TEST Report (LTE)

Applicant:	Omate Limited.
Address of Applicant:	Room 1101,11/F San Toi Building, No.139 Connaught Road, HongKong, China
Manufacturer/ Factory:	Umeox Innovation Co., Ltd.
Address of Manufacturer/ Factory:	1208-09, Tsinghua IT Port R&D Building, North Area, Hi-Tech Park, Nanshan District, Shenzhen 518057 China
Equipment Under Test (EUT)	
Product Name:	4G Video Call Smart Watch
Model No.:	O6L, Omate x Nash, O6L, Freedom 2, O6_V1, S6
Trade mark:	Omate
FCC ID:	2ABF5-O6L
Applicable standards:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 24 FCC CFR Title 47 Part 27
Date of sample receipt:	Mar. 01, 2020
Date of Test:	Mar. 01 – Apr. 29, 2020
Date of report issued:	Apr. 30, 2020
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	*Apr. 30, 2020*	*Original*

Prepared By:		***Date:***	*Apr. 30, 2020*
	Project Engineer		
Check By:		***Date:***	*Apr. 30, 2020*
	Reviewer		

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4 Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Pass* (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 22.913 (a) Part 24.232 (c) Part 27.50(c)(10)/(d)(4)	Pass
Peak-to-Average Ratio	FCC part24.232(d) FCC Part 27.50	Pass
Modulation Characteristics	Part 2.1047	N/A
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 24.238 Part 27.53(h)/(g)	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 24.238 (a) Part 27.53(h)/(g)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 24.238 (a) Part 27.53(h)/(g)	Pass
Out of band emission, Band Edge	Part 24.238 (a) Part 27.53(h)/(g)	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2)	Pass

Remarks:

1. *Pass: The EUT complies with the essential requirements in the standard.*
2. *N/A: Not applicable.*

5 General Information

5.1 General Description of EUT

Product Name:	4G Video Call Smart Watch
Model No.:	O6L, Omate x Nash, O6L, Freedom 2, O6_V1, S6
Test Model No:	O6L
Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits. The differences are color and model name for commercial purpose.	
Tested Sample(s) ID:	GTS202004000211-1
Sample(s) Status:	Engineer sample
Serial No.:	869363030262663
Hardware Version:	O6_MB_V2.0
Software Version:	O6L_V1.0
Support Networks:	LTE
Support Bands:	LTE Band 2, LTE Band 4, LTE Band 5, LTE Band 7, LTE Band 12, Band 17
Channel 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
TX Frequency:	LTE Band 2: 1850.70MHz-1909.30MHz LTE Band 4: 1710.70MHz-1754.30MHz LTE Band 5: 824.7MHz-848.3MHz LTE Band 7: 2502.50MHz-2567.50MHz LTE Band 12: 699.70MHz-715.30MHz LTE Band 17: 706.5MHz-713.5MHz
Modulation type:	LTE Band 2/4/5/7/12/17: QPSK, 16QAM
Antenna type:	Internal Antenna
Antenna gain:	Band 2/7: -1.28dBi Band 4: -1.17dBi Band 5: -3.05dBi Band 12/17: -3.50dBi
Power supply:	DC 3.8V, 620mAh Rechargeable Li-ion Battery

Test Frequency

Test Mode	Channel Bandwidth	RF Channel		
		Lowest channel	Middle channel	Highest channel
LTE Band 2	1.4M	Channel 18607	Channel 18900	Channel 19193
		1850.7 MHz	1880 MHz	1909.3 MHz
	3M	Channel 18615	Channel 18900	Channel 19185
		1851.5 MHz	1880 MHz	1908.5 MHz
	5M	Channel 18625	Channel 18900	Channel 19175
		1852.5 MHz	1880 MHz	1907.5 MHz
	10M	Channel 18650	Channel 18900	Channel 19150
		1855 MHz	1880 MHz	1905 MHz
	15M	Channel 18675	Channel 18900	Channel 19125
		1857.5 MHz	1880 MHz	1902.5 MHz
	20M	Channel 18700	Channel 18900	Channel 19100
		1860 MHz	1880 MHz	1900 MHz

Test Mode	Channel Bandwidth	RF Channel		
		Lowest channel	Middle channel	Highest channel
LTE Band 4	1.4M	Channel 19957	Channel 20175	Channel 20393
		1710.7 MHz	1732.5 MHz	1754.3 MHz
	3M	Channel 19965	Channel 20175	Channel 20385
		1711.5 MHz	1732.5 MHz	1753.5 MHz
	5M	Channel 19975	Channel 20175	Channel 20375
		1712.5 MHz	1732.5 MHz	1752.5 MHz
	10M	Channel 20000	Channel 20175	Channel 20350
		1715 MHz	1732.5 MHz	1750 MHz
	15M	Channel 20025	Channel 20175	Channel 20325
		1717.5 MHz	1732.5 MHz	1747.5 MHz
	20M	Channel 20050	Channel 20175	Channel 20300
		1720 MHz	1732.5 MHz	1745 MHz

Test Mode	Channel Bandwidth	RF Channel		
		Lowest channel	Middle channel	Highest channel
LTE Band 5	1.4M	Channel 20407	Channel 20525	Channel 20643
		824.7 MHz	836.5 MHz	848.3 MHz
	3M	Channel 20415	Channel 20525	Channel 20635
		825.5 MHz	836.5 MHz	847.5 MHz
	5M	Channel 20425	Channel 20525	Channel 20625
		826.5 MHz	836.5 MHz	846.5 MHz
	10M	Channel 20450	Channel 20525	Channel 20600
		829 MHz	836.5 MHz	844 MHz

Test Mode	Channel Bandwidth	RF Channel		
		Lowest channel	**Middle channel**	**Highest channel**
LTE Band 7	5M	Channel 20775	Channel 21100	Channel 21425
		2502.5 MHz	2535 MHz	2567.5 MHz
	10M	Channel 20800	Channel 21100	Channel 21400
		2505 MHz	2535 MHz	2565 MHz
	15M	Channel 20825	Channel 21100	Channel 21375
		2507.5 MHz	2535 MHz	2562.5 MHz
	20M	Channel 20850	Channel 21100	Channel 21350
		2510 MHz	2535 MHz	2560 MHz

Test Mode	Channel Bandwidth	RF Channel		
		Lowest channel	**Middle channel**	**Highest channel**
LTE Band 12	1.4M	Channel 23017	Channel 23095	Channel 23173
		699.7MHz	707.5MHz	715.3MHz
	3M	Channel 23025	Channel 23095	Channel 23165
		700.5MHz	707.5MHz	714.5MHz
	5M	Channel 23035	Channel 23095	Channel 23155
		701.5MHz	707.5MHz	713.5MHz
	10M	Channel 23060	Channel 23095	Channel 23130
		704.0MHz	707.5MHz	711.0MHz

Test Mode	Channel Bandwidth	RF Channel		
		Lowest channel	**Middle channel**	**Highest channel**
LTE Band 17	5M	Channel 23755	Channel 23790	Channel 23825
		706.5 MHz	710 MHz	713.5 MHz
	10M	Channel 23780	Channel 23790	Channel 23800
		709 MHz	710 MHz	711 MHz

5.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 22/24/27 of the FCC CFR 47 Rules.

5.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on ANSI C63.26:2015 and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057

5.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen 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 files. Registration 381383.

● **IC —Registration No.: 9079A**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A.

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.5 Test Location

All tests were performed at:
Global United Technology Services Co., Ltd. Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960

5.6 Deviation from Standards

None.

5.7 Abnormalities from Standard Conditions

None.

5.8 Additional Instructions

Test Software	Special test command provided by manufacturer
Power level setup	Default

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 26 2019	June. 25 2020
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 26 2019	June. 25 2020
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 26 2019	June. 25 2020
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 26 2019	June. 25 2020
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 26 2019	June. 25 2020
9	Coaxial Cable	GTS	N/A	GTS211	June. 26 2019	June. 25 2020
10	Coaxial cable	GTS	N/A	GTS210	June. 26 2019	June. 25 2020
11	Coaxial Cable	GTS	N/A	GTS212	June. 26 2019	June. 25 2020
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 26 2019	June. 25 2020
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 26 2019	June. 25 2020
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 26 2019	June. 25 2020
15	Band filter	Amindeon	82346	GTS219	June. 26 2019	June. 25 2020
16	Power Meter	Anritsu	ML2495A	GTS540	June. 26 2019	June. 25 2020
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 26 2019	June. 25 2020
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 26 2019	June. 25 2020
19	Splitter	Agilent	11636B	GTS237	June. 26 2019	June. 25 2020
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 26 2019	June. 25 2020
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 19 2019	Oct. 18 2020
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 19 2019	Oct. 18 2020
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 19 2019	Oct. 18 2020
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 26 2019	June. 25 2020

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 26 2019	June. 25 2020
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 26 2019	June. 25 2020
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 26 2019	June. 25 2020
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 26 2019	June. 25 2020
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 26 2019	June. 25 2020
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 26 2019	June. 25 2020
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 26 2019	June. 25 2020
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 26 2019	June. 25 2020

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 26 2019	June. 25 2020
2	Barometer	ChangChun	DYM3	GTS255	June. 26 2019	June. 25 2020

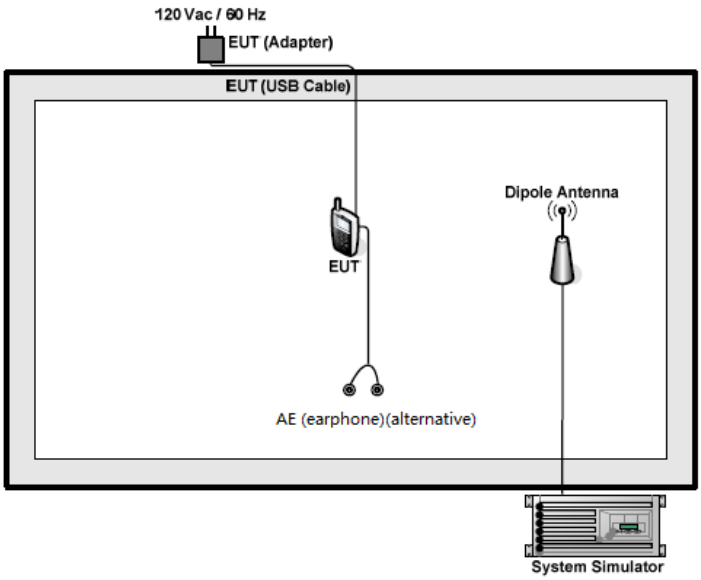
7 System test configuration

7.1 Test mode

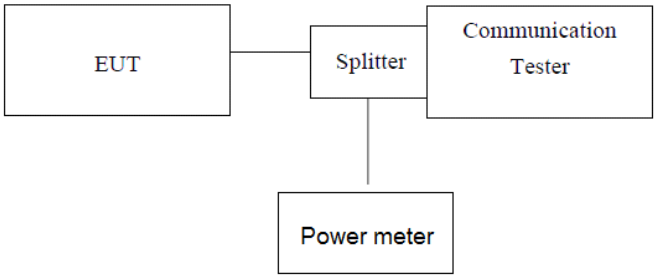
During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Test modes		
Band	Radiated	Conducted
LTE Band 2	■ QPSK and 16QAM link	■ QPSK and 16QAM link
LTE Band 4	■ QPSK and 16QAM link	■ QPSK and 16QAM link
LTE Band 5	■ QPSK and 16QAM link	■ QPSK and 16QAM link
LTE Band 7	■ QPSK and 16QAM link	■ QPSK and 16QAM link
LTE Band 12	■ QPSK and 16QAM link	■ QPSK and 16QAM link
LTE Band 17	■ QPSK and 16QAM link	■ QPSK and 16QAM link

7.2 Configuration of Tested System



7.3 Conducted Peak Output Power

Test Requirement:	FCC part 22.913(a), Part 24.232 (c); Part 27.50(c)(10)/(d)(4)
Test Method:	FCC part2.1046
Limit:	LTE Band 2: 2W LTE Band 4: 1W LTE Band 5: 7W LTE Band 7: 2W LTE Band 12: 3W LTE Band 17: 3W
Test setup:	 *Note: Measurement setup for testing on Antenna connector*
Test Procedure:	1. The transmitter output port was connected to base station. 2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement. 3. Set EUT at maximum power through base station. 4. Select lowest, middle, and highest channels for each band and different modulation. 5. Measure the maximum burst average power.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

Measurement Data

Band 2						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18607 1850.7MHz	Channel 18900 1880.0MHz	Channel 19193 1909.3MHz
1.4MHz	QPSK	1.00	0.00	22.75	22.68	22.73
		1.00	2.00	22.46	22.31	22.42
		1.00	5.00	22.62	22.58	22.63
		3.00	0.00	22.41	22.26	22.39
		3.00	1.00	22.23	22.11	22.33
		3.00	2.00	21.75	21.90	22.20
		6.00	0.00	22.51	22.75	22.48
	16QAM	1.00	0.00	22.03	21.90	22.09
		1.00	2.00	21.68	21.51	21.74
		1.00	5.00	22.45	22.37	22.27
		3.00	0.00	22.38	22.25	22.30
		3.00	1.00	22.21	22.26	22.14
		3.00	2.00	22.38	22.45	22.72
		6.00	0.00	22.00	22.01	21.84
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18615 1851.5MHz	Channel 18900 1880.0MHz	Channel 19185 1908.5MHz
3MHz	QPSK	1.00	0.00	22.73	22.67	22.35
		1.00	8.00	21.50	21.61	22.16
		1.00	14.00	22.35	21.51	21.85
		8.00	0.00	21.84	21.63	21.52
		8.00	4.00	21.98	22.10	22.21
		8.00	7.00	21.75	22.04	21.27
		15.00	0.00	21.69	21.99	21.70
	16QAM	1.00	0.00	21.93	21.71	22.04
		1.00	8.00	22.23	21.98	21.74
		1.00	14.00	22.50	22.42	22.43
		8.00	0.00	22.25	22.04	21.74
		8.00	4.00	21.81	21.33	21.49
		8.00	7.00	21.72	21.94	22.10
		15.00	0.00	22.45	22.43	22.55

Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18625 1852.5MHz	Channel 18900 1880.0MHz	Channel 19175 1907.5MHz
5MHz	QPSK	1.00	0.00	22.22	22.14	22.02
		1.00	13.00	22.15	21.71	22.02
		1.00	24.00	22.19	21.83	22.28
		12.00	0.00	21.64	21.96	21.93
		12.00	6.00	21.83	21.99	21.50
		12.00	13.00	22.07	21.92	22.04
		25.00	0.00	22.05	21.91	22.15
	16QAM	1.00	0.00	21.44	22.09	21.26
		1.00	13.00	21.45	22.02	22.13
		1.00	24.00	21.81	22.45	22.48
		12.00	0.00	21.47	21.41	21.62
		12.00	6.00	21.63	21.83	22.11
		12.00	13.00	22.01	22.22	21.38
		25.00	0.00	22.25	22.26	22.38
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18650 1855.0MHz	Channel 18900 1880.0MHz	Channel 19150 1905.0MHz
10MHz	QPSK	1.00	0.00	22.44	22.37	22.42
		1.00	25.00	22.17	22.07	22.32
		1.00	49.00	22.23	22.06	22.19
		25.00	0.00	21.56	22.46	21.59
		25.00	13.00	22.45	22.32	22.52
		25.00	25.00	22.38	22.33	22.54
		50.00	0.00	22.58	22.32	22.59
	16QAM	1.00	0.00	21.39	21.79	21.81
		1.00	25.00	21.88	21.85	21.37
		1.00	49.00	21.94	22.37	21.70
		25.00	0.00	21.81	22.24	21.72
		25.00	13.00	22.13	21.91	22.04
		25.00	25.00	22.12	21.89	21.98
		50.00	0.00	22.14	21.99	22.01

Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18675 1857.5MHz	Channel 18900 1880.0MHz	Channel 19125 1902.5MHz
15MHz	QPSK	1.00	0.00	22.72	22.66	22.71
		1.00	38.00	22.45	22.30	22.52
		1.00	74.00	22.15	21.83	22.21
		36.00	0.00	21.57	21.42	21.74
		36.00	18.00	22.30	22.16	21.61
		36.00	39.00	22.21	22.24	21.62
		75.00	0.00	21.42	22.31	21.61
	16QAM	1.00	0.00	21.74	22.06	22.15
		1.00	38.00	22.25	21.62	21.84
		1.00	74.00	22.29	21.70	21.77
		36.00	0.00	21.43	21.41	21.75
		36.00	18.00	21.37	22.14	21.60
		36.00	39.00	22.30	22.13	21.92
		75.00	0.00	22.23	22.04	21.65
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18700 1860.0MHz	Channel 18900 1880.0MHz	Channel 19100 1900.0MHz
20MHz	QPSK	1.00	0.00	22.56	22.34	22.60
		1.00	50.00	22.25	21.96	22.26
		1.00	99.00	21.90	22.10	22.36
		50.00	0.00	21.77	22.53	21.75
		50.00	25.00	22.49	22.34	22.47
		50.00	50.00	21.94	22.07	21.90
		100.00	0.00	22.36	22.16	21.42
	16QAM	1.00	0.00	22.77	22.40	22.59
		1.00	50.00	21.99	22.00	22.28
		1.00	99.00	22.04	22.26	22.11
		50.00	0.00	21.57	21.56	21.79
		50.00	25.00	22.42	22.26	22.35
		50.00	50.00	22.14	22.31	22.26
		100.00	0.00	21.40	22.20	22.38

