

RF TEST REPORT



Report No.: 15050054-FCC-R5

Supersede Report No.: N/A

Applicant	b mobile HK Limited	
Product Name	Mobile Phone	
Model No.	AX1010	
Serial No.	AX1005	
Test Standard	FCC Part 22(H), FCC Part 24(E), FCC Part 27: 2014; ANSI/TIA C603 D: 2010	
Test Date	November 24 to December 04, 2015	
Issue Date	December 08, 2015	
Test Result	☒ Pass ☐ Fail	
Equipment complied with the specification	☒	
Equipment did not comply with the specification	☐	
<i>Winnie Zhang</i>	<i>David Huang</i>	
Winnie Zhang Test Engineer	David Huang Checked By	
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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

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

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

Laboratories Introduction

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



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

Accreditations for Conformity Assessment

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

Test Report	15050054-FCC-R5
Page	3 of 120

This page has been left blank intentionally.

CONTENTS

1. REPORT REVISION HISTORY	5
2. CUSTOMER INFORMATION	5
3. TEST SITE INFORMATION	5
4. EQUIPMENT UNDER TEST (EUT) INFORMATION	6
5. TEST SUMMARY	8
6. MEASUREMENTS, EXAMINATION AND DERIVED RESULTS	9
6.1 RF EXPOSURE (SAR).....	9
6.2 RF OUTPUT POWER	10
6.3 PEAK-AVERAGE RATIO	41
6.4 OCCUPIED BANDWIDTH	44
6.5 SPURIOUS EMISSIONS AT ANTENNA TERMINALS	69
6.6 SPURIOUS RADIATED EMISSIONS	74
6.7 BAND EDGE.....	80
6.8 BAND EDGE 27.53(M).....	100
6.9 FREQUENCY STABILITY	106
ANNEX A. TEST INSTRUMENT.....	110
ANNEX B. EUT AND TEST SETUP PHOTOGRAPHS.....	111
ANNEX C. TEST SETUP AND SUPPORTING EQUIPMENT.....	116
ANNEX C.II. EUT OPERATING CONKITIONS	118
ANNEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST	119
ANNEX E. DECLARATION OF SIMILARITY	120

1. Report Revision History

Report No.	Report Version	Description	Issue Date
15050054-FCC-R5	NONE	Original	December 08, 2015

2. Customer information

Applicant Name	b mobile HK Limited
Applicant Add	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung;New Territories; Hong Kong
Manufacturer	b mobile HK Limited
Manufacturer Add	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung;New Territories; Hong Kong

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT:	Mobile Phone
Main Model:	AX1010
Serial Model:	AX1005
Date EUT received:	November 23,2015
Test Date(s):	November 24 to December 04, 2015
Equipment Category :	PCE
Antenna Gain:	GSM850: -3.3dBi PCS1900: -4.6dBi UMTS-FDD Band V: -3.4dBi UMTS-FDD Band II: -3.4dBi Bluetooth/BLE: -3.5dBi WIFI: -4.2dBi LTE Band 2: -5.2 dBi LTE Band 4: -4.1dBi LTE Band 5: -3.5dBi LTE Band 7: -2.9dBi GPS: -3.9dBi
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK, 8PSK UMTS-FDD: QPSK, 16QAM 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, $\pi/4$ DQPSK, 8DPSK BLE: GFSK LTE Band: QPSK, 16QAM GPS:BPSK
RF Operating Frequency (ies):	GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz

Test Report	15050054-FCC-R5
Page	7 of 120

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

WIFI: 802.11b/g/n(20M): 2412-2472 MHz

WIFI: 802.11n(40M): 2422-2462 MHz

Bluetooth& BLE: 2402-2480 MHz

LTE Band 2 TX: 1852.5 ~ 1907.5 MHz; RX : 1932.5 ~ 1987.5 MHz

LTE Band 4 TX: 1712.5 ~ 1752.5 MHz; RX : 2112.5 ~ 2152.5 MHz

LTE Band 5 TX: 826.5 ~ 846.5 MHz; RX : 871.5 ~ 891.5 MHz

LTE Band 7 TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz

GPS RX: 1575.42 MHz

Maximum Conducted
AV Power to Antenna:

LTE Band 2: 23.650 dBm

LTE Band 4: 23.41 dBm

LTE Band 5: 22.79 dBm

LTE Band 7: 22.84 dBm

ERP/EIRP:

