Test Report

FCC ID: 2AT35-P21

Date of issue: Aug. 14, 2019

Report Number:	MTi19071025-1E3
Sample Description:	LTE Wireless Router
Model(s):	P21, P21B, P22, P25, P11, S10, S12
Applicant:	Xiamen Yifan Communication Technology Co., Ltd.
Address:	G612-2, Room601, Building 2, No. 151, YueHua Road, Huli District, Xiamen, 361006
Date of Test:	July 07, 2019 to Aug. 14, 2019

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Test Result Certification

Applicant's name:	Xiamen Yifan Communication Technology Co., Ltd.
Address:	G612-2, Room601, Building 2, No. 151, YueHua Road, Huli District, Xiamen, 361006
Manufacture's name:	Xiamen Yifan Communication Technology Co., Ltd.
Address:	G612-2, Room601, Building 2, No. 151, YueHua Road, Huli District, Xiamen, 361006
Product name:	LTE Wireless Router
Trademark:	Yeacomm
Model name:	P21, P21B, P22, P25, P11, S10, S12
Standards:	FCC Part 22 Subpart H FCC Part 24 Subpart E FCC CFR 47 Part 27
Test Procedure:	ANSI C63.26:2015 ANSI/TIA-603-E-2016 KDB 971168 D01 Power Meas License Digital Systems v03r01

This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by: Jone Lee Aug. 14, 2019

Reviewed by: Blue Zheng Aug. 14, 2019

Approved by: Smith Chen Aug. 14, 2019

1 General information

1.1 Feature of equipment under test (EUT)

Product name:	LTE Wireless Router
Model name:	P21
Serial model:	P21B, P22, P25, P11, S10, S12
Difference in series models:	All the model are the same circuit and RF module, except the model No. and color.
Operating frequency range:	LTE FDD Band 2: 1850.7 - 1909.3MHz LTE FDD Band 4: 1710.7 - 1754.3MHz LTE FDD Band 5: 824.7 - 848.3MHz
Modulation type:	QPSK,16QAM
Antenna type:	Integral Antenna
Antenna gain:	Band 2 Gain: 3dBi Band 4 Gain: 3dBi Band 5 Gain: 3dBi
Power supply:	DC 12V from adapter
Battery:	N/A
Adapter information:	MODEL: KL-AD-120100 INPUT:AC100-240V 50/60Hz 0.5A OUTPUT:DC 12V 1A
Hardware Version:	TZ7.823.326
Software Version:	P21 V1.0

1.2 Test frequency channel

LTE Band	Channel	Channel Bandwidth (MHz)	Channel No.	Frequency (MHz)
LTE Band 2	Low	1.4	18607	1850.7
		3	18615	1851.5
		5	18625	1852.5
		10	18650	1855
		15	18675	1857.5
		20	18700	1860
	Middle	1.4/3/5/10/15/20	18900	1880
	High	1.4	19193	1909.3
		3	19185	1908.5
		5	19175	1907.5
		10	19150	1905
		15	19125	1902.5
		20	19100	1900
LTE Band 4	Low	1.4	19957	1710.7
		3	19965	1711.5
		5	19975	1712.5
		10	20000	1715
		15	20025	1717.5
		20	20050	1720
	Middle	1.4/3/5/10/15/20	20175	1732.5
	High	1.4	20393	1754.3
		3	20385	1753.5
		5	20375	1752.5
		10	20350	1750
		15	20325	1747.5
		20	20300	1745
LTE Band 5	Low	1.4	20247	824.7
		3	20425	826.5
		5	20425	826.5
		10	20450	829.0
	Middle	1.4/3/5/10	20525	836.5
	High	1.4	20643	848.3
		3	20635	847.5
		5	20625	846.5
		10	20600	844.0

1.3 EUT operation mode

LTE band 2	Keep the EUT in data communicating mode on LTE band 2. (LTE band2(1.4MHz), LTE band2(3MHz), LTE band2(5MHz), LTE band2(10MHz), LTE band2(15MHz), LTE band2(20MHz))
LTE band 4	Keep the EUT in data communicating mode on LTE band 4. (LTE band 4(1.4MHz), LTE band 4(3MHz), LTE band 4(5MHz), LTE band 4(10MHz), LTE band 4(15MHz), LTE band 4(20MHz))
LTE band 5	Keep the EUT in data communicating mode on LTE band 5. (LTE band 5(1.4MHz), LTE band 5(3MHz),LTE band5(5MHz), LTE band 5(10MHz)
Note: Only the worst case data were shown in the report.	

1.4 Ancillary equipment list

Equipment	Model	S/N	Manufacturer	Certificate type
Adapter	KL-AD-120100	/	/	/

2 Summary of test results

Item	FCC Part No.	Description of Test	Result
1	part2.1046 Part 24.232 (c) Part 27.50 (c)(10) Part 27.50 (d)(4) Part 27.50 (h)(2)	RF Output Power	Pass
2	part 22.913(a)(2) part 24.232(c.2) part 27.50(h)(2) part 27.50(b)(10) part 27.50(c)(10) part 27.50(d)(4) part 27.50(a)(3)	Radiated Power (ERP/EIRP)	Pass
3	Part 27.50(d)(5)	Peak-to-Average Ratio	Pass
4	Part 2.1049 Part 24.238(b) Part 27.53(g) Part 27.53(h) Part 27.53(m)	99% and -26 dB Occupied Bandwidth	Pass
5	part 2.1051 part 22.917(a) part 24.238(a) part 24.50(d) part 27.53 (g)(h)	Spurious emissions at antenna terminals	Pass
6	part 2.1051 part 22.917(a) part 24.238(a) part 27.53(c)(2)(4) part 27.53(g) part 27.53(h)	Band edge at antenna terminals	Pass
7	Part 2.1053 Part 24.238 (a) Part 27.53 (g) Part 27.53 (h) Part 27.53(m)	Field strength of spurious radiation measurement	Pass
8	Part 24.235 Part 27.54 Part 2.1055(a)(1)(b) Part 2.1055(d)(2)	Frequency Stability for Temperature &Voltage	Pass

3 Test facilities and accreditations

3.1 Test laboratory

Test Laboratory	Shenzhen Microtest Co., Ltd
Location	No.102A & 302A, East Block, Hengfang Industrial Park, Xingye Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China
FCC Registration No.:	448573

3.2 Environmental conditions

Temperature:	15ºC~35ºC
Humidity	20%~75%
Atmospheric pressure	98kPa~101kPa

3.3 Measurement uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %, U=2xUc(y)

RF frequency	1 x 10-7
RF power, conducted	± 1 dB
Conducted emission(150kHz~30MHz)	± 2.5 dB
Radiated emission(30MHz~1GHz)	± 4.2 dB
Radiated emission (above 1GHz)	± 4.3 dB
Temperature	±1 degree
Humidity	± 5 %

3.4 Test software

Software Name	Manufacturer	Model	Version
LTE	Shenzhen JS tonscend co,.ltd	JS1120-1	2.6.8.0518

4 LIST OF TEST EQUIPMENT

Equipment No.	Equipment Name	Manufacturer	Model	Serial No.	Calibration date	Due date
MTI-E004	EMI Test Receiver	Rohde&schwarz	ESPI7	100314	2018/10/09	2019/10/08
MTI-E006	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-872	2018/10/15	2020/10/14
MTI-E014	amplifier	Hewlett-Packard	8447D	3113A06150	2018/10/09	2019/10/08
MTI-E036	Single path vehicle AMN(LISN)	Schwarzbeck	NNBM 8124	01175	2018/10/09	2019/10/08
MTI-E038	Low noise active vertical monopole antenna	Schwarzbeck	VAMP 9243	#565	2018/10/16	2019/10/15
MTI-E039	Biconical antenna	Schwarzbeck	BBA 9106	#164	2018/10/15	2019/10/14
MTI-E041	MXG Vector Signal Generator	Agilent	N5182A	MY49060455	2019/04/16	2020/04/15
MTI-E042	ESG Series Analog signal generator	Agilent	E4421B	GB40051240	2019/05/21	2020/05/20
MTI-E044	Thermometer clock humidity monitor	-	HTC-1	/	2019/04/17	2020/04/16
MTI-E062	Log Periodic Antenna	Schwarzbeck	VUSLP 9111B	#312	2018/04/11	2020/04/10
MTI-E063	Log Periodic Dipole Array Antenna	ETS-LINDGREN	3148B	00224524	2018/04/11	2020/04/10
MTI-E065	Amplifier	EMtrace	RP06A	00117	2019/04/29	2020/04/28
MTI-E066	Comprehensive test instrument	Rohde&schwarz	CMW500	149155	2019/04/16	2020/04/15
MTI-E071	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2018/10/25	2019/10/24
MTI-E076	EMI Test Receiver	Rohde&schwarz	ESIB26	100273	2019/04/16	2020/04/15
MTI-E078	Synthesized Sweeper	Agilent	83752A	3610A01957	2019/04/16	2020/04/15
MTI-E079	DC Power Supply	Agilent	E3632A	MY40027695	2019/04/16	2020/04/15
MTI-E093	Artificial mains network	3ctest	LISN J50	ES3911805	2019/04/16	2020/04/15
MTI-E096	Power amplifier	Space-Dtroniccs	EWLNA0118G-P40	1852001	2019/04/29	2020/04/28
MTI-E097	Current Probe	SOLAR ELECTRONICS CO.	9207-1	220095-1	2019/04/17	2020/04/16
MTI-E098	Loop Sensor	SOLAR ELECTRONICS CO.	7334-1	220095-2	2019/04/21	2020/04/20
Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).						

5 Test result

5.1 RF output power

5.1.1 Limit

For FCC Part 22.913(a)(2):
The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(c):
The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

For FCC Part 27.50(d):
The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 1 Watt.

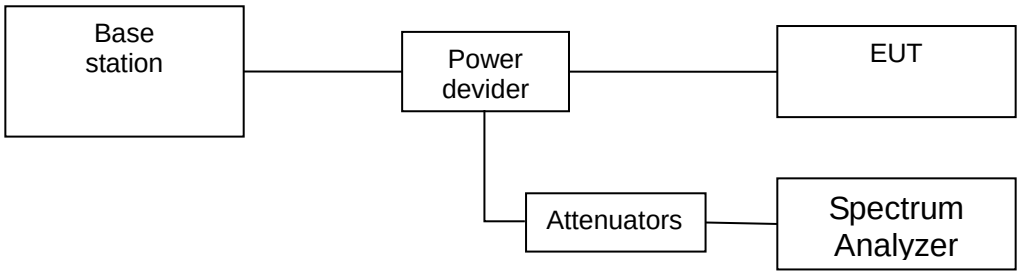
For FCC Part 27.50(c):
The ERP of mobile transmitters and auxiliary test transmitters must not exceed 3 Watts.

For FCC Part 27.50(a)(3):
For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

5.1.2 Test procedure

1) The EUT's RF output port was connected to base station.
2) A call is set up by the SS according to the generic call set up procedure.
3) Set EUT at maximum power level through base station by power level command.
4) Measure the maximum output power of EUT at each frequency band and mode by base station.
5) The EUT was set up for the max output power with pseudo random data modulation.
6) These measurements were done at 3 frequencies (bottom, middle and top of operational frequency range) for each bandwidth.

5.1.3 Test setup



5.1.4 **Test results**

The following table shows the conducted power measured:

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band2	1.4MHz	QPSK	18607	6RB#0	22.37	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	22.94	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	21.95	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	21.90	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	22.20	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	21.32	PASS
Band2	3MHz	QPSK	18615	15RB#0	22.09	PASS
Band2	3MHz	QPSK	18900	15RB#0	22.48	PASS
Band2	3MHz	QPSK	19185	15RB#0	21.67	PASS
Band2	3MHz	16QAM	18615	15RB#0	21.64	PASS
Band2	3MHz	16QAM	18900	15RB#0	21.84	PASS
Band2	3MHz	16QAM	19185	15RB#0	21.10	PASS
Band2	5MHz	QPSK	18625	25RB#0	22.43	PASS
Band2	5MHz	QPSK	18900	25RB#0	22.69	PASS
Band2	5MHz	QPSK	19175	25RB#0	22.13	PASS
Band2	5MHz	16QAM	18625	25RB#0	21.86	PASS
Band2	5MHz	16QAM	18900	25RB#0	21.86	PASS
Band2	5MHz	16QAM	19175	25RB#0	21.28	PASS
Band2	10MHz	QPSK	18650	50RB#0	22.81	PASS
Band2	10MHz	QPSK	18900	50RB#0	22.74	PASS
Band2	10MHz	QPSK	19150	50RB#0	22.50	PASS
Band2	15MHz	QPSK	18675	75RB#0	22.95	PASS
Band2	15MHz	QPSK	18900	75RB#0	22.85	PASS
Band2	15MHz	QPSK	19125	75RB#0	22.67	PASS
Band2	15MHz	16QAM	18675	75RB#0	22.42	PASS
Band2	15MHz	16QAM	18900	75RB#0	22.18	PASS
Band2	15MHz	16QAM	19125	75RB#0	22.01	PASS
Band2	20MHz	QPSK	18700	100RB#0	23.08	PASS
Band2	20MHz	QPSK	18900	100RB#0	23.10	PASS
Band2	20MHz	QPSK	19100	100RB#0	23.07	PASS
Band2	20MHz	16QAM	18700	100RB#0	22.40	PASS
Band2	20MHz	16QAM	18900	100RB#0	22.30	PASS
Band2	20MHz	16QAM	19100	100RB#0	22.28	PASS

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band4	1.4MHz	QPSK	19957	6RB#0	21.17	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	22.72	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	22.59	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	20.51	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	22.14	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	22.29	PASS
Band4	3MHz	QPSK	19965	15RB#0	20.80	PASS
Band4	3MHz	QPSK	20175	15RB#0	22.31	PASS
Band4	3MHz	QPSK	20385	15RB#0	22.38	PASS
Band4	3MHz	16QAM	19965	15RB#0	20.33	PASS
Band4	3MHz	16QAM	20175	15RB#0	21.94	PASS
Band4	3MHz	16QAM	20385	15RB#0	21.79	PASS
Band4	5MHz	QPSK	20175	25RB#0	22.50	PASS
Band4	5MHz	16QAM	19975	25RB#0	21.27	PASS
Band4	5MHz	16QAM	20175	25RB#0	22.71	PASS
Band4	5MHz	16QAM	20375	25RB#0	21.70	PASS
Band4	10MHz	QPSK	20000	50RB#0	21.37	PASS
Band4	10MHz	QPSK	20175	50RB#0	22.51	PASS
Band4	10MHz	QPSK	20350	50RB#0	22.29	PASS
Band4	10MHz	16QAM	20000	50RB#0	20.62	PASS
Band4	10MHz	16QAM	20175	50RB#0	21.94	PASS
Band4	10MHz	16QAM	20350	50RB#0	21.56	PASS
Band4	15MHz	QPSK	20025	75RB#0	21.96	PASS
Band4	15MHz	QPSK	20175	75RB#0	22.53	PASS
Band4	15MHz	QPSK	20325	75RB#0	22.27	PASS
Band4	15MHz	16QAM	20025	75RB#0	21.81	PASS
Band4	15MHz	16QAM	20175	75RB#0	22.02	PASS
Band4	15MHz	16QAM	20325	75RB#0	21.49	PASS
Band4	20MHz	QPSK	20050	100RB#0	22.41	PASS
Band4	20MHz	QPSK	20175	100RB#0	22.52	PASS
Band4	20MHz	QPSK	20300	100RB#0	22.32	PASS
Band4	20MHz	16QAM	20050	100RB#0	21.72	PASS
Band4	20MHz	16QAM	20175	100RB#0	22.05	PASS
Band4	20MHz	16QAM	20300	100RB#0	21.72	PASS

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	22.51	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	22.12	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	21.92	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	22.02	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	21.59	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	21.51	PASS
Band5	3MHz	QPSK	20415	15RB#0	22.29	PASS
Band5	3MHz	QPSK	20525	15RB#0	21.89	PASS
Band5	3MHz	QPSK	20635	15RB#0	22.04	PASS
Band5	3MHz	16QAM	20415	15RB#0	22.21	PASS
Band5	3MHz	16QAM	20525	15RB#0	21.49	PASS
Band5	3MHz	16QAM	20635	15RB#0	21.51	PASS
Band5	5MHz	QPSK	20425	25RB#0	22.44	PASS
Band5	5MHz	QPSK	20525	25RB#0	21.98	PASS
Band5	5MHz	QPSK	20625	25RB#0	22.56	PASS
Band5	5MHz	16QAM	20425	25RB#0	22.03	PASS
Band5	5MHz	16QAM	20525	25RB#0	21.62	PASS
Band5	5MHz	16QAM	20625	25RB#0	21.87	PASS
Band5	10MHz	QPSK	20450	50RB#0	22.22	PASS
Band5	10MHz	QPSK	20525	50RB#0	22.32	PASS
Band5	10MHz	QPSK	20600	50RB#0	22.45	PASS
Band5	10MHz	16QAM	20450	50RB#0	21.73	PASS
Band5	10MHz	16QAM	20525	50RB#0	21.90	PASS
Band5	10MHz	16QAM	20600	50RB#0	21.88	PASS

5.2 Radiated Power (ERP/EIRP)

5.2.1 Limit

1) 22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
2) 27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.
3) 27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.
4) 27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.
5) 27.50(h) The following power limits shall apply in the BRS and EBS:

   (2) Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.
6) 27.50(a)(3):For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

5.2.2 Test procedure

7) The EUT was placed on an non-conductive turntable using a nonconductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.
8) During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.
9) ERP in frequency band below 1GHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

   ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable Loss (dB)

10) EIRP in frequency band above 1GHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

    EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB)

11) The worse case was relating to the conducted output power.

