radiation
Amplifier 1GHz-18GHz	AR	25S1G4AM1	22018	2018.09.17	2020.09.16	Radiation
Ampilier 20M~3GHz	MILMEGA	80RF1000-250	1064573	2017.10.09	2020.10.08	Radiation
Spectrum Analyzer	KEYSIGHT	N9030A	A160702554	2018.11.15	2019.11.14	Conducted
LISN	ROHDE&SCHWARZ	ESH2-Z5	A0304221	2019.04.30	2020.04.29	Conducted
Test Receiver	R&S	ESCS30	A0304260	2019.05.25	2020.05.24	Conducted
Temperature chamber	Dongguan gaoda instrument CO.LTD	GD-7005-100	130130101	2019.04.22	2020.04.21	Conducted
Wideband Radio Communication tester	R&S	CMW500	149332	2019.04.01	2020.03.31	Conducted
Power Supply	R&S	NGMO1	101037	2019.08.05	2020.08.04	Conducted

APPENDIX A

Conducted RF (Average) Output Power

Test Result and Data

LTE FDD Band 2				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	21.81	21.82	21.9	21.5±1.0
		1	3	22.01	22.01	21.84	
		1	5	21.8	21.8	21.83	
		3	0	21.57	21.64	21.65	21.0±1.0
		3	2	21.62	21.46	21.67	
		3	3	21.71	21.75	21.66	
		6	0	21.37	21.39	21.34	20.5±1.0
	16QAM	1	0	21.22	21.07	20.96	20.5±1.0
		1	3	21.16	20.97	21.07	
		1	5	21.07	21.06	20.98	
		3	0	20.77	20.82	20.65	20.0±1.0
		3	2	20.74	20.66	20.74	
		3	3	20.79	20.73	20.88	
		6	0	20.5	20.51	20.49	20.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	21.95	22.01	22.01	21.5±1.0
		1	7	21.95	21.94	22.05	
		1	14	21.93	21.82	22.1	
		8	0	21.68	21.71	21.53	21.0±1.0
		8	4	21.58	21.71	21.69	
		8	7	21.59	21.58	21.68	
		15	0	21.4	21.32	21.34	20.5±1.0
	16QAM	1	0	20.95	20.99	21.14	20.5±1.0
		1	7	20.95	21.25	21.23	
		1	14	21.04	21.06	21.17	
		8	0	20.76	20.66	20.85	20.0±1.0
		8	4	20.65	20.65	20.74	
		8	7	20.65	20.79	20.62	
		15	0	20.53	20.55	20.54	20.0±1.0

LTE FDD Band 2				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	21.91	22.02	21.99	21.5±1.0
		1	13	21.92	21.82	21.9	
		1	24	22.02	22.06	21.9	
		12	0	21.5	21.67	21.59	21.0±1.0
		12	6	21.69	21.49	21.7	
		12	13	21.62	21.75	21.48	
		25	0	21.37	21.3	21.37	20.5±1.0
	16QAM	1	0	21.15	21.19	21.04	20.5±1.0
		1	13	21.2	21.23	21.16	
		1	24	21.15	21.13	21.15	
		12	0	20.74	20.86	20.63	20.0±1.0
		12	6	20.61	20.74	20.81	
		12	13	20.67	20.83	20.73	
		25	0	20.52	20.55	20.45	20.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	21.91	21.84	21.97	21.5±1.0
		1	25	21.81	21.93	21.97	
		1	49	21.98	22.04	21.93	
		25	0	21.59	21.48	21.7	21.0±1.0
		25	13	21.6	21.56	21.68	
		25	25	21.54	21.59	21.65	
		50	0	21.31	21.34	21.37	20.5±1.0
	16QAM	1	0	20.97	21.03	21.09	20.5±1.0
		1	25	20.97	20.98	21.17	
		1	49	21.25	21.11	21.12	
		25	0	20.76	20.75	20.69	20.0±1.0
		25	13	20.87	20.8	20.66	
		25	25	20.79	20.63	20.61	
		50	0	20.55	20.46	20.45	20.0±1.0

LTE FDD Band 2				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	22	21.97	22.03	21.5±1.0
		1	38	21.83	22.02	21.85	
		1	74	21.86	21.92	21.97	
		36	0	21.49	21.74	21.61	21.0±1.0
		36	18	21.71	21.68	21.48	
		36	39	21.56	21.52	21.53	
		75	0	21.39	21.4	21.4	20.5±1.0
	16QAM	1	0	20.97	21.03	21.12	20.5±1.0
		1	38	21.04	21.01	20.95	
		1	74	21	21.07	21.23	
		36	0	20.9	20.61	20.83	20.0±1.0
		36	18	20.71	20.61	20.6	
		36	39	20.85	20.79	20.86	
		75	0	20.46	20.52	20.53	20.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	21.87	22.18	21.93	21.5±1.0
		1	50	22.03	22.09	21.9	
		1	99	21.99	22.08	21.93	
		50	0	21.61	21.72	21.62	21.0±1.0
		50	25	21.67	21.45	21.68	
		50	50	21.48	21.67	21.67	
		100	0	21.31	21.39	21.38	20.5±1.0
	16QAM	1	0	21.1	21.03	21.13	20.5±1.0
		1	50	21.24	21.04	21	
		1	99	21.06	20.97	21.05	
		50	0	20.82	20.81	20.72	20.0±1.0
		50	25	20.6	20.88	20.7	
		50	50	20.86	20.77	20.83	
		100	0	20.54	20.52	20.52	20.0±1.0

LTE Band 4 Conducted Power Test Verdict:

LTE FDD Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	21.78	21.74	21.71	21.0±1.0
		1	3	21.6	21.55	21.74	
		1	5	21.8	21.55	21.53	
		3	0	21.29	21.27	21.42	20.5±1.0
		3	2	21.3	21.41	21.17	
		3	3	21.18	21.37	21.15	
		6	0	21.02	21	21.05	20.5±1.0
	16QAM	1	0	20.83	20.72	20.82	20.0±1.0
		1	3	20.78	20.92	20.73	
		1	5	20.65	20.71	20.9	
		3	0	20.48	20.32	20.6	20.0±1.0
		3	2	20.35	20.35	20.57	
		3	3	20.6	20.35	20.41	
		6	0	20.17	20.17	20.23	19.5±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	21.72	21.61	21.63	21.0±1.0
		1	7	21.51	21.75	21.56	
		1	14	21.72	21.8	21.64	
		8	0	21.23	21.18	21.36	20.5±1.0
		8	4	21.17	21.29	21.22	
		8	7	21.4	21.43	21.36	
		15	0	21.07	21.02	21.08	20.5±1.0
	16QAM	1	0	20.92	20.86	20.66	20.0±1.0
		1	7	20.86	20.71	20.78	
		1	14	20.94	20.74	20.94	
		8	0	20.38	20.42	20.33	20.0±1.0
		8	4	20.34	20.41	20.57	
		8	7	20.57	20.37	20.52	
		15	0	20.19	20.18	20.16	19.5±1.0

LTE FDD Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	21.6	21.73	21.57	21.0±1.0
		1	13	21.68	21.57	21.78	
		1	24	21.64	21.76	21.5	
		12	0	21.4	21.38	21.22	20.5±1.0
		12	6	21.45	21.22	21.36	
		12	13	21.21	21.4	21.22	
		25	0	21.08	21.05	21.03	20.5±1.0
	16QAM	1	0	20.69	20.91	20.78	20.0±1.0
		1	13	20.76	20.76	20.89	
		1	24	20.74	20.89	20.83	
		12	0	20.57	20.51	20.48	20.0±1.0
		12	6	20.36	20.41	20.59	
		12	13	20.47	20.48	20.35	
		25	0	20.17	20.18	20.19	19.5±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	21.73	21.79	21.64	21.0±1.0
		1	25	21.59	21.67	21.79	
		1	49	21.64	21.8	21.61	
		25	0	21.25	21.26	21.25	20.5±1.0
		25	13	21.16	21.37	21.27	
		25	25	21.2	21.29	21.26	
		50	0	21.05	21.09	21.01	20.5±1.0
	16QAM	1	0	20.66	20.85	20.7	20.0±1.0
		1	25	20.84	20.81	20.71	
		1	49	20.89	20.95	20.72	
		25	0	20.45	20.55	20.45	20.0±1.0
		25	13	20.3	20.53	20.55	
		25	25	20.49	20.5	20.5	
		50	0	20.24	20.2	20.21	19.5±1.0

LTE FDD Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	21.7	21.56	21.63	21.0±1.0
		1	38	21.51	21.57	21.68	
		1	74	21.58	21.51	21.73	
		36	0	21.35	21.41	21.23	20.5±1.0
		36	18	21.22	21.29	21.42	
		36	39	21.38	21.36	21.3	
		75	0	21.06	21.07	21.09	20.5±1.0
	16QAM	1	0	20.78	20.65	20.83	20.0±1.0
		1	38	20.86	20.68	20.75	
		1	74	20.77	20.72	20.81	
		36	0	20.58	20.31	20.56	20.0±1.0
		36	18	20.53	20.35	20.41	
		36	39	20.57	20.59	20.43	
		75	0	20.19	20.16	20.2	19.5±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	21.66	21.83	21.74	21.0±1.0
		1	50	21.61	21.64	21.72	
		1	99	21.57	21.77	21.67	
		50	0	21.36	21.42	21.24	20.5±1.0
		50	25	21.4	21.41	21.39	
		50	50	21.2	21.35	21.31	
		100	0	21.04	21.09	21.02	20.5±1.0
	16QAM	1	0	20.79	20.86	20.7	20.0±1.0
		1	50	20.94	20.91	20.82	
		1	99	20.93	20.78	20.71	
		50	0	20.52	20.39	20.44	20.0±1.0
		50	25	20.36	20.51	20.49	
		50	50	20.44	20.51	20.32	
		100	0	20.23	20.25	20.22	19.5±1.0

LTE Band 5 Conducted Power Test Verdict

LTE FDD Band 5				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	22.98	22.85	23.02	22.5±1.0
		1	3	23.05	22.95	23.03	
		1	5	23.04	22.81	22.81	
		3	0	22.74	22.53	22.67	22.0±1.0
		3	2	22.49	22.64	22.73	
		3	3	22.68	22.55	22.71	
		6	0	22.34	22.33	22.36	21.5±1.0
	16QAM	1	0	22.11	22.23	22.14	21.5±1.0
		1	3	22.11	22.17	22.24	
		1	5	22.12	22.25	21.96	
		3	0	21.8	21.85	21.87	21.0±1.0
		3	2	21.67	21.8	21.66	
		3	3	21.69	21.78	21.74	
		6	0	21.48	21.51	21.46	21.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	23.02	23.07	22.9	22.5±1.0
		1	7	22.89	22.98	22.96	
		1	14	22.8	23.06	22.99	
		8	0	22.7	22.45	22.54	22.0±1.0
		8	4	22.53	22.75	22.65	
		8	7	22.61	22.61	22.49	
		15	0	22.37	22.31	22.3	21.5±1.0
	16QAM	1	0	22.24	22.06	21.97	21.5±1.0
		1	7	22.03	22.19	22.15	
		1	14	21.96	22.23	22.13	
		8	0	21.66	21.77	21.79	21.0±1.0
		8	4	21.62	21.71	21.7	
		8	7	21.61	21.83	21.74	
		15	0	21.51	21.49	21.47	21.0±1.0

LTE FDD Band 5				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	22.85	23.04	23.04	22.5±1.0
		1	13	22.83	23.01	22.84	
		1	24	23.02	22.96	23.1	
		12	0	22.69	22.49	22.46	22.0±1.0
		12	6	22.54	22.54	22.45	
		12	13	22.46	22.52	22.74	
		25	0	22.35	22.38	22.4	21.5±1.0
	16QAM	1	0	22.08	22.09	22.24	21.5±1.0
		1	13	22.04	22.11	21.99	
		1	24	22.2	22.04	22.22	
		12	0	21.83	21.87	21.82	21.0±1.0
		12	6	21.76	21.8	21.63	
		12	13	21.78	21.89	21.77	
		25	0	21.45	21.46	21.54	21.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	23.11	23.16	22.92	22.5±1.0
		1	25	22.85	23.02	22.83	
		1	49	22.81	23.1	23.02	
		25	0	22.66	22.71	22.54	22.0±1.0
		25	13	22.62	22.58	22.53	
		25	25	22.56	22.5	22.72	
		50	0	22.39	22.32	22.36	21.5±1.0
	16QAM	1	0	22.11	22.03	21.95	21.5±1.0
		1	25	22	22.22	22.25	
		1	49	22.08	22.14	22.09	
		25	0	21.66	21.66	21.75	21.0±1.0
		25	13	21.76	21.64	21.62	
		25	25	21.65	21.72	21.84	
		50	0	21.48	21.53	21.52	21.0±1.0

LTE Band 7 Conducted Power Test Verdict

LTE FDD Band 7				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	21.36	21.41	21.3	20.5±1.0
		1	13	21.26	21.46	21.33	
		1	24	21.32	21.48	21.32	
		12	0	21.08	20.86	20.93	20.5±1.0
		12	6	20.96	21.09	20.96	
		12	13	20.94	21	21.09	
		25	0	20.7	20.78	20.73	20.0±1.0
	16QAM	1	0	20.39	20.6	20.64	20.0±1.0
		1	13	20.58	20.37	20.64	
		1	24	20.46	20.47	20.39	
		12	0	20.15	20.15	20.08	19.5±1.0
		12	6	20.09	20.25	20.08	
		12	13	20.1	20.14	20.21	
		25	0	19.95	19.89	19.94	19.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	21.4	21.46	21.47	20.5±1.0
		1	25	21.49	21.36	21.41	
		1	49	21.38	21.22	21.44	
		25	0	21.08	21.03	21.07	20.5±1.0
		25	13	20.98	21.11	21.1	
		25	25	21.06	20.99	20.87	
		50	0	20.78	20.79	20.73	20.0±1.0
	16QAM	1	0	20.5	20.51	20.35	20.0±1.0
		1	25	20.52	20.49	20.62	
		1	49	20.37	20.52	20.53	
		25	0	20.3	20.04	20.11	19.5±1.0
		25	13	20.08	20.02	20.01	
		25	25	20.13	20.01	20.03	
		50	0	19.95	19.88	19.85	19.0±1.0

LTE FDD Band 7				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	21.35	21.27	21.36	20.5±1.0
		1	38	21.4	21.49	21.32	
		1	74	21.46	21.41	21.25	
		36	0	21.01	20.95	20.85	20.5±1.0
		36	18	20.92	21.11	20.97	
		36	39	20.92	21.02	20.97	
		75	0	20.74	20.76	20.77	20.0±1.0
	16QAM	1	0	20.38	20.43	20.44	20.0±1.0
		1	38	20.35	20.5	20.47	
		1	74	20.56	20.58	20.37	
		36	0	20.07	20.07	20.05	19.5±1.0
		36	18	20.27	20.08	20.1	
		36	39	20.3	20.07	20.12	
		75	0	19.87	19.95	19.95	19.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	21.43	21.52	21.36	21.0±1.0
		1	50	21.33	21.35	21.24	
		1	99	21.29	21.27	21.41	
		50	0	20.91	20.98	20.86	20.0±1.0
		50	25	20.89	20.96	20.93	
		50	50	20.87	20.92	20.94	
		100	0	20.76	20.75	20.79	20.0±1.0
	16QAM	1	0	20.58	20.42	20.53	20.0±1.0
		1	50	20.46	20.49	20.37	
		1	99	20.57	20.43	20.63	
		50	0	20.28	20.18	20.08	19.5±1.0
		50	25	20.29	20.19	20.06	
		50	50	20.26	20.11	20.1	
		100	0	19.93	19.9	19.95	19.0±1.0

LTE Band 12 Conducted Power Test Verdict:

LTE FDD Band 12				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	22.26	22.21	22.36	21.5±1.0
		1	3	22.46	22.37	22.34	
		1	5	22.5	22.48	22.2	
		3	0	22.02	22	21.93	21.5±1.0
		3	2	22.09	22	21.98	
		3	3	21.94	22.08	21.89	
		6	0	21.72	21.7	21.71	21.0±1.0
	16QAM	1	0	21.41	21.4	21.47	21.0±1.0
		1	3	21.48	21.46	21.56	
		1	5	21.49	21.6	21.56	
		3	0	21.3	21.21	21.1	20.5±1.0
		3	2	21.16	21.11	21.2	
		3	3	21.14	21.23	21.13	
		6	0	20.89	20.9	20.92	20.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	22.35	22.34	22.2	21.5±1.0
		1	7	22.35	22.42	22.2	
		1	14	22.33	22.49	22.29	
		8	0	22.05	21.94	22.09	21.5±1.0
		8	4	22.06	22.14	22.05	
		8	7	21.85	22.02	22.04	
		15	0	21.75	21.72	21.79	21.0±1.0
	16QAM	1	0	21.63	21.62	21.59	21.0±1.0
		1	7	21.46	21.58	21.54	
		1	14	21.56	21.64	21.41	
		8	0	21.07	21.29	21.22	20.5±1.0
		8	4	21.03	21.29	21.1	
		8	7	21.23	21.19	21.03	
		15	0	20.93	20.88	20.92	20.0±1.0

LTE FDD Band 12				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	22.22	22.23	22.22	21.5±1.0
		1	13	22.2	22.24	22.25	
		1	24	22.39	22.2	22.44	
		12	0	22.03	22.13	22.15	21.5±1.0
		12	6	21.95	21.96	22.11	
		12	13	22.03	22.15	21.99	
		25	0	21.78	21.71	21.78	21.0±1.0
	16QAM	1	0	21.39	21.47	21.61	21.0±1.0
		1	13	21.58	21.6	21.47	
		1	24	21.38	21.45	21.52	
		12	0	21.04	21.23	21.2	20.5±1.0
		12	6	21.22	21.28	21.24	
		12	13	21.17	21.23	21.03	
		25	0	20.91	20.9	20.89	20.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	22.38	22.59	22.46	22.0±1.0
		1	25	22.44	22.41	22.47	
		1	49	22.44	22.32	22.49	
		25	0	21.85	22.04	21.86	21.5±1.0
		25	13	21.98	21.94	22.03	
		25	25	21.95	22.01	22.02	
		50	0	21.7	21.79	21.8	21.0±1.0
	16QAM	1	0	21.46	21.37	21.47	21.0±1.0
		1	25	21.4	21.41	21.41	
		1	49	21.63	21.44	21.62	
		25	0	21.12	21.2	21.03	20.5±1.0
		25	13	21.02	21.23	21.05	
		25	25	21.16	21.3	21.16	
		50	0	20.86	20.93	20.88	20.0±1.0

LTE Band 17 Conducted Power Test Verdict:

LTE FDD Band 17				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	22.38	22.42	22.36	22.0±1.0
		1	13	22.56	22.33	22.37	
		1	24	22.45	22.34	22.41	
		12	0	22.25	22.08	22.02	21.5±1.0
		12	6	22.02	22.06	22.14	
		12	13	22.23	22.13	22.09	
		25	0	21.83	21.89	21.86	21.0±1.0
	16QAM	1	0	21.56	21.57	21.64	21.0±1.0
		1	13	21.52	21.65	21.75	
		1	24	21.72	21.61	21.55	
		12	0	21.1	21.24	21.33	20.5±1.0
		12	6	21.16	21.13	21.32	
		12	13	21.4	21.39	21.23	
		25	0	21.01	21.03	21	20.5±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	22.47	22.66	22.53	22.0±1.0
		1	25	22.37	22.31	22.49	
		1	49	22.3	22.41	22.42	
		25	0	22.07	22.14	22.11	21.5±1.0
		25	13	22.13	22	22.06	
		25	25	22.12	22.11	21.95	
		50	0	21.84	21.89	21.88	21.0±1.0
	16QAM	1	0	21.48	21.61	21.65	21.0±1.0
		1	25	21.45	21.65	21.59	
		1	49	21.46	21.57	21.52	
		25	0	21.22	21.29	21.17	20.5±1.0
		25	13	21.32	21.28	21.15	
		25	25	21.36	21.35	21.22	
		50	0	20.95	20.98	21.04	20.5±1.0

