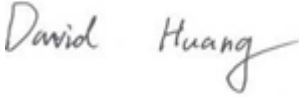


RF TEST REPORT



Report No.: 18070040-FCC-R2

Supersede Report No.: N/A

Applicant	ZTE Corporation	
Product Name	LTE/WCDMA/GSM(EDGE、GPRS) USB modem	
Model No.	MF833V	
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	January 12 to February 01, 2018	
Issue Date	February 2, 2018	
Test Result	☒ Pass ☐ Fail	
Equipment complied with the specification	☒	
Equipment did not comply with the specification	☐	
		
Aaron Liang Test Engineer	David Huang Checked By	
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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

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

Test Report	18070040-FCC-R2
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Laboratories Introduction

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



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

Accreditations for Conformity Assessment

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

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1. Report Revision History

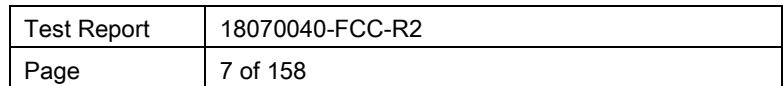
Report No.	Report Version	Description	Issue Date
18070040-FCC-R2	NONE	Original	February 2, 2018

2. Customer information

Applicant Name	ZTE Corporation
Applicant Add	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China
Manufacturer	ZTE Corporation
Manufacturer Add	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, 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.	535293
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0



Description of EUT:	LTE/WCDMA/GSM(EDGE、 GPRS) USB modem
Main Model:	MF833V
Serial Model:	N/A
Date EUT received:	January11, 2018
Test Date(s):	January 12 to February 01, 2018
Equipment Category :	PCT
Antenna Gain:	GSM850: 0.45dBi PCS1900: 1.68dBi UMTS-FDD Band V: 0.45dBi UMTS-FDD Band IV: 1.49dBi UMTS-FDD Band II: 1.68dBi LTE Band II: 1.69dBi LTE Band IV: 1.49dBi LTE Band V: 0.45dBi LTE Band VII: 1.76dBi LTE Band XII: 0.84dBi LTE Band XVII: 0.84dBi
Antenna Type:	Internal antenna
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK,8PSK UMTS-FDD: QPSK LTE Band: QPSK, 16QAM
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 IV TX:1712.4 ~ 1752.6 MHz; RX : 2112.4 ~ 2152.6 MHz UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz;

RX: 1932.4 ~ 1987.6 MHz

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 V TX: 824.7~ 848.3 MHz; RX : 869.7 ~ 893.3MHz

LTE Band VII TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz

LTE Band XII TX:699.7 ~ 715.3 MHz; RX : 729.7~ 745.3MHz

LTE Band XVII TX: 706.5 ~ 713.5 MHz; RX : 736.5 ~ 743.5 MHz

LTE Band II: 21.40 dBm

LTE Band IV: 21.70 dBm

Maximum Conducted

LTE Band V: 24.29 dBm

AV Power to Antenna:

LTE Band VII: 22.70 dBm

LTE Band XII: 22.56 dBm

LTE Band XVII: 23.28 dBm

LTE Band II: 23.05 dBm / EIRP

LTE Band IV: 23.17 dBm / EIRP

ERP/EIRP:

LTE Band V: 22.54 dBm / EIRP

LTE Band VII: 24.45dBm / EIRP

LTE Band XII: 20.60 dBm / EIRP

LTE Band XVII: 21.25 dBm / ERP

Port:

USB Port

Power Supply:

5V

Trade Name :

ZTE

FCC ID:

SRQ-MF833V

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

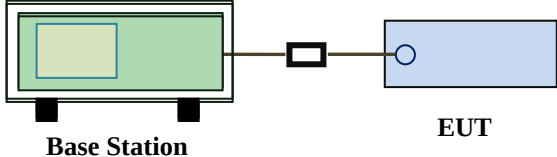
The EUT is a portable device, thus requires SAR evaluation;
Please refer to RF Exposure Evaluation Report: 18070040-FCC-H.

6.2 RF Output Power

Temperature	24 °C
Relative Humidity	53%
Atmospheric Pressure	1010mbar
Test date :	January 15, 2018
Tested By :	Aaron Liang

Requirement(s):

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

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

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

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

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Conducted Power

LTE Band II:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	18700	1860.0	QPSK	1	0	0	21.35	20.9±1
				1	49	0	21.39	
				1	99	0	21.4	
				50	0	1	21.34	
				50	24	1	21.33	
				50	49	1	21.39	
				100	0	1	20.36	
			16QAM	1	0	1	20.82	20.3±1
				1	49	1	20.87	
				1	99	1	20.74	
				50	0	2	20.62	
				50	24	2	20.57	
				50	49	2	20.58	
				100	0	2	19.82	
	18900	1880.0	QPSK	1	0	0	21.33	20.4±1
				1	49	0	20.57	
				1	99	0	21.39	
				50	0	1	21.23	
				50	24	1	21.13	
				50	49	1	21.19	
				100	0	1	19.56	
			16QAM	1	0	1	21.01	20.4±1
				1	49	1	20.97	
				1	99	1	20.99	
				50	0	2	20.86	
				50	24	2	20.96	
				50	49	2	20.92	
				100	0	2	19.72	
	19100	1900.0	QPSK	1	0	0	21.36	21±1
				1	49	0	21.34	
				1	99	0	21.33	
				50	0	1	21.32	
				50	24	1	21.23	
				50	49	1	21.27	
				100	0	1	20.55	
			16QAM	1	0	1	20.56	20±1
				1	49	1	20.6	
				1	99	1	20.58	
				50	0	2	20.32	
				50	24	2	20.28	
				50	49	2	20.27	
				100	0	2	19.53	

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	21.33	20.9±1
				1	37	0	21.28	
				1	74	0	21.26	
				36	0	1	21.21	
				36	16	1	21.31	
				36	35	1	21.26	
				75	0	1	20.35	
			16QAM	1	0	1	20.72	20.3±1
				1	37	1	20.71	
				1	74	1	20.63	
				36	0	2	20.52	
				36	16	2	20.55	
				36	35	2	20.61	
				75	0	2	19.72	
	18900	1880.0	QPSK	1	0	0	21.32	20.5±1
				1	37	0	20.55	
				1	74	0	21.27	
				36	0	1	21.21	
				36	16	1	21.21	
				36	35	1	21.23	
				75	0	1	19.56	
			16QAM	1	0	1	21.02	20.4±1
				1	37	1	21.05	
				1	74	1	20.95	
				36	0	2	20.85	
				36	16	2	20.85	
				36	35	2	20.82	
				75	0	2	19.71	
	19125	1902.5	QPSK	1	0	0	21.35	21±1
				1	37	0	21.39	
				1	74	0	21.26	
				36	0	1	21.31	
				36	16	1	21.27	
				36	35	1	21.29	
				75	0	1	20.54	
			16QAM	1	0	1	20.52	20±1
				1	37	1	20.49	
				1	74	1	20.56	
				36	0	2	20.31	
				36	16	2	20.27	
				36	35	2	20.32	
				75	0	2	19.52	

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	20.85	20.6±1
				1	24	0	20.93	
				1	49	0	20.78	
				25	0	1	20.21	
				25	12	1	20.12	
				25	24	1	20.12	
				50	0	1	20.35	
			16QAM	1	0	1	20.46	20.1±1
				1	24	1	20.55	
				1	49	1	20.52	
				25	0	2	19.85	
				25	12	2	19.86	
				25	24	2	19.81	
				50	0	2	19.72	
	18900	1880.0	QPSK	1	0	0	20.75	20.3±1
				1	24	0	19.86	
				1	49	0	20.81	
				25	0	1	20.21	
				25	12	1	20.15	
				25	24	1	20.26	
				50	0	1	20.32	
			16QAM	1	0	1	20.32	20±1
				1	24	1	20.39	
				1	49	1	20.29	
				25	0	2	19.85	
				25	12	2	19.75	
				25	24	2	19.83	
				50	0	2	19.51	
	19150	1905	QPSK	1	0	0	20.85	20.6±1
				1	24	0	20.84	
				1	49	0	20.82	
				25	0	1	20.31	
				25	12	1	20.31	
				25	24	1	20.34	
				50	0	1	20.24	
			16QAM	1	0	1	20.51	20.1±1
				1	24	1	20.54	
				1	49	1	20.49	
				25	0	2	20.31	
				25	12	2	20.31	
				25	24	2	20.39	
				50	0	2	19.53	

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	21.03	20.6±1
				1	12	0	20.95	
				1	24	0	21.02	
				12	0	1	20.95	
				12	6	1	21.01	
				12	11	1	20.94	
				25	0	1	20.18	
			16QAM	1	0	1	19.72	19.4±1
				1	12	1	19.78	
				1	24	1	19.7	
				12	0	2	19.1	
				12	6	2	19.16	
				12	11	2	19.18	
				25	0	2	19.28	
	18900	1880.0	QPSK	1	0	0	21.05	20.2±1
				1	12	0	19.16	
				1	24	0	20.95	
				12	0	1	20.88	
				12	6	1	20.94	
				12	11	1	20.94	
				25	0	1	20.12	
			16QAM	1	0	1	19.89	19.5±1
				1	12	1	19.86	
				1	24	1	19.91	
				12	0	2	19.15	
				12	6	2	19.07	
				12	11	2	19.21	
				25	0	2	19.51	
	19175	1907.5	QPSK	1	0	0	20.95	20.6±1
				1	12	0	20.97	
				1	24	0	20.93	
				12	0	1	20.31	
				12	6	1	20.28	
				12	11	1	20.36	
				25	0	1	20.24	
			16QAM	1	0	1	20.02	19.7±1
				1	12	1	20.1	
				1	24	1	19.98	
				12	0	2	19.56	
				12	6	2	19.58	
				12	11	2	19.54	
				25	0	2	19.36	

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	21.35	20.8±1
				1	7	0	21.26	
				1	14	0	21.37	
				8	0	1	20.23	
				8	4	1	20.26	
				8	7	1	20.23	
				15	0	1	20.36	
			16QAM	1	0	1	20.56	19.7±1
				1	7	1	20.66	
				1	14	1	20.57	
				8	0	2	19.23	
				8	4	2	19.28	
				8	7	2	19.19	
				15	0	2	18.78	
	18900	1880.0	QPSK	1	0	0	21.05	20.2±1
				1	7	0	19.28	
				1	14	0	21.04	
				8	0	1	20.32	
				8	4	1	20.41	
				8	7	1	20.32	
				15	0	1	20.41	
			16QAM	1	0	1	20.23	19.7±1
				1	7	1	20.26	
				1	14	1	20.17	
				8	0	2	19.15	
				8	4	2	19.23	
				8	7	2	19.14	
				15	0	2	19.21	
	19175	1907.5	QPSK	1	0	0	20.85	20.6±1
				1	7	0	20.83	
				1	14	0	20.83	
				8	0	1	20.3	
				8	4	1	20.34	
				8	7	1	20.3	
				15	0	1	20.25	
			16QAM	1	0	1	20.01	19.7±1
				1	7	1	20.03	
				1	14	1	19.94	
				8	0	2	19.55	
				8	4	2	19.59	
				8	7	2	19.53	
				15	0	2	19.37	

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	21.19	20.6±1
				1	2	0	21.13	
				1	5	0	21.28	
				3	0	0	21.09	
				3	1	0	20.99	
				3	2	0	21.08	
				6	0	1	20.09	
			16QAM	1	0	1	19.23	19.5±1
				1	2	1	19.28	
				1	5	1	19.22	
				3	0	1	19.89	
				3	1	1	19.9	
				3	2	1	19.81	
				6	0	2	19.08	
	18900	1880.0	QPSK	1	0	0	21.05	20.6±1
				1	2	0	19.9	
				1	5	0	20.98	
				3	0	0	21.32	
				3	1	0	21.23	
				3	2	0	21.27	
				6	0	1	20.12	
			16QAM	1	0	1	20.02	19.6±1
				1	2	1	19.99	
				1	5	1	20.01	
				3	0	1	19.87	
				3	1	1	19.84	
				3	2	1	19.94	
				6	0	2	19.21	
	19193	1909.3	QPSK	1	0	0	20.83	20.5±1
				1	2	0	20.77	
				1	5	0	20.93	
				3	0	0	20.73	
				3	1	0	20.69	
				3	2	0	20.77	
				6	0	1	20.23	
			16QAM	1	0	1	20.51	20±1
				1	2	1	20.54	
				1	5	1	20.58	
				3	0	1	19.52	
				3	1	1	19.48	
				3	2	1	19.52	
				6	0	2	19.36	

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	21.24	21±1
				1	49	0	21.3	
				1	99	0	21.26	
				50	0	1	20.87	
				50	24	1	20.8	
				50	49	1	20.87	
				100	0	1	20.65	
			16QAM	1	0	1	21.32	20.2±1
				1	49	1	21.37	
				1	99	1	21.31	
				50	0	2	20.56	
				50	24	2	20.58	
				50	49	2	20.58	
				100	0	2	19.12	
	20175	1732.5	QPSK	1	0	0	21.18	20.7±1
				1	49	0	20.58	
				1	99	0	21.25	
				50	0	1	20.56	
				50	24	1	20.62	
				50	49	1	20.65	
				100	0	1	20.25	
			16QAM	1	0	1	21.23	20.2±1
				1	49	1	21.15	
				1	99	1	21.19	
				50	0	2	20.17	
				50	24	2	20.21	
				50	49	2	20.2	
				100	0	2	19.16	
	20300	1745.0	QPSK	1	0	0	21.15	20.7±1
				1	49	0	21.06	
				1	99	0	21.12	
				50	0	1	21.05	
				50	24	1	20.98	
				50	49	1	20.97	
				100	0	1	20.22	
			16QAM	1	0	1	21.26	20.3±1
				1	49	1	21.22	
				1	99	1	21.18	
				50	0	2	20.15	
				50	24	2	20.11	
				50	49	2	20.18	
				100	0	2	19.32	

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	21.25	20.8±1
				1	37	0	21.21	
				1	74	0	21.18	
				36	0	1	20.42	
				36	16	1	20.48	
				36	35	1	20.44	
				75	0	1	20.35	
			16QAM	1	0	1	20.86	20.1±1
				1	37	1	20.96	
				1	74	1	20.82	
				36	0	2	19.36	
				36	16	2	19.26	
				36	35	2	19.42	
				75	0	2	19.23	
	20175	1732.5	QPSK	1	0	0	21.18	20.3±1
				1	37	0	19.26	
				1	74	0	21.2	
				36	0	1	20.53	
				36	16	1	20.52	
				36	35	1	20.46	
				75	0	1	20.26	
			16QAM	1	0	1	21.24	20.2±1
				1	37	1	21.26	
				1	74	1	21.18	
				36	0	2	20.18	
				36	16	2	20.08	
				36	35	2	20.25	
				75	0	2	19.15	
	20325	1747.5	QPSK	1	0	0	21.18	20.7±1
				1	37	0	21.14	
				1	74	0	21.18	
				36	0	1	21.04	
				36	16	1	20.99	
				36	35	1	20.95	
				75	0	1	20.23	
			16QAM	1	0	1	21.25	20.3±1
				1	37	1	21.26	
				1	74	1	21.18	
				36	0	2	20.16	
				36	16	2	20.17	
				36	35	2	20.06	
				75	0	2	19.38	

