


RF TEST REPORT



Report No.: 17071442-FCC-R5

Supersede Report No.: N/A

Applicant	MFOURTEL MEXICO S.A. DE C.V.	
Product Name	Smart Phone	
Model No.	M4 B2	
Serial No.	N/A	
Test Standard	FCC Part 22(H):2016, FCC Part 24(E):2016, FCC Part 27: 2016; ANSI/TIA-603-D: 2010	
Test Date	December 22 to January 25, 2018	
Issue Date	January 26, 2018	
Test Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Equipment complied with the specification	<input checked="" type="checkbox"/>	
Equipment did not comply with the specification	<input type="checkbox"/>	
		
Aaron Liang Test Engineer	David Huang Checked By	
<p>This test report may be reproduced in full only</p> <p>Test result presented in this test report is applicable to the tested sample only</p>		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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

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

Test Report	17071442-FCC-R5
Page	2 of 133

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

Laboratories Introduction

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



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

Accreditations for Conformity Assessment

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

Test Report	17071442-FCC-R5
Page	4 of 133

This page has been left blank intentionally.

CONTENTS

1. REPORT REVISION HISTORY	6
2. CUSTOMER INFORMATION.....	6
3. TEST SITE INFORMATION	6
4. EQUIPMENT UNDER TEST (EUT) INFORMATION	7
5. TEST SUMMARY	9
6. MEASUREMENTS, EXAMINATION AND DERIVED RESULTS.....	10
6.1 RF EXPOSURE (SAR)	10
6.2 RF OUTPUT POWER.....	11
6.3 PEAK-AVERAGE RATIO.....	43
6.4 OCCUPIED BANDWIDTH	47
6.5 SPURIOUS EMISSIONS AT ANTENNA TERMINALS	74
6.6 SPURIOUS RADIATED EMISSIONS.....	79
6.7 BAND EDGE	85
6.8 BAND EDGE 27.53(M)	105
6.9 FREQUENCY STABILITY.....	111
ANNEX A. TEST INSTRUMENT.....	115
ANNEX B. EUT AND TEST SETUP PHOTOGRAPHS.....	117
ANNEX C. TEST SETUP AND SUPPORTING EQUIPMENT.....	129
ANNEX C.II. EUT OPERATING CONKITIONS	131
ANNEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST	132
ANNEX E. DECLARATION OF SIMILARITY	133

1. Report Revision History

Report No.	Report Version	Description	Issue Date
17071442-FCC-R5	NONE	Original	January 26, 2018

2. Customer information

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

3. Test site information

Test Lab A:

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

Test Lab B:

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

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

4. Equipment under Test (EUT) Information

Description of EUT:	Smart Phone
Main Model:	M4 B2
Serial Model:	N/A
Date EUT received:	December 21, 2017
Test Date(s):	December 22 to January 25, 2018
Equipment Category :	PCE
Antenna Gain:	GSM850: -3dBi PCS1900: -1dBi UMTS-FDD Band V: -3dBi UMTS-FDD Band II: -1dBi LTE Band II: -1dBi LTE Band IV: -3dBi LTE Band VII: 0 dBi LTE Band XII: -4dBi Bluetooth/BLE: 1dBi WIFI: 1dBi GPS: -1dBi
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, 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 V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz

UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz;
RX: 1932.4 ~ 1987.6 MHz
LTE Band II TX: 1850.7 ~ 1909.3MHz; RX : 1930.7 ~ 1989.3 MHz
LTE Band IV TX: 1710.7 ~ 1754.3 MHz; RX : 2110.7~ 2154.3 MHz
LTE Band VII TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz
LTE Band XII TX:699.7 ~ 715.3 MHz; RX : 729.7~ 745.3MHz
WIFI: 802.11b/g/n(20M): 2412-2462 MHz
WIFI: 802.11n(40M): 2422-2452 MHz
Bluetooth& BLE: 2402-2480 MHz
GPS: 1575.42 MHz

Maximum Conducted
AV Power to Antenna:

LTE Band II: 23.73 dBm
LTE Band IV: 23.89 dBm
LTE Band VII: 23.70 dBm
LTE Band XII: 23.56 dBm

ERP/EIRP:

LTE Band II: 22.89 dBm / EIRP
LTE Band IV: 20.80 dBm / EIRP
LTE Band VII: 23.75 dBm / EIRP
LTE Band XII: 21.39 dBm / EIRP

Port: USB Port, Earphone Port

Input Power:

Adapter:
Model: M4
Input: AC100-240V~50/60Hz,150mA
Output: DC 5V, 1000mA
Battery:
Model: M2400A
Spec: 3.7V, 2400mAh, 8.88Wh

Trade Name : M4

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

FCC ID: CLNM4B2

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;

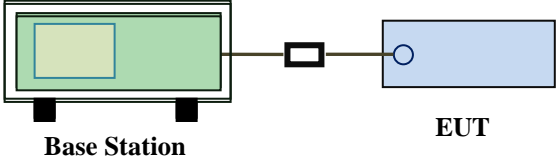
Please refer to RF Exposure Evaluation Report: 17071442-FCC-H.

6.2 RF Output Power

Temperature	26 °C
Relative Humidity	57%
Atmospheric Pressure	1025mbar
Test date :	January 25, 2018
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§22.913 (a)	a)	ERP:38.45dBm	<input checked="" type="checkbox"/>
§24.232 (c)	b)	EIRP:33dBm	<input checked="" type="checkbox"/>
§27.50 (c)	c)	EIRP: 30dBm	<input checked="" type="checkbox"/>

Test Setup	 <p style="text-align: center;">Base Station EUT</p>
------------	--

Test Procedure	<p>For Conducted Power:</p> <ul style="list-style-type: none"> - 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. <p>For ERP/EIRP:</p> <ul style="list-style-type: none"> - 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.
----------------	---

	<ul style="list-style-type: none"> - 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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

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

Conducted Power

LTE Band II:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	18700	1860.0	QPSK	1	0	0	23.25	23.4±1
				1	49	0	23.2	23.4±1
				1	99	0	23.59	23.4±1
				50	0	1	23.49	23.4±1
				50	24	1	23.18	23.4±1
				50	49	1	23.4	23.4±1
				100	0	1	23.41	23.4±1
			16QAM	1	0	1	23.38	23.3±1
				1	49	1	23.46	23.3±1
				1	99	1	23.02	23.3±1
				50	0	2	23.47	23.3±1
				50	24	2	23.53	23.3±1
				50	49	2	23.29	23.3±1
				100	0	2	23.12	23.3±1
	18900	1880.0	QPSK	1	0	0	23.49	22.8±1
				1	49	0	23.21	22.8±1
				1	99	0	23.35	22.8±1
				50	0	1	22.62	22.8±1
				50	24	1	22.54	22.8±1
				50	49	1	22.27	22.8±1
				100	0	1	22.47	22.8±1
			16QAM	1	0	1	22.37	22.1±1
				1	49	1	22.47	22.1±1
				1	99	1	22.35	22.1±1
				50	0	2	22.04	22.1±1
				50	24	2	22.08	22.1±1
				50	49	2	22.13	22.1±1
100				0	2	21.78	22.1±1	
19100	1900.0	QPSK	1	0	0	22.46	22.5±1	
			1	49	0	22.46	22.5±1	
			1	99	0	22.37	22.5±1	
			50	0	1	22.75	22.5±1	
			50	24	1	22.76	22.5±1	
			50	49	1	22.5	22.5±1	
			100	0	1	22.4	22.5±1	
		16QAM	1	0	1	22.64	22.2±1	
			1	49	1	22.52	22.2±1	
			1	99	1	22.53	22.2±1	
			50	0	2	21.6	22.2±1	
			50	24	2	21.59	22.2±1	
			50	49	2	21.76	22.2±1	
			100	0	2	21.57	22.2±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	23.34	23.2±1
				1	37	0	23.14	23.2±1
				1	74	0	22.97	23.2±1
				36	0	1	23.53	23.2±1
				36	16	1	23.1	23.2±1
				36	35	1	23.28	23.2±1
				75	0	1	23.43	23.2±1
			16QAM	1	0	1	23.38	23.3±1
				1	37	1	23.41	23.3±1
				1	74	1	23.34	23.3±1
				36	0	2	23.41	23.3±1
				36	16	2	23.34	23.3±1
				36	35	2	23.43	23.3±1
				75	0	2	23.07	23.3±1
	18900	1880.0	QPSK	1	0	0	23.49	22.9±1
				1	37	0	23.33	22.9±1
				1	74	0	23.31	22.9±1
				36	0	1	22.41	22.9±1
				36	16	1	22.33	22.9±1
				36	35	1	22.46	22.9±1
				75	0	1	22.7	22.9±1
			16QAM	1	0	1	22.7	21.9±1
				1	37	1	22.48	21.9±1
				1	74	1	22.63	21.9±1
				36	0	2	21.53	21.9±1
				36	16	2	21.59	21.9±1
				36	35	2	21.75	21.9±1
				75	0	2	21.25	21.9±1
19125	1902.5	QPSK	1	0	0	23.51	23.1±1	
			1	37	0	23.31	23.1±1	
			1	74	0	23.58	23.1±1	
			36	0	1	22.84	23.1±1	
			36	16	1	22.52	23.1±1	
			36	35	1	22.49	23.1±1	
			75	0	1	22.7	23.1±1	
		16QAM	1	0	1	23.23	22.2±1	
			1	37	1	23.04	22.2±1	
			1	74	1	23.07	22.2±1	
			36	0	2	21.94	22.2±1	
			36	16	2	21.91	22.2±1	
			36	35	2	21.75	22.2±1	
			75	0	2	21.55	22.2±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	23.45	23.2±1
				1	24	0	23.32	23.2±1
				1	49	0	23.46	23.2±1
				25	0	1	23.36	23.2±1
				25	12	1	23.15	23.2±1
				25	24	1	23.19	23.2±1
				50	0	1	23.19	23.2±1
			16QAM	1	0	1	23.36	23.1±1
				1	24	1	23.27	23.1±1
				1	49	1	22.89	23.1±1
				25	0	2	23.31	23.1±1
				25	12	2	23.15	23.1±1
				25	24	2	23.11	23.1±1
				50	0	2	23.32	23.1±1
	18900	1880.0	QPSK	1	0	0	23.32	22.8±1
				1	24	0	22.86	22.8±1
				1	49	0	22.95	22.8±1
				25	0	1	22.18	22.8±1
				25	12	1	22.11	22.8±1
				25	24	1	22.57	22.8±1
				50	0	1	22.31	22.8±1
			16QAM	1	0	1	22.71	22.2±1
				1	24	1	22.59	22.2±1
				1	49	1	22.69	22.2±1
				25	0	2	21.4	22.2±1
				25	12	2	21.6	22.2±1
				25	24	2	21.67	22.2±1
				50	0	2	21.23	22.2±1
	19150	1905	QPSK	1	0	0	23.06	22.8±1
				1	24	0	23.48	22.8±1
1				49	0	23.27	22.8±1	
25				0	1	22.14	22.8±1	
25				12	1	22.39	22.8±1	
25				24	1	22.5	22.8±1	
50				0	1	22.55	22.8±1	
16QAM			1	0	1	22.25	21.9±1	
			1	24	1	22.32	21.9±1	
			1	49	1	22.09	21.9±1	
			25	0	2	21.7	21.9±1	
			25	12	2	21.45	21.9±1	
			25	24	2	21.72	21.9±1	
			50	0	2	21.44	21.9±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	22.89	23.1±1
				1	12	0	23.09	23.1±1
				1	24	0	23.2	23.1±1
				12	0	1	23.16	23.1±1
				12	6	1	22.82	23.1±1
				12	11	1	22.97	23.1±1
				25	0	1	22.93	23.1±1
			16QAM	1	0	1	23.27	23.3±1
				1	12	1	23.34	23.3±1
				1	24	1	23.1	23.3±1
				12	0	2	23.31	23.3±1
				12	6	2	23.33	23.3±1
				12	11	2	23.41	23.3±1
				25	0	2	23.29	23.3±1
	18900	1880.0	QPSK	1	0	0	23.38	22.9±1
				1	12	0	23.43	22.9±1
				1	24	0	23.34	22.9±1
				12	0	1	22.53	22.9±1
				12	6	1	22.27	22.9±1
				12	11	1	22.52	22.9±1
				25	0	1	22.54	22.9±1
			16QAM	1	0	1	22.11	21.8±1
				1	12	1	22.11	21.8±1
				1	24	1	22.26	21.8±1
				12	0	2	21.59	21.8±1
				12	6	2	21.71	21.8±1
				12	11	2	21.46	21.8±1
				25	0	2	21.34	21.8±1
19175	1907.5	QPSK	1	0	0	22.95	22.6±1	
			1	12	0	23.05	22.6±1	
			1	24	0	23.17	22.6±1	
			12	0	1	21.99	22.6±1	
			12	6	1	22.26	22.6±1	
			12	11	1	21.98	22.6±1	
			25	0	1	22.51	22.6±1	
		16QAM	1	0	1	22.3	21.7±1	
			1	12	1	22.01	21.7±1	
			1	24	1	22.13	21.7±1	
			12	0	2	21.47	21.7±1	
			12	6	2	21.46	21.7±1	
			12	11	2	21.23	21.7±1	
			25	0	2	21.5	21.7±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	23.28	23.2±1
				1	7	0	23.33	23.2±1
				1	14	0	23.29	23.2±1
				8	0	1	23.22	23.2±1
				8	4	1	23.4	23.2±1
				8	7	1	23.41	23.2±1
				15	0	1	23.1	23.2±1
			16QAM	1	0	1	23.14	23.4±1
				1	7	1	23.19	23.4±1
				1	14	1	23.62	23.4±1
				8	0	2	23.38	23.4±1
				8	4	2	23.42	23.4±1
				8	7	2	23.38	23.4±1
				15	0	2	23.2	23.4±1
	18900	1880.0	QPSK	1	0	0	23.58	22.8±1
				1	7	0	23.34	22.8±1
				1	14	0	23.37	22.8±1
				8	0	1	22.44	22.8±1
				8	4	1	22.35	22.8±1
				8	7	1	22.33	22.8±1
				15	0	1	22.16	22.8±1
			16QAM	1	0	1	22.39	21.7±1
				1	7	1	22	21.7±1
				1	14	1	22.07	21.7±1
				8	0	2	21.39	21.7±1
				8	4	2	21.13	21.7±1
				8	7	2	21.38	21.7±1
				15	0	2	21.37	21.7±1
	19175	1907.5	QPSK	1	0	0	22.97	22.9±1
				1	7	0	23.37	22.9±1
1				14	0	23.22	22.9±1	
8				0	1	22.73	22.9±1	
8				4	1	22.61	22.9±1	
8				7	1	22.72	22.9±1	
15				0	1	22.74	22.9±1	
16QAM			1	0	1	22.7	22.3±1	
			1	7	1	22.73	22.3±1	
			1	14	1	22.96	22.3±1	
			8	0	2	21.84	22.3±1	
			8	4	2	21.88	22.3±1	
			8	7	2	22.09	22.3±1	
			15	0	2	21.56	22.3±1	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	18607	1850.7	QPSK	1	0	0	23.19	23.2±1
				1	2	0	23.08	23.2±1
				1	5	0	23.13	23.2±1
				3	0	0	23.13	23.2±1
				3	1	0	23.16	23.2±1
				3	2	0	23.39	23.2±1
			6	0	1	23	23.2±1	
			16QAM	1	0	1	23.42	23.3±1
				1	2	1	23.51	23.3±1
				1	5	1	23.04	23.3±1
				3	0	1	23.26	23.3±1
				3	1	1	23.08	23.3±1
	3	2		1	23.34	23.3±1		
	18900	1880.0	QPSK	1	0	0	23.13	22.9±1
				1	2	0	23.16	22.9±1
				1	5	0	23.12	22.9±1
				3	0	0	23.26	22.9±1
				3	1	0	23.49	22.9±1
				3	2	0	23.29	22.9±1
			6	0	1	22.22	22.9±1	
			16QAM	1	0	1	22.49	21.8±1
				1	2	1	22.09	21.8±1
				1	5	1	22.32	21.8±1
				3	0	1	22.18	21.8±1
				3	1	1	21.99	21.8±1
	3	2		1	21.97	21.8±1		
	19193	1909.3	QPSK	1	0	0	23.73	23±1
				1	2	0	23.62	23±1
				1	5	0	23.41	23±1
				3	0	0	22.6	23±1
3				1	0	22.64	23±1	
3				2	0	22.43	23±1	
6			0	1	22.59	23±1		
16QAM			1	0	1	22.3	22.2±1	
			1	2	1	22.35	22.2±1	
			1	5	1	22.6	22.2±1	
			3	0	1	21.87	22.2±1	
			3	1	1	21.85	22.2±1	
	3	2	1	21.55	22.2±1			
6	0	2	21.53	22.2±1				

