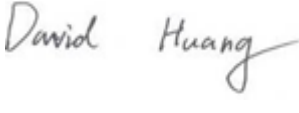


RF TEST REPORT



Report No.: 18070046-FCC-R5

Supersede Report No.: N/A

Applicant	BLU Products, Inc	
Product Name	Mobile Phone	
Model No.	VIVO ONE PLUS	
Serial No.	N/A	
Test Standard	FCC Part 22(H):2016, FCC Part 24(E):2016, FCC Part 27: 2016; ANSI/TIA-603-D: 2010	
Test Date	January 13 to January 28, 2018	
Issue Date	January 29, 2018	
Test Result	☒ Pass ☐ Fail	
Equipment complied with the specification	☒	
Equipment did not comply with the specification	☐	
		
Aaron Liang Test Engineer	David Huang Checked By	
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108

Test Report	18070046-FCC-R5
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Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
18070046-FCC-R5	NONE	Original	January 29, 2018

2. Customer information

Applicant Name	BLU Products,Inc
Applicant Add	10814 NW 33rd St # 100 Doral, FL 33172
Manufacturer	BLU Products,Inc
Manufacturer Add	10814 NW 33rd St # 100 Doral, FL 33172

3. Test site information

Test Lab A:

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	535293
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

Test Lab B:

Lab performing tests	SIEMIC (Nanjing-China) Laboratories
Lab Address	2-1 Longcang Avenue Yuhua Economic and Technology Development Park, Nanjing, China
FCC Test Site No.	694825
IC Test Site No.	4842B-1
Test Software	EZ_EMG(ver.lcp-03A1)

Note: We just perform Radiated Spurious Emission above 18GHz in the test Lab. B.

4. Equipment under Test (EUT) Information

Description of EUT:	Mobile Phone
Main Model:	VIVO ONE PLUS
Serial Model:	N/A
Date EUT received:	January 12, 2018
Test Date(s):	January 13 to January 28, 2018
Equipment Category :	PCE
Antenna Gain:	GSM850: -2.8dBi PCS1900: -2.3dBi UMTS-FDD Band V: -2.5dBi UMTS-FDD Band IV: -2.5dBi UMTS-FDD Band II: -2.5dBi LTE Band II: -2.5dBi LTE Band IV: -2.5dBi LTE Band VII: -3.0dBi LTE Band XII: -2.8dBi LTE Band XVII: -2.8dBi Bluetooth/BLE: -2.7dBi WIFI: -2.7dBi GPS: -2.5dBi
Antenna Type:	PIFA Antenna
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK UMTS-FDD: QPSK LTE Band: QPSK, 16QAM 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, $\pi/4$ DQPSK, 8DPSK BLE: GFSK GPS: BPSK

	GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band IV TX:1712.4 ~ 1752.6 MHz; RX : 2112.4 ~ 2152.6 MHz UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz; RX: 1932.4 ~ 1987.6 MHz
RF Operating Frequency (ies):	LTE Band II TX: 1850.7 ~ 1909.3MHz; RX : 1930.7 ~ 1989.3 MHz LTE Band IV TX: 1710.7 ~ 1754.3 MHz; RX : 2110.7~ 2154.3 MHz LTE Band VII TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz LTE Band XII TX:699.7 ~ 715.3 MHz; RX : 729.7~ 745.3MHz LTE Band XVII TX: 706.5 ~ 713.5 MHz; RX : 736.5 ~ 743.5 MHz WIFI: 802.11b/g/n(20M): 2412-2462 MHz WIFI: 802.11n(40M): 2422-2452 MHz Bluetooth& BLE: 2402-2480 MHz GPS: 1575.42 MHz
Maximum Conducted AV Power to Antenna:	LTE Band II: 23.16 dBm LTE Band IV: 22.84 dBm LTE Band VII: 22.56 dBm LTE Band XII: 23.98 dBm LTE Band XVII: 23.26 dBm
ERP/EIRP:	LTE Band II: 20.61 dBm / EIRP LTE Band IV: 20.23 dBm / EIRP LTE Band VII: 19.50 dBm / EIRP LTE Band XII: 21.32 dBm / EIRP LTE Band XVII: 20.92dBm / ERP
Port:	USB Port, Earphone Port
Input Power:	Adapter : Model: TPA-46050200UU Input: AC100-240V~50/60Hz,0.3A Output: DC 5V, 2A Battery: Model: C916241400P Spec: 3.85V, 4000mAh,15.4Wh Voltage: 4.4V

Brand Name : BLU

Trade Name :



GPRS/EGPRS Multi-slot class 8/10/11/12

FCC ID: YHLBLUVOONEPLUS

5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§ 1.1307; § 2.1093	RF Exposure (SAR)	Compliance
§2.1046; § 22.913(a); § 24.232(c); § 27.50(c.10); § 27.50(d.4)	RF Output Power	Compliance
§ 24.232 (d); § 27.50(d)	Peak-Average Ratio	Compliance
§ 2.1049; § 22.905; § 22.917; § 24.238; § 27.53(a.5)	99% & -26 dB Occupied Bandwidth	Compliance
§ 2.1051; § 22.917(a); § 24.238(a); § 27.53(h)	Spurious Emissions at Antenna Terminal	Compliance
§ 2.1053; § 22.917(a); § 24.238(a); § 27.53(h)	Field Strength of Spurious Radiation	Compliance
§ 22.917(a); § 24.238(a);	Out of band emission, Band Edge	Compliance
§ 27.53(m)	Band Edge 27.53(m)	Compliance
§ 2.1055; § 22.355; § 24.235; § 27.5(h); § 27.54	Frequency stability vs. temperature Frequency stability vs. voltage	Compliance

Note: Testing was performed by configuring EUT to maximum output power status, the declared output power class for different

Measurement Uncertainty

Emissions		
Test Item	Description	Uncertainty
Band Edge and Radiated Spurious Emissions	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

6. MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

6.1 RF Exposure (SAR)

Test Result: Pass

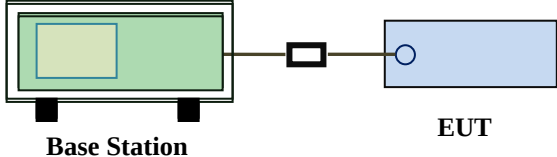
The EUT is a portable device, thus requires SAR evaluation;
Please refer to RF Exposure Evaluation Report: 18070046-FCC-H.

6.2 RF Output Power

Temperature	25 °C
Relative Humidity	55%
Atmospheric Pressure	1017mbar
Test date :	January 23, 2018
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§22.913 (a)	a)	ERP:38.45dBm	☒
§24.232 (c)	b)	EIRP:33dBm	☒
§27.50 (c)	c)	EIRP: 30dBm	☒

Test Setup	 Base Station EUT
------------	--

Test Procedure	For Conducted Power: - The transmitter output port was connected to base station. - Set EUT at maximum power through base station. - Select lowest, middle, and highest channels for each band and different test mode. For ERP/EIRP: - The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable. - The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis. - The frequency range up to tenth harmonic of the fundamental frequency was investigated.
----------------	---

	- Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution. - Spurious emissions in dB = $10 \log (\text{TX power in Watts}/0.001)$ – the absolute level - Spurious attenuation limit in dB = $43 + 10 \text{ Log}_{10} (\text{power out in Watts})$.
Remark	
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Conducted Power

LTE Band II:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	18700	1860.0	QPSK	1	0	0	22.37	21.8±1
				1	49	0	22.45	21.8±1
				1	99	0	22.39	21.8±1
				50	0	1	21.51	21.8±1
				50	24	1	21.41	21.8±1
				50	49	1	21.57	21.8±1
			16QAM	100	0	1	21.53	21.8±1
				1	0	1	21.21	21.3±1
				1	49	1	21.17	21.3±1
				1	99	1	21.15	21.3±1
				50	0	2	20.48	21.3±1
				50	24	2	20.55	21.3±1
				50	49	2	20.42	21.3±1
				100	0	2	20.49	21.3±1
	18900	1880.0	QPSK	1	0	0	22.35	21.7±1
				1	49	0	20.55	21.7±1
				1	99	0	22.37	21.7±1
				50	0	1	21.67	21.7±1
				50	24	1	21.75	21.7±1
				50	49	1	21.76	21.7±1
			16QAM	100	0	1	21.71	21.7±1
				1	0	1	21.72	21.3±1
				1	49	1	21.67	21.3±1
				1	99	1	21.68	21.3±1
				50	0	2	20.71	21.3±1
				50	24	2	20.65	21.3±1
				50	49	2	20.73	21.3±1
				100	0	2	20.72	21.3±1
	19100	1900.0	QPSK	1	0	0	22.89	22.1±1
				1	49	0	22.98	22.1±1
				1	99	0	22.82	22.1±1
				50	0	1	22.76	22.1±1
				50	24	1	22.79	22.1±1
				50	49	1	22.66	22.1±1
			16QAM	100	0	1	22.51	22.1±1
				1	0	1	22.61	22.3±1
				1	49	1	22.63	22.3±1
				1	99	1	22.66	22.3±1
				50	0	2	20.77	21.3±1
				50	24	2	20.84	21.3±1
				50	49	2	20.7	21.3±1
				100	0	2	20.75	21.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
15MHz	18675	1857.5	QPSK	1	0	0	22.64	22.3±1
				1	37	0	22.68	22.3±1
				1	74	0	22.56	22.3±1
				36	0	1	21.85	22.3±1
				36	16	1	21.81	22.3±1
				36	35	1	21.92	22.3±1
				75	0	1	21.9	22.3±1
			16QAM	1	0	1	22.15	21.3±1
				1	37	1	22.15	21.3±1
				1	74	1	22.18	21.3±1
				36	0	2	20.89	21.3±1
				36	16	2	20.93	21.3±1
				36	35	2	20.89	21.3±1
				75	0	2	20.9	21.3±1
	18900	1880.0	QPSK	1	0	0	22.37	21.8±1
				1	37	0	20.93	21.8±1
				1	74	0	22.27	21.8±1
				36	0	1	21.55	21.8±1
				36	16	1	21.5	21.8±1
				36	35	1	21.64	21.8±1
				75	0	1	21.75	21.8±1
			16QAM	1	0	1	21.62	21.3±1
				1	37	1	21.63	21.3±1
				1	74	1	21.56	21.3±1
				36	0	2	20.56	21.3±1
				36	16	2	20.59	21.3±1
				36	35	2	20.5	21.3±1
				75	0	2	20.57	21.3±1
	19125	1902.5	QPSK	1	0	0	22.56	22.2±1
				1	37	0	22.51	22.2±1
				1	74	0	22.46	22.2±1
				36	0	1	21.85	22.2±1
				36	16	1	21.86	22.2±1
				36	35	1	21.86	22.2±1
				75	0	1	21.86	22.2±1
			16QAM	1	0	1	22.08	21.4±1
				1	37	1	22.18	21.4±1
				1	74	1	22.08	21.4±1
				36	0	2	20.88	21.4±1
				36	16	2	20.86	21.4±1
				36	35	2	20.82	21.4±1
				75	0	2	20.89	21.4±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	18650	1855	QPSK	1	0	0	22.31	22.6±1
				1	24	0	22.26	22.6±1
				1	49	0	22.41	22.6±1
				25	0	1	21.43	22.6±1
				25	12	1	21.35	22.6±1
				25	24	1	21.37	22.6±1
				50	0	1	21.51	22.6±1
			16QAM	1	0	1	21.38	21.8±1
				1	24	1	21.35	21.8±1
				1	49	1	21.29	21.8±1
				25	0	2	20.67	21.5±1
				25	12	2	20.76	21.5±1
				25	24	2	20.58	21.5±1
				50	0	2	20.57	21.5±1
	18900	1880.0	QPSK	1	0	0	22.63	21.8±1
				1	24	0	20.76	21.8±1
				1	49	0	22.59	21.8±1
				25	0	1	21.78	21.8±1
				25	12	1	21.74	21.8±1
				25	24	1	21.81	21.8±1
				50	0	1	21.8	21.8±1
			16QAM	1	0	1	22.21	21.8±1
				1	24	1	22.15	21.8±1
				1	49	1	22.22	21.8±1
				25	0	2	20.86	21.8±1
				25	12	2	20.87	21.8±1
				25	24	2	20.84	21.8±1
				50	0	2	20.88	21.8±1
	19150	1905	QPSK	1	0	0	22.91	22.6±1
				1	24	0	22.89	22.6±1
				1	49	0	22.89	22.6±1
				25	0	1	21.98	22.6±1
				25	12	1	22.02	22.6±1
				25	24	1	21.99	22.6±1
				50	0	1	21.95	22.6±1
			16QAM	1	0	1	21.66	21.8±1
				1	24	1	21.57	21.8±1
				1	49	1	21.72	21.8±1
				25	0	2	21.02	21.8±1
				25	12	2	21.05	21.8±1
				25	24	2	20.97	21.8±1
				50	0	2	20.96	21.8±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	18625	1852.5	QPSK	1	0	0	22.58	22.1±1
				1	12	0	22.6	22.1±1
				1	24	0	22.51	22.1±1
				12	0	1	21.59	22.1±1
				12	6	1	21.63	22.1±1
				12	11	1	21.64	22.1±1
				25	0	1	21.66	22.1±1
			16QAM	1	0	1	21.88	21.3±1
				1	12	1	21.93	21.3±1
				1	24	1	21.8	21.3±1
				12	0	2	20.76	21.3±1
				12	6	2	20.7	21.3±1
				12	11	2	20.77	21.3±1
				25	0	2	20.68	21.3±1
	18900	1880.0	QPSK	1	0	0	22.73	21.7±1
				1	12	0	20.7	21.7±1
				1	24	0	22.65	21.7±1
				12	0	1	21.7	21.7±1
				12	6	1	21.6	21.7±1
				12	11	1	21.62	21.7±1
				25	0	1	21.78	21.7±1
			16QAM	1	0	1	21.62	21.2±1
				1	12	1	21.72	21.2±1
				1	24	1	21.58	21.2±1
				12	0	2	20.8	21.2±1
				12	6	2	20.88	21.2±1
				12	11	2	20.86	21.2±1
				25	0	2	20.83	21.2±1
	19175	1907.5	QPSK	1	0	0	22.75	22.3±1
				1	12	0	22.82	22.3±1
				1	24	0	22.8	22.3±1
				12	0	1	21.88	22.3±1
				12	6	1	21.93	22.3±1
				12	11	1	21.96	22.3±1
				25	0	1	21.88	22.3±1
			16QAM	1	0	1	21.75	21.4±1
				1	12	1	21.75	21.4±1
				1	24	1	21.71	21.4±1
				12	0	2	20.88	21.4±1
				12	6	2	20.92	21.4±1
				12	11	2	20.88	21.4±1
				25	0	2	20.94	21.4±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	18625	1852.5	QPSK	1	0	0	22.7	22.2±1
				1	7	0	22.6	22.2±1
				1	14	0	22.73	22.2±1
				8	0	1	21.58	22.2±1
				8	4	1	21.56	22.2±1
				8	7	1	21.57	22.2±1
				15	0	1	21.6	22.2±1
			16QAM	1	0	1	21.46	21±1
				1	7	1	21.53	21±1
				1	14	1	21.52	21±1
				8	0	2	20.56	21±1
				8	4	2	20.46	21±1
				8	7	2	20.48	21±1
				15	0	2	20.58	21±1
	18900	1880.0	QPSK	1	0	0	22.7	21.7±1
				1	7	0	20.46	21.7±1
				1	14	0	22.65	21.7±1
				8	0	1	21.71	21.7±1
				8	4	1	21.8	21.7±1
				8	7	1	21.65	21.7±1
				15	0	1	21.75	21.7±1
			16QAM	1	0	1	22.26	21.5±1
				1	7	1	22.3	21.5±1
				1	14	1	22.18	21.5±1
				8	0	2	20.76	21.5±1
				8	4	2	20.75	21.5±1
				8	7	2	20.68	21.5±1
				15	0	2	20.86	21.5±1
	19175	1907.5	QPSK	1	0	0	22.98	22.4±1
				1	7	0	23.04	22.4±1
				1	14	0	22.97	22.4±1
				8	0	1	21.88	22.4±1
				8	4	1	21.92	22.4±1
				8	7	1	21.95	22.4±1
				15	0	1	21.88	22.4±1
			16QAM	1	0	1	21.86	21.3±1
				1	7	1	21.81	21.3±1
				1	14	1	21.85	21.3±1
				8	0	2	20.74	21.3±1
				8	4	2	20.84	21.3±1
				8	7	2	20.65	21.3±1
				15	0	2	20.93	21.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	18607	1850.7	QPSK	1	0	0	23.05	22.6±1
				1	2	0	23.03	22.6±1
				1	5	0	23.07	22.6±1
				3	0	0	23.13	22.6±1
				3	1	0	23.1	22.6±1
				3	2	0	23.16	22.6±1
				6	0	1	22.13	22.6±1
			16QAM	1	0	1	21.66	21.7±1
				1	2	1	21.71	21.7±1
				1	5	1	21.61	21.7±1
				3	0	1	22.3	21.7±1
				3	1	1	22.26	21.7±1
				3	2	1	22.37	21.7±1
				6	0	2	21.02	21.7±1
	18900	1880.0	QPSK	1	0	0	23.11	22.7±1
				1	2	0	22.26	22.7±1
				1	5	0	23.06	22.7±1
				3	0	0	23.01	22.7±1
				3	1	0	23.08	22.7±1
				3	2	0	23.07	22.7±1
				6	0	1	22.28	22.7±1
			16QAM	1	0	1	21.03	21.7±1
				1	2	1	21.01	21.7±1
				1	5	1	21.07	21.7±1
				3	0	1	22.31	21.7±1
				3	1	1	22.28	21.7±1
				3	2	1	22.24	21.7±1
				6	0	2	21.23	21.7±1
	19193	1909.3	QPSK	1	0	0	22.9	22.6±1
				1	2	0	22.87	22.6±1
				1	5	0	22.9	22.6±1
				3	0	0	22.85	22.6±1
				3	1	0	22.78	22.6±1
				3	2	0	22.81	22.6±1
				6	0	1	22.15	22.6±1
			16QAM	1	0	1	21.78	21.5±1
				1	2	1	21.74	21.5±1
				1	5	1	21.87	21.5±1
				3	0	1	22.04	21.5±1
				3	1	1	22.12	21.5±1
				3	2	1	22.09	21.5±1
				6	0	2	20.8	21.5±1