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	21.57	21.1±1
				1	24	0	21.57	
				1	49	0	21.5	
				25	0	1	20.65	
				25	12	1	20.66	
				25	24	1	20.74	
				50	0	1	20.48	
			16QAM	1	0	1	20.95	20.3±1
				1	24	1	21.01	
				1	49	1	20.88	
				25	0	2	19.69	
				25	12	2	19.66	
				25	24	2	19.6	
				50	0	2	19.55	
	20175	1732.5	QPSK	1	0	0	21.26	20.5±1
				1	24	0	19.66	
				1	49	0	21.25	
				25	0	1	20.36	
				25	12	1	20.26	
				25	24	1	20.44	
				50	0	1	20.15	
			16QAM	1	0	1	20.89	20.3±1
				1	24	1	20.81	
				1	49	1	20.96	
				25	0	2	20.12	
				25	12	2	20.22	
				25	24	2	20.13	
				50	0	2	19.65	
	20350	1750.0	QPSK	1	0	0	21.19	20.9±1
				1	24	0	21.18	
				1	49	0	21.23	
				25	0	1	20.89	
				25	12	1	20.81	
				25	24	1	20.82	
				50	0	1	20.53	
			16QAM	1	0	1	20.98	20.2±1
				1	24	1	21.06	
				1	49	1	20.96	
				25	0	2	20.12	
				25	12	2	20.07	
				25	24	2	20.22	
				50	0	2	19.45	

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	21.68	21.2±1
				1	12	0	21.62	
				1	24	0	21.7	
				12	0	1	20.64	
				12	6	1	20.65	
				12	11	1	20.54	
				25	0	1	20.65	
			16QAM	1	0	1	21.12	20.3±1
				1	12	1	21.08	
				1	24	1	21.12	
				12	0	2	19.56	
				12	6	2	19.57	
				12	11	2	19.59	
				25	0	2	19.42	
	20175	1732.5	QPSK	1	0	0	21.68	20.6±1
				1	12	0	19.57	
				1	24	0	21.59	
				12	0	1	20.64	
				12	6	1	20.54	
				12	11	1	20.54	
				25	0	1	20.65	
			16QAM	1	0	1	21.12	20.3±1
				1	12	1	21.09	
				1	24	1	21.06	
				12	0	2	19.56	
				12	6	2	19.62	
				12	11	2	19.46	
				25	0	2	19.42	
	20350	1750.0	QPSK	1	0	0	21.68	21.2±1
				1	12	0	21.59	
				1	24	0	21.66	
				12	0	1	20.64	
				12	6	1	20.69	
				12	11	1	20.64	
				25	0	1	20.65	
			16QAM	1	0	1	21.12	20.3±1
				1	12	1	21.07	
				1	24	1	21.04	
				12	0	2	19.56	
				12	6	2	19.57	
				12	11	2	19.58	
				25	0	2	19.42	

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	21.54	21.1±1
				1	7	0	21.63	
				1	14	0	21.5	
				8	0	1	20.63	
				8	4	1	20.67	
				8	7	1	20.72	
				15	0	1	20.65	
			16QAM	1	0	1	20.66	20±1
				1	7	1	20.76	
				1	14	1	20.68	
				8	0	2	19.32	
				8	4	2	19.3	
				8	7	2	19.26	
				15	0	2	19.48	
	20175	1732.5	QPSK	1	0	0	21.54	20.4±1
				1	7	0	19.3	
				1	14	0	21.48	
				8	0	1	20.63	
				8	4	1	20.64	
				8	7	1	20.54	
				15	0	1	20.65	
			16QAM	1	0	1	20.66	20±1
				1	7	1	20.66	
				1	14	1	20.74	
				8	0	2	19.32	
				8	4	2	19.31	
				8	7	2	19.22	
				15	0	2	19.48	
	20385	1753.5	QPSK	1	0	0	21.54	21.1±1
				1	7	0	21.5	
				1	14	0	21.52	
				8	0	1	20.63	
				8	4	1	20.67	
				8	7	1	20.7	
				15	0	1	20.65	
			16QAM	1	0	1	20.66	20±1
				1	7	1	20.59	
				1	14	1	20.72	
				8	0	2	19.32	
				8	4	2	19.26	
				8	7	2	19.41	
				15	0	2	19.48	

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	21.19	20.8±1
				1	2	0	21.27	
				1	5	0	21.1	
				3	0	0	21.23	
				3	1	0	21.18	
				3	2	0	21.23	
				6	0	1	20.24	
			16QAM	1	0	1	19.87	19.8±1
				1	2	1	19.77	
				1	5	1	19.79	
				3	0	1	20.22	
				3	1	1	20.17	
				3	2	1	20.27	
				6	0	2	19.21	
	20175	1732.5	QPSK	1	0	0	21.18	20.7±1
				1	2	0	20.17	
				1	5	0	21.09	
				3	0	0	21.23	
				3	1	0	21.28	
				3	2	0	21.15	
				6	0	1	20.21	
			16QAM	1	0	1	19.89	19.7±1
				1	2	1	19.86	
				1	5	1	19.82	
				3	0	1	20.17	
				3	1	1	20.21	
				3	2	1	20.15	
				6	0	2	19.21	
	20393	1754.3	QPSK	1	0	0	20.82	20.7±1
				1	2	0	20.75	
				1	5	0	20.92	
				3	0	0	21.05	
				3	1	0	21.08	
				3	2	0	21.09	
				6	0	1	20.26	
			16QAM	1	0	1	20.01	19.8±1
				1	2	1	19.94	
				1	5	1	20.02	
				3	0	1	20.15	
				3	1	1	20.08	
				3	2	1	20.11	
				6	0	2	19.36	

LTE Band V:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	20450	829	QPSK	1	0	0	23.94	23.4±1
				1	24	0	24	
				1	49	0	23.89	
				25	0	1	22.96	
				25	12	1	22.98	
				25	24	1	23.06	
				50	0	1	23.11	
			16QAM	1	0	1	23.33	22.6±1
				1	24	1	23.36	
				1	49	1	23.37	
				25	0	2	22.02	
				25	12	2	22.09	
				25	24	2	21.94	
				50	0	2	22.04	
	20525	836.5	QPSK	1	0	0	24.29	23.2±1
				1	24	0	22.09	
				1	49	0	24.24	
				25	0	1	23.12	
				25	12	1	23.15	
				25	24	1	23.08	
				50	0	1	23.06	
			16QAM	1	0	1	22.37	22.2±1
				1	24	1	22.46	
				1	49	1	22.29	
				25	0	2	22.01	
				25	12	2	21.99	
				25	24	2	21.98	
				50	0	2	22.13	
	20600	844	QPSK	1	0	0	23.56	23.3±1
				1	24	0	23.54	
				1	49	0	23.65	
				25	0	1	22.89	
				25	12	1	22.92	
				25	24	1	22.95	
				50	0	1	23.01	
			16QAM	1	0	1	23.37	22.6±1
				1	24	1	23.37	
				1	49	1	23.3	
				25	0	2	21.81	
				25	12	2	21.9	
				25	24	2	21.8	
				50	0	2	22.13	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	20425	826.5	QPSK	1	0	0	23.56	23.2±1
				1	12	0	23.49	
				1	24	0	23.51	
				12	0	1	22.89	
				12	6	1	22.88	
				12	11	1	22.9	
				25	0	1	23.01	
			16QAM	1	0	1	23.37	22.6±1
				1	12	1	23.27	
				1	24	1	23.31	
				12	0	2	21.81	
				12	6	2	21.84	
				12	11	2	21.85	
				25	0	2	22.13	
	20525	836.5	QPSK	1	0	0	23.98	22.9±1
				1	12	0	21.84	
				1	24	0	23.9	
				12	0	1	23.06	
				12	6	1	23.14	
				12	11	1	23.12	
				25	0	1	23.12	
			16QAM	1	0	1	22.37	22.2±1
				1	12	1	22.41	
				1	24	1	22.27	
				12	0	2	22.01	
				12	6	2	22	
				12	11	2	21.93	
				25	0	2	22.13	
	20625	846.5	QPSK	1	0	0	23.56	23.3±1
				1	12	0	23.66	
				1	24	0	23.63	
				12	0	1	22.89	
				12	6	1	22.81	
				12	11	1	22.95	
				25	0	1	23.01	
			16QAM	1	0	1	23.37	22.6±1
				1	12	1	23.36	
				1	24	1	23.4	
				12	0	2	21.81	
				12	6	2	21.77	
				12	11	2	21.76	
				25	0	2	22.13	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	20415	825.5	QPSK	1	0	0	23.86	23.3±1
				1	7	0	23.94	
				1	14	0	23.96	
				8	0	1	22.75	
				8	4	1	22.72	
				8	7	1	22.76	
				15	0	1	22.59	
			16QAM	1	0	1	23.37	22.6±1
				1	7	1	23.38	
				1	14	1	23.38	
				8	0	2	21.81	
				8	4	2	21.86	
				8	7	2	21.83	
				15	0	2	22.13	
	20525	836.5	QPSK	1	0	0	23.86	22.9±1
				1	7	0	21.86	
				1	14	0	23.79	
				8	0	1	22.75	
				8	4	1	22.71	
				8	7	1	22.71	
				15	0	1	22.59	
			16QAM	1	0	1	23.37	22.6±1
				1	7	1	23.31	
				1	14	1	23.42	
				8	0	2	21.81	
				8	4	2	21.72	
				8	7	2	21.86	
				15	0	2	22.13	
	20635	847.5	QPSK	1	0	0	23.56	23.2±1
				1	7	0	23.58	
				1	14	0	23.64	
				8	0	1	22.89	
				8	4	1	22.84	
				8	7	1	22.91	
				15	0	1	23.01	
			16QAM	1	0	1	23.37	22.6±1
				1	7	1	23.47	
				1	14	1	23.42	
				8	0	2	21.81	
				8	4	2	21.78	
				8	7	2	21.77	
				15	0	2	22.13	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	20407	824.7	QPSK	1	0	0	23.56	23.2±1
				1	2	0	23.53	
				1	5	0	23.5	
				3	0	0	22.89	
				3	1	0	22.93	
				3	2	0	22.84	
				6	0	1	23.01	
			16QAM	1	0	1	23.37	22.6±1
				1	2	1	23.29	
				1	5	1	23.43	
				3	0	1	21.81	
				3	1	1	21.82	
				3	2	1	21.87	
				6	0	2	22.13	
	20525	836.5	QPSK	1	0	0	23.56	22.8±1
				1	2	0	21.82	
				1	5	0	23.48	
				3	0	0	22.89	
				3	1	0	22.9	
				3	2	0	22.98	
				6	0	1	23.01	
			16QAM	1	0	1	23.37	22.6±1
				1	2	1	23.34	
				1	5	1	23.27	
				3	0	1	21.81	
				3	1	1	21.85	
				3	2	1	21.83	
				6	0	2	22.13	
	20643	848.3	QPSK	1	0	0	23.56	23.2±1
				1	2	0	23.63	
				1	5	0	23.65	
				3	0	0	22.89	
				3	1	0	22.86	
				3	2	0	22.89	
				6	0	1	23.01	
			16QAM	1	0	1	23.37	22.6±1
				1	2	1	23.41	
				1	5	1	23.39	
				3	0	1	21.81	
				3	1	1	21.83	
				3	2	1	21.77	
				6	0	2	22.13	

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	22.62	21.6±1
				1	49	0	22.65	
				1	99	0	22.61	
				50	0	1	21.56	
				50	24	1	21.54	
				50	49	1	21.49	
				100	0	1	20.53	
			16QAM	1	0	1	20.56	19.9±1
				1	49	1	20.48	
				1	99	1	20.54	
				50	0	2	19.56	
				50	24	2	19.49	
				50	49	2	19.63	
				100	0	2	19.12	
	21100	2535	QPSK	1	0	0	22.62	21.1±1
				1	49	0	19.49	
				1	99	0	22.69	
				50	0	1	21.56	
				50	24	1	21.54	
				50	49	1	21.65	
				100	0	1	20.53	
			16QAM	1	0	1	20.56	19.9±1
				1	49	1	20.48	
				1	99	1	20.5	
				50	0	2	19.56	
				50	24	2	19.53	
				50	49	2	19.55	
				100	0	2	19.12	
	21350	2560	QPSK	1	0	0	22.62	21.6±1
				1	49	0	22.54	
				1	99	0	22.7	
				50	0	1	21.56	
				50	24	1	21.48	
				50	49	1	21.65	
				100	0	1	20.53	
			16QAM	1	0	1	20.56	19.9±1
				1	49	1	20.58	
				1	99	1	20.57	
				50	0	2	19.56	
				50	24	2	19.61	
				50	49	2	19.56	
				100	0	2	19.12	

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	22.32	21.3±1
				1	37	0	22.38	
				1	74	0	22.36	
				36	0	1	21.12	
				36	16	1	21.04	
				36	35	1	21.04	
				75	0	1	20.34	
			16QAM	1	0	1	20.53	19.9±1
				1	37	1	20.46	
				1	74	1	20.56	
				36	0	2	19.42	
				36	16	2	19.47	
				36	35	2	19.32	
				75	0	2	19.32	
	21100	1732.5	QPSK	1	0	0	22.32	20.9±1
				1	37	0	19.47	
				1	74	0	22.42	
				36	0	1	21.12	
				36	16	1	21.07	
				36	35	1	21.14	
				75	0	1	20.34	
			16QAM	1	0	1	20.53	20±1
				1	37	1	20.43	
				1	74	1	20.61	
				36	0	2	19.42	
				36	16	2	19.36	
				36	35	2	19.52	
				75	0	2	19.32	
	21375	1747.5	QPSK	1	0	0	22.32	21.4±1
				1	37	0	22.36	
				1	74	0	22.32	
				36	0	1	21.12	
				36	16	1	21.22	
				36	35	1	21.14	
				75	0	1	20.34	
			16QAM	1	0	1	20.53	19.9±1
				1	37	1	20.53	
				1	74	1	20.51	
				36	0	2	19.42	
				36	16	2	19.39	
				36	35	2	19.41	
				75	0	2	19.32	

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	22.02	21.3±1
				1	24	0	22.09	
				1	49	0	22.12	
				25	0	1	20.85	
				25	12	1	20.95	
				25	24	1	20.86	
				50	0	1	20.55	
			16QAM	1	0	1	20.35	19.9±1
				1	24	1	20.42	
				1	49	1	20.25	
				25	0	2	19.41	
				25	12	2	19.48	
				25	24	2	19.38	
				50	0	2	19.4	
	21100	2535	QPSK	1	0	0	22.02	20.8±1
				1	24	0	19.48	
				1	49	0	21.95	
				25	0	1	20.85	
				25	12	1	20.83	
				25	24	1	20.93	
				50	0	1	20.55	
			16QAM	1	0	1	20.35	19.9±1
				1	24	1	20.41	
				1	49	1	20.34	
				25	0	2	19.41	
				25	12	2	19.4	
				25	24	2	19.4	
				50	0	2	19.4	
	21400	2565	QPSK	1	0	0	22.02	21.3±1
				1	24	0	22.02	
				1	49	0	21.94	
				25	0	1	20.85	
				25	12	1	20.95	
				25	24	1	20.95	
				50	0	1	20.55	
			16QAM	1	0	1	20.35	19.9±1
				1	24	1	20.35	
				1	49	1	20.4	
				25	0	2	19.41	
				25	12	2	19.44	
				25	24	2	19.45	
				50	0	2	19.4	