Band 4						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 19957 1710.7MHz	Channel 20175 1732.5MHz	Channel 20393 1754.3MHz
1.4MHz	QPSK	1.00	0.00	22.27	22.57	22.12
		1.00	2.00	22.23	22.15	22.27
		1.00	5.00	22.13	22.14	22.53
		3.00	0.00	21.91	21.72	22.13
		3.00	1.00	22.24	22.01	22.18
		3.00	2.00	22.22	21.90	21.96
		6.00	0.00	22.32	22.46	22.10
	16QAM	1.00	0.00	22.34	22.21	22.11
		1.00	2.00	22.17	22.31	22.24
		1.00	5.00	21.96	22.05	22.12
		3.00	0.00	21.90	21.89	21.91
		3.00	1.00	21.98	21.99	21.81
		3.00	2.00	21.93	22.04	21.63
		6.00	0.00	22.19	22.14	21.95
Bandwidth	Mode	RB Size	RB Offset	Actual output po2wer(dBm)		
				Channel 19965 1711.5MHz	Channel 20175 1732.5MHz	Channel 20385 753.5MHz
3MHz	QPSK	1.00	0.00	22.24	22.12	22.18
		1.00	8.00	22.04	21.86	21.71
		1.00	14.00	22.13	21.94	21.93
		8.00	0.00	22.24	22.09	21.75
		8.00	4.00	22.08	22.03	21.86
		8.00	7.00	22.14	21.86	21.78
		15.00	0.00	22.22	22.26	22.03
	16QAM	1.00	0.00	22.03	21.77	21.37
		1.00	8.00	22.04	21.81	21.82
		1.00	14.00	21.67	21.80	21.84
		8.00	0.00	21.75	21.83	21.75
		8.00	4.00	21.90	22.10	21.66
		8.00	7.00	21.95	21.90	21.93
		15.00	0.00	22.12	21.86	21.78

Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 19975 1712.5MHz	Channel 20175 1732.5MHz	Channel 20375 1752.5MHz
5MHz	QPSK	1.00	0.00	22.11	22.01	22.30
		1.00	13.00	22.30	21.94	22.01
		1.00	24.00	21.77	21.62	22.01
		12.00	0.00	22.14	21.78	21.94
		12.00	6.00	22.19	21.83	21.88
		12.00	13.00	22.08	21.75	21.74
		25.00	0.00	22.18	21.82	21.91
	16QAM	1.00	0.00	22.20	22.03	21.92
		1.00	13.00	21.76	22.17	21.64
		1.00	24.00	21.22	22.20	21.25
		12.00	0.00	22.07	21.94	21.06
		12.00	6.00	21.79	21.72	21.79
		12.00	13.00	22.27	22.21	22.24
		25.00	0.00	22.02	21.82	22.00

Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20000 1715.0MHz	Channel 20175 1732.5MHz	Channel 20350 1750.0MHz
10MHz	QPSK	1.00	0.00	22.08	22.03	22.28
		1.00	25.00	21.57	22.04	21.94
		1.00	49.00	21.41	22.12	21.35
		25.00	0.00	21.24	21.93	22.11
		25.00	13.00	21.65	21.70	21.89
		25.00	25.00	22.18	21.92	22.09
		50.00	0.00	22.03	21.69	21.86
	16QAM	1.00	0.00	21.58	21.58	22.00
		1.00	25.00	22.05	21.52	22.05
		1.00	49.00	21.27	21.99	21.62
		25.00	0.00	21.56	21.83	21.90
		25.00	13.00	22.14	21.68	22.10
		25.00	25.00	21.04	21.99	21.36
		50.00	0.00	21.89	21.88	21.70

Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20025 1717.5MHz	Channel 20175 1732.5MHz	Channel 20325 1747.5MHz
15MHz	QPSK	1.00	0.00	22.15	22.00	22.24
		1.00	38.00	22.04	21.72	21.96
		1.00	74.00	21.87	21.67	21.40
		36.00	0.00	21.56	22.40	22.13
		36.00	18.00	21.41	21.61	21.87
		36.00	39.00	22.02	22.43	22.01
		75.00	0.00	22.04	21.87	21.34
	16QAM	1.00	0.00	22.10	21.98	22.05
		1.00	38.00	21.38	22.19	21.69
		1.00	74.00	21.68	22.29	21.96
		36.00	0.00	22.31	22.22	22.12
		36.00	18.00	21.73	21.36	21.85
		36.00	39.00	21.92	22.09	22.18
		75.00	0.00	22.05	22.18	21.12
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20050 1720.0MHz	Channel 20175 1732.5MHz	Channel 20300 1745.0MHz
20MHz	QPSK	1.00	0.00	22.31	22.26	22.39
		1.00	50.00	22.10	21.82	21.74
		1.00	99.00	22.18	21.99	22.37
		50.00	0.00	21.95	22.23	22.30
		50.00	25.00	21.57	22.00	22.03
		50.00	50.00	21.97	21.83	22.06
		100.00	0.00	21.95	21.99	21.72
	16QAM	1.00	0.00	22.14	22.18	22.26
		1.00	50.00	21.99	22.03	22.18
		1.00	99.00	22.30	22.20	22.34
		50.00	0.00	21.84	21.96	21.87
		50.00	25.00	22.10	22.25	22.19
		50.00	50.00	22.29	22.12	21.54
		100.00	0.00	22.28	22.13	21.86

Band 5						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20407 824.7MHz	Channel 20525 836.5MHz	Channel 20643 848.3MHz
1.4MHz	QPSK	1.00	0.00	21.25	22.34	22.05
		1.00	3.00	21.36	21.89	21.85
		1.00	5.00	21.44	22.21	21.76
		3.00	0.00	21.56	22.30	21.60
		3.00	2.00	21.17	21.85	21.85
		3.00	3.00	21.67	22.34	21.61
		6.00	0.00	21.85	22.46	22.11
	16QAM	1.00	0.00	21.55	22.16	21.91
		1.00	3.00	21.77	22.54	21.69
		1.00	5.00	21.48	22.26	21.92
		3.00	0.00	21.17	21.87	21.59
		3.00	2.00	22.00	22.81	22.16
		3.00	3.00	21.70	22.68	21.88
		6.00	0.00	21.72	22.36	22.05
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20415 825.5MHz	Channel 20525 836.5MHz	Channel 20635 847.5MHz
3MHz	QPSK	1.00	0.00	21.27	21.97	21.57
		1.00	3.00	21.36	21.88	21.72
		1.00	5.00	21.56	21.91	21.74
		3.00	0.00	21.17	21.71	21.37
		3.00	2.00	21.36	21.76	21.47
		3.00	3.00	21.56	21.57	21.59
		6.00	0.00	21.86	21.95	21.69
	16QAM	1.00	0.00	21.45	21.57	21.83
		1.00	3.00	21.64	21.60	21.71
		1.00	5.00	21.14	21.79	21.56
		3.00	0.00	21.16	22.28	21.91
		3.00	2.00	21.37	21.89	21.69
		3.00	3.00	21.38	21.60	21.36
		6.00	0.00	21.48	21.80	21.92

Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20425 826.5MHz	Channel 20525 836.5MHz	Channel 20625 846.5MHz
5MHz	QPSK	1.00	0.00	22.03	22.73	22.87
		1.00	13.00	21.70	22.26	22.21
		1.00	24.00	21.48	22.46	22.27
		12.00	0.00	21.89	22.74	22.64
		12.00	6.00	21.51	21.95	21.84
		12.00	13.00	21.48	22.03	21.96
		25.00	0.00	21.85	22.35	22.28
	16QAM	1.00	0.00	21.78	22.26	22.30
		1.00	13.00	21.71	22.30	22.31
		1.00	24.00	21.51	22.49	22.51
		12.00	0.00	21.86	22.45	22.32
		12.00	6.00	21.51	22.18	22.11
		12.00	13.00	21.48	22.26	22.21
		25.00	0.00	21.87	22.65	22.72
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20450 829MHz	Channel 20525 836.5MHz	Channel 20600 844MHz
10MHz	QPSK	1.00	0.00	21.61	22.04	21.75
		1.00	25.00	21.70	22.26	21.98
		1.00	49.00	21.99	22.62	22.25
		25.00	0.00	21.67	22.41	21.98
		25.00	13.00	21.87	22.42	21.93
		25.00	25.00	21.63	22.31	21.95
		50.00	0.00	21.14	21.99	21.51
	16QAM	1.00	0.00	21.59	22.32	21.89
		1.00	25.00	21.48	22.11	21.66
		1.00	49.00	21.40	21.92	21.48
		25.00	0.00	21.58	22.13	21.37
		25.00	13.00	21.64	22.25	21.88
		25.00	25.00	21.61	22.19	21.81
		50.00	0.00	21.62	22.19	21.72

Band 7						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20775 2502.5MHz	Channel 21100 2535MHz	Channel 21425 2567.5MHz
5MHz	QPSK	1.00	0.00	22.41	22.22	22.52
		1.00	13.00	22.46	22.26	22.54
		1.00	24.00	22.07	22.40	22.46
		12.00	0.00	22.17	22.33	22.47
		12.00	6.00	22.33	22.57	22.55
		12.00	13.00	22.34	22.49	22.56
		25.00	0.00	22.17	22.33	22.57
	16QAM	1.00	0.00	21.99	22.47	22.43
		1.00	13.00	22.36	22.49	22.49
		1.00	24.00	22.34	22.29	22.46
		12.00	0.00	22.40	22.23	22.51
		12.00	6.00	22.06	22.22	22.46
		12.00	13.00	21.95	22.31	22.55
		25.00	0.00	21.97	22.22	22.56
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20800 2505.0MHz	Channel 21100 2535MHz	Channel 21400 2565.0MHz
10MHz	QPSK	1	0	1.00	0.00	22.32
		1	25	1.00	25.00	22.39
		1	49	1.00	49.00	22.50
		25	0	25.00	0.00	22.32
		25	13	25.00	13.00	22.12
		25	25	25.00	25.00	22.32
		50	0	50.00	0.00	22.22
	16QAM	1	0	1.00	0.00	22.03
		1	25	1.00	25.00	22.41
		1	49	1.00	49.00	22.50
		25	0	25.00	0.00	22.32
		25	13	25.00	13.00	22.54
		25	25	25.00	25.00	22.51
		50	0	50.00	0.00	22.42

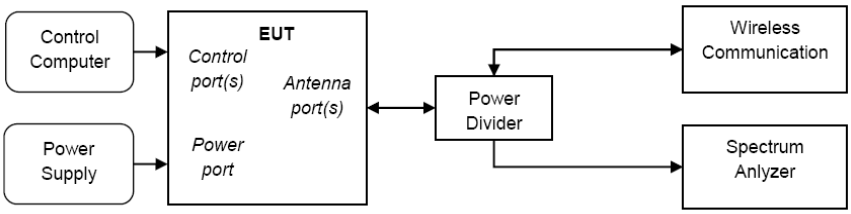
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20825 2507.5MHz	Channel 21100 2535MHz	Channel 21375 2562.5MHz
15MHz	QPSK	1.00	0.00	22.46	22.49	22.48
		1.00	38.00	22.46	22.50	22.45
		1.00	74.00	22.31	22.23	22.49
		36.00	0.00	22.42	22.31	22.47
		36.00	18.00	22.32	22.41	22.45
		36.00	39.00	22.35	22.43	22.39
		75.00	0.00	22.41	22.28	22.30
	16QAM	1.00	0.00	22.29	22.39	22.42
		1.00	38.00	22.41	22.26	22.34
		1.00	74.00	22.32	22.34	22.45
		36.00	0.00	22.33	22.27	22.38
		36.00	18.00	22.45	22.39	22.43
		36.00	39.00	22.40	22.43	22.49
		75.00	0.00	22.33	22.26	22.37
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20850 2510.0MHz	Channel 21100 2535MHz	Channel 21350 2560.0MHz
20MHz	QPSK	1.00	0.00	22.11	22.22	22.63
		1.00	50.00	22.10	22.23	22.48
		1.00	99.00	21.95	22.38	22.35
		50.00	0.00	22.44	22.52	22.20
		50.00	25.00	22.28	22.36	22.36
		50.00	50.00	22.52	22.17	22.12
		100.00	0.00	22.33	22.51	22.45
	16QAM	1.00	0.00	22.10	22.42	22.46
		1.00	50.00	21.99	22.18	22.38
		1.00	99.00	22.10	22.57	22.23
		50.00	0.00	22.34	22.52	22.48
		50.00	25.00	22.19	22.59	22.47
		50.00	50.00	22.17	22.25	22.47
		100.00	0.00	21.97	22.36	22.48

Band 12						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23017 699.7MHz	Channel 23095 707.5MHz	Channel 23173 715.3MHz
1.4MHz	QPSK	1.00	0.00	22.38	22.44	22.56
		1.00	2.00	21.83	22.04	22.58
		1.00	5.00	21.75	21.99	22.48
		3.00	0.00	21.78	21.93	22.47
		3.00	1.00	21.77	21.88	22.45
		3.00	2.00	21.83	22.05	22.41
		6.00	0.00	21.91	22.03	22.49
	16QAM	1.00	0.00	21.74	21.97	22.35
		1.00	2.00	21.89	22.04	22.48
		1.00	5.00	21.82	22.00	22.34
		3.00	0.00	21.90	22.19	22.38
		3.00	1.00	22.14	22.08	22.35
		3.00	2.00	21.89	22.42	22.37
		6.00	0.00	21.76	21.89	22.33
Bandwidth	Mode	RB Size	RB Offset	Actual output po2wer(dBm)		
				Channel 23025 700.5MHz	Channel 23095 707.5MHz	Channel 23165 714.5MHz
3MHz	QPSK	1.00	0.00	22.48	22.23	22.58
		1.00	8.00	22.38	22.13	22.20
		1.00	14.00	21.66	21.92	22.30
		8.00	0.00	21.97	22.27	22.44
		8.00	4.00	21.58	21.86	22.43
		8.00	7.00	22.08	22.26	22.10
		15.00	0.00	22.02	22.31	22.07
	16QAM	1.00	0.00	22.31	22.14	21.99
		1.00	8.00	21.80	22.14	21.98
		1.00	15.00	21.89	22.13	22.51
		8.00	0.00	21.82	22.08	22.44
		8.00	4.00	22.25	22.11	22.25
		8.00	7.00	21.97	22.02	22.37
		15.00	0.00	21.98	22.33	22.41

Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23035 701.5MHz	Channel 23095 707.5MHz	Channel 23155 713.5MHz
5MHz	QPSK	1.00	0.00	22.18	22.30	22.39
		1.00	13.00	21.88	22.08	22.25
		1.00	24.00	21.79	21.92	22.19
		12.00	0.00	21.88	22.12	22.23
		12.00	6.00	22.14	22.09	21.95
		12.00	13.00	21.83	21.99	21.85
		25.00	0.00	21.99	22.22	21.86
	16QAM	1.00	0.00	21.80	21.82	21.89
		1.00	13.00	22.05	22.08	21.92
		1.00	24.00	21.83	21.98	21.88
		12.00	0.00	21.75	22.38	22.23
		12.00	6.00	21.74	21.79	21.96
		12.00	13.00	21.74	22.18	21.95
		25.00	0.00	21.85	22.20	21.83
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23060 704.0MHz	Channel 23095 707.5MHz	Channel 23130 711.0MHz
10MHz	QPSK	1.00	0.00	22.28	22.14	22.45
		1.00	25.00	22.21	22.11	22.07
		1.00	49.00	21.83	21.65	21.44
		25.00	0.00	22.09	22.04	21.92
		25.00	13.00	21.78	21.94	21.79
		25.00	25.00	22.07	22.08	21.96
		50.00	0.00	21.76	21.96	21.61
	16QAM	1.00	0.00	22.07	22.13	22.00
		1.00	25.00	21.66	21.79	21.47
		1.00	49.00	21.98	22.14	21.99
		25.00	0.00	21.79	21.94	21.78
		25.00	13.00	22.23	22.07	22.03
		25.00	25.00	22.00	22.05	22.03
		50.00	0.00	21.89	22.11	21.87

Band 17						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23755 706.5MHz	Channel 23790 710MHz	Channel 23825 713.5MHz
5MHz	QPSK	1.00	0.00	22.17	21.53	22.06
		1.00	13.00	22.22	21.57	22.08
		1.00	24.00	21.84	21.89	21.99
		12.00	0.00	21.94	21.63	22.00
		12.00	6.00	22.10	21.86	22.09
		12.00	13.00	22.11	21.79	22.29
		25.00	0.00	21.94	21.63	22.40
	16QAM	1.00	0.00	21.76	21.86	22.50
		1.00	13.00	22.13	21.79	22.32
		1.00	24.00	22.11	21.59	22.41
		12.00	0.00	22.17	21.54	22.43
		12.00	6.00	21.83	21.53	22.29
		12.00	13.00	21.72	21.61	22.09
		25.00	0.00	21.74	21.53	22.10
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23780 709MHz	Channel 23790 710MHz	Channel 23800 711MHz
10MHz	QPSK	1.00	0.00	21.76	22.07	22.29
		1.00	25.00	22.16	22.08	22.41
		1.00	49.00	22.26	22.05	22.02
		25.00	0.00	22.08	22.10	22.48
		25.00	13.00	21.88	21.94	22.37
		25.00	25.00	22.08	22.14	22.35
		50.00	0.00	21.99	21.94	22.32
	16QAM	1.00	0.00	21.80	22.02	22.40
		1.00	25.00	22.17	21.94	22.00
		1.00	49.00	22.26	22.01	21.97
		25.00	0.00	22.08	21.57	21.95
		25.00	13.00	22.40	21.66	21.96
		25.00	25.00	22.48	22.01	22.14
		1.00	0.00	21.76	22.07	22.29

7.4 Peak-to-Average Ratio

Test Requirement:	FCC part24.232(d) & FCC Part 27.50
Test Method:	FCC part2.1046
Limit:	13db
Test setup:	
Test Procedure:	A peak to average ratio measurement is performed at the conducted port of the EUT. For WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth. The traces are generated with the spectrum analyzer set to zero span mode. **Test Settings** 1. The signal analyzer's CCDF measurement profile enabled 2. Frequency= carrier center frequency 3. Measurement BW > EBW of signal 4. for continuous transmissions, set to 1ms Record the maximum PAPR level associated with a probability of 0.1%.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

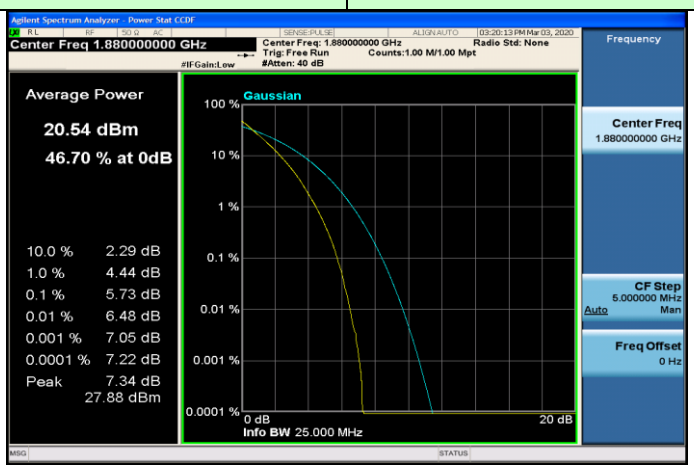
Remark: Both modulation modes have been tested, showing only the worst QPSK test data.

