

# RF TEST REPORT



Report No.: 17070978-FCC-R5

Supersede Report No.: N/A

Applicant	BLU Products, Inc.	
Product Name	Mobile Phone	
Model No.	DASH L5 LTE	
Serial No.	DASH L5X	
Test Standard	FCC Part 22(H):2016, FCC Part 24(E):2016, FCC Part 27: 2016; ANSI/TIA-603-D: 2010	
Test Date	September 26 to October 15, 2017	
Issue Date	October 16, 2017	
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"/>
Loren Luo	David Huang	
Loren Luo Test Engineer	David Huang Checked By	
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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

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

Phone: +86 0755 2601 4629801 Email: [China@siemic.com.cn](mailto:China@siemic.com.cn)

## Laboratories Introduction

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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
17070978-FCC-R5	NONE	Original	October 16, 2017

## 2. Customer information

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

## 3. Test site information

Test Lab A:

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

Test Lab B:

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

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

## 4. Equipment under Test (EUT) Information

Description of EUT:	Mobile Phone
Main Model:	DASH L5 LTE
Serial Model:	DASH L5X
Date EUT received:	September 25, 2017
Test Date(s):	September 26 to October 15, 2017
Equipment Category :	PCE
	GSM850: -2dBi
	PCS1900: -1.3dBi
	UMTS-FDD Band V: -2dBi
	UMTS-FDD Band IV: -1.5dBi
	UMTS-FDD Band II: -2dBi
	LTE Band II: -1.5dBi
Antenna Gain:	LTE Band IV: -1.6dBi
	LTE Band VII: -1.8dBi
	LTE Band XII: -2.1dBi
	LTE Band XVII: -2dBi
	Bluetooth/BLE: -2dBi
	WIFI: -2dBi
	GPS: -1dBi
Antenna Type:	IFA antenna
	GSM / GPRS: GMSK
	EGPRS: GMSK,8PSK
	UMTS-FDD: QPSK
Type of Modulation:	LTE Band: QPSK, 16QAM
	802.11b/g/n: DSSS, OFDM
	Bluetooth: GFSK, π /4DQPSK, 8DPSK
	BLE: GFSK
	GPS:BPSK

GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz  
PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz  
UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz  
UMTS-FDD Band IV TX: 1712.4 ~ 1752.6 MHz;  
RX : 2112.4 ~ 2152.6 MHz  
UMTS-FDD Band II TX: 1852.4 ~ 1907.6 MHz;  
RX: 1932.4 ~ 1987.6 MHz  
LTE Band II TX: 1850.7 ~ 1909.3MHz; RX : 1930.7 ~ 1989.3 MHz  
LTE Band IV TX: 1710.7 ~ 1754.3 MHz; RX : 2110.7~ 2154.3 MHz  
LTE Band VII TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz  
LTE Band XII TX: 699.7 ~ 715.3 MHz; RX : 729.7~ 745.3MHz  
LTE Band XVII TX: 706.5 ~ 713.5 MHz; RX : 736.5 ~ 743.5 MHz  
WIFI: 802.11b/g/n(20M): 2412-2462 MHz  
WIFI: 802.11n(40M): 2422-2452 MHz  
Bluetooth& BLE: 2402-2480 MHz  
GPS: 1575.42 MHz

## RF Operating Frequency (ies):

LTE Band II: 23.24 dBm  
LTE Band IV: 23.29 dBm  
LTE Band VII: 22.41 dBm  
LTE Band XII: 23.72 dBm  
LTE Band XVII: 23.65 dBm

## Maximum Conducted AV Power to Antenna:

- LTE Band II: 23.31 dBm / EIRP
- LTE Band IV: 23.54 dBm / EIRP
- LTE Band VII: 22.54 dBm / EIRP
- LTE Band XII: 21.54 dBm / EIRP
- LTE Band XVII: 21.53 dBm / EIRP

Port: USB Port, Earphone Port

Adapter:  
Model: TPA-46B050070UU  
Input: AC100-240V~50/60Hz,0.2A  
Output: DC 5V~0.7A  
Battery:  
Model: C705145200L  
Spec: 3.8V, 2000mAh, 7.60Wh

### Input Power:



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Trade Name :



FCC ID:

YHLBLUDSL5LTE

## 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

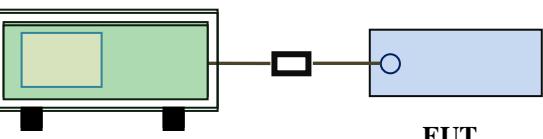
The EUT is a portable device, thus requires SAR evaluation;

Please refer to RF Exposure Evaluation Report: 17070978-FCC-H.

## 6.2 RF Output Power

Temperature	25°C
Relative Humidity	56%
Atmospheric Pressure	1018mbar
Test date :	October 09, 2017
Tested By :	Loren Luo

## 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;"><b>Base Station</b>                           <b>EUT</b></p>		
Test Procedure	<p>For Conducted Power:</p> <ul style="list-style-type: none"> <li>- The transmitter output port was connected to base station.</li> <li>- Set EUT at maximum power through base station.</li> <li>- Select lowest, middle, and highest channels for each band and different test mode.</li> </ul> <p>For ERP/EIRP:</p> <ul style="list-style-type: none"> <li>- The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.</li> <li>- 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.</li> <li>- The frequency range up to tenth harmonic of the fundamental frequency was investigated.</li> </ul>		

	<ul style="list-style-type: none"> <li>- 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.</li> <li>- Spurious emissions in dB = <math>10 \log (\text{TX power in Watts}/0.001)</math> – the absolute level</li> <li>- Spurious attenuation limit in dB = <math>43 + 10 \log_{10} (\text{power out in Watts})</math>.</li> </ul>
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
18700	1860.0	1860.0	QPSK	1	0	0	22.64	22.6±1
				1	49	0	22.65	22.6±1
				1	99	0	22.54	22.6±1
				50	0	1	22.72	22.6±1
				50	24	1	22.69	22.6±1
				50	49	1	22.64	22.6±1
				100	0	1	22.54	22.6±1
		1880.0	16QAM	1	0	1	22.69	22.7±1
				1	49	1	22.69	22.7±1
				1	99	1	22.72	22.7±1
				50	0	2	22.79	22.7±1
				50	24	2	22.66	22.7±1
				50	49	2	22.62	22.7±1
				100	0	2	22.68	22.7±1
20MHz	18900	1880.0	QPSK	1	0	0	22.69	22.4±1
				1	49	0	22.75	22.4±1
				1	99	0	22.66	22.4±1
				50	0	1	21.98	22.4±1
				50	24	1	21.99	22.4±1
				50	49	1	22.00	22.4±1
				100	0	1	21.95	22.4±1
		1900.0	16QAM	1	0	1	22.03	21.5±1
				1	49	1	21.95	21.5±1
				1	99	1	22.08	21.5±1
				50	0	2	20.85	21.5±1
				50	24	2	20.83	21.5±1
				50	49	2	20.86	21.5±1
				100	0	2	20.96	21.5±1
19100	1900.0	1900.0	QPSK	1	0	0	22.19	21.7±1
				1	49	0	22.13	21.7±1
				1	99	0	22.13	21.7±1
				50	0	1	21.17	21.7±1
				50	24	1	21.27	21.7±1
				50	49	1	21.24	21.7±1
				100	0	1	21.22	21.7±1
		1900.0	16QAM	1	0	1	21.72	21.1±1
				1	49	1	21.80	21.1±1
				1	99	1	21.78	21.1±1
				50	0	2	20.65	21.1±1
				50	24	2	20.66	21.1±1
				50	49	2	20.59	21.1±1
				100	0	2	20.37	21.1±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
18675	1857.5	18675	QPSK	1	0	0	22.72	22.7±1
				1	37	0	22.73	22.7±1
				1	74	0	22.66	22.7±1
				36	0	1	22.67	22.7±1
				36	16	1	22.69	22.7±1
				36	35	1	22.79	22.7±1
				75	0	1	22.69	22.7±1
		1857.5	16QAM	1	0	1	22.89	22.9±1
				1	37	1	22.86	22.9±1
				1	74	1	22.99	22.9±1
				36	0	2	22.84	22.9±1
				36	16	2	22.86	22.9±1
				36	35	2	22.96	22.9±1
				75	0	2	22.94	22.9±1
15MHz	18900	18900	QPSK	1	0	0	22.89	22.5±1
				1	37	0	22.91	22.5±1
				1	74	0	22.96	22.5±1
				36	0	1	22.02	22.5±1
				36	16	1	22.06	22.5±1
				36	35	1	21.96	22.5±1
				75	0	1	22.03	22.5±1
		1880.0	16QAM	1	0	1	22.10	21.5±1
				1	37	1	22.03	21.5±1
				1	74	1	22.16	21.5±1
				36	0	2	20.99	21.5±1
				36	16	2	21.05	21.5±1
				36	35	2	21.01	21.5±1
				75	0	2	20.92	21.5±1
19125	1902.5	19125	QPSK	1	0	0	22.05	21.6±1
				1	37	0	22.12	21.6±1
				1	74	0	21.96	21.6±1
				36	0	1	21.22	21.6±1
				36	16	1	21.31	21.6±1
				36	35	1	21.14	21.6±1
				75	0	1	21.99	21.6±1
		1902.5	16QAM	1	0	1	21.80	21.6±1
				1	37	1	21.87	21.3±1
				1	74	1	21.87	21.3±1
				36	0	2	20.74	21.3±1
				36	16	2	20.82	21.3±1
				36	35	2	20.83	21.3±1
				75	0	2	20.61	21.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	18650	1855	QPSK	1	0	0	22.38	22.4±1
				1	24	0	22.34	22.4±1
				1	49	0	22.32	22.4±1
				25	0	1	22.47	22.4±1
				25	12	1	22.41	22.4±1
				25	24	1	22.40	22.4±1
				50	0	1	22.28	22.4±1
	18900	1880.0	16QAM	1	0	1	22.91	22.9±1
				1	24	1	22.96	22.9±1
				1	49	1	22.95	22.9±1
				25	0	2	22.82	22.9±1
				25	12	2	22.83	22.9±1
				25	24	2	22.91	22.9±1
				50	0	2	22.84	22.9±1
	19150	1905	QPSK	1	0	0	22.91	22.5±1
				1	24	0	22.94	22.5±1
				1	49	0	22.87	22.5±1
				25	0	1	22.09	22.5±1
				25	12	1	21.99	22.5±1
				25	24	1	22.08	22.5±1
				50	0	1	22.08	22.5±1
	16QAM	16QAM	16QAM	1	0	1	21.89	21.5±1
				1	24	1	21.91	21.5±1
				1	49	1	21.91	21.5±1
				25	0	2	21.09	21.5±1
				25	12	2	21.16	21.5±1
				25	24	2	21.02	21.5±1
				50	0	2	21.08	21.5±1
	QPSK	QPSK	QPSK	1	0	0	21.96	21.7±1
				1	24	0	21.87	21.7±1
				1	49	0	22.01	21.7±1
				25	0	1	21.40	21.7±1
				25	12	1	21.34	21.7±1
				25	24	1	21.50	21.7±1
				50	0	1	21.55	21.7±1
	16QAM	16QAM	16QAM	1	0	1	21.58	21.3±1
				1	24	1	21.61	21.3±1
				1	49	1	21.58	21.3±1
				25	0	2	20.51	21.3±1
				25	12	2	20.57	21.3±1
				25	24	2	20.47	21.3±1
				50	0	2	20.67	21.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	18625	1852.5	QPSK	1	0	0	22.88	22.9±1
				1	12	0	22.81	22.9±1
				1	24	0	22.94	22.9±1
				12	0	1	22.98	22.9±1
				12	6	1	22.82	22.9±1
				12	11	1	22.83	22.9±1
				25	0	1	22.88	22.9±1
			16QAM	1	0	1	23.05	23±1
				1	12	1	22.95	23±1
				1	24	1	23.06	23±1
				12	0	2	23.06	23±1
				12	6	2	23.02	23±1
				12	11	2	23.00	23±1
				25	0	2	23.14	23±1
5MHz	18900	1880.0	QPSK	1	0	0	23.05	22.6±1
				1	12	0	23.00	22.6±1
				1	24	0	22.95	22.6±1
				12	0	1	22.14	22.6±1
				12	6	1	22.07	22.6±1
				12	11	1	22.24	22.6±1
				25	0	1	22.07	22.6±1
			16QAM	1	0	1	22.98	22.5±1
				1	12	1	23.00	22.5±1
				1	24	1	22.95	22.5±1
				12	0	2	22.21	22.5±1
				12	6	2	22.21	22.5±1
				12	11	2	22.24	22.5±1
				25	0	2	22.06	22.5±1
5MHz	19175	1907.5	QPSK	1	0	0	22.71	22.3±1
				1	12	0	22.65	22.3±1
				1	24	0	22.75	22.3±1
				12	0	1	21.94	22.3±1
				12	6	1	21.98	22.3±1
				12	11	1	21.89	22.3±1
				25	0	1	21.81	22.3±1
			16QAM	1	0	1	21.86	21.4±1
				1	12	1	21.79	21.4±1
				1	24	1	21.89	21.4±1
				12	0	2	21.20	21.4±1
				12	6	2	21.24	21.4±1
				12	11	2	21.30	21.4±1
				25	0	2	20.93	21.4±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	18625	1852.5	QPSK	1	0	0	23.05	23±1
				1	7	0	23.08	23±1
				1	14	0	23.06	23±1
				8	0	1	23.12	23±1
				8	4	1	23.07	23±1
				8	7	1	23.02	23±1
				15	0	1	22.97	23±1
			16QAM	1	0	1	23.13	23.1±1
				1	7	1	23.08	23.1±1
				1	14	1	23.18	23.1±1
				8	0	2	23.22	23.1±1
				8	4	2	23.13	23.1±1
				8	7	2	23.23	23.1±1
				15	0	2	23.04	23.1±1
	3MHz	18900	QPSK	1	0	0	23.13	22.6±1
				1	7	0	23.09	22.6±1
				1	14	0	23.20	22.6±1
				8	0	1	22.06	22.6±1
				8	4	1	22.07	22.6±1
				8	7	1	21.97	22.6±1
				15	0	1	22.07	22.6±1
			16QAM	1	0	1	21.97	21.4±1
				1	7	1	22.05	21.4±1
				1	14	1	22.03	21.4±1
				8	0	2	20.80	21.4±1
				8	4	2	20.79	21.4±1
				8	7	2	20.89	21.4±1
				15	0	2	21.04	21.4±1
	3MHz	19175	QPSK	1	0	0	22.74	22.3±1
				1	7	0	22.64	22.3±1
				1	14	0	22.73	22.3±1
				8	0	1	21.93	22.3±1
				8	4	1	21.99	22.3±1
				8	7	1	21.84	22.3±1
				15	0	1	21.90	22.3±1
			16QAM	1	0	1	22.16	21.6±1
				1	7	1	22.19	21.6±1
				1	14	1	22.13	21.6±1
				8	0	2	21.16	21.6±1
				8	4	2	21.17	21.6±1
				8	7	2	21.21	21.6±1
				15	0	2	20.91	21.6±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	23.12	$23.1 \pm 1$
				1	2	0	23.03	$23.1 \pm 1$
				1	5	0	23.03	$23.1 \pm 1$
				3	0	0	23.18	$23.1 \pm 1$
				3	1	0	23.12	$23.1 \pm 1$
				3	2	0	23.18	$23.1 \pm 1$
				6	0	1	23.20	$23.1 \pm 1$
			16QAM	1	0	1	23.15	$23.2 \pm 1$
				1	2	1	23.22	$23.2 \pm 1$
				1	5	1	23.12	$23.2 \pm 1$
				3	0	1	23.14	$23.2 \pm 1$
				3	1	1	23.21	$23.2 \pm 1$
				3	2	1	23.08	$23.2 \pm 1$
				6	0	2	23.20	$23.2 \pm 1$
	18900	1880.0	QPSK	1	0	0	23.15	$22.7 \pm 1$
				1	2	0	23.15	$22.7 \pm 1$
				1	5	0	23.24	$22.7 \pm 1$
				3	0	0	23.07	$22.7 \pm 1$
				3	1	0	23.16	$22.7 \pm 1$
				3	2	0	23.03	$22.7 \pm 1$
				6	0	1	22.07	$22.7 \pm 1$
			16QAM	1	0	1	21.98	$21.4 \pm 1$
				1	2	1	21.98	$21.4 \pm 1$
				1	5	1	22	$21.4 \pm 1$
				3	0	1	21.14	$21.4 \pm 1$
				3	1	1	21.07	$21.4 \pm 1$
				3	2	1	21.15	$21.4 \pm 1$
				6	0	2	20.84	$21.4 \pm 1$
	19193	1909.3	QPSK	1	0	0	22.46	$22.2 \pm 1$
				1	2	0	22.45	$22.2 \pm 1$
				1	5	0	22.41	$22.2 \pm 1$
				3	0	0	22.62	$22.2 \pm 1$
				3	1	0	22.67	$22.2 \pm 1$
				3	2	0	22.56	$22.2 \pm 1$
				6	0	1	21.82	$22.2 \pm 1$
			16QAM	1	0	1	21.44	$21.3 \pm 1$
				1	2	1	21.38	$21.3 \pm 1$
				1	5	1	21.48	$21.3 \pm 1$
				3	0	1	20.99	$21.3 \pm 1$
				3	1	1	20.89	$21.3 \pm 1$
				3	2	1	21.01	$21.3 \pm 1$
				6	0	2	20.74	$21.3 \pm 1$