LTE Band 25 Conducted Power Test Verdict:

LTE FDD Band 25				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				26047/1850.7	26365/1882.5	26683/1914.3	
1.4MHz	QPSK	1	0	22.01	22.19	22.02	21.5±1.0
		1	3	22.24	22.2	21.99	
		1	5	22.05	22	22.08	
		3	0	21.79	21.68	21.82	21.0±1.0
		3	2	21.72	21.78	21.68	
		3	3	21.78	21.74	21.61	
		6	0	21.46	21.53	21.46	21.0±1.0
	16QAM	1	0	21.1	21.29	21.38	20.5±1.0
		1	3	21.35	21.18	21.37	
		1	5	21.23	21.1	21.37	
		3	0	20.83	20.82	21.02	20.0±1.0
		3	2	20.88	20.99	21.01	
		3	3	21.03	20.77	20.83	
		6	0	20.63	20.63	20.6	20.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				26055/1851.5	26365/1882.5	26675/1913.5	
3MHz	QPSK	1	0	22.17	22.25	22.02	21.5±1.0
		1	7	22.18	21.98	22.09	
		1	14	22.11	22.25	22.01	
		8	0	21.81	21.61	21.79	21.0±1.0
		8	4	21.68	21.77	21.61	
		8	7	21.8	21.85	21.78	
		15	0	21.55	21.47	21.51	21.0±1.0
	16QAM	1	0	21.31	21.22	21.35	20.5±1.0
		1	7	21.31	21.38	21.36	
		1	14	21.25	21.35	21.13	
		8	0	20.86	20.99	20.84	20.0±1.0
		8	4	20.76	20.9	20.78	
		8	7	20.89	21	21.02	
		15	0	20.65	20.64	20.68	20.0±1.0

LTE FDD Band 25				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				26065/1852.5	26365/1882.5	26665/1912.5	
5MHz	QPSK	1	0	22.11	22.18	22.11	21.5±1.0
		1	13	22.02	22.12	22.04	
		1	24	22.07	22.21	22.18	
		12	0	21.76	21.74	21.7	21.0±1.0
		12	6	21.63	21.73	21.84	
		12	13	21.68	21.62	21.64	
		25	0	21.51	21.54	21.55	21.0±1.0
	16QAM	1	0	21.22	21.13	21.21	20.5±1.0
		1	13	21.31	21.16	21.35	
		1	24	21.1	21.19	21.16	
		12	0	20.9	20.97	20.96	20.0±1.0
		12	6	20.88	20.84	20.76	
		12	13	20.89	21.01	20.85	
		25	0	20.6	20.67	20.68	20.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				26090/1855	26365/1882.5	26640/1910	
10MHz	QPSK	1	0	21.99	22.17	22.25	21.5±1.0
		1	25	22.19	21.99	22.25	
		1	49	22.23	22.08	22.05	
		25	0	21.68	21.72	21.74	21.0±1.0
		25	13	21.67	21.84	21.81	
		25	25	21.89	21.83	21.7	
		50	0	21.45	21.45	21.55	21.0±1.0
	16QAM	1	0	21.15	21.33	21.38	20.5±1.0
		1	25	21.11	21.29	21.28	
		1	49	21.24	21.21	21.37	
		25	0	20.95	20.77	20.85	20.0±1.0
		25	13	20.8	20.76	20.78	
		25	25	21.03	20.9	20.8	
		50	0	20.61	20.69	20.7	20.0±1.0

LTE FDD Band 25				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				26115/1857.5	26365/1882.5	26615/1907.5	
15MHz	QPSK	1	0	22.18	22.21	21.97	21.5±1.0
		1	38	22.14	22.05	22.2	
		1	74	22.06	22	22.04	
		36	0	21.78	21.73	21.69	21.0±1.0
		36	18	21.89	21.86	21.64	
		36	39	21.61	21.67	21.81	
		75	0	21.46	21.5	21.54	21.0±1.0
	16QAM	1	0	21.18	21.31	21.18	20.5±1.0
		1	38	21.11	21.33	21.17	
		1	74	21.22	21.19	21.36	
		36	0	20.89	20.91	20.79	20.0±1.0
		36	18	21.05	20.92	21.05	
		36	39	20.96	20.75	21.05	
		75	0	20.63	20.7	20.6	20.0±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				26140/1860	26365/1882.5	26590/1905	
20MHz	QPSK	1	0	22.07	22.3	22.13	21.5±1.0
		1	50	22.21	22.21	22.12	
		1	99	22.1	22.02	22.14	
		50	0	21.76	21.86	21.8	21.0±1.0
		50	25	21.61	21.69	21.84	
		50	50	21.66	21.63	21.63	
		100	0	21.47	21.46	21.55	21.0±1.0
	16QAM	1	0	21.19	21.39	21.34	20.5±1.0
		1	50	21.16	21.22	21.19	
		1	99	21.26	21.1	21.38	
		50	0	21	21.05	21.02	20.0±1.0
		50	25	20.87	20.97	20.96	
		50	50	20.88	21.02	20.99	
		100	0	20.6	20.6	20.65	20.0±1.0

LTE Band 66 Conducted Power Test Verdict:

LTE FDD Band 66				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	21.65	21.48	21.67	21.0±1.0
		1	3	21.51	21.48	21.74	
		1	5	21.75	21.64	21.53	
		3	0	21.21	21.12	21.17	20.5±1.0
		3	2	21.31	21.36	21.38	
		3	3	21.34	21.22	21.29	
		6	0	21.01	21.04	20.97	20.5±1.0
	16QAM	1	0	20.67	20.89	20.65	20.0±1.0
		1	3	20.83	20.8	20.73	
		1	5	20.73	20.65	20.73	
		3	0	20.49	20.38	20.55	20.0±1.0
		3	2	20.31	20.54	20.49	
		3	3	20.39	20.42	20.48	
		6	0	20.17	20.15	20.18	19.5±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				131987/1711.5	12322/1745	132657/1778.5	
3MHz	QPSK	1	0	21.73	21.75	21.72	21.0±1.0
		1	7	21.59	21.61	21.75	
		1	14	21.56	21.54	21.68	
		8	0	21.33	21.27	21.22	20.5±1.0
		8	4	21.29	21.28	21.2	
		8	7	21.32	21.27	21.2	
		15	0	20.97	20.96	21.04	20.5±1.0
	16QAM	1	0	20.85	20.87	20.62	20.0±1.0
		1	7	20.72	20.79	20.79	
		1	14	20.67	20.75	20.76	
		8	0	20.36	20.27	20.3	20.0±1.0
		8	4	20.53	20.25	20.49	
		8	7	20.28	20.52	20.47	
		15	0	20.15	20.11	20.19	19.5±1.0

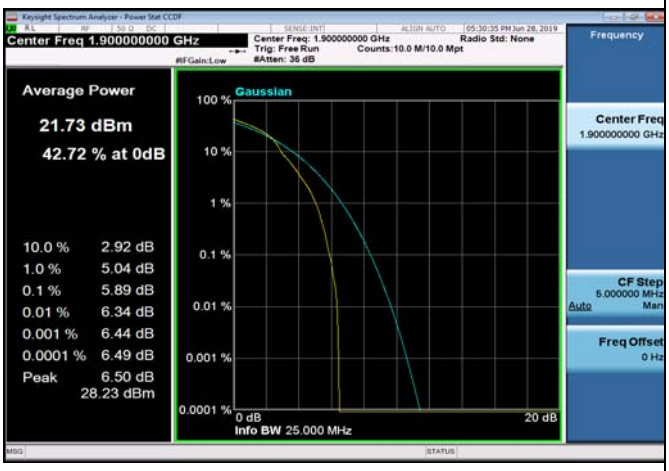
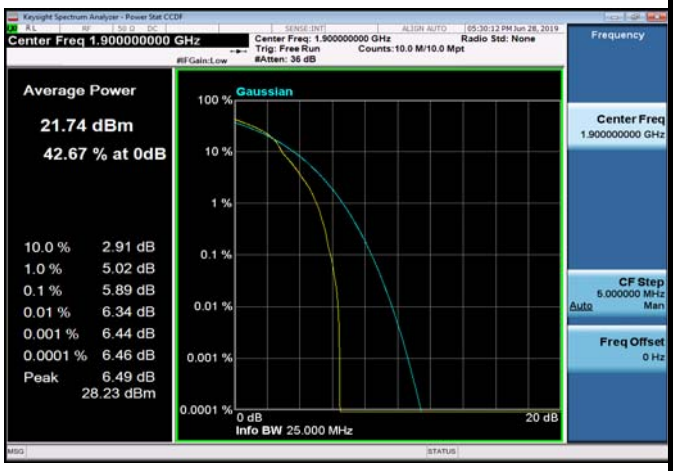
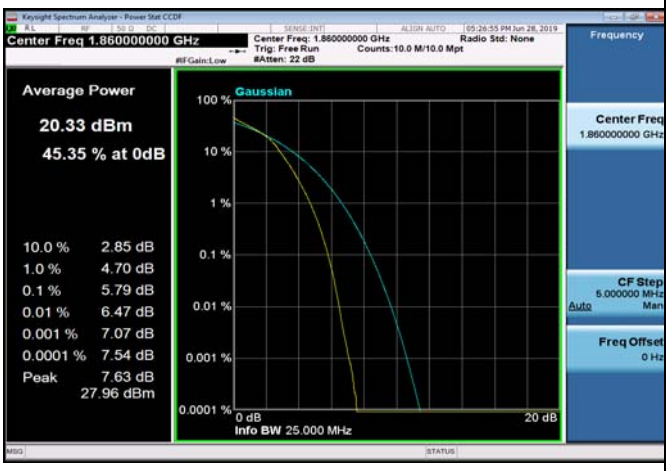
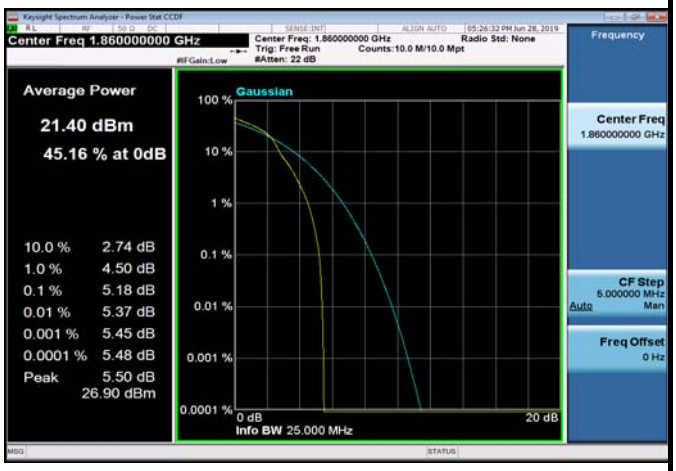
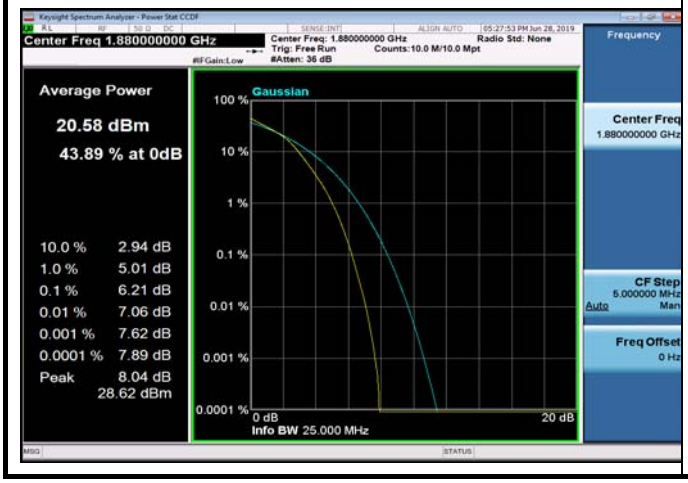
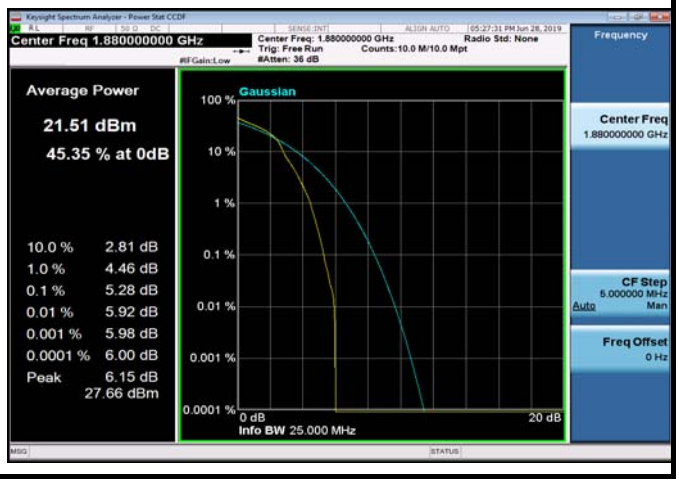
LTE FDD Band 66				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	21.52	21.72	21.59	21.0±1.0
		1	13	21.65	21.57	21.71	
		1	24	21.75	21.58	21.57	
		12	0	21.39	21.34	21.33	20.5±1.0
		12	6	21.37	21.31	21.27	
		12	13	21.32	21.1	21.3	
		25	0	20.96	20.97	21.01	20.5±1.0
	16QAM	1	0	20.89	20.79	20.69	20.0±1.0
		1	13	20.7	20.62	20.68	
		1	24	20.73	20.65	20.89	
		12	0	20.31	20.54	20.39	20.0±1.0
		12	6	20.46	20.38	20.44	
		12	13	20.5	20.45	20.47	
		25	0	20.1	20.19	20.17	19.5±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	21.52	21.59	21.5	21.0±1.0
		1	25	21.75	21.59	21.45	
		1	49	21.47	21.74	21.55	
		25	0	21.35	21.12	21.31	20.5±1.0
		25	13	21.34	21.14	21.28	
		25	25	21.31	21.14	21.27	
		50	0	21.05	20.99	21.04	20.5±1.0
	16QAM	1	0	20.61	20.7	20.72	20.0±1.0
		1	25	20.65	20.64	20.65	
		1	49	20.75	20.83	20.68	
		25	0	20.53	20.48	20.48	20.0±1.0
		25	13	20.36	20.39	20.38	
		25	25	20.55	20.34	20.4	
		50	0	20.12	20.2	20.2	19.5±1.0

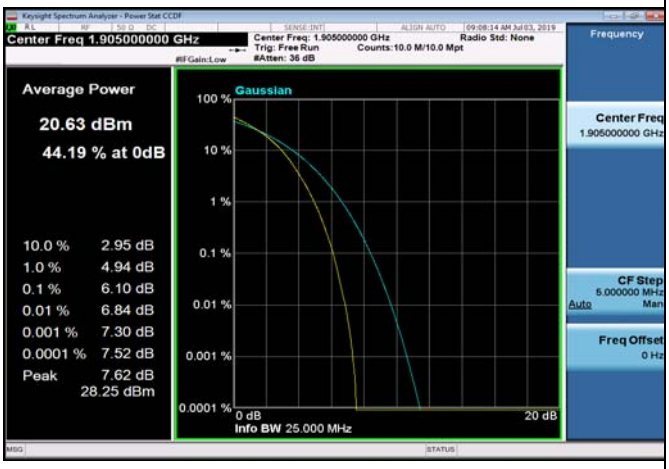
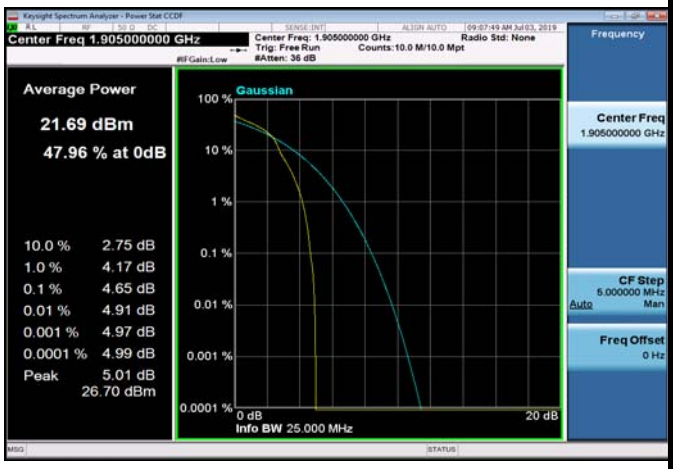
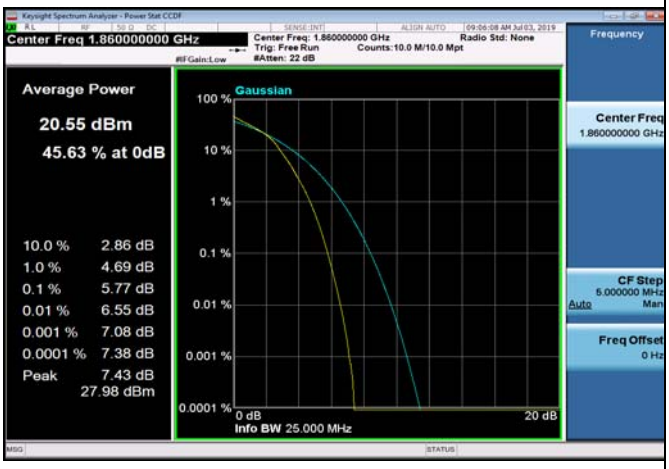
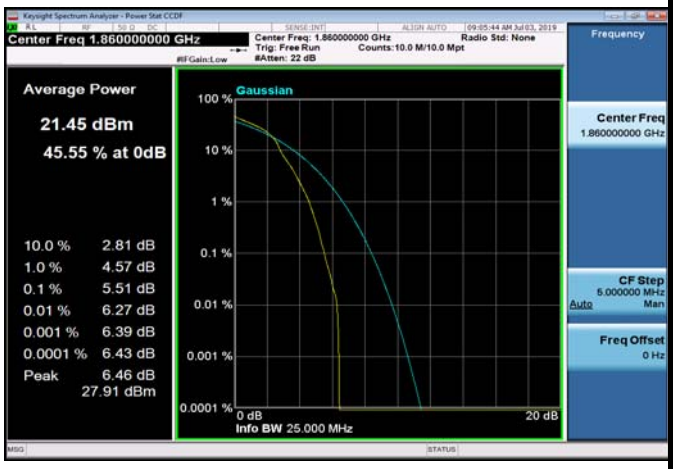
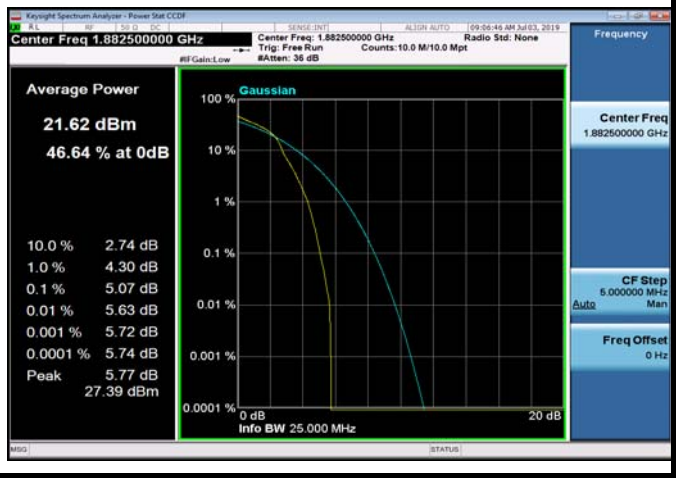
LTE FDD Band 66				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	21.55	21.54	21.48	21.0±1.0
		1	38	21.54	21.5	21.48	
		1	74	21.46	21.75	21.55	
		36	0	21.31	21.25	21.24	20.5±1.0
		36	18	21.17	21.36	21.3	
		36	39	21.3	21.32	21.27	
		75	0	20.98	21	20.97	20.5±1.0
	16QAM	1	0	20.65	20.65	20.86	20.0±1.0
		1	38	20.78	20.71	20.66	
		1	74	20.76	20.72	20.77	
		36	0	20.5	20.35	20.3	20.0±1.0
		36	18	20.39	20.31	20.36	
		36	39	20.53	20.45	20.55	
		75	0	20.14	20.14	20.18	19.5±1.0
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency			Tune up
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	21.63	21.81	21.73	21.0±1.0
		1	50	21.46	21.6	21.71	
		1	99	21.73	21.54	21.75	
		50	0	21.19	21.24	21.11	20.5±1.0
		50	25	21.3	21.14	21.21	
		50	50	21.13	21.19	21.22	
		100	0	21.02	20.96	20.95	20.5±1.0
	16QAM	1	0	20.84	20.9	20.9	20.0±1.0
		1	50	20.68	20.78	20.86	
		1	99	20.72	20.68	20.89	
		50	0	20.35	20.52	20.46	20.0±1.0
		50	25	20.26	20.42	20.31	
		50	50	20.48	20.4	20.36	
		100	0	20.18	20.19	20.2	19.5±1.0