Measurement data:

Test Band	Test mode	Modulation	Measured（dB）	Limit (dB)	Result
			Middle Ch.		
LTE Band 2	LTE 20MHz Bandwidth	QPSK	5.73	13.00	PASS
		16QAM	6.39	13.00	PASS
LTE Band 4	LTE 20MHz Bandwidth	QPSK	5.93	13.00	PASS
		16QAM	6.67	13.00	PASS
LTE Band 5	LTE 10MHz Bandwidth	QPSK	5.66	13.00	PASS
		16QAM	6.42	13.00	PASS
LTE Band 7	LTE 20MHz Bandwidth	QPSK	5.47	13.00	PASS
		16QAM	6.44	13.00	PASS
LTE Band 12	LTE 12MHz Bandwidth	QPSK	5.44	13.00	PASS
		16QAM	6.22	13.00	PASS
LTE Band 17	LTE 17MHz Bandwidth	QPSK	5.40	13.00	PASS
		16QAM	6.18	13.00	PASS

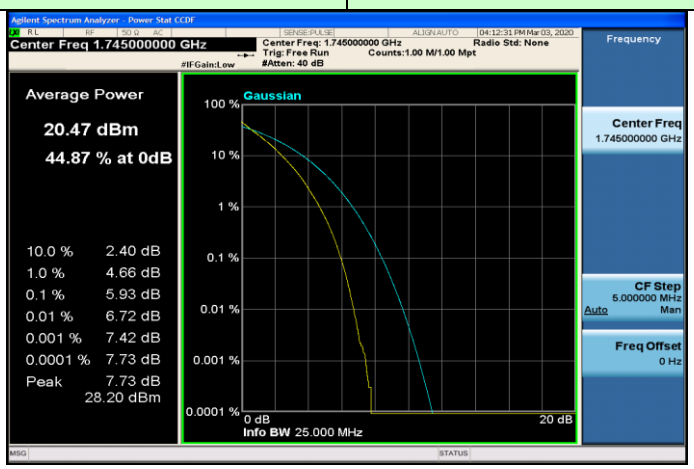
QPSK:

Test band:	LTE Band 2



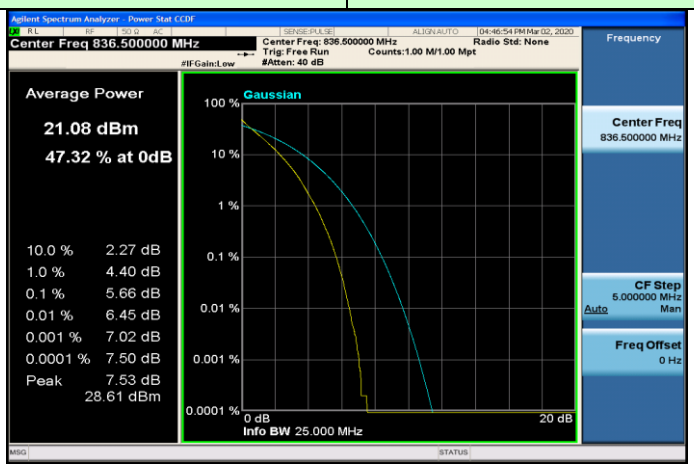
Middle channel

Test band:	LTE Band 4

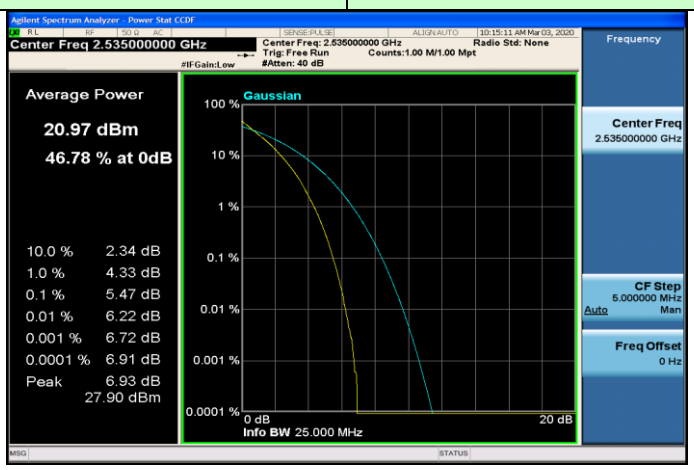


Middle channel

Test band:	LTE Band 5

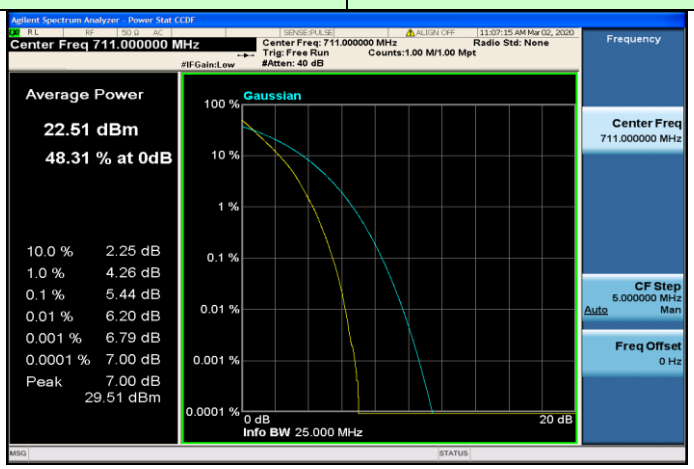


Test band:	LTE Band 7



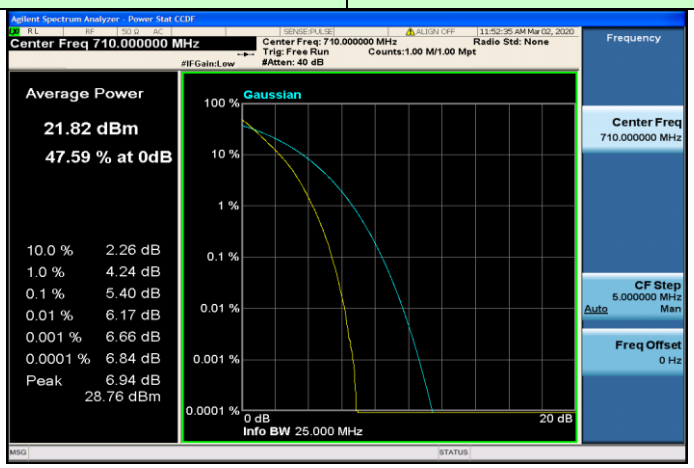
Middle channel

Test band:	LTE Band 12



Middle channel

Test band:	LTE Band 17

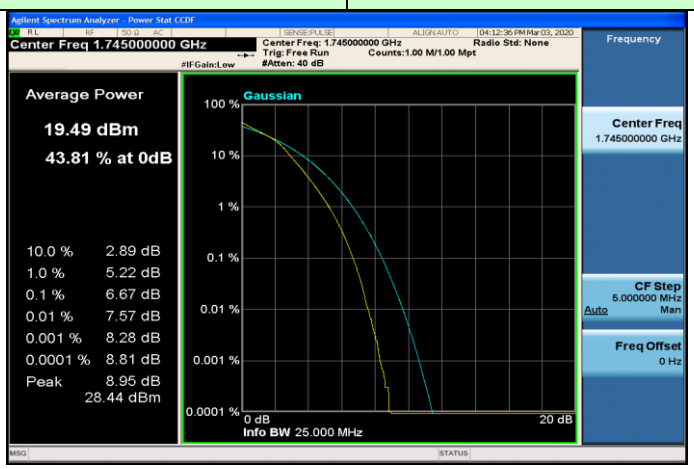


16QAM:

Test band:	LTE Band 2

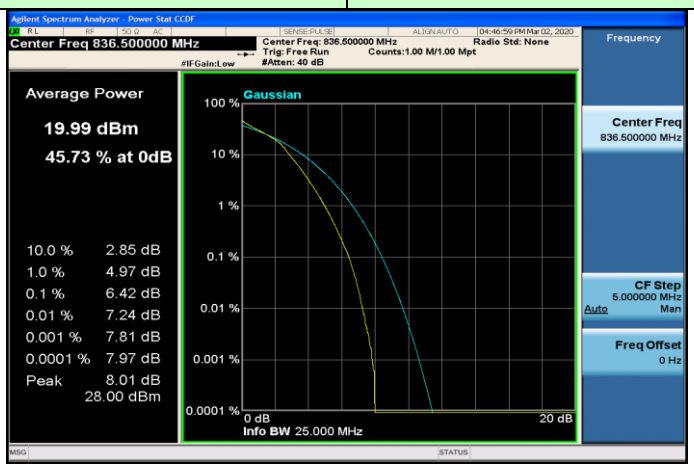
Middle channel

Test band:	LTE Band 4

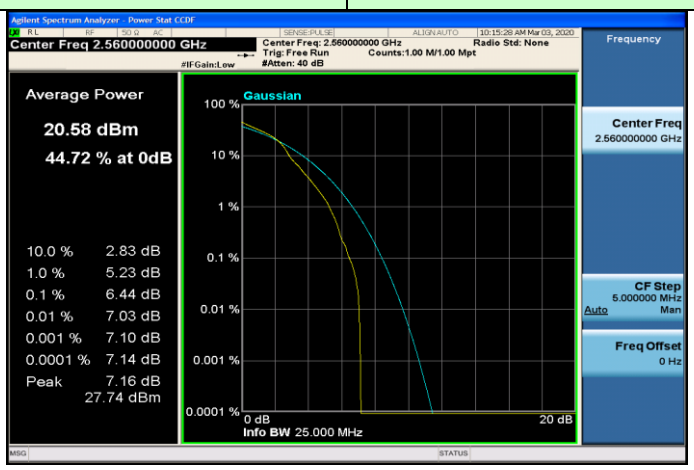


Middle channel

Test band:	LTE Band 5

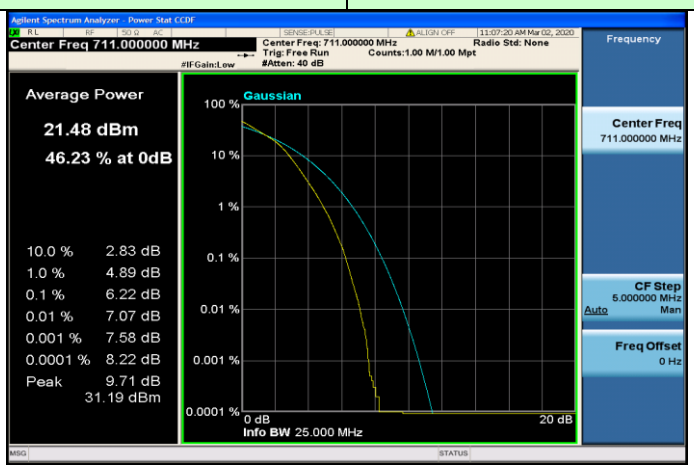


Test band:	LTE Band 7



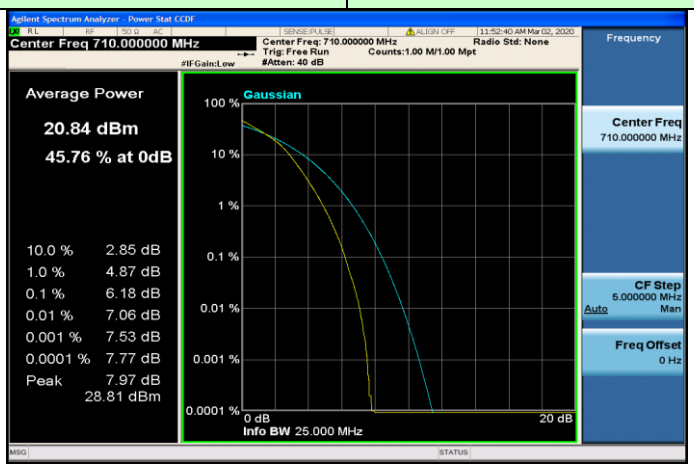
Middle channel

Test band:	LTE Band 12

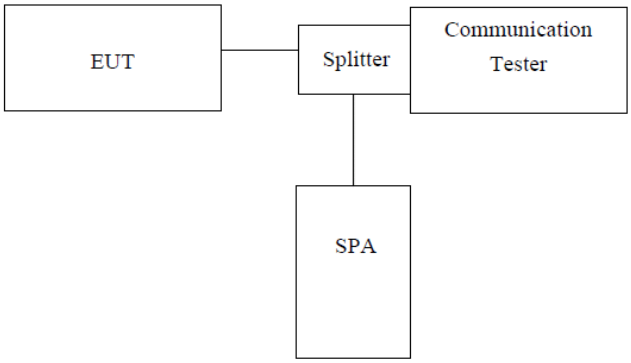


Middle channel

Test band:	LTE Band 17



7.5 Occupy Bandwidth

Test Requirement:	Part 24.238; FCC Part 27.53(h)/(g)
Test Method:	FCC part2.1049
Test setup:	 ***Note:*** *Measurement setup for testing on Antenna connector*
Test Procedure:	1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer 2. RBW was set to about 1% of emission BW, VBW= 3 times RBW. 3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

Measurement Data

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band2	1.4MHz	QPSK	18607	6RB#0	1.0844	1.249	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	1.0798	1.237	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	1.0800	1.243	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	1.0766	1.242	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	1.0780	1.243	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	1.0783	1.254	PASS
Band2	3MHz	QPSK	18615	15RB#0	2.6807	2.873	PASS
Band2	3MHz	QPSK	18900	15RB#0	2.6750	2.860	PASS
Band2	3MHz	QPSK	19185	15RB#0	2.6764	2.849	PASS
Band2	3MHz	16QAM	18615	15RB#0	2.6752	2.853	PASS
Band2	3MHz	16QAM	18900	15RB#0	2.6741	2.850	PASS
Band2	3MHz	16QAM	19185	15RB#0	2.6720	2.874	PASS
Band2	5MHz	QPSK	18625	25RB#0	4.4738	5.029	PASS
Band2	5MHz	QPSK	18900	25RB#0	4.4887	5.067	PASS
Band2	5MHz	QPSK	19175	25RB#0	4.4858	5.043	PASS
Band2	5MHz	16QAM	18625	25RB#0	4.4867	5.052	PASS
Band2	5MHz	16QAM	18900	25RB#0	4.4938	5.048	PASS
Band2	5MHz	16QAM	19175	25RB#0	4.4750	4.953	PASS
Band2	10MHz	QPSK	18650	50RB#0	8.9514	9.835	PASS
Band2	10MHz	QPSK	18900	50RB#0	8.9495	9.846	PASS
Band2	10MHz	QPSK	19150	50RB#0	8.9648	9.845	PASS
Band2	10MHz	16QAM	18650	50RB#0	8.9530	9.859	PASS
Band2	10MHz	16QAM	18900	50RB#0	8.9555	9.798	PASS
Band2	10MHz	16QAM	19150	50RB#0	8.9525	9.777	PASS
Band2	15MHz	QPSK	18675	75RB#0	13.427	14.72	PASS
Band2	15MHz	QPSK	18900	75RB#0	13.431	14.73	PASS
Band2	15MHz	QPSK	19125	75RB#0	13.394	14.78	PASS
Band2	15MHz	16QAM	18675	75RB#0	13.409	14.71	PASS
Band2	15MHz	16QAM	18900	75RB#0	13.430	14.73	PASS
Band2	15MHz	16QAM	19125	75RB#0	13.417	14.64	PASS

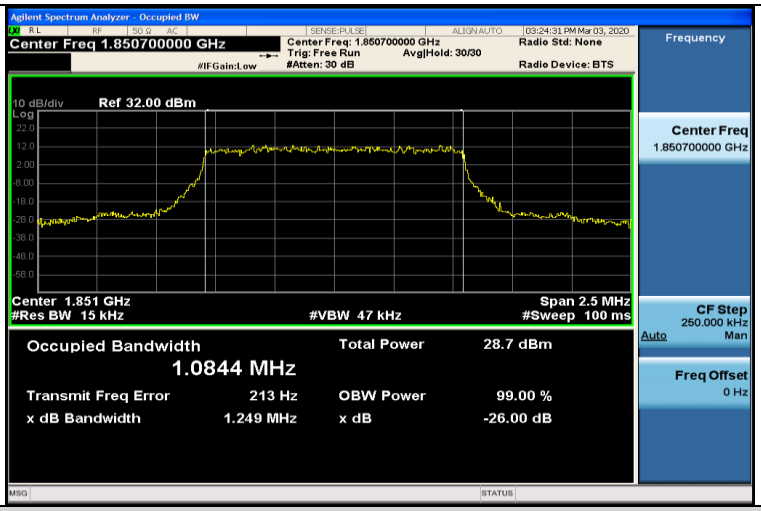
Band2	20MHz	QPSK	18700	100RB#0	17.870	19.27	PASS
Band2	20MHz	QPSK	18900	100RB#0	17.923	19.56	PASS
Band2	20MHz	QPSK	19100	100RB#0	17.876	19.56	PASS
Band2	20MHz	16QAM	18700	100RB#0	17.904	19.39	PASS
Band2	20MHz	16QAM	18900	100RB#0	17.902	19.30	PASS
Band2	20MHz	16QAM	19100	100RB#0	17.890	19.38	PASS
Band4	1.4MHz	QPSK	19957	6RB#0	1.0815	1.259	PASS
Band4	1.4MHz	QPSK	20175	6RB#0	1.0834	1.242	PASS
Band4	1.4MHz	QPSK	20393	6RB#0	1.0781	1.237	PASS
Band4	1.4MHz	16QAM	19957	6RB#0	1.0808	1.248	PASS
Band4	1.4MHz	16QAM	20175	6RB#0	1.0778	1.257	PASS
Band4	1.4MHz	16QAM	20393	6RB#0	1.0809	1.262	PASS
Band4	3MHz	QPSK	19965	15RB#0	2.6830	2.868	PASS
Band4	3MHz	QPSK	20175	15RB#0	2.6802	2.858	PASS
Band4	3MHz	QPSK	20385	15RB#0	2.6783	2.865	PASS
Band4	3MHz	16QAM	19965	15RB#0	2.6734	2.863	PASS
Band4	3MHz	16QAM	20175	15RB#0	2.6768	2.855	PASS
Band4	3MHz	16QAM	20385	15RB#0	2.6733	2.869	PASS
Band4	5MHz	QPSK	19975	25RB#0	4.4760	5.036	PASS
Band4	5MHz	QPSK	20175	25RB#0	4.4894	5.018	PASS
Band4	5MHz	QPSK	20375	25RB#0	4.4928	5.047	PASS
Band4	5MHz	16QAM	19975	25RB#0	4.4818	5.041	PASS
Band4	5MHz	16QAM	20175	25RB#0	4.4930	5.057	PASS
Band4	5MHz	16QAM	20375	25RB#0	4.4747	4.937	PASS
Band4	10MHz	QPSK	20000	50RB#0	8.9543	9.833	PASS
Band4	10MHz	QPSK	20175	50RB#0	8.9482	9.836	PASS
Band4	10MHz	QPSK	20350	50RB#0	8.9574	9.846	PASS
Band4	10MHz	16QAM	20000	50RB#0	8.9508	9.825	PASS
Band4	10MHz	16QAM	20175	50RB#0	8.9561	9.857	PASS
Band4	10MHz	16QAM	20350	50RB#0	8.9685	9.872	PASS
Band4	15MHz	QPSK	20025	75RB#0	13.430	14.73	PASS
Band4	15MHz	QPSK	20175	75RB#0	13.429	14.82	PASS
Band4	15MHz	QPSK	20325	75RB#0	13.448	14.74	PASS
Band4	15MHz	16QAM	20025	75RB#0	13.433	14.65	PASS
Band4	15MHz	16QAM	20175	75RB#0	13.423	14.77	PASS