LTE Band IV:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	20050	1720.0	QPSK	1	0	0	23.61	23.6±1
				1	49	0	23.62	23.6±1
				1	99	0	23.86	23.6±1
				50	0	1	23.89	23.6±1
				50	24	1	23.68	23.6±1
				50	49	1	23.51	23.6±1
				100	0	1	23.44	23.6±1
			16QAM	1	0	1	23.51	23.3±1
				1	49	1	23.22	23.3±1
				1	99	1	23.54	23.3±1
				50	0	2	23.18	23.3±1
				50	24	2	23.46	23.3±1
				50	49	2	23.56	23.3±1
				100	0	2	23.18	23.3±1
	20175	1732.5	QPSK	1	0	0	23.47	22.8±1
				1	49	0	23.43	22.8±1
				1	99	0	23.32	22.8±1
				50	0	1	22.14	22.8±1
				50	24	1	22.29	22.8±1
				50	49	1	22.2	22.8±1
				100	0	1	22.32	22.8±1
			16QAM	1	0	1	22.4	21.8±1
				1	49	1	22.21	21.8±1
				1	99	1	22.25	21.8±1
				50	0	2	21.45	21.8±1
				50	24	2	21	21.8±1
				50	49	2	21.49	21.8±1
				100	0	2	21.44	21.8±1
	20300	1745.0	QPSK	1	0	0	23.39	22.7±1
				1	49	0	23.14	22.7±1
1				99	0	23.4	22.7±1	
50				0	1	22.29	22.7±1	
50				24	1	22.31	22.7±1	
50				49	1	22.37	22.7±1	
100				0	1	21.84	22.7±1	
16QAM			1	0	1	22.23	21.6±1	
			1	49	1	22.29	21.6±1	
			1	99	1	22.21	21.6±1	
			50	0	2	21.56	21.6±1	
			50	24	2	21.5	21.6±1	
			50	49	2	21.43	21.6±1	
			100	0	2	21.3	21.6±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	23.71	23.5±1
				1	37	0	23.59	23.5±1
				1	74	0	23.55	23.5±1
				36	0	1	23.52	23.5±1
				36	16	1	23.49	23.5±1
				36	35	1	23.68	23.5±1
				75	0	1	23.28	23.5±1
			16QAM	1	0	1	23.15	23.2±1
				1	37	1	23.12	23.2±1
				1	74	1	23.47	23.2±1
				36	0	2	23.31	23.2±1
				36	16	2	23.46	23.2±1
				36	35	2	23.3	23.2±1
				75	0	2	23.46	23.2±1
	20175	1732.5	QPSK	1	0	0	23.27	22.8±1
				1	37	0	23.08	22.8±1
				1	74	0	23.18	22.8±1
				36	0	1	22.34	22.8±1
				36	16	1	22.04	22.8±1
				36	35	1	22.21	22.8±1
				75	0	1	22.61	22.8±1
			16QAM	1	0	1	22.52	21.8±1
				1	37	1	22.5	21.8±1
				1	74	1	22.31	21.8±1
				36	0	2	21.23	21.8±1
				36	16	2	21.24	21.8±1
				36	35	2	21.13	21.8±1
				75	0	2	21.23	21.8±1
20325	1747.5	QPSK	1	0	0	22.92	22.7±1	
			1	37	0	23.26	22.7±1	
			1	74	0	23.16	22.7±1	
			36	0	1	22.05	22.7±1	
			36	16	1	22.4	22.7±1	
			36	35	1	22.34	22.7±1	
			75	0	1	21.94	22.7±1	
		16QAM	1	0	1	22.7	21.9±1	
			1	37	1	22.78	21.9±1	
			1	74	1	22.5	21.9±1	
			36	0	2	20.86	21.9±1	
			36	16	2	21.06	21.9±1	
			36	35	2	20.71	21.9±1	
			75	0	2	21.32	21.9±1	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	20000	1715.0	QPSK	1	0	0	23.28	23.5±1
				1	24	0	23.27	23.5±1
				1	49	0	23.67	23.5±1
				25	0	1	23.63	23.5±1
				25	12	1	23.44	23.5±1
				25	24	1	23.64	23.5±1
				50	0	1	23.75	23.5±1
			16QAM	1	0	1	23.29	23.2±1
				1	24	1	22.88	23.2±1
				1	49	1	23.13	23.2±1
				25	0	2	23.03	23.2±1
				25	12	2	22.94	23.2±1
				25	24	2	22.98	23.2±1
				50	0	2	23.17	23.2±1
	20175	1732.5	QPSK	1	0	0	23.17	22.7±1
				1	24	0	23.4	22.7±1
				1	49	0	23.16	22.7±1
				25	0	1	22.16	22.7±1
				25	12	1	22.19	22.7±1
				25	24	1	22.22	22.7±1
				50	0	1	22.35	22.7±1
			16QAM	1	0	1	22.53	21.9±1
				1	24	1	22.95	21.9±1
				1	49	1	22.89	21.9±1
				25	0	2	21.14	21.9±1
				25	12	2	21.14	21.9±1
				25	24	2	21.32	21.9±1
50				0	2	21.19	21.9±1	
20350	1750.0	QPSK	1	0	0	23.2	22.6±1	
			1	24	0	23.26	22.6±1	
			1	49	0	22.87	22.6±1	
			25	0	1	22.04	22.6±1	
			25	12	1	21.96	22.6±1	
			25	24	1	22.23	22.6±1	
			50	0	1	21.98	22.6±1	
		16QAM	1	0	1	21.98	21.5±1	
			1	24	1	22.01	21.5±1	
			1	49	1	21.59	21.5±1	
			25	0	2	21.18	21.5±1	
			25	12	2	20.83	21.5±1	
			25	24	2	21.02	21.5±1	
			50	0	2	21.11	21.5±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	23.59	23.4±1
				1	12	0	23.55	23.4±1
				1	24	0	23.64	23.4±1
				12	0	1	23.27	23.4±1
				12	6	1	23.32	23.4±1
				12	11	1	23.33	23.4±1
				25	0	1	23.36	23.4±1
			16QAM	1	0	1	22.96	23.2±1
				1	12	1	23.3	23.2±1
				1	24	1	23.03	23.2±1
				12	0	2	23.14	23.2±1
				12	6	2	23.32	23.2±1
				12	11	2	23.35	23.2±1
				25	0	2	23.27	23.2±1
	20175	1732.5	QPSK	1	0	0	22.98	22.7±1
				1	12	0	23.13	22.7±1
				1	24	0	23.28	22.7±1
				12	0	1	22.46	22.7±1
				12	6	1	22.3	22.7±1
				12	11	1	22.14	22.7±1
				25	0	1	22.09	22.7±1
			16QAM	1	0	1	22.19	21.6±1
				1	12	1	22.07	21.6±1
				1	24	1	22.04	21.6±1
				12	0	2	21.27	21.6±1
				12	6	2	21	21.6±1
				12	11	2	21	21.6±1
				25	0	2	21.21	21.6±1
20350	1750.0	QPSK	1	0	0	22.71	22.5±1	
			1	12	0	22.72	22.5±1	
			1	24	0	22.76	22.5±1	
			12	0	1	21.82	22.5±1	
			12	6	1	21.91	22.5±1	
			12	11	1	22.12	22.5±1	
			25	0	1	22.05	22.5±1	
		16QAM	1	0	1	22.12	21.4±1	
			1	12	1	22	21.4±1	
			1	24	1	21.63	21.4±1	
			12	0	2	21.13	21.4±1	
			12	6	2	20.86	21.4±1	
			12	11	2	20.83	21.4±1	
			25	0	2	21.07	21.4±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	23.62	23.5±1
				1	7	0	23.57	23.5±1
				1	14	0	23.61	23.5±1
				8	0	1	23.4	23.5±1
				8	4	1	23.54	23.5±1
				8	7	1	23.36	23.5±1
			15	0	1	23.29	23.5±1	
			16QAM	1	0	1	23.11	23.2±1
				1	7	1	23.13	23.2±1
				1	14	1	22.96	23.2±1
				8	0	2	22.95	23.2±1
				8	4	2	23.02	23.2±1
	8	7		2	23.45	23.2±1		
	20175	1732.5	QPSK	1	0	0	23.32	22.7±1
				1	7	0	23.28	22.7±1
				1	14	0	23.47	22.7±1
				8	0	1	22.14	22.7±1
				8	4	1	21.98	22.7±1
				8	7	1	21.85	22.7±1
			15	0	1	22.26	22.7±1	
			16QAM	1	0	1	21.99	22.1±1
				1	7	1	21.96	22.1±1
				1	14	1	22.11	22.1±1
				8	0	2	22.32	22.1±1
				8	4	2	22.14	22.1±1
	8	7		2	22.11	22.1±1		
	20385	1753.5	QPSK	1	0	0	22.97	22.4±1
1				7	0	22.61	22.4±1	
1				14	0	22.76	22.4±1	
8				0	1	22.01	22.4±1	
8				4	1	22.19	22.4±1	
8				7	1	22.08	22.4±1	
15			0	1	21.74	22.4±1		
16QAM			1	0	1	22.21	21.7±1	
			1	7	1	22.32	21.7±1	
			1	14	1	22.38	21.7±1	
			8	0	2	21.44	21.7±1	
			8	4	2	21.23	21.7±1	
	8	7	2	21.34	21.7±1			
15	0	2	21.23	21.7±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	23.47	23.5±1
				1	2	0	23.41	23.5±1
				1	5	0	23.46	23.5±1
				3	0	0	23.5	23.5±1
				3	1	0	23.38	23.5±1
				3	2	0	23.48	23.5±1
			6	0	1	23.43	23.5±1	
			16QAM	1	0	1	23.19	23.2±1
				1	2	1	23.24	23.2±1
				1	5	1	23.13	23.2±1
				3	0	1	23.27	23.2±1
				3	1	1	23.13	23.2±1
	3	2		1	23.27	23.2±1		
	20175	1732.5	QPSK	1	0	0	23.19	22.7±1
				1	2	0	23.13	22.7±1
				1	5	0	23.19	22.7±1
				3	0	0	23.17	22.7±1
				3	1	0	23.07	22.7±1
				3	2	0	23.09	22.7±1
			6	0	1	22.11	22.7±1	
			16QAM	1	0	1	22.11	21.5±1
				1	2	1	22.16	21.5±1
				1	5	1	22.03	21.5±1
				3	0	1	20.98	21.5±1
				3	1	1	20.91	21.5±1
	3	2		1	20.88	21.5±1		
	20393	1754.3	QPSK	1	0	0	22.89	22.4±1
				1	2	0	22.89	22.4±1
				1	5	0	22.99	22.4±1
				3	0	0	22.92	22.4±1
3				1	0	22.82	22.4±1	
3				2	0	22.93	22.4±1	
6			0	1	21.86	22.4±1		
16QAM			1	0	1	21.71	21.2±1	
			1	2	1	21.66	21.2±1	
			1	5	1	21.67	21.2±1	
			3	0	1	21.08	21.2±1	
			3	1	1	21.18	21.2±1	
	3	2	1	21.13	21.2±1			
6	0	2	20.84	21.2±1				