5.2.3 **Test setup**

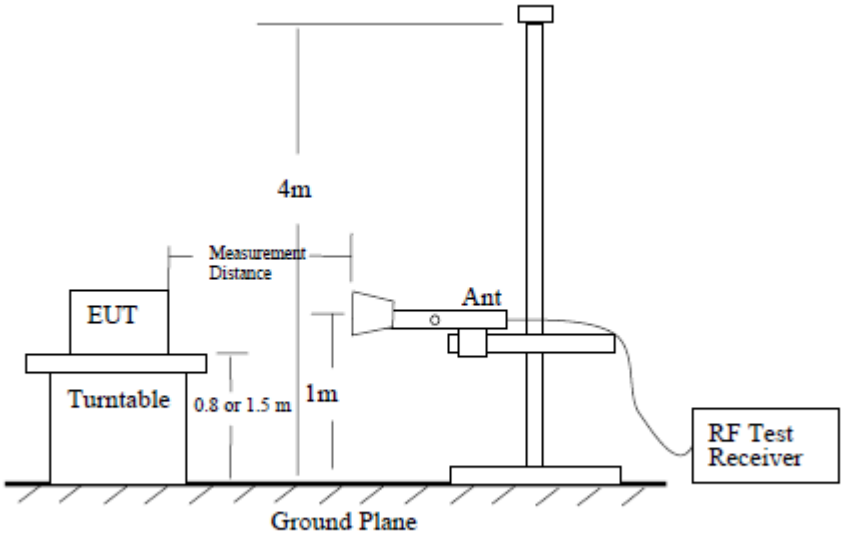


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

5.2.4 Test results

Radiated Spurious Measurement:
LTE Band 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1850.7	1.81	3.76	25.24	23.29	188.429	Horizontal	Pass
		1880	1.44	3.91	25.22	22.75	188.874	Horizontal	Pass
		1909.3	1.50	3.93	25.28	22.85	190.276	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1850.7	1.68	3.76	25.24	23.16	204.934	Horizontal	Pass
		1880	1.79	3.91	25.22	23.10	178.164	Horizontal	Pass
		1909.3	1.64	3.93	25.28	22.99	175.350	Horizontal	Pass
3.0MHz Band QPSK	15/0	1851.5	1.03	3.77	25.23	22.49	221.150	Horizontal	Pass
		1880	1.75	3.91	25.24	23.08	183.476	Horizontal	Pass
		1908.5	1.15	3.94	25.25	22.46	177.465	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1851.5	1.39	3.77	25.23	22.85	190.656	Horizontal	Pass
		1880	1.20	3.91	25.24	22.53	182.696	Horizontal	Pass
		1908.5	1.52	3.94	25.25	22.83	203.552	Horizontal	Pass
5.0MHz Band QPSK	25/0	1852.5	1.50	3.77	25.31	23.04	201.786	Horizontal	Pass
		1880	1.06	3.91	25.22	22.37	192.952	Horizontal	Pass
		1907.5	1.76	3.94	25.32	23.14	216.329	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1852.5	1.28	3.77	25.31	22.82	185.107	Horizontal	Pass
		1880	1.96	3.91	25.22	23.27	184.786	Horizontal	Pass
		1907.5	1.67	3.94	25.32	23.05	194.362	Horizontal	Pass
10.0MHz Band QPSK	50/0	1855	1.44	3.79	25.33	22.98	181.749	Horizontal	Pass
		1880	1.67	3.95	25.22	22.94	181.840	Horizontal	Pass
		1905	1.21	3.97	25.19	22.43	199.601	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1855	1.31	3.79	25.33	22.85	214.645	Horizontal	Pass
		1880	1.72	3.95	25.22	22.99	177.137	Horizontal	Pass
		1905	1.07	3.97	25.19	22.29	182.280	Horizontal	Pass
15.0MHz Band QPSK	75/0	1857.5	1.63	3.79	25.34	23.18	195.961	Horizontal	Pass
		1880	1.41	3.95	25.22	22.68	189.232	Horizontal	Pass
		1902.5	1.94	3.97	25.18	23.15	190.189	Horizontal	Pass

15.0MHz Band 16 QAM	75/0	1857.5	1.47	3.79	25.34	23.02	200.842	Horizontal	Pass
		1880	1.28	3.95	25.22	22.55	208.868	Horizontal	Pass
		1902.5	1.04	3.97	25.18	22.25	188.147	Horizontal	Pass
20.0MHz Band QPSK	100/0	1860	1.67	3.81	25.35	23.21	206.135	Horizontal	Pass
		1880	1.57	3.96	25.22	22.83	209.500	Horizontal	Pass
		1900	1.45	4	25.16	22.61	173.864	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1860	1.05	3.81	25.35	22.59	214.668	Horizontal	Pass
		1880	1.74	3.96	25.22	23.00	197.836	Horizontal	Pass
		1900	1.61	4	25.16	22.77	177.207	Horizontal	Pass

Radiated Power (EIRP) for Band 2

Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1850.7	1.73	3.76	25.24	23.21	209.484	Vertical	Pass
		1880	1.80	3.91	25.22	23.11	204.486	Vertical	Pass
		1909.3	1.00	3.93	25.28	22.35	171.851	Vertical	Pass
1.4MHz Band 16 QAM	6/0	1850.7	1.05	3.76	25.24	22.53	178.988	Vertical	Pass
		1880	1.47	3.91	25.22	22.78	189.592	Vertical	Pass
		1909.3	1.74	3.93	25.28	23.09	203.878	Vertical	Pass
3.0MHz Band QPSK	15/0	1851.5	1.15	3.77	25.23	22.61	182.444	Vertical	Pass
		1880	1.09	3.91	25.24	22.42	174.518	Vertical	Pass
		1908.5	1.65	3.94	25.25	22.96	197.719	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1851.5	1.13	3.77	25.23	22.59	181.396	Vertical	Pass
		1880	1.29	3.91	25.24	22.62	182.816	Vertical	Pass
		1908.5	1.07	3.94	25.25	22.38	172.893	Vertical	Pass
5.0MHz Band QPSK	25/0	1852.5	1.65	3.77	25.31	23.19	208.469	Vertical	Pass
		1880	1.85	3.91	25.22	23.16	206.803	Vertical	Pass
		1907.5	1.49	3.94	25.32	22.87	193.735	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1852.5	1.86	3.77	25.31	23.40	218.981	Vertical	Pass
		1880	1.73	3.91	25.22	23.04	201.225	Vertical	Pass
		1907.5	1.58	3.94	25.32	22.96	197.759	Vertical	Pass
10.0MHz Band QPSK	50/0	1855	1.23	3.79	25.33	22.77	189.035	Vertical	Pass
		1880	1.81	3.95	25.22	23.08	203.345	Vertical	Pass
		1905	1.53	3.97	25.19	22.75	188.314	Vertical	Pass

10.0MHz Band 16 QAM	50/0	1855	1.47	3.79	25.33	23.01	200.137	Vertical	Pass
		1880	1.87	3.95	25.22	23.14	205.925	Vertical	Pass
		1905	1.68	3.97	25.19	22.90	195.146	Vertical	Pass
15.0MHz Band QPSK	75/0	1857.5	1.38	3.79	25.34	22.93	196.261	Vertical	Pass
		1880	1.79	3.95	25.22	23.06	202.179	Vertical	Pass
		1902.5	1.14	3.97	25.18	22.35	171.755	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1857.5	1.59	3.79	25.34	23.14	206.037	Vertical	Pass
		1880	1.08	3.95	25.22	22.35	171.633	Vertical	Pass
		1902.5	1.87	3.97	25.18	23.08	203.058	Vertical	Pass
20.0MHz Band QPSK	100/0	1860	1.25	3.81	25.35	22.79	189.989	Vertical	Pass
		1880	1.51	3.96	25.22	22.77	189.218	Vertical	Pass
		1900	1.42	4	25.16	22.58	181.078	Vertical	Pass
20.0MHz Band 16 QAM	100/0	1860	1.98	3.81	25.35	23.52	224.689	Vertical	Pass
		1880	1.59	3.96	25.22	22.85	192.593	Vertical	Pass
		1900	1.74	4	25.16	22.90	194.849	Vertical	Pass

LTE Band 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1710.7	0.91	3.12	24.58	22.37	172.399	Horizontal	Pass
		1732.5	0.44	3.27	24.61	21.78	150.535	Horizontal	Pass
		1754.3	0.39	3.29	24.63	21.73	148.877	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1710.7	0.30	3.12	24.58	21.76	150.128	Horizontal	Pass
		1732.5	0.43	3.27	24.61	21.77	150.312	Horizontal	Pass
		1754.3	0.94	3.29	24.63	22.28	168.996	Horizontal	Pass
3.0MHz Band QPSK	15/0	1711.5	0.22	3.13	24.61	21.70	147.951	Horizontal	Pass
		1732.5	0.57	3.27	24.61	21.91	155.299	Horizontal	Pass
		1753.5	0.54	3.3	24.62	21.86	153.317	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1711.5	0.76	3.13	24.61	22.24	167.334	Horizontal	Pass
		1732.5	0.27	3.27	24.61	21.61	145.008	Horizontal	Pass
		1753.5	0.37	3.3	24.62	21.69	147.653	Horizontal	Pass
5.0MHz Band QPSK	25/0	1712.5	0.69	3.13	24.63	22.19	165.468	Horizontal	Pass
		1732.5	0.23	3.27	24.61	21.57	143.574	Horizontal	Pass
		1752.5	0.10	3.3	24.62	21.42	138.813	Horizontal	Pass
5.0MHz	25/0	1712.5	0.13	3.13	24.63	21.63	145.425	Horizontal	Pass

Band 16 QAM		1732.5	0.06	3.27	24.61	21.40	138.177	Horizontal	Pass
		1752.5	0.44	3.3	24.62	21.76	150.135	Horizontal	Pass
10.0MHz Band QPSK	50/0	1715	0.13	3.15	24.64	21.62	145.258	Horizontal	Pass
		1732.5	0.46	3.31	24.61	21.76	149.862	Horizontal	Pass
		1750	0.87	3.33	24.59	22.13	163.332	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1715	0.43	3.15	24.64	21.92	155.427	Horizontal	Pass
		1732.5	0.67	3.31	24.61	21.97	157.288	Horizontal	Pass
		1750	0.85	3.33	24.59	22.11	162.594	Horizontal	Pass
15.0MHz Band QPSK	75/0	1717.5	0.30	3.15	24.65	21.80	151.223	Horizontal	Pass
		1732.5	0.25	3.31	24.61	21.55	142.730	Horizontal	Pass
		1747.5	0.47	3.33	24.57	21.71	148.349	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1717.5	0.90	3.15	24.65	22.40	173.732	Horizontal	Pass
		1732.5	0.49	3.31	24.61	21.79	150.881	Horizontal	Pass
		1747.5	0.88	3.33	24.57	22.12	163.011	Horizontal	Pass
20.0MHz Band QPSK	100/0	1720	0.35	3.17	24.66	21.84	152.644	Horizontal	Pass
		1732.5	0.29	3.32	24.61	21.58	143.886	Horizontal	Pass
		1745	0.07	3.36	24.56	21.27	133.910	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1720	0.37	3.17	24.66	21.86	153.411	Horizontal	Pass
		1732.5	0.71	3.32	24.61	22.00	158.594	Horizontal	Pass
		1745	0.77	3.36	24.56	21.97	157.419	Horizontal	Pass

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1710.7	0.20	3.12	24.58	21.66	146.525	Vertical	Pass
		1732.5	0.20	3.27	24.61	21.54	142.555	Vertical	Pass
		1754.3	0.09	3.29	24.63	21.43	139.090	Vertical	Pass
1.4MHz Band 16 QAM	6/0	1710.7	0.65	3.12	24.58	22.11	162.739	Vertical	Pass
		1732.5	0.03	3.27	24.61	21.37	137.179	Vertical	Pass
		1754.3	0.88	3.29	24.63	22.22	166.793	Vertical	Pass
3.0MHz Band QPSK	15/0	1711.5	0.26	3.13	24.61	21.74	149.387	Vertical	Pass
		1732.5	0.55	3.27	24.61	21.89	154.351	Vertical	Pass
		1753.5	0.74	3.3	24.62	22.06	160.610	Vertical	Pass
3.0MHz Band 16	15/0	1711.5	0.56	3.13	24.61	22.04	160.061	Vertical	Pass
		1732.5	0.92	3.27	24.61	22.26	168.322	Vertical	Pass

QAM		1753.5	0.82	3.3	24.62	22.14	163.857	Vertical	Pass
5.0MHz		1712.5	0.90	3.13	24.63	22.40	173.644	Vertical	Pass
Band	25/0	1732.5	0.55	3.27	24.61	21.89	154.425	Vertical	Pass
QPSK		1752.5	0.14	3.3	24.62	21.46	139.817	Vertical	Pass
5.0MHz		1712.5	0.25	3.13	24.63	21.75	149.551	Vertical	Pass
Band 16	25/0	1732.5	0.28	3.27	24.61	21.62	145.154	Vertical	Pass
QAM		1752.5	0.18	3.3	24.62	21.50	141.245	Vertical	Pass
10.0MHz		1715	0.67	3.15	24.64	22.16	164.559	Vertical	Pass
Band	50/0	1732.5	0.00	3.31	24.61	21.30	135.034	Vertical	Pass
QPSK		1750	0.15	3.33	24.59	21.41	138.403	Vertical	Pass
10.0MHz		1715	0.08	3.15	24.64	21.57	143.582	Vertical	Pass
Band 16	50/0	1732.5	0.24	3.31	24.61	21.54	142.648	Vertical	Pass
QAM		1750	0.43	3.33	24.59	21.69	147.608	Vertical	Pass
15.0MHz		1717.5	0.63	3.15	24.65	22.13	163.313	Vertical	Pass
Band	75/0	1732.5	0.10	3.31	24.61	21.40	138.171	Vertical	Pass
QPSK		1747.5	0.81	3.33	24.57	22.05	160.207	Vertical	Pass
15.0MHz		1717.5	0.06	3.15	24.65	21.56	143.168	Vertical	Pass
Band 16	75/0	1732.5	0.50	3.31	24.61	21.80	151.449	Vertical	Pass
QAM		1747.5	1.00	3.33	24.57	22.24	167.425	Vertical	Pass
20.0MHz		1720	0.40	3.17	24.66	21.89	154.593	Vertical	Pass
Band	100/0	1732.5	0.40	3.32	24.61	21.69	147.457	Vertical	Pass
QPSK		1745	0.41	3.36	24.56	21.61	145.036	Vertical	Pass
20.0MHz		1720	0.88	3.17	24.66	22.37	172.434	Vertical	Pass
Band 16	100/0	1732.5	0.36	3.32	24.61	21.65	146.154	Vertical	Pass
QAM		1745	0.54	3.36	24.56	21.74	149.424	Vertical	Pass