Peak To Average Ratio

Test Result and Data

PeakToAveragePowerRatio NormalTC_NormalVol							
Band	Range	BandWidth	RbMode	Modulation	PAPR (dBm)	Limit (dBm)	Result
FDD02	LowRange	20	OneRB_high	Q16	5.89	13.00	Pass
FDD02	LowRange	20	fullRB	Q16	5.68	13.00	Pass
FDD02	MidRange	20	OneRB_high	Q16	5.24	13.00	Pass
FDD02	MidRange	20	fullRB	Q16	5.59	13.00	Pass
FDD02	HighRange	20	OneRB_high	Q16	5.17	13.00	Pass
FDD02	HighRange	20	fullRB	Q16	5.42	13.00	Pass
FDD25	LowRange	20	OneRB_high	Q16	5.51	13.00	Pass
FDD25	LowRange	20	fullRB	Q16	5.77	13.00	Pass
FDD25	MidRange	20	OneRB_high	Q16	5.07	13.00	Pass
FDD25	MidRange	20	fullRB	Q16	6.13	13.00	Pass
FDD25	HighRange	20	OneRB_high	Q16	4.65	13.00	Pass
FDD25	HighRange	20	fullRB	Q16	6.10	13.00	Pass

FDD02_HighRange_20MHz_1900_fullRB_Q16	FDD02_HighRange_20MHz_1900_OneRB_high_Q16
	
FDD02_LowRange_20MHz_1860_fullRB_Q16	FDD02_LowRange_20MHz_1860_OneRB_high_Q16
	
FDD02_MidRange_20MHz_1880_fullRB_Q16	FDD02_MidRange_20MHz_1880_OneRB_high_Q16
	

FDD25_HighRange_20MHz_1905_fullRB_Q16	FDD25_HighRange_20MHz_1905_OneRB_high_Q16
	
FDD25_LowRange_20MHz_1860_fullRB_Q16	FDD25_LowRange_20MHz_1860_OneRB_high_Q16
	
FDD25_MidRange_20MHz_1882.5_fullRB_Q16	FDD25_MidRange_20MHz_1882.5_OneRB_high_Q16
	

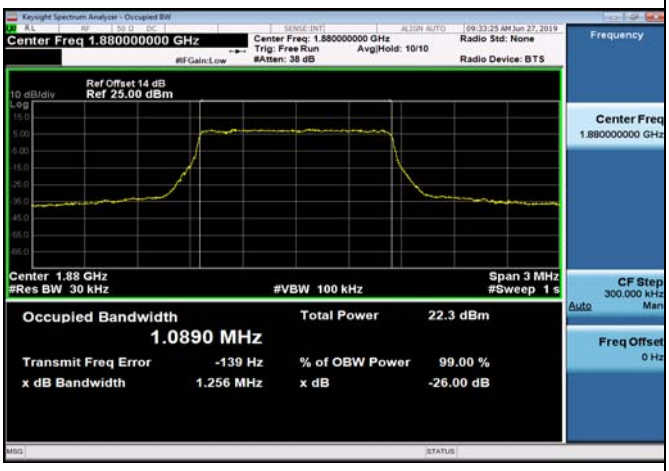
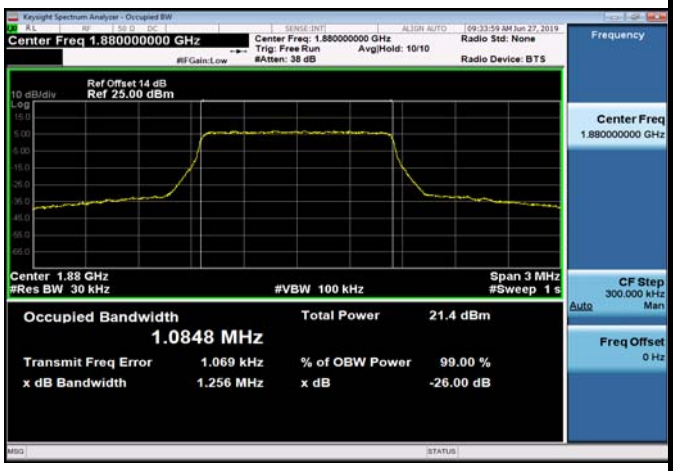
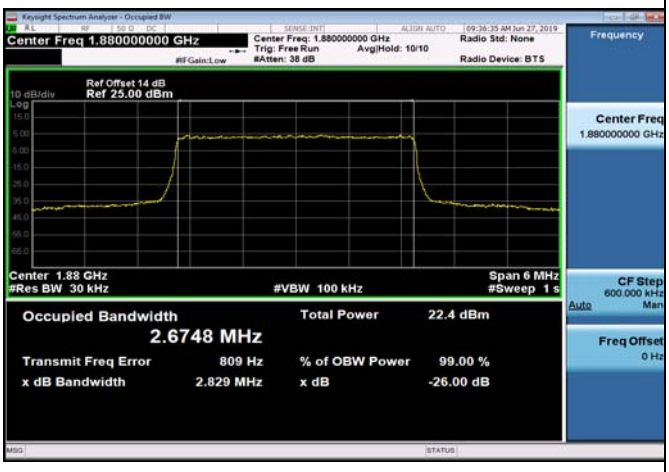
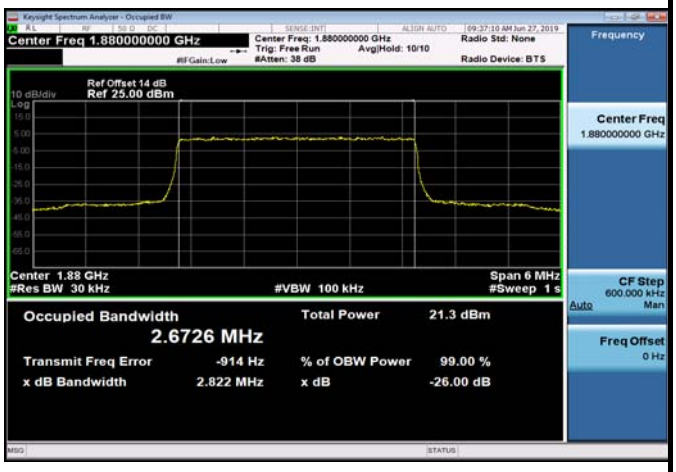
99% Occupied Bandwidth

Test Result and Data

Occupied Bandwidth NormalTC_NormalVol					
Band	Range	BandWidth	Frequency (MHz)	Modulation	Occupied Bandwidth(99%) (MHz)
FDD02	MidRange	1.4	1880	QPSK	1.089
FDD02	MidRange	1.4	1880	Q16	1.085
FDD02	MidRange	3	1880	QPSK	2.675
FDD02	MidRange	3	1880	Q16	2.673
FDD02	MidRange	5	1880	QPSK	4.494
FDD02	MidRange	5	1880	Q16	4.49
FDD02	MidRange	10	1880	QPSK	8.929
FDD02	MidRange	10	1880	Q16	8.923
FDD02	MidRange	15	1880	QPSK	13.661
FDD02	MidRange	15	1880	Q16	13.661
FDD02	MidRange	20	1880	QPSK	17.867
FDD02	MidRange	20	1880	Q16	17.864
FDD04	MidRange	1.4	1732.5	QPSK	1.084
FDD04	MidRange	1.4	1732.5	Q16	1.084
FDD04	MidRange	3	1732.5	QPSK	2.686
FDD04	MidRange	3	1732.5	Q16	2.681
FDD04	MidRange	5	1732.5	QPSK	4.483
FDD04	MidRange	5	1732.5	Q16	4.488
FDD04	MidRange	10	1732.5	QPSK	8.927
FDD04	MidRange	10	1732.5	Q16	8.922
FDD04	MidRange	15	1732.5	QPSK	13.444
FDD04	MidRange	15	1732.5	Q16	13.444
FDD04	MidRange	20	1732.5	QPSK	17.871
FDD04	MidRange	20	1732.5	Q16	17.864
FDD05	MidRange	1.4	836.5	QPSK	1.084
FDD05	MidRange	1.4	836.5	Q16	1.083

FDD05	MidRange	3	836.5	QPSK	2.675
FDD05	MidRange	3	836.5	Q16	2.673
FDD05	MidRange	5	836.5	QPSK	4.492
FDD05	MidRange	5	836.5	Q16	4.491
FDD05	MidRange	10	836.5	QPSK	8.933
FDD05	MidRange	10	836.5	Q16	8.925
FDD07	MidRange	5	2535	QPSK	4.487
FDD07	MidRange	5	2535	Q16	4.491
FDD07	MidRange	10	2535	QPSK	8.936
FDD07	MidRange	10	2535	Q16	8.929
FDD07	MidRange	15	2535	QPSK	13.487
FDD07	MidRange	15	2535	Q16	13.47
FDD07	MidRange	20	2535	QPSK	17.664
FDD07	MidRange	20	2535	Q16	17.665
FDD12	MidRange	1.4	707.5	QPSK	1.085
FDD12	MidRange	1.4	707.5	Q16	1.085
FDD12	MidRange	3	707.5	QPSK	2.677
FDD12	MidRange	3	707.5	Q16	2.677
FDD12	MidRange	5	707.5	QPSK	4.493
FDD12	MidRange	5	707.5	Q16	4.491
FDD12	MidRange	10	707.5	QPSK	8.936
FDD12	MidRange	10	707.5	Q16	8.929
FDD17	MidRange	5	710	QPSK	4.492
FDD17	MidRange	5	710	Q16	4.49
FDD17	MidRange	10	710	QPSK	8.933
FDD17	MidRange	10	710	Q16	8.922
FDD25	MidRange	1.4	1882.5	QPSK	1.084
FDD25	MidRange	1.4	1882.5	Q16	1.085
FDD25	MidRange	3	1882.5	QPSK	2.674
FDD25	MidRange	3	1882.5	Q16	2.673
FDD25	MidRange	5	1882.5	QPSK	4.484
FDD25	MidRange	5	1882.5	Q16	4.489

FDD25	MidRange	10	1882.5	QPSK	8.929
FDD25	MidRange	10	1882.5	Q16	8.922
FDD25	MidRange	15	1882.5	QPSK	13.659
FDD25	MidRange	15	1882.5	Q16	13.659
FDD25	MidRange	20	1882.5	QPSK	17.853
FDD25	MidRange	20	1882.5	Q16	17.862
FDD66	MidRange	1.4	1745	QPSK	1.084
FDD66	MidRange	1.4	1745	Q16	1.083
FDD66	MidRange	3	1745	QPSK	2.673
FDD66	MidRange	3	1745	Q16	2.672
FDD66	MidRange	5	1745	QPSK	4.493
FDD66	MidRange	5	1745	Q16	4.491
FDD66	MidRange	10	1745	QPSK	8.932
FDD66	MidRange	10	1745	Q16	8.924
FDD66	MidRange	15	1745	QPSK	13.474
FDD66	MidRange	15	1745	Q16	13.468
FDD66	MidRange	20	1745	QPSK	17.904
FDD66	MidRange	20	1745	Q16	17.91

FDD02_MidRange_1.4_1880_QPSK	FDD02_MidRange_1.4_1880_Q16
	
FDD02_MidRange_3_1880_QPSK	FDD02_MidRange_3_1880_Q16
	
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	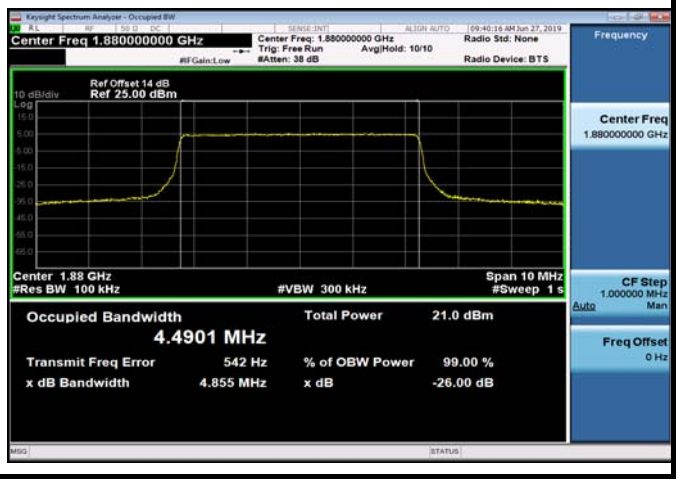

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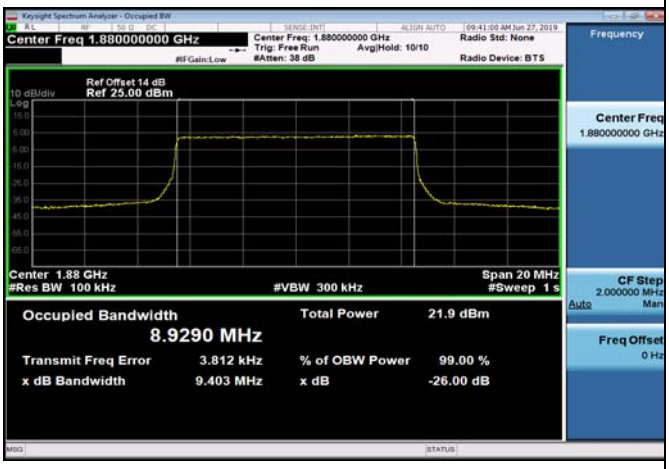
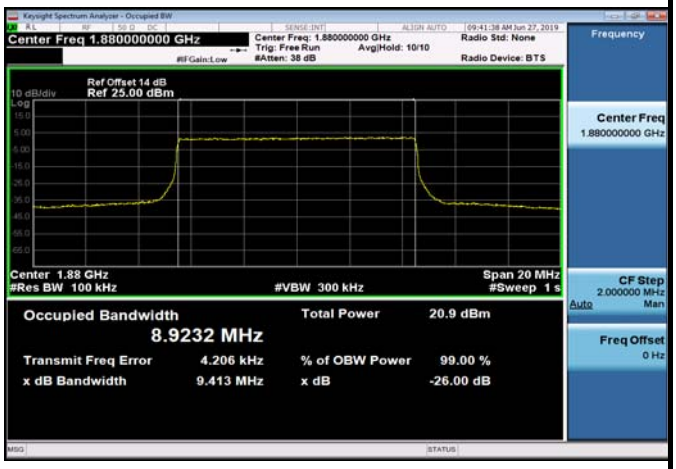
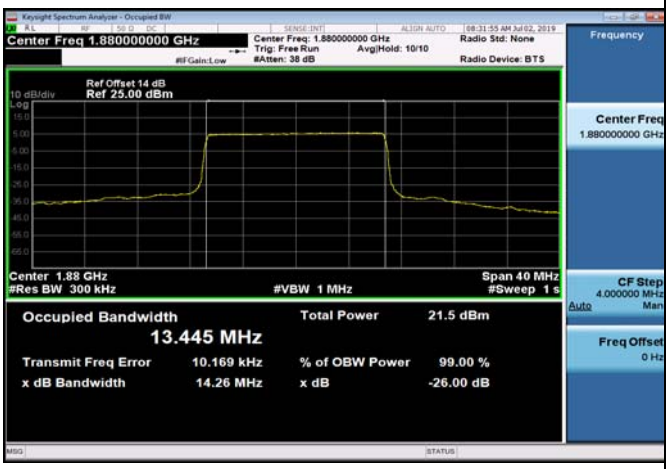
	
FDD02_MidRange_15_1880_QPSK	FDD02_MidRange_15_1880_Q16
	
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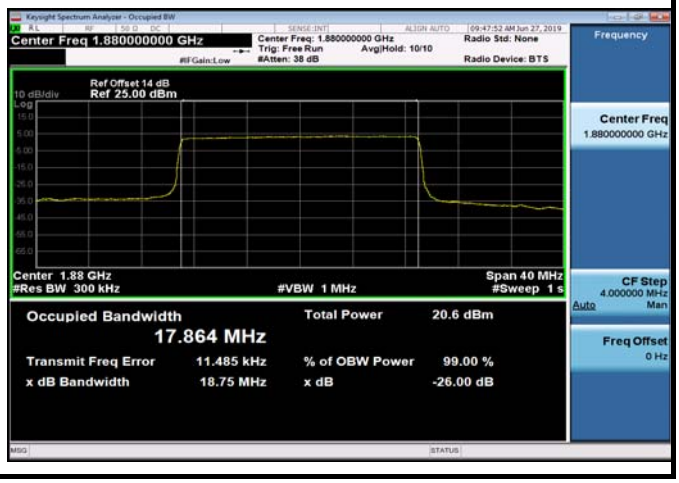
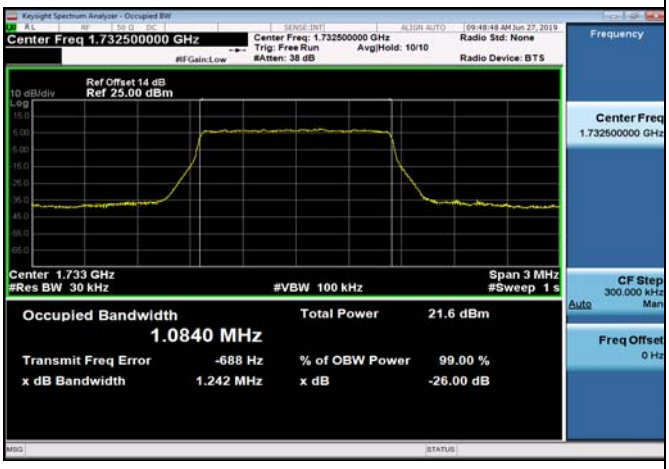
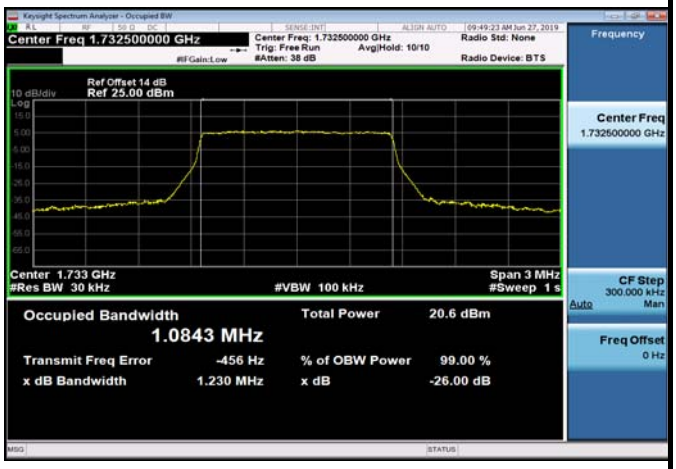
	