#### 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	23.14	$23.2 \pm 1$
				1	49	0	23.15	$23.2 \pm 1$
				1	99	0	23.24	$23.2 \pm 1$
				50	0	1	23.14	$23.2 \pm 1$
				50	24	1	23.17	$23.2 \pm 1$
				50	49	1	23.24	$23.2 \pm 1$
				100	0	1	23.08	$23.2 \pm 1$
			16QAM	1	0	1	22.96	$22.9 \pm 1$
				1	49	1	22.94	$22.9 \pm 1$
				1	99	1	22.88	$22.9 \pm 1$
				50	0	2	22.96	$22.9 \pm 1$
				50	24	2	22.89	$22.9 \pm 1$
				50	49	2	22.98	$22.9 \pm 1$
				100	0	2	22.92	$22.9 \pm 1$
	20175	1732.5	QPSK	1	0	0	22.96	$22.5 \pm 1$
				1	49	0	23.04	$22.5 \pm 1$
				1	99	0	23.01	$22.5 \pm 1$
				50	0	1	21.94	$22.5 \pm 1$
				50	24	1	21.92	$22.5 \pm 1$
				50	49	1	21.93	$22.5 \pm 1$
				100	0	1	21.90	$22.5 \pm 1$
			16QAM	1	0	1	22.43	$21.7 \pm 1$
				1	49	1	22.39	$21.7 \pm 1$
				1	99	1	22.41	$21.7 \pm 1$
				50	0	2	21.13	$21.7 \pm 1$
				50	24	2	21.09	$21.7 \pm 1$
				50	49	2	21.11	$21.7 \pm 1$
				100	0	2	20.96	$21.7 \pm 1$
	20300	1745.0	QPSK	1	0	0	22.78	$22.3 \pm 1$
				1	49	0	22.71	$22.3 \pm 1$
				1	99	0	22.75	$22.3 \pm 1$
				50	0	1	21.87	$22.3 \pm 1$
				50	24	1	21.93	$22.3 \pm 1$
				50	49	1	21.90	$22.3 \pm 1$
				100	0	1	21.84	$22.3 \pm 1$
			16QAM	1	0	1	22.06	$21.4 \pm 1$
				1	49	1	22.08	$21.4 \pm 1$
				1	99	1	22.04	$21.4 \pm 1$
				50	0	2	20.68	$21.4 \pm 1$
				50	24	2	20.78	$21.4 \pm 1$
				50	49	2	20.72	$21.4 \pm 1$
				100	0	2	20.91	$21.4 \pm 1$

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20025	1717.5	QPSK	1	0	0	23.08	23.1±1	
			1	37	0	23.09	23.1±1	
			1	74	0	23.16	23.1±1	
			36	0	1	23.00	23.1±1	
			36	16	1	23.00	23.1±1	
			36	35	1	23.09	23.1±1	
			75	0	1	22.98	23.1±1	
		16QAM	1	0	1	22.86	22.9±1	
			1	37	1	22.85	22.9±1	
			1	74	1	22.90	22.9±1	
			36	0	2	22.81	22.9±1	
			36	16	2	22.82	22.9±1	
			36	35	2	22.94	22.9±1	
			75	0	2	22.90	22.9±1	
15MHz	2017.5	QPSK	1	0	0	22.86	22.4±1	
			1	37	0	22.80	22.4±1	
			1	74	0	22.82	22.4±1	
			36	0	1	22.02	22.4±1	
			36	16	1	21.94	22.4±1	
			36	35	1	21.92	22.4±1	
			75	0	1	21.99	22.4±1	
		16QAM	1	0	1	22.48	21.8±1	
			1	37	1	22.43	21.8±1	
			1	74	1	22.52	21.8±1	
			36	0	2	21.09	21.8±1	
			36	16	2	21.10	21.8±1	
			36	35	2	21.12	21.8±1	
			75	0	2	20.99	21.8±1	
20325	1747.5	QPSK	1	0	0	22.80	22.3±1	
			1	37	0	22.82	22.3±1	
			1	74	0	22.85	22.3±1	
			36	0	1	21.87	22.3±1	
			36	16	1	21.81	22.3±1	
			36	35	1	21.92	22.3±1	
			75	0	1	21.89	22.3±1	
		16QAM	1	0	1	22.01	21.4±1	
			1	37	1	21.93	21.4±1	
			1	74	1	21.99	21.4±1	
			36	0	2	21.18	21.4±1	
			36	16	2	21.19	21.4±1	
			36	35	2	21.24	21.4±1	
			75	0	2	20.88	21.4±1	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20000	1715.0	16QAM	QPSK	1	0	0	23.21	23.2±1
				1	24	0	23.28	23.2±1
				1	49	0	23.27	23.2±1
				25	0	1	23.12	23.2±1
				25	12	1	23.29	23.2±1
				25	24	1	23.16	23.2±1
				50	0	1	23.18	23.2±1
		16QAM	QPSK	1	0	1	23.15	23.1±1
				1	24	1	23.23	23.1±1
				1	49	1	23.20	23.1±1
				25	0	2	23.06	23.1±1
				25	12	2	23.15	23.1±1
				25	24	2	23.14	23.1±1
				50	0	2	23.12	23.1±1
10MHz	20175	16QAM	QPSK	1	0	0	23.15	22.6±1
				1	24	0	23.07	22.6±1
				1	49	0	23.24	22.6±1
				25	0	1	22.02	22.6±1
				25	12	1	22.05	22.6±1
				25	24	1	22.11	22.6±1
				50	0	1	22.01	22.6±1
		16QAM	QPSK	1	0	1	22.07	21.6±1
				1	24	1	22.17	21.6±1
				1	49	1	22.13	21.6±1
				25	0	2	21.27	21.6±1
				25	12	2	21.25	21.6±1
				25	24	2	21.24	21.6±1
				50	0	2	21.06	21.6±1
20350	1750.0	16QAM	QPSK	1	0	0	22.87	22.4±1
				1	24	0	22.82	22.4±1
				1	49	0	22.91	22.4±1
				25	0	1	21.97	22.4±1
				25	12	1	21.90	22.4±1
				25	24	1	21.96	22.4±1
				50	0	1	22.01	22.4±1
		16QAM	QPSK	1	0	1	22.42	21.8±1
				1	24	1	22.39	21.8±1
				1	49	1	22.46	21.8±1
				25	0	2	21.12	21.8±1
				25	12	2	21.05	21.8±1
				25	24	2	21.08	21.8±1
				50	0	2	21.28	21.8±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20000	1715.0	16QAM	QPSK	1	0	0	23.05	23.1±1
				1	12	0	22.97	23.1±1
				1	24	0	23.06	23.1±1
				12	0	1	23.01	23.1±1
				12	6	1	23.15	23.1±1
				12	11	1	22.99	23.1±1
				25	0	1	23.01	23.1±1
		16QAM	QPSK	1	0	1	22.99	23±1
				1	12	1	22.93	23±1
				1	24	1	23.00	23±1
				12	0	2	22.91	23±1
				12	6	2	22.93	23±1
				12	11	2	23.09	23±1
				25	0	2	23.00	23±1
5MHz	20175	16QAM	QPSK	1	0	0	22.99	22.5±1
				1	12	0	23.01	22.5±1
				1	24	0	22.96	22.5±1
				12	0	1	22.02	22.5±1
				12	6	1	21.98	22.5±1
				12	11	1	22.09	22.5±1
				25	0	1	22.00	22.5±1
		16QAM	QPSK	1	0	1	22.37	21.7±1
				1	12	1	22.43	21.7±1
				1	24	1	22.31	21.7±1
				12	0	2	21.12	21.7±1
				12	6	2	21.06	21.7±1
				12	11	2	21.13	21.7±1
				25	0	2	21.07	21.7±1
20350	1750.0	16QAM	QPSK	1	0	0	22.95	22.5±1
				1	12	0	22.89	22.5±1
				1	24	0	22.85	22.5±1
				12	0	1	22.07	22.5±1
				12	6	1	22.13	22.5±1
				12	11	1	22.04	22.5±1
				25	0	1	22.09	22.5±1
		16QAM	QPSK	1	0	1	22.01	21.6±1
				1	12	1	22.05	21.6±1
				1	24	1	22.08	21.6±1
				12	0	2	21.33	21.6±1
				12	6	2	21.36	21.6±1
				12	11	2	21.27	21.6±1
				25	0	2	21.15	21.6±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
19965	1711.5	1711.5	QPSK	1	0	0	22.92	22.9±1
				1	7	0	22.92	22.9±1
				1	14	0	22.98	22.9±1
				8	0	1	22.91	22.9±1
				8	4	1	22.87	22.9±1
				8	7	1	22.97	22.9±1
				15	0	1	22.92	22.9±1
		1732.5	16QAM	1	0	1	22.73	22.7±1
				1	7	1	22.66	22.7±1
				1	14	1	22.83	22.7±1
				8	0	2	22.72	22.7±1
				8	4	2	22.72	22.7±1
				8	7	2	22.64	22.7±1
				15	0	2	22.73	22.7±1
3MHz	20175	1732.5	QPSK	1	0	0	22.73	22.3±1
				1	7	0	22.8	22.3±1
				1	14	0	22.76	22.3±1
				8	0	1	21.84	22.3±1
				8	4	1	21.94	22.3±1
				8	7	1	21.87	22.3±1
				15	0	1	21.86	22.3±1
		1753.5	16QAM	1	0	1	22.3	21.5±1
				1	7	1	22.25	21.5±1
				1	14	1	22.29	21.5±1
				8	0	2	20.82	21.5±1
				8	4	2	20.79	21.5±1
				8	7	2	20.88	21.5±1
				15	0	2	20.97	21.5±1
20385	1753.5	1753.5	QPSK	1	0	0	22.89	22.4±1
				1	7	0	22.83	22.4±1
				1	14	0	22.82	22.4±1
				8	0	1	21.82	22.4±1
				8	4	1	21.89	22.4±1
				8	7	1	21.83	22.4±1
				15	0	1	21.89	22.4±1
		1753.5	16QAM	1	0	1	21.81	21.3±1
				1	7	1	21.76	21.3±1
				1	14	1	21.73	21.3±1
				8	0	2	20.73	21.3±1
				8	4	2	20.74	21.3±1
				8	7	2	20.79	21.3±1
				15	0	2	20.93	21.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
19957	1710.7		QPSK	1	0	0	22.93	22.9±1
				1	2	0	22.89	22.9±1
				1	5	0	22.98	22.9±1
				3	0	0	22.86	22.9±1
				3	1	0	22.90	22.9±1
				3	2	0	22.93	22.9±1
				6	0	1	22.90	22.9±1
		16QAM	16QAM	1	0	1	22.83	22.9±1
				1	2	1	22.92	22.9±1
				1	5	1	22.86	22.9±1
				3	0	1	22.84	22.9±1
				3	1	1	22.86	22.9±1
				3	2	1	22.79	22.9±1
				6	0	2	22.87	22.9±1
1.4MHz	20175		QPSK	1	0	0	22.83	22.4±1
				1	2	0	22.76	22.4±1
				1	5	0	22.78	22.4±1
				3	0	0	22.87	22.4±1
				3	1	0	22.92	22.4±1
				3	2	0	22.81	22.4±1
				6	0	1	21.78	22.4±1
		16QAM	16QAM	1	0	1	21.74	21.2±1
				1	2	1	21.83	21.3±1
				1	5	1	21.67	21.3±1
				3	0	1	20.76	21.3±1
				3	1	1	20.74	21.3±1
				3	2	1	20.78	21.3±1
				6	0	2	20.63	21.3±1
20393	1754.3		QPSK	1	0	0	22.86	22.4±1
				1	2	0	22.77	22.4±1
				1	5	0	22.92	22.4±1
				3	0	0	23.00	22.4±1
				3	1	0	23.03	22.4±1
				3	2	0	22.90	22.4±1
				6	0	1	21.86	22.4±1
		16QAM	16QAM	1	0	1	21.51	21.3±1
				1	2	1	21.42	21.3±1
				1	5	1	21.59	21.3±1
				3	0	1	20.78	21.3±1
				3	1	1	20.88	21.3±1
				3	2	1	20.68	21.3±1
				6	0	2	20.81	21.3±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	22.35	22.3±1
				1	49	0	22.32	22.3±1
				1	99	0	22.26	22.3±1
				50	0	1	22.27	22.3±1
				50	24	1	22.34	22.3±1
				50	49	1	22.27	22.3±1
				100	0	1	22.41	22.3±1
			16QAM	1	0	1	21.39	21.4±1
				1	49	1	21.46	21.4±1
				1	99	1	21.31	21.4±1
				50	0	2	21.45	21.4±1
				50	24	2	21.42	21.4±1
				50	49	2	21.33	21.4±1
				100	0	2	21.39	21.4±1
20MHz	21100	2535	QPSK	1	0	0	21.39	21.4±1
				1	49	0	21.44	21.4±1
				1	99	0	21.37	21.4±1
				50	0	1	21.40	21.4±1
				50	24	1	21.48	21.4±1
				50	49	1	21.49	21.4±1
				100	0	1	21.39	21.4±1
			16QAM	1	0	1	21.76	21.3±1
				1	49	1	21.67	21.3±1
				1	99	1	21.86	21.3±1
				50	0	2	20.43	21.3±1
				50	24	2	20.33	21.3±1
				50	49	2	20.30	21.3±1
				100	0	2	20.48	21.3±1
20MHz	21350	2560	QPSK	1	0	0	21.69	21.3±1
				1	49	0	21.71	21.3±1
				1	99	0	21.66	21.3±1
				50	0	1	21.16	21.3±1
				50	24	1	21.19	21.3±1
				50	49	1	21.20	21.3±1
				100	0	1	21.54	21.3±1
			16QAM	1	0	1	21.68	21.3±1
				1	49	1	21.72	21.3±1
				1	99	1	21.62	21.3±1
				50	0	2	20.34	21.3±1
				50	24	2	20.30	21.3±1
				50	49	2	20.31	21.3±1
				100	0	2	20.61	21.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20825	1717.5	1717.5	QPSK	1	0	0	21.03	21.3±1
				1	37	0	20.94	21.3±1
				1	74	0	21.07	21.3±1
				36	0	1	21.05	21.3±1
				36	16	1	21.05	21.3±1
				36	35	1	21.11	21.3±1
				75	0	1	20.97	21.3±1
		1732.5	16QAM	1	0	1	21.99	22±1
				1	37	1	22.06	22±1
				1	74	1	22.02	22±1
				36	0	2	21.92	22±1
				36	16	2	21.89	22±1
				36	35	2	22.05	22±1
				75	0	2	21.95	22±1
15MHz	21100	1732.5	QPSK	1	0	0	21.99	21.6±1
				1	37	0	22.08	21.6±1
				1	74	0	21.91	21.6±1
				36	0	1	21.15	21.6±1
				36	16	1	21.11	21.6±1
				36	35	1	21.20	21.6±1
				75	0	1	21.16	21.6±1
		1747.5	16QAM	1	0	1	20.92	21.3±1
				1	37	1	20.83	21.3±1
				1	74	1	20.91	21.3±1
				36	0	2	20.84	21.3±1
				36	16	2	20.86	21.3±1
				36	35	2	20.75	21.3±1
				75	0	2	20.08	21.3±1
21375	21375	1747.5	QPSK	1	0	0	21.37	21.3±1
				1	37	0	21.39	21.3±1
				1	74	0	21.30	21.3±1
				36	0	1	20.99	21.3±1
				36	16	1	20.89	21.3±1
				36	35	1	21.05	21.3±1
				75	0	1	21.30	21.3±1
		1747.5	16QAM	1	0	1	20.71	21.3±1
				1	37	1	20.69	21.3±1
				1	74	1	20.77	21.3±1
				36	0	2	20.33	21.3±1
				36	16	2	20.38	21.3±1
				36	35	2	20.33	21.3±1
				75	0	2	20.34	21.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20800	2502	2502	QPSK	1	0	0	22.27	22.2±1
				1	24	0	22.17	22.2±1
				1	49	0	22.28	22.2±1
				25	0	1	22.32	22.2±1
				25	12	1	22.26	22.2±1
				25	24	1	22.25	22.2±1
				50	0	1	22.18	22.2±1
		2535	16QAM	1	0	1	22.07	22.1±1
				1	24	1	22.15	22.1±1
				1	49	1	22.15	22.1±1
				25	0	2	22.01	22.1±1
				25	12	2	22.17	22.1±1
				25	24	2	22.15	22.1±1
				50	0	2	21.97	22.1±1
10MHz	21100	2535	QPSK	1	0	0	22.07	21.6±1
				1	24	0	22.10	21.6±1
				1	49	0	22.09	21.6±1
				25	0	1	21.12	21.6±1
				25	12	1	21.09	21.6±1
				25	24	1	21.18	21.6±1
				50	0	1	21.15	21.6±1
		2565	16QAM	1	0	1	21.58	21.3±1
				1	24	1	21.59	21.3±1
				1	49	1	21.48	21.3±1
				25	0	2	20.63	21.3±1
				25	12	2	20.35	21.3±1
				25	24	2	20.43	21.3±1
				50	0	2	20.41	21.3±1
21400	2565	2565	QPSK	1	0	0	22.05	21.7±1
				1	24	0	22.10	21.7±1
				1	49	0	22.06	21.7±1
				25	0	1	21.24	21.7±1
				25	12	1	21.31	21.7±1
				25	24	1	21.21	21.7±1
				50	0	1	21.28	21.7±1
		2565	16QAM	1	0	1	21.54	21.3±1
				1	24	1	21.54	21.3±1
				1	49	1	21.53	21.3±1
				25	0	2	20.33	21.3±1
				25	12	2	20.41	21.3±1
				25	24	2	20.31	21.3±1
				50	0	2	20.30	21.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	19975	1712.5	QPSK	1	0	0	21.83	21.8±1
				1	12	0	21.88	21.8±1
				1	24	0	21.80	21.8±1
				12	0	1	21.88	21.8±1
				12	6	1	21.73	21.8±1
				12	11	1	21.80	21.8±1
				25	0	1	21.83	21.8±1
			16QAM	1	0	1	21.84	21.9±1
				1	12	1	21.81	21.9±1
				1	24	1	21.84	21.9±1
				12	0	2	21.93	21.9±1
				12	6	2	21.92	21.9±1
				12	11	2	21.77	21.9±1
				25	0	2	21.88	21.9±1
5MHz	20175	1732.5	QPSK	1	0	0	21.84	21.4±1
				1	12	0	21.85	21.4±1
				1	24	0	21.76	21.4±1
				12	0	1	20.93	21.4±1
				12	6	1	21.01	21.4±1
				12	11	1	21.01	21.4±1
				25	0	1	20.96	21.4±1
			16QAM	1	0	1	21.06	21.3±1
				1	12	1	21.14	21.3±1
				1	24	1	21.12	21.3±1
				12	0	2	20.33	21.3±1
				12	6	2	20.62	21.3±1
				12	11	2	20.53	21.3±1
				25	0	2	20.41	21.3±1
5MHz	20375	1752.5	QPSK	1	0	0	21.50	21.3±1
				1	12	0	21.56	21.3±1
				1	24	0	21.41	21.3±1
				12	0	1	21.45	21.3±1
				12	6	1	21.53	21.3±1
				12	11	1	21.36	21.3±1
				25	0	1	21.22	21.3±1
			16QAM	1	0	1	21.21	21.3±1
				1	12	1	21.29	21.3±1
				1	24	1	21.18	21.3±1
				12	0	2	20.65	21.3±1
				12	6	2	20.57	21.3±1
				12	11	2	20.66	21.3±1
				25	0	2	20.44	21.3±1

