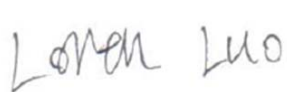


RF TEST REPORT



Report No.: 16070559-FCC-R5

Supersede Report No.: N/A

Applicant	MFOURTEL MEXICO S.A. DE C.V.	
Product Name	LTE Mobile Phone	
Model No.	M4 SS4450	
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	June 07 to 24, 2016	
Issue Date	June 25, 2016	
Test Result	☒ Pass ☐ Fail	
Equipment complied with the specification	☒	
Equipment did not comply with the specification	☐	
		
Loren Luo 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

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.



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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
16070559-FCC-R5	NONE	Original	June 25, 2016

2. Customer information

Applicant Name	MFOURTEL MEXICO S.A. DE C.V.
Applicant Add	Av. Ejercito Nacional 436 Piso 3 Chapultepec Morales Miguel Hidalgo D.F 11570
Manufacturer	CK Telecom Limited
Manufacturer Add	Technology Road.High-Tech Development Zone. Heyuan, Guangdong,P.R.China.

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:	LTE Mobile Phone
Main Model:	M4 SS4450
Serial Model:	N/A
Date EUT received:	June 06, 2016
Test Date(s):	June 07 to 24, 2016
Equipment Category :	PCE
Antenna Gain:	GSM850: -3.5dBi PCS1900: -3.5dBi UMTS-FDD Band 5: -3.5dBi UMTS-FDD Band 2: -3.5dBi LTE Band 2: -3.5dBi LTE Band 4: -3.5dBi LTE Band 7: -5.5dBi LTE Band 17: -6.5dBi Bluetooth/BLE/WIFI:-3.5dBi GPS: -2.5dBi
Antenna Type:	PIFA antenna
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK,8PSK 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 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
RF Operating Frequency (ies):	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 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: 23.37 dBm
	LTE Band 4: 22.97 dBm
	LTE Band 7: 21.94 dBm
	LTE Band 17: 23.47 dBm
ERP/EIRP:	LTE Band 2: 19.77 dBm / EIRP
	LTE Band 4: 19.43 dBm / EIRP
	LTE Band 7: 16.25 dBm / EIRP
	LTE Band 17: 15.02 dBm / ERP
Port:	Power Port, Earphone Port, USB Port
Input Power:	Adapter:
	Model: A8-501000
	Input: 100-240Vca,50/60Hz;150mA
	Output: 5.0Vcc,1000mA(5.00Wh)
	Battery:
	Model: M2250A
	Spec: 3.7V,2250mAh(8.33Wh)
	Charge limited voltage: 4.2V
Trade Name :	M4
GPRS/EGPRS Multi-slot class	8/10/12

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FCC ID:

CLNSS4450

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

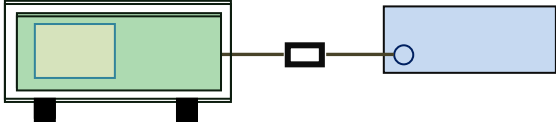
The EUT is a portable device, thus requires SAR evaluation;
Please refer to RF Exposure Evaluation Report: 16070559-FCC-H.

6.2 RF Output Power

Temperature	23°C
Relative Humidity	55%
Atmospheric Pressure	1022mbar
Test date :	June 22, 2016
Tested By :	Loren Luo

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.
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	- 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 = $43 + 10 \log_{10} (\text{power out in Watts})$.
Remark	
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Conducted Power

LTE Band 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	22.79	22.3±1
				1	49	0	22.77	22.3±1
				1	99	0	22.80	22.3±1
				50	0	1	21.86	22.3±1
				50	24	1	21.84	22.3±1
				50	49	1	21.82	22.3±1
			16QAM	100	0	1	21.50	22.3±1
				1	0	1	22.26	21.3±1
				1	49	1	22.22	21.3±1
				1	99	1	22.21	21.3±1
				50	0	2	21.73	21.3±1
				50	24	2	21.71	21.3±1
				50	49	2	21.69	21.3±1
				100	0	2	20.82	21.3±1
	18900	1880.0	QPSK	1	0	0	22.95	22.5±1
				1	49	0	22.93	22.5±1
				1	99	0	22.94	22.5±1
				50	0	1	21.82	22.5±1
				50	24	1	21.84	22.5±1
				50	49	1	21.83	22.5±1
			16QAM	100	0	1	21.79	22.5±1
				1	0	1	21.87	21.3±1
				1	49	1	21.85	21.3±1
				1	99	1	21.86	21.3±1
				50	0	2	21.12	21.3±1
				50	24	2	21.09	21.3±1
				50	49	2	21.10	21.3±1
				100	0	2	20.72	21.3±1
	19100	1900.0	QPSK	1	0	0	22.60	22.5±1
				1	49	0	22.59	22.5±1
				1	99	0	22.62	22.5±1
				50	0	1	21.70	22.5±1
				50	24	1	21.69	22.5±1
				50	49	1	21.71	22.5±1
			16QAM	100	0	1	21.68	22.5±1
				1	0	1	21.90	21.3±1
				1	49	1	21.89	21.3±1
				1	99	1	21.93	21.3±1
				50	0	2	21.04	21.3±1
				50	24	2	20.99	21.3±1
				50	49	2	21.02	21.3±1
				100	0	2	20.62	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	22.61	22.5 ± 1
				1	37	0	22.58	22.5 ± 1
				1	74	0	22.62	22.5 ± 1
				36	0	1	21.74	22.5 ± 1
				36	16	1	21.73	22.5 ± 1
				36	35	1	21.76	22.5 ± 1
				75	0	1	21.76	22.5 ± 1
			16QAM	1	0	1	22.20	21.3 ± 1
				1	37	1	22.18	21.3 ± 1
				1	74	1	22.23	21.3 ± 1
				36	0	2	21.54	21.3 ± 1
				36	16	2	21.49	21.3 ± 1
				36	35	2	21.52	21.3 ± 1
				75	0	2	20.76	21.3 ± 1
	18900	1880.0	QPSK	1	0	0	22.70	22.5 ± 1
				1	37	0	22.72	22.5 ± 1
				1	74	0	22.73	22.5 ± 1
				36	0	1	21.63	22.5 ± 1
				36	16	1	21.61	22.5 ± 1
				36	35	1	21.64	22.5 ± 1
				75	0	1	21.77	22.5 ± 1
			16QAM	1	0	1	21.56	21.3 ± 1
				1	37	1	21.54	21.3 ± 1
				1	74	1	21.55	21.3 ± 1
				36	0	2	20.99	21.3 ± 1
				36	16	2	21.00	21.3 ± 1
				36	35	2	20.97	21.3 ± 1
				75	0	2	20.65	21.3 ± 1
	19125	1902.5	QPSK	1	0	0	22.67	22.5 ± 1
				1	37	0	22.65	22.5 ± 1
				1	74	0	22.64	22.5 ± 1
				36	0	1	21.64	22.5 ± 1
				36	16	1	21.63	22.5 ± 1
				36	35	1	21.65	22.5 ± 1
				75	0	1	21.70	22.5 ± 1
			16QAM	1	0	1	21.47	21.3 ± 1
				1	37	1	21.45	21.3 ± 1
				1	74	1	21.46	21.3 ± 1
				36	0	2	21.02	21.3 ± 1
				36	16	2	21.04	21.3 ± 1
				36	35	2	21.05	21.3 ± 1
				75	0	2	20.64	21.3 ± 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	23.21	23±1
				1	24	0	23.20	23±1
				1	49	0	23.22	23±1
				25	0	1	22.20	23±1
				25	12	1	22.21	23±1
				25	24	1	22.18	23±1
				50	0	1	22.18	23±1
			16QAM	1	0	1	22.28	22±1
				1	24	1	22.24	22±1
				1	49	1	22.26	22±1
				25	0	2	21.85	22±1
				25	12	2	21.88	22±1
				25	24	2	21.89	22±1
				50	0	2	21.34	22±1
	18900	1880.0	QPSK	1	0	0	23.15	22.5±1
				1	24	0	23.12	22.5±1
				1	49	0	23.14	22.5±1
				25	0	1	22.15	22.5±1
				25	12	1	22.14	22.5±1
				25	24	1	22.12	22.5±1
				50	0	1	22.07	22.5±1
			16QAM	1	0	1	22.20	22±1
				1	24	1	22.23	22±1
				1	49	1	22.21	22±1
				25	0	2	21.82	22±1
				25	12	2	21.85	22±1
				25	24	2	21.84	22±1
				50	0	2	21.06	22±1
	19150	1905	QPSK	1	0	0	23.09	22.5±1
				1	24	0	23.07	22.5±1
				1	49	0	23.06	22.5±1
				25	0	1	21.95	22.5±1
				25	12	1	21.93	22.5±1
				25	24	1	21.96	22.5±1
				50	0	1	21.90	22.5±1
			16QAM	1	0	1	21.91	21.3±1
				1	24	1	21.89	21.3±1
				1	49	1	21.92	21.3±1
				25	0	2	21.42	21.3±1
				25	12	2	21.45	21.3±1
				25	24	2	21.44	21.3±1
				50	0	2	20.95	21.3±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	23.37	23±1
				1	12	0	23.34	23±1
				1	24	0	23.36	23±1
				12	0	1	22.24	23±1
				12	6	1	22.22	23±1
				12	11	1	22.19	23±1
				25	0	1	22.20	23±1
			16QAM	1	0	1	22.13	22±1
				1	12	1	22.14	22±1
				1	24	1	22.10	22±1
				12	0	2	21.86	22±1
				12	6	2	21.83	22±1
				12	11	2	21.85	22±1
				25	0	2	21.23	22±1
	18900	1880.0	QPSK	1	0	0	23.17	22.3±1
				1	12	0	23.16	22.3±1
				1	24	0	23.18	22.3±1
				12	0	1	22.16	22.3±1
				12	6	1	22.14	22.3±1
				12	11	1	22.12	22.3±1
				25	0	1	22.05	22.3±1
			16QAM	1	0	1	21.99	21.3±1
				1	12	1	21.97	21.3±1
				1	24	1	22.00	21.3±1
				12	0	2	21.56	21.3±1
				12	6	2	21.55	21.3±1
				12	11	2	21.53	21.3±1
				25	0	2	21.03	21.3±1
	19175	1907.5	QPSK	1	0	0	22.89	22±1
				1	12	0	22.88	22±1
				1	24	0	22.85	22±1
				12	0	1	22.02	22±1
				12	6	1	22.05	22±1
				12	11	1	22.04	22±1
				25	0	1	21.98	22±1
			16QAM	1	0	1	21.90	21.3±1
				1	12	1	21.91	21.3±1
				1	24	1	21.93	21.3±1
				12	0	2	21.63	21.3±1
				12	6	2	21.65	21.3±1
				12	11	2	21.64	21.3±1
				25	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
3MHz	18625	1852.5	QPSK	1	0	0	23.18	22.3±1
				1	7	0	23.17	22.3±1
				1	14	0	23.20	22.3±1
				8	0	1	23.15	22.3±1
				8	4	1	23.12	22.3±1
				8	7	1	23.13	22.3±1
				15	0	1	22.18	22.3±1
			16QAM	1	0	1	22.00	22±1
				1	7	1	21.99	22±1
				1	14	1	22.01	22±1
				8	0	2	21.11	22±1
				8	4	2	21.13	22±1
				8	7	2	21.15	22±1
				15	0	2	21.19	22±1
	18900	1880.0	QPSK	1	0	0	22.98	22.5±1
				1	7	0	22.94	22.5±1
				1	14	0	22.96	22.5±1
				8	0	1	22.03	22.5±1
				8	4	1	22.02	22.5±1
				8	7	1	22.01	22.5±1
				15	0	1	22.06	22.5±1
			16QAM	1	0	1	21.78	21.3±1
				1	7	1	21.76	21.3±1
				1	14	1	21.77	21.3±1
				8	0	2	20.93	21.3±1
				8	4	2	20.92	21.3±1
				8	7	2	20.90	21.3±1
				15	0	2	21.07	21.3±1
	19175	1907.5	QPSK	1	0	0	22.85	22.5±1
				1	7	0	22.87	22.5±1
				1	14	0	22.81	22.5±1
				8	0	1	21.98	22.5±1
				8	4	1	21.99	22.5±1
				8	7	1	21.96	22.5±1
				15	0	1	21.99	22.5±1
			16QAM	1	0	1	21.95	21.3±1
				1	7	1	21.96	21.3±1
				1	14	1	21.93	21.3±1
				8	0	2	20.83	21.3±1
				8	4	2	20.85	21.3±1
				8	7	2	20.82	21.3±1
				15	0	2	20.95	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	22.63	22±1
				1	2	0	22.62	22±1
				1	5	0	22.65	22±1
				3	0	0	22.73	22±1
				3	1	0	22.72	22±1
				3	2	0	22.71	22±1
				6	0	1	21.13	22±1
			16QAM	1	0	1	21.71	21.3±1
				1	2	1	21.70	21.3±1
				1	5	1	21.74	21.3±1
				3	0	1	21.05	21.3±1
				3	1	1	21.07	21.3±1
				3	2	1	21.04	21.3±1
				6	0	2	20.45	21.3±1
	18900	1880.0	QPSK	1	0	0	22.61	22±1
				1	2	0	22.59	22±1
				1	5	0	22.63	22±1
				3	0	0	22.61	22±1
				3	1	0	22.62	22±1
				3	2	0	22.58	22±1
				6	0	1	21.43	22±1
			16QAM	1	0	1	21.68	21.3±1
				1	2	1	21.65	21.3±1
				1	5	1	21.69	21.3±1
				3	0	1	21.34	21.3±1
				3	1	1	21.37	21.3±1
				3	2	1	21.35	21.3±1
				6	0	2	20.46	21.3±1
	19193	1909.3	QPSK	1	0	0	23.01	22.3±1
				1	2	0	23.03	22.3±1
				1	5	0	22.99	22.3±1
				3	0	0	22.97	22.3±1
				3	1	0	22.96	22.3±1
				3	2	0	22.94	22.3±1
				6	0	1	22.02	22.3±1
			16QAM	1	0	1	22.05	21.3±1
				1	2	1	22.04	21.3±1
				1	5	1	22.01	21.3±1
				3	0	1	21.98	21.3±1
				3	1	1	21.94	21.3±1
				3	2	1	21.93	21.3±1
				6	0	2	20.82	21.3±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	22.64	22±1
				1	49	0	22.63	22±1
				1	99	0	22.60	22±1
				50	0	1	21.85	22±1
				50	24	1	21.87	22±1
				50	49	1	21.84	22±1
				100	0	1	21.75	22±1
			16QAM	1	0	1	21.97	21.3±1
				1	49	1	21.99	21.3±1
				1	99	1	22.00	21.3±1
				50	0	2	21.45	21.3±1
				50	24	2	21.46	21.3±1
				50	49	2	21.41	21.3±1
				100	0	2	20.81	21.3±1
	20175	1732.5	QPSK	1	0	0	22.96	22±1
				1	49	0	22.97	22±1
				1	99	0	22.95	22±1
				50	0	1	21.95	22±1
				50	24	1	21.94	22±1
				50	49	1	21.93	22±1
				100	0	1	21.93	22±1
			16QAM	1	0	1	21.90	21.3±1
				1	49	1	21.89	21.3±1
				1	99	1	21.93	21.3±1
				50	0	2	21.59	21.3±1
				50	24	2	21.60	21.3±1
				50	49	2	21.62	21.3±1
				100	0	2	20.86	21.3±1
	20300	1745.0	QPSK	1	0	0	22.90	22.5±1
				1	49	0	22.91	22.5±1
				1	99	0	22.92	22.5±1
				50	0	1	21.92	22.5±1
				50	24	1	21.93	22.5±1
				50	49	1	21.90	22.5±1
				100	0	1	21.91	22.5±1
			16QAM	1	0	1	22.31	21.3±1
				1	49	1	22.29	21.3±1
				1	99	1	22.30	21.3±1
				50	0	2	21.55	21.3±1
				50	24	2	21.56	21.3±1
				50	49	2	21.51	21.3±1
				100	0	2	20.84	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	22.64	22 ± 1
				1	37	0	22.63	22 ± 1
				1	74	0	22.61	22 ± 1
				36	0	1	21.85	22 ± 1
				36	16	1	21.84	22 ± 1
				36	35	1	21.83	22 ± 1
				75	0	1	21.86	22 ± 1
			16QAM	1	0	1	22.21	21.3 ± 1
				1	37	1	22.19	21.3 ± 1
				1	74	1	22.18	21.3 ± 1
				36	0	2	21.53	21.3 ± 1
				36	16	2	21.59	21.3 ± 1
				36	35	2	21.58	21.3 ± 1
				75	0	2	20.81	21.3 ± 1
	20175	1732.5	QPSK	1	0	0	22.96	22.3 ± 1
				1	37	0	22.94	22.3 ± 1
				1	74	0	22.95	22.3 ± 1
				36	0	1	21.97	22.3 ± 1
				36	16	1	21.99	22.3 ± 1
				36	35	1	22.00	22.3 ± 1
				75	0	1	21.97	22.3 ± 1
			16QAM	1	0	1	21.77	21.3 ± 1
				1	37	1	21.76	21.3 ± 1
				1	74	1	21.75	21.3 ± 1
				36	0	2	21.35	21.3 ± 1
				36	16	2	21.36	21.3 ± 1
				36	35	2	21.37	21.3 ± 1
				75	0	2	20.90	21.3 ± 1
	20325	1747.5	QPSK	1	0	0	22.67	22 ± 1
				1	37	0	22.65	22 ± 1
				1	74	0	22.64	22 ± 1
				36	0	1	21.61	22 ± 1
				36	16	1	21.59	22 ± 1
				36	35	1	21.58	22 ± 1
				75	0	1	21.65	22 ± 1
			16QAM	1	0	1	22.09	21.3 ± 1
				1	37	1	22.07	21.3 ± 1
				1	74	1	22.10	21.3 ± 1
				36	0	2	21.56	21.3 ± 1
				36	16	2	21.54	21.3 ± 1
				36	35	2	21.59	21.3 ± 1
				75	0	2	20.73	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	22.63	22±1
				1	24	0	22.62	22±1
				1	49	0	22.64	22±1
				25	0	1	21.75	22±1
				25	12	1	21.73	22±1
				25	24	1	21.77	22±1
				50	0	1	21.81	22±1
			16QAM	1	0	1	22.17	21.3±1
				1	24	1	22.16	21.3±1
				1	49	1	22.19	21.3±1
				25	0	2	21.53	21.3±1
				25	12	2	21.52	21.3±1
				25	24	2	21.54	21.3±1
				50	0	2	20.77	21.3±1
	20175	1732.5	QPSK	1	0	0	22.95	22.3±1
				1	24	0	22.94	22.3±1
				1	49	0	22.96	22.3±1
				25	0	1	21.92	22.3±1
				25	12	1	21.91	22.3±1
				25	24	1	21.89	22.3±1
				50	0	1	21.81	22.3±1
			16QAM	1	0	1	22.17	21.3±1
				1	24	1	22.16	21.3±1
				1	49	1	22.18	21.3±1
				25	0	2	21.65	21.3±1
				25	12	2	21.64	21.3±1
				25	24	2	21.63	21.3±1
				50	0	2	20.77	21.3±1
	20350	1750.0	QPSK	1	0	0	22.33	22±1
				1	24	0	22.31	22±1
				1	49	0	22.34	22±1
				25	0	1	21.57	22±1
				25	12	1	21.58	22±1
				25	24	1	21.59	22±1
				50	0	1	21.66	22±1
			16QAM	1	0	1	21.47	21.3±1
				1	24	1	21.49	21.3±1
				1	49	1	21.45	21.3±1
				25	0	2	21.03	21.3±1
				25	12	2	21.04	21.3±1
				25	24	2	21.01	21.3±1
				50	0	2	20.79	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	22.67	22±1
				1	12	0	22.64	22±1
				1	24	0	22.63	22±1
				12	0	1	21.72	22±1
				12	6	1	21.74	22±1
				12	11	1	21.73	22±1
				25	0	1	21.68	22±1
			16QAM	1	0	1	21.60	21.3±1
				1	12	1	21.58	21.3±1
				1	24	1	21.61	21.3±1
				12	0	2	21.23	21.3±1
				12	6	2	21.24	21.3±1
				12	11	2	21.27	21.3±1
				25	0	2	20.72	21.3±1
	20175	1732.5	QPSK	1	0	0	22.92	22±1
				1	12	0	22.91	22±1
				1	24	0	22.93	22±1
				12	0	1	21.94	22±1
				12	6	1	21.92	22±1
				12	11	1	21.89	22±1
				25	0	1	21.86	22±1
			16QAM	1	0	1	21.82	21.3±1
				1	12	1	21.81	21.3±1
				1	24	1	21.79	21.3±1
				12	0	2	21.44	21.3±1
				12	6	2	21.43	21.3±1
				12	11	2	21.42	21.3±1
				25	0	2	20.91	21.3±1
	20350	1750.0	QPSK	1	0	0	22.94	22±1
				1	12	0	22.91	22±1
				1	24	0	22.92	22±1
				12	0	1	21.89	22±1
				12	6	1	21.87	22±1
				12	11	1	21.85	22±1
				25	0	1	21.76	22±1
			16QAM	1	0	1	21.90	21.3±1
				1	12	1	21.91	21.3±1
				1	24	1	21.93	21.3±1
				12	0	2	21.33	21.3±1
				12	6	2	21.34	21.3±1
				12	11	2	21.37	21.3±1
				25	0	2	20.70	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	22.45	22±1
				1	7	0	22.41	22±1
				1	14	0	22.42	22±1
				8	0	1	21.63	22±1
				8	4	1	21.64	22±1
				8	7	1	21.65	22±1
				15	0	1	21.70	22±1
			16QAM	1	0	1	22.02	21.3±1
				1	7	1	22.01	21.3±1
				1	14	1	22.04	21.3±1
				8	0	2	20.54	21.3±1
				8	4	2	20.53	21.3±1
				8	7	2	20.55	21.3±1
				15	0	2	20.74	21.3±1
	20175	1732.5	QPSK	1	0	0	22.89	22.3±1
				1	7	0	22.87	22.3±1
				1	14	0	22.86	22.3±1
				8	0	1	21.82	22.3±1
				8	4	1	21.81	22.3±1
				8	7	1	21.79	22.3±1
				15	0	1	21.87	22.3±1
			16QAM	1	0	1	21.69	21.3±1
				1	7	1	21.68	21.3±1
				1	14	1	21.67	21.3±1
				8	0	2	20.72	21.3±1
				8	4	2	20.71	21.3±1
				8	7	2	20.69	21.3±1
				15	0	2	20.75	21.3±1
	20385	1753.5	QPSK	1	0	0	22.75	22±1
				1	7	0	22.74	22±1
				1	14	0	22.73	22±1
				8	0	1	21.72	22±1
				8	4	1	21.71	22±1
				8	7	1	21.73	22±1
				15	0	1	21.76	22±1
			16QAM	1	0	1	21.78	21.3±1
				1	7	1	21.77	21.3±1
				1	14	1	21.76	21.3±1
				8	0	2	20.52	21.3±1
				8	4	2	20.53	21.3±1
				8	7	2	20.54	21.3±1
				15	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
1.4MHz	19957	1710.7	QPSK	1	0	0	22.60	22±1
				1	2	0	22.64	22±1
				1	5	0	22.63	22±1
				3	0	0	22.74	22±1
				3	1	0	22.71	22±1
				3	2	0	22.73	22±1
				6	0	1	21.70	22±1
			16QAM	1	0	1	21.31	21.3±1
				1	2	1	21.30	21.3±1
				1	5	1	21.29	21.3±1
				3	0	1	21.24	21.3±1
				3	1	1	21.27	21.3±1
				3	2	1	21.23	21.3±1
				6	0	2	20.55	21.3±1
	20175	1732.5	QPSK	1	0	0	22.91	22±1
				1	2	0	22.90	22±1
				1	5	0	22.93	22±1
				3	0	0	22.95	22±1
				3	1	0	22.96	22±1
				3	2	0	22.97	22±1
				6	0	1	21.90	22±1
			16QAM	1	0	1	21.74	21.3±1
				1	2	1	21.71	21.3±1
				1	5	1	21.70	21.3±1
				3	0	1	21.58	21.3±1
				3	1	1	21.55	21.3±1
				3	2	1	21.57	21.3±1
				6	0	2	20.80	21.3±1
	20393	1754.3	QPSK	1	0	0	22.77	22±1
				1	2	0	22.79	22±1
				1	5	0	22.78	22±1
				3	0	0	22.78	22±1
				3	1	0	22.74	22±1
				3	2	0	22.75	22±1
				6	0	1	21.73	22±1
			16QAM	1	0	1	21.73	21.3±1
				1	2	1	21.72	21.3±1
				1	5	1	21.75	21.3±1
				3	0	1	21.45	21.3±1
				3	1	1	21.43	21.3±1
				3	2	1	21.46	21.3±1
				6	0	2	20.56	21.3±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	21.38	21.3±1
				1	49	0	21.39	21.3±1
				1	99	0	21.40	21.3±1
				50	0	1	20.55	21.3±1
				50	24	1	20.57	21.3±1
				50	49	1	20.52	21.3±1
				100	0	1	20.68	21.3±1
			16QAM	1	0	1	21.04	21.3±1
				1	49	1	21.06	21.3±1
				1	99	1	21.07	21.3±1
				50	0	2	20.82	21.3±1
				50	24	2	20.85	21.3±1
				50	49	2	20.83	21.3±1
				100	0	2	20.33	21.3±1
	21100	2535	QPSK	1	0	0	21.76	21.3±1
				1	49	0	21.77	21.3±1
				1	99	0	21.80	21.3±1
				50	0	1	20.65	21.3±1
				50	24	1	20.67	21.3±1
				50	49	1	20.68	21.3±1
				100	0	1	20.66	21.3±1
			16QAM	1	0	1	20.66	21.3±1
				1	49	1	20.64	21.3±1
				1	99	1	20.67	21.3±1
				50	0	2	20.43	21.3±1
				50	24	2	20.42	21.3±1
				50	49	2	20.46	21.3±1
				100	0	2	20.40	21.3±1
	21350	2560	QPSK	1	0	0	21.53	21.3±1
				1	49	0	21.54	21.3±1
				1	99	0	21.57	21.3±1
				50	0	1	20.66	21.3±1
				50	24	1	20.67	21.3±1
				50	49	1	20.70	21.3±1
				100	0	1	20.68	21.3±1
			16QAM	1	0	1	20.91	21.3±1
				1	49	1	20.95	21.3±1
				1	99	1	20.97	21.3±1
				50	0	2	20.56	21.3±1
				50	24	2	20.54	21.3±1
				50	49	2	20.58	21.3±1
				100	0	2	20.63	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	21.54	21.3±1
				1	37	0	21.53	21.3±1
				1	74	0	21.56	21.3±1
				36	0	1	20.51	21.3±1
				36	16	1	20.57	21.3±1
				36	35	1	20.56	21.3±1
				75	0	1	20.67	21.3±1
			16QAM	1	0	1	20.91	21.3±1
				1	37	1	20.96	21.3±1
				1	74	1	20.97	21.3±1
				36	0	2	20.77	21.3±1
				36	16	2	20.73	21.3±1
				36	35	2	20.75	21.3±1
				75	0	2	20.35	21.3±1
	21100	1732.5	QPSK	1	0	0	21.73	21.3±1
				1	37	0	21.76	21.3±1
				1	74	0	21.71	21.3±1
				36	0	1	20.70	21.3±1
				36	16	1	20.73	21.3±1
				36	35	1	20.74	21.3±1
				75	0	1	20.64	21.3±1
			16QAM	1	0	1	20.56	21.3±1
				1	37	1	20.58	21.3±1
				1	74	1	20.59	21.3±1
				36	0	2	20.42	21.3±1
				36	16	2	20.43	21.3±1
				36	35	2	20.49	21.3±1
				75	0	2	20.34	21.3±1
	21375	1747.5	QPSK	1	0	0	21.68	21.3±1
				1	37	0	21.67	21.3±1
				1	74	0	21.62	21.3±1
				36	0	1	20.79	21.3±1
				36	16	1	20.80	21.3±1
				36	35	1	20.82	21.3±1
				75	0	1	20.72	21.3±1
			16QAM	1	0	1	21.02	21.3±1
				1	37	1	21.04	21.3±1
				1	74	1	20.99	21.3±1
				36	0	2	20.69	21.3±1
				36	16	2	20.67	21.3±1
				36	35	2	20.70	21.3±1
				75	0	2	20.46	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	21.18	21.3±1
				1	24	0	21.16	21.3±1
				1	49	0	21.17	21.3±1
				25	0	1	20.47	21.3±1
				25	12	1	20.46	21.3±1
				25	24	1	20.50	21.3±1
				50	0	1	20.64	21.3±1
			16QAM	1	0	1	20.69	21.3±1
				1	24	1	20.65	21.3±1
				1	49	1	20.68	21.3±1
				25	0	2	20.56	21.3±1
				25	12	2	20.57	21.3±1
				25	24	2	20.55	21.3±1
				50	0	2	20.34	21.3±1
	21100	2535	QPSK	1	0	0	21.68	21.3±1
				1	24	0	21.67	21.3±1
				1	49	0	21.66	21.3±1
				25	0	1	20.68	21.3±1
				25	12	1	20.66	21.3±1
				25	24	1	20.69	21.3±1
				50	0	1	20.67	21.3±1
			16QAM	1	0	1	20.51	21.3±1
				1	24	1	20.53	21.3±1
				1	49	1	20.57	21.3±1
				25	0	2	20.41	21.3±1
				25	12	2	20.43	21.3±1
				25	24	2	20.46	21.3±1
				50	0	2	20.33	21.3±1
	21400	2565	QPSK	1	0	0	21.85	21.3±1
				1	24	0	21.84	21.3±1
				1	49	0	21.82	21.3±1
				25	0	1	20.83	21.3±1
				25	12	1	20.81	21.3±1
				25	24	1	20.84	21.3±1
				50	0	1	20.88	21.3±1
			16QAM	1	0	1	20.67	21.3±1
				1	24	1	20.65	21.3±1
				1	49	1	20.66	21.3±1
				25	0	2	20.55	21.3±1
				25	12	2	20.54	21.3±1
				25	24	2	20.59	21.3±1
				50	0	2	20.37	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	21.62	21.3±1
				1	12	0	21.63	21.3±1
				1	24	0	21.65	21.3±1
				12	0	1	20.41	21.3±1
				12	6	1	20.43	21.3±1
				12	11	1	21.46	21.3±1
				25	0	1	20.32	21.3±1
			16QAM	1	0	1	20.60	21.3±1
				1	12	1	20.63	21.3±1
				1	24	1	20.65	21.3±1
				12	0	2	20.54	21.3±1
				12	6	2	20.52	21.3±1
				12	11	2	20.49	21.3±1
				25	0	2	20.71	21.3±1
	20175	1732.5	QPSK	1	0	0	21.67	21.3±1
				1	12	0	21.65	21.3±1
				1	24	0	21.68	21.3±1
				12	0	1	20.52	21.3±1
				12	6	1	20.53	21.3±1
				12	11	1	20.54	21.3±1
				25	0	1	20.46	21.3±1
			16QAM	1	0	1	21.01	21.3±1
				1	12	1	20.99	21.3±1
				1	24	1	21.03	21.3±1
				12	0	2	20.75	21.3±1
				12	6	2	20.71	21.3±1
				12	11	2	20.76	21.3±1
				25	0	2	20.42	21.3±1
	20375	1752.5	QPSK	1	0	0	21.94	21.3±1
				1	12	0	21.93	21.3±1
				1	24	0	21.91	21.3±1
				12	0	1	20.66	21.3±1
				12	6	1	20.67	21.3±1
				12	11	1	20.65	21.3±1
				25	0	1	20.55	21.3±1
			16QAM	1	0	1	20.88	21.3±1
				1	12	1	20.89	21.3±1
				1	24	1	20.84	21.3±1
				12	0	2	20.51	21.3±1
				12	6	2	20.52	21.3±1
				12	11	2	20.49	21.3±1
				25	0	2	20.35	21.3±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	23.45	23±1
				1	24	0	23.47	23±1
				1	49	0	23.42	23±1
				25	0	1	22.40	23±1
				25	12	1	22.39	23±1
				25	24	1	22.41	23±1
				50	0	1	22.32	23±1
			16QAM	1	0	1	22.44	22±1
				1	24	1	22.47	22±1
				1	49	1	22.48	22±1
				25	0	2	22.03	22±1
				25	12	2	22.06	22±1
				25	24	2	22.05	22±1
				50	0	2	21.36	22±1
	23790	701.0	QPSK	1	0	0	23.24	23±1
				1	24	0	23.21	23±1
				1	49	0	23.19	23±1
				25	0	1	22.35	23±1
				25	12	1	22.34	23±1
				25	24	1	22.37	23±1
				50	0	1	22.33	23±1
			16QAM	1	0	1	22.68	22±1
				1	24	1	22.67	22±1
				1	49	1	22.70	22±1
				25	0	2	22.03	22±1
				25	12	2	22.05	22±1
				25	24	2	22.02	22±1
				50	0	2	21.26	22±1
	23800	711.0	QPSK	1	0	0	23.33	23±1
				1	24	0	22.31	23±1
				1	49	0	22.34	23±1
				25	0	1	22.40	23±1
				25	12	1	22.39	23±1
				25	24	1	22.42	23±1
				50	0	1	22.36	23±1
			16QAM	1	0	1	22.31	22±1
				1	24	1	22.29	22±1
				1	49	1	22.34	22±1
				25	0	2	21.73	22±1
				25	12	2	21.75	22±1
				25	24	2	21.77	22±1
				50	0	2	21.53	22±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	23.20	23±1
				1	12	0	23.19	23±1
				1	24	0	23.21	23±1
				12	0	1	22.34	23±1
				12	6	1	22.36	23±1
				12	11	1	22.31	23±1
				25	0	1	22.35	23±1
			16QAM	1	0	1	22.85	22±1
				1	12	1	22.79	22±1
				1	24	1	22.82	22±1
				12	0	2	21.73	22±1
				12	6	2	21.74	22±1
				12	11	2	21.76	22±1
				25	0	2	21.30	22±1
	23790	710.0	QPSK	1	0	0	23.35	23±1
				1	12	0	23.36	23±1
				1	24	0	23.32	23±1
				12	0	1	22.31	23±1
				12	6	1	22.29	23±1
				12	11	1	22.34	23±1
				25	0	1	22.33	23±1
			16QAM	1	0	1	22.20	22±1
				1	12	1	22.19	22±1
				1	24	1	22.23	22±1
				12	0	2	21.76	22±1
				12	6	2	21.73	22±1
				12	11	2	21.71	22±1
				25	0	2	21.30	22±1
	23825	713.5	QPSK	1	0	0	23.31	23±1
				1	12	0	23.29	23±1
				1	24	0	23.34	23±1
				12	0	1	22.34	23±1
				12	6	1	22.31	23±1
				12	11	1	22.29	23±1
				25	0	1	22.36	23±1
			16QAM	1	0	1	22.28	22±1
				1	12	1	22.30	22±1
				1	24	1	22.26	22±1
				12	0	2	21.71	22±1
				12	6	2	21.73	22±1
				12	11	2	21.72	22±1
				25	0	2	21.43	22±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	12.08	V	7.88	0.85	19.11	33.01
1880	1.4	QPSK	1/0	12.12	V	7.88	0.85	19.15	33.01
1909.3	1.4	QPSK	1/0	12.17	V	7.88	0.85	19.20	33.01
1850.7	1.4	QPSK	1/0	11.54	H	7.88	0.85	18.57	33.01
1880	1.4	QPSK	1/0	11.62	H	7.88	0.85	18.65	33.01
1909.3	1.4	QPSK	1/0	11.75	H	7.88	0.85	18.78	33.01
1850.7	1.4	16-QAM	1/0	11.08	V	7.88	0.85	18.11	33.01
1880	1.4	16-QAM	1/0	11.15	V	7.88	0.85	18.18	33.01
1909.3	1.4	16-QAM	1/0	11.23	V	7.88	0.85	18.26	33.01
1850.7	1.4	16-QAM	1/0	10.72	H	7.88	0.85	17.75	33.01
1880	1.4	16-QAM	1/0	10.79	H	7.88	0.85	17.82	33.01
1909.3	1.4	16-QAM	1/0	10.84	H	7.88	0.85	17.87	33.01
1851.5	3	QPSK	1/0	12.47	V	7.88	0.85	19.50	33.01
1880	3	QPSK	1/0	12.38	V	7.88	0.85	19.41	33.01
1908.5	3	QPSK	1/0	12.51	V	7.88	0.85	19.54	33.01
1851.5	3	QPSK	1/0	11.77	H	7.88	0.85	18.80	33.01
1880	3	QPSK	1/0	11.82	H	7.88	0.85	18.85	33.01
1908.5	3	QPSK	1/0	11.85	H	7.88	0.85	18.88	33.01
1851.5	3	16-QAM	1/0	11.32	V	7.88	0.85	18.35	33.01
1880	3	16-QAM	1/0	11.29	V	7.88	0.85	18.32	33.01
1908.5	3	16-QAM	1/0	11.43	V	7.88	0.85	18.46	33.01
1851.5	3	16-QAM	1/0	10.89	H	7.88	0.85	17.92	33.01
1880	3	16-QAM	1/0	10.93	H	7.88	0.85	17.96	33.01
1908.5	3	16-QAM	1/0	11.02	H	7.88	0.85	18.05	33.01
1852.5	5	QPSK	1/24	12.63	V	7.88	0.85	19.66	33.01
1880	5	QPSK	1/0	12.66	V	7.88	0.85	19.69	33.01
1907.5	5	QPSK	1/24	12.7	V	7.88	0.85	19.73	33.01
1852.5	5	QPSK	1/24	11.83	H	7.88	0.85	18.86	33.01
1880	5	QPSK	1/0	11.88	H	7.88	0.85	18.91	33.01
1907.5	5	QPSK	1/24	11.94	H	7.88	0.85	18.97	33.01
1852.5	5	16-QAM	1/24	11.51	V	7.88	0.85	18.54	33.01
1880	5	16-QAM	1/0	11.56	V	7.88	0.85	18.59	33.01