LTE Band VII:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	20850	2510	QPSK	1	0	0	23.16	23.2±1
				1	49	0	23.03	23.2±1
				1	99	0	22.98	23.2±1
				50	0	1	23.25	23.2±1
				50	24	1	22.98	23.2±1
				50	49	1	22.95	23.2±1
				100	0	1	23.28	23.2±1
			16QAM	1	0	1	23.36	23.4±1
				1	49	1	23.64	23.4±1
				1	99	1	23.45	23.4±1
				50	0	2	23.16	23.4±1
				50	24	2	23.14	23.4±1
				50	49	2	23.36	23.4±1
				100	0	2	23.37	23.4±1
	21100	2535	QPSK	1	0	0	23.34	23.1±1
				1	49	0	23.55	23.1±1
				1	99	0	23.35	23.1±1
				50	0	1	22.84	23.1±1
				50	24	1	22.82	23.1±1
				50	49	1	22.92	23.1±1
				100	0	1	22.8	23.1±1
			16QAM	1	0	1	22.78	22.2±1
				1	49	1	22.61	22.2±1
				1	99	1	22.74	22.2±1
				50	0	2	21.65	22.2±1
				50	24	2	21.61	22.2±1
				50	49	2	21.51	22.2±1
				100	0	2	21.81	22.2±1
	21350	2560	QPSK	1	0	0	22.42	22.2±1
				1	49	0	22.6	22.2±1
1				99	0	22.64	22.2±1	
50				0	1	21.64	22.2±1	
50				24	1	21.65	22.2±1	
50				49	1	21.57	22.2±1	
100				0	1	21.97	22.2±1	
16QAM			1	0	1	22.04	21.5±1	
			1	49	1	21.84	21.5±1	
			1	99	1	22.2	21.5±1	
			50	0	2	21.41	21.5±1	
			50	24	2	21.62	21.5±1	
			50	49	2	21.35	21.5±1	
			100	0	2	21.26	21.5±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	23.35	23.3±1
				1	37	0	23.06	23.3±1
				1	74	0	23.25	23.3±1
				36	0	1	23.1	23.3±1
				36	16	1	23.18	23.3±1
				36	35	1	23.25	23.3±1
				75	0	1	23.14	23.3±1
			16QAM	1	0	1	23.27	23±1
				1	37	1	23	23±1
				1	74	1	22.94	23±1
				36	0	2	23.01	23±1
				36	16	2	23.23	23±1
				36	35	2	23.05	23±1
				75	0	2	22.95	23±1
	21100	1732.5	QPSK	1	0	0	22.86	22.7±1
				1	37	0	23.14	22.7±1
				1	74	0	23.14	22.7±1
				36	0	1	22.14	22.7±1
				36	16	1	22.05	22.7±1
				36	35	1	22.5	22.7±1
				75	0	1	22.38	22.7±1
			16QAM	1	0	1	22.36	21.8±1
				1	37	1	22.04	21.8±1
				1	74	1	22.44	21.8±1
				36	0	2	20.9	21.8±1
				36	16	2	21.18	21.8±1
				36	35	2	21.07	21.8±1
				75	0	2	21.07	21.8±1
	21375	1747.5	QPSK	1	0	0	23.25	22.7±1
				1	37	0	22.87	22.7±1
1				74	0	23.37	22.7±1	
36				0	1	22.39	22.7±1	
36				16	1	22.08	22.7±1	
36				35	1	22.34	22.7±1	
75				0	1	22.14	22.7±1	
16QAM			1	0	1	21.92	21.7±1	
			1	37	1	22.01	21.7±1	
			1	74	1	21.92	21.7±1	
			36	0	2	21.27	21.7±1	
			36	16	2	21.19	21.7±1	
			36	35	2	21.3	21.7±1	
			75	0	2	21.03	21.7±1	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	20800	2502	QPSK	1	0	0	23.3	23.2±1
				1	24	0	23.42	23.2±1
				1	49	0	23.5	23.2±1
				25	0	1	23.15	23.2±1
				25	12	1	23.16	23.2±1
				25	24	1	23	23.2±1
				50	0	1	23.17	23.2±1
			16QAM	1	0	1	23.41	23.2±1
				1	24	1	23.16	23.2±1
				1	49	1	23.45	23.2±1
				25	0	2	23.05	23.2±1
				25	12	2	23.49	23.2±1
				25	24	2	23.16	23.2±1
				50	0	2	23.27	23.2±1
	21100	2535	QPSK	1	0	0	23.23	22.7±1
				1	24	0	22.97	22.7±1
				1	49	0	23.18	22.7±1
				25	0	1	22.26	22.7±1
				25	12	1	22.16	22.7±1
				25	24	1	22.01	22.7±1
				50	0	1	22.41	22.7±1
			16QAM	1	0	1	22.21	21.8±1
				1	24	1	22.1	21.8±1
				1	49	1	22.42	21.8±1
				25	0	2	21.3	21.8±1
				25	12	2	21.43	21.8±1
				25	24	2	21.07	21.8±1
				50	0	2	21.26	21.8±1
	21400	2565	QPSK	1	0	0	23.17	22.6±1
				1	24	0	23.11	22.6±1
1				49	0	23.21	22.6±1	
25				0	1	22.39	22.6±1	
25				12	1	22.12	22.6±1	
25				24	1	22.45	22.6±1	
50				0	1	22.48	22.6±1	
16QAM			1	0	1	22.48	22±1	
			1	24	1	22.54	22±1	
			1	49	1	22.47	22±1	
			25	0	2	21.37	22±1	
			25	12	2	20.93	22±1	
			25	24	2	20.86	22±1	
			50	0	2	21.52	22±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	23.16	23.2±1
				1	12	0	23.21	23.2±1
				1	24	0	23.12	23.2±1
				12	0	1	23.12	23.2±1
				12	6	1	23.21	23.2±1
				12	11	1	23.24	23.2±1
				25	0	1	23.54	23.2±1
			16QAM	1	0	1	23.34	23.4±1
				1	12	1	23.35	23.4±1
				1	24	1	23.24	23.4±1
				12	0	2	23.27	23.4±1
				12	6	2	23.16	23.4±1
				12	11	2	23.64	23.4±1
				25	0	2	23.61	23.4±1
	20175	1732.5	QPSK	1	0	0	23.66	23.1±1
				1	12	0	23.15	23.1±1
				1	24	0	23.34	23.1±1
				12	0	1	22.79	23.1±1
				12	6	1	22.68	23.1±1
				12	11	1	22.72	23.1±1
				25	0	1	22.65	23.1±1
			16QAM	1	0	1	22.53	22.2±1
				1	12	1	22.61	22.2±1
				1	24	1	22.71	22.2±1
				12	0	2	21.56	22.2±1
				12	6	2	21.61	22.2±1
				12	11	2	21.67	22.2±1
				25	0	2	21.73	22.2±1
	20375	1752.5	QPSK	1	0	0	23.57	23.1±1
				1	12	0	23.7	23.1±1
1				24	0	23.69	23.1±1	
12				0	1	22.94	23.1±1	
12				6	1	22.78	23.1±1	
12				11	1	22.91	23.1±1	
25				0	1	22.59	23.1±1	
16QAM			1	0	1	22.86	22.3±1	
			1	12	1	22.8	22.3±1	
			1	24	1	23.25	22.3±1	
			12	0	2	21.75	22.3±1	
			12	6	2	21.82	22.3±1	
			12	11	2	21.42	22.3±1	
			25	0	2	21.66	22.3±1	

LTE Band XII:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	23060	704	QPSK	1	0	0	23.11	23±1
				1	24	0	22.72	23±1
				1	49	0	23.23	23±1
				25	0	1	22.96	23±1
				25	12	1	22.85	23±1
				25	24	1	23.28	23±1
				50	0	1	22.92	23±1
			16QAM	1	0	1	23.12	23±1
				1	24	1	23.17	23±1
				1	49	1	23.08	23±1
				25	0	2	22.85	23±1
				25	12	2	23.09	23±1
				25	24	2	23.03	23±1
				50	0	2	23.07	23±1
	23095	707.5	QPSK	1	0	0	22.83	22.6±1
				1	24	0	23.13	22.6±1
				1	49	0	22.85	22.6±1
				25	0	1	22.35	22.6±1
				25	12	1	21.96	22.6±1
				25	24	1	22.05	22.6±1
				50	0	1	21.95	22.6±1
			16QAM	1	0	1	22.46	21.9±1
				1	24	1	22.54	21.9±1
				1	49	1	22.68	21.9±1
				25	0	2	21.11	21.9±1
				25	12	2	21.42	21.9±1
				25	24	2	21.22	21.9±1
				50	0	2	21.4	21.9±1
	23130	711	QPSK	1	0	0	23.04	22.6±1
				1	24	0	23.15	22.6±1
1				49	0	22.84	22.6±1	
25				0	1	22.08	22.6±1	
25				12	1	22.14	22.6±1	
25				24	1	21.93	22.6±1	
50				0	1	21.94	22.6±1	
16QAM			1	0	1	21.87	21.6±1	
			1	24	1	21.78	21.6±1	
			1	49	1	22.06	21.6±1	
			25	0	2	20.86	21.6±1	
			25	12	2	21.03	21.6±1	
			25	24	2	20.98	21.6±1	
			50	0	2	21	21.6±1	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	23035	701.5	QPSK	1	0	0	23.12	23.2±1
				1	12	0	23.14	23.2±1
				1	24	0	23.05	23.2±1
				12	0	1	23.18	23.2±1
				12	6	1	22.92	23.2±1
				12	11	1	23.07	23.2±1
			25	0	1	22.98	23.2±1	
			16QAM	1	0	1	23.23	23.1±1
			1	12	1	23.35	23.1±1	
			1	24	1	22.86	23.1±1	
			12	0	2	23.25	23.1±1	
			12	6	2	23.33	23.1±1	
	12	11	2	23.18	23.1±1			
	25	0	2	23.36	23.1±1			
	23095	707.5	QPSK	1	0	0	22.93	22.6±1
				1	12	0	22.92	22.6±1
				1	24	0	23.17	22.6±1
				12	0	1	22.28	22.6±1
				12	6	1	22.23	22.6±1
				12	11	1	22.13	22.6±1
			25	0	1	22.07	22.6±1	
			16QAM	1	0	1	22.24	21.8±1
			1	12	1	22.24	21.8±1	
			1	24	1	21.98	21.8±1	
			12	0	2	21.37	21.8±1	
			12	6	2	21.18	21.8±1	
	12	11	2	21.13	21.8±1			
25	0	2	21.16	21.8±1				
23155	713.5	QPSK	1	0	0	23.25	22.7±1	
			1	12	0	23.03	22.7±1	
			1	24	0	23.04	22.7±1	
			12	0	1	22.42	22.7±1	
			12	6	1	22.5	22.7±1	
			12	11	1	22.21	22.7±1	
		25	0	1	22.28	22.7±1		
		16QAM	1	0	1	21.91	21.6±1	
		1	12	1	22.16	21.6±1		
		1	24	1	22.09	21.6±1		
		12	0	2	21.17	21.6±1		
		12	6	2	21.07	21.6±1		
12	11	2	21.3	21.6±1				
25	0	2	20.95	21.6±1				

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	23025	700.5	QPSK	1	0	0	23.39	23.2±1
				1	7	0	23.16	23.2±1
				1	14	0	23.36	23.2±1
				8	0	1	23.35	23.2±1
				8	4	1	23.24	23.2±1
				8	7	1	23.22	23.2±1
			15	0	1	23.27	23.2±1	
			15	0	1	23.23	23.2±1	
			1	7	1	22.98	23.2±1	
			1	14	1	23.23	23.2±1	
			8	0	2	22.96	23.2±1	
			8	4	2	23.2	23.2±1	
	8	7	2	23.21	23.2±1			
	15	0	2	23.08	23.2±1			
	15	0	2	23.08	23.2±1			
	23095	707.5	QPSK	1	0	0	23.45	22.7±1
				1	7	0	23.2	22.7±1
				1	14	0	23.24	22.7±1
				8	0	1	21.96	22.7±1
				8	4	1	22.04	22.7±1
				8	7	1	22.3	22.7±1
			15	0	1	22.34	22.7±1	
			15	0	1	22.32	21.8±1	
			1	7	1	22.1	21.8±1	
			1	14	1	22.41	21.8±1	
			8	0	2	21.5	21.8±1	
			8	4	2	21.18	21.8±1	
	8	7	2	21.47	21.8±1			
	15	0	2	21.26	21.8±1			
	15	0	2	21.26	21.8±1			
23025	714.5	QPSK	1	0	0	23.07	22.6±1	
			1	7	0	23.33	22.6±1	
			1	14	0	23.02	22.6±1	
			8	0	1	21.98	22.6±1	
			8	4	1	22.13	22.6±1	
			8	7	1	22.21	22.6±1	
		15	0	1	22.27	22.6±1		
		15	0	1	22.77	22±1		
		1	7	1	22.45	22±1		
		1	14	1	22.86	22±1		
		8	0	2	20.98	22±1		
		8	4	2	21.4	22±1		
8	7	2	21.25	22±1				
15	0	2	21.44	22±1				

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	23017	699.7	QPSK	1	0	0	22.94	23.2±1
				1	2	0	23.12	23.2±1
				1	5	0	23.46	23.2±1
				3	0	0	23.37	23.2±1
				3	1	0	23.01	23.2±1
				3	2	0	23.05	23.2±1
			6	0	1	23.44	23.2±1	
			16QAM	1	0	1	23.41	23.2±1
				1	2	1	23.39	23.2±1
				1	5	1	23.28	23.2±1
				3	0	1	23.48	23.2±1
				3	1	1	23.21	23.2±1
	3	2		1	23.05	23.2±1		
	23095	707.5	QPSK	1	0	0	23.27	22.7±1
				1	2	0	23.33	22.7±1
				1	5	0	23.1	22.7±1
				3	0	0	23.16	22.7±1
				3	1	0	23.56	22.7±1
				3	2	0	23.27	22.7±1
			6	0	1	22.04	22.7±1	
			16QAM	1	0	1	22.19	21.6±1
				1	2	1	22.06	21.6±1
				1	5	1	22.03	21.6±1
				3	0	1	20.71	21.6±1
				3	1	1	20.84	21.6±1
	3	2		1	20.83	21.6±1		
	23173	715.3	QPSK	1	0	0	22.88	22.7±1
				1	2	0	23.24	22.7±1
				1	5	0	23.24	22.7±1
				3	0	0	23.27	22.7±1
3				1	0	23.29	22.7±1	
3				2	0	23.43	22.7±1	
6			0	1	22.07	22.7±1		
16QAM			1	0	1	21.78	21.4±1	
			1	2	1	21.78	21.4±1	
			1	5	1	21.64	21.4±1	
			3	0	1	21.2	21.4±1	
			3	1	1	21.45	21.4±1	
	3	2	1	21.03	21.4±1			
6	0	2	21.11	21.4±1				

ERP & EIRP

EIRP for LTE Band II (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	15.09	V	7.88	0.85	22.12	33.01
1880	1.4	QPSK	1/0	15.33	V	7.88	0.85	22.36	33.01
1909.3	1.4	QPSK	1/0	15.86	V	7.88	0.85	22.89	33.01
1850.7	1.4	QPSK	1/0	12.78	H	7.88	0.85	19.81	33.01
1880	1.4	QPSK	1/0	14.01	H	7.88	0.85	21.04	33.01
1909.3	1.4	QPSK	1/0	13.83	H	7.88	0.85	20.86	33.01
1850.7	1.4	16-QAM	1/0	15.28	V	7.88	0.85	22.31	33.01
1880	1.4	16-QAM	1/0	14.13	V	7.88	0.85	21.16	33.01
1909.3	1.4	16-QAM	1/0	14.26	V	7.88	0.85	21.29	33.01
1850.7	1.4	16-QAM	1/0	13.22	H	7.88	0.85	20.25	33.01
1880	1.4	16-QAM	1/0	13.13	H	7.88	0.85	20.16	33.01
1909.3	1.4	16-QAM	1/0	12.34	H	7.88	0.85	19.37	33.01
1851.5	3	QPSK	1/0	15.17	V	7.88	0.85	22.2	33.01
1880	3	QPSK	1/0	15.33	V	7.88	0.85	22.36	33.01
1908.5	3	QPSK	1/0	14.91	V	7.88	0.85	21.94	33.01
1851.5	3	QPSK	1/0	13.38	H	7.88	0.85	20.41	33.01
1880	3	QPSK	1/0	13.72	H	7.88	0.85	20.75	33.01
1908.5	3	QPSK	1/0	13.75	H	7.88	0.85	20.78	33.01
1851.5	3	16-QAM	1/0	15.65	V	7.88	0.85	22.68	33.01
1880	3	16-QAM	1/0	14.26	V	7.88	0.85	21.29	33.01
1908.5	3	16-QAM	1/0	15.22	V	7.88	0.85	22.25	33.01
1851.5	3	16-QAM	1/0	13.54	H	7.88	0.85	20.57	33.01
1880	3	16-QAM	1/0	12.5	H	7.88	0.85	19.53	33.01
1908.5	3	16-QAM	1/0	13.39	H	7.88	0.85	20.42	33.01
1852.5	5	QPSK	1/24	14.78	V	7.88	0.85	21.81	33.01
1880	5	QPSK	1/0	14.81	V	7.88	0.85	21.84	33.01
1907.5	5	QPSK	1/24	14.49	V	7.88	0.85	21.52	33.01
1852.5	5	QPSK	1/24	12.93	H	7.88	0.85	19.96	33.01
1880	5	QPSK	1/0	13.72	H	7.88	0.85	20.75	33.01
1907.5	5	QPSK	1/24	12.74	H	7.88	0.85	19.77	33.01
1852.5	5	16-QAM	1/24	14.96	V	7.88	0.85	21.99	33.01

