

RF TEST REPORT



Report No.: 17071218-FCC-R5

Supersede Report No.: N/A

Applicant	Telepower Communication Co., Ltd	
Product Name	Smart POS Terminal	
Model No.	TPS900	
Serial No.	N/A	
Test Standard	FCC Part 22(H):2017, FCC Part 24(E):2017, FCC Part 27: 2017; ANSI/TIA-603-D: 2010	
Test Date	November 09, 2017 to January 29, 2018	
Issue Date	January 30, 2018	
Test Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Equipment complied with the specification		<input checked="" type="checkbox"/>
Equipment did not comply with the specification		<input type="checkbox"/>
Aaron Liang	David Huang	
Aaron Liang Test Engineer	David Huang Checked By	
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Test result presented in this test report is applicable to the tested sample only		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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Laboratories Introduction

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Accreditations for Conformity Assessment

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

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
17071218-FCC-R5	NONE	Original	January 30, 2018

2. Customer information

Applicant Name	Telepower Communication Co., Ltd
Applicant Add	5 Bld, Zone A, Hantian Technology Town, No.17 ShenHai RD, Nanhai District Foshan, China
Manufacturer	Telepower Communication Co., Ltd
Manufacturer Add	5 Bld, Zone A, Hantian Technology Town, No.17 ShenHai RD, Nanhai District Foshan, China

3. Test site information

Test Lab A:

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

Test Lab B:

Lab performing tests	SIEMIC (Nanjing-China) Laboratories
Lab Address	2-1 Longcang Avenue Yuhua Economic and Technology Development Park, Nanjing, China
FCC Test Site No.	694825
IC Test Site No.	4842B-1
Test Software	EZ_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: Smart POS Terminal

Main Model: TPS900

Serial Model: N/A

Date EUT received: November 09, 2017

Test Date(s): November 09, 2017 to January 29, 2018

Equipment Category : PCT

Antenna Gain:
 GSM850: -4dBi
 PCS1900: 0dBi
 UMTS-FDD Band V: -4dBi
 UMTS-FDD Band II: 0dBi
 LTE Band II: 0dBi
 LTE Band IV: 1dBi
 LTE Band V: -4dBi
 WIFI: 2.7dBi
 Bluetooth/BLE: 2.7dBi
 GPS: 1.6dBi

Antenna Type: PIFA antenna

Type of Modulation:
 GSM / GPRS: GMSK
 EGPRS: GMSK,8PSK
 UMTS-FDD: QPSK
 LTE Band: QPSK, 16QAM
 802.11b/g/n: DSSS, OFDM
 Bluetooth: GFSK, π /4DQPSK, 8DPSK
 BLE: GFSK
 GPS:BPSK

GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz
PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz
UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz
UMTS-FDD Band II TX: 1852.4 ~ 1907.6 MHz;
RX: 1932.4 ~ 1987.6 MHz

RF Operating Frequency (ies):
LTE Band II TX: 1850.7 ~ 1909.5MHz; RX : 1950.7 ~ 1989.5 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
WIFI: 802.11b/g/n(20M): 2412-2462 MHz
WIFI: 802.11n(40M): 2422-2452 MHz
Bluetooth& BLE: 2402-2480 MHz
GPS: 1575.42 MHz

Maximum Conducted AV Power to Antenna:	LTE Band II: 23.29 dBm LTE Band IV: 23.74 dBm LTE Band V: 23.63 dBm
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ERP/EIRP:	LTE Band II: 20.38 dBm / EIRP LTE Band IV: 21.08 dBm / EIRP LTE Band V: 22.23 dBm / EIRP
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Port: Please refer to user manual

Adapter:
Model: SC/10WA050200US
Input: AC100-240V~50/60Hz,0.5A
Output: DC 5.0V,2A
Battery
Model: 325987P
Spec: 7.4V/2200mAh,16.28Wh
Charging limited voltage: 8.4V

Trade Name : N/A

FCC ID: 2AJ2B-TPS900

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)	N/A
§ 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;

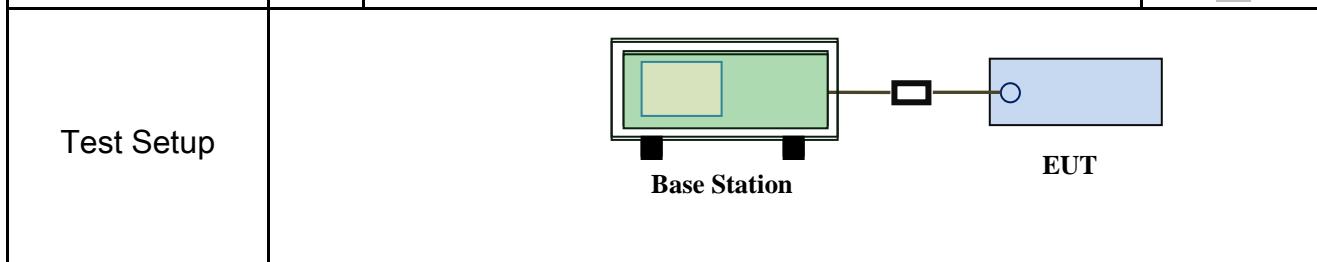
Please refer to RF Exposure Evaluation Report: 17071218-FCC-H.

6.2 RF Output Power

Temperature	25°C
Relative Humidity	57%
Atmospheric Pressure	1023mbar
Test date :	January 27, 2018
Tested By :	Aaron Liang

Requirement(s):

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



Test Procedure	<p>For Conducted Power:</p> <ul style="list-style-type: none"> - The transmitter output port was connected to base station. - Set EUT at maximum power through base station. - Select lowest, middle, and highest channels for each band and different test mode. <p>For ERP/EIRP:</p> <ul style="list-style-type: none"> - The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable. - The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis. - The frequency range up to tenth harmonic of the fundamental frequency was investigated.
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	<ul style="list-style-type: none"> - Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution. - Spurious emissions in dB = $10 \log (\text{TX power in Watts}/0.001)$ – the absolute level - Spurious attenuation limit in dB = $43 + 10 \log_{10} (\text{power out in Watts})$.
Remark	
Result	<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	22.74	22.2±1
				1	49	0	22.80	22.2±1
				1	99	0	22.67	22.2±1
				50	0	1	21.64	22.2±1
				50	24	1	21.66	22.2±1
				50	49	1	21.61	22.2±1
				100	0	1	21.68	22.2±1
		1880.0	16QAM	1	0	1	22.01	21.3±1
				1	49	1	22.04	21.3±1
				1	99	1	21.97	21.3±1
				50	0	2	20.63	21.3±1
				50	24	2	20.54	21.3±1
				50	49	2	20.58	21.3±1
				100	0	2	20.58	21.3±1
20MHz	18900	1880.0	QPSK	1	0	0	22.71	21.7±1
				1	49	0	20.54	21.7±1
				1	99	0	22.63	21.7±1
				50	0	1	21.60	21.7±1
				50	24	1	21.68	21.7±1
				50	49	1	21.68	21.7±1
				100	0	1	21.63	21.7±1
		1900.0	16QAM	1	0	1	22.00	21.3±1
				1	49	1	21.94	21.3±1
				1	99	1	22.02	21.3±1
				50	0	2	20.62	21.3±1
				50	24	2	20.59	21.3±1
				50	49	2	20.54	21.3±1
				100	0	2	20.62	21.3±1
19100	1900.0	1900.0	QPSK	1	0	0	22.62	22.1±1
				1	49	0	22.62	22.1±1
				1	99	0	22.64	22.1±1
				50	0	1	21.58	22.1±1
				50	24	1	21.62	22.1±1
				50	49	1	21.52	22.1±1
				100	0	1	21.64	22.1±1
		1900.0	16QAM	1	0	1	22.10	21.3±1
				1	49	1	22.14	21.3±1
				1	99	1	22.11	21.3±1
				50	0	2	20.67	21.3±1
				50	24	2	20.62	21.3±1
				50	49	2	20.73	21.3±1
				100	0	2	20.68	21.3±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	22.89	22.3±1
				1	37	0	22.93	22.3±1
				1	74	0	22.99	22.3±1
				36	0	1	21.68	22.3±1
				36	16	1	21.78	22.3±1
				36	35	1	21.61	22.3±1
				75	0	1	21.63	22.3±1
		1857.5	16QAM	1	0	1	21.95	21.3±1
				1	37	1	21.91	21.3±1
				1	74	1	22.04	21.3±1
				36	0	2	20.77	21.3±1
				36	16	2	20.76	21.3±1
				36	35	2	20.85	21.3±1
				75	0	2	20.64	21.3±1
15MHz	18900	18900	QPSK	1	0	0	22.79	21.8±1
				1	37	0	20.76	21.8±1
				1	74	0	22.83	21.8±1
				36	0	1	21.67	21.8±1
				36	16	1	21.66	21.8±1
				36	35	1	21.63	21.8±1
				75	0	1	21.60	21.8±1
		1880.0	16QAM	1	0	1	21.92	21.3±1
				1	37	1	21.85	21.3±1
				1	74	1	21.95	21.3±1
				36	0	2	20.74	21.3±1
				36	16	2	20.65	21.3±1
				36	35	2	20.67	21.3±1
				75	0	2	20.71	21.3±1
19125	1902.5	19125	QPSK	1	0	0	22.80	22.2±1
				1	37	0	22.71	22.2±1
				1	74	0	22.79	22.2±1
				36	0	1	21.73	22.2±1
				36	16	1	21.74	22.2±1
				36	35	1	21.73	22.2±1
				75	0	1	21.62	22.2±1
		1902.5	16QAM	1	0	1	21.83	21.4±1
				1	37	1	21.91	21.4±1
				1	74	1	21.83	21.4±1
				36	0	2	20.82	21.4±1
				36	16	2	20.89	21.4±1
				36	35	2	20.92	21.4±1
				75	0	2	20.68	21.4±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	18650	1855	QPSK	1	0	0	23.17	22.6±1
				1	24	0	23.09	22.6±1
				1	49	0	23.16	22.6±1
				25	0	1	22.09	22.6±1
				25	12	1	22.05	22.6±1
				25	24	1	22.19	22.6±1
				50	0	1	22.05	22.6±1
	18900	1880.0	16QAM	1	0	1	22.54	21.8±1
				1	24	1	22.45	21.8±1
				1	49	1	22.6	21.8±1
				25	0	2	21.91	21.8±1
				25	12	2	21.82	21.8±1
				25	24	2	21.84	21.8±1
				50	0	2	21.05	21.8±1
	19150	1905	QPSK	1	0	0	23.17	22.5±1
				1	24	0	21.82	22.5±1
				1	49	0	23.2	22.5±1
				25	0	1	22.09	22.5±1
				25	12	1	22.09	22.5±1
				25	24	1	22.11	22.5±1
				50	0	1	22.05	22.5±1
			16QAM	1	0	1	22.54	21.8±1
				1	24	1	22.47	21.8±1
				1	49	1	22.6	21.8±1
				25	0	2	21.91	21.8±1
				25	12	2	21.93	21.8±1
				25	24	2	21.85	21.8±1
				50	0	2	21.05	21.8±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	18625	1852.5	QPSK	1	0	0	23.06	22.6±1
				1	12	0	23.05	22.6±1
				1	24	0	22.96	22.6±1
				12	0	1	22.10	22.6±1
				12	6	1	22.09	22.6±1
				12	11	1	22.19	22.6±1
				25	0	1	22.03	22.6±1
			16QAM	1	0	1	22.05	21.6±1
				1	12	1	22.08	21.6±1
				1	24	1	22.01	21.6±1
				12	0	2	21.83	21.6±1
				12	6	2	21.79	21.6±1
				12	11	2	21.75	21.6±1
				25	0	2	21.12	21.6±1
	18900	1880.0	QPSK	1	0	0	22.68	22.4±1
				1	12	0	21.79	22.4±1
				1	24	0	22.69	22.4±1
				12	0	1	23.06	22.4±1
				12	6	1	23.01	22.4±1
				12	11	1	23.01	22.4±1
				25	0	1	22.10	22.4±1
			16QAM	1	0	1	22.03	22.0±1
				1	12	1	21.99	22.0±1
				1	24	1	21.98	22.0±1
				12	0	2	22.05	22.0±1
				12	6	2	22.10	22.0±1
				12	11	2	22.06	22.0±1
				25	0	2	21.83	22.0±1
	19175	1907.5	QPSK	1	0	0	21.12	21.4±1
				1	12	0	21.09	21.4±1
				1	24	0	21.03	21.4±1
				12	0	1	21.65	21.4±1
				12	6	1	21.72	21.4±1
				12	11	1	21.58	21.4±1
				25	0	1	21.68	21.4±1
			16QAM	1	0	1	21.75	21.1±1
				1	12	1	21.77	21.1±1
				1	24	1	21.78	21.1±1
				12	0	2	20.51	21.1±1
				12	6	2	20.44	21.1±1
				12	11	2	20.52	21.1±1
				25	0	2	20.65	21.1±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
18625	1852.5	18625	QPSK	1	0	0	22.68	22.2±1
				1	7	0	22.70	22.2±1
				1	14	0	22.67	22.2±1
				8	0	1	21.65	22.2±1
				8	4	1	21.59	22.2±1
				8	7	1	21.70	22.2±1
				15	0	1	21.68	22.2±1
		18900	16QAM	1	0	1	21.75	21.1±1
				1	7	1	21.74	21.1±1
				1	14	1	21.85	21.1±1
				8	0	2	20.51	21.1±1
				8	4	2	20.44	21.1±1
				8	7	2	20.54	21.1±1
				15	0	2	20.65	21.1±1
3MHz	18900	18900	QPSK	1	0	0	22.68	21.6±1
				1	7	0	20.44	21.6±1
				1	14	0	22.7	21.6±1
				8	0	1	21.65	21.6±1
				8	4	1	21.71	21.6±1
				8	7	1	21.69	21.6±1
				15	0	1	21.68	21.6±1
		1907.5	16QAM	1	0	1	21.75	21.1±1
				1	7	1	21.68	21.1±1
				1	14	1	21.69	21.1±1
				8	0	2	20.51	21.1±1
				8	4	2	20.41	21.1±1
				8	7	2	20.44	21.1±1
				15	0	2	20.65	21.1±1
19175	1907.5	19175	QPSK	1	0	0	22.68	22.2±1
				1	7	0	22.66	22.2±1
				1	14	0	22.61	22.2±1
				8	0	1	21.65	22.2±1
				8	4	1	21.58	22.2±1
				8	7	1	21.75	22.2±1
				15	0	1	21.68	22.2±1
		1907.5	16QAM	1	0	1	21.75	21.1±1
				1	7	1	21.73	21.1±1
				1	14	1	21.75	21.1±1
				8	0	2	20.51	21.1±1
				8	4	2	20.42	21.1±1
				8	7	2	20.52	21.1±1
				15	0	2	20.65	21.1±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	23.18	22.8±1
				1	2	0	23.1	22.8±1
				1	5	0	23.2	22.8±1
				3	0	0	23.2	22.8±1
				3	1	0	23.18	22.8±1
				3	2	0	23.29	22.8±1
				6	0	1	22.35	22.8±1
			16QAM	1	0	1	22.18	21.6±1
				1	2	1	22.22	21.6±1
				1	5	1	22.19	21.6±1
				3	0	1	22.06	21.6±1
				3	1	1	22.08	21.6±1
				3	2	1	22	21.6±1
				6	0	2	20.92	21.6±1
	18900	1880.0	QPSK	1	0	0	23.18	22.6±1
				1	2	0	22.08	22.6±1
				1	5	0	23.1	22.6±1
				3	0	0	23.2	22.6±1
				3	1	0	23.15	22.6±1
				3	2	0	23.23	22.6±1
				6	0	1	22.35	22.6±1
			16QAM	1	0	1	22.18	21.6±1
				1	2	1	22.17	21.6±1
				1	5	1	22.09	21.6±1
				3	0	1	22.06	21.6±1
				3	1	1	21.99	21.6±1
				3	2	1	22.14	21.6±1
				6	0	2	20.92	21.6±1
	19193	1909.3	QPSK	1	0	0	23.18	22.8±1
				1	2	0	23.28	22.8±1
				1	5	0	23.21	22.8±1
				3	0	0	23.2	22.8±1
				3	1	0	23.27	22.8±1
				3	2	0	23.26	22.8±1
				6	0	1	22.35	22.8±1
			16QAM	1	0	1	22.18	21.6±1
				1	2	1	22.27	21.6±1
				1	5	1	22.27	21.6±1
				3	0	1	22.06	21.6±1
				3	1	1	21.97	21.6±1
				3	2	1	21.97	21.6±1
				6	0	2	20.92	21.6±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	23.03	22.5±1
				1	49	0	23.10	22.5±1
				1	99	0	22.95	22.5±1
				50	0	1	22.07	22.5±1
				50	24	1	22.09	22.5±1
				50	49	1	22.02	22.5±1
				100	0	1	21.95	22.5±1
			16QAM	1	0	1	22.00	21.5±1
				1	49	1	22.00	21.5±1
				1	99	1	22.01	21.5±1
				50	0	2	21.15	21.5±1
				50	24	2	21.13	21.5±1
				50	49	2	21.21	21.5±1
				100	0	2	20.96	21.5±1
20300	20175	1732.5	QPSK	1	0	0	23.12	22.1±1
				1	49	0	21.13	22.1±1
				1	99	0	23.14	22.1±1
				50	0	1	22.11	22.1±1
				50	24	1	22.18	22.1±1
				50	49	1	22.08	22.1±1
				100	0	1	22.03	22.1±1
			16QAM	1	0	1	22.03	21.5±1
				1	49	1	22.12	21.5±1
				1	99	1	22.06	21.5±1
				50	0	2	21.20	21.5±1
				50	24	2	21.12	21.5±1
				50	49	2	21.27	21.5±1
				100	0	2	21.04	21.5±1
20300	20300	1745.0	QPSK	1	0	0	23.19	22.5±1
				1	49	0	23.10	22.5±1
				1	99	0	23.18	22.5±1
				50	0	1	22.16	22.5±1
				50	24	1	22.12	22.5±1
				50	49	1	22.12	22.5±1
				100	0	1	21.98	22.5±1
			16QAM	1	0	1	22.12	21.6±1
				1	49	1	22.09	21.6±1
				1	99	1	22.16	21.6±1
				50	0	2	21.18	21.6±1
				50	24	2	21.16	21.6±1
				50	49	2	21.10	21.6±1
				100	0	2	21.12	21.6±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	22.68	22.4±1	
			1	37	0	22.70	22.4±1	
			1	74	0	22.70	22.4±1	
			36	0	1	22.67	22.4±1	
			36	16	1	22.61	22.4±1	
			36	35	1	22.63	22.4±1	
			75	0	1	21.98	22.4±1	
		16QAM	1	0	1	21.07	21±1	
			1	37	1	21.16	21±1	
			1	74	1	21.08	21±1	
			36	0	2	20.91	21±1	
			36	16	2	20.96	21±1	
			36	35	2	20.93	21±1	
			75	0	2	21.1	21±1	
15MHz	2017.5	QPSK	1	0	0	22.65	21.8±1	
			1	37	0	20.96	21.8±1	
			1	74	0	22.66	21.8±1	
			36	0	1	22.75	21.8±1	
			36	16	1	22.73	21.8±1	
			36	35	1	22.67	21.8±1	
			75	0	1	22.03	21.8±1	
		16QAM	1	0	1	21.17	21.0±1	
			1	37	1	21.14	21.0±1	
			1	74	1	21.11	21.0±1	
			36	0	2	20.82	21.0±1	
			36	16	2	20.91	21.0±1	
			36	35	2	20.72	21.0±1	
			75	0	2	21.04	21.0±1	
20325	1747.5	QPSK	1	0	0	22.65	22.3±1	
			1	37	0	22.75	22.3±1	
			1	74	0	22.57	22.3±1	
			36	0	1	22.79	22.3±1	
			36	16	1	22.77	22.3±1	
			36	35	1	22.86	22.3±1	
			75	0	1	22.12	22.3±1	
		16QAM	1	0	1	21.07	21.0±1	
			1	37	1	21.07	21.0±1	
			1	74	1	21.03	21.0±1	
			36	0	2	20.88	21.0±1	
			36	16	2	20.81	21.0±1	
			36	35	2	20.93	21.0±1	
			75	0	2	20.98	21.0±1	