LTE Band 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	824.7	7.26	2.01	19.68	2.15	22.78	189.480	Horizontal	Pass
		836.5	7.29	2.01	19.77	2.15	22.90	194.924	Horizontal	Pass
		848.3	7.88	2.02	19.82	2.15	23.53	225.255	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	824.7	7.86	2.01	19.68	2.15	23.38	217.801	Horizontal	Pass
		836.5	7.41	2.01	19.77	2.15	23.02	200.414	Horizontal	Pass
		848.3	7.20	2.02	19.82	2.15	22.85	192.909	Horizontal	Pass
3.0MHz Band QPSK	15/0	825.5	7.10	2.01	19.7	2.15	22.64	183.601	Horizontal	Pass
		836.5	7.76	2.01	19.77	2.15	23.37	217.340	Horizontal	Pass
		847.5	7.68	2.02	19.81	2.15	23.32	214.656	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	825.5	7.43	2.01	19.7	2.15	22.97	198.212	Horizontal	Pass
		836.5	7.03	2.01	19.77	2.15	22.64	183.604	Horizontal	Pass
		847.5	7.23	2.02	19.81	2.15	22.87	193.604	Horizontal	Pass
5.0MHz Band QPSK	25/0	826.5	7.56	2.01	19.71	2.15	23.11	204.798	Horizontal	Pass
		836.5	7.50	2.01	19.77	2.15	23.11	204.830	Horizontal	Pass
		846.5	7.24	2.02	19.79	2.15	22.86	193.061	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	826.5	7.38	2.01	19.71	2.15	22.93	196.506	Horizontal	Pass
		836.5	7.24	2.01	19.77	2.15	22.85	192.841	Horizontal	Pass
		846.5	7.83	2.02	19.79	2.15	23.45	221.503	Horizontal	Pass
10.0MHz Band QPSK	50/0	829	7.97	2.01	19.73	2.15	23.54	226.012	Horizontal	Pass
		836.5	7.80	2.01	19.77	2.15	23.41	219.506	Horizontal	Pass
		844	7.45	2.02	19.78	2.15	23.06	202.199	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	829	7.02	2.01	19.73	2.15	22.59	181.410	Horizontal	Pass
		836.5	7.61	2.01	19.77	2.15	23.22	209.790	Horizontal	Pass
		844	7.04	2.02	19.78	2.15	22.65	184.274	Horizontal	Pass

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	824.7	7.54	2.01	19.68	2.15	23.06	202.345	Vertical	Pass
		836.5	7.45	2.01	19.77	2.15	23.06	202.278	Vertical	Pass
		848.3	7.32	2.02	19.82	2.15	22.97	197.950	Vertical	Pass
1.4MHz Band 16 QAM	6/0	824.7	7.05	2.01	19.68	2.15	22.57	180.564	Vertical	Pass
		836.5	7.55	2.01	19.77	2.15	23.16	207.199	Vertical	Pass
		848.3	7.87	2.02	19.82	2.15	23.52	224.977	Vertical	Pass
3.0MHz Band QPSK	15/0	825.5	7.73	2.01	19.7	2.15	23.27	212.418	Vertical	Pass
		836.5	7.32	2.01	19.77	2.15	22.93	196.146	Vertical	Pass
		847.5	7.88	2.02	19.81	2.15	23.52	224.814	Vertical	Pass
3.0MHz Band 16 QAM	15/0	825.5	7.93	2.01	19.7	2.15	23.47	222.405	Vertical	Pass
		836.5	7.73	2.01	19.77	2.15	23.34	215.759	Vertical	Pass
		847.5	7.42	2.02	19.81	2.15	23.06	202.352	Vertical	Pass
5.0MHz Band QPSK	25/0	826.5	7.96	2.01	19.71	2.15	23.51	224.517	Vertical	Pass
		836.5	7.32	2.01	19.77	2.15	22.93	196.393	Vertical	Pass
		846.5	7.75	2.02	19.79	2.15	23.37	217.103	Vertical	Pass
5.0MHz Band 16 QAM	25/0	826.5	7.84	2.01	19.71	2.15	23.39	218.379	Vertical	Pass
		836.5	7.75	2.01	19.77	2.15	23.36	216.748	Vertical	Pass
		846.5	7.74	2.02	19.79	2.15	23.36	216.576	Vertical	Pass
10.0MHz Band QPSK	50/0	829	7.18	2.01	19.73	2.15	22.75	188.318	Vertical	Pass
		836.5	7.34	2.01	19.77	2.15	22.95	197.120	Vertical	Pass
		844	7.84	2.02	19.78	2.15	23.45	221.280	Vertical	Pass
10.0MHz Band 16 QAM	50/0	829	7.15	2.01	19.73	2.15	22.72	186.990	Vertical	Pass
		836.5	7.77	2.01	19.77	2.15	23.38	217.853	Vertical	Pass
		844	7.37	2.02	19.78	2.15	22.98	198.450	Vertical	Pass

5.3 Peak-to-Average Ratio

5.3.1 Limit

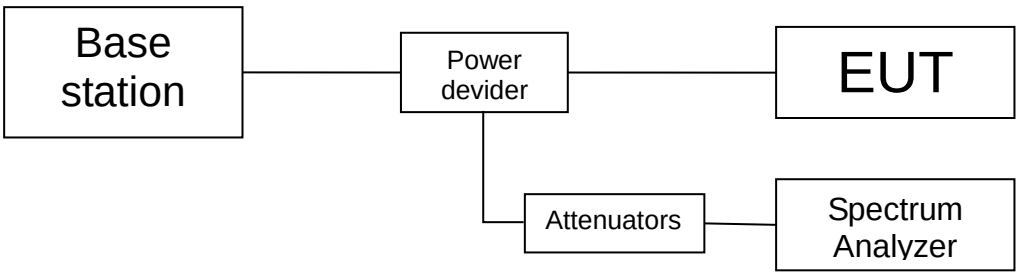
Not exceed 13 dB

5.3.2 Test procedure

FCC: CFR Part 24.232 (d), 27.50(a)
The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.
According to KDB 971168 5.7.1:

a)Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
c) Set the number of counts to a value that stabilizes the measured CCDF curve;
d) Set the measurement interval to 1 ms
e) Record the maximum PAPR level associated with a probability of 0.1%

5.3.3 Test setup



5.3.4 **Test results**

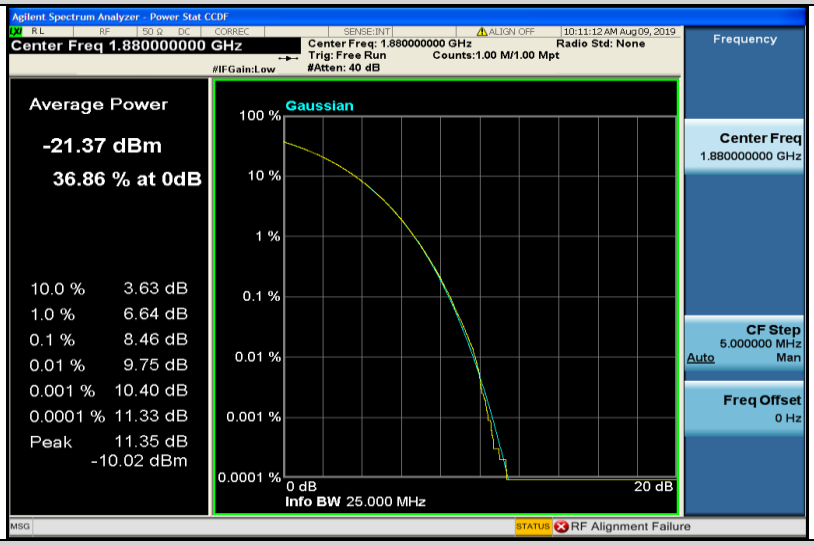
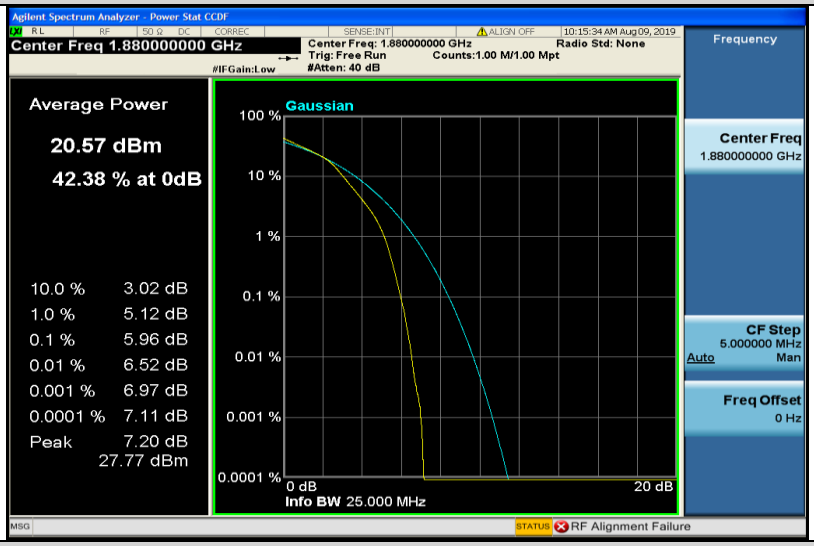
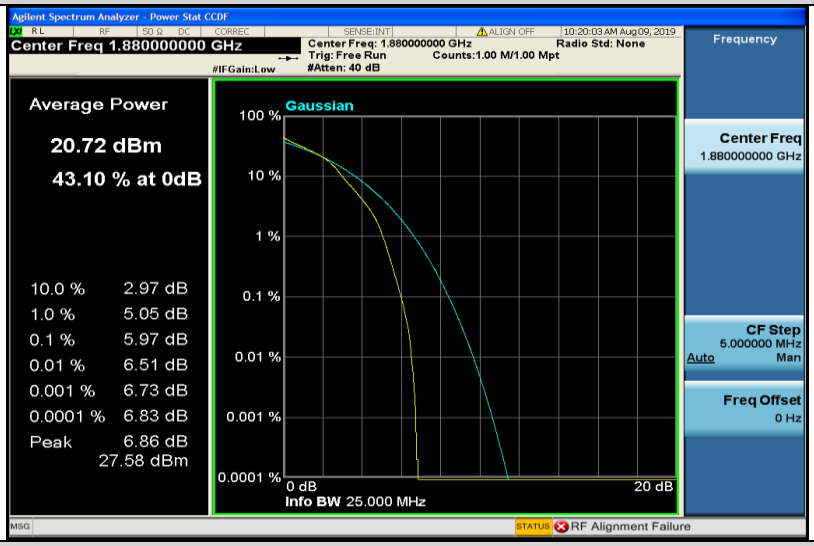
Note: All mode has been tested, only worst data (Max. bandwidth, Middle channel) shown in this report.

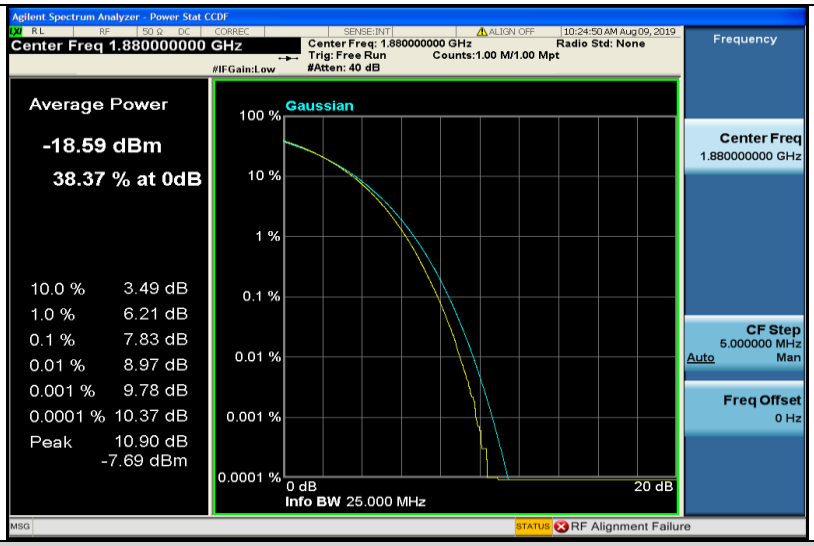
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band2	1.4MHz	QPSK	18900	6RB#0	5.38	13	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	8.46	13	PASS
Band2	3MHz	QPSK	18900	15RB#0	5.52	13	PASS
Band2	3MHz	16QAM	18900	15RB#0	5.96	13	PASS
Band2	5MHz	QPSK	18900	25RB#0	5.55	13	PASS
Band2	5MHz	16QAM	18900	25RB#0	5.97	13	PASS
Band2	10MHz	QPSK	18900	50RB#0	5.60	13	PASS
Band2	10MHz	16QAM	18900	50RB#0	7.83	13	PASS
Band2	15MHz	QPSK	18900	75RB#0	5.80	13	PASS
Band2	15MHz	16QAM	18900	75RB#0	6.01	13	PASS
Band2	20MHz	QPSK	18900	100RB#0	5.65	13	PASS
Band2	20MHz	16QAM	18900	100RB#0	5.93	13	PASS

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band4	1.4MHz	QPSK	20175	6RB#0	8.41	13	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	4.95	13	PASS
Band4	3MHz	QPSK	20175	15RB#0	4.78	13	PASS
Band4	3MHz	16QAM	20175	15RB#0	5.31	13	PASS
Band4	5MHz	QPSK	20175	25RB#0	4.75	13	PASS
Band4	5MHz	16QAM	20175	25RB#0	5.25	13	PASS
Band4	10MHz	QPSK	20175	50RB#0	4.99	13	PASS
Band4	10MHz	16QAM	20175	50RB#0	5.34	13	PASS
Band4	15MHz	QPSK	20175	75RB#0	5.45	13	PASS
Band4	15MHz	16QAM	20175	75RB#0	5.72	13	PASS
Band4	20MHz	QPSK	20175	100RB#0	5.42	13	PASS
Band4	20MHz	16QAM	20175	100RB#0	5.86	13	PASS

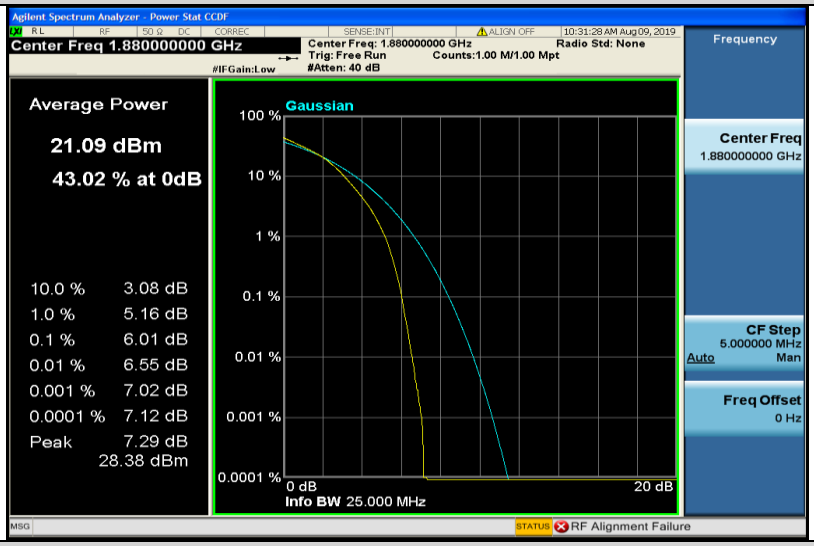
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band5	1.4MHz	QPSK	20525	6RB#0	5.44	13	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	5.38	13	PASS
Band5	3MHz	QPSK	20525	15RB#0	8.42	13	PASS
Band5	3MHz	16QAM	20525	15RB#0	5.50	13	PASS
Band5	5MHz	QPSK	20525	25RB#0	5.38	13	PASS
Band5	5MHz	16QAM	20525	25RB#0	5.47	13	PASS
Band5	10MHz	QPSK	20525	50RB#0	5.45	13	PASS
Band5	10MHz	16QAM	20525	50RB#0	5.48	13	PASS