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	21.93	21.5±1
				1	12	0	21.85	
				1	24	0	21.88	
				12	0	1	21.11	
				12	6	1	21.01	
				12	11	1	21.13	
				25	0	1	21	
			16QAM	1	0	1	20.7	20.5±1
				1	12	1	20.61	
				1	24	1	20.79	
				12	0	2	20.42	
				12	6	2	20.46	
				12	11	2	20.45	
				25	0	2	20.37	
	20175	1732.5	QPSK	1	0	0	21.72	21.1±1
				1	12	0	20.46	
				1	24	0	21.8	
				12	0	1	20.88	
				12	6	1	20.82	
				12	11	1	20.96	
				25	0	1	20.98	
			16QAM	1	0	1	21.33	20.8±1
				1	12	1	21.25	
				1	24	1	21.31	
				12	0	2	20.32	
				12	6	2	20.22	
				12	11	2	20.38	
				25	0	2	20.31	
	20375	1752.5	QPSK	1	0	0	21.82	21.4±1
				1	12	0	21.75	
				1	24	0	21.75	
				12	0	1	21.05	
				12	6	1	21.08	
				12	11	1	21.03	
				25	0	1	21.11	
			16QAM	1	0	1	21.13	20.7±1
				1	12	1	21.22	
				1	24	1	21.17	
				12	0	2	20.36	
				12	6	2	20.3	
				12	11	2	20.44	
				25	0	2	20.31	

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	21.64	21.3±1
				1	24	0	21.74	
				1	49	0	21.73	
				25	0	1	21.02	
				25	12	1	21.04	
				25	24	1	20.94	
				50	0	1	20.98	
			16QAM	1	0	1	21	20.8±1
				1	24	1	20.94	
				1	49	1	20.98	
				25	0	2	20.52	
				25	12	2	20.51	
				25	24	2	20.61	
				50	0	2	20.47	
	23095	707.5	QPSK	1	0	0	22.37	21.5±1
				1	24	0	20.51	
				1	49	0	22.29	
				25	0	1	21.62	
				25	12	1	21.58	
				25	24	1	21.69	
				50	0	1	21.61	
			16QAM	1	0	1	21.76	21.2±1
				1	24	1	21.78	
				1	49	1	21.83	
				25	0	2	20.63	
				25	12	2	20.67	
				25	24	2	20.59	
				50	0	2	20.67	
	23130	711	QPSK	1	0	0	22.5	22.2±1
				1	24	0	22.47	
				1	49	0	22.56	
				25	0	1	21.81	
				25	12	1	21.77	
				25	24	1	21.9	
				50	0	1	21.77	
			16QAM	1	0	1	21.35	21.1±1
				1	24	1	21.39	
				1	49	1	21.32	
				25	0	2	20.76	
				25	12	2	20.67	
				25	24	2	20.83	
				50	0	2	20.75	

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	21.93	21.5±1
				1	12	0	21.85	
				1	24	0	21.88	
				12	0	1	21.11	
				12	6	1	21.01	
				12	11	1	21.13	
				25	0	1	21	
			16QAM	1	0	1	20.7	20.5±1
				1	12	1	20.61	
				1	24	1	20.79	
				12	0	2	20.42	
				12	6	2	20.46	
				12	11	2	20.45	
				25	0	2	20.37	
	23095	707.5	QPSK	1	0	0	21.72	21.1±1
				1	12	0	20.46	
				1	24	0	21.8	
				12	0	1	20.88	
				12	6	1	20.82	
				12	11	1	20.96	
				25	0	1	20.98	
			16QAM	1	0	1	21.33	20.8±1
				1	12	1	21.25	
				1	24	1	21.31	
				12	0	2	20.32	
				12	6	2	20.22	
				12	11	2	20.38	
				25	0	2	20.31	
	23155	713.5	QPSK	1	0	0	21.82	21.4±1
				1	12	0	21.75	
				1	24	0	21.75	
				12	0	1	21.05	
				12	6	1	21.08	
				12	11	1	21.03	
				25	0	1	21.11	
			16QAM	1	0	1	21.13	20.7±1
				1	12	1	21.22	
				1	24	1	21.17	
				12	0	2	20.36	
				12	6	2	20.3	
				12	11	2	20.44	
				25	0	2	20.31	

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	21.95	21.4±1
				1	7	0	22.05	
				1	14	0	21.86	
				8	0	1	20.85	
				8	4	1	20.9	
				8	7	1	20.79	
				15	0	1	20.82	
			16QAM	1	0	1	20.81	20.6±1
				1	7	1	20.72	
				1	14	1	20.88	
				8	0	2	20.42	
				8	4	2	20.4	
				8	7	2	20.46	
				15	0	2	20.37	
	23095	707.5	QPSK	1	0	0	21.92	21.2±1
				1	7	0	20.4	
				1	14	0	21.91	
				8	0	1	20.82	
				8	4	1	20.8	
				8	7	1	20.91	
				15	0	1	20.88	
			16QAM	1	0	1	20.7	20.5±1
				1	7	1	20.68	
				1	14	1	20.65	
				8	0	2	20.35	
				8	4	2	20.33	
				8	7	2	20.33	
				15	0	2	20.36	
	23025	714.5	QPSK	1	0	0	22.01	21.6±1
				1	7	0	21.92	
				1	14	0	22	
				8	0	1	21.12	
				8	4	1	21.12	
				8	7	1	21.16	
				15	0	1	21.11	
			16QAM	1	0	1	21.54	21±1
				1	7	1	21.61	
				1	14	1	21.64	
				8	0	2	20.36	
				8	4	2	20.39	
				8	7	2	20.33	
				15	0	2	20.32	

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	21.86	21.4±1
				1	2	0	21.92	
				1	5	0	21.91	
				3	0	0	20.88	
				3	1	0	20.82	
				3	2	0	20.78	
				6	0	1	20.86	
			16QAM	1	0	1	20.75	20.5±1
				1	2	1	20.82	
				1	5	1	20.8	
				3	0	1	20.3	
				3	1	1	20.29	
				3	2	1	20.32	
				6	0	2	20.31	
	23095	707.5	QPSK	1	0	0	21.81	21±1
				1	2	0	20.29	
				1	5	0	21.74	
				3	0	0	20.94	
				3	1	0	20.93	
				3	2	0	20.99	
				6	0	1	20.91	
			16QAM	1	0	1	21.21	20.8±1
				1	2	1	21.11	
				1	5	1	21.14	
				3	0	1	20.31	
				3	1	1	20.25	
				3	2	1	20.41	
				6	0	2	20.32	
	23173	715.3	QPSK	1	0	0	21.93	21.5±1
				1	2	0	21.99	
				1	5	0	22.01	
				3	0	0	21.11	
				3	1	0	21.12	
				3	2	0	21.11	
				6	0	1	21.11	
			16QAM	1	0	1	20.98	20.6±1
				1	2	1	20.88	
				1	5	1	21.03	
				3	0	1	20.47	
				3	1	1	20.44	
				3	2	1	20.51	
				6	0	2	20.31	

LTE Band XVII:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	23780	709.0	QPSK	1	0	0	22.56	22.3±1
				1	24	0	22.5	
				1	49	0	22.46	
				25	0	1	22.04	
				25	12	1	22.01	
				25	24	1	22.14	
				50	0	1	22.02	
			16QAM	1	0	1	21.43	21.3±1
				1	24	1	21.35	
				1	49	1	21.35	
				25	0	2	21.15	
				25	12	2	21.24	
				25	24	2	21.11	
				50	0	2	21.16	
	23790	701.0	QPSK	1	0	0	23.27	22.2±1
				1	24	0	21.24	
				1	49	0	23.28	
				25	0	1	22.26	
				25	12	1	22.17	
				25	24	1	22.16	
				50	0	1	22.27	
			16QAM	1	0	1	22.22	21.7±1
				1	24	1	22.28	
				1	49	1	22.22	
				25	0	2	21.1	
				25	12	2	21.1	
				25	24	2	21.19	
				50	0	2	21.3	
	23800	711.0	QPSK	1	0	0	22.57	22.4±1
				1	24	0	22.54	
				1	49	0	22.61	
				25	0	1	22.48	
				25	12	1	22.4	
				25	24	1	22.58	
				50	0	1	22.31	
			16QAM	1	0	1	21.81	21.6±1
				1	24	1	21.86	
				1	49	1	21.78	
				25	0	2	21.43	
				25	12	2	21.51	
				25	24	2	21.44	
				50	0	2	21.56	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	23755	706.5	QPSK	1	0	0	22.4	21.9±1
				1	12	0	22.48	
				1	24	0	22.4	
				12	0	1	21.56	
				12	6	1	21.46	
				12	11	1	21.57	
				25	0	1	21.36	
			16QAM	1	0	1	21.03	20.9±1
				1	12	1	20.99	
				1	24	1	21.13	
				12	0	2	20.86	
				12	6	2	20.88	
				12	11	2	20.95	
				25	0	2	20.76	
	23790	710.0	QPSK	1	0	0	22.36	21.6±1
				1	12	0	20.88	
				1	24	0	22.44	
				12	0	1	22.03	
				12	6	1	21.96	
				12	11	1	22	
				25	0	1	21.72	
			16QAM	1	0	1	21.82	21.6±1
				1	12	1	21.76	
				1	24	1	21.88	
				12	0	2	21.56	
				12	6	2	21.54	
				12	11	2	21.59	
				25	0	2	21.3	
	23825	713.5	QPSK	1	0	0	22.34	22.1±1
				1	12	0	22.4	
				1	24	0	22.24	
				12	0	1	21.98	
				12	6	1	21.99	
				12	11	1	21.89	
				25	0	1	21.81	
			16QAM	1	0	1	21.45	21.2±1
				1	12	1	21.5	
				1	24	1	21.54	
				12	0	2	21.03	
				12	6	2	21.09	
				12	11	2	21.12	
				25	0	2	20.86	

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	V	22.88	33.01	1850.7	1.4	QPSK
1880	1.4	QPSK	1/0	V	22.74	33.01	1880	1.4	QPSK
1909.3	1.4	QPSK	1/0	V	22.52	33.01	1909.3	1.4	QPSK
1850.7	1.4	QPSK	1/0	H	20.73	33.01	1850.7	1.4	QPSK
1880	1.4	QPSK	1/0	H	21.63	33.01	1880	1.4	QPSK
1909.3	1.4	QPSK	1/0	H	21.15	33.01	1909.3	1.4	QPSK
1850.7	1.4	16-QAM	1/0	V	20.92	33.01	1850.7	1.4	16-QAM
1880	1.4	16-QAM	1/0	V	21.71	33.01	1880	1.4	16-QAM
1909.3	1.4	16-QAM	1/0	V	22.2	33.01	1909.3	1.4	16-QAM
1850.7	1.4	16-QAM	1/0	H	18.94	33.01	1850.7	1.4	16-QAM
1880	1.4	16-QAM	1/0	H	19.48	33.01	1880	1.4	16-QAM
1909.3	1.4	16-QAM	1/0	H	20.64	33.01	1909.3	1.4	16-QAM
1851.5	3	QPSK	1/0	V	23.04	33.01	1851.5	3	QPSK
1880	3	QPSK	1/0	V	22.74	33.01	1880	3	QPSK
1908.5	3	QPSK	1/0	V	22.54	33.01	1908.5	3	QPSK
1851.5	3	QPSK	1/0	H	21.67	33.01	1851.5	3	QPSK
1880	3	QPSK	1/0	H	20.65	33.01	1880	3	QPSK
1908.5	3	QPSK	1/0	H	21.54	33.01	1908.5	3	QPSK
1851.5	3	16-QAM	1/0	V	22.25	33.01	1851.5	3	16-QAM
1880	3	16-QAM	1/0	V	21.92	33.01	1880	3	16-QAM
1908.5	3	16-QAM	1/0	V	21.7	33.01	1908.5	3	16-QAM
1851.5	3	16-QAM	1/0	H	20.65	33.01	1851.5	3	16-QAM
1880	3	16-QAM	1/0	H	20.57	33.01	1880	3	16-QAM
1908.5	3	16-QAM	1/0	H	20.3	33.01	1908.5	3	16-QAM
1852.5	5	QPSK	1/24	V	22.71	33.01	1852.5	5	QPSK
1880	5	QPSK	1/0	V	22.74	33.01	1880	5	QPSK
1907.5	5	QPSK	1/24	V	22.62	33.01	1907.5	5	QPSK
1852.5	5	QPSK	1/24	H	20.63	33.01	1852.5	5	QPSK
1880	5	QPSK	1/0	H	20.66	33.01	1880	5	QPSK
1907.5	5	QPSK	1/24	H	21.31	33.01	1907.5	5	QPSK
1852.5	5	16-QAM	1/24	V	21.39	33.01	1852.5	5	16-QAM
1880	5	16-QAM	1/0	V	21.58	33.01	1880	5	16-QAM
1907.5	5	16-QAM	1/24	V	21.67	33.01	1907.5	5	16-QAM
1852.5	5	16-QAM	1/24	H	20.35	33.01	1852.5	5	16-QAM
1880	5	16-QAM	1/0	H	20.55	33.01	1880	5	16-QAM
1907.5	5	16-QAM	1/24	H	19.92	33.01	1907.5	5	16-QAM
1855	10	QPSK	1/0	V	22.54	33.01	1855	10	QPSK
1880	10	QPSK	1/0	V	22.44	33.01	1880	10	QPSK
1905	10	QPSK	1/49	V	22.51	33.01	1905	10	QPSK
1855	10	QPSK	1/0	H	20.31	33.01	1855	10	QPSK
1880	10	QPSK	1/0	H	20.06	33.01	1880	10	QPSK

1905	10	QPSK	1/49	H	21.15	33.01	1905	10	QPSK
1855	10	16-QAM	1/0	V	22.15	33.01	1855	10	16-QAM
1880	10	16-QAM	1/0	V	22.01	33.01	1880	10	16-QAM
1905	10	16-QAM	1/49	V	22.18	33.01	1905	10	16-QAM
1855	10	16-QAM	1/0	H	19.68	33.01	1855	10	16-QAM
1880	10	16-QAM	1/0	H	20.95	33.01	1880	10	16-QAM
1905	10	16-QAM	1/49	H	21.13	33.01	1905	10	16-QAM
1857.5	15	QPSK	1/0	V	23.02	33.01	1857.5	15	QPSK
1880	15	QPSK	1/0	V	23.01	33.01	1880	15	QPSK
1902.5	15	QPSK	1/0	V	23.04	33.01	1902.5	15	QPSK
1857.5	15	QPSK	1/0	H	21.26	33.01	1857.5	15	QPSK
1880	15	QPSK	1/0	H	20.95	33.01	1880	15	QPSK
1902.5	15	QPSK	1/0	H	21.98	33.01	1902.5	15	QPSK
1857.5	15	16-QAM	1/0	V	22.41	33.01	1857.5	15	16-QAM
1880	15	16-QAM	1/0	V	22.71	33.01	1880	15	16-QAM
1902.5	15	16-QAM	1/0	V	22.21	33.01	1902.5	15	16-QAM
1857.5	15	16-QAM	1/0	H	19.93	33.01	1857.5	15	16-QAM
1880	15	16-QAM	1/0	H	20.4	33.01	1880	15	16-QAM
1902.5	15	16-QAM	1/0	H	20.97	33.01	1902.5	15	16-QAM
1860	20	QPSK	1/0	V	23.04	33.01	1860	20	QPSK
1880	20	QPSK	1/0	V	23.02	33.01	1880	20	QPSK
1900	20	QPSK	1/0	V	23.05	33.01	1900	20	QPSK
1860	20	QPSK	1/0	H	21	33.01	1860	20	QPSK
1880	20	QPSK	1/0	H	21.49	33.01	1880	20	QPSK
1900	20	QPSK	1/0	H	20.8	33.01	1900	20	QPSK
1860	20	16-QAM	1/0	V	22.51	33.01	1860	20	16-QAM
1880	20	16-QAM	1/0	V	22.7	33.01	1880	20	16-QAM
1900	20	16-QAM	1/0	V	22.25	33.01	1900	20	16-QAM
1860	20	16-QAM	1/0	H	21.05	33.01	1860	20	16-QAM
1880	20	16-QAM	1/0	H	20.86	33.01	1880	20	16-QAM
1900	20	16-QAM	1/0	H	21.04	33.01	1900	20	16-QAM

