RF TEST REPORT

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Report No.: 16070460-FCC-R5

Supersede Report No.: N/A

Applicant	Verykool USA Inc
Product Name	Tablet
Model No.	TL8010
Serial No.	N/A
Test Standard	FCC Part 22(H):2015, FCC Part 24(E):2015, FCC Part 27: 2015; ANSI/TIA-603-D: 2010
Test Date	April 25 to May 25, 2016
Issue Date	May 25, 2016
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Winnie. Zhang	David Huang	
Winnie Zhang Test Engineer	David Huang Checked By	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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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
16070460-FCC-R5	NONE	Original	May 25, 2016

2. Customer information

Applicant Name	Verykool USA Inc
Applicant Add	3636 Nobel Drive, Suite 325, San Diego, CA 92122 USA
Manufacturer	Topwise
Manufacturer Add	5th floor,A8Music Building,No.1002,Keyuan Road,Hi-Tcach Park,NanShan Districtt,Shenzhen

3. Test site information

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.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT:	Tablet
Main Model:	TL8010
Serial Model:	N/A
Date EUT received:	April 25, 2016
Test Date(s):	April 25 to May 25, 2016
Equipment Category :	PCE
Antenna Gain:	GSM850: 0.61 dBi PCS1900: 0.85 dBi UMTS-FDD Band 5: 0.61 dBi UMTS-FDD Band 2: 0.85 dBi UMTS-FDD Band 4: -0.84 dBi LTE Band 2: 0.85 dBi LTE Band 4: -0.84 dBi LTE Band 5: 0.61 dBi LTE Band 7: 1.11 dBi LTE Band 17: -4.77dBi Bluetooth/BLE/WIFI: 2.16 dBi GPS: 1.74 dBi
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK,8PSK UMTS-FDD: QPSK LTE Band: QPSK, 16QAM 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /4DQPSK, 8DPSK BLE: GFSK GPS:BPSK

RF Operating Frequency (ies):	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 5 TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band 2 TX:1852.4 ~ 1907.6 MHz; RX: 1932.4 ~ 1987.6 MHz UMTS-FDD Band 4 TX :1712.4 ~ 1752.6 MHz; RX : 2112.4 ~ 2152.6 MHz LTE Band 2 TX: 1852.5 ~ 1907.5 MHz; RX : 1932.5 ~ 1987.5 MHz LTE Band 4 TX: 1712.5 ~ 1752.5 MHz; RX : 2112.5 ~ 2152.5 MHz LTE Band 5 TX: 826.5 ~ 846.5 MHz; RX : 871.5 ~ 891.5 MHz LTE Band 7 TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz LTE Band 17 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 2: 23.10 dBm LTE Band 4: 22.63 dBm LTE Band 5: 22.82 dBm LTE Band 7: 23.18 dBm LTE Band 17: 22.17 dBm
ERP/EIRP:	LTE Band 2: 23.83 dBm / EIRP LTE Band 4: 22.41 dBm / EIRP LTE Band 5: 25.58 dBm / EIRP LTE Band 7: 23.57 dBm / EIRP LTE Band 17: 22.31 dBm / ERP
Port:	Power Port, Earphone Port, USB Port
Input Power:	Adapter: Model: JML050200A Input: AC 100-240V; 50/60Hz;0.3A Output: DC 5.0V,2.0A Battery: Capacity: 2030mAh Voltage: 3.8V
Trade Name :	verykool

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

FCC ID: WA6TL8010

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
§ 2.1047	Modulation Characteristics	N/A
§ 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)

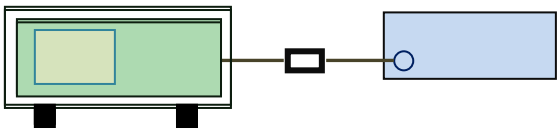
Test Result: Pass

The EUT is a portable device, thus requires SAR evaluation;
Please refer to RF Exposure Evaluation Report: 16070460-FCC-H.

6.2 RF Output Power

Temperature	22℃
Relative Humidity	51%
Atmospheric Pressure	1009mbar
Test date :	May 09, 2016
Tested By :	Winnie Zhang

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			
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 (TX power in Watts/0.001) – the absolute level - Spurious attenuation limit in dB = 43 + 10 Log10 (power out in Watts.
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☑ N/A

Conducted Power

LTE Band 2:

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	22.57	22.5±1
				1	49	0	22.48	22.5±1
				1	99	0	22.12	22.5±1
				50	0	1	22.50	22.5±1
				50	24	1	22.21	22.5±1
				50	49	1	22.30	22.5±1
				100	0	1	22.48	22.5±1
			16QAM	1	0	1	22.94	22.5±1
				1	49	1	23.00	22.5±1
				1	99	1	22.85	22.5±1
				50	0	2	22.60	22.5±1
				50	24	2	22.55	22.5±1
				50	49	2	22.50	22.5±1
				100	0	2	22.54	22.5±1
	18900	1880.0	QPSK	1	0	0	22.65	22.5±1
				1	49	0	22.30	22.5±1
				1	99	0	22.60	22.5±1
				50	0	1	22.54	22.5±1
				50	24	1	22.40	22.5±1
				50	49	1	22.62	22.5±1
				100	0	1	22.50	22.5±1
			16QAM	1	0	1	22.55	22.5±1
				1	49	1	22.43	22.5±1
				1	99	1	22.51	22.5±1
				50	0	2	22.56	22.5±1
				50	24	2	22.51	22.5±1
				50	49	2	22.48	22.5±1
				100	0	2	22.45	22.5±1
	19100	1900.0	QPSK	1	0	0	22.29	22.5±1
				1	49	0	22.22	22.5±1
				1	99	0	22.35	22.5±1
				50	0	1	22.39	22.5±1
				50	24	1	22.35	22.5±1
				50	49	1	22.28	22.5±1
				100	0	1	22.32	22.5±1
			16QAM	1	0	1	21.28	21.5±1
				1	49	1	21.15	21.5±1
				1	99	1	21.04	21.5±1
				50	0	2	20.98	21.5±1
				50	24	2	20.95	21.5±1
				50	49	2	20.89	21.5±1
				100	0	2	21.03	21.5±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	22.47	22.5±1
				1	37	0	22.51	22.5±1
				1	74	0	22.38	22.5±1
				36	0	1	22.60	22.5±1
				36	16	1	22.63	22.5±1
				36	35	1	22.68	22.5±1
				75	0	1	22.58	22.5±1
			16QAM	1	0	1	22.92	22.5±1
				1	37	1	22.88	22.5±1
				1	74	1	**23.10**	22.5±1
				36	0	2	22.52	22.5±1
				36	16	2	22.61	22.5±1
				36	35	2	22.48	22.5±1
				75	0	2	22.57	22.5±1
	18900	1880.0	QPSK	1	0	0	22.53	22.5±1
				1	37	0	22.58	22.5±1
				1	74	0	22.50	22.5±1
				36	0	1	22.57	22.5±1
				36	16	1	22.52	22.5±1
				36	35	1	22.58	22.5±1
				75	0	1	22.61	22.5±1
			16QAM	1	0	1	22.63	22.5±1
				1	37	1	22.60	22.5±1
				1	74	1	22.68	22.5±1
				36	0	2	22.40	22.5±1
				36	16	2	22.42	22.5±1
				36	35	2	22.35	22.5±1
				75	0	2	22.50	22.5±1
	19125	1902.5	QPSK	1	0	0	22.34	22.5±1
				1	37	0	22.31	22.5±1
				1	74	0	22.42	22.5±1
				36	0	1	22.43	22.5±1
				36	16	1	22.51	22.5±1
				36	35	1	22.48	22.5±1
				75	0	1	22.42	22.5±1
			16QAM	1	0	1	22.87	22.5±1
				1	37	1	22.85	22.5±1
				1	74	1	22.88	22.5±1
				36	0	2	22.45	22.5±1
				36	16	2	22.42	22.5±1
				36	35	2	22.48	22.5±1
				75	0	2	22.39	22.5±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	22.47	22.5±1
				1	24	0	22.50	22.5±1
				1	49	0	22.53	22.5±1
				25	0	1	22.45	22.5±1
				25	12	1	22.48	22.5±1
				25	24	1	22.46	22.5±1
				50	0	1	22.49	22.5±1
			16QAM	1	0	1	22.91	22.5±1
				1	24	1	22.85	22.5±1
				1	49	1	22.88	22.5±1
				25	0	2	22.60	22.5±1
				25	12	2	22.57	22.5±1
				25	24	2	22.53	22.5±1
				50	0	2	22.49	22.5±1
	18900	1880.0	QPSK	1	0	0	22.61	22.5±1
				1	24	0	22.58	22.5±1
				1	49	0	22.55	22.5±1
				25	0	1	22.44	22.5±1
				25	12	1	22.48	22.5±1
				25	24	1	22.40	22.5±1
				50	0	1	22.43	22.5±1
			16QAM	1	0	1	22.91	22.5±1
				1	24	1	22.93	22.5±1
				1	49	1	22.88	22.5±1
				25	0	2	22.52	22.5±1
				25	12	2	22.51	22.5±1
				25	24	2	22.56	22.5±1
				50	0	2	22.40	22.5±1
	19150	1905	QPSK	1	0	0	22.39	22.5±1
				1	24	0	22.35	22.5±1
				1	49	0	22.42	22.5±1
				25	0	1	22.26	22.5±1
				25	12	1	22.28	22.5±1
				25	24	1	22.19	22.5±1
				50	0	1	22.29	22.5±1
			16QAM	1	0	1	22.10	22.5±1
				1	24	1	22.25	22.5±1
				1	49	1	22.31	22.5±1
				25	0	2	22.32	22.5±1
				25	12	2	22.48	22.5±1
				25	24	2	22.19	22.5±1
				50	0	2	22.26	22.5±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	22.42	22±1
				1	12	0	22.28	22±1
				1	24	0	22.35	22±1
				12	0	1	22.38	22±1
				12	6	1	22.20	22±1
				12	11	1	22.50	22±1
				25	0	1	22.31	22±1
			16QAM	1	0	1	22.37	22±1
				1	12	1	22.50	22±1
				1	24	1	22.68	22±1
				12	0	2	22.35	22±1
				12	6	2	22.31	22±1
				12	11	2	22.50	22±1
				25	0	2	22.33	22±1
	18900	1880.0	QPSK	1	0	0	22.36	22±1
				1	12	0	22.25	22±1
				1	24	0	22.45	22±1
				12	0	1	22.41	22±1
				12	6	1	22.48	22±1
				12	11	1	22.31	22±1
				25	0	1	22.37	22±1
			16QAM	1	0	1	22.59	22±1
				1	12	1	22.48	22±1
				1	24	1	22.42	22±1
				12	0	2	22.32	22±1
				12	6	2	22.38	22±1
				12	11	2	22.54	22±1
				25	0	2	22.32	22±1
	19175	1907.5	QPSK	1	0	0	22.27	22±1
				1	12	0	22.35	22±1
				1	24	0	22.42	22±1
				12	0	1	22.32	22±1
				12	6	1	22.51	22±1
				12	11	1	22.62	22±1
				25	0	1	22.26	22±1
			16QAM	1	0	1	22.20	22±1
				1	12	1	22.35	22±1
				1	24	1	22.44	22±1
				12	0	2	22.42	22±1
				12	6	2	22.41	22±1
				12	11	2	22.48	22±1
				25	0	2	22.35	22±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	22.25	22±1
				1	7	0	22.36	22±1
				1	14	0	22.15	22±1
				8	0	1	22.12	22±1
				8	4	1	22.25	22±1
				8	7	1	22.35	22±1
				15	0	1	22.22	22±1
			16QAM	1	0	1	22.03	22±1
				1	7	1	22.15	22±1
				1	14	1	22.24	22±1
				8	0	2	22.38	22±1
				8	4	2	22.21	22±1
				8	7	2	22.36	22±1
				15	0	2	22.15	22±1
	18900	1880.0	QPSK	1	0	0	22.26	22±1
				1	7	0	22.35	22±1
				1	14	0	22.15	22±1
				8	0	1	22.21	22±1
				8	4	1	22.41	22±1
				8	7	1	22.52	22±1
				15	0	1	22.28	22±1
			16QAM	1	0	1	22.19	22±1
				1	7	1	22.35	22±1
				1	14	1	22.45	22±1
				8	0	2	22.04	22±1
				8	4	2	22.21	22±1
				8	7	2	22.35	22±1
				15	0	2	22.26	22±1
	19175	1907.5	QPSK	1	0	0	22.27	22±1
				1	7	0	22.15	22±1
				1	14	0	22.36	22±1
				8	0	1	22.20	22±1
				8	4	1	22.36	22±1
				8	7	1	22.56	22±1
				15	0	1	22.31	22±1
			16QAM	1	0	1	22.05	22±1
				1	7	1	22.45	22±1
				1	14	1	22.26	22±1
				8	0	2	22.16	22±1
				8	4	2	22.28	22±1
				8	7	2	22.35	22±1
				15	0	2	22.20	22±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	22.20	22±1
				1	2	0	22.45	22±1
				1	5	0	22.36	22±1
				3	0	0	22.31	22±1
				3	1	0	22.54	22±1
				3	2	0	22.52	22±1
				6	0	1	22.13	22±1
			16QAM	1	0	1	22.04	22±1
				1	2	1	22.20	22±1
				1	5	1	22.18	22±1
				3	0	1	22.40	22±1
				3	1	1	22.41	22±1
				3	2	1	22.35	22±1
				6	0	2	22.11	22±1
	18900	1880.0	QPSK	1	0	0	22.28	22±1
				1	2	0	22.45	22±1
				1	5	0	22.42	22±1
				3	0	0	22.30	22±1
				3	1	0	22.41	22±1
				3	2	0	22.47	22±1
				6	0	1	22.16	22±1
			16QAM	1	0	1	22.23	22±1
				1	2	1	22.41	22±1
				1	5	1	22.35	22±1
				3	0	1	22.51	22±1
				3	1	1	22.15	22±1
				3	2	1	22.38	22±1
				6	0	2	22.05	22±1
	19193	1909.3	QPSK	1	0	0	22.13	22±1
				1	2	0	22.42	22±1
				1	5	0	22.38	22±1
				3	0	0	22.28	22±1
				3	1	0	22.35	22±1
				3	2	0	22.48	22±1
				6	0	1	22.16	22±1
			16QAM	1	0	1	21.77	21.5±1
				1	2	1	21.68	21.5±1
				1	5	1	21.78	21.5±1
				3	0	1	21.97	21.5±1
				3	1	1	21.96	21.5±1
				3	2	1	21.88	21.5±1
				6	0	2	22.03	21.5±1

LTE Band 4:

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	22.28	22±1
				1	49	0	22.34	22±1
				1	99	0	22.41	22±1
				50	0	1	21.38	22±1
				50	24	1	21.52	22±1
				50	49	1	21.14	22±1
				100	0	1	21.45	22±1
			16QAM	1	0	1	21.60	21.3±1
				1	49	1	21.85	21.3±1
				1	99	1	21.68	21.3±1
				50	0	2	21.15	21.3±1
				50	24	2	21.26	21.3±1
				50	49	2	21.13	21.3±1
				100	0	2	20.45	21.3±1
	20175	1732.5	QPSK	1	0	0	22.64	22±1
				1	49	0	22.62	22±1
				1	99	0	22.86	22±1
				50	0	1	21.54	22±1
				50	24	1	21.56	22±1
				50	49	1	21.29	22±1
				100	0	1	21.49	22±1
			16QAM	1	0	1	21.53	21.3±1
				1	49	1	21.68	21.3±1
				1	99	1	21.69	21.3±1
				50	0	2	21.42	21.3±1
				50	24	2	21.41	21.3±1
				50	49	2	21.28	21.3±1
				100	0	2	20.53	21.3±1
	20300	1745.0	QPSK	1	0	0	22.50	22±1
				1	49	0	22.35	22±1
				1	99	0	22.24	22±1
				50	0	1	21.35	22±1
				50	24	1	21.39	22±1
				50	49	1	21.34	22±1
				100	0	1	21.33	22±1
			16QAM	1	0	1	21.58	21.3±1
				1	49	1	21.56	21.3±1
				1	99	1	21.38	21.3±1
				50	0	2	21.20	21.3±1
				50	24	2	21.35	21.3±1
				50	49	2	21.26	21.3±1
				100	0	2	21.24	21.3±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	22.28	22±1
				1	37	0	22.19	22±1
				1	74	0	22.34	22±1
				36	0	1	21.43	22±1
				36	16	1	21.58	22±1
				36	35	1	21.32	22±1
				75	0	1	21.51	22±1
			16QAM	1	0	1	21.67	21.3±1
				1	37	1	21.25	21.3±1
				1	74	1	21.56	21.3±1
				36	0	2	21.52	21.3±1
				36	16	2	21.54	21.3±1
				36	35	2	21.46	21.3±1
				75	0	2	20.48	21.3±1
	20175	1732.5	QPSK	1	0	0	22.60	22±1
				1	37	0	22.42	22±1
				1	74	0	22.51	22±1
				36	0	1	21.61	22±1
				36	16	1	21.51	22±1
				36	35	1	21.39	22±1
				75	0	1	21.65	22±1
			16QAM	1	0	1	21.38	21.3±1
				1	37	1	21.26	21.3±1
				1	74	1	21.45	21.3±1
				36	0	2	21.25	21.3±1
				36	16	2	21.18	21.3±1
				36	35	2	21.24	21.3±1
				75	0	2	20.52	21.3±1
	20325	1747.5	QPSK	1	0	0	22.36	22±1
				1	37	0	22.25	22±1
				1	74	0	22.28	22±1
				36	0	1	21.31	22±1
				36	16	1	21.28	22±1
				36	35	1	21.35	22±1
				75	0	1	21.39	22±1
			16QAM	1	0	1	21.66	21.3±1
				1	37	1	21.52	21.3±1
				1	74	1	21.48	21.3±1
				36	0	2	21.25	21.3±1
				36	16	2	21.23	21.3±1
				36	35	2	21.15	21.3±1
				75	0	2	20.48	21.3±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	22.27	22±1
				1	24	0	22.35	22±1
				1	49	0	22.24	22±1
				25	0	1	21.28	22±1
				25	12	1	21.25	22±1
				25	24	1	21.21	22±1
				50	0	1	21.34	22±1
			16QAM	1	0	1	21.66	21.3±1
				1	24	1	21.35	21.3±1
				1	49	1	21.26	21.3±1
				25	0	2	21.21	21.3±1
				25	12	2	21.35	21.3±1
				25	24	2	21.23	21.3±1
				50	0	2	20.52	21.3±1
	20175	1732.5	QPSK	1	0	0	22.60	22±1
				1	24	0	22.35	22±1
				1	49	0	22.26	22±1
				25	0	1	21.43	22±1
				25	12	1	21.24	22±1
				25	24	1	21.34	22±1
				50	0	1	**22.63**	22±1
			16QAM	1	0	1	21.40	21.3±1
				1	24	1	21.42	21.3±1
				1	49	1	21.29	21.3±1
				25	0	2	21.25	21.3±1
				25	12	2	21.18	21.3±1
				25	24	2	21.15	21.3±1
				50	0	2	20.44	21.3±1
	20350	1750.0	QPSK	1	0	0	22.36	22±1
				1	24	0	22.25	22±1
				1	49	0	22.28	22±1
				25	0	1	21.24	22±1
				25	12	1	21.21	22±1
				25	24	1	21.19	22±1
				50	0	1	21.17	22±1
			16QAM	1	0	1	21.24	21.3±1
				1	24	1	21.18	21.3±1
				1	49	1	21.25	21.3±1
				25	0	2	21.22	21.3±1
				25	12	2	21.18	21.3±1
				25	24	2	21.15	21.3±1
				50	0	2	20.38	21.3±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	22.31	22±1
				1	12	0	22.25	22±1
				1	24	0	22.18	22±1
				12	0	1	21.29	22±1
				12	6	1	21.25	22±1
				12	11	1	21.23	22±1
				25	0	1	21.21	22±1
			16QAM	1	0	1	21.16	21.3±1
				1	12	1	21.25	21.3±1
				1	24	1	21.19	21.3±1
				12	0	2	21.29	21.3±1
				12	6	2	21.25	21.3±1
				12	11	2	21.21	21.3±1
				25	0	2	20.56	21.3±1
	20175	1732.5	QPSK	1	0	0	22.31	22±1
				1	12	0	22.28	22±1
				1	24	0	22.26	22±1
				12	0	1	21.25	22±1
				12	6	1	21.22	22±1
				12	11	1	21.15	22±1
				25	0	1	21.24	22±1
			16QAM	1	0	1	21.16	21.3±1
				1	12	1	21.14	21.3±1
				1	24	1	21.25	21.3±1
				12	0	2	21.19	21.3±1
				12	6	2	21.15	21.3±1
				12	11	2	21.22	21.3±1
				25	0	2	20.71	21.3±1
	20350	1750.0	QPSK	1	0	0	21.40	22±1
				1	12	0	21.35	22±1
				1	24	0	21.39	22±1
				12	0	1	21.29	22±1
				12	6	1	21.25	22±1
				12	11	1	22.23	22±1
				25	0	1	21.21	22±1
			16QAM	1	0	1	22.28	21.3±1
				1	12	1	22.25	21.3±1
				1	24	1	22.21	21.3±1
				12	0	2	21.25	21.3±1
				12	6	2	21.24	21.3±1
				12	11	2	21.22	21.3±1
				25	0	2	20.61	21.3±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	22.15	22±1
				1	7	0	22.12	22±1
				1	14	0	22.11	22±1
				8	0	1	21.23	22±1
				8	4	1	21.20	22±1
				8	7	1	21.15	22±1
				15	0	1	21.25	22±1
			16QAM	1	0	1	21.54	21.3±1
				1	7	1	21.38	21.3±1
				1	14	1	21.29	21.3±1
				8	0	2	21.14	21.3±1
				8	4	2	21.18	21.3±1
				8	7	2	21.12	21.3±1
				15	0	2	21.40	21.3±1
	20175	1732.5	QPSK	1	0	0	22.59	22±1
				1	7	0	22.52	22±1
				1	14	0	22.48	22±1
				8	0	1	21.58	22±1
				8	4	1	21.45	22±1
				8	7	1	21.41	22±1
				15	0	1	21.51	22±1
			16QAM	1	0	1	21.31	21.3±1
				1	7	1	21.25	21.3±1
				1	14	1	21.22	21.3±1
				8	0	2	20.40	21.3±1
				8	4	2	20.85	21.3±1
				8	7	2	20.56	21.3±1
				15	0	2	20.45	21.3±1
	20385	1753.5	QPSK	1	0	0	22.22	22±1
				1	7	0	22.15	22±1
				1	14	0	22.16	22±1
				8	0	1	21.18	22±1
				8	4	1	21.15	22±1
				8	7	1	21.11	22±1
				15	0	1	21.21	22±1
			16QAM	1	0	1	21.03	21.3±1
				1	7	1	21.05	21.3±1
				1	14	1	21.09	21.3±1
				8	0	2	21.13	21.3±1
				8	4	2	21.18	21.3±1
				8	7	2	21.11	21.3±1
				15	0	2	21.16	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	19957	1710.7	QPSK	1	0	0	22.19	22±1
				1	2	0	22.12	22±1
				1	5	0	22.15	22±1
				3	0	0	22.20	22±1
				3	1	0	22.25	22±1
				3	2	0	22.23	22±1
				6	0	1	21.21	22±1
			16QAM	1	0	1	21.79	22±1
				1	2	1	21.58	22±1
				1	5	1	21.35	22±1
				3	0	1	22.54	22±1
				3	1	1	22.62	22±1
				3	2	1	22.43	22±1
				6	0	2	21.48	22±1
	20175	1732.5	QPSK	1	0	0	22.60	22±1
				1	2	0	22.25	22±1
				1	5	0	22.54	22±1
				3	0	0	22.54	22±1
				3	1	0	22.51	22±1
				3	2	0	22.42	22±1
				6	0	1	21.57	22±1
			16QAM	1	0	1	21.31	21.3±1
				1	2	1	21.32	21.3±1
				1	5	1	21.25	21.3±1
				3	0	1	21.42	21.3±1
				3	1	1	21.35	21.3±1
				3	2	1	21.21	21.3±1
				6	0	2	20.43	21.3±1
	20393	1754.3	QPSK	1	0	0	22.17	22±1
				1	2	0	22.12	22±1
				1	5	0	22.05	22±1
				3	0	0	22.17	22±1
				3	1	0	22.12	22±1
				3	2	0	22.05	22±1
				6	0	1	21.12	22±1
			16QAM	1	0	1	22.10	21.3±1
				1	2	1	22.15	21.3±1
				1	5	1	22.17	21.3±1
				3	0	1	22.05	21.3±1
				3	1	1	22.02	21.3±1
				3	2	1	22.09	21.3±1
				6	0	2	21.98	21.3±1