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20000	1715.0	QPSK	1	0	0	23.08	22.5±1	
			1	24	0	23.06	22.5±1	
			1	49	0	23.12	22.5±1	
			25	0	1	21.99	22.5±1	
			25	12	1	22.05	22.5±1	
			25	24	1	22.04	22.5±1	
			50	0	1	22.01	22.5±1	
		16QAM	1	0	1	22.41	21.7±1	
			1	24	1	22.44	21.7±1	
			1	49	1	22.41	21.7±1	
			25	0	2	21.02	21.7±1	
			25	12	2	20.96	21.7±1	
			25	24	2	21.06	21.7±1	
			50	0	2	20.99	21.7±1	
10MHz	20175	QPSK	1	0	0	23.12	22±1	
			1	24	0	20.96	22±1	
			1	49	0	23.03	22±1	
			25	0	1	22.02	22±1	
			25	12	1	22.12	22±1	
			25	24	1	21.99	22±1	
			50	0	1	21.97	22±1	
		16QAM	1	0	1	22.51	21.7±1	
			1	24	1	22.55	21.7±1	
			1	49	1	22.47	21.7±1	
			25	0	2	20.93	21.7±1	
			25	12	2	20.93	21.7±1	
			25	24	2	21.03	21.7±1	
			50	0	2	20.98	21.7±1	
20350	1750.0	QPSK	1	0	0	23.09	22.4±1	
			1	24	0	23.1	22.4±1	
			1	49	0	23.08	22.4±1	
			25	0	1	22.02	22.4±1	
			25	12	1	22.05	22.4±1	
			25	24	1	22.09	22.4±1	
			50	0	1	22.01	22.4±1	
		16QAM	1	0	1	22.51	21.8±1	
			1	24	1	22.43	21.8±1	
			1	49	1	22.56	21.8±1	
			25	0	2	21.02	21.8±1	
			25	12	2	20.93	21.8±1	
			25	24	2	20.98	21.8±1	
			50	0	2	21.01	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	QPSK	1	0	0	21.5	21±1	
			1	12	0	21.59	21±1	
			1	24	0	21.49	21±1	
			12	0	1	20.55	21±1	
			12	6	1	20.59	21±1	
			12	11	1	20.49	21±1	
			25	0	1	20.60	21±1	
		16QAM	1	0	1	20.50	20.4±1	
			1	12	1	20.52	20.4±1	
			1	24	1	20.47	20.4±1	
			12	0	2	20.31	20.4±1	
			12	6	2	20.36	20.4±1	
			12	11	2	20.34	20.4±1	
			25	0	2	20.32	20.4±1	
5MHz	20175	QPSK	1	0	0	21.38	20.9±1	
			1	12	0	20.26	20.9±1	
			1	24	0	21.48	20.9±1	
			12	0	1	20.53	20.9±1	
			12	6	1	20.63	20.9±1	
			12	11	1	20.45	20.9±1	
			25	0	1	20.54	20.9±1	
		16QAM	1	0	1	20.84	20.6±1	
			1	12	1	20.94	20.6±1	
			1	24	1	20.78	20.6±1	
			12	0	2	20.3	20.6±1	
			12	6	2	20.28	20.6±1	
			12	11	2	20.38	20.6±1	
			25	0	2	20.3	20.6±1	
20350	1750.0	QPSK	1	0	0	21.35	21±1	
			1	12	0	21.34	21±1	
			1	24	0	21.34	21±1	
			12	0	1	20.61	21±1	
			12	6	1	20.61	21±1	
			12	11	1	20.68	21±1	
			25	0	1	20.58	21±1	
		16QAM	1	0	1	20.48	20.4±1	
			1	12	1	20.42	20.4±1	
			1	24	1	20.46	20.4±1	
			12	0	2	20.30	20.4±1	
			12	6	2	20.37	20.4±1	
			12	11	2	20.33	20.4±1	
			25	0	2	20.31	20.4±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	22.82	22.3±1
				1	7	0	22.91	22.3±1
				1	14	0	22.85	22.3±1
				8	0	1	21.85	22.3±1
				8	4	1	21.95	22.3±1
				8	7	1	21.78	22.3±1
				15	0	1	21.85	22.3±1
		1732.5	16QAM	1	0	1	22.06	21.6±1
				1	7	1	21.99	21.6±1
				1	14	1	21.96	21.6±1
				8	0	2	22.21	21.6±1
				8	4	2	22.19	21.6±1
				8	7	2	22.18	21.6±1
				15	0	2	21.04	21.6±1
3MHz	20175	1732.5	QPSK	1	0	0	22.75	22.3±1
				1	7	0	22.19	22.3±1
				1	14	0	22.77	22.3±1
				8	0	1	21.75	22.3±1
				8	4	1	21.68	22.3±1
				8	7	1	21.8	22.3±1
				15	0	1	21.76	22.3±1
		1753.5	16QAM	1	0	1	21.99	21.6±1
				1	7	1	21.89	21.6±1
				1	14	1	22.05	21.6±1
				8	0	2	22.22	21.6±1
				8	4	2	22.26	21.6±1
				8	7	2	22.25	21.6±1
				15	0	2	20.94	21.6±1
20385	1753.5	1753.5	QPSK	1	0	0	22.8	22.3±1
				1	7	0	22.79	22.3±1
				1	14	0	22.86	22.3±1
				8	0	1	21.83	22.3±1
				8	4	1	21.88	22.3±1
				8	7	1	21.74	22.3±1
				15	0	1	21.73	22.3±1
		1753.5	16QAM	1	0	1	22.09	21.6±1
				1	7	1	22.02	21.6±1
				1	14	1	22.18	21.6±1
				8	0	2	22.32	21.6±1
				8	4	2	22.37	21.6±1
				8	7	2	22.39	21.6±1
				15	0	2	20.95	21.6±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
19957	1710.7		QPSK	1	0	0	23.48	23.1±1
				1	2	0	23.39	23.1±1
				1	5	0	23.43	23.1±1
				3	0	0	23.54	23.1±1
				3	1	0	23.53	23.1±1
				3	2	0	23.47	23.1±1
				6	0	1	22.59	23.1±1
		16QAM	16QAM	1	0	1	22.38	22.1±1
				1	2	1	22.29	22.1±1
				1	5	1	22.45	22.1±1
				3	0	1	22.79	22.1±1
				3	1	1	22.76	22.1±1
				3	2	1	22.78	22.1±1
				6	0	2	21.37	22.1±1
1.4MHz	20175		QPSK	1	0	0	23.48	23.1±1
				1	2	0	22.76	23.1±1
				1	5	0	23.58	23.1±1
				3	0	0	23.64	23.1±1
				3	1	0	23.74	23.1±1
				3	2	0	23.66	23.1±1
				6	0	1	22.66	23.1±1
		16QAM	16QAM	1	0	1	22.4	22.1±1
				1	2	1	22.49	22.1±1
				1	5	1	22.43	22.1±1
				3	0	1	22.81	22.1±1
				3	1	1	22.88	22.1±1
				3	2	1	22.8	22.1±1
				6	0	2	21.42	22.1±1
20393	1754.3		QPSK	1	0	0	23.44	23.1±1
				1	2	0	23.36	23.1±1
				1	5	0	23.47	23.1±1
				3	0	0	23.59	23.1±1
				3	1	0	23.57	23.1±1
				3	2	0	23.62	23.1±1
				6	0	1	22.71	23.1±1
		16QAM	16QAM	1	0	1	22.39	22.1±1
				1	2	1	22.43	22.1±1
				1	5	1	22.4	22.1±1
				3	0	1	22.74	22.1±1
				3	1	1	22.8	22.1±1
				3	2	1	22.68	22.1±1
				6	0	2	21.37	22.1±1