FDD04_MidRange_1.4_1732.5_QPSK	FDD04_MidRange_1.4_1732.5_Q16
	
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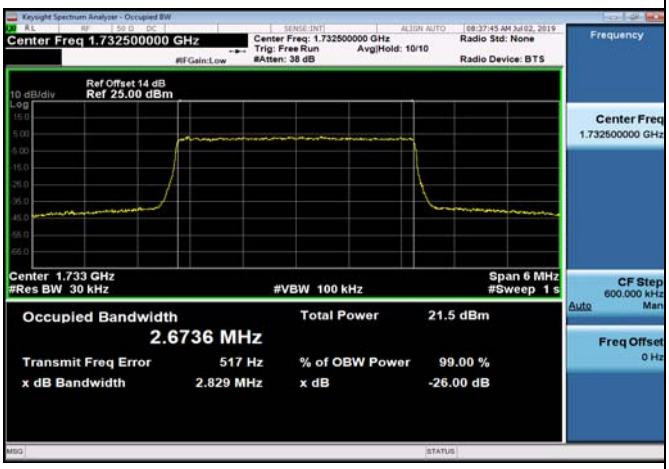	
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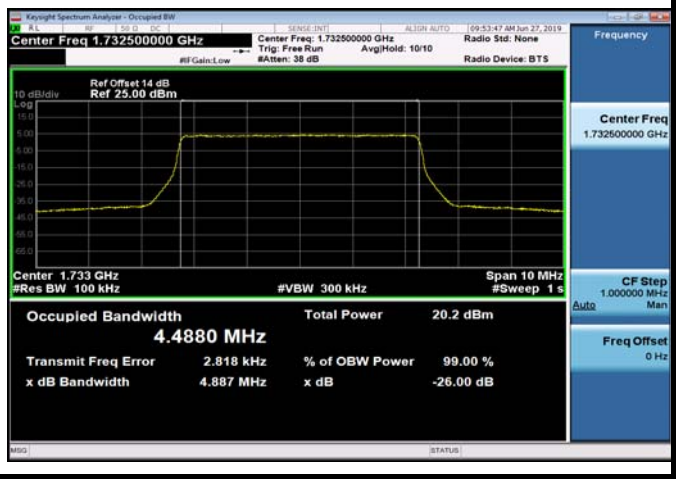
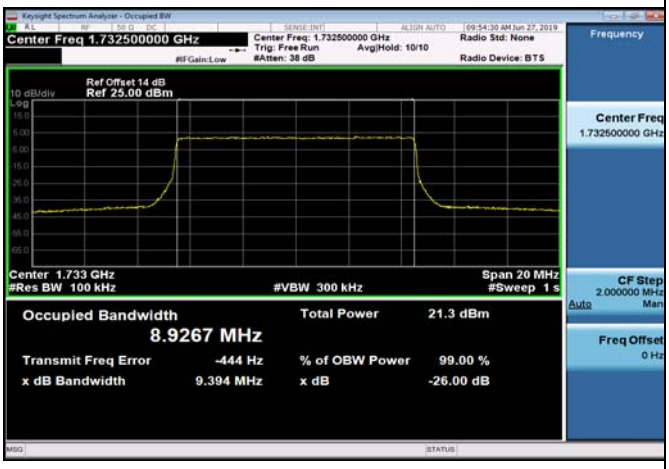
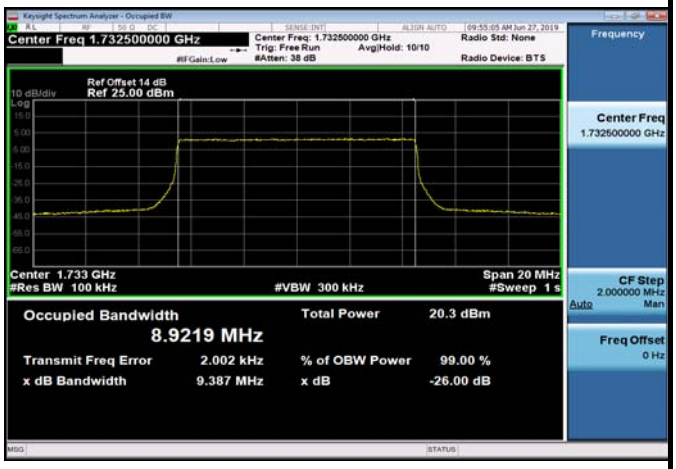
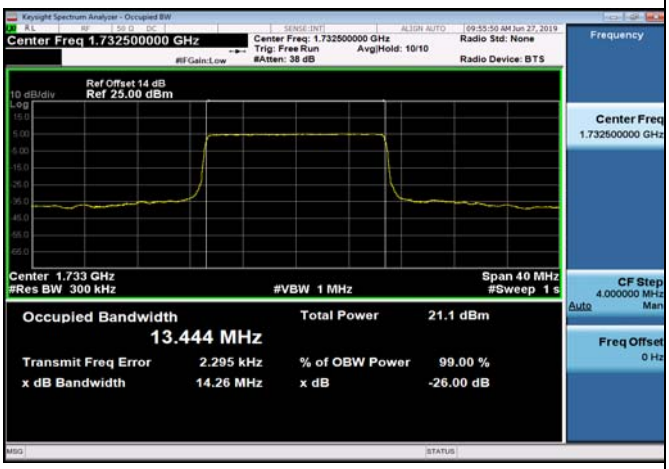
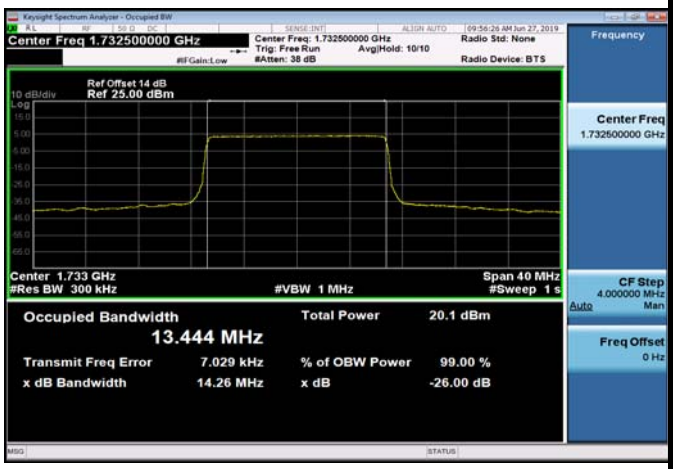
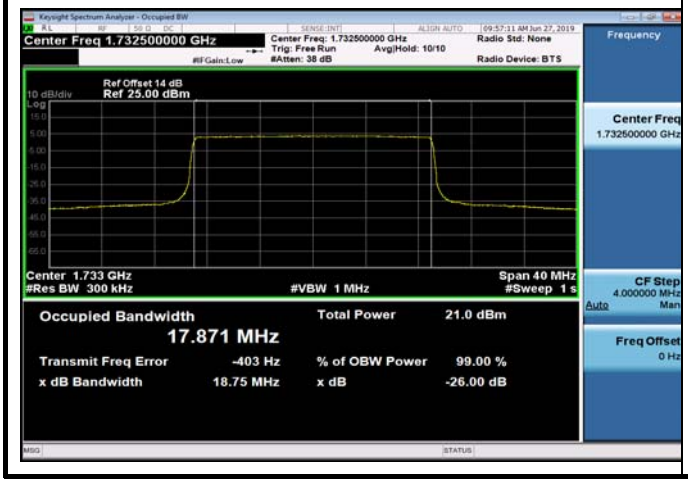
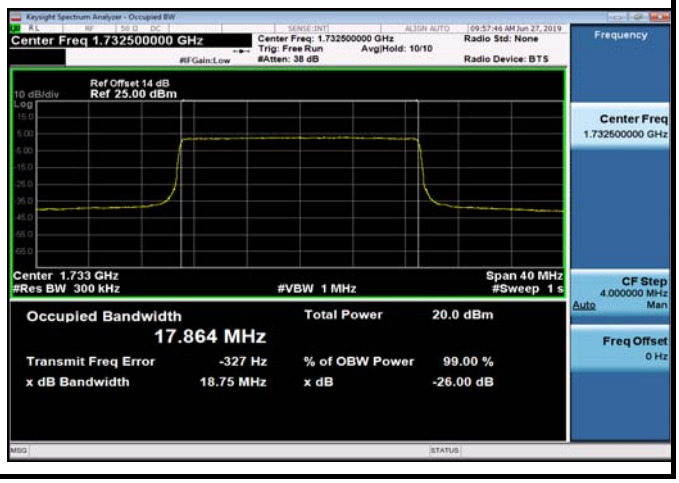
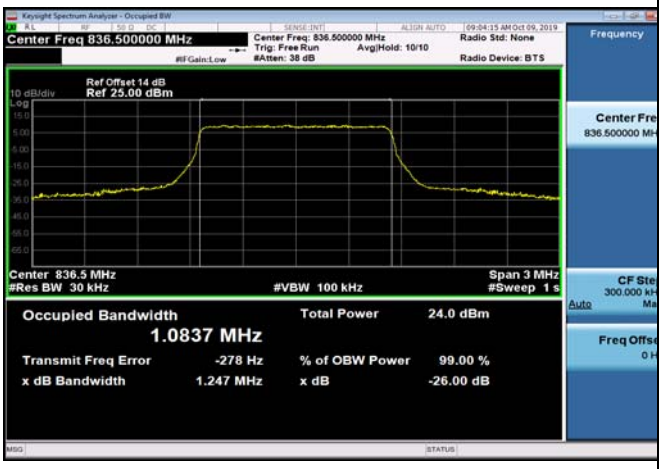
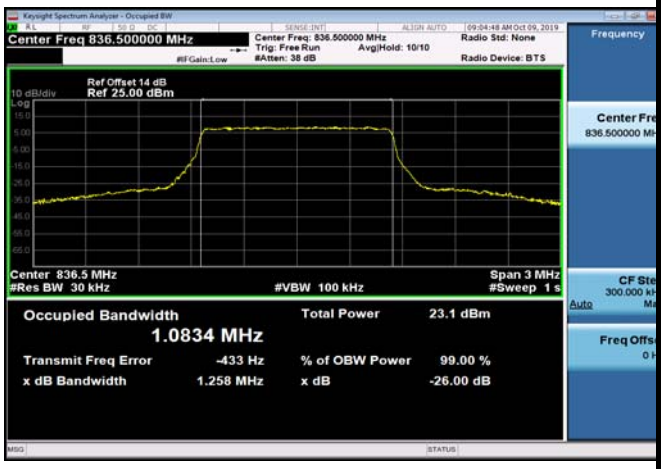
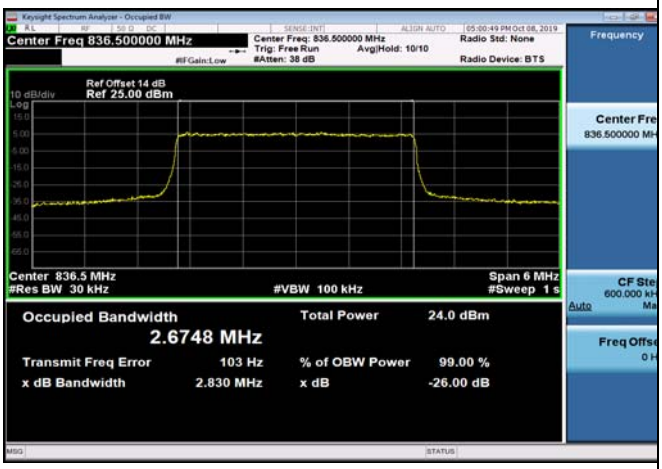
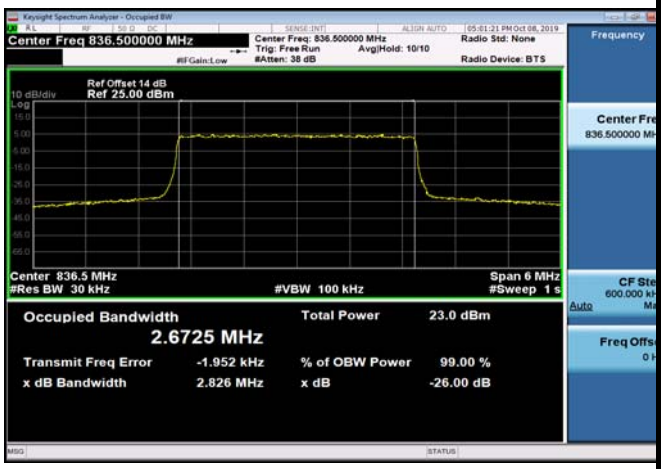
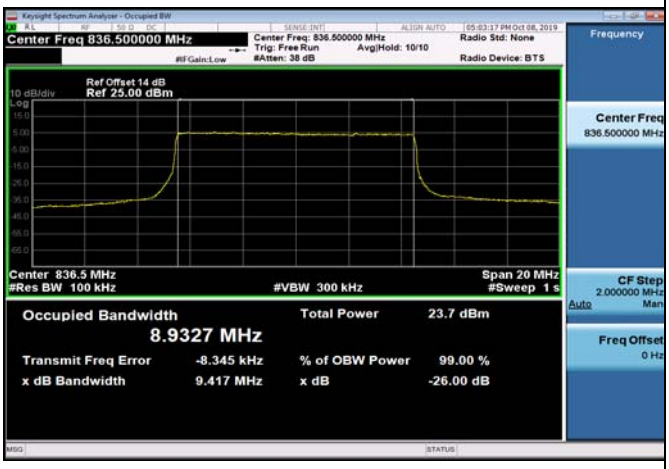
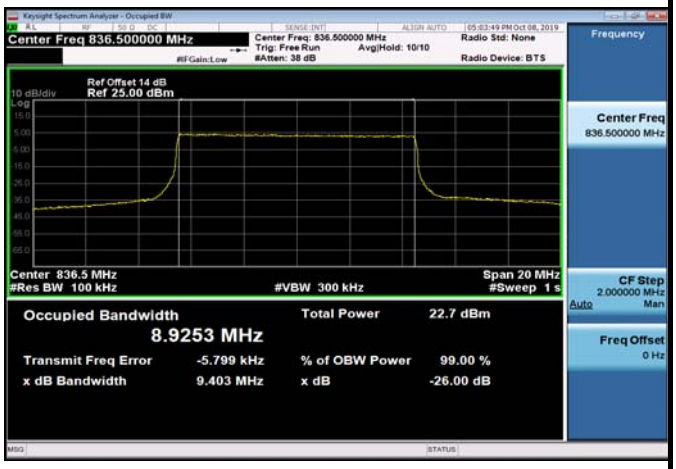
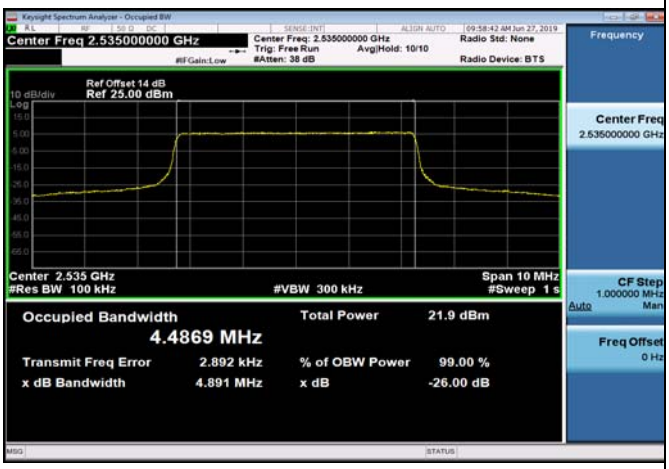
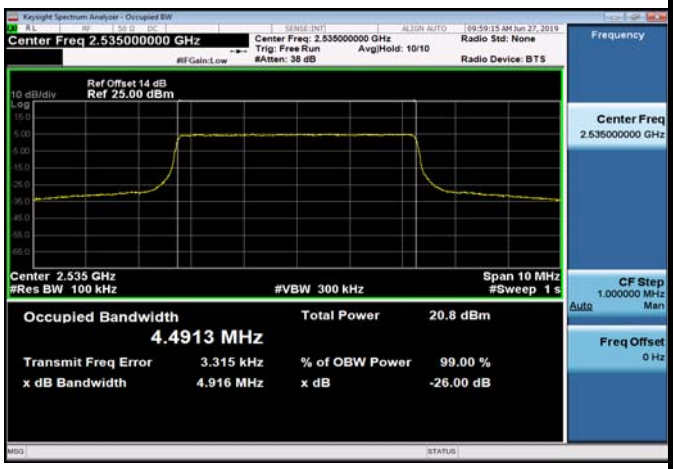
	

FDD04_MidRange_10_1732.5_QPSK	FDD04_MidRange_10_1732.5_Q16
	
FDD04_MidRange_15_1732.5_QPSK	FDD04_MidRange_15_1732.5_Q16
	
FDD04_MidRange_20_1732.5_QPSK	FDD04_MidRange_20_1732.5_Q16
	

FDD05_MidRange_1.4_836.5_QPSK	FDD05_MidRange_1.4_836.5_Q16
	
FDD05_MidRange_3_836.5_QPSK	FDD05_MidRange_3_836.5_Q16
	
FDD05_MidRange_5_836.5_QPSK	FDD05_MidRange_5_836.5_Q16
	

FDD05_MidRange_10_836.5_QPSK	FDD05_MidRange_10_836.5_Q16
	
FDD07_MidRange_5_2535_QPSK	FDD07_MidRange_5_2535_Q16
	
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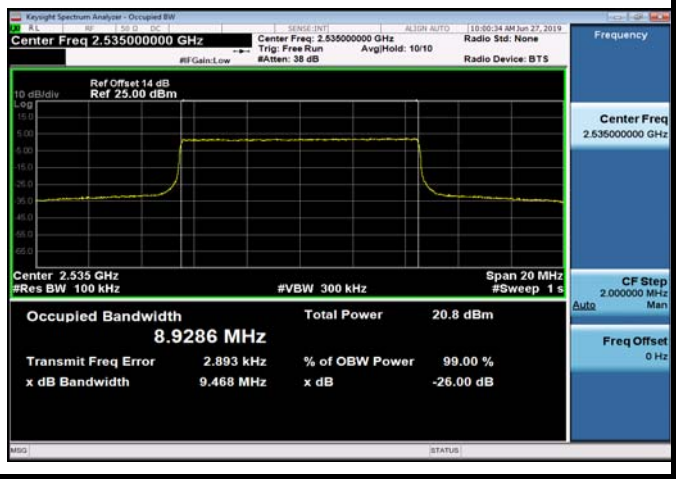
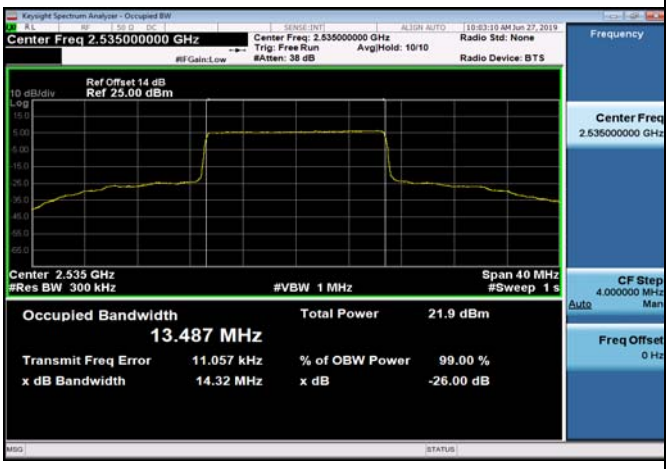
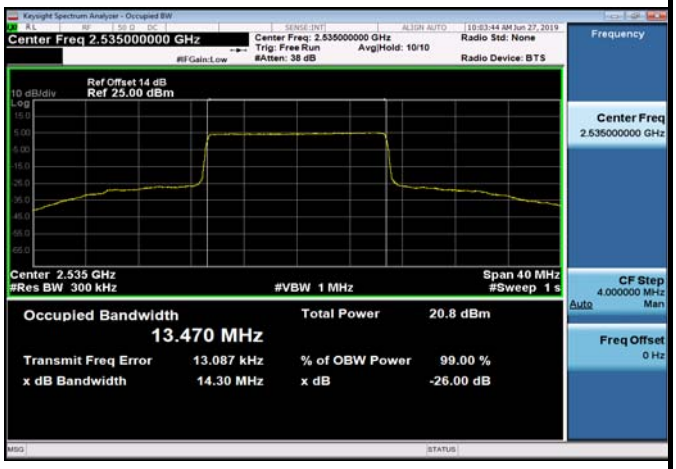
	