LTE Band 5:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	20450	829	QPSK	1	0	0	22.27	22±1
				1	24	0	22.25	22±1
				1	49	0	22.18	22±1
				25	0	1	22.32	22±1
				25	12	1	22.28	22±1
				25	24	1	22.18	22±1
				50	0	1	22.33	22±1
			16QAM	1	0	1	**22.82**	22±1
				1	24	1	22.58	22±1
				1	49	1	22.64	22±1
				25	0	2	22.31	22±1
				25	12	2	22.24	22±1
				25	24	2	22.22	22±1
				50	0	2	22.34	22±1
	20525	836.5	QPSK	1	0	0	22.40	22±1
				1	24	0	22.35	22±1
				1	49	0	22.32	22±1
				25	0	1	22.33	22±1
				25	12	1	22.25	22±1
				25	24	1	22.21	22±1
				50	0	1	22.28	22±1
			16QAM	1	0	1	22.22	22±1
				1	24	1	22.18	22±1
				1	49	1	22.15	22±1
				25	0	2	22.28	22±1
				25	12	2	22.25	22±1
				25	24	2	22.18	22±1
				50	0	2	22.26	22±1
	20600	844	QPSK	1	0	0	22.10	22±1
				1	24	0	22.05	22±1
				1	49	0	22.01	22±1
				25	0	1	22.18	22±1
				25	12	1	22.19	22±1
				25	24	1	22.32	22±1
				50	0	1	22.18	22±1
			16QAM	1	0	1	22.61	22±1
				1	24	1	22.54	22±1
				1	49	1	22.38	22±1
				25	0	2	22.28	22±1
				25	12	2	22.22	22±1
				25	24	2	22.14	22±1
				50	0	2	22.18	22±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	20425	826.5	QPSK	1	0	0	22.41	22±1
				1	12	0	22.56	22±1
				1	24	0	22.35	22±1
				12	0	1	22.41	22±1
				12	6	1	22.35	22±1
				12	11	1	22.31	22±1
				25	0	1	22.36	22±1
			16QAM	1	0	1	22.33	22±1
				1	12	1	22.35	22±1
				1	24	1	22.28	22±1
				12	0	2	22.15	22±1
				12	6	2	22.16	22±1
				12	11	2	22.11	22±1
				25	0	2	22.44	22±1
	20525	836.5	QPSK	1	0	0	22.44	22±1
				1	12	0	22.35	22±1
				1	24	0	22.38	22±1
				12	0	1	22.34	22±1
				12	6	1	22.36	22±1
				12	11	1	22.18	22±1
				25	0	1	22.26	22±1
			16QAM	1	0	1	22.41	22±1
				1	12	1	22.43	22±1
				1	24	1	22.38	22±1
				12	0	2	22.31	22±1
				12	6	2	22.26	22±1
				12	11	2	22.21	22±1
				25	0	2	22.24	22±1
	20625	846.5	QPSK	1	0	0	22.19	22±1
				1	12	0	22.16	22±1
				1	24	0	22.05	22±1
				12	0	1	22.22	22±1
				12	6	1	22.16	22±1
				12	11	1	22.12	22±1
				25	0	1	22.18	22±1
			16QAM	1	0	1	22.44	22±1
				1	12	1	22.35	22±1
				1	24	1	22.31	22±1
				12	0	2	22.18	22±1
				12	6	2	22.16	22±1
				12	11	2	22.11	22±1
				25	0	2	22.15	22±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	20415	825.5	QPSK	1	0	0	22.22	22±1
				1	7	0	22.20	22±1
				1	14	0	22.15	22±1
				8	0	1	22.34	22±1
				8	4	1	22.25	22±1
				8	7	1	22.18	22±1
				15	0	1	22.36	22±1
			16QAM	1	0	1	22.76	22±1
				1	7	1	22.58	22±1
				1	14	1	22.52	22±1
				8	0	2	22.30	22±1
				8	4	2	22.25	22±1
				8	7	2	22.23	22±1
				15	0	2	22.41	22±1
	20525	836.5	QPSK	1	0	0	22.26	22±1
				1	7	0	22.18	22±1
				1	14	0	22.23	22±1
				8	0	1	22.21	22±1
				8	4	1	22.18	22±1
				8	7	1	22.15	22±1
				15	0	1	22.24	22±1
			16QAM	1	0	1	22.10	22±1
				1	7	1	22.15	22±1
				1	14	1	22.16	22±1
				8	0	2	22.18	22±1
				8	4	2	22.12	22±1
				8	7	2	22.14	22±1
				15	0	2	22.18	22±1
	20635	847.5	QPSK	1	0	0	22.15	22±1
				1	7	0	22.10	22±1
				1	14	0	22.12	22±1
				8	0	1	22.11	22±1
				8	4	1	22.08	22±1
				8	7	1	22.03	22±1
				15	0	1	22.19	22±1
			16QAM	1	0	1	22.12	22±1
				1	7	1	22.05	22±1
				1	14	1	22.01	22±1
				8	0	2	21.97	22±1
				8	4	2	21.85	22±1
				8	7	2	21.65	22±1
				15	0	2	22.21	22±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	20407	824.7	QPSK	1	0	0	22.29	22±1
				1	2	0	22.21	22±1
				1	5	0	22.18	22±1
				3	0	0	22.43	22±1
				3	1	0	22.41	22±1
				3	2	0	22.35	22±1
				6	0	1	22.36	22±1
			16QAM	1	0	1	21.97	22±1
				1	2	1	21.85	22±1
				1	5	1	21.75	22±1
				3	0	1	22.25	22±1
				3	1	1	22.21	22±1
				3	2	1	22.19	22±1
				6	0	2	22.25	22±1
	20525	836.5	QPSK	1	0	0	22.25	22±1
				1	2	0	22.21	22±1
				1	5	0	22.18	22±1
				3	0	0	22.36	22±1
				3	1	0	22.32	22±1
				3	2	0	22.38	22±1
				6	0	1	22.21	22±1
			16QAM	1	0	1	22.10	22±1
				1	2	1	22.15	22±1
				1	5	1	22.16	22±1
				3	0	1	22.21	22±1
				3	1	1	22.23	22±1
				3	2	1	22.22	22±1
				6	0	2	22.18	22±1
	20643	848.3	QPSK	1	0	0	22.20	22±1
				1	2	0	22.24	22±1
				1	5	0	22.21	22±1
				3	0	0	22.24	22±1
				3	1	0	22.21	22±1
				3	2	0	22.29	22±1
				6	0	1	22.17	22±1
			16QAM	1	0	1	22.14	22±1
				1	2	1	22.12	22±1
				1	5	1	22.05	22±1
				3	0	1	22.35	22±1
				3	1	1	22.32	22±1
				3	2	1	22.31	22±1
				6	0	2	22.03	22±1

LTE Band 7:

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	21.51	21.3±1
				1	49	0	21.45	21.3±1
				1	99	0	21.42	21.3±1
				50	0	1	20.91	21.3±1
				50	24	1	20.88	21.3±1
				50	49	1	20.86	21.3±1
				100	0	1	20.71	21.3±1
			16QAM	1	0	1	21.11	21.3±1
				1	49	1	21.05	21.3±1
				1	99	1	21.01	21.3±1
				50	0	2	20.79	21.3±1
				50	24	2	20.86	21.3±1
				50	49	2	20.83	21.3±1
				100	0	2	20.47	21.3±1
	21100	2535	QPSK	1	0	0	22.56	22±1
				1	49	0	22.45	22±1
				1	99	0	22.68	22±1
				50	0	1	21.36	22±1
				50	24	1	21.28	22±1
				50	49	1	21.21	22±1
				100	0	1	21.29	22±1
			16QAM	1	0	1	21.46	21.3±1
				1	49	1	21.41	21.3±1
				1	99	1	21.42	21.3±1
				50	0	2	20.85	21.3±1
				50	24	2	20.78	21.3±1
				50	49	2	20.81	21.3±1
				100	0	2	20.36	21.3±1
	21350	2560	QPSK	1	0	0	21.21	21.3±1
				1	49	0	21.35	21.3±1
				1	99	0	21.24	21.3±1
				50	0	1	20.96	21.3±1
				50	24	1	20.85	21.3±1
				50	49	1	20.99	21.3±1
				100	0	1	21.74	21.3±1
			16QAM	1	0	1	20.63	21.3±1
				1	49	1	20.45	21.3±1
				1	99	1	20.71	21.3±1
				50	0	2	20.88	21.3±1
				50	24	2	20.80	21.3±1
				50	49	2	20.86	21.3±1
				100	0	2	20.83	21.3±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	21.43	21.3±1
				1	37	0	21.41	21.3±1
				1	74	0	21.37	21.3±1
				36	0	1	20.58	21.3±1
				36	16	1	20.97	21.3±1
				36	35	1	20.89	21.3±1
				75	0	1	21.27	21.3±1
			16QAM	1	0	1	21.22	21.3±1
				1	37	1	21.28	21.3±1
				1	74	1	21.24	21.3±1
				36	0	2	20.87	21.3±1
				36	16	2	20.82	21.3±1
				36	35	2	20.84	21.3±1
				75	0	2	20.54	21.3±1
	21100	1732.5	QPSK	1	0	0	22.39	22±1
				1	37	0	22.49	22±1
				1	74	0	22.29	22±1
				36	0	1	21.38	22±1
				36	16	1	21.42	22±1
				36	35	1	21.57	22±1
				75	0	1	21.27	22±1
			16QAM	1	0	1	21.20	21.3±1
				1	37	1	21.25	21.3±1
				1	74	1	21.22	21.3±1
				36	0	2	21.18	21.3±1
				36	16	2	21.15	21.3±1
				36	35	2	21.14	21.3±1
				75	0	2	20.36	21.3±1
	21375	1747.5	QPSK	1	0	0	21.89	22±1
				1	37	0	21.68	22±1
				1	74	0	21.87	22±1
				36	0	1	21.69	22±1
				36	16	1	21.54	22±1
				36	35	1	21.56	22±1
				75	0	1	21.77	22±1
			16QAM	1	0	1	21.31	21.3±1
				1	37	1	21.35	21.3±1
				1	74	1	21.24	21.3±1
				36	0	2	21.55	21.3±1
				36	16	2	21.28	21.3±1
				36	35	2	21.34	21.3±1
				75	0	2	20.74	21.3±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	21.07	21.3±1
				1	24	0	21.04	21.3±1
				1	49	0	20.97	21.3±1
				25	0	1	20.92	21.3±1
				25	12	1	20.88	21.3±1
				25	24	1	20.79	21.3±1
				50	0	1	20.77	21.3±1
			16QAM	1	0	1	21.80	21.3±1
				1	24	1	21.87	21.3±1
				1	49	1	20.78	21.3±1
				25	0	2	20.87	21.3±1
				25	12	2	21.82	21.3±1
				25	24	2	21.83	21.3±1
				50	0	2	20.05	21.3±1
	21100	2535	QPSK	1	0	0	22.38	22±1
				1	24	0	22.26	22±1
				1	49	0	22.92	22±1
				25	0	1	21.34	22±1
				25	12	1	21.38	22±1
				25	24	1	21.68	22±1
				50	0	1	21.37	22±1
			16QAM	1	0	1	21.21	21.3±1
				1	24	1	21.18	21.3±1
				1	49	1	21.35	21.3±1
				25	0	2	21.15	21.3±1
				25	12	2	21.11	21.3±1
				25	24	2	21.14	21.3±1
				50	0	2	20.43	21.3±1
	21400	2565	QPSK	1	0	0	23.03	22.3±1
				1	24	0	23.01	22.3±1
				1	49	0	22.95	22.3±1
				25	0	1	21.96	22.3±1
				25	12	1	21.84	22.3±1
				25	24	1	21.88	22.3±1
				50	0	1	22.09	22.3±1
			16QAM	1	0	1	21.94	21.3±1
				1	24	1	21.88	21.3±1
				1	49	1	21.84	21.3±1
				25	0	2	21.52	21.3±1
				25	12	2	21.32	21.3±1
				25	24	2	21.21	21.3±1
				50	0	2	21.14	21.3±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	22.46	22±1
				1	12	0	22.35	22±1
				1	24	0	22.25	22±1
				12	0	1	21.53	22±1
				12	6	1	21.51	22±1
				12	11	1	21.45	22±1
				25	0	1	21.25	22±1
			16QAM	1	0	1	21.40	21.3±1
				1	12	1	21.35	21.3±1
				1	24	1	21.38	21.3±1
				12	0	2	21.32	21.3±1
				12	6	2	21.18	21.3±1
				12	11	2	21.12	21.3±1
				25	0	2	20.67	21.3±1
	20175	1732.5	QPSK	1	0	0	22.46	22±1
				1	12	0	22.27	22±1
				1	24	0	22.89	22±1
				12	0	1	21.39	22±1
				12	6	1	21.62	22±1
				12	11	1	21.88	22±1
				25	0	1	21.32	22±1
			16QAM	1	0	1	21.42	21.3±1
				1	12	1	21.49	21.3±1
				1	24	1	22.24	21.3±1
				12	0	2	21.28	21.3±1
				12	6	2	21.26	21.3±1
				12	11	2	21.23	21.3±1
				25	0	2	21.29	21.3±1
	20375	1752.5	QPSK	1	0	0	23.07	21.3±1
				1	12	0	23.01	22.3±1
				1	24	0	**23.18**	22.3±1
				12	0	1	22.18	22.3±1
				12	6	1	22.11	22.3±1
				12	11	1	22.04	22.3±1
				25	0	1	22.18	22.3±1
			16QAM	1	0	1	22.28	22±1
				1	12	1	22.26	22±1
				1	24	1	22.02	22±1
				12	0	2	22.12	22±1
				12	6	2	21.98	22±1
				12	11	2	21.89	22±1
				25	0	2	21.20	22±1

LTE Band 17:

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	22.01	21.3±1
				1	24	0	21.95	21.3±1
				1	49	0	21.96	21.3±1
				25	0	1	21.05	21.3±1
				25	12	1	21.01	21.3±1
				25	24	1	21.03	21.3±1
				50	0	1	21.04	21.3±1
			16QAM	1	0	1	21.60	21.3±1
				1	24	1	21.54	21.3±1
				1	49	1	21.53	21.3±1
				25	0	2	21.01	21.3±1
				25	12	2	21.02	21.3±1
				25	24	2	20.89	21.3±1
				50	0	2	21.13	21.3±1
	23790	701.0	QPSK	1	0	0	22.15	21.3±1
				1	24	0	22.12	21.3±1
				1	49	0	22.10	21.3±1
				25	0	1	21.05	21.3±1
				25	12	1	21.03	21.3±1
				25	24	1	21.11	21.3±1
				50	0	1	21.03	21.3±1
			16QAM	1	0	1	20.96	21.3±1
				1	24	1	20.95	21.3±1
				1	49	1	20.85	21.3±1
				25	0	2	21.02	21.3±1
				25	12	2	21.25	21.3±1
				25	24	2	21.01	21.3±1
				50	0	2	21.07	21.3±1
	23800	711.0	QPSK	1	0	0	22.14	21.3±1
				1	24	0	22.12	21.3±1
				1	49	0	**22.17**	21.3±1
				25	0	1	21.00	21.3±1
				25	12	1	21.01	21.3±1
				25	24	1	21.03	21.3±1
				50	0	1	21.02	21.3±1
			16QAM	1	0	1	21.07	21.3±1
				1	24	1	21.05	21.3±1
				1	49	1	21.01	21.3±1
				25	0	2	21.02	21.3±1
				25	12	2	21.03	21.3±1
				25	24	2	21.08	21.3±1
				50	0	2	21.27	21.3±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	22.13	22±1
				1	12	0	22.12	22±1
				1	24	0	22.10	22±1
				12	0	1	21.13	22±1
				12	6	1	21.15	22±1
				12	11	1	21.07	22±1
				25	0	1	21.06	22±1
			16QAM	1	0	1	21.06	21.3±1
				1	12	1	21.12	21.3±1
				1	24	1	21.10	21.3±1
				12	0	2	21.25	21.3±1
				12	6	2	21.22	21.3±1
				12	11	2	21.18	21.3±1
				25	0	2	21.19	21.3±1
	23790	710.0	QPSK	1	0	0	22.07	21.3±1
				1	12	0	22.04	21.3±1
				1	24	0	22.03	21.3±1
				12	0	1	21.06	21.3±1
				12	6	1	21.02	21.3±1
				12	11	1	21.07	21.3±1
				25	0	1	21.01	21.3±1
			16QAM	1	0	1	21.33	21.3±1
				1	12	1	21.25	21.3±1
				1	24	1	21.18	21.3±1
				12	0	2	20.89	21.3±1
				12	6	2	20.96	21.3±1
				12	11	2	20.86	21.3±1
				25	0	2	21.06	21.3±1
	23825	713.5	QPSK	1	0	0	21.96	21.3±1
				1	12	0	21.85	21.3±1
				1	24	0	21.89	21.3±1
				12	0	1	21.05	21.3±1
				12	6	1	21.01	21.3±1
				12	11	1	20.98	21.3±1
				25	0	1	20.98	21.3±1
			16QAM	1	0	1	20.98	21.3±1
				1	12	1	20.96	21.3±1
				1	24	1	20.75	21.3±1
				12	0	2	20.86	21.3±1
				12	6	2	20.88	21.3±1
				12	11	2	20.94	21.3±1
				25	0	2	21.16	21.3±1

ERP & EIRP

EIRP for LTE Band 2 (Part 24E)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
1850.7	1.4	QPSK	1/0	15.78	V	7.88	0.85	22.81	33.01
1880	1.4	QPSK	1/0	15.73	V	7.88	0.85	22.76	33.01
1909.3	1.4	QPSK	1/0	15.81	V	7.88	0.85	22.84	33.01
1850.7	1.4	QPSK	1/0	14.65	H	7.88	0.85	21.68	33.01
1880	1.4	QPSK	1/0	14.62	H	7.88	0.85	21.65	33.01
1909.3	1.4	QPSK	1/0	14.68	H	7.88	0.85	21.71	33.01
1850.7	1.4	16-QAM	1/0	15.15	V	7.88	0.85	22.18	33.01
1880	1.4	16-QAM	1/0	15.08	V	7.88	0.85	22.11	33.01
1909.3	1.4	16-QAM	1/0	15.12	V	7.88	0.85	22.15	33.01
1850.7	1.4	16-QAM	1/0	14.53	H	7.88	0.85	21.56	33.01
1880	1.4	16-QAM	1/0	14.59	H	7.88	0.85	21.62	33.01
1909.3	1.4	16-QAM	1/0	14.55	H	7.88	0.85	21.58	33.01
1851.5	3	QPSK	1/0	16.06	V	7.88	0.85	23.09	33.01
1880	3	QPSK	1/0	16.02	V	7.88	0.85	23.05	33.01
1908.5	3	QPSK	1/0	16.09	V	7.88	0.85	23.12	33.01
1851.5	3	QPSK	1/0	15.22	H	7.88	0.85	22.25	33.01
1880	3	QPSK	1/0	15.19	H	7.88	0.85	22.22	33.01
1908.5	3	QPSK	1/0	15.27	H	7.88	0.85	22.30	33.01
1851.5	3	16-QAM	1/0	15.98	V	7.88	0.85	23.01	33.01
1880	3	16-QAM	1/0	15.93	V	7.88	0.85	22.96	33.01
1908.5	3	16-QAM	1/0	15.90	V	7.88	0.85	22.93	33.01
1851.5	3	16-QAM	1/0	14.88	H	7.88	0.85	21.91	33.01
1880	3	16-QAM	1/0	14.84	H	7.88	0.85	21.87	33.01
1908.5	3	16-QAM	1/0	14.81	H	7.88	0.85	21.84	33.01
1852.5	5	QPSK	1/24	16.31	V	7.88	0.85	23.34	33.01
1880	5	QPSK	1/0	16.28	V	7.88	0.85	23.31	33.01
1907.5	5	QPSK	1/24	16.34	V	7.88	0.85	23.37	33.01
1852.5	5	QPSK	1/24	15.88	H	7.88	0.85	22.91	33.01
1880	5	QPSK	1/0	15.90	H	7.88	0.85	22.93	33.01
1907.5	5	QPSK	1/24	15.83	H	7.88	0.85	22.86	33.01
1852.5	5	16-QAM	1/24	16.50	V	7.88	0.85	23.53	33.01
1880	5	16-QAM	1/0	16.56	V	7.88	0.85	23.59	33.01

1907.5	5	16-QAM	1/24	16.58	V	7.88	0.85	23.61	33.01
1852.5	5	16-QAM	1/24	15.23	H	7.88	0.85	22.26	33.01
1880	5	16-QAM	1/0	15.15	H	7.88	0.85	22.18	33.01
1907.5	5	16-QAM	1/24	15.09	H	7.88	0.85	22.12	33.01
1855	10	QPSK	1/0	16.35	V	7.88	0.85	23.38	33.01
1880	10	QPSK	1/0	16.30	V	7.88	0.85	23.33	33.01
1905	10	QPSK	1/49	16.39	V	7.88	0.85	23.42	33.01
1855	10	QPSK	1/0	15.82	H	7.88	0.85	22.85	33.01
1880	10	QPSK	1/0	15.92	H	7.88	0.85	22.95	33.01
1905	10	QPSK	1/49	15.87	H	7.88	0.85	22.90	33.01
1855	10	16-QAM	1/0	16.73	V	7.88	0.85	23.76	33.01
1880	10	16-QAM	1/0	16.68	V	7.88	0.85	23.71	33.01
1905	10	16-QAM	1/49	16.70	V	7.88	0.85	23.73	33.01
1855	10	16-QAM	1/0	15.89	H	7.88	0.85	22.92	33.01
1880	10	16-QAM	1/0	15.84	H	7.88	0.85	22.87	33.01
1905	10	16-QAM	1/49	15.83	H	7.88	0.85	22.86	33.01
1857.5	15	QPSK	1/0	16.50	V	7.88	0.85	23.53	33.01
1880	15	QPSK	1/0	16.52	V	7.88	0.85	23.55	33.01
1902.5	15	QPSK	1/0	16.48	V	7.88	0.85	23.51	33.01
1857.5	15	QPSK	1/0	15.78	H	7.88	0.85	22.81	33.01
1880	15	QPSK	1/0	15.81	H	7.88	0.85	22.84	33.01
1902.5	15	QPSK	1/0	15.85	H	7.88	0.85	22.88	33.01
1857.5	15	16-QAM	1/0	16.74	V	7.88	0.85	23.77	33.01
1880	15	16-QAM	1/0	16.79	V	7.88	0.85	23.82	33.01
1902.5	15	16-QAM	1/0	16.75	V	7.88	0.85	23.78	33.01
1857.5	15	16-QAM	1/0	15.91	H	7.88	0.85	22.94	33.01
1880	15	16-QAM	1/0	15.94	H	7.88	0.85	22.97	33.01
1902.5	15	16-QAM	1/0	15.96	H	7.88	0.85	22.99	33.01
1860	20	QPSK	1/0	16.76	V	7.88	0.85	23.79	33.01
1880	20	QPSK	1/0	16.80	V	7.88	0.85	**23.83**	33.01
1900	20	QPSK	1/0	16.71	V	7.88	0.85	23.74	33.01
1860	20	QPSK	1/0	15.98	H	7.88	0.85	23.01	33.01
1880	20	QPSK	1/0	15.9	H	7.88	0.85	22.93	33.01
1900	20	QPSK	1/0	15.97	H	7.88	0.85	23.00	33.01
1860	20	16-QAM	1/0	16.73	V	7.88	0.85	23.76	33.01
1880	20	16-QAM	1/0	16.69	V	7.88	0.85	23.72	33.01
1900	20	16-QAM	1/0	16.67	V	7.88	0.85	23.70	33.01
1860	20	16-QAM	1/0	15.85	H	7.88	0.85	22.88	33.01