LTE Band V:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20450	829	20450	QPSK	1	0	0	24.51	24.2±1
				1	24	0	24.5	24.2±1
				1	49	0	24.61	24.2±1
				25	0	1	23.78	24.2±1
				25	12	1	23.77	24.2±1
				25	24	1	23.86	24.2±1
				50	0	1	23.71	24.2±1
		20525	16QAM	1	0	1	23.81	23.3±1
				1	24	1	23.89	23.3±1
				1	49	1	23.89	23.3±1
				25	0	2	22.79	23.3±1
				25	12	2	22.75	23.3±1
				25	24	2	22.72	23.3±1
				50	0	2	22.72	23.3±1
10MHz	836.5	20525	QPSK	1	0	0	24.41	23.6±1
				1	24	0	22.75	23.6±1
				1	49	0	24.34	23.6±1
				25	0	1	23.7	23.6±1
				25	12	1	23.79	23.6±1
				25	24	1	23.66	23.6±1
				50	0	1	23.68	23.6±1
		20600	16QAM	1	0	1	23.86	23.3±1
				1	24	1	23.78	23.3±1
				1	49	1	23.79	23.3±1
				25	0	2	22.73	23.3±1
				25	12	2	22.79	23.3±1
				25	24	2	22.7	23.3±1
				50	0	2	22.71	23.3±1
20600	844	20600	QPSK	1	0	0	24.31	24.1±1
				1	24	0	24.36	24.1±1
				1	49	0	24.41	24.1±1
				25	0	1	23.74	24.1±1
				25	12	1	23.72	24.1±1
				25	24	1	23.77	24.1±1
				50	0	1	23.72	24.1±1
		844	16QAM	1	0	1	23.9	23.3±1
				1	24	1	23.96	23.3±1
				1	49	1	23.81	23.3±1
				25	0	2	22.72	23.3±1
				25	12	2	22.65	23.3±1
				25	24	2	22.8	23.3±1
				50	0	2	22.79	23.3±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20425	826.5	20425	QPSK	1	0	0	24.31	24.1±1
				1	12	0	24.22	24.1±1
				1	24	0	24.34	24.1±1
				12	0	1	23.80	24.1±1
				12	6	1	23.83	24.1±1
				12	11	1	23.77	24.1±1
				25	0	1	23.81	24.1±1
		20525	16QAM	1	0	1	23.64	23.1±1
				1	12	1	23.65	23.1±1
				1	24	1	23.67	23.1±1
				12	0	2	22.58	23.1±1
				12	6	2	22.58	23.1±1
				12	11	2	22.64	23.1±1
				25	0	2	22.81	23.1±1
5MHz	20525	20525	QPSK	1	0	0	24.24	23.4±1
				1	12	0	22.58	23.4±1
				1	24	0	24.19	23.4±1
				12	0	1	23.78	23.4±1
				12	6	1	23.86	23.4±1
				12	11	1	23.87	23.4±1
				25	0	1	23.78	23.4±1
		20625	16QAM	1	0	1	23.72	23.2±1
				1	12	1	23.69	23.2±1
				1	24	1	23.67	23.2±1
				12	0	2	22.6	23.2±1
				12	6	2	22.61	23.2±1
				12	11	2	22.66	23.2±1
				25	0	2	22.79	23.2±1
20625	20625	20625	QPSK	1	0	0	24.22	24±1
				1	12	0	24.26	24±1
				1	24	0	24.16	24±1
				12	0	1	23.85	24±1
				12	6	1	23.84	24±1
				12	11	1	23.79	24±1
				25	0	1	23.69	24±1
		20625	16QAM	1	0	1	23.68	23.2±1
				1	12	1	23.77	23.2±1
				1	24	1	23.72	23.2±1
				12	0	2	22.66	23.2±1
				12	6	2	22.76	23.2±1
				12	11	2	22.58	23.2±1
				25	0	2	22.75	23.2±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20415	825.5	20415	QPSK	1	0	0	24.31	24±1
				1	7	0	24.29	24±1
				1	14	0	24.23	24±1
				8	0	1	23.8	24±1
				8	4	1	23.81	24±1
				8	7	1	23.76	24±1
				15	0	1	23.81	24±1
		20525	16QAM	1	0	1	23.64	23.1±1
				1	7	1	23.69	23.1±1
				1	14	1	23.74	23.1±1
				8	0	2	22.58	23.1±1
				8	4	2	22.5	23.1±1
				8	7	2	22.53	23.1±1
				15	0	2	22.81	23.1±1
3MHz	20525	20525	QPSK	1	0	0	24.21	23.4±1
				1	7	0	22.5	23.4±1
				1	14	0	24.2	23.4±1
				8	0	1	23.7	23.4±1
				8	4	1	23.72	23.4±1
				8	7	1	23.74	23.4±1
				15	0	1	23.85	23.4±1
		20635	16QAM	1	0	1	23.55	23.2±1
				1	7	1	23.5	23.2±1
				1	14	1	23.65	23.2±1
				8	0	2	22.68	23.2±1
				8	4	2	22.68	23.2±1
				8	7	2	22.74	23.2±1
				15	0	2	22.87	23.2±1
20635	20635	20635	QPSK	1	0	0	24.13	23.9±1
				1	7	0	24.05	23.9±1
				1	14	0	24.07	23.9±1
				8	0	1	23.74	23.9±1
				8	4	1	23.73	23.9±1
				8	7	1	23.78	23.9±1
				15	0	1	23.87	23.9±1
		20635	16QAM	1	0	1	23.65	23.2±1
				1	7	1	23.64	23.2±1
				1	14	1	23.58	23.2±1
				8	0	2	22.71	23.2±1
				8	4	2	22.75	23.2±1
				8	7	2	22.66	23.2±1
				15	0	2	22.91	23.2±1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20407	824.7	20407	QPSK	1	0	0	24.33	24.2±1
				1	2	0	24.4	24.2±1
				1	5	0	24.3	24.2±1
				3	0	0	24.31	24.2±1
				3	1	0	24.3	24.2±1
				3	2	0	24.41	24.2±1
				6	0	1	23.9	24.2±1
		20525	16QAM	1	0	1	23.4	23.1±1
				1	2	1	23.47	23.1±1
				1	5	1	23.35	23.1±1
				3	0	1	23.41	23.1±1
				3	1	1	23.31	23.1±1
				3	2	1	23.34	23.1±1
				6	0	2	22.73	23.1±1
1.4MHz	20525	20525	QPSK	1	0	0	24.3	23.8±1
				1	2	0	23.31	23.8±1
				1	5	0	24.31	23.8±1
				3	0	0	24.24	23.8±1
				3	1	0	24.19	23.8±1
				3	2	0	24.29	23.8±1
				6	0	1	23.84	23.8±1
		20643	16QAM	1	0	1	23.42	23.1±1
				1	2	1	23.49	23.1±1
				1	5	1	23.4	23.1±1
				3	0	1	23.33	23.1±1
				3	1	1	23.36	23.1±1
				3	2	1	23.25	23.1±1
				6	0	2	22.64	23.1±1
20643	20643	20643	QPSK	1	0	0	24.39	24.1±1
				1	2	0	24.38	24.1±1
				1	5	0	24.38	24.1±1
				3	0	0	24.3	24.1±1
				3	1	0	24.4	24.1±1
				3	2	0	24.28	24.1±1
				6	0	1	23.84	24.1±1
		20643	16QAM	1	0	1	23.49	23.1±1
				1	2	1	23.54	23.1±1
				1	5	1	23.52	23.1±1
				3	0	1	23.43	23.1±1
				3	1	1	23.34	23.1±1
				3	2	1	23.43	23.1±1
				6	0	2	22.73	23.1±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	13.35	V	7.88	0.85	20.38	33.01
1880	1.4	QPSK	1/0	13.35	V	7.88	0.85	20.38	33.01
1909.3	1.4	QPSK	1/0	13.35	V	7.88	0.85	20.38	33.01
1850.7	1.4	QPSK	1/0	11.39	H	7.88	0.85	18.42	33.01
1880	1.4	QPSK	1/0	10.99	H	7.88	0.85	18.02	33.01
1909.3	1.4	QPSK	1/0	12.09	H	7.88	0.85	19.12	33.01
1850.7	1.4	16-QAM	1/0	12.35	V	7.88	0.85	19.38	33.01
1880	1.4	16-QAM	1/0	12.35	V	7.88	0.85	19.38	33.01
1909.3	1.4	16-QAM	1/0	12.35	V	7.88	0.85	19.38	33.01
1850.7	1.4	16-QAM	1/0	10.61	H	7.88	0.85	17.64	33.01
1880	1.4	16-QAM	1/0	10.76	H	7.88	0.85	17.79	33.01
1909.3	1.4	16-QAM	1/0	10.79	H	7.88	0.85	17.82	33.01
1851.5	3	QPSK	1/0	12.85	V	7.88	0.85	19.88	33.01
1880	3	QPSK	1/0	12.85	V	7.88	0.85	19.88	33.01
1908.5	3	QPSK	1/0	12.85	V	7.88	0.85	19.88	33.01
1851.5	3	QPSK	1/0	10.96	H	7.88	0.85	17.99	33.01
1880	3	QPSK	1/0	10.74	H	7.88	0.85	17.77	33.01
1908.5	3	QPSK	1/0	11.58	H	7.88	0.85	18.61	33.01
1851.5	3	16-QAM	1/0	11.92	V	7.88	0.85	18.95	33.01
1880	3	16-QAM	1/0	11.92	V	7.88	0.85	18.95	33.01
1908.5	3	16-QAM	1/0	11.92	V	7.88	0.85	18.95	33.01
1851.5	3	16-QAM	1/0	9.64	H	7.88	0.85	16.67	33.01
1880	3	16-QAM	1/0	10.34	H	7.88	0.85	17.37	33.01
1908.5	3	16-QAM	1/0	10.19	H	7.88	0.85	17.22	33.01
1852.5	5	QPSK	1/24	13.13	V	7.88	0.85	20.16	33.01
1880	5	QPSK	1/0	12.85	V	7.88	0.85	19.88	33.01
1907.5	5	QPSK	1/24	11.2	V	7.88	0.85	18.23	33.01
1852.5	5	QPSK	1/24	11.01	H	7.88	0.85	18.04	33.01
1880	5	QPSK	1/0	10.53	H	7.88	0.85	17.56	33.01
1907.5	5	QPSK	1/24	8.84	H	7.88	0.85	15.87	33.01
1852.5	5	16-QAM	1/24	12.18	V	7.88	0.85	19.21	33.01
1880	5	16-QAM	1/0	12.2	V	7.88	0.85	19.23	33.01

1907.5	5	16-QAM	1/24	11.95	V	7.88	0.85	18.98	33.01
1852.5	5	16-QAM	1/24	9.86	H	7.88	0.85	16.89	33.01
1880	5	16-QAM	1/0	10.82	H	7.88	0.85	17.85	33.01
1907.5	5	16-QAM	1/24	10.34	H	7.88	0.85	17.37	33.01
1855	10	QPSK	1/0	13.34	V	7.88	0.85	20.37	33.01
1880	10	QPSK	1/0	13.34	V	7.88	0.85	20.37	33.01
1905	10	QPSK	1/49	13.27	V	7.88	0.85	20.3	33.01
1855	10	QPSK	1/0	12.01	H	7.88	0.85	19.04	33.01
1880	10	QPSK	1/0	10.92	H	7.88	0.85	17.95	33.01
1905	10	QPSK	1/49	12.18	H	7.88	0.85	19.21	33.01
1855	10	16-QAM	1/0	12.71	V	7.88	0.85	19.74	33.01
1880	10	16-QAM	1/0	12.71	V	7.88	0.85	19.74	33.01
1905	10	16-QAM	1/49	12.81	V	7.88	0.85	19.84	33.01
1855	10	16-QAM	1/0	10.72	H	7.88	0.85	17.75	33.01
1880	10	16-QAM	1/0	10.5	H	7.88	0.85	17.53	33.01
1905	10	16-QAM	1/49	11.25	H	7.88	0.85	18.28	33.01
1857.5	15	QPSK	1/0	13.06	V	7.88	0.85	20.09	33.01
1880	15	QPSK	1/0	12.96	V	7.88	0.85	19.99	33.01
1902.5	15	QPSK	1/0	12.97	V	7.88	0.85	20	33.01
1857.5	15	QPSK	1/0	10.59	H	7.88	0.85	17.62	33.01
1880	15	QPSK	1/0	11.59	H	7.88	0.85	18.62	33.01
1902.5	15	QPSK	1/0	10.68	H	7.88	0.85	17.71	33.01
1857.5	15	16-QAM	1/0	12.12	V	7.88	0.85	19.15	33.01
1880	15	16-QAM	1/0	12.09	V	7.88	0.85	19.12	33.01
1902.5	15	16-QAM	1/0	12	V	7.88	0.85	19.03	33.01
1857.5	15	16-QAM	1/0	9.9	H	7.88	0.85	16.93	33.01
1880	15	16-QAM	1/0	11.03	H	7.88	0.85	18.06	33.01
1902.5	15	16-QAM	1/0	10.17	H	7.88	0.85	17.2	33.01
1860	20	QPSK	1/0	12.91	V	7.88	0.85	19.94	33.01
1880	20	QPSK	1/0	12.88	V	7.88	0.85	19.91	33.01
1900	20	QPSK	1/0	12.79	V	7.88	0.85	19.82	33.01
1860	20	QPSK	1/0	11.21	H	7.88	0.85	18.24	33.01
1880	20	QPSK	1/0	10.63	H	7.88	0.85	17.66	33.01
1900	20	QPSK	1/0	11.65	H	7.88	0.85	18.68	33.01
1860	20	16-QAM	1/0	12.18	V	7.88	0.85	19.21	33.01
1880	20	16-QAM	1/0	12.17	V	7.88	0.85	19.2	33.01
1900	20	16-QAM	1/0	12.27	V	7.88	0.85	19.3	33.01
1860	20	16-QAM	1/0	10.54	H	7.88	0.85	17.57	33.01

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1880	20	16-QAM	1/0	10.73	H	7.88	0.85	17.76	33.01
1900	20	16-QAM	1/0	10.52	H	7.88	0.85	17.55	33.01

EIRP for LTE Band IV (Part 27)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
1710.7	1.4	QPSK	1/0	13.92	V	7.95	0.79	21.08	30
1732.5	1.4	QPSK	1/0	13.92	V	7.95	0.79	21.08	30
1754.3	1.4	QPSK	1/0	13.88	V	7.95	0.79	21.04	30
1710.7	1.4	QPSK	1/0	11.56	H	7.95	0.79	18.72	30
1732.5	1.4	QPSK	1/0	12.59	H	7.95	0.79	19.75	30
1754.3	1.4	QPSK	1/0	12.07	H	7.95	0.79	19.23	30
1710.7	1.4	16-QAM	1/5	12.89	V	7.95	0.79	20.05	30
1732.5	1.4	16-QAM	1/0	12.84	V	7.95	0.79	20	30
1754.3	1.4	16-QAM	1/0	12.83	V	7.95	0.79	19.99	30
1710.7	1.4	16-QAM	1/5	11.5	H	7.95	0.79	18.66	30
1732.5	1.4	16-QAM	1/0	11.33	H	7.95	0.79	18.49	30
1754.3	1.4	16-QAM	1/0	11.74	H	7.95	0.79	18.9	30
1711.5	3	QPSK	1/0	13.26	V	7.95	0.79	20.42	30
1732.5	3	QPSK	1/0	13.19	V	7.95	0.79	20.35	30
1753.5	3	QPSK	1/0	13.24	V	7.95	0.79	20.4	30
1711.5	3	QPSK	1/0	11.05	H	7.95	0.79	18.21	30
1732.5	3	QPSK	1/0	11.97	H	7.95	0.79	19.13	30
1753.5	3	QPSK	1/0	10.92	H	7.95	0.79	18.08	30
1711.5	3	16-QAM	1/0	12.5	V	7.95	0.79	19.66	30
1732.5	3	16-QAM	1/0	12.43	V	7.95	0.79	19.59	30
1753.5	3	16-QAM	1/0	12.53	V	7.95	0.79	19.69	30
1711.5	3	16-QAM	1/0	10.23	H	7.95	0.79	17.39	30
1732.5	3	16-QAM	1/0	9.98	H	7.95	0.79	17.14	30
1753.5	3	16-QAM	1/0	11.24	H	7.95	0.79	18.4	30
1712.5	5	QPSK	1/0	11.94	V	7.95	0.79	19.1	30
1732.5	5	QPSK	1/0	11.82	V	7.95	0.79	18.98	30
1752.5	5	QPSK	1/24	11.78	V	7.95	0.79	18.94	30
1712.5	5	QPSK	1/0	9.45	H	7.95	0.79	16.61	30
1732.5	5	QPSK	1/0	10.15	H	7.95	0.79	17.31	30
1752.5	5	QPSK	1/24	9.73	H	7.95	0.79	16.89	30
1712.5	5	16-QAM	1/0	10.94	V	7.95	0.79	18.1	30
1732.5	5	16-QAM	1/0	11.28	V	7.95	0.79	18.44	30
1752.5	5	16-QAM	1/24	10.9	V	7.95	0.79	18.06	30
1712.5	5	16-QAM	1/0	9.44	H	7.95	0.79	16.6	30
1732.5	5	16-QAM	1/0	9.59	H	7.95	0.79	16.75	30