1880	5	16-QAM	1/0	14.17	V	7.88	0.85	21.2	33.01
1907.5	5	16-QAM	1/24	14.53	V	7.88	0.85	21.56	33.01
1852.5	5	16-QAM	1/24	13.45	H	7.88	0.85	20.48	33.01
1880	5	16-QAM	1/0	13.47	H	7.88	0.85	20.5	33.01
1907.5	5	16-QAM	1/24	12.64	H	7.88	0.85	19.67	33.01
1855	10	QPSK	1/0	15.05	V	7.88	0.85	22.08	33.01
1880	10	QPSK	1/0	14.77	V	7.88	0.85	21.8	33.01
1905	10	QPSK	1/49	15.06	V	7.88	0.85	22.09	33.01
1855	10	QPSK	1/0	14.04	H	7.88	0.85	21.07	33.01
1880	10	QPSK	1/0	13.88	H	7.88	0.85	20.91	33.01
1905	10	QPSK	1/49	14.42	H	7.88	0.85	21.45	33.01
1855	10	16-QAM	1/0	14.84	V	7.88	0.85	21.87	33.01
1880	10	16-QAM	1/0	14.77	V	7.88	0.85	21.8	33.01
1905	10	16-QAM	1/49	14.25	V	7.88	0.85	21.28	33.01
1855	10	16-QAM	1/0	12.98	H	7.88	0.85	20.01	33.01
1880	10	16-QAM	1/0	12.49	H	7.88	0.85	19.52	33.01
1905	10	16-QAM	1/49	12.45	H	7.88	0.85	19.48	33.01
1857.5	15	QPSK	1/0	15.48	V	7.88	0.85	22.51	33.01
1880	15	QPSK	1/0	15.23	V	7.88	0.85	22.26	33.01
1902.5	15	QPSK	1/0	15.04	V	7.88	0.85	22.07	33.01
1857.5	15	QPSK	1/0	13.39	H	7.88	0.85	20.42	33.01
1880	15	QPSK	1/0	14.41	H	7.88	0.85	21.44	33.01
1902.5	15	QPSK	1/0	14.17	H	7.88	0.85	21.2	33.01
1857.5	15	16-QAM	1/0	15.46	V	7.88	0.85	22.49	33.01
1880	15	16-QAM	1/0	14.74	V	7.88	0.85	21.77	33.01
1902.5	15	16-QAM	1/0	14.53	V	7.88	0.85	21.56	33.01
1857.5	15	16-QAM	1/0	13.27	H	7.88	0.85	20.3	33.01
1880	15	16-QAM	1/0	13.12	H	7.88	0.85	20.15	33.01
1902.5	15	16-QAM	1/0	13.51	H	7.88	0.85	20.54	33.01
1860	20	QPSK	1/0	15.41	V	7.88	0.85	22.44	33.01
1880	20	QPSK	1/0	15.21	V	7.88	0.85	22.24	33.01
1900	20	QPSK	1/0	14.63	V	7.88	0.85	21.66	33.01
1860	20	QPSK	1/0	14.1	H	7.88	0.85	21.13	33.01
1880	20	QPSK	1/0	13.99	H	7.88	0.85	21.02	33.01
1900	20	QPSK	1/0	12.19	H	7.88	0.85	19.22	33.01

1860	20	16-QAM	1/0	14.92	V	7.88	0.85	21.95	33.01
1880	20	16-QAM	1/0	14.49	V	7.88	0.85	21.52	33.01
1900	20	16-QAM	1/0	14.98	V	7.88	0.85	22.01	33.01
1860	20	16-QAM	1/0	13.36	H	7.88	0.85	20.39	33.01
1880	20	16-QAM	1/0	12.13	H	7.88	0.85	19.16	33.01
1900	20	16-QAM	1/0	12.73	H	7.88	0.85	19.76	33.01

EIRP for LTE Band IV (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	13.64	V	7.95	0.79	20.8	30
1732.5	1.4	QPSK	1/0	13.23	V	7.95	0.79	20.39	30
1754.3	1.4	QPSK	1/0	12.55	V	7.95	0.79	19.71	30
1710.7	1.4	QPSK	1/0	10.81	H	7.95	0.79	17.97	30
1732.5	1.4	QPSK	1/0	10.52	H	7.95	0.79	17.68	30
1754.3	1.4	QPSK	1/0	11.09	H	7.95	0.79	18.25	30
1710.7	1.4	16-QAM	1/5	12.54	V	7.95	0.79	19.7	30
1732.5	1.4	16-QAM	1/0	12.06	V	7.95	0.79	19.22	30
1754.3	1.4	16-QAM	1/0	11.07	V	7.95	0.79	18.23	30
1710.7	1.4	16-QAM	1/5	11.6	H	7.95	0.79	18.76	30
1732.5	1.4	16-QAM	1/0	9.56	H	7.95	0.79	16.72	30
1754.3	1.4	16-QAM	1/0	10.57	H	7.95	0.79	17.73	30
1711.5	3	QPSK	1/0	13.07	V	7.95	0.79	20.23	30
1732.5	3	QPSK	1/0	13.13	V	7.95	0.79	20.29	30
1753.5	3	QPSK	1/0	12.19	V	7.95	0.79	19.35	30
1711.5	3	QPSK	1/0	11.34	H	7.95	0.79	18.5	30
1732.5	3	QPSK	1/0	11.9	H	7.95	0.79	19.06	30
1753.5	3	QPSK	1/0	10.55	H	7.95	0.79	17.71	30
1711.5	3	16-QAM	1/0	13.22	V	7.95	0.79	20.38	30
1732.5	3	16-QAM	1/0	12.01	V	7.95	0.79	19.17	30
1753.5	3	16-QAM	1/0	12.07	V	7.95	0.79	19.23	30
1711.5	3	16-QAM	1/0	11.62	H	7.95	0.79	18.78	30
1732.5	3	16-QAM	1/0	10.36	H	7.95	0.79	17.52	30
1753.5	3	16-QAM	1/0	10.89	H	7.95	0.79	18.05	30
1712.5	5	QPSK	1/0	13.24	V	7.95	0.79	20.4	30
1732.5	5	QPSK	1/0	12.8	V	7.95	0.79	19.96	30
1752.5	5	QPSK	1/24	12.5	V	7.95	0.79	19.66	30
1712.5	5	QPSK	1/0	11.05	H	7.95	0.79	18.21	30
1732.5	5	QPSK	1/0	10.77	H	7.95	0.79	17.93	30
1752.5	5	QPSK	1/24	10.89	H	7.95	0.79	18.05	30
1712.5	5	16-QAM	1/0	13.26	V	7.95	0.79	20.42	30
1732.5	5	16-QAM	1/0	12.21	V	7.95	0.79	19.37	30

1752.5	5	16-QAM	1/24	11.97	V	7.95	0.79	19.13	30
1712.5	5	16-QAM	1/0	11.38	H	7.95	0.79	18.54	30
1732.5	5	16-QAM	1/0	10.35	H	7.95	0.79	17.51	30
1752.5	5	16-QAM	1/24	11.01	H	7.95	0.79	18.17	30
1715	10	QPSK	1/0	12.96	V	7.95	0.79	20.12	30
1732.5	10	QPSK	1/49	12.84	V	7.95	0.79	20	30
1750	10	QPSK	1/0	13.17	V	7.95	0.79	20.33	30
1715	10	QPSK	1/0	11.47	H	7.95	0.79	18.63	30
1732.5	10	QPSK	1/49	12.22	H	7.95	0.79	19.38	30
1750	10	QPSK	1/0	11.34	H	7.95	0.79	18.5	30
1715	10	16-QAM	1/0	13.21	V	7.95	0.79	20.37	30
1732.5	10	16-QAM	1/49	12.02	V	7.95	0.79	19.18	30
1750	10	16-QAM	1/0	12.07	V	7.95	0.79	19.23	30
1715	10	16-QAM	1/0	11.3	H	7.95	0.79	18.46	30
1732.5	10	16-QAM	1/49	10.04	H	7.95	0.79	17.2	30
1750	10	16-QAM	1/0	9.83	H	7.95	0.79	16.99	30
1717.5	15	QPSK	1/0	12.95	V	7.95	0.79	20.11	30
1732.5	15	QPSK	1/74	13.16	V	7.95	0.79	20.32	30
1747.5	15	QPSK	1/0	12.95	V	7.95	0.79	20.11	30
1717.5	15	QPSK	1/0	12.2	H	7.95	0.79	19.36	30
1732.5	15	QPSK	1/74	11.13	H	7.95	0.79	18.29	30
1747.5	15	QPSK	1/0	11.73	H	7.95	0.79	18.89	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	12.13	V	7.95	0.79	19.29	30
1747.5	15	16-QAM	1/0	12.71	V	7.95	0.79	19.87	30
1717.5	15	16-QAM	1/0	11.76	H	7.95	0.79	18.92	30
1732.5	15	16-QAM	1/74	10.87	H	7.95	0.79	18.03	30
1747.5	15	16-QAM	1/0	10.85	H	7.95	0.79	18.01	30
1720	20	QPSK	1/99	13.05	V	7.95	0.79	20.21	30
1732.5	20	QPSK	1/99	12.93	V	7.95	0.79	20.09	30
1745	20	QPSK	1/0	13.22	V	7.95	0.79	20.38	30
1720	20	QPSK	1/99	12.82	H	7.95	0.79	19.98	30
1732.5	20	QPSK	1/99	11.22	H	7.95	0.79	18.38	30
1745	20	QPSK	1/0	11.32	H	7.95	0.79	18.48	30
1720	20	16-QAM	1/99	12.96	V	7.95	0.79	20.12	30

1732.5	20	16-QAM	1/99	12.26	V	7.95	0.79	19.42	30
1745	20	16-QAM	1/0	12.12	V	7.95	0.79	19.28	30
1720	20	16-QAM	1/99	11.57	H	7.95	0.79	18.73	30
1732.5	20	16-QAM	1/99	10.06	H	7.95	0.79	17.22	30
1745	20	16-QAM	1/0	9.36	H	7.95	0.79	16.52	30

ERP for LTE Band VII (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	15.54	V	8.93	0.83	23.64	30
2535	5	QPSK	1/0	15.05	V	8.93	0.83	23.15	30
2567.5	5	QPSK	1/24	14.98	V	8.93	0.83	23.08	30
2502.5	5	QPSK	1/0	13.37	H	8.93	0.83	21.47	30
2535	5	QPSK	1/0	14.49	H	8.93	0.83	22.59	30
2567.5	5	QPSK	1/24	13.67	H	8.93	0.83	21.77	30
2502.5	5	16-QAM	1/0	15.65	V	8.93	0.83	23.75	30
2535	5	16-QAM	1/0	14.18	V	8.93	0.83	22.28	30
2567.5	5	16-QAM	1/24	14.86	V	8.93	0.83	22.96	30
2502.5	5	16-QAM	1/0	13.73	H	8.93	0.83	21.83	30
2535	5	16-QAM	1/0	12.86	H	8.93	0.83	20.96	30
2567.5	5	16-QAM	1/24	12.7	H	8.93	0.83	20.8	30
2505	10	QPSK	1/0	15.1	V	8.93	0.83	23.2	30
2535	10	QPSK	1/49	15.33	V	8.93	0.83	23.43	30
2565	10	QPSK	1/0	14.63	V	8.93	0.83	22.73	30
2505	10	QPSK	1/0	13.32	H	8.93	0.83	21.42	30
2535	10	QPSK	1/49	13.83	H	8.93	0.83	21.93	30
2565	10	QPSK	1/0	13.03	H	8.93	0.83	21.13	30
2505	10	16-QAM	1/0	15.43	V	8.93	0.83	23.53	30
2535	10	16-QAM	1/49	14.16	V	8.93	0.83	22.26	30
2565	10	16-QAM	1/0	14.2	V	8.93	0.83	22.3	30
2505	10	16-QAM	1/0	13.25	H	8.93	0.83	21.35	30
2535	10	16-QAM	1/49	11.76	H	8.93	0.83	19.86	30
2565	10	16-QAM	1/0	13.39	H	8.93	0.83	21.49	30
2507.5	15	QPSK	1/0	14.84	V	8.93	0.83	22.94	30
2535	15	QPSK	1/74	14.48	V	8.93	0.83	22.58	30
2562.5	15	QPSK	1/0	14.58	V	8.93	0.83	22.68	30
2507.5	15	QPSK	1/0	13.93	H	8.93	0.83	22.03	30
2535	15	QPSK	1/74	12.92	H	8.93	0.83	21.02	30
2562.5	15	QPSK	1/0	13.62	H	8.93	0.83	21.72	30
2507.5	15	16-QAM	1/0	14.82	V	8.93	0.83	22.92	30
2535	15	16-QAM	1/74	14.43	V	8.93	0.83	22.53	30

2562.5	15	16-QAM	1/0	14.33	V	8.93	0.83	22.43	30
2507.5	15	16-QAM	1/0	14.1	H	8.93	0.83	22.2	30
2535	15	16-QAM	1/74	12.39	H	8.93	0.83	20.49	30
2562.5	15	16-QAM	1/0	11.9	H	8.93	0.83	20	30
2510	20	QPSK	1/99	15.16	V	8.93	0.83	23.26	30
2535	20	QPSK	1/99	15.21	V	8.93	0.83	23.31	30
2560	20	QPSK	1/0	14.39	V	8.93	0.83	22.49	30
2510	20	QPSK	1/99	13.05	H	8.93	0.83	21.15	30
2535	20	QPSK	1/99	12.77	H	8.93	0.83	20.87	30
2560	20	QPSK	1/0	12.47	H	8.93	0.83	20.57	30
2510	20	16-QAM	1/99	15.35	V	8.93	0.83	23.45	30
2535	20	16-QAM	1/99	14.17	V	8.93	0.83	22.27	30
2560	20	16-QAM	1/0	14.23	V	8.93	0.83	22.33	30
2510	20	16-QAM	1/99	12.92	H	8.93	0.83	21.02	30
2535	20	16-QAM	1/99	12.22	H	8.93	0.83	20.32	30
2560	20	16-QAM	1/0	12.9	H	8.93	0.83	21	30