LTE Band 2: 18.38 dBm / EIRP

LTE Band 4: 19.12 dBm / EIRP

LTE Band 5: 19.09 dBm / EIRP

LTE Band 7: 19.06 dBm / EIRP

Port:

Power Port, Earphone Port, USB Port

Input Power:

Battery:

Model: AX1010

Standard Voltage: DC3.8V

Rated Capacity: 1450mAh, 5.51Wh

Adapter:

Model: N/A

Input: AC100-240V; 50/60Hz; 0.15A

Output: DC 5.0V, 700mA

Trade Name :

Bmobile

GPRS/EGPRS Multi-slot class

8/10/12

FCC ID:

ZSW-30-021

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

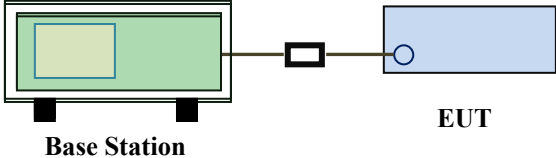
The EUT is a portable device, thus requires SAR evaluation;
Please refer to RF Exposure Evaluation Report: 15050054-FCC-H.

6.2 RF Output Power

Temperature	22°C
Relative Humidity	51%
Atmospheric Pressure	1009mbar
Test date :	December 09, 2015
Tested By :	Winnie Zhang

Requirement(s):

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

Test Setup	 The diagram illustrates the test setup. On the left, a green rectangular box represents the 'Base Station'. A cable connects the Base Station to a blue rectangular box on the right, which is labeled 'EUT' (Equipment Under Test). The cable is shown as a line with a small connector at the EUT end.
------------	---