1752.5	5	16-QAM	1/24	8.68	H	7.95	0.79	15.84	30
1715	10	QPSK	1/0	13.52	V	7.95	0.79	20.68	30
1732.5	10	QPSK	1/49	13.47	V	7.95	0.79	20.63	30
1750	10	QPSK	1/0	13.53	V	7.95	0.79	20.69	30
1715	10	QPSK	1/0	11.71	H	7.95	0.79	18.87	30
1732.5	10	QPSK	1/49	12.4	H	7.95	0.79	19.56	30
1750	10	QPSK	1/0	11.66	H	7.95	0.79	18.82	30
1715	10	16-QAM	1/0	12.85	V	7.95	0.79	20.01	30
1732.5	10	16-QAM	1/49	12.91	V	7.95	0.79	20.07	30
1750	10	16-QAM	1/0	12.95	V	7.95	0.79	20.11	30
1715	10	16-QAM	1/0	11.02	H	7.95	0.79	18.18	30
1732.5	10	16-QAM	1/49	10.7	H	7.95	0.79	17.86	30
1750	10	16-QAM	1/0	11.48	H	7.95	0.79	18.64	30
1717.5	15	QPSK	1/0	13.12	V	7.95	0.79	20.28	30
1732.5	15	QPSK	1/74	13.1	V	7.95	0.79	20.26	30
1747.5	15	QPSK	1/0	13.09	V	7.95	0.79	20.25	30
1717.5	15	QPSK	1/0	10.8	H	7.95	0.79	17.96	30
1732.5	15	QPSK	1/74	11.19	H	7.95	0.79	18.35	30
1747.5	15	QPSK	1/0	11.19	H	7.95	0.79	18.35	30
1717.5	15	16-QAM	1/0	11.51	V	7.95	0.79	18.67	30
1732.5	15	16-QAM	1/74	11.55	V	7.95	0.79	18.71	30
1747.5	15	16-QAM	1/0	11.51	V	7.95	0.79	18.67	30
1717.5	15	16-QAM	1/0	9.63	H	7.95	0.79	16.79	30
1732.5	15	16-QAM	1/74	10.35	H	7.95	0.79	17.51	30
1747.5	15	16-QAM	1/0	10.49	H	7.95	0.79	17.65	30
1720	20	QPSK	1/99	13.39	V	7.95	0.79	20.55	30
1732.5	20	QPSK	1/99	13.58	V	7.95	0.79	20.74	30
1745	20	QPSK	1/0	13.63	V	7.95	0.79	20.79	30
1720	20	QPSK	1/99	11.3	H	7.95	0.79	18.46	30
1732.5	20	QPSK	1/99	12.29	H	7.95	0.79	19.45	30
1745	20	QPSK	1/0	11.23	H	7.95	0.79	18.39	30
1720	20	16-QAM	1/99	12.45	V	7.95	0.79	19.61	30
1732.5	20	16-QAM	1/99	12.5	V	7.95	0.79	19.66	30
1745	20	16-QAM	1/0	12.56	V	7.95	0.79	19.72	30
1720	20	16-QAM	1/99	10.32	H	7.95	0.79	17.48	30
1732.5	20	16-QAM	1/99	10.78	H	7.95	0.79	17.94	30
1745	20	16-QAM	1/0	10.2	H	7.95	0.79	17.36	30

EIRP for LTE Band V (Part 22)

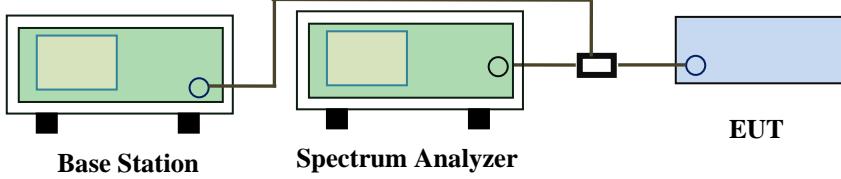
Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
824.7	1.4	QPSK	1/5	15.79	V	6.8	0.44	22.15	34.77
836.5	1.4	QPSK	1/5	15.8	V	6.8	0.44	22.16	34.77
848.3	1.4	QPSK	1/5	15.77	V	6.9	0.44	22.23	34.77
824.7	1.4	QPSK	1/5	13.51	H	6.8	0.44	19.87	34.77
836.5	1.4	QPSK	1/5	13.95	H	6.8	0.44	20.31	34.77
848.3	1.4	QPSK	1/5	13.55	H	6.9	0.44	20.01	34.77
824.7	1.4	16-QAM	1/5	14.84	V	6.8	0.44	21.2	34.77
836.5	1.4	16-QAM	1/5	14.89	V	6.8	0.44	21.25	34.77
848.3	1.4	16-QAM	1/5	14.91	V	6.9	0.44	21.37	34.77
824.7	1.4	16-QAM	1/5	12.57	H	6.8	0.44	18.93	34.77
836.5	1.4	16-QAM	1/5	12.83	H	6.8	0.44	19.19	34.77
848.3	1.4	16-QAM	1/5	13.12	H	6.9	0.44	19.58	34.77
825.5	3	QPSK	1/14	15.78	V	6.8	0.44	22.14	34.77
836.5	3	QPSK	1/0	15.34	V	6.8	0.44	21.7	34.77
847.5	3	QPSK	1/14	15.44	V	6.9	0.44	21.9	34.77
825.5	3	QPSK	1/14	14.62	H	6.8	0.44	20.98	34.77
836.5	3	QPSK	1/0	13.82	H	6.8	0.44	20.18	34.77
847.5	3	QPSK	1/14	14.19	H	6.9	0.44	20.65	34.77
825.5	3	16-QAM	1/14	15.18	V	6.8	0.44	21.54	34.77
836.5	3	16-QAM	1/0	14.36	V	6.8	0.44	20.72	34.77
847.5	3	16-QAM	1/14	15.03	V	6.9	0.44	21.49	34.77
825.5	3	16-QAM	1/14	12.81	H	6.8	0.44	19.17	34.77
836.5	3	16-QAM	1/0	12.32	H	6.8	0.44	18.68	34.77
847.5	3	16-QAM	1/14	13.88	H	6.9	0.44	20.34	34.77
826.5	5	QPSK	1/24	15.29	V	6.8	0.44	21.65	34.77
836.5	5	QPSK	1/24	15.27	V	6.8	0.44	21.63	34.77
846.5	5	QPSK	1/24	15.34	V	6.8	0.44	21.7	34.77
826.5	5	QPSK	1/24	13.3	H	6.8	0.44	19.66	34.77
836.5	5	QPSK	1/24	13.21	H	6.8	0.44	19.57	34.77
846.5	5	QPSK	1/24	13	H	6.8	0.44	19.36	34.77
826.5	5	16-QAM	1/24	14.07	V	6.8	0.44	20.43	34.77
836.5	5	16-QAM	1/24	14.09	V	6.8	0.44	20.45	34.77
846.5	5	16-QAM	1/24	14.15	V	6.8	0.44	20.51	34.77

826.5	5	16-QAM	1/24	12.9	H	6.8	0.44	19.26	34.77
836.5	5	16-QAM	1/24	13.09	H	6.8	0.44	19.45	34.77
846.5	5	16-QAM	1/24	12.9	H	6.8	0.44	19.26	34.77
829	10	QPSK	1/49	15.27	V	6.8	0.44	21.63	34.77
836.5	10	QPSK	1/49	15.19	V	6.8	0.44	21.55	34.77
844	10	QPSK	1/49	15.23	V	6.8	0.44	21.59	34.77
829	10	QPSK	1/49	13.26	H	6.8	0.44	19.62	34.77
836.5	10	QPSK	1/49	13.45	H	6.8	0.44	19.81	34.77
844	10	QPSK	1/49	12.81	H	6.8	0.44	19.17	34.77
829	10	16-QAM	1/49	14.28	V	6.8	0.44	20.64	34.77
836.5	10	16-QAM	1/49	14.22	V	6.8	0.44	20.58	34.77
844	10	16-QAM	1/49	14.21	V	6.8	0.44	20.57	34.77
829	10	16-QAM	1/49	12.54	H	6.8	0.44	18.9	34.77
836.5	10	16-QAM	1/49	12.28	H	6.8	0.44	18.64	34.77
844	10	16-QAM	1/49	12.92	H	6.8	0.44	19.28	34.77

6.3 Peak-Average Ratio

Temperature	25°C
Relative Humidity	57%
Atmospheric Pressure	1023mbar
Test date :	January 27, 2018
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§24.232(d) § 27.50(d)	a)	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.	<input checked="" type="checkbox"/>
Test Setup		 <p style="text-align: center;">Base Station Spectrum Analyzer EUT</p>	
	According with KDB 971168 v02r02		
Test Procedure	<p>5.7.2 Alternate procedure for PAPR</p> <p>5.1.2 Peak power measurements with a peak power meter</p> <p>The total peak output power may be measured using a broadband peak RF power meter. The power meter must have a video bandwidth that is greater than or equal to the emission bandwidth and utilize a fast-responding diode detector.</p> <p>5.2.3 Average power measurement with average power meter</p> <p>As an alternative to the use of a spectrum/signal analyzer or EMI receiver to perform a measurement of the total in-band average output power, a wideband RF average power meter with a thermocouple detector or equivalent can be used under certain conditions</p> <p>If the EUT can be configured to transmit continuously (i.e., the burst duty</p>		

	<p>cycle \geq 98%) and at all times the EUT is transmitting at its maximum output power level, then a conventional wide-band RF power meter can be used. If the EUT cannot be configured to transmit continuously (i.e., the burst duty cycle < 98%), then there are two options for the use of an average power meter. First, a gated average power meter can be used to perform the measurement if the gating parameters can be adjusted such that the power is measured only over active transmission bursts at maximum output power levels. A conventional average power meter can also be used if the measured burst duty cycle is constant (i.e., duty cycle variations are less than \pm 2 percent) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to $10\log(1/\text{duty cycle})$</p>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data Yes N/A

Test Plot Yes (See below) N/A

LTE Band II (part 24E)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1880	RB 1/0	QPSK	22.73	22.63	0.1
			16QAM	21.69	21.52	0.17
3	1880	RB 1/0	QPSK	22.7	22.62	0.08
			16QAM	21.85	21.41	0.44
5	1880	RB 1/0	QPSK	22.91	22.74	0.17
			16QAM	21.79	21.63	0.16
10	1880	RB 1/0	QPSK	22.98	22.62	0.36
			16QAM	21.88	22.16	-0.28
15	1880	RB 1/0	QPSK	23.48	22.75	0.73
			16QAM	22.41	21.59	0.82
20	1880	RB 1/0	QPSK	23.84	22.81	1.03
			16QAM	22.59	21.73	0.86

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

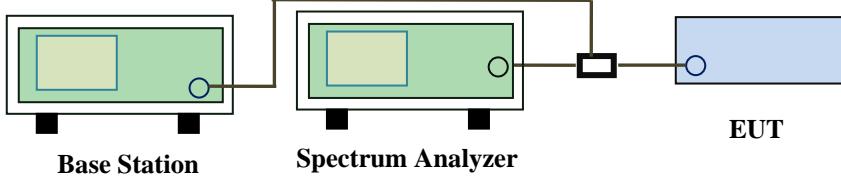
LTE Band V (part 27)

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

6.4 Occupied Bandwidth

Temperature	25°C
Relative Humidity	53%
Atmospheric Pressure	1010mbar
Test date :	January 12, 2018
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§2.1049, §22.917, §22.905 §24.238 §27.53(a)	a)	99% Occupied Bandwidth(kHz)	<input checked="" type="checkbox"/>
	b)	26 dB Bandwidth(kHz)	<input checked="" type="checkbox"/>
Test Setup		 <p style="text-align: center;">Base Station Spectrum Analyzer EUT</p>	
Test Procedure		<ul style="list-style-type: none"> - The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers. 	
Remark			
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		

Test Data Yes N/A

Test Plot Yes (See below) N/A

LTE Band II (Part 24E)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1851	16QAM	1.1032	1.288
			QPSK	1.1129	1.305
1.4	18900	1880	16QAM	1.1083	1.311
			QPSK	1.0968	1.306
1.4	19193	1909	16QAM	1.0973	1.300
			QPSK	1.1085	1.303
3	18615	1852	16QAM	2.7588	3.013
			QPSK	2.7433	3.057
3	18900	1880	16QAM	2.7452	3.063
			QPSK	2.7658	3.048
3	19185	1909	16QAM	2.7403	3.089
			QPSK	2.7547	3.050
5	18625	1853	16QAM	4.5142	5.023
			QPSK	4.5310	4.992
5	18900	1880	16QAM	4.5458	5.009
			QPSK	4.5312	4.987
5	19175	1908	16QAM	4.5095	5.008
			QPSK	4.5078	4.941
10	18650	1855	16QAM	9.0194	9.864
			QPSK	9.0501	10.01
10	18900	1880	16QAM	9.0420	9.940
			QPSK	9.0406	10.05
10	19150	1905	16QAM	9.0319	10.02
			QPSK	9.0286	10.11
15	18675	1858	16QAM	13.418	14.65
			QPSK	13.495	14.85
15	18900	1880	16QAM	13.488	14.79
			QPSK	13.472	14.55
15	19125	1903	16QAM	13.481	14.71
			QPSK	13.454	14.66

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20	18700	1860	16QAM	17.810	19.12
			QPSK	17.843	19.09
20	18900	1880	16QAM	17.952	19.07
			QPSK	17.920	19.03
20	19100	1900	16QAM	17.886	19.15
			QPSK	17.896	19.30

LTE Band IV (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	19957	1711	16QAM	1.1075	1.302
			QPSK	1.1110	1.318
1.4	20175	1733	16QAM	1.1026	1.299
			QPSK	1.1014	1.309
1.4	20393	1754	16QAM	1.0988	1.295
			QPSK	1.1043	1.290
3	19965	1712	16QAM	2.7412	3.058
			QPSK	2.7413	3.021
3	20175	1733	16QAM	2.7431	3.043
			QPSK	2.7440	3.067
3	20385	1754	16QAM	2.7545	3.076
			QPSK	2.7412	3.077
5	19975	1713	16QAM	4.5163	5.035
			QPSK	4.5248	4.962
5	20175	1733	16QAM	4.5285	5.012
			QPSK	4.5280	5.008
5	20375	1753	16QAM	4.5093	5.005
			QPSK	4.5309	5.040
10	20000	1715	16QAM	9.0519	10.02
			QPSK	9.0690	10.01
10	20175	1733	16QAM	9.0453	10.02
			QPSK	9.0504	9.975
10	20350	1750	16QAM	9.0382	10.07
			QPSK	9.0414	10.03
15	20025	1718	16QAM	13.450	14.61
			QPSK	13.445	14.65
15	20175	1733	16QAM	13.504	14.81
			QPSK	13.502	14.72
15	20325	1748	16QAM	13.496	14.69
			QPSK	13.486	14.56