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	V	22.59	30	1710.7	1.4	QPSK
1732.5	1.4	QPSK	1/0	V	22.67	30	1732.5	1.4	QPSK
1754.3	1.4	QPSK	1/0	V	22.31	30	1754.3	1.4	QPSK
1710.7	1.4	QPSK	1/0	H	20.9	30	1710.7	1.4	QPSK
1732.5	1.4	QPSK	1/0	H	20.3	30	1732.5	1.4	QPSK
1754.3	1.4	QPSK	1/0	H	19.83	30	1754.3	1.4	QPSK
1710.7	1.4	16-QAM	1/5	V	21.28	30	1710.7	1.4	16-QAM
1732.5	1.4	16-QAM	1/0	V	21.38	30	1732.5	1.4	16-QAM
1754.3	1.4	16-QAM	1/0	V	21.5	30	1754.3	1.4	16-QAM
1710.7	1.4	16-QAM	1/5	H	19.78	30	1710.7	1.4	16-QAM
1732.5	1.4	16-QAM	1/0	H	19.4	30	1732.5	1.4	16-QAM
1754.3	1.4	16-QAM	1/0	H	20.37	30	1754.3	1.4	16-QAM
1711.5	3	QPSK	1/0	V	23.03	30	1711.5	3	QPSK
1732.5	3	QPSK	1/0	V	23.03	30	1732.5	3	QPSK
1753.5	3	QPSK	1/0	V	23.03	30	1753.5	3	QPSK
1711.5	3	QPSK	1/0	H	21.8	30	1711.5	3	QPSK
1732.5	3	QPSK	1/0	H	21.45	30	1732.5	3	QPSK
1753.5	3	QPSK	1/0	H	20.82	30	1753.5	3	QPSK
1711.5	3	16-QAM	1/0	V	22.15	30	1711.5	3	16-QAM
1732.5	3	16-QAM	1/0	V	22.15	30	1732.5	3	16-QAM
1753.5	3	16-QAM	1/0	V	22.15	30	1753.5	3	16-QAM
1711.5	3	16-QAM	1/0	H	20.15	30	1711.5	3	16-QAM
1732.5	3	16-QAM	1/0	H	21.1	30	1732.5	3	16-QAM
1753.5	3	16-QAM	1/0	H	20.91	30	1753.5	3	16-QAM
1712.5	5	QPSK	1/0	V	23.17	30	1712.5	5	QPSK
1732.5	5	QPSK	1/0	V	23.17	30	1732.5	5	QPSK
1752.5	5	QPSK	1/24	V	23.17	30	1752.5	5	QPSK
1712.5	5	QPSK	1/0	H	20.69	30	1712.5	5	QPSK
1732.5	5	QPSK	1/0	H	21.47	30	1732.5	5	QPSK
1752.5	5	QPSK	1/24	H	21.89	30	1752.5	5	QPSK
1712.5	5	16-QAM	1/0	V	22.61	30	1712.5	5	16-QAM
1732.5	5	16-QAM	1/0	V	22.61	30	1732.5	5	16-QAM
1752.5	5	16-QAM	1/24	V	22.61	30	1752.5	5	16-QAM
1712.5	5	16-QAM	1/0	H	20.3	30	1712.5	5	16-QAM
1732.5	5	16-QAM	1/0	H	20.26	30	1732.5	5	16-QAM
1752.5	5	16-QAM	1/24	H	21.4	30	1752.5	5	16-QAM
1715	10	QPSK	1/0	V	23.06	30	1715	10	QPSK
1732.5	10	QPSK	1/49	V	22.74	30	1732.5	10	QPSK
1750	10	QPSK	1/0	V	22.68	30	1750	10	QPSK
1715	10	QPSK	1/0	H	20.92	30	1715	10	QPSK
1732.5	10	QPSK	1/49	H	20.74	30	1732.5	10	QPSK
1750	10	QPSK	1/0	H	21.02	30	1750	10	QPSK
1715	10	16-QAM	1/0	V	22.44	30	1715	10	16-QAM
1732.5	10	16-QAM	1/49	V	22.45	30	1732.5	10	16-QAM

1750	10	16-QAM	1/0	V	22.47	30	1750	10	16-QAM
1715	10	16-QAM	1/0	H	20.92	30	1715	10	16-QAM
1732.5	10	16-QAM	1/49	H	21.21	30	1732.5	10	16-QAM
1750	10	16-QAM	1/0	H	21.22	30	1750	10	16-QAM
1717.5	15	QPSK	1/0	V	22.74	30	1717.5	15	QPSK
1732.5	15	QPSK	1/74	V	22.69	30	1732.5	15	QPSK
1747.5	15	QPSK	1/0	V	22.67	30	1747.5	15	QPSK
1717.5	15	QPSK	1/0	H	21.7	30	1717.5	15	QPSK
1732.5	15	QPSK	1/74	H	20.94	30	1732.5	15	QPSK
1747.5	15	QPSK	1/0	H	20.42	30	1747.5	15	QPSK
1717.5	15	16-QAM	1/0	V	22.35	30	1717.5	15	16-QAM
1732.5	15	16-QAM	1/74	V	22.67	30	1732.5	15	16-QAM
1747.5	15	16-QAM	1/0	V	22.74	30	1747.5	15	16-QAM
1717.5	15	16-QAM	1/0	H	20.07	30	1717.5	15	16-QAM
1732.5	15	16-QAM	1/74	H	20.95	30	1732.5	15	16-QAM
1747.5	15	16-QAM	1/0	H	21.12	30	1747.5	15	16-QAM
1720	20	QPSK	1/99	V	22.75	30	1720	20	QPSK
1732.5	20	QPSK	1/99	V	22.74	30	1732.5	20	QPSK
1745	20	QPSK	1/0	V	22.64	30	1745	20	QPSK
1720	20	QPSK	1/99	H	20.33	30	1720	20	QPSK
1732.5	20	QPSK	1/99	H	21.1	30	1732.5	20	QPSK
1745	20	QPSK	1/0	H	20.99	30	1745	20	QPSK
1720	20	16-QAM	1/99	V	22.8	30	1720	20	16-QAM
1732.5	20	16-QAM	1/99	V	22.68	30	1732.5	20	16-QAM
1745	20	16-QAM	1/0	V	22.75	30	1745	20	16-QAM
1720	20	16-QAM	1/99	H	21.36	30	1720	20	16-QAM
1732.5	20	16-QAM	1/99	H	20.32	30	1732.5	20	16-QAM
1745	20	16-QAM	1/0	H	21.3	30	1745	20	16-QAM

EIRP for LTE Band V (Part 22)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
824.7	1.4	QPSK	1/5	V	21.83	34.77	824.7	1.4	QPSK
836.5	1.4	QPSK	1/5	V	20.12	34.77	836.5	1.4	QPSK
848.3	1.4	QPSK	1/5	V	21.93	34.77	848.3	1.4	QPSK
824.7	1.4	QPSK	1/5	H	19.48	34.77	824.7	1.4	QPSK
836.5	1.4	QPSK	1/5	H	18.68	34.77	836.5	1.4	QPSK
848.3	1.4	QPSK	1/5	H	19.71	34.77	848.3	1.4	QPSK
824.7	1.4	16-QAM	1/5	V	21.59	34.77	824.7	1.4	16-QAM
836.5	1.4	16-QAM	1/5	V	21.64	34.77	836.5	1.4	16-QAM
848.3	1.4	16-QAM	1/5	V	21.71	34.77	848.3	1.4	16-QAM
824.7	1.4	16-QAM	1/5	H	19.8	34.77	824.7	1.4	16-QAM
836.5	1.4	16-QAM	1/5	H	19.54	34.77	836.5	1.4	16-QAM
848.3	1.4	16-QAM	1/5	H	19.51	34.77	848.3	1.4	16-QAM
825.5	3	QPSK	1/14	V	22.16	34.77	825.5	3	QPSK
836.5	3	QPSK	1/0	V	21.01	34.77	836.5	3	QPSK
847.5	3	QPSK	1/14	V	21.86	34.77	847.5	3	QPSK
825.5	3	QPSK	1/14	H	19.74	34.77	825.5	3	QPSK
836.5	3	QPSK	1/0	H	19.25	34.77	836.5	3	QPSK
847.5	3	QPSK	1/14	H	20.22	34.77	847.5	3	QPSK
825.5	3	16-QAM	1/14	V	21.67	34.77	825.5	3	16-QAM
836.5	3	16-QAM	1/0	V	20.16	34.77	836.5	3	16-QAM
847.5	3	16-QAM	1/14	V	21.67	34.77	847.5	3	16-QAM
825.5	3	16-QAM	1/14	H	19.89	34.77	825.5	3	16-QAM
836.5	3	16-QAM	1/0	H	18.4	34.77	836.5	3	16-QAM
847.5	3	16-QAM	1/14	H	19.79	34.77	847.5	3	16-QAM
826.5	5	QPSK	1/24	V	22.19	34.77	826.5	5	QPSK
836.5	5	QPSK	1/24	V	22.54	34.77	836.5	5	QPSK
846.5	5	QPSK	1/24	V	21.95	34.77	846.5	5	QPSK
826.5	5	QPSK	1/24	H	20	34.77	826.5	5	QPSK
836.5	5	QPSK	1/24	H	21.28	34.77	836.5	5	QPSK
846.5	5	QPSK	1/24	H	20.39	34.77	846.5	5	QPSK
826.5	5	16-QAM	1/24	V	21.67	34.77	826.5	5	16-QAM
836.5	5	16-QAM	1/24	V	20.59	34.77	836.5	5	16-QAM
846.5	5	16-QAM	1/24	V	21.6	34.77	846.5	5	16-QAM
826.5	5	16-QAM	1/24	H	19.9	34.77	826.5	5	16-QAM
836.5	5	16-QAM	1/24	H	18.96	34.77	836.5	5	16-QAM
846.5	5	16-QAM	1/24	H	19.8	34.77	846.5	5	16-QAM
829	10	QPSK	1/49	V	21.81	34.77	829	10	QPSK
836.5	10	QPSK	1/49	V	22.2	34.77	836.5	10	QPSK
844	10	QPSK	1/49	V	21.93	34.77	844	10	QPSK
829	10	QPSK	1/49	H	20.63	34.77	829	10	QPSK
836.5	10	QPSK	1/49	H	19.86	34.77	836.5	10	QPSK
844	10	QPSK	1/49	H	19.61	34.77	844	10	QPSK
829	10	16-QAM	1/49	V	21.61	34.77	829	10	16-QAM
836.5	10	16-QAM	1/49	V	20.57	34.77	836.5	10	16-QAM

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844	10	16-QAM	1/49	V	21.7	34.77	844	10	16-QAM
829	10	16-QAM	1/49	H	19.38	34.77	829	10	16-QAM
836.5	10	16-QAM	1/49	H	19.15	34.77	836.5	10	16-QAM
844	10	16-QAM	1/49	H	19.35	34.77	844	10	16-QAM

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	V	23.79	30	2502.5	5	QPSK
2535	5	QPSK	1/0	V	23.58	30	2535	5	QPSK
2567.5	5	QPSK	1/24	V	23.58	30	2567.5	5	QPSK
2502.5	5	QPSK	1/0	H	22.75	30	2502.5	5	QPSK
2535	5	QPSK	1/0	H	21.62	30	2535	5	QPSK
2567.5	5	QPSK	1/24	H	21.75	30	2567.5	5	QPSK
2502.5	5	16-QAM	1/0	V	22.08	30	2502.5	5	16-QAM
2535	5	16-QAM	1/0	V	22.08	30	2535	5	16-QAM
2567.5	5	16-QAM	1/24	V	22.08	30	2567.5	5	16-QAM
2502.5	5	16-QAM	1/0	H	20.89	30	2502.5	5	16-QAM
2535	5	16-QAM	1/0	H	20.99	30	2535	5	16-QAM
2567.5	5	16-QAM	1/24	H	20.95	30	2567.5	5	16-QAM
2505	10	QPSK	1/0	V	23.78	30	2505	10	QPSK
2535	10	QPSK	1/49	V	23.71	30	2535	10	QPSK
2565	10	QPSK	1/0	V	23.78	30	2565	10	QPSK
2505	10	QPSK	1/0	H	22.74	30	2505	10	QPSK
2535	10	QPSK	1/49	H	22.55	30	2535	10	QPSK
2565	10	QPSK	1/0	H	22.6	30	2565	10	QPSK
2505	10	16-QAM	1/0	V	22.11	30	2505	10	16-QAM
2535	10	16-QAM	1/49	V	22.1	30	2535	10	16-QAM
2565	10	16-QAM	1/0	V	22.11	30	2565	10	16-QAM
2505	10	16-QAM	1/0	H	21	30	2505	10	16-QAM
2535	10	16-QAM	1/49	H	20.17	30	2535	10	16-QAM
2565	10	16-QAM	1/0	H	20.05	30	2565	10	16-QAM
2507.5	15	QPSK	1/0	V	24.08	30	2507.5	15	QPSK
2535	15	QPSK	1/74	V	24.18	30	2535	15	QPSK
2562.5	15	QPSK	1/0	V	24.08	30	2562.5	15	QPSK
2507.5	15	QPSK	1/0	H	21.69	30	2507.5	15	QPSK
2535	15	QPSK	1/74	H	21.99	30	2535	15	QPSK
2562.5	15	QPSK	1/0	H	22.25	30	2562.5	15	QPSK
2507.5	15	16-QAM	1/0	V	22.29	30	2507.5	15	16-QAM
2535	15	16-QAM	1/74	V	22.37	30	2535	15	16-QAM
2562.5	15	16-QAM	1/0	V	22.29	30	2562.5	15	16-QAM
2507.5	15	16-QAM	1/0	H	20.88	30	2507.5	15	16-QAM
2535	15	16-QAM	1/74	H	20.08	30	2535	15	16-QAM
2562.5	15	16-QAM	1/0	H	19.87	30	2562.5	15	16-QAM
2510	20	QPSK	1/99	V	24.37	30	2510	20	QPSK
2535	20	QPSK	1/99	V	24.45	30	2535	20	QPSK
2560	20	QPSK	1/0	V	24.38	30	2560	20	QPSK
2510	20	QPSK	1/99	H	22.04	30	2510	20	QPSK
2535	20	QPSK	1/99	H	22.22	30	2535	20	QPSK
2560	20	QPSK	1/0	H	23.23	30	2560	20	QPSK

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2510	20	16-QAM	1/99	V	22.3	30	2510	20	16-QAM
2535	20	16-QAM	1/99	V	22.26	30	2535	20	16-QAM
2560	20	16-QAM	1/0	V	22.32	30	2560	20	16-QAM
2510	20	16-QAM	1/99	H	20.73	30	2510	20	16-QAM
2535	20	16-QAM	1/99	H	20.26	30	2535	20	16-QAM
2560	20	16-QAM	1/0	H	19.9	30	2560	20	16-QAM