Test plots

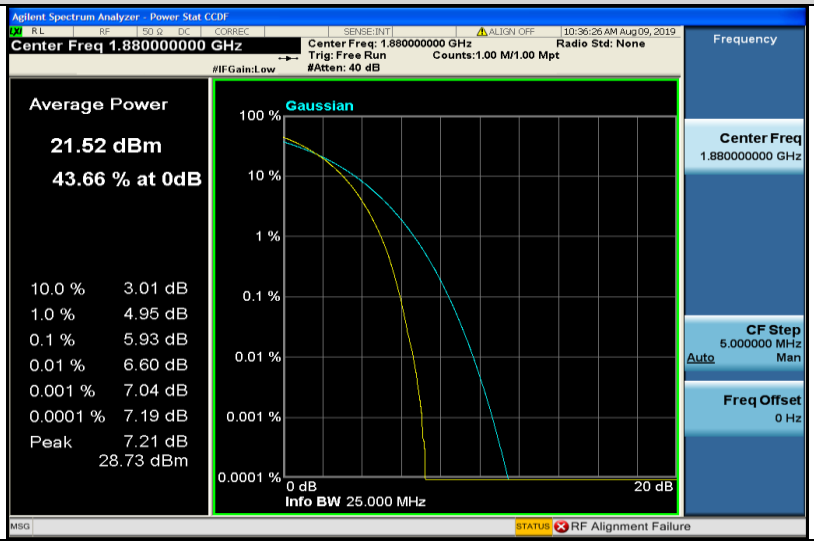
Band2-1.4MHz-16QAM-18900-6RB#0

Band2-3MHz-16QAM-18900-15RB#0

Band2-5MHz-16QAM-18900-25RB#0

Band2-10MHz-16QAM-18900-50RB#0



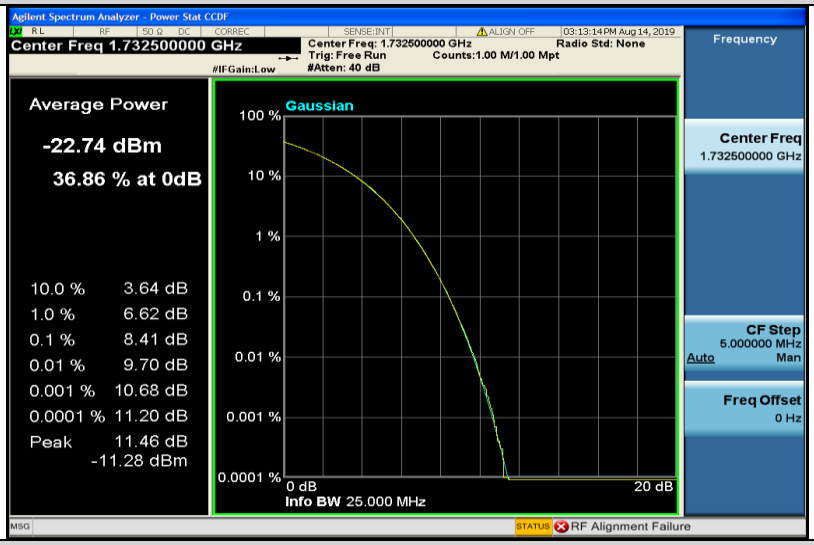
Band2-15MHz-16QAM-18900-75RB#0



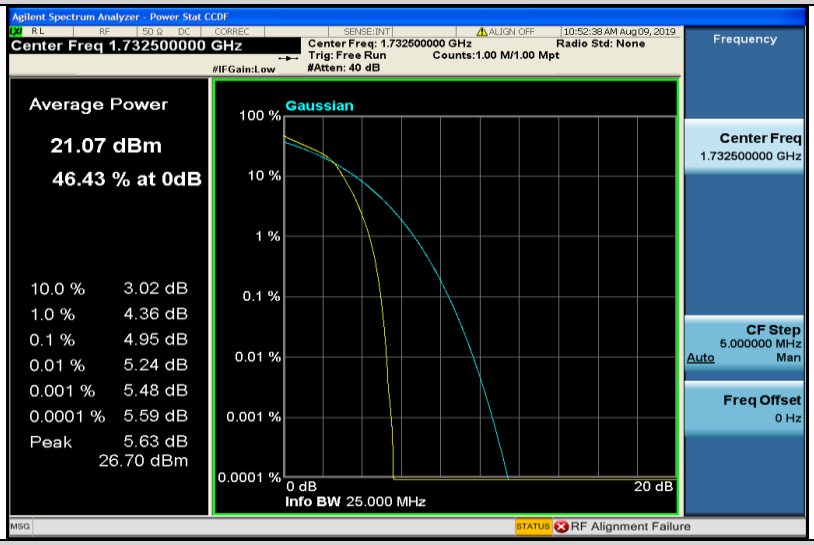
Band2-20MHz-16QAM-18900-100RB#0



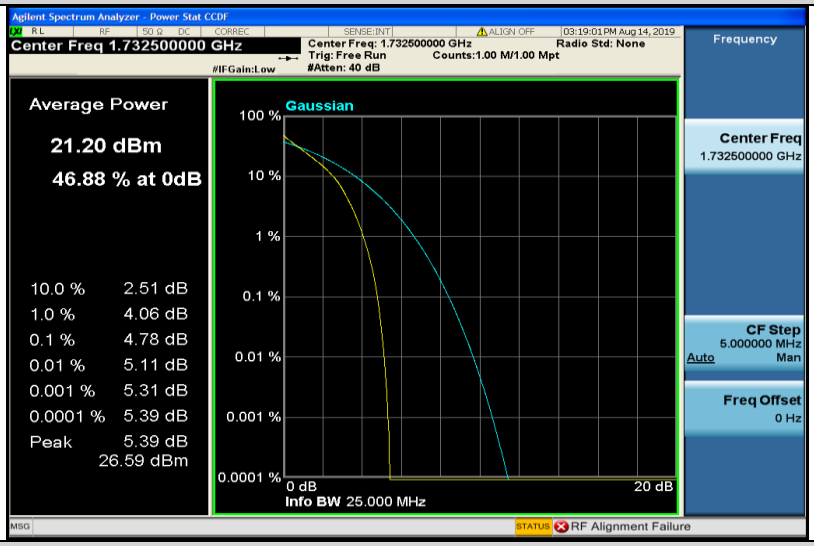
Band4-1.4MHz-QPSK-20175-6RB#0



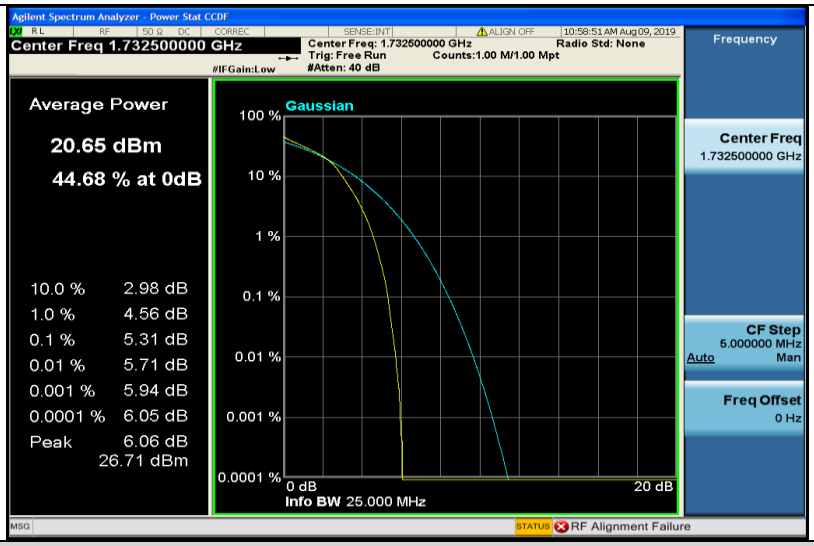
Band4-1.4MHz-16QAM-20175-6RB#0



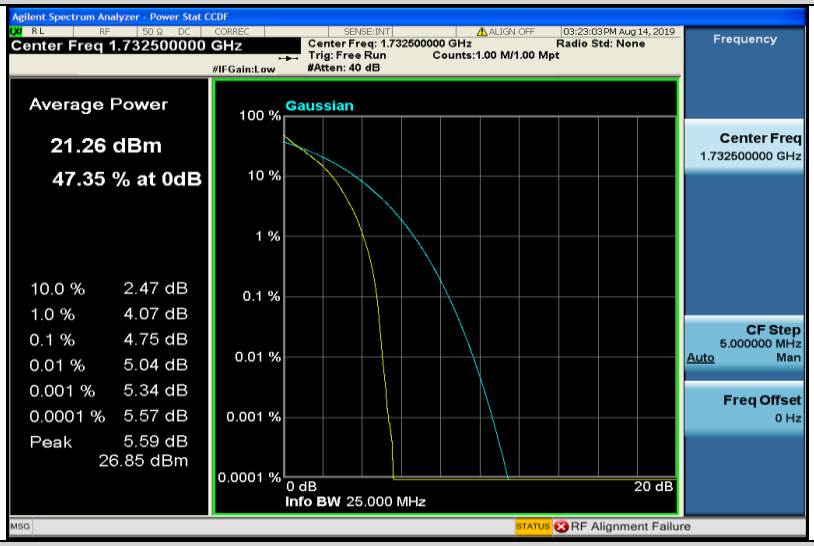
Band4-3MHz-QPSK-20175-15RB#0



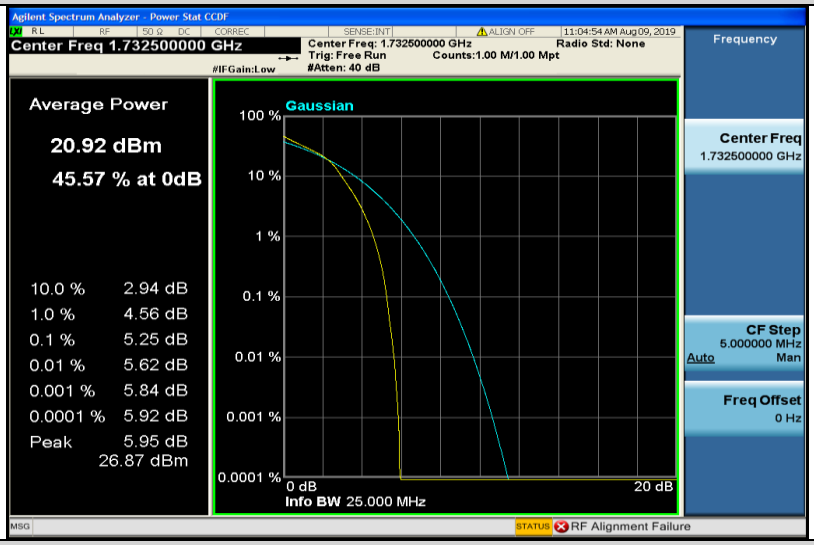
Band4-3MHz-16QAM-20175-15RB#0



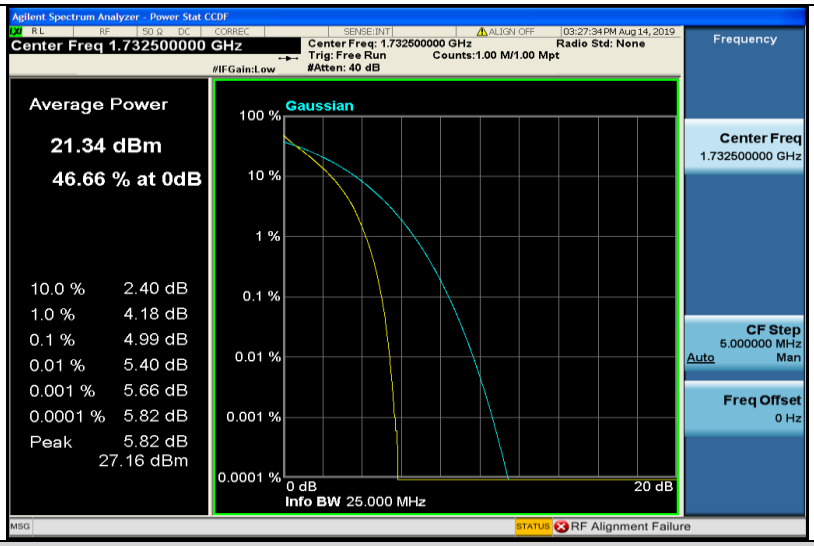
Band4-5MHz-QPSK-20175-25RB#0



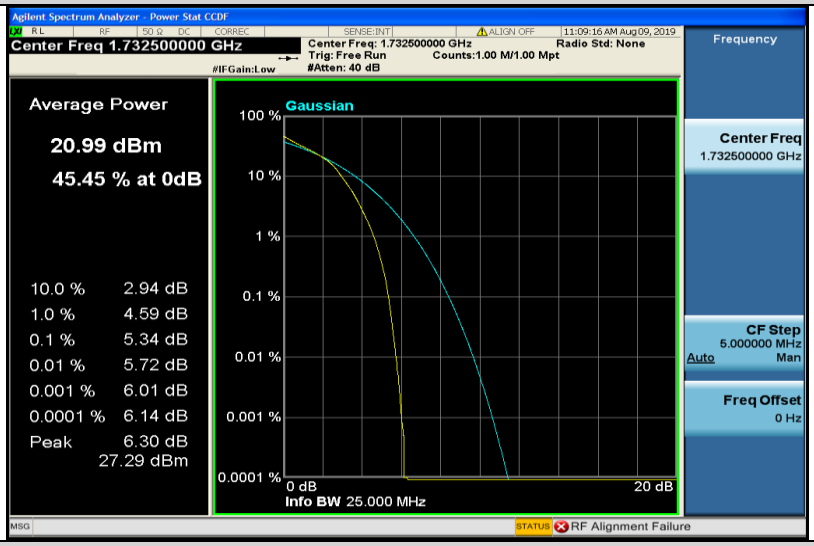
Band4-5MHz-16QAM-20175-25RB#0



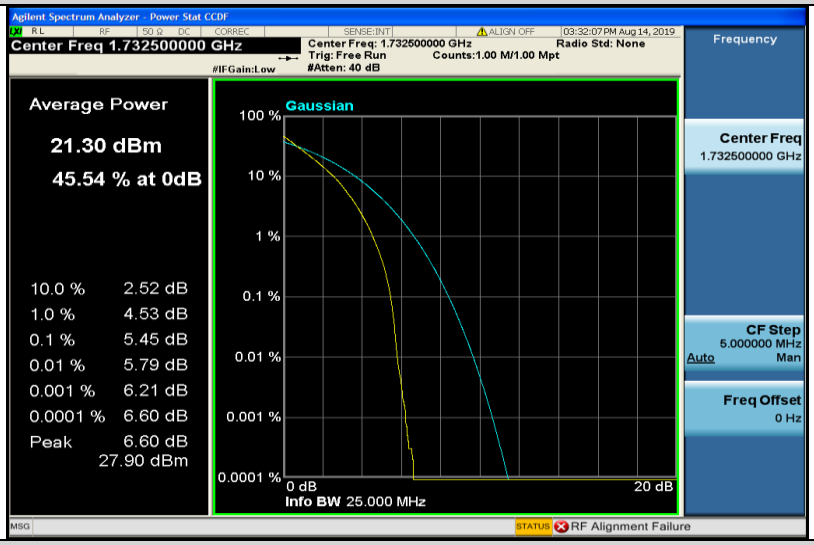
Band4-10MHz-QPSK-20175-50RB#0



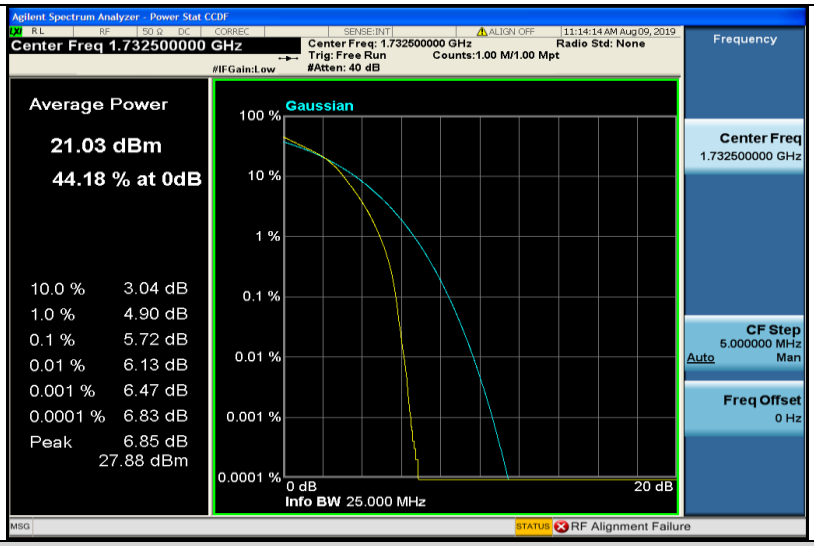
Band4-10MHz-16QAM-20175-50RB#0



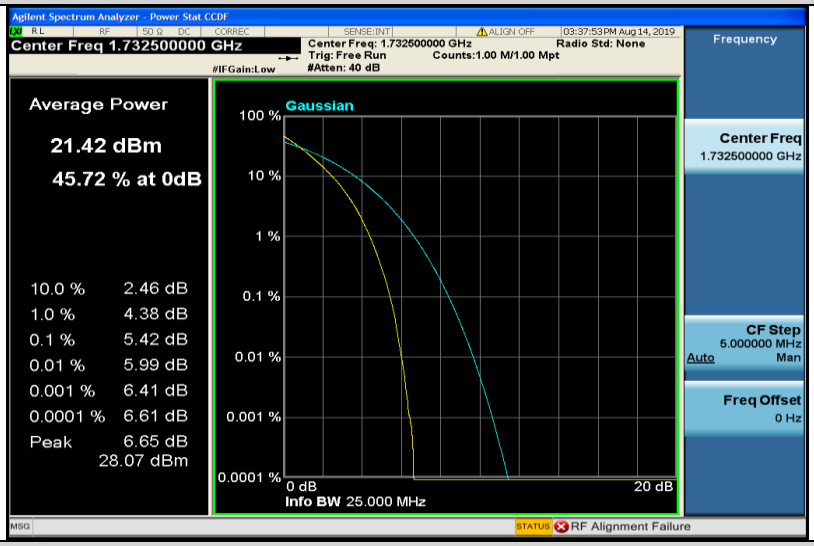
Band4-15MHz-QPSK-20175-75RB#0



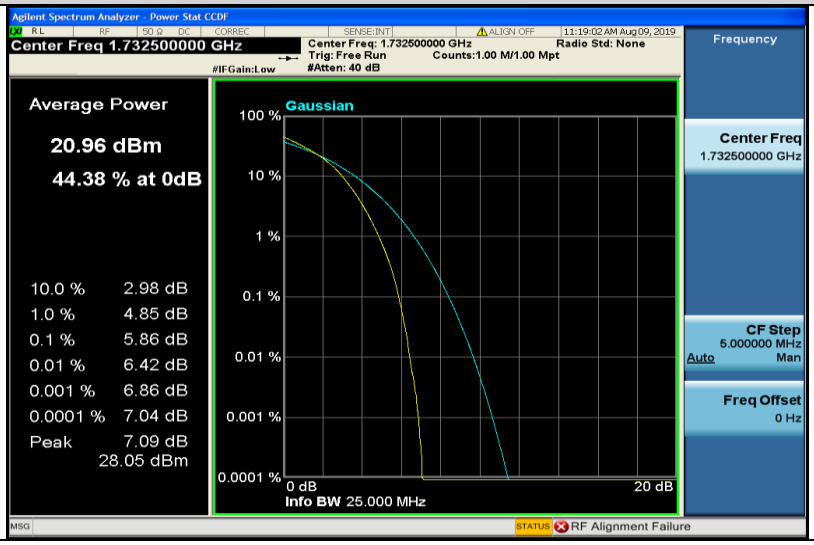