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Page	43 of 109

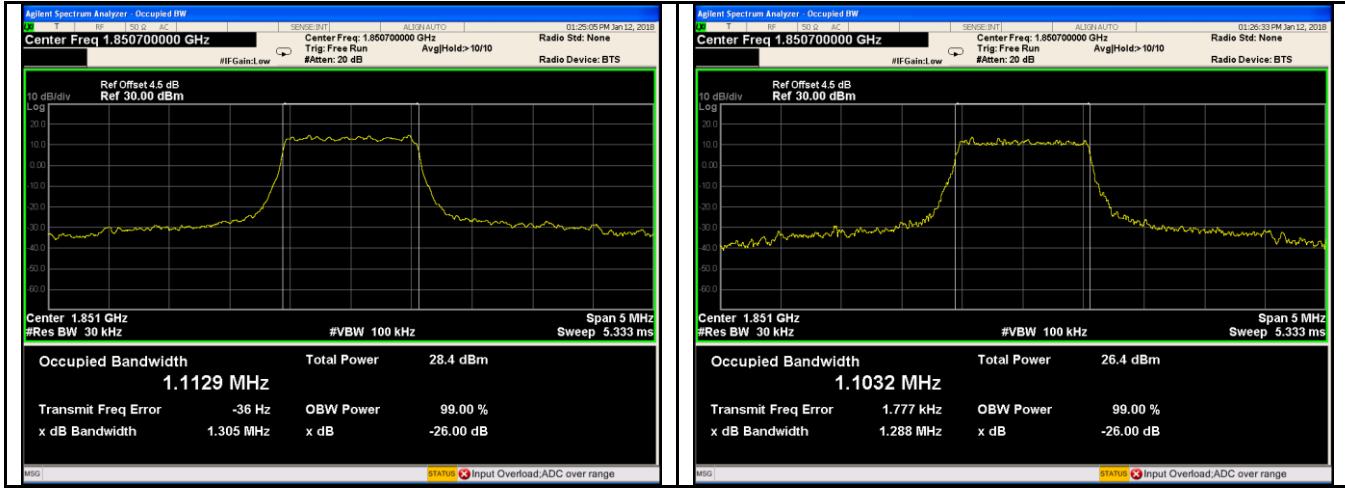
20	20050	1720	16QAM	17.946	19.33
			QPSK	17.917	19.20
20	20175	1733	16QAM	17.936	19.53
			QPSK	17.917	19.41
20	20300	1745	16QAM	17.917	19.32
			QPSK	17.862	19.31

LTE Band V (Part 22H)

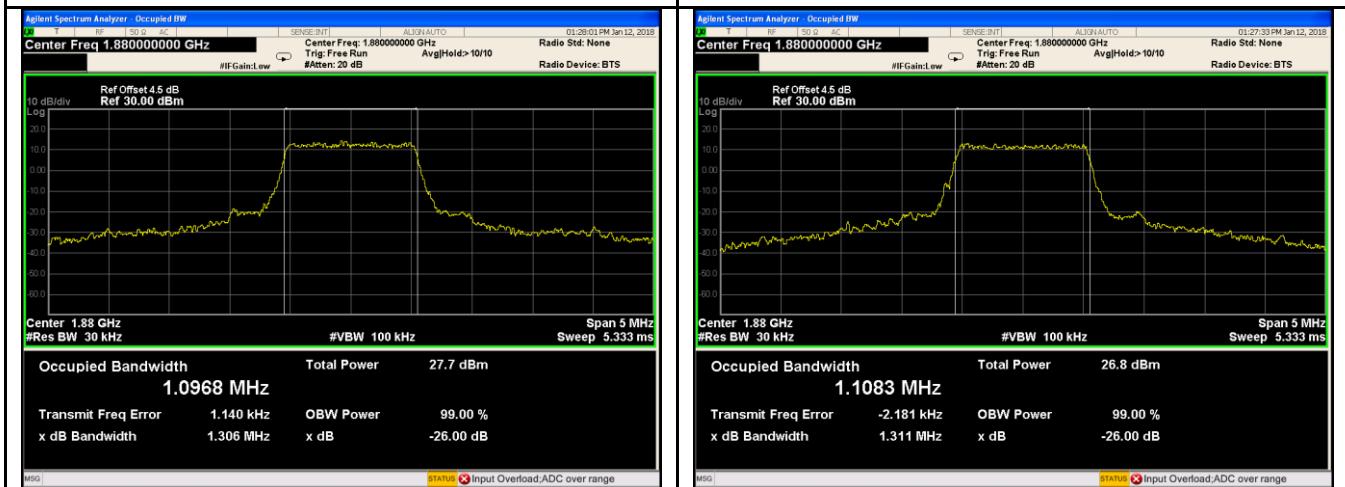
BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	20407	824.7	16QAM	1.1104	1.316
			QPSK	1.1058	1.331
1.4	20525	836.5	16QAM	1.1085	1.337
			QPSK	1.1111	1.322
1.4	20643	848.3	16QAM	1.1048	1.308
			QPSK	1.1097	1.301
3	20415	825.5	16QAM	2.7485	3.050
			QPSK	2.7769	3.052
3	20525	836.5	16QAM	2.7552	3.073
			QPSK	2.7511	3.085
3	20635	847.5	16QAM	2.7505	3.088
			QPSK	2.7540	3.078
5	20425	826.5	16QAM	4.5174	4.986
			QPSK	4.5251	4.960
5	20525	836.5	16QAM	4.5251	5.049
			QPSK	4.5194	5.033
5	20625	846.5	16QAM	4.5275	5.031
			QPSK	4.5590	5.040
10	20450	829	16QAM	9.0902	10.03
			QPSK	9.0776	10.03
10	20525	836.5	16QAM	9.0636	9.937
			QPSK	9.0817	10.03
10	20800	844	16QAM	9.0623	10.03
			QPSK	9.0637	10.04

Test Plots

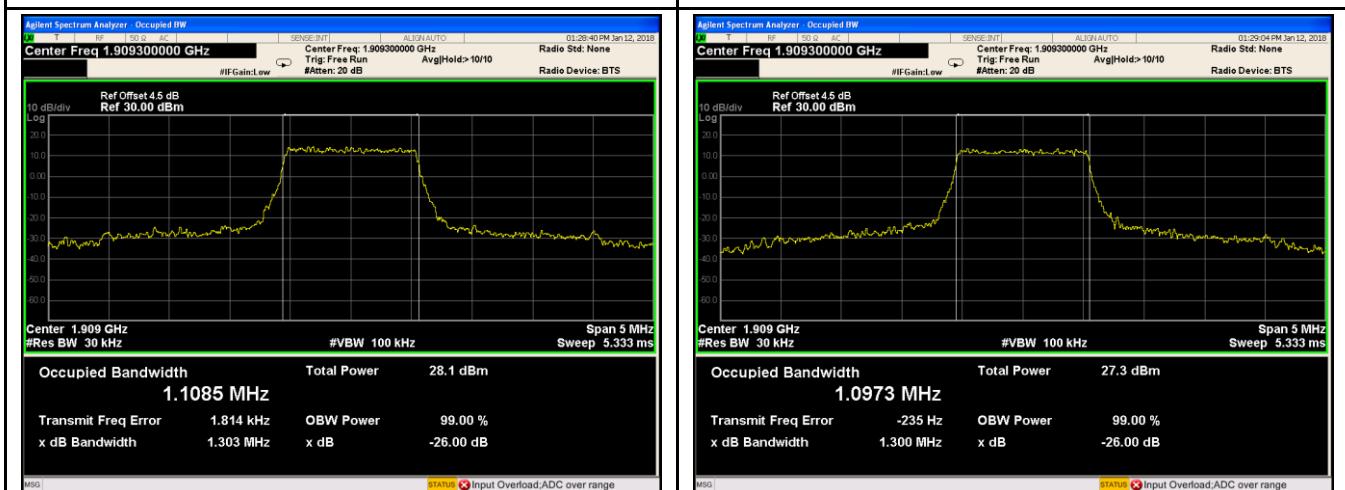
LTE Band II (Part 24E)



LTE Band II - Low CH QPSK-1.4

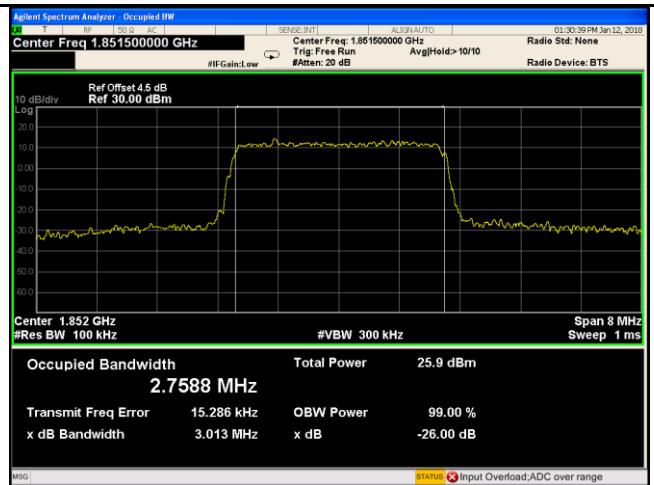
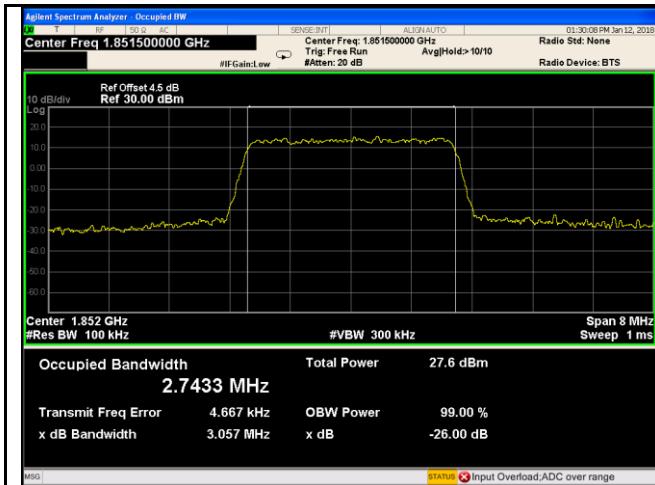


LTE Band II - Middle CH QPSK-1.4



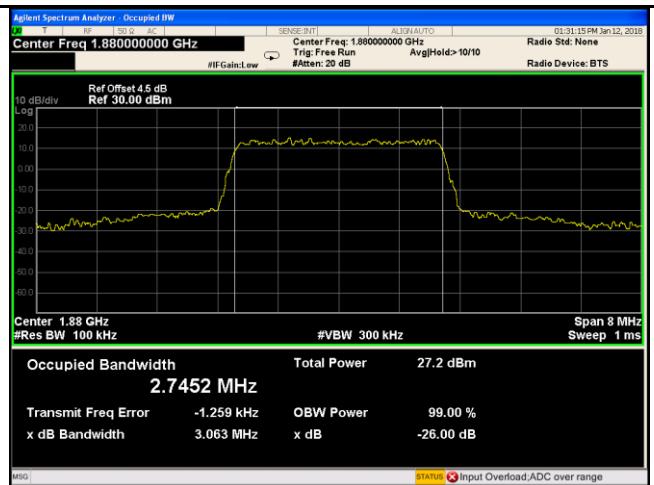
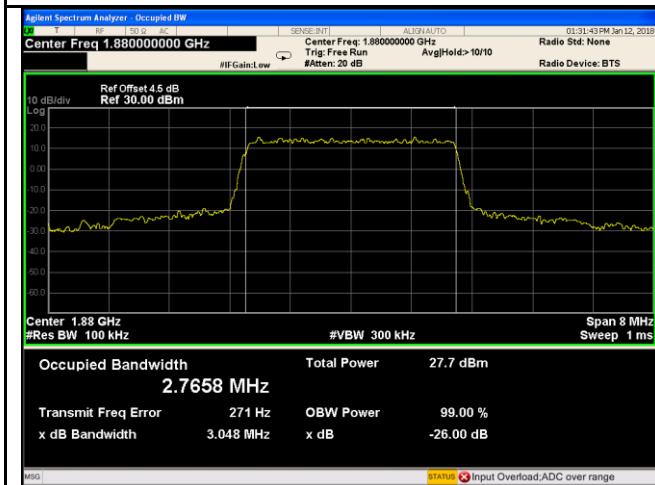
LTE Band II - High CH QPSK-1.4

LTE Band II - High CH 16QAM-1.4



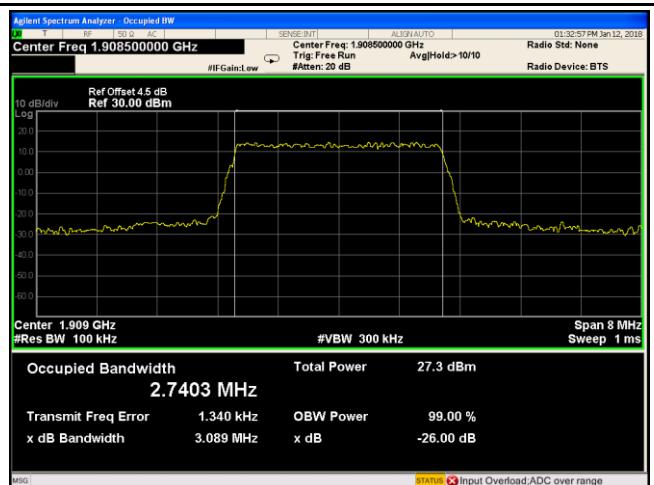
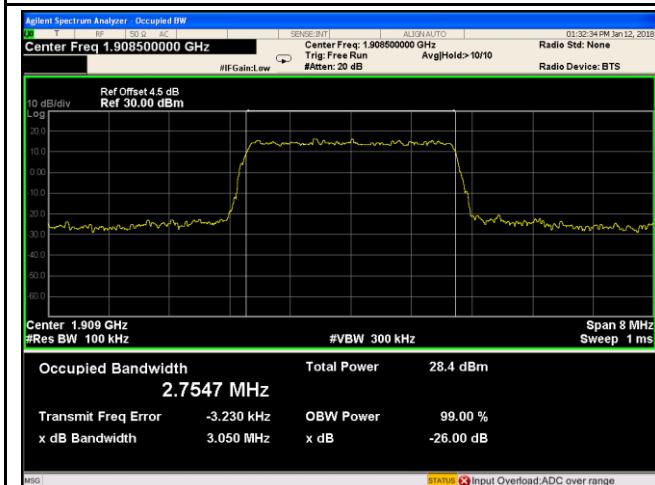
LTE Band II - Low CH QPSK-3