1880	20	16-QAM	1/0	15.80	H	7.88	0.85	22.83	33.01
1900	20	16-QAM	1/0	15.77	H	7.88	0.85	22.80	33.01

EIRP for LTE Band 4 (Part 27)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
1710.7	1.4	QPSK	1/0	15.25	V	7.95	0.79	**22.41**	30
1732.5	1.4	QPSK	1/0	15.23	V	7.95	0.79	22.39	30
1754.3	1.4	QPSK	1/0	15.2	V	7.95	0.79	22.36	30
1710.7	1.4	QPSK	1/0	14.3	H	7.95	0.79	21.46	30
1732.5	1.4	QPSK	1/0	14.27	H	7.95	0.79	21.43	30
1754.3	1.4	QPSK	1/0	14.35	H	7.95	0.79	21.51	30
1710.7	1.4	16-QAM	1/5	14.79	V	7.95	0.79	21.95	30
1732.5	1.4	16-QAM	1/0	14.82	V	7.95	0.79	21.98	30
1754.3	1.4	16-QAM	1/0	14.76	V	7.95	0.79	21.92	30
1710.7	1.4	16-QAM	1/5	13.87	H	7.95	0.79	21.03	30
1732.5	1.4	16-QAM	1/0	13.93	H	7.95	0.79	21.09	30
1754.3	1.4	16-QAM	1/0	13.9	H	7.95	0.79	21.06	30
1711.5	3	QPSK	1/0	14.15	V	7.95	0.79	21.31	30
1732.5	3	QPSK	1/0	14.09	V	7.95	0.79	21.25	30
1753.5	3	QPSK	1/0	14.05	V	7.95	0.79	21.21	30
1711.5	3	QPSK	1/0	13.17	H	7.95	0.79	20.33	30
1732.5	3	QPSK	1/0	13.25	H	7.95	0.79	20.41	30
1753.5	3	QPSK	1/0	13.2	H	7.95	0.79	20.36	30
1711.5	3	16-QAM	1/0	13.54	V	7.95	0.79	20.70	30
1732.5	3	16-QAM	1/0	13.49	V	7.95	0.79	20.65	30
1753.5	3	16-QAM	1/0	13.58	V	7.95	0.79	20.74	30
1711.5	3	16-QAM	1/0	12.76	H	7.95	0.79	19.92	30
1732.5	3	16-QAM	1/0	12.82	H	7.95	0.79	19.98	30
1753.5	3	16-QAM	1/0	12.8	H	7.95	0.79	19.96	30
1712.5	5	QPSK	1/0	14.31	V	7.95	0.79	21.47	30
1732.5	5	QPSK	1/0	14.29	V	7.95	0.79	21.45	30
1752.5	5	QPSK	1/24	14.35	V	7.95	0.79	21.51	30
1712.5	5	QPSK	1/0	13.58	H	7.95	0.79	20.74	30
1732.5	5	QPSK	1/0	13.62	H	7.95	0.79	20.78	30
1752.5	5	QPSK	1/24	13.55	H	7.95	0.79	20.71	30
1712.5	5	16-QAM	1/0	13.29	V	7.95	0.79	20.45	30
1732.5	5	16-QAM	1/0	13.27	V	7.95	0.79	20.43	30
1752.5	5	16-QAM	1/24	13.33	V	7.95	0.79	20.49	30
1712.5	5	16-QAM	1/0	12.78	H	7.95	0.79	19.94	30
1732.5	5	16-QAM	1/0	12.74	H	7.95	0.79	19.90	30

1752.5	5	16-QAM	1/24	12.8	H	7.95	0.79	19.96	30
1715	10	QPSK	1/0	14.24	V	7.95	0.79	21.40	30
1732.5	10	QPSK	1/49	14.2	V	7.95	0.79	21.36	30
1750	10	QPSK	1/0	14.17	V	7.95	0.79	21.33	30
1715	10	QPSK	1/0	13.66	H	7.95	0.79	20.82	30
1732.5	10	QPSK	1/49	13.69	H	7.95	0.79	20.85	30
1750	10	QPSK	1/0	13.64	H	7.95	0.79	20.80	30
1715	10	16-QAM	1/0	13.62	V	7.95	0.79	20.78	30
1732.5	10	16-QAM	1/49	13.59	V	7.95	0.79	20.75	30
1750	10	16-QAM	1/0	13.57	V	7.95	0.79	20.73	30
1715	10	16-QAM	1/0	12.94	H	7.95	0.79	20.10	30
1732.5	10	16-QAM	1/49	12.97	H	7.95	0.79	20.13	30
1750	10	16-QAM	1/0	12.93	H	7.95	0.79	20.09	30
1717.5	15	QPSK	1/0	14.34	V	7.95	0.79	21.50	30
1732.5	15	QPSK	1/74	14.29	V	7.95	0.79	21.45	30
1747.5	15	QPSK	1/0	14.32	V	7.95	0.79	21.48	30
1717.5	15	QPSK	1/0	13.55	H	7.95	0.79	20.71	30
1732.5	15	QPSK	1/74	13.58	H	7.95	0.79	20.74	30
1747.5	15	QPSK	1/0	13.52	H	7.95	0.79	20.68	30
1717.5	15	16-QAM	1/0	13.16	V	7.95	0.79	20.32	30
1732.5	15	16-QAM	1/74	13.09	V	7.95	0.79	20.25	30
1747.5	15	16-QAM	1/0	13.12	V	7.95	0.79	20.28	30
1717.5	15	16-QAM	1/0	12.46	H	7.95	0.79	19.62	30
1732.5	15	16-QAM	1/74	12.52	H	7.95	0.79	19.68	30
1747.5	15	16-QAM	1/0	12.58	H	7.95	0.79	19.74	30
1720	20	QPSK	1/99	14.37	V	7.95	0.79	21.53	30
1732.5	20	QPSK	1/99	14.36	V	7.95	0.79	21.52	30
1745	20	QPSK	1/0	14.33	V	7.95	0.79	21.49	30
1720	20	QPSK	1/99	13.78	H	7.95	0.79	20.94	30
1732.5	20	QPSK	1/99	13.76	H	7.95	0.79	20.92	30
1745	20	QPSK	1/0	13.74	H	7.95	0.79	20.9	30
1720	20	16-QAM	1/99	12.64	V	7.95	0.79	19.80	30
1732.5	20	16-QAM	1/99	12.61	V	7.95	0.79	19.77	30
1745	20	16-QAM	1/0	12.58	V	7.95	0.79	19.74	30
1720	20	16-QAM	1/99	11.82	H	7.95	0.79	18.98	30
1732.5	20	16-QAM	1/99	11.89	H	7.95	0.79	19.05	30
1745	20	16-QAM	1/0	11.87	H	7.95	0.79	19.03	30

EIRP for LTE Band 5 (Part 22)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
824.7	1.4	QPSK	1/5	18.89	V	6.8	0.44	25.25	34.77
836.5	1.4	QPSK	1/5	18.85	V	6.8	0.44	25.21	34.77
848.3	1.4	QPSK	1/5	18.83	V	6.9	0.44	25.29	34.77
824.7	1.4	QPSK	1/5	17.98	H	6.8	0.44	24.34	34.77
836.5	1.4	QPSK	1/5	17.96	H	6.8	0.44	24.32	34.77
848.3	1.4	QPSK	1/5	17.93	H	6.9	0.44	24.39	34.77
824.7	1.4	16-QAM	1/5	18.65	V	6.8	0.44	25.01	34.77
836.5	1.4	16-QAM	1/5	18.62	V	6.8	0.44	24.98	34.77
848.3	1.4	16-QAM	1/5	18.6	V	6.9	0.44	25.06	34.77
824.7	1.4	16-QAM	1/5	17.89	H	6.8	0.44	24.25	34.77
836.5	1.4	16-QAM	1/5	17.86	H	6.8	0.44	24.22	34.77
848.3	1.4	16-QAM	1/5	17.92	H	6.9	0.44	24.38	34.77
825.5	3	QPSK	1/14	18.74	V	6.8	0.44	25.10	34.77
836.5	3	QPSK	1/0	18.79	V	6.8	0.44	25.15	34.77
847.5	3	QPSK	1/14	18.72	V	6.9	0.44	25.18	34.77
825.5	3	QPSK	1/14	17.98	H	6.8	0.44	24.34	34.77
836.5	3	QPSK	1/0	17.96	H	6.8	0.44	24.32	34.77
847.5	3	QPSK	1/14	17.93	H	6.9	0.44	24.39	34.77
825.5	3	16-QAM	1/14	19.16	V	6.8	0.44	25.52	34.77
836.5	3	16-QAM	1/0	19.06	V	6.8	0.44	25.42	34.77
847.5	3	16-QAM	1/14	19.12	V	6.9	0.44	**25.58**	34.77
825.5	3	16-QAM	1/14	18.79	H	6.8	0.44	25.15	34.77
836.5	3	16-QAM	1/0	18.75	H	6.8	0.44	25.11	34.77
847.5	3	16-QAM	1/14	18.82	H	6.9	0.44	25.28	34.77
826.5	5	QPSK	1/24	18.96	V	6.8	0.44	25.32	34.77
836.5	5	QPSK	1/24	18.91	V	6.8	0.44	25.27	34.77
846.5	5	QPSK	1/24	18.9	V	6.8	0.44	25.26	34.77
826.5	5	QPSK	1/24	18.09	H	6.8	0.44	24.45	34.77
836.5	5	QPSK	1/24	18.12	H	6.8	0.44	24.48	34.77
846.5	5	QPSK	1/24	18.08	H	6.8	0.44	24.44	34.77
826.5	5	16-QAM	1/24	18.75	V	6.8	0.44	25.11	34.77
836.5	5	16-QAM	1/24	18.72	V	6.8	0.44	25.08	34.77
846.5	5	16-QAM	1/24	18.79	V	6.8	0.44	25.15	34.77

826.5	5	16-QAM	1/24	17.88	H	6.8	0.44	24.24	34.77
836.5	5	16-QAM	1/24	17.95	H	6.8	0.44	24.31	34.77
846.5	5	16-QAM	1/24	17.9	H	6.8	0.44	24.26	34.77
829	10	QPSK	1/49	18.73	V	6.8	0.44	25.09	34.77
836.5	10	QPSK	1/49	18.7	V	6.8	0.44	25.06	34.77
844	10	QPSK	1/49	18.69	V	6.8	0.44	25.05	34.77
829	10	QPSK	1/49	18.06	H	6.8	0.44	24.42	34.77
836.5	10	QPSK	1/49	17.9	H	6.8	0.44	24.26	34.77
844	10	QPSK	1/49	18.03	H	6.8	0.44	24.39	34.77
829	10	16-QAM	1/49	19.15	V	6.8	0.44	25.51	34.77
836.5	10	16-QAM	1/49	19.13	V	6.8	0.44	25.49	34.77
844	10	16-QAM	1/49	19.08	V	6.8	0.44	25.44	34.77
829	10	16-QAM	1/49	18.76	H	6.8	0.44	25.12	34.77
836.5	10	16-QAM	1/49	18.79	H	6.8	0.44	25.15	34.77
844	10	16-QAM	1/49	18.74	H	6.8	0.44	25.10	34.77

ERP for LTE Band 7 (Part 27)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
2502.5	5	QPSK	1/0	15.47	V	8.93	0.83	**23.57**	30
2535	5	QPSK	1/0	15.44	V	8.93	0.83	23.54	30
2567.5	5	QPSK	1/24	15.43	V	8.93	0.83	23.53	30
2502.5	5	QPSK	1/0	14.89	H	8.93	0.83	22.99	30
2535	5	QPSK	1/0	14.96	H	8.93	0.83	23.06	30
2567.5	5	QPSK	1/24	14.93	H	8.93	0.83	23.03	30
2502.5	5	16-QAM	1/0	14.39	V	8.93	0.83	22.49	30
2535	5	16-QAM	1/0	14.36	V	8.93	0.83	22.46	30
2567.5	5	16-QAM	1/24	14.31	V	8.93	0.83	22.41	30
2502.5	5	16-QAM	1/0	13.89	H	8.93	0.83	21.99	30
2535	5	16-QAM	1/0	13.84	H	8.93	0.83	21.94	30
2567.5	5	16-QAM	1/24	13.86	H	8.93	0.83	21.96	30
2505	10	QPSK	1/0	13.06	V	8.93	0.83	21.16	30
2535	10	QPSK	1/49	13.05	V	8.93	0.83	21.15	30
2565	10	QPSK	1/0	13.02	V	8.93	0.83	21.12	30
2505	10	QPSK	1/0	12.76	H	8.93	0.83	20.86	30
2535	10	QPSK	1/49	12.72	H	8.93	0.83	20.82	30
2565	10	QPSK	1/0	12.79	H	8.93	0.83	20.89	30
2505	10	16-QAM	1/0	13.62	V	8.93	0.83	21.72	30
2535	10	16-QAM	1/49	13.65	V	8.93	0.83	21.75	30
2565	10	16-QAM	1/0	13.68	V	8.93	0.83	21.78	30
2505	10	16-QAM	1/0	12.94	H	8.93	0.83	21.04	30
2535	10	16-QAM	1/49	12.93	H	8.93	0.83	21.03	30
2565	10	16-QAM	1/0	12.98	H	8.93	0.83	21.08	30
2507.5	15	QPSK	1/0	14.36	V	8.93	0.83	22.46	30
2535	15	QPSK	1/74	14.32	V	8.93	0.83	22.42	30
2562.5	15	QPSK	1/0	14.31	V	8.93	0.83	22.41	30
2507.5	15	QPSK	1/0	13.78	H	8.93	0.83	21.88	30
2535	15	QPSK	1/74	13.76	H	8.93	0.83	21.86	30
2562.5	15	QPSK	1/0	13.72	H	8.93	0.83	21.82	30
2507.5	15	16-QAM	1/0	14.32	V	8.93	0.83	22.42	30
2535	15	16-QAM	1/74	14.29	V	8.93	0.83	22.39	30
2562.5	15	16-QAM	1/0	14.27	V	8.93	0.83	22.37	30

2507.5	15	16-QAM	1/0	13.56	H	8.93	0.83	21.66	30
2535	15	16-QAM	1/74	13.58	H	8.93	0.83	21.68	30
2562.5	15	16-QAM	1/0	13.53	H	8.93	0.83	21.63	30
2510	20	QPSK	1/99	14.62	V	8.93	0.83	22.72	30
2535	20	QPSK	1/99	14.59	V	8.93	0.83	22.69	30
2560	20	QPSK	1/0	14.57	V	8.93	0.83	22.67	30
2510	20	QPSK	1/99	13.89	H	8.93	0.83	21.99	30
2535	20	QPSK	1/99	13.95	H	8.93	0.83	22.05	30
2560	20	QPSK	1/0	13.94	H	8.93	0.83	22.04	30
2510	20	16-QAM	1/99	14.14	V	8.93	0.83	22.24	30
2535	20	16-QAM	1/99	14.11	V	8.93	0.83	22.21	30
2560	20	16-QAM	1/0	14.08	V	8.93	0.83	22.18	30
2510	20	16-QAM	1/99	13.76	H	8.93	0.83	21.86	30
2535	20	16-QAM	1/99	13.8	H	8.93	0.83	21.90	30
2560	20	16-QAM	1/0	13.74	H	8.93	0.83	21.84	30

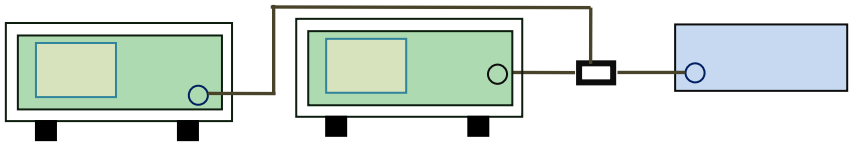
ERP for LTE Band 17 (Part 27)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
706.5	5	QPSK	1/0	15.93	V	6.8	0.42	**22.31**	34.77
710	5	QPSK	1/0	15.89	V	6.8	0.42	22.27	34.77
713.5	5	QPSK	1/0	15.91	V	6.8	0.42	22.29	34.77
706.5	5	QPSK	1/0	15.23	H	6.8	0.42	21.61	34.77
710	5	QPSK	1/0	15.18	H	6.8	0.42	21.56	34.77
713.5	5	QPSK	1/0	15.2	H	6.8	0.42	21.58	34.77
706.5	5	16-QAM	1/0	15.09	V	6.8	0.42	21.47	34.77
710	5	16-QAM	1/0	15.06	V	6.8	0.42	21.44	34.77
713.5	5	16-QAM	1/0	15	V	6.8	0.42	21.38	34.77
706.5	5	16-QAM	1/0	14.75	H	6.8	0.42	21.13	34.77
710	5	16-QAM	1/0	14.72	H	6.8	0.42	21.10	34.77
713.5	5	16-QAM	1/0	14.7	H	6.8	0.42	21.08	34.77
709	10	QPSK	1/0	15.86	V	6.8	0.42	22.24	34.77
710	10	QPSK	1/0	15.84	V	6.8	0.42	22.22	34.77
711	10	QPSK	1/0	15.83	V	6.8	0.42	22.21	34.77
709	10	QPSK	1/0	15.33	H	6.8	0.42	21.71	34.77
710	10	QPSK	1/0	15.36	H	6.8	0.42	21.74	34.77
711	10	QPSK	1/0	15.38	H	6.8	0.42	21.76	34.77
709	10	16-QAM	1/0	15.33	V	6.8	0.42	21.71	34.77
710	10	16-QAM	1/0	15.3	V	6.8	0.42	21.68	34.77
711	10	16-QAM	1/0	15.28	V	6.8	0.42	21.66	34.77
709	10	16-QAM	1/0	14.85	H	6.8	0.42	21.23	34.77
710	10	16-QAM	1/0	14.84	H	6.8	0.42	21.22	34.77
711	10	16-QAM	1/0	14.83	H	6.8	0.42	21.21	34.77

6.3 Peak-Average Ratio

Temperature	22℃
Relative Humidity	51%
Atmospheric Pressure	1009mbar
Test date :	May 09, 2016
Tested By :	Winnie Zhang

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			
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 ≥ 98%) and at all times the EUT is transmitting at is maximum output		

	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 10log(1/duty cycle)
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☑ N/A

LTE Band 2 (part 24E)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1880	RB 1/0	QPSK	25.58	22.28	3.30
			16QAM	25.54	22.23	3.31
3	1880	RB 1/0	QPSK	25.48	22.26	3.22
			16QAM	25.69	22.19	3.50
5	1880	RB 1/0	QPSK	25.66	22.36	3.30
			16QAM	25.64	22.59	3.05
10	1880	RB 1/0	QPSK	25.84	22.61	3.23
			16QAM	25.51	22.36	3.15
15	1880	RB 1/0	QPSK	25.35	22.53	2.82
			16QAM	25.75	22.63	3.12
20	1880	RB 1/0	QPSK	25.53	22.65	2.88
			16QAM	25.61	22.55	3.06

LTE Band 4 (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	25.51	22.6	2.91
			16QAM	25.5	21.32	4.18
3	1732.5	RB 1/0	QPSK	25.48	22.59	2.89
			16QAM	25.56	21.31	4.25
5	1732.5	RB 1/0	QPSK	25.58	22.31	3.27
			16QAM	25.62	21.16	4.46
10	1732.5	RB 1/0	QPSK	25.34	22.6	2.74
			16QAM	25.44	22.4	3.04
15	1732.5	RB 1/0	QPSK	25.25	22.6	2.65
			16QAM	25.32	21.38	3.94
20	1732.5	RB 1/0	QPSK	25.33	22.64	2.69
			16QAM	25.45	22.53	2.92

LTE Band 5 (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	836.5	RB 1/0	QPSK	25.38	22.25	3.13
			16QAM	25.21	22.1	3.11
3	836.5	RB 1/0	QPSK	25.39	22.26	3.13
			16QAM	25.42	22.1	3.32
5	836.5	RB 1/0	QPSK	25.46	22.44	3.02
			16QAM	21.26	22.41	-1.15
10	836.5	RB 1/0	QPSK	25.29	22.4	2.89
			16QAM	25.33	22.22	3.11

LTE Band 7 (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	2535	RB 1/0	QPSK	25.23	22.46	2.77
			16QAM	25.21	21.42	3.79
10	2535	RB 1/0	QPSK	25.18	22.38	2.80
			16QAM	25.2	21.21	3.99
15	2535	RB 1/0	QPSK	25.57	22.39	3.18
			16QAM	25.14	21.2	3.94
20	2535	RB 1/0	QPSK	25.27	22.56	2.71
			16QAM	25.18	21.46	3.72

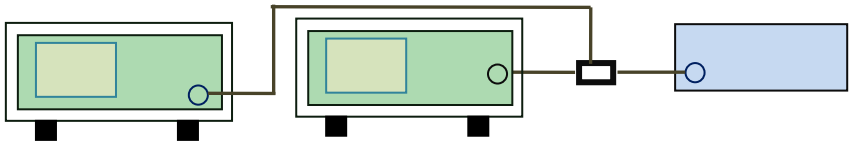
LTE Band 17 (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	710	RB 1/0	QPSK	21.52	22.07	-0.55
			16QAM	25.38	21.33	4.05
10	710	RB 1/0	QPSK	25.37	22.15	3.22
			16QAM	25.29	20.96	4.33

6.4 Occupied Bandwidth

Temperature	24℃
Relative Humidity	59%
Atmospheric Pressure	1007mbar
Test date :	May 07, 2016
Tested By :	Winnie Zhang

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 2 (Part 24E)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1850.7	16QAM	1.0959	1.259
			QPSK	1.0912	1.256
1.4	18900	1880	16QAM	1.0998	1.268
			QPSK	1.1009	1.273
1.4	19193	1909.3	16QAM	1.1036	1.281
			QPSK	1.1040	1.291
3	18615	1851.5	16QAM	2.7443	3.039
			QPSK	2.7354	3.042
3	18900	1880	16QAM	2.7407	3.010
			QPSK	2.7493	3.042
3	19185	1908.5	16QAM	2.7366	3.042
			QPSK	2.7425	3.048
5	18625	1852.5	16QAM	4.5328	5.053
			QPSK	4.5255	5.035
5	18900	1880	16QAM	4.5417	5.046
			QPSK	4.5291	5.058
5	19175	1907.5	16QAM	4.5167	5.085
			QPSK	4.5208	5.037
10	18650	1855	16QAM	9.0515	10.05
			QPSK	9.0504	10.01
10	18900	1880	16QAM	9.0719	10.21
			QPSK	9.0618	10.14
10	19150	1905	16QAM	9.0457	10.03
			QPSK	9.0535	10.04
15	18675	1857.5	16QAM	13.549	14.75
			QPSK	13.534	14.72
15	18900	1880	16QAM	13.536	14.74
			QPSK	13.565	15.51
15	19125	1902.5	16QAM	13.499	14.71
			QPSK	13.479	14.81

20	18700	1860	16QAM	17.986	19.53
			QPSK	18.001	19.55
20	18900	1880	16QAM	17.953	19.22
			QPSK	17.939	19.39
20	19100	1900	16QAM	17.874	19.46
			QPSK	17.908	19.17

LTE Band 4 (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	19957	1710.7	16QAM	1.0959	1.258
			QPSK	1.0934	1.261
1.4	20175	1732.5	16QAM	1.1016	1.272
			QPSK	1.0998	1.275
1.4	20393	1754.3	16QAM	1.0969	1.280
			QPSK	1.0994	1.287
3	19965	1711.5	16QAM	2.7480	3.046
			QPSK	2.7402	3.055
3	20175	1732.5	16QAM	2.7515	3.036
			QPSK	2.7450	3.042
3	20385	1753.5	16QAM	2.7444	3.045
			QPSK	2.7369	3.059
5	19975	1712.5	16QAM	4.5172	5.061
			QPSK	4.5225	5.028
5	20175	1732.5	16QAM	4.5428	5.116
			QPSK	4.5224	5.093
5	20375	1752.5	16QAM	4.5257	5.043
			QPSK	4.5229	5.095
10	20000	1715	16QAM	9.0564	10.06
			QPSK	9.0622	10.01
10	20175	1732.5	16QAM	9.0548	9.988
			QPSK	9.0467	10.06
10	20350	1750	16QAM	9.0669	10.11
			QPSK	9.0731	10.11

15	20025	1717.5	16QAM	13.497	14.72
			QPSK	13.503	14.64
15	20175	1732.5	16QAM	13.489	14.87
			QPSK	13.477	14.82
15	20325	1747.5	16QAM	13.500	14.80
			QPSK	13.514	14.68
20	20050	1720	16QAM	17.955	19.35
			QPSK	17.919	19.27
20	20175	1732.5	16QAM	17.867	19.34
			QPSK	17.851	19.29
20	20300	1745	16QAM	17.932	19.28
			QPSK	17.948	19.34

LTE Band 5 (Part 22H)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	20407	824.7	16QAM	1.1012	1.284
			QPSK	1.1017	1.291
1.4	20525	936.5	16QAM	1.0952	1.255
			QPSK	1.0957	1.253
1.4	20643	949.3	16QAM	1.0962	1.261
			QPSK	1.0954	1.263
3	20415	825.5	16QAM	2.7235	2.930
			QPSK	2.7360	3.011
3	20525	936.5	16QAM	2.7366	3.040
			QPSK	2.7347	3.039
3	20635	847.5	16QAM	2.7412	3.025
			QPSK	2.7225	3.026
5	20425	826.5	16QAM	4.5117	4.988
			QPSK	4.5212	5.006
5	20525	936.5	16QAM	4.5275	5.028
			QPSK	4.5233	5.040
5	20625	846.5	16QAM	4.5188	5.023
			QPSK	4.5264	5.030

10	20450	829	16QAM	9.0120	9.567
			QPSK	8.9974	9.544
10	20525	936.5	16QAM	9.0613	10.09
			QPSK	9.0815	10.08
10	20800	844	16QAM	9.0863	10.14
			QPSK	9.0707	10.01