### LTE Band XII:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
23060	704	QPSK	1	0	0	23.39	23.4±1	
			1	24	0	23.39	23.4±1	
			1	49	0	23.37	23.4±1	
			25	0	1	23.29	23.4±1	
			25	12	1	23.40	23.4±1	
			25	24	1	23.35	23.4±1	
			50	0	1	23.44	23.4±1	
		16QAM	1	0	1	23.54	23.5±1	
			1	24	1	23.53	23.5±1	
			1	49	1	23.52	23.5±1	
			25	0	2	23.47	23.5±1	
			25	12	2	23.46	23.5±1	
			25	24	2	23.44	23.5±1	
			50	0	2	23.49	23.5±1	
10MHz	23095	QPSK	1	0	0	23.54	23.1±1	
			1	24	0	23.45	23.1±1	
			1	49	0	23.63	23.1±1	
			25	0	1	22.62	23.1±1	
			25	12	1	22.62	23.1±1	
			25	24	1	22.71	23.1±1	
			50	0	1	22.68	23.1±1	
		16QAM	1	0	1	22.48	22.1±1	
			1	24	1	22.55	22.1±1	
			1	49	1	22.57	22.1±1	
			25	0	2	21.69	22.1±1	
			25	12	2	21.67	22.1±1	
			25	24	2	21.60	22.1±1	
			50	0	2	21.73	22.1±1	
23130	711	QPSK	1	0	0	23.56	23±1	
			1	24	0	23.64	23±1	
			1	49	0	23.52	23±1	
			25	0	1	22.72	23±1	
			25	12	1	22.74	23±1	
			25	24	1	22.75	23±1	
			50	0	1	22.68	23±1	
		16QAM	1	0	1	23.14	22.4±1	
			1	24	1	23.11	22.4±1	
			1	49	1	23.07	22.4±1	
			25	0	2	21.84	22.4±1	
			25	12	2	21.92	22.4±1	
			25	24	2	21.85	22.4±1	
			50	0	2	21.68	22.4±1	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
23035	701.5	701.5	QPSK	1	0	0	23.32	23.3±1
				1	12	0	23.39	23.3±1
				1	24	0	23.24	23.3±1
				12	0	1	23.27	23.3±1
				12	6	1	23.34	23.3±1
				12	11	1	23.26	23.3±1
				25	0	1	23.30	23.3±1
		707.5	16QAM	1	0	1	23.54	23.5±1
				1	12	1	23.48	23.5±1
				1	24	1	23.45	23.5±1
				12	0	2	23.51	23.5±1
				12	6	2	23.55	23.5±1
				12	11	2	23.44	23.5±1
				25	0	2	23.55	23.5±1
5MHz	23095	707.5	QPSK	1	0	0	23.54	23.1±1
				1	12	0	23.55	23.1±1
				1	24	0	23.45	23.1±1
				12	0	1	22.68	23.1±1
				12	6	1	22.73	23.1±1
				12	11	1	22.75	23.1±1
				25	0	1	22.66	23.1±1
		713.5	16QAM	1	0	1	22.62	22.1±1
				1	12	1	22.72	22.1±1
				1	24	1	22.63	22.1±1
				12	0	2	21.52	22.1±1
				12	6	2	21.48	22.1±1
				12	11	2	21.55	22.1±1
				25	0	2	21.73	22.1±1
23155	713.5	713.5	QPSK	1	0	0	23.66	23.2±1
				1	12	0	23.58	23.2±1
				1	24	0	23.69	23.2±1
				12	0	1	22.72	23.2±1
				12	6	1	22.81	23.2±1
				12	11	1	22.76	23.2±1
				25	0	1	22.64	23.2±1
		713.5	16QAM	1	0	1	22.63	22.2±1
				1	12	1	22.63	22.2±1
				1	24	1	22.64	22.2±1
				12	0	2	21.85	22.2±1
				12	6	2	21.94	22.2±1
				12	11	2	21.76	22.2±1
				25	0	2	21.76	22.2±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
23025	700.5	QPSK	1	0	0	23.17	23.2±1	
			1	7	0	23.26	23.2±1	
			1	14	0	23.16	23.2±1	
			8	0	1	23.07	23.2±1	
			8	4	1	23.21	23.2±1	
			8	7	1	23.16	23.2±1	
			15	0	1	23.08	23.2±1	
		16QAM	1	0	1	23.43	23.4±1	
			1	7	1	23.53	23.4±1	
			1	14	1	23.51	23.4±1	
			8	0	2	23.35	23.4±1	
			8	4	2	23.46	23.4±1	
			8	7	2	23.36	23.4±1	
			15	0	2	23.37	23.4±1	
3MHz	23095	QPSK	1	0	0	23.43	22.9±1	
			1	7	0	23.34	22.9±1	
			1	14	0	23.42	22.9±1	
			8	0	1	22.39	22.9±1	
			8	4	1	22.41	22.9±1	
			8	7	1	22.35	22.9±1	
			15	0	1	22.46	22.9±1	
		16QAM	1	0	1	22.41	22±1	
			1	7	1	22.47	22±1	
			1	14	1	22.43	22±1	
			8	0	2	21.6	22±1	
			8	4	2	21.67	22±1	
			8	7	2	21.68	22±1	
			15	0	2	21.56	22±1	
23025	714.5	QPSK	1	0	0	23.21	22.9±1	
			1	7	0	23.31	22.9±1	
			1	14	0	23.31	22.9±1	
			8	0	1	23.32	22.9±1	
			8	4	1	23.42	22.9±1	
			8	7	1	23.33	22.9±1	
			15	0	1	22.3	22.9±1	
		16QAM	1	0	1	22.75	22±1	
			1	7	1	22.71	22±1	
			1	14	1	22.73	22±1	
			8	0	2	21.42	22±1	
			8	4	2	21.44	22±1	
			8	7	2	21.34	22±1	
			15	0	2	21.36	22±1	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
23017	699.7	QPSK	1	0	0	23.33	23.3±1	
			1	2	0	23.23	23.3±1	
			1	5	0	23.39	23.3±1	
			3	0	0	23.24	23.3±1	
			3	1	0	23.35	23.3±1	
			3	2	0	23.35	23.3±1	
			6	0	1	23.24	23.3±1	
		16QAM	1	0	1	23.62	23.6±1	
			1	2	1	23.72	23.6±1	
			1	5	1	23.54	23.6±1	
			3	0	1	23.53	23.6±1	
			3	1	1	23.68	23.6±1	
			3	2	1	23.61	23.6±1	
			6	0	2	23.65	23.6±1	
1.4MHz	23095	QPSK	1	0	0	23.62	23.2±1	
			1	2	0	23.61	23.2±1	
			1	5	0	23.64	23.2±1	
			3	0	0	23.65	23.2±1	
			3	1	0	23.60	23.2±1	
			3	2	0	23.72	23.2±1	
			6	0	1	22.61	23.2±1	
		16QAM	1	0	1	22.56	22±1	
			1	2	1	22.56	22±1	
			1	5	1	22.46	22±1	
			3	0	1	21.52	22±1	
			3	1	1	21.54	22±1	
			3	2	1	21.42	22±1	
			6	0	2	21.46	22±1	
23173	715.3	QPSK	1	0	0	23.13	22.8±1	
			1	2	0	23.10	22.8±1	
			1	5	0	23.13	22.8±1	
			3	0	0	23.24	22.8±1	
			3	1	0	23.31	22.8±1	
			3	2	0	23.33	22.8±1	
			6	0	1	22.26	22.8±1	
		16QAM	1	0	1	21.77	21.3±1	
			1	2	1	21.75	21.3±1	
			1	5	1	21.72	21.3±1	
			3	0	1	20.81	21.3±1	
			3	1	1	20.75	21.3±1	
			3	2	1	20.76	21.3±1	
			6	0	2	21.01	21.3±1	