1907.5	5	16-QAM	1/24	11.63	V	7.88	0.85	18.66	33.01
1852.5	5	16-QAM	1/24	10.76	H	7.88	0.85	17.79	33.01
1880	5	16-QAM	1/0	10.79	H	7.88	0.85	17.82	33.01
1907.5	5	16-QAM	1/24	10.82	H	7.88	0.85	17.85	33.01
1855	10	QPSK	1/0	12.6	V	7.88	0.85	19.63	33.01
1880	10	QPSK	1/0	12.68	V	7.88	0.85	19.71	33.01
1905	10	QPSK	1/49	12.74	V	7.88	0.85	19.77	33.01
1855	10	QPSK	1/0	11.96	H	7.88	0.85	18.99	33.01
1880	10	QPSK	1/0	12.04	H	7.88	0.85	19.07	33.01
1905	10	QPSK	1/49	12.12	H	7.88	0.85	19.15	33.01
1855	10	16-QAM	1/0	11.69	V	7.88	0.85	18.72	33.01
1880	10	16-QAM	1/0	11.73	V	7.88	0.85	18.76	33.01
1905	10	16-QAM	1/49	11.76	V	7.88	0.85	18.79	33.01
1855	10	16-QAM	1/0	11.03	H	7.88	0.85	18.06	33.01
1880	10	16-QAM	1/0	11.12	H	7.88	0.85	18.15	33.01
1905	10	16-QAM	1/49	11.2	H	7.88	0.85	18.23	33.01
1857.5	15	QPSK	1/0	12.01	V	7.88	0.85	19.04	33.01
1880	15	QPSK	1/0	12.08	V	7.88	0.85	19.11	33.01
1902.5	15	QPSK	1/0	12.13	V	7.88	0.85	19.16	33.01
1857.5	15	QPSK	1/0	11.78	H	7.88	0.85	18.81	33.01
1880	15	QPSK	1/0	11.86	H	7.88	0.85	18.89	33.01
1902.5	15	QPSK	1/0	11.91	H	7.88	0.85	18.94	33.01
1857.5	15	16-QAM	1/0	11.55	V	7.88	0.85	18.58	33.01
1880	15	16-QAM	1/0	11.61	V	7.88	0.85	18.64	33.01
1902.5	15	16-QAM	1/0	11.67	V	7.88	0.85	18.70	33.01
1857.5	15	16-QAM	1/0	10.59	H	7.88	0.85	17.62	33.01
1880	15	16-QAM	1/0	10.64	H	7.88	0.85	17.67	33.01
1902.5	15	16-QAM	1/0	10.76	H	7.88	0.85	17.79	33.01
1860	20	QPSK	1/0	12.17	V	7.88	0.85	19.20	33.01
1880	20	QPSK	1/0	12.22	V	7.88	0.85	19.25	33.01
1900	20	QPSK	1/0	12.29	V	7.88	0.85	19.32	33.01
1860	20	QPSK	1/0	11.88	H	7.88	0.85	18.91	33.01
1880	20	QPSK	1/0	11.92	H	7.88	0.85	18.95	33.01
1900	20	QPSK	1/0	12.02	H	7.88	0.85	19.05	33.01
1860	20	16-QAM	1/0	11.61	V	7.88	0.85	18.64	33.01
1880	20	16-QAM	1/0	11.67	V	7.88	0.85	18.70	33.01
1900	20	16-QAM	1/0	11.74	V	7.88	0.85	18.77	33.01
1860	20	16-QAM	1/0	10.86	H	7.88	0.85	17.89	33.01

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1880	20	16-QAM	1/0	10.89	H	7.88	0.85	17.92	33.01
1900	20	16-QAM	1/0	10.94	H	7.88	0.85	17.97	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	11.98	V	7.95	0.79	19.14	30
1732.5	1.4	QPSK	1/0	12.05	V	7.95	0.79	19.21	30
1754.3	1.4	QPSK	1/0	12.07	V	7.95	0.79	19.23	30
1710.7	1.4	QPSK	1/0	11.46	H	7.95	0.79	18.62	30
1732.5	1.4	QPSK	1/0	11.52	H	7.95	0.79	18.68	30
1754.3	1.4	QPSK	1/0	11.60	H	7.95	0.79	18.76	30
1710.7	1.4	16-QAM	1/5	10.33	V	7.95	0.79	17.49	30
1732.5	1.4	16-QAM	1/0	10.41	V	7.95	0.79	17.57	30
1754.3	1.4	16-QAM	1/0	10.56	V	7.95	0.79	17.72	30
1710.7	1.4	16-QAM	1/5	9.88	H	7.95	0.79	17.04	30
1732.5	1.4	16-QAM	1/0	9.97	H	7.95	0.79	17.13	30
1754.3	1.4	16-QAM	1/0	10.05	H	7.95	0.79	17.21	30
1711.5	3	QPSK	1/0	11.70	V	7.95	0.79	18.86	30
1732.5	3	QPSK	1/0	11.76	V	7.95	0.79	18.92	30
1753.5	3	QPSK	1/0	11.83	V	7.95	0.79	18.99	30
1711.5	3	QPSK	1/0	10.96	H	7.95	0.79	18.12	30
1732.5	3	QPSK	1/0	11.12	H	7.95	0.79	18.28	30
1753.5	3	QPSK	1/0	11.19	H	7.95	0.79	18.35	30
1711.5	3	16-QAM	1/0	11.16	V	7.95	0.79	18.32	30
1732.5	3	16-QAM	1/0	11.24	V	7.95	0.79	18.40	30
1753.5	3	16-QAM	1/0	11.30	V	7.95	0.79	18.46	30
1711.5	3	16-QAM	1/0	10.78	H	7.95	0.79	17.94	30
1732.5	3	16-QAM	1/0	10.82	H	7.95	0.79	17.98	30
1753.5	3	16-QAM	1/0	10.90	H	7.95	0.79	18.06	30
1712.5	5	QPSK	1/0	11.92	V	7.95	0.79	19.08	30
1732.5	5	QPSK	1/0	11.96	V	7.95	0.79	19.12	30
1752.5	5	QPSK	1/24	12.04	V	7.95	0.79	19.20	30
1712.5	5	QPSK	1/0	10.99	H	7.95	0.79	18.15	30
1732.5	5	QPSK	1/0	11.12	H	7.95	0.79	18.28	30
1752.5	5	QPSK	1/24	11.23	H	7.95	0.79	18.39	30
1712.5	5	16-QAM	1/0	11.32	V	7.95	0.79	18.48	30
1732.5	5	16-QAM	1/0	11.38	V	7.95	0.79	18.54	30
1752.5	5	16-QAM	1/24	11.44	V	7.95	0.79	18.60	30
1712.5	5	16-QAM	1/0	10.67	H	7.95	0.79	17.83	30
1732.5	5	16-QAM	1/0	10.71	H	7.95	0.79	17.87	30

1752.5	5	16-QAM	1/24	10.63	H	7.95	0.79	17.79	30
1715	10	QPSK	1/0	12.19	V	7.95	0.79	19.35	30
1732.5	10	QPSK	1/49	12.15	V	7.95	0.79	19.31	30
1750	10	QPSK	1/0	12.18	V	7.95	0.79	19.34	30
1715	10	QPSK	1/0	11.68	H	7.95	0.79	18.84	30
1732.5	10	QPSK	1/49	11.73	H	7.95	0.79	18.89	30
1750	10	QPSK	1/0	11.69	H	7.95	0.79	18.85	30
1715	10	16-QAM	1/0	11.85	V	7.95	0.79	19.01	30
1732.5	10	16-QAM	1/49	11.79	V	7.95	0.79	18.95	30
1750	10	16-QAM	1/0	11.82	V	7.95	0.79	18.98	30
1715	10	16-QAM	1/0	11.34	H	7.95	0.79	18.50	30
1732.5	10	16-QAM	1/49	11.28	H	7.95	0.79	18.44	30
1750	10	16-QAM	1/0	11.31	H	7.95	0.79	18.47	30
1717.5	15	QPSK	1/0	12.05	V	7.95	0.79	19.21	30
1732.5	15	QPSK	1/74	12.12	V	7.95	0.79	19.28	30
1747.5	15	QPSK	1/0	12.18	V	7.95	0.79	19.34	30
1717.5	15	QPSK	1/0	11.61	H	7.95	0.79	18.77	30
1732.5	15	QPSK	1/74	11.67	H	7.95	0.79	18.83	30
1747.5	15	QPSK	1/0	11.72	H	7.95	0.79	18.88	30
1717.5	15	16-QAM	1/0	11.68	V	7.95	0.79	18.84	30
1732.5	15	16-QAM	1/74	11.75	V	7.95	0.79	18.91	30
1747.5	15	16-QAM	1/0	11.71	V	7.95	0.79	18.87	30
1717.5	15	16-QAM	1/0	11.14	H	7.95	0.79	18.30	30
1732.5	15	16-QAM	1/74	11.17	H	7.95	0.79	18.33	30
1747.5	15	16-QAM	1/0	11.21	H	7.95	0.79	18.37	30
1720	20	QPSK	1/99	12.18	V	7.95	0.79	19.34	30
1732.5	20	QPSK	1/99	12.23	V	7.95	0.79	19.39	30
1745	20	QPSK	1/0	12.27	V	7.95	0.79	19.43	30
1720	20	QPSK	1/99	11.67	H	7.95	0.79	18.83	30
1732.5	20	QPSK	1/99	11.75	H	7.95	0.79	18.91	30
1745	20	QPSK	1/0	11.81	H	7.95	0.79	18.97	30
1720	20	16-QAM	1/99	11.53	V	7.95	0.79	18.69	30
1732.5	20	16-QAM	1/99	11.62	V	7.95	0.79	18.78	30
1745	20	16-QAM	1/0	11.59	V	7.95	0.79	18.75	30
1720	20	16-QAM	1/99	11.18	H	7.95	0.79	18.34	30
1732.5	20	16-QAM	1/99	11.23	H	7.95	0.79	18.39	30
1745	20	16-QAM	1/0	11.25	H	7.95	0.79	18.41	30

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	7.86	V	8.93	0.83	15.96	30
2535	5	QPSK	1/0	7.91	V	8.93	0.83	16.01	30
2567.5	5	QPSK	1/24	8.15	V	8.93	0.83	16.25	30
2502.5	5	QPSK	1/0	7.34	H	8.93	0.83	15.44	30
2535	5	QPSK	1/0	7.42	H	8.93	0.83	15.52	30
2567.5	5	QPSK	1/24	7.55	H	8.93	0.83	15.65	30
2502.5	5	16-QAM	1/0	6.71	V	8.93	0.83	14.81	30
2535	5	16-QAM	1/0	6.86	V	8.93	0.83	14.96	30
2567.5	5	16-QAM	1/24	6.98	V	8.93	0.83	15.08	30
2502.5	5	16-QAM	1/0	6.23	H	8.93	0.83	14.33	30
2535	5	16-QAM	1/0	6.34	H	8.93	0.83	14.44	30
2567.5	5	16-QAM	1/24	6.41	H	8.93	0.83	14.51	30
2505	10	QPSK	1/0	7.59	V	8.93	0.83	15.69	30
2535	10	QPSK	1/49	7.85	V	8.93	0.83	15.95	30
2565	10	QPSK	1/0	7.93	V	8.93	0.83	16.03	30
2505	10	QPSK	1/0	7.11	H	8.93	0.83	15.21	30
2535	10	QPSK	1/49	7.35	H	8.93	0.83	15.45	30
2565	10	QPSK	1/0	7.42	H	8.93	0.83	15.52	30
2505	10	16-QAM	1/0	6.43	V	8.93	0.83	14.53	30
2535	10	16-QAM	1/49	6.49	V	8.93	0.83	14.59	30
2565	10	16-QAM	1/0	6.56	V	8.93	0.83	14.66	30
2505	10	16-QAM	1/0	6.15	H	8.93	0.83	14.25	30
2535	10	16-QAM	1/49	6.14	H	8.93	0.83	14.24	30
2565	10	16-QAM	1/0	6.21	H	8.93	0.83	14.31	30
2507.5	15	QPSK	1/0	7.92	V	8.93	0.83	16.02	30
2535	15	QPSK	1/74	7.88	V	8.93	0.83	15.98	30
2562.5	15	QPSK	1/0	7.93	V	8.93	0.83	16.03	30
2507.5	15	QPSK	1/0	7.37	H	8.93	0.83	15.47	30
2535	15	QPSK	1/74	7.42	H	8.93	0.83	15.52	30
2562.5	15	QPSK	1/0	7.34	H	8.93	0.83	15.44	30
2507.5	15	16-QAM	1/0	7.27	V	8.93	0.83	15.37	30
2535	15	16-QAM	1/74	7.31	V	8.93	0.83	15.41	30
2562.5	15	16-QAM	1/0	7.35	V	8.93	0.83	15.45	30