ERP for LTE Band XII (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)
699.7	1.4	QPSK	1/5	10.55	V	6.9	0.42	17.03	34.77
707.5	1.4	QPSK	1/5	14.77	V	6.8	0.42	21.15	34.77
715.3	1.4	QPSK	1/5	14.57	V	6.8	0.42	20.95	34.77
699.7	1.4	QPSK	1/5	8.6	H	6.9	0.42	15.08	34.77
707.5	1.4	QPSK	1/5	13.36	H	6.8	0.42	19.74	34.77
715.3	1.4	QPSK	1/5	13.29	H	6.8	0.42	19.67	34.77
699.7	1.4	16-QAM	1/5	10.67	V	6.9	0.42	17.15	34.77
707.5	1.4	16-QAM	1/5	13.4	V	6.8	0.42	19.78	34.77
715.3	1.4	16-QAM	1/5	13.44	V	6.8	0.42	19.82	34.77
699.7	1.4	16-QAM	1/5	8.33	H	6.9	0.42	14.81	34.77
707.5	1.4	16-QAM	1/5	12.53	H	6.8	0.42	18.91	34.77
715.3	1.4	16-QAM	1/5	11.38	H	6.8	0.42	17.76	34.77
700.5	3	QPSK	1/14	10.94	V	6.9	0.42	17.42	34.77
707.5	3	QPSK	1/0	14.5	V	6.8	0.42	20.88	34.77
714.5	3	QPSK	1/14	14.99	V	6.8	0.42	21.37	34.77
700.5	3	QPSK	1/14	9.78	H	6.9	0.42	16.26	34.77
707.5	3	QPSK	1/0	12.25	H	6.8	0.42	18.63	34.77
714.5	3	QPSK	1/14	12.69	H	6.8	0.42	19.07	34.77
700.5	3	16-QAM	1/14	10.27	V	6.9	0.42	16.75	34.77
707.5	3	16-QAM	1/0	13.85	V	6.8	0.42	20.23	34.77
714.5	3	16-QAM	1/14	14.43	V	6.8	0.42	20.81	34.77
700.5	3	16-QAM	1/14	9.33	H	6.9	0.42	15.81	34.77
707.5	3	16-QAM	1/0	11.01	H	6.8	0.42	17.39	34.77
714.5	3	16-QAM	1/14	12.13	H	6.8	0.42	18.51	34.77
701.5	5	QPSK	1/24	10.59	V	6.9	0.42	17.07	34.77
707.5	5	QPSK	1/24	14.56	V	6.8	0.42	20.94	34.77
713.5	5	QPSK	1/24	15.01	V	6.8	0.42	21.39	34.77
701.5	5	QPSK	1/24	8.27	H	6.9	0.42	14.75	34.77
707.5	5	QPSK	1/24	12.15	H	6.8	0.42	18.53	34.77
713.5	5	QPSK	1/24	12.15	H	6.8	0.42	18.53	34.77
701.5	5	16-QAM	1/24	10.29	V	6.9	0.42	16.77	34.77

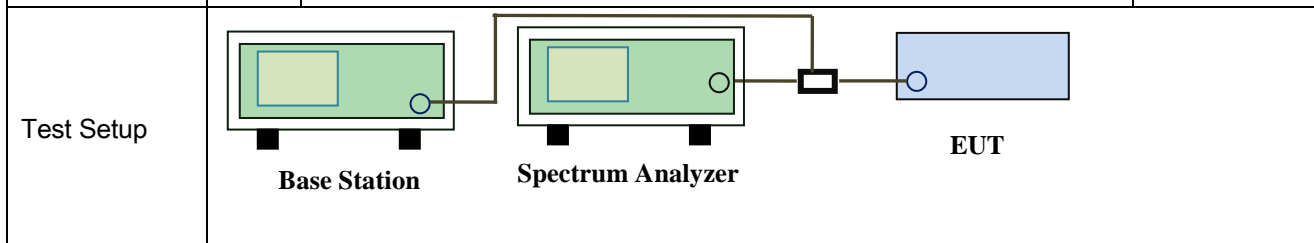
707.5	5	16-QAM	1/24	13.17	V	6.8	0.42	19.55	34.77
713.5	5	16-QAM	1/24	14.01	V	6.8	0.42	20.39	34.77
701.5	5	16-QAM	1/24	9.32	H	6.9	0.42	15.8	34.77
707.5	5	16-QAM	1/24	12.64	H	6.8	0.42	19.02	34.77
713.5	5	16-QAM	1/24	12.01	H	6.8	0.42	18.39	34.77
704	10	QPSK	1/49	10.51	V	6.8	0.42	16.89	34.77
707.5	10	QPSK	1/49	14.22	V	6.8	0.42	20.6	34.77
711	10	QPSK	1/49	14.92	V	6.8	0.42	21.3	34.77
704	10	QPSK	1/49	9.46	H	6.8	0.42	15.84	34.77
707.5	10	QPSK	1/49	13.54	H	6.8	0.42	19.92	34.77
711	10	QPSK	1/49	13.21	H	6.8	0.42	19.59	34.77
704	10	16-QAM	1/49	10.37	V	6.8	0.42	16.75	34.77
707.5	10	16-QAM	1/49	13.78	V	6.8	0.42	20.16	34.77
711	10	16-QAM	1/49	13.6	V	6.8	0.42	19.98	34.77
704	10	16-QAM	1/49	8.36	H	6.8	0.42	14.74	34.77
707.5	10	16-QAM	1/49	12.7	H	6.8	0.42	19.08	34.77
711	10	16-QAM	1/49	11.01	H	6.8	0.42	17.39	34.77

6.3 Peak-Average Ratio

Temperature	26 °C
Relative Humidity	57%
Atmospheric Pressure	1025mbar
Test date :	January 25, 2018
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§24.232(d) § 27.50(d)	a)	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.	<input checked="" type="checkbox"/>



Test Procedure	<p>According with KDB 971168 v02r02</p> <p>5.7.2 Alternate procedure for PAPR</p> <p>5.1.2 Peak power measurements with a peak power meter</p> <p>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.</p> <p>5.2.3 Average power measurement with average power meter</p> <p>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</p> <p>If the EUT can be configured to transmit continuously (i.e., the burst duty</p>
----------------	---

	<p>cycle \geq 98%) and at all times the EUT is transmitting at its 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 \pm 2 percent) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to $10\log(1/\text{duty cycle})$</p>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

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

LTE Band II (part 24E)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1732.5	RB 1/0	QPSK	23.04	22.6	0.44
			16QAM	22.15	21.85	0.3
3	1732.5	RB 1/0	QPSK	22.95	22.65	0.3
			16QAM	22	21.6	0.4
5	1732.5	RB 1/0	QPSK	23.03	22.57	0.46
			16QAM	21.98	21.61	0.37
10	1732.5	RB 1/0	QPSK	22.73	22.43	0.3
			16QAM	21.93	21.55	0.38
15	1732.5	RB 1/0	QPSK	22.9	22.59	0.31
			16QAM	22.03	21.55	0.48
20	1732.5	RB 1/0	QPSK	23.05	22.58	0.47
			16QAM	21.93	21.63	0.3

LTE Band IV (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1732.5	RB 1/0	QPSK	23.08	22.6	0.48
			16QAM	22.31	21.85	0.46
3	1732.5	RB 1/0	QPSK	23	22.65	0.35
			16QAM	22.03	21.6	0.43
5	1732.5	RB 1/0	QPSK	22.98	22.57	0.41
			16QAM	22.04	21.61	0.43
10	1732.5	RB 1/0	QPSK	22.73	22.43	0.3
			16QAM	21.95	21.55	0.4
15	1732.5	RB 1/0	QPSK	22.98	22.59	0.39
			16QAM	21.95	21.55	0.4
20	1732.5	RB 1/0	QPSK	22.96	22.58	0.38
			16QAM	22.09	21.63	0.46

LTE Band VII (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	1732.5	RB 1/0	QPSK	23.01	22.57	0.44
			16QAM	21.99	21.61	0.38
10	1732.5	RB 1/0	QPSK	22.84	22.43	0.41
			16QAM	21.89	21.55	0.34
15	1732.5	RB 1/0	QPSK	23.06	22.59	0.47
			16QAM	21.91	21.55	0.36
20	1732.5	RB 1/0	QPSK	23.05	22.58	0.47
			16QAM	22.02	21.63	0.39

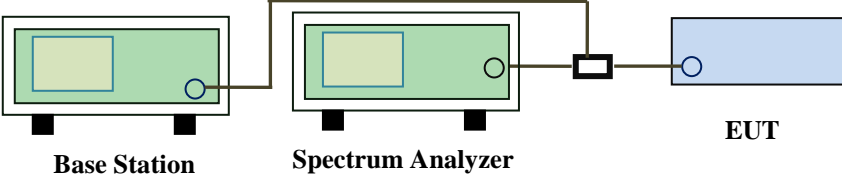
LTE Band XII (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1732.5	RB 1/0	QPSK	22.94	22.6	0.34
			16QAM	22.26	21.85	0.41
3	1732.5	RB 1/0	QPSK	23.1	22.65	0.45
			16QAM	22.1	21.6	0.5
5	1732.5	RB 1/0	QPSK	22.94	22.57	0.37
			16QAM	22.07	21.61	0.46
10	1732.5	RB 1/0	QPSK	22.83	22.43	0.4
			16QAM	21.86	21.55	0.31

6.4 Occupied Bandwidth

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

Requirement(s):

Spec	Item	Requirement	Applicable
§2.1049, §22.917, §22.905 §24.238 §27.53(a)	a)	99% Occupied Bandwidth(kHz)	<input checked="" type="checkbox"/>
	b)	26 dB Bandwidth(kHz)	<input checked="" type="checkbox"/>
Test Setup	 <p style="text-align: center;"> Base Station Spectrum Analyzer EUT </p>		
Test Procedure	<ul style="list-style-type: none"> - 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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		

Test Data Yes N/A

Test Plot Yes (See below) N/A

LTE Band II (Part 24E)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1851	16QAM	1.1060	1.336
			QPSK	1.1000	1.329
1.4	18900	1880	16QAM	1.1052	1.319
			QPSK	1.1047	1.321
1.4	19193	1909	16QAM	1.1058	1.315
			QPSK	1.1156	1.303
3	18615	1852	16QAM	2.7369	2.990
			QPSK	2.7402	3.013
3	18900	1880	16QAM	2.7403	3.024
			QPSK	2.7348	2.988
3	19185	1909	16QAM	2.7455	2.988
			QPSK	2.9505	3.025
5	18625	1853	16QAM	4.5273	5.212
			QPSK	4.5391	5.217
5	18900	1880	16QAM	4.5344	5.220
			QPSK	4.5199	5.257
5	19175	1908	16QAM	4.5600	5.207
			QPSK	4.5429	5.280
10	18650	1855	16QAM	9.1025	10.32
			QPSK	9.0981	10.30
10	18900	1880	16QAM	9.0983	10.31
			QPSK	9.1338	10.30
10	19150	1905	16QAM	9.0798	10.37
			QPSK	9.0811	10.25
15	18675	1858	16QAM	13.488	14.87
			QPSK	13.486	15.01
15	18900	1880	16QAM	13.545	15.05
			QPSK	13.535	15.05
15	19125	1903	16QAM	13.528	14.91
			QPSK	13.510	15.29

20	18700	1860	16QAM	17.904	19.28
			QPSK	17.915	19.39
20	18900	1880	16QAM	17.941	19.53
			QPSK	17.934	19.61
20	19100	1900	16QAM	17.942	19.53
			QPSK	17.912	19.34

LTE Band IV (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	19957	1711	16QAM	1.1058	1.307
			QPSK	1.0987	1.317
1.4	20175	1733	16QAM	1.1054	1.309
			QPSK	1.1091	1.320
1.4	20393	1754	16QAM	1.1060	1.299
			QPSK	1.1088	1.294
3	19965	1712	16QAM	2.7336	2.990
			QPSK	2.7559	3.022
3	20175	1733	16QAM	2.7390	3.185
			QPSK	2.7414	3.022
3	20385	1754	16QAM	2.7453	3.043
			QPSK	2.7472	3.383
5	19975	1713	16QAM	4.5249	5.173
			QPSK	4.5327	5.150
5	20175	1733	16QAM	4.5110	5.181
			QPSK	4.5140	5.202
5	20375	1753	16QAM	4.5359	5.130
			QPSK	4.5385	5.229
10	20000	1715	16QAM	9.1053	10.34
			QPSK	9.1282	10.22
10	20175	1733	16QAM	9.0647	10.30
			QPSK	9.0965	10.22
10	20350	1750	16QAM	9.0887	10.30
			QPSK	9.1059	10.33
15	20025	1718	16QAM	13.515	14.99
			QPSK	13.524	15.07
15	20175	1733	16QAM	13.469	15.12
			QPSK	13.520	15.04
15	20325	1748	16QAM	13.525	15.12
			QPSK	13.507	15.10

20	20050	1720	16QAM	17.950	19.54
			QPSK	17.968	19.86
20	20175	1733	16QAM	17.984	19.38
			QPSK	17.928	19.36
20	20300	1745	16QAM	17.915	19.50
			QPSK	17.914	19.48