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

Test Report	15050054-FCC-R5
Page	11 of 120

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

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

Conducted Power LTE Band 2:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	18700	1860.0	QPSK	1	0	0	23.53	23 ± 1
				1	49	0	23.35	23 ± 1
				1	99	0	23.22	23 ± 1
				50	0	1	22.41	23 ± 1
				50	24	1	22.34	23 ± 1
				50	49	1	22.27	23 ± 1
				100	0	1	22.35	23 ± 1
			16QAM	1	0	1	22.81	22 ± 1
				1	49	1	22.69	22 ± 1
				1	99	1	22.66	22 ± 1
				50	0	2	22.13	22 ± 1
				50	24	2	22.05	22 ± 1
				50	49	2	21.84	22 ± 1
				100	0	2	21.35	22 ± 1
	18900	1880.0	QPSK	1	0	0	23.31	23 ± 1
				1	49	0	23.18	23 ± 1
				1	99	0	23.19	23 ± 1
				50	0	1	22.27	23 ± 1
				50	24	1	22.23	23 ± 1
				50	49	1	22.19	23 ± 1
				100	0	1	22.20	23 ± 1
			16QAM	1	0	1	22.73	22 ± 1
				1	49	1	22.58	22 ± 1
				1	99	1	22.51	22 ± 1
				50	0	2	22.24	22 ± 1
				50	24	2	22.19	22 ± 1
				50	49	2	22.12	22 ± 1
				100	0	2	21.25	22 ± 1
	19100	1900.0	QPSK	1	0	0	23.33	23 ± 1
				1	49	0	23.32	23 ± 1
				1	99	0	23.48	23 ± 1
				50	0	1	22.17	23 ± 1
				50	24	1	22.21	23 ± 1
				50	49	1	22.28	23 ± 1
				100	0	1	22.22	23 ± 1
			16QAM	1	0	1	22.16	22 ± 1
				1	49	1	22.17	22 ± 1
				1	99	1	22.29	22 ± 1
				50	0	2	21.75	22 ± 1
				50	24	2	21.79	22 ± 1
				50	49	2	21.86	22 ± 1
				100	0	2	21.24	22 ± 1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
15MHz	18675	1857.5	QPSK	1	0	0	23.65	23 ± 1
				1	37	0	23.55	23 ± 1
				1	74	0	23.39	23 ± 1
				36	0	1	22.65	23 ± 1
				36	16	1	22.52	23 ± 1
				36	35	1	22.47	23 ± 1
				75	0	1	22.56	23 ± 1
			16QAM	1	0	1	22.35	22 ± 1
				1	37	1	22.26	22 ± 1
				1	74	1	22.18	22 ± 1
				36	0	2	21.87	22 ± 1
				36	16	2	21.65	22 ± 1
				36	35	2	21.54	22 ± 1
				75	0	2	21.50	22 ± 1
	18900	1880.0	QPSK	1	0	0	23.23	23 ± 1
				1	37	0	23.22	23 ± 1
				1	74	0	23.25	23 ± 1
				36	0	1	22.30	23 ± 1
				36	16	1	22.33	23 ± 1
				36	35	1	22.32	23 ± 1
				75	0	1	22.33	23 ± 1
			16QAM	1	0	1	22.52	22 ± 1
				1	37	1	22.41	22 ± 1
				1	74	1	22.33	22 ± 1
				36	0	2	21.86	22 ± 1
				36	16	2	21.74	22 ± 1
				36	35	2	21.69	22 ± 1
				75	0	2	21.29	22 ± 1
	19125	1902.5	QPSK	1	0	0	23.23	23 ± 1
				1	37	0	23.21	23 ± 1
				1	74	0	23.47	23 ± 1
				36	0	1	22.33	23 ± 1
				36	16	1	22.38	23 ± 1
				36	35	1	22.43	23 ± 1
				75	0	1	22.37	23 ± 1
			16QAM	1	0	1	22.63	22 ± 1
				1	37	1	22.70	22 ± 1
				1	74	1	22.75	22 ± 1
				36	0	2	21.65	22 ± 1
				36	16	2	21.67	22 ± 1
				36	35	2	21.74	22 ± 1
				75	0	2	21.37	22 ± 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	23.56	23 ± 1
				1	24	0	23.55	23 ± 1
				1	49	0	23.37	23 ± 1
				25	0	1	22.47	23 ± 1
				25	12	1	22.45	23 ± 1
				25	24	1	22.42	23 ± 1
				50	0	1	22.43	23 ± 1
			16QAM	1	0	1	22.89	22 ± 1
				1	24	1	22.88	22 ± 1
				1	49	1	22.79	22 ± 1
				25	0	2	21.83	22 ± 1
				25	12	2	21.76	22 ± 1
				25	24	2	21.65	22 ± 1
				50	0	2	21.43	22 ± 1
	18900	1880.0	QPSK	1	0	0	23.35	23 ± 1
				1	24	0	23.33	23 ± 1
				1	49	0	23.30	23 ± 1
				25	0	1	22.25	23 ± 1
				25	12	1	22.23	23 ± 1
				25	24	1	22.22	23 ± 1
				50	0	1	22.24	23 ± 1
			16QAM	1	0	1	22.13	22 ± 1
				1	24	1	22.09	22 ± 1
				1	49	1	22.03	22 ± 1
				25	0	2	21.69	22 ± 1
				25	12	2	21.54	22 ± 1
				25	24	2	21.42	22 ± 1
				50	0	2	21.29	22 ± 1
	19150	1905	QPSK	1	0	0	23.32	23 ± 1
				1	24	0	23.40	23 ± 1
				1	49	0	23.51	23 ± 1
				25	0	1	22.26	23 ± 1
				25	12	1	22.29	23 ± 1