LTE Band IV:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	20050	1720.0	QPSK	1	0	0	22.21	21.9±1
				1	49	0	22.19	21.9±1
				1	99	0	22.19	21.9±1
				50	0	1	21.73	21.9±1
				50	24	1	21.72	21.9±1
				50	49	1	21.72	21.9±1
				100	0	1	21.47	21.9±1
			16QAM	1	0	1	21.11	20.8±1
				1	49	1	21.06	20.8±1
				1	99	1	21.01	20.8±1
				50	0	2	20.76	20.8±1
				50	24	2	20.86	20.8±1
				50	49	2	20.78	20.8±1
				100	0	2	20.42	20.8±1
	20175	1732.5	QPSK	1	0	0	22.05	21.5±1
				1	49	0	20.86	21.5±1
				1	99	0	22.01	21.5±1
				50	0	1	21.32	21.5±1
				50	24	1	21.31	21.5±1
				50	49	1	21.33	21.5±1
				100	0	1	21.28	21.5±1
			16QAM	1	0	1	21.49	20.9±1
				1	49	1	21.55	20.9±1
				1	99	1	21.58	20.9±1
				50	0	2	20.25	20.9±1
				50	24	2	20.16	20.9±1
				50	49	2	20.35	20.9±1
				100	0	2	20.21	20.9±1
	20300	1745.0	QPSK	1	0	0	21.91	21.7±1
				1	49	0	21.81	21.7±1
				1	99	0	21.98	21.7±1
				50	0	1	21.38	21.7±1
				50	24	1	21.35	21.7±1
				50	49	1	21.43	21.7±1
				100	0	1	21.33	21.7±1
			16QAM	1	0	1	21.23	20.8±1
				1	49	1	21.24	20.8±1
				1	99	1	21.27	20.8±1
				50	0	2	20.42	20.8±1
				50	24	2	20.43	20.8±1
				50	49	2	20.42	20.8±1
				100	0	2	20.38	20.8±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
15MHz	20025	1717.5	QPSK	1	0	0	22.36	21.9±1
				1	37	0	22.26	21.9±1
				1	74	0	22.37	21.9±1
				36	0	1	21.53	21.9±1
				36	16	1	21.57	21.9±1
				36	35	1	21.54	21.9±1
				75	0	1	21.51	21.9±1
			16QAM	1	0	1	21.24	20.8±1
				1	37	1	21.29	20.8±1
				1	74	1	21.14	20.8±1
				36	0	2	20.43	20.8±1
				36	16	2	20.38	20.8±1
				36	35	2	20.39	20.8±1
				75	0	2	20.48	20.8±1
	20175	1732.5	QPSK	1	0	0	22.21	21.3±1
				1	37	0	20.38	21.3±1
				1	74	0	22.27	21.3±1
				36	0	1	21.41	21.3±1
				36	16	1	21.41	21.3±1
				36	35	1	21.49	21.3±1
				75	0	1	21.35	21.3±1
			16QAM	1	0	1	21.84	21.1±1
				1	37	1	21.79	21.1±1
				1	74	1	21.88	21.1±1
				36	0	2	20.42	21.1±1
				36	16	2	20.49	21.1±1
				36	35	2	20.47	21.1±1
				75	0	2	20.37	21.1±1
	20325	1747.5	QPSK	1	0	0	22.15	21.8±1
				1	37	0	22.19	21.8±1
				1	74	0	22.12	21.8±1
				36	0	1	21.34	21.8±1
				36	16	1	21.43	21.8±1
				36	35	1	21.41	21.8±1
				75	0	1	21.4	21.8±1
			16QAM	1	0	1	21.41	20.9±1
				1	37	1	21.38	20.9±1
				1	74	1	21.34	20.9±1
				36	0	2	20.41	20.9±1
				36	16	2	20.37	20.9±1
				36	35	2	20.37	20.9±1
				75	0	2	20.36	20.9±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	20000	1715.0	QPSK	1	0	0	22.49	22±1
				1	24	0	22.48	22±1
				1	49	0	22.47	22±1
				25	0	1	21.51	22±1
				25	12	1	21.6	22±1
				25	24	1	21.51	22±1
			16QAM	50	0	1	21.5	22±1
				1	0	1	21.28	20.9±1
				1	24	1	21.28	20.9±1
				1	49	1	21.35	20.9±1
				25	0	2	20.51	20.9±1
				25	12	2	20.48	20.9±1
				25	24	2	20.49	20.9±1
				50	0	2	20.5	20.9±1
	20175	1732.5	QPSK	1	0	0	22.23	21.4±1
				1	24	0	20.48	21.4±1
				1	49	0	22.13	21.4±1
				25	0	1	21.37	21.4±1
				25	12	1	21.4	21.4±1
				25	24	1	21.45	21.4±1
			16QAM	50	0	1	21.34	21.4±1
				1	0	1	21.88	21.1±1
				1	24	1	21.85	21.1±1
				1	49	1	21.94	21.1±1
				25	0	2	20.43	21.1±1
				25	12	2	20.47	21.1±1
				25	24	2	20.45	21.1±1
				50	0	2	20.35	21.1±1
	20350	1750.0	QPSK	1	0	0	22.26	21.7±1
				1	24	0	22.18	21.7±1
				1	49	0	22.25	21.7±1
				25	0	1	21.26	21.7±1
				25	12	1	21.29	21.7±1
				25	24	1	21.24	21.7±1
			16QAM	50	0	1	21.31	21.7±1
				1	0	1	21.18	20.9±1
				1	24	1	21.2	20.9±1
				1	49	1	21.08	20.9±1
				25	0	2	20.44	20.9±1
				25	12	2	20.51	20.9±1
				25	24	2	20.39	20.9±1
				50	0	2	20.43	20.9±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	20000	1715.0	QPSK	1	0	0	22.23	21.8±1
				1	12	0	22.14	21.8±1
				1	24	0	22.21	21.8±1
				12	0	1	21.43	21.8±1
				12	6	1	21.33	21.8±1
				12	11	1	21.46	21.8±1
				25	0	1	21.45	21.8±1
			16QAM	1	0	1	21.31	20.8±1
				1	12	1	21.39	20.8±1
				1	24	1	21.35	20.8±1
				12	0	2	20.32	20.8±1
				12	6	2	20.24	20.8±1
				12	11	2	20.29	20.8±1
				25	0	2	20.89	20.8±1
	20175	1732.5	QPSK	1	0	0	21.18	20.8±1
				1	12	0	20.24	20.8±1
				1	24	0	21.18	20.8±1
				12	0	1	21.31	20.8±1
				12	6	1	21.23	20.8±1
				12	11	1	21.37	20.8±1
				25	0	1	21.26	20.8±1
			16QAM	1	0	1	21.22	20.6±1
				1	12	1	21.18	20.6±1
				1	24	1	21.27	20.6±1
				12	0	2	20.32	20.6±1
				12	6	2	20.25	20.6±1
				12	11	2	20.29	20.6±1
				25	0	2	20.35	20.6±1
	20350	1750.0	QPSK	1	0	0	22.21	21±1
				1	12	0	22.16	21±1
				1	24	0	22.16	21±1
				12	0	1	21.21	21±1
				12	6	1	21.11	21±1
				12	11	1	21.26	21±1
				25	0	1	21.27	21±1
			16QAM	1	0	1	21.12	20.7±1
				1	12	1	21.08	20.7±1
				1	24	1	21.12	20.7±1
				12	0	2	20.26	20.7±1
				12	6	2	20.25	20.7±1
				12	11	2	20.31	20.7±1
				25	0	2	20.36	20.7±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	19965	1711.5	QPSK	1	0	0	22.43	21.9±1
				1	7	0	22.42	21.9±1
				1	14	0	22.33	21.9±1
				8	0	1	21.38	21.9±1
				8	4	1	21.37	21.9±1
				8	7	1	21.41	21.9±1
				15	0	1	21.36	21.9±1
			16QAM	1	0	1	21.28	20.8±1
				1	7	1	21.23	20.8±1
				1	14	1	21.18	20.8±1
				8	0	2	20.32	20.8±1
				8	4	2	20.31	20.8±1
				8	7	2	20.42	20.8±1
				15	0	2	20.33	20.8±1
	20175	1732.5	QPSK	1	0	0	22.24	21.3±1
				1	7	0	20.31	21.3±1
				1	14	0	22.2	21.3±1
				8	0	1	21.58	21.3±1
				8	4	1	21.58	21.3±1
				8	7	1	21.59	21.3±1
				15	0	1	21.62	21.3±1
			16QAM	1	0	1	21.88	21.2±1
				1	7	1	21.9	21.2±1
				1	14	1	21.98	21.2±1
				8	0	2	20.58	21.2±1
				8	4	2	20.52	21.2±1
				8	7	2	20.65	21.2±1
				15	0	2	20.78	21.2±1
	20385	1753.5	QPSK	1	0	0	22.25	21.7±1
				1	7	0	22.15	21.7±1
				1	14	0	22.17	21.7±1
				8	0	1	21.16	21.7±1
				8	4	1	21.08	21.7±1
				8	7	1	21.16	21.7±1
				15	0	1	21.21	21.7±1
			16QAM	1	0	1	21.16	20.8±1
				1	7	1	21.17	20.8±1
				1	14	1	21.24	20.8±1
				8	0	2	20.35	20.8±1
				8	4	2	20.33	20.8±1
				8	7	2	20.29	20.8±1
				15	0	2	20.3	20.8±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	19957	1710.7	QPSK	1	0	0	22.43	22.3±1
				1	2	0	22.35	22.3±1
				1	5	0	22.43	22.3±1
				3	0	0	22.47	22.3±1
				3	1	0	22.54	22.3±1
				3	2	0	22.46	22.3±1
				6	0	1	21.94	22.3±1
			16QAM	1	0	1	21.27	21±1
				1	2	1	21.19	21±1
				1	5	1	21.23	21±1
				3	0	1	21.53	21±1
				3	1	1	21.54	21±1
				3	2	1	21.5	21±1
				6	0	2	20.42	21±1
	20175	1732.5	QPSK	1	0	0	22.73	22.1±1
				1	2	0	21.54	22.1±1
				1	5	0	22.68	22.1±1
				3	0	0	22.84	22.1±1
				3	1	0	22.84	22.1±1
				3	2	0	22.8	22.1±1
				6	0	1	21.8	22.1±1
			16QAM	1	0	1	21.33	21.4±1
				1	2	1	21.4	21.4±1
				1	5	1	21.34	21.4±1
				3	0	1	22.01	21.4±1
				3	1	1	22.04	21.4±1
				3	2	1	22	21.4±1
				6	0	2	20.77	21.4±1
	20393	1754.3	QPSK	1	0	0	22.21	21.8±1
				1	2	0	22.22	21.8±1
				1	5	0	22.16	21.8±1
				3	0	0	22.23	21.8±1
				3	1	0	22.28	21.8±1
				3	2	0	22.32	21.8±1
				6	0	1	21.25	21.8±1
			16QAM	1	0	1	21.12	21±1
				1	2	1	21.19	21±1
				1	5	1	21.06	21±1
				3	0	1	21.42	21±1
				3	1	1	21.33	21±1
				3	2	1	21.51	21±1
				6	0	2	20.54	21±1

LTE Band VII:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	20850	2510	QPSK	1	0	0	21.64	21.3±1
				1	49	0	21.74	21.3±1
				1	99	0	21.73	21.3±1
				50	0	1	21.02	21.3±1
				50	24	1	21.04	21.3±1
				50	49	1	20.94	21.3±1
				100	0	1	20.98	21.3±1
			16QAM	1	0	1	21	20.8±1
				1	49	1	20.94	20.8±1
				1	99	1	20.98	20.8±1
				50	0	2	20.52	20.8±1
				50	24	2	20.51	20.8±1
				50	49	2	20.61	20.8±1
				100	0	2	20.47	20.8±1
	21100	2535	QPSK	1	0	0	22.37	21.5±1
				1	49	0	20.51	21.5±1
				1	99	0	22.29	21.5±1
				50	0	1	21.62	21.5±1
				50	24	1	21.58	21.5±1
				50	49	1	21.69	21.5±1
				100	0	1	21.61	21.5±1
			16QAM	1	0	1	21.76	21.2±1
				1	49	1	21.78	21.2±1
				1	99	1	21.83	21.2±1
				50	0	2	20.63	21.2±1
				50	24	2	20.67	21.2±1
				50	49	2	20.59	21.2±1
				100	0	2	20.67	21.2±1
	21350	2560	QPSK	1	0	0	22.5	22.2±1
				1	49	0	22.47	22.2±1
				1	99	0	22.56	22.2±1
				50	0	1	21.81	22.2±1
				50	24	1	21.77	22.2±1
				50	49	1	21.9	22.2±1
				100	0	1	21.77	22.2±1
			16QAM	1	0	1	21.35	21.1±1
				1	49	1	21.39	21.1±1
				1	99	1	21.32	21.1±1
				50	0	2	20.76	21.1±1
				50	24	2	20.67	21.1±1
				50	49	2	20.83	21.1±1
				100	0	2	20.75	21.1±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
15MHz	20825	1717.5	QPSK	1	0	0	21.93	21.5±1
				1	37	0	21.85	21.5±1
				1	74	0	21.88	21.5±1
				36	0	1	21.11	21.5±1
				36	16	1	21.01	21.5±1
				36	35	1	21.13	21.5±1
				75	0	1	21	21.5±1
			16QAM	1	0	1	20.7	20.5±1
				1	37	1	20.61	20.5±1
				1	74	1	20.79	20.5±1
				36	0	2	20.42	20.5±1
				36	16	2	20.46	20.5±1
				36	35	2	20.45	20.5±1
				75	0	2	20.37	20.5±1
	21100	1732.5	QPSK	1	0	0	21.72	21.1±1
				1	37	0	20.46	21.1±1
				1	74	0	21.8	21.1±1
				36	0	1	20.88	21.1±1
				36	16	1	20.82	21.1±1
				36	35	1	20.96	21.1±1
				75	0	1	20.98	21.1±1
			16QAM	1	0	1	21.33	20.8±1
				1	37	1	21.25	20.8±1
				1	74	1	21.31	20.8±1
				36	0	2	20.32	20.8±1
				36	16	2	20.22	20.8±1
				36	35	2	20.38	20.8±1
				75	0	2	20.31	20.8±1
	21375	1747.5	QPSK	1	0	0	21.82	21.4±1
				1	37	0	21.75	21.4±1
				1	74	0	21.75	21.4±1
				36	0	1	21.05	21.4±1
				36	16	1	21.08	21.4±1
				36	35	1	21.03	21.4±1
				75	0	1	21.11	21.4±1
			16QAM	1	0	1	21.13	20.7±1
				1	37	1	21.22	20.7±1
				1	74	1	21.17	20.7±1
				36	0	2	20.36	20.7±1
				36	16	2	20.3	20.7±1
				36	35	2	20.44	20.7±1
				75	0	2	20.31	20.7±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	20800	2502	QPSK	1	0	0	21.95	21.4±1
				1	24	0	22.05	21.4±1
				1	49	0	21.86	21.4±1
				25	0	1	20.85	21.4±1
				25	12	1	20.9	21.4±1
				25	24	1	20.79	21.4±1
				50	0	1	20.82	21.4±1
			16QAM	1	0	1	20.81	20.6±1
				1	24	1	20.72	20.6±1
				1	49	1	20.88	20.6±1
				25	0	2	20.42	20.6±1
				25	12	2	20.4	20.6±1
				25	24	2	20.46	20.6±1
				50	0	2	20.37	20.6±1
	21100	2535	QPSK	1	0	0	21.92	21.2±1
				1	24	0	20.4	21.2±1
				1	49	0	21.91	21.2±1
				25	0	1	20.82	21.2±1
				25	12	1	20.8	21.2±1
				25	24	1	20.91	21.2±1
				50	0	1	20.88	21.2±1
			16QAM	1	0	1	20.7	20.5±1
				1	24	1	20.68	20.5±1
				1	49	1	20.65	20.5±1
				25	0	2	20.35	20.5±1
				25	12	2	20.33	20.5±1
				25	24	2	20.33	20.5±1
				50	0	2	20.36	20.5±1
	21400	2565	QPSK	1	0	0	22.01	21.6±1
				1	24	0	21.92	21.6±1
				1	49	0	22	21.6±1
				25	0	1	21.12	21.6±1
				25	12	1	21.12	21.6±1
				25	24	1	21.16	21.6±1
				50	0	1	21.11	21.6±1
			16QAM	1	0	1	21.54	21±1
				1	24	1	21.61	21±1
				1	49	1	21.64	21±1
				25	0	2	20.36	21±1
				25	12	2	20.39	21±1
				25	24	2	20.33	21±1
				50	0	2	20.32	21±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	19975	1712.5	QPSK	1	0	0	21.86	21.4±1
				1	12	0	21.92	21.4±1
				1	24	0	21.91	21.4±1
				12	0	1	20.88	21.4±1
				12	6	1	20.82	21.4±1
				12	11	1	20.78	21.4±1
				25	0	1	20.86	21.4±1
			16QAM	1	0	1	20.75	20.5±1
				1	12	1	20.82	20.5±1
				1	24	1	20.8	20.5±1
				12	0	2	20.3	20.5±1
				12	6	2	20.29	20.5±1
				12	11	2	20.32	20.5±1
				25	0	2	20.31	20.5±1
	20175	1732.5	QPSK	1	0	0	21.81	21±1
				1	12	0	20.29	21±1
				1	24	0	21.74	21±1
				12	0	1	20.94	21±1
				12	6	1	20.93	21±1
				12	11	1	20.99	21±1
				25	0	1	20.91	21±1
			16QAM	1	0	1	21.21	20.8±1
				1	12	1	21.11	20.8±1
				1	24	1	21.14	20.8±1
				12	0	2	20.31	20.8±1
				12	6	2	20.25	20.8±1
				12	11	2	20.41	20.8±1
				25	0	2	20.32	20.8±1
	20375	1752.5	QPSK	1	0	0	21.93	21.5±1
				1	12	0	21.99	21.5±1
				1	24	0	22.01	21.5±1
				12	0	1	21.11	21.5±1
				12	6	1	21.12	21.5±1
				12	11	1	21.11	21.5±1
				25	0	1	21.11	21.5±1
			16QAM	1	0	1	20.98	20.6±1
				1	12	1	20.88	20.6±1
				1	24	1	21.03	20.6±1
				12	0	2	20.47	20.6±1
				12	6	2	20.44	20.6±1
				12	11	2	20.51	20.6±1
				25	0	2	20.31	20.6±1