LTE Band VII (Part 27) result

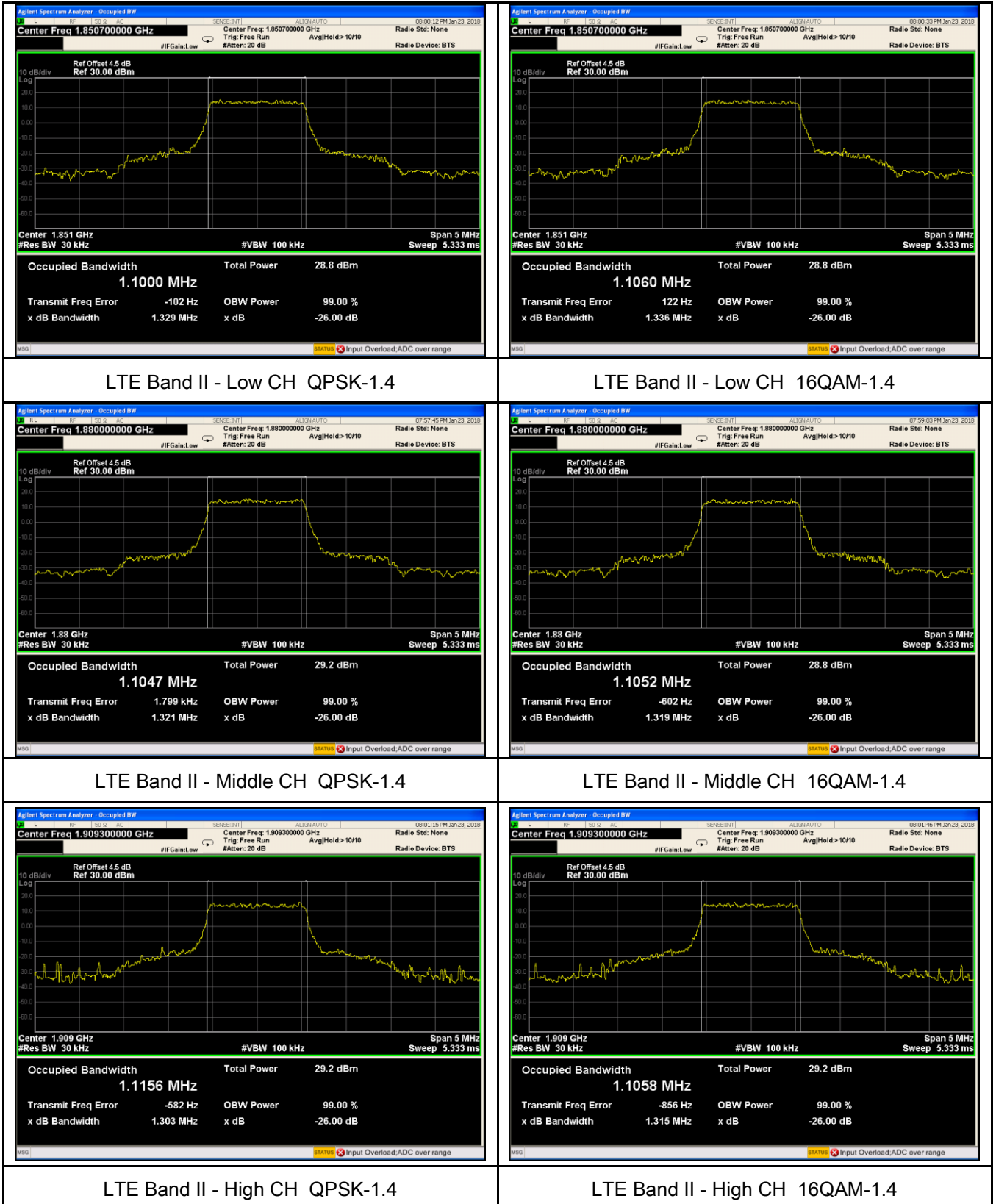
BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	20775	2503	16QAM	4.5402	5.098
			QPSK	4.5393	5.187
5	21100	2535	16QAM	4.5521	5.254
			QPSK	4.5366	5.172
5	21425	2568	16QAM	4.5497	5.207
			QPSK	4.5313	5.162
10	20800	2505	16QAM	9.0626	10.05
			QPSK	9.0331	10.19
10	21100	2535	16QAM	9.0591	10.20
			QPSK	9.0655	10.19
10	21400	2565	16QAM	9.0918	10.24
			QPSK	9.0917	10.26
15	20825	2508	16QAM	13.487	14.94
			QPSK	13.497	14.92
15	21100	2535	16QAM	13.524	14.99
			QPSK	13.475	14.96
15	21400	2563	16QAM	13.524	15.02
			QPSK	13.492	14.99
20	20850	2510	16QAM	17.913	19.35
			QPSK	17.949	19.37
20	21100	2535	16QAM	17.968	19.50
			QPSK	17.984	19.52
20	21350	2560	16QAM	17.917	19.40
			QPSK	17.963	19.33

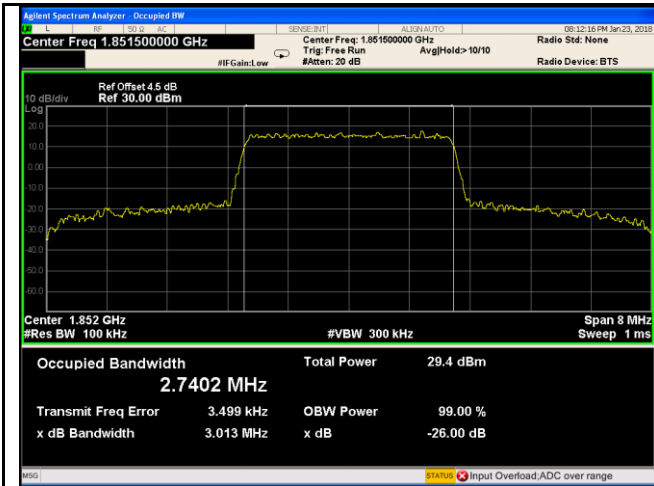
LTE Band XII (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	23017	699.7	16QAM	1.1049	1.319
			QPSK	1.1086	1.312
1.4	23095	707.5	16QAM	1.1023	1.296
			QPSK	1.1009	1.290
1.4	23173	715.3	16QAM	1.0979	1.311
			QPSK	1.1069	1.294
3	23025	700.5	16QAM	2.7416	3.039
			QPSK	2.7310	2.989
3	23095	707.5	16QAM	2.7313	3.013
			QPSK	2.7305	3.996
3	23165	714.5	16QAM	2.7320	3.021
			QPSK	2.7291	3.009
5	23035	701.5	16QAM	4.5203	5.216
			QPSK	4.5349	5.105
5	23095	707.5	16QAM	4.5125	5.133
			QPSK	4.5342	5.097
5	23055	713.5	16QAM	4.5547	5.240
			QPSK	4.5551	5.212
10	23060	704	16QAM	9.0901	10.07
			QPSK	9.0906	10.13
10	23095	707.5	16QAM	9.0101	10.22
			QPSK	9.0184	10.01
10	23130	711	16QAM	9.1135	10.34
			QPSK	9.1105	10.31

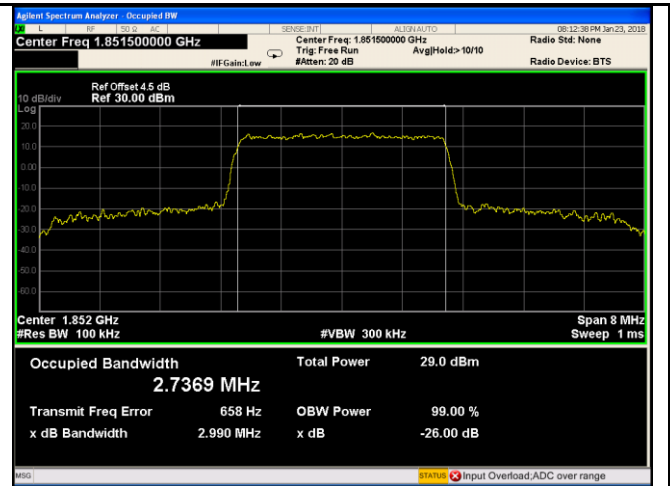
Test Plots

LTE Band II (Part 24E)