**LTE Band XVII:**

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
23780	709.0	23780	QPSK	1	0	0	23.57	23.6±1
				1	24	0	23.47	23.6±1
				1	49	0	23.65	23.6±1
				25	0	1	23.62	23.6±1
				25	12	1	23.55	23.6±1
				25	24	1	23.52	23.6±1
				50	0	1	23.58	23.6±1
		23790	16QAM	1	0	1	23.49	23.5±1
				1	24	1	23.54	23.5±1
				1	49	1	23.54	23.5±1
				25	0	2	23.40	23.5±1
				25	12	2	23.54	23.5±1
				25	24	2	23.52	23.5±1
				50	0	2	23.39	23.5±1
10MHz	23790	701.0	QPSK	1	0	0	23.49	23.1±1
				1	24	0	23.53	23.1±1
				1	49	0	23.39	23.1±1
				25	0	1	22.63	23.1±1
				25	12	1	22.61	23.1±1
				25	24	1	22.57	23.1±1
				50	0	1	22.58	23.1±1
		23800	16QAM	1	0	1	23.04	22.3±1
				1	24	1	23.11	22.3±1
				1	49	1	23.00	22.3±1
				25	0	2	21.59	22.3±1
				25	12	2	21.68	22.3±1
				25	24	2	21.65	22.3±1
				50	0	2	21.56	22.3±1
23800	23800	711.0	QPSK	1	0	0	23.61	23±1
				1	24	0	23.52	23±1
				1	49	0	23.62	23±1
				25	0	1	22.41	23±1
				25	12	1	22.43	23±1
				25	24	1	22.38	23±1
				50	0	1	22.56	23±1
		23800	16QAM	1	0	1	22.58	22±1
				1	24	1	22.92	22±1
				1	49	1	22.08	22±1
				25	0	2	21.24	22±1
				25	12	2	21.27	22±1
				25	24	2	21.24	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
23755	706.5	706.5	QPSK	1	0	0	23.51	23.5±1
				1	12	0	23.47	23.5±1
				1	24	0	23.44	23.5±1
				12	0	1	23.48	23.5±1
				12	6	1	23.49	23.5±1
				12	11	1	23.41	23.5±1
				25	0	1	23.52	23.5±1
			16QAM	1	0	1	23.54	23.5±1
				1	12	1	23.48	23.5±1
				1	24	1	23.61	23.5±1
				12	0	2	23.52	23.5±1
				12	6	2	23.45	23.5±1
				12	11	2	23.6	23.5±1
				25	0	2	23.62	23.5±1
5MHz	23790	710.0	QPSK	1	0	0	23.54	23.1±1
				1	12	0	23.54	23.1±1
				1	24	0	23.47	23.1±1
				12	0	1	22.66	23.1±1
				12	6	1	22.66	23.1±1
				12	11	1	22.59	23.1±1
				25	0	1	22.58	23.1±1
			16QAM	1	0	1	22.60	22.1±1
				1	12	1	22.66	22.1±1
				1	24	1	22.55	22.1±1
				12	0	2	21.84	22.1±1
				12	6	2	21.86	22.1±1
				12	11	2	21.79	22.1±1
				25	0	2	21.58	22.1±1
23825	23825	713.5	QPSK	1	0	0	23.58	23.1±1
				1	12	0	23.59	23.1±1
				1	24	0	23.65	23.1±1
				12	0	1	22.63	23.1±1
				12	6	1	22.73	23.1±1
				12	11	1	22.58	23.1±1
				25	0	1	22.48	23.1±1
			16QAM	1	0	1	22.53	22±1
				1	12	1	22.58	22±1
				1	24	1	22.51	22±1
				12	0	2	21.32	22±1
				12	6	2	21.34	22±1
				12	11	2	21.39	22±1
				25	0	2	21.49	22±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	16.17	V	7.88	0.85	23.20	33.01
1880	1.4	QPSK	1/0	15.75	V	7.88	0.85	22.78	33.01
1909.3	1.4	QPSK	1/0	15.98	V	7.88	0.85	23.01	33.01
1850.7	1.4	QPSK	1/0	15.22	H	7.88	0.85	22.25	33.01
1880	1.4	QPSK	1/0	14.81	H	7.88	0.85	21.84	33.01
1909.3	1.4	QPSK	1/0	15.01	H	7.88	0.85	22.04	33.01
1850.7	1.4	16-QAM	1/0	15.65	V	7.88	0.85	22.68	33.01
1880	1.4	16-QAM	1/0	15.72	V	7.88	0.85	22.75	33.01
1909.3	1.4	16-QAM	1/0	15.56	V	7.88	0.85	22.59	33.01
1850.7	1.4	16-QAM	1/0	14.7	H	7.88	0.85	21.73	33.01
1880	1.4	16-QAM	1/0	14.82	H	7.88	0.85	21.85	33.01
1909.3	1.4	16-QAM	1/0	14.6	H	7.88	0.85	21.63	33.01
1851.5	3	QPSK	1/0	16.28	V	7.88	0.85	23.31	33.01
1880	3	QPSK	1/0	15.92	V	7.88	0.85	22.95	33.01
1908.5	3	QPSK	1/0	15.81	V	7.88	0.85	22.84	33.01
1851.5	3	QPSK	1/0	15.4	H	7.88	0.85	22.43	33.01
1880	3	QPSK	1/0	14.96	H	7.88	0.85	21.99	33.01
1908.5	3	QPSK	1/0	14.88	H	7.88	0.85	21.91	33.01
1851.5	3	16-QAM	1/0	15.81	V	7.88	0.85	22.84	33.01
1880	3	16-QAM	1/0	15.72	V	7.88	0.85	22.75	33.01
1908.5	3	16-QAM	1/0	16.07	V	7.88	0.85	23.1	33.01
1851.5	3	16-QAM	1/0	14.83	H	7.88	0.85	21.86	33.01
1880	3	16-QAM	1/0	14.78	H	7.88	0.85	21.81	33.01
1908.5	3	16-QAM	1/0	15.1	H	7.88	0.85	22.13	33.01
1852.5	5	QPSK	1/24	15.62	V	7.88	0.85	22.65	33.01
1880	5	QPSK	1/0	15.78	V	7.88	0.85	22.81	33.01
1907.5	5	QPSK	1/24	15.7	V	7.88	0.85	22.73	33.01
1852.5	5	QPSK	1/24	14.66	H	7.88	0.85	21.69	33.01
1880	5	QPSK	1/0	14.84	H	7.88	0.85	21.87	33.01
1907.5	5	QPSK	1/24	14.8	H	7.88	0.85	21.83	33.01
1852.5	5	16-QAM	1/24	15.46	V	7.88	0.85	22.49	33.01
1880	5	16-QAM	1/0	15.32	V	7.88	0.85	22.35	33.01
1907.5	5	16-QAM	1/24	16.12	V	7.88	0.85	23.15	33.01
1852.5	5	16-QAM	1/24	14.51	H	7.88	0.85	21.54	33.01

1880	5	16-QAM	1/0	14.39	H	7.88	0.85	21.42	33.01
1907.5	5	16-QAM	1/24	15.23	H	7.88	0.85	22.26	33.01
1855	10	QPSK	1/0	15.66	V	7.88	0.85	22.69	33.01
1880	10	QPSK	1/0	15.72	V	7.88	0.85	22.75	33.01
1905	10	QPSK	1/49	15.81	V	7.88	0.85	22.84	33.01
1855	10	QPSK	1/0	14.71	H	7.88	0.85	21.74	33.01
1880	10	QPSK	1/0	14.8	H	7.88	0.85	21.83	33.01
1905	10	QPSK	1/49	14.85	H	7.88	0.85	21.88	33.01
1855	10	16-QAM	1/0	16.03	V	7.88	0.85	23.06	33.01
1880	10	16-QAM	1/0	15.83	V	7.88	0.85	22.86	33.01
1905	10	16-QAM	1/49	15.92	V	7.88	0.85	22.95	33.01
1855	10	16-QAM	1/0	15.12	H	7.88	0.85	22.15	33.01
1880	10	16-QAM	1/0	14.91	H	7.88	0.85	21.94	33.01
1905	10	16-QAM	1/49	14.96	H	7.88	0.85	21.99	33.01
1857.5	15	QPSK	1/0	15.34	V	7.88	0.85	22.37	33.01
1880	15	QPSK	1/0	15.82	V	7.88	0.85	22.85	33.01
1902.5	15	QPSK	1/0	15.61	V	7.88	0.85	22.64	33.01
1857.5	15	QPSK	1/0	14.38	H	7.88	0.85	21.41	33.01
1880	15	QPSK	1/0	14.84	H	7.88	0.85	21.87	33.01
1902.5	15	QPSK	1/0	14.7	H	7.88	0.85	21.73	33.01
1857.5	15	16-QAM	1/0	15.82	V	7.88	0.85	22.85	33.01
1880	15	16-QAM	1/0	15.73	V	7.88	0.85	22.76	33.01
1902.5	15	16-QAM	1/0	15.76	V	7.88	0.85	22.79	33.01
1857.5	15	16-QAM	1/0	14.86	H	7.88	0.85	21.89	33.01
1880	15	16-QAM	1/0	14.81	H	7.88	0.85	21.84	33.01
1902.5	15	16-QAM	1/0	14.89	H	7.88	0.85	21.92	33.01
1860	20	QPSK	1/0	15.95	V	7.88	0.85	22.98	33.01
1880	20	QPSK	1/0	15.32	V	7.88	0.85	22.35	33.01
1900	20	QPSK	1/0	15.71	V	7.88	0.85	22.74	33.01
1860	20	QPSK	1/0	14.98	H	7.88	0.85	22.01	33.01
1880	20	QPSK	1/0	14.43	H	7.88	0.85	21.46	33.01
1900	20	QPSK	1/0	14.8	H	7.88	0.85	21.83	33.01
1860	20	16-QAM	1/0	16.21	V	7.88	0.85	23.24	33.01
1880	20	16-QAM	1/0	15.8	V	7.88	0.85	22.83	33.01
1900	20	16-QAM	1/0	15.71	V	7.88	0.85	22.74	33.01
1860	20	16-QAM	1/0	15.34	H	7.88	0.85	22.37	33.01
1880	20	16-QAM	1/0	14.86	H	7.88	0.85	21.89	33.01
1900	20	16-QAM	1/0	14.76	H	7.88	0.85	21.79	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	15.90	V	7.95	0.79	23.06	30
1732.5	1.4	QPSK	1/0	15.71	V	7.95	0.79	22.87	30
1754.3	1.4	QPSK	1/0	14.78	V	7.95	0.79	21.94	30
1710.7	1.4	QPSK	1/0	14.97	H	7.95	0.79	22.13	30
1732.5	1.4	QPSK	1/0	14.73	H	7.95	0.79	21.89	30
1754.3	1.4	QPSK	1/0	13.83	H	7.95	0.79	20.99	30
1710.7	1.4	16-QAM	1/5	15.48	V	7.95	0.79	22.64	30
1732.5	1.4	16-QAM	1/0	14.97	V	7.95	0.79	22.13	30
1754.3	1.4	16-QAM	1/0	15.60	V	7.95	0.79	22.76	30
1710.7	1.4	16-QAM	1/5	14.55	H	7.95	0.79	21.71	30
1732.5	1.4	16-QAM	1/0	14.1	H	7.95	0.79	21.26	30
1754.3	1.4	16-QAM	1/0	14.68	H	7.95	0.79	21.84	30
1711.5	3	QPSK	1/0	16.38	V	7.95	0.79	23.54	30
1732.5	3	QPSK	1/0	15.82	V	7.95	0.79	22.98	30
1753.5	3	QPSK	1/0	15.59	V	7.95	0.79	22.75	30
1711.5	3	QPSK	1/0	15.4	H	7.95	0.79	22.56	30
1732.5	3	QPSK	1/0	14.87	H	7.95	0.79	22.03	30
1753.5	3	QPSK	1/0	14.62	H	7.95	0.79	21.78	30
1711.5	3	16-QAM	1/0	14.8	V	7.95	0.79	21.96	30
1732.5	3	16-QAM	1/0	14.98	V	7.95	0.79	22.14	30
1753.5	3	16-QAM	1/0	15.15	V	7.95	0.79	22.31	30
1711.5	3	16-QAM	1/0	13.88	H	7.95	0.79	21.04	30
1732.5	3	16-QAM	1/0	14.1	H	7.95	0.79	21.26	30
1753.5	3	16-QAM	1/0	14.27	H	7.95	0.79	21.43	30
1712.5	5	QPSK	1/0	15.4	V	7.95	0.79	22.56	30
1732.5	5	QPSK	1/0	15.27	V	7.95	0.79	22.43	30
1752.5	5	QPSK	1/24	15.58	V	7.95	0.79	22.74	30
1712.5	5	QPSK	1/0	14.43	H	7.95	0.79	21.59	30
1732.5	5	QPSK	1/0	14.38	H	7.95	0.79	21.54	30
1752.5	5	QPSK	1/24	14.67	H	7.95	0.79	21.83	30
1712.5	5	16-QAM	1/0	15.45	V	7.95	0.79	22.61	30
1732.5	5	16-QAM	1/0	15.23	V	7.95	0.79	22.39	30
1752.5	5	16-QAM	1/24	14.73	V	7.95	0.79	21.89	30
1712.5	5	16-QAM	1/0	14.58	H	7.95	0.79	21.74	30
1732.5	5	16-QAM	1/0	14.27	H	7.95	0.79	21.43	30

1752.5	5	16-QAM	1/24	13.78	H	7.95	0.79	20.94	30
1715	10	QPSK	1/0	14.6	V	7.95	0.79	21.76	30
1732.5	10	QPSK	1/49	15.15	V	7.95	0.79	22.31	30
1750	10	QPSK	1/0	14.69	V	7.95	0.79	21.85	30
1715	10	QPSK	1/0	13.7	H	7.95	0.79	20.86	30
1732.5	10	QPSK	1/49	14.26	H	7.95	0.79	21.42	30
1750	10	QPSK	1/0	13.77	H	7.95	0.79	20.93	30
1715	10	16-QAM	1/0	15.43	V	7.95	0.79	22.59	30
1732.5	10	16-QAM	1/49	15.55	V	7.95	0.79	22.71	30
1750	10	16-QAM	1/0	15.17	V	7.95	0.79	22.33	30
1715	10	16-QAM	1/0	14.6	H	7.95	0.79	21.76	30
1732.5	10	16-QAM	1/49	14.67	H	7.95	0.79	21.83	30
1750	10	16-QAM	1/0	14.29	H	7.95	0.79	21.45	30
1717.5	15	QPSK	1/0	14.68	V	7.95	0.79	21.84	30
1732.5	15	QPSK	1/74	14.9	V	7.95	0.79	22.06	30
1747.5	15	QPSK	1/0	15.37	V	7.95	0.79	22.53	30
1717.5	15	QPSK	1/0	13.81	H	7.95	0.79	20.97	30
1732.5	15	QPSK	1/74	13.98	H	7.95	0.79	21.14	30
1747.5	15	QPSK	1/0	14.49	H	7.95	0.79	21.65	30
1717.5	15	16-QAM	1/0	14.97	V	7.95	0.79	22.13	30
1732.5	15	16-QAM	1/74	15.11	V	7.95	0.79	22.27	30
1747.5	15	16-QAM	1/0	14.72	V	7.95	0.79	21.88	30
1717.5	15	16-QAM	1/0	14.09	H	7.95	0.79	21.25	30
1732.5	15	16-QAM	1/74	14.18	H	7.95	0.79	21.34	30
1747.5	15	16-QAM	1/0	13.79	H	7.95	0.79	20.95	30
1720	20	QPSK	1/99	15.48	V	7.95	0.79	22.64	30
1732.5	20	QPSK	1/99	15.43	V	7.95	0.79	22.59	30
1745	20	QPSK	1/0	15.58	V	7.95	0.79	22.74	30
1720	20	QPSK	1/99	14.58	H	7.95	0.79	21.74	30
1732.5	20	QPSK	1/99	14.46	H	7.95	0.79	21.62	30
1745	20	QPSK	1/0	14.69	H	7.95	0.79	21.85	30
1720	20	16-QAM	1/99	15.9	V	7.95	0.79	23.06	30
1732.5	20	16-QAM	1/99	15.51	V	7.95	0.79	22.67	30
1745	20	16-QAM	1/0	15.32	V	7.95	0.79	22.48	30
1720	20	16-QAM	1/99	14.95	H	7.95	0.79	22.11	30
1732.5	20	16-QAM	1/99	14.59	H	7.95	0.79	21.75	30
1745	20	16-QAM	1/0	14.37	H	7.95	0.79	21.53	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	14.44	V	8.93	0.83	22.54	30
2535	5	QPSK	1/0	13.88	V	8.93	0.83	21.98	30
2567.5	5	QPSK	1/24	13.46	V	8.93	0.83	21.56	30
2502.5	5	QPSK	1/0	13.52	H	8.93	0.83	21.62	30
2535	5	QPSK	1/0	12.95	H	8.93	0.83	21.05	30
2567.5	5	QPSK	1/24	12.51	H	8.93	0.83	20.61	30
2502.5	5	16-QAM	1/0	13.74	V	8.93	0.83	21.84	30
2535	5	16-QAM	1/0	13.66	V	8.93	0.83	21.76	30
2567.5	5	16-QAM	1/24	13.28	V	8.93	0.83	21.38	30
2502.5	5	16-QAM	1/0	12.86	H	8.93	0.83	20.96	30
2535	5	16-QAM	1/0	12.75	H	8.93	0.83	20.85	30
2567.5	5	16-QAM	1/24	12.36	H	8.93	0.83	20.46	30
2505	10	QPSK	1/0	13.93	V	8.93	0.83	22.03	30
2535	10	QPSK	1/49	13.65	V	8.93	0.83	21.75	30
2565	10	QPSK	1/0	13.55	V	8.93	0.83	21.65	30
2505	10	QPSK	1/0	12.95	H	8.93	0.83	21.05	30
2535	10	QPSK	1/49	12.73	H	8.93	0.83	20.83	30
2565	10	QPSK	1/0	12.61	H	8.93	0.83	20.71	30
2505	10	16-QAM	1/0	14.03	V	8.93	0.83	22.13	30
2535	10	16-QAM	1/49	14.16	V	8.93	0.83	22.26	30
2565	10	16-QAM	1/0	13.75	V	8.93	0.83	21.85	30
2505	10	16-QAM	1/0	13.06	H	8.93	0.83	21.16	30
2535	10	16-QAM	1/49	13.24	H	8.93	0.83	21.34	30
2565	10	16-QAM	1/0	12.79	H	8.93	0.83	20.89	30
2507.5	15	QPSK	1/0	13.49	V	8.93	0.83	21.59	30
2535	15	QPSK	1/74	13.66	V	8.93	0.83	21.76	30
2562.5	15	QPSK	1/0	14.07	V	8.93	0.83	22.17	30
2507.5	15	QPSK	1/0	12.58	H	8.93	0.83	20.68	30
2535	15	QPSK	1/74	12.73	H	8.93	0.83	20.83	30
2562.5	15	QPSK	1/0	13.25	H	8.93	0.83	21.35	30
2507.5	15	16-QAM	1/0	13.79	V	8.93	0.83	21.89	30
2535	15	16-QAM	1/74	13.64	V	8.93	0.83	21.74	30
2562.5	15	16-QAM	1/0	13.41	V	8.93	0.83	21.51	30