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	V	20.6	34.77	699.7	1.4	QPSK
707.5	1.4	QPSK	1/5	V	19.59	34.77	707.5	1.4	QPSK
715.3	1.4	QPSK	1/5	V	19.86	34.77	715.3	1.4	QPSK
699.7	1.4	QPSK	1/5	H	19.46	34.77	699.7	1.4	QPSK
707.5	1.4	QPSK	1/5	H	18.34	34.77	707.5	1.4	QPSK
715.3	1.4	QPSK	1/5	H	17.92	34.77	715.3	1.4	QPSK
699.7	1.4	16-QAM	1/5	V	19.49	34.77	699.7	1.4	16-QAM
707.5	1.4	16-QAM	1/5	V	18.99	34.77	707.5	1.4	16-QAM
715.3	1.4	16-QAM	1/5	V	18.88	34.77	715.3	1.4	16-QAM
699.7	1.4	16-QAM	1/5	H	17.13	34.77	699.7	1.4	16-QAM
707.5	1.4	16-QAM	1/5	H	17.47	34.77	707.5	1.4	16-QAM
715.3	1.4	16-QAM	1/5	H	17.8	34.77	715.3	1.4	16-QAM
700.5	3	QPSK	1/14	V	20.55	34.77	700.5	3	QPSK
707.5	3	QPSK	1/0	V	19.77	34.77	707.5	3	QPSK
714.5	3	QPSK	1/14	V	19.85	34.77	714.5	3	QPSK
700.5	3	QPSK	1/14	H	18.84	34.77	700.5	3	QPSK
707.5	3	QPSK	1/0	H	17.84	34.77	707.5	3	QPSK
714.5	3	QPSK	1/14	H	18.61	34.77	714.5	3	QPSK
700.5	3	16-QAM	1/14	V	19.57	34.77	700.5	3	16-QAM
707.5	3	16-QAM	1/0	V	18.55	34.77	707.5	3	16-QAM
714.5	3	16-QAM	1/14	V	19.49	34.77	714.5	3	16-QAM
700.5	3	16-QAM	1/14	H	18.07	34.77	700.5	3	16-QAM
707.5	3	16-QAM	1/0	H	16.94	34.77	707.5	3	16-QAM
714.5	3	16-QAM	1/14	H	18.11	34.77	714.5	3	16-QAM
701.5	5	QPSK	1/24	V	20.57	34.77	701.5	5	QPSK
707.5	5	QPSK	1/24	V	19.65	34.77	707.5	5	QPSK
713.5	5	QPSK	1/24	V	19.6	34.77	713.5	5	QPSK
701.5	5	QPSK	1/24	H	18.91	34.77	701.5	5	QPSK
707.5	5	QPSK	1/24	H	18.01	34.77	707.5	5	QPSK
713.5	5	QPSK	1/24	H	17.67	34.77	713.5	5	QPSK
701.5	5	16-QAM	1/24	V	19.48	34.77	701.5	5	16-QAM
707.5	5	16-QAM	1/24	V	19.16	34.77	707.5	5	16-QAM
713.5	5	16-QAM	1/24	V	19.02	34.77	713.5	5	16-QAM
701.5	5	16-QAM	1/24	H	17.23	34.77	701.5	5	16-QAM
707.5	5	16-QAM	1/24	H	18.15	34.77	707.5	5	16-QAM
713.5	5	16-QAM	1/24	H	17.41	34.77	713.5	5	16-QAM
704	10	QPSK	1/49	V	20.42	34.77	704	10	QPSK
707.5	10	QPSK	1/49	V	20.14	34.77	707.5	10	QPSK
711	10	QPSK	1/49	V	20.41	34.77	711	10	QPSK
704	10	QPSK	1/49	H	18.07	34.77	704	10	QPSK
707.5	10	QPSK	1/49	H	17.87	34.77	707.5	10	QPSK
711	10	QPSK	1/49	H	18.86	34.77	711	10	QPSK
704	10	16-QAM	1/49	V	19.67	34.77	704	10	16-QAM

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707.5	10	16-QAM	1/49	V	19.68	34.77	707.5	10	16-QAM
711	10	16-QAM	1/49	V	19.17	34.77	711	10	16-QAM
704	10	16-QAM	1/49	H	18	34.77	704	10	16-QAM
707.5	10	16-QAM	1/49	H	18.3	34.77	707.5	10	16-QAM
711	10	16-QAM	1/49	H	17.31	34.77	711	10	16-QAM

ERP for LTE Band XVII (Part 27)

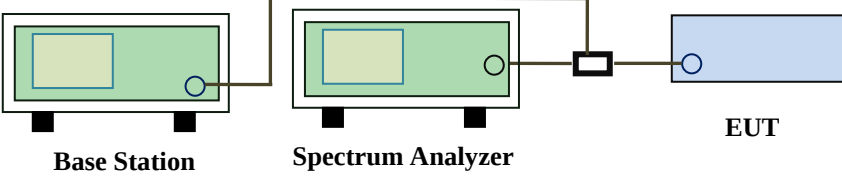
Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
706.5	5	QPSK	1/0	V	21.25	34.77	706.5	5	QPSK
710	5	QPSK	1/0	V	21.12	34.77	710	5	QPSK
713.5	5	QPSK	1/0	V	20.42	34.77	713.5	5	QPSK
706.5	5	QPSK	1/0	H	19.61	34.77	706.5	5	QPSK
710	5	QPSK	1/0	H	18.91	34.77	710	5	QPSK
713.5	5	QPSK	1/0	H	17.95	34.77	713.5	5	QPSK
706.5	5	16-QAM	1/0	V	20.12	34.77	706.5	5	16-QAM
710	5	16-QAM	1/0	V	20.07	34.77	710	5	16-QAM
713.5	5	16-QAM	1/0	V	19.66	34.77	713.5	5	16-QAM
706.5	5	16-QAM	1/0	H	18.13	34.77	706.5	5	16-QAM
710	5	16-QAM	1/0	H	17.94	34.77	710	5	16-QAM
713.5	5	16-QAM	1/0	H	18.42	34.77	713.5	5	16-QAM
709	10	QPSK	1/0	V	21.09	34.77	709	10	QPSK
710	10	QPSK	1/0	V	20.21	34.77	710	10	QPSK
711	10	QPSK	1/0	V	20.19	34.77	711	10	QPSK
709	10	QPSK	1/0	H	19.5	34.77	709	10	QPSK
710	10	QPSK	1/0	H	18.62	34.77	710	10	QPSK
711	10	QPSK	1/0	H	18.06	34.77	711	10	QPSK
709	10	16-QAM	1/0	V	19.72	34.77	709	10	16-QAM
710	10	16-QAM	1/0	V	19.67	34.77	710	10	16-QAM
711	10	16-QAM	1/0	V	19.3	34.77	711	10	16-QAM
709	10	16-QAM	1/0	H	17.38	34.77	709	10	16-QAM
710	10	16-QAM	1/0	H	17.21	34.77	710	10	16-QAM
711	10	16-QAM	1/0	H	17.36	34.77	711	10	16-QAM

6.3 Peak-Average Ratio

Temperature	24 °C
Relative Humidity	53%
Atmospheric Pressure	1010mbar
Test date :	January 15, 2018
Tested By :	Aaron Liang

Requirement(s):

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

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

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

LTE Band II (part 24E)

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

LTE Band IV (part 27)

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

LTE Band V (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	836.5	RB 1/0	QPSK	25.55	22.6	2.95
			16QAM	25.74	21.55	4.19
3	836.5	RB 1/0	QPSK	24.64	22.63	2.01
			16QAM	24.62	21.61	3.01
5	836.5	RB 1/0	QPSK	25.03	22.73	2.3
			16QAM	24.83	22.06	2.77
10	836.5	RB 1/0	QPSK	25.08	22.91	2.17
			16QAM	24.92	22.09	2.83

LTE Band VII (part 27)

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

LTE Band XII (part 27)

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

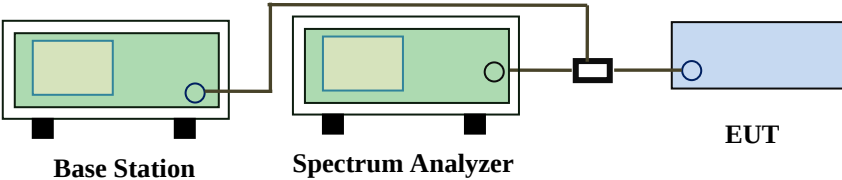
LTE Band XVII (part 27)

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

6.4 Occupied Bandwidth

Temperature	23 °C
Relative Humidity	51%
Atmospheric Pressure	1020mbar
Test date :	January 30, 2018
Tested By :	Aaron Liang

Requirement(s):

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

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

LTE Band II (Part 24E)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1851	16QAM	1.1068	1.318
			QPSK	1.1083	1.316
1.4	18900	1880	16QAM	1.1045	1.313
			QPSK	1.0975	1.296
1.4	19193	1909	16QAM	1.1047	1.324
			QPSK	1.1087	1.307
3	18615	1852	16QAM	2.7473	3.068
			QPSK	2.7467	3.055
3	18900	1880	16QAM	2.7545	3.042
			QPSK	2.7551	3.067
3	19185	1909	16QAM	2.7353	3.047
			QPSK	2.7432	3.057
5	18625	1853	16QAM	4.5218	5.044
			QPSK	4.5175	5.022
5	18900	1880	16QAM	4.5283	5.019
			QPSK	4.5251	4.993
5	19175	1908	16QAM	4.5116	5.017
			QPSK	4.5175	5.015
10	18650	1855	16QAM	9.0262	10.08
			QPSK	8.9991	10.02
10	18900	1880	16QAM	9.0491	10.10
			QPSK	9.0475	10.04
10	19150	1905	16QAM	9.0514	10.07
			QPSK	9.0607	10.02
15	18675	1858	16QAM	13.424	14.70
			QPSK	13.424	14.79
15	18900	1880	16QAM	13.447	14.75
			QPSK	13.473	14.85
15	19125	1903	16QAM	13.443	14.77
			QPSK	13.457	14.79

20	18700	1860	16QAM	17.877	19.18
			QPSK	17.875	19.33
20	18900	1880	16QAM	17.897	19.29
			QPSK	17.927	19.35
20	19100	1900	16QAM	17.854	19.34
			QPSK	17.849	19.18

LTE Band IV (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	19957	1711	16QAM	1.1053	1.316
			QPSK	1.1014	1.311
1.4	20175	1733	16QAM	1.1123	1.299
			QPSK	1.1070	1.293
1.4	20393	1754	16QAM	1.1027	1.321
			QPSK	1.1087	1.331
3	19965	1712	16QAM	2.7404	3.068
			QPSK	2.7386	3.051
3	20175	1733	16QAM	2.7585	3.073
			QPSK	2.7361	3.027
3	20385	1754	16QAM	2.7448	3.063
			QPSK	2.7472	3.072
5	19975	1713	16QAM	4.5126	5.011
			QPSK	4.5171	5.007
5	20175	1733	16QAM	4.5303	5.036
			QPSK	4.5257	5.021
5	20375	1753	16QAM	4.5168	5.009
			QPSK	4.5072	5.030
10	20000	1715	16QAM	9.0180	10.08
			QPSK	9.0175	10.09
10	20175	1733	16QAM	9.0494	10.02
			QPSK	9.0434	10.09
10	20350	1750	16QAM	9.0386	10.00
			QPSK	9.0452	10.08
15	20025	1718	16QAM	13.394	14.63
			QPSK	13.402	14.59
15	20175	1733	16QAM	13.462	14.75
			QPSK	13.469	14.81
15	20325	1748	16QAM	13.467	14.74
			QPSK	13.463	14.74

20	20050	1720	16QAM	17.826	19.21
			QPSK	17.821	19.14
20	20175	1733	16QAM	17.875	19.15
			QPSK	17.878	19.22
20	20300	1745	16QAM	17.865	19.37
			QPSK	17.875	19.28

LTE Band V (Part 22H)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	20407	824.7	16QAM	1.1161	1.320
			QPSK	1.1131	1.320
1.4	20525	836.5	16QAM	1.1139	1.341
			QPSK	1.1099	1.321
1.4	20643	848.3	16QAM	1.1084	1.324
			QPSK	1.1056	1.312
3	20415	825.5	16QAM	2.7627	3.114
			QPSK	2.7611	3.112
3	20525	836.5	16QAM	2.7646	3.095
			QPSK	2.7586	3.087
3	20635	847.5	16QAM	2.7605	3.087
			QPSK	2.7609	3.087
5	20425	826.5	16QAM	4.5252	5.049
			QPSK	4.5190	5.033
5	20525	836.5	16QAM	4.5395	5.051
			QPSK	4.5285	5.041
5	20625	846.5	16QAM	4.5225	5.021
			QPSK	4.5251	5.028
10	20450	829	16QAM	9.0718	10.10
			QPSK	9.0697	10.06
10	20525	836.5	16QAM	9.0899	10.17
			QPSK	9.0730	10.09
10	20800	844	16QAM	9.0922	10.08
			QPSK	9.0741	10.07

LTE Band VII (Part 27) result

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	20775	2503	16QAM	4.5154	5.043
			QPSK	4.5152	4.997
5	21100	2535	16QAM	4.5129	5.016
			QPSK	4.5258	5.012
5	21425	2568	16QAM	4.5128	5.018
			QPSK	4.5138	5.002
10	20800	2505	16QAM	9.0003	10.01
			QPSK	9.0203	10.04
10	21100	2535	16QAM	9.0370	10.03
			QPSK	9.0324	10.02
10	21400	2565	16QAM	9.0400	10.03
			QPSK	9.0441	10.04
15	20825	2508	16QAM	13.413	14.72
			QPSK	13.427	14.71
15	21100	2535	16QAM	13.430	14.65
			QPSK	13.435	14.67
15	21400	2563	16QAM	13.451	14.88
			QPSK	13.434	14.70
20	20850	2510	16QAM	17.869	19.18
			QPSK	17.885	19.22
20	21100	2535	16QAM	17.851	19.15
			QPSK	17.859	19.06
20	21350	2560	16QAM	17.930	19.48
			QPSK	17.898	19.34

LTE Band XII (Part 27)

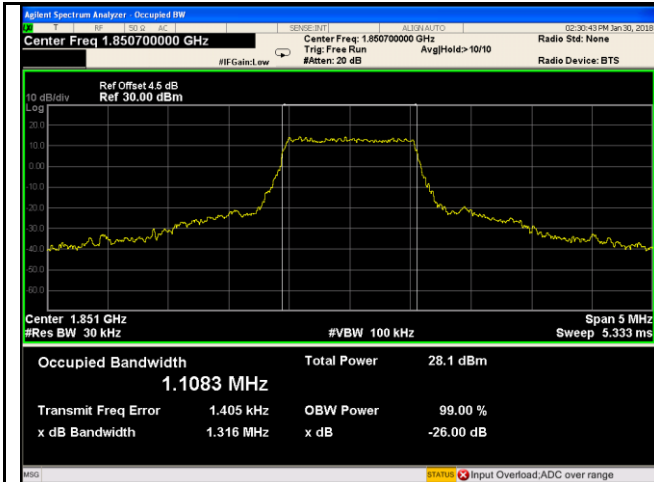
BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	23017	699.7	16QAM	1.1059	1.298
			QPSK	1.0999	1.332
1.4	23095	707.5	16QAM	1.1050	1.327
			QPSK	1.0993	1.316
1.4	23173	715.3	16QAM	1.1095	1.337
			QPSK	1.1032	1.312
3	23025	700.5	16QAM	2.7606	3.066
			QPSK	2.7614	3.064
3	23095	707.5	16QAM	2.7572	3.081
			QPSK	2.7564	3.082
3	23165	714.5	16QAM	2.7561	3.075
			QPSK	2.7476	3.080
5	23035	701.5	16QAM	4.5075	4.960
			QPSK	4.5080	4.991
5	23095	707.5	16QAM	4.5419	5.033
			QPSK	4.5301	5.051
5	23055	713.5	16QAM	4.5049	4.998
			QPSK	4.5060	4.985
10	23060	704	16QAM	9.0274	10.01
			QPSK	9.0346	10.05
10	23095	707.5	16QAM	9.1113	10.19
			QPSK	9.1041	10.09
10	23130	711	16QAM	9.0743	10.06
			QPSK	9.0599	10.04