FDD07_MidRange_15_2535_QPSK	FDD07_MidRange_15_2535_Q16
	
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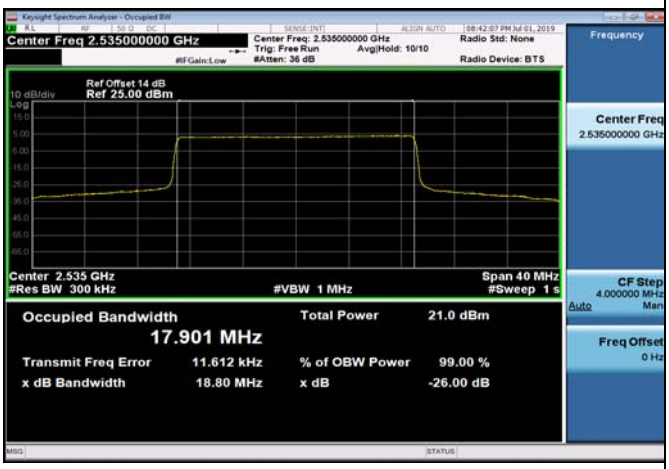	
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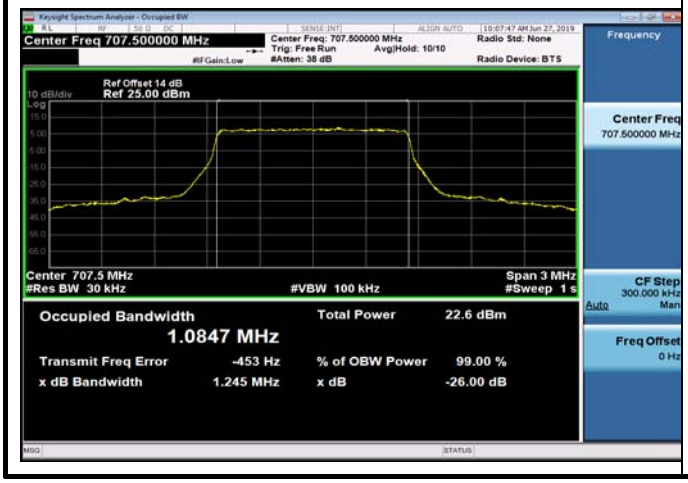
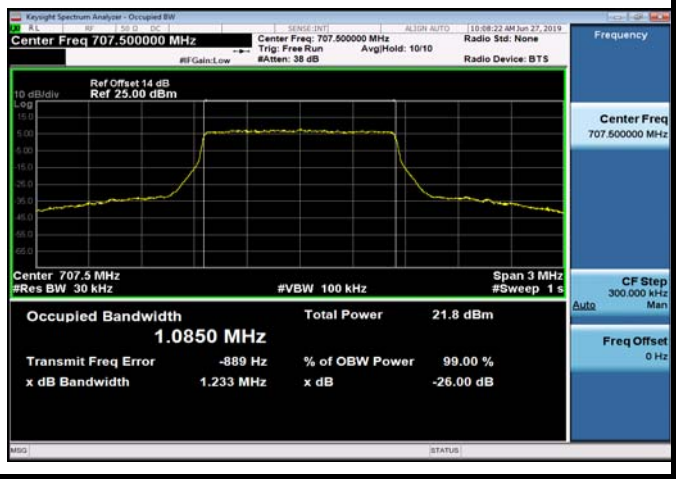
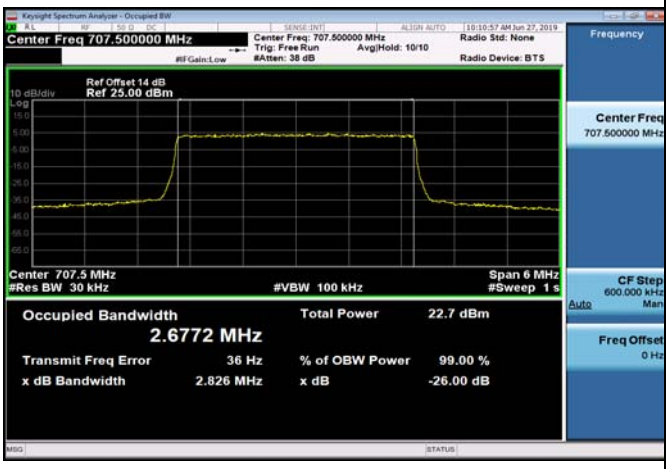
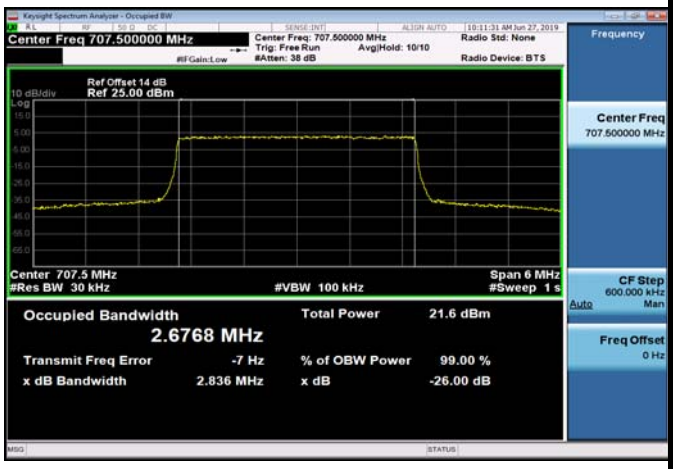
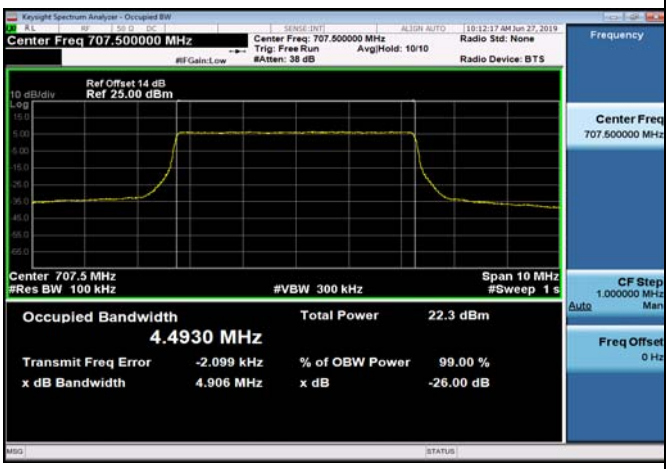
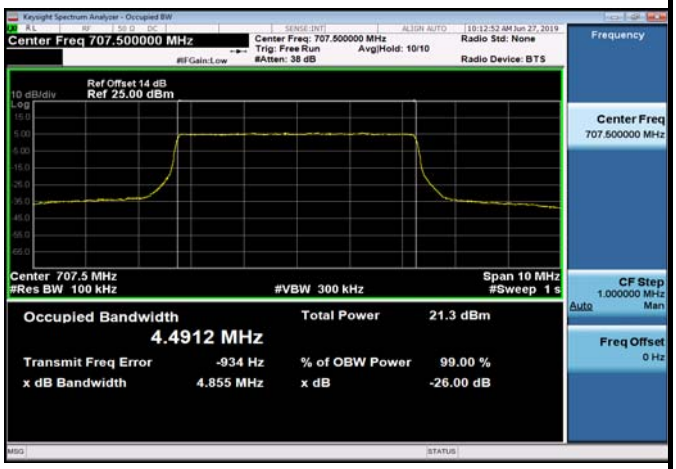
	

FDD12_MidRange_3_707.5_QPSK	FDD12_MidRange_3_707.5_Q16
	
FDD12_MidRange_5_707.5_QPSK	FDD12_MidRange_5_707.5_Q16
	
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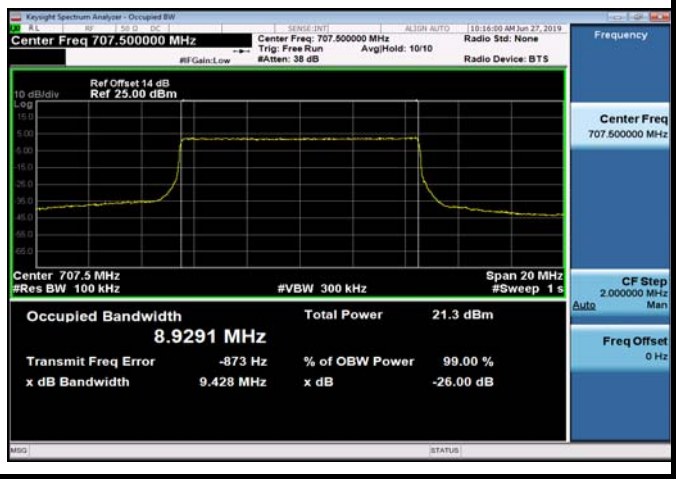
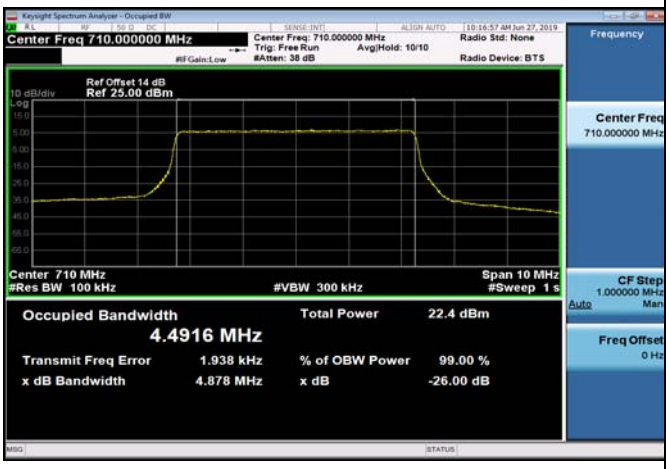
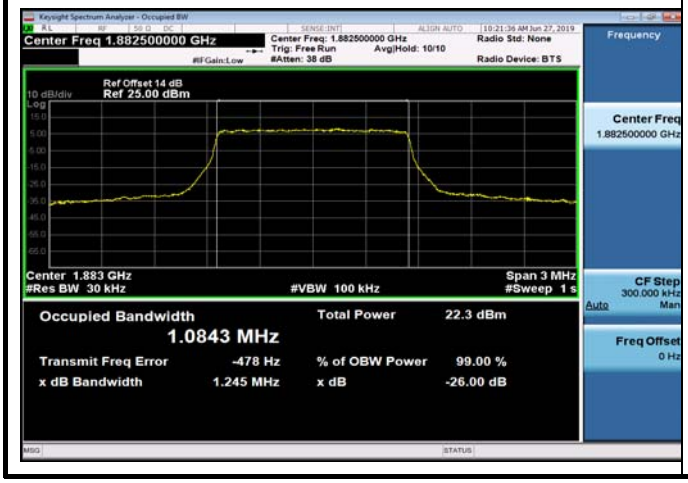
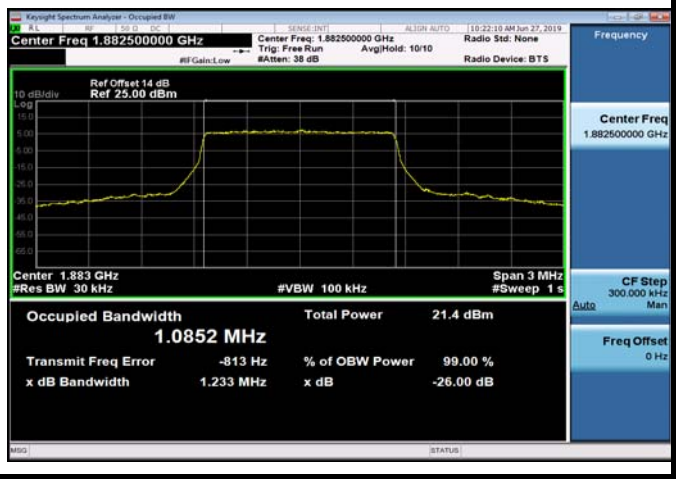
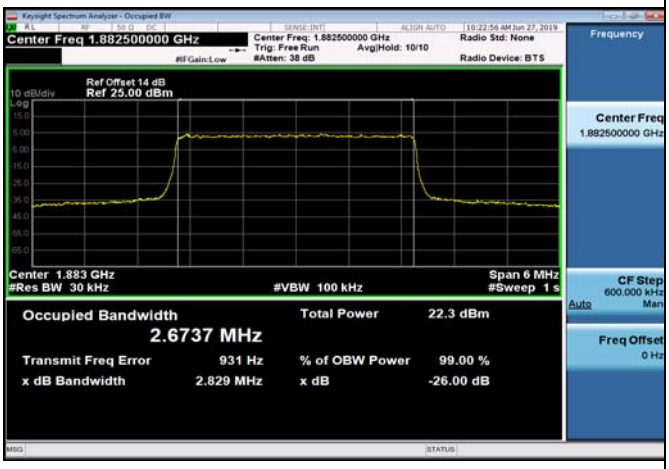
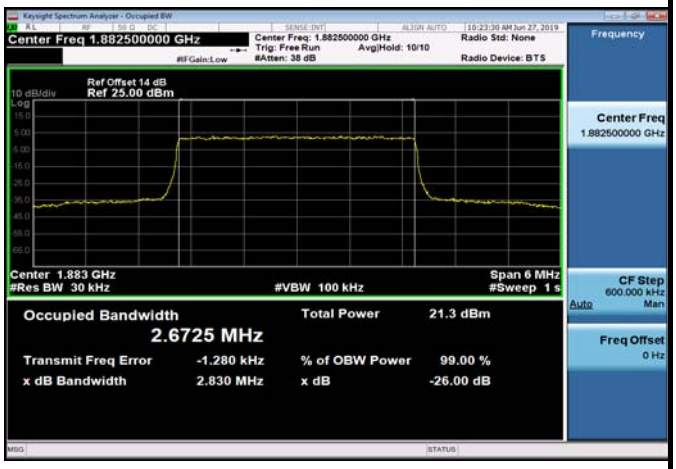
	