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2507.5	15	16-QAM	1/0	6.69	H	8.93	0.83	14.79	30
2535	15	16-QAM	1/74	6.72	H	8.93	0.83	14.82	30
2562.5	15	16-QAM	1/0	6.76	H	8.93	0.83	14.86	30
2510	20	QPSK	1/99	7.65	V	8.93	0.83	15.75	30
2535	20	QPSK	1/99	7.73	V	8.93	0.83	15.83	30
2560	20	QPSK	1/0	7.89	V	8.93	0.83	15.99	30
2510	20	QPSK	1/99	7.22	H	8.93	0.83	15.32	30
2535	20	QPSK	1/99	7.26	H	8.93	0.83	15.36	30
2560	20	QPSK	1/0	7.31	H	8.93	0.83	15.41	30
2510	20	16-QAM	1/99	7.19	V	8.93	0.83	15.29	30
2535	20	16-QAM	1/99	7.23	V	8.93	0.83	15.33	30
2560	20	16-QAM	1/0	7.18	V	8.93	0.83	15.28	30
2510	20	16-QAM	1/99	6.56	H	8.93	0.83	14.66	30
2535	20	16-QAM	1/99	6.63	H	8.93	0.83	14.73	30
2560	20	16-QAM	1/0	6.75	H	8.93	0.83	14.85	30

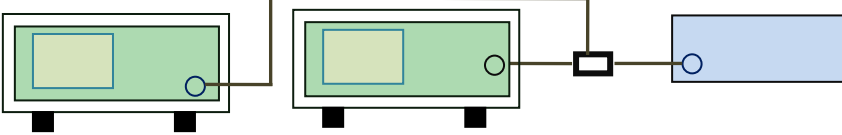
ERP for LTE Band 17 (Part 27)

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	8.64	V	6.8	0.42	15.02	34.77
710	5	QPSK	1/0	8.58	V	6.8	0.42	14.96	34.77
713.5	5	QPSK	1/0	8.61	V	6.8	0.42	14.99	34.77
706.5	5	QPSK	1/0	8.17	H	6.8	0.42	14.55	34.77
710	5	QPSK	1/0	8.13	H	6.8	0.42	14.51	34.77
713.5	5	QPSK	1/0	8.06	H	6.8	0.42	14.44	34.77
706.5	5	16-QAM	1/0	7.53	V	6.8	0.42	13.91	34.77
710	5	16-QAM	1/0	7.48	V	6.8	0.42	13.86	34.77
713.5	5	16-QAM	1/0	7.56	V	6.8	0.42	13.94	34.77
706.5	5	16-QAM	1/0	7.17	H	6.8	0.42	13.55	34.77
710	5	16-QAM	1/0	7.11	H	6.8	0.42	13.49	34.77
713.5	5	16-QAM	1/0	7.09	H	6.8	0.42	13.47	34.77
709	10	QPSK	1/0	8.25	V	6.8	0.42	14.63	34.77
710	10	QPSK	1/0	8.31	V	6.8	0.42	14.69	34.77
711	10	QPSK	1/0	8.37	V	6.8	0.42	14.75	34.77
709	10	QPSK	1/0	7.73	H	6.8	0.42	14.11	34.77
710	10	QPSK	1/0	7.78	H	6.8	0.42	14.16	34.77
711	10	QPSK	1/0	7.82	H	6.8	0.42	14.20	34.77
709	10	16-QAM	1/0	7.64	V	6.8	0.42	14.02	34.77
710	10	16-QAM	1/0	7.38	V	6.8	0.42	13.76	34.77
711	10	16-QAM	1/0	7.41	V	6.8	0.42	13.79	34.77
709	10	16-QAM	1/0	7.19	H	6.8	0.42	13.57	34.77
710	10	16-QAM	1/0	6.85	H	6.8	0.42	13.23	34.77
711	10	16-QAM	1/0	6.94	H	6.8	0.42	13.32	34.77

6.3 Peak-Average Ratio

Temperature	23°C
Relative Humidity	55%
Atmospheric Pressure	1022mbar
Test date :	June 22, 2016
Tested By :	Loren Luo

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 $\geq 98\%$) 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 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	24.67	22.61	2.06
			16QAM	24.58	21.78	2.8
3	1880	RB 1/0	QPSK	24.73	22.98	1.75
			16QAM	24.89	21.78	3.11
5	1880	RB 1/0	QPSK	25.38	23.17	2.21
			16QAM	24.76	21.99	2.77
10	1880	RB 1/0	QPSK	25.44	23.15	2.29
			16QAM	25.37	22.2	3.17
15	1880	RB 1/0	QPSK	24.61	22.7	1.91
			16QAM	24.63	21.56	3.07
20	1880	RB 1/0	QPSK	24.67	22.95	1.72
			16QAM	24.49	21.87	2.62

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	25.11	22.91	2.2
			16QAM	25.23	21.74	3.49
3	1732.5	RB 1/0	QPSK	24.83	22.89	1.94
			16QAM	24.16	21.69	2.47
5	1732.5	RB 1/0	QPSK	25.48	22.92	2.56
			16QAM	24.69	21.82	2.87
10	1732.5	RB 1/0	QPSK	25.04	22.95	2.09
			16QAM	24.47	22.17	2.3
15	1732.5	RB 1/0	QPSK	24.93	22.96	1.97
			16QAM	24.65	21.77	2.88
20	1732.5	RB 1/0	QPSK	24.32	22.96	1.36
			16QAM	25.03	21.9	3.13

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	25.21	21.67	3.54
			16QAM	24.31	21.01	3.30
10	2535	RB 1/0	QPSK	24.72	21.68	3.04
			16QAM	24.36	20.51	3.85
15	2535	RB 1/0	QPSK	23.99	21.73	2.26
			16QAM	23.84	20.56	3.28
20	2535	RB 1/0	QPSK	24.59	21.76	2.83
			16QAM	23.65	20.66	2.99

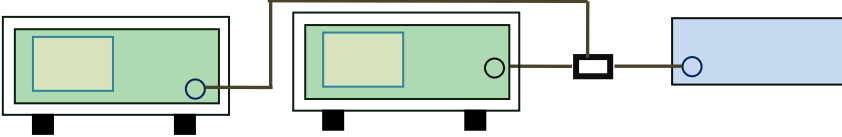
LTE Band 17 (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	710	RB 1/0	QPSK	25.63	23.24	2.39
			16QAM	25.16	22.68	2.48
10	710	RB 1/0	QPSK	25.47	23.35	2.12
			16QAM	25.06	22.20	2.86

6.4 Occupied Bandwidth

Temperature	23°C
Relative Humidity	55%
Atmospheric Pressure	1022mbar
Test date :	June 22&23&24, 2016
Tested By :	Loren Luo

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	1.1086	1.305
			QPSK	1.1174	1.351
1.4	18900	1880	16QAM	1.1055	1.287
			QPSK	1.1110	1.296
1.4	19193	1909.3	16QAM	1.1025	1.295
			QPSK	1.1092	1.325
3	18615	1851.5	16QAM	2.7591	3.065
			QPSK	2.7748	3.052
3	18900	1880	16QAM	2.7512	3.055
			QPSK	2.7602	3.067
3	19185	1908.5	16QAM	2.7596	3.063
			QPSK	2.7676	3.067
5	18625	1852.5	16QAM	4.5418	5.109
			QPSK	4.5446	5.102
5	18900	1880	16QAM	4.5298	5.068
			QPSK	4.5393	5.086
5	19175	1907.5	16QAM	4.5250	5.074
			QPSK	4.5347	5.085
10	18650	1855	16QAM	9.0932	10.08
			QPSK	9.1100	10.17
10	18900	1880	16QAM	9.0997	10.16
			QPSK	9.1092	10.21
10	19150	1905	16QAM	9.1181	10.13
			QPSK	9.1194	10.12
15	18675	1857.5	16QAM	13.526	14.94
			QPSK	13.531	14.91
15	18900	1880	16QAM	13.536	15.06
			QPSK	13.540	15.10
15	19125	1902.5	16QAM	13.522	14.92
			QPSK	13.545	15.03

20	18700	1860	16QAM	17.897	19.36
			QPSK	17.887	19.30
20	18900	1880	16QAM	17.961	19.60
			QPSK	18.005	19.49
20	19100	1900	16QAM	17.956	19.47
			QPSK	17.985	19.40

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	1.0952	1.266
			QPSK	1.1037	1.256
1.4	20175	1732.5	16QAM	1.0975	1.276
			QPSK	1.0921	1.258
1.4	20393	1754.3	16QAM	1.0940	1.247
			QPSK	1.0959	1.269
3	19965	1711.5	16QAM	2.7307	3.024
			QPSK	2.7450	3.014
3	20175	1732.5	16QAM	2.7414	3.018
			QPSK	2.7399	3.013
3	20385	1753.5	16QAM	2.7369	3.021
			QPSK	2.7418	3.008
5	19975	1712.5	16QAM	4.5270	5.023
			QPSK	4.5167	5.027
5	20175	1732.5	16QAM	4.5189	5.038
			QPSK	4.5244	5.030
5	20375	1752.5	16QAM	4.5200	5.010
			QPSK	4.5299	5.020
10	20000	1715	16QAM	9.1136	9.953
			QPSK	9.1094	9.976
10	20175	1732.5	16QAM	9.1178	9.910
			QPSK	9.1083	9.925
10	20350	1750	16QAM	9.0955	9.891
			QPSK	9.1134	9.967
15	20025	1717.5	16QAM	13.545	14.56
			QPSK	13.546	14.44
15	20175	1732.5	16QAM	13.534	14.63
			QPSK	13.537	14.73
15	20325	1747.5	16QAM	13.538	14.62
			QPSK	13.513	14.65

20	20050	1720	16QAM	17.962	19.24
			QPSK	17.970	19.16
20	20175	1732.5	16QAM	17.995	19.21
			QPSK	17.975	19.11
20	20300	1745	16QAM	17.958	19.21
			QPSK	17.977	19.34

LTE Band 7 (Part 27) result

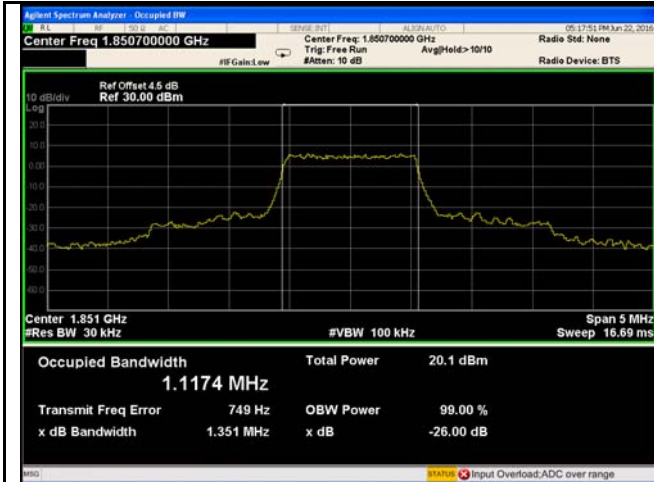
BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	20775	2502.5	16QAM	4.5230	5.001
			QPSK	4.5246	5.058
5	21100	2535	16QAM	4.5189	5.007
			QPSK	4.5206	4.993
5	21425	2567.5	16QAM	4.5131	5.037
			QPSK	4.5241	5.025
10	20800	2505	16QAM	9.1237	10.00
			QPSK	9.1294	10.02
10	21100	2535	16QAM	9.1187	9.930
			QPSK	9.1206	9.993
10	21400	2562.5	16QAM	9.1107	9.903
			QPSK	9.0982	9.919
15	20825	2507.5	16QAM	13.570	14.59
			QPSK	13.574	14.66
15	21100	2535	16QAM	13.542	14.58
			QPSK	13.554	14.67
15	21400	2562.5	16QAM	13.543	14.59
			QPSK	13.508	14.55
20	20850	2510	16QAM	18.000	19.23
			QPSK	18.025	19.38
20	21100	2535	16QAM	18.011	19.18
			QPSK	17.990	19.17
20	21350	2560	16QAM	17.944	19.17
			QPSK	17.922	19.18

LTE Band 17 (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	23755	706.5	16QAM	4.5048	5.037
			QPSK	4.4964	5.015
5	23790	710	16QAM	4.5133	5.024
			QPSK	4.5199	4.995
5	23825	713.5	16QAM	4.5334	5.035
			QPSK	4.5312	5.036
10	23780	709	16QAM	9.0692	10.01
			QPSK	9.0668	10.07
10	23790	710	16QAM	9.0501	9.996
			QPSK	9.0828	10.10
10	23800	711	16QAM	9.0308	10.08
			QPSK	9.0222	10.05

Test Plots

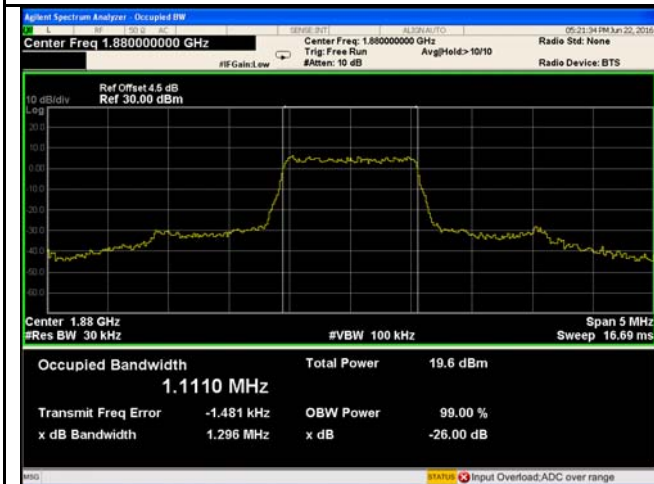
LTE Band 2 (Part 24E)