LTE Band XVII (Part 27)

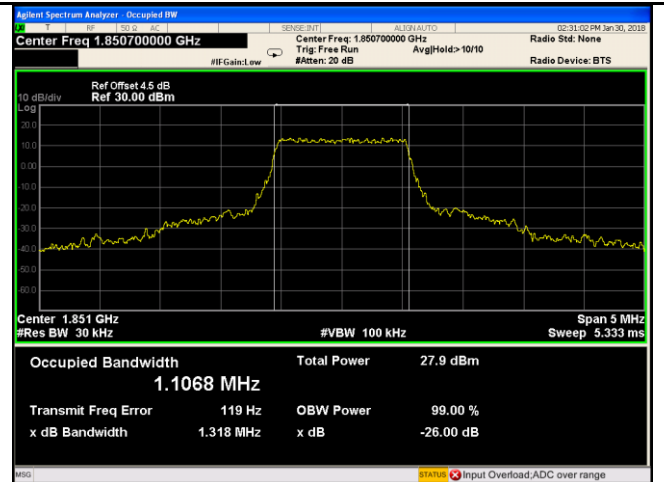
BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	23755	706.5	16QAM	4.5194	5.049
			QPSK	4.5188	5.036
5	23790	710	16QAM	4.5389	5.051
			QPSK	4.5323	5.036
5	23825	713.5	16QAM	4.5097	4.975
			QPSK	4.5179	4.957
10	23780	709	16QAM	9.0644	10.12
			QPSK	9.0717	10.06
10	23790	710	16QAM	9.0853	10.09
			QPSK	9.0730	10.12
10	23800	711	16QAM	9.0688	10.06
			QPSK	9.0542	10.03

Test Plots

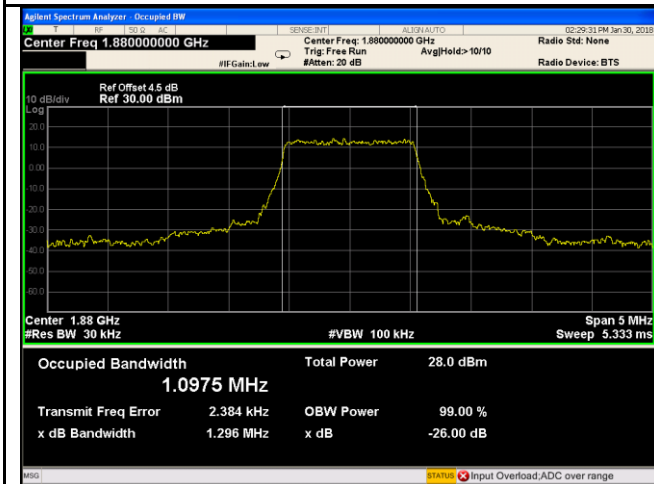
LTE Band II (Part 24E)