Band4-15MHz-16QAM-20175-75RB#0



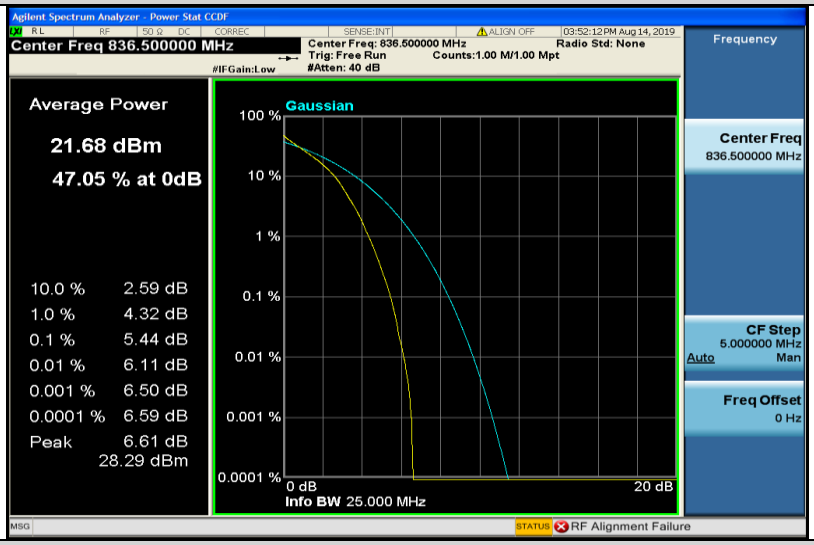
Band4-20MHz-QPSK-20175-100RB#0



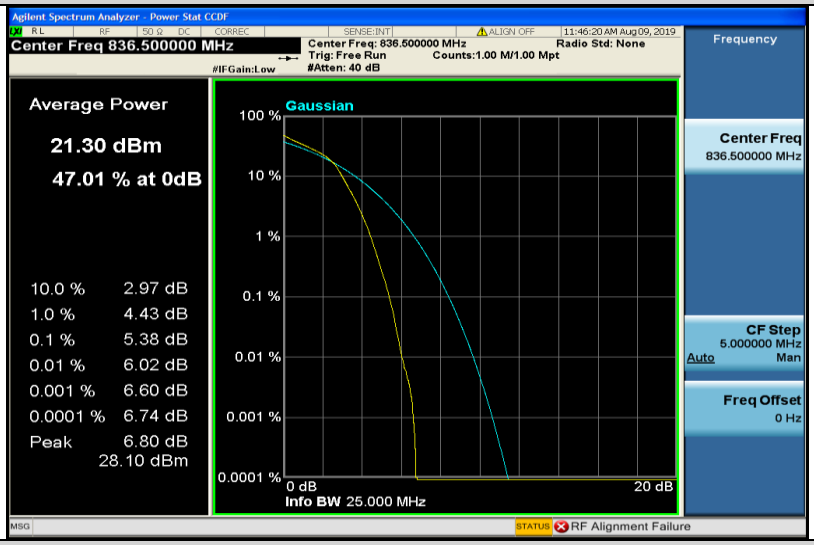
Band4-20MHz-16QAM-20175-100RB#0



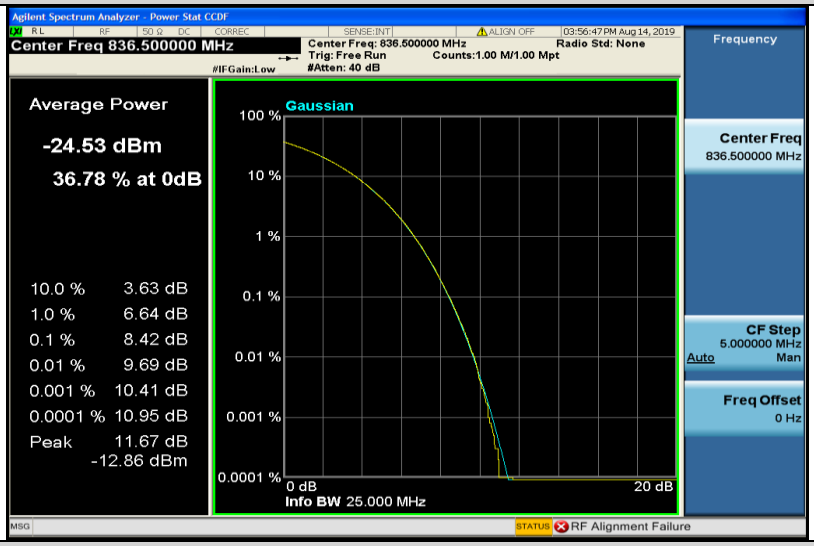
Band5-1.4MHz-QPSK-20525-6RB#0



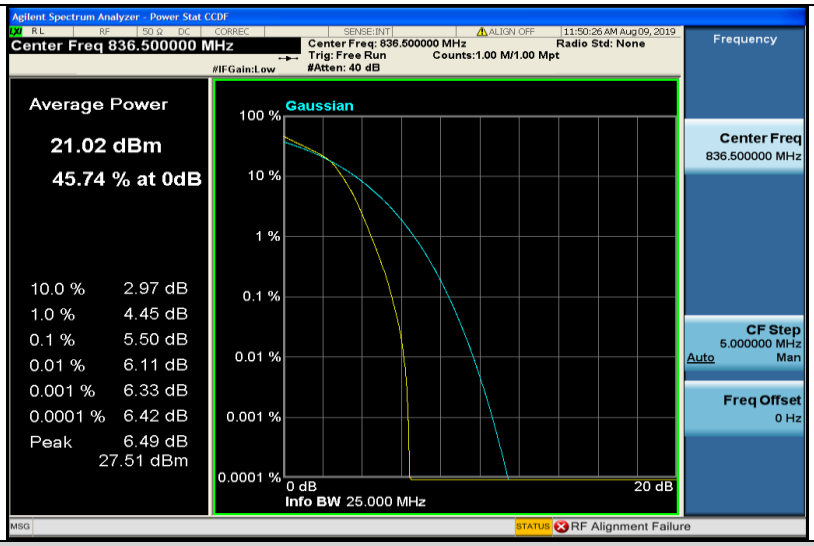
Band5-1.4MHz-16QAM-20525-6RB#0



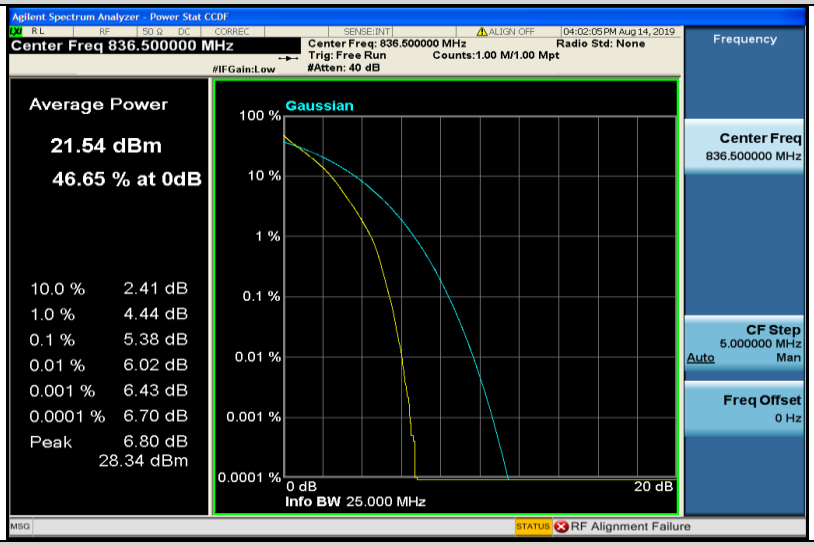
Band5-3MHz-QPSK-20525-15RB#0



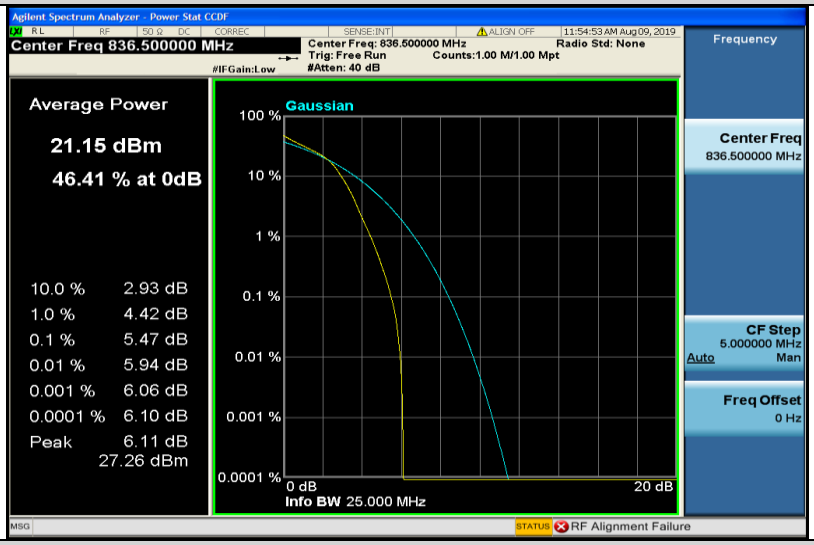
Band5-3MHz-16QAM-20525-15RB#0



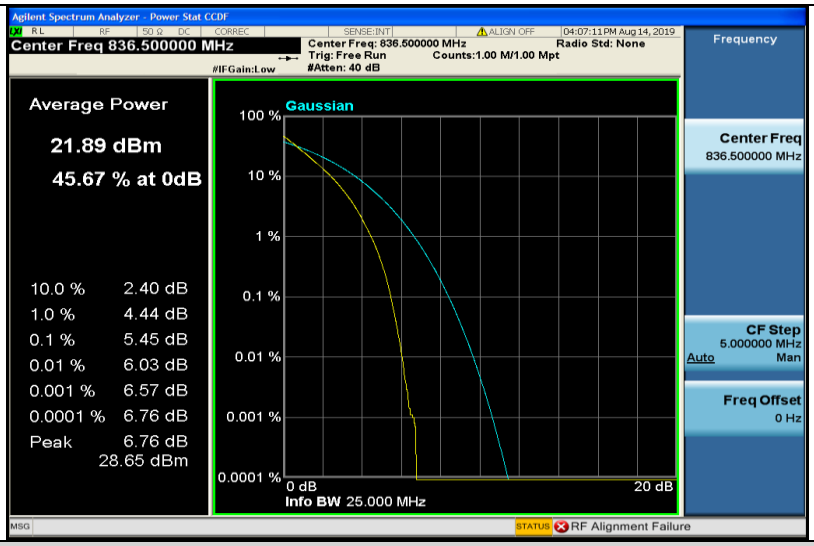
Band5-5MHz-QPSK-20525-25RB#0



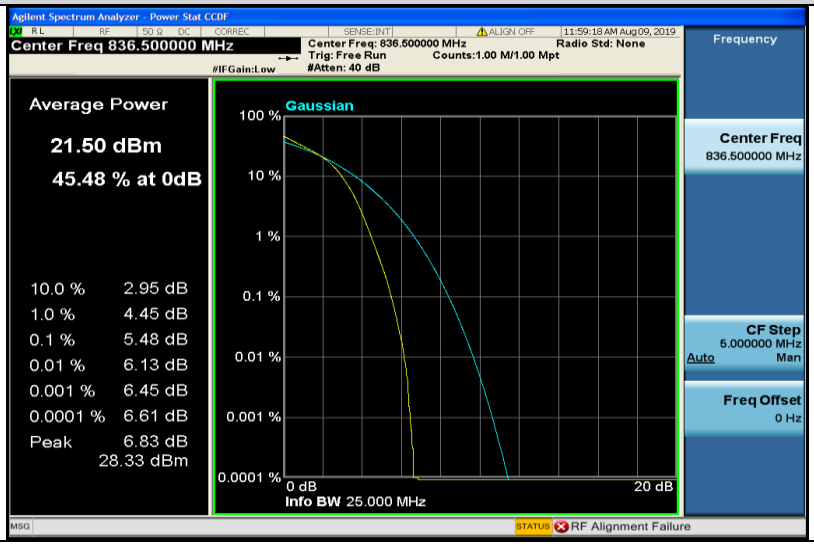
Band5-5MHz-16QAM-20525-25RB#0



Band5-10MHz-QPSK-20525-50RB#0



Band5-10MHz-16QAM-20525-50RB#0



5.4 99% and -26 dB Occupied Bandwidth

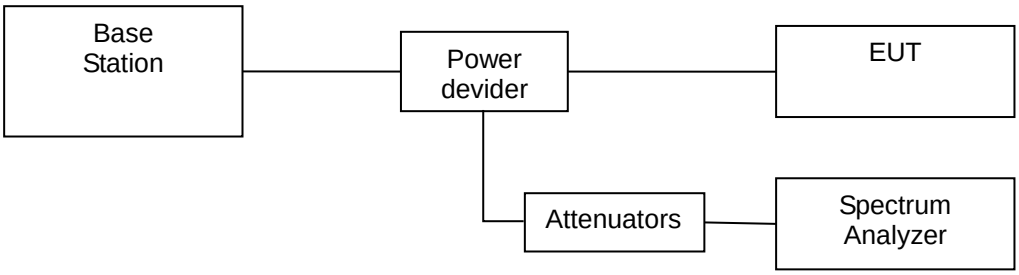
5.4.1 Limit

N/A

5.4.2 Test procedure

1. The EUT' RF output port was connected to Spectrum Analyzer and Base Station via power divider.
2. Spectrum analyzer's occupied bandwidth measure function was used to measure 99% bandwidth and -26dBc bandwidth