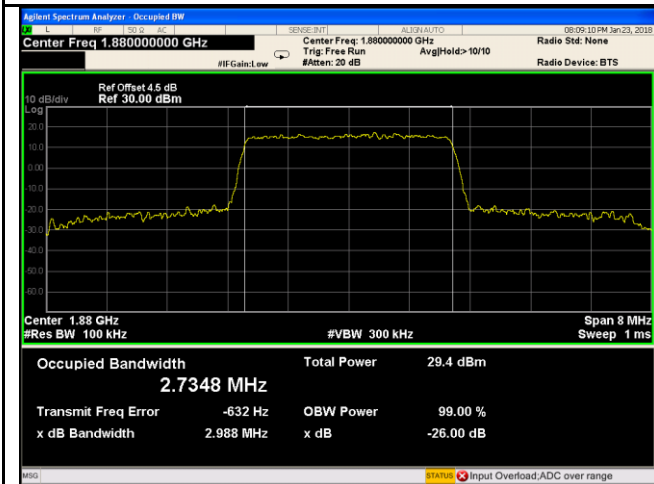




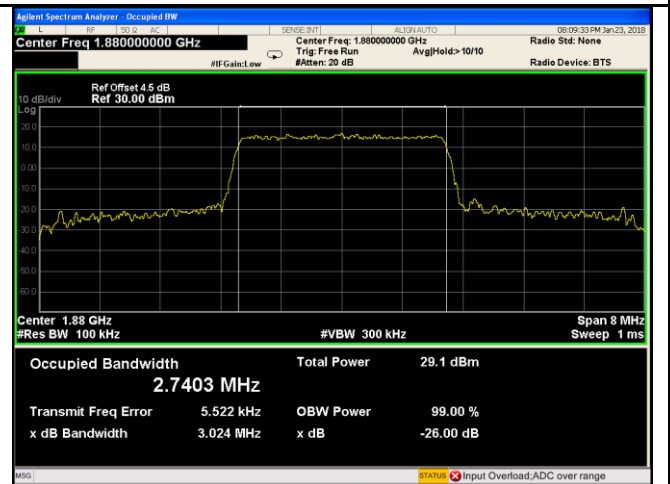
LTE Band II - Low CH QPSK-3



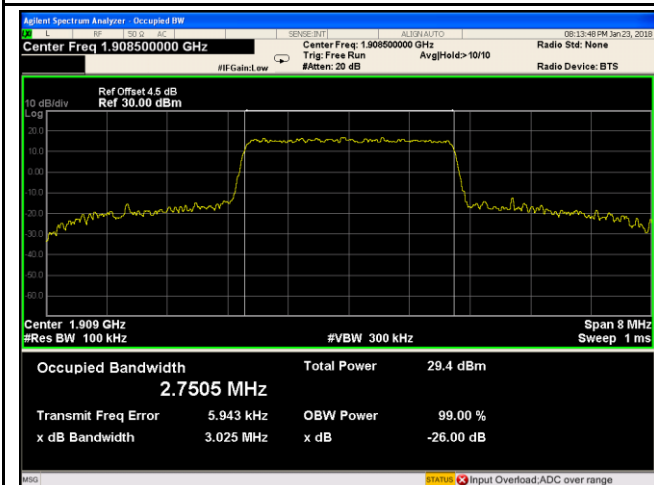
LTE Band II - Low CH 16QAM-3



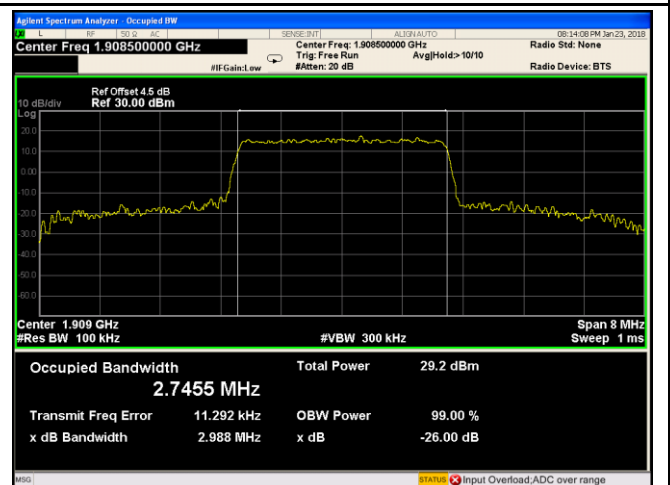
LTE Band II - Middle CH QPSK-3



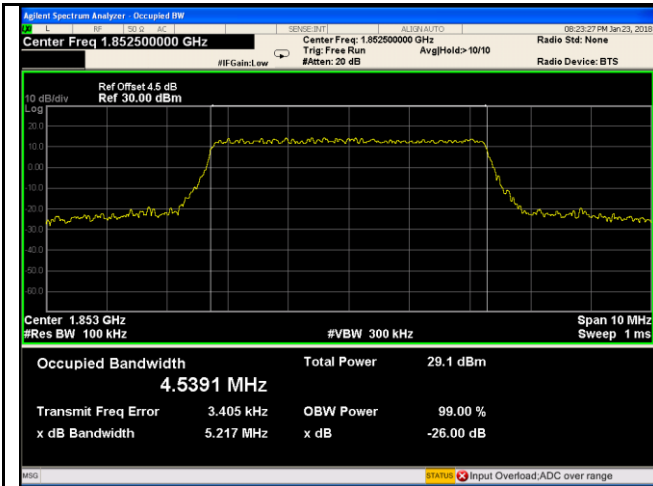
LTE Band II - Middle CH 16QAM-3



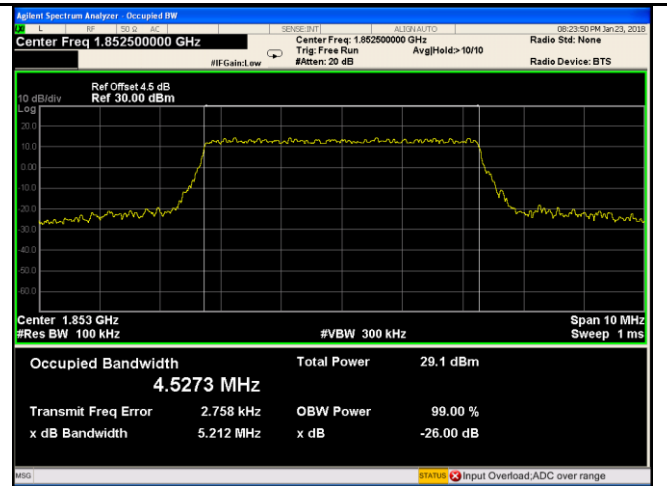
LTE Band II - High CH QPSK-3



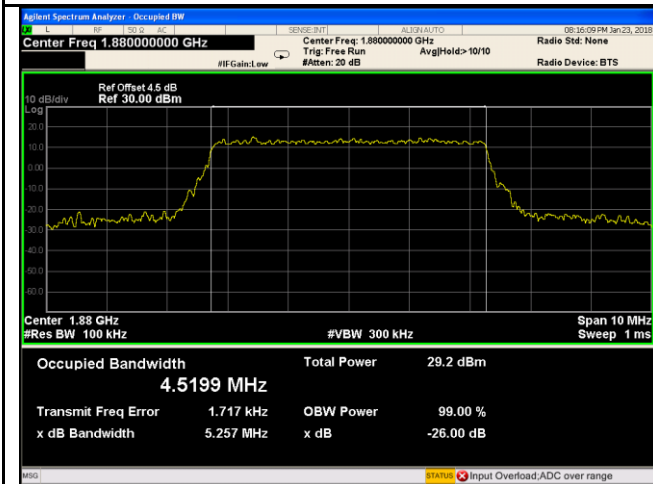
LTE Band II - High CH 16QAM-3



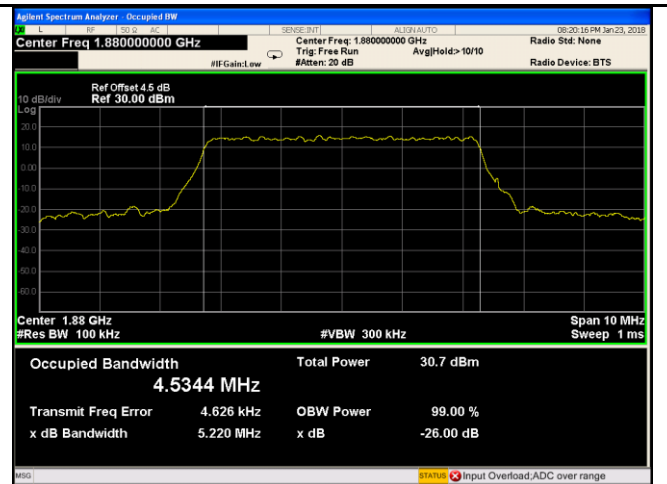
LTE Band II - Low CH QPSK-5



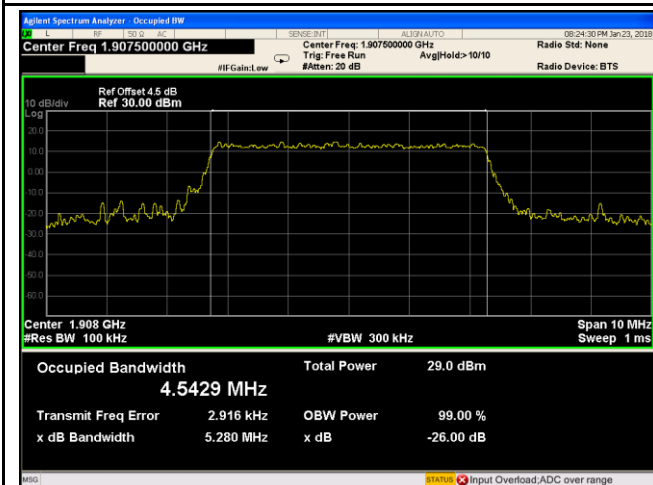
LTE Band II - Low CH 16QAM-5



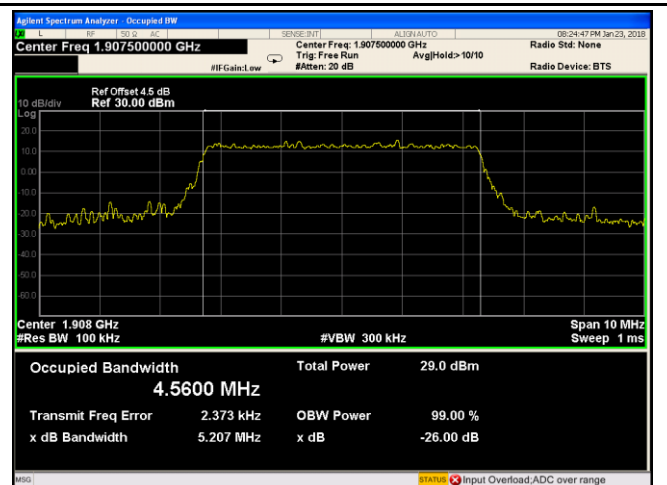
LTE Band II - Middle CH QPSK-5



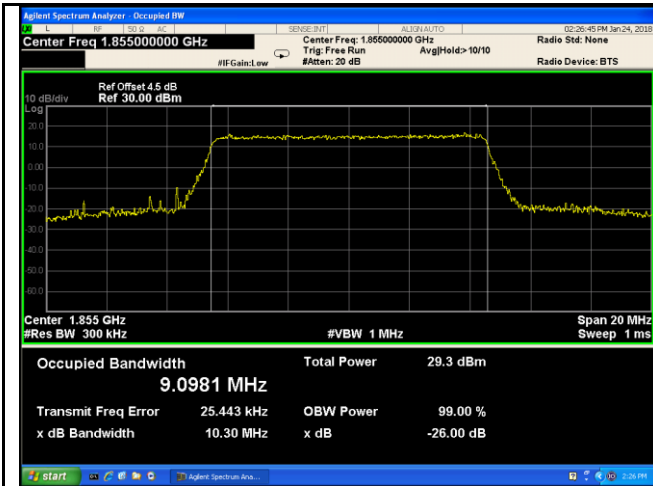
LTE Band II - Middle CH 16QAM-5



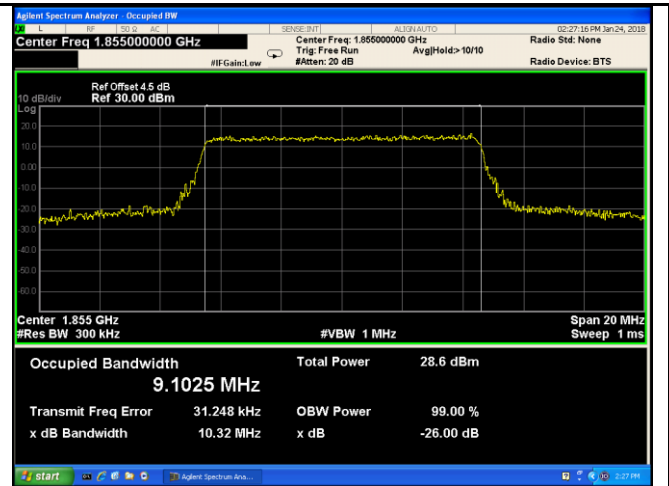
LTE Band II - High CH QPSK-5



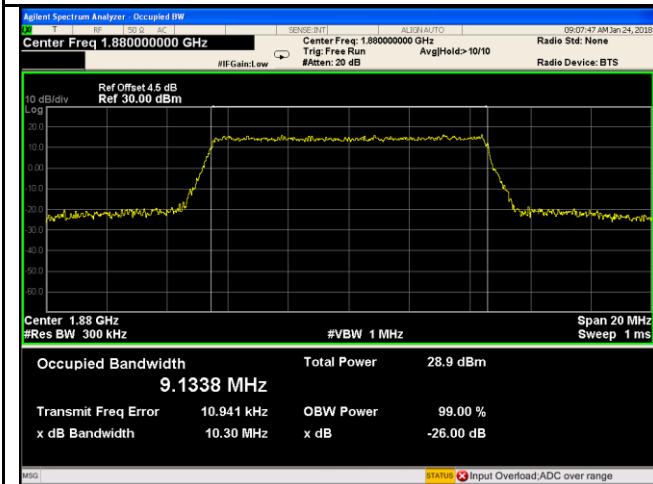
LTE Band II - High CH 16QAM-5



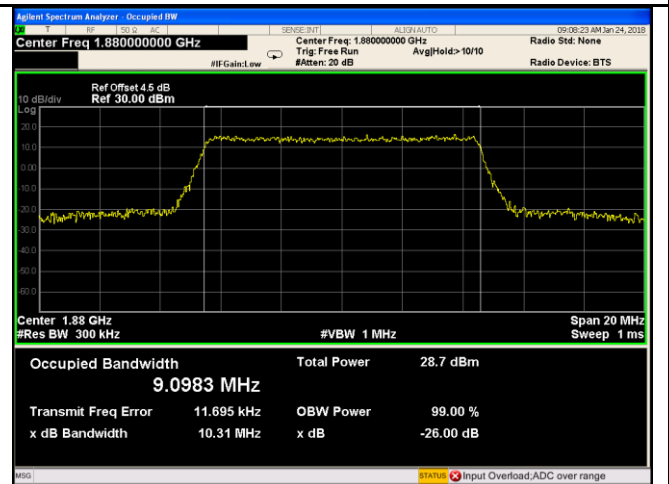
LTE Band II - Low CH QPSK-10



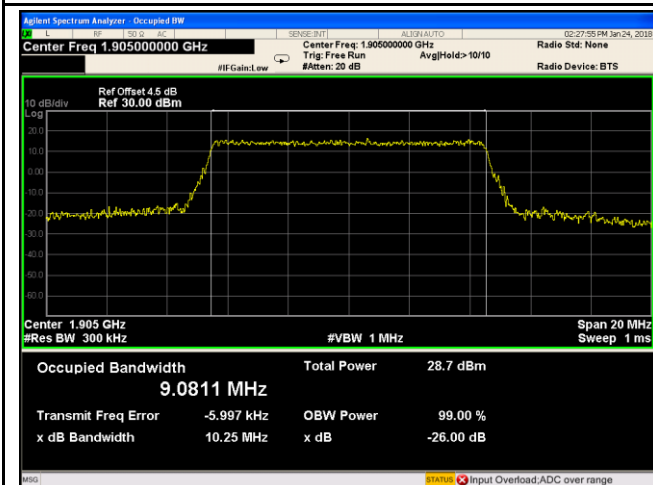
LTE Band II - Low CH 16QAM-10



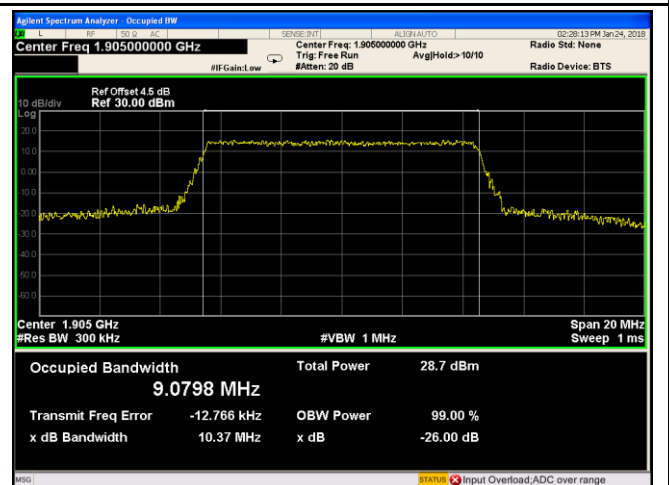
LTE Band II - Middle CH QPSK-10



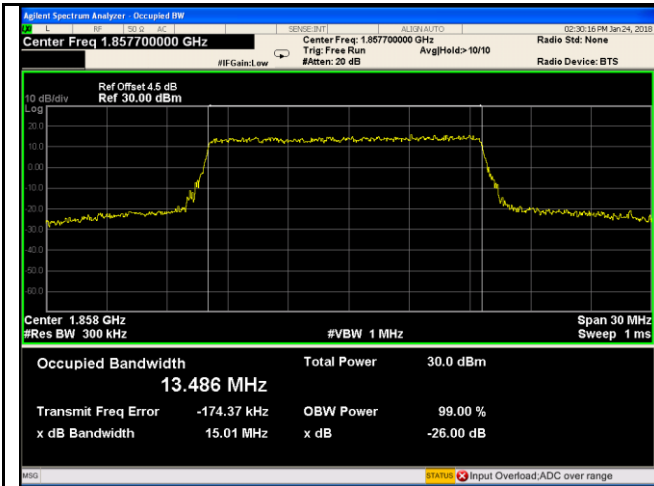
LTE Band II - Middle CH 16QAM-10



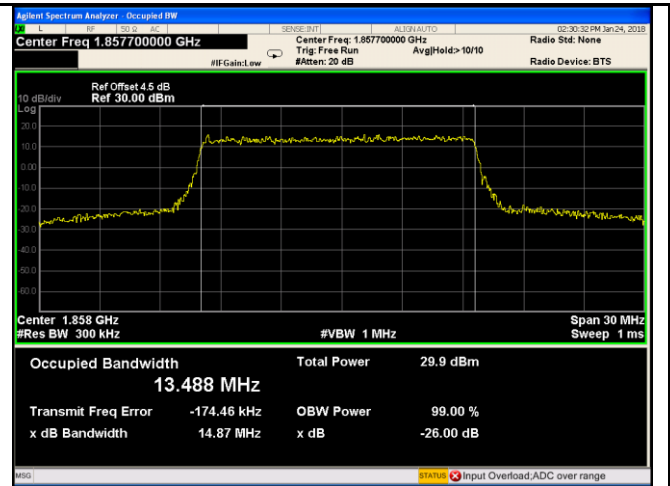
LTE Band II - High CH QPSK-10