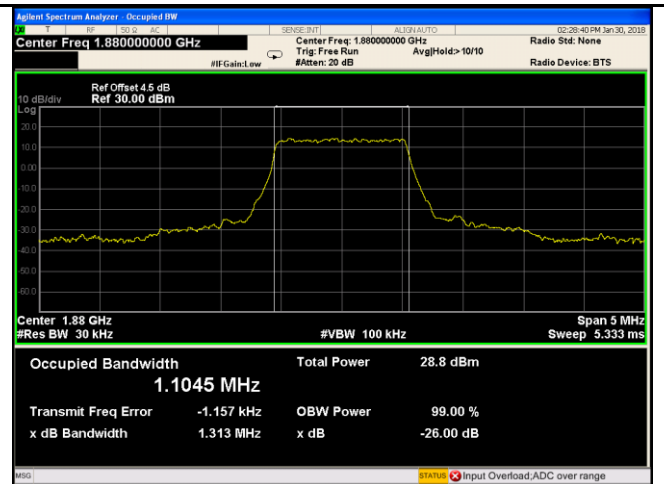
LTE Band II - Low CH QPSK-1.4



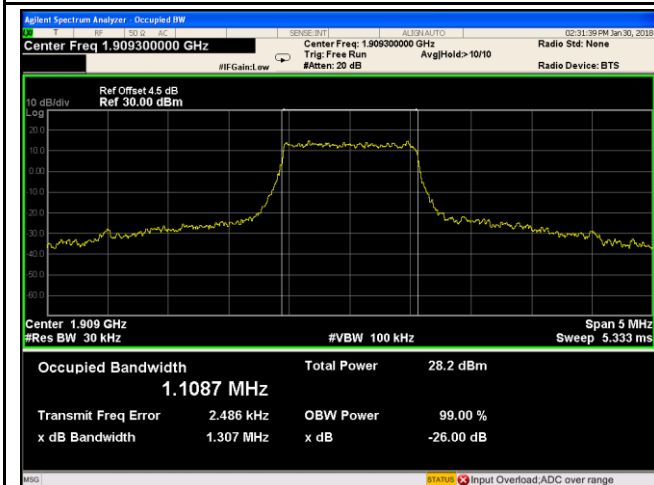
LTE Band II - Low CH 16QAM-1.4



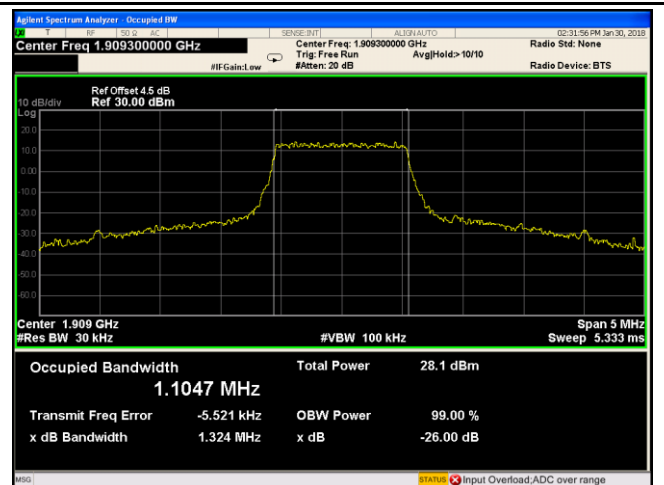
LTE Band II - Middle CH QPSK-1.4



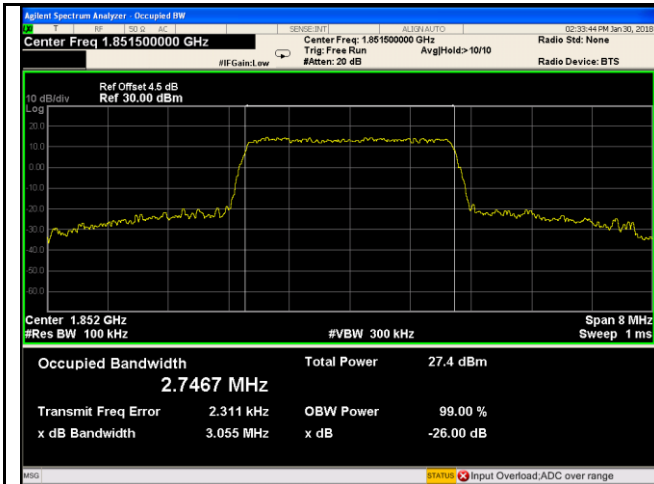
LTE Band II - Middle CH 16QAM-1.4



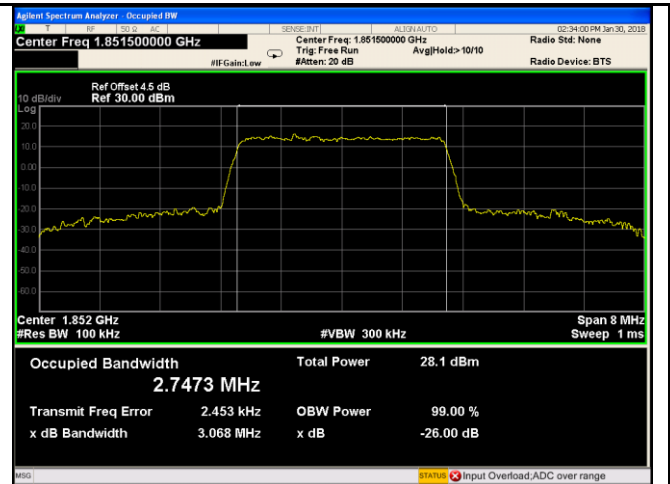
LTE Band II - High CH QPSK-1.4



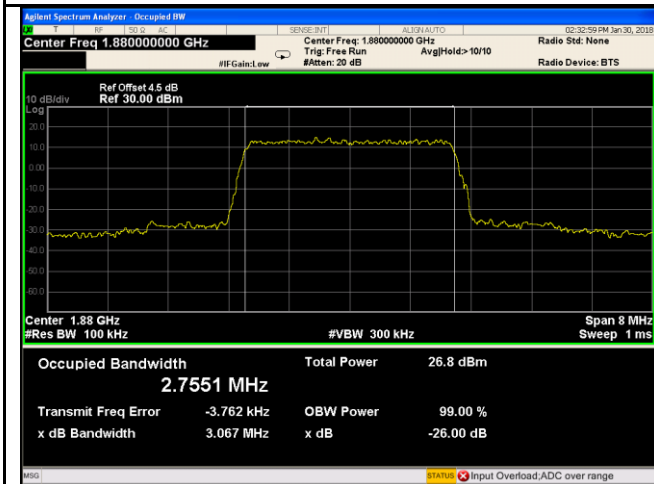
LTE Band II - High CH 16QAM-1.4



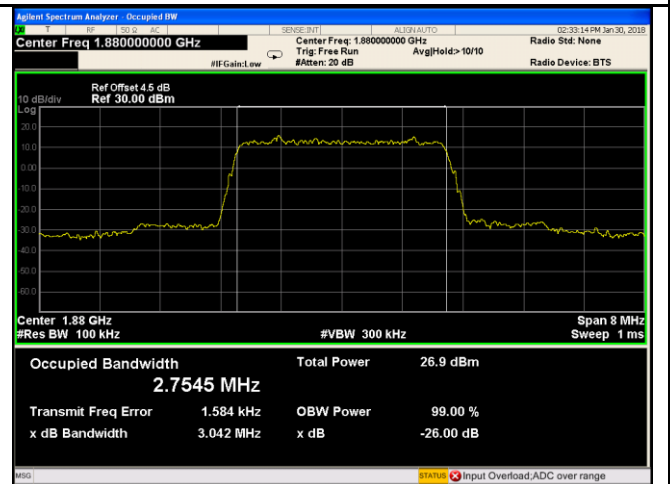
LTE Band II - Low CH QPSK-3



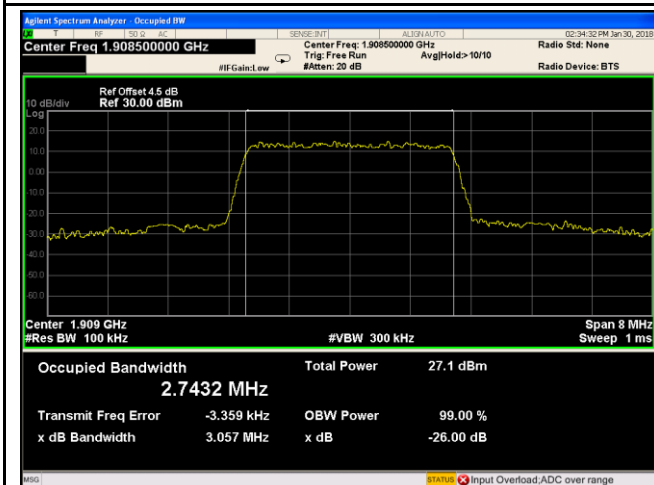
LTE Band II - Low CH 16QAM-3



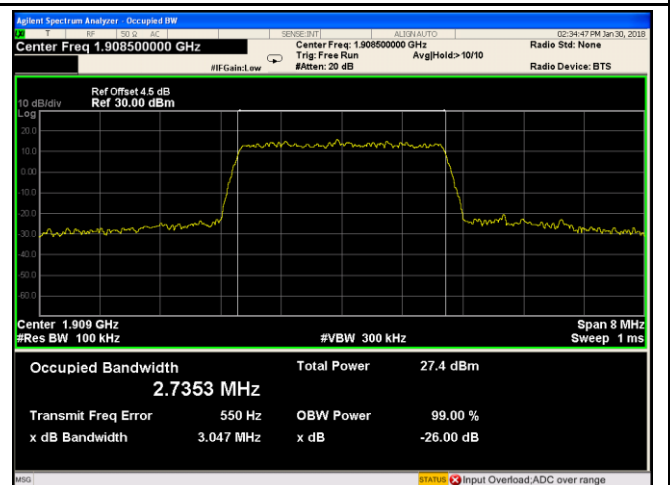
LTE Band II - Middle CH QPSK-3



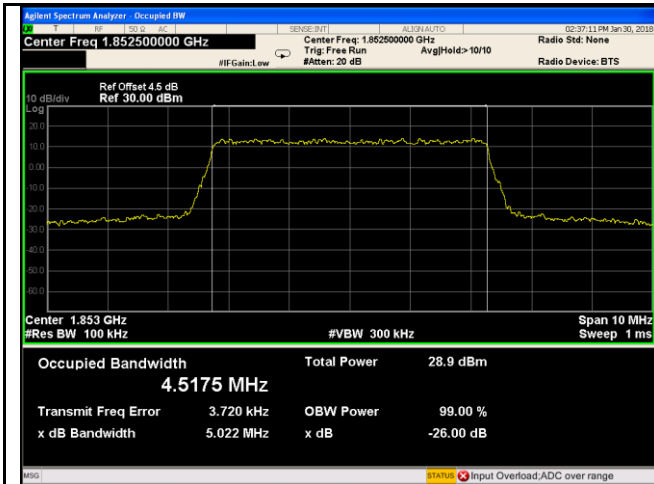
LTE Band II - Middle CH 16QAM-3



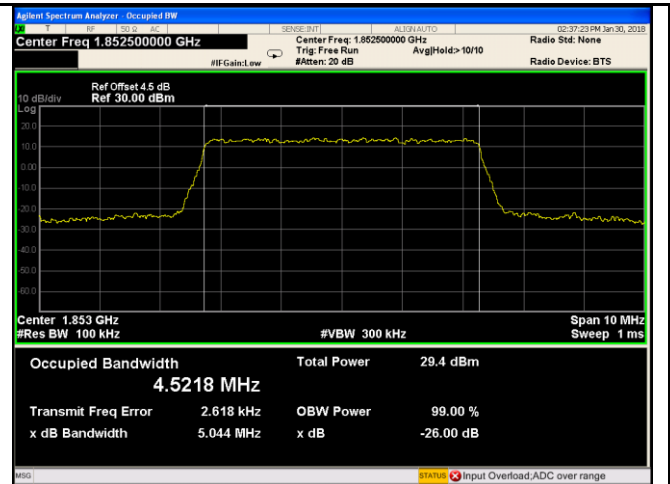
LTE Band II - High CH QPSK-3



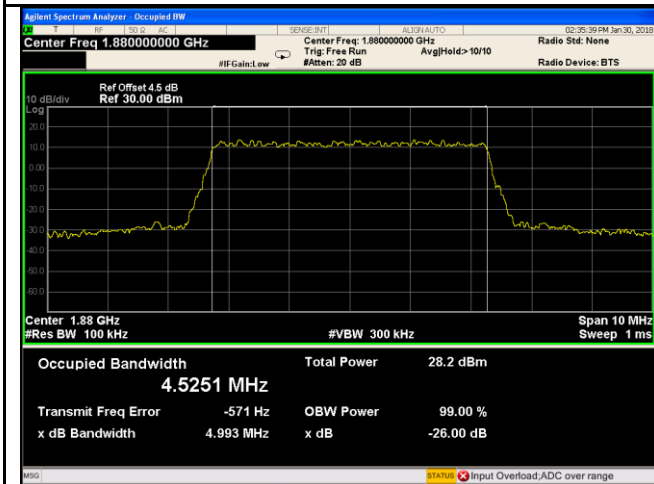
LTE Band II - High CH 16QAM-3



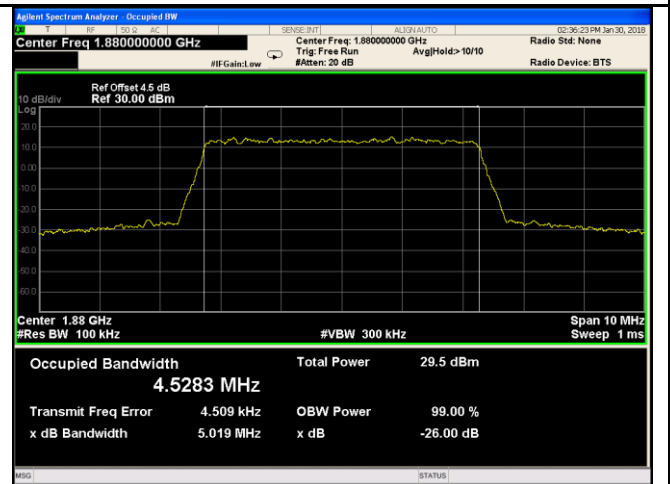
LTE Band II - Low CH QPSK-5



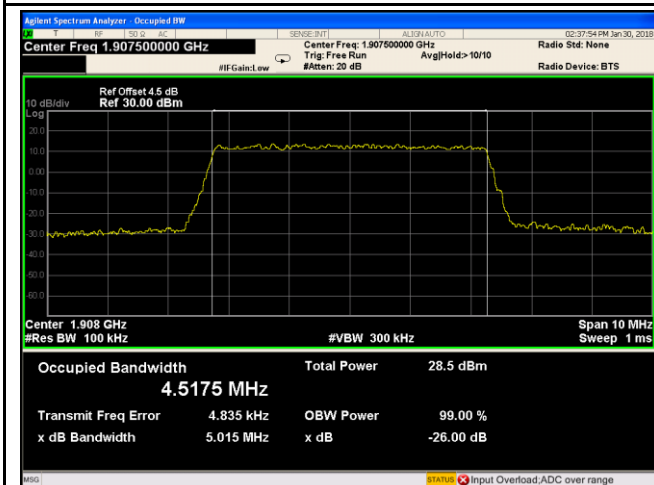
LTE Band II - Low CH 16QAM-5



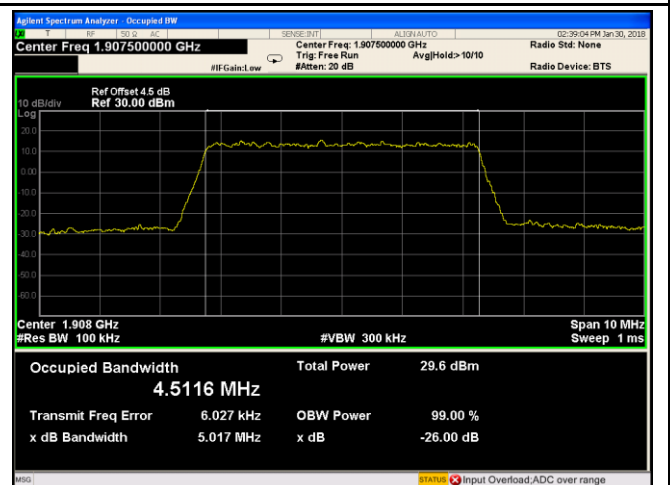
LTE Band II - Middle CH QPSK-5



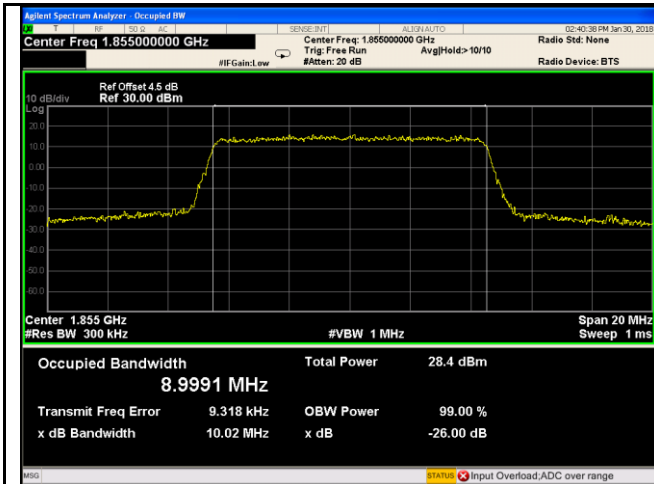
LTE Band II - Middle CH 16QAM-5



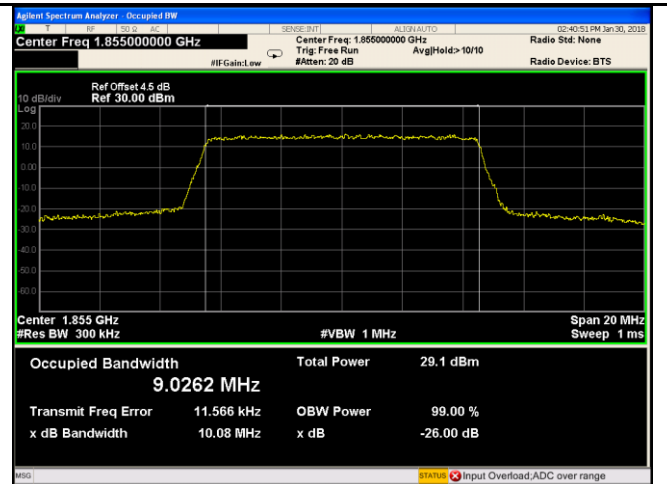
LTE Band II - High CH QPSK-5



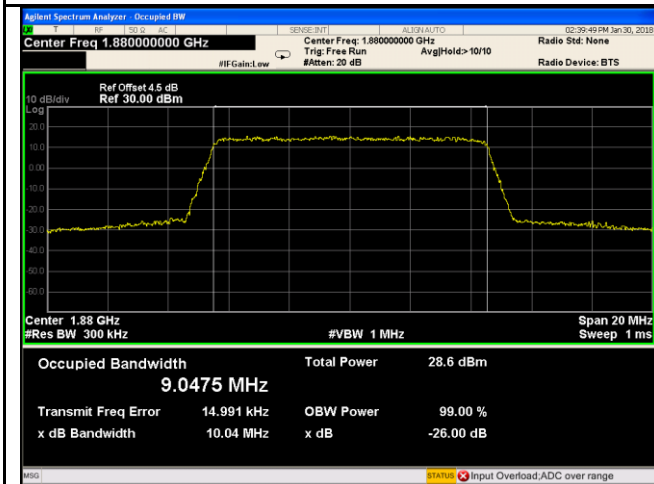
LTE Band II - High CH 16QAM-5



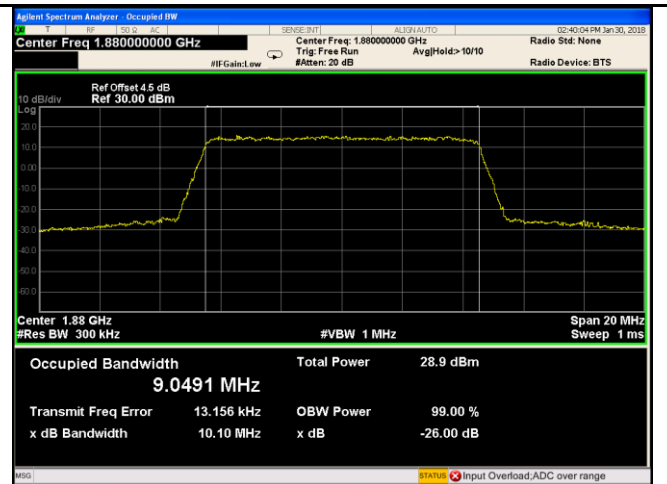
LTE Band II - Low CH QPSK-10



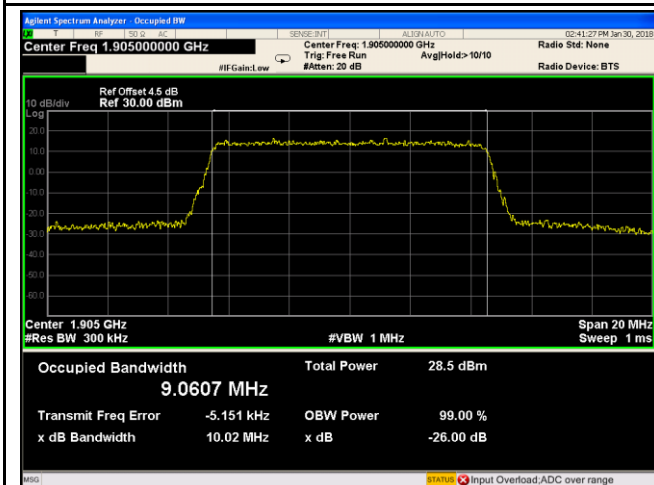
LTE Band II - Low CH 16QAM-10



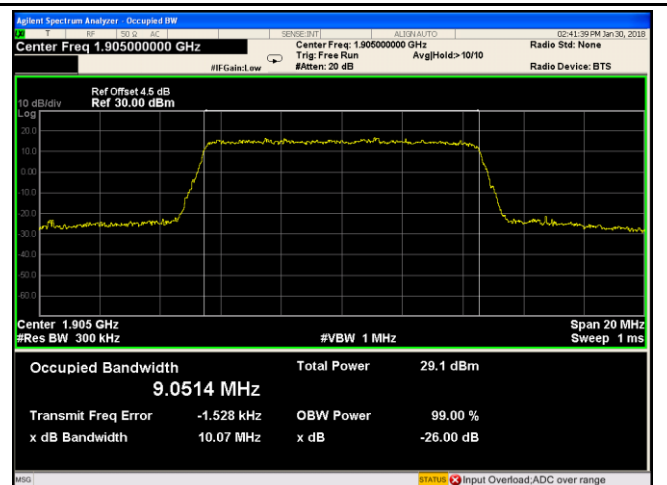