Band4	15MHz	16QAM	20325	75RB#0	13.448	14.64	PASS
Band4	20MHz	QPSK	20050	100RB#0	17.919	19.70	PASS
Band4	20MHz	QPSK	20175	100RB#0	17.882	19.28	PASS
Band4	20MHz	QPSK	20300	100RB#0	17.884	19.29	PASS
Band4	20MHz	16QAM	20050	100RB#0	17.902	19.45	PASS
Band4	20MHz	16QAM	20175	100RB#0	17.907	19.48	PASS
Band4	20MHz	16QAM	20300	100RB#0	17.886	19.35	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	1.0817	1.239	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.0770	1.244	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.0774	1.242	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.0794	1.236	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.0804	1.271	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.0786	1.265	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.6781	2.870	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.6814	2.863	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.6763	2.871	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.6727	2.866	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.6775	2.857	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.6697	2.862	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.4897	5.062	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.4722	5.017	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.4879	5.054	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.4751	4.930	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.4822	5.038	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.4763	4.948	PASS
Band5	10MHz	QPSK	20450	50RB#0	8.9590	9.915	PASS
Band5	10MHz	QPSK	20525	50RB#0	8.9461	9.786	PASS
Band5	10MHz	QPSK	20600	50RB#0	8.9618	9.975	PASS
Band5	10MHz	16QAM	20450	50RB#0	8.9604	9.809	PASS
Band5	10MHz	16QAM	20525	50RB#0	8.9589	9.791	PASS
Band5	10MHz	16QAM	20600	50RB#0	8.9527	9.744	PASS
Band7	5MHz	QPSK	20775	25RB#0	4.4901	5.048	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.4759	5.035	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.4817	5.025	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.4810	4.977	PASS

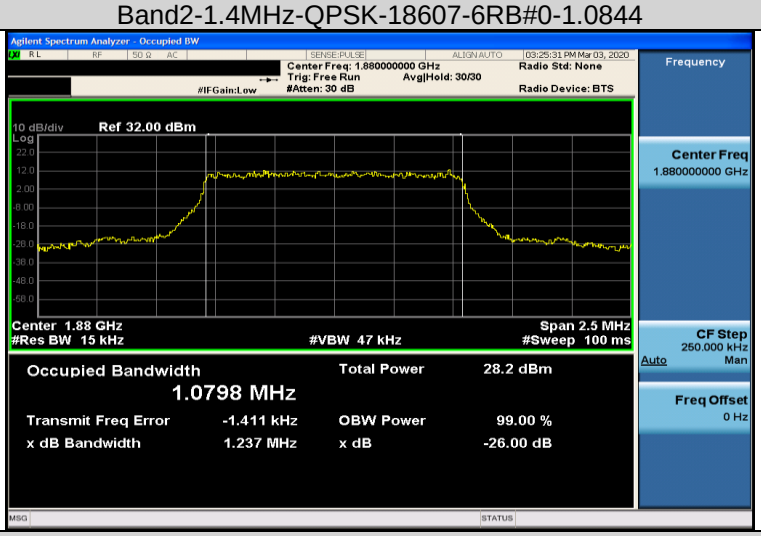
Band7	5MHz	16QAM	21100	25RB#0	4.4852	5.053	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.4915	5.047	PASS
Band7	10MHz	QPSK	20800	50RB#0	8.9448	9.884	PASS
Band7	10MHz	QPSK	21100	50RB#0	8.9530	9.823	PASS
Band7	10MHz	QPSK	21400	50RB#0	8.9695	9.846	PASS
Band7	10MHz	16QAM	20800	50RB#0	8.9606	9.889	PASS
Band7	10MHz	16QAM	21100	50RB#0	8.9525	9.777	PASS
Band7	10MHz	16QAM	21400	50RB#0	8.9534	9.777	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.440	14.68	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.403	14.72	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.431	14.81	PASS
Band7	15MHz	16QAM	20825	75RB#0	13.456	14.47	PASS
Band7	15MHz	16QAM	21100	75RB#0	13.442	14.71	PASS
Band7	15MHz	16QAM	21375	75RB#0	13.419	14.69	PASS
Band7	20MHz	QPSK	20850	100RB#0	17.912	19.31	PASS
Band7	20MHz	QPSK	21100	100RB#0	17.905	19.40	PASS
Band7	20MHz	QPSK	21350	100RB#0	17.882	19.25	PASS
Band7	20MHz	16QAM	20850	100RB#0	17.907	19.40	PASS
Band7	20MHz	16QAM	21100	100RB#0	17.886	19.40	PASS
Band7	20MHz	16QAM	21350	100RB#0	17.893	19.55	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	1.0771	1.234	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	1.0798	1.245	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	1.0785	1.250	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	1.0818	1.266	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	1.0785	1.248	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	1.0763	1.246	PASS
Band12	3MHz	QPSK	23025	15RB#0	2.6759	2.897	PASS
Band12	3MHz	QPSK	23095	15RB#0	2.6747	2.864	PASS
Band12	3MHz	QPSK	23165	15RB#0	2.6725	2.859	PASS
Band12	3MHz	16QAM	23025	15RB#0	2.6710	2.857	PASS
Band12	3MHz	16QAM	23095	15RB#0	2.6786	2.869	PASS
Band12	3MHz	16QAM	23165	15RB#0	2.6771	2.843	PASS
Band12	5MHz	QPSK	23035	25RB#0	4.4726	4.964	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.4905	5.032	PASS
Band12	5MHz	QPSK	23155	25RB#0	4.4960	5.457	PASS

Band12	5MHz	16QAM	23035	25RB#0	4.4790	5.066	PASS
Band12	5MHz	16QAM	23095	25RB#0	4.4832	5.083	PASS
Band12	5MHz	16QAM	23155	25RB#0	4.4745	4.949	PASS
Band12	10MHz	QPSK	23060	50RB#0	8.9751	9.904	PASS
Band12	10MHz	QPSK	23095	50RB#0	8.9643	9.944	PASS
Band12	10MHz	QPSK	23130	50RB#0	8.9422	10.23	PASS
Band12	10MHz	16QAM	23060	50RB#0	8.9603	9.881	PASS
Band12	10MHz	16QAM	23095	50RB#0	8.9685	10.01	PASS
Band12	10MHz	16QAM	23130	50RB#0	8.9537	9.801	PASS
Band17	5MHz	QPSK	23755	25RB#0	4.4803	5.020	PASS
Band17	5MHz	QPSK	23790	25RB#0	4.4866	5.030	PASS
Band17	5MHz	QPSK	23825	25RB#0	4.4896	5.059	PASS
Band17	5MHz	16QAM	23755	25RB#0	4.4909	5.050	PASS
Band17	5MHz	16QAM	23790	25RB#0	4.4812	5.044	PASS
Band17	5MHz	16QAM	23825	25RB#0	4.4765	4.978	PASS
Band17	10MHz	QPSK	23780	50RB#0	8.9431	9.856	PASS
Band17	10MHz	QPSK	23790	50RB#0	8.9345	9.732	PASS
Band17	10MHz	QPSK	23800	50RB#0	8.9455	9.910	PASS
Band17	10MHz	16QAM	23780	50RB#0	8.9526	9.871	PASS
Band17	10MHz	16QAM	23790	50RB#0	8.9403	9.885	PASS
Band17	10MHz	16QAM	23800	50RB#0	8.9281	9.656	PASS

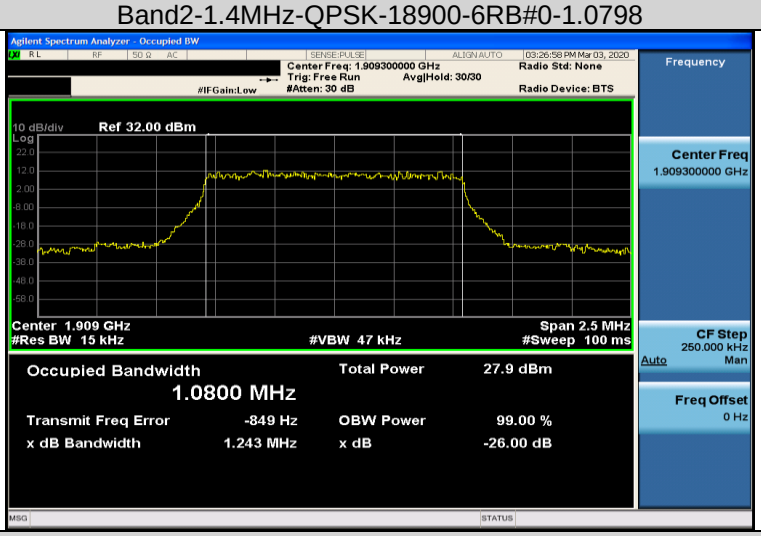
Test plot as follows:



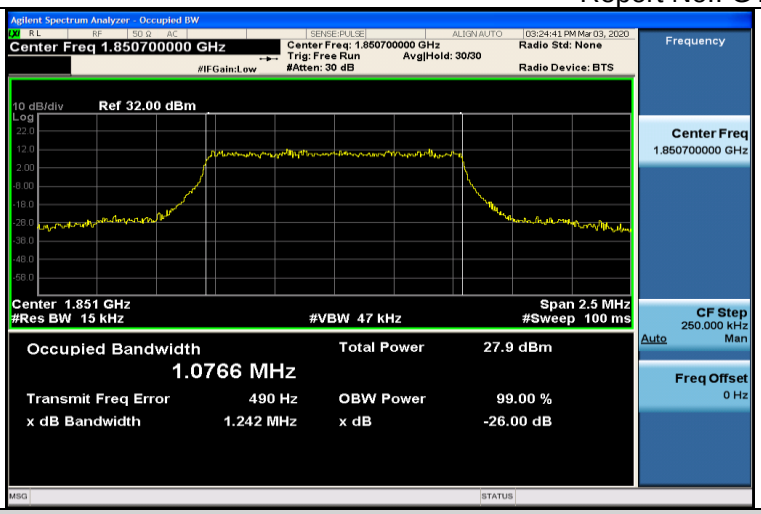
Band2-1.4MHz-QPSK-18607-6RB#0-1.0844



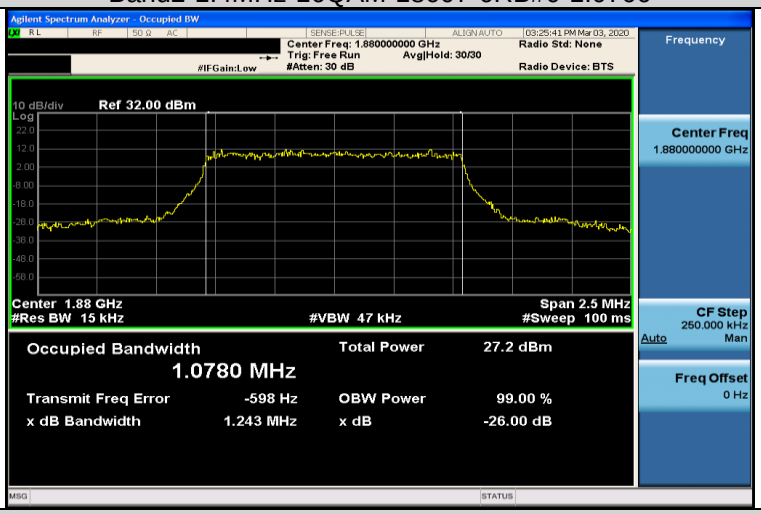
Band2-1.4MHz-QPSK-18900-6RB#0-1.0798



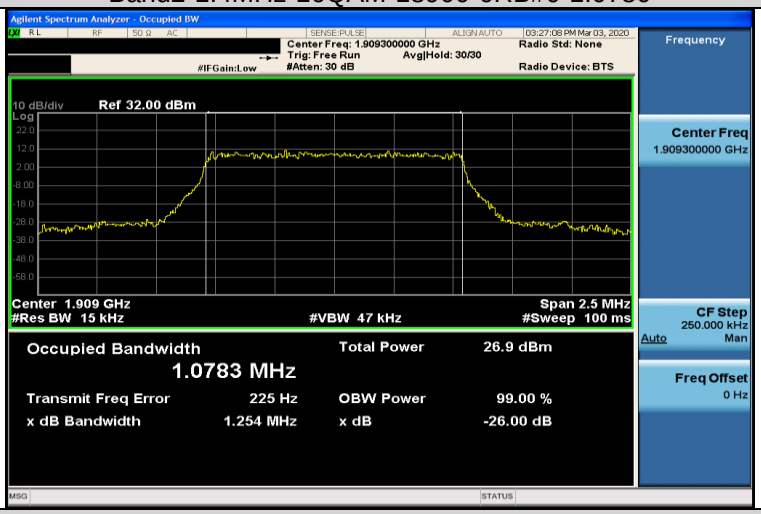
Band2-1.4MHz-QPSK-19193-6RB#0-1.0800



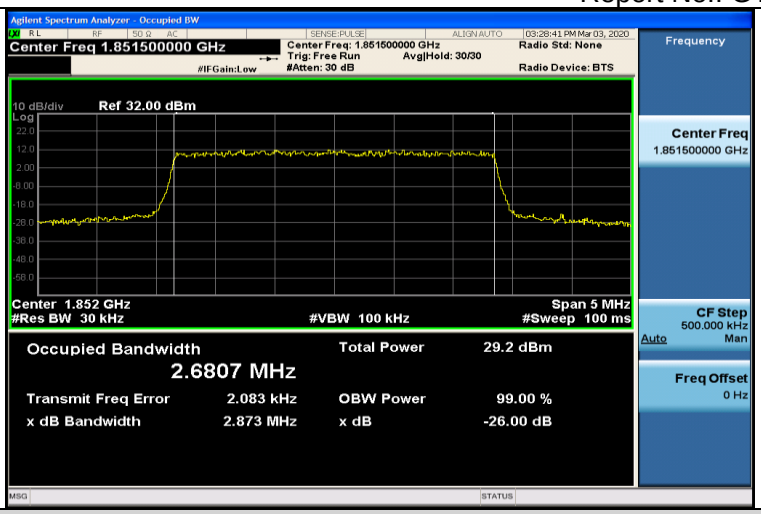
Band2-1.4MHz-16QAM-18607-6RB#0-1.0766



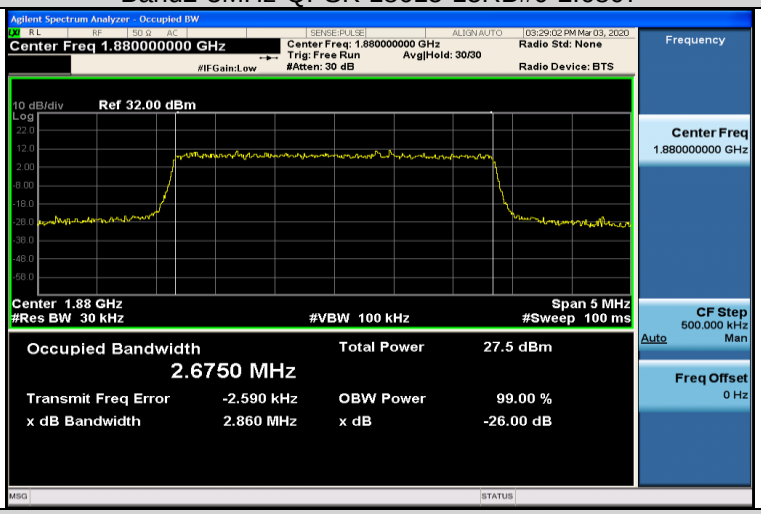
Band2-1.4MHz-16QAM-18900-6RB#0-1.0780



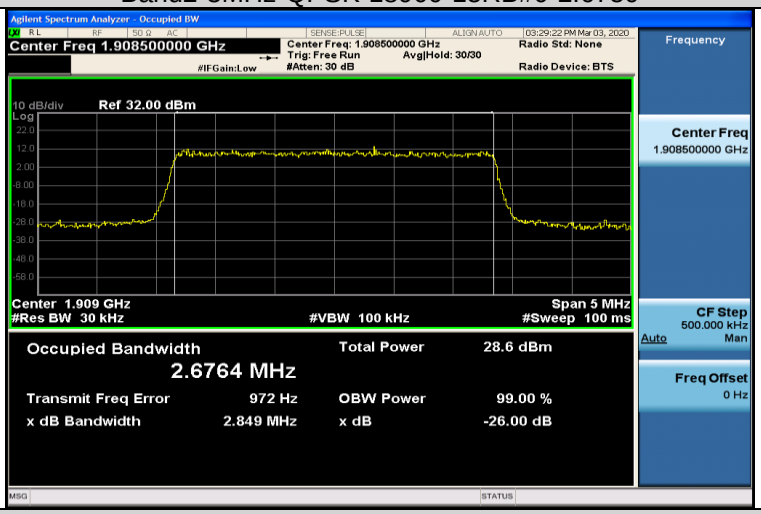
Band2-1.4MHz-16QAM-19193-6RB#0-1.0783



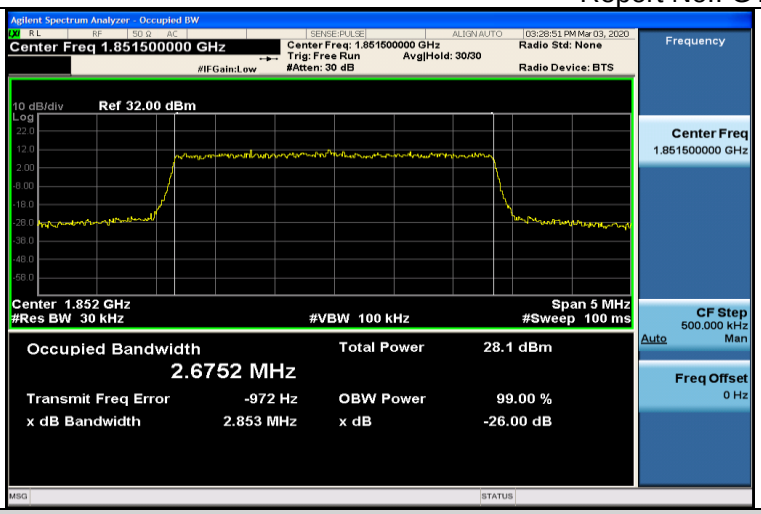
Band2-3MHz-QPSK-18615-15RB#0-2.6807



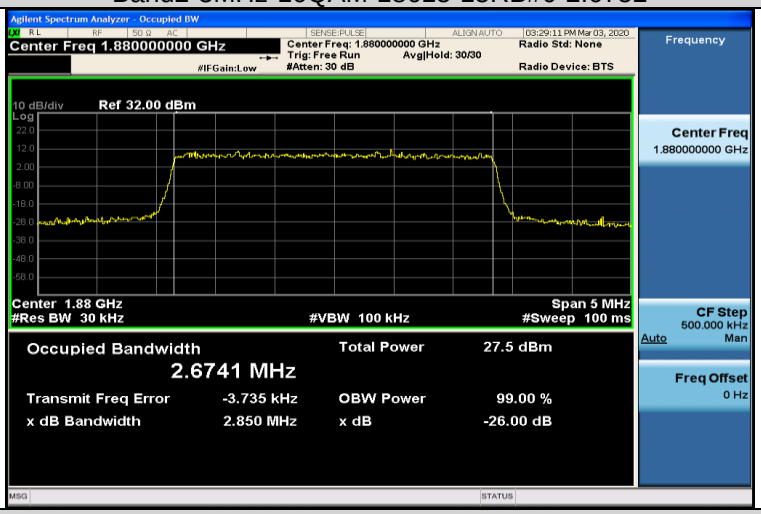
Band2-3MHz-QPSK-18900-15RB#0-2.6750



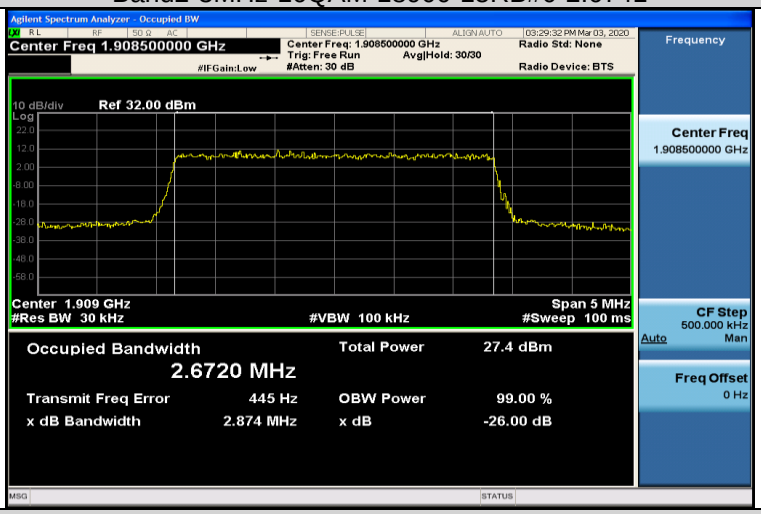
Band2-3MHz-QPSK-19185-15RB#0-2.6764



Band2-3MHz-16QAM-18615-15RB#0-2.6752



Band2-3MHz-16QAM-18900-15RB#0-2.6741



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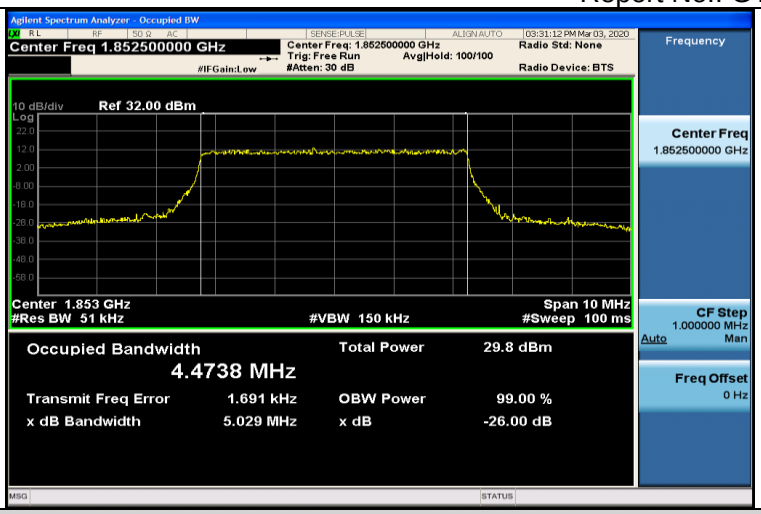
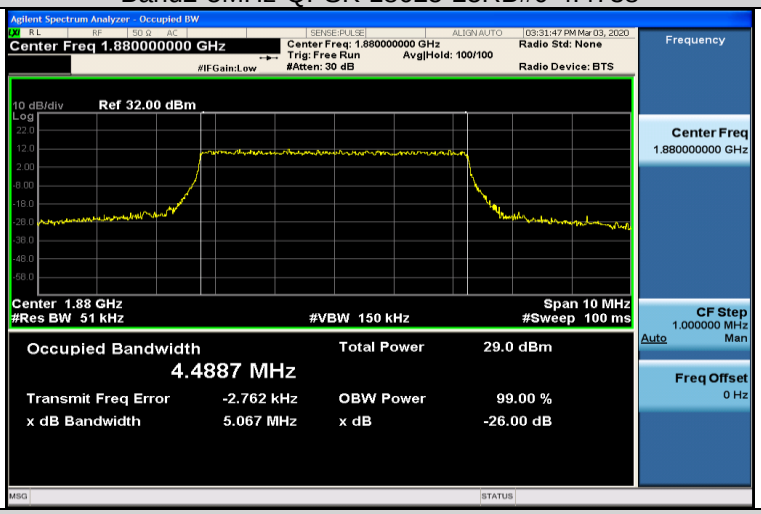


Band2-5MHz-QPSK-18625-25RB#0-4.4738



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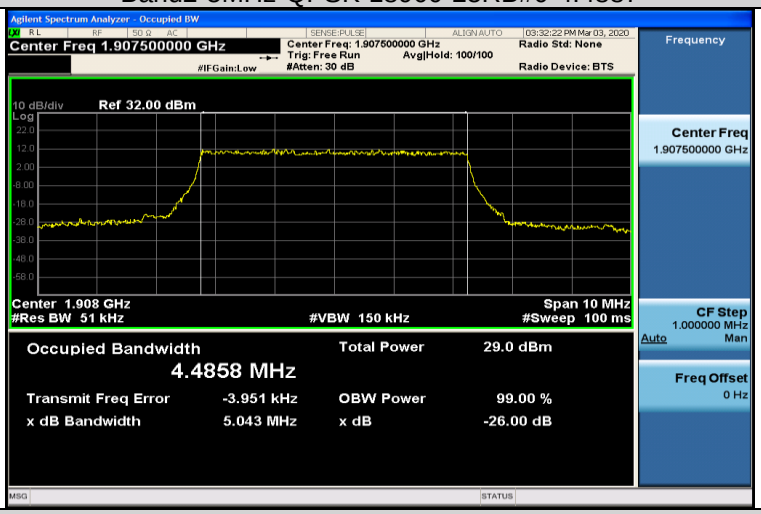

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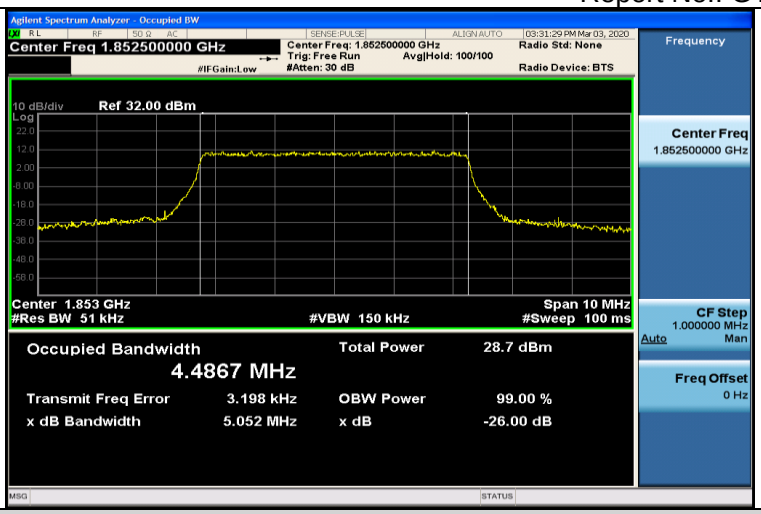

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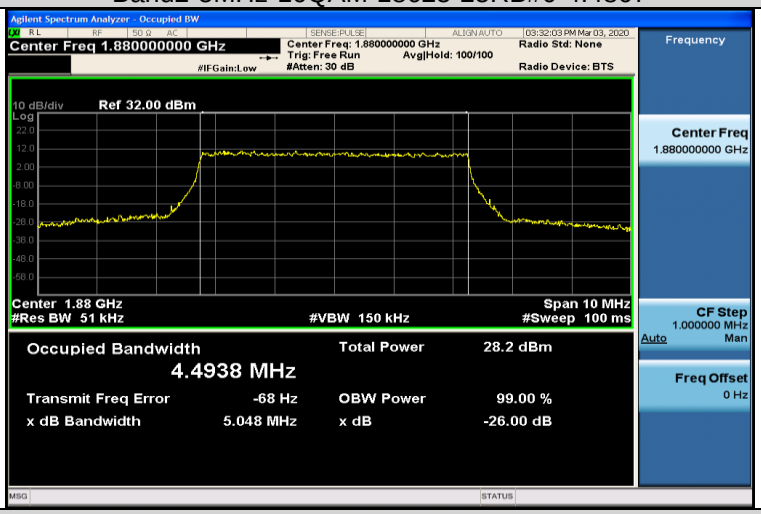

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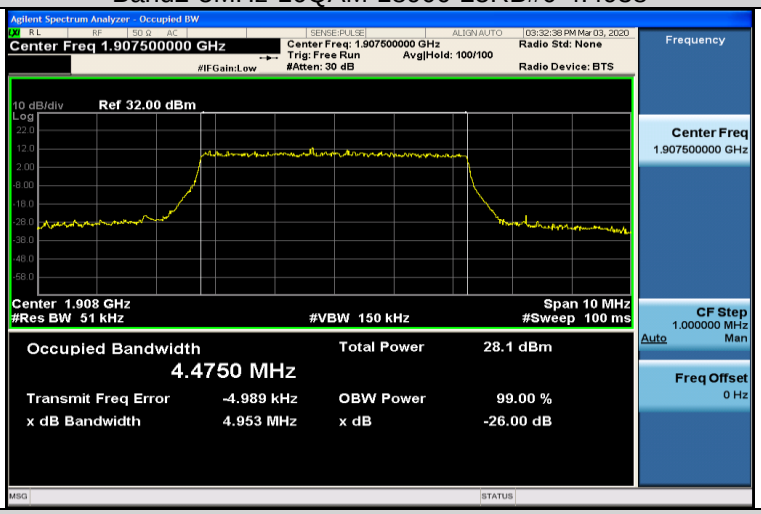

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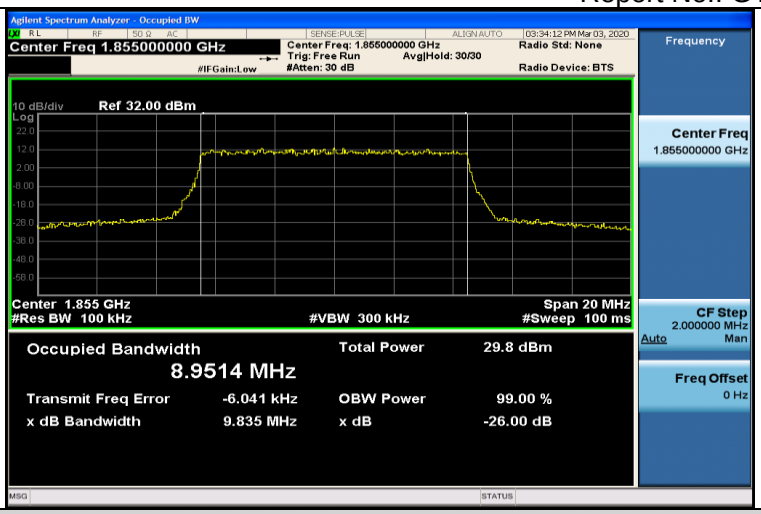
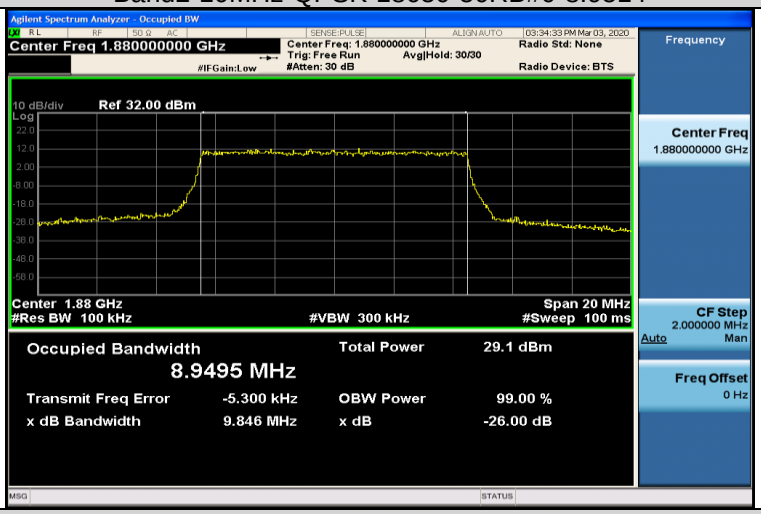


Band2-10MHz-QPSK-18650-50RB#0-8.9514



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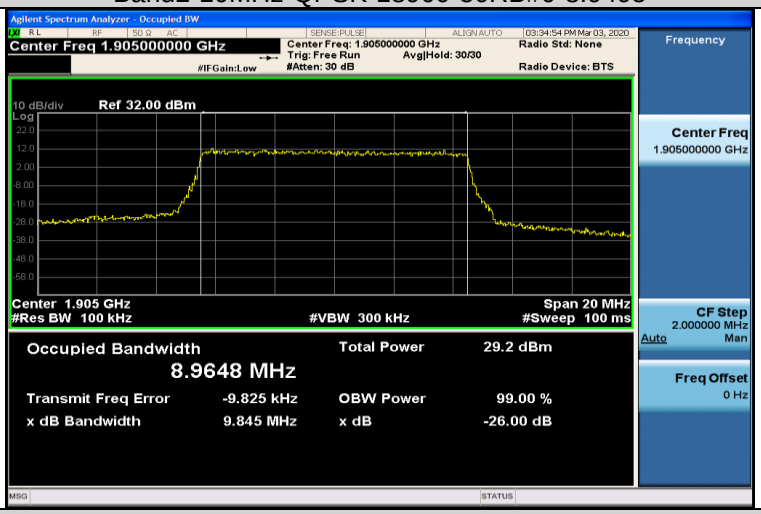

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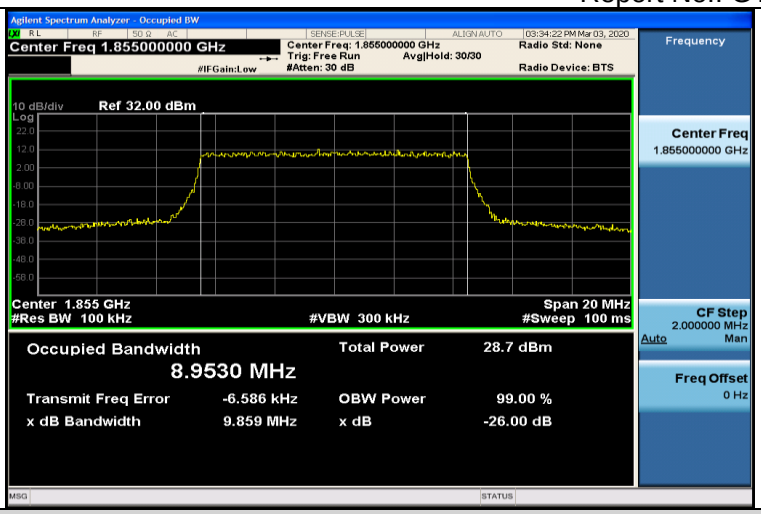
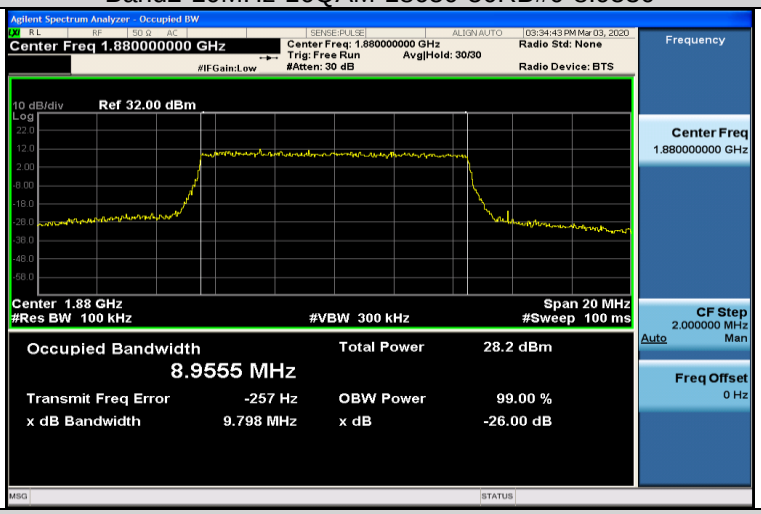