LTE Band XII:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	23060	704	QPSK	1	0	0	23.98	23.4±1
				1	24	0	23.91	23.4±1
				1	49	0	23.95	23.4±1
				25	0	1	22.76	23.4±1
				25	12	1	22.8	23.4±1
				25	24	1	22.72	23.4±1
				50	0	1	22.8	23.4±1
			16QAM	1	0	1	22.72	22.2±1
				1	24	1	22.78	22.2±1
				1	49	1	22.82	22.2±1
				25	0	2	21.76	22.2±1
				25	12	2	21.67	22.2±1
				25	24	2	21.69	22.2±1
				50	0	2	21.81	22.2±1
	23095	707.5	QPSK	1	0	0	23.65	22.7±1
				1	24	0	21.67	22.7±1
				1	49	0	23.58	22.7±1
				25	0	1	22.57	22.7±1
				25	12	1	22.62	22.7±1
				25	24	1	22.58	22.7±1
				50	0	1	22.62	22.7±1
			16QAM	1	0	1	23.24	22.4±1
				1	24	1	23.25	22.4±1
				1	49	1	23.15	22.4±1
				25	0	2	21.58	22.4±1
				25	12	2	21.63	22.4±1
				25	24	2	21.64	22.4±1
				50	0	2	21.6	22.4±1
	23130	711	QPSK	1	0	0	23.67	23.1±1
				1	24	0	23.76	23.1±1
				1	49	0	23.63	23.1±1
				25	0	1	22.69	23.1±1
				25	12	1	22.68	23.1±1
				25	24	1	22.72	23.1±1
				50	0	1	22.72	23.1±1
			16QAM	1	0	1	22.56	22.1±1
				1	24	1	22.64	22.1±1
				1	49	1	22.61	22.1±1
				25	0	2	21.77	22.1±1
				25	12	2	21.83	22.1±1
				25	24	2	21.84	22.1±1
				50	0	2	21.72	22.1±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	23035	701.5	QPSK	1	0	0	22.68	22.1±1
				1	12	0	22.65	22.1±1
				1	24	0	22.64	22.1±1
				12	0	1	21.52	22.1±1
				12	6	1	21.59	22.1±1
				12	11	1	21.47	22.1±1
			16QAM	25	0	1	21.42	22.1±1
				1	0	1	23.34	22.8±1
				1	12	1	23.24	22.8±1
				1	24	1	23.41	22.8±1
				12	0	2	22.36	22.8±1
				12	6	2	22.36	22.8±1
				12	11	2	22.3	22.8±1
				25	0	2	22.42	22.8±1
	23095	707.5	QPSK	1	0	0	23.01	22.5±1
				1	12	0	22.36	22.5±1
				1	24	0	23.11	22.5±1
				12	0	1	22.07	22.5±1
				12	6	1	22.05	22.5±1
				12	11	1	22.01	22.5±1
			16QAM	25	0	1	22.08	22.5±1
				1	0	1	22.02	21.5±1
				1	12	1	21.93	21.5±1
				1	24	1	21.99	21.5±1
				12	0	2	21.05	21.5±1
				12	6	2	21.13	21.5±1
				12	11	2	21.06	21.5±1
				25	0	2	21.08	21.5±1
	23155	713.5	QPSK	1	0	0	23.01	22.6±1
				1	12	0	22.98	22.6±1
				1	24	0	23.04	22.6±1
				12	0	1	22.18	22.6±1
				12	6	1	22.16	22.6±1
				12	11	1	22.19	22.6±1
			16QAM	25	0	1	22.27	22.6±1
				1	0	1	22.02	21.5±1
				1	12	1	21.96	21.5±1
				1	24	1	21.97	21.5±1
				12	0	2	21.13	21.5±1
				12	6	2	21.19	21.5±1
				12	11	2	21.08	21.5±1
				25	0	2	21.28	21.5±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	23025	700.5	QPSK	1	0	0	23.44	23±1
				1	7	0	23.42	23±1
				1	14	0	23.47	23±1
				8	0	1	23.35	23±1
				8	4	1	23.35	23±1
				8	7	1	23.43	23±1
				15	0	1	22.45	23±1
			16QAM	1	0	1	22.35	21.8±1
				1	7	1	22.27	21.8±1
				1	14	1	22.44	21.8±1
				8	0	2	21.18	21.8±1
				8	4	2	21.27	21.8±1
				8	7	2	21.22	21.8±1
				15	0	2	21.28	21.8±1
	23095	707.5	QPSK	1	0	0	23.57	22.4±1
				1	7	0	21.27	22.4±1
				1	14	0	23.53	22.4±1
				8	0	1	22.56	22.4±1
				8	4	1	22.61	22.4±1
				8	7	1	22.5	22.4±1
				15	0	1	22.61	22.4±1
			16QAM	1	0	1	23.17	22.4±1
				1	7	1	23.19	22.4±1
				1	14	1	23.17	22.4±1
				8	0	2	21.59	22.4±1
				8	4	2	21.55	22.4±1
				8	7	2	21.67	22.4±1
				15	0	2	21.67	22.4±1
	23025	714.5	QPSK	1	0	0	23.11	22.8±1
				1	7	0	23.04	22.8±1
				1	14	0	23.08	22.8±1
				8	0	1	22.46	22.8±1
				8	4	1	22.38	22.8±1
				8	7	1	22.51	22.8±1
				15	0	1	22.54	22.8±1
			16QAM	1	0	1	22.08	21.8±1
				1	7	1	22.16	21.8±1
				1	14	1	22.1	21.8±1
				8	0	2	21.42	21.8±1
				8	4	2	21.44	21.8±1
				8	7	2	21.39	21.8±1
				15	0	2	21.53	21.8±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	23017	699.7	QPSK	1	0	0	23.08	22.6±1
				1	2	0	23.12	22.6±1
				1	5	0	23.01	22.6±1
				3	0	0	22.11	22.6±1
				3	1	0	22.05	22.6±1
				3	2	0	22.18	22.6±1
				6	0	1	22.15	22.6±1
			16QAM	1	0	1	22.03	21.6±1
				1	2	1	22.12	21.6±1
				1	5	1	22.13	21.6±1
				3	0	1	22.28	21.6±1
				3	1	1	22.29	21.6±1
				3	2	1	22.33	21.6±1
				6	0	2	20.98	21.6±1
	23095	707.5	QPSK	1	0	0	23.45	22.9±1
				1	2	0	22.29	22.9±1
				1	5	0	23.54	22.9±1
				3	0	0	23.47	22.9±1
				3	1	0	23.48	22.9±1
				3	2	0	23.5	22.9±1
				6	0	1	22.46	22.9±1
			16QAM	1	0	1	22.34	21.8±1
				1	2	1	22.4	21.8±1
				1	5	1	22.39	21.8±1
				3	0	1	21.58	21.8±1
				3	1	1	21.64	21.8±1
				3	2	1	21.64	21.8±1
				6	0	2	21.26	21.8±1
	23173	715.3	QPSK	1	0	0	23.14	22.8±1
				1	2	0	23.16	22.8±1
				1	5	0	23.2	22.8±1
				3	0	0	23.29	22.8±1
				3	1	0	23.36	22.8±1
				3	2	0	23.24	22.8±1
				6	0	1	22.34	22.8±1
			16QAM	1	0	1	21.83	22.2±1
				1	2	1	21.89	22.2±1
				1	5	1	21.82	22.2±1
				3	0	1	22.52	22.2±1
				3	1	1	22.43	22.2±1
				3	2	1	22.42	22.2±1
				6	0	2	22.25	22.2±1

LTE Band XVII:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	23780	709.0	QPSK	1	0	0	23.16	22.6±1
				1	24	0	23.15	22.6±1
				1	49	0	23.19	22.6±1
				25	0	1	22.01	22.6±1
				25	12	1	22.02	22.6±1
				25	24	1	22.07	22.6±1
				50	0	1	22.02	22.6±1
			16QAM	1	0	1	23.14	22.1±1
				1	24	1	23.19	22.1±1
				1	49	1	23.09	22.1±1
				25	0	2	20.99	21.5±1
				25	12	2	20.89	21.5±1
				25	24	2	20.96	21.5±1
				50	0	2	21	21.5±1
	23790	701.0	QPSK	1	0	0	22.96	22±1
				1	24	0	20.89	22±1
				1	49	0	22.92	22±1
				25	0	1	22.06	22±1
				25	12	1	22.07	22±1
				25	24	1	22.04	22±1
				50	0	1	22.11	22±1
			16QAM	1	0	1	22.58	21.8±1
				1	24	1	22.66	21.8±1
				1	49	1	22.55	21.8±1
				25	0	2	21.08	21.8±1
				25	12	2	21.18	21.8±1
				25	24	2	21.16	21.8±1
				50	0	2	21.11	21.8±1
	23800	711.0	QPSK	1	0	0	23.07	22.7±1
				1	24	0	23.04	22.7±1
				1	49	0	23.11	22.7±1
				25	0	1	23.16	22.7±1
				25	12	1	23.11	22.7±1
				25	24	1	23.26	22.7±1
				50	0	1	22.2	22.7±1
			16QAM	1	0	1	21.98	21.6±1
				1	24	1	22.01	21.6±1
				1	49	1	22.04	21.6±1
				25	0	2	21.21	21.6±1
				25	12	2	21.15	21.6±1
				25	24	2	21.23	21.6±1
				50	0	2	21.18	21.6±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	23755	706.5	QPSK	1	0	0	23.08	22.6±1
				1	12	0	23.01	22.6±1
				1	24	0	23.01	22.6±1
				12	0	1	22.02	22.6±1
				12	6	1	21.94	22.6±1
				12	11	1	22.03	22.6±1
				25	0	1	22.05	22.6±1
			16QAM	1	0	1	21.46	21.4±1
				1	12	1	21.52	21.4±1
				1	24	1	21.49	21.4±1
				12	0	2	21.31	21.4±1
				12	6	2	21.38	21.4±1
				12	11	2	21.34	21.4±1
				25	0	2	21.28	21.4±1
	23790	710.0	QPSK	1	0	0	23.01	22.2±1
				1	12	0	21.38	22.2±1
				1	24	0	22.93	22.2±1
				12	0	1	22.11	22.2±1
				12	6	1	22.04	22.2±1
				12	11	1	22.09	22.2±1
				25	0	1	22.1	22.2±1
			16QAM	1	0	1	21.94	21.5±1
				1	12	1	21.97	21.5±1
				1	24	1	21.96	21.5±1
				12	0	2	21.11	21.5±1
				12	6	2	21.17	21.5±1
				12	11	2	21.21	21.5±1
				25	0	2	21.23	21.5±1
	23825	713.5	QPSK	1	0	0	22.9	22.5±1
				1	12	0	22.93	22.5±1
				1	24	0	22.94	22.5±1
				12	0	1	22.09	22.5±1
				12	6	1	22	22.5±1
				12	11	1	22.13	22.5±1
				25	0	1	22.18	22.5±1
			16QAM	1	0	1	21.98	21.5±1
				1	12	1	21.9	21.5±1
				1	24	1	22.01	21.5±1
				12	0	2	21.05	21.5±1
				12	6	2	21	21.5±1
				12	11	2	20.97	21.5±1
				25	0	2	21.18	21.5±1

ERP & EIRP

EIRP for LTE Band II (Part 24E)

Frequency (MHz)	Channel Bandwidth (MHz)	Mod.	RB Size/Offset	Antenna Polarization (H/V)	Absolute Level (dBm)	Limit (dBm)
1850.7	1.4	QPSK	1/0	V	20.55	33.01
1880	1.4	QPSK	1/0	V	20.61	33.01
1909.3	1.4	QPSK	1/0	V	20.4	33.01
1850.7	1.4	QPSK	1/0	H	19.27	33.01
1880	1.4	QPSK	1/0	H	19.02	33.01
1909.3	1.4	QPSK	1/0	H	18.25	33.01
1850.7	1.4	16-QAM	1/0	V	19.16	33.01
1880	1.4	16-QAM	1/0	V	18.53	33.01
1909.3	1.4	16-QAM	1/0	V	19.28	33.01
1850.7	1.4	16-QAM	1/0	H	17.94	33.01
1880	1.4	16-QAM	1/0	H	17.47	33.01
1909.3	1.4	16-QAM	1/0	H	17.16	33.01
1851.5	3	QPSK	1/0	V	20.2	33.01
1880	3	QPSK	1/0	V	20.2	33.01
1908.5	3	QPSK	1/0	V	20.48	33.01
1851.5	3	QPSK	1/0	H	19	33.01
1880	3	QPSK	1/0	H	18.79	33.01
1908.5	3	QPSK	1/0	H	18.29	33.01
1851.5	3	16-QAM	1/0	V	18.96	33.01
1880	3	16-QAM	1/0	V	19.76	33.01
1908.5	3	16-QAM	1/0	V	19.36	33.01
1851.5	3	16-QAM	1/0	H	17.78	33.01
1880	3	16-QAM	1/0	H	18.45	33.01
1908.5	3	16-QAM	1/0	H	17.08	33.01
1852.5	5	QPSK	1/24	V	20.01	33.01
1880	5	QPSK	1/0	V	20.23	33.01
1907.5	5	QPSK	1/24	V	20.3	33.01
1852.5	5	QPSK	1/24	H	17.83	33.01
1880	5	QPSK	1/0	H	17.93	33.01
1907.5	5	QPSK	1/24	H	17.83	33.01
1852.5	5	16-QAM	1/24	V	19.3	33.01
1880	5	16-QAM	1/0	V	19.12	33.01
1907.5	5	16-QAM	1/24	V	19.21	33.01

1852.5	5	16-QAM	1/24	H	17.36	33.01
1880	5	16-QAM	1/0	H	17.68	33.01
1907.5	5	16-QAM	1/24	H	18.07	33.01
1855	10	QPSK	1/0	V	19.81	33.01
1880	10	QPSK	1/0	V	20.13	33.01
1905	10	QPSK	1/49	V	20.39	33.01
1855	10	QPSK	1/0	H	18.27	33.01
1880	10	QPSK	1/0	H	17.67	33.01
1905	10	QPSK	1/49	H	18.25	33.01
1855	10	16-QAM	1/0	V	18.88	33.01
1880	10	16-QAM	1/0	V	19.71	33.01
1905	10	16-QAM	1/49	V	19.22	33.01
1855	10	16-QAM	1/0	H	17.79	33.01
1880	10	16-QAM	1/0	H	17.29	33.01
1905	10	16-QAM	1/49	H	17.77	33.01
1857.5	15	QPSK	1/0	V	20.14	33.01
1880	15	QPSK	1/0	V	19.87	33.01
1902.5	15	QPSK	1/0	V	20.06	33.01
1857.5	15	QPSK	1/0	H	18.99	33.01
1880	15	QPSK	1/0	H	17.42	33.01
1902.5	15	QPSK	1/0	H	18.82	33.01
1857.5	15	16-QAM	1/0	V	19.65	33.01
1880	15	16-QAM	1/0	V	19.12	33.01
1902.5	15	16-QAM	1/0	V	19.58	33.01
1857.5	15	16-QAM	1/0	H	18.27	33.01
1880	15	16-QAM	1/0	H	16.79	33.01
1902.5	15	16-QAM	1/0	H	17.21	33.01
1860	20	QPSK	1/0	V	19.87	33.01
1880	20	QPSK	1/0	V	19.85	33.01
1900	20	QPSK	1/0	V	20.39	33.01
1860	20	QPSK	1/0	H	17.85	33.01
1880	20	QPSK	1/0	H	17.79	33.01
1900	20	QPSK	1/0	H	19.37	33.01
1860	20	16-QAM	1/0	V	18.71	33.01
1880	20	16-QAM	1/0	V	19.22	33.01
1900	20	16-QAM	1/0	V	20.11	33.01
1860	20	16-QAM	1/0	H	16.26	33.01
1880	20	16-QAM	1/0	H	16.97	33.01

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1900	20	16-QAM	1/0	H	19.09	33.01
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EIRP for LTE Band IV (Part 27)

Frequency (MHz)	Channel Bandwidth (MHz)	Mod.	RB Size/Offset	Antenna Polarization (H/V)	Absolute Level (dBm)	Limit (dBm)
1710.7	1.4	QPSK	1/0	V	19.93	30
1732.5	1.4	QPSK	1/0	V	20.23	30
1754.3	1.4	QPSK	1/0	V	19.71	30
1710.7	1.4	QPSK	1/0	H	18.23	30
1732.5	1.4	QPSK	1/0	H	17.93	30
1754.3	1.4	QPSK	1/0	H	18.09	30
1710.7	1.4	16-QAM	1/5	V	18.73	30
1732.5	1.4	16-QAM	1/0	V	18.83	30
1754.3	1.4	16-QAM	1/0	V	18.62	30
1710.7	1.4	16-QAM	1/5	H	16.54	30
1732.5	1.4	16-QAM	1/0	H	17.43	30
1754.3	1.4	16-QAM	1/0	H	16.24	30
1711.5	3	QPSK	1/0	V	19.93	30
1732.5	3	QPSK	1/0	V	19.74	30
1753.5	3	QPSK	1/0	V	19.75	30
1711.5	3	QPSK	1/0	H	18.56	30
1732.5	3	QPSK	1/0	H	17.24	30
1753.5	3	QPSK	1/0	H	18.3	30
1711.5	3	16-QAM	1/0	V	18.78	30
1732.5	3	16-QAM	1/0	V	19.38	30
1753.5	3	16-QAM	1/0	V	18.66	30
1711.5	3	16-QAM	1/0	H	17.24	30
1732.5	3	16-QAM	1/0	H	17.56	30
1753.5	3	16-QAM	1/0	H	16.55	30
1712.5	5	QPSK	1/0	V	19.73	30
1732.5	5	QPSK	1/0	V	18.68	30
1752.5	5	QPSK	1/24	V	19.71	30
1712.5	5	QPSK	1/0	H	18.31	30
1732.5	5	QPSK	1/0	H	16.27	30
1752.5	5	QPSK	1/24	H	17.94	30
1712.5	5	16-QAM	1/0	V	18.81	30
1732.5	5	16-QAM	1/0	V	18.72	30
1752.5	5	16-QAM	1/24	V	18.62	30
1712.5	5	16-QAM	1/0	H	16.66	30

1732.5	5	16-QAM	1/0	H	16.68	30
1752.5	5	16-QAM	1/24	H	17.44	30
1715	10	QPSK	1/0	V	19.99	30
1732.5	10	QPSK	1/49	V	19.63	30
1750	10	QPSK	1/0	V	19.76	30
1715	10	QPSK	1/0	H	18.8	30
1732.5	10	QPSK	1/49	H	18.42	30
1750	10	QPSK	1/0	H	17.37	30
1715	10	16-QAM	1/0	V	18.78	30
1732.5	10	16-QAM	1/49	V	19.44	30
1750	10	16-QAM	1/0	V	18.68	30
1715	10	16-QAM	1/0	H	16.94	30
1732.5	10	16-QAM	1/49	H	17.92	30
1750	10	16-QAM	1/0	H	17.56	30
1717.5	15	QPSK	1/0	V	19.86	30
1732.5	15	QPSK	1/74	V	19.77	30
1747.5	15	QPSK	1/0	V	19.65	30
1717.5	15	QPSK	1/0	H	18.24	30
1732.5	15	QPSK	1/74	H	18.62	30
1747.5	15	QPSK	1/0	H	18.28	30
1717.5	15	16-QAM	1/0	V	18.74	30
1732.5	15	16-QAM	1/74	V	19.38	30
1747.5	15	16-QAM	1/0	V	18.91	30
1717.5	15	16-QAM	1/0	H	16.55	30
1732.5	15	16-QAM	1/74	H	17.29	30
1747.5	15	16-QAM	1/0	H	16.56	30
1720	20	QPSK	1/99	V	19.69	30
1732.5	20	QPSK	1/99	V	19.51	30
1745	20	QPSK	1/0	V	19.41	30
1720	20	QPSK	1/99	H	18.58	30
1732.5	20	QPSK	1/99	H	17.19	30
1745	20	QPSK	1/0	H	18.39	30
1720	20	16-QAM	1/99	V	18.51	30
1732.5	20	16-QAM	1/99	V	19.08	30
1745	20	16-QAM	1/0	V	18.73	30
1720	20	16-QAM	1/99	H	17.04	30
1732.5	20	16-QAM	1/99	H	16.87	30
1745	20	16-QAM	1/0	H	16.44	30

ERP for LTE Band VII (Part 27)

Frequency (MHz)	Channel Bandwidth (MHz)	Mod.	RB Size/Offset	Antenna Polarization (H/V)	Absolute Level (dBm)	Limit (dBm)
2502.5	5	QPSK	1/0	V	18.86	30
2535	5	QPSK	1/0	V	18.81	30
2567.5	5	QPSK	1/24	V	18.93	30
2502.5	5	QPSK	1/0	H	17.45	30
2535	5	QPSK	1/0	H	17.52	30
2567.5	5	QPSK	1/24	H	16.5	30
2502.5	5	16-QAM	1/0	V	17.75	30
2535	5	16-QAM	1/0	V	18.21	30
2567.5	5	16-QAM	1/24	V	17.98	30
2502.5	5	16-QAM	1/0	H	15.36	30
2535	5	16-QAM	1/0	H	16.45	30
2567.5	5	16-QAM	1/24	H	16.39	30
2505	10	QPSK	1/0	V	18.95	30
2535	10	QPSK	1/49	V	18.91	30
2565	10	QPSK	1/0	V	19.01	30
2505	10	QPSK	1/0	H	17.49	30
2535	10	QPSK	1/49	H	17.23	30
2565	10	QPSK	1/0	H	17.42	30
2505	10	16-QAM	1/0	V	17.81	30
2535	10	16-QAM	1/49	V	17.65	30
2565	10	16-QAM	1/0	V	18.54	30
2505	10	16-QAM	1/0	H	16.26	30
2535	10	16-QAM	1/49	H	16.56	30
2565	10	16-QAM	1/0	H	17.19	30
2507.5	15	QPSK	1/0	V	18.93	30
2535	15	QPSK	1/74	V	18.8	30
2562.5	15	QPSK	1/0	V	18.82	30
2507.5	15	QPSK	1/0	H	17.27	30
2535	15	QPSK	1/74	H	17.18	30
2562.5	15	QPSK	1/0	H	17.66	30
2507.5	15	16-QAM	1/0	V	17.7	30
2535	15	16-QAM	1/74	V	18.31	30
2562.5	15	16-QAM	1/0	V	18.13	30
2507.5	15	16-QAM	1/0	H	15.46	30

2535	15	16-QAM	1/74	H	16.74	30
2562.5	15	16-QAM	1/0	H	17.08	30
2510	20	QPSK	1/99	V	18.73	30
2535	20	QPSK	1/99	V	19.29	30
2560	20	QPSK	1/0	V	19.5	30
2510	20	QPSK	1/99	H	17.02	30
2535	20	QPSK	1/99	H	17.99	30
2560	20	QPSK	1/0	H	18.11	30
2510	20	16-QAM	1/99	V	17.98	30
2535	20	16-QAM	1/99	V	18.83	30
2560	20	16-QAM	1/0	V	18.35	30
2510	20	16-QAM	1/99	H	15.62	30
2535	20	16-QAM	1/99	H	16.53	30
2560	20	16-QAM	1/0	H	16.51	30