LTE band 2 - Low CH QPSK-1.4



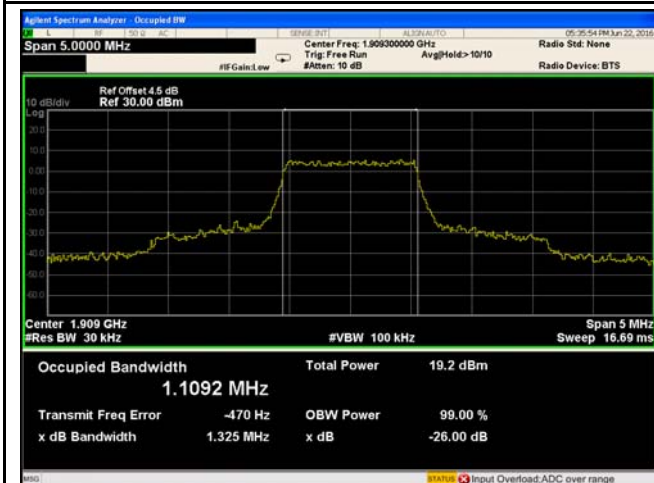
LTE band 2 - Low CH 16QAM-1.4



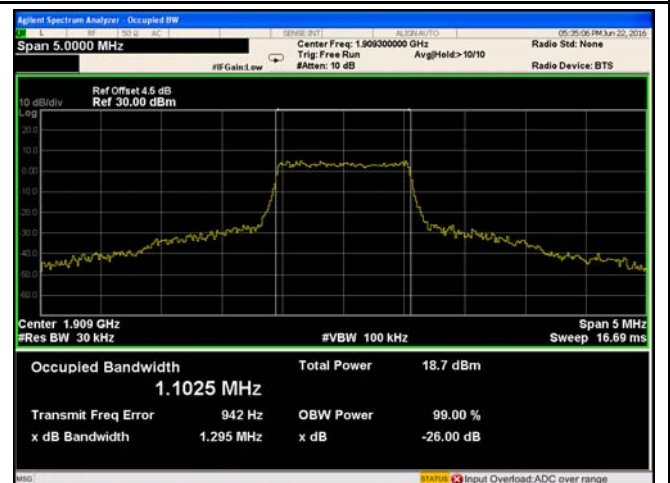
LTE band 2 - Middle CH QPSK-1.4



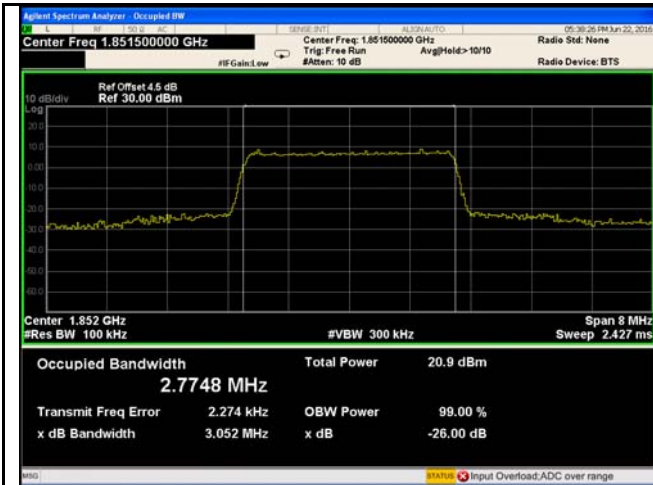
LTE band 2 - Middle CH 16QAM-1.4



LTE band 2 - High CH QPSK-1.4



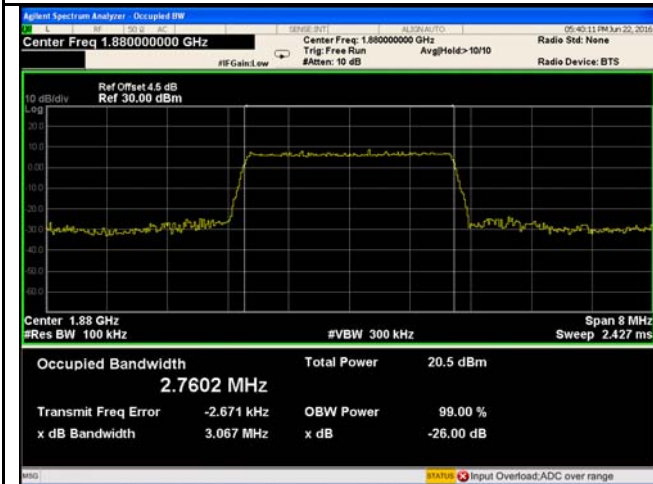
LTE band 2 - High CH 16QAM-1.4



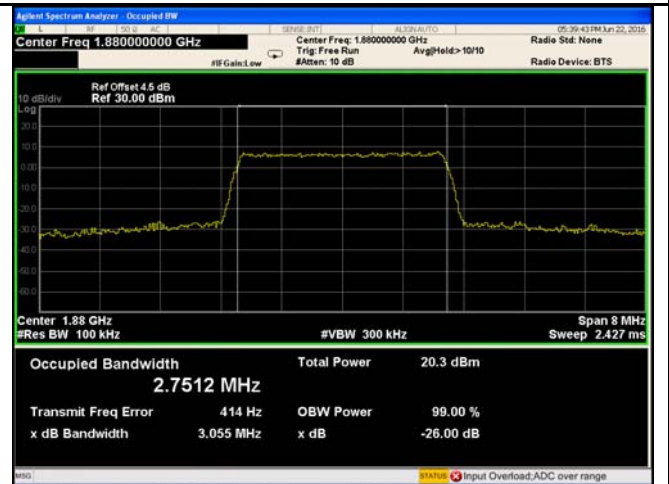
LTE band 2 - Low CH QPSK-3



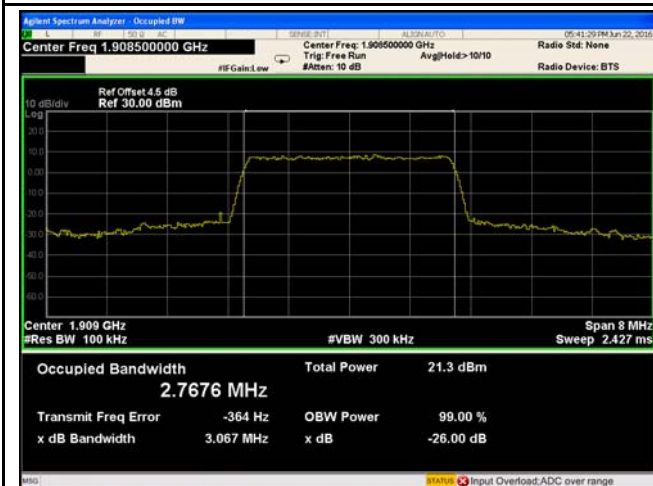
LTE band 2 - Low CH 16QAM-3



LTE band 2 - Middle CH QPSK-3



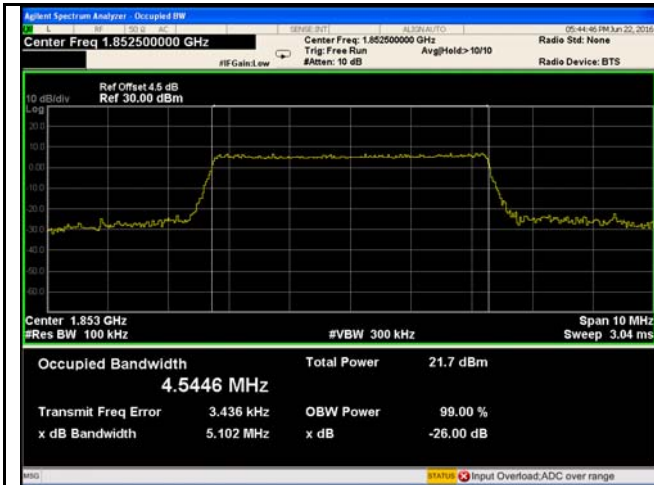
LTE band 2 - Middle CH 16QAM-3



LTE band 2 - High CH QPSK-3



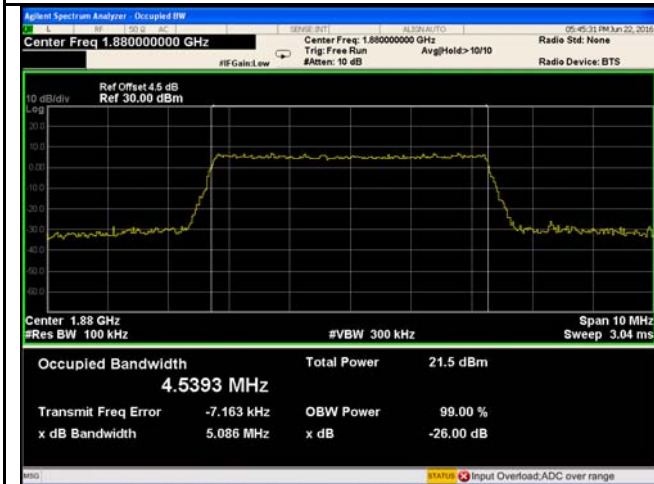
LTE band 2 - High CH 16QAM-3



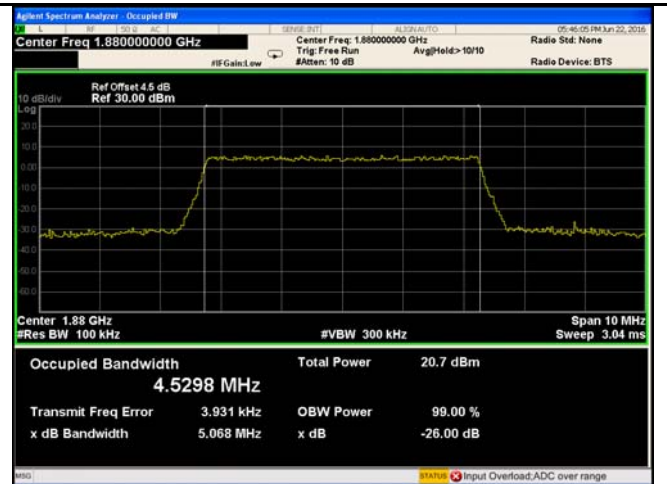
LTE band 2 - Low CH QPSK-5



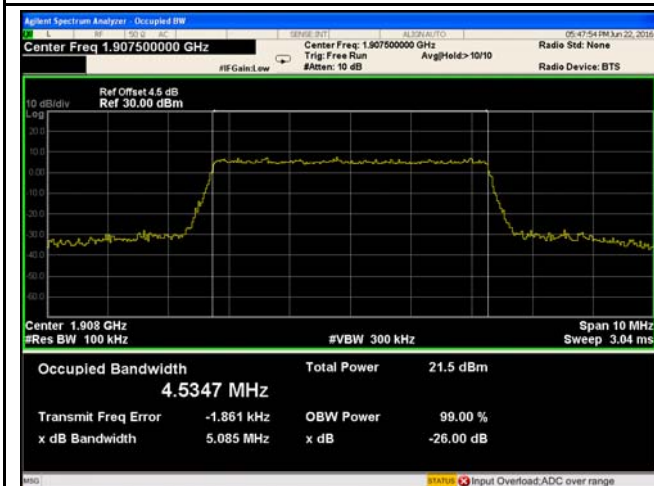
LTE band 2 - Low CH 16QAM-5



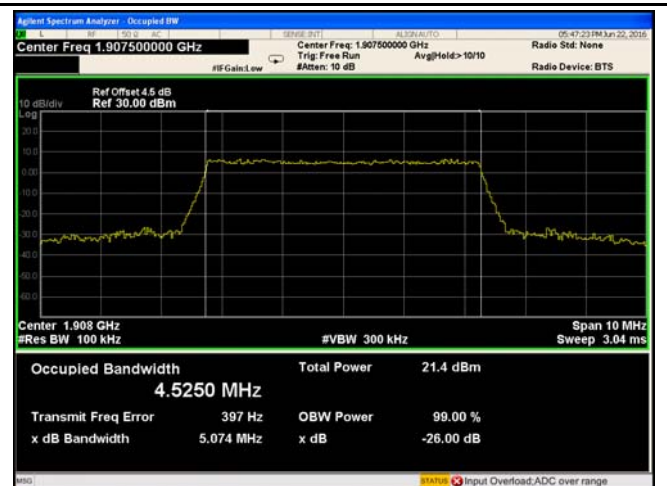
LTE band 2 - Middle CH QPSK-5



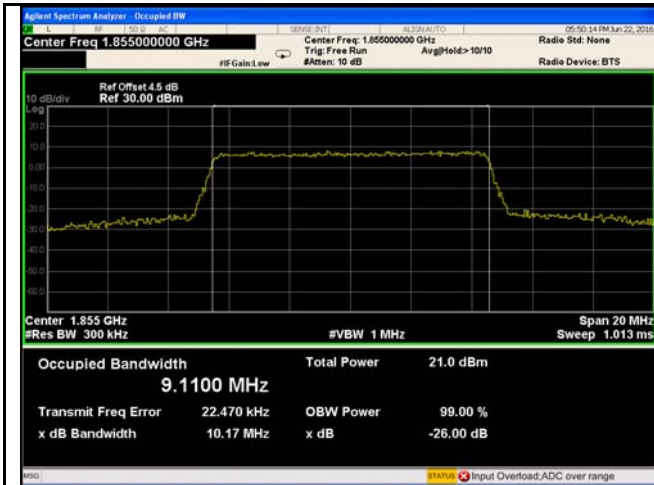
LTE band 2 - Middle CH 16QAM-5



LTE band 2 - High CH QPSK-5



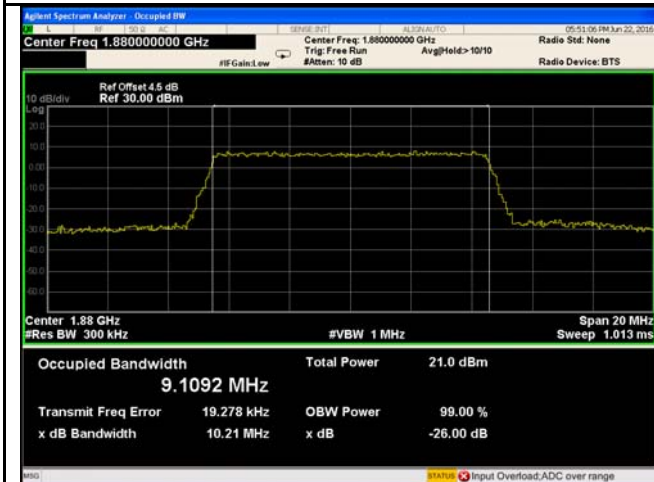
LTE band 2 - High CH 16QAM-5



LTE band 2 - Low CH QPSK-10



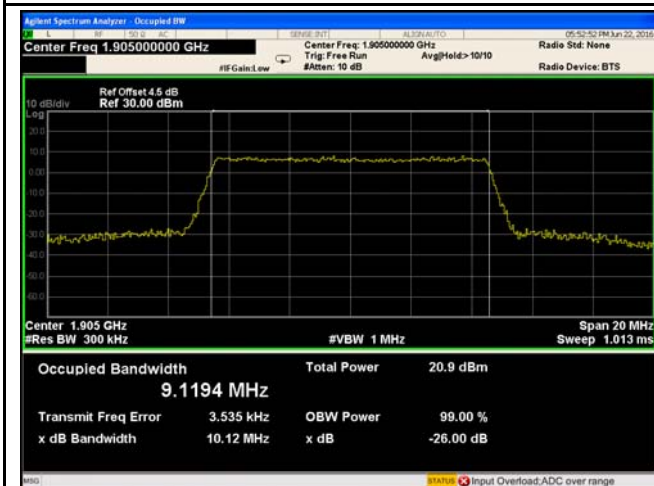
LTE band 2 - Low CH 16QAM-10



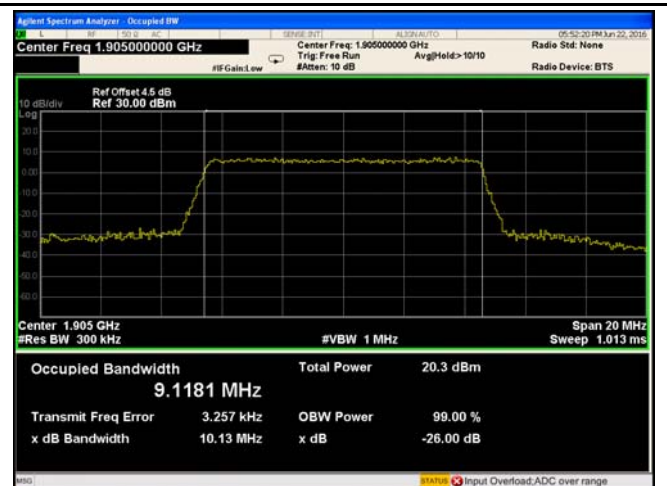
LTE band 2 - Middle CH QPSK-10



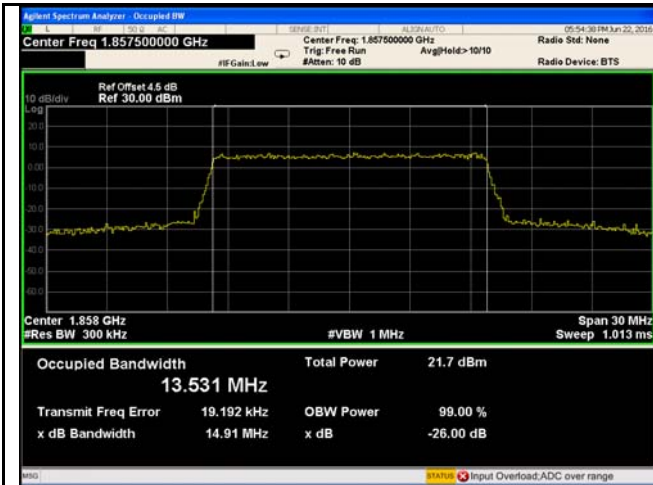
LTE band 2 - Middle CH 16QAM-10



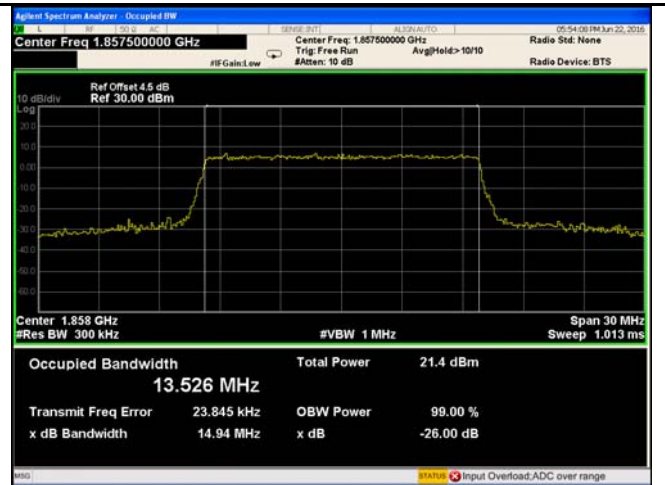
LTE band 2 - High CH QPSK-10



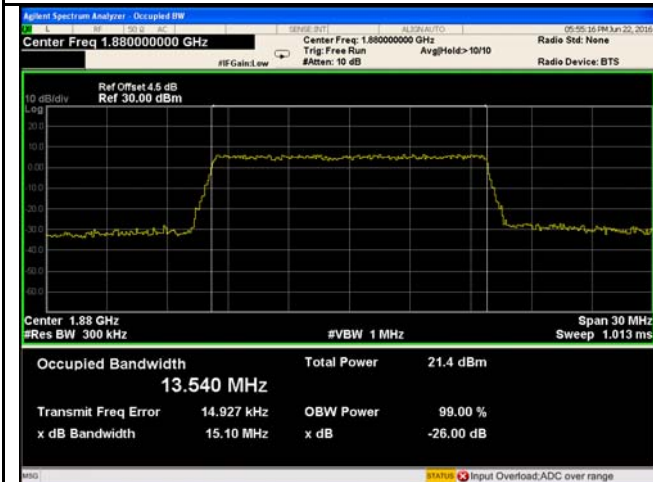
LTE band 2 - High CH 16QAM-10



LTE band 2 - Low CH QPSK-15



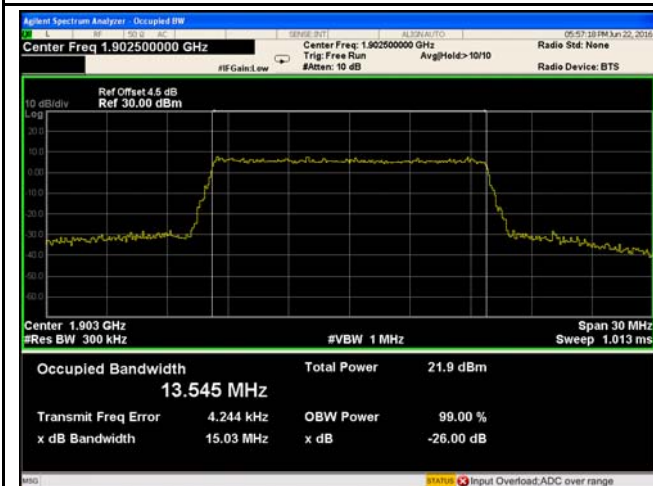
LTE band 2 - Low CH 16QAM-15



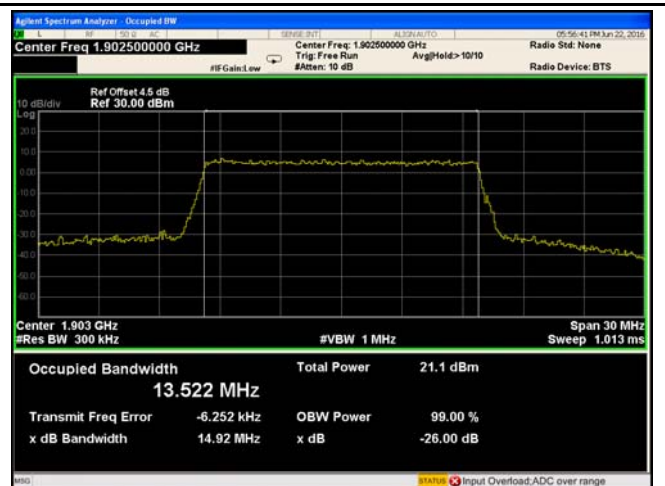
LTE band 2 - Middle CH QPSK-15



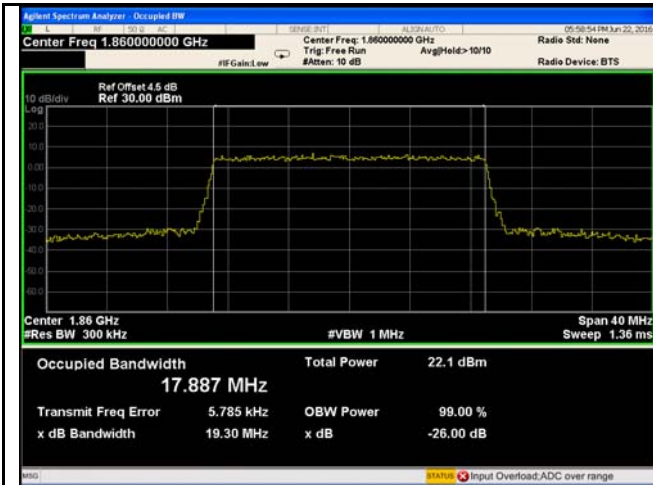
LTE band 2 - Middle CH 16QAM-15



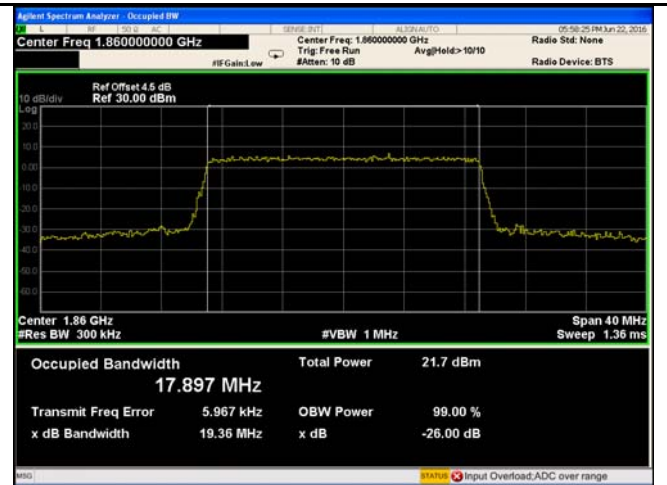
LTE band 2 - High CH QPSK-15



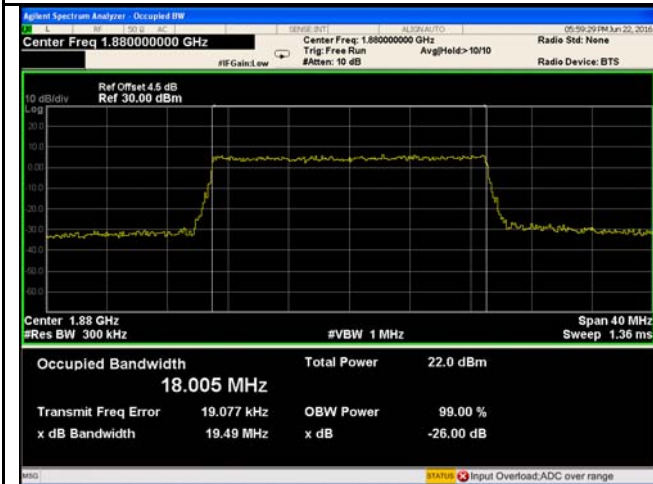
LTE band 2 - High CH 16QAM-15



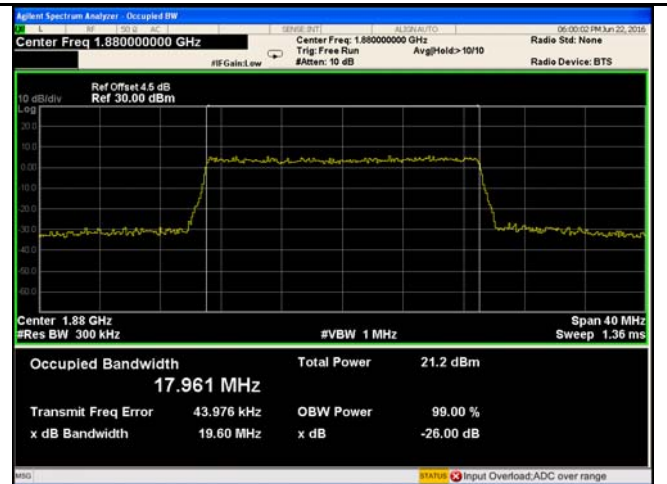
LTE band 2 - Low CH QPSK-20



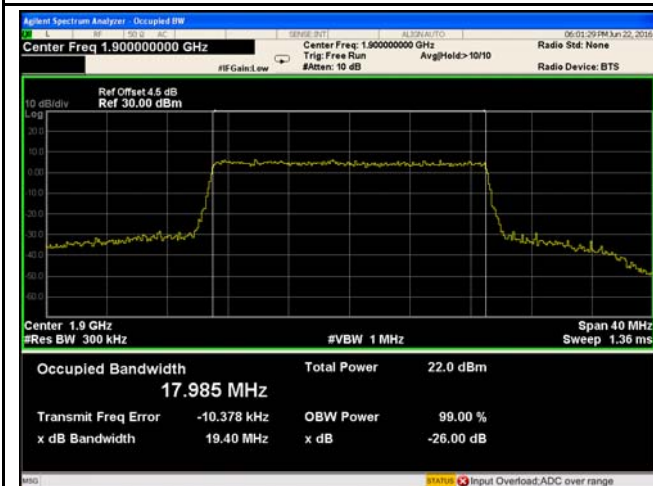
LTE band 2 - Low CH 16QAM-20



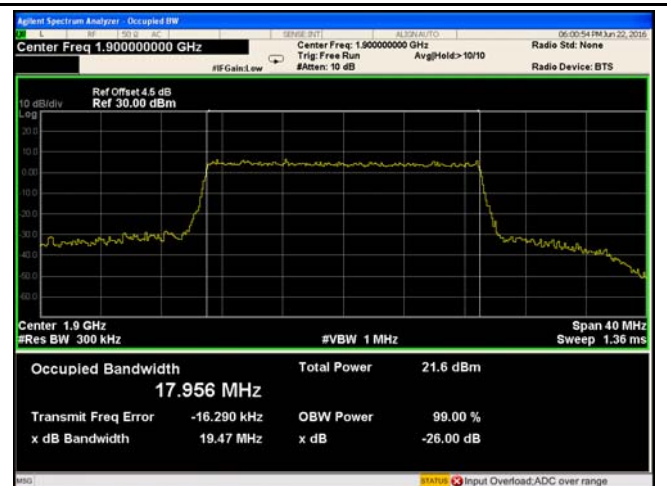
LTE band 2 - Middle CH QPSK-20



LTE band 2 - Middle CH 16QAM-20

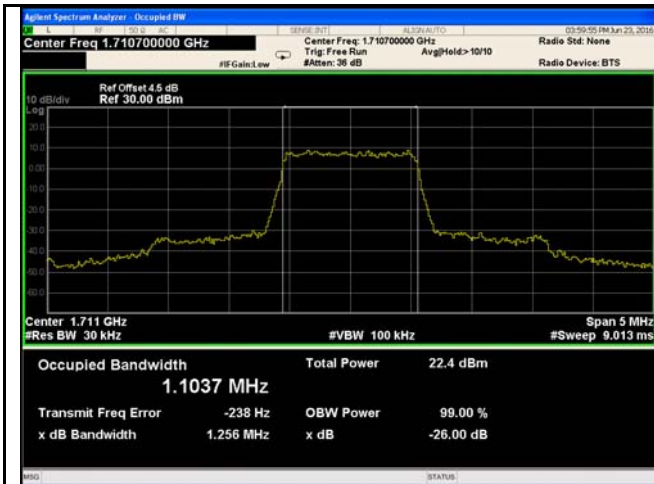


LTE band 2 - High CH QPSK-20

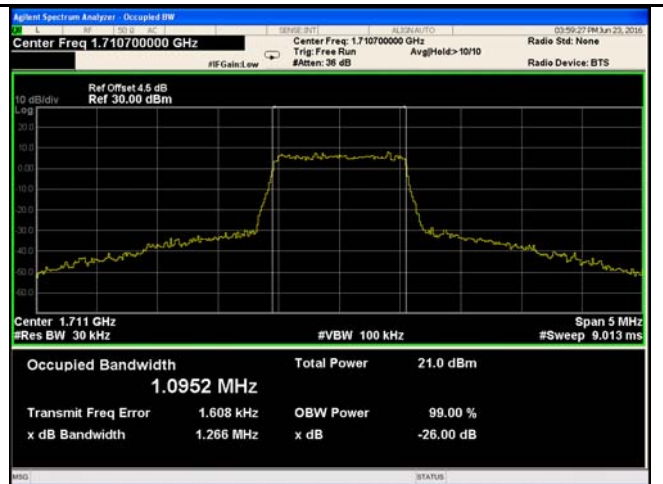


LTE band 2 - High CH 16QAM-20

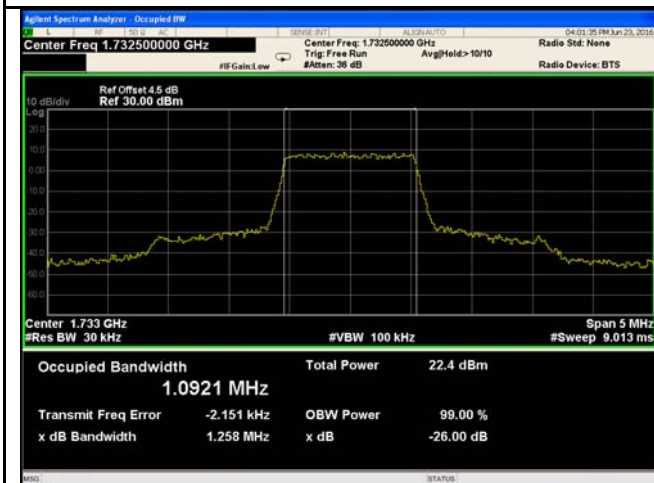
LTE Band 4 (Part 27)