Band2-10MHz-16QAM-18650-50RB#0-8.9530



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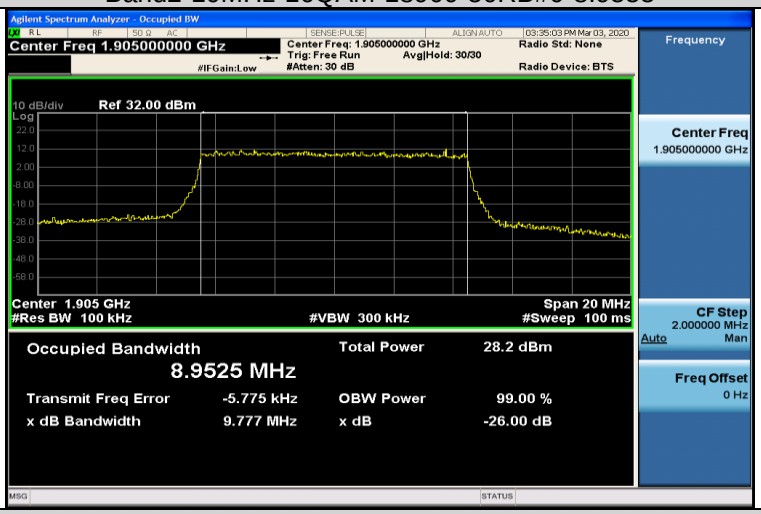

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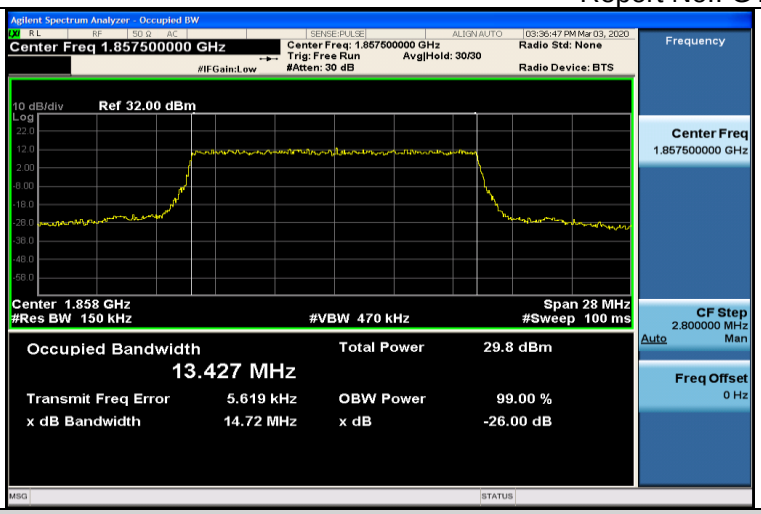

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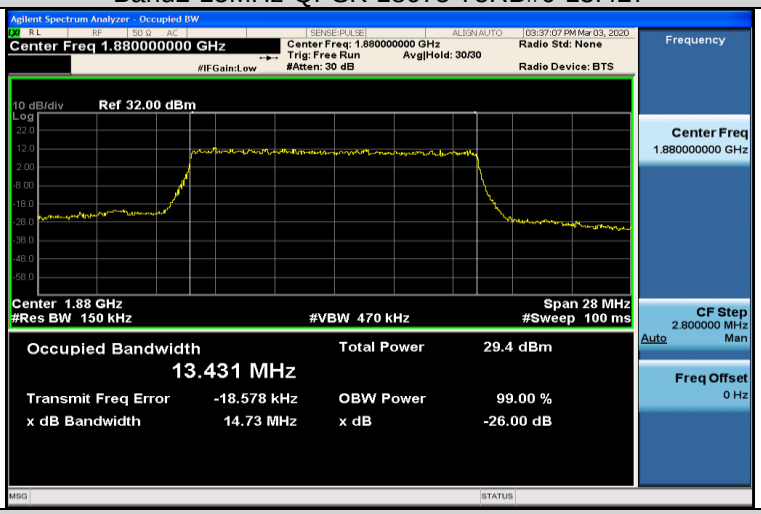

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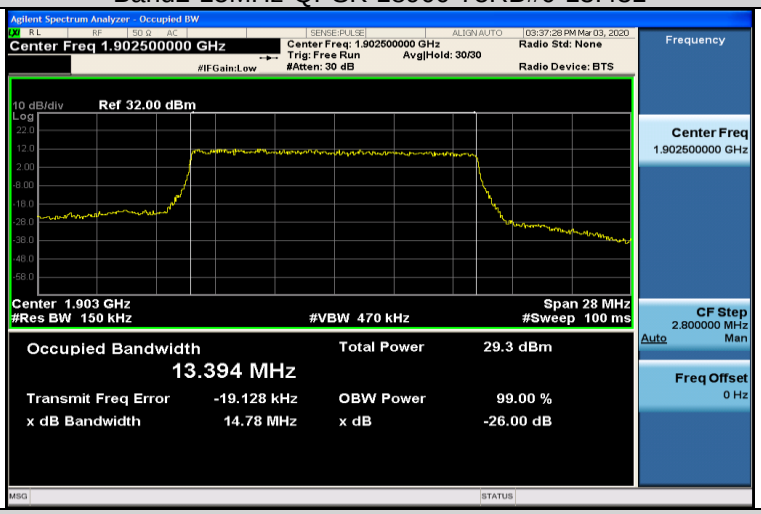

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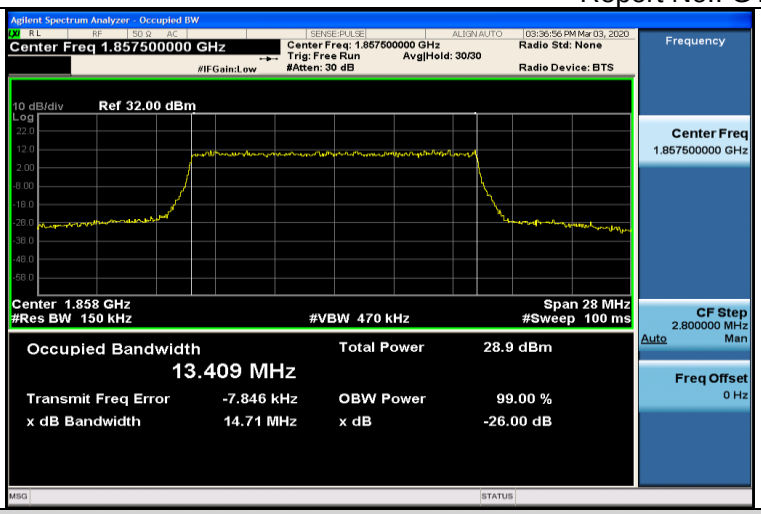

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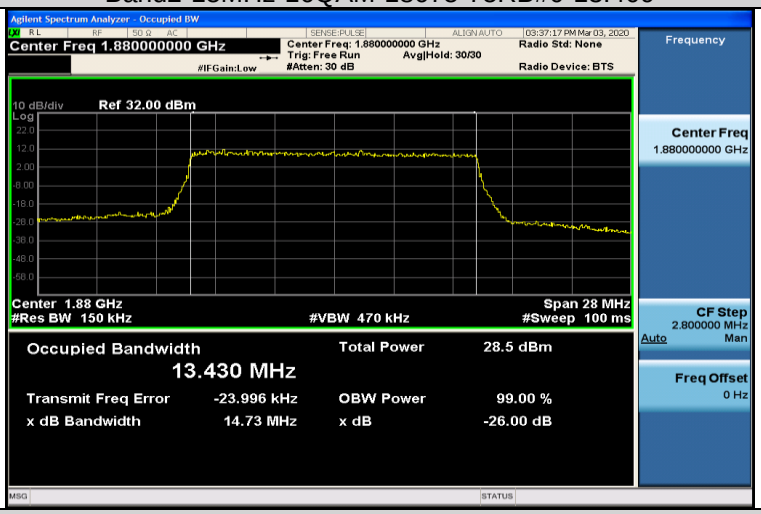

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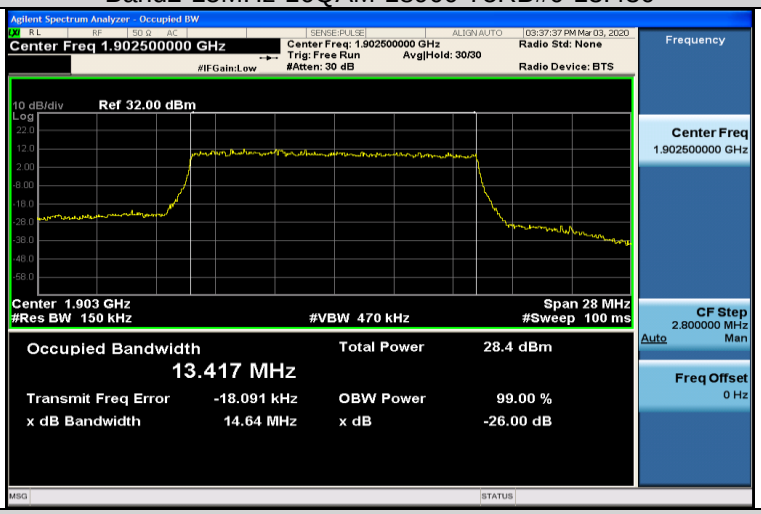

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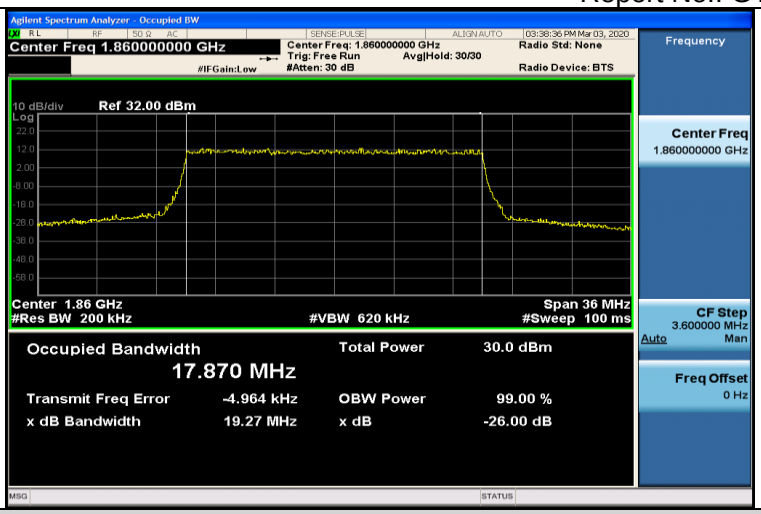

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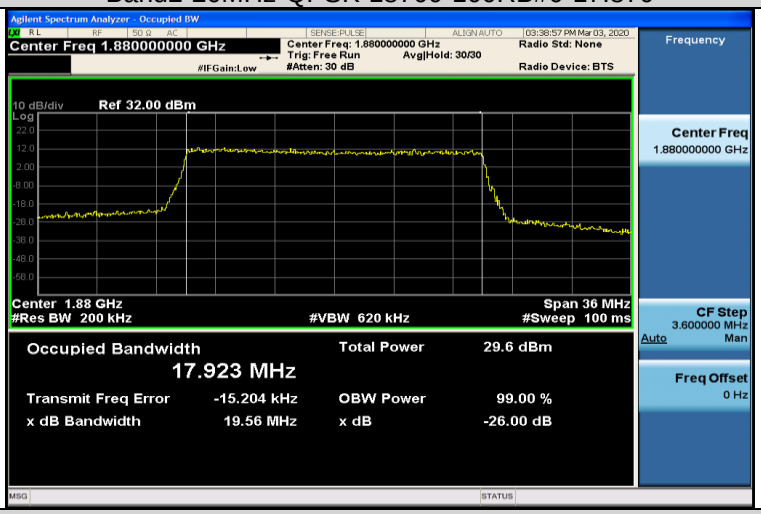

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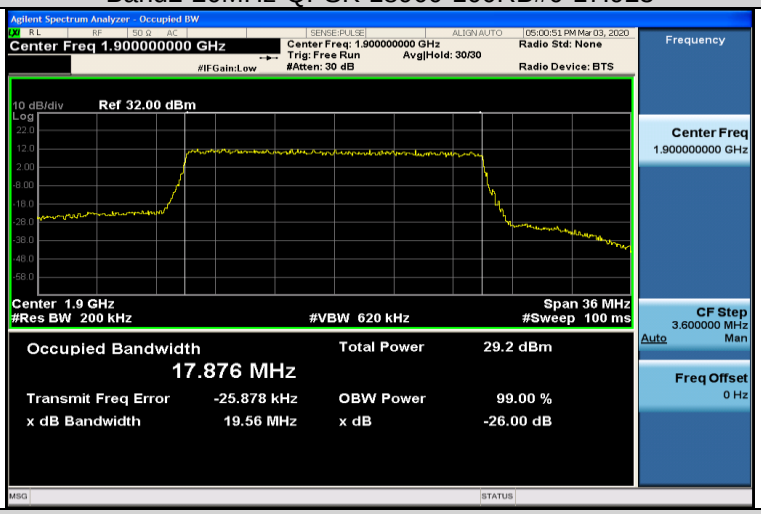

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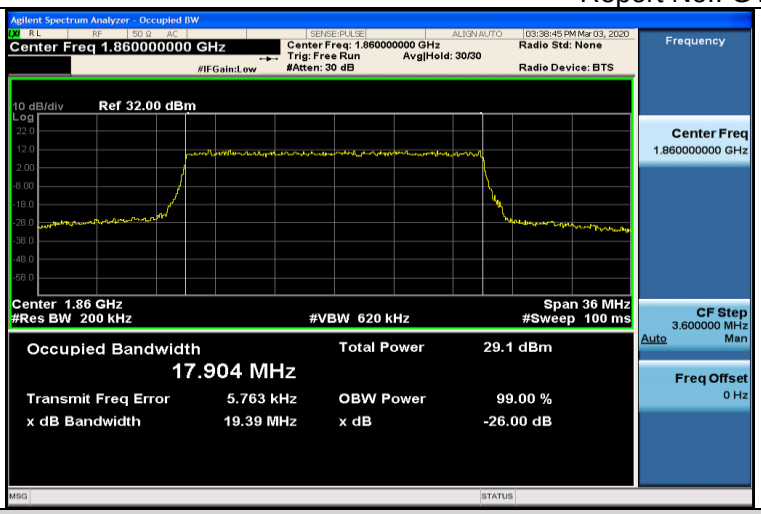

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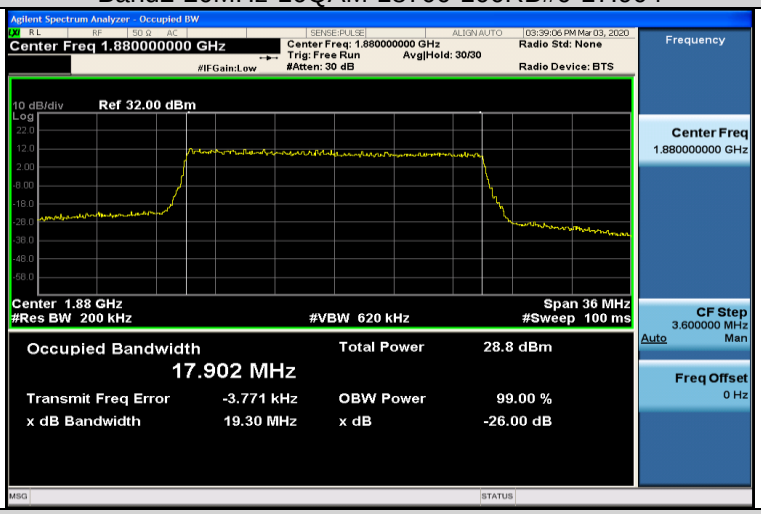

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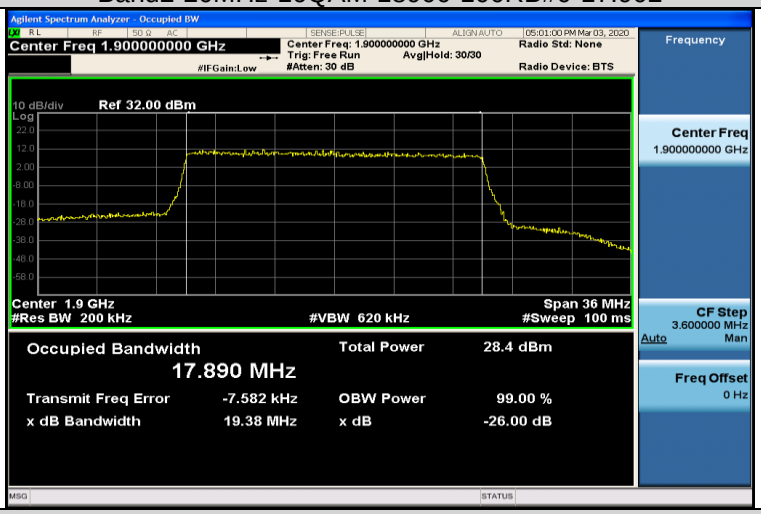