5.4.3 Test setup



5.4.4 **Test results**

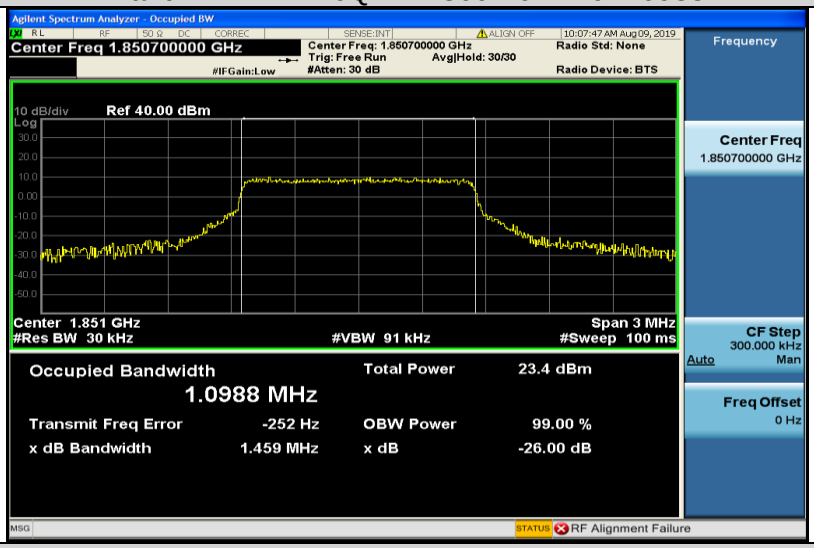
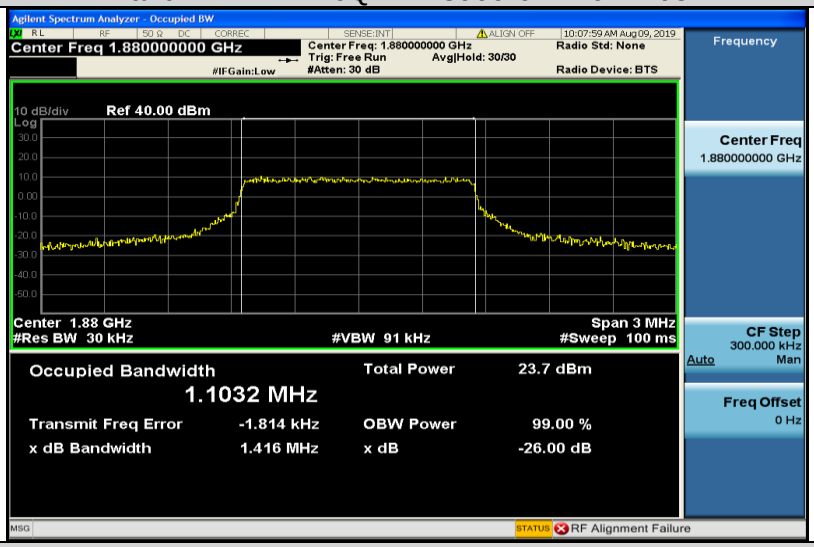
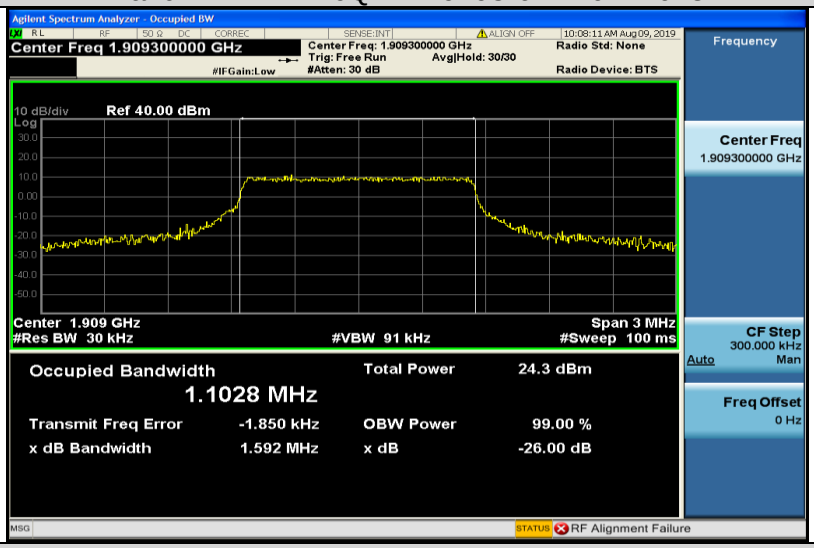
Note1: all modes of RB configurations have been tested, and only worst configuration data listed.

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band2	1.4MHz	QPSK	18607	6RB#0	1.0970	1.405	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	1.0987	1.420	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	1.0945	1.396	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	1.0988	1.459	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	1.1032	1.416	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	1.1028	1.592	PASS
Band2	3MHz	QPSK	18615	15RB#0	2.6998	2.957	PASS
Band2	3MHz	QPSK	18900	15RB#0	2.7021	2.985	PASS
Band2	3MHz	QPSK	19185	15RB#0	2.7043	2.981	PASS
Band2	3MHz	16QAM	18615	15RB#0	2.6974	2.974	PASS
Band2	3MHz	16QAM	18900	15RB#0	2.7035	2.967	PASS
Band2	3MHz	16QAM	19185	15RB#0	2.7018	2.971	PASS
Band2	5MHz	QPSK	18625	25RB#0	4.5096	5.007	PASS
Band2	5MHz	QPSK	18900	25RB#0	4.5102	5.005	PASS
Band2	5MHz	QPSK	19175	25RB#0	4.5167	4.998	PASS
Band2	5MHz	16QAM	18625	25RB#0	4.5141	5.027	PASS
Band2	5MHz	16QAM	18900	25RB#0	4.5160	5.019	PASS
Band2	5MHz	16QAM	19175	25RB#0	4.5192	5.013	PASS
Band2	10MHz	QPSK	18650	50RB#0	8.9994	9.795	PASS
Band2	10MHz	QPSK	18900	50RB#0	9.0037	9.793	PASS
Band2	10MHz	QPSK	19150	50RB#0	9.0143	9.829	PASS
Band2	15MHz	QPSK	18675	75RB#0	13.505	14.63	PASS
Band2	15MHz	QPSK	18900	75RB#0	13.523	14.71	PASS
Band2	15MHz	QPSK	19125	75RB#0	13.515	14.83	PASS
Band2	15MHz	16QAM	18675	75RB#0	13.491	14.76	PASS
Band2	15MHz	16QAM	18900	75RB#0	13.528	14.57	PASS
Band2	15MHz	16QAM	19125	75RB#0	13.539	15.06	PASS
Band2	20MHz	QPSK	18700	100RB#0	17.958	19.09	PASS
Band2	20MHz	QPSK	18900	100RB#0	18.019	19.05	PASS
Band2	20MHz	QPSK	19100	100RB#0	17.967	19.14	PASS
Band2	20MHz	16QAM	18700	100RB#0	17.957	19.20	PASS
Band2	20MHz	16QAM	18900	100RB#0	18.050	19.05	PASS
Band2	20MHz	16QAM	19100	100RB#0	17.975	19.12	PASS

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band4	1.4MHz	QPSK	19957	6RB#0	1.0998	1.412	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	1.0971	1.397	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	1.0965	1.419	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	1.0950	1.416	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	1.0971	1.394	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	1.0970	1.403	PASS
Band4	3MHz	QPSK	19965	15RB#0	2.6998	2.963	PASS
Band4	3MHz	QPSK	20175	15RB#0	2.6977	2.956	PASS
Band4	3MHz	QPSK	20385	15RB#0	2.6999	2.956	PASS
Band4	3MHz	16QAM	19965	15RB#0	2.6984	2.968	PASS
Band4	3MHz	16QAM	20175	15RB#0	2.7025	2.965	PASS
Band4	3MHz	16QAM	20385	15RB#0	2.6995	2.971	PASS
Band4	5MHz	QPSK	19975	25RB#0	4.5171	5.025	PASS
Band4	5MHz	QPSK	20175	25RB#0	4.5107	4.990	PASS
Band4	5MHz	QPSK	20375	25RB#0	4.5062	5.005	PASS
Band4	5MHz	16QAM	19975	25RB#0	4.5183	5.005	PASS
Band4	5MHz	16QAM	20175	25RB#0	4.5133	5.027	PASS
Band4	5MHz	16QAM	20375	25RB#0	4.5111	4.986	PASS
Band4	10MHz	QPSK	20000	50RB#0	9.0109	9.806	PASS
Band4	10MHz	QPSK	20175	50RB#0	9.0128	9.774	PASS
Band4	10MHz	QPSK	20350	50RB#0	8.9957	9.755	PASS
Band4	10MHz	16QAM	20000	50RB#0	9.0106	9.820	PASS
Band4	10MHz	16QAM	20175	50RB#0	9.0016	9.779	PASS
Band4	10MHz	16QAM	20350	50RB#0	9.0005	9.825	PASS
Band4	15MHz	QPSK	20025	75RB#0	13.505	14.42	PASS
Band4	15MHz	QPSK	20175	75RB#0	13.498	14.51	PASS
Band4	15MHz	QPSK	20325	75RB#0	13.522	14.53	PASS
Band4	15MHz	16QAM	20025	75RB#0	13.518	14.49	PASS
Band4	15MHz	16QAM	20175	75RB#0	13.493	14.48	PASS
Band4	15MHz	16QAM	20325	75RB#0	13.506	14.48	PASS
Band4	20MHz	QPSK	20050	100RB#0	17.964	19.01	PASS
Band4	20MHz	QPSK	20175	100RB#0	17.971	19.02	PASS
Band4	20MHz	QPSK	20300	100RB#0	18.010	19.05	PASS
Band4	20MHz	16QAM	20050	100RB#0	17.989	18.99	PASS
Band4	20MHz	16QAM	20175	100RB#0	17.983	19.07	PASS
Band4	20MHz	16QAM	20300	100RB#0	18.016	19.09	PASS

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	1.1002	1.420	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.0953	1.370	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.1028	1.471	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.1022	1.460	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.1154	2.157	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.1051	1.720	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.6965	2.956	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.7018	2.959	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.7048	2.954	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.7035	2.946	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.7110	3.861	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.7025	2.982	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.5123	5.013	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.5129	5.006	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.5058	4.999	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.5159	4.993	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.5298	7.942	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.5180	5.029	PASS
Band5	10MHz	QPSK	20450	50RB#0	8.9952	9.772	PASS
Band5	10MHz	QPSK	20525	50RB#0	9.0140	9.854	PASS
Band5	10MHz	QPSK	20600	50RB#0	8.9848	9.655	PASS
Band5	10MHz	16QAM	20450	50RB#0	8.9896	9.700	PASS
Band5	10MHz	16QAM	20525	50RB#0	9.0424	10.11	PASS
Band5	10MHz	16QAM	20600	50RB#0	8.9790	9.821	PASS

Test plots

Band2-1.4MHz-16QAM-18607-6RB#0-1.0988

Band2-1.4MHz-16QAM-18900-6RB#0-1.1032

Band2-1.4MHz-16QAM-19193-6RB#0-1.1028

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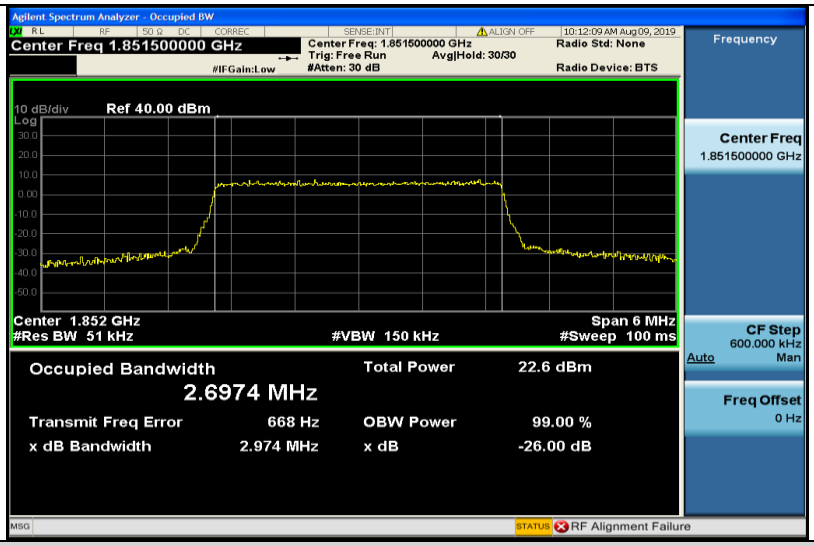
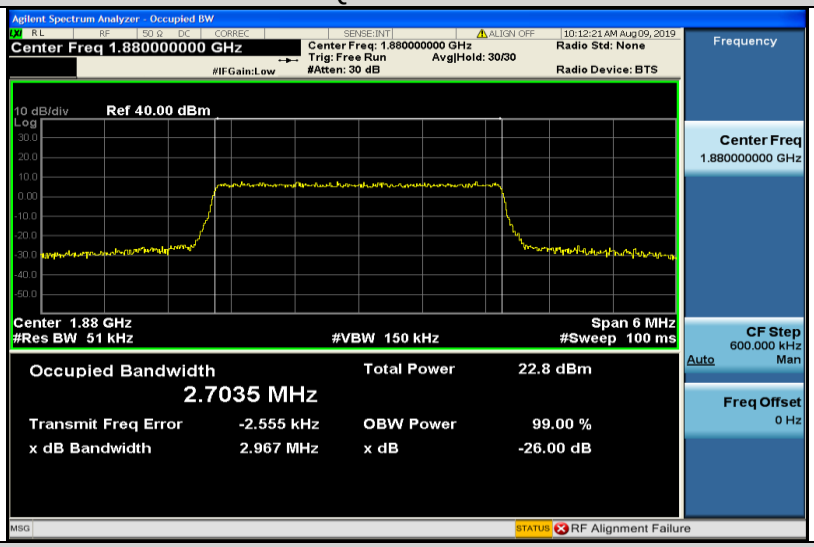
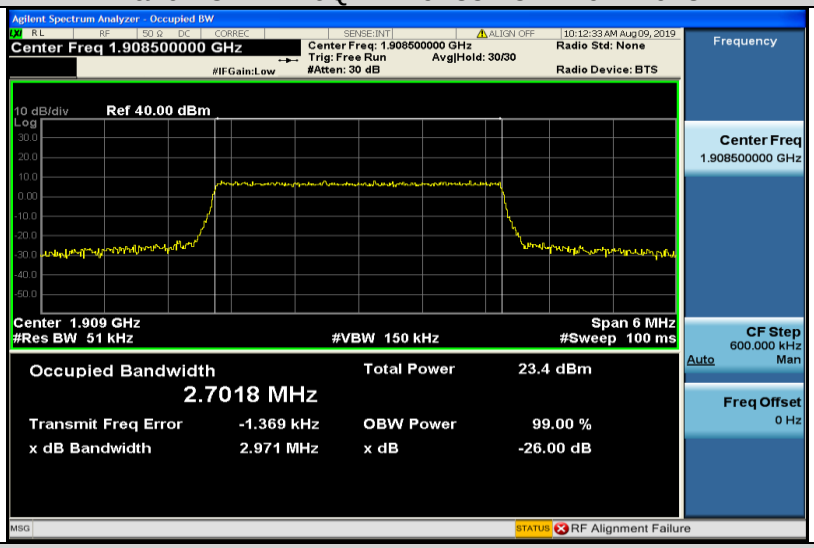