LTE Band 7 (Part 27) result

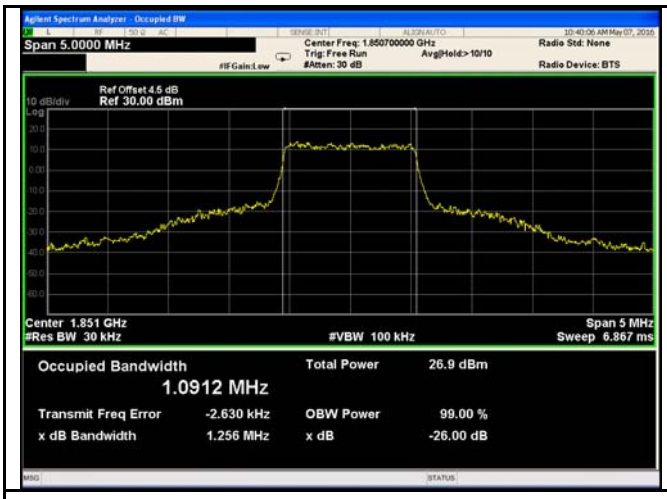
BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	20775	2502.5	16QAM	4.5269	5.068
			QPSK	4.5191	5.077
5	21100	2535	16QAM	4.5163	5.062
			QPSK	4.5155	5.039
5	21425	2567.5	16QAM	4.5298	5.056
			QPSK	4.5256	5.114
10	20800	2505	16QAM	9.0392	10.11
			QPSK	9.0416	10.01
10	21100	2535	16QAM	9.0372	10.12
			QPSK	9.0402	10.03
10	21400	2562.5	16QAM	9.0692	10.12
			QPSK	9.0652	10.10
15	20825	2507.5	16QAM	13.486	14.70
			QPSK	13.469	14.76
15	21100	2535	16QAM	13.504	14.85
			QPSK	13.485	14.61
15	21400	2562.5	16QAM	13.519	14.76
			QPSK	13.524	14.71
20	20850	2510	16QAM	17.939	19.52
			QPSK	17.958	19.42
20	21100	2535	16QAM	17.894	19.27
			QPSK	17.921	19.18
20	21350	2560	16QAM	17.946	19.37
			QPSK	18.001	19.49

LTE Band 17 (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	23755	706.5	16QAM	4.5240	5.046
			QPSK	4.5249	5.012
5	23790	710	16QAM	4.5287	5.039
			QPSK	4.5384	5.037
5	23825	713.5	16QAM	4.5146	5.035
			QPSK	4.5130	4.998
10	23780	709	16QAM	9.1169	10.06
			QPSK	9.1300	10.08
10	23790	710	16QAM	9.1251	10.18
			QPSK	9.1216	10.12
10	23800	711	16QAM	9.1015	10.09
			QPSK	9.0904	10.17

Test Plots

LTE Band 2 (Part 24E)