2507.5	15	16-QAM	1/0	12.84	H	8.93	0.83	20.94	30
2535	15	16-QAM	1/74	12.75	H	8.93	0.83	20.85	30
2562.5	15	16-QAM	1/0	12.57	H	8.93	0.83	20.67	30
2510	20	QPSK	1/99	14.05	V	8.93	0.83	22.15	30
2535	20	QPSK	1/99	13.75	V	8.93	0.83	21.85	30
2560	20	QPSK	1/0	13.54	V	8.93	0.83	21.64	30
2510	20	QPSK	1/99	13.23	H	8.93	0.83	21.33	30
2535	20	QPSK	1/99	12.87	H	8.93	0.83	20.97	30
2560	20	QPSK	1/0	12.66	H	8.93	0.83	20.76	30
2510	20	16-QAM	1/99	13.65	V	8.93	0.83	21.75	30
2535	20	16-QAM	1/99	12.74	V	8.93	0.83	20.84	30
2560	20	16-QAM	1/0	14.06	V	8.93	0.83	22.16	30
2510	20	16-QAM	1/99	12.71	H	8.93	0.83	20.81	30
2535	20	16-QAM	1/99	11.85	H	8.93	0.83	19.95	30
2560	20	16-QAM	1/0	13.13	H	8.93	0.83	21.23	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	14.55	V	6.9	0.42	21.03	34.77
707.5	1.4	QPSK	1/5	15.16	V	6.8	0.42	21.54	34.77
715.3	1.4	QPSK	1/5	14.98	V	6.8	0.42	21.36	34.77
699.7	1.4	QPSK	1/5	13.58	H	6.9	0.42	20.06	34.77
707.5	1.4	QPSK	1/5	14.26	H	6.8	0.42	20.64	34.77
715.3	1.4	QPSK	1/5	14.05	H	6.8	0.42	20.43	34.77
699.7	1.4	16-QAM	1/5	15.03	V	6.9	0.42	21.51	34.77
707.5	1.4	16-QAM	1/5	15.04	V	6.8	0.42	21.42	34.77
715.3	1.4	16-QAM	1/5	15.15	V	6.8	0.42	21.53	34.77
699.7	1.4	16-QAM	1/5	14.06	H	6.9	0.42	20.54	34.77
707.5	1.4	16-QAM	1/5	14.1	H	6.8	0.42	20.48	34.77
715.3	1.4	16-QAM	1/5	14.21	H	6.8	0.42	20.59	34.77
700.5	3	QPSK	1/14	14.68	V	6.9	0.42	21.16	34.77
707.5	3	QPSK	1/0	14.87	V	6.8	0.42	21.25	34.77
714.5	3	QPSK	1/14	14.7	V	6.8	0.42	21.08	34.77
700.5	3	QPSK	1/14	13.75	H	6.9	0.42	20.23	34.77
707.5	3	QPSK	1/0	13.91	H	6.8	0.42	20.29	34.77
714.5	3	QPSK	1/14	13.79	H	6.8	0.42	20.17	34.77
700.5	3	16-QAM	1/14	14.84	V	6.9	0.42	21.32	34.77
707.5	3	16-QAM	1/0	14.79	V	6.8	0.42	21.17	34.77
714.5	3	16-QAM	1/14	14.72	V	6.8	0.42	21.1	34.77
700.5	3	16-QAM	1/14	13.96	H	6.9	0.42	20.44	34.77
707.5	3	16-QAM	1/0	13.8	H	6.8	0.42	20.18	34.77
714.5	3	16-QAM	1/14	13.76	H	6.8	0.42	20.14	34.77
701.5	5	QPSK	1/24	14.71	V	6.9	0.42	21.19	34.77
707.5	5	QPSK	1/24	14.82	V	6.8	0.42	21.2	34.77
713.5	5	QPSK	1/24	14.75	V	6.8	0.42	21.13	34.77
701.5	5	QPSK	1/24	13.75	H	6.9	0.42	20.23	34.77
707.5	5	QPSK	1/24	13.86	H	6.8	0.42	20.24	34.77
713.5	5	QPSK	1/24	13.79	H	6.8	0.42	20.17	34.77
701.5	5	16-QAM	1/24	14.98	V	6.9	0.42	21.46	34.77
707.5	5	16-QAM	1/24	14.97	V	6.8	0.42	21.35	34.77
713.5	5	16-QAM	1/24	14.79	V	6.8	0.42	21.17	34.77
701.5	5	16-QAM	1/24	14.03	H	6.9	0.42	20.51	34.77

707.5	5	16-QAM	1/24	14.1	H	6.8	0.42	20.48	34.77
713.5	5	16-QAM	1/24	13.85	H	6.8	0.42	20.23	34.77
704	10	QPSK	1/49	14.7	V	6.8	0.42	21.08	34.77
707.5	10	QPSK	1/49	14.89	V	6.8	0.42	21.27	34.77
711	10	QPSK	1/49	14.77	V	6.8	0.42	21.15	34.77
704	10	QPSK	1/49	13.77	H	6.8	0.42	20.15	34.77
707.5	10	QPSK	1/49	13.96	H	6.8	0.42	20.34	34.77
711	10	QPSK	1/49	13.8	H	6.8	0.42	20.18	34.77
704	10	16-QAM	1/49	14.94	V	6.8	0.42	21.32	34.77
707.5	10	16-QAM	1/49	14.97	V	6.8	0.42	21.35	34.77
711	10	16-QAM	1/49	14.88	V	6.8	0.42	21.26	34.77
704	10	16-QAM	1/49	13.97	H	6.8	0.42	20.35	34.77
707.5	10	16-QAM	1/49	14.03	H	6.8	0.42	20.41	34.77
711	10	16-QAM	1/49	13.92	H	6.8	0.42	20.3	34.77

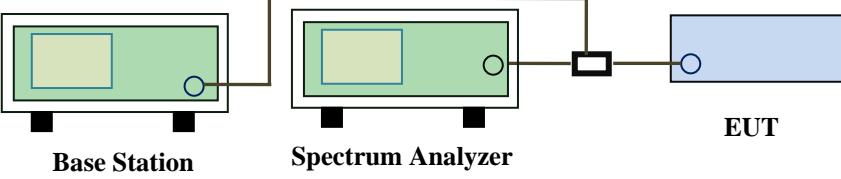
### ERP for LTE Band XVII (Part 27)

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	15.15	V	6.8	0.42	21.53	34.77
710	5	QPSK	1/0	14.78	V	6.8	0.42	21.16	34.77
713.5	5	QPSK	1/0	14.37	V	6.8	0.42	20.75	34.77
706.5	5	QPSK	1/0	14.23	H	6.8	0.42	20.61	34.77
710	5	QPSK	1/0	13.8	H	6.8	0.42	20.18	34.77
713.5	5	QPSK	1/0	13.46	H	6.8	0.42	19.84	34.77
706.5	5	16-QAM	1/0	14.98	V	6.8	0.42	21.36	34.77
710	5	16-QAM	1/0	14.67	V	6.8	0.42	21.05	34.77
713.5	5	16-QAM	1/0	14.57	V	6.8	0.42	20.95	34.77
706.5	5	16-QAM	1/0	14.05	H	6.8	0.42	20.43	34.77
710	5	16-QAM	1/0	13.73	H	6.8	0.42	20.11	34.77
713.5	5	16-QAM	1/0	13.67	H	6.8	0.42	20.05	34.77
709	10	QPSK	1/0	14.97	V	6.8	0.42	21.35	34.77
710	10	QPSK	1/0	14.79	V	6.8	0.42	21.17	34.77
711	10	QPSK	1/0	14.44	V	6.8	0.42	20.82	34.77
709	10	QPSK	1/0	14.07	H	6.8	0.42	20.45	34.77
710	10	QPSK	1/0	13.83	H	6.8	0.42	20.21	34.77
711	10	QPSK	1/0	13.49	H	6.8	0.42	19.87	34.77
709	10	16-QAM	1/0	14.48	V	6.8	0.42	20.86	34.77
710	10	16-QAM	1/0	14.37	V	6.8	0.42	20.75	34.77
711	10	16-QAM	1/0	14.03	V	6.8	0.42	20.41	34.77
709	10	16-QAM	1/0	13.57	H	6.8	0.42	19.95	34.77
710	10	16-QAM	1/0	13.39	H	6.8	0.42	19.77	34.77
711	10	16-QAM	1/0	13.08	H	6.8	0.42	19.46	34.77

### 6.3 Peak-Average Ratio

Temperature	25°C
Relative Humidity	56%
Atmospheric Pressure	1018mbar
Test date :	October 09, 2017
Tested By :	Loren Luo

Requirement(s):

Spec	Item	Requirement	Applicable
§24.232(d) § 27.50(d)	a)	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.	<input checked="" type="checkbox"/>
Test Setup	 <p style="text-align: center;"><b>Base Station</b>      <b>Spectrum Analyzer</b>      <b>EUT</b></p>		
Test Procedure	<p>According with KDB 971168 v02r02</p> <p><b>5.7.2 Alternate procedure for PAPR</b></p> <p><b>5.1.2 Peak power measurements with a peak power meter</b></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><b>5.2.3 Average power measurement with average power meter</b></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 cycle <math>\geq 98\%</math>) and at all times the EUT is transmitting at its maximum output</p>		

	<p>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 &lt; 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 <math>\pm 2</math> percent) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to <math>10\log(1/\text{duty cycle})</math></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	1880	RB 1/0	QPSK	23.04	22.6	0.44
			16QAM	22.29	21.85	0.44
3	1880	RB 1/0	QPSK	23.08	22.65	0.43
			16QAM	22.08	21.6	0.48
5	1880	RB 1/0	QPSK	23.06	22.57	0.49
			16QAM	21.91	21.61	0.3
10	1880	RB 1/0	QPSK	22.77	22.43	0.34
			16QAM	21.99	21.55	0.44
15	1880	RB 1/0	QPSK	23.07	22.59	0.48
			16QAM	22.05	21.55	0.5
20	1880	RB 1/0	QPSK	23.03	22.58	0.45
			16QAM	21.94	21.63	0.31

### 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	2535	RB 1/0	QPSK	23.02	22.57	0.45
			16QAM	21.91	21.61	0.3
10	2535	RB 1/0	QPSK	22.84	22.43	0.41
			16QAM	21.9	21.55	0.35
15	2535	RB 1/0	QPSK	22.98	22.59	0.39
			16QAM	21.92	21.55	0.37
20	2535	RB 1/0	QPSK	23.03	22.58	0.45
			16QAM	22.06	21.63	0.43

### 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	22.96	22.6	0.36
			16QAM	22.26	21.85	0.41
3	1732.5	RB 1/0	QPSK	22.99	22.65	0.34
			16QAM	21.93	21.6	0.33
5	1732.5	RB 1/0	QPSK	22.99	22.57	0.42
			16QAM	21.96	21.61	0.35
10	1732.5	RB 1/0	QPSK	22.85	22.43	0.42
			16QAM	21.95	21.55	0.4

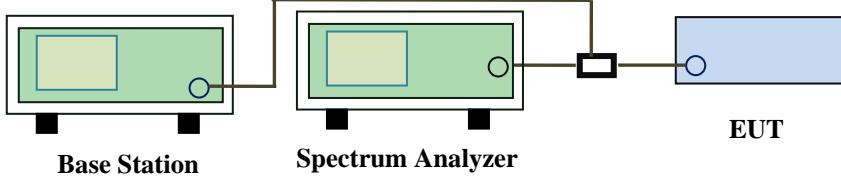
### LTE Band XVII (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	710	RB 1/0	QPSK	23.05	22.57	0.48
			16QAM	21.94	21.61	0.33
10	710	RB 1/0	QPSK	22.79	22.43	0.36
			16QAM	21.99	21.55	0.44

## 6.4 Occupied Bandwidth

Temperature	25°C
Relative Humidity	55%
Atmospheric Pressure	1012mbar
Test date :	October 10, 2017
Tested By :	Loren Luo

### Requirement(s):

Spec	Item	Requirement	Applicable
§2.1049, §22.917, §22.905 §24.238 §27.53(a)	a)	99% Occupied Bandwidth(kHz)	<input checked="" type="checkbox"/>
	b)	26 dB Bandwidth(kHz)	<input checked="" type="checkbox"/>
Test Setup		 <p style="text-align: center;"><b>Base Station</b>      <b>Spectrum Analyzer</b>      <b>EUT</b></p>	
Test Procedure		<ul style="list-style-type: none"> <li>- The EUT was connected to Spectrum Analyzer and Base Station via power divider.</li> <li>- The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers.</li> </ul>	
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	1.1027	1.276
			QPSK	1.1012	1.276
1.4	18900	1880	16QAM	1.1010	1.274
			QPSK	1.1027	1.273
1.4	19193	1909	16QAM	1.1099	1.308
			QPSK	1.1111	1.391
3	18615	1852	16QAM	2.7345	3.023
			QPSK	2.7463	3.027
3	18900	1880	16QAM	2.7464	3.026
			QPSK	2.7384	3.039
3	19185	1909	16QAM	2.7557	3.087
			QPSK	2.7561	3.052
5	18625	1853	16QAM	4.5419	5.038
			QPSK	4.5405	5.061
5	18900	1880	16QAM	4.5420	5.043
			QPSK	4.5412	5.077
5	19175	1908	16QAM	4.5337	5.042
			QPSK	4.5273	5.069
10	18650	1855	16QAM	9.0374	9.961
			QPSK	9.0592	10.10
10	18900	1880	16QAM	9.0393	10.09
			QPSK	9.0130	10.09
10	19150	1905	16QAM	9.0752	10.03
			QPSK	9.0709	10.05
15	18675	1858	16QAM	13.507	14.80
			QPSK	13.505	14.76
15	18900	1880	16QAM	13.450	14.62
			QPSK	13.458	14.68
15	19125	1903	16QAM	13.514	14.87
			QPSK	13.515	14.88

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20	18700	1860	16QAM	17.931	19.35
			QPSK	17.980	19.41
20	18900	1880	16QAM	17.854	19.21
			QPSK	17.853	19.31
20	19100	1900	16QAM	17.988	19.51
			QPSK	17.959	19.38