LTE Band II - Low CH 16QAM-3



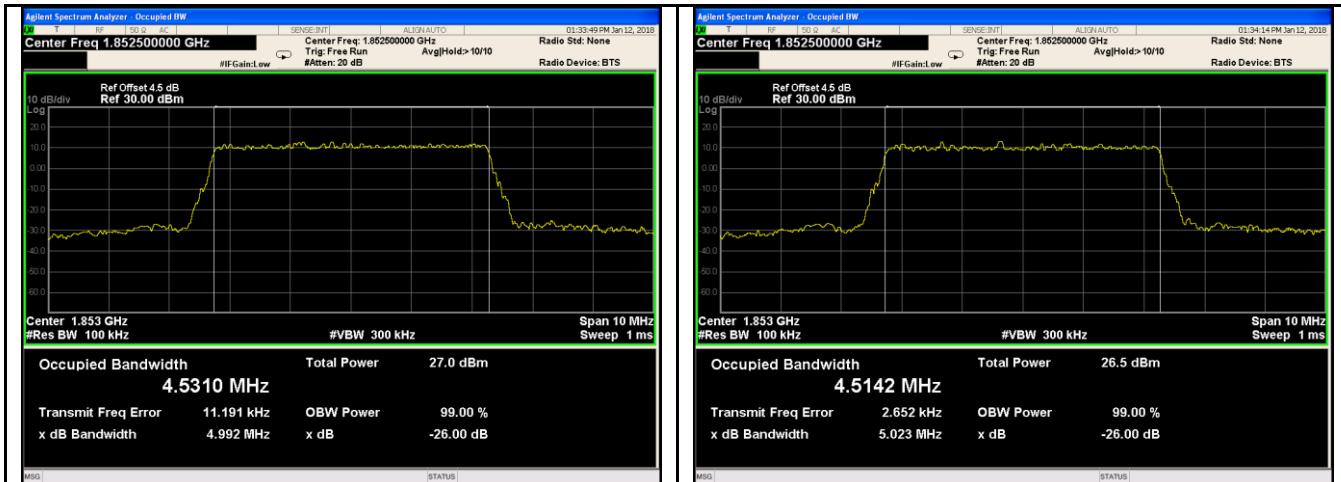
LTE Band II - Middle CH QPSK-3

LTE Band II - Middle CH 16QAM-3



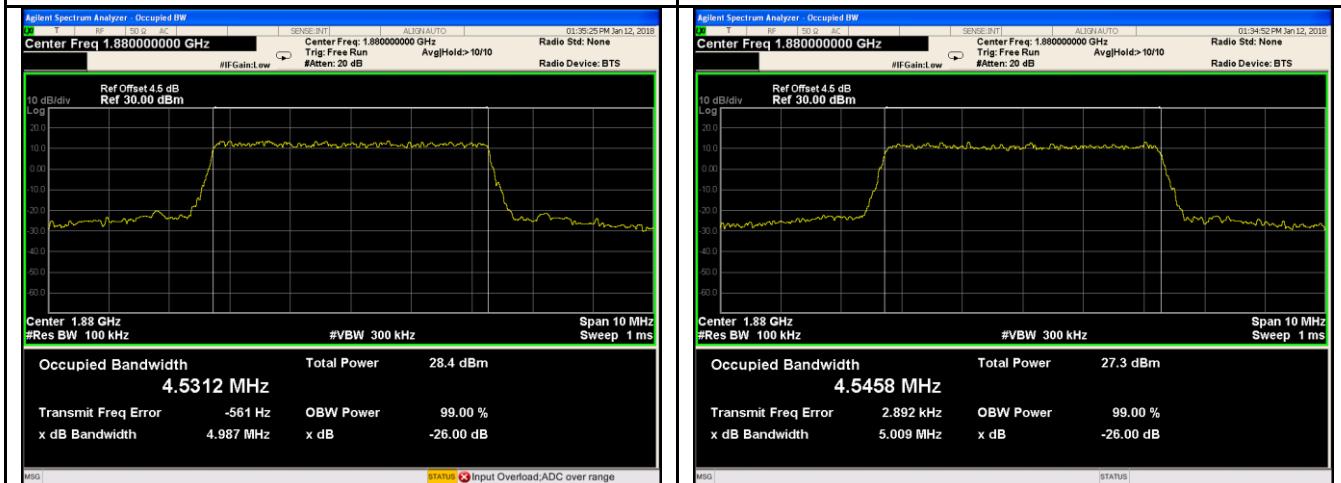
LTE Band II - High CH QPSK-3

LTE Band II - High CH 16QAM-3



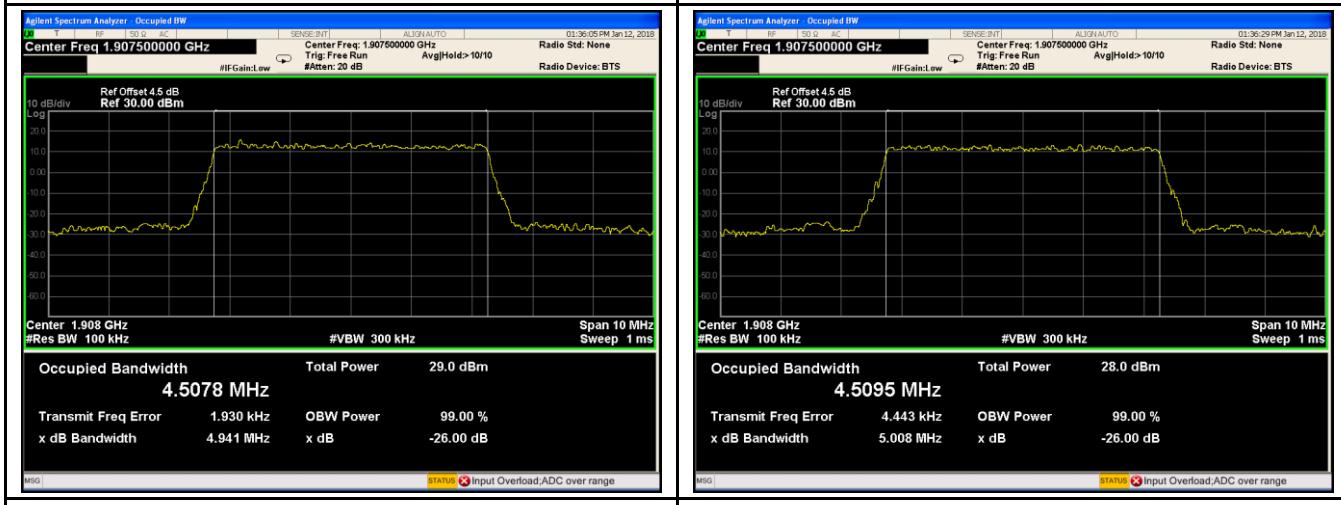
LTE Band II - Low CH QPSK-5

LTE Band II - Low CH 16QAM-5



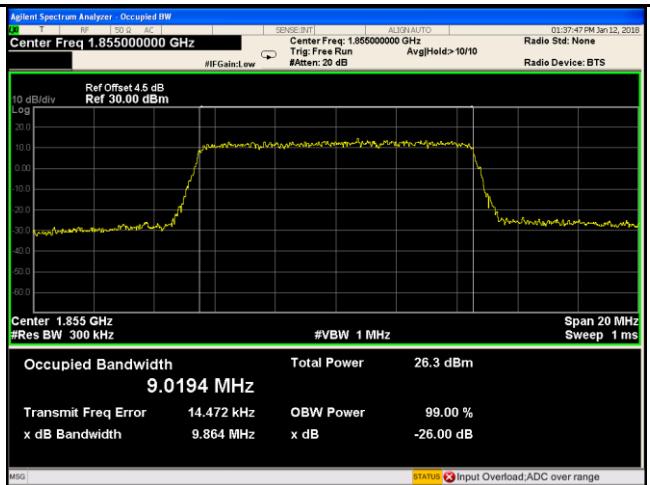
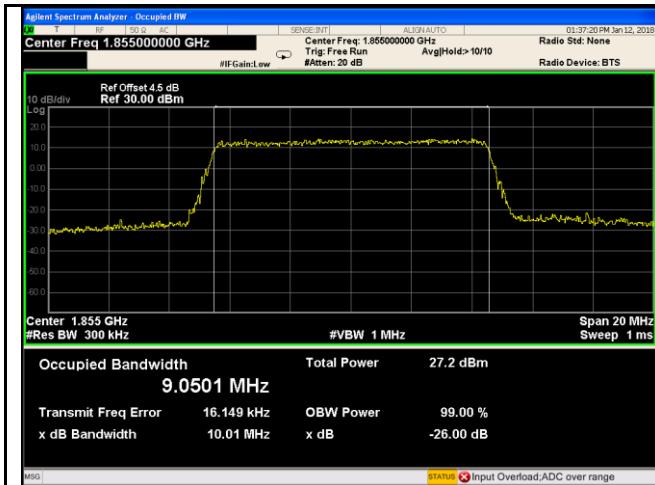
LTE Band II - Middle CH QPSK-5

LTE Band II - Middle CH 16QAM-5

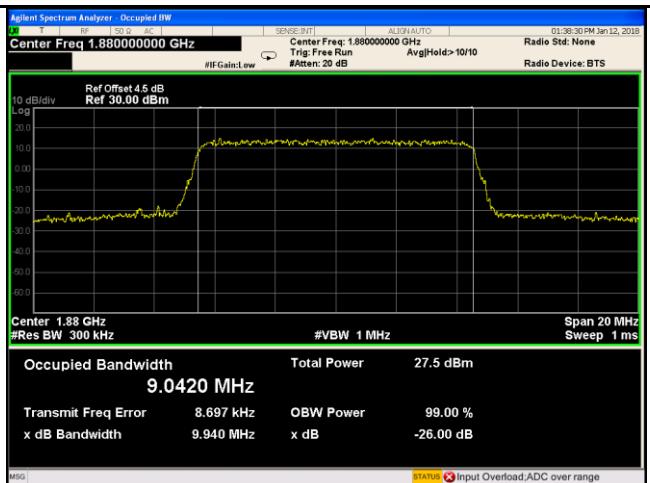
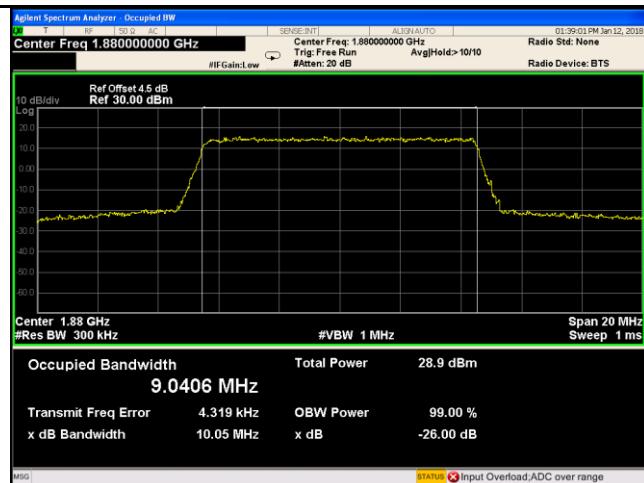


LTE Band II - High CH QPSK-5

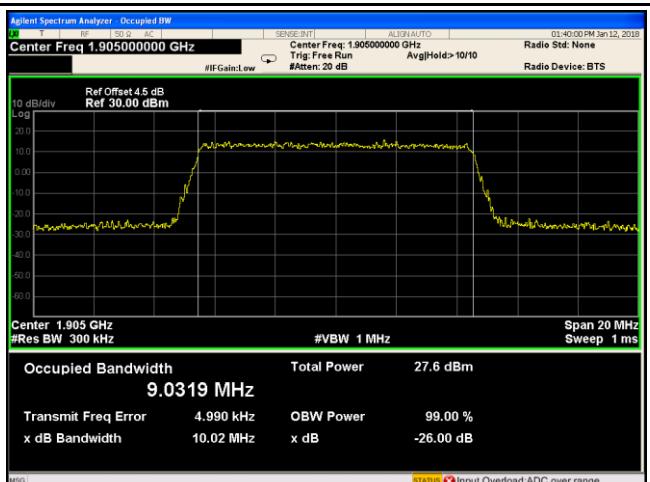
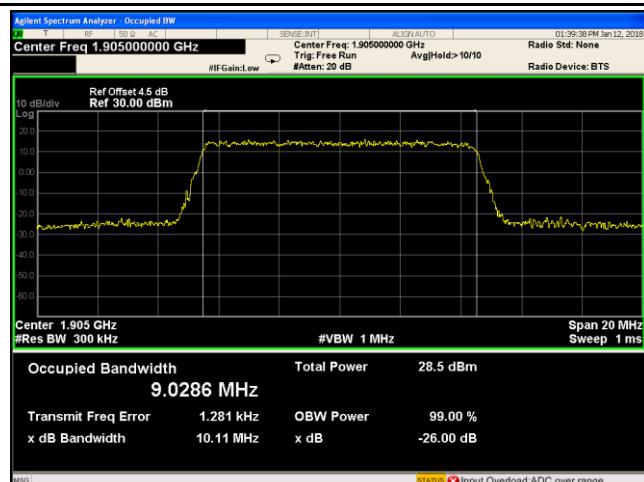
LTE Band II - High CH 16QAM-5



LTE Band II - Low CH QPSK-10

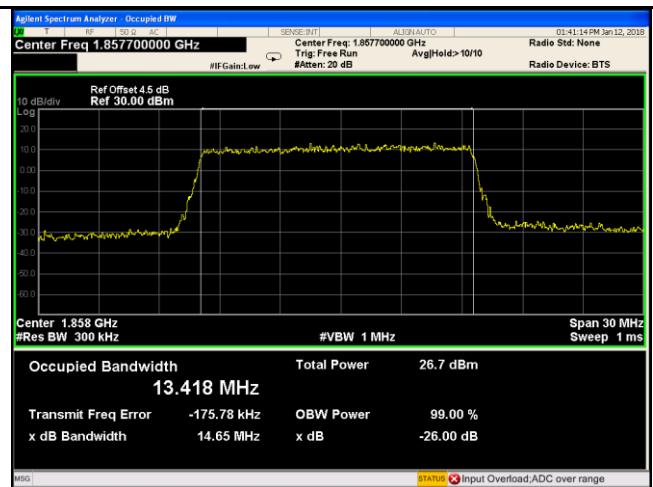
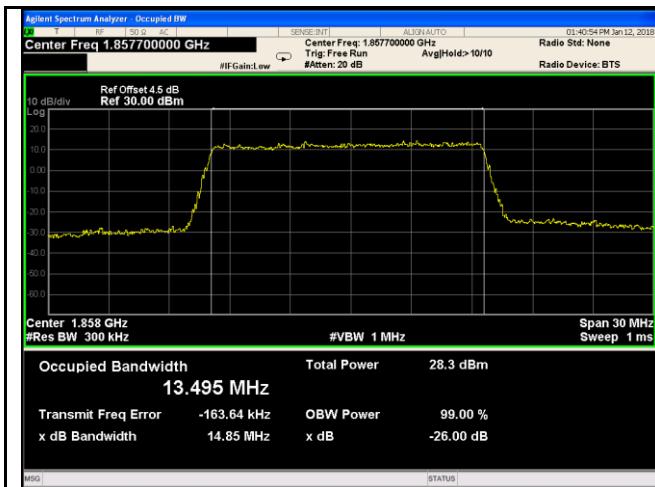