ERP for LTE Band XII (Part 27)

Frequency (MHz)	Channel Bandwidth (MHz)	Mod.	RB Size/Offset	Antenna Polarization (H/V)	Absolute Level (dBm)	Limit (dBm)
699.7	1.4	QPSK	1/5	V	17.16	34.77
707.5	1.4	QPSK	1/5	V	21.32	34.77
715.3	1.4	QPSK	1/5	V	21.14	34.77
699.7	1.4	QPSK	1/5	H	15.32	34.77
707.5	1.4	QPSK	1/5	H	19.91	34.77
715.3	1.4	QPSK	1/5	H	18.93	34.77
699.7	1.4	16-QAM	1/5	V	17.33	34.77
707.5	1.4	16-QAM	1/5	V	19.43	34.77
715.3	1.4	16-QAM	1/5	V	20.37	34.77
699.7	1.4	16-QAM	1/5	H	15.36	34.77
707.5	1.4	16-QAM	1/5	H	17.47	34.77
715.3	1.4	16-QAM	1/5	H	17.97	34.77
700.5	3	QPSK	1/14	V	18.4	34.77
707.5	3	QPSK	1/0	V	19.12	34.77
714.5	3	QPSK	1/14	V	20.31	34.77
700.5	3	QPSK	1/14	H	16.25	34.77
707.5	3	QPSK	1/0	H	17.95	34.77
714.5	3	QPSK	1/14	H	19.2	34.77
700.5	3	16-QAM	1/14	V	16.23	34.77
707.5	3	16-QAM	1/0	V	21.04	34.77
714.5	3	16-QAM	1/14	V	19.27	34.77
700.5	3	16-QAM	1/14	H	14.99	34.77
707.5	3	16-QAM	1/0	H	19.13	34.77
714.5	3	16-QAM	1/14	H	18.16	34.77
701.5	5	QPSK	1/24	V	16.57	34.77
707.5	5	QPSK	1/24	V	19.92	34.77
713.5	5	QPSK	1/24	V	20.03	34.77
701.5	5	QPSK	1/24	H	14.47	34.77
707.5	5	QPSK	1/24	H	18.78	34.77
713.5	5	QPSK	1/24	H	18.26	34.77
701.5	5	16-QAM	1/24	V	17.41	34.77
707.5	5	16-QAM	1/24	V	18.9	34.77

713.5	5	16-QAM	1/24	V	18.98	34.77
701.5	5	16-QAM	1/24	H	14.93	34.77
707.5	5	16-QAM	1/24	H	17.57	34.77
713.5	5	16-QAM	1/24	H	16.58	34.77
704	10	QPSK	1/49	V	17.81	34.77
707.5	10	QPSK	1/49	V	20.42	34.77
711	10	QPSK	1/49	V	20.54	34.77
704	10	QPSK	1/49	H	15.93	34.77
707.5	10	QPSK	1/49	H	18.22	34.77
711	10	QPSK	1/49	H	19.22	34.77
704	10	16-QAM	1/49	V	16.81	34.77
707.5	10	16-QAM	1/49	V	19.43	34.77
711	10	16-QAM	1/49	V	19.62	34.77
704	10	16-QAM	1/49	H	15.12	34.77
707.5	10	16-QAM	1/49	H	18.33	34.77
711	10	16-QAM	1/49	H	17.4	34.77

ERP for LTE Band XVII (Part 27)

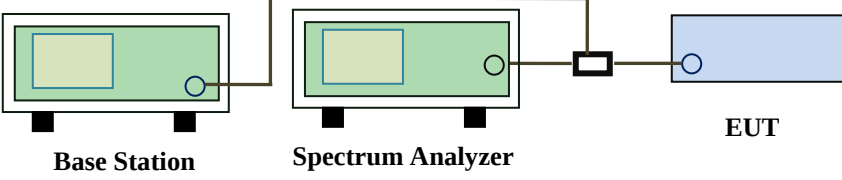
Frequency (MHz)	Channel Bandwidth (MHz)	Mod.	RB Size/Offset	Antenna Polarization (H/V)	Absolute Level (dBm)	Limit (dBm)
706.5	5	QPSK	1/0	V	18.21	34.77
710	5	QPSK	1/0	V	20.81	34.77
713.5	5	QPSK	1/0	V	20.92	34.77
706.5	5	QPSK	1/0	H	16.31	34.77
710	5	QPSK	1/0	H	18.77	34.77
713.5	5	QPSK	1/0	H	19.62	34.77
706.5	5	16-QAM	1/0	V	18.19	34.77
710	5	16-QAM	1/0	V	20.43	34.77
713.5	5	16-QAM	1/0	V	19.83	34.77
706.5	5	16-QAM	1/0	H	16.42	34.77
710	5	16-QAM	1/0	H	19.06	34.77
713.5	5	16-QAM	1/0	H	17.92	34.77
709	10	QPSK	1/0	V	18.13	34.77
710	10	QPSK	1/0	V	20.86	34.77
711	10	QPSK	1/0	V	20.75	34.77
709	10	QPSK	1/0	H	16.45	34.77
710	10	QPSK	1/0	H	18.64	34.77
711	10	QPSK	1/0	H	19.48	34.77
709	10	16-QAM	1/0	V	16.51	34.77
710	10	16-QAM	1/0	V	19.79	34.77
711	10	16-QAM	1/0	V	19.83	34.77
709	10	16-QAM	1/0	H	15.32	34.77
710	10	16-QAM	1/0	H	17.78	34.77
711	10	16-QAM	1/0	H	18.07	34.77

6.3 Peak-Average Ratio

Temperature	25 °C
Relative Humidity	55%
Atmospheric Pressure	1017mbar
Test date :	January 23, 2018
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§24.232(d) § 27.50(d)	a)	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.	☒

Test Setup	 Base Station Spectrum Analyzer EUT
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Test Procedure	According with KDB 971168 v02r02 5.7.2 Alternate procedure for PAPR 5.1.2 Peak power measurements with a peak power meter The total peak output power may be measured using a broadband peak RF power meter. The power meter must have a video bandwidth that is greater than or equal to the emission bandwidth and utilize a fast-responding diode detector. 5.2.3 Average power measurement with average power meter As an alternative to the use of a spectrum/signal analyzer or EMI receiver to perform a measurement of the total in-band average output power, a wideband RF average power meter with a thermocouple detector or equivalent can be used under certain conditions If the EUT can be configured to transmit continuously (i.e., the burst duty cycle $\geq 98\%$) and at all times the EUT is transmitting at its maximum output
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	power level, then a conventional wide-band RF power meter can be used. If the EUT cannot be configured to transmit continuously (i.e., the burst duty cycle < 98%), then there are two options for the use of an average power meter. First, a gated average power meter can be used to perform the measurement if the gating parameters can be adjusted such that the power is measured only over active transmission bursts at maximum output power levels. A conventional average power meter can also be used if the measured burst duty cycle is constant (i.e., duty cycle variations are less than ± 2 percent) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to $10\log(1/\text{duty cycle})$
Remark	
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A
Test Plot ☐ Yes (See below) ☒ N/A

LTE Band II (part 24E)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1880	RB 1/0	QPSK	25.78	22.63	3.15
			16QAM	25.35	21.52	3.83
3	1880	RB 1/0	QPSK	25.46	22.62	2.84
			16QAM	25.26	21.41	3.85
5	1880	RB 1/0	QPSK	25.38	22.74	2.64
			16QAM	25.46	21.63	3.83
10	1880	RB 1/0	QPSK	25.86	22.62	3.24
			16QAM	24.97	22.16	2.81
15	1880	RB 1/0	QPSK	25.68	22.75	2.93
			16QAM	25.27	21.59	3.68
20	1880	RB 1/0	QPSK	25.28	22.81	2.47
			16QAM	25.75	21.73	4.02

LTE Band IV (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1732.5	RB 1/0	QPSK	25.35	22.91	2.44
			16QAM	25.26	21.94	3.32
3	1732.5	RB 1/0	QPSK	25.4	23.23	2.17
			16QAM	25.15	22.04	3.11
5	1732.5	RB 1/0	QPSK	25.28	23.3	1.98
			16QAM	25.64	22.35	3.29
10	1732.5	RB 1/0	QPSK	25.38	22.56	2.82
			16QAM	25.84	21.56	4.28
15	1732.5	RB 1/0	QPSK	25.66	22.81	2.85
			16QAM	25.35	21.73	3.62
20	1732.5	RB 1/0	QPSK	25.75	23.29	2.46
			16QAM	25.49	22.25	3.24

LTE Band VII (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	2535	RB 1/0	QPSK	25.55	22.6	2.95
			16QAM	25.74	21.55	4.19
10	2535	RB 1/0	QPSK	24.64	22.63	2.01
			16QAM	24.62	21.61	3.01
15	2535	RB 1/0	QPSK	25.03	22.73	2.3
			16QAM	24.83	22.06	2.77
20	2535	RB 1/0	QPSK	25.08	22.91	2.17
			16QAM	24.92	22.09	2.83

LTE Band XII (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	2535	RB 1/0	QPSK	22.32	22.32	0
			16QAM	21.65	21.31	0.34
3	2535	RB 1/0	QPSK	22.73	22.36	0.37
			16QAM	21.78	21.35	0.43
5	2535	RB 1/0	QPSK	22.98	22.55	0.43
			16QAM	21.74	21.42	0.32
10	2535	RB 1/0	QPSK	22.99	22.58	0.41
			16QAM	21.92	21.53	0.39

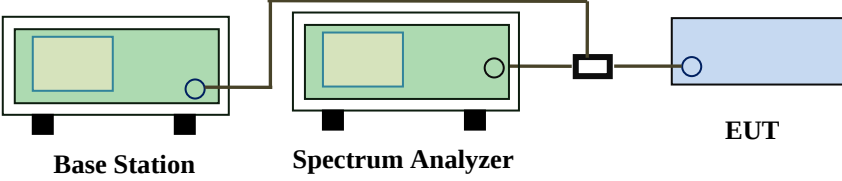
LTE Band XVII (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	2535	RB 1/0	QPSK	22.32	22.32	0
			16QAM	21.65	21.31	0.34
10	2535	RB 1/0	QPSK	22.73	22.36	0.37
			16QAM	21.78	21.35	0.43

6.4 Occupied Bandwidth

Temperature	25 °C
Relative Humidity	57%
Atmospheric Pressure	1023mbar
Test date :	January 27, 2018
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§2.1049, §22.917, §22.905 §24.238 §27.53(a)	a)	99% Occupied Bandwidth(kHz)	☒
	b)	26 dB Bandwidth(kHz)	☒
Test Setup			
Test Procedure	- The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers.		
Remark			
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

LTE Band II (Part 24E)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1851	16QAM	1.1029	1.320
			QPSK	1.1004	1.309
1.4	18900	1880	16QAM	1.1056	1.324
			QPSK	1.1096	1.315
1.4	19193	1909	16QAM	1.1126	1.310
			QPSK	1.1139	1.315
3	18615	1852	16QAM	2.7381	3.066
			QPSK	2.7314	3.058
3	18900	1880	16QAM	2.7376	3.088
			QPSK	2.7369	3.077
3	19185	1909	16QAM	2.7302	3.057
			QPSK	2.7284	3.100
5	18625	1853	16QAM	4.5342	5.181
			QPSK	4.5251	5.195
5	18900	1880	16QAM	4.5324	5.180
			QPSK	4.5318	5.182
5	19175	1908	16QAM	4.5529	5.279
			QPSK	4.5733	5.281
10	18650	1855	16QAM	9.1254	10.37
			QPSK	9.0952	10.21
10	18900	1880	16QAM	9.1215	10.401
			QPSK	9.1174	10.442
10	19150	1905	16QAM	9.1284	10.46
			QPSK	9.1054	10.39
15	18675	1858	16QAM	13.505	15.22
			QPSK	13.501	15.01
15	18900	1880	16QAM	13.606	15.20
			QPSK	13.572	15.09
15	19125	1903	16QAM	13.508	15.18
			QPSK	13.487	15.15

20	18700	1860	16QAM	17.951	19.60
			QPSK	17.870	19.23
20	18900	1880	16QAM	17.946	19.35
			QPSK	17.975	19.54
20	19100	1900	16QAM	17.924	19.67
			QPSK	17.894	19.41

LTE Band IV (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	19957	1711	16QAM	1.1097	1.328
			QPSK	1.1063	1.327
1.4	20175	1733	16QAM	1.1059	1.313
			QPSK	1.1046	1.314
1.4	20393	1754	16QAM	1.1065	1.307
			QPSK	1.1118	1.309
3	19965	1712	16QAM	2.7446	2.996
			QPSK	2.7327	3.014
3	20175	1733	16QAM	2.7294	3.017
			QPSK	2.7379	2.989
3	20385	1754	16QAM	2.7517	3.010
			QPSK	2.7401	3.004
5	19975	1713	16QAM	4.5209	5.216
			QPSK	4.5139	5.054
5	20175	1733	16QAM	4.5242	5.147
			QPSK	4.5189	5.197
5	20375	1753	16QAM	4.5362	5.166
			QPSK	4.5488	5.205
10	20000	1715	16QAM	9.1141	10.27
			QPSK	9.1052	10.23
10	20175	1733	16QAM	9.0820	10.89
			QPSK	9.0688	10.49
10	20350	1750	16QAM	9.0813	10.25
			QPSK	9.0775	10.18
15	20025	1718	16QAM	13.529	15.03
			QPSK	13.536	15.03
15	20175	1733	16QAM	13.481	15.09
			QPSK	13.500	15.05
15	20325	1748	16QAM	13.496	15.11
			QPSK	13.520	15.20

20	20050	1720	16QAM	17.992	19.89
			QPSK	17.968	19.59
20	20175	1733	16QAM	17.961	19.55
			QPSK	17.977	19.32
20	20300	1745	16QAM	17.936	19.62
			QPSK	17.917	19.68

LTE Band VII (Part 27) result

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	20775	2503	16QAM	4.5091	5.149
			QPSK	4.5330	5.150
5	21100	2535	16QAM	4.5352	5.156
			QPSK	4.5303	5.223
5	21425	2568	16QAM	4.5086	5.196
			QPSK	4.5329	5.036
10	20800	2505	16QAM	9.0599	10.22
			QPSK	9.0789	10.14
10	21100	2535	16QAM	9.0541	10.23
			QPSK	9.0646	10.13
10	21400	2565	16QAM	9.1051	10.07
			QPSK	9.0800	10.19
15	20825	2508	16QAM	13.519	15.18
			QPSK	13.478	15.02
15	21100	2535	16QAM	13.453	15.02
			QPSK	13.476	15.11
15	21400	2563	16QAM	13.527	15.22
			QPSK	13.514	15.15
20	20850	2510	16QAM	17.959	19.55
			QPSK	17.933	19.64
20	21100	2535	16QAM	17.961	19.63
			QPSK	17.951	19.49
20	21350	2560	16QAM	17.906	19.32
			QPSK	17.916	19.52

LTE Band XII (Part 27)

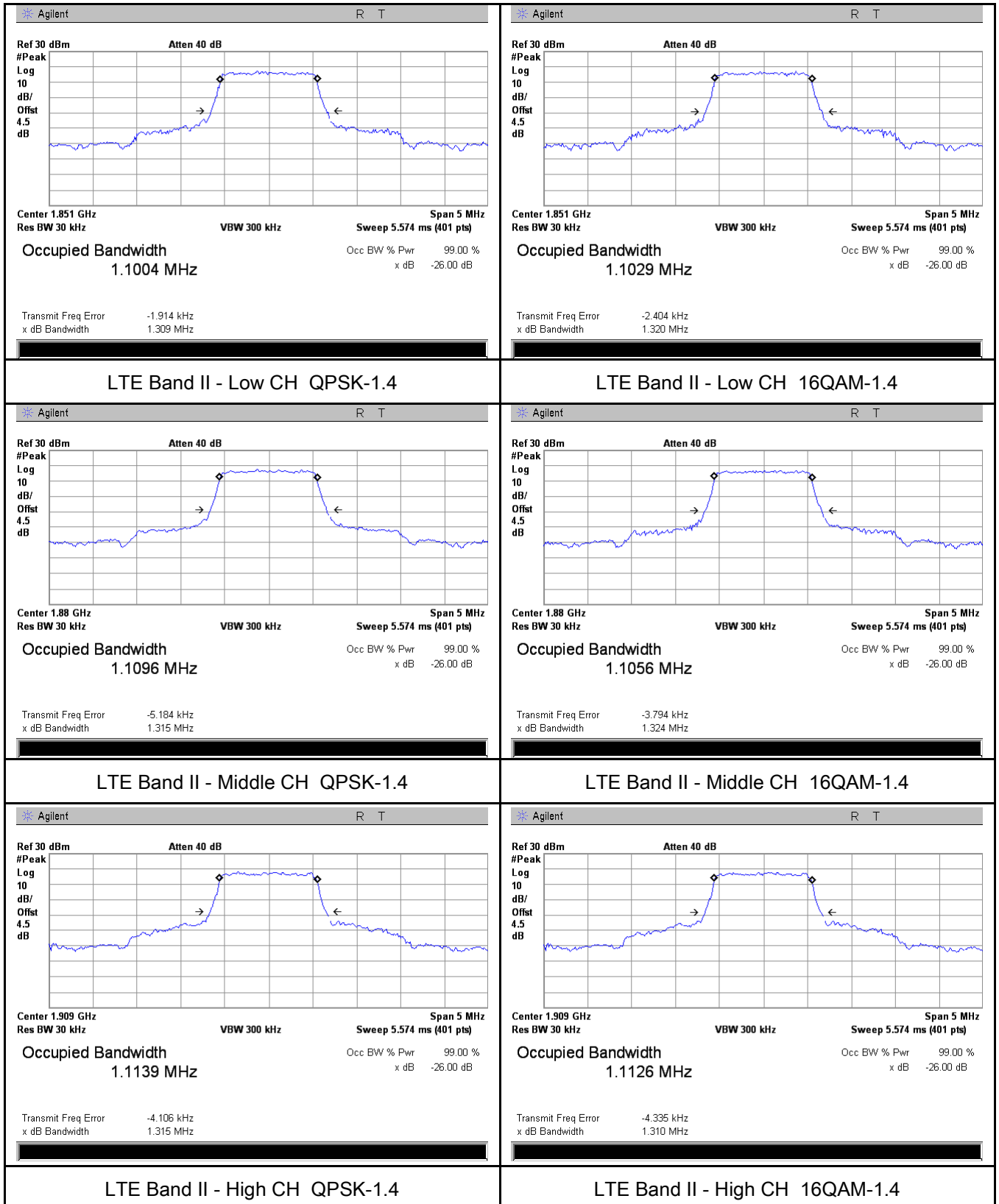
BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	23017	699.7	16QAM	1.1108	1.330
			QPSK	1.1055	1.314
1.4	23095	707.5	16QAM	1.1007	1.308
			QPSK	1.1070	1.303
1.4	23173	715.3	16QAM	1.1101	1.305
			QPSK	1.1078	1.302
3	23025	700.5	16QAM	2.7358	3.029
			QPSK	2.7418	2.987
3	23095	707.5	16QAM	2.7336	3.017
			QPSK	2.7389	2.992
3	23165	714.5	16QAM	2.7421	3.024
			QPSK	2.7455	3.002
5	23035	701.5	16QAM	4.5520	5.224
			QPSK	4.5395	5.156
5	23095	707.5	16QAM	4.5063	5.154
			QPSK	4.5036	5.159
5	23055	713.5	16QAM	4.5773	5.297
			QPSK	4.5498	5.202
10	23060	704	16QAM	9.0844	10.20
			QPSK	9.0787	10.16
10	23095	707.5	16QAM	9.0401	10.15
			QPSK	9.0373	10.05
10	23130	711	16QAM	9.1341	10.41
			QPSK	9.1080	10.27