### LTE Band IV (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	19957	1711	16QAM	1.1000	1.263
			QPSK	1.1002	1.272
1.4	20175	1733	16QAM	1.1056	1.279
			QPSK	1.1045	1.279
1.4	20393	1754	16QAM	1.1081	1.296
			QPSK	1.1078	1.292
3	19965	1712	16QAM	2.7468	3.025
			QPSK	2.7443	3.032
3	20175	1733	16QAM	2.7481	3.047
			QPSK	2.7474	3.048
3	20385	1754	16QAM	2.7419	3.051
			QPSK	2.7493	3.070
5	19975	1713	16QAM	4.4525	5.092
			QPSK	4.5373	5.077
5	20175	1733	16QAM	4.5482	5.035
			QPSK	4.5464	5.074
5	20375	1753	16QAM	4.5121	5.026
			QPSK	4.5147	5.045
10	20000	1715	16QAM	9.0461	10.07
			QPSK	9.0556	10.07
10	20175	1733	16QAM	9.0590	9.972
			QPSK	9.0639	10.01
10	20350	1750	16QAM	9.0384	10.10
			QPSK	9.0553	10.09
15	20025	1718	16QAM	13.495	14.75
			QPSK	13.508	14.77
15	20175	1733	16QAM	13.492	14.82
			QPSK	13.499	14.82
15	20325	1748	16QAM	13.491	14.75
			QPSK	13.491	14.74

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20	20050	1720	16QAM	17.931	19.35
			QPSK	17.916	19.36
20	20175	1733	16QAM	17.900	19.37
			QPSK	17.952	19.55
20	20300	1745	16QAM	17.947	19.27
			QPSK	17.968	19.34

### LTE Band VII (Part 27) result

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	20775	2503	16QAM	4.5351	5.076
			QPSK	4.5471	5.078
5	21100	2535	16QAM	4.5277	5.056
			QPSK	4.5378	5.063
5	21425	2568	16QAM	4.5147	5.013
			QPSK	4.5190	5.030
10	20800	2505	16QAM	9.0222	9.873
			QPSK	9.0136	9.961
10	21100	2535	16QAM	9.0188	10.04
			QPSK	9.0269	10.14
10	21400	2565	16QAM	9.0265	9.923
			QPSK	9.0465	9.930
15	20825	2508	16QAM	13.491	14.79
			QPSK	13.501	14.76
15	21100	2535	16QAM	13.449	14.52
			QPSK	13.452	14.72
15	21400	2563	16QAM	13.488	14.72
			QPSK	13.496	14.72
20	20850	2510	16QAM	17.948	19.43
			QPSK	18.001	19.69
20	21100	2535	16QAM	17.840	19.12
			QPSK	17.840	19.15
20	21350	2560	16QAM	17.883	19.33
			QPSK	17.910	19.38

### 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	1.1053	1.261
			QPSK	1.1062	1.265
1.4	23095	707.5	16QAM	1.1020	1.275
			QPSK	1.1043	1.276
1.4	23173	715.3	16QAM	1.1098	1.296
			QPSK	1.1107	1.301
3	23025	700.5	16QAM	2.7530	3.059
			QPSK	2.7593	3.060
3	23095	707.5	16QAM	2.7535	3.052
			QPSK	2.7599	3.057
3	23165	714.5	16QAM	2.7566	3.063
			QPSK	2.7623	3.066
5	23035	701.5	16QAM	4.5301	5.075
			QPSK	4.5419	5.077
5	23095	707.5	16QAM	4.5279	5.087
			QPSK	4.5333	5.088
5	23055	713.5	16QAM	4.5168	5.087
			QPSK	4.5199	5.087
10	23060	704	16QAM	9.0755	10.15
			QPSK	9.0712	10.15
10	23095	707.5	16QAM	9.1020	10.13
			QPSK	9.1027	10.16
10	23130	711	16QAM	9.1121	10.15
			QPSK	9.1067	10.14

### LTE Band XVII (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	23755	706.5	16QAM	4.5499	5.071
			QPSK	4.5482	5.073
5	23790	710	16QAM	4.5354	5.076
			QPSK	4.5421	5.108
5	23825	713.5	16QAM	4.5288	5.027
			QPSK	4.5247	5.051
10	23780	709	16QAM	9.0860	10.07
			QPSK	9.1052	10.18
10	23790	710	16QAM	9.0982	10.12
			QPSK	9.0988	10.17
10	23800	711	16QAM	9.1126	10.12
			QPSK	9.1096	10.12