LTE Band II - Middle CH QPSK-10

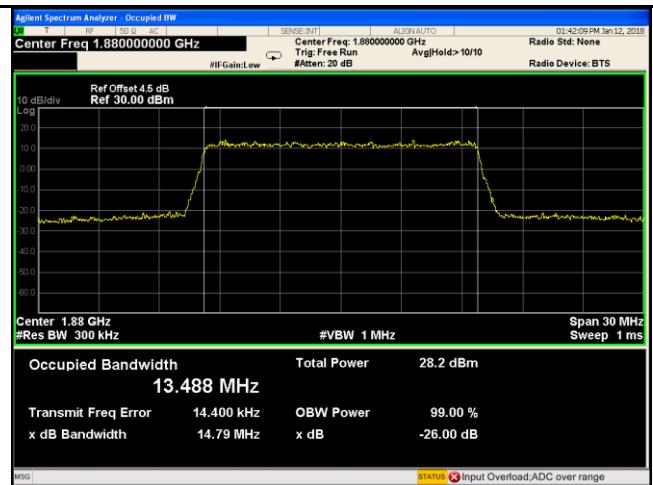
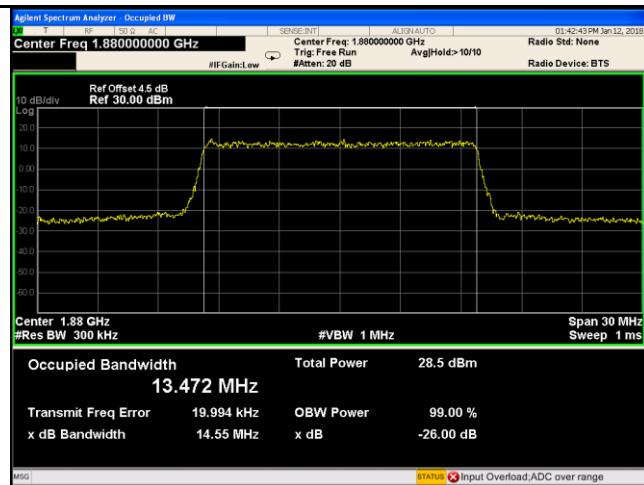


LTE Band II - High CH QPSK-10

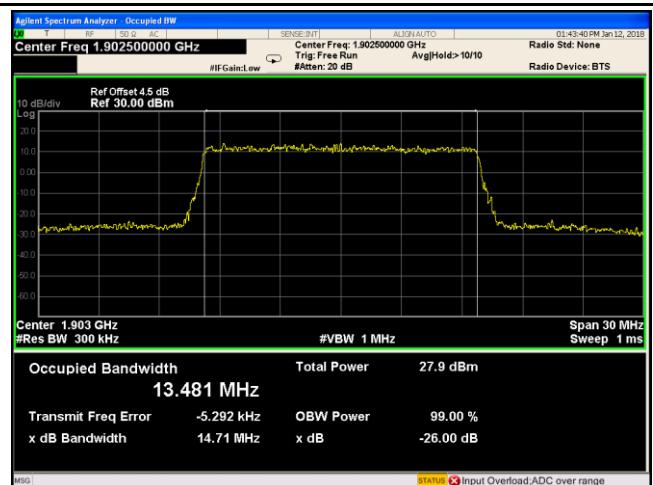
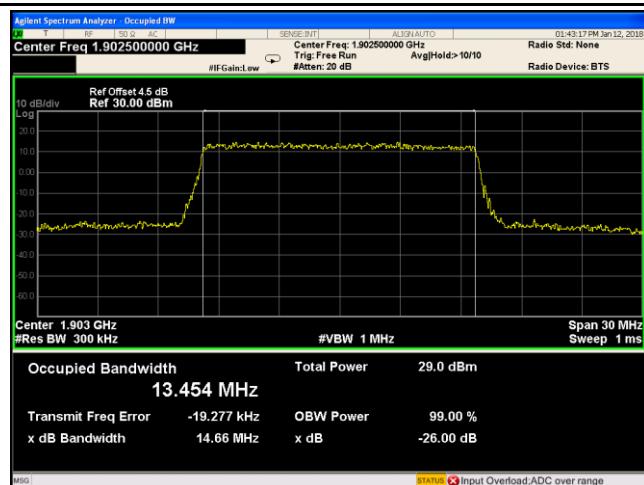
LTE Band II - High CH 16QAM-10



LTE Band II - Low CH QPSK-15

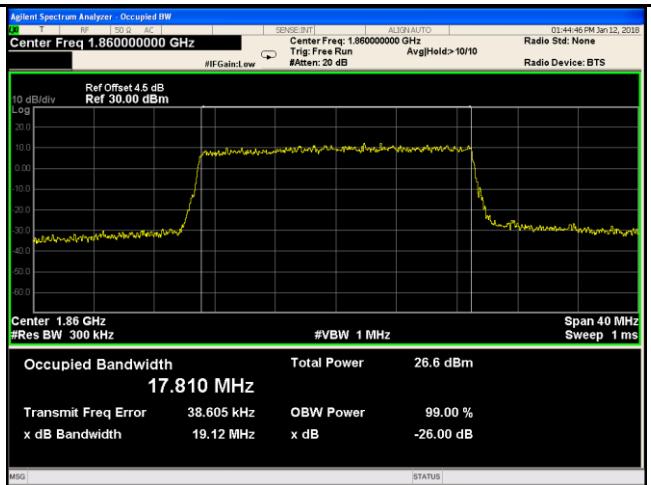
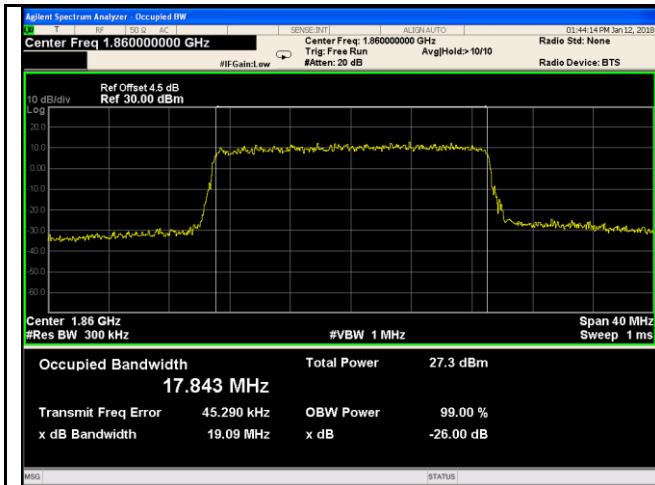


LTE Band II - Middle CH QPSK-15

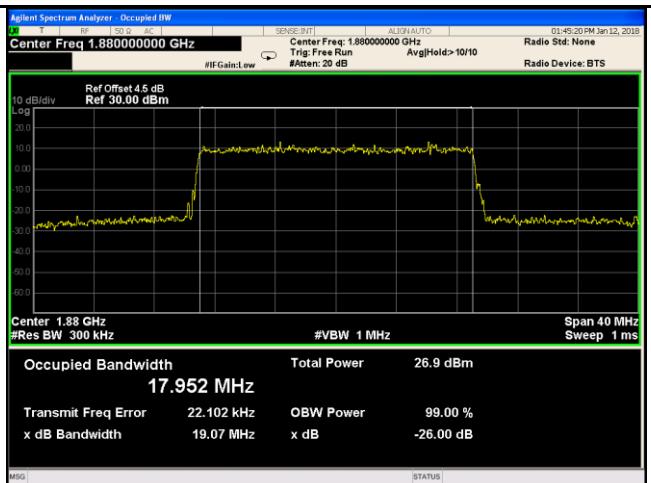
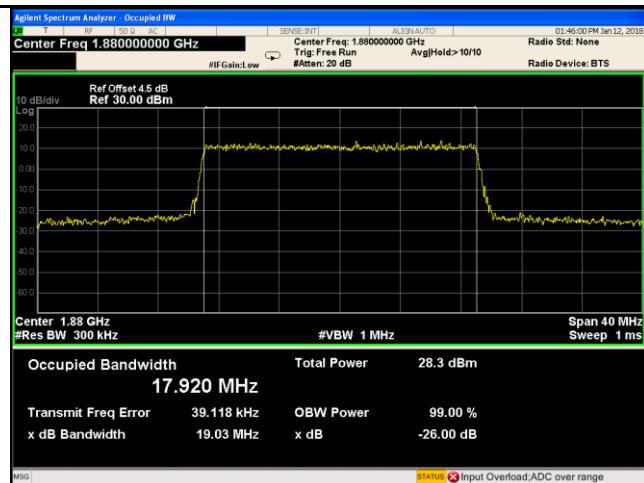


LTE Band II - High CH QPSK-15

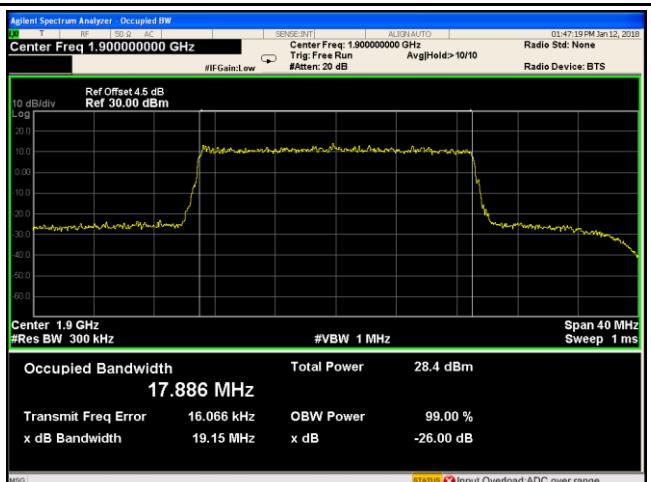
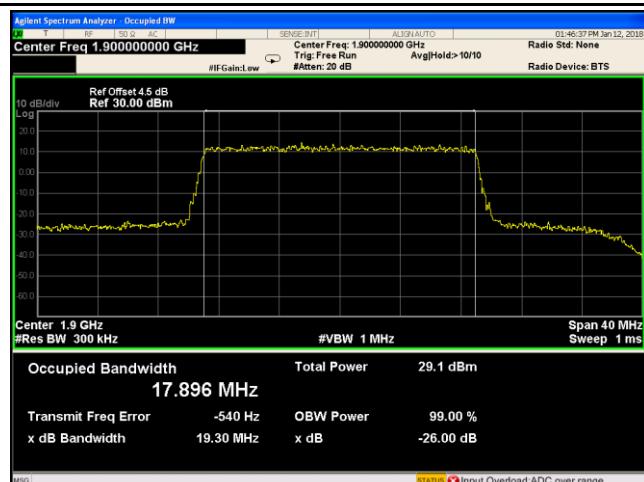
LTE Band II - High CH 16QAM-15



LTE Band II - Low CH QPSK-20



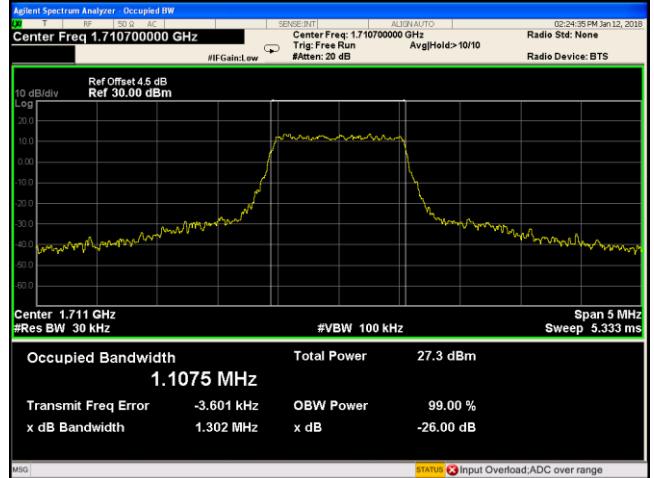
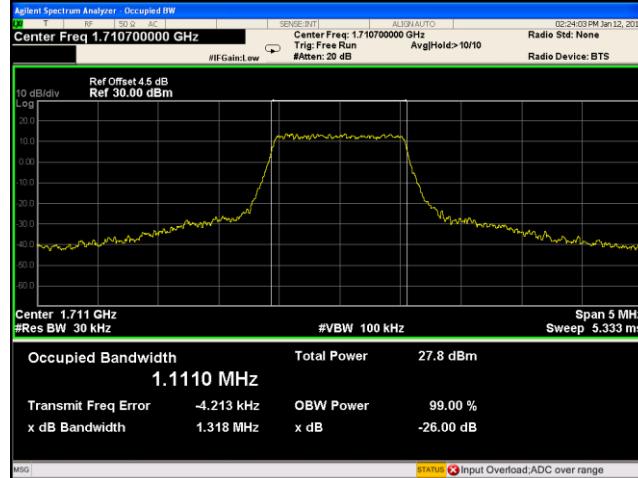
LTE Band II - Middle CH QPSK-20



LTE Band II - High CH QPSK-20

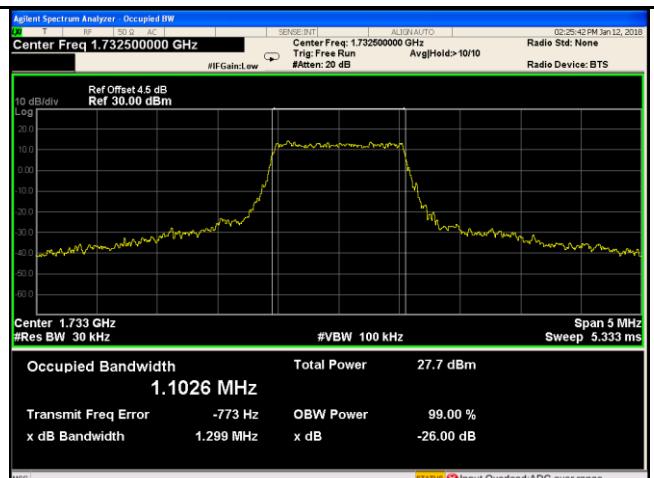
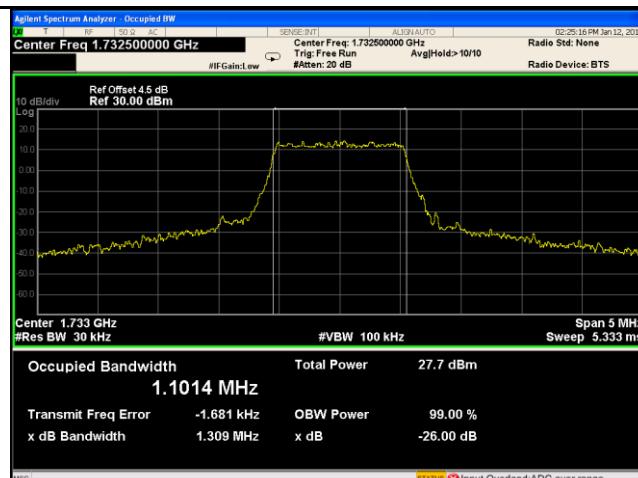
LTE Band II - High CH 16QAM-20