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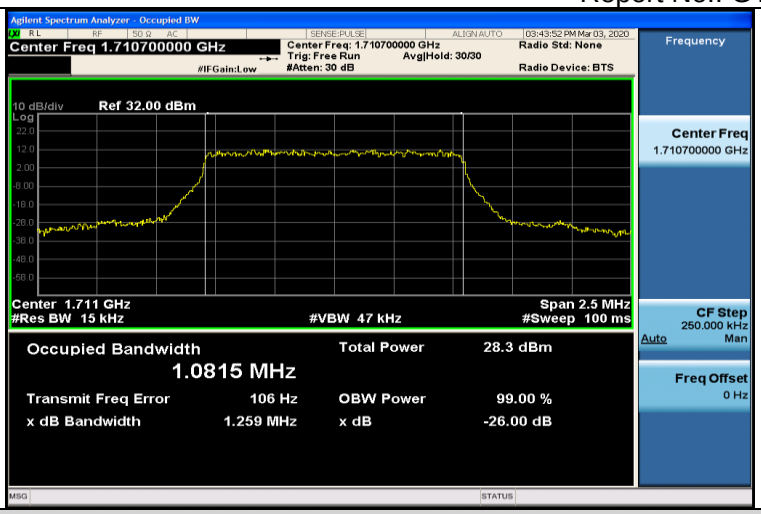
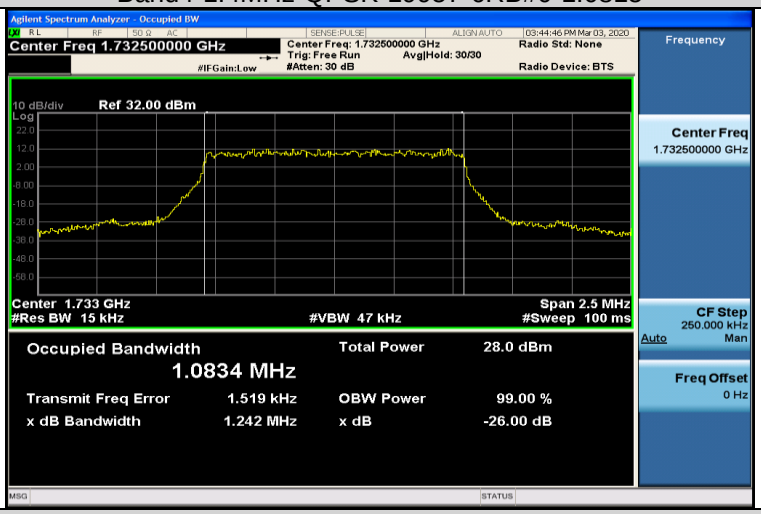
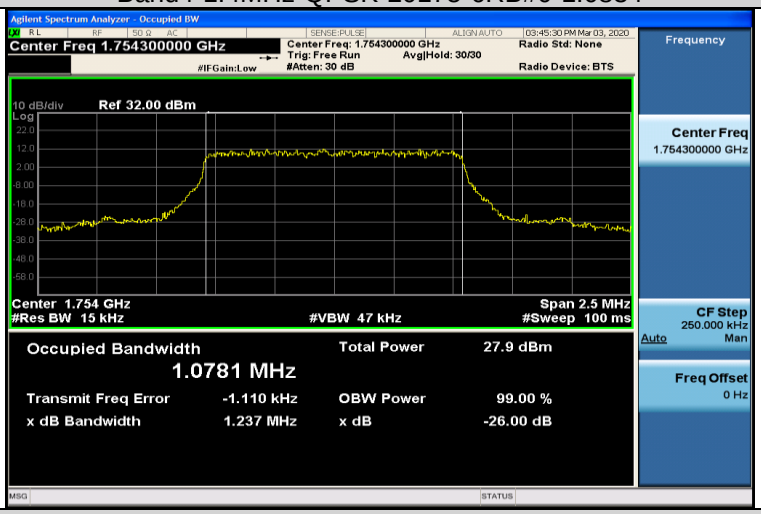


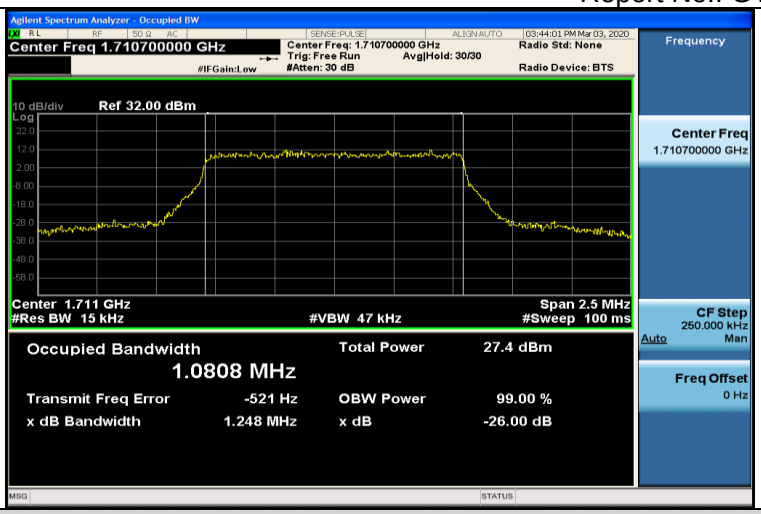
Band4-1.4MHz-QPSK-19957-6RB#0-1.0815



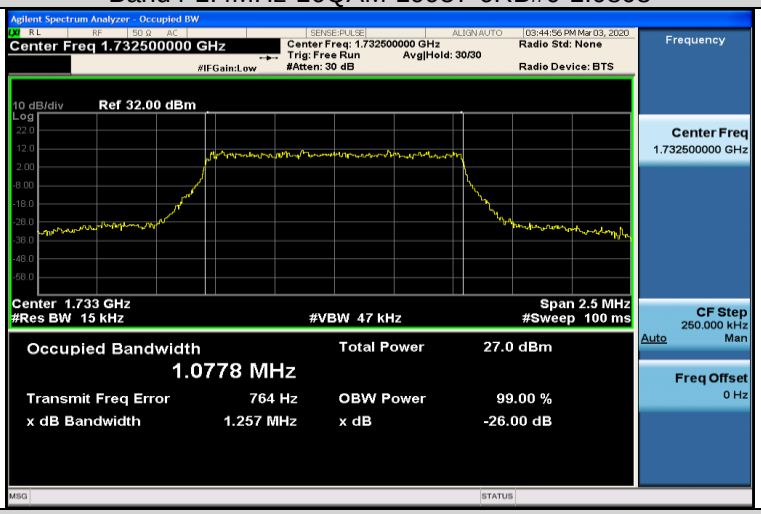
Band4-1.4MHz-QPSK-20175-6RB#0-1.0834



Band4-1.4MHz-QPSK-20393-6RB#0-1.0781



Band4-1.4MHz-16QAM-19957-6RB#0-1.0808



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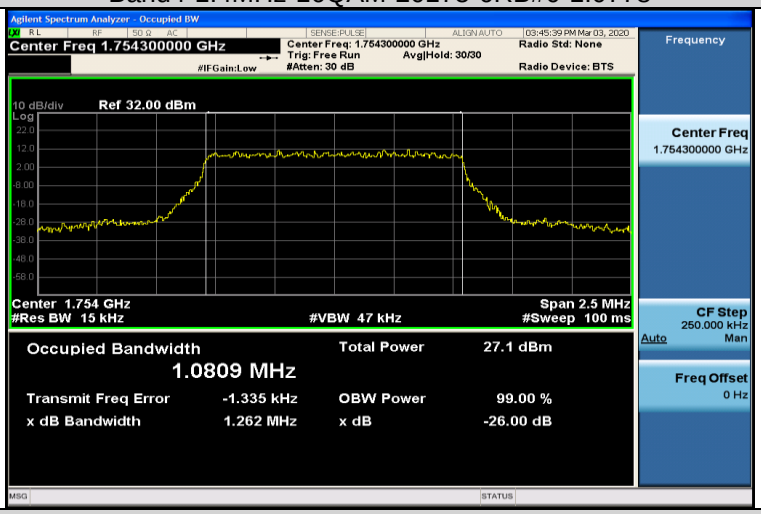
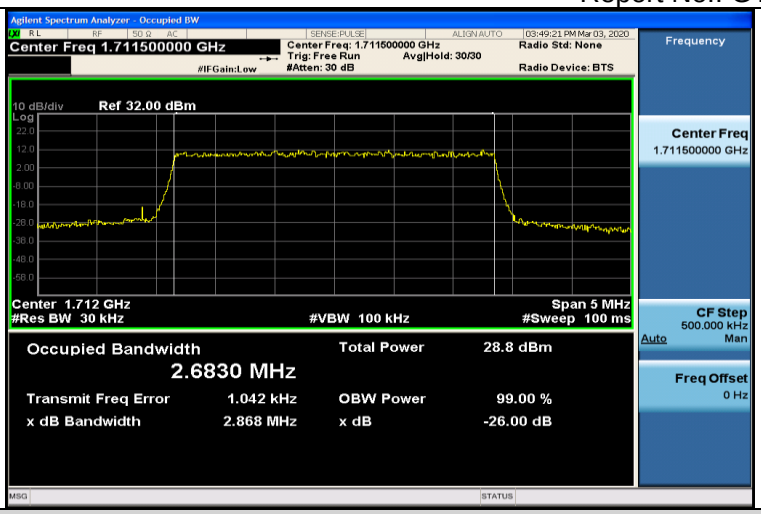
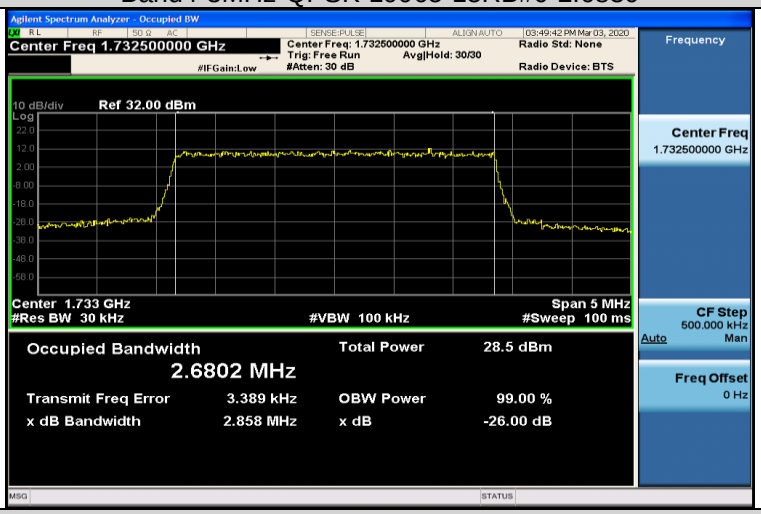