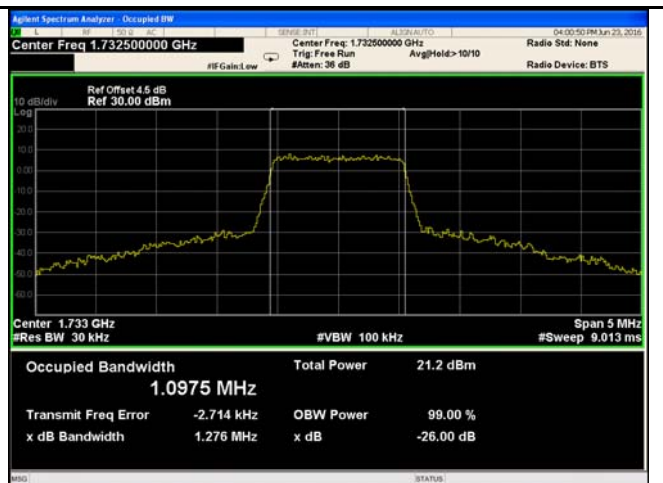
LTE band 4 - Low CH QPSK-1.4



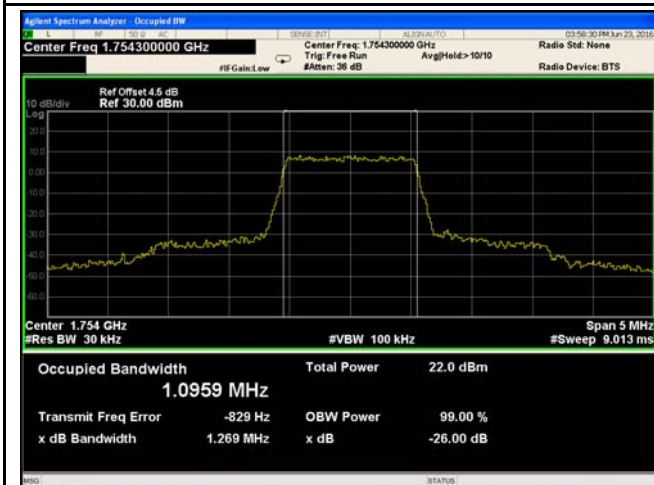
LTE band 4 - Low CH 16QAM-1.4



LTE band 4 - Middle CH QPSK-1.4



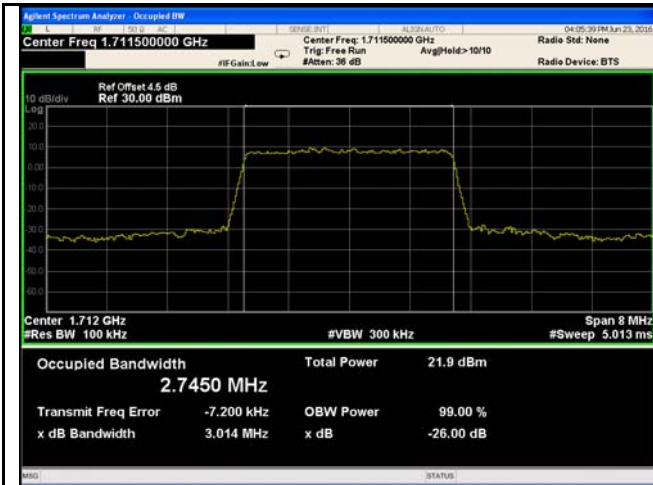
LTE band 4 - Middle CH 16QAM-1.4



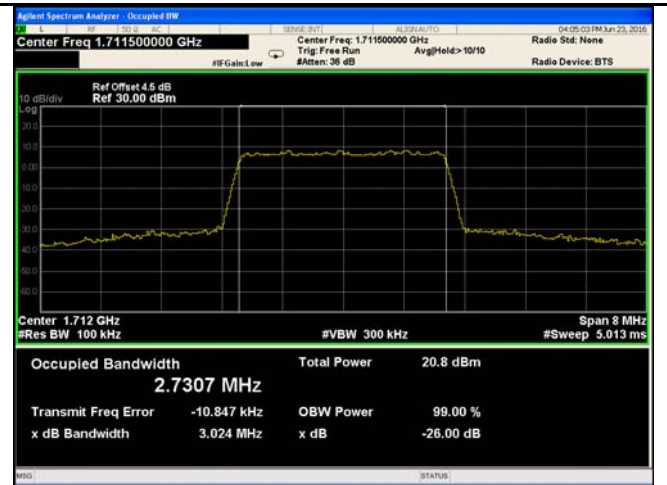
LTE band 4 - High CH QPSK-1.4



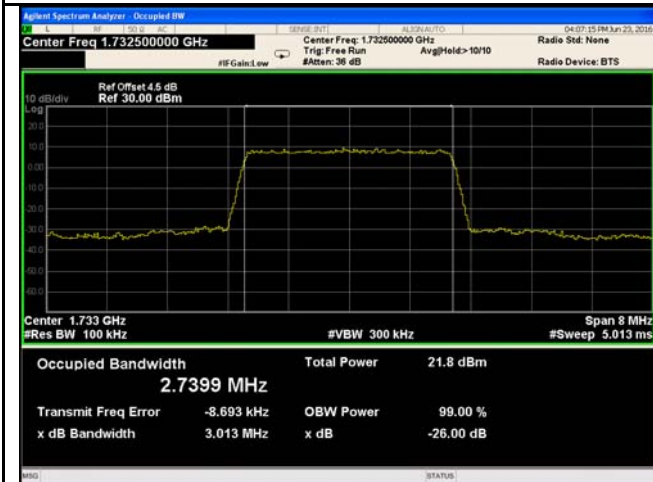
LTE band 4 - High CH 16QAM-1.4



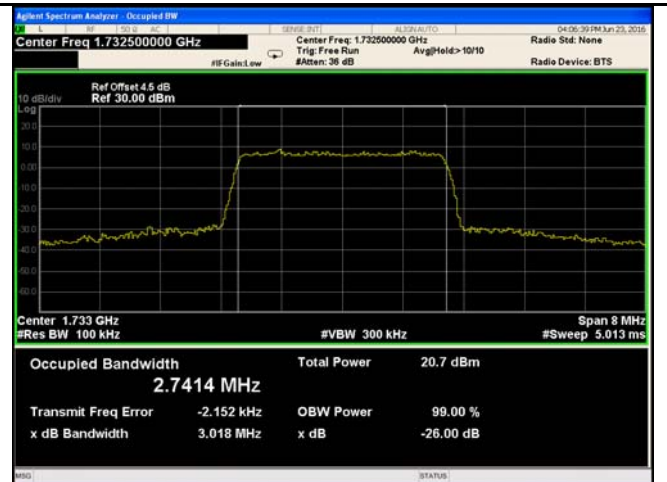
LTE band 4 - Low CH QPSK-3



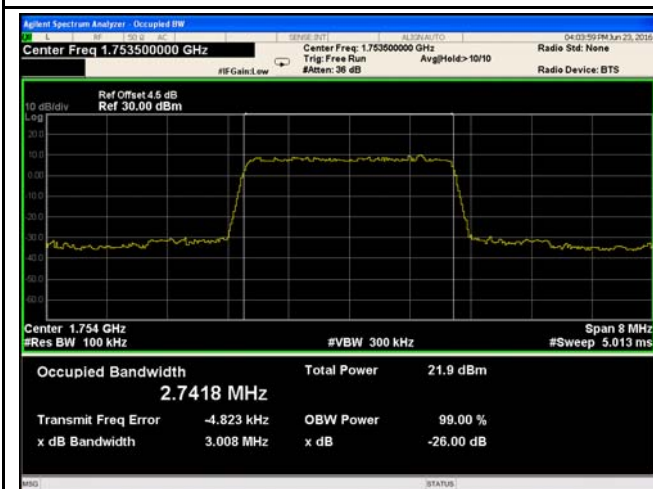
LTE band 4 - Low CH 16QAM-3



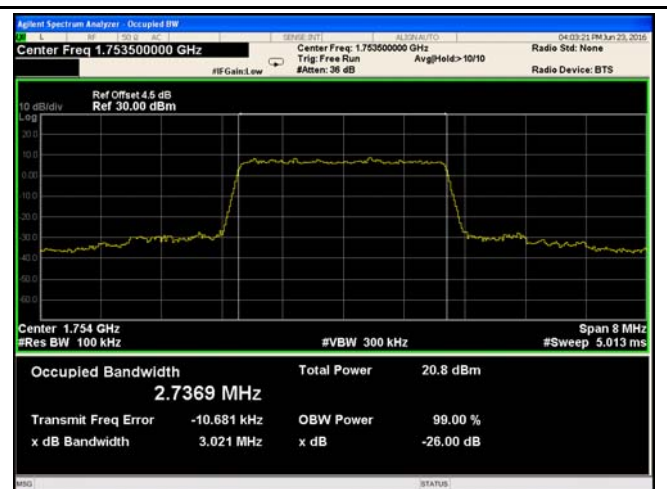
LTE band 4 - Middle CH QPSK-3



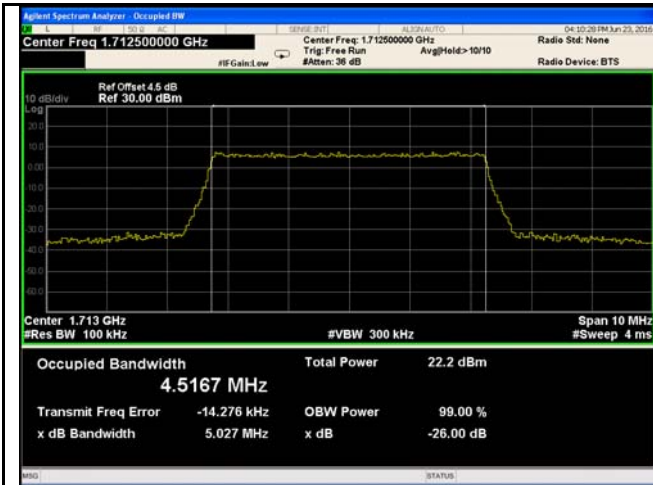
LTE band 4 - Middle CH 16QAM-3



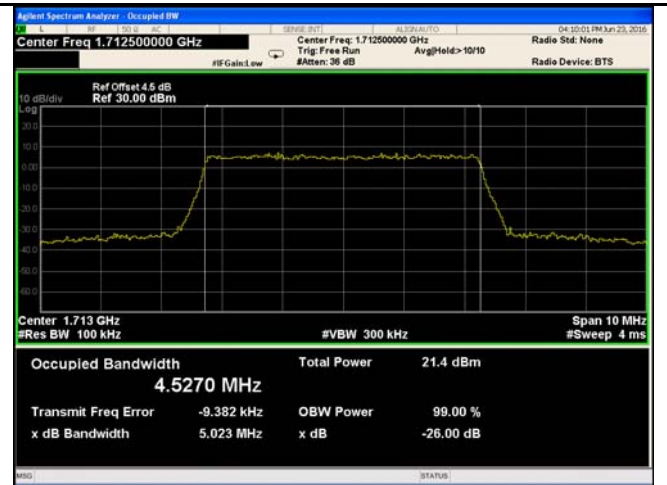
LTE band 4 - High CH QPSK-3



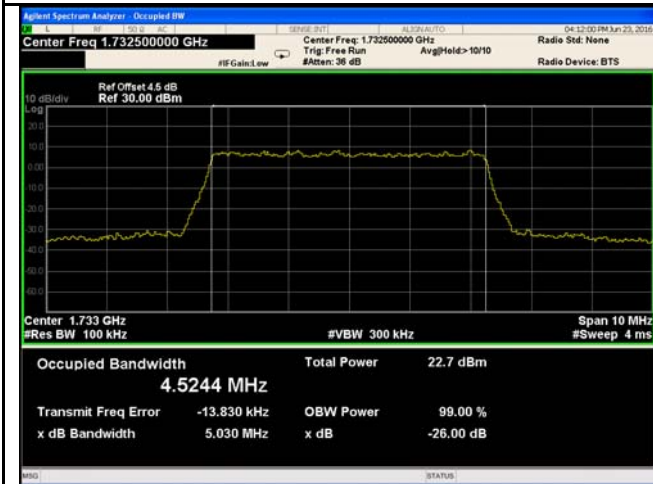
LTE band 4 - High CH 16QAM-3



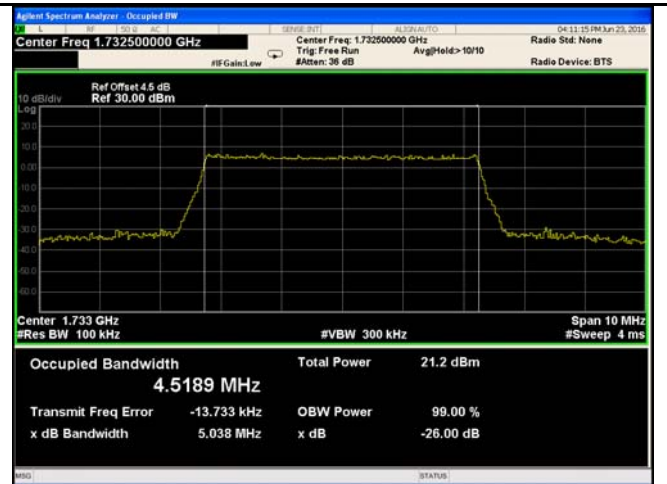
LTE band 4 - Low CH QPSK-5



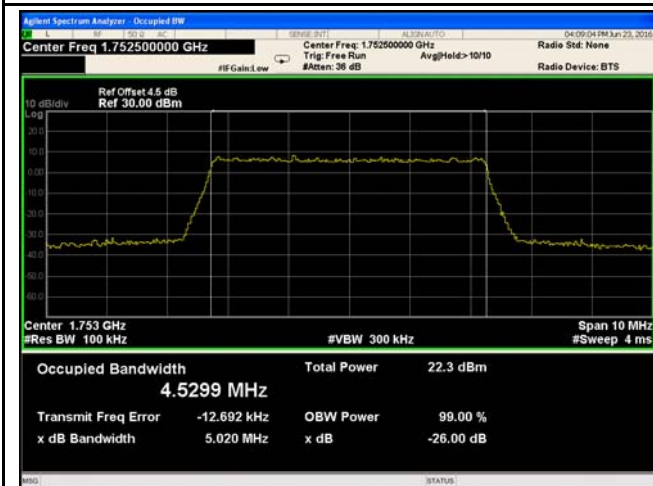
LTE band 4 - Low CH 16QAM-5



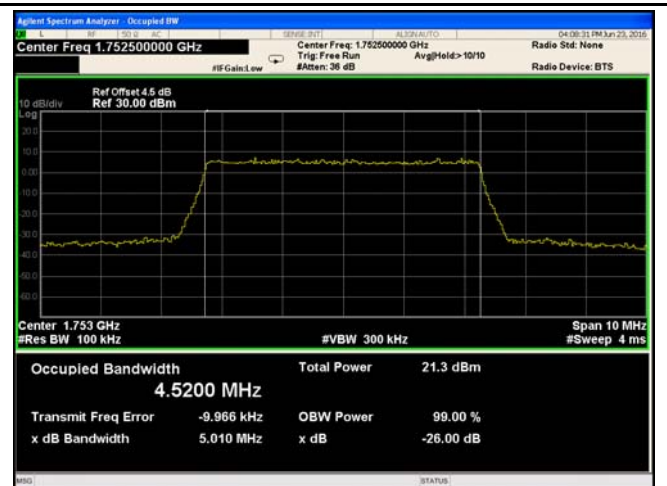
LTE band 4 - Middle CH QPSK-5



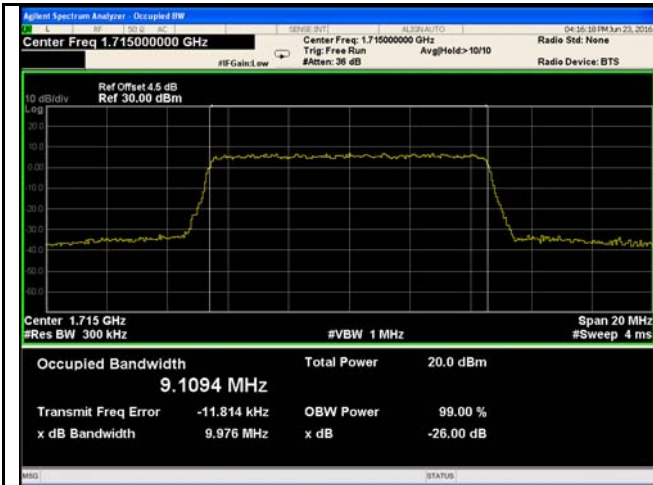
LTE band 4 - Middle CH 16QAM-5



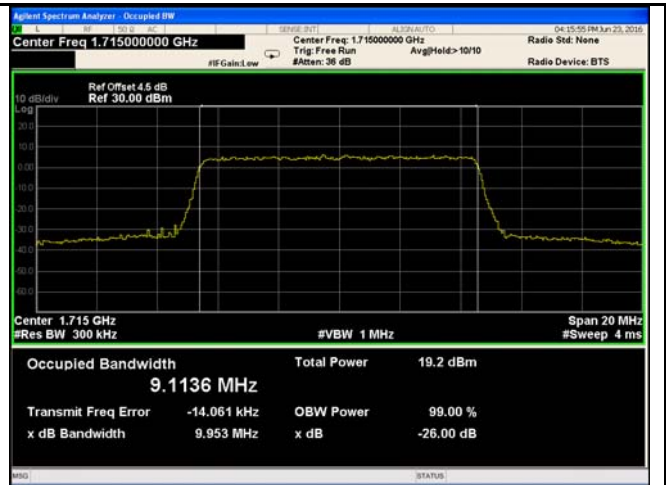
LTE band 4 - High CH QPSK-5



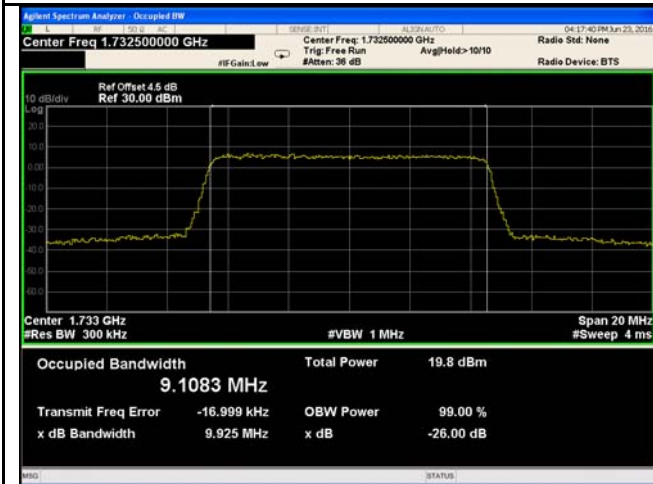
LTE band 4 - High CH 16QAM-5



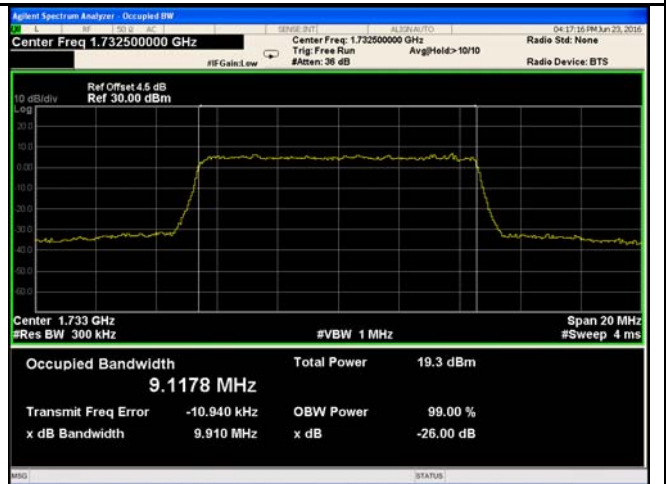
LTE band 4 - Low CH QPSK-10



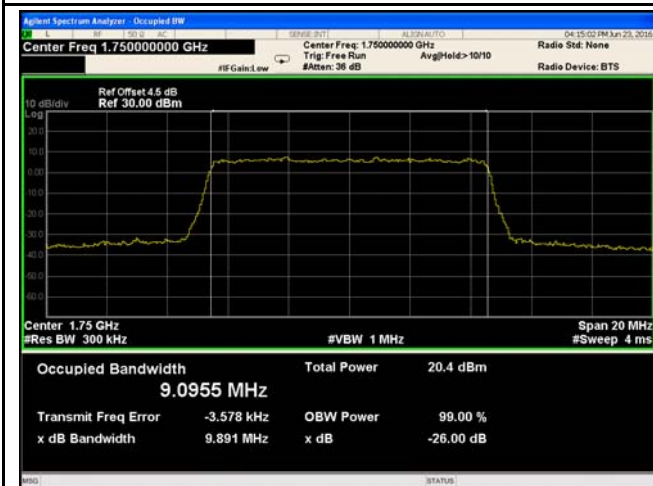
LTE band 4 - Low CH 16QAM-10



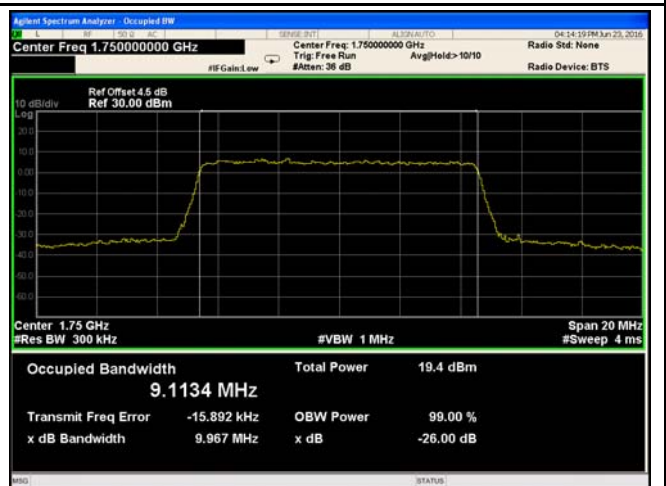
LTE band 4 - Middle CH QPSK-10



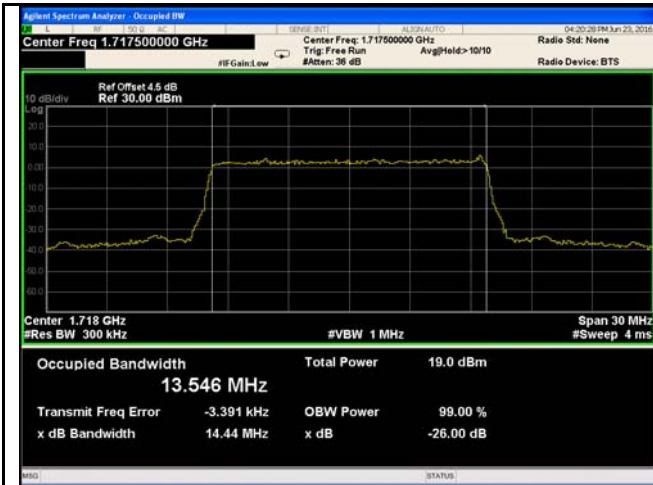
LTE band 4 - Middle CH 16QAM-10



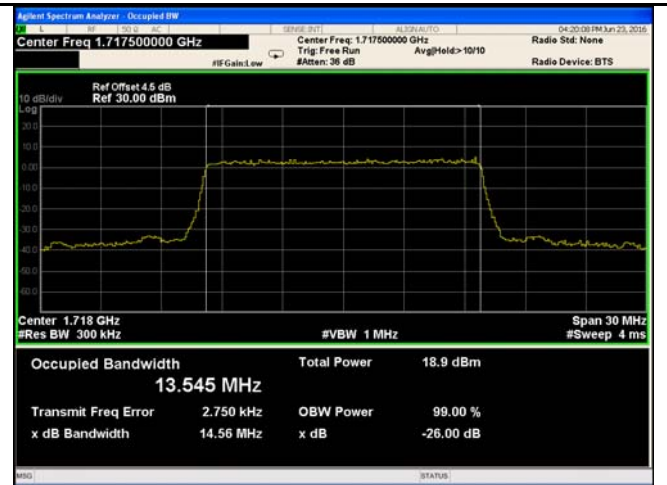
LTE band 4 - High CH QPSK-10



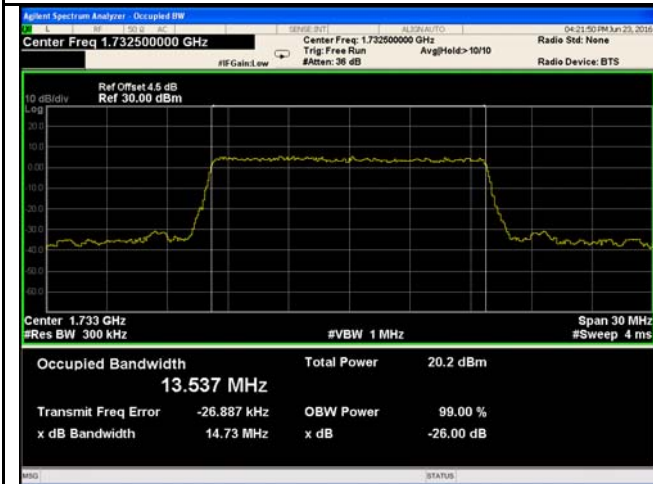
LTE band 4 - High CH 16QAM-10



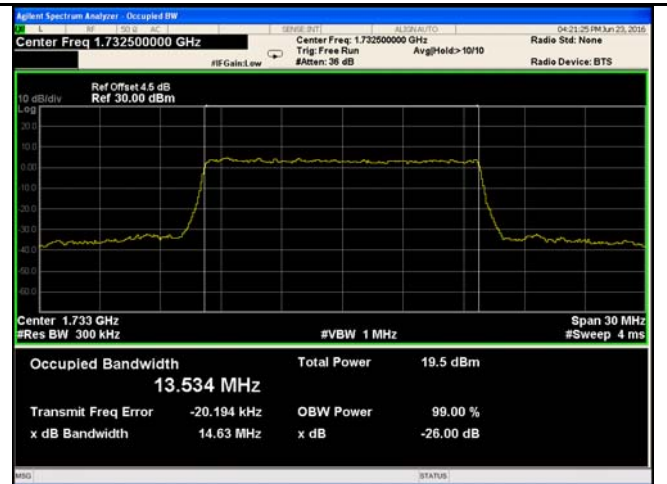
LTE band 4 - Low CH QPSK-15



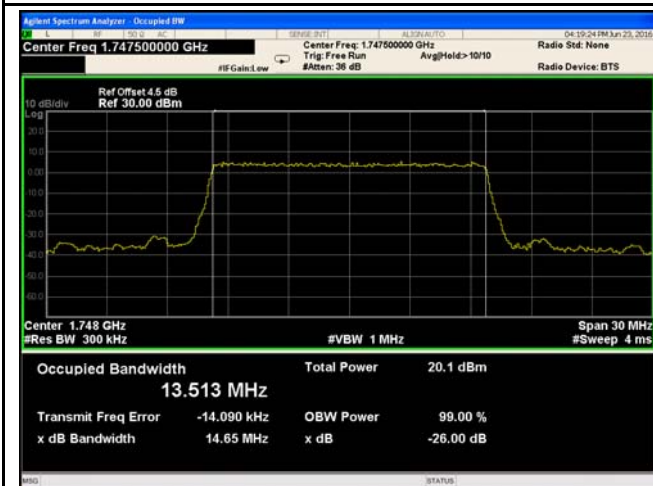
LTE band 4 - Low CH 16QAM-15



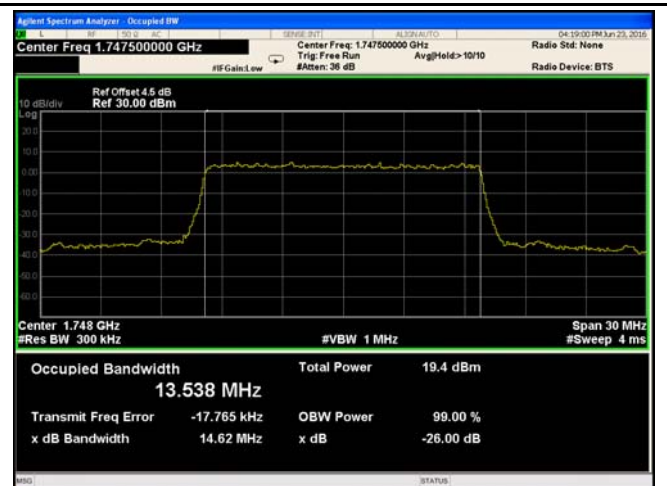
LTE band 4 - Middle CH QPSK-15



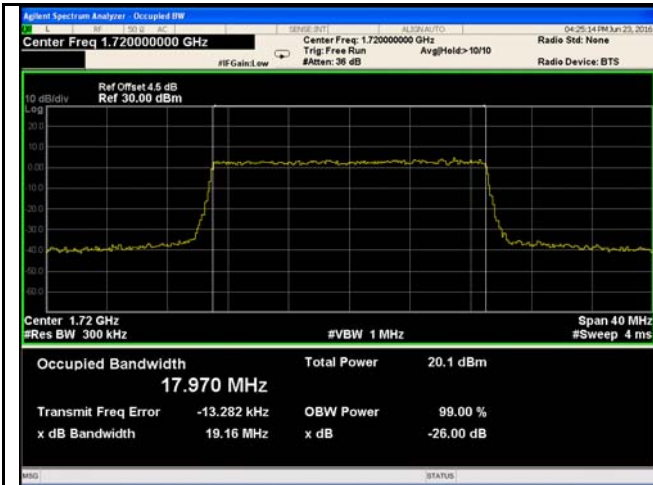
LTE band 4 - Middle CH 16QAM-15



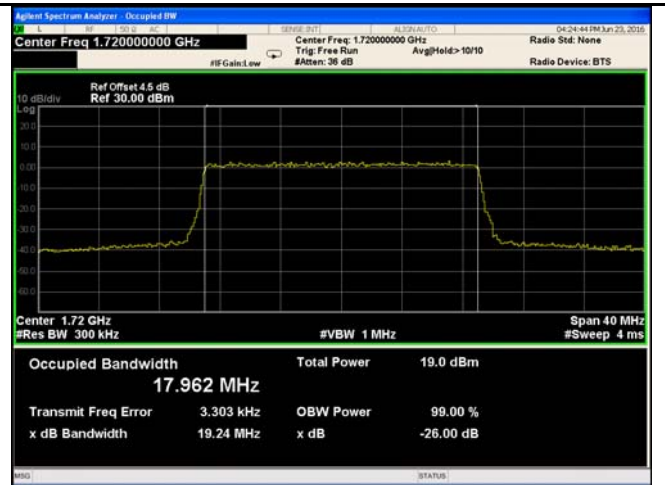
LTE band 4 - High CH QPSK-15



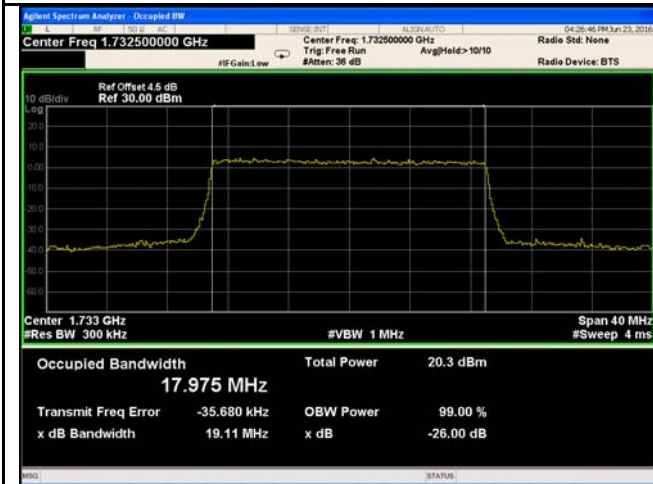
LTE band 4 - High CH 16QAM-15



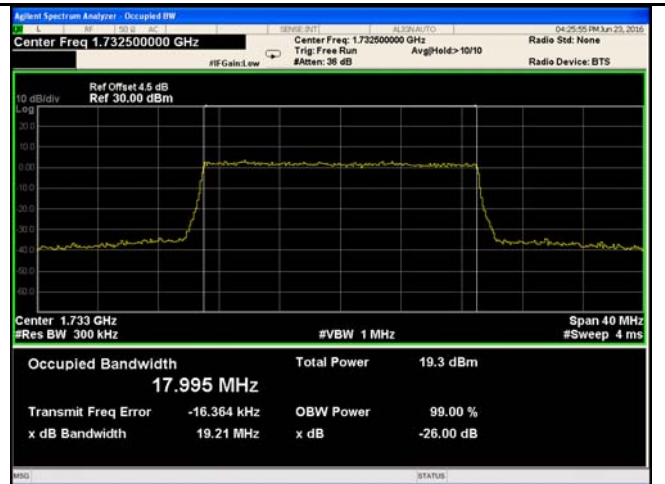
LTE band 4 - Low CH QPSK-20



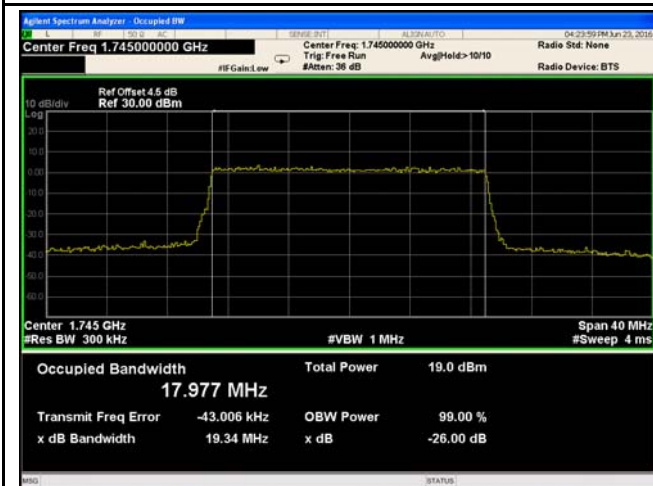
LTE band 4 - Low CH 16QAM-20



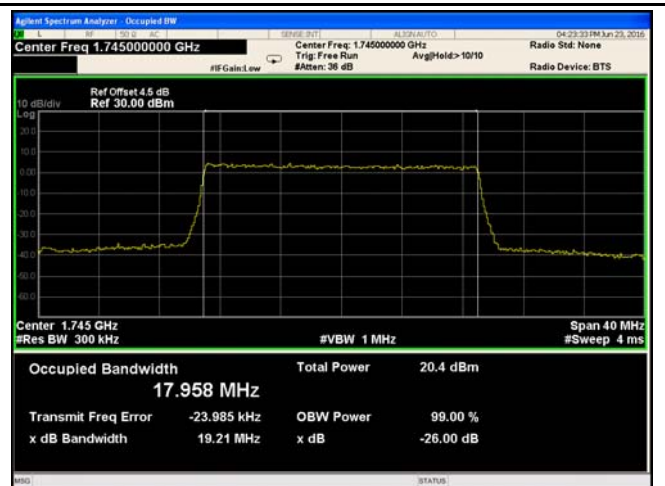
LTE band 4 - Middle CH QPSK-20



LTE band 4 - Middle CH 16QAM-20

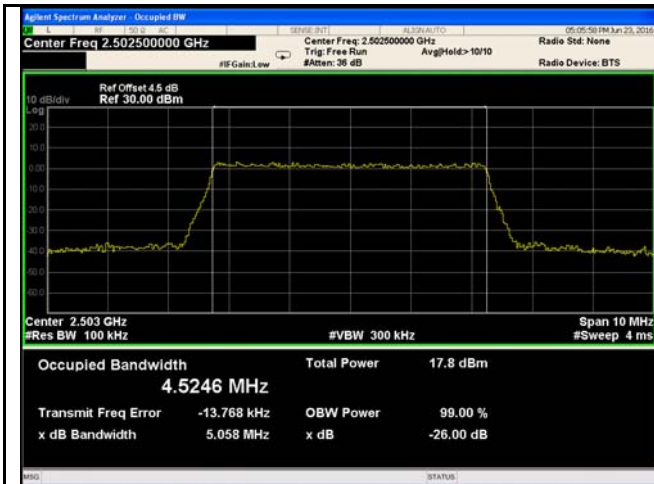


LTE band 4 - High CH QPSK-20

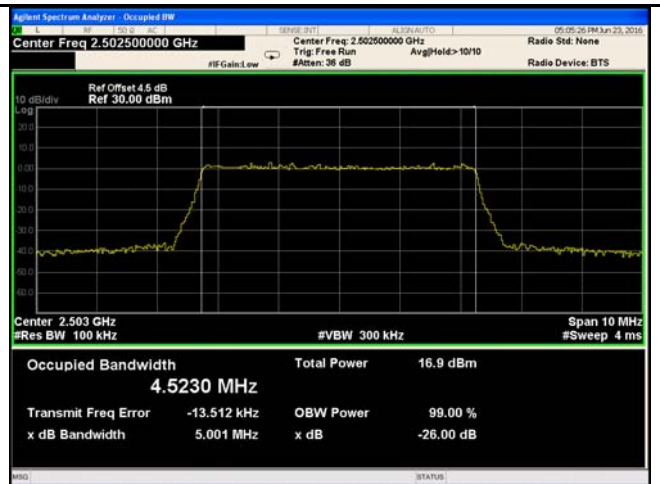


LTE band 4 - High CH 16QAM-20

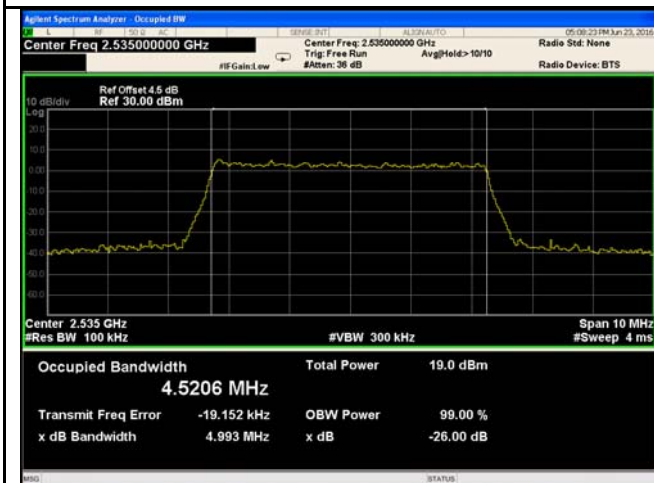
LTE Band 7 (Part 27)