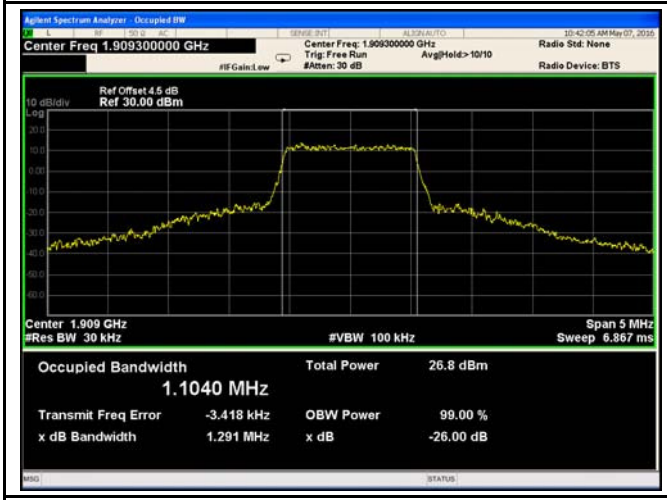


LTE band 2 - Low CH QPSK-1.4

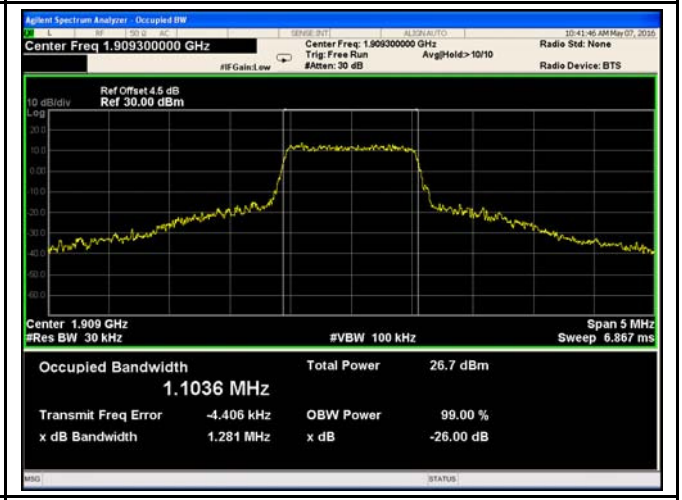
LTE band 2 - Low CH 16QAM-1.4

LTE band 2 - Middle CH QPSK-1.4

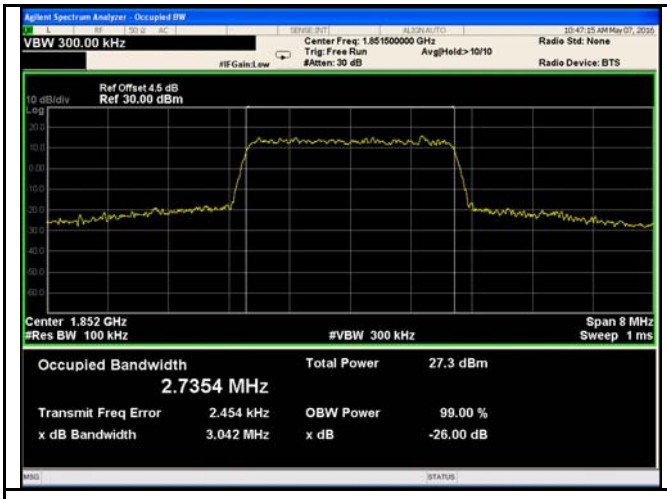
LTE band 2 - Middle CH 16QAM-1.4



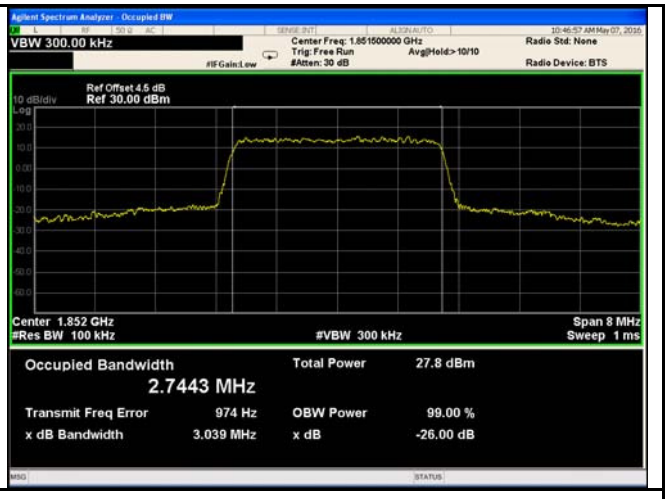
LTE band 2 - High CH QPSK-1.4



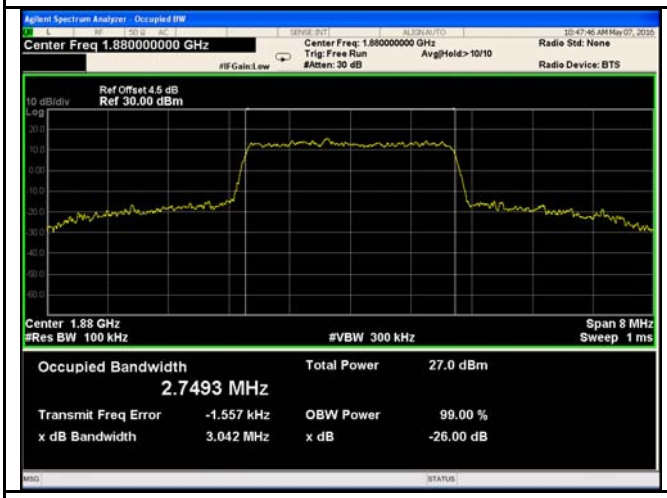
LTE band 2 - High CH 16QAM-1.4



LTE band 2 - Low CH QPSK-3

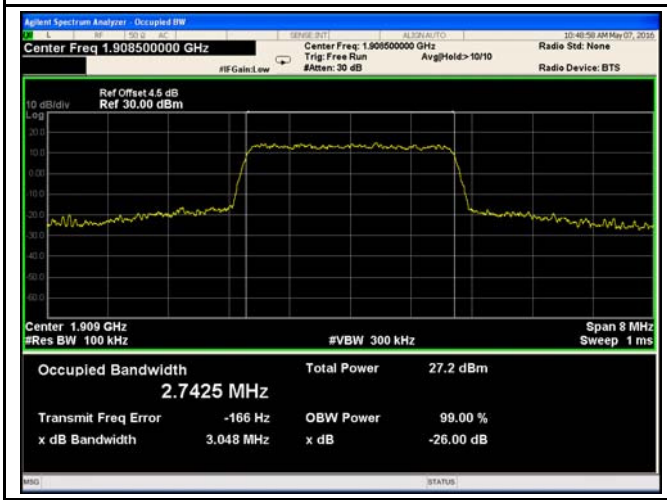


LTE band 2 - Low CH 16QAM-3

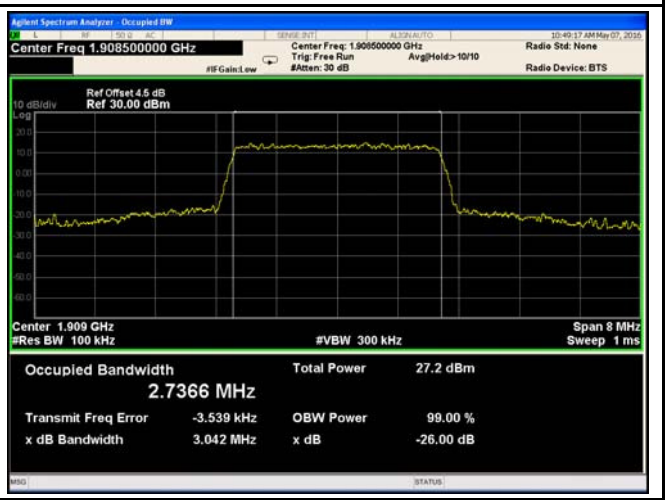


LTE band 2 - Middle CH QPSK-3

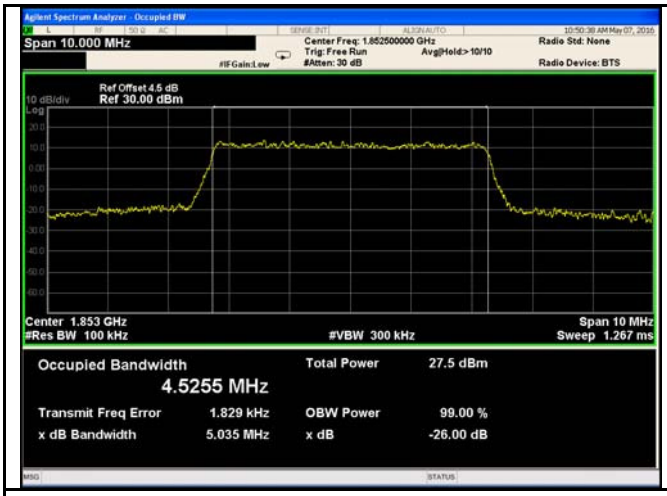
LTE band 2 - Middle CH 16QAM-3



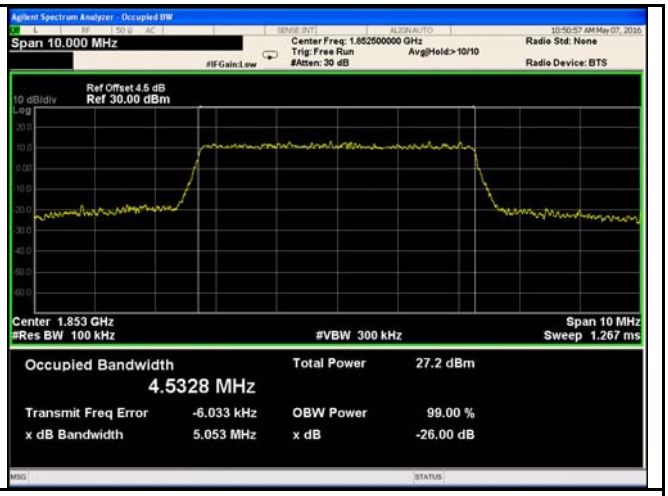
LTE band 2 - High CH QPSK-3



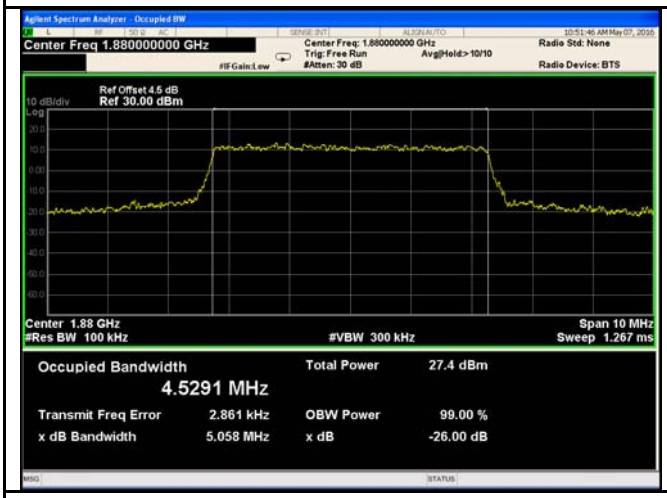
LTE band 2 - High CH 16QAM-3



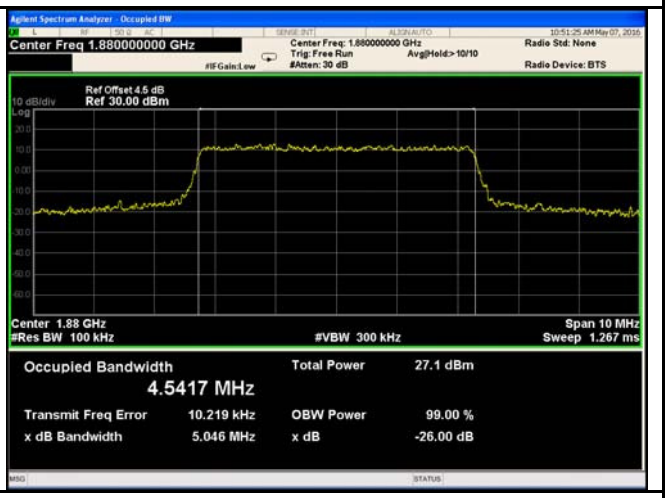
LTE band 2 - Low CH QPSK-5



LTE band 2 - Low CH 16QAM-5

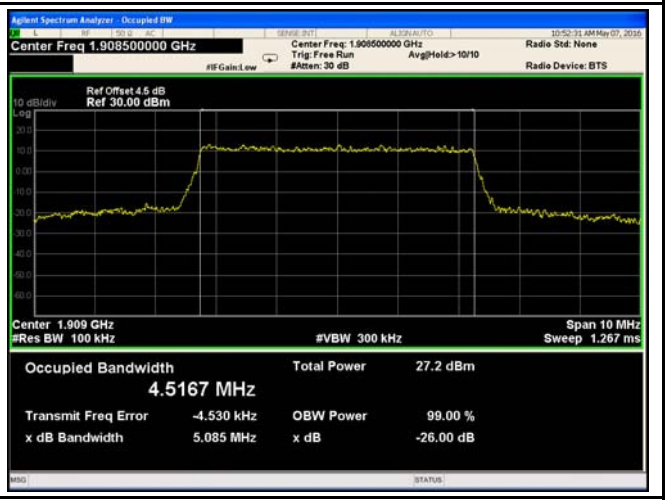


LTE band 2 - Middle CH QPSK-5

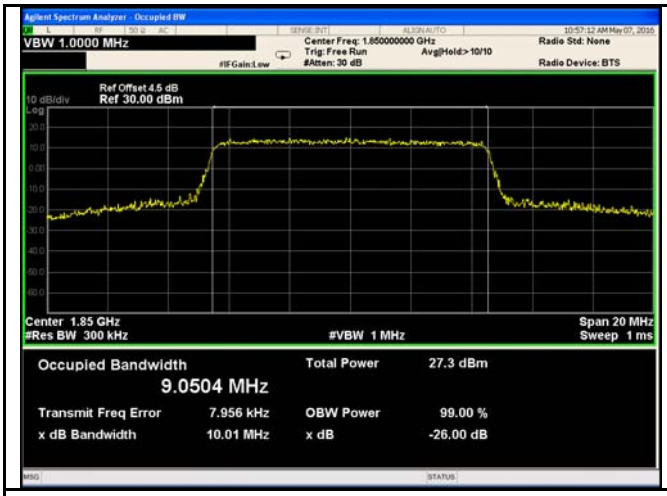


LTE band 2 - Middle CH 16QAM-5

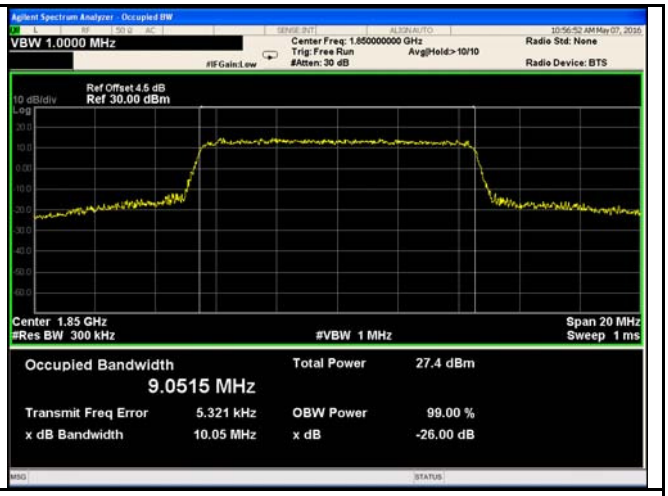
LTE band 2 - High CH QPSK-5



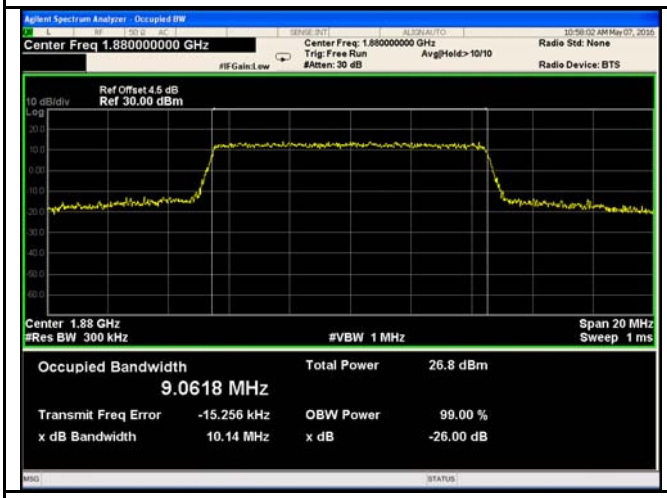
LTE band 2 - High CH 16QAM-5



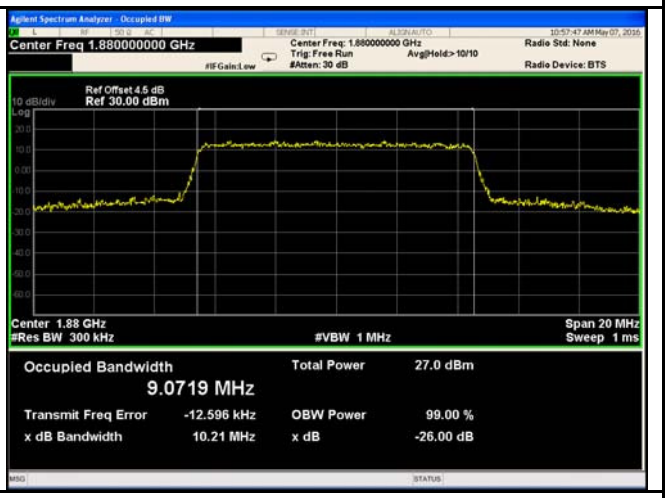
LTE band 2 - Low CH QPSK-10



LTE band 2 - Low CH 16QAM-10

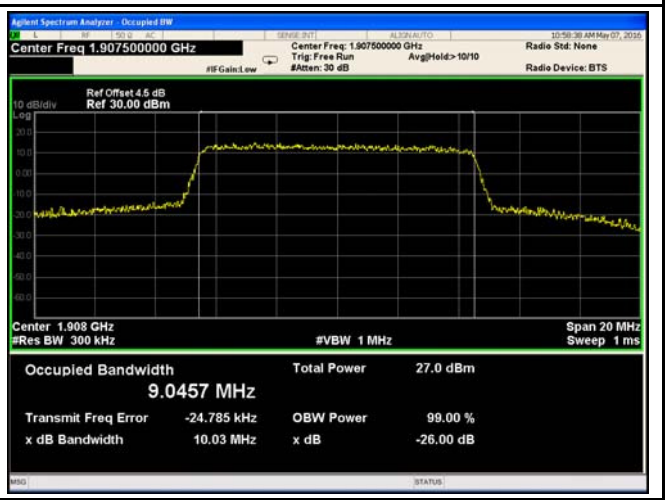


LTE band 2 - Middle CH QPSK-10

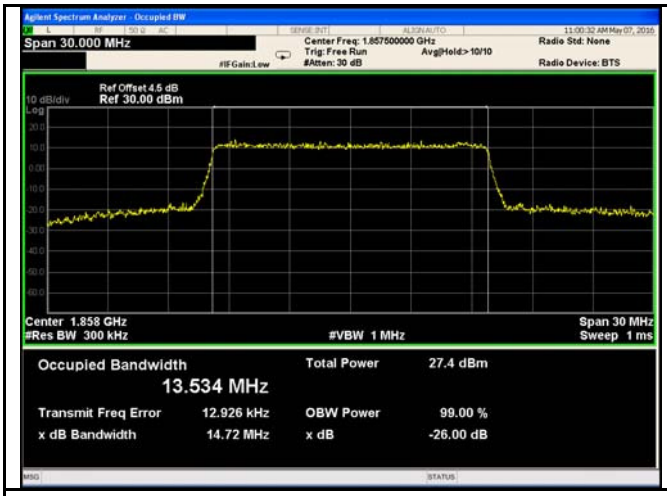


LTE band 2 - Middle CH 16QAM-10

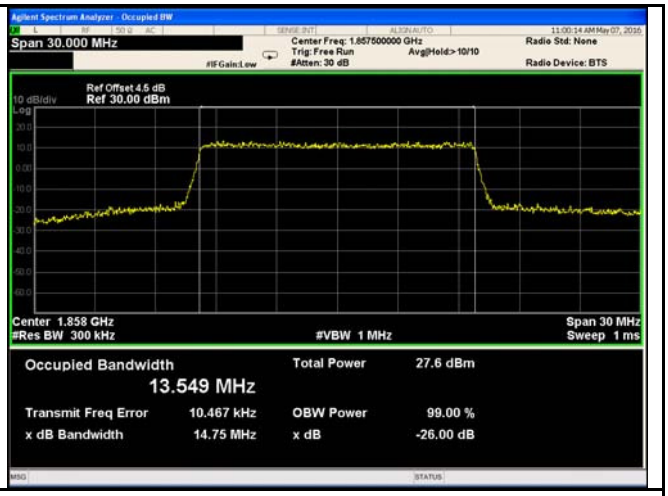
LTE band 2 - High CH QPSK-10



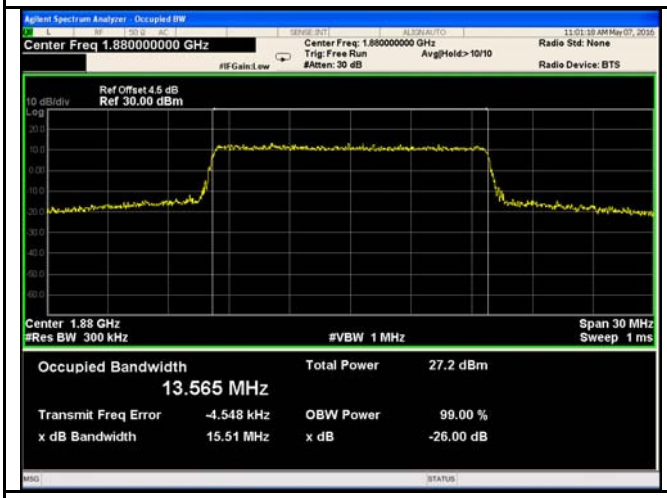
LTE band 2 - High CH 16QAM-10



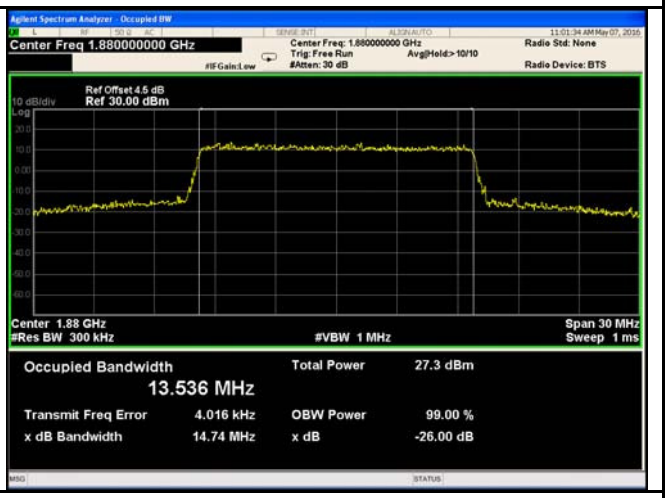
LTE band 2 - Low CH QPSK-15



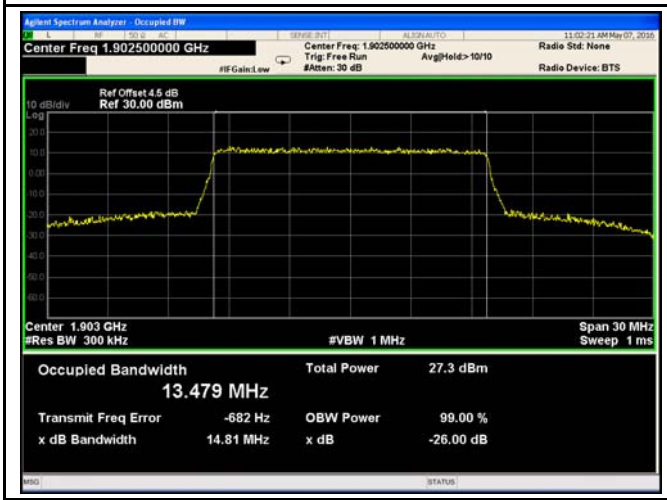
LTE band 2 - Low CH 16QAM-15



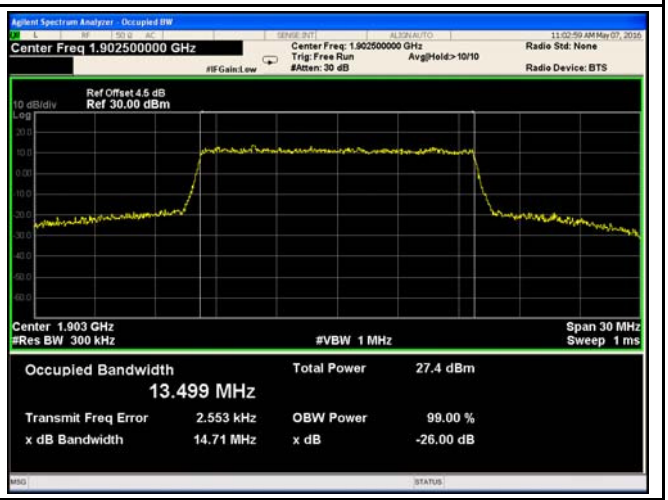
LTE band 2 - Middle CH QPSK-15



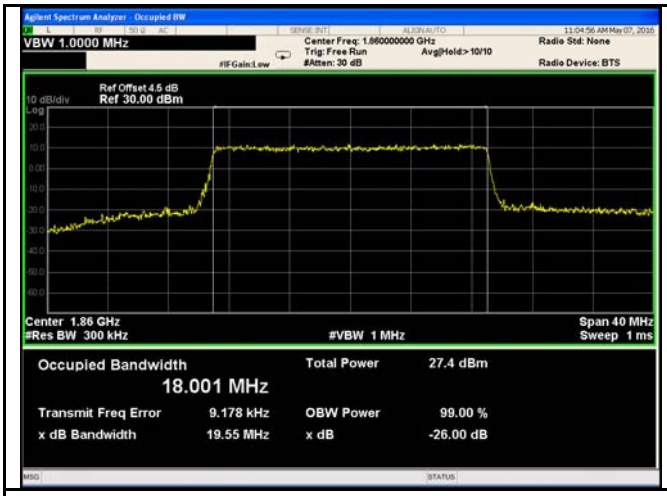
LTE band 2 - Middle CH 16QAM-15



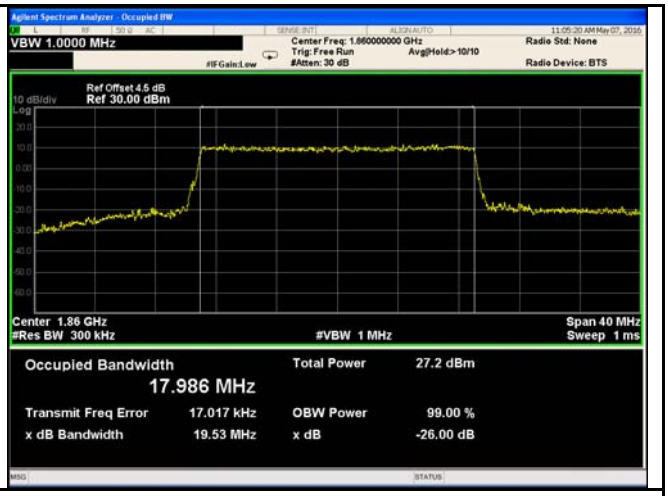
LTE band 2 - High CH QPSK-15



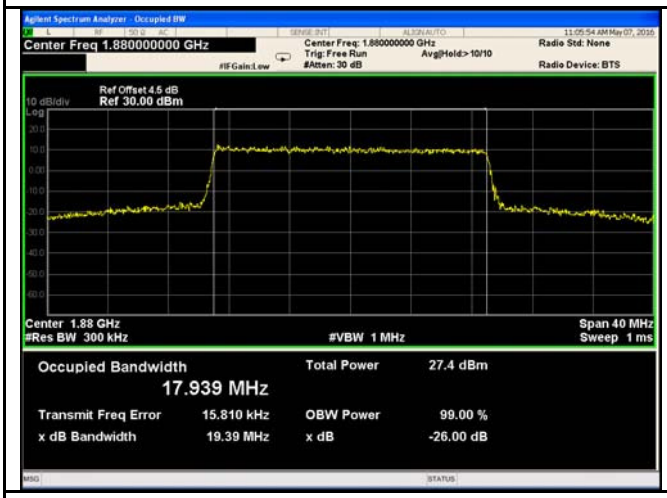
LTE band 2 - High CH 16QAM-15



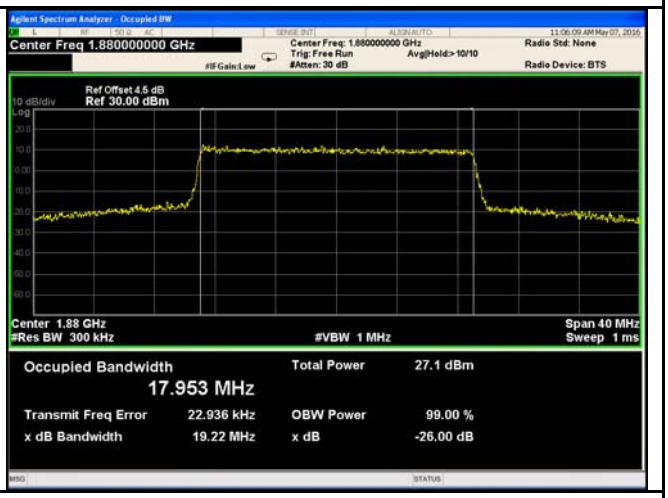
LTE band 2 - Low CH QPSK-20



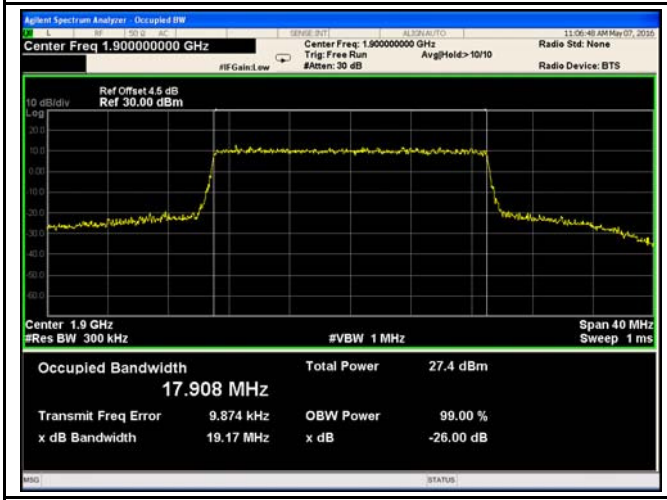
LTE band 2 - Low CH 16QAM-20



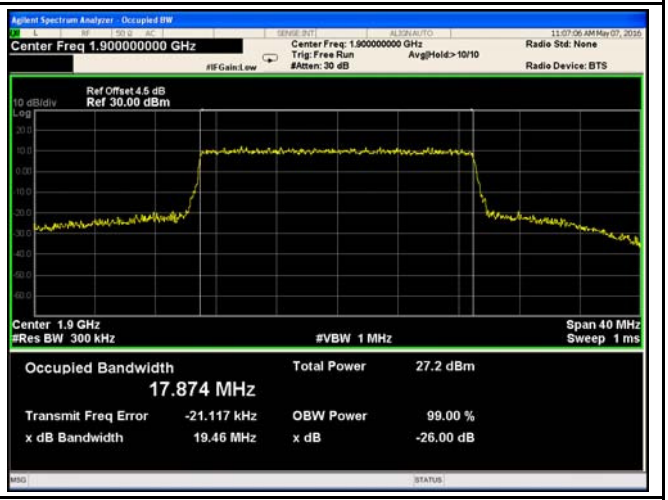
LTE band 2 - Middle CH QPSK-20



LTE band 2 - Middle CH 16QAM-20

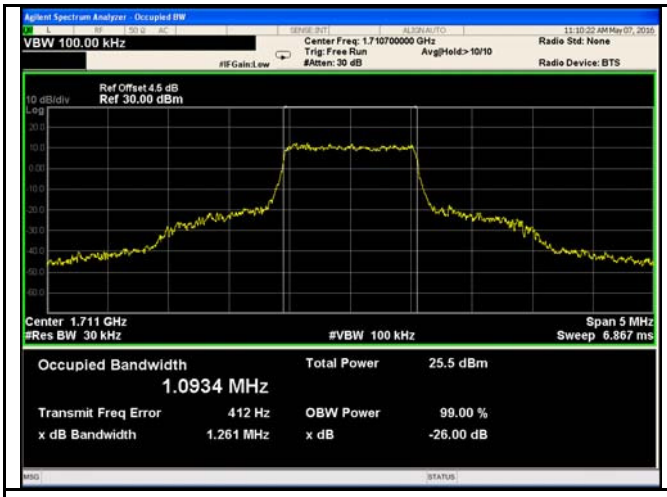


LTE band 2 - High CH QPSK-20

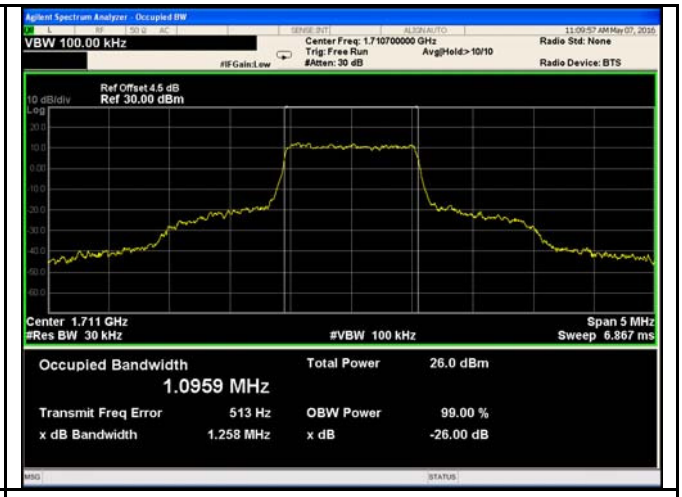


LTE band 2 - High CH 16QAM-20

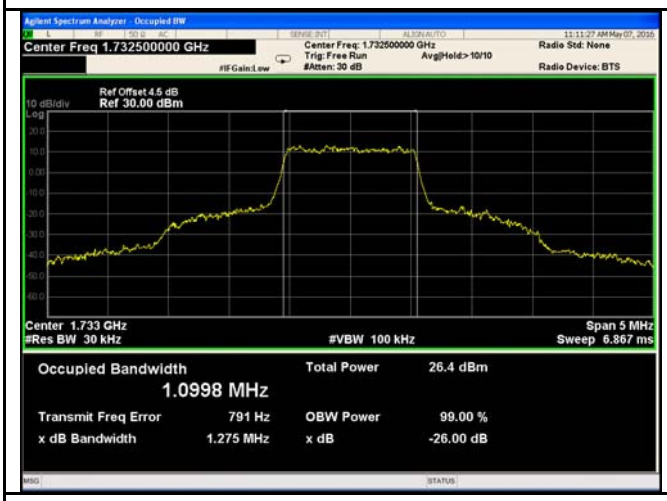
LTE Band 4 (Part 27)