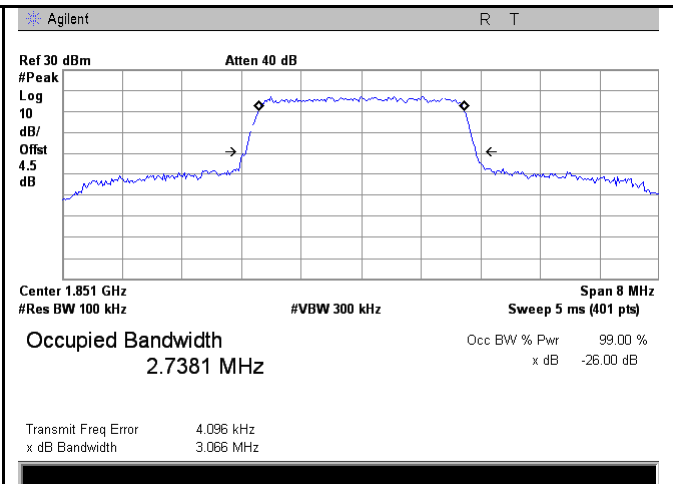
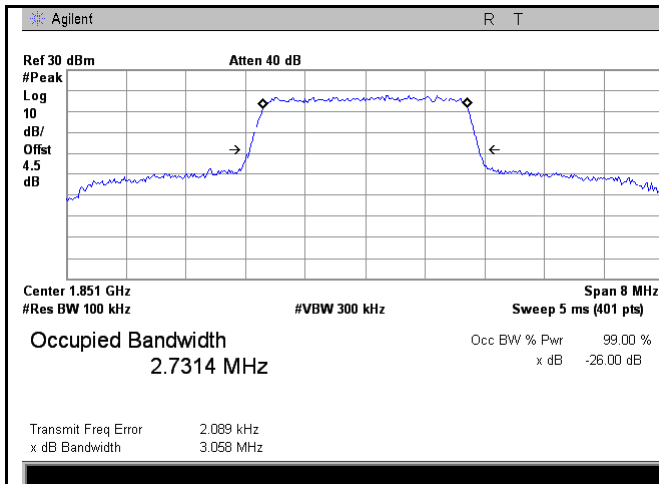
LTE Band XVII (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	23755	706.5	16QAM	4.5332	5.179
			QPSK	4.5374	5.173
5	23790	710	16QAM	4.5311	5.079
			QPSK	4.5211	5.139
5	23825	713.5	16QAM	4.5401	5.191
			QPSK	4.5508	5.196
10	23780	709	16QAM	9.0425	10.12
			QPSK	9.0452	10.15
10	23790	710	16QAM	9.0587	10.15
			QPSK	9.0807	10.18
10	23800	711	16QAM	9.1159	10.35
			QPSK	9.1191	10.22

Test Plots

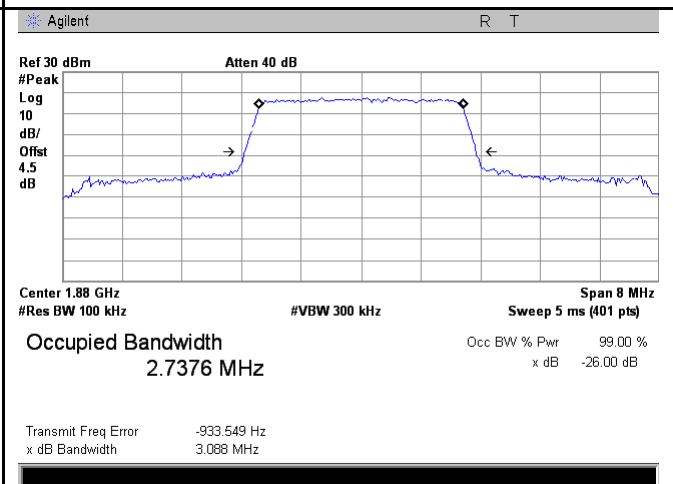
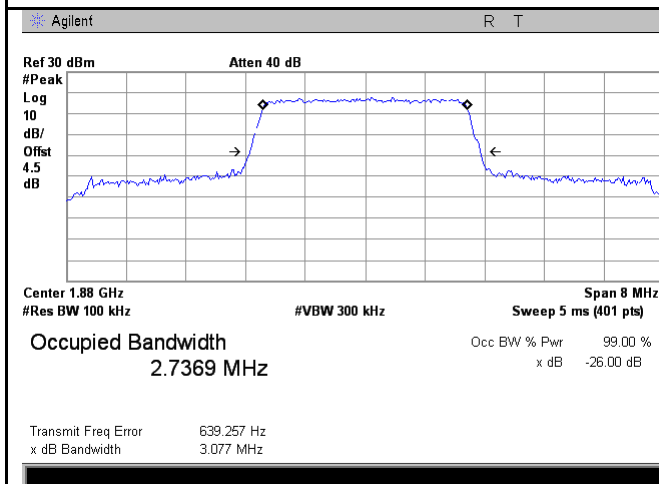
LTE Band II (Part 24E)





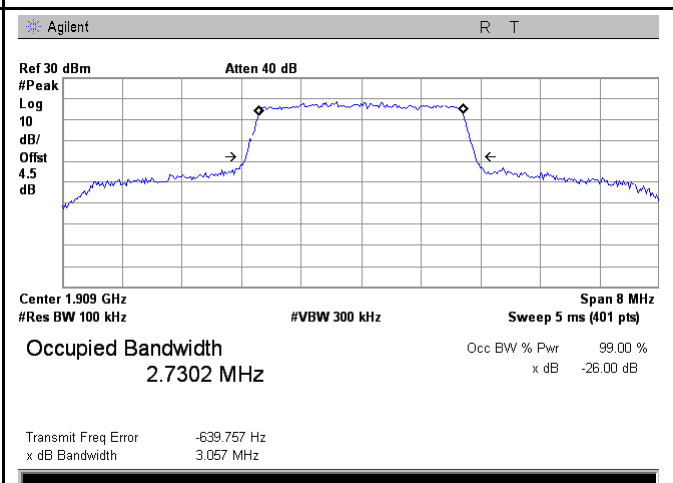
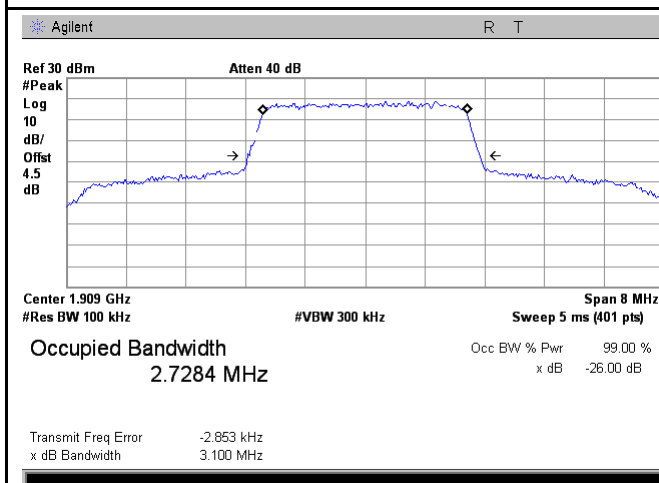
LTE Band II - Low CH QPSK-3

LTE Band II - Low CH 16QAM-3



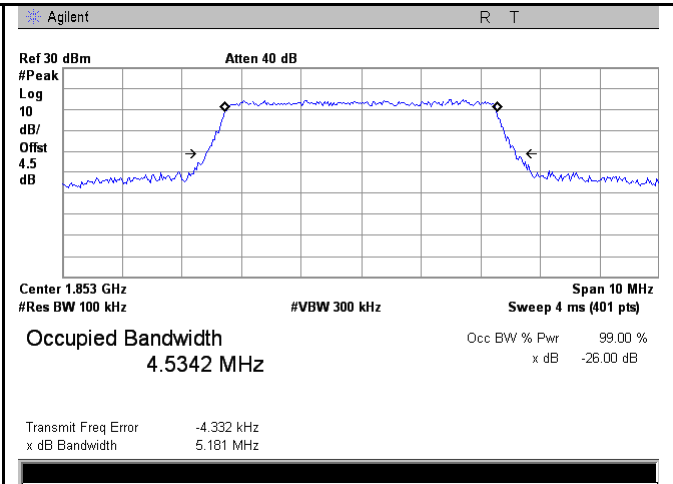
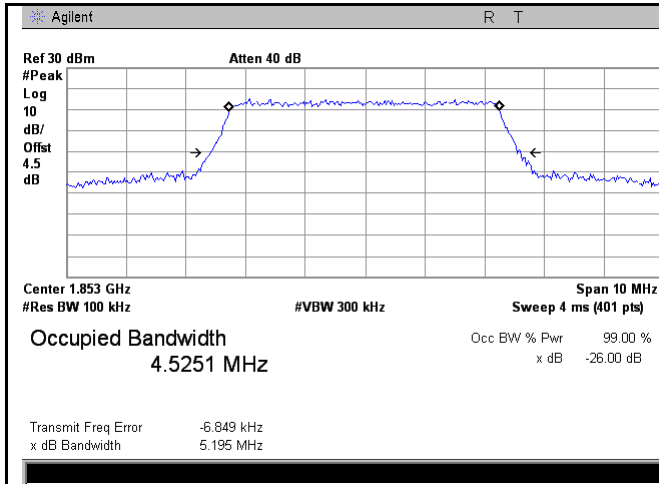
LTE Band II - Middle CH QPSK-3

LTE Band II - Middle CH 16QAM-3



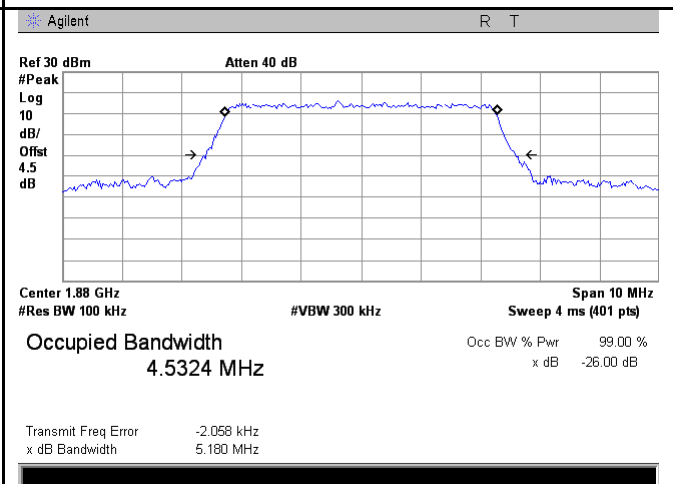
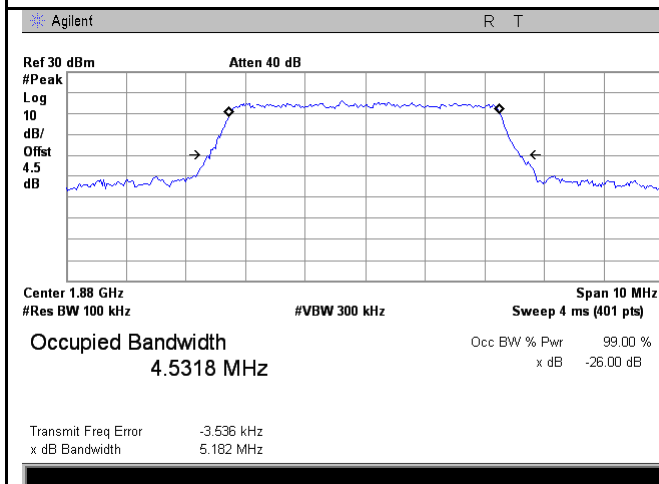
LTE Band II - High CH QPSK-3

LTE Band II - High CH 16QAM-3



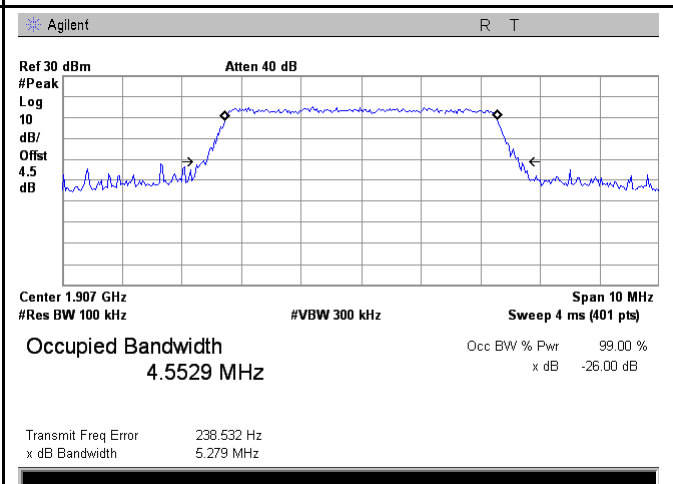
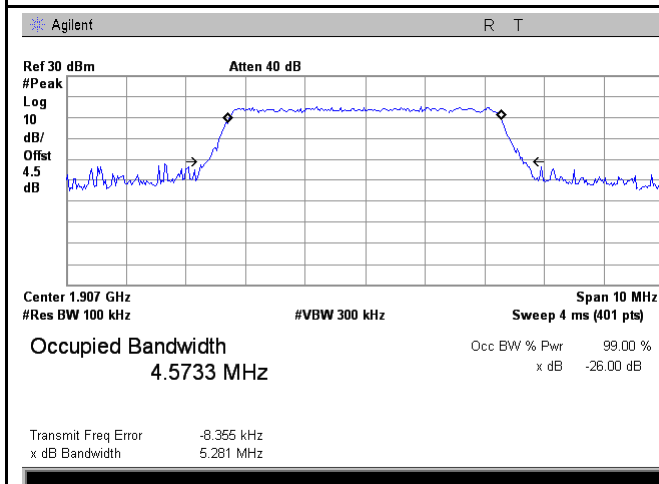
LTE Band II - Low CH QPSK-5