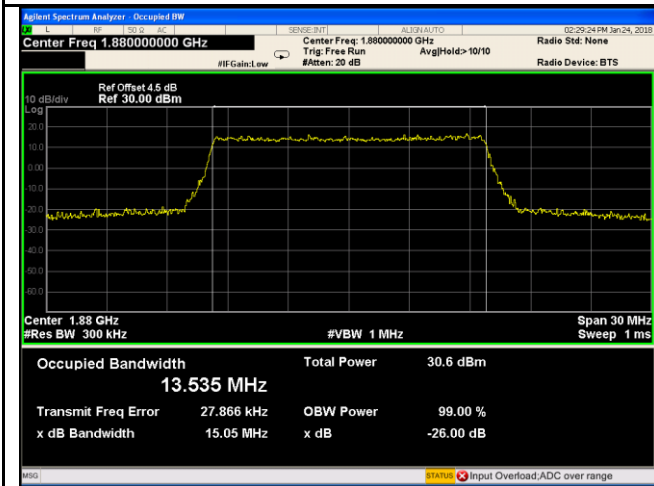
LTE Band II - High CH 16QAM-10



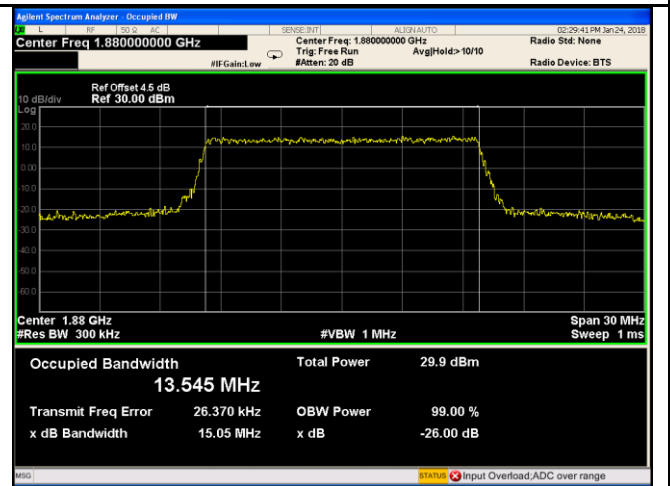
LTE Band II - Low CH QPSK-15



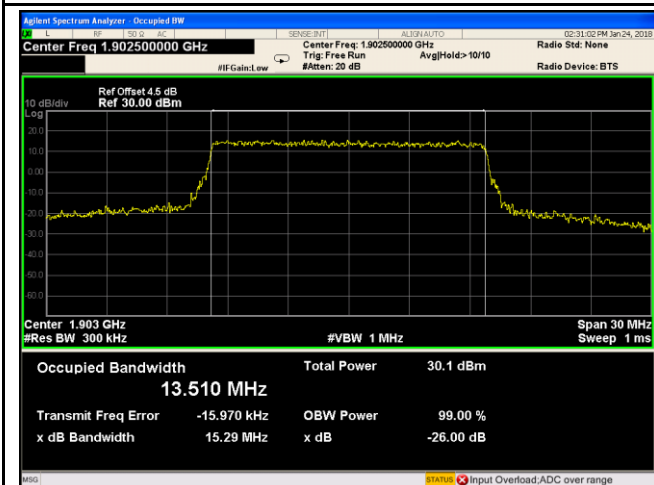
LTE Band II - Low CH 16QAM-15



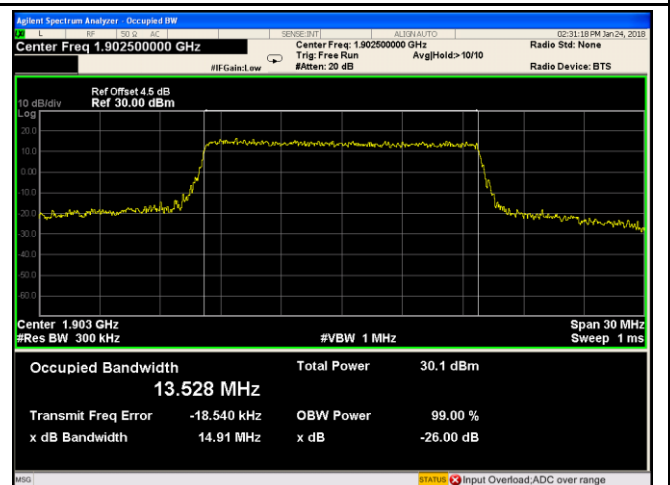
LTE Band II - Middle CH QPSK-15



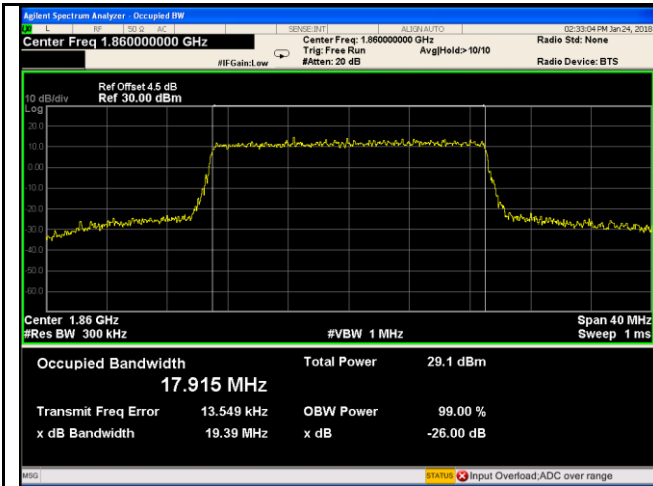
LTE Band II - Middle CH 16QAM-15



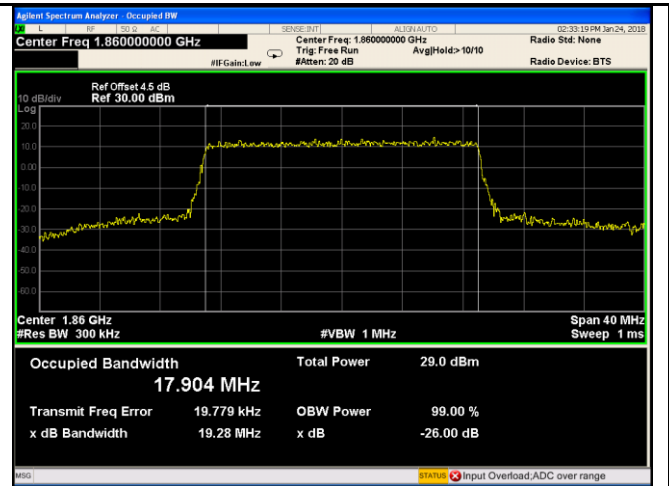
LTE Band II - High CH QPSK-15



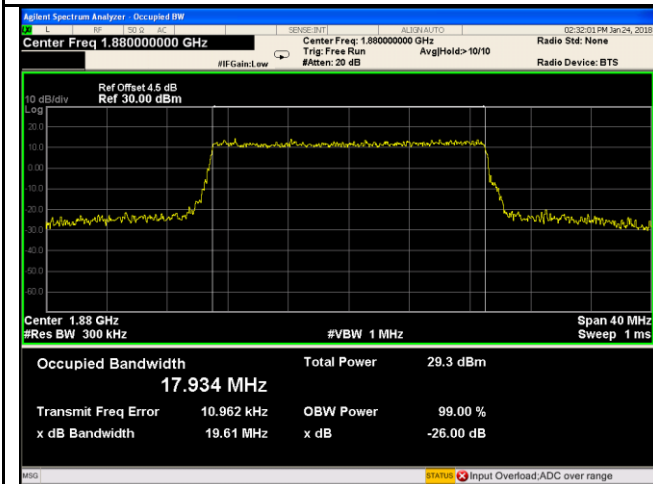
LTE Band II - High CH 16QAM-15



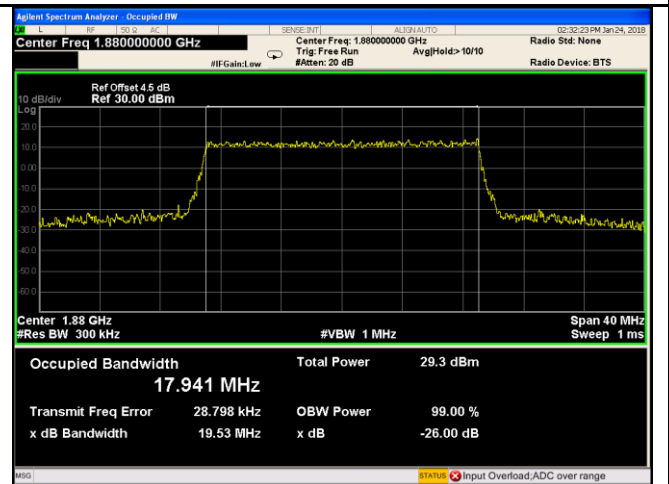
LTE Band II - Low CH QPSK-20



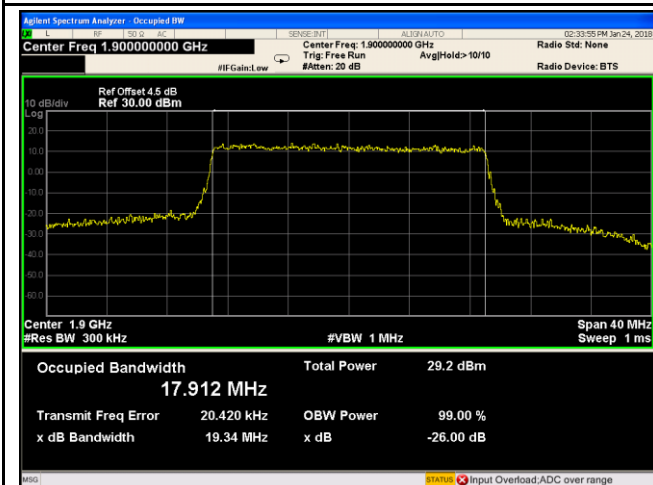
LTE Band II - Low CH 16QAM-20



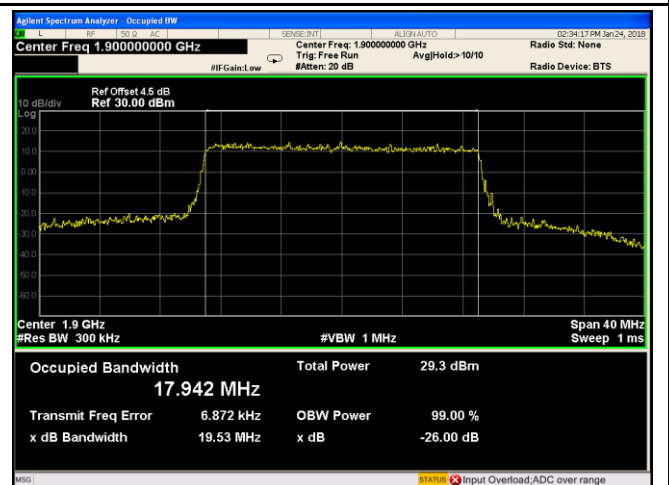
LTE Band II - Middle CH QPSK-20



LTE Band II - Middle CH 16QAM-20

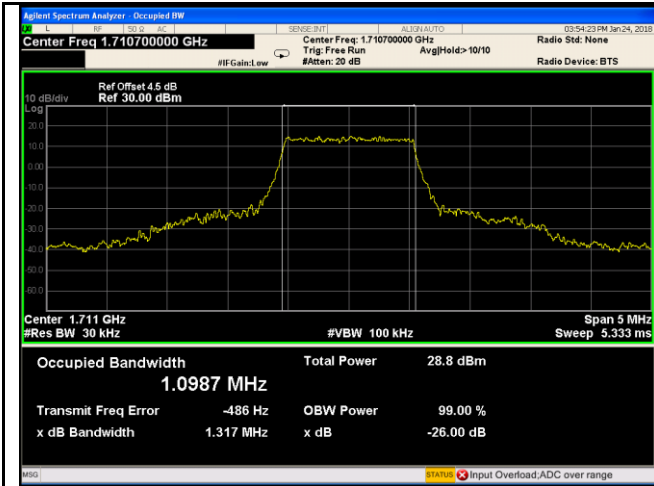


LTE Band II - High CH QPSK-20

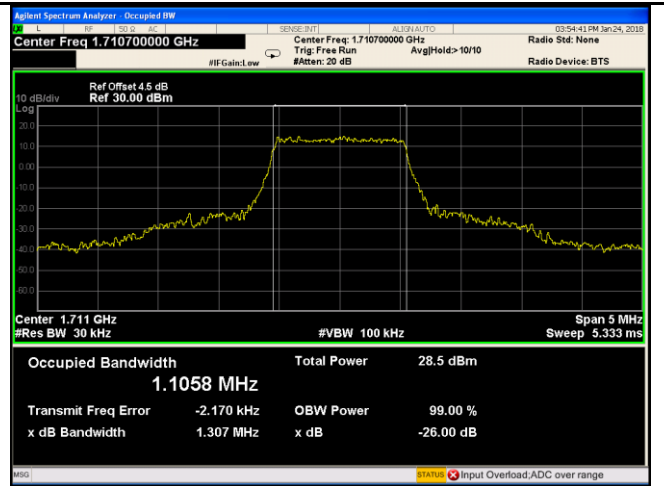


LTE Band II - High CH 16QAM-20

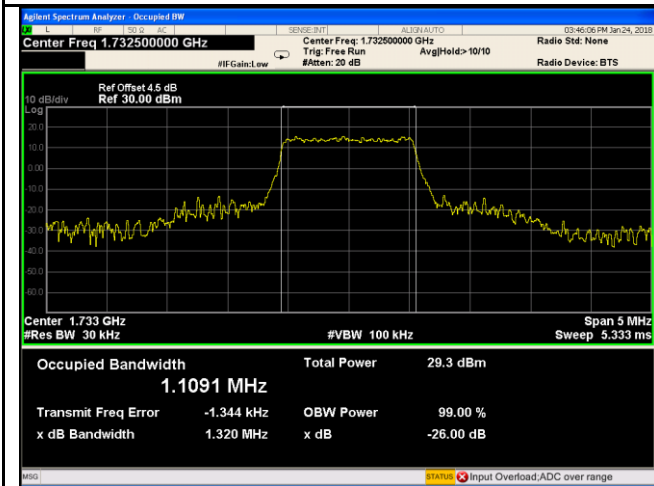
LTE Band IV (Part 27)



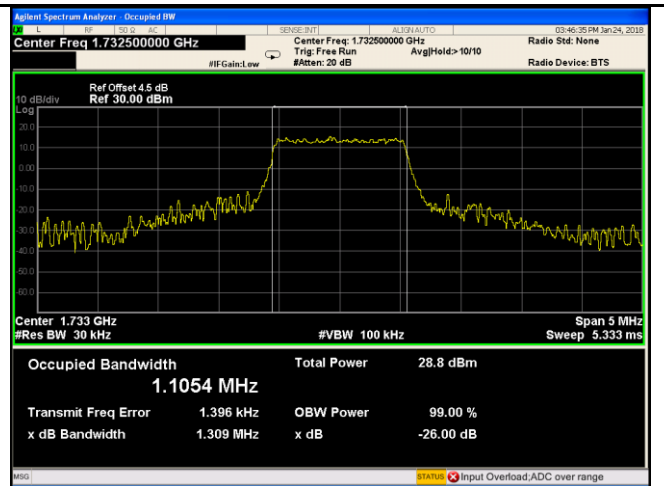
LTE Band IV - Low CH QPSK-1.4



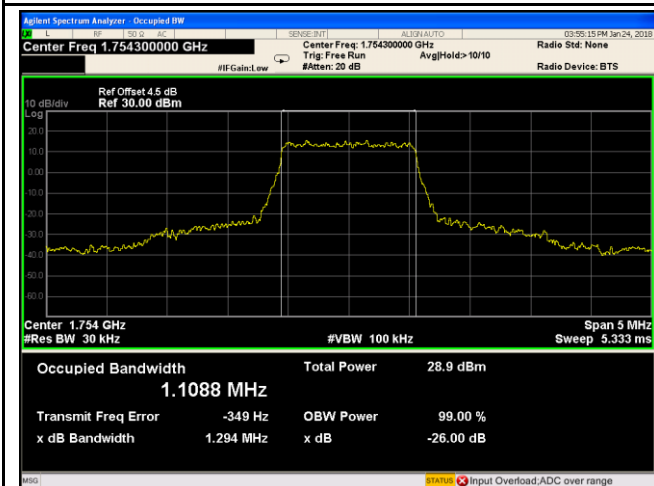
LTE Band IV - Low CH 16QAM-1.4



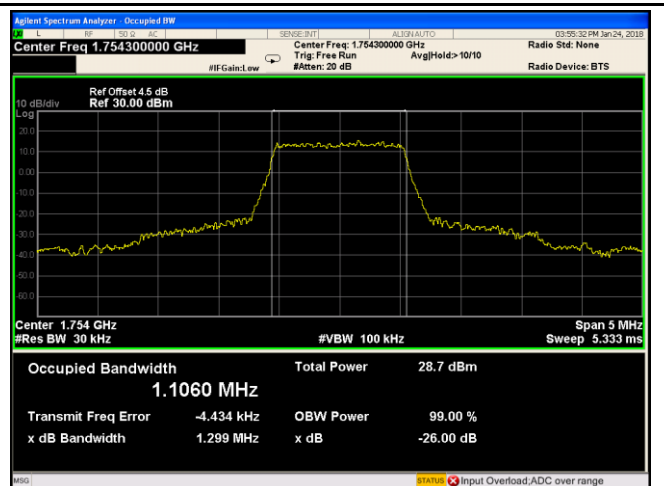
LTE Band IV - Middle CH QPSK-1.4



LTE Band IV - Middle CH 16QAM-1.4



LTE Band IV - High CH QPSK-1.4



LTE Band IV - High CH 16QAM-1.4