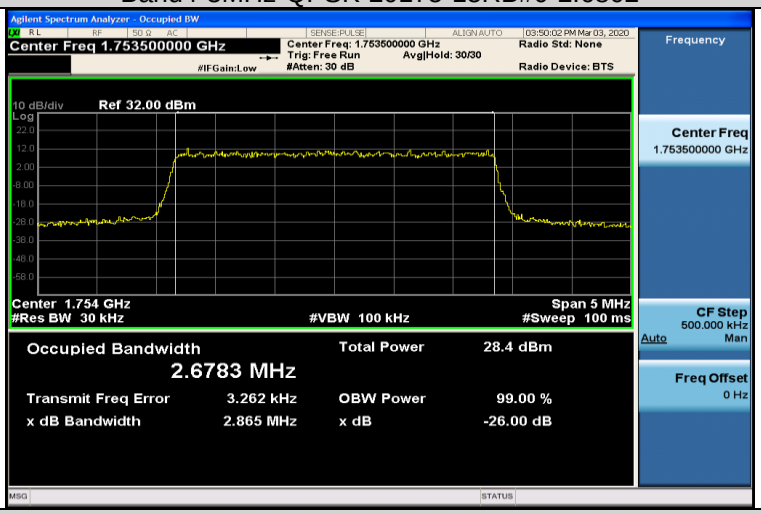
Band4-1.4MHz-16QAM-20393-6RB#0-1.0809



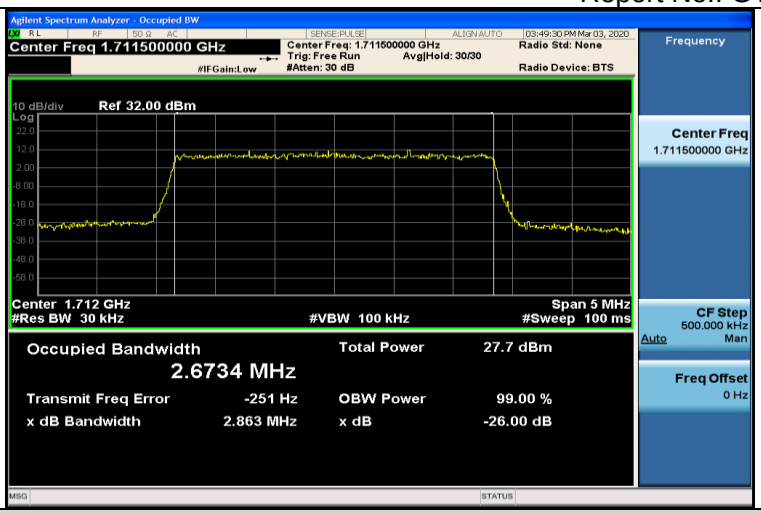
Band4-3MHz-QPSK-19965-15RB#0-2.6830



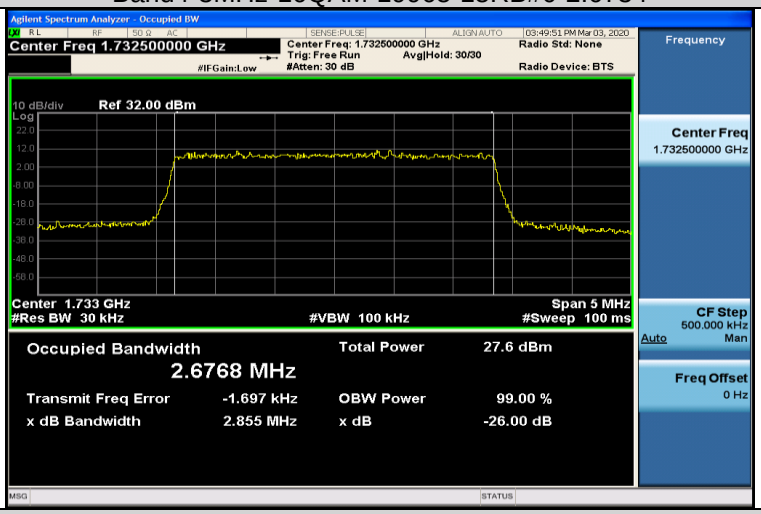
Band4-3MHz-QPSK-20175-15RB#0-2.6802



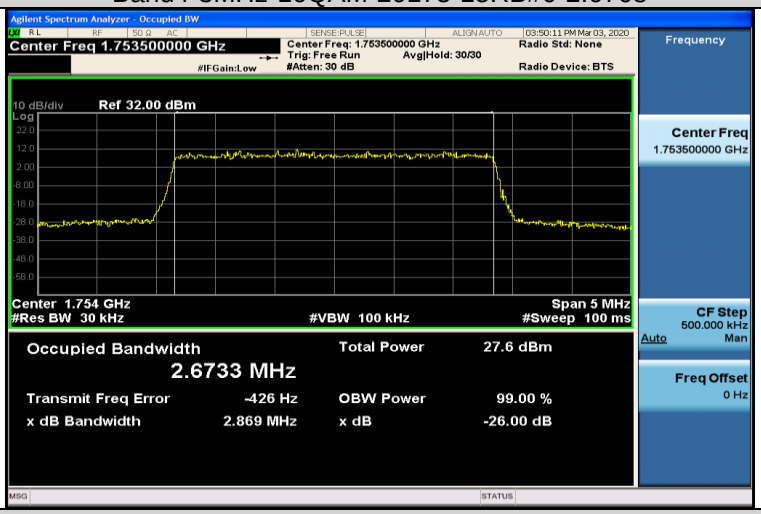
Band4-3MHz-QPSK-20385-15RB#0-2.6783



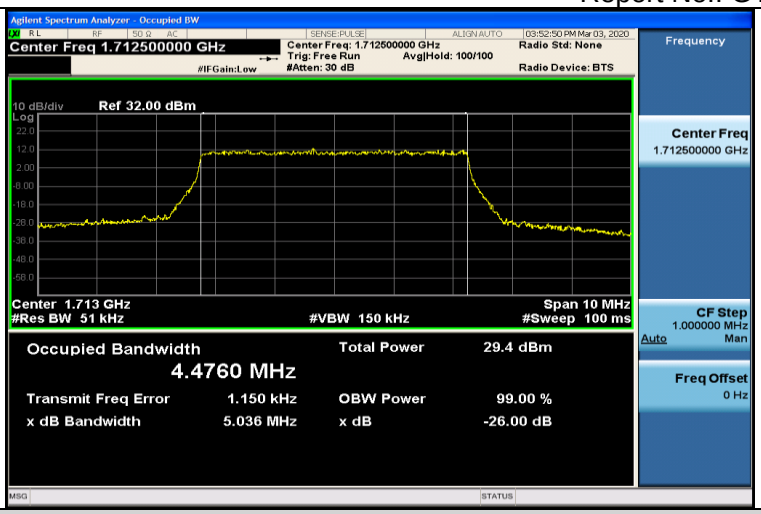
Band4-3MHz-16QAM-19965-15RB#0-2.6734



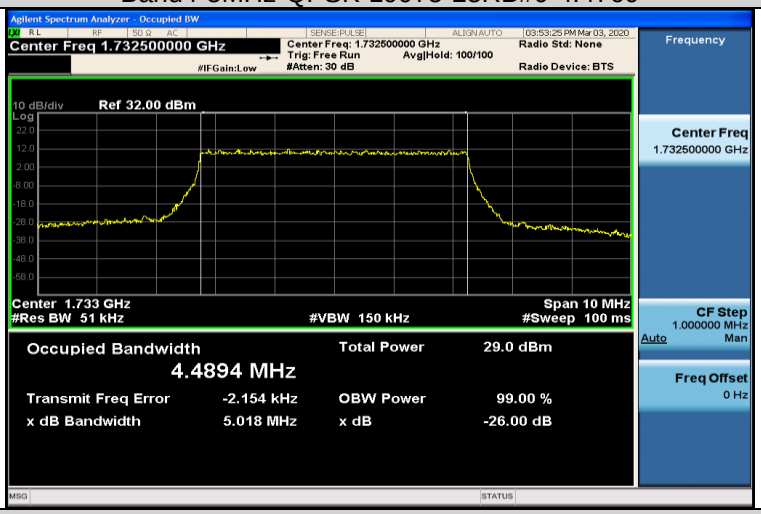
Band4-3MHz-16QAM-20175-15RB#0-2.6768



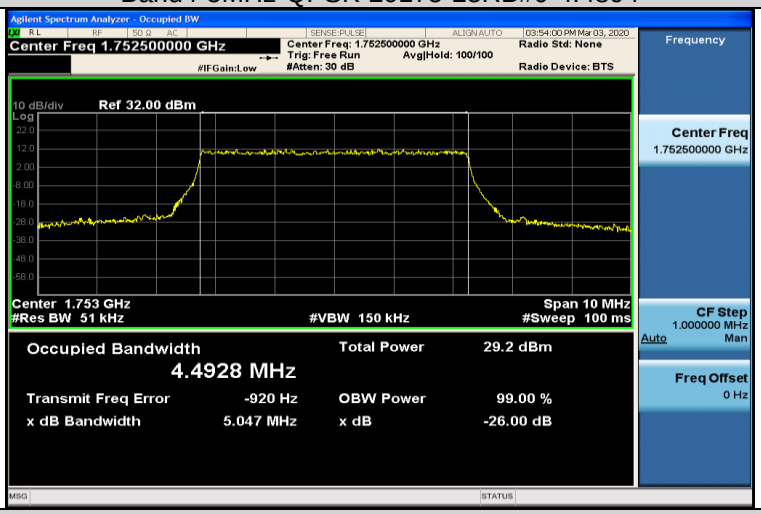
Band4-3MHz-16QAM-20385-15RB#0-2.6733



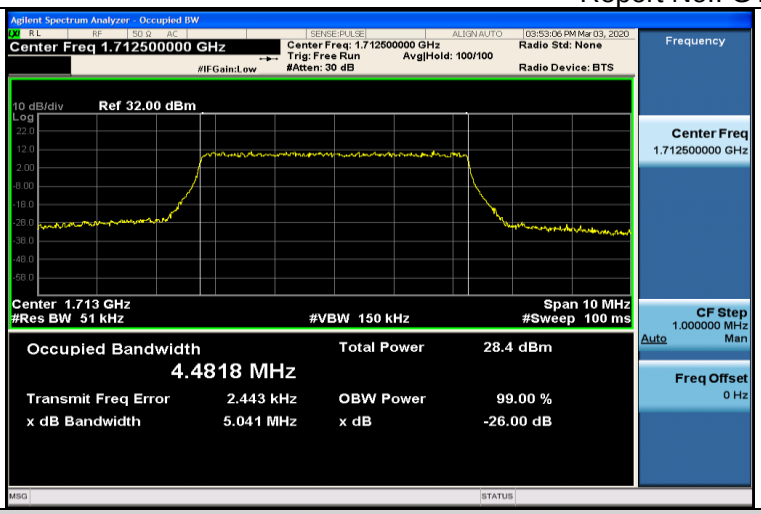
Band4-5MHz-QPSK-19975-25RB#0-4.4760



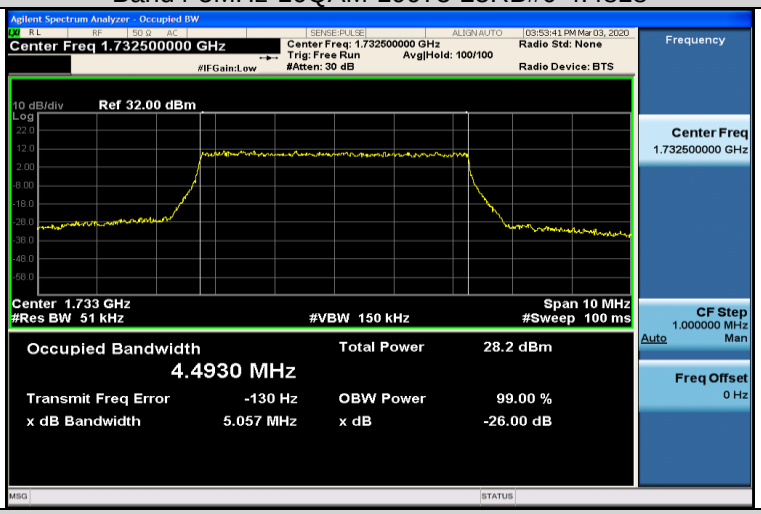
Band4-5MHz-QPSK-20175-25RB#0-4.4894



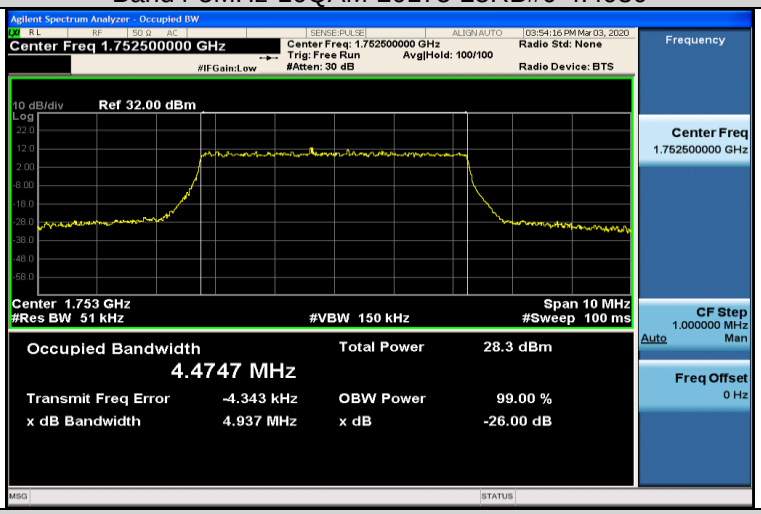
Band4-5MHz-QPSK-20375-25RB#0-4.4928



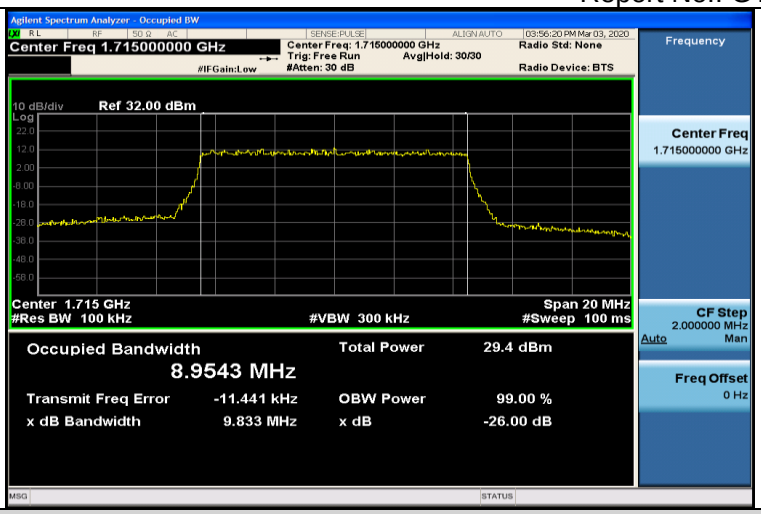
Band4-5MHz-16QAM-19975-25RB#0-4.4818



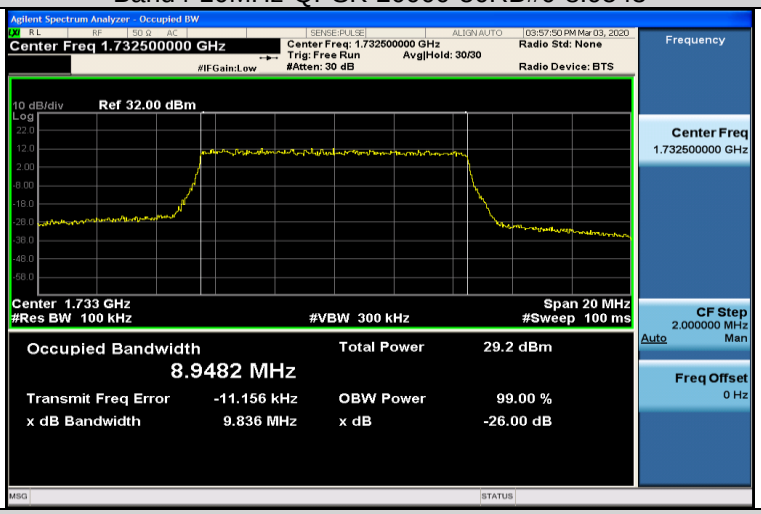
Band4-5MHz-16QAM-20175-25RB#0-4.4930



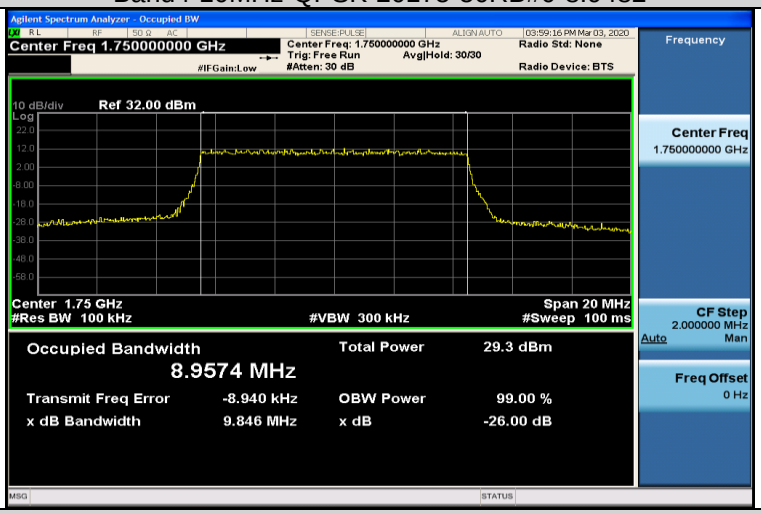
Band4-5MHz-16QAM-20375-25RB#0-4.4747



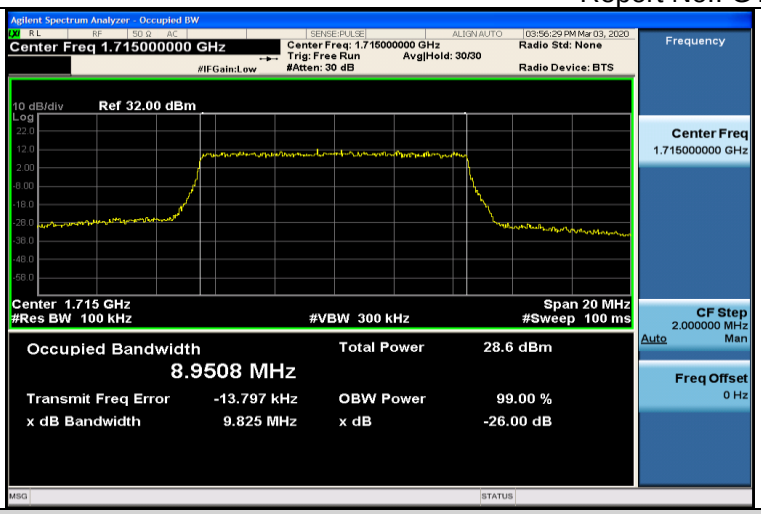
Band4-10MHz-QPSK-20000-50RB#0-8.9543



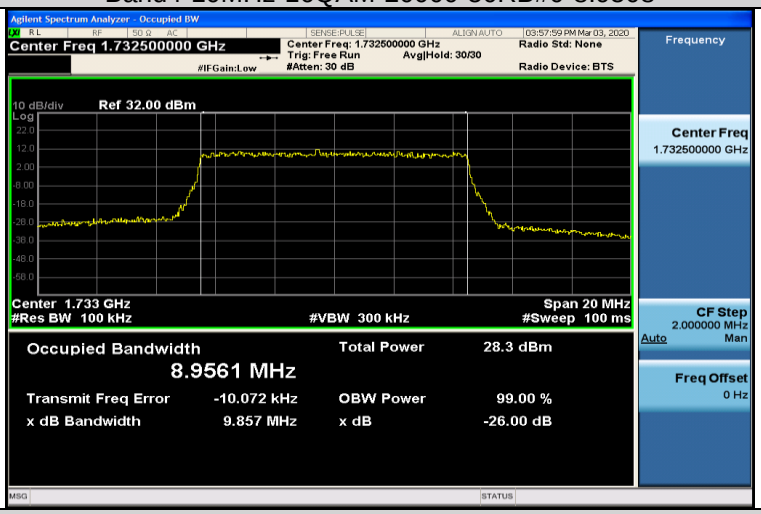
Band4-10MHz-QPSK-20175-50RB#0-8.9482



Band4-10MHz-QPSK-20350-50RB#0-8.9574



Band4-10MHz-16QAM-20000-50RB#0-8.9508



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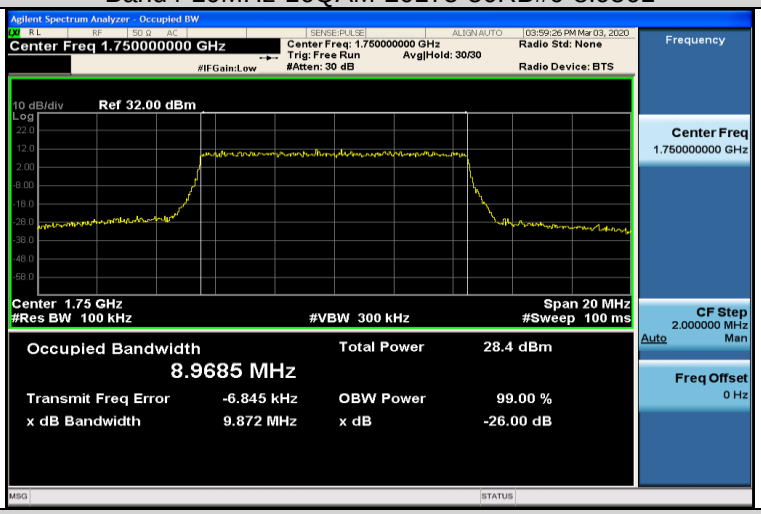

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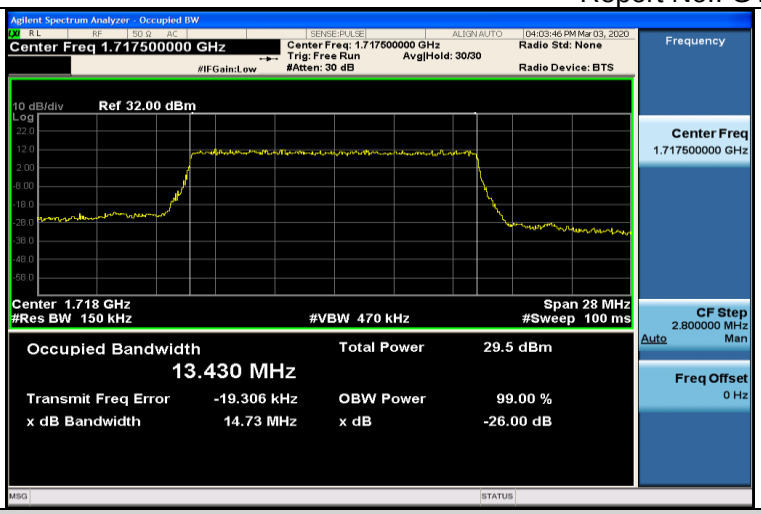
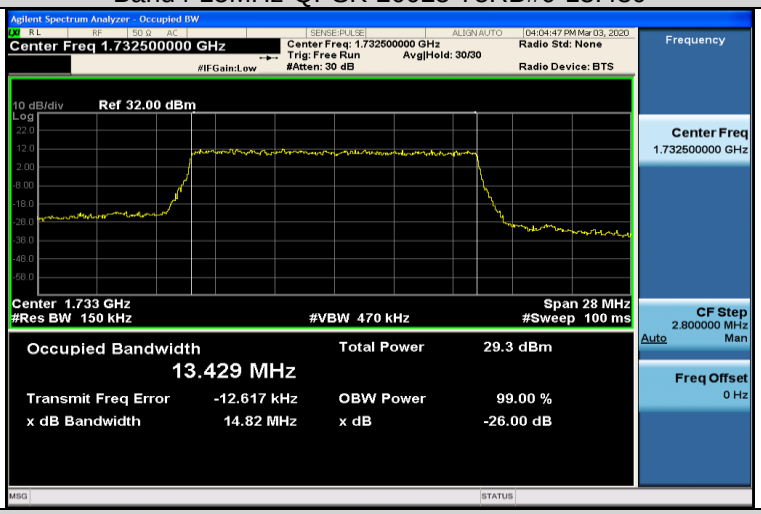
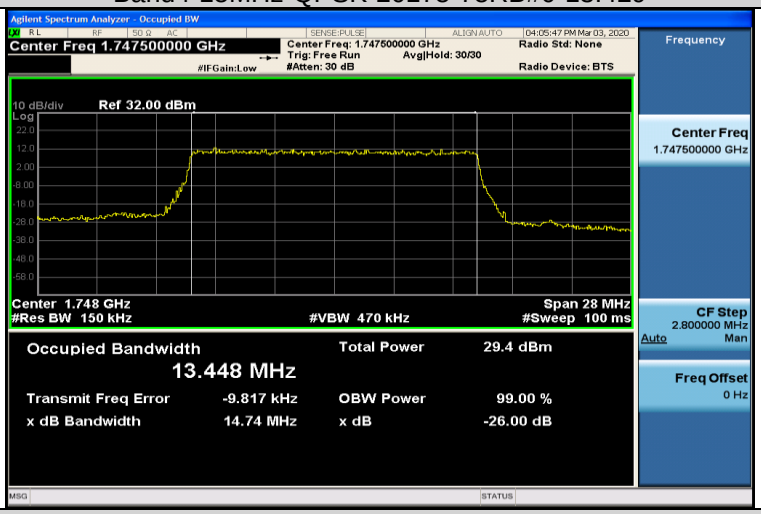


Band4-15MHz-QPSK-20025-75RB#0-13.430



Band4-15MHz-QPSK-20175-75RB#0-13.429



Band4-15MHz-QPSK-20325-75RB#0-13.448