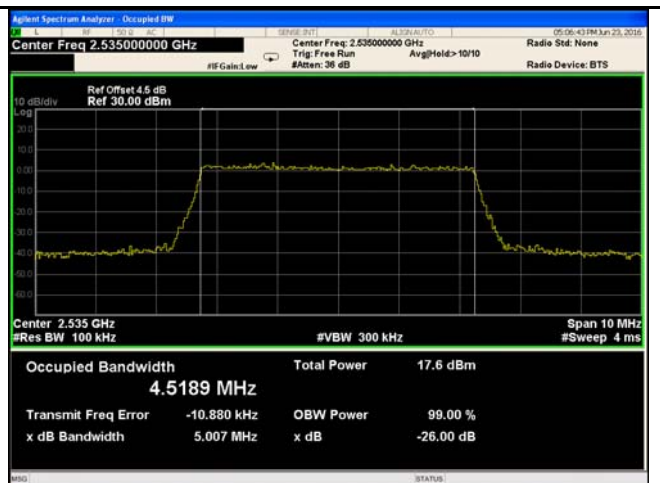
LTE band 7 - Low CH QPSK-5



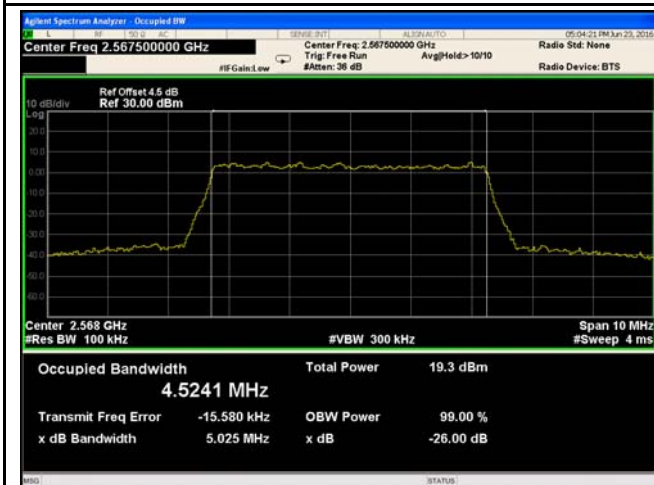
LTE band 7 - Low CH 16QAM-5



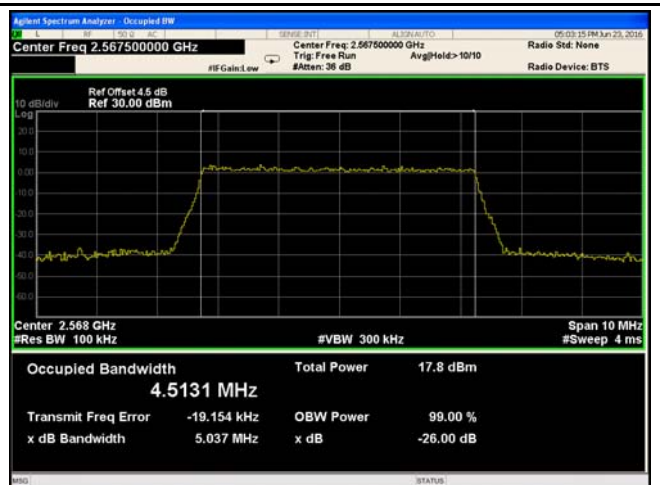
LTE band 7 - Middle CH QPSK-5



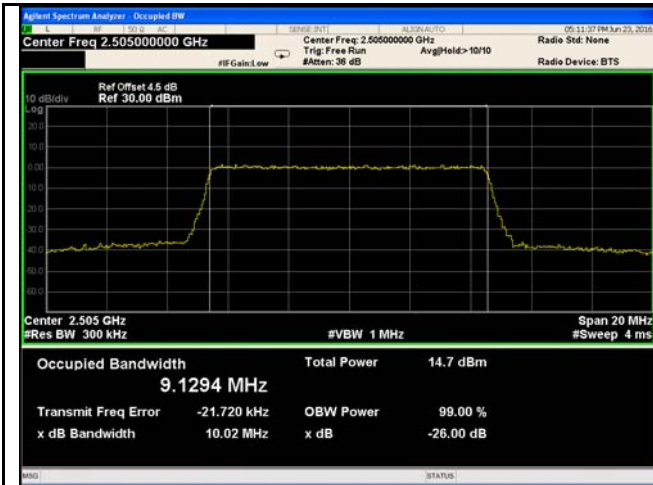
LTE band 7 - Middle CH 16QAM-5



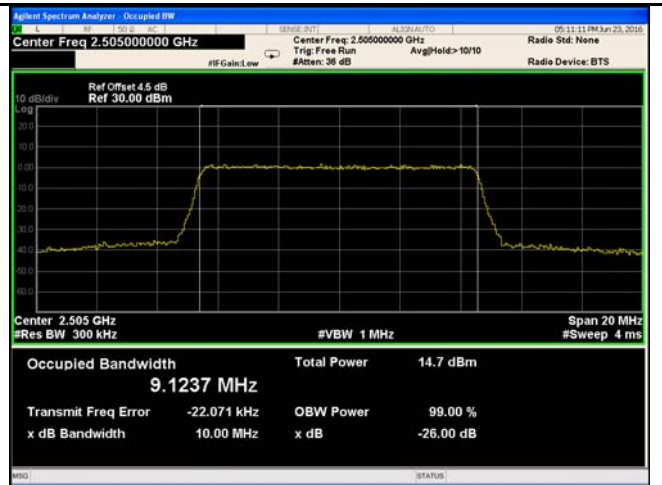
LTE band 7 - High CH QPSK-5



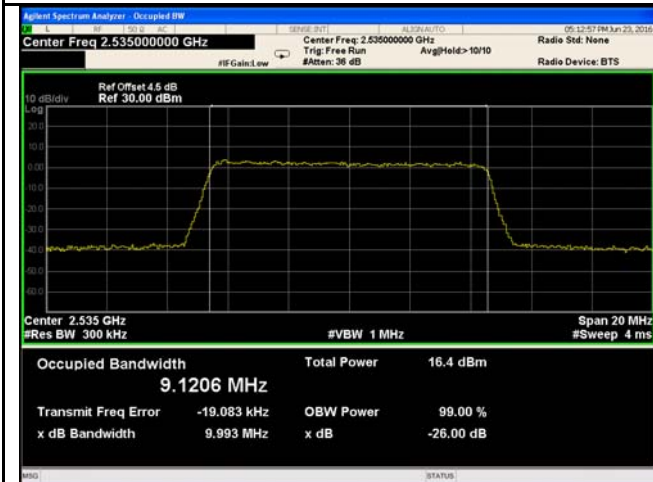
LTE band 7 - High CH 16QAM-5



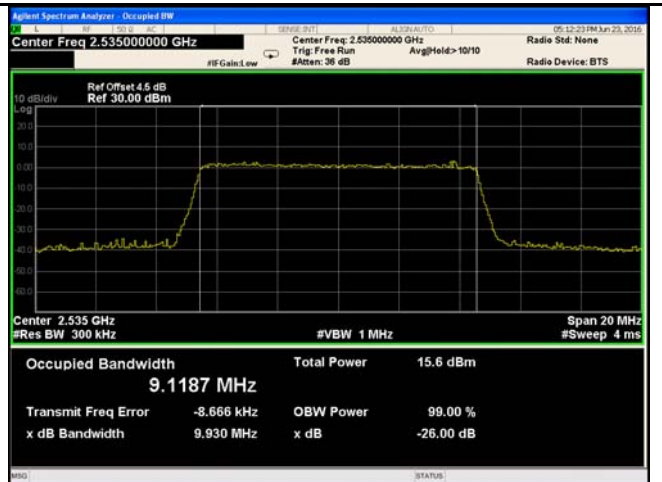
LTE band 7 - Low CH QPSK-10



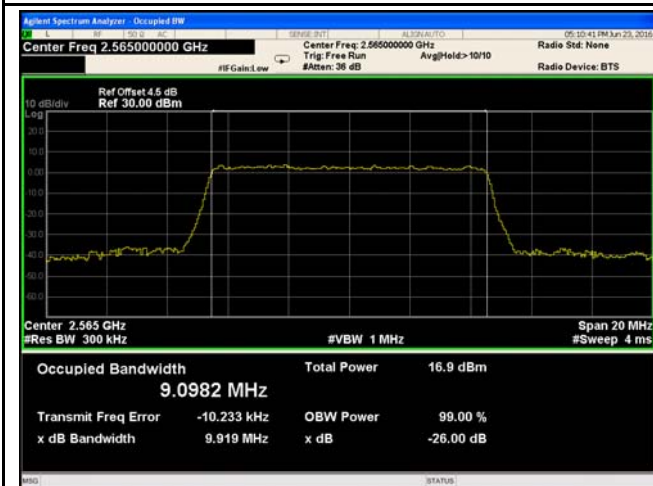
LTE band 7 - Low CH 16QAM-10



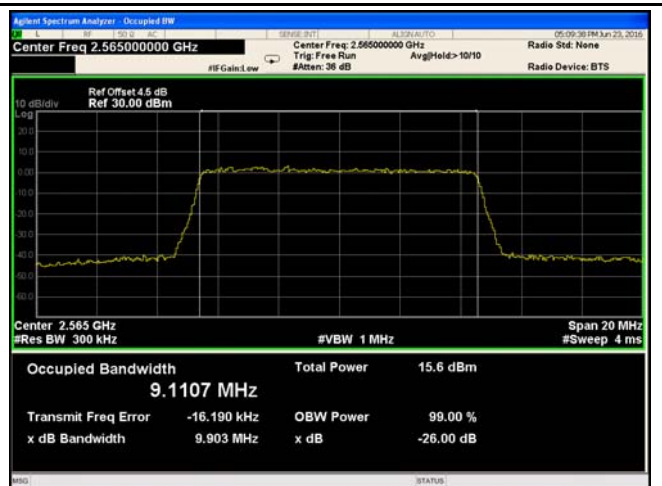
LTE band 7 - Middle CH QPSK-10



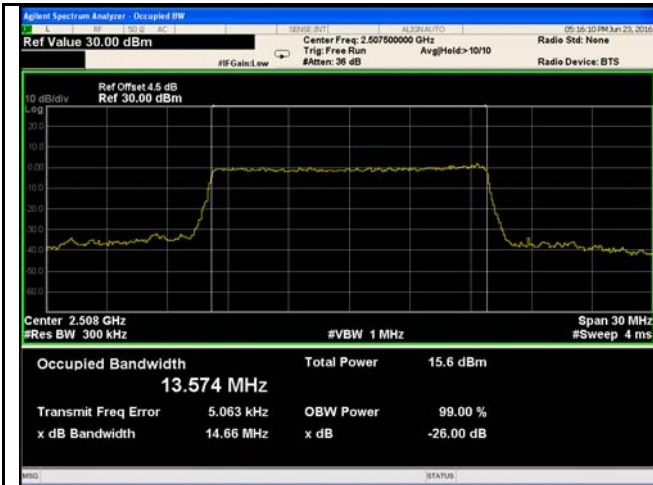
LTE band 7 - Middle CH 16QAM-10



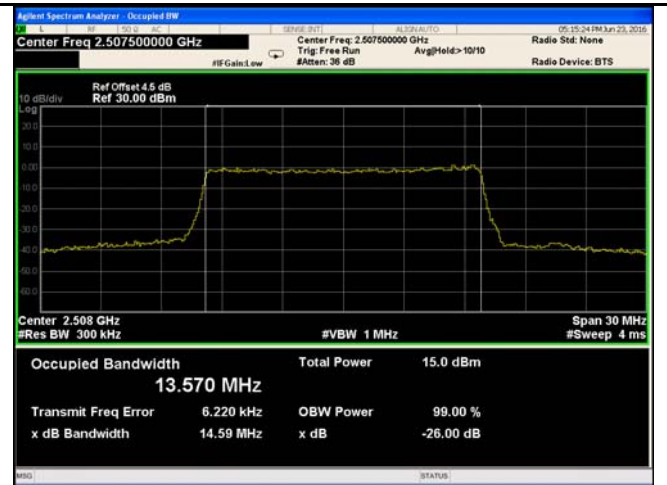
LTE band 7 - High CH QPSK-10



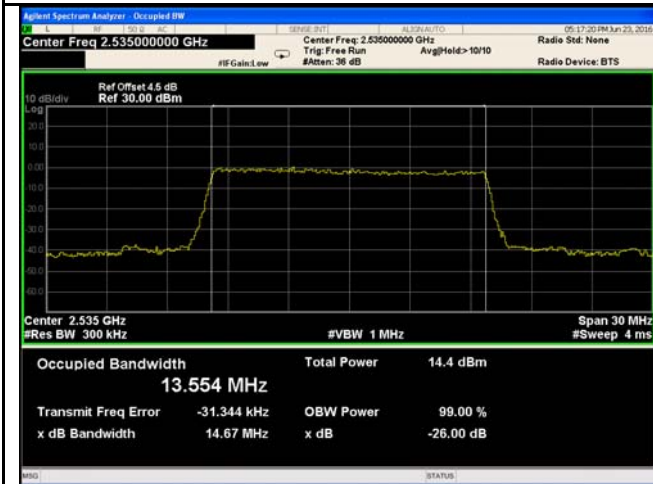
LTE band 7 - High CH 16QAM-10



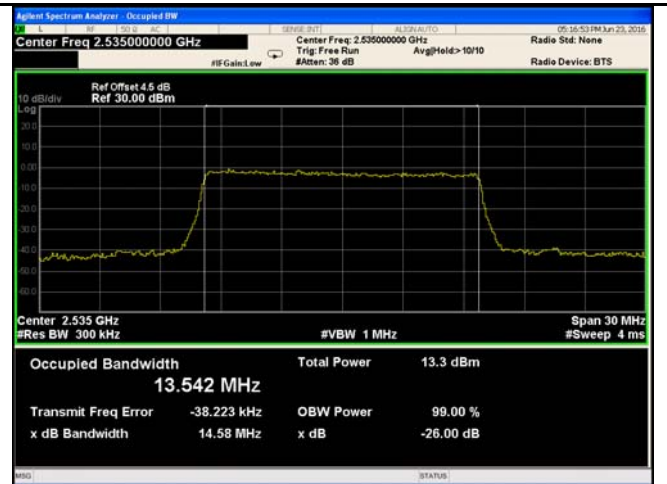
LTE band 7 - Low CH QPSK-15



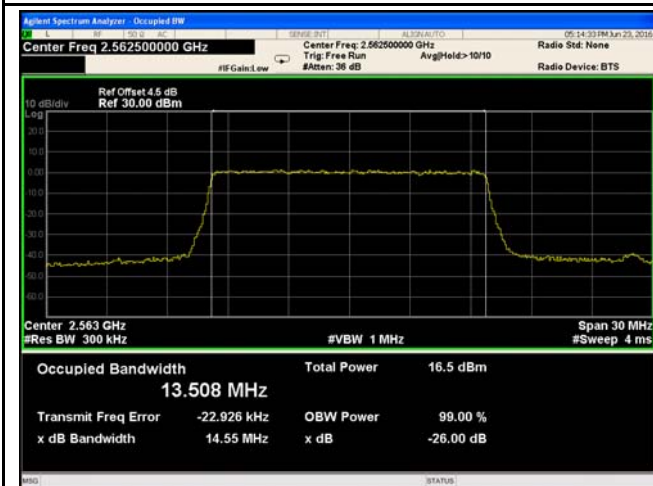
LTE band 7 - Low CH 16QAM-15



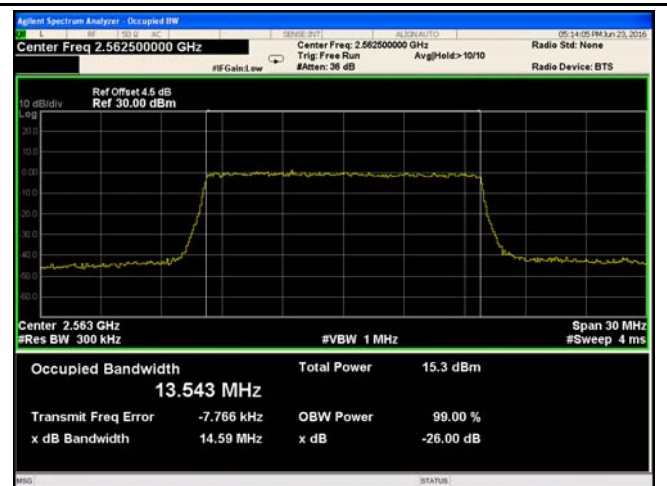
LTE band 7 - Middle CH QPSK-15



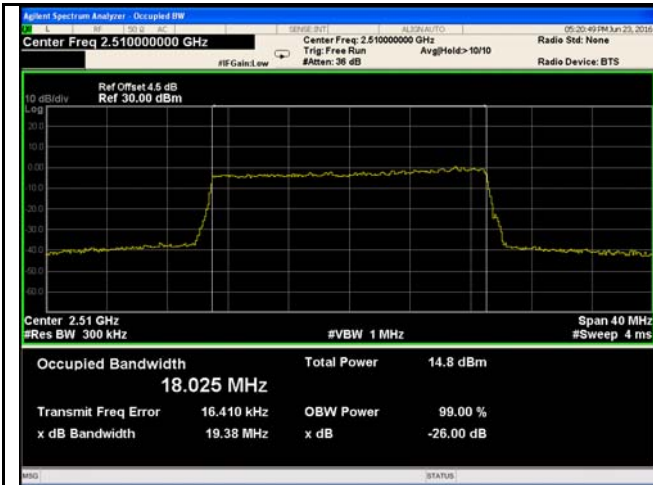
LTE band 7 - Middle CH 16QAM-15



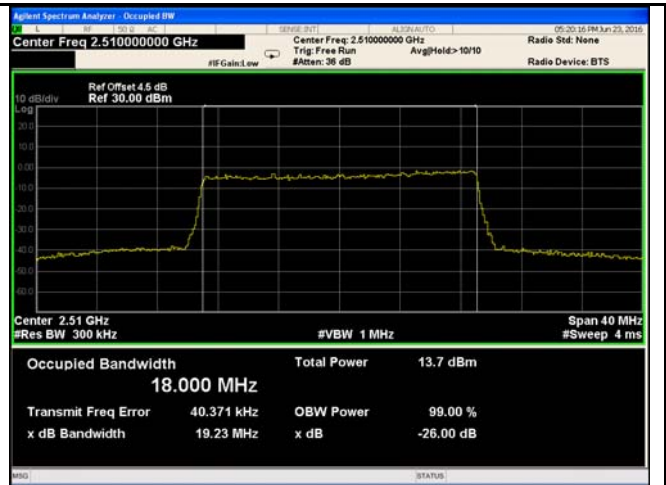
LTE band 7 - High CH QPSK-15



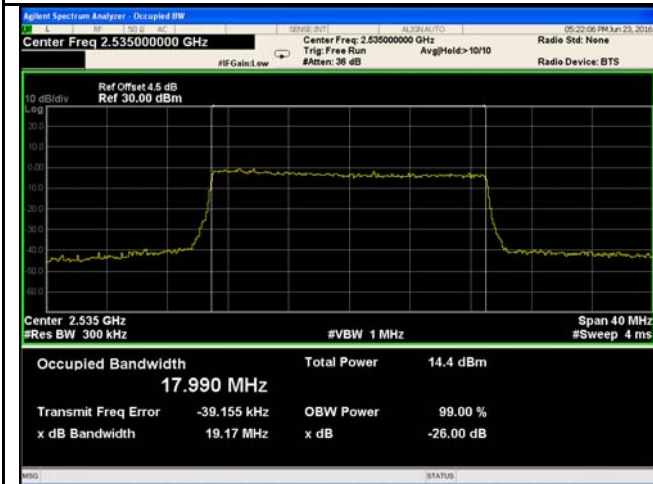
LTE band 7 - High CH 16QAM-15



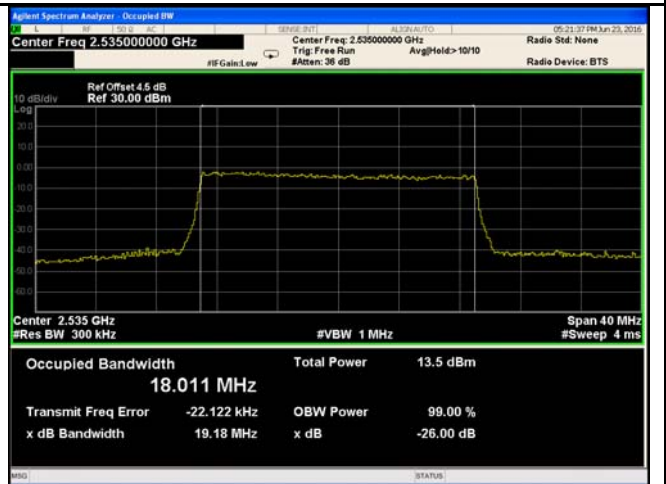
LTE band 7 - Low CH QPSK-20



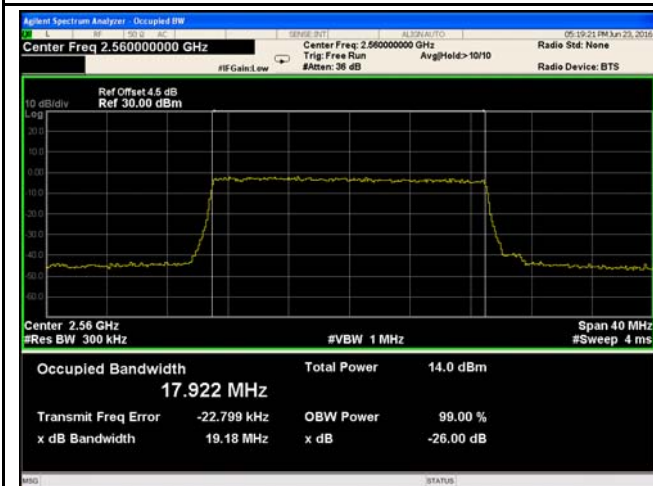
LTE band 7 - Low CH 16QAM-20



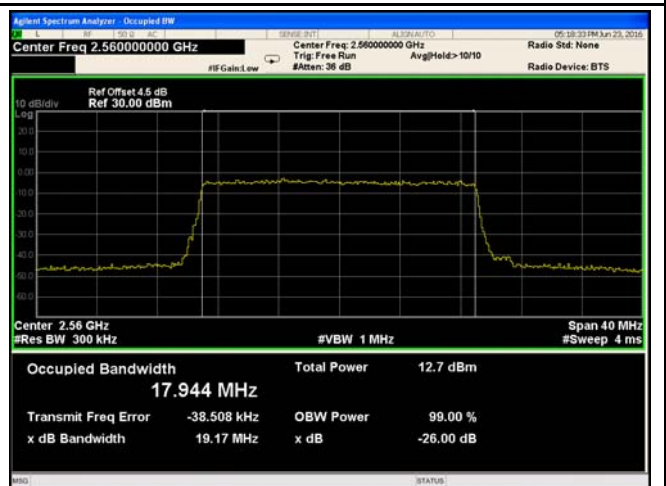
LTE band 7 - Middle CH QPSK-20



LTE band 7 - Middle CH 16QAM-20

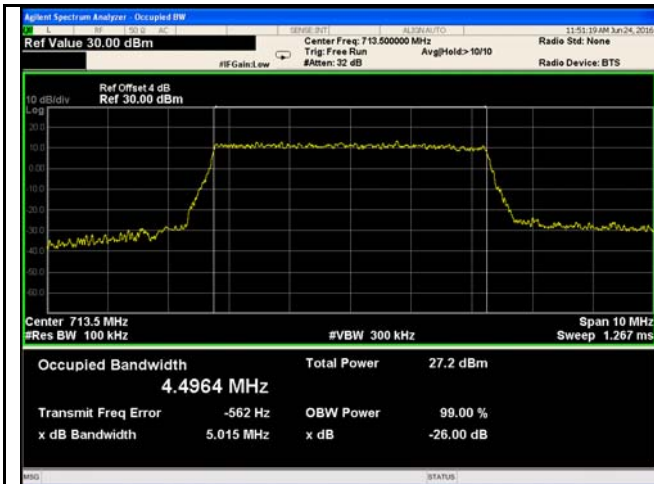


LTE band 7 - High CH QPSK-20