LTE Band II - Low CH 16QAM-5



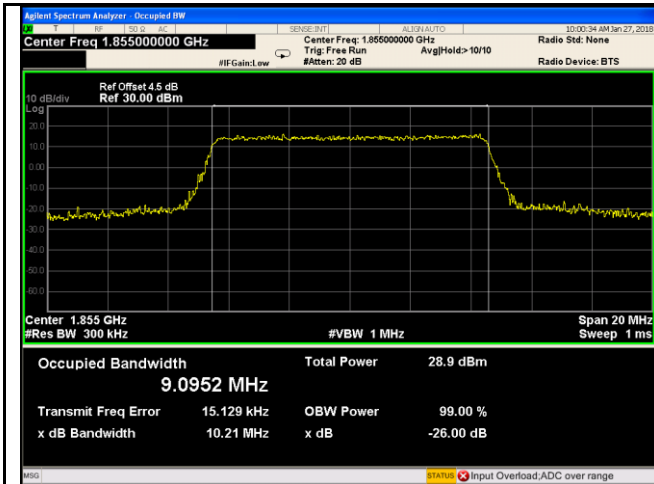
LTE Band II - Middle CH QPSK-5

LTE Band II - Middle CH 16QAM-5

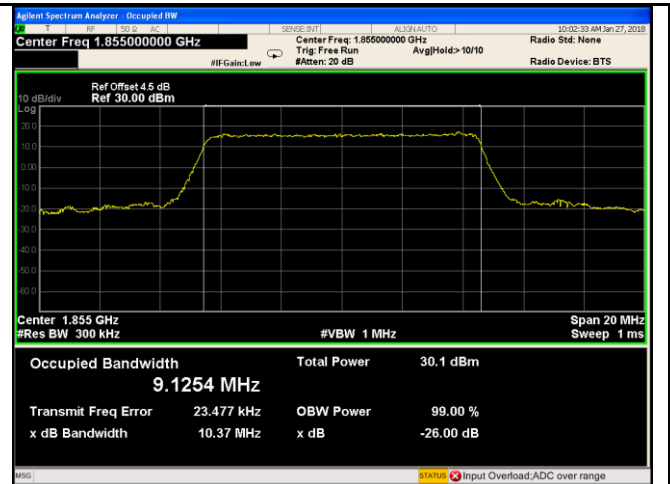


LTE Band II - High CH QPSK-5

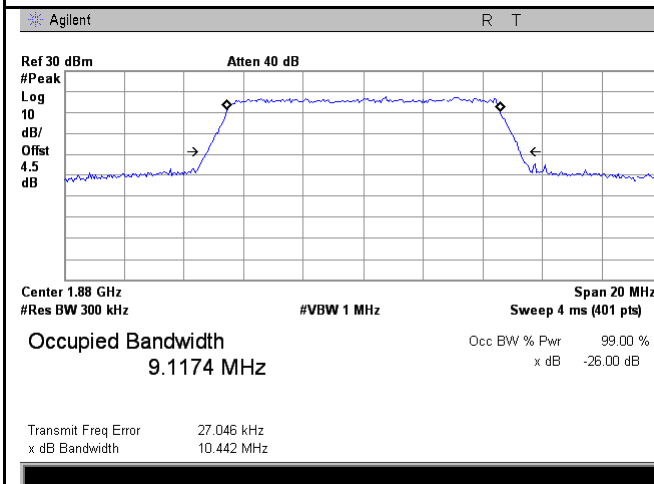
LTE Band II - High CH 16QAM-5



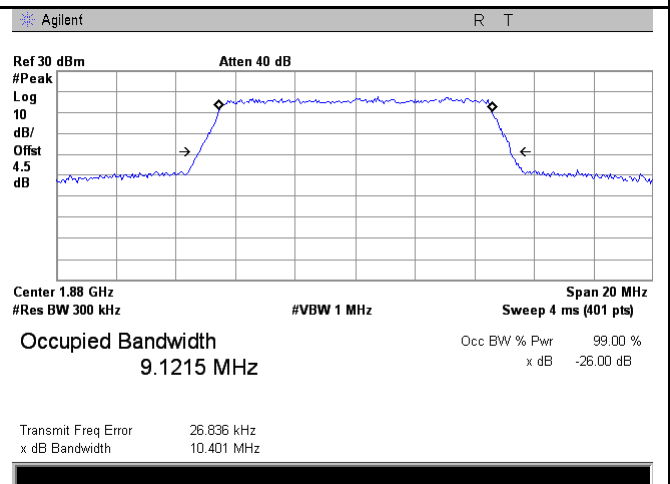
LTE Band II - Low CH QPSK-10



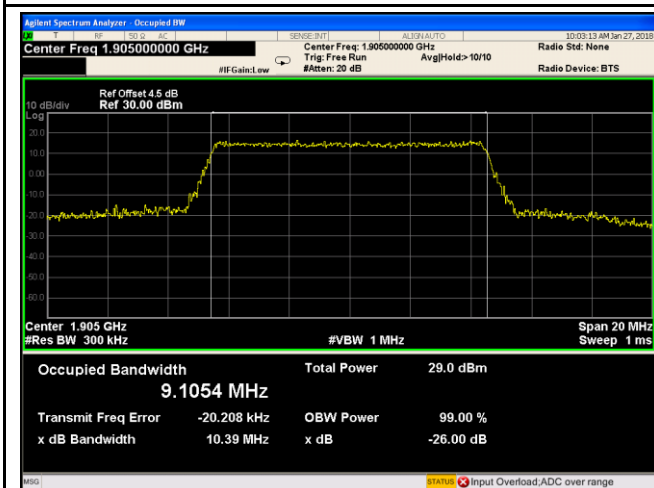
LTE Band II - Low CH 16QAM-10



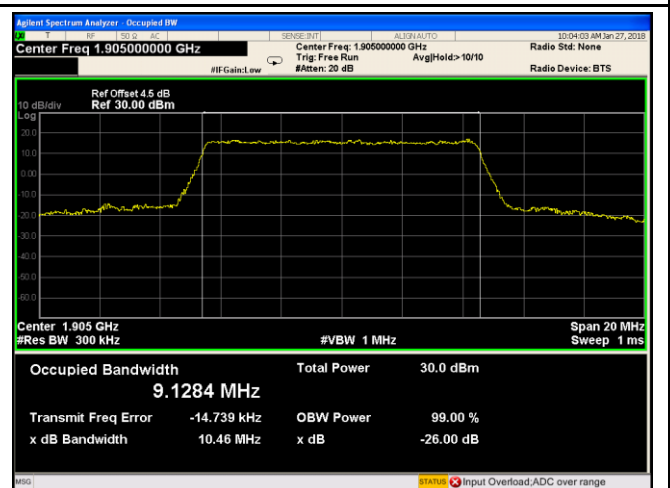
LTE Band II - Middle CH QPSK-10



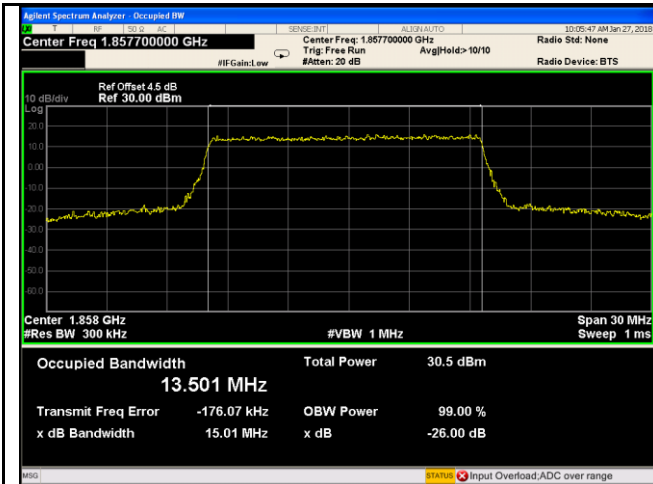
LTE Band II - Middle CH 16QAM-10



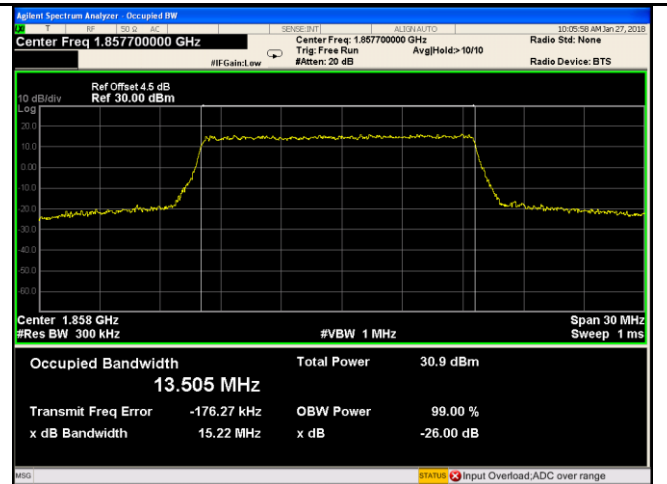
LTE Band II - High CH QPSK-10



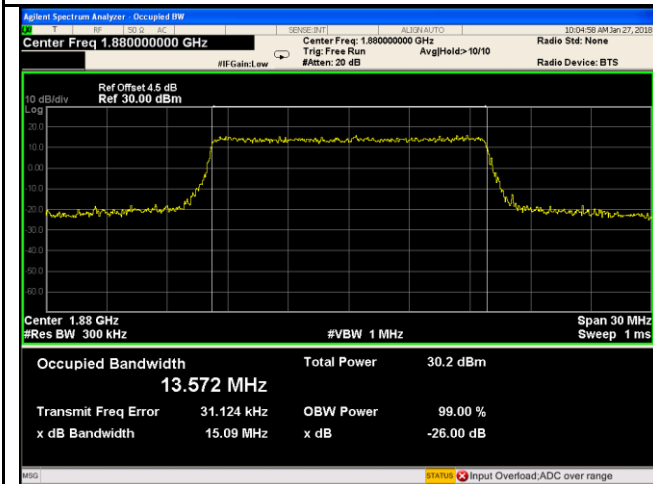
LTE Band II - High CH 16QAM-10



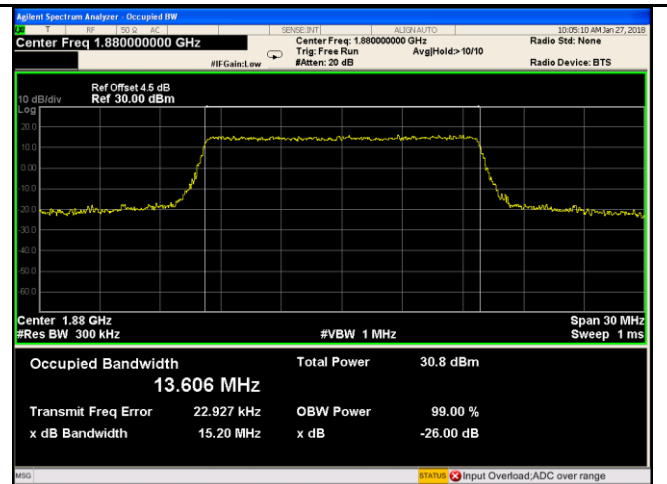
LTE Band II - Low CH QPSK-15



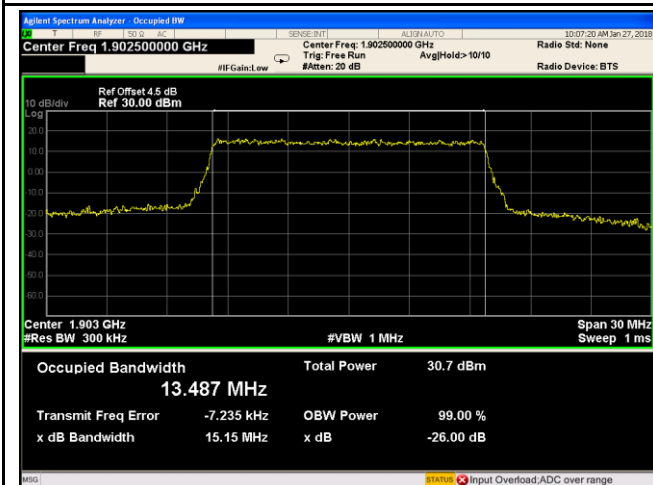
LTE Band II - Low CH 16QAM-15



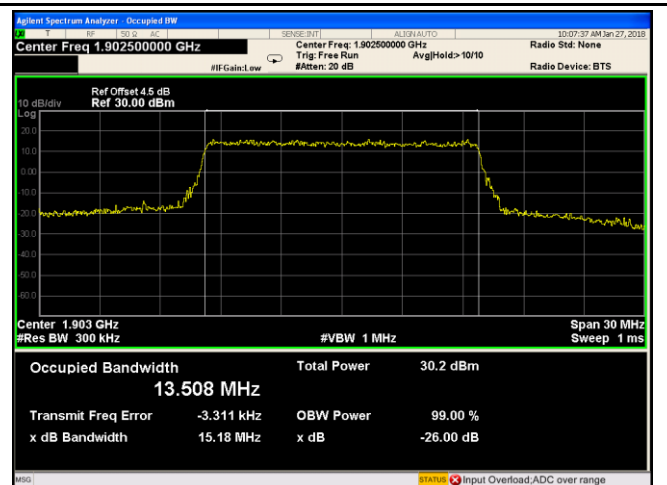
LTE Band II - Middle CH QPSK-15



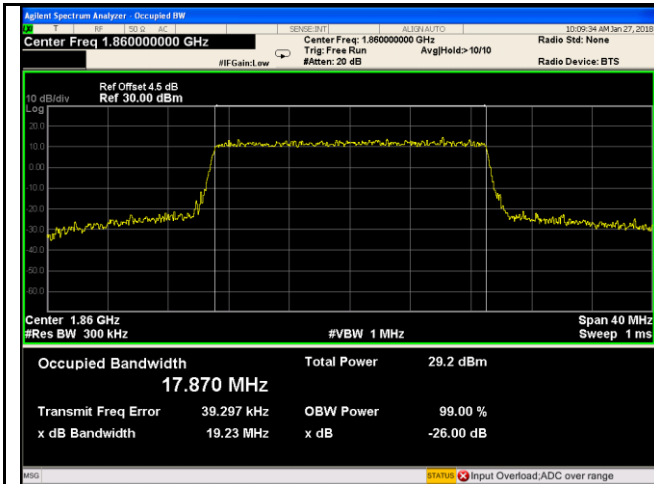
LTE Band II - Middle CH 16QAM-15



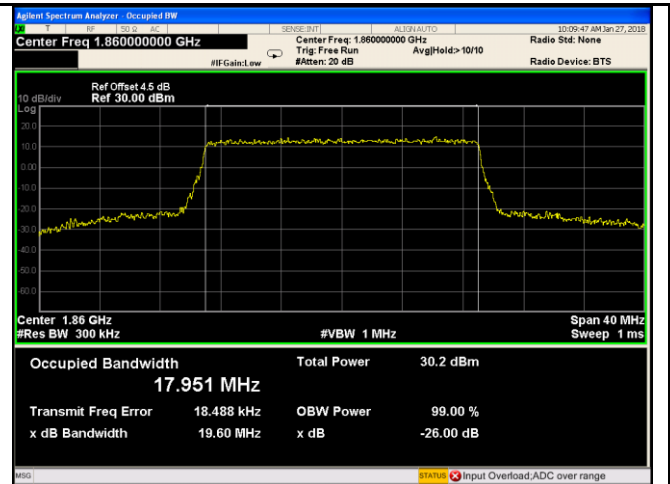
LTE Band II - High CH QPSK-15



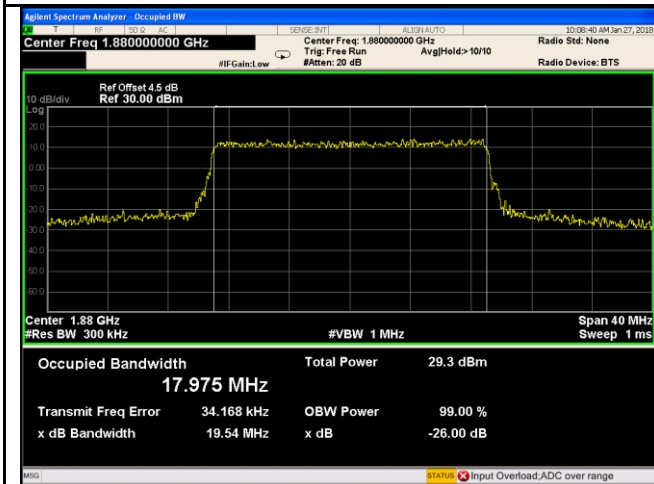
LTE Band II - High CH 16QAM-15



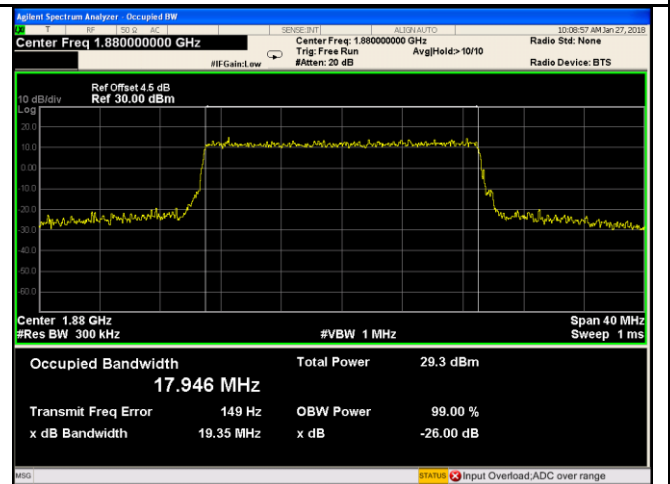
LTE Band II - Low CH QPSK-20



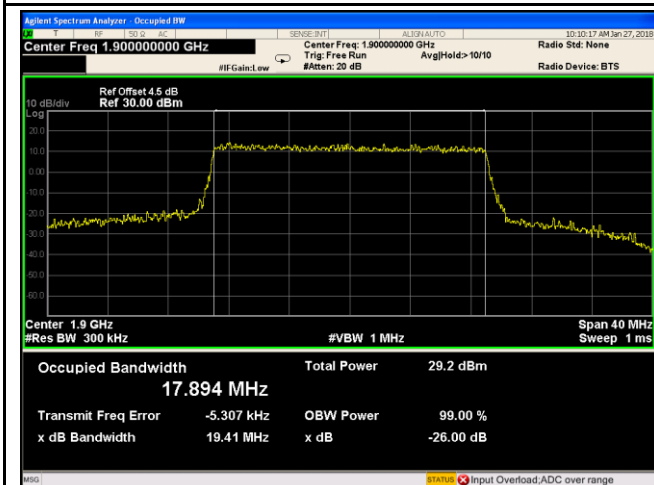
LTE Band II - Low CH 16QAM-20



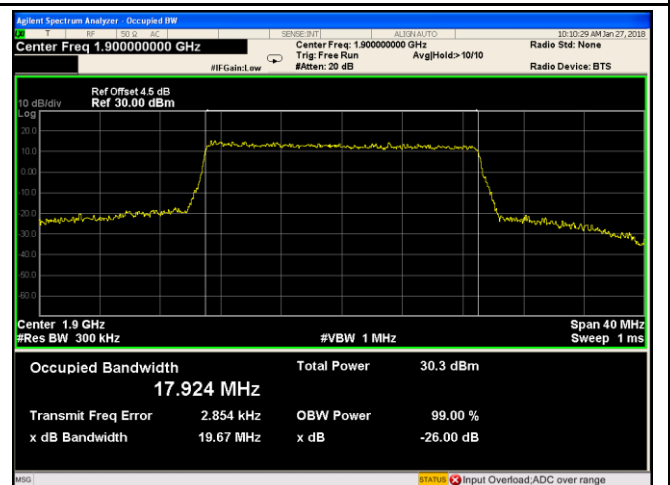
LTE Band II - Middle CH QPSK-20



LTE Band II - Middle CH 16QAM-20

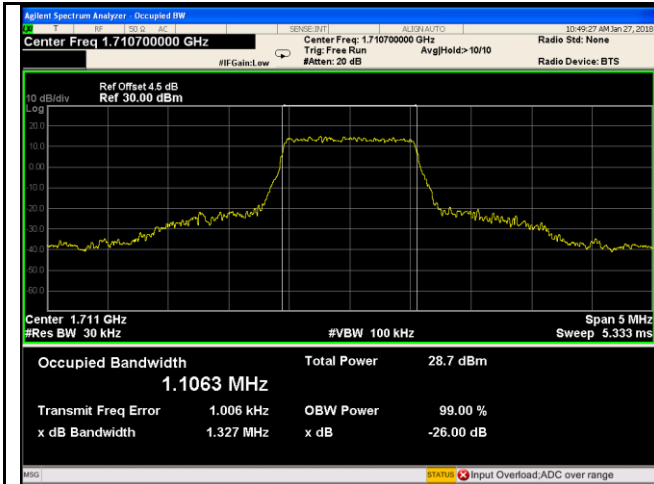


LTE Band II - High CH QPSK-20

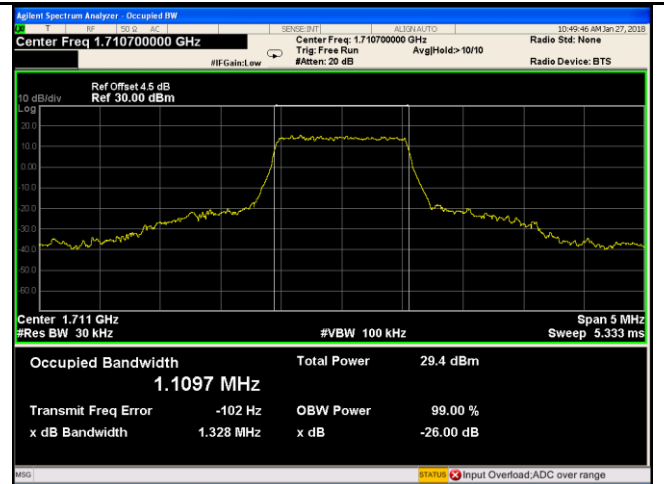


LTE Band II - High CH 16QAM-20

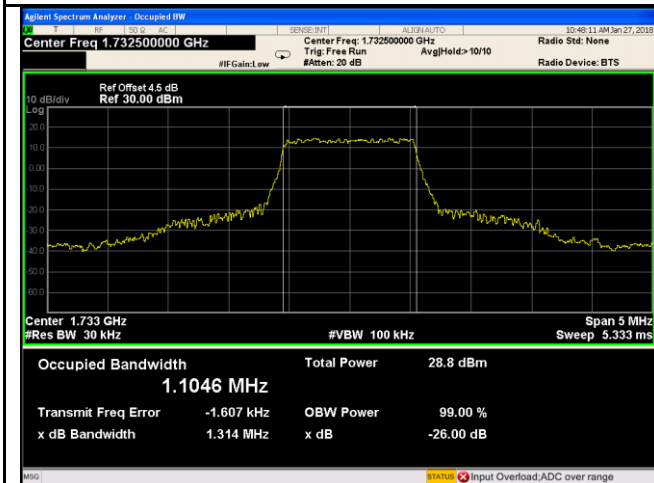
LTE Band IV (Part 27)