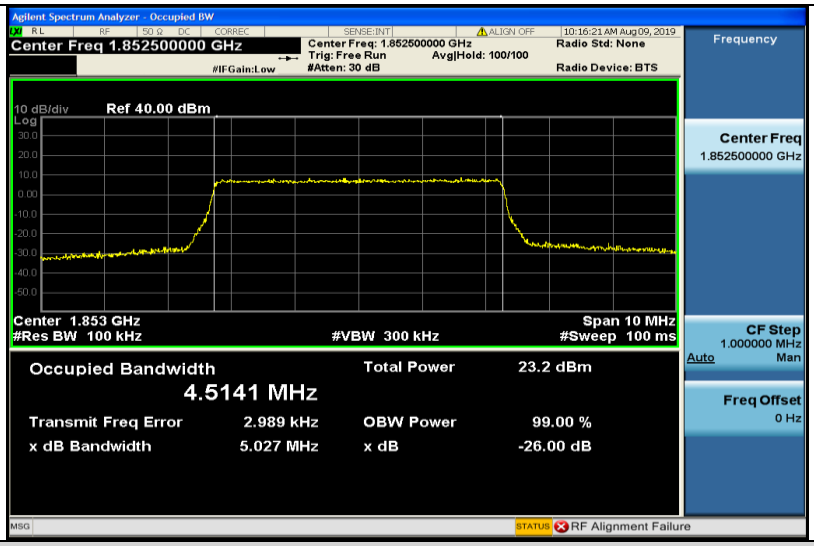
Band2-3MHz-16QAM-18900-15RB#0-2.7035



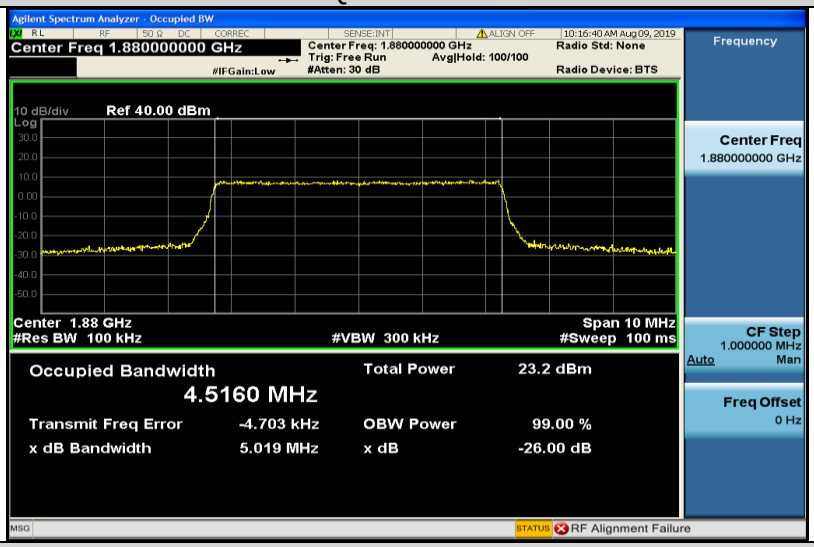
Band2-3MHz-16QAM-19185-15RB#0-2.7018



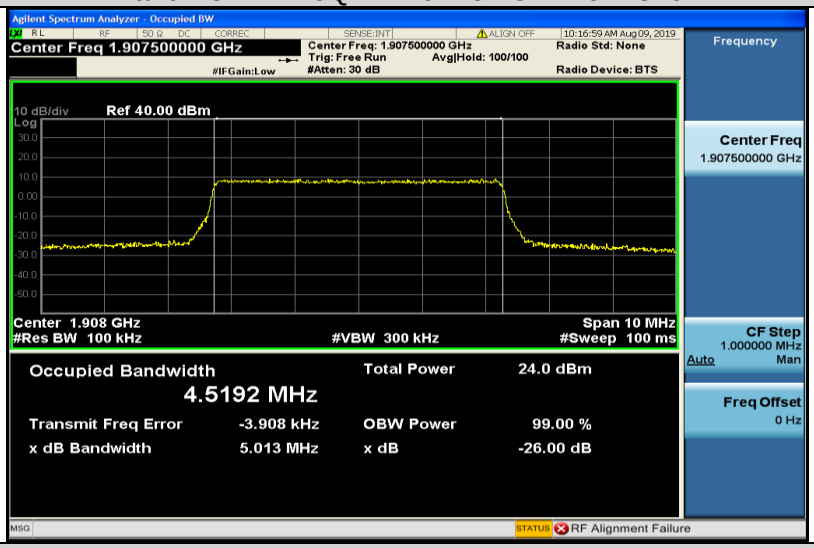
Band2-5MHz-16QAM-18625-25RB#0-4.5141



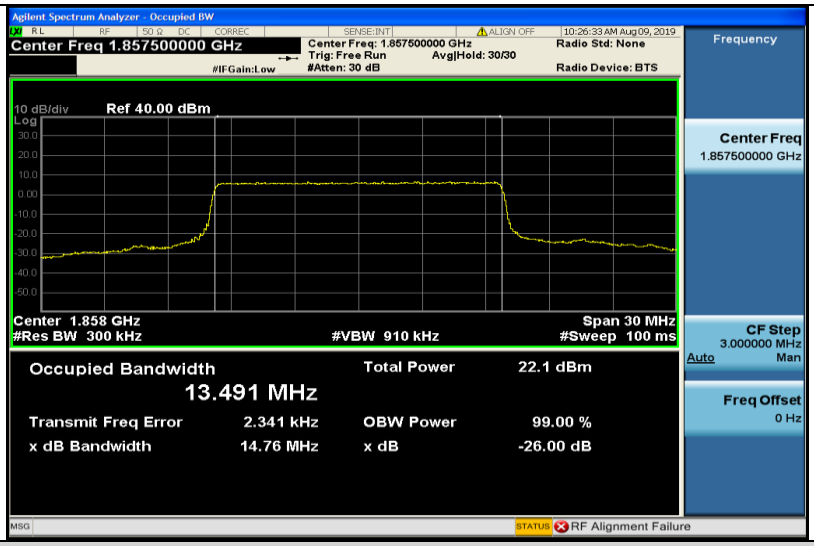
Band2-5MHz-16QAM-18900-25RB#0-4.5160



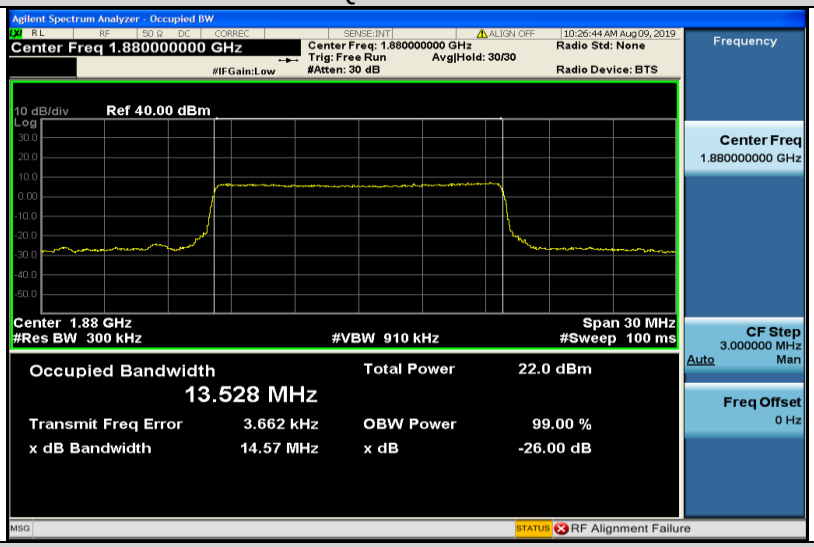
Band2-5MHz-16QAM-19175-25RB#0-4.5192



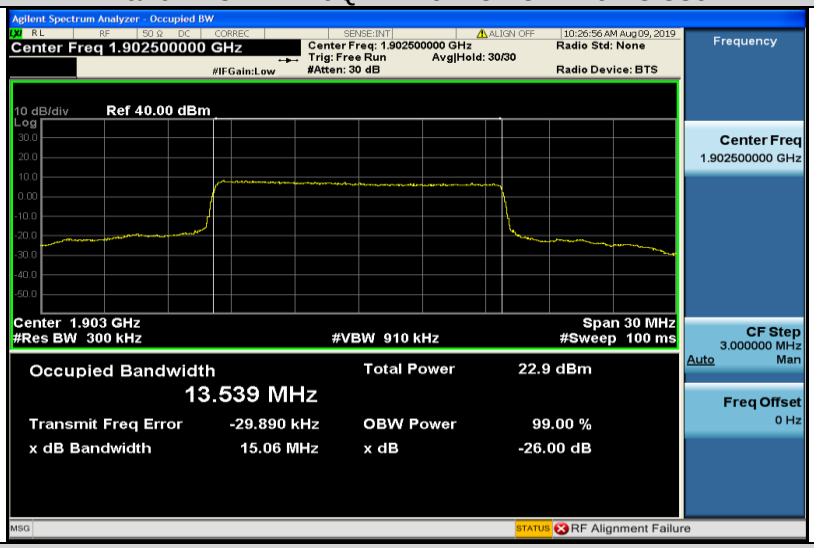
Band2-15MHz-16QAM-18675-75RB#0-13.491



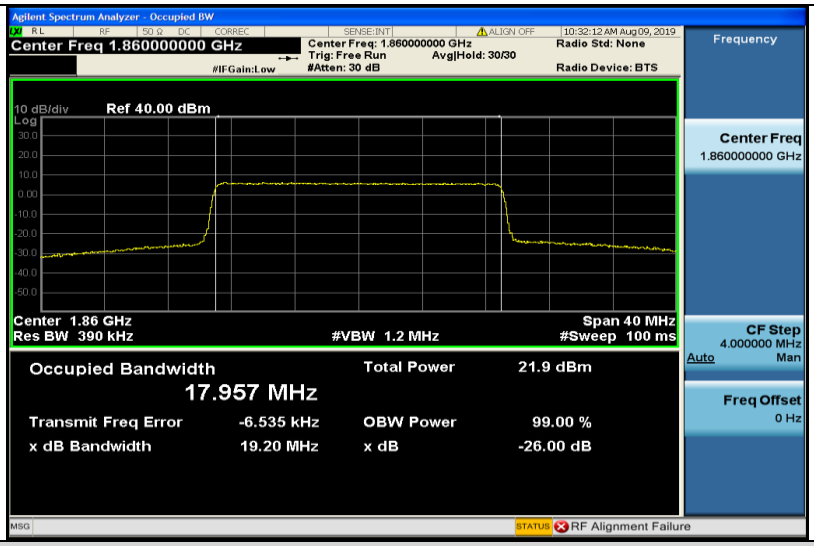
Band2-15MHz-16QAM-18900-75RB#0-13.528



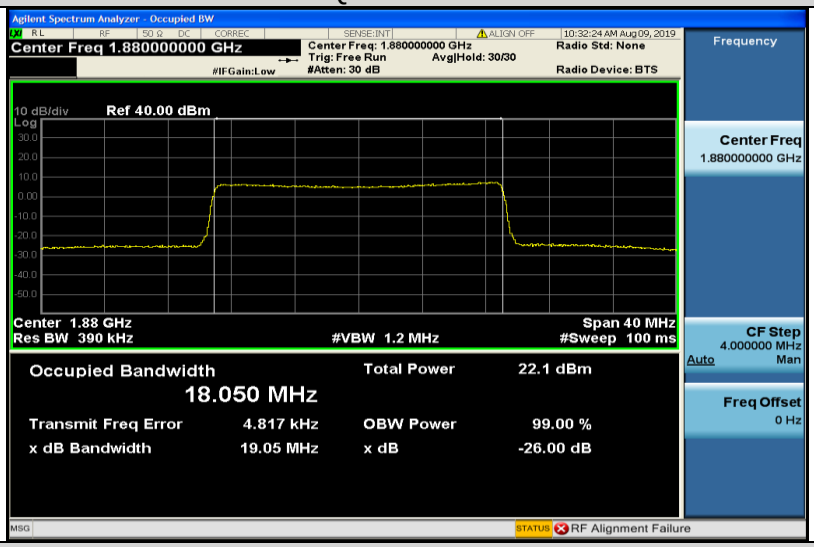
Band2-15MHz-16QAM-19125-75RB#0-13.539



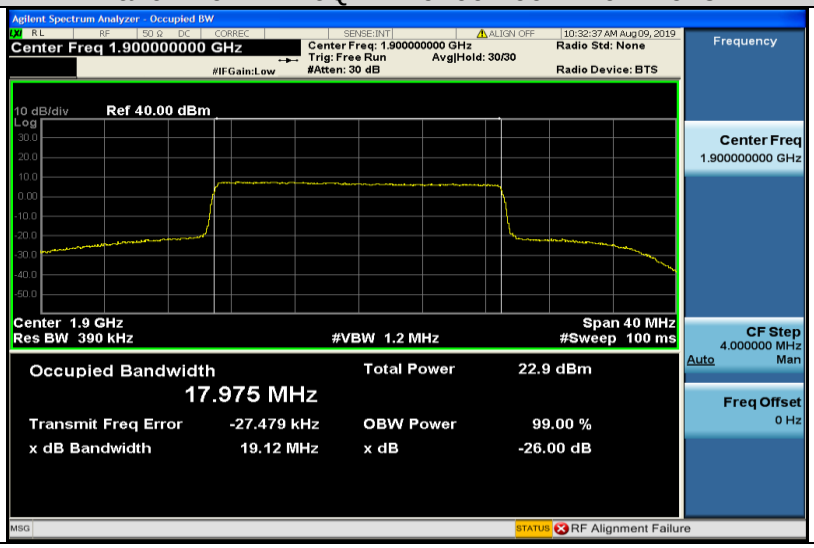
Band2-20MHz-16QAM-18700-100RB#0-17.957

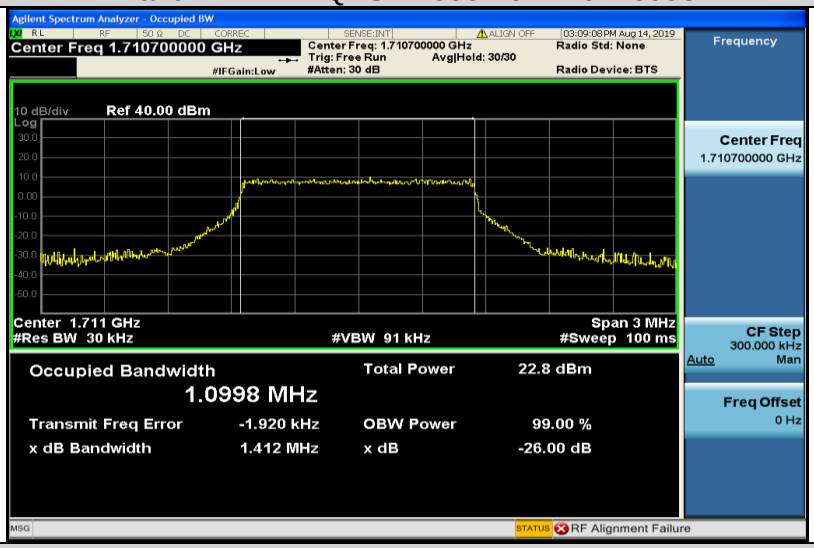


Band2-20MHz-16QAM-18900-100RB#0-18.050



Band2-20MHz-16QAM-19100-100RB#0-17.975



Band4-1.4MHz-QPSK-19957-6RB#0-1.0998

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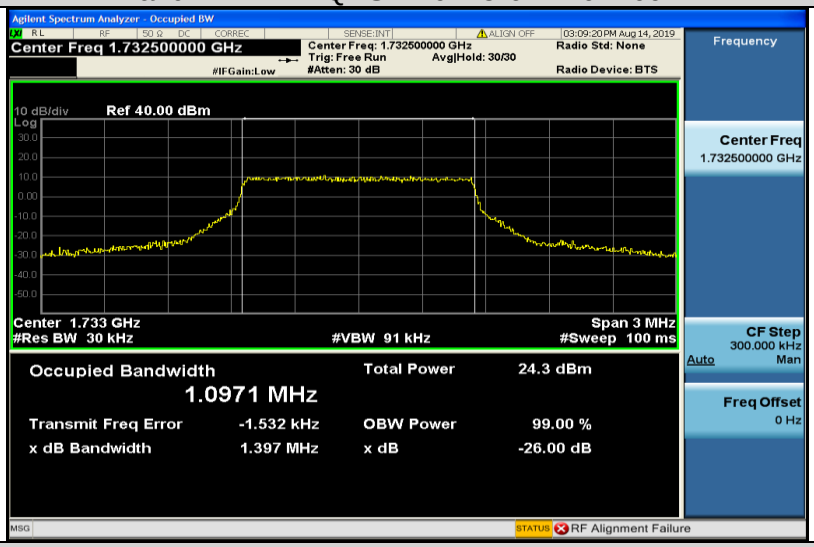
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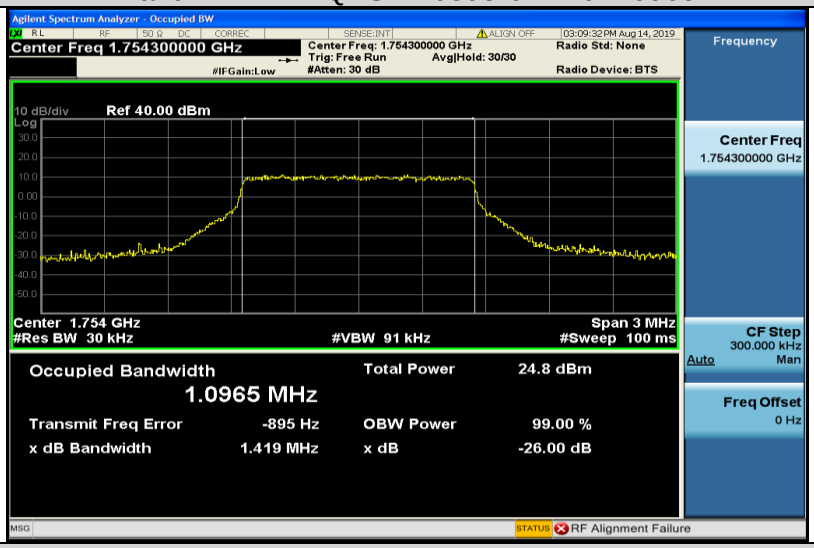
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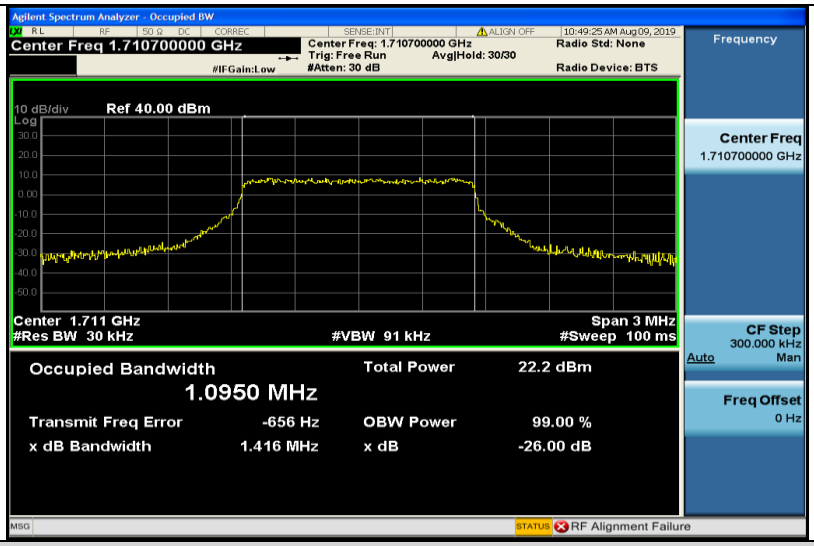