FDD17_MidRange_5_710_QPSK	FDD17_MidRange_5_710_Q16
	
FDD17_MidRange_10_710_QPSK	FDD17_MidRange_10_710_Q16
	
FDD25_MidRange_1.4_1882.5_QPSK	FDD25_MidRange_1.4_1882.5_Q16
	

FDD25_MidRange_3_1882.5_QPSK	FDD25_MidRange_3_1882.5_Q16
	
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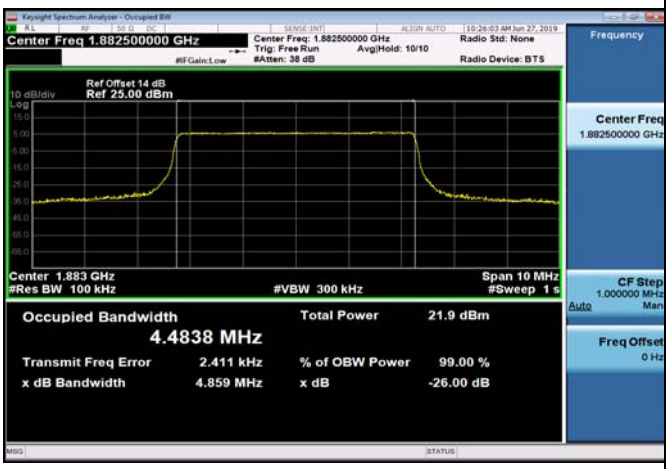
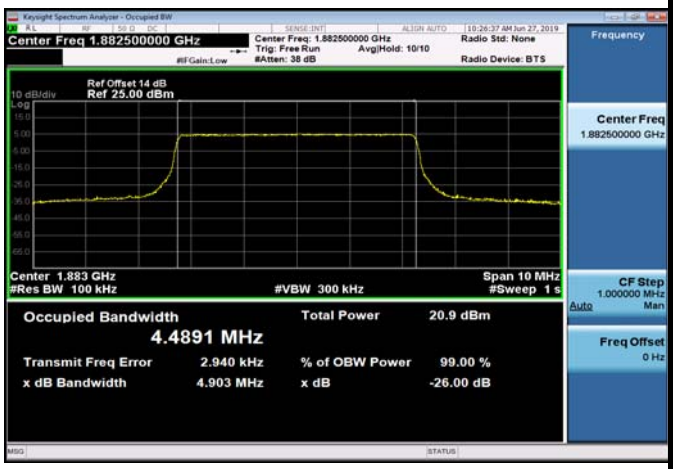
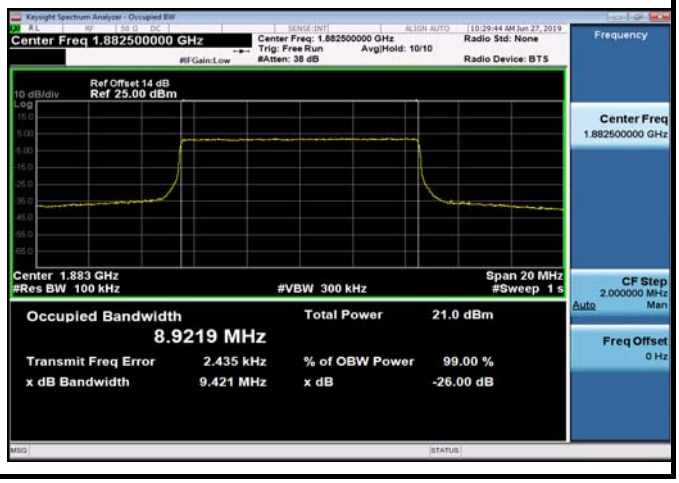
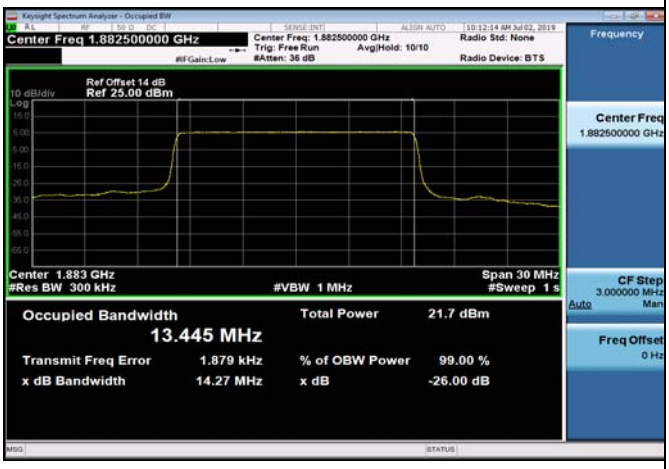
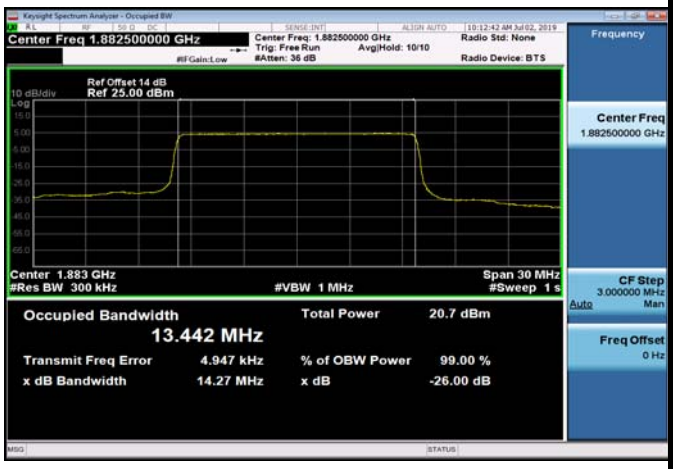
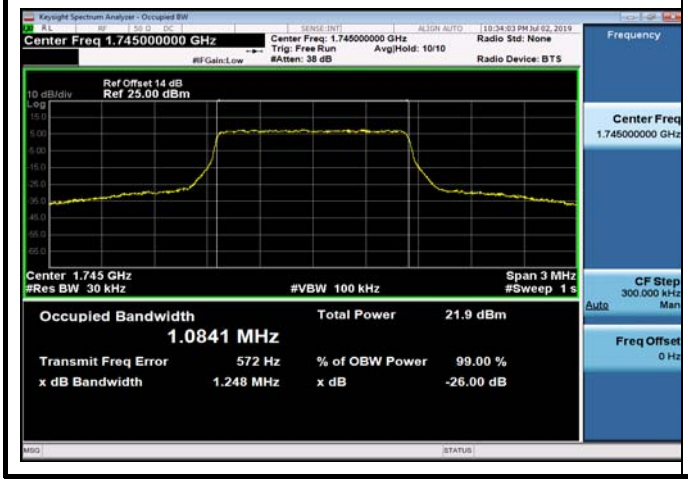
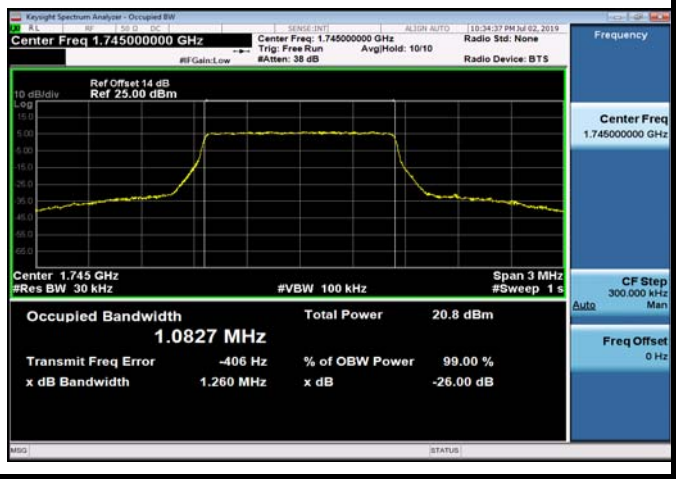
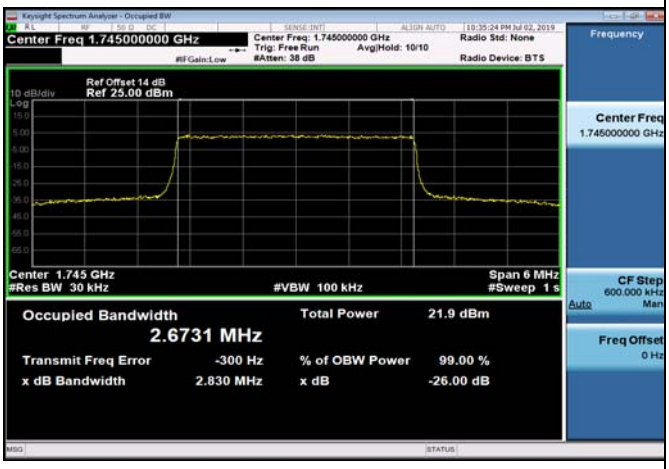
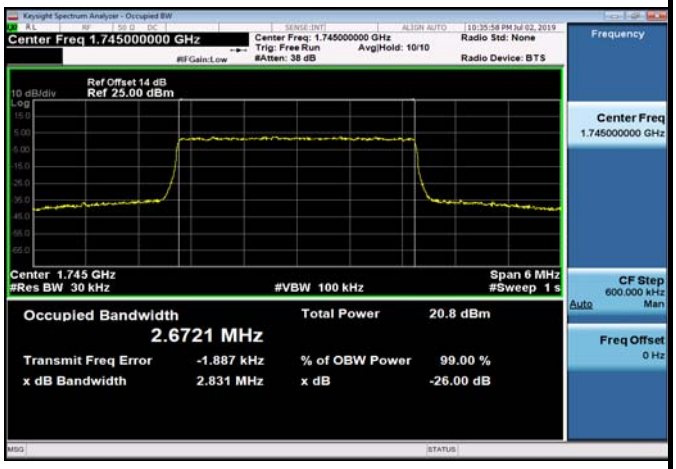
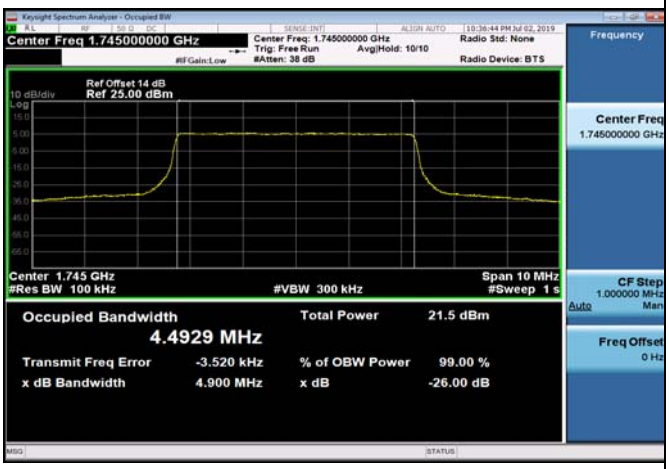
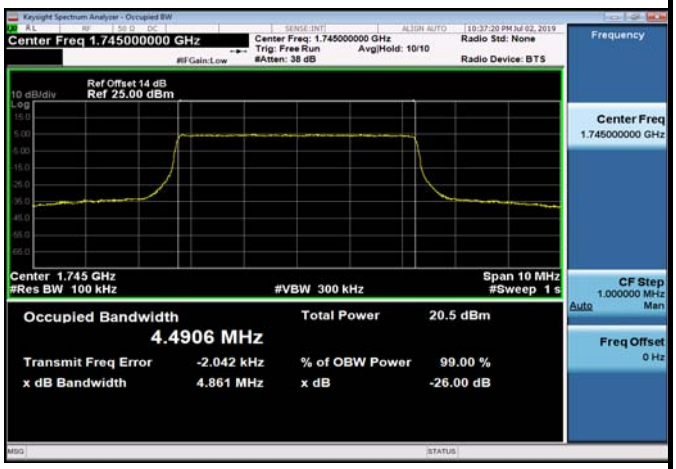
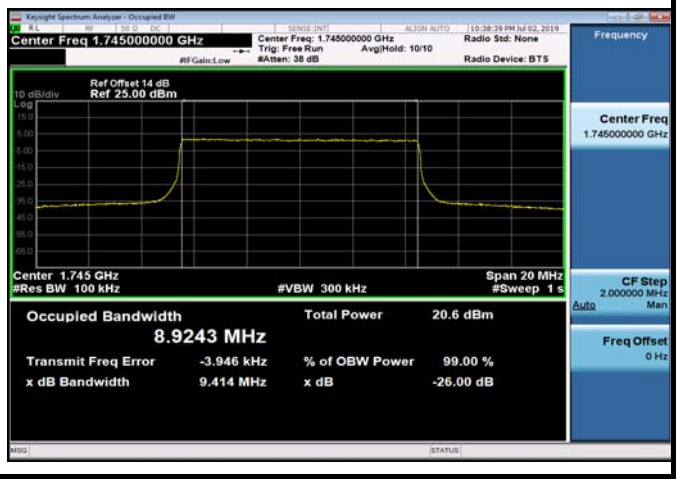
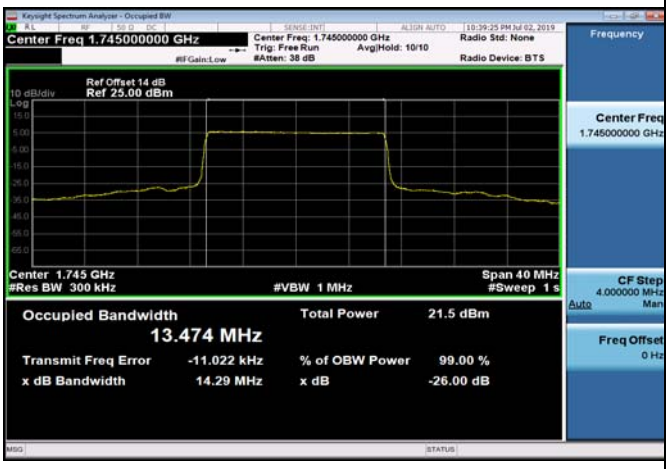
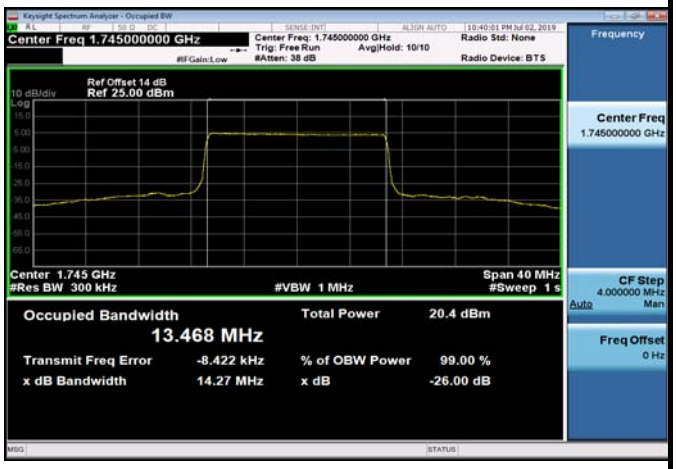
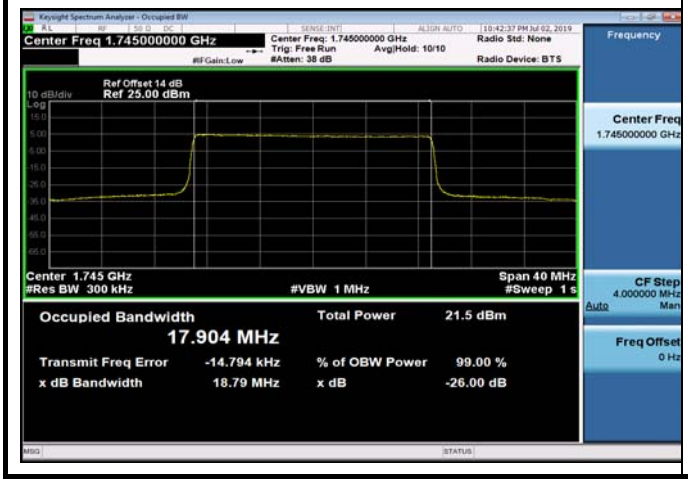
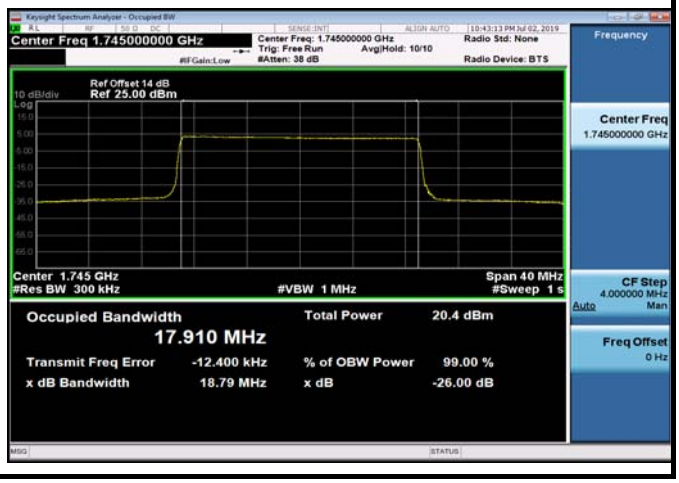
	
FDD25_MidRange_10_1882.5_QPSK	FDD25_MidRange_10_1882.5_Q16
	

FDD25_MidRange_15_1882.5_QPSK	FDD25_MidRange_15_1882.5_Q16
	
FDD25_MidRange_20_1882.5_QPSK	FDD25_MidRange_20_1882.5_Q16
	
FDD66_MidRange_1.4_1745_QPSK	FDD66_MidRange_1.4_1745_Q16
	

FDD66_MidRange_3_1745_QPSK	FDD66_MidRange_3_1745_Q16
	
FDD66_MidRange_5_1745_QPSK	FDD66_MidRange_5_1745_Q16
	
FDD66_MidRange_10_1745_QPSK	FDD66_MidRange_10_1745_Q16
	

FDD66_MidRange_15_1745_QPSK	FDD66_MidRange_15_1745_Q16
	
FDD66_MidRange_20_1745_QPSK	FDD66_MidRange_20_1745_Q16
	

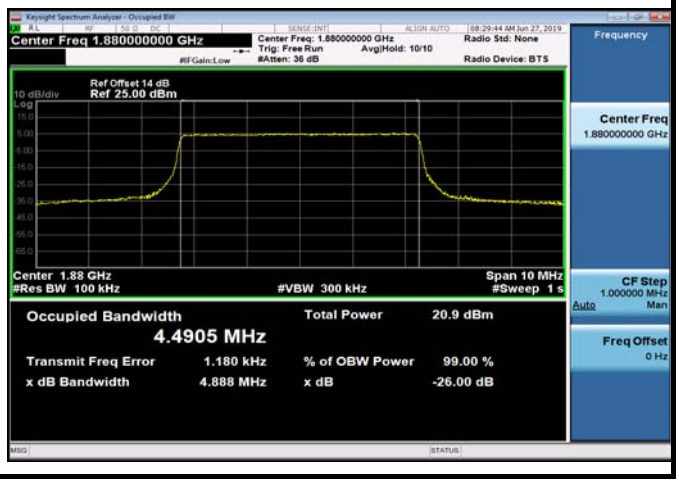
26dB Bandwidth

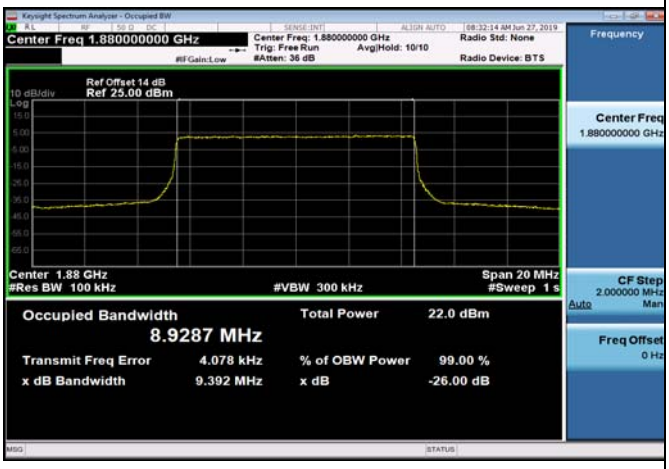
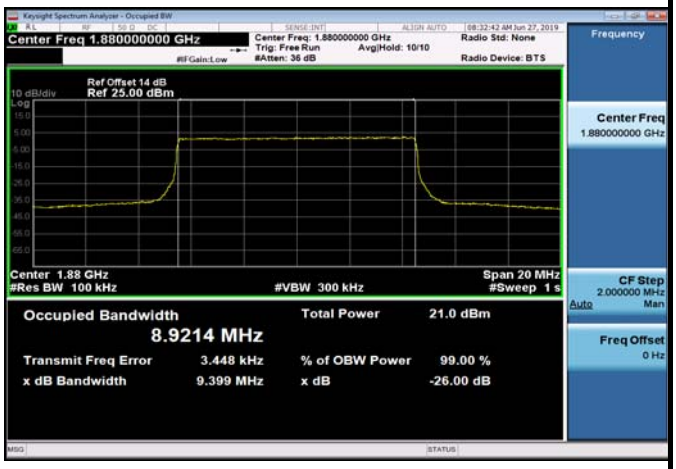
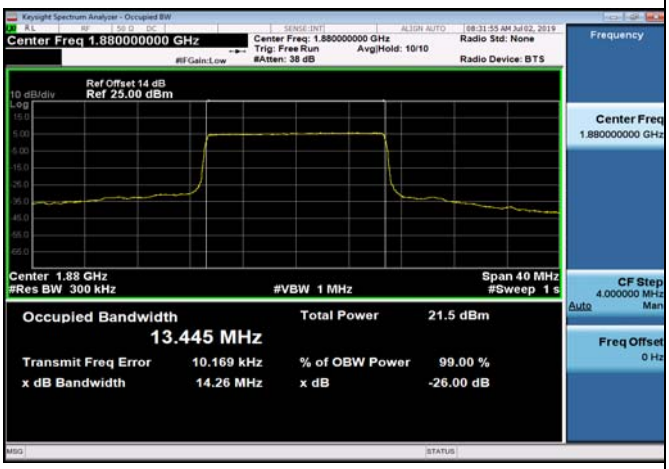
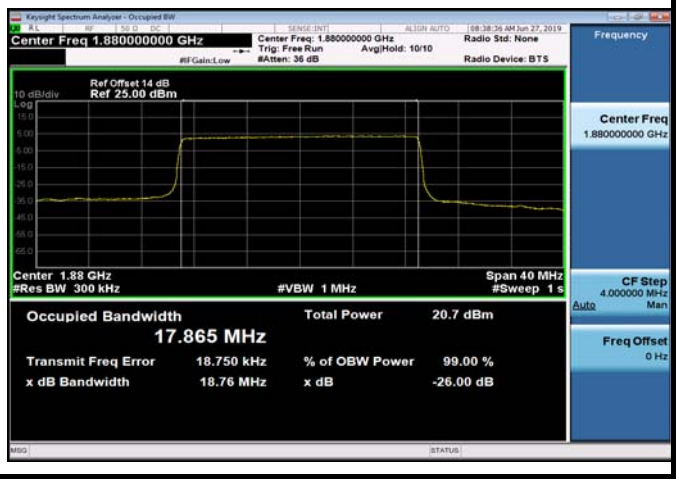
Test Result and Data