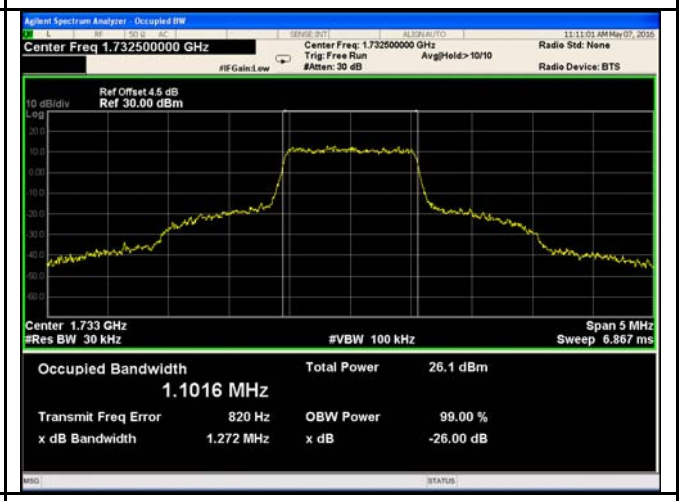
LTE band 4 - Low CH QPSK-1.4



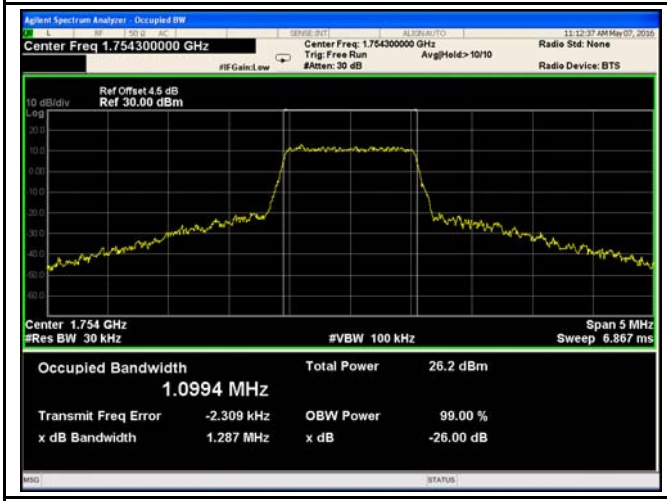
LTE band 4 - Low CH 16QAM-1.4



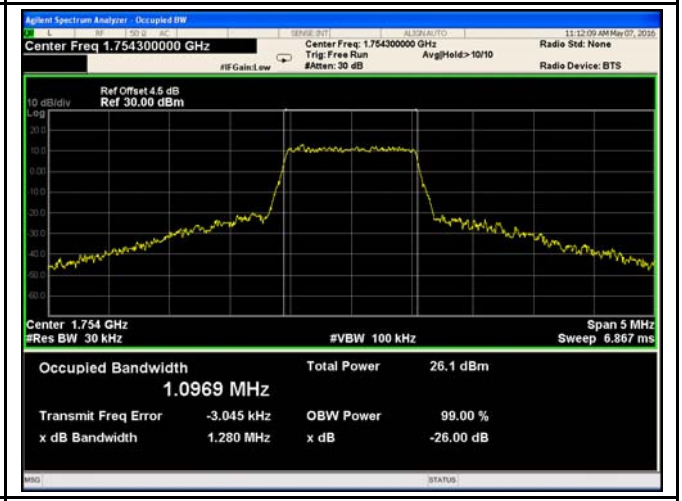
LTE band 4 - Middle CH QPSK-1.4



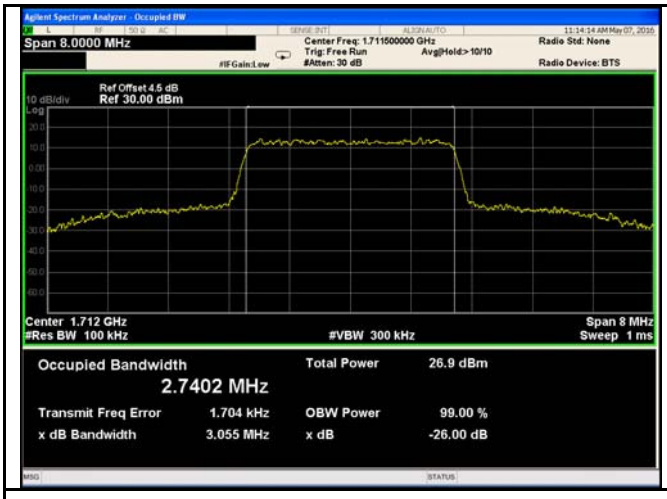
LTE band 4 - Middle CH 16QAM-1.4



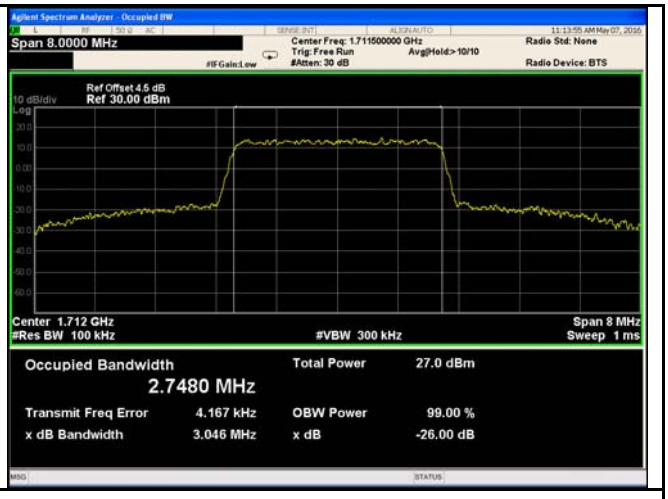
LTE band 4 - High CH QPSK-1.4



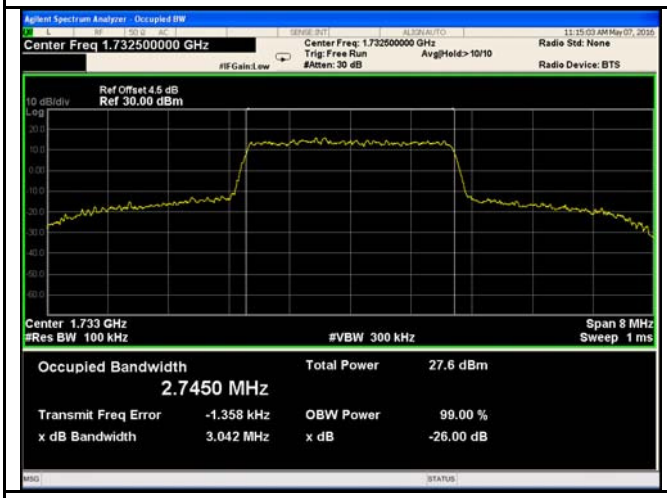
LTE band 4 - High CH 16QAM-1.4



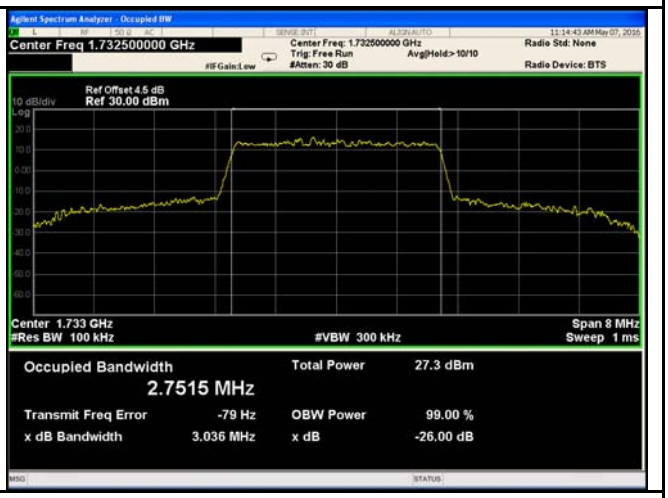
LTE band 4 - Low CH QPSK-3



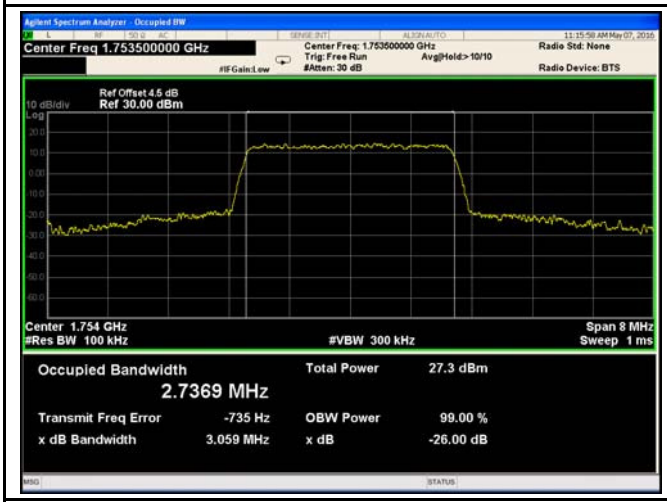
LTE band 4 - Low CH 16QAM-3



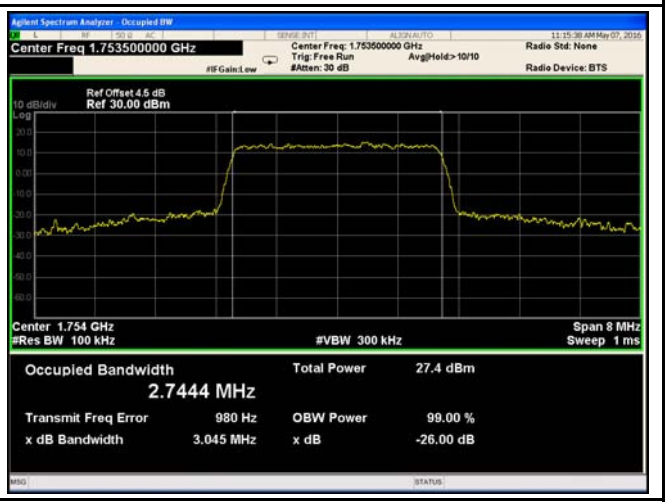
LTE band 4 - Middle CH QPSK-3



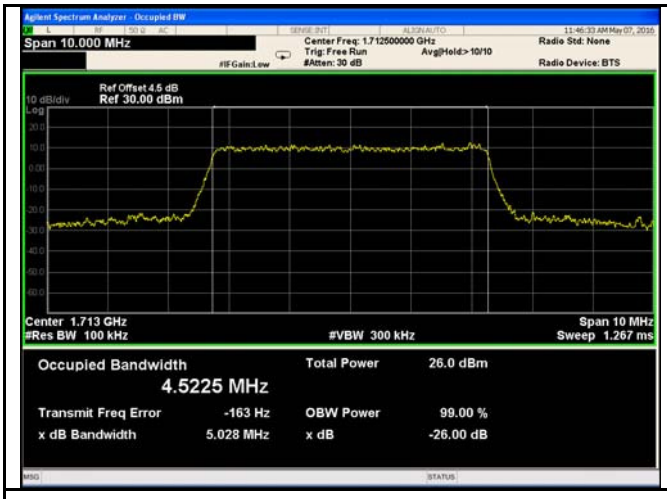
LTE band 4 - Middle CH 16QAM-3



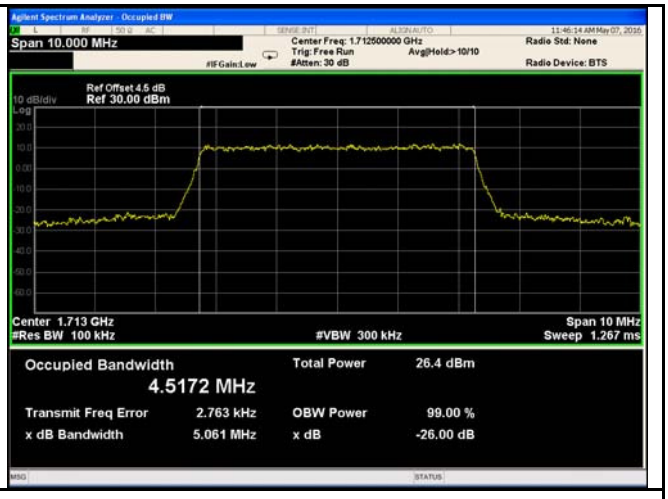
LTE band 4 - High CH QPSK-3



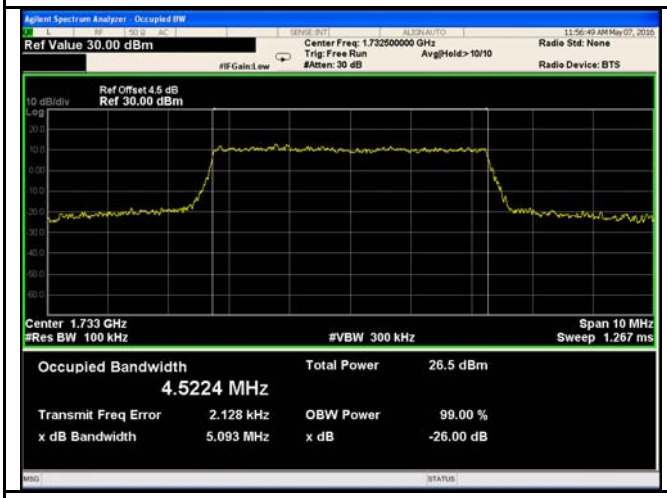
LTE band 4 - High CH 16QAM-3



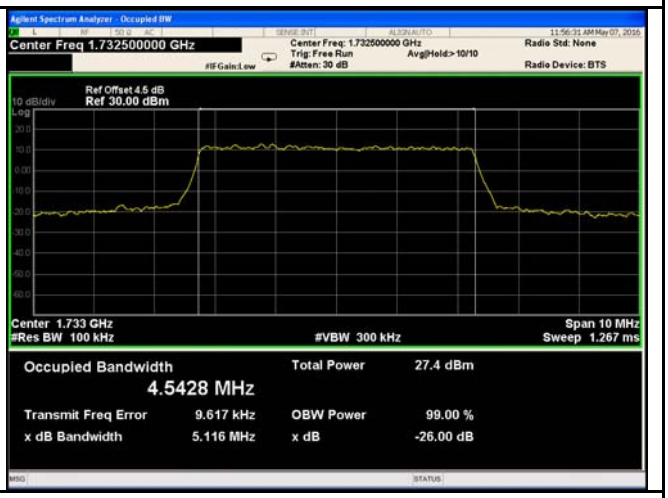
LTE band 4 - Low CH QPSK-5



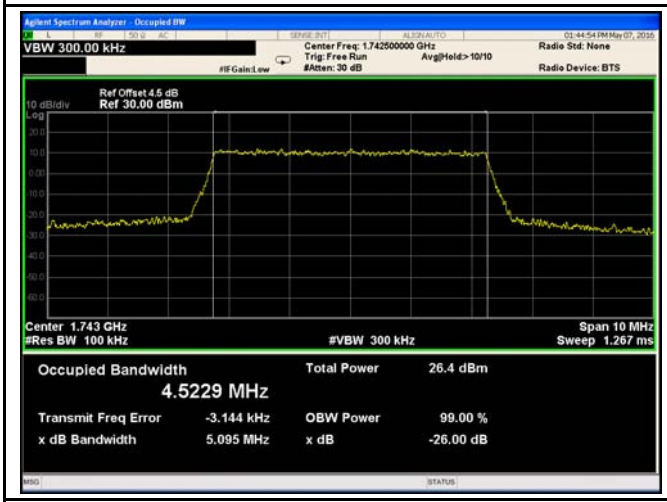
LTE band 4 - Low CH 16QAM-5



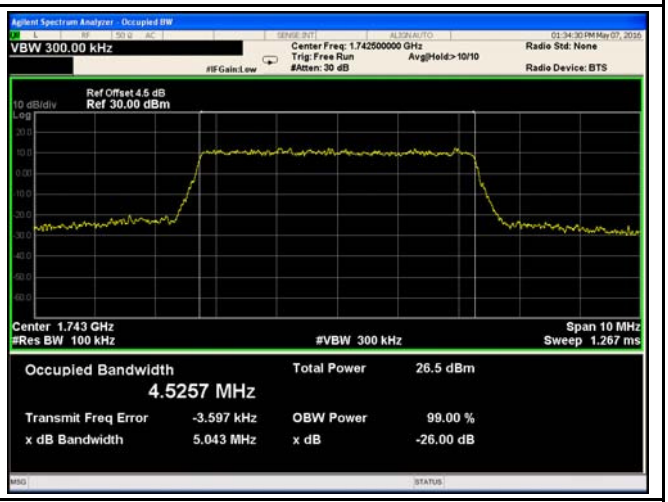
LTE band 4 - Middle CH QPSK-5



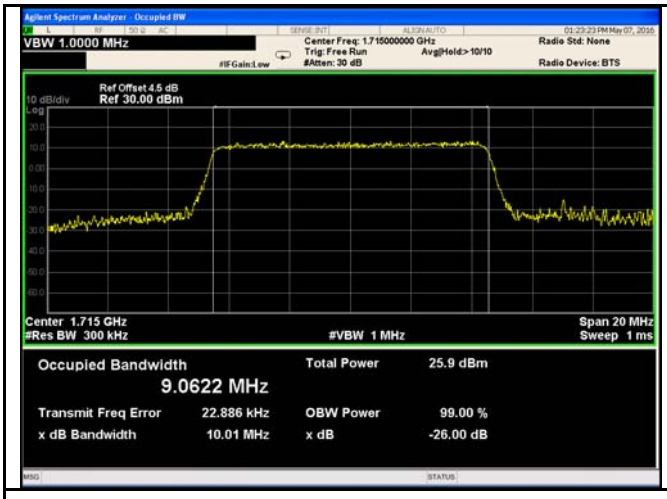
LTE band 4 - Middle CH 16QAM-5



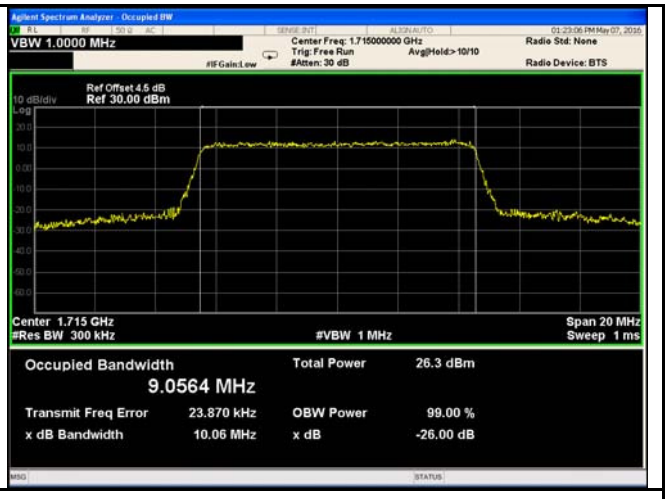
LTE band 4 - High CH QPSK-5



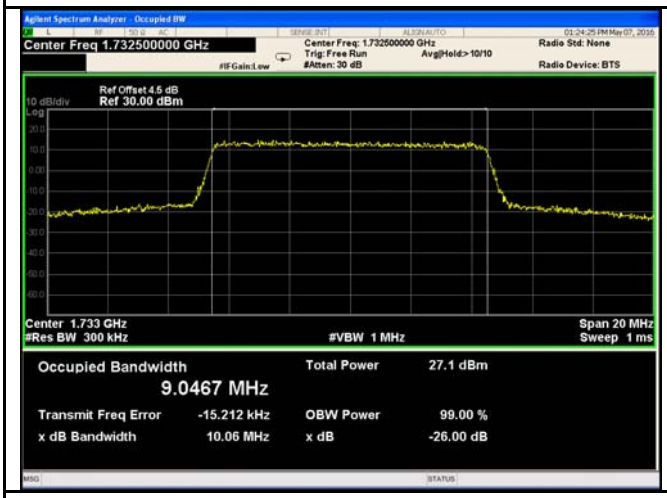
LTE band 4 - High CH 16QAM-5



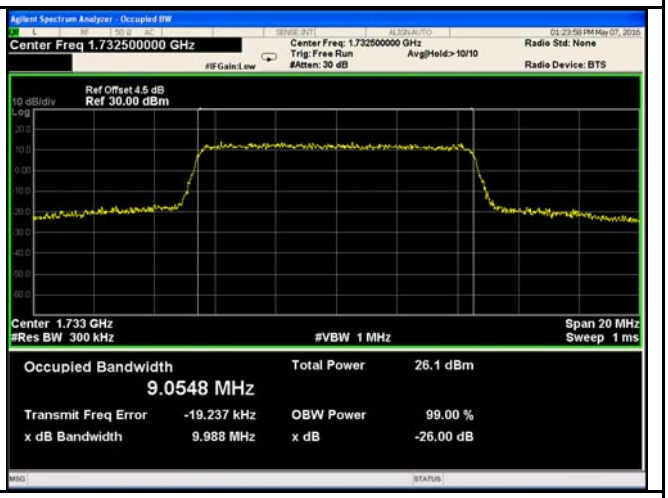
LTE band 4 - Low CH QPSK-10



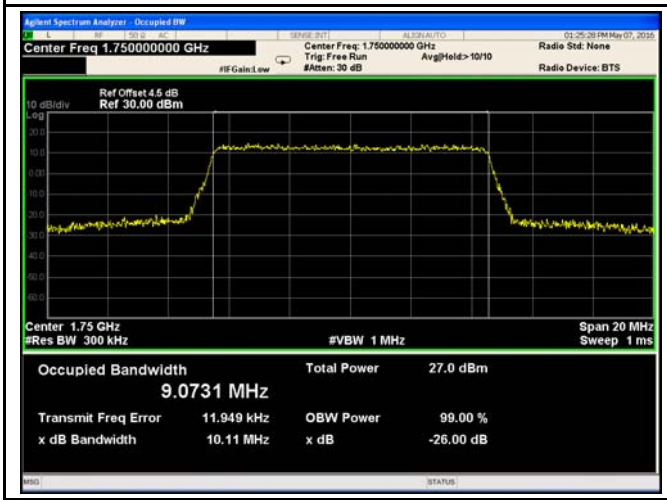
LTE band 4 - Low CH 16QAM-10



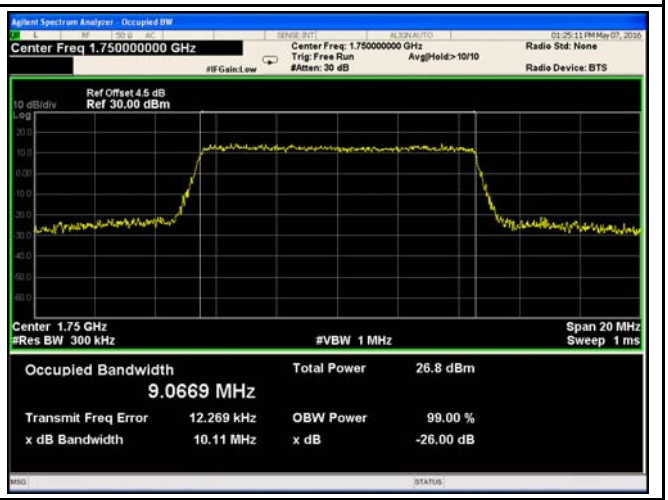
LTE band 4 - Middle CH QPSK-10



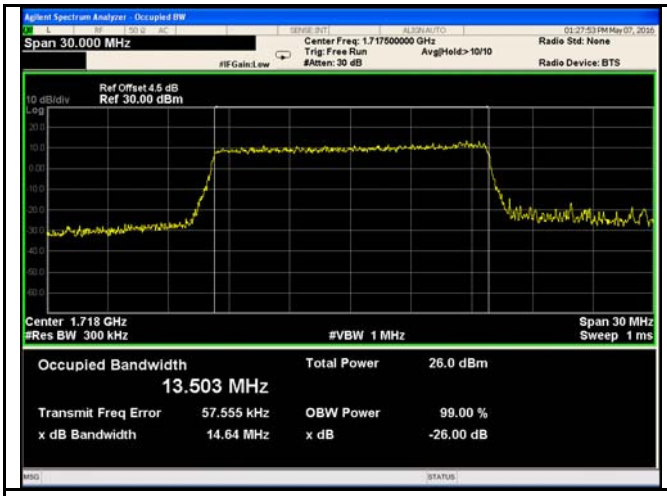
LTE band 4 - Middle CH 16QAM-10



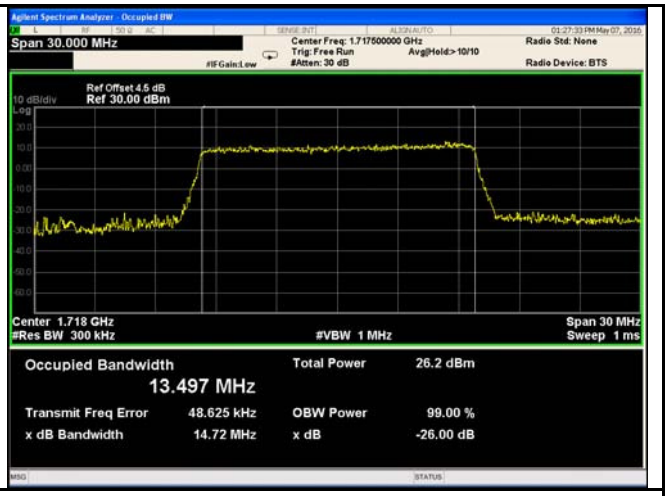
LTE band 4 - High CH QPSK-10



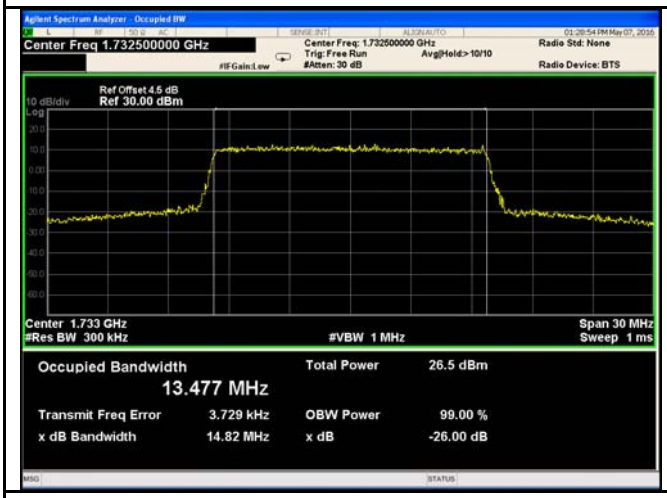
LTE band 4 - High CH 16QAM-10



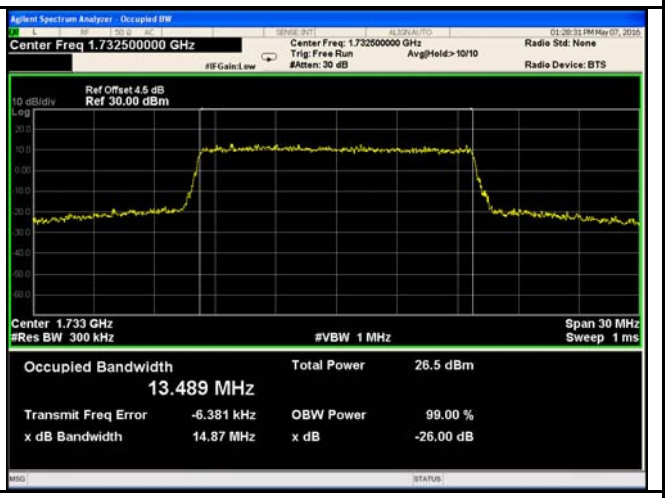
LTE band 4 - Low CH QPSK-15



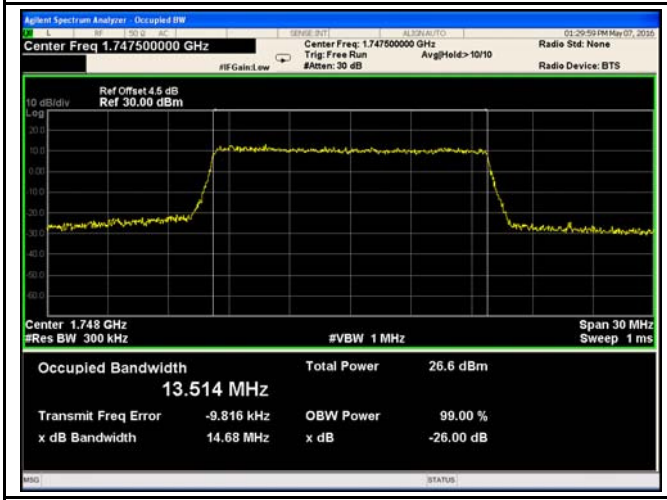
LTE band 4 - Low CH 16QAM-15



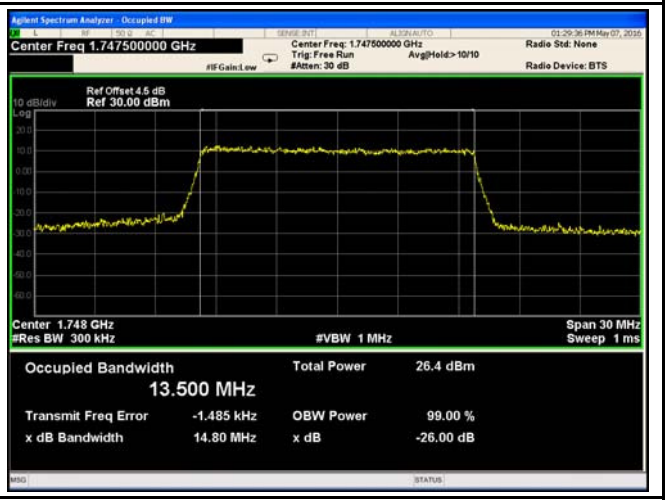
LTE band 4 - Middle CH QPSK-15



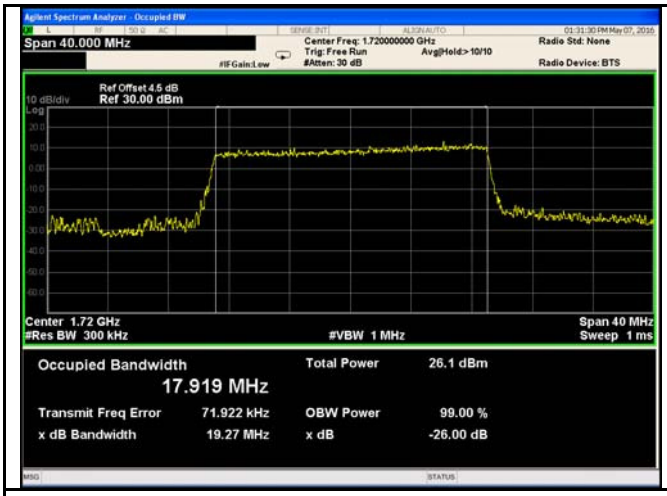
LTE band 4 - Middle CH 16QAM-15



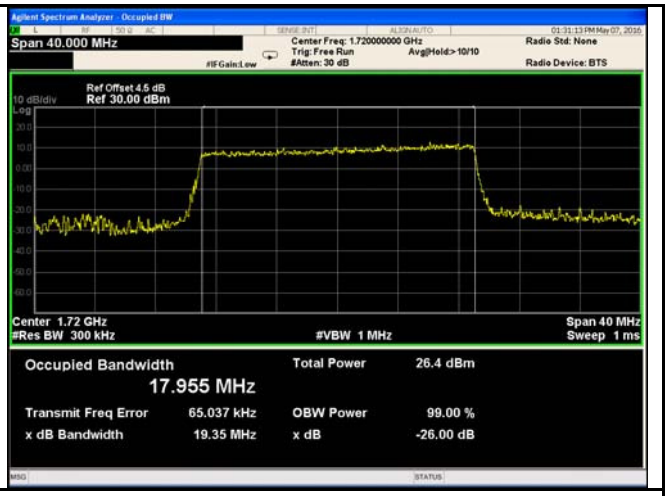
LTE band 4 - High CH QPSK-15



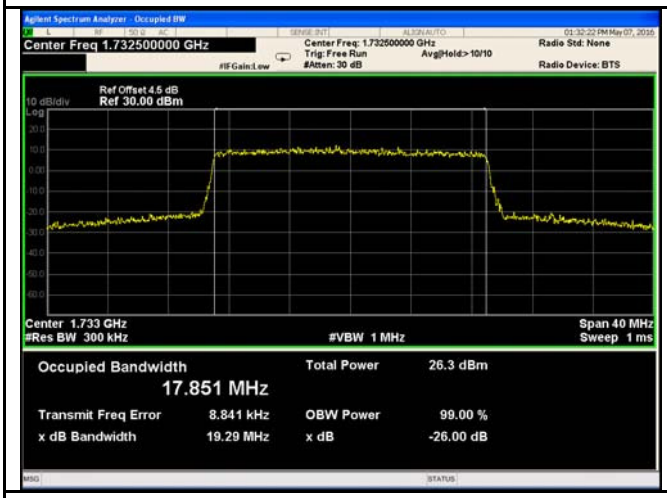
LTE band 4 - High CH 16QAM-15



LTE band 4 - Low CH QPSK-20

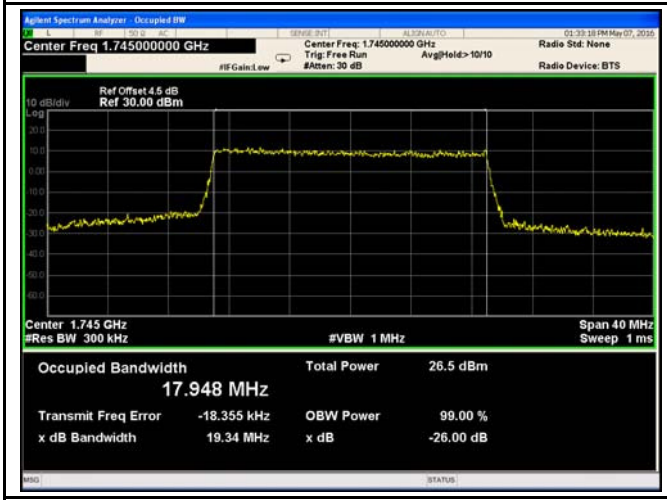


LTE band 4 - Low CH 16QAM-20

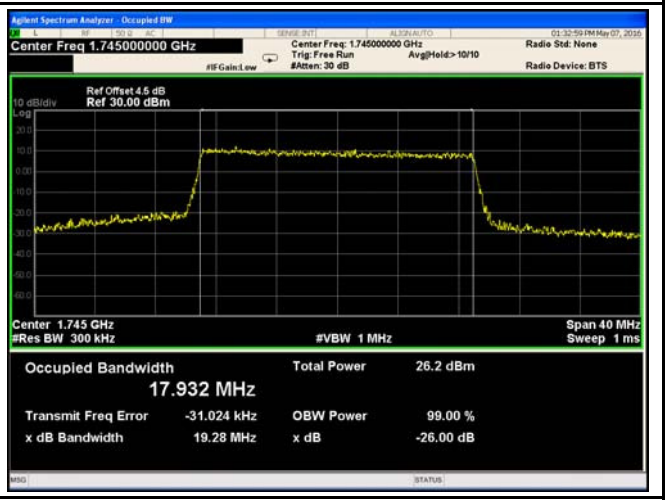


LTE band 4 - Middle CH QPSK-20

LTE band 4 - Middle CH 16QAM-20

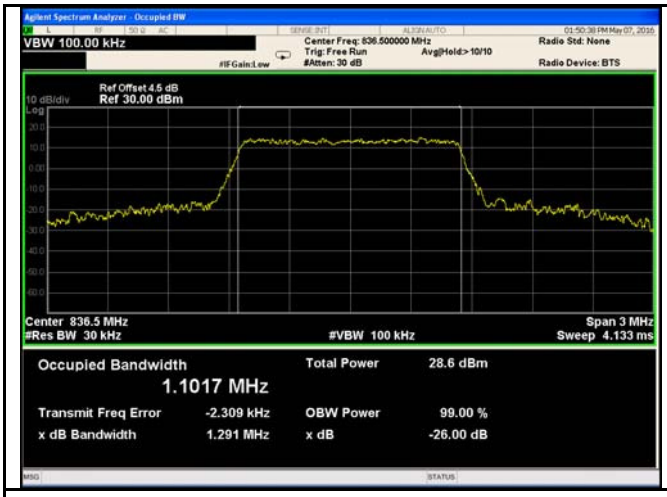


LTE band 4 - High CH QPSK-20

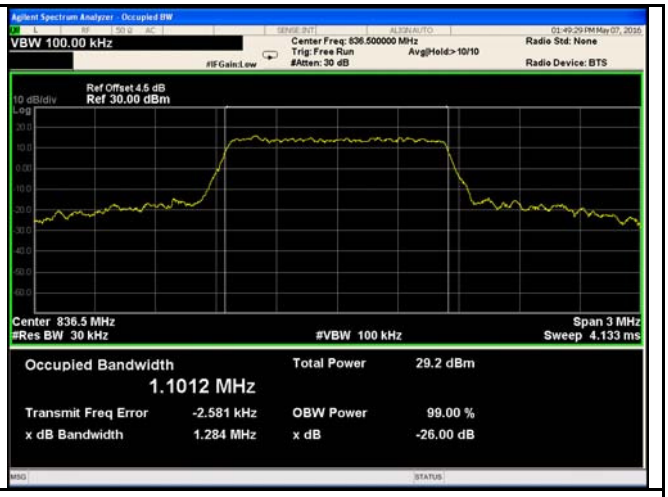


LTE band 4 - High CH 16QAM-20

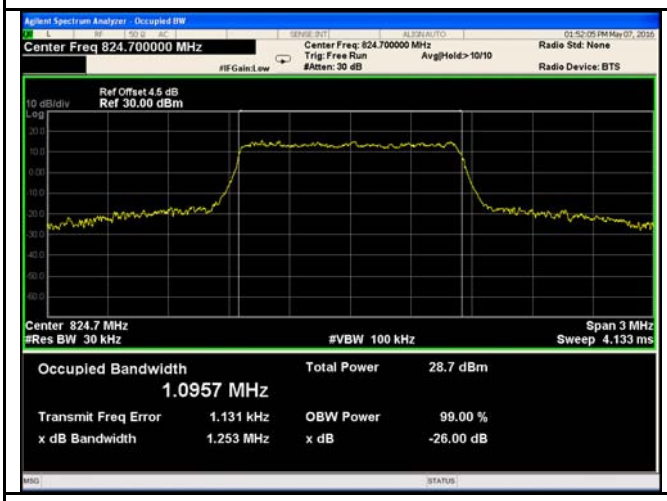
LTE Band 5 (Part 22H)