				25	24	1	22.32	23 ± 1
				50	0	1	22.29	23 ± 1
			16QAM	1	0	1	22.23	22 ± 1
				1	24	1	22.28	22 ± 1
				1	49	1	22.31	22 ± 1
				25	0	2	21.59	22 ± 1
				25	12	2	21.54	22 ± 1
				25	24	2	21.46	22 ± 1
				50	0	2	21.35	22 ± 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	23.53	23 ± 1
				1	12	0	23.54	23 ± 1
				1	24	0	23.47	23 ± 1
				12	0	1	22.51	23 ± 1
				12	6	1	22.49	23 ± 1
				12	11	1	22.48	23 ± 1
				25	0	1	22.44	23 ± 1
			16QAM	1	0	1	22.77	22 ± 1
				1	12	1	22.76	22 ± 1
				1	24	1	22.69	22 ± 1
				12	0	2	21.84	22 ± 1
				12	6	2	21.83	22 ± 1
				12	11	2	21.77	22 ± 1
				25	0	2	21.40	22 ± 1
	18900	1880.0	QPSK	1	0	0	23.19	23 ± 1
				1	12	0	23.22	23 ± 1
				1	24	0	23.16	23 ± 1
				12	0	1	22.28	23 ± 1
				12	6	1	22.26	23 ± 1
				12	11	1	22.24	23 ± 1
				25	0	1	22.21	23 ± 1
			16QAM	1	0	1	22.26	22 ± 1
				1	12	1	22.24	22 ± 1
				1	24	1	22.15	22 ± 1
				12	0	2	21.65	22 ± 1
				12	6	2	21.63	22 ± 1
				12	11	2	21.52	22 ± 1
				25	0	2	21.27	22 ± 1
	19175	1907.5	QPSK	1	0	0	23.33	23 ± 1
				1	12	0	23.38	23 ± 1
				1	24	0	23.39	23 ± 1
				12	0	1	22.36	23 ± 1
				12	6	1	22.39	23 ± 1
				12	11	1	22.40	23 ± 1
				25	0	1	22.32	23 ± 1
			16QAM	1	0	1	22.23	22 ± 1
				1	12	1	22.25	22 ± 1
				1	24	1	22.24	22 ± 1
				12	0	2	21.74	22 ± 1
				12	6	2	21.72	22 ± 1
				12	11	2	21.68	22 ± 1
				25	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
3MHz	18625	1852.5	QPSK	1	0	0	23.55	23 ± 1
				1	7	0	23.59	23 ± 1
				1	14	0	23.52	23 ± 1
				8	0	1	22.48	23 ± 1
				8	4	1	22.46	23 ± 1
				8	7	1	22.47	23 ± 1
				15	0	1	22.48	23 ± 1
			16QAM	1	0	1	22.07	22 ± 1
				1	7	1	22.13	22 ± 1
				1	14	1	22.11	22 ± 1
				8	0	2	21.58	22 ± 1
				8	4	2	21.56	22 ± 1
				8	7	2	21.55	22 ± 1
				15	0	2	21.38	22 ± 1
	18900	1880.0	QPSK	1	0	0	23.06	23 ± 1
				1	7	0	23.15	23 ± 1
				1	14	0	23.11	23 ± 1
				8	0	1	22.21	23 ± 1
				8	4	1	22.19	23 ± 1
				8	7	1	22.21	23 ± 1
				15	0	1	22.23	23 ± 1
			16QAM	1	0	1	22.63	22 ± 1
				1	7	1	22.65	22 ± 1
				1	14	1	22.54	22 ± 1
				8	0	2	21.68	22 ± 1
				8	4	2	21.64	22 ± 1
				8	7	2	21.52	22 ± 1
				15	0	2	21.35	22 ± 1
	19175	1907.5	QPSK	1	0	0	23.37	23 ± 1
				1	7	0	23.47	23 ± 1
				1	14	0	23.49	23 ± 1
				8	0	1	22.35	23 ± 1
				8	4	1	22.34	23 ± 1
				8	7	1	22.35	23 ± 1
				15	0	1	22.37	23 ± 1
			16QAM	1	0	1	22.13	22 ± 1
				1	7	1	22.16	22 ± 1
				1	14	1	22.18	22 ± 1
				8	0	2	21.56	22 ± 1
				8	4	2	21.52	22 ± 1
				8	7	2	21.41	22 ± 1
				15	0	2	21.28	22 ± 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	23.45	23±1
				1	2	0	23.52	23±1
				1	5	0	23.51	23±1
				3	0	0	23.47	23±1
				3	1	0	23.44	23±1
				3	2	0	23.46	23±1
				6	0	1	22.55	23±1
			16QAM	1	0	1	22.07	22±1
				1	2	1	22.12	22±1
				1	5	1	22.09	22±1
				3	0	1	21.79	22±1
				3	1	1	21.76	22±1
				3	2	1	21.66	22±1
				6	0	2	21.34	22±1
	18900	1880.0	QPSK	1	0	0	23.27	23±1
				1	2	0	23.31	23±1
				1	5	0	23.27	23±1
				3	0	0	23.33	23±1
				3	1	0	23.32	23±1
				3	2	0	23.33	23±1
				6	0	1	22.19	23±1
			16QAM	1	0	1	22.06	22±1
				1	2	1	22.08	22±1
				1	5	1	22.05	22±1
				3	0	1	21.65	22±1
				3	1	1	21.63	22±1
				3	2	1	21.58	22±1
				6	0	2	21.17	22±1
	19193	1909.3	QPSK	1	0	0	23.46	23±1
				1	2	0	23.53	23±1
				1	5	0	23.51	23±1
				3	0	0	23.33	23±1
				3	1	0	23.34	23±1
				3	2	0	23.35	23±1
				6	0	1	22.44	23±1
			16QAM	1	0	1	22.27	22±1
				1	2	1	22.39	22±1
				1	5	1	22.31	22±1
				3	0	1	21.94	22±1
				3	1	1	21.85	22±1
				3	2	1	21.79	22±1
				6	0	2	21.14	22±1