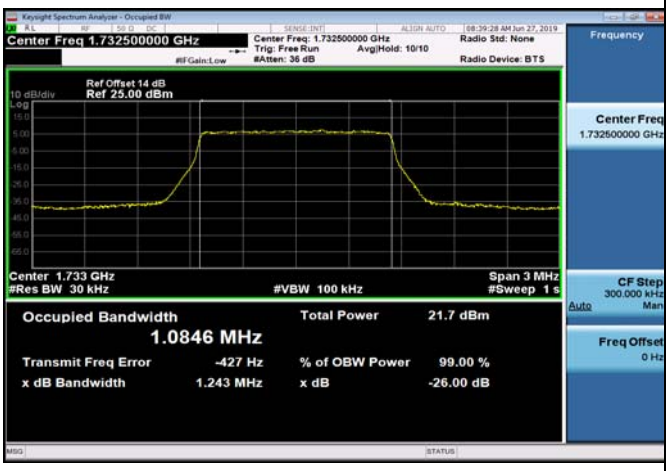
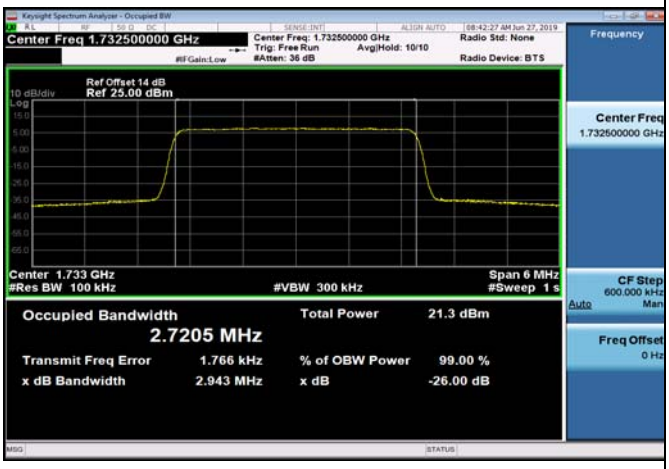
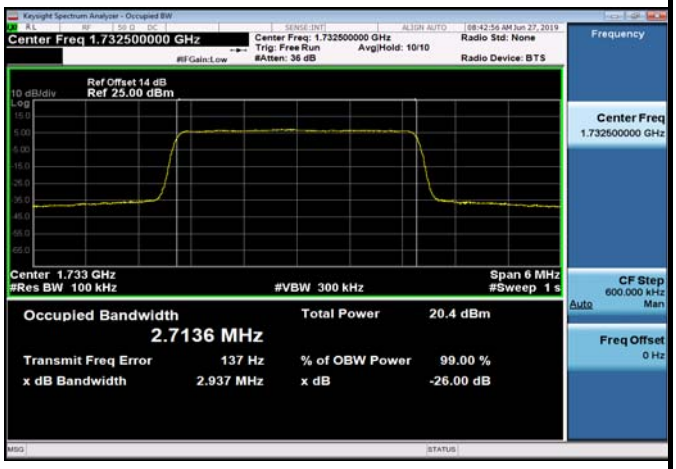
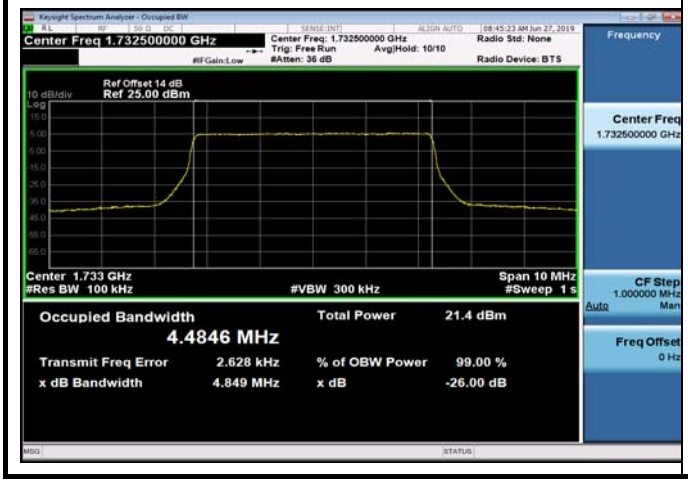
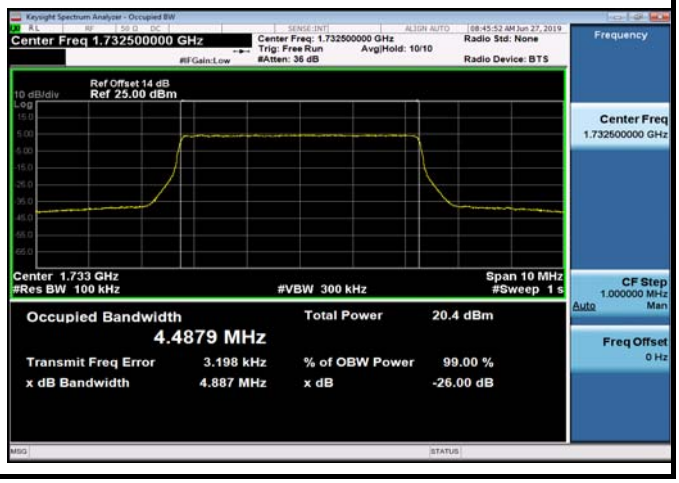
Emission Bandwidth NormalTC_NormalVol					
Band	Range	BandWidth	Frequency (MHz)	Modulation	EmissionBandwidth (MHz)
FDD02	MidRange	1.4	1880	QPSK	1.26
FDD02	MidRange	1.4	1880	Q16	1.27
FDD02	MidRange	3	1880	QPSK	2.94
FDD02	MidRange	3	1880	Q16	2.94
FDD02	MidRange	5	1880	QPSK	4.88
FDD02	MidRange	5	1880	Q16	4.89
FDD02	MidRange	10	1880	QPSK	9.39
FDD02	MidRange	10	1880	Q16	9.4
FDD02	MidRange	15	1880	QPSK	14.24
FDD02	MidRange	15	1880	Q16	14.24
FDD02	MidRange	20	1880	QPSK	18.76
FDD02	MidRange	20	1880	Q16	18.76
FDD04	MidRange	1.4	1732.5	QPSK	1.24
FDD04	MidRange	1.4	1732.5	Q16	1.24
FDD04	MidRange	3	1732.5	QPSK	2.94
FDD04	MidRange	3	1732.5	Q16	2.94
FDD04	MidRange	5	1732.5	QPSK	4.85
FDD04	MidRange	5	1732.5	Q16	4.89
FDD04	MidRange	10	1732.5	QPSK	9.38
FDD04	MidRange	10	1732.5	Q16	9.39
FDD04	MidRange	15	1732.5	QPSK	14.23
FDD04	MidRange	15	1732.5	Q16	14.23
FDD04	MidRange	20	1732.5	QPSK	18.75
FDD04	MidRange	20	1732.5	Q16	18.76
FDD05	MidRange	1.4	836.5	QPSK	1.25
FDD05	MidRange	1.4	836.5	Q16	1.24
FDD05	MidRange	3	836.5	QPSK	2.94
FDD05	MidRange	3	836.5	Q16	2.94

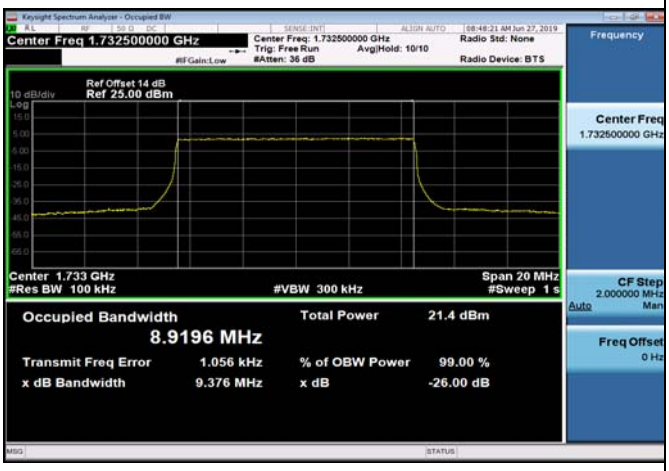
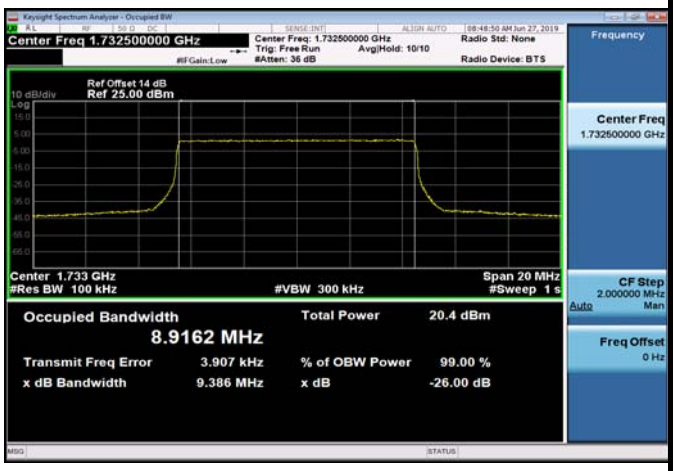
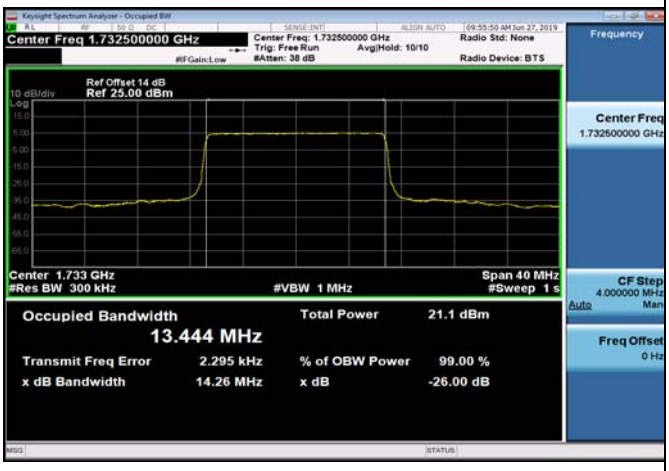
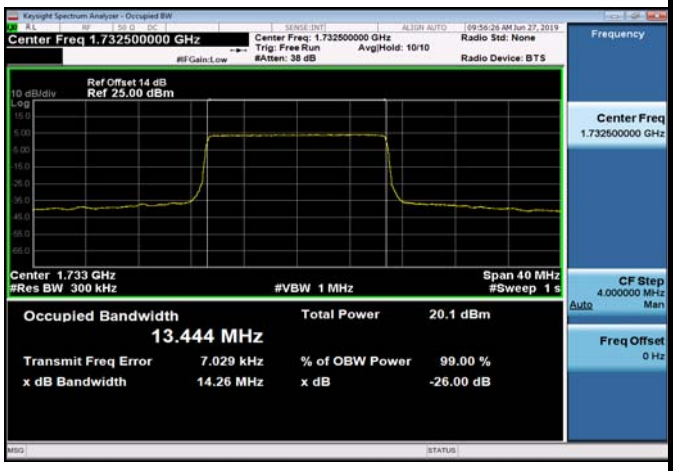
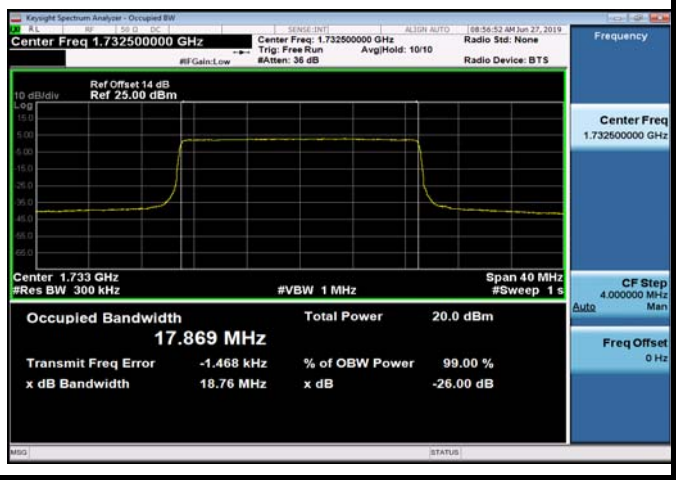
FDD05	MidRange	5	836.5	QPSK	4.87
FDD05	MidRange	5	836.5	Q16	4.87
FDD05	MidRange	10	836.5	QPSK	9.42
FDD05	MidRange	10	836.5	Q16	9.4
FDD07	MidRange	5	2535	QPSK	4.89
FDD07	MidRange	5	2535	Q16	4.93
FDD07	MidRange	10	2535	QPSK	9.45
FDD07	MidRange	10	2535	Q16	9.4
FDD07	MidRange	15	2535	QPSK	14.23
FDD07	MidRange	15	2535	Q16	14.24
FDD07	MidRange	20	2535	QPSK	18.8
FDD07	MidRange	20	2535	Q16	18.79
FDD12	MidRange	1.4	707.5	QPSK	1.25
FDD12	MidRange	1.4	707.5	Q16	1.24
FDD12	MidRange	3	707.5	QPSK	2.94
FDD12	MidRange	3	707.5	Q16	2.94
FDD12	MidRange	5	707.5	QPSK	4.89
FDD12	MidRange	5	707.5	Q16	4.87
FDD12	MidRange	10	707.5	QPSK	9.43
FDD12	MidRange	10	707.5	Q16	9.43
FDD17	MidRange	5	710	QPSK	4.86
FDD17	MidRange	5	710	Q16	4.89
FDD17	MidRange	10	710	QPSK	9.4
FDD17	MidRange	10	710	Q16	9.41
FDD25	MidRange	1.4	1882.5	QPSK	1.25
FDD25	MidRange	1.4	1882.5	Q16	1.24
FDD25	MidRange	3	1882.5	QPSK	2.94
FDD25	MidRange	3	1882.5	Q16	2.94
FDD25	MidRange	5	1882.5	QPSK	4.91
FDD25	MidRange	5	1882.5	Q16	4.86
FDD25	MidRange	10	1882.5	QPSK	9.42
FDD25	MidRange	10	1882.5	Q16	9.4

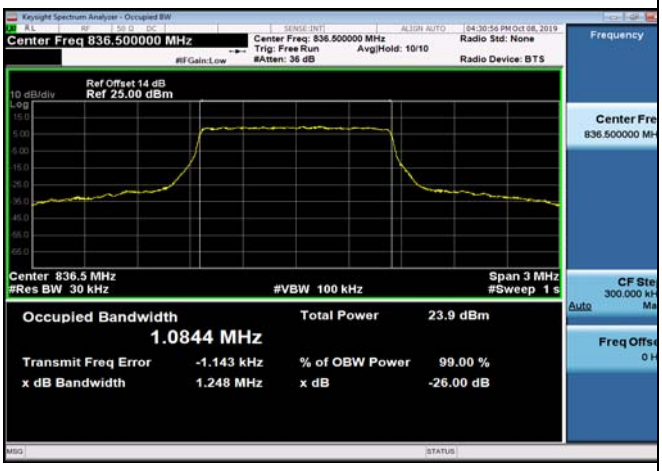
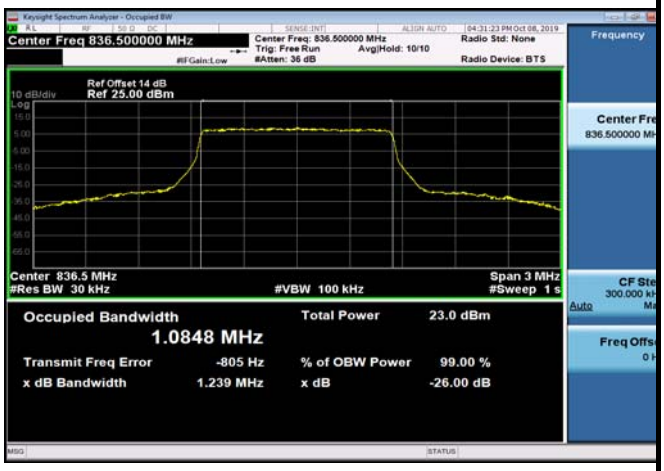
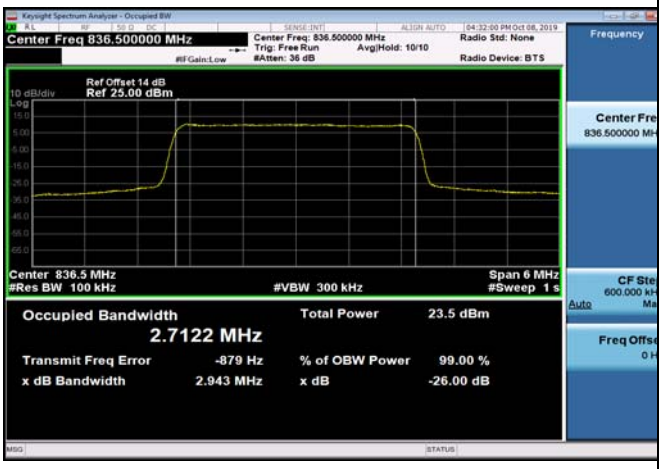
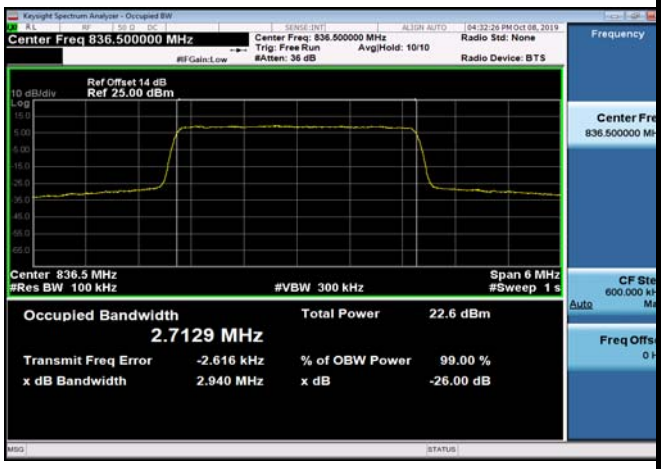
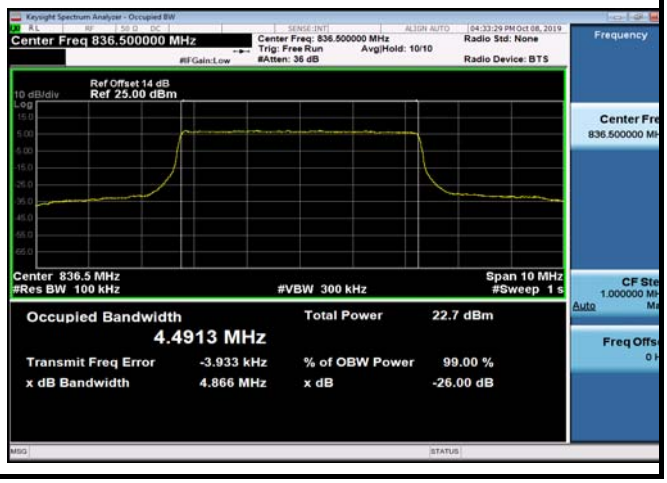
FDD25	MidRange	15	1882.5	QPSK	14.24
FDD25	MidRange	15	1882.5	Q16	14.23
FDD25	MidRange	20	1882.5	QPSK	18.76
FDD25	MidRange	20	1882.5	Q16	18.77
FDD66	MidRange	1.4	1745	QPSK	1.24
FDD66	MidRange	1.4	1745	Q16	1.26
FDD66	MidRange	3	1745	QPSK	2.94
FDD66	MidRange	3	1745	Q16	2.94
FDD66	MidRange	5	1745	QPSK	4.89
FDD66	MidRange	5	1745	Q16	4.9
FDD66	MidRange	10	1745	QPSK	9.47
FDD66	MidRange	10	1745	Q16	9.39
FDD66	MidRange	15	1745	QPSK	14.28
FDD66	MidRange	15	1745	Q16	14.27
FDD66	MidRange	20	1745	QPSK	18.77
FDD66	MidRange	20	1745	Q16	18.77