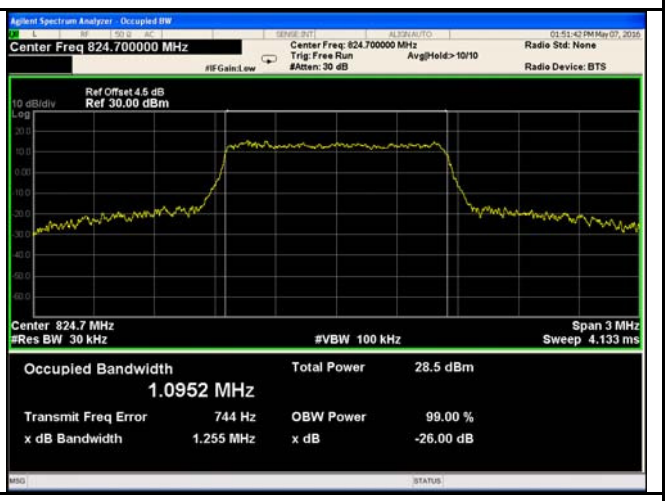
LTE band 5 - Low CH QPSK-1.4



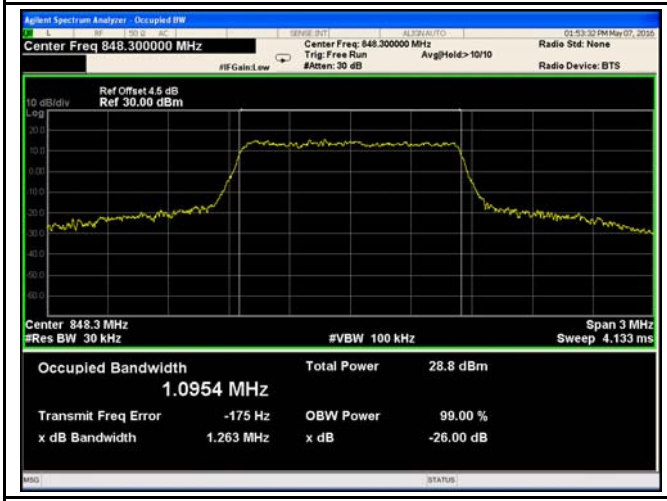
LTE band 5 - Low CH 16QAM-1.4



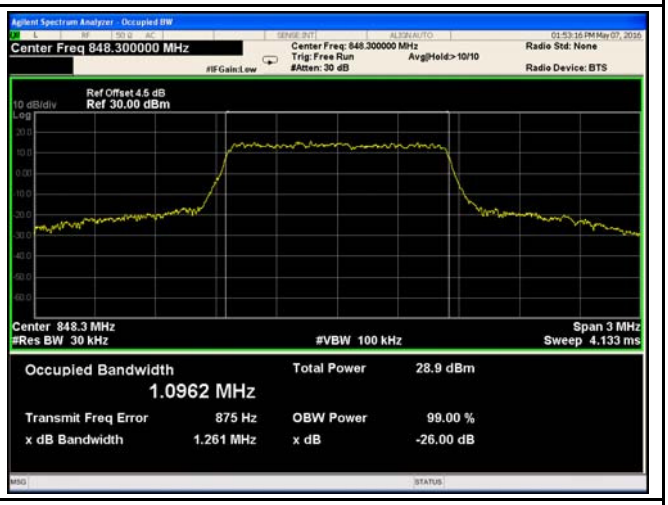
LTE band 5 - Middle CH QPSK-1.4



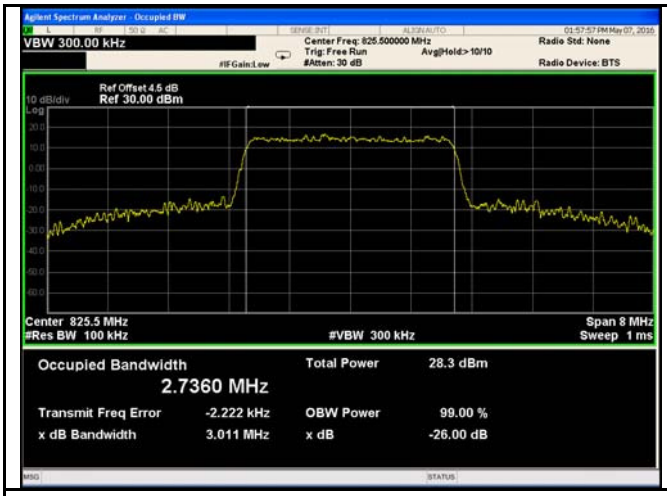
LTE band 5 - Middle CH 16QAM-1.4



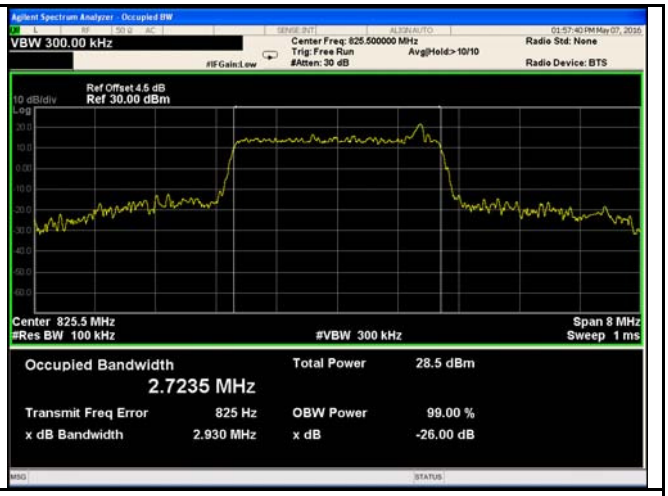
LTE band 5 - High CH QPSK-1.4



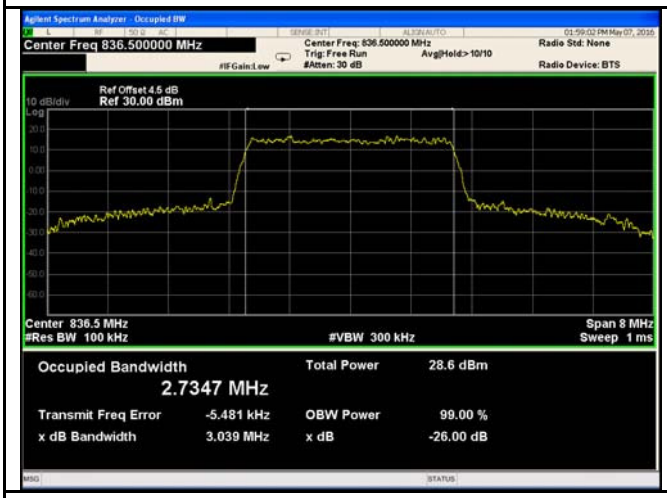
LTE band 5 - High CH 16QAM-1.4



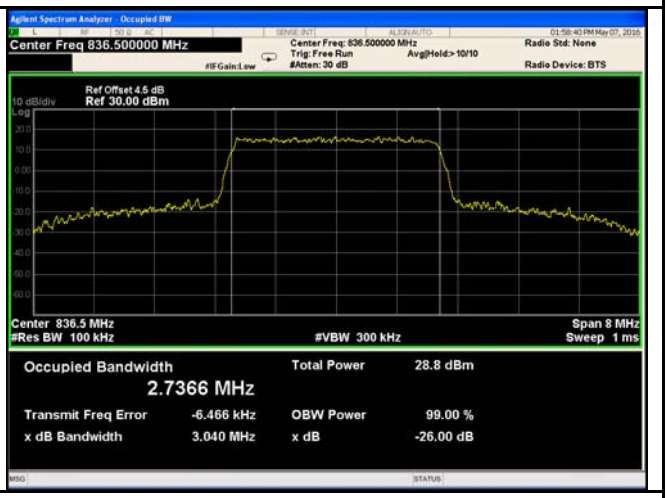
LTE band 5 - Low CH QPSK-3



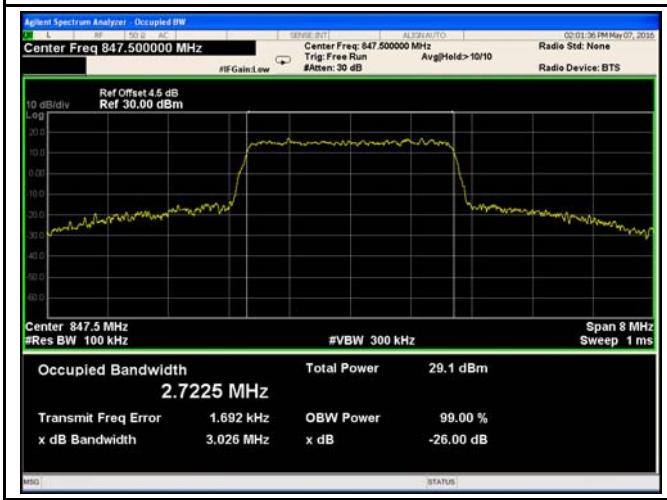
LTE band 5 - Low CH 16QAM-3



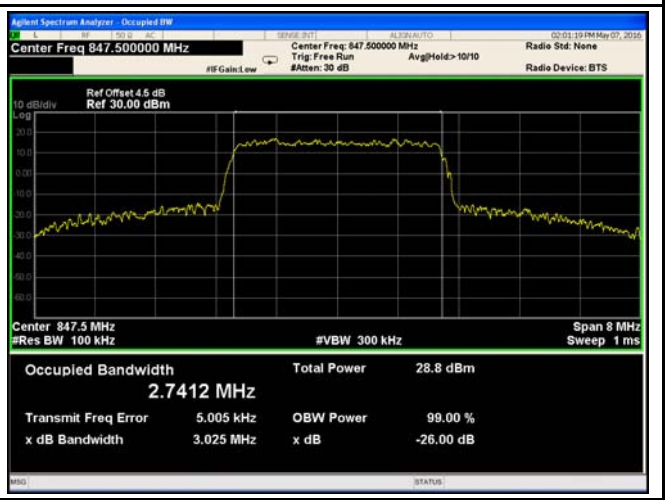
LTE band 5 - Middle CH QPSK-3



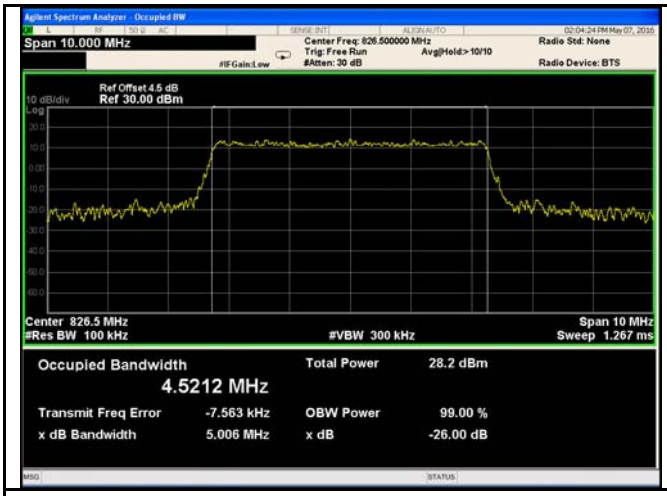
LTE band 5 - Middle CH 16QAM-3



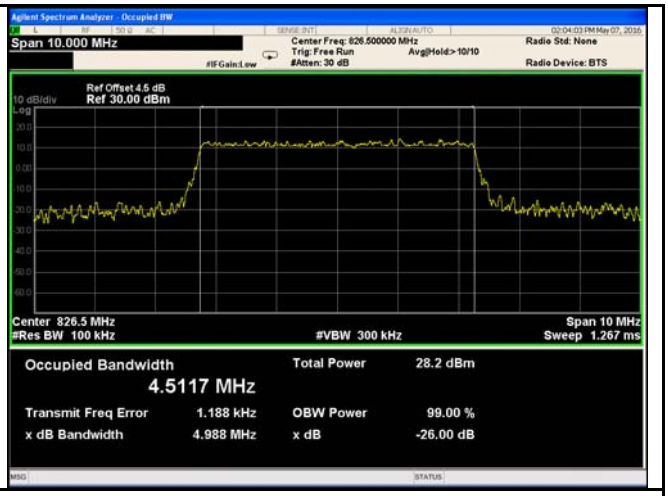
LTE band 5 - High CH QPSK-3



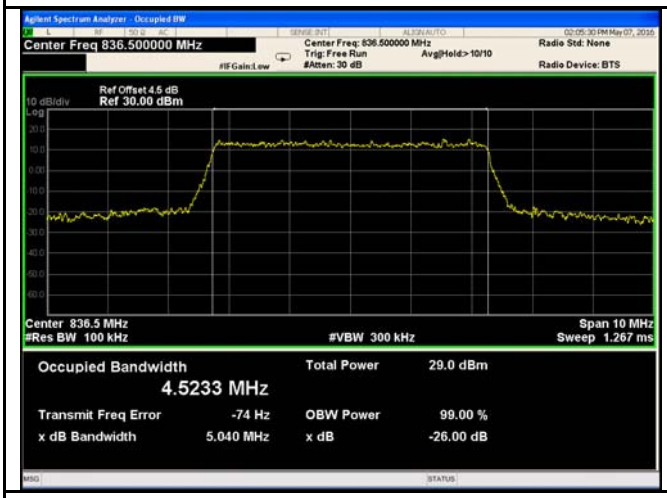
LTE band 5 - High CH 16QAM-3



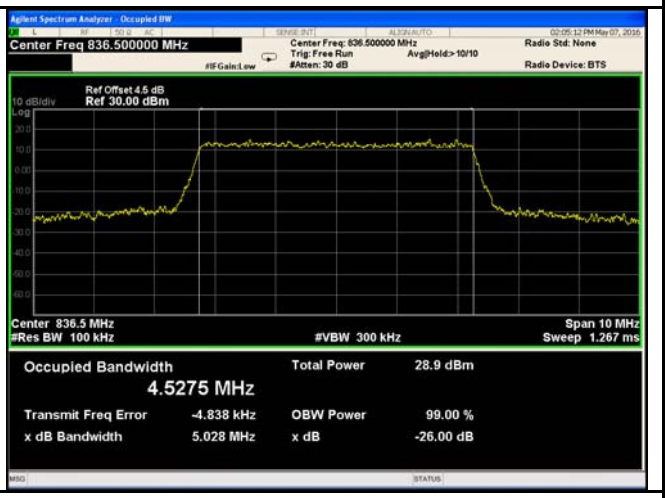
LTE band 5 - Low CH QPSK-5



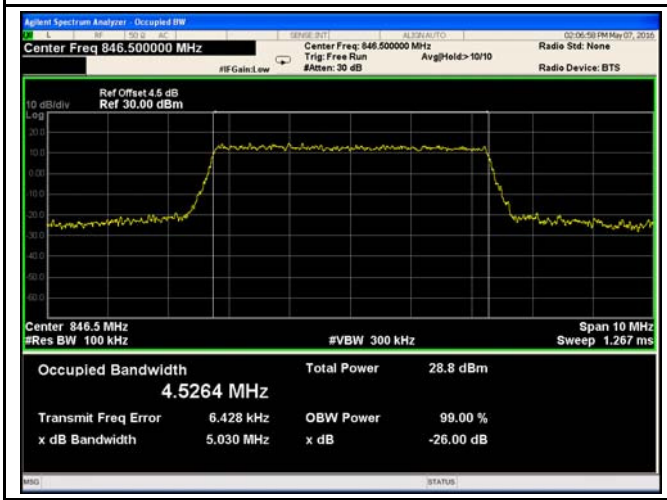
LTE band 5 - Low CH 16QAM-5



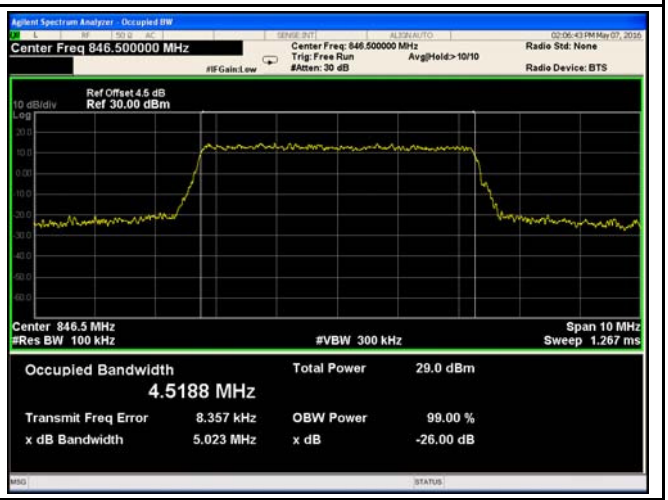
LTE band 5 - Middle CH QPSK-5



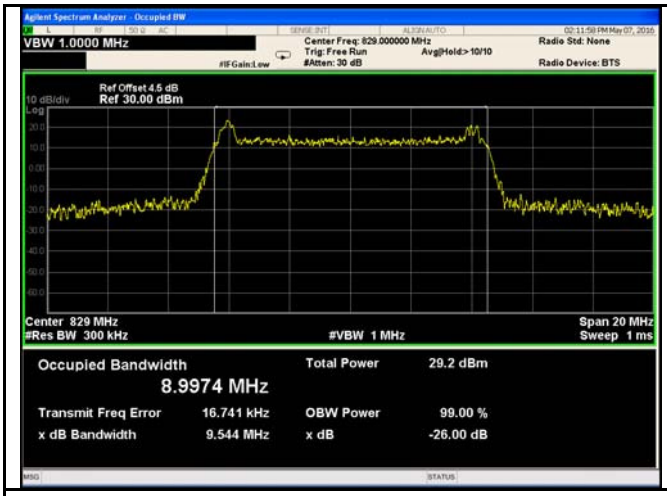
LTE band 5 - Middle CH 16QAM-5



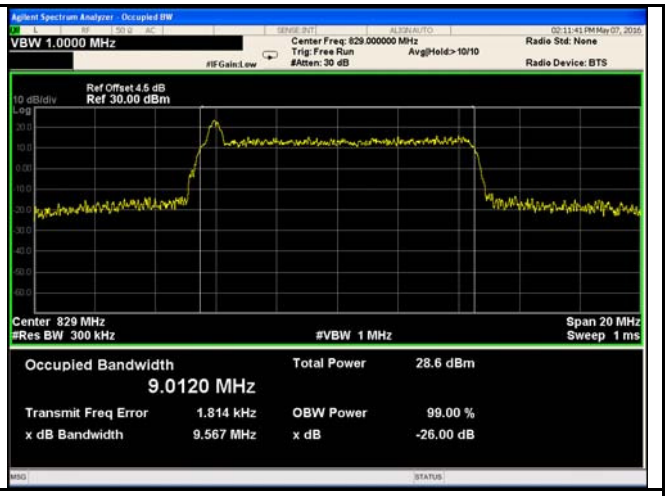
LTE band 5 - High CH QPSK-5



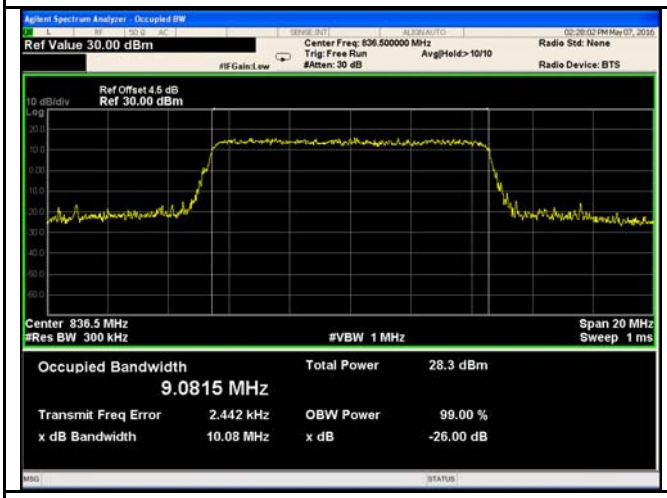
LTE band 5 - High CH 16QAM-5



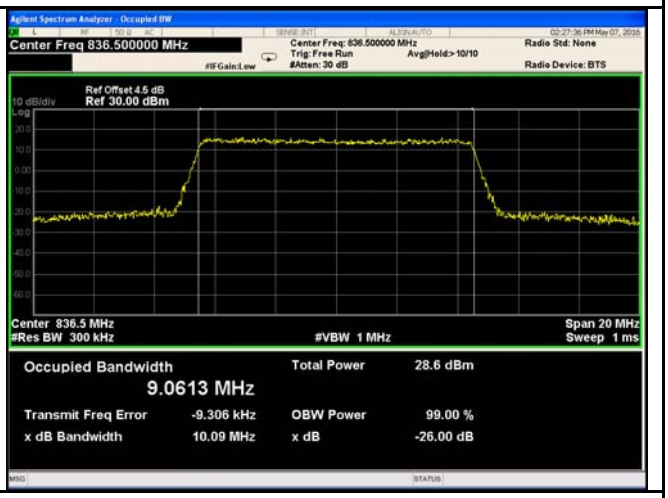
LTE band 5 - Low CH QPSK-10



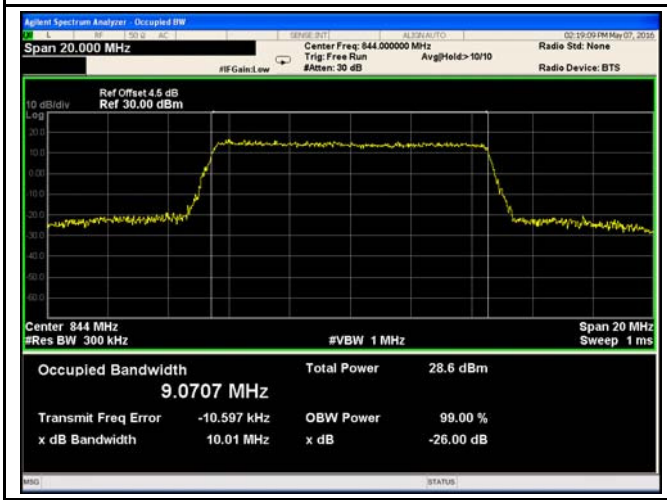
LTE band 5 - Low CH 16QAM-10



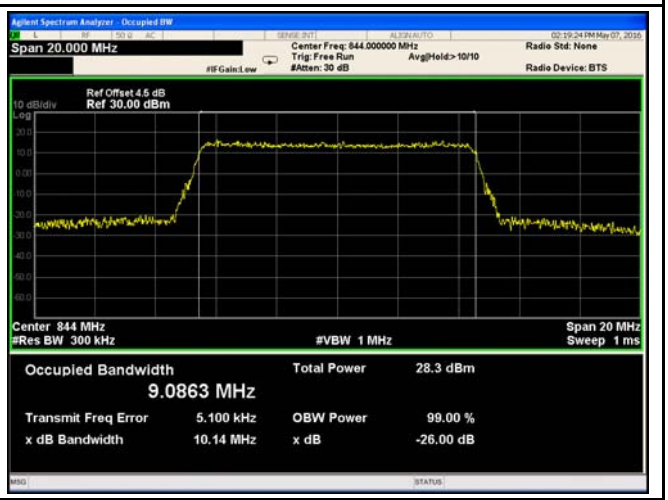
LTE band 5 - Middle CH QPSK-10



LTE band 5 - Middle CH 16QAM-10

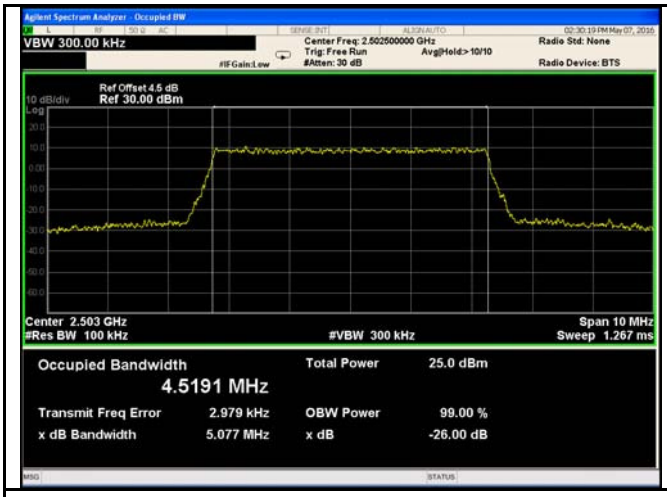


LTE band 5 - High CH QPSK-10

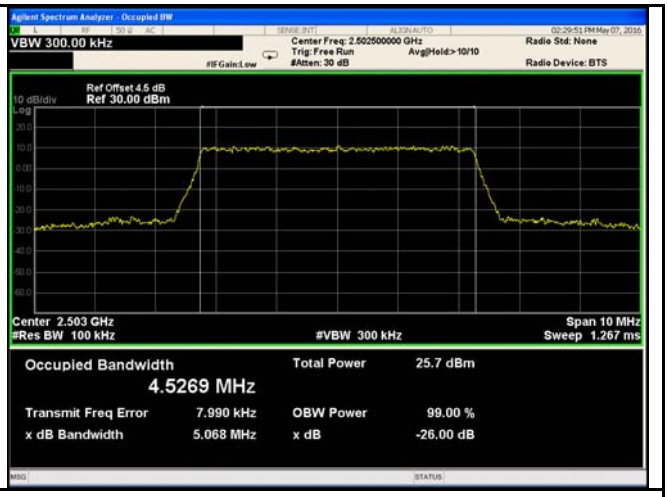


LTE band 5 - High CH 16QAM-10

LTE Band 7 (Part 27)