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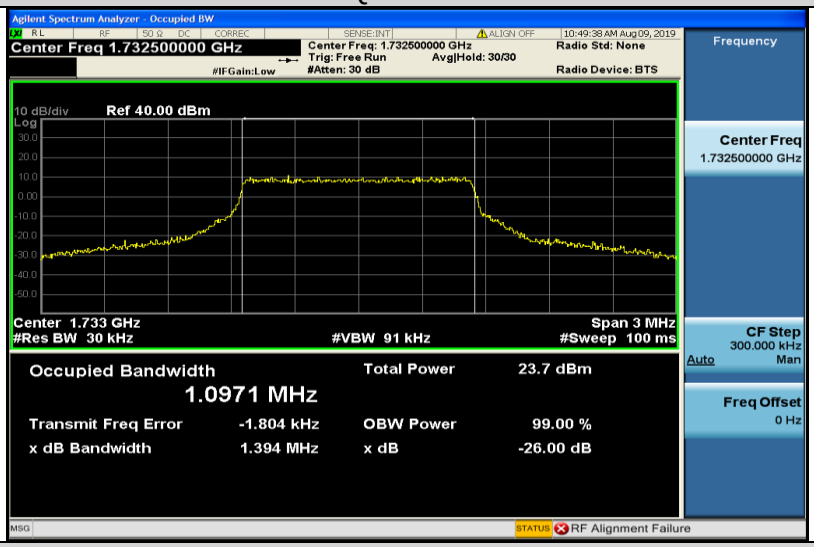

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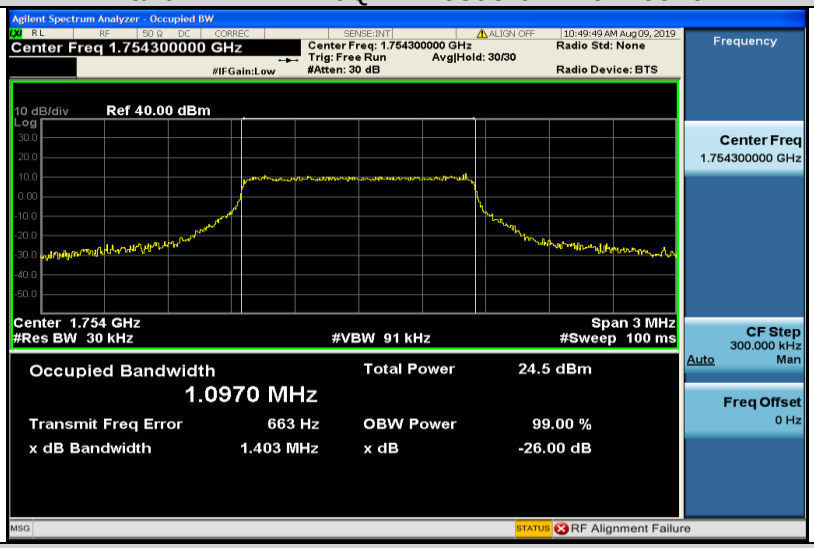
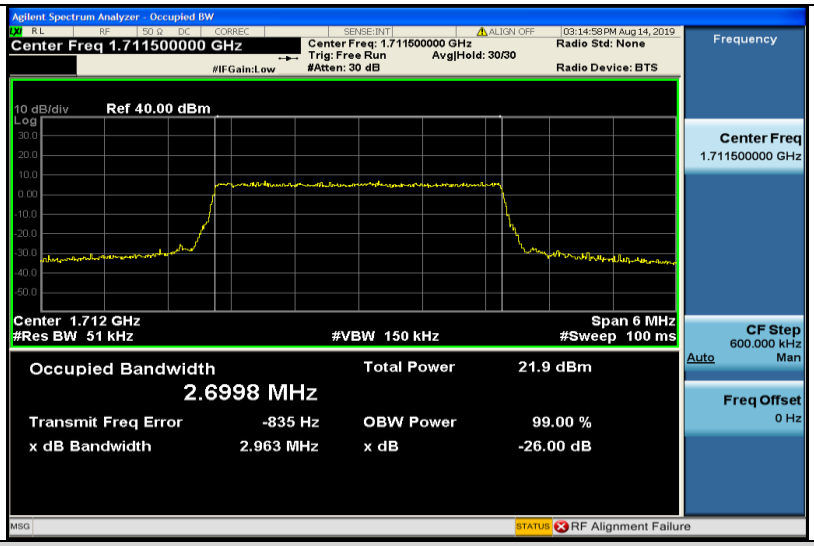


Band4-3MHz-QPSK-19965-15RB#0-2.6998



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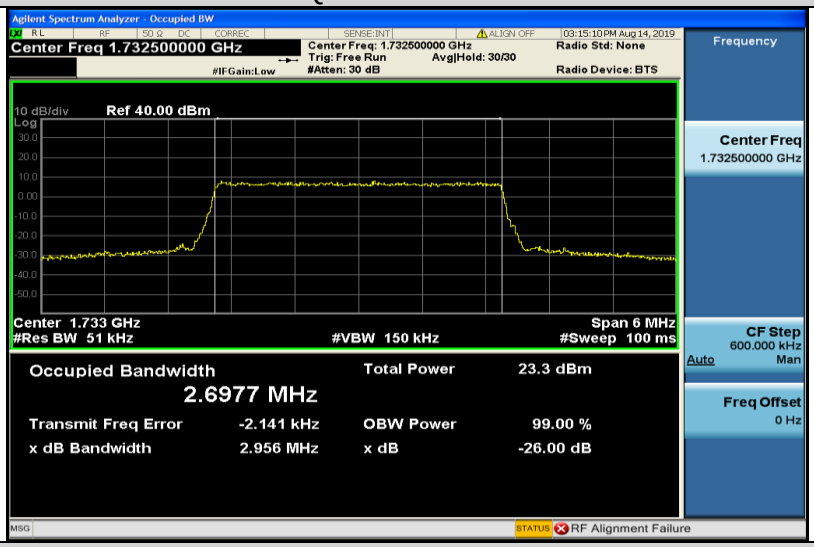
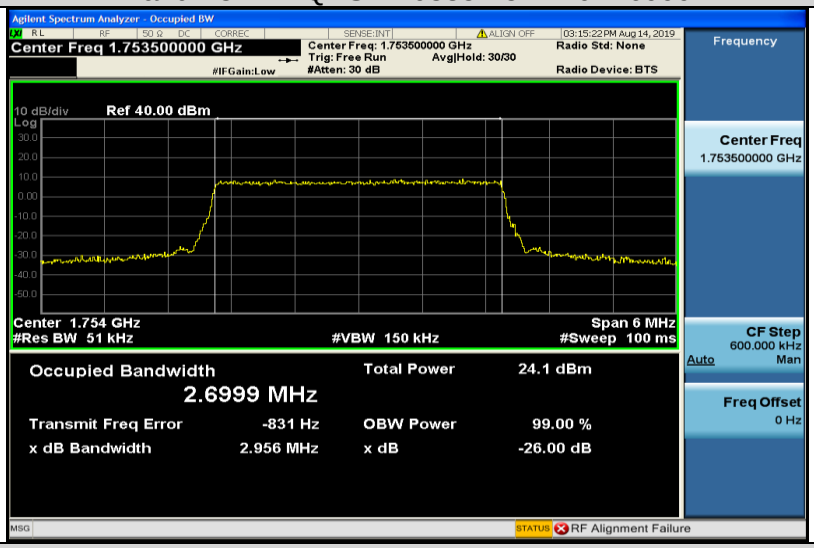
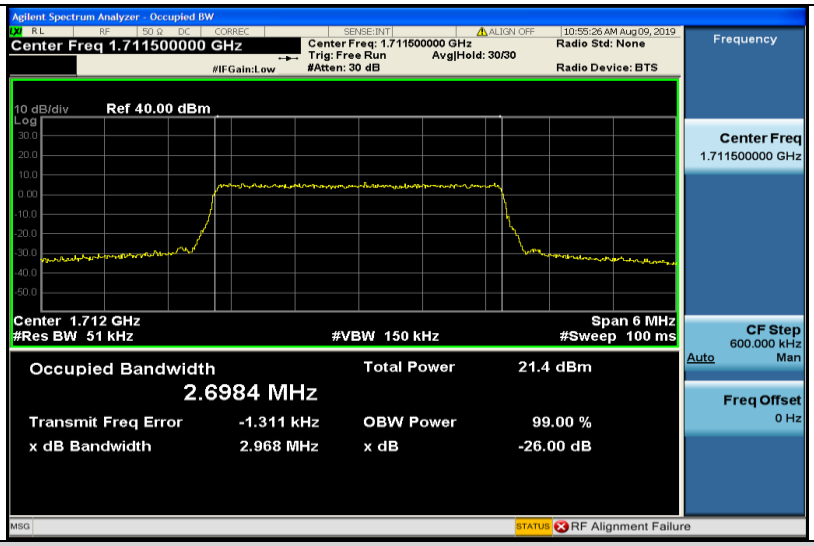


Band4-3MHz-QPSK-20385-15RB#0-2.6999



Band4-3MHz-16QAM-19965-15RB#0-2.6984



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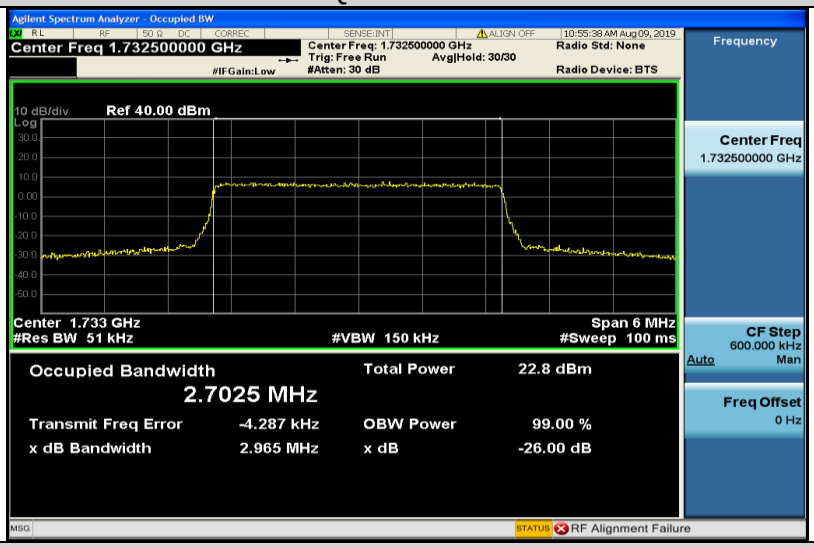
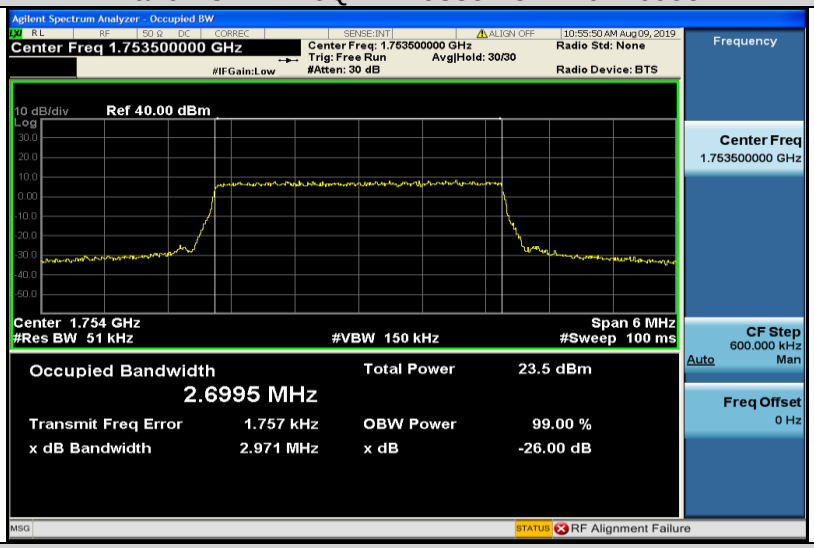
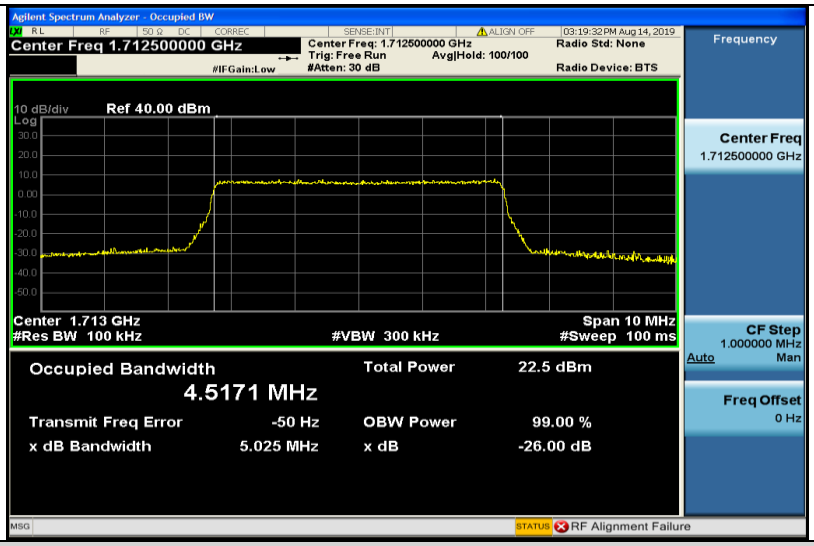


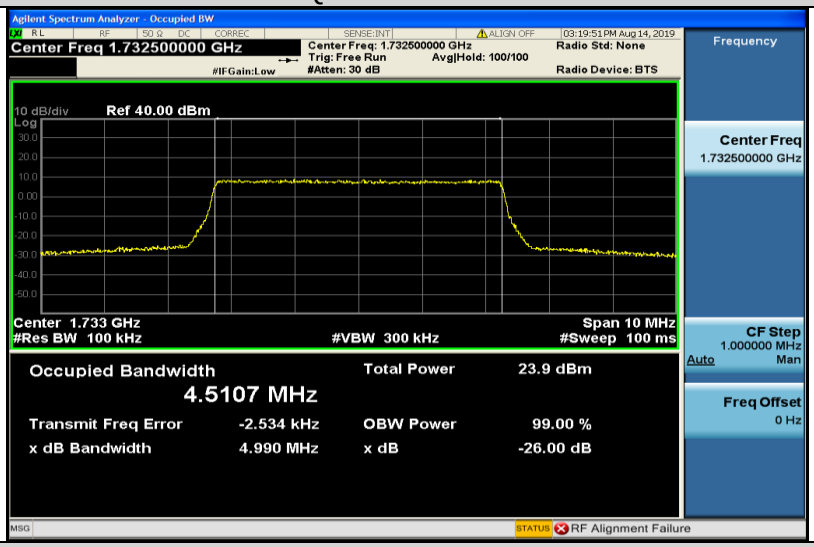
Band4-3MHz-16QAM-20385-15RB#0-2.6995



Band4-5MHz-QPSK-19975-25RB#0-4.5171



Band4-5MHz-QPSK-20175-25RB#0-4.5107



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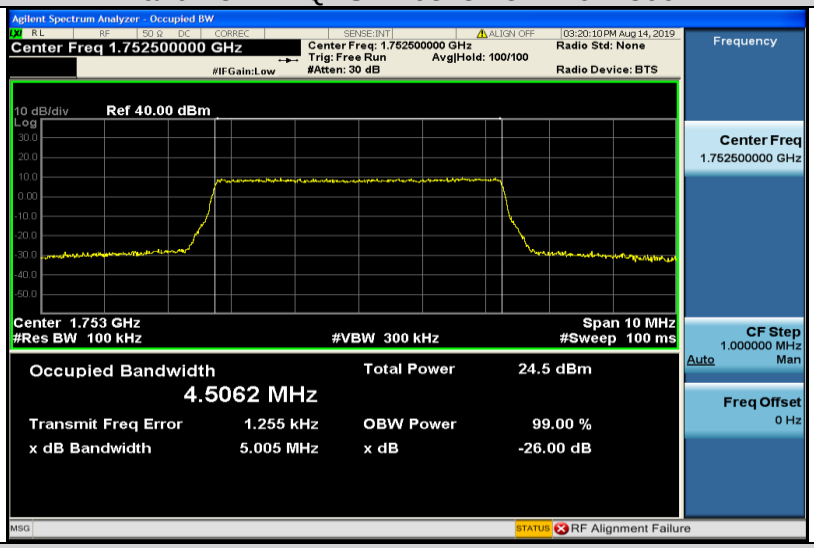

Band4-5MHz-16QAM-19975-25RB#0-4.5183