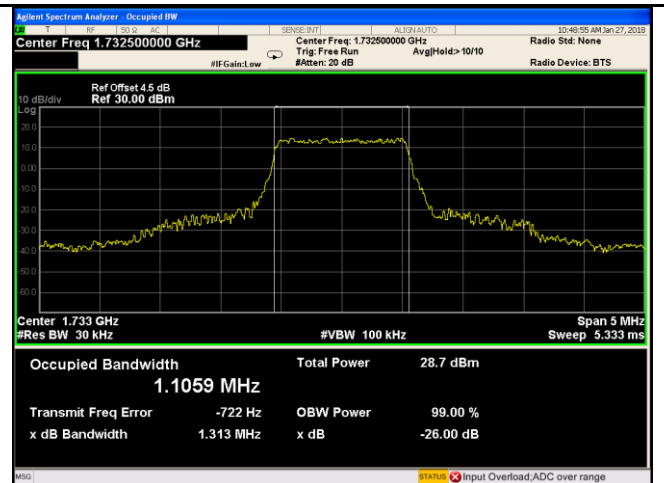
LTE Band IV - Low CH QPSK-1.4



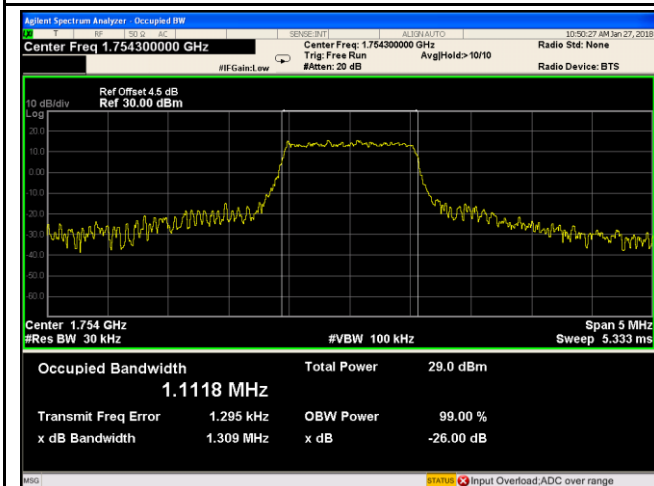
LTE Band IV - Low CH 16QAM-1.4



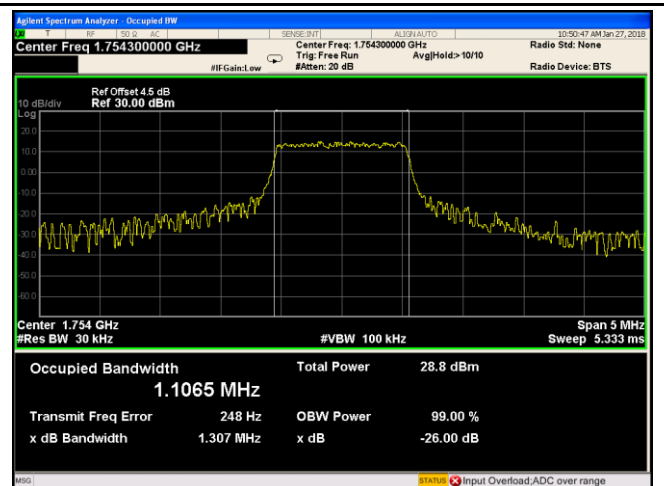
LTE Band IV - Middle CH QPSK-1.4



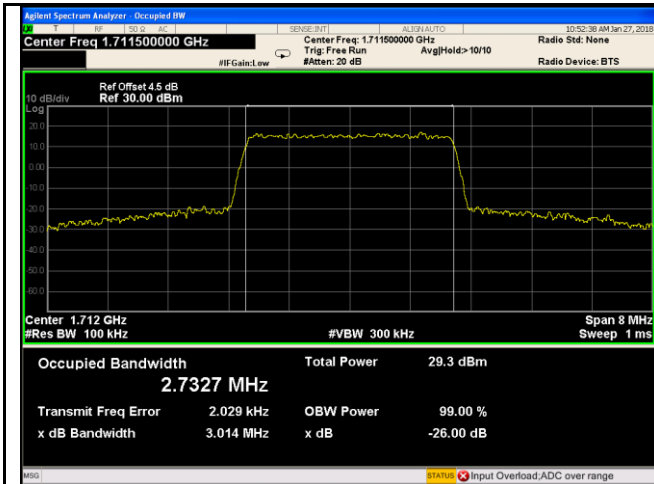
LTE Band IV - Middle CH 16QAM-1.4



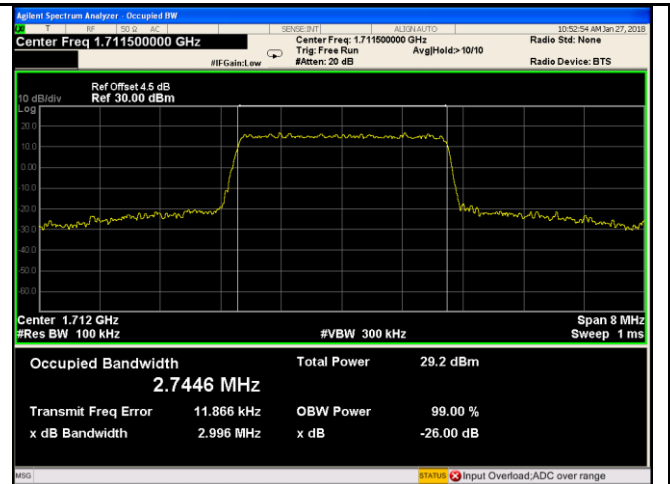
LTE Band IV - High CH QPSK-1.4



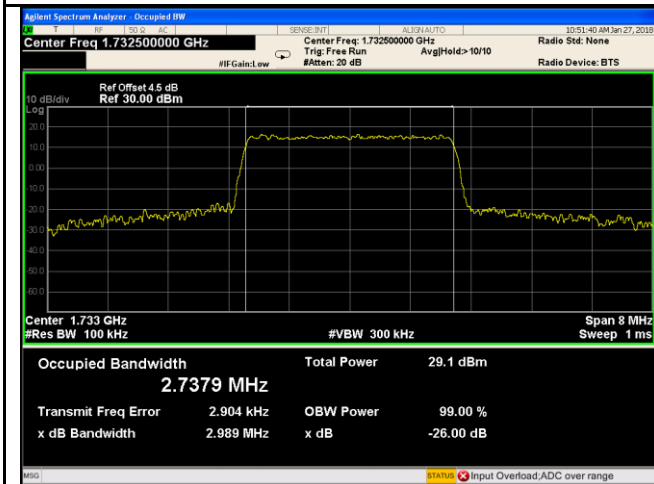
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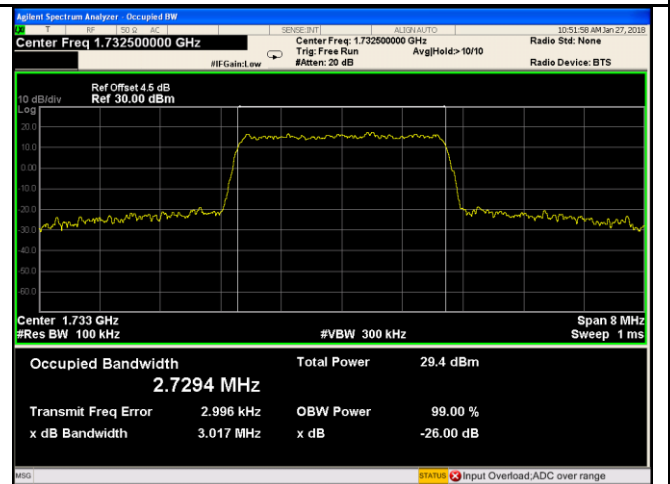
LTE Band IV - Low CH QPSK-3



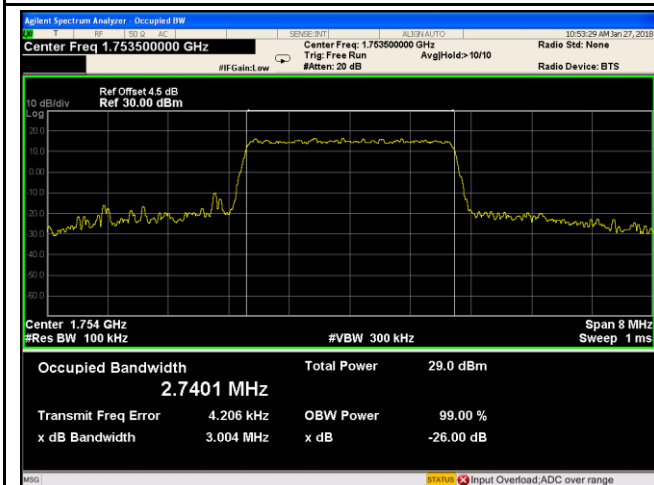
LTE Band IV - Low CH 16QAM-3



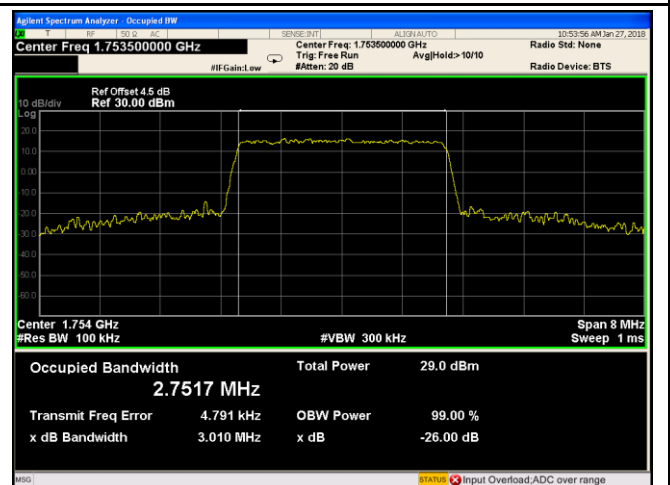
LTE Band IV - Middle CH QPSK-3



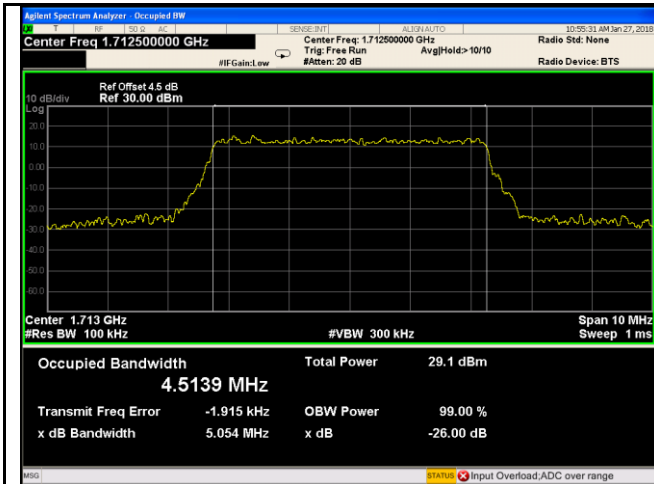
LTE Band IV - Middle CH 16QAM-3



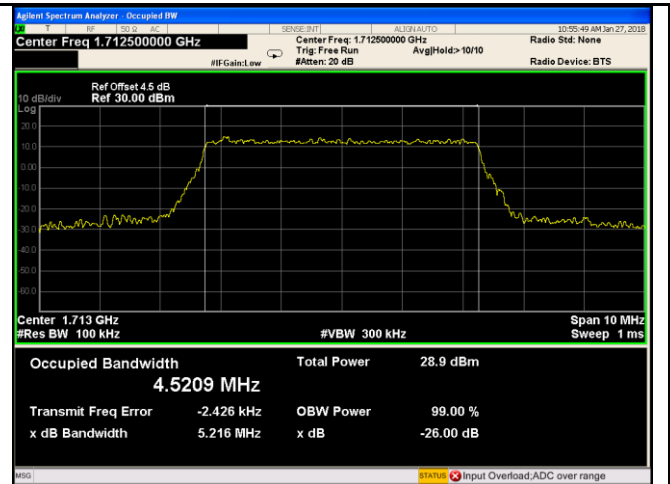
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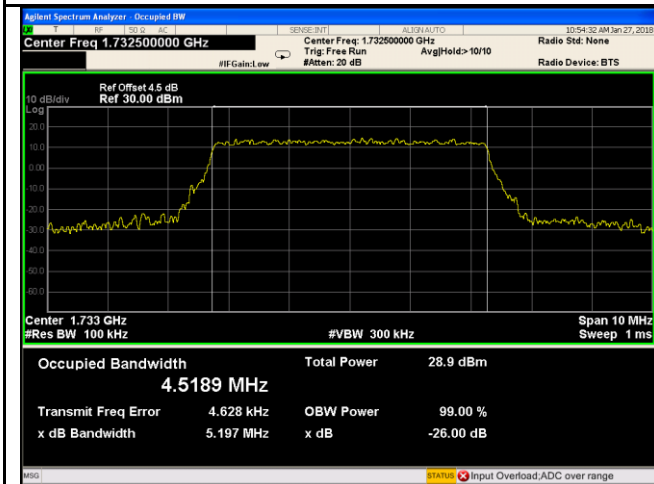
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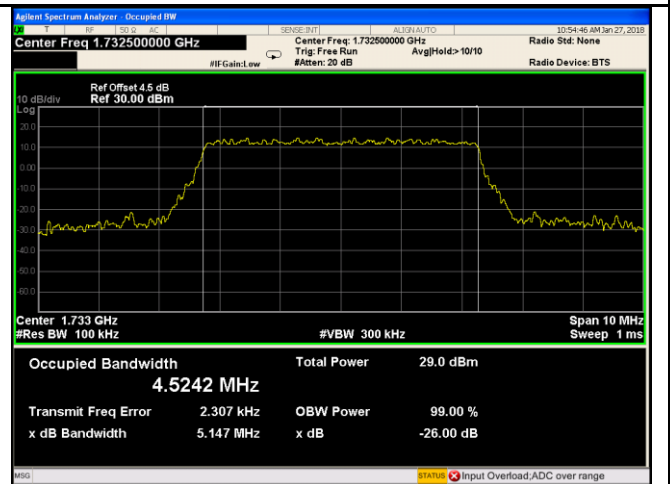
LTE Band IV - Low CH QPSK-5