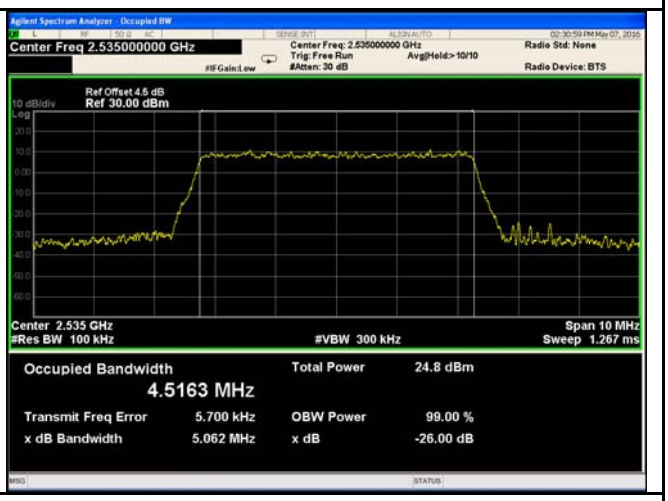


LTE band 7 - Low CH QPSK-5



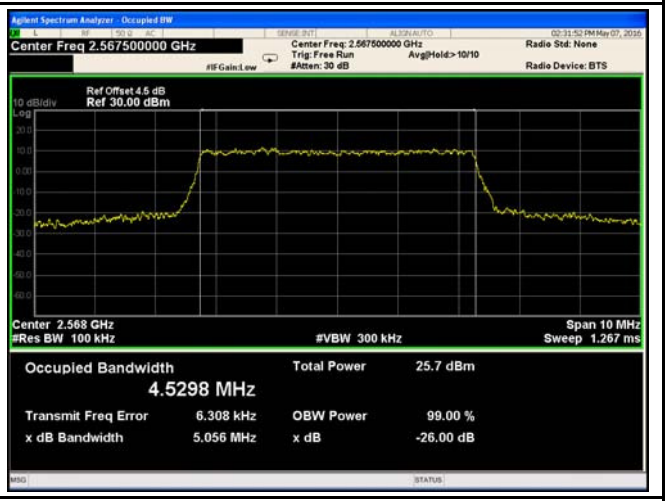
LTE band 7 - Low CH 16QAM-5

LTE band 7 - Middle CH QPSK-5



LTE band 7 - Middle CH 16QAM-5

LTE band 7 - High CH QPSK-5



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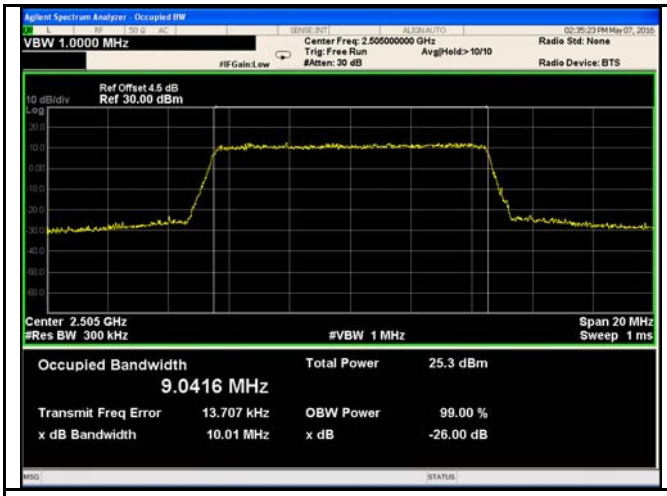
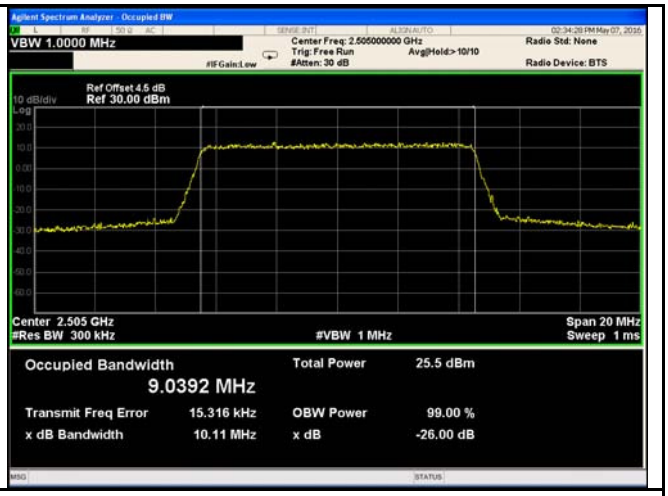
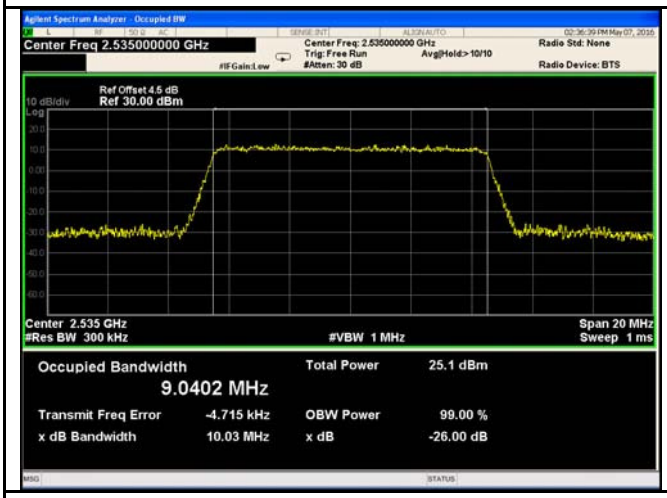


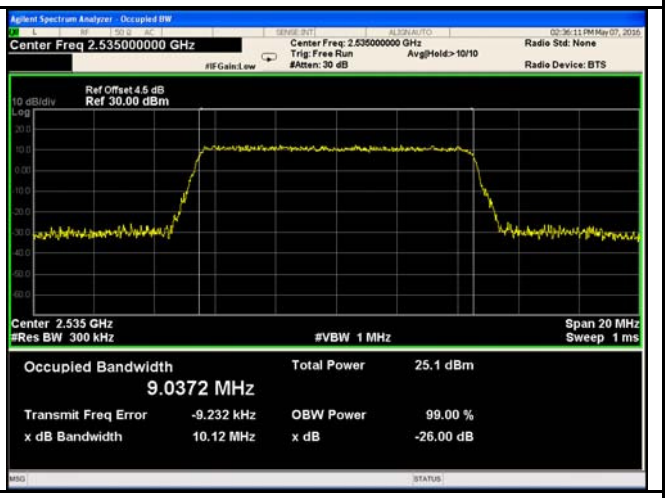
LTE band 7 - Low CH QPSK-10



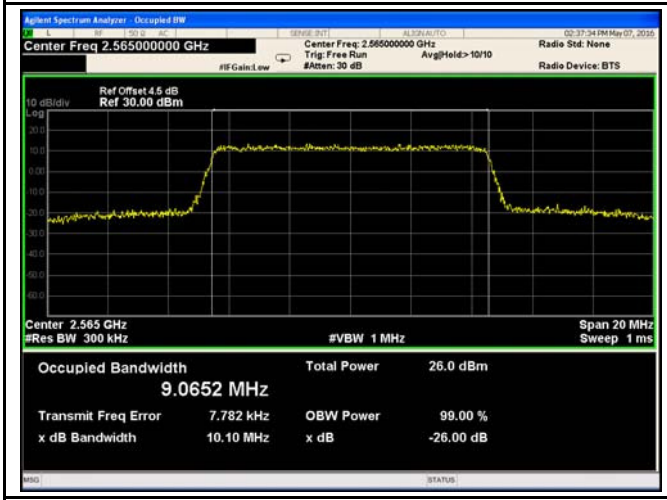
LTE band 7 - Low CH 16QAM-10



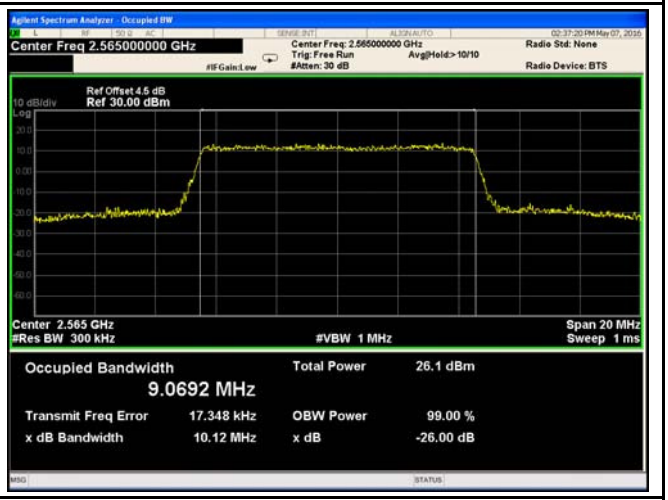
LTE band 7 - Middle CH QPSK-10



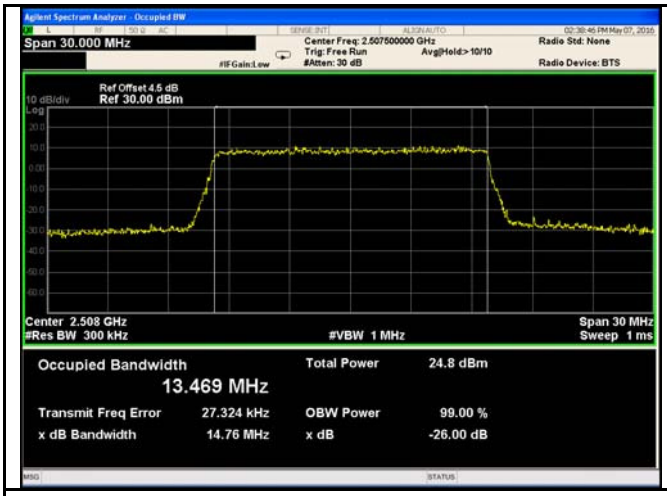
LTE band 7 - Middle CH 16QAM-10



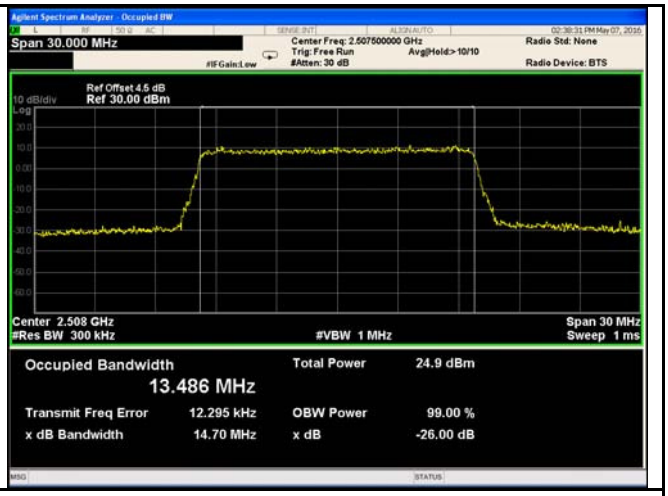
LTE band 7 - High CH QPSK-10



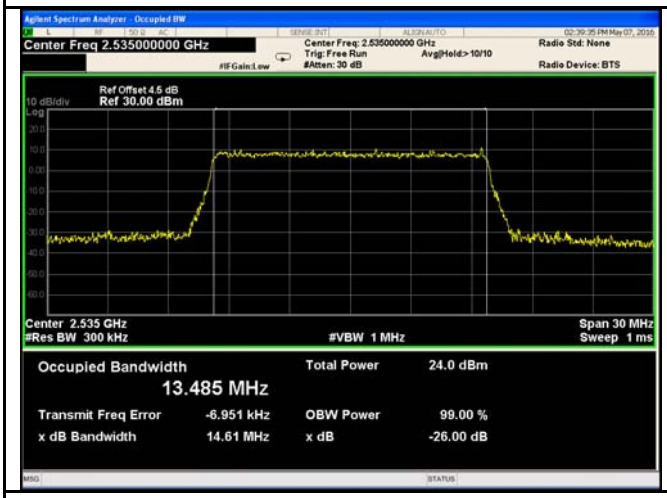
LTE band 7 - High CH 16QAM-10



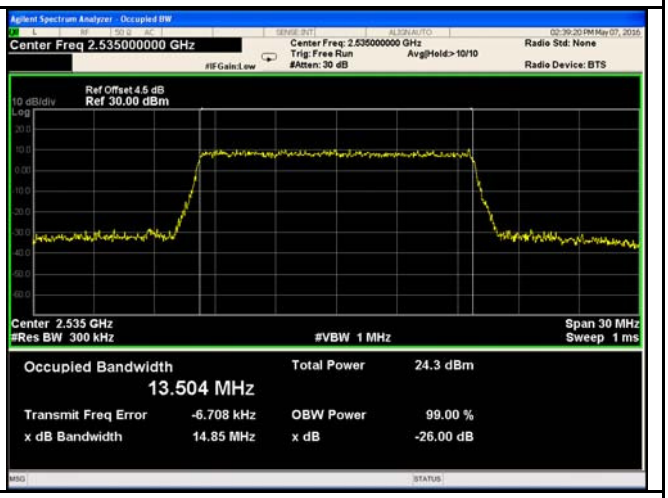
LTE band 7 - Low CH QPSK-15



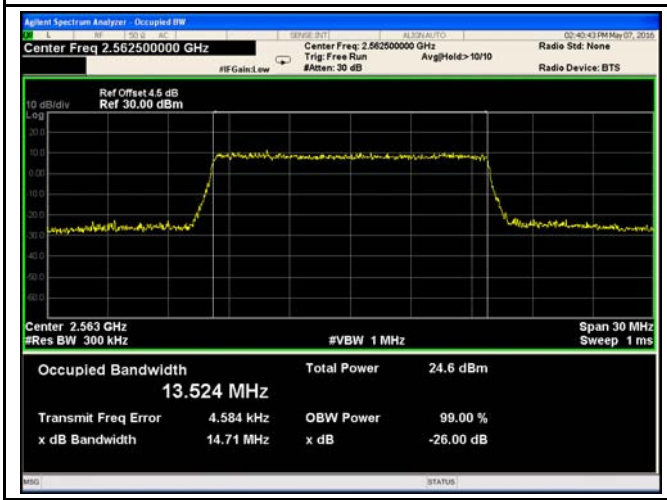
LTE band 7 - Low CH 16QAM-15



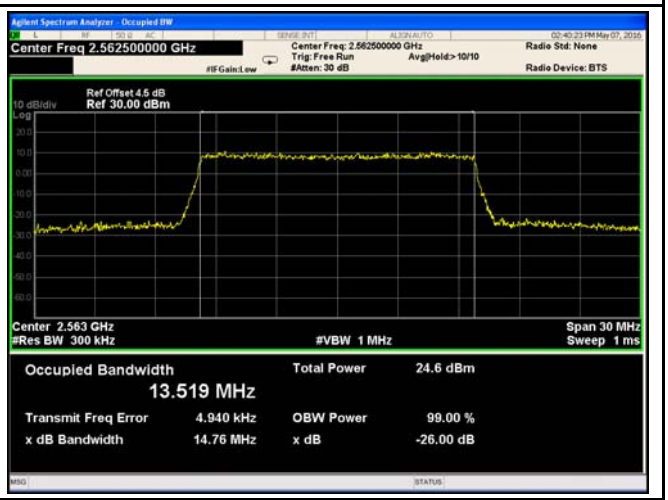
LTE band 7 - Middle CH QPSK-15



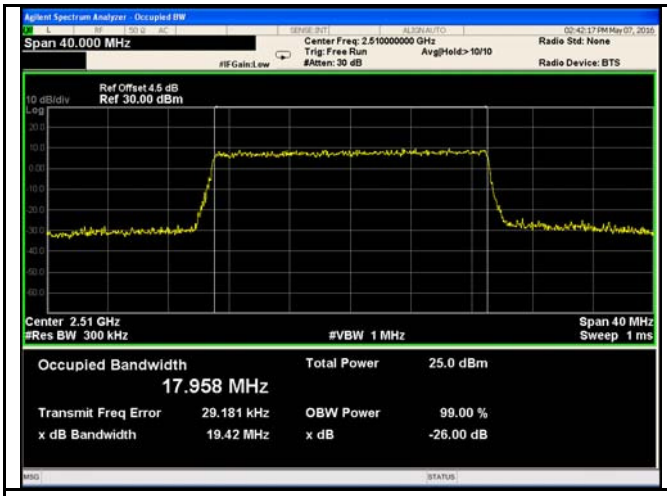
LTE band 7 - Middle CH 16QAM-15



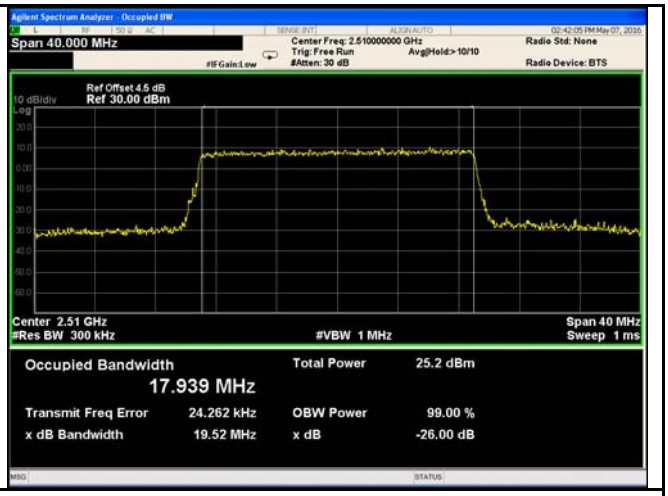
LTE band 7 - High CH QPSK-15



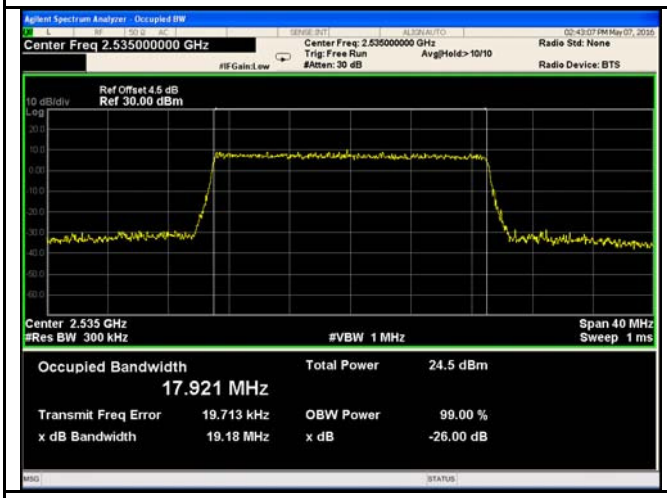
LTE band 7 - High CH 16QAM-15



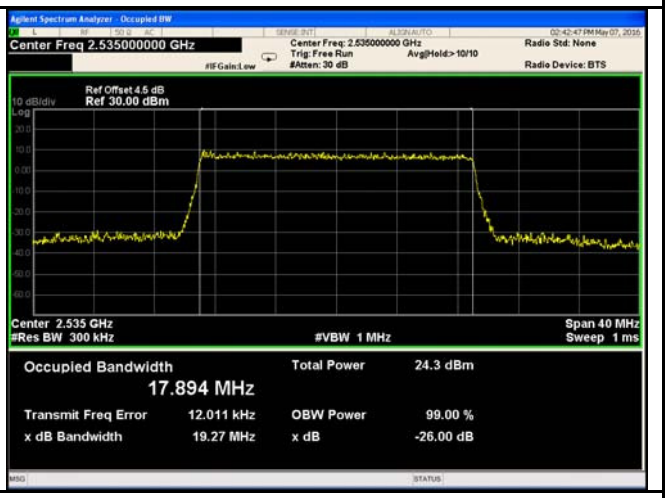
LTE band 7 - Low CH QPSK-20



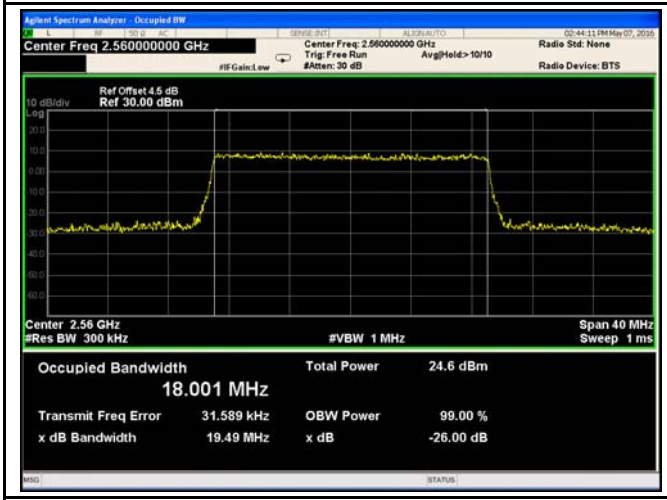
LTE band 7 - Low CH 16QAM-20



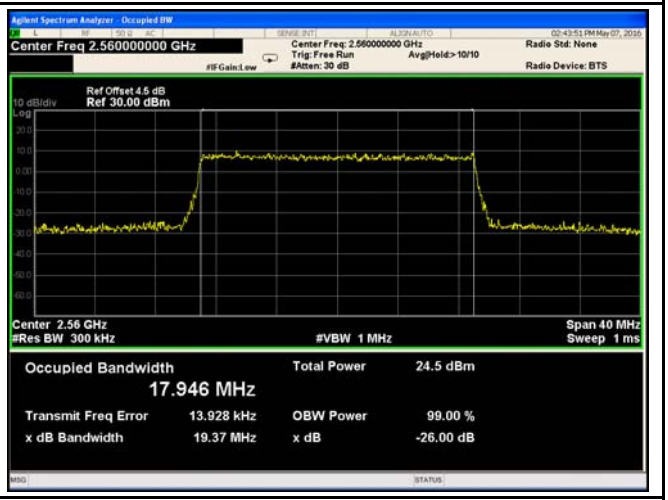
LTE band 7 - Middle CH QPSK-20



LTE band 7 - Middle CH 16QAM-20



LTE band 7 - High CH QPSK-20



LTE band 7 - High CH 16QAM-20