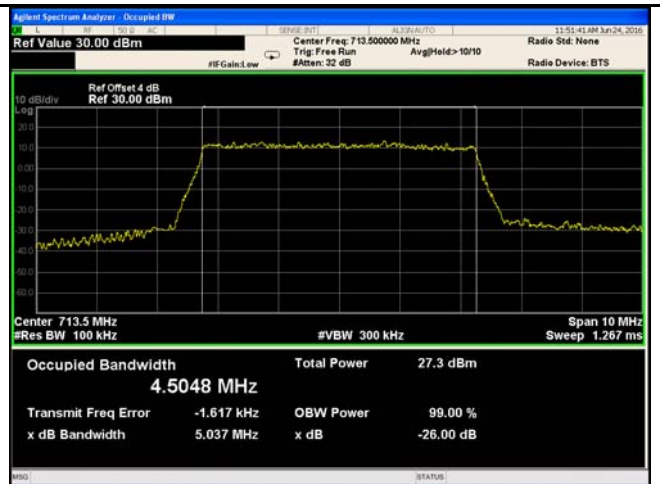


LTE band 7 - High CH 16QAM-20

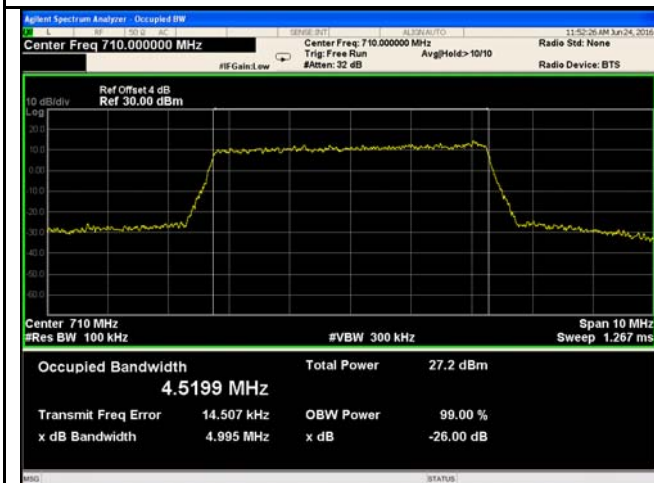
LTE Band 17 (Part 27)



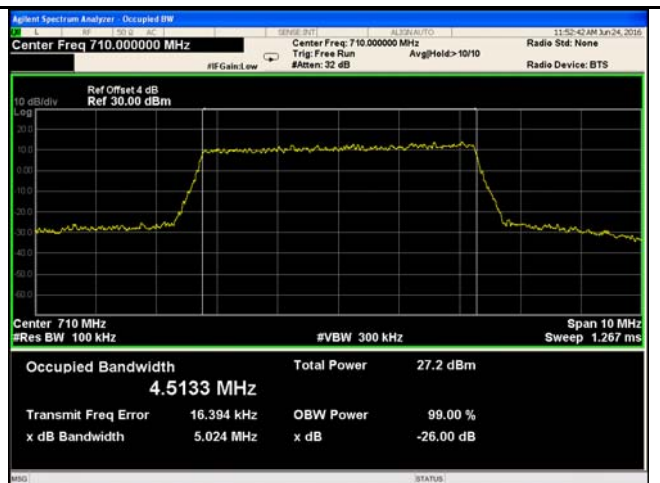
LTE band 17 - Low CH QPSK-5



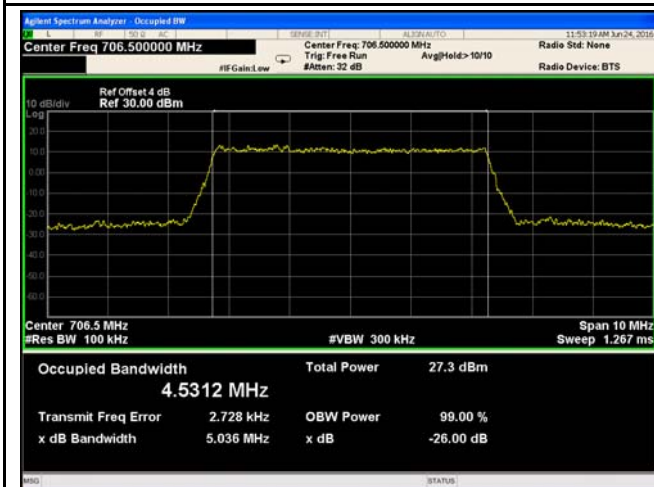
LTE band 17 - Low CH 16QAM-5



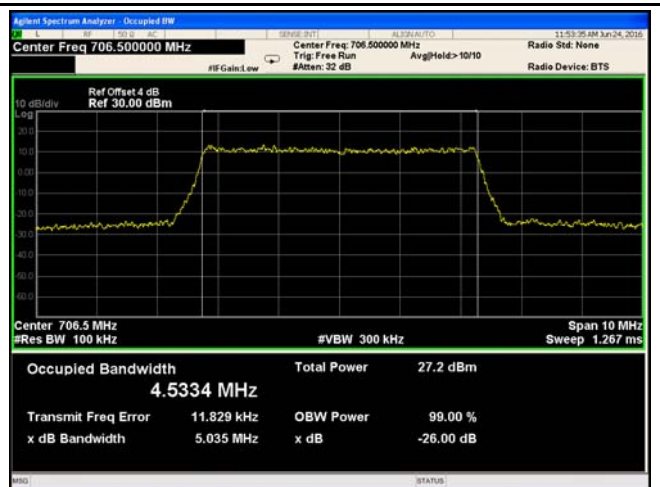
LTE band 17 - Middle CH QPSK-5



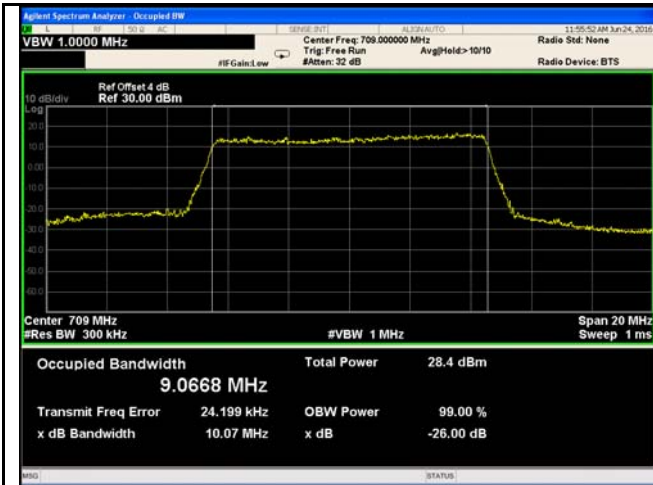
LTE band 17 - Middle CH 16QAM-5



LTE band 17 - High CH QPSK-5



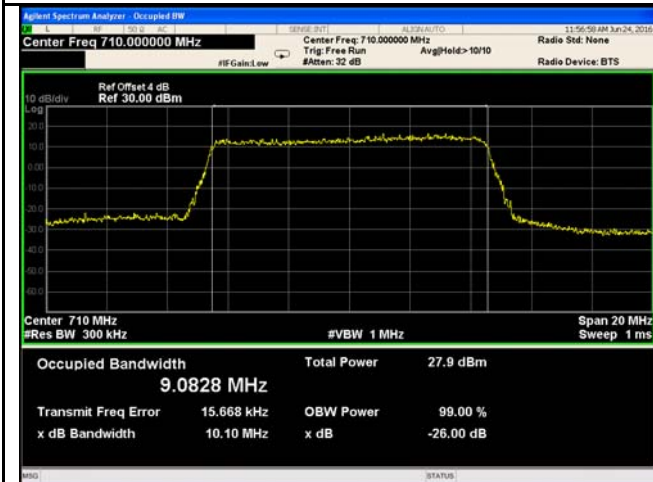
LTE band 17 - High CH 16QAM-5



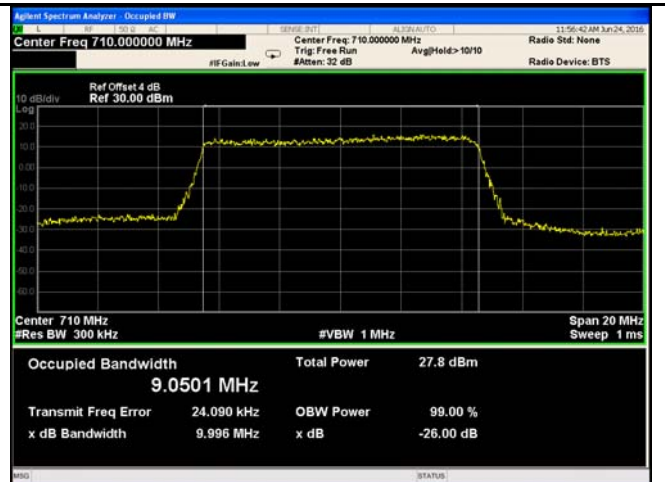
LTE band 17 - Low CH QPSK-10



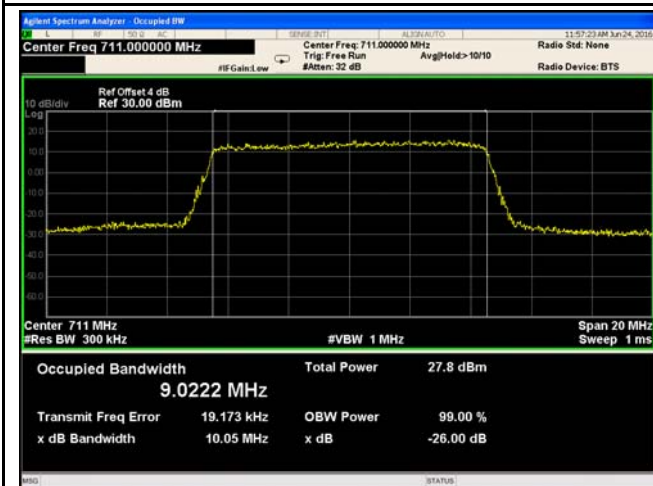
LTE band 17 - Low CH 16QAM-10



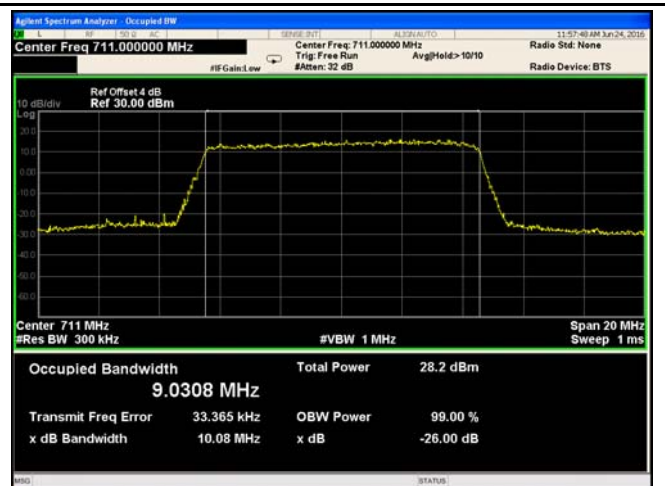
LTE band 17 - Middle CH QPSK-10



LTE band 17 - Middle CH 16QAM-10



LTE band 17 - High CH QPSK-10

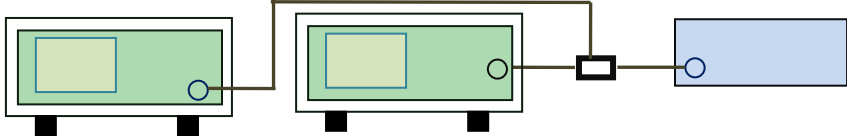


LTE band 17 - High CH 16QAM-10

6.5 Spurious Emissions at Antenna Terminals

Temperature	24°C
Relative Humidity	56%
Atmospheric Pressure	1023mbar
Test date :	June 23&24, 2016
Tested By :	Loren Luo

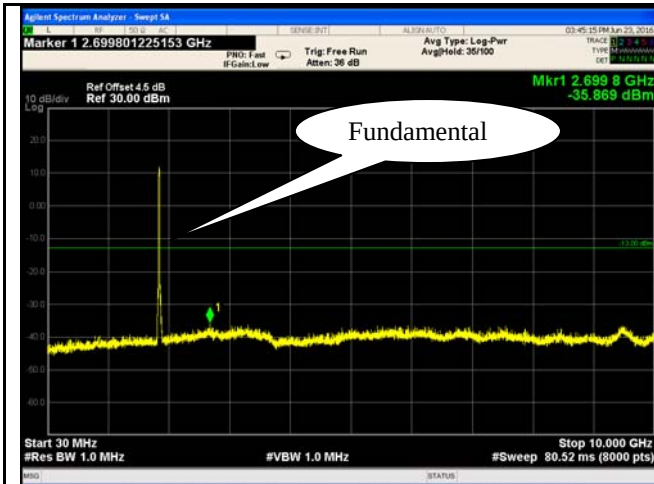
Requirement(s):

Spec	Item	Requirement	Applicable
§2.1051, §22.917(a)& §24.238(a) § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB	☒
Test Setup			
Test Procedure	- The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The Band Edges of low and high channels for the highest RF powers were measured. - Setting RBW as roughly BW/100.		
Remark			
Result	☒ Pass ☐ Fail		

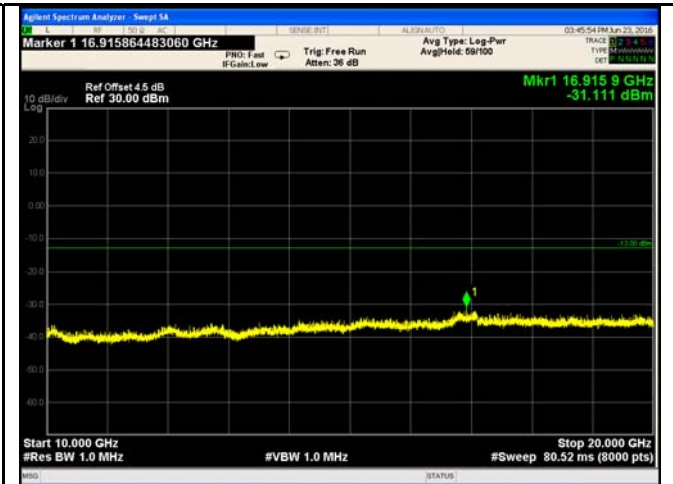
Test Data ☒ Yes ☐ N/A
 Test Plot ☒ Yes (See below) ☐ N/A

Test Plots 30MHz-5GHz

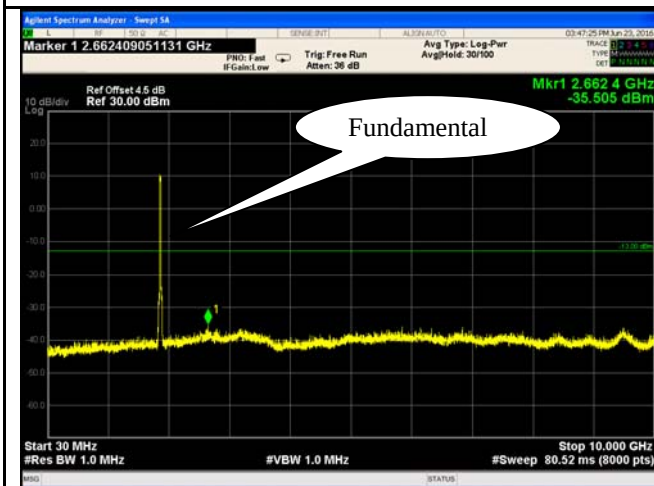
LTE Band 2 (Part 24E)