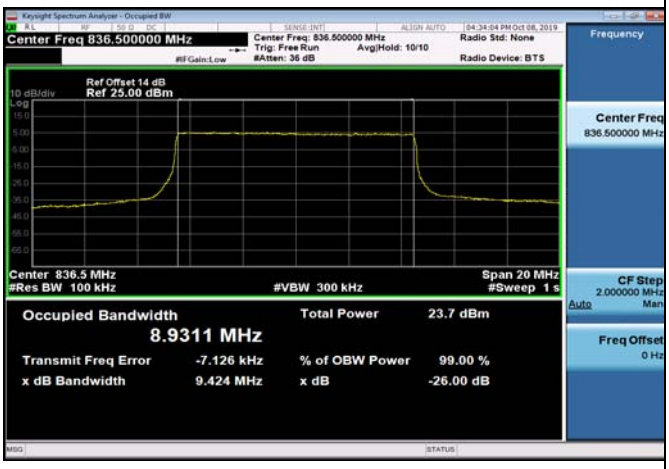
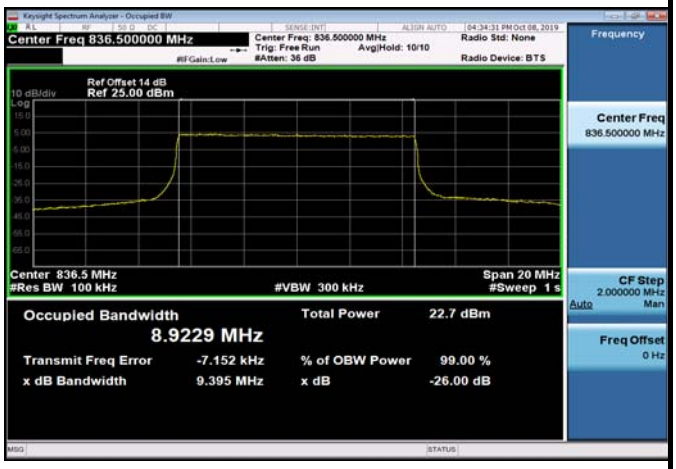
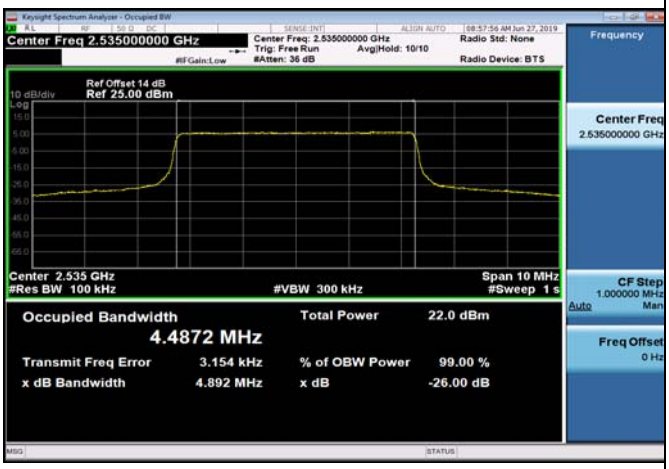
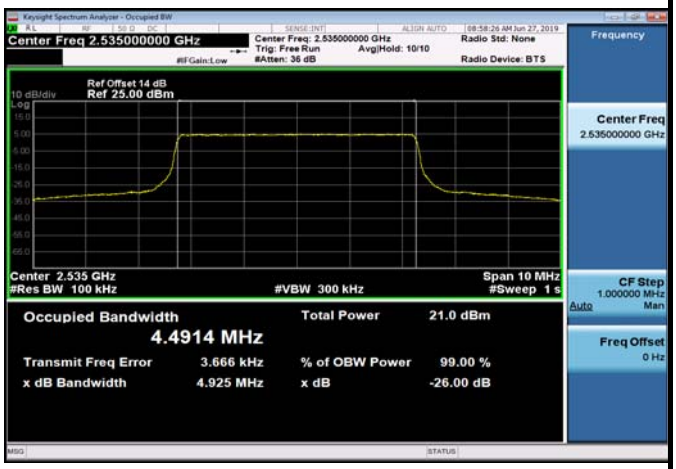
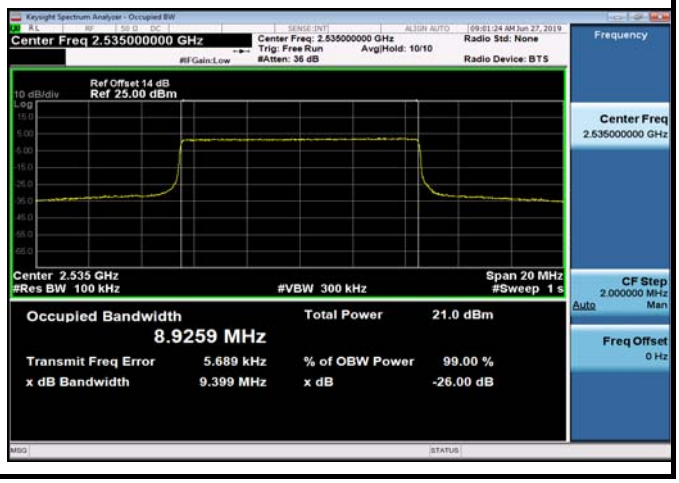
FDD02_MidRange_1.4MHz_1880MHz_QPSK	FDD02_MidRange_1.4MHz_1880MHz_Q16
	
FDD02_MidRange_3MHz_1880MHz_QPSK	FDD02_MidRange_3MHz_1880MHz_Q16
	
FDD02_MidRange_5MHz_1880MHz_QPSK	FDD02_MidRange_5MHz_1880MHz_Q16
	

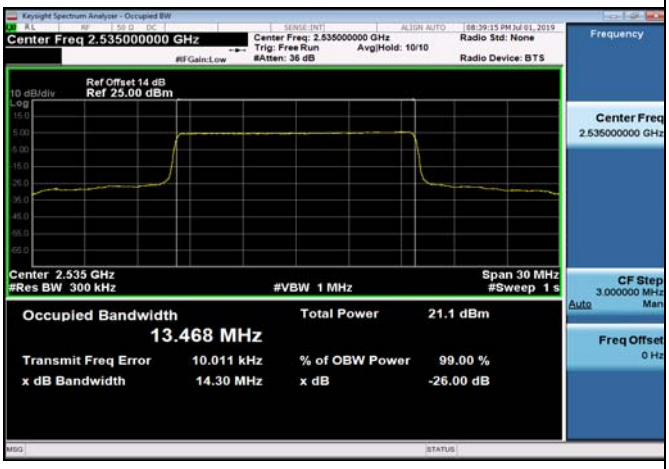
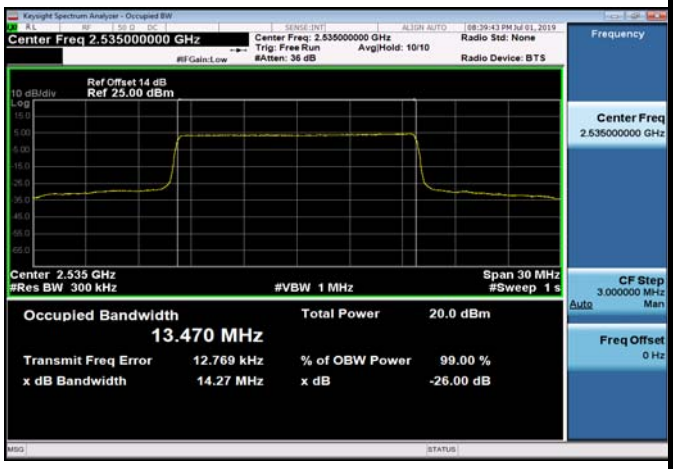
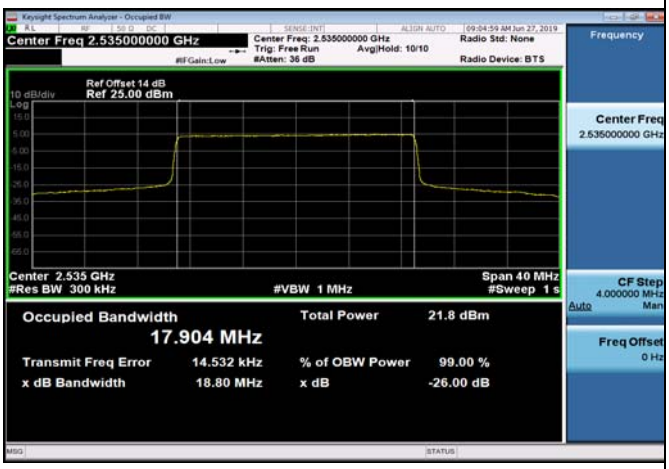
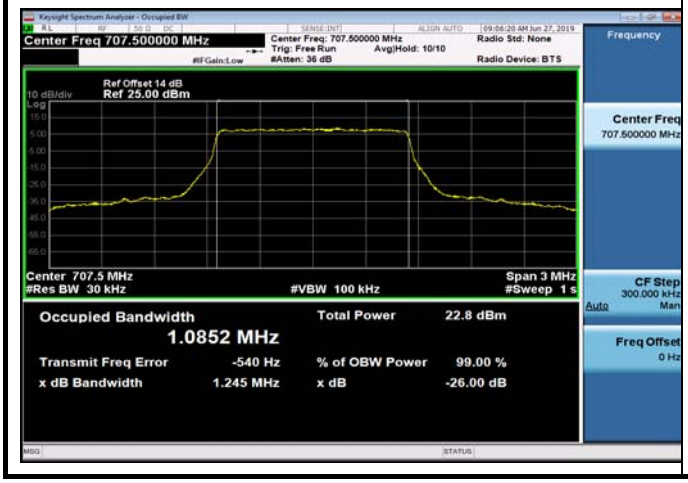
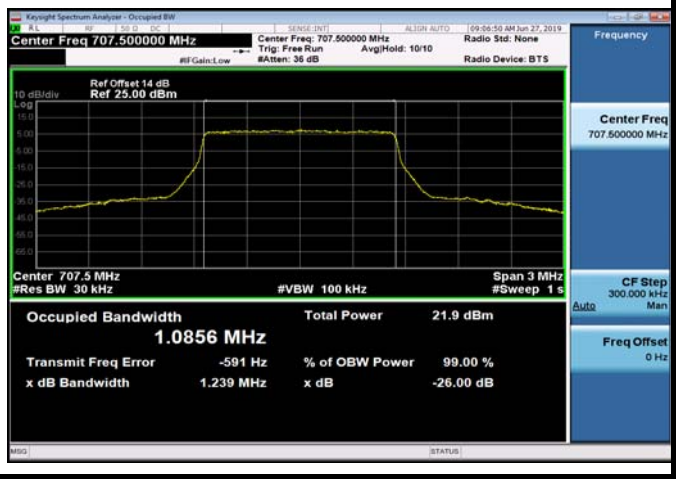
FDD02_MidRange_10MHz_1880MHz_QPSK	FDD02_MidRange_10MHz_1880MHz_Q16
	
FDD02_MidRange_15MHz_1880MHz_QPSK	FDD02_MidRange_15MHz_1880MHz_Q16
	
FDD02_MidRange_20MHz_1880MHz_QPSK	FDD02_MidRange_20MHz_1880MHz_Q16
	

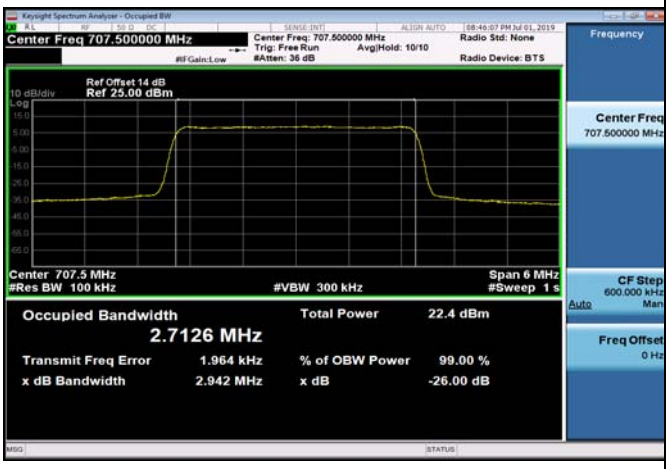
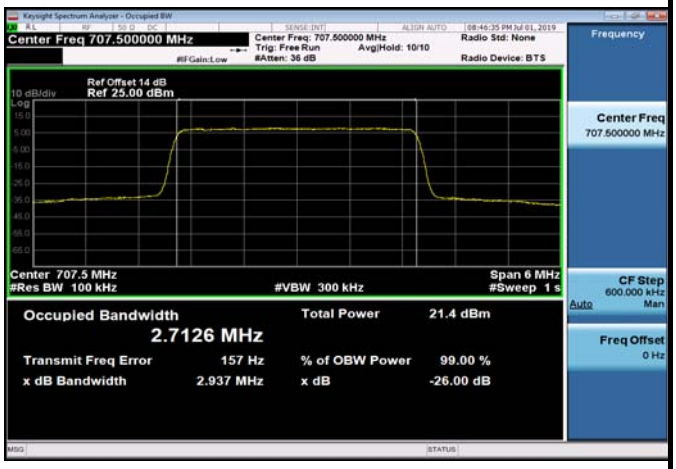
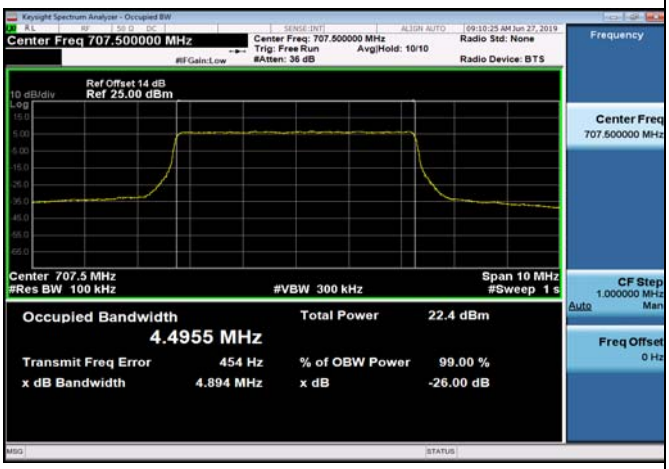
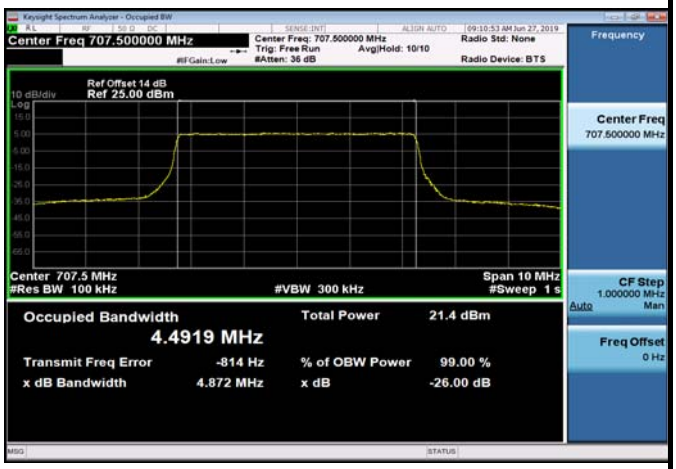
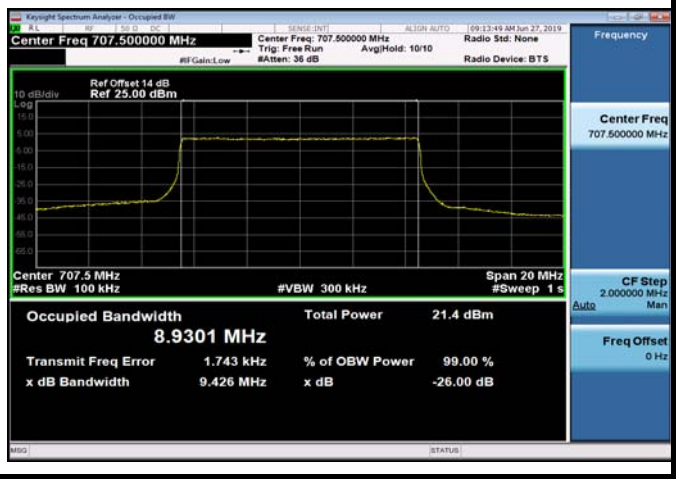
FDD04_MidRange_1.4MHz_1732.5MHz _QPSK	FDD04_MidRange_1.4MHz_1732.5MHz _Q16
	
FDD04_MidRange_3MHz_1732.5MHz_QPSK	FDD04_MidRange_3MHz_1732.5MHz_Q16
	
FDD04_MidRange_5MHz_1732.5MHz_QPSK	FDD04_MidRange_5MHz_1732.5MHz_Q16
	

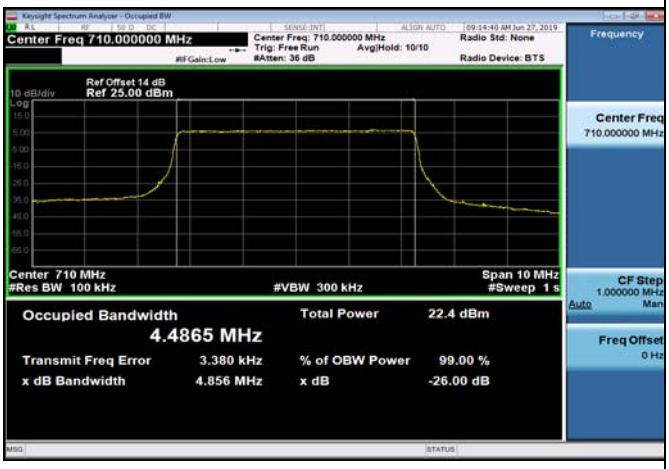
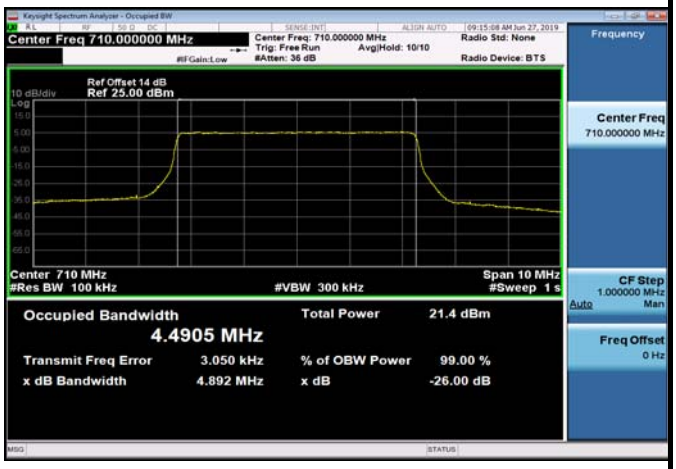
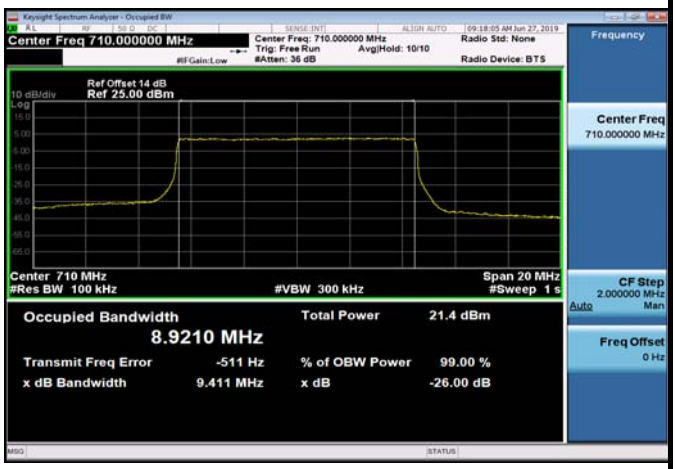
FDD04_MidRange_10MHz_1732.5MHz _QPSK	FDD04_MidRange_10MHz_1732.5MHz _Q16
	
FDD04_MidRange_15MHz_1732.5MHz _QPSK	FDD04_MidRange_15MHz_1732.5MHz _Q16
	
FDD04_MidRange_20MHz_1732.5MHz _QPSK	FDD04_MidRange_20MHz_1732.5MHz _Q16
	

FDD05_MidRange_1.4MHz_836.5MHz _QPSK	FDD05_MidRange_1.4MHz_836.5MHz _Q16
	
FDD05_MidRange_3MHz_836.5MHz_QPSK	FDD05_MidRange_3MHz_836.5MHz_Q16
	
FDD05_MidRange_5MHz_836.5MHz_QPSK	FDD05_MidRange_5MHz_836.5MHz_Q16
	

FDD05_MidRange_10MHz_836.5MHz_QPSK	FDD05_MidRange_10MHz_836.5MHz_Q16
	
FDD07_MidRange_5MHz_2535MHz_QPSK	FDD07_MidRange_5MHz_2535MHz_Q16
	
FDD07_MidRange_10MHz_2535MHz_QPSK	FDD07_MidRange_10MHz_2535MHz_Q16
	

FDD07_MidRange_15MHz_2535MHz_QPSK	FDD07_MidRange_15MHz_2535MHz_Q16
	
FDD07_MidRange_20MHz_2535MHz_QPSK	FDD07_MidRange_20MHz_2535MHz_Q16
	
FDD12_MidRange_1.4MHz_707.5MHz _QPSK	FDD12_MidRange_1.4MHz_707.5MHz _Q16
	

FDD12_MidRange_3MHz_707.5MHz_QPSK	FDD12_MidRange_3MHz_707.5MHz_Q16
	
FDD12_MidRange_5MHz_707.5MHz_QPSK	FDD12_MidRange_5MHz_707.5MHz_Q16
	
FDD12_MidRange_10MHz_707.5MHz_QPSK	FDD12_MidRange_10MHz_707.5MHz_Q16
	

FDD17_MidRange_5MHz_710MHz_QPSK	FDD17_MidRange_5MHz_710MHz_Q16
	
FDD17_MidRange_10MHz_710MHz_QPSK	FDD17_MidRange_10MHz_710MHz_Q16
	
FDD25_MidRange_1.4MHz_1882.5MHz _QPSK	FDD25_MidRange_1.4MHz_1882.5MHz _Q16