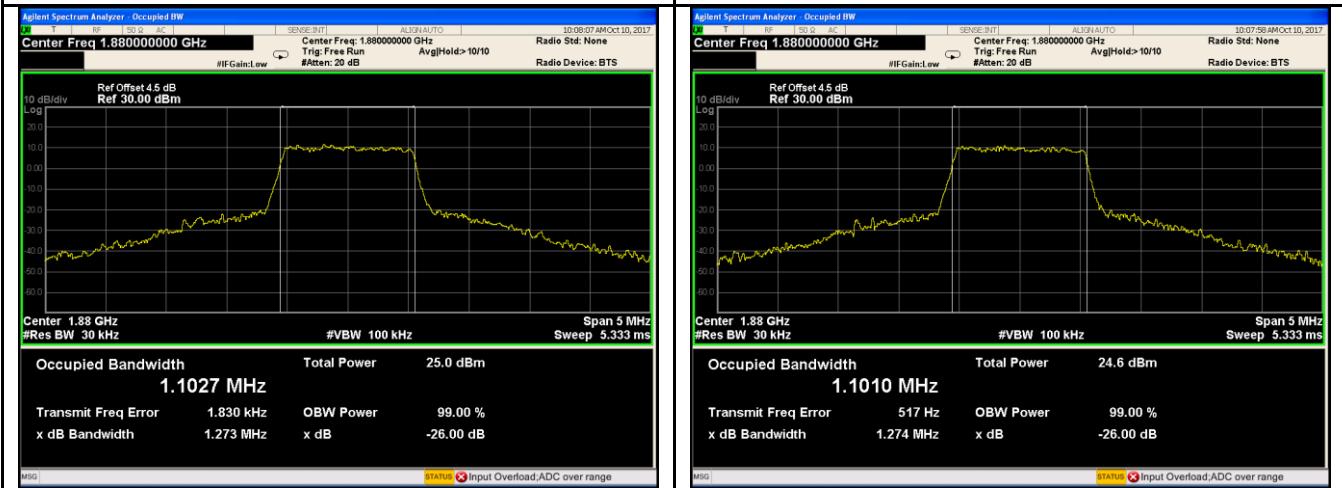
## Test Plots

### LTE Band II (Part 24E)



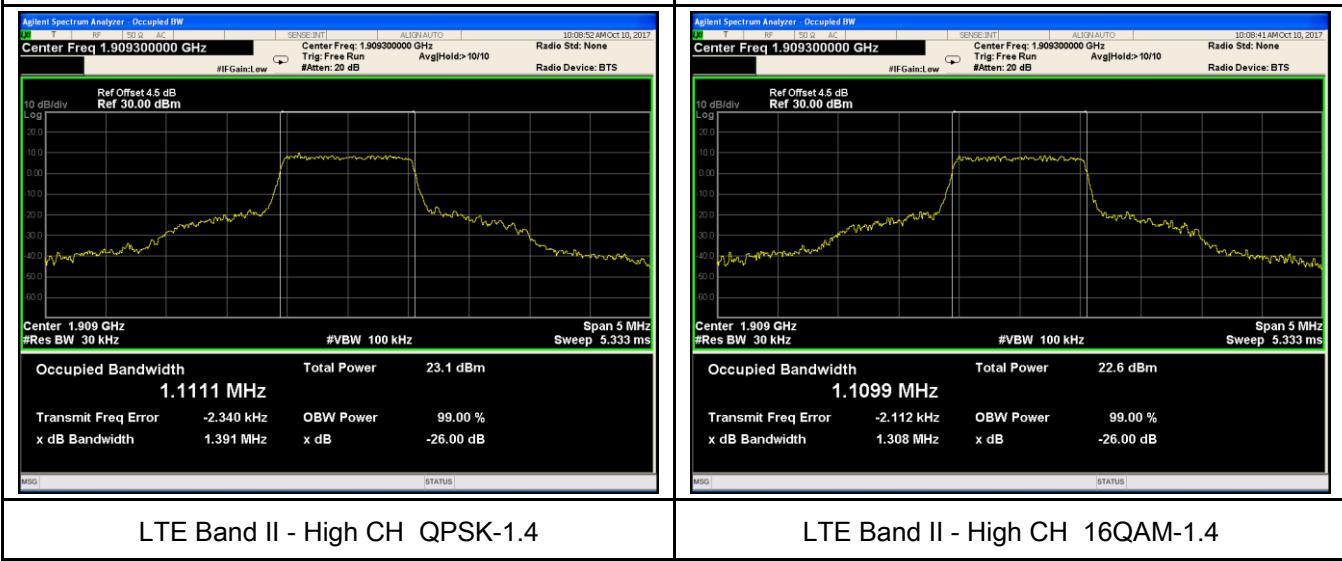
LTE Band II - Low CH QPSK-1.4

LTE Band II - Low CH 16QAM-1.4



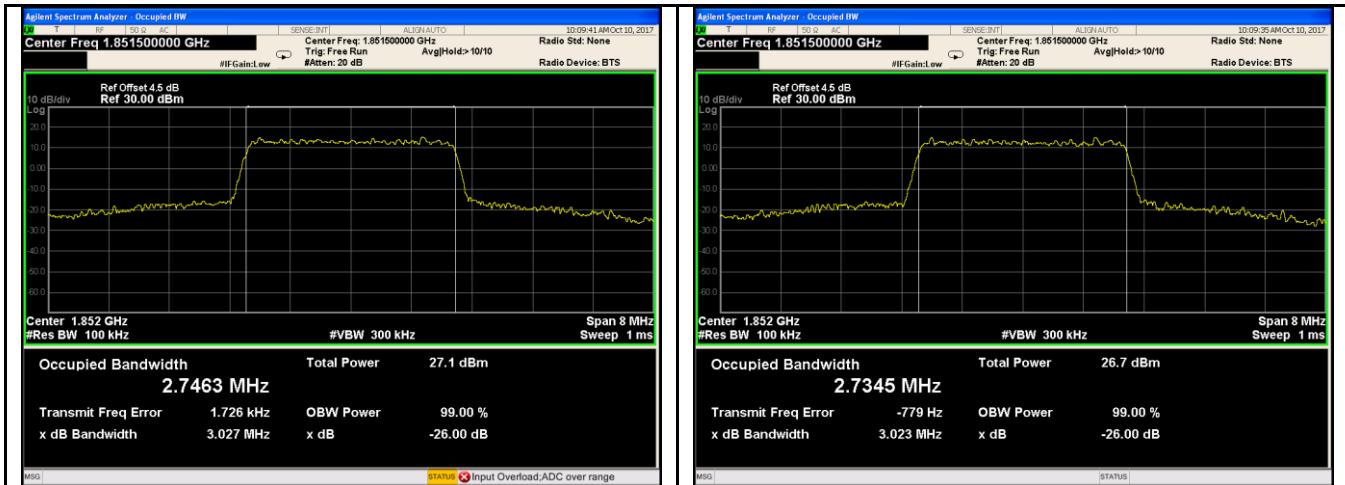
LTE Band II - Middle CH QPSK-1.4

LTE Band II - Middle CH 16QAM-1.4



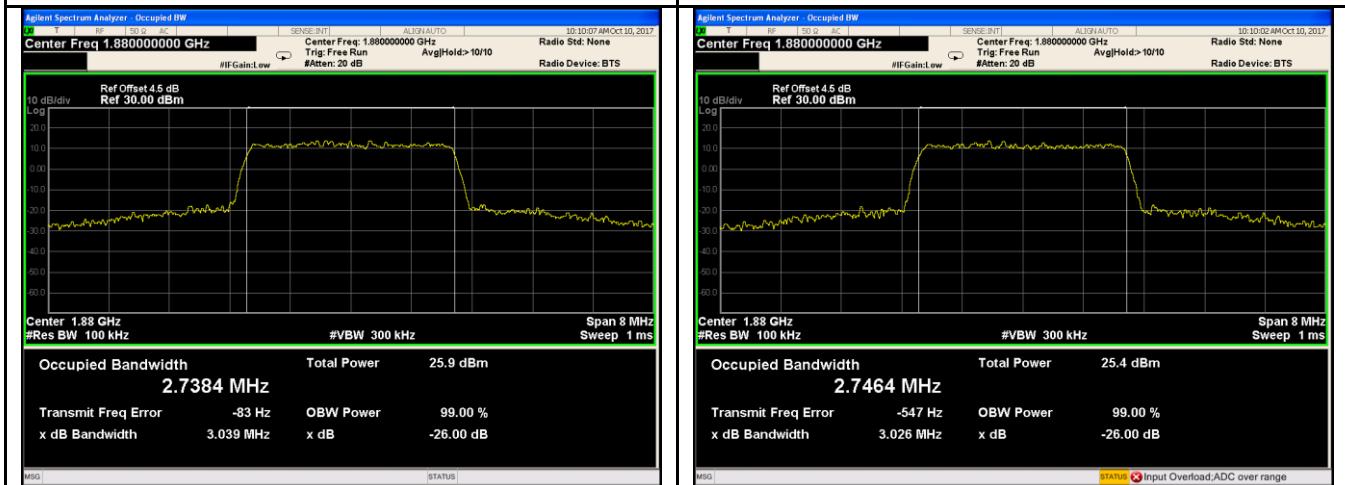
LTE Band II - High CH QPSK-1.4

LTE Band II - High CH 16QAM-1.4



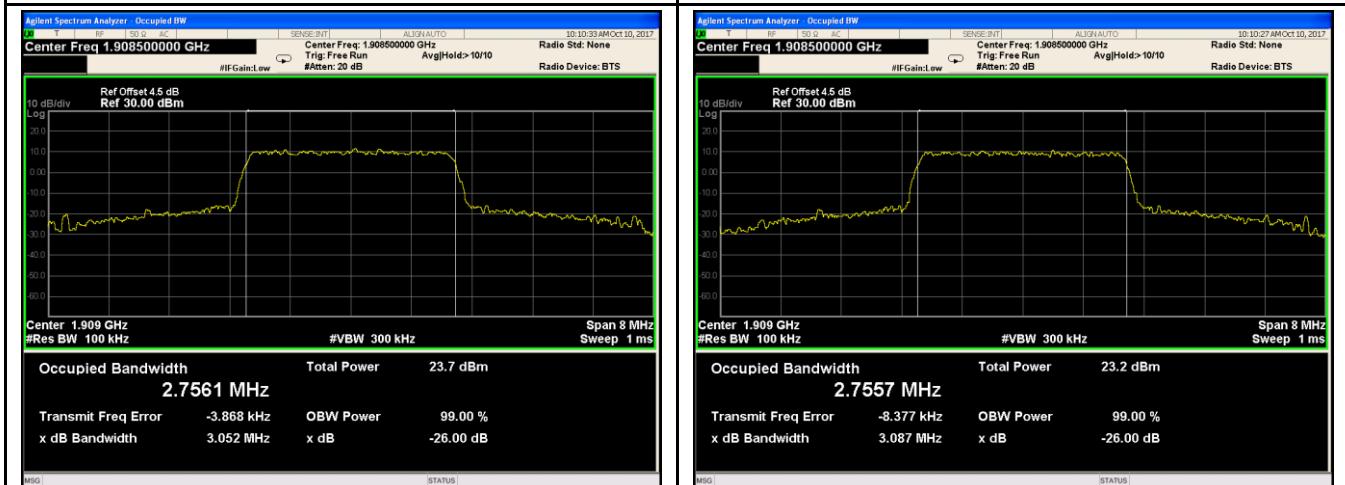
### LTE Band II - Low CH QPSK-3

### LTE Band II - Low CH 16QAM-3



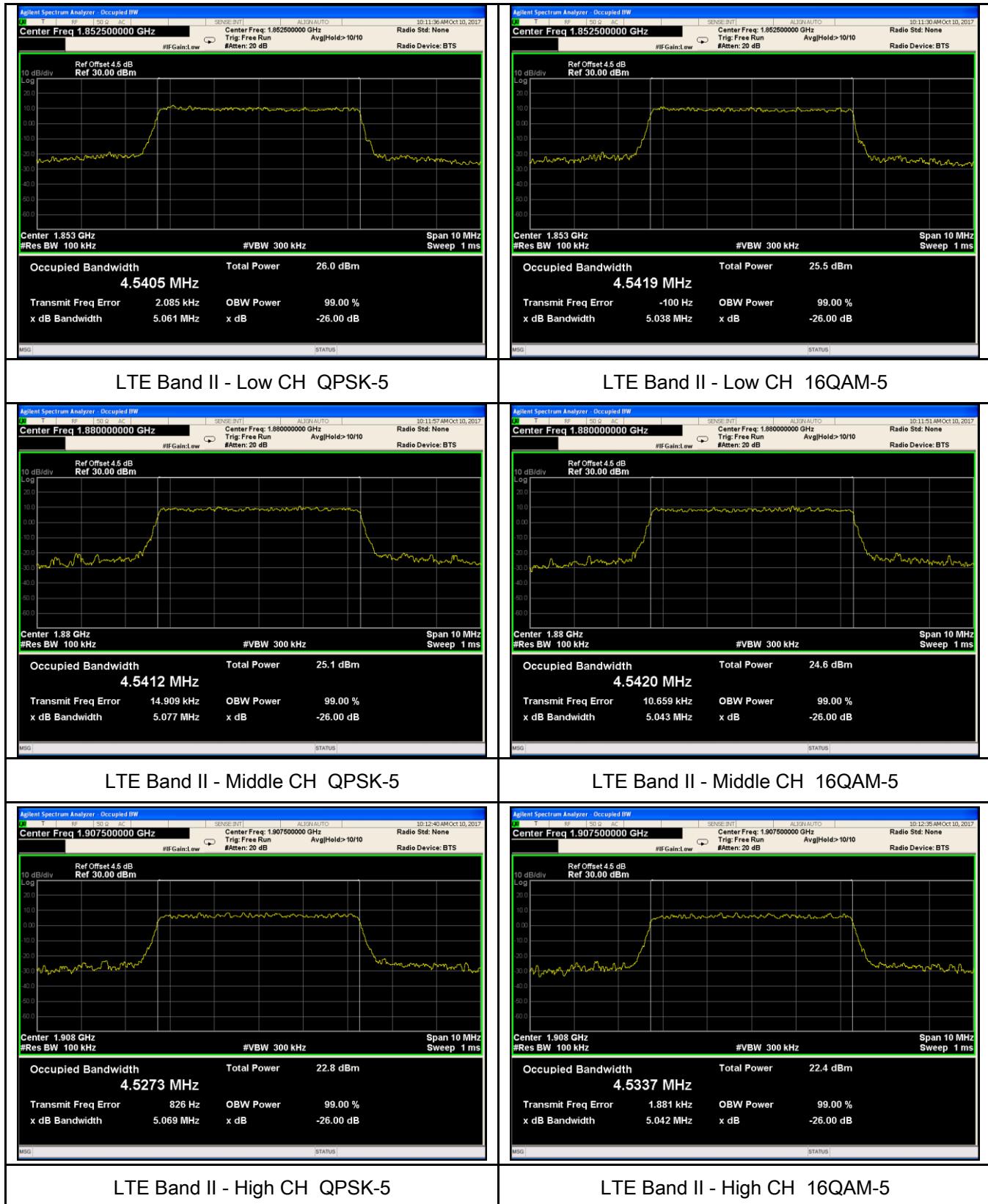
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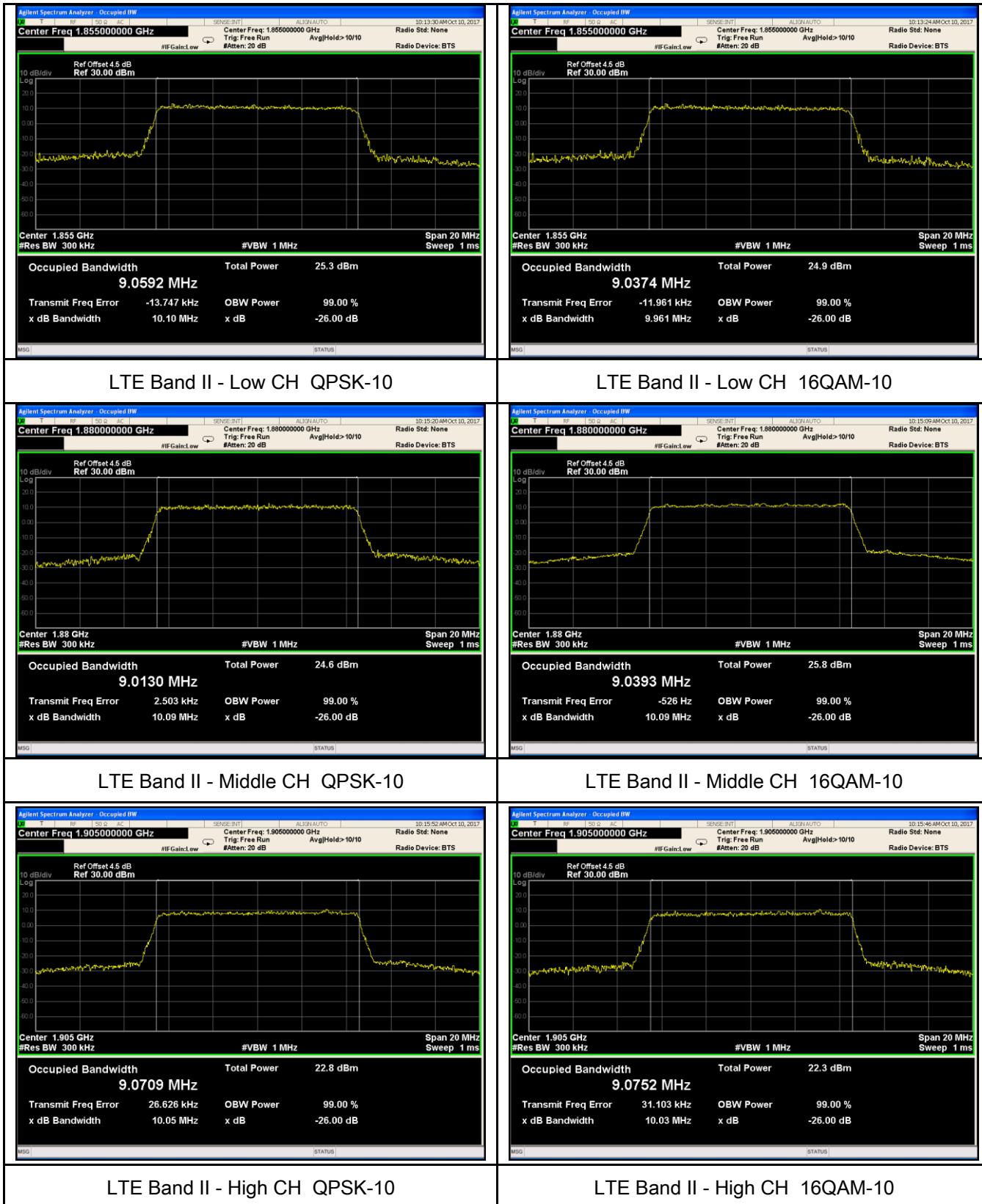
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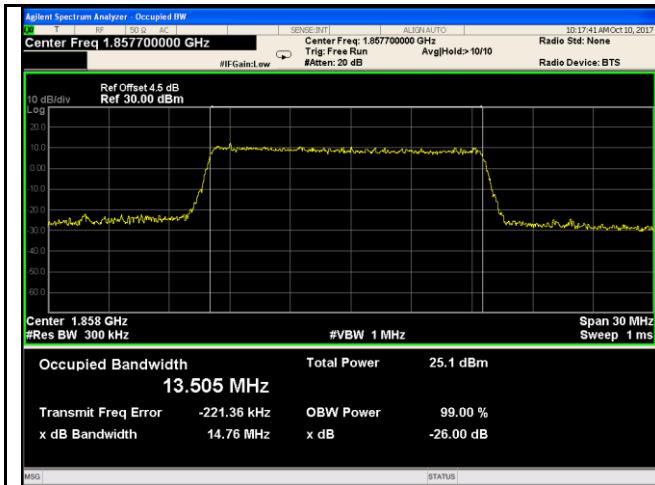


### LTE Band II - High CH QPSK-3

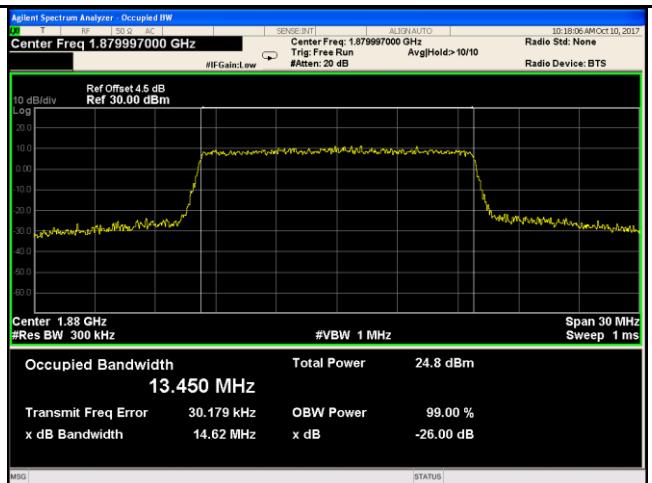
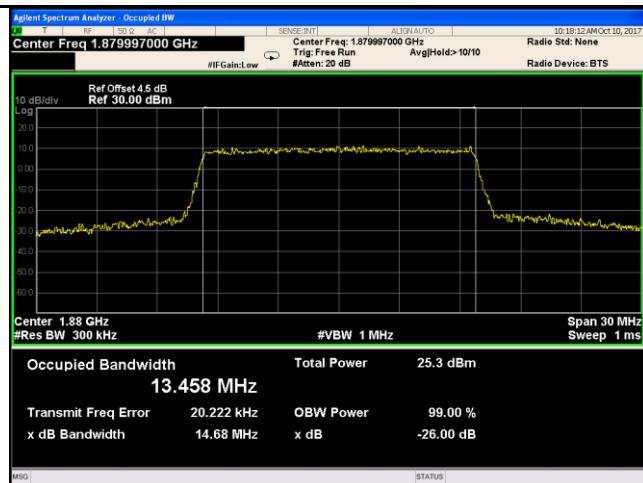
### LTE Band II - High CH 16QAM-3



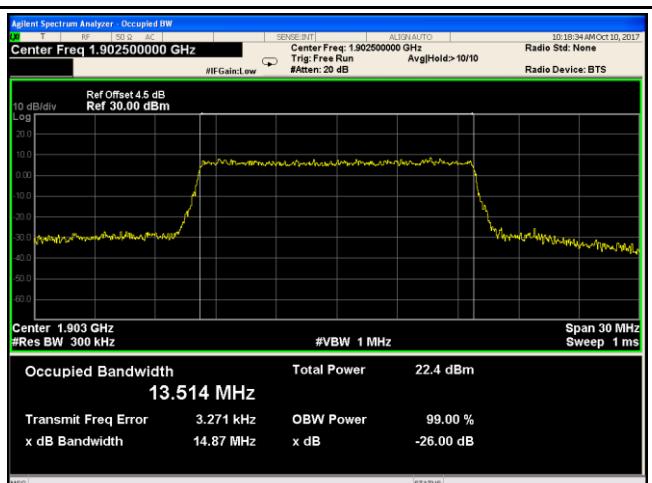
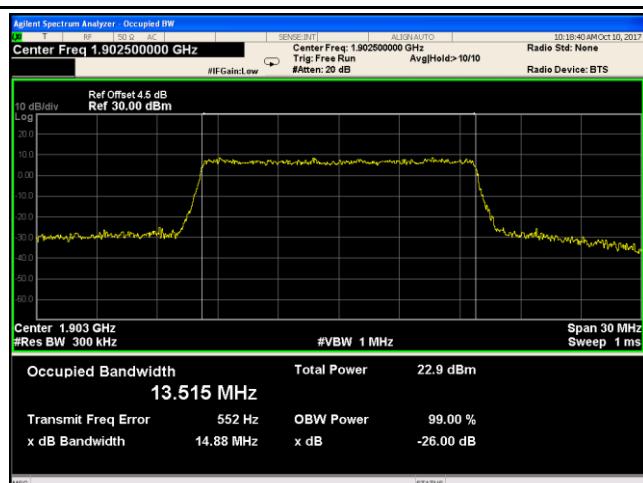




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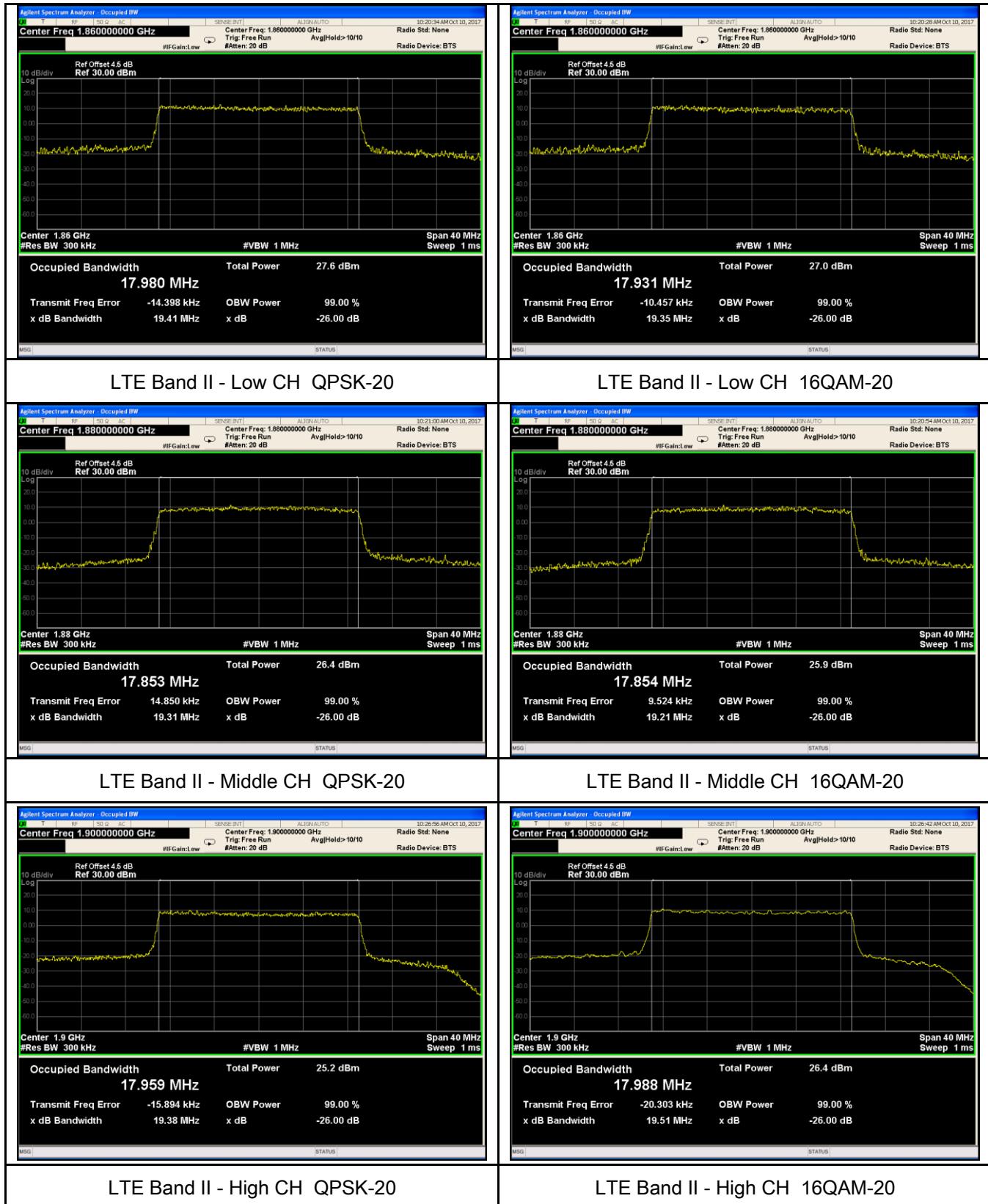