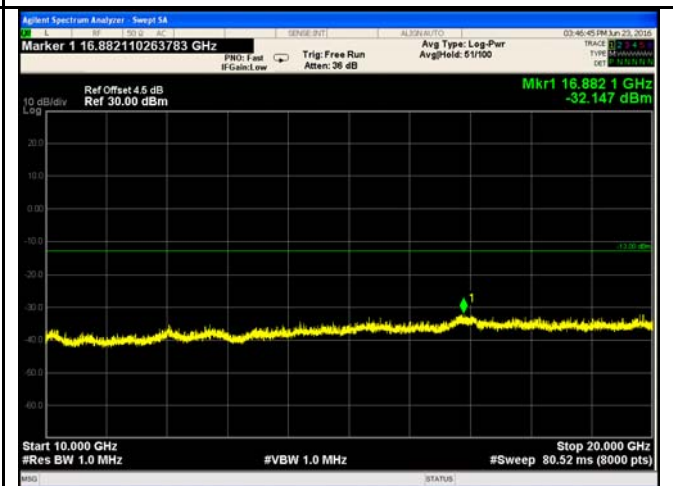
LTE Band 2 - Low Channel-1



LTE Band 2 - Low Channel-2



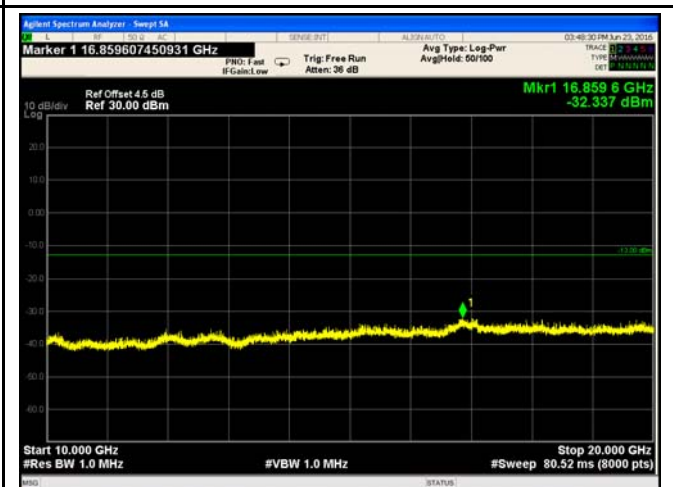
LTE Band 2 Middle Channel-1



LTE Band 2 Middle Channel-2

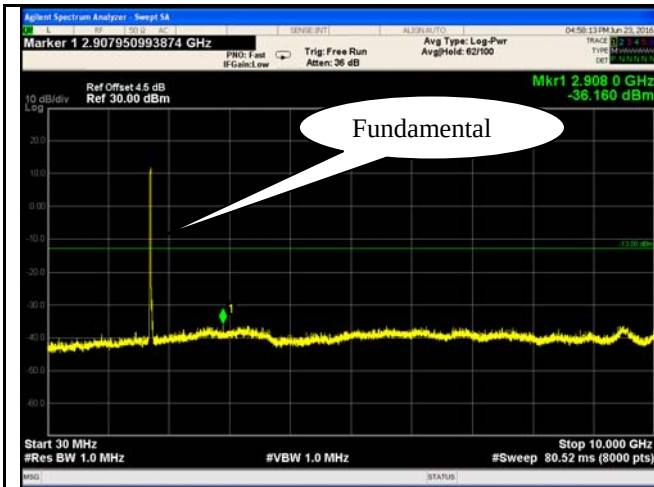


LTE Band 2 - High Channel-1

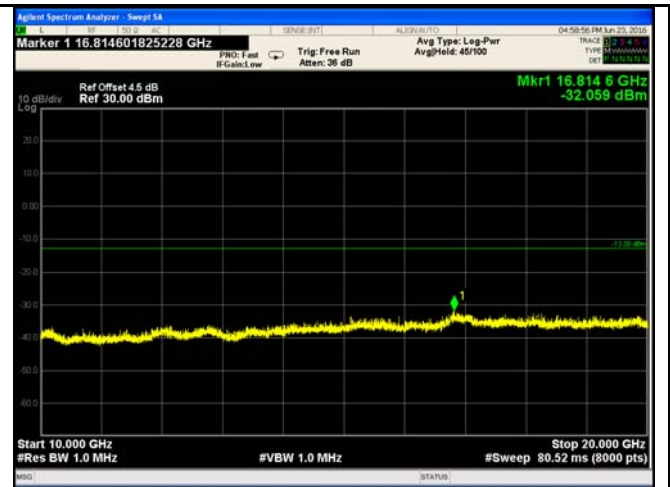


LTE Band 2 - High Channel-2

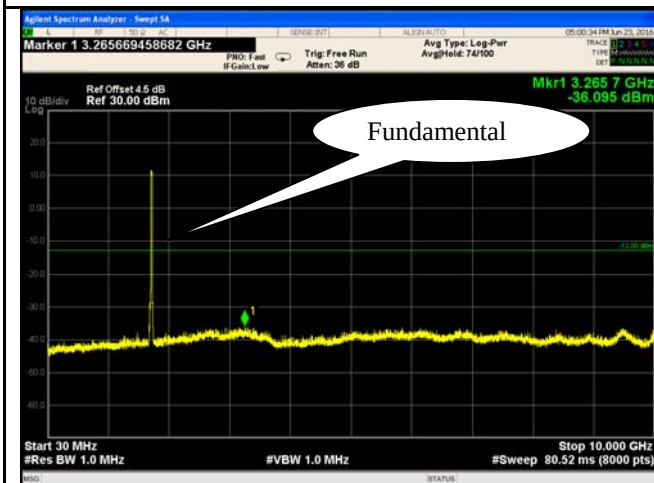
LTE Band 4 (Part27) result



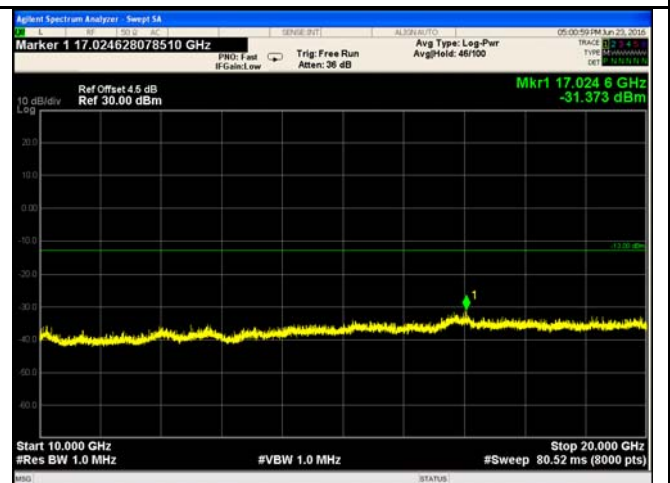
LTE Band 4 - Low Channel-1



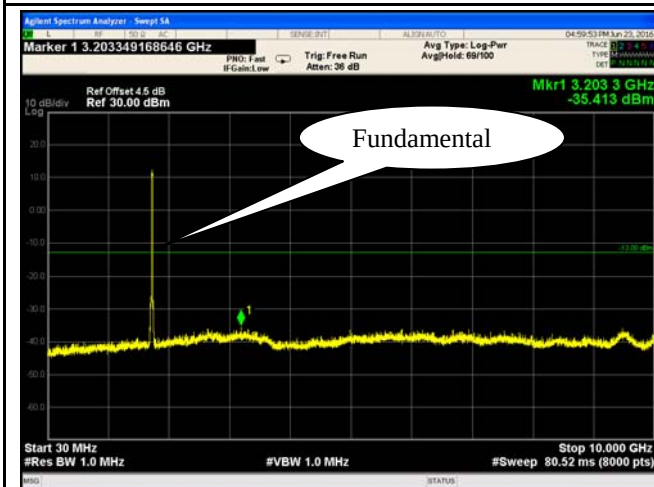
LTE Band 4 - Low Channel-2



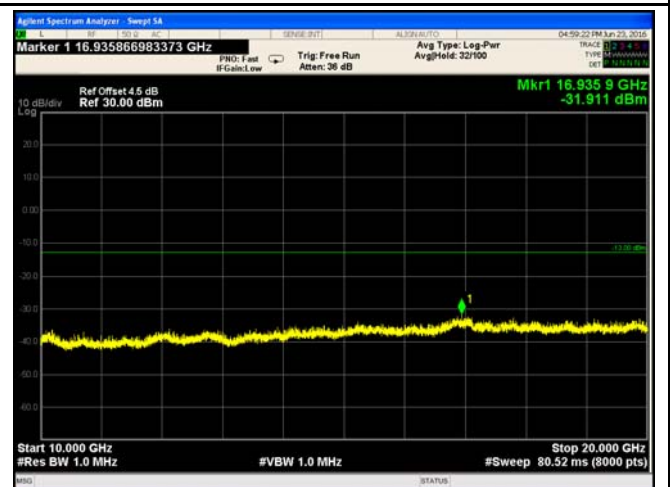
LTE Band 4 - Middle Channel-1



LTE Band 4 - Middle Channel-2

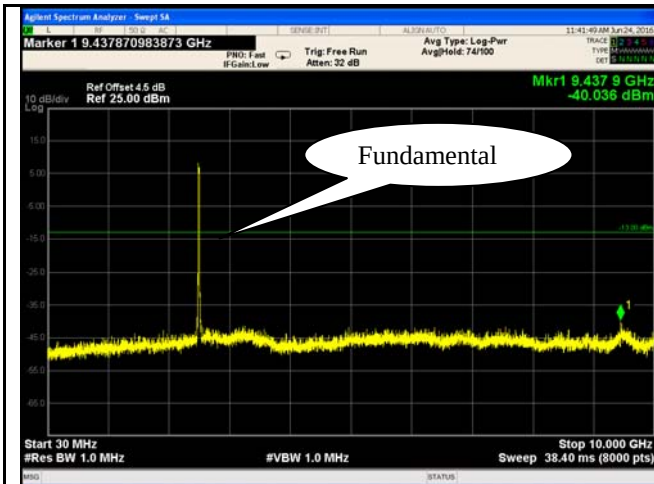


LTE Band 4 - High Channel-1

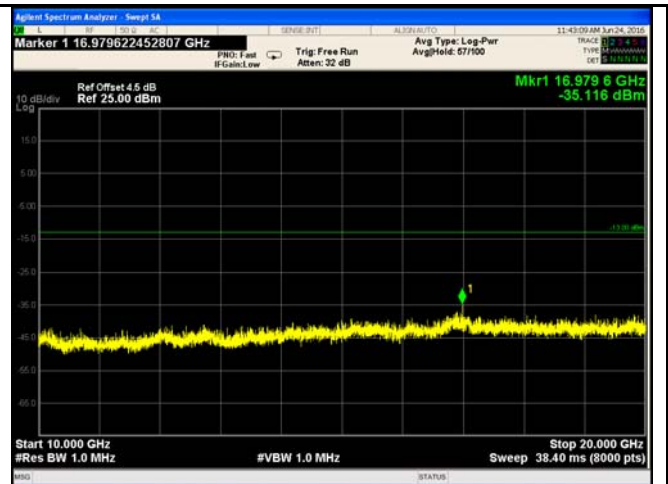


LTE Band 4 - High Channel-2

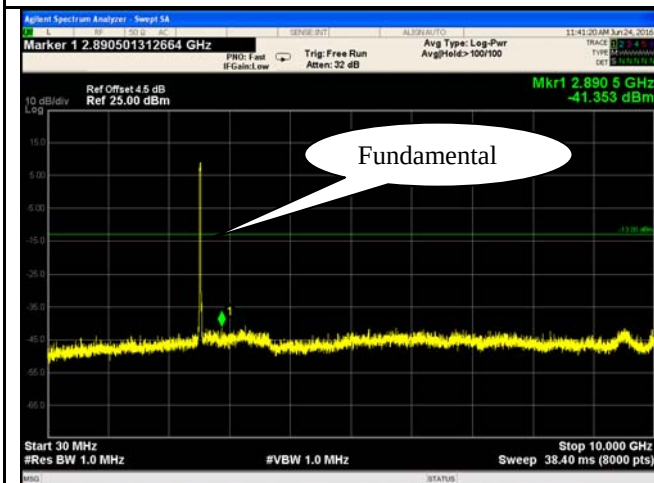
LTE Band 7 (Part 27)



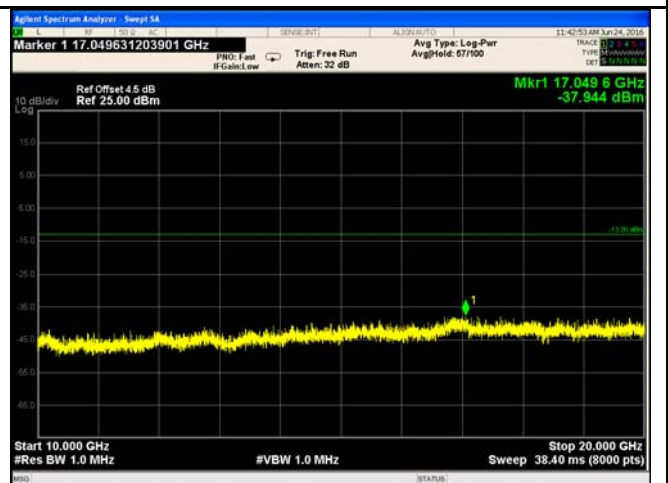
LTE Band 7 - Low Channel-1



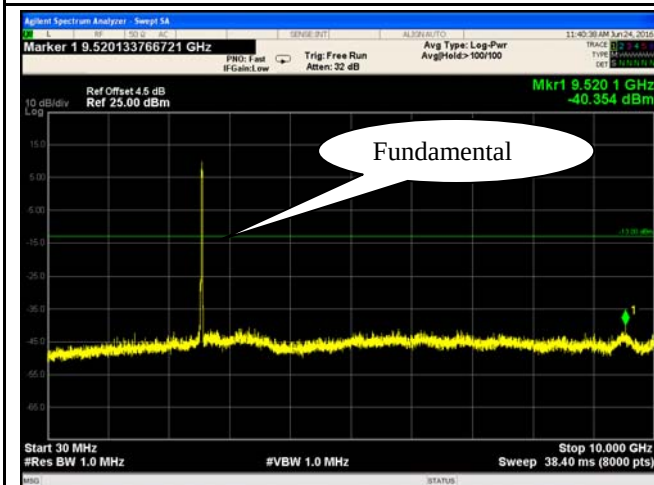
LTE Band 7 - Low Channel-2



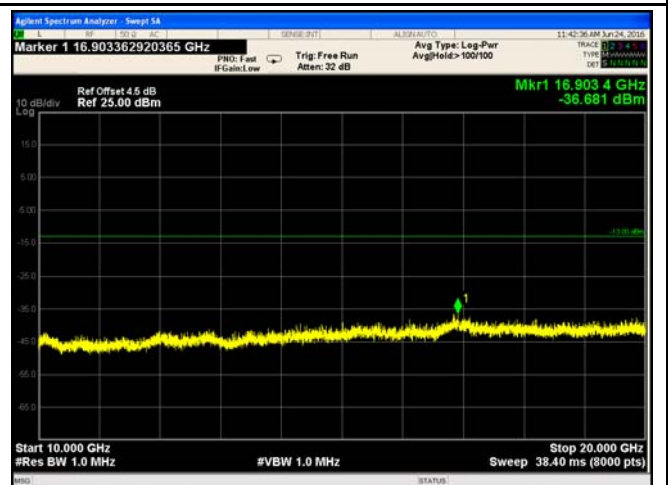
LTE Band 7 - Middle Channel-1



LTE Band 7 - Middle Channel-2

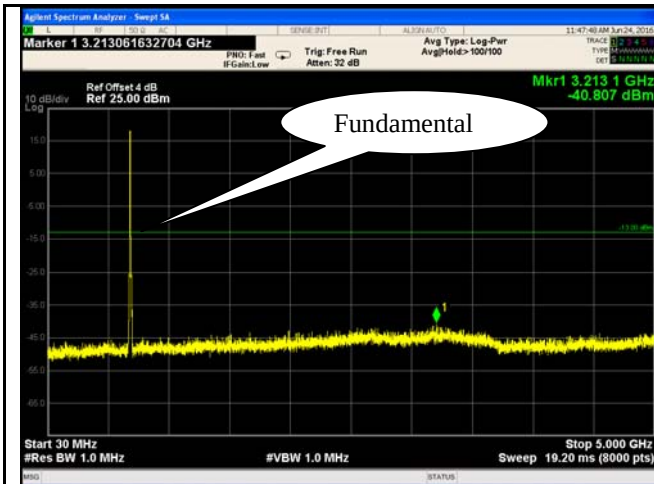


LTE Band 7 - High Channel-1

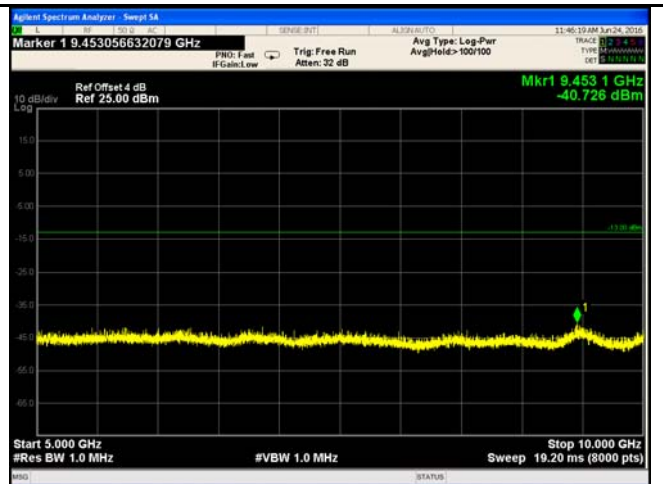


LTE Band 7 - High Channel-2

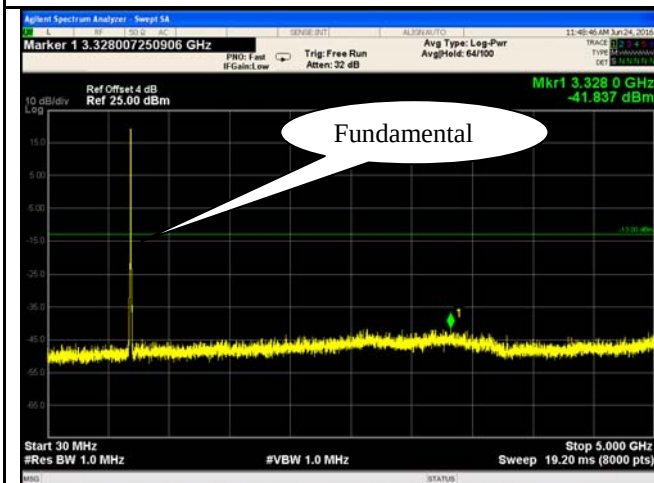
LTE Band 17 (Part 27)



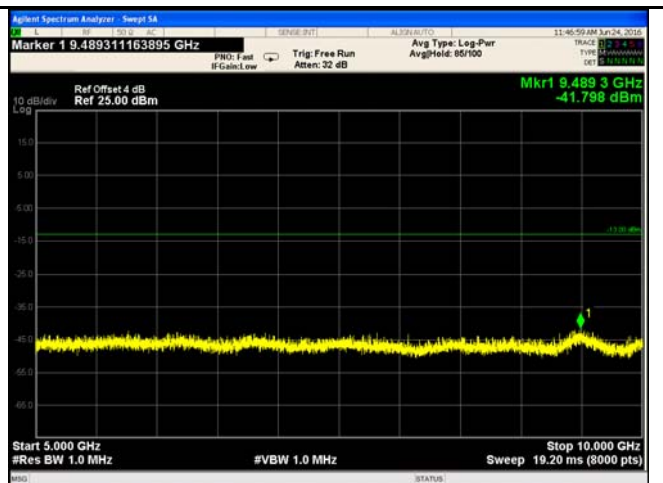
LTE Band 17 - Low Channel-1



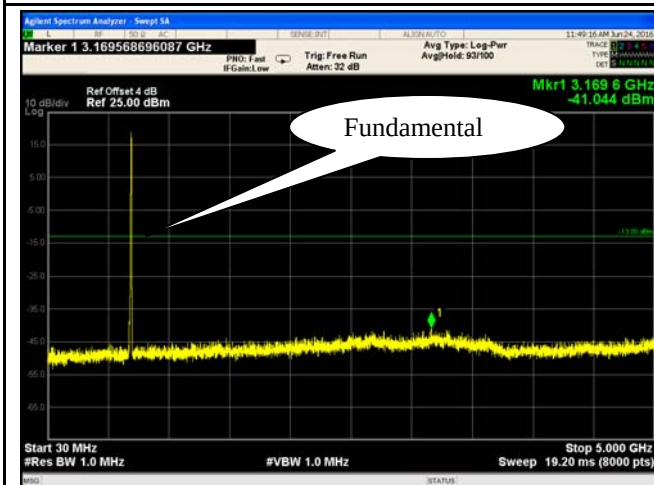
LTE Band 17 - Low Channel-2



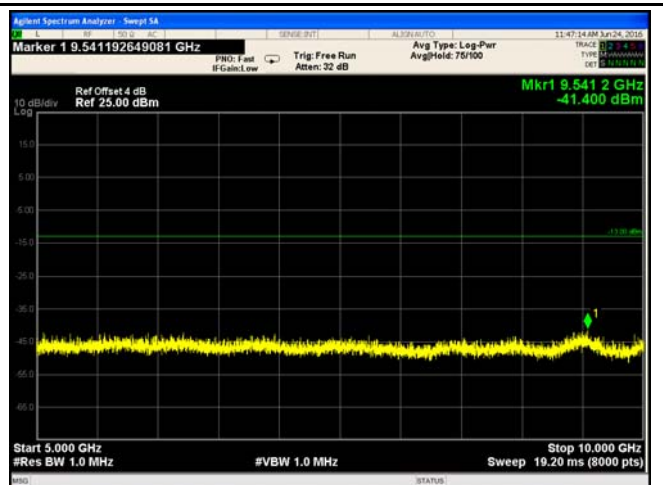
LTE Band 17 - Middle Channel-1



LTE Band 17 - Middle Channel-2



LTE Band 17 - High Channel-1



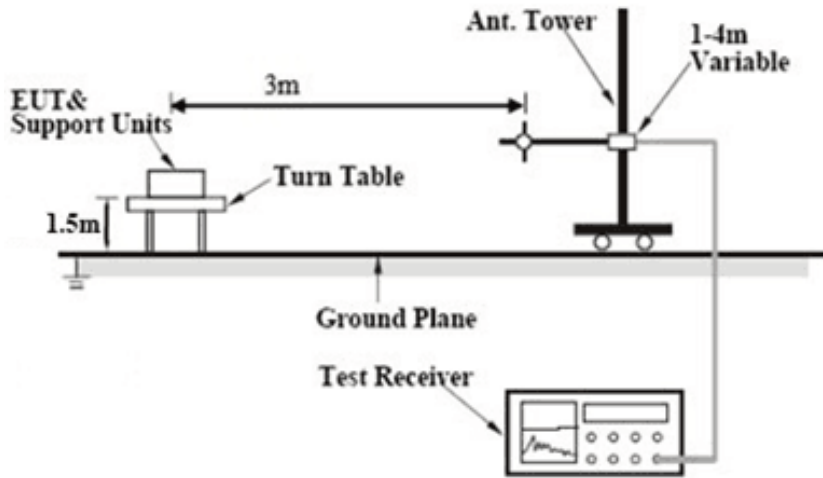
LTE Band 17 - High Channel-2

6.6 Spurious Radiated Emissions

Temperature	23°C
Relative Humidity	55%
Atmospheric Pressure	1022mbar
Test date :	June 22, 2016
Tested By :	Loren Luo

Requirement(s):

Spec	Item	Requirement	Applicable
§2.1053, §22.917 & §24.238 § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.	☒

Test setup	
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Test Procedure	- 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. - 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. Sample Calculation: EUT Field Strength = Raw Amplitude (dBμV/m) – Amplifier Gain (dB) + Antenna Factor (dB) + Cable Loss (dB) + Filter Attenuation (dB, if used)
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Remark	
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

LTE Band 2 (Part 24E) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3720	-46.81	V	10.25	2.73	-39.29	-13	-26.29
3720	-46.57	H	10.25	2.73	-39.05	-13	-26.05
46.3	-41.33	V	-4.2	0.11	-45.64	-13	-32.64
189.7	-50.18	H	4.6	0.18	-45.76	-13	-32.76

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3760	-46.69	V	10.25	2.73	-39.17	-13	-26.17
3760	-46.44	H	10.25	2.73	-38.92	-13	-25.92
46.8	-41.27	V	-4.2	0.11	-45.58	-13	-32.58
189.2	-50.36	H	4.6	0.18	-45.94	-13	-32.94

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3800	-46.51	V	10.36	2.73	-38.88	-13	-25.88
3800	-46.38	H	10.36	2.73	-38.75	-13	-25.75
46.4	-41.25	V	-4.2	0.11	-45.56	-13	-32.56
189.6	-50.19	H	4.6	0.18	-45.77	-13	-32.77

Note:

1, The testing has been conformed to $10 \times 1907.5 \text{ MHz} = 19,075 \text{ MHz}$

2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and -Axis were investigated. The results above show only the worst case.

LTE Band 4(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3440	-44.28	V	10.06	2.52	-36.74	-13	-23.74
3440	-44.62	H	10.06	2.52	-37.08	-13	-24.08
45.7	-42.47	V	-4.2	0.11	-46.78	-13	-33.78
190.4	-51.24	H	4.6	0.18	-46.82	-13	-33.82

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3465	-44.35	V	10.09	2.52	-36.78	-13	-23.78
3465	-44.49	H	10.09	2.52	-36.92	-13	-23.92
45.6	-42.61	V	-4.2	0.11	-46.92	-13	-33.92
190.8	-51.17	H	4.6	0.18	-46.75	-13	-33.75

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3490	-44.23	V	10.09	2.52	-36.66	-13	-23.66
3490	-44.18	H	10.09	2.52	-36.61	-13	-23.61
45.1	-42.49	V	-4.2	0.11	-46.80	-13	-33.80
190.9	-51.34	H	4.6	0.18	-46.92	-13	-33.92

Note:

1, The testing has been conformed to $10 \times 1752.5 \text{ MHz} = 17,525 \text{ MHz}$

2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and -Axis were investigated. The results above show only the worst case.

LTE Band 7(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5020	-48.95	V	10.29	0.98	-39.64	-13	-26.64
5020	-48.39	H	10.29	0.98	-39.08	-13	-26.08
46.2	-42.51	V	-4.2	0.11	-46.82	-13	-33.82
190.8	-51.17	H	4.6	0.18	-46.75	-13	-33.75

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5070	-48.56	V	10.3	0.99	-39.25	-13	-26.25
5070	-48.72	H	10.3	0.99	-39.41	-13	-26.41
46.7	-42.49	V	-4.2	0.11	-46.8	-13	-33.80
190.5	-51.33	H	4.6	0.18	-46.91	-13	-33.91

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5120	-48.37	V	10.32	1	-39.05	-13	-26.05
5120	-48.66	H	10.32	1	-39.34	-13	-26.34
46.1	-42.53	V	-4.2	0.11	-46.84	-13	-33.84
189.7	-51.18	H	4.6	0.18	-46.76	-13	-33.76

Note:

1, The testing has been conformed to $10 \times 2567.5 \text{ MHz} = 25,675 \text{ MHz}$

2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and -Axis were investigated. The results above show only the worst case.

LTE Band 17(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1418	-44.61	V	7.65	0.75	-37.71	-13	-24.71
1418	-44.29	H	7.65	0.75	-37.39	-13	-24.39
44.8	-40.53	V	-4.2	0.11	-44.84	-13	-31.84
187.5	-48.54	H	4.6	0.18	-44.12	-13	-31.12

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1420	-44.53	V	7.65	0.75	-37.63	-13	-24.63
1420	-44.31	H	7.65	0.75	-37.41	-13	-24.41
44.5	-40.78	V	-4.2	0.11	-45.09	-13	-32.09
187.9	-48.75	H	4.6	0.18	-44.33	-13	-31.33

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1422	-44.89	V	7.65	0.75	-37.99	-13	-24.99
1422	-44.65	H	7.65	0.75	-37.75	-13	-24.75
44.9	-40.81	V	-4.2	0.11	-45.12	-13	-32.12
187.3	-48.94	H	4.6	0.18	-44.52	-13	-31.52

Note:

1, The testing has been conformed to $10 \times 713.5 \text{ MHz} = 7,135 \text{ MHz}$

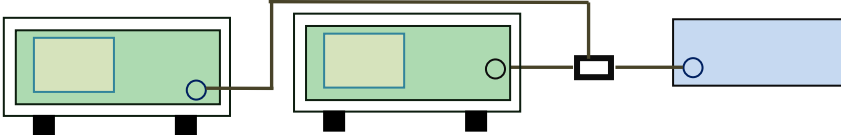
2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and -Axis were investigated. The results above show only the worst case.

6.7 Band Edge

Temperature	24°C
Relative Humidity	56%
Atmospheric Pressure	1023mbar
Test date :	June 23&24, 2016
Tested By :	Loren Luo

Requirement(s):

Spec	Item	Requirement	Applicable
§22.917(a) §24.238(a) § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.	☒
Test setup			
Procedure	- The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The Band Edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly BW/100.		
Remark			
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A