LTE Band II - Middle CH QPSK-10



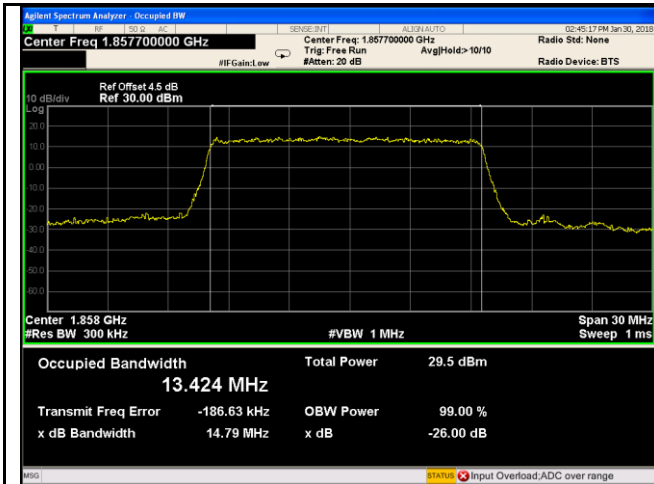
LTE Band II - Middle CH 16QAM-10



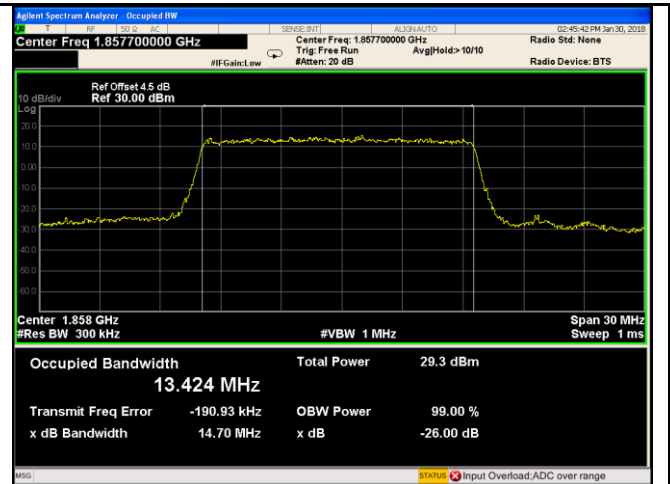
LTE Band II - High CH QPSK-10



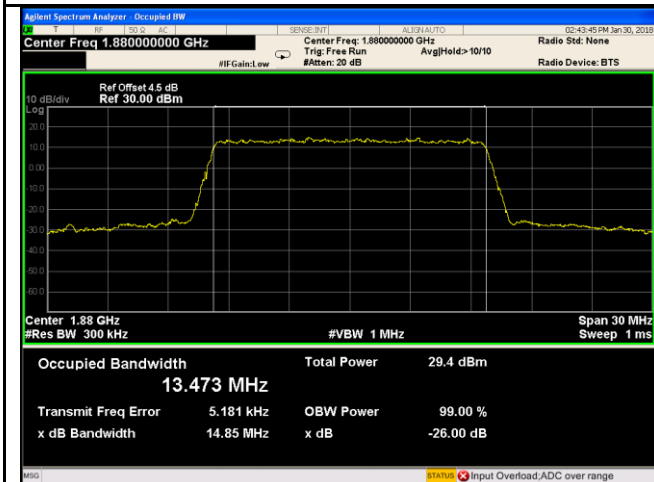
LTE Band II - High CH 16QAM-10



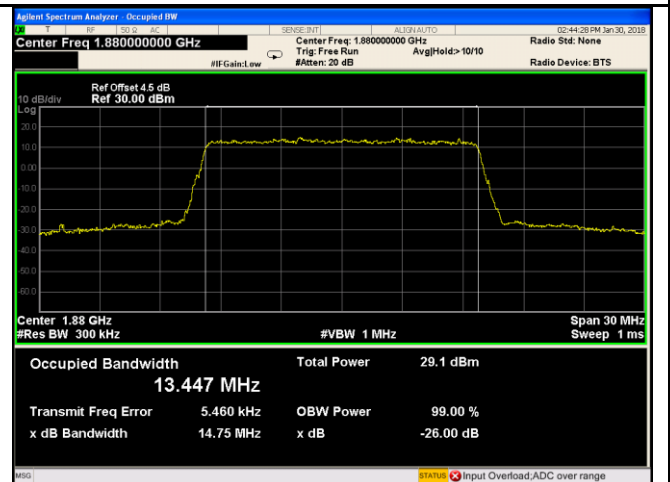
LTE Band II - Low CH QPSK-15



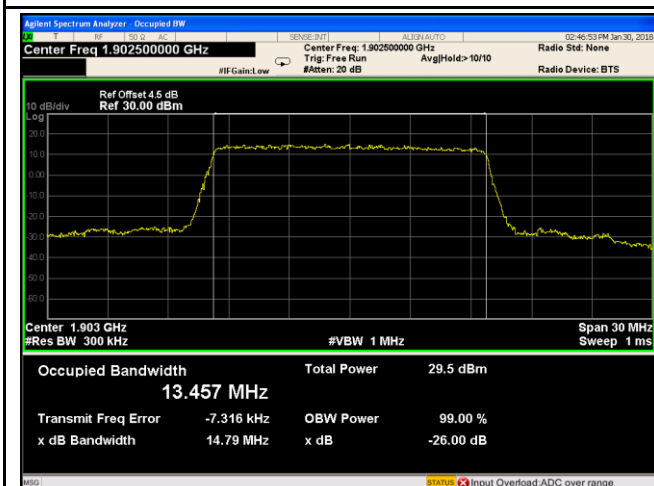
LTE Band II - Low CH 16QAM-15



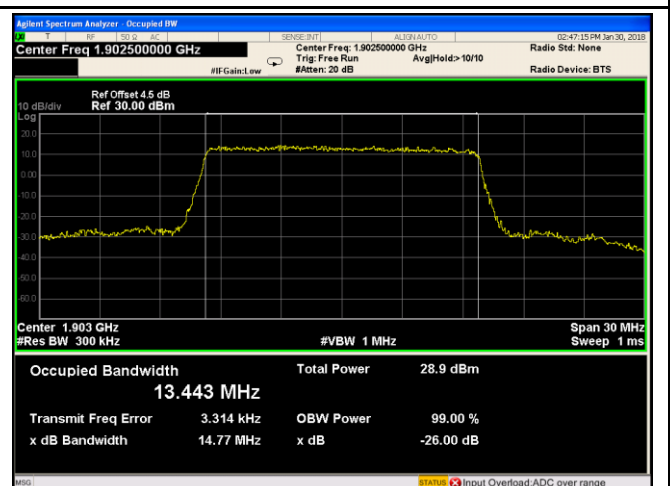
LTE Band II - Middle CH QPSK-15



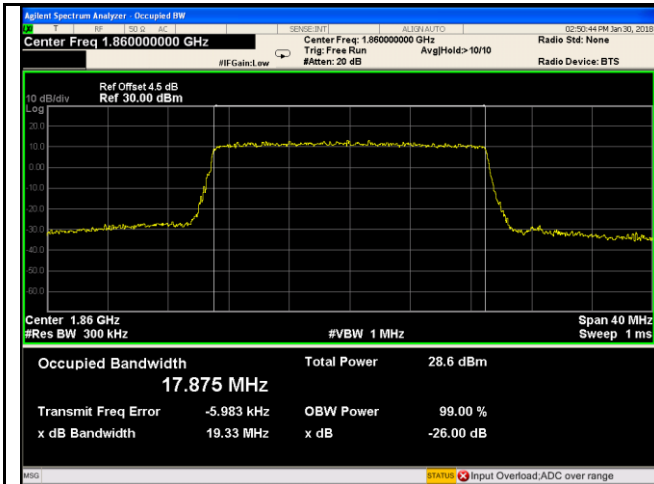
LTE Band II - Middle CH 16QAM-15



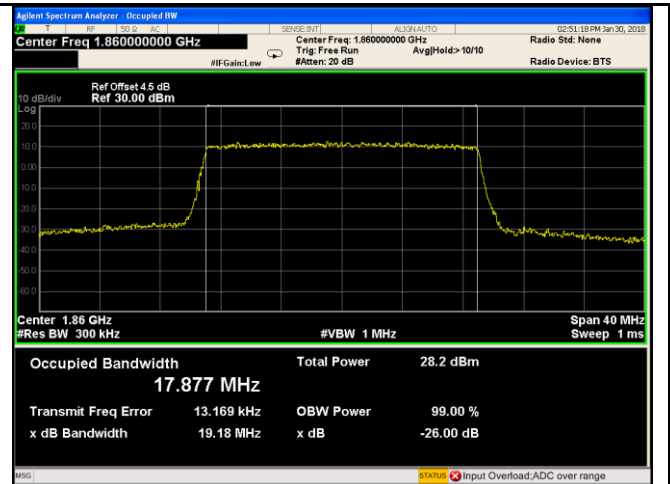
LTE Band II - High CH QPSK-15



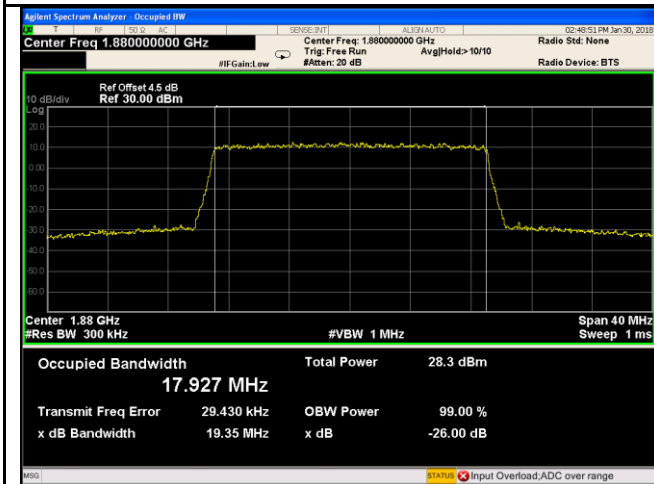
LTE Band II - High CH 16QAM-15



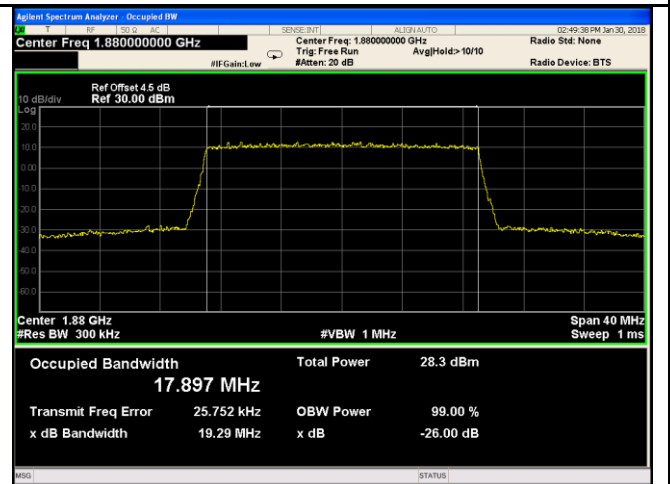
LTE Band II - Low CH QPSK-20



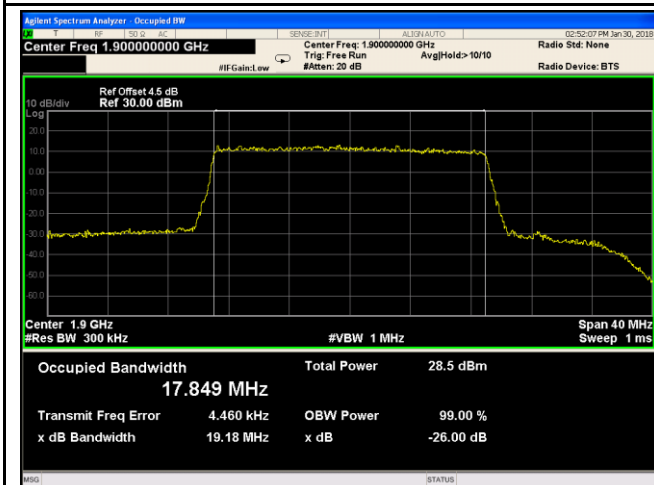
LTE Band II - Low CH 16QAM-20



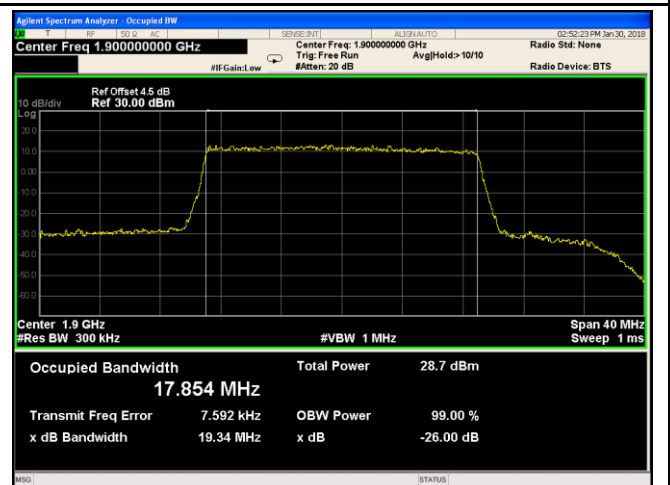
LTE Band II - Middle CH QPSK-20



LTE Band II - Middle CH 16QAM-20

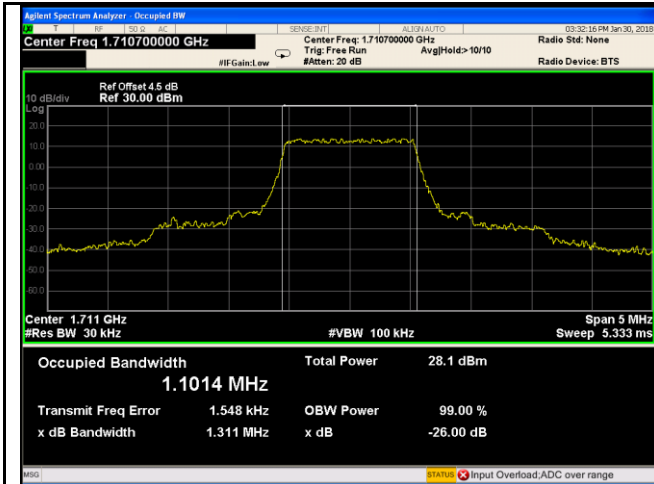


LTE Band II - High CH QPSK-20

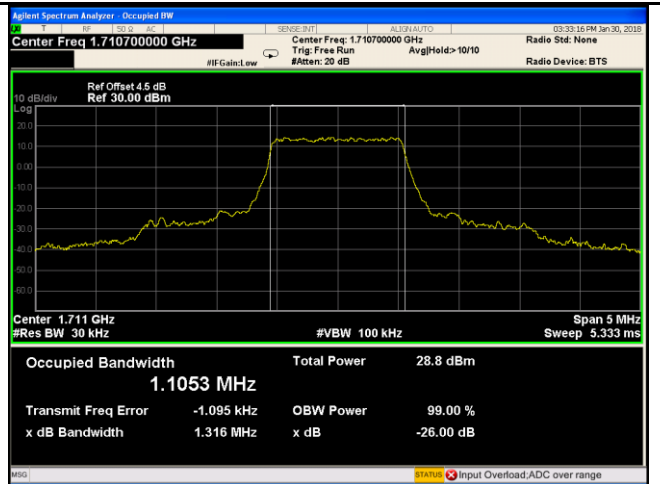


LTE Band II - High CH 16QAM-20

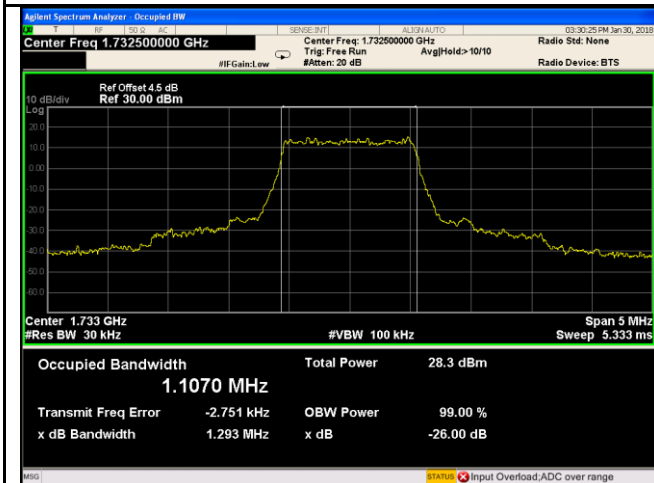
LTE Band IV (Part 27)



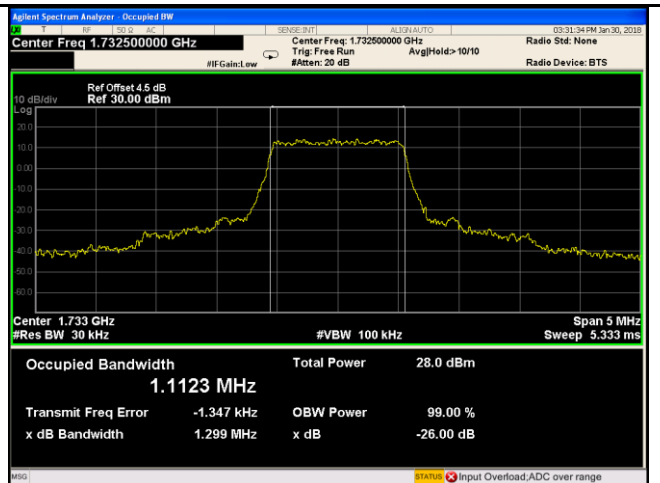
LTE Band IV - Low CH QPSK-1.4



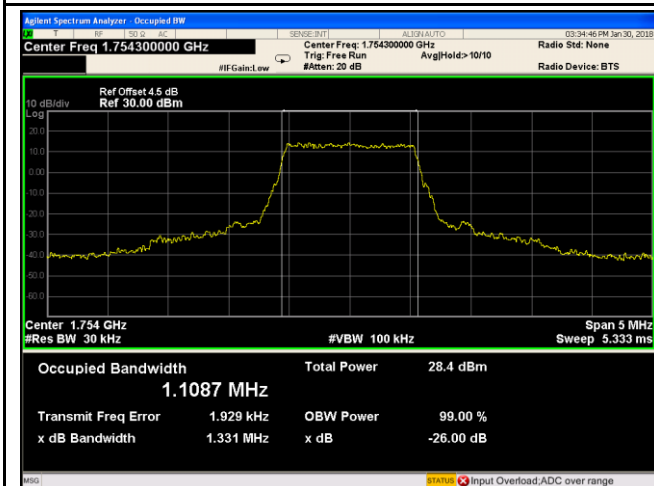
LTE Band IV - Low CH 16QAM-1.4



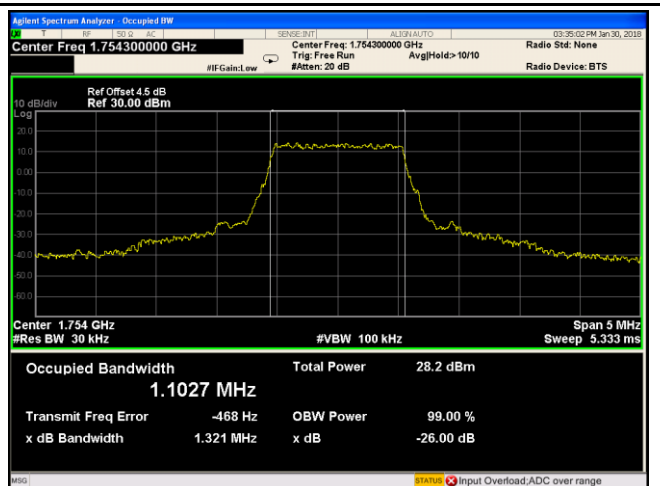
LTE Band IV - Middle CH QPSK-1.4



LTE Band IV - Middle CH 16QAM-1.4



LTE Band IV - High CH QPSK-1.4



LTE Band IV - High CH 16QAM-1.4