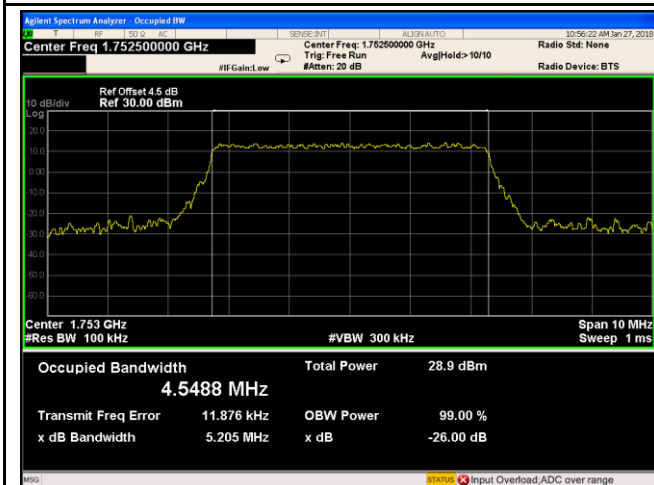
LTE Band IV - Low CH 16QAM-5



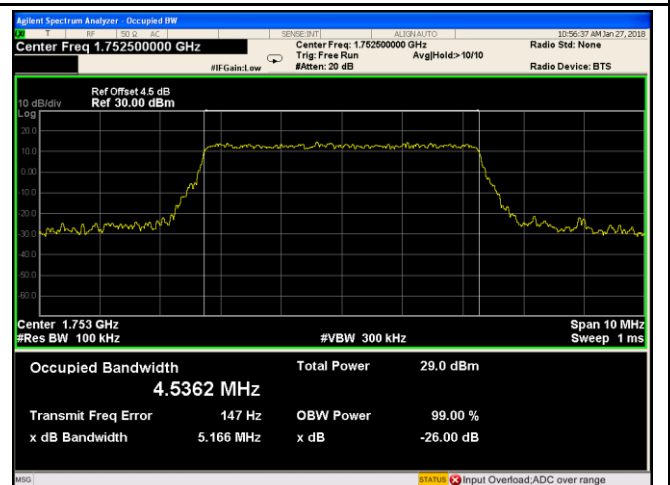
LTE Band IV - Middle CH QPSK-5



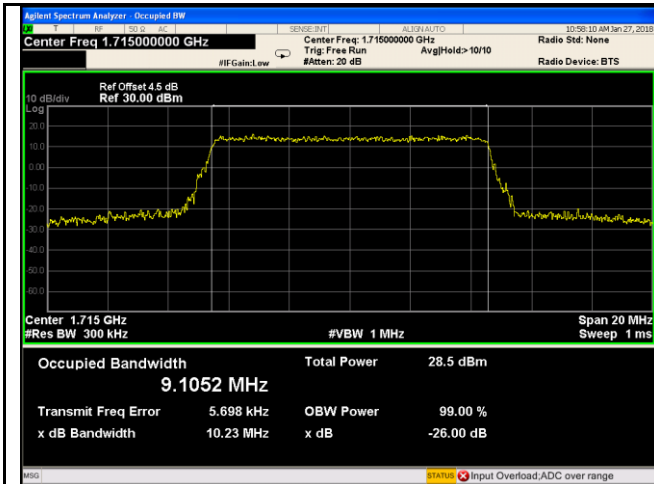
LTE Band IV - Middle CH 16QAM-5



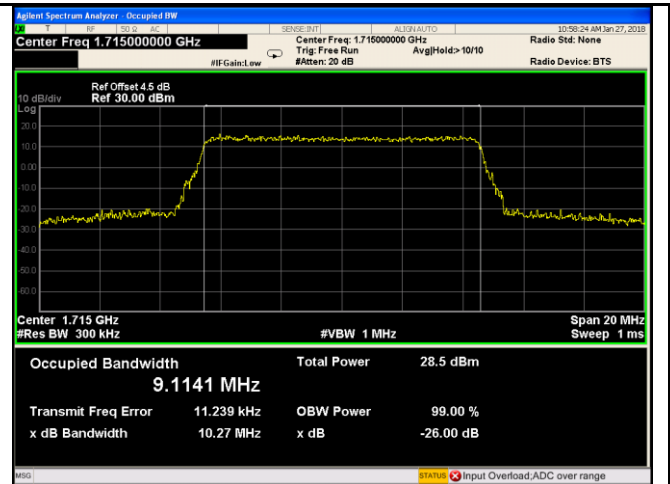
LTE Band IV - High CH QPSK-5



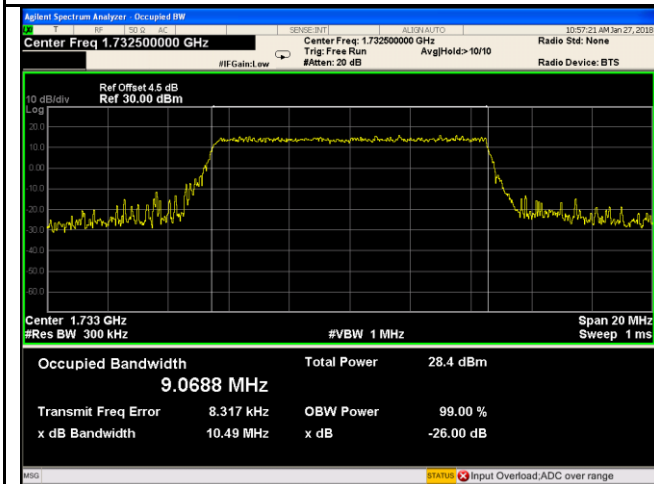
LTE Band IV - High CH 16QAM-5



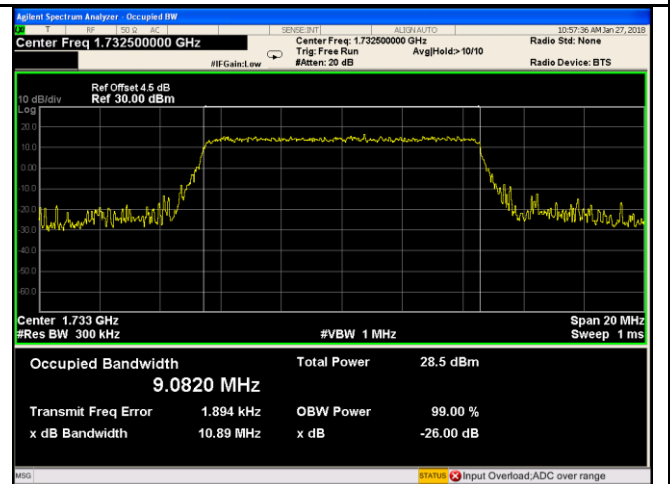
LTE Band IV - Low CH QPSK-10



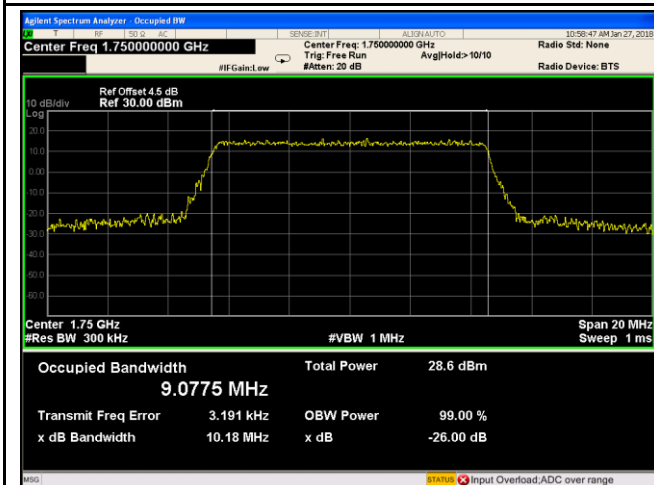
LTE Band IV - Low CH 16QAM-10



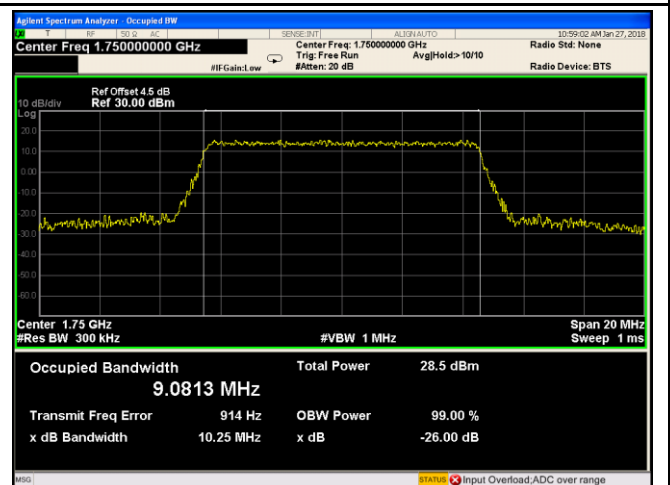
LTE Band IV - Middle CH QPSK-10



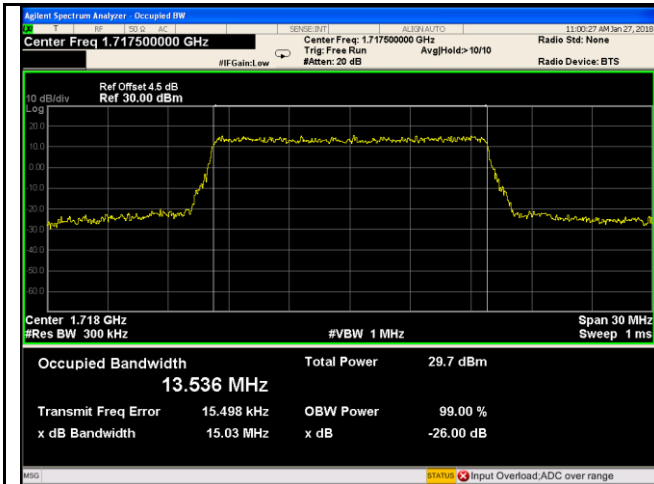
LTE Band IV - Middle CH 16QAM-10



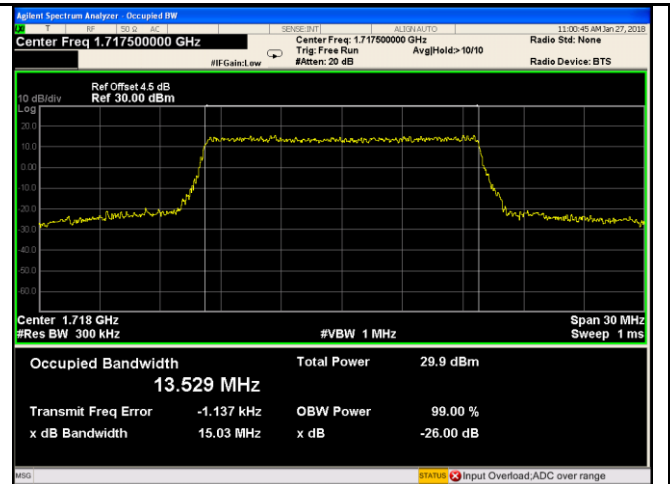
LTE Band IV - High CH QPSK-10



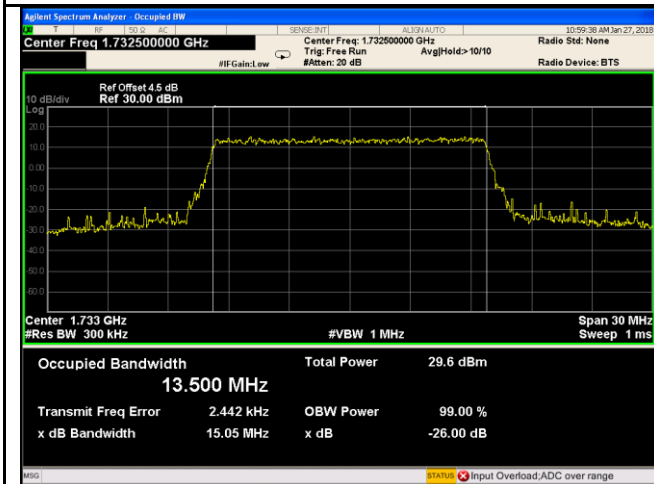
LTE Band IV - High CH 16QAM-10



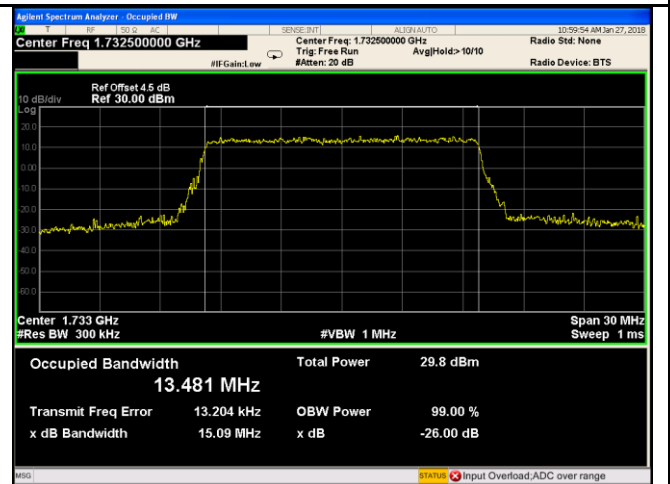
LTE Band IV - Low CH QPSK-15



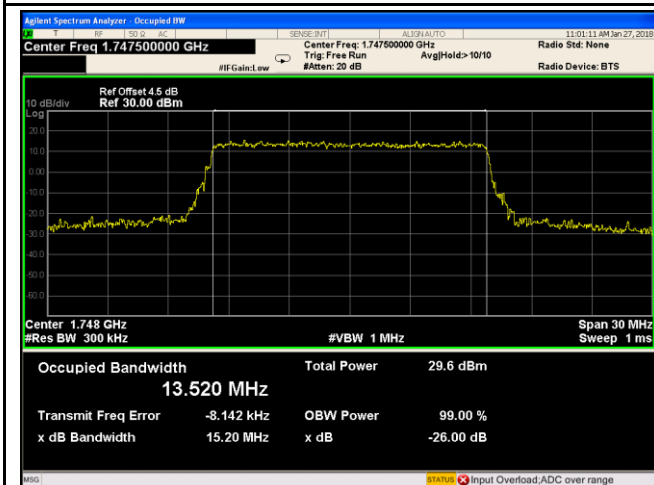
LTE Band IV - Low CH 16QAM-15



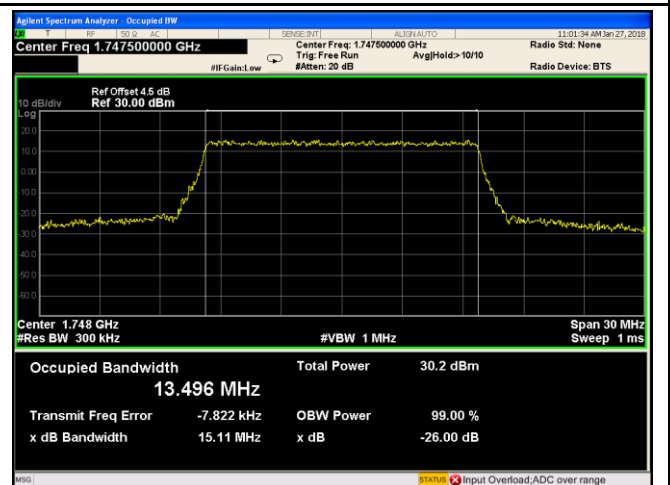
LTE Band IV - Middle CH QPSK-15



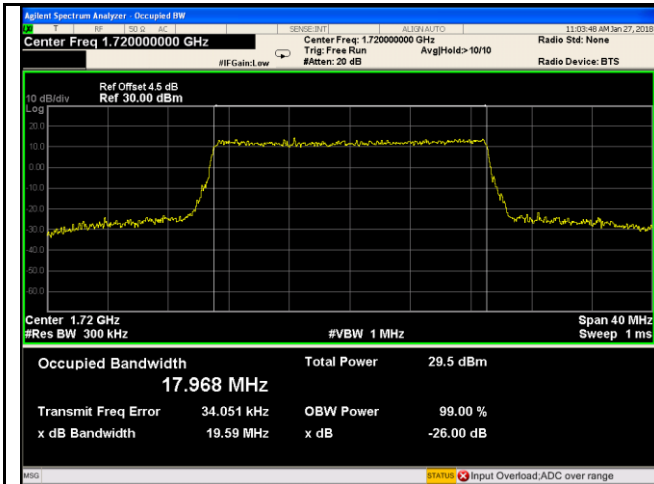
LTE Band IV - Middle CH 16QAM-15



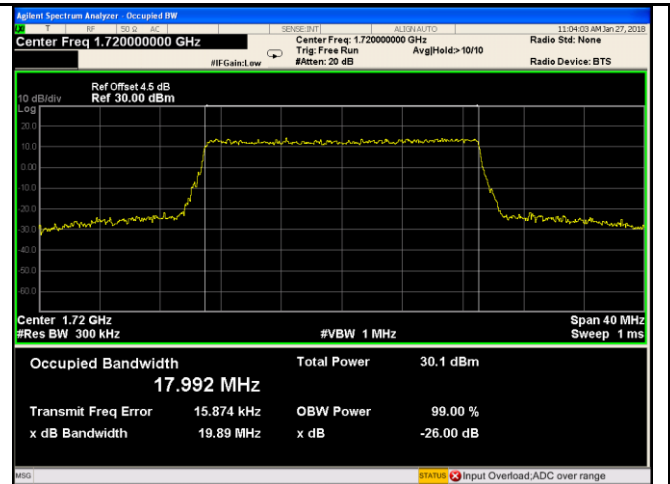
LTE Band IV - High CH QPSK-15



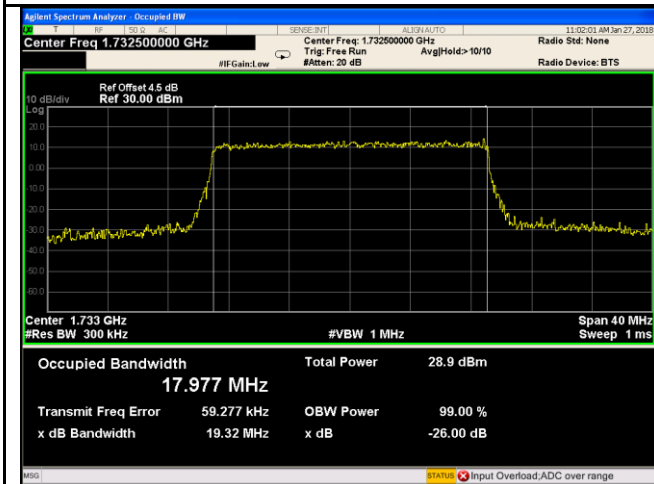
LTE Band IV - High CH 16QAM-15



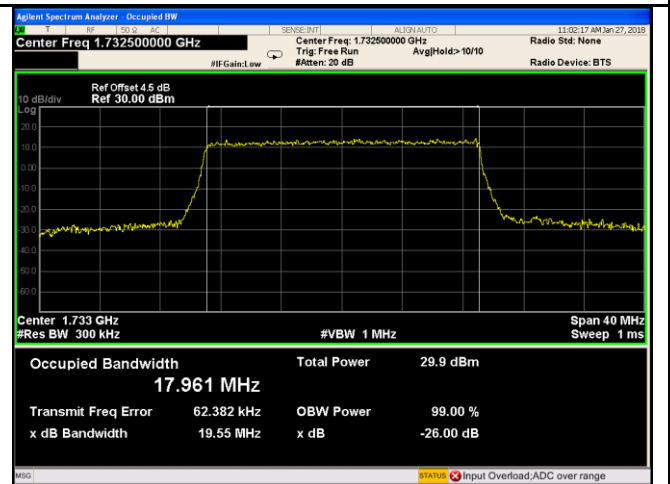
LTE Band IV - Low CH QPSK-20



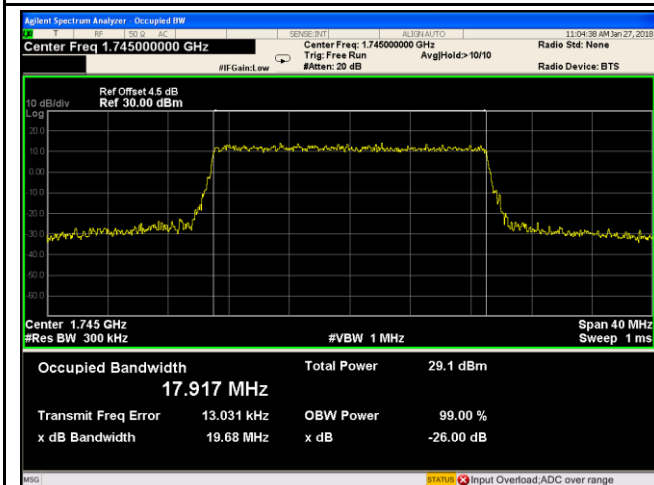
LTE Band IV - Low CH 16QAM-20



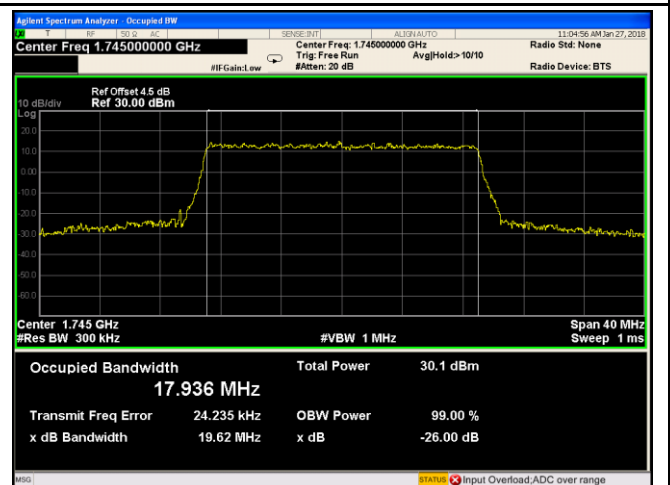
LTE Band IV - Middle CH QPSK-20



LTE Band IV - Middle CH 16QAM-20

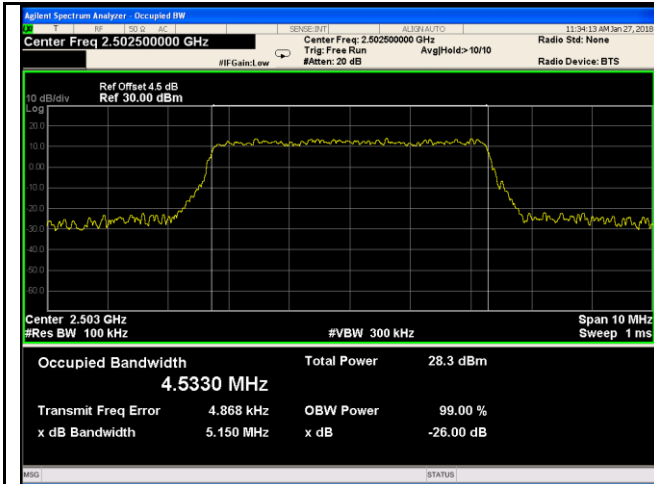


LTE Band IV - High CH QPSK-20

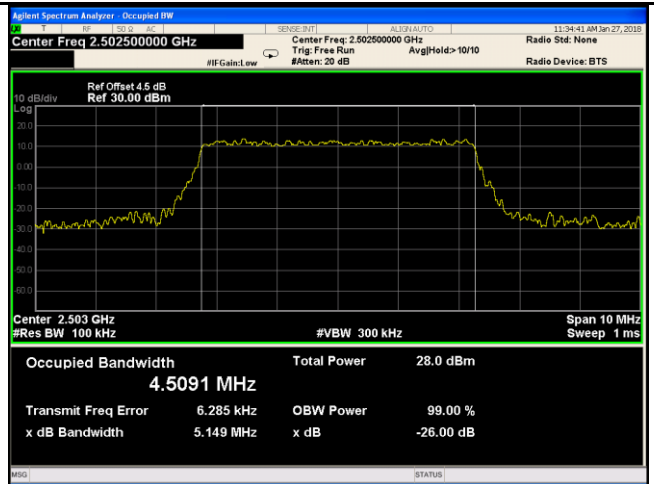


LTE Band IV - High CH 16QAM-20

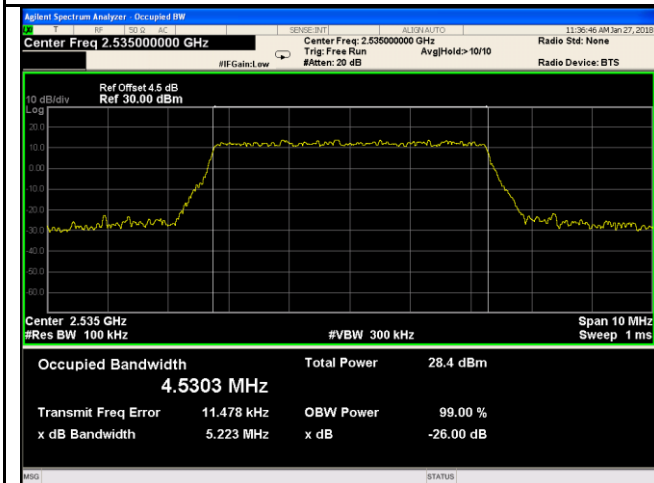
LTE Band VII (Part 27)



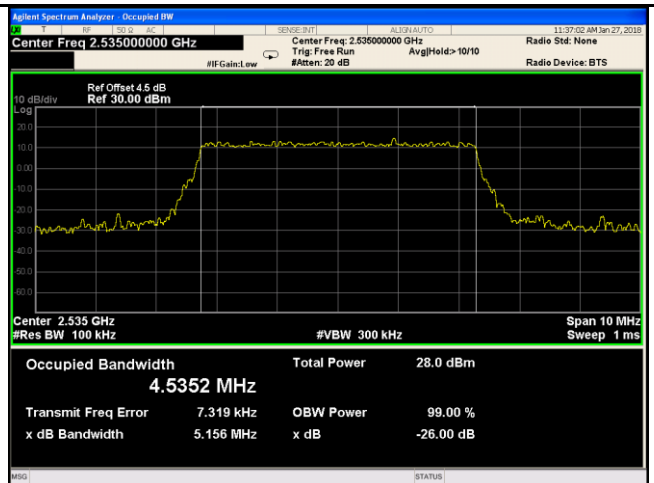
LTE Band VII - Low CH QPSK-5



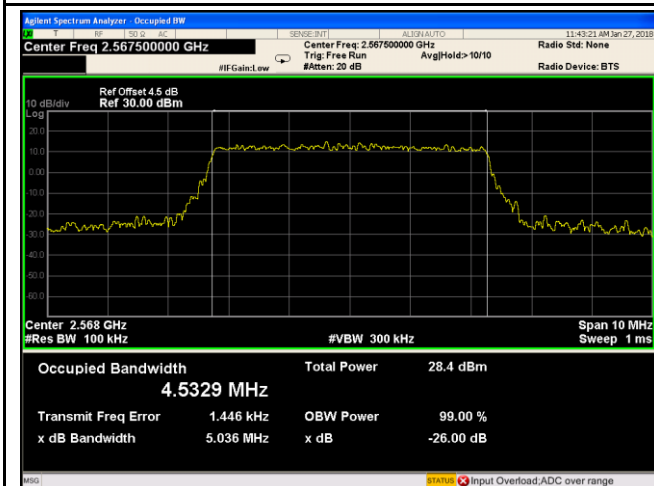
LTE Band VII - Low CH 16QAM-5



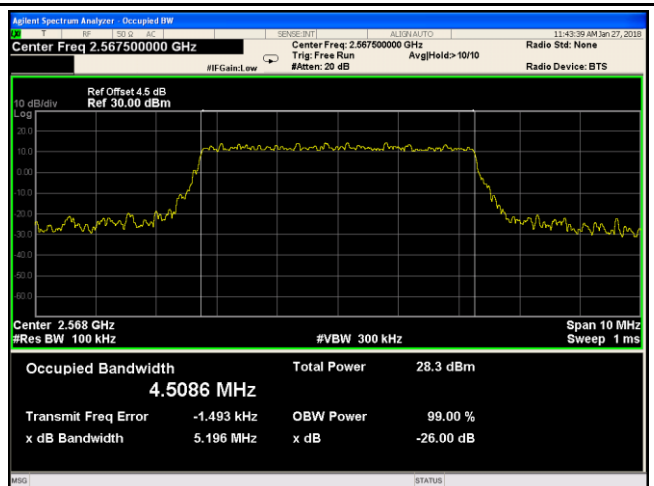
LTE Band VII - Middle CH QPSK-5



LTE Band VII - Middle CH 16QAM-5



LTE Band VII - High CH QPSK-5



LTE Band VII - High CH 16QAM-5