### LTE Band II - Middle CH QPSK-15

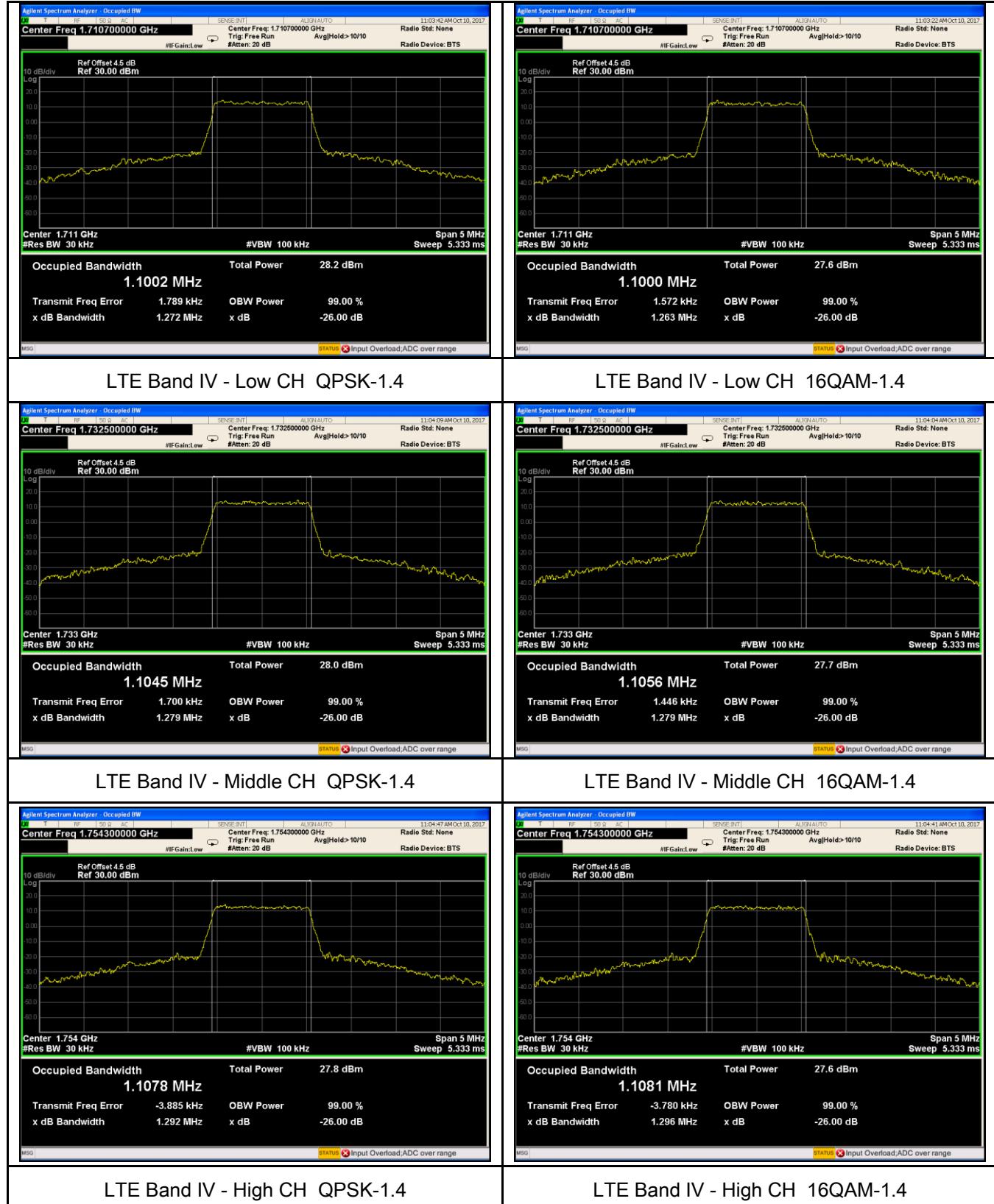


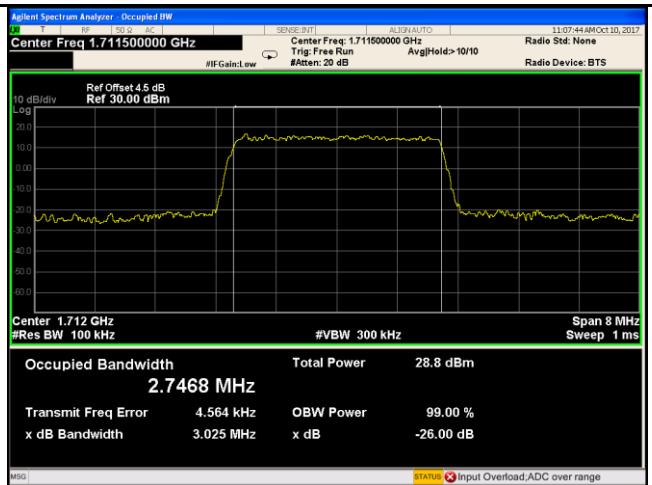
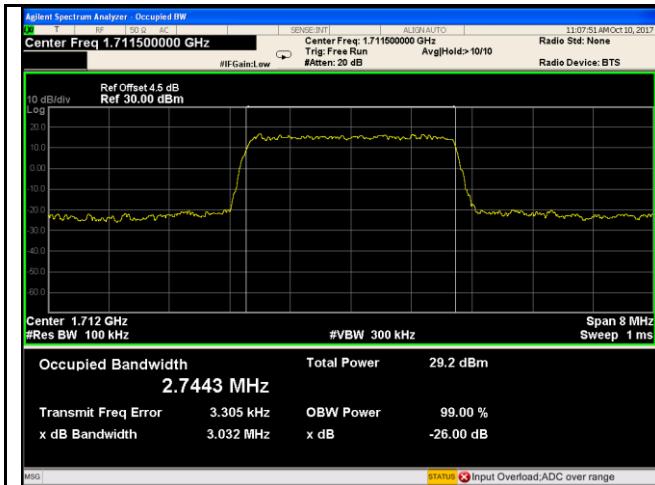
### LTE Band II - High CH QPSK-15

### LTE Band II - High CH 16QAM-15

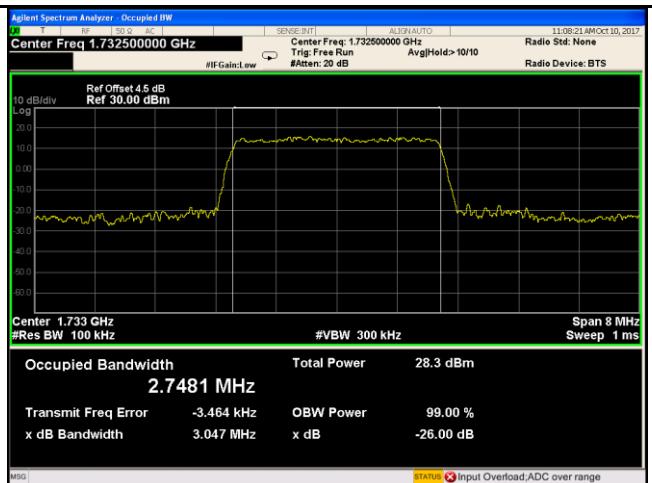
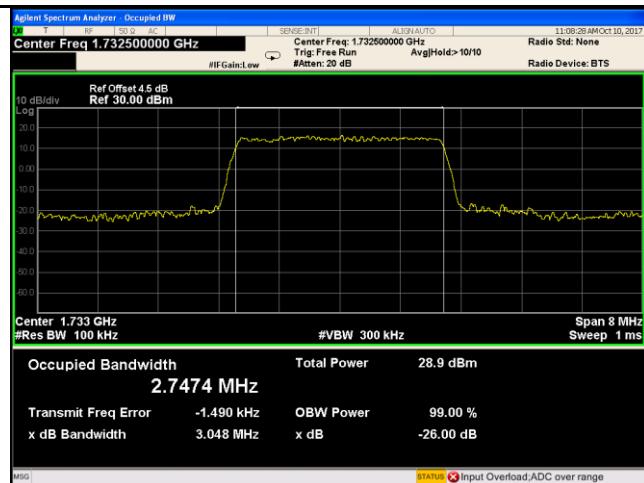


## LTE Band IV (Part 27)

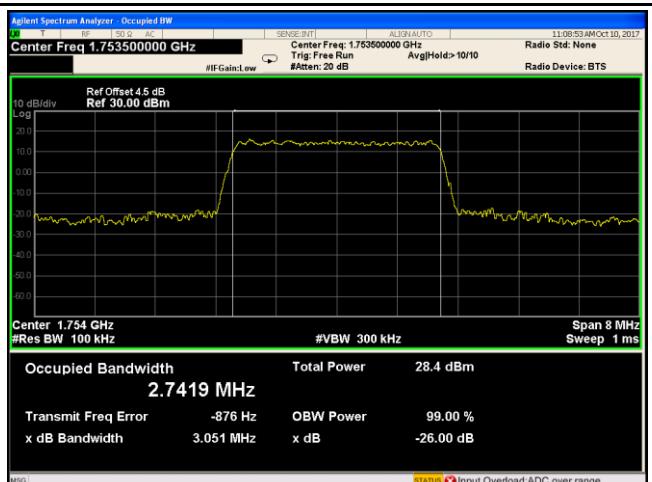
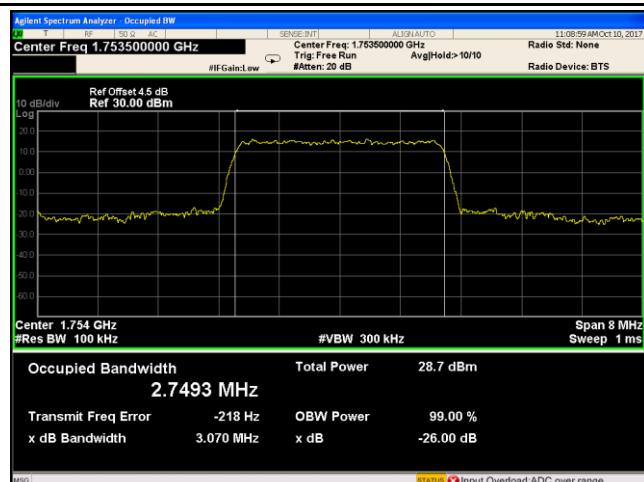




#### LTE Band IV - Low CH QPSK-3

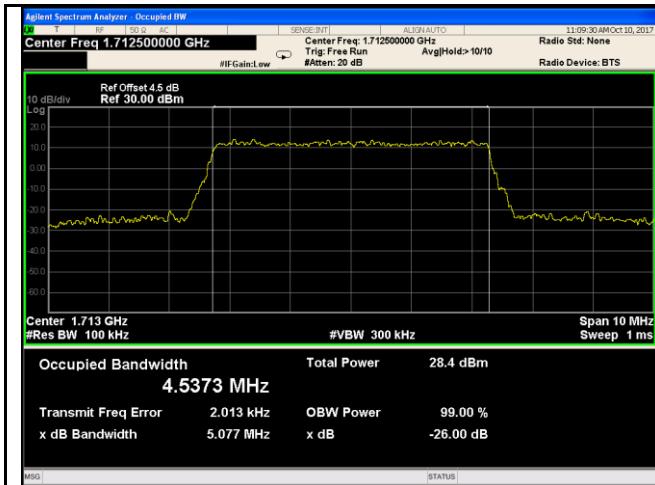


#### LTE Band IV - Middle CH QPSK-3

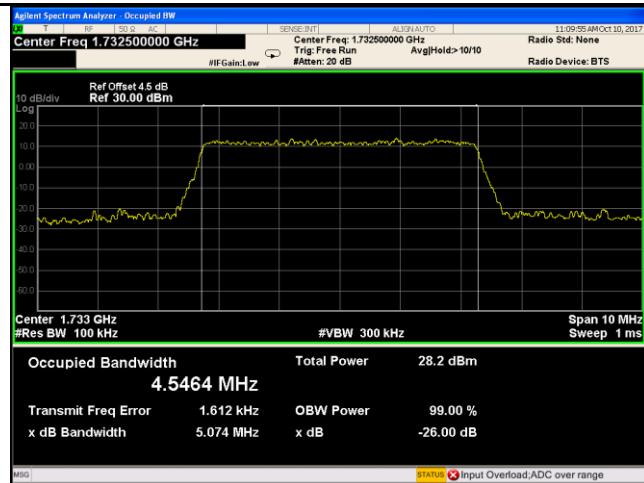


#### LTE Band IV - High CH QPSK-3

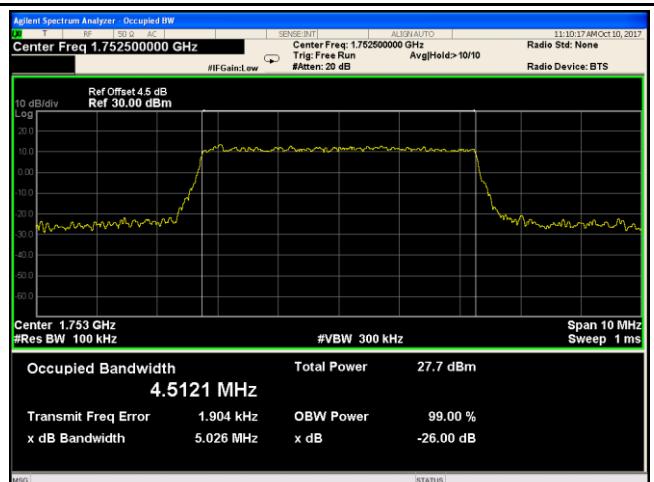
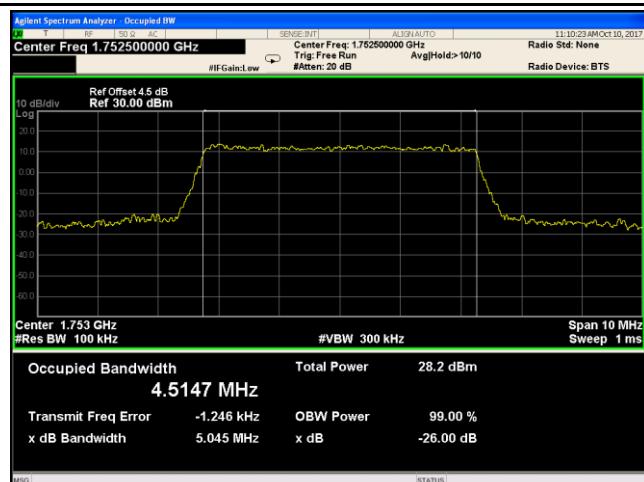
#### LTE Band IV - High CH 16QAM-3



#### LTE Band IV - Low CH QPSK-5



#### LTE Band IV - Middle CH QPSK-5



#### LTE Band IV - High CH QPSK-5

#### LTE Band IV - High CH 16QAM-5