LTE Band IV (Part 27)



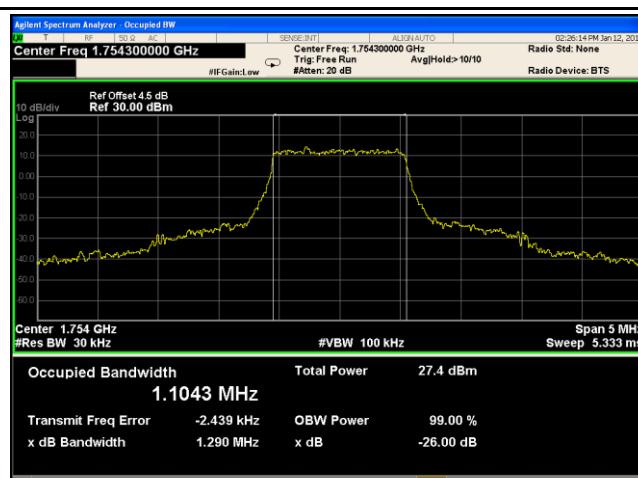
LTE Band IV - Low CH QPSK-1.4

LTE Band IV - Low CH 16QAM-1.4



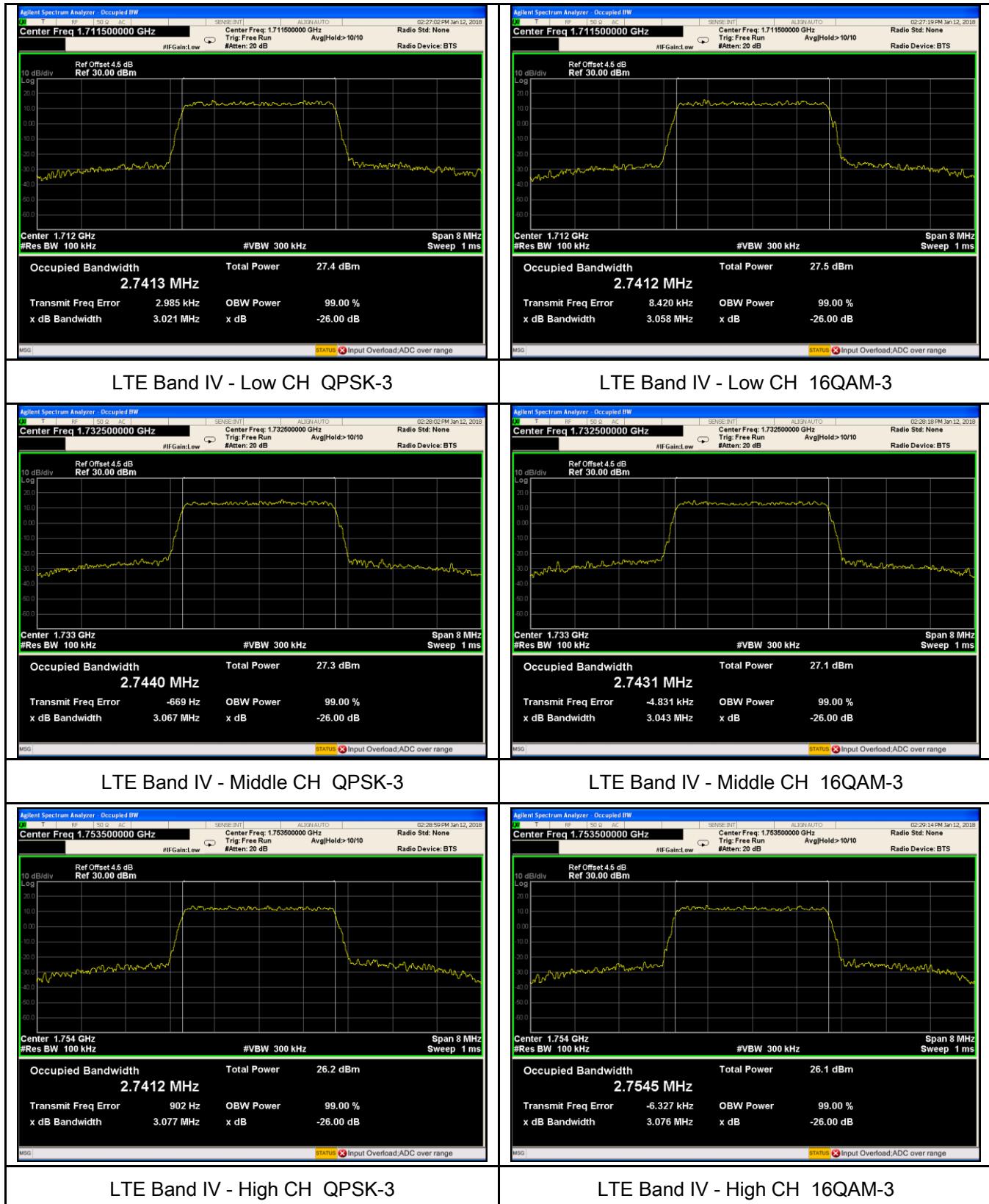
LTE Band IV - Middle CH QPSK-1.4

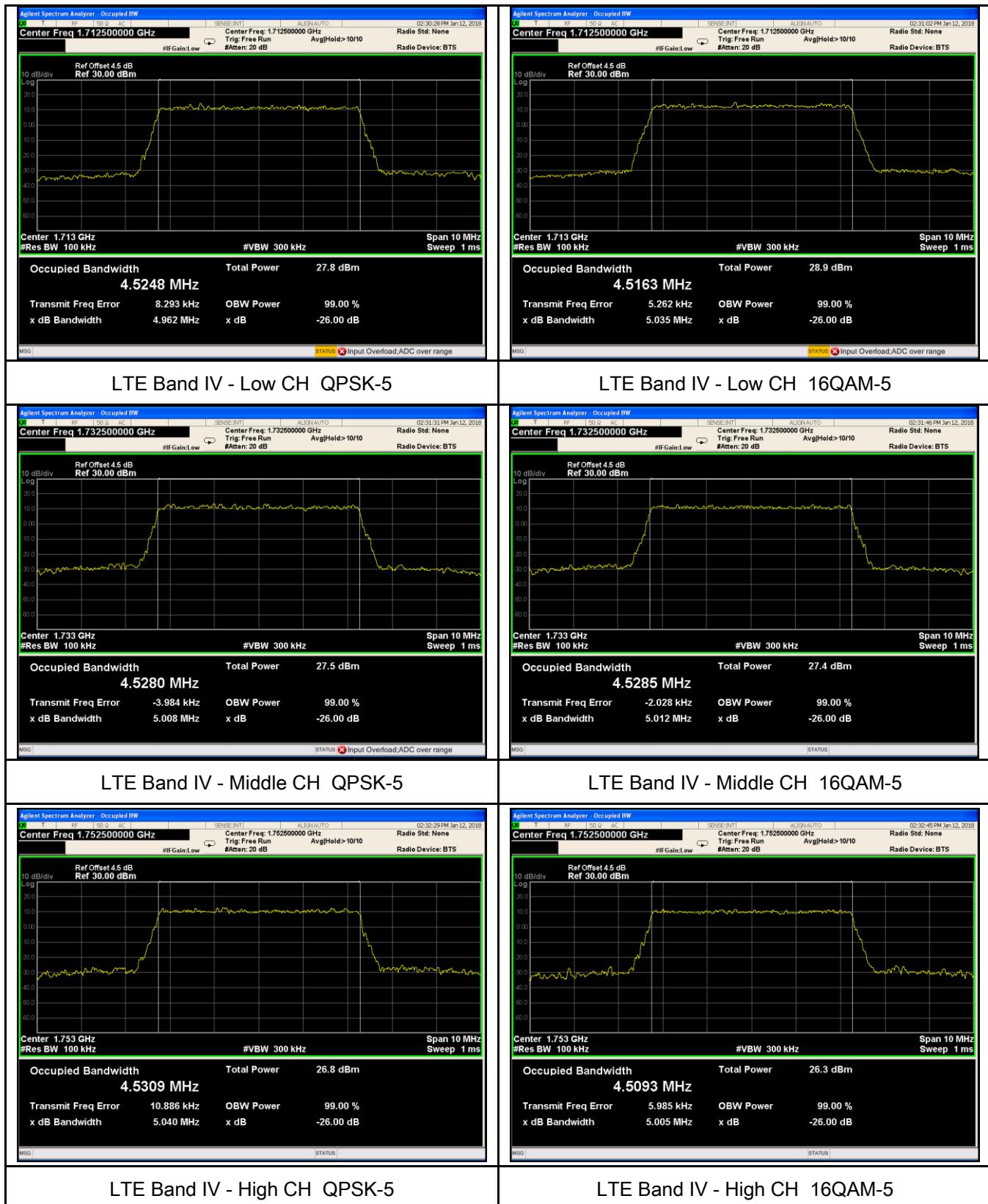
LTE Band IV - Middle CH 16QAM-1.4

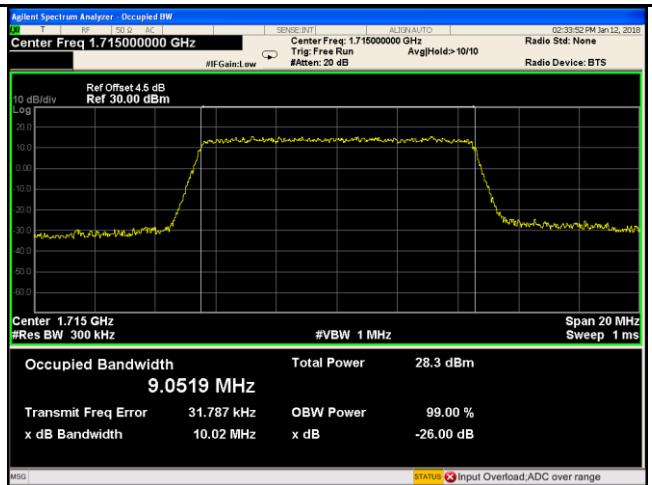
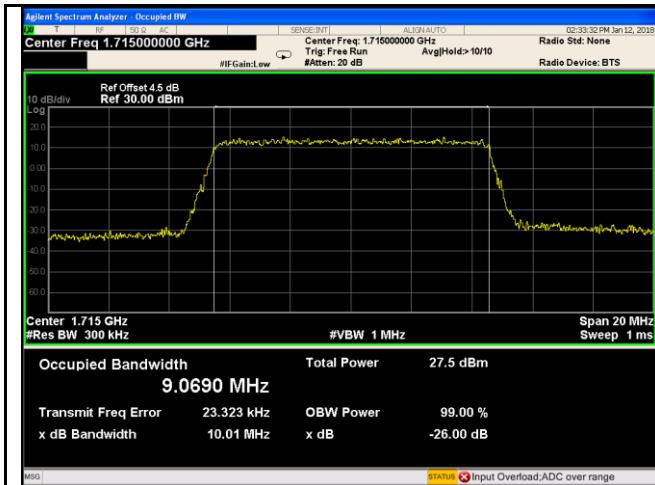


LTE Band IV - High CH QPSK 1.4

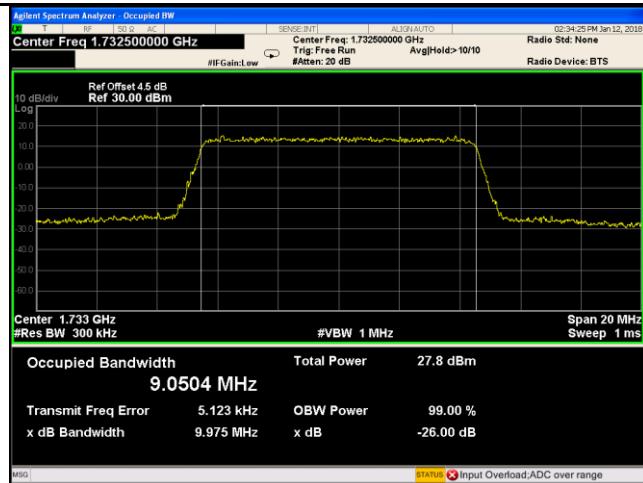
LTE Band IV - High CH, 16QAM, 1.4



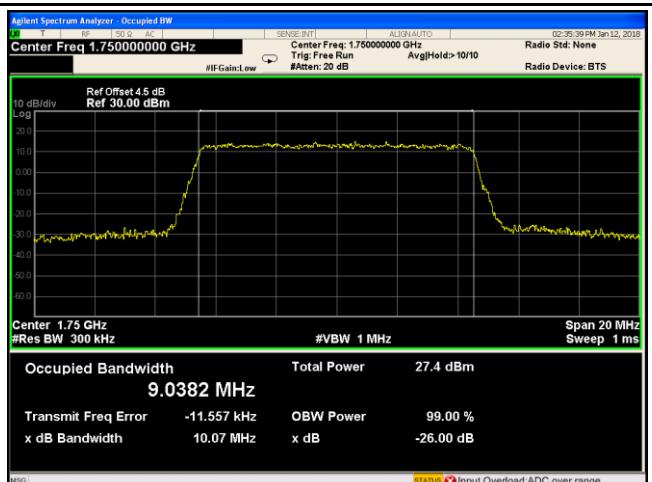
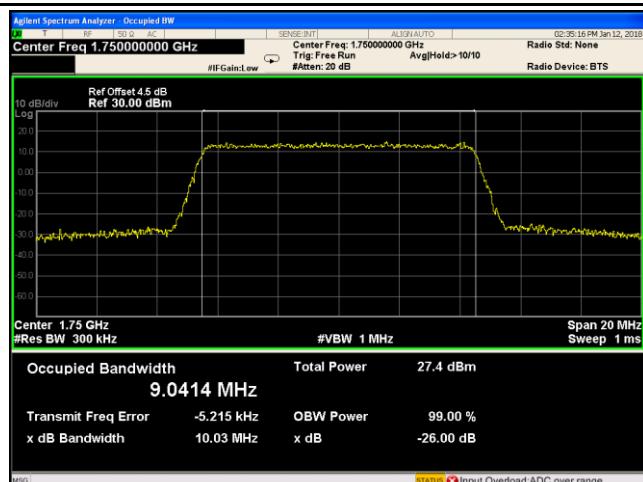




LTE Band IV - Low CH QPSK-10



LTE Band IV - Middle CH QPSK-10



LTE Band IV - High CH QPSK-10

LTE Band IV - High CH 16QAM-10