LTE Band 4:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	20050	1720.0	QPSK	1	0	0	23.33	23 ± 1
				1	49	0	23.18	23 ± 1
				1	99	0	23.25	23 ± 1
				50	0	1	22.18	23 ± 1
				50	24	1	22.17	23 ± 1
				50	49	1	22.19	23 ± 1
				100	0	1	22.19	23 ± 1
			16QAM	1	0	1	22.65	22 ± 1
				1	49	1	22.48	22 ± 1
				1	99	1	22.63	22 ± 1
				50	0	2	21.79	22 ± 1
				50	24	2	21.76	22 ± 1
				50	49	2	21.67	22 ± 1
				100	0	2	21.17	22 ± 1
	20175	1732.5	QPSK	1	0	0	23.37	23 ± 1
				1	49	0	23.39	23 ± 1
				1	99	0	23.41	23 ± 1
				50	0	1	22.24	23 ± 1
				50	24	1	22.26	23 ± 1
				50	49	1	22.29	23 ± 1
				100	0	1	22.28	23 ± 1
			16QAM	1	0	1	22.21	22 ± 1
				1	49	1	22.25	22 ± 1
				1	99	1	22.28	22 ± 1
				50	0	2	21.55	22 ± 1
				50	24	2	21.54	22 ± 1
				50	49	2	21.48	22 ± 1
				100	0	2	21.27	22 ± 1
	20300	1745.0	QPSK	1	0	0	23.30	23 ± 1
				1	49	0	23.25	23 ± 1
				1	99	0	23.31	23 ± 1
				50	0	1	22.24	23 ± 1
				50	24	1	22.23	23 ± 1
				50	49	1	22.22	23 ± 1
				100	0	1	22.23	23 ± 1
			16QAM	1	0	1	22.68	22 ± 1
				1	49	1	22.59	22 ± 1
				1	99	1	22.52	22 ± 1
				50	0	2	21.74	22 ± 1
				50	24	2	21.73	22 ± 1
				50	49	2	21.69	22 ± 1
				100	0	2	21.23	22 ± 1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
15MHz	20025	1717.5	QPSK	1	0	0	23.28	23 ± 1
				1	37	0	23.18	23 ± 1
				1	74	0	23.19	23 ± 1
				36	0	1	22.37	23 ± 1
				36	16	1	22.31	23 ± 1
				36	35	1	22.27	23 ± 1
				75	0	1	22.31	23 ± 1
			16QAM	1	0	1	22.73	22 ± 1
				1	37	1	22.59	22 ± 1
				1	74	1	22.65	22 ± 1
				36	0	2	21.75	22 ± 1
				36	16	2	21.74	22 ± 1
				36	35	2	21.65	22 ± 1
				75	0	2	21.27	22 ± 1
	20175	1732.5	QPSK	1	0	0	23.32	23 ± 1
				1	37	0	23.34	23 ± 1
				1	74	0	23.37	23 ± 1
				36	0	1	22.32	23 ± 1
				36	16	1	22.33	23 ± 1
				36	35	1	22.35	23 ± 1
				75	0	1	22.33	23 ± 1
			16QAM	1	0	1	22.07	22 ± 1
				1	37	1	22.13	22 ± 1
				1	74	1	22.16	22 ± 1
				36	0	2	21.64	22 ± 1
				36	16	2	21.58	22 ± 1
				36	35	2	21.43	22 ± 1
				75	0	2	21.31	22 ± 1
	20325	1747.5	QPSK	1	0	0	23.24	23 ± 1
				1	37	0	23.23	23 ± 1
				1	74	0	23.30	23 ± 1
				36	0	1	22.28	23 ± 1
				36	16	1	22.31	23 ± 1
				36	35	1	22.34	23 ± 1
				75	0	1	22.31	23 ± 1
			16QAM	1	0	1	22.42	22 ± 1
				1	37	1	22.35	22 ± 1
				1	74	1	22.29	22 ± 1
				36	0	2	21.86	22 ± 1
				36	16	2	21.84	22 ± 1
				36	35	2	21.75	22 ± 1
				75	0	2	21.24	22 ± 1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	20000	1715.0	QPSK	1	0	0	23.26	23 ± 1
				1	24	0	23.23	23 ± 1
				1	49	0	23.12	23 ± 1
				25	0	1	22.23	23 ± 1
				25	12	1	22.19	23 ± 1
				25	24	1	22.14	23 ± 1
				50	0	1	22.17	23 ± 1
			16QAM	1	0	1	22.74	22 ± 1
				1	24	1	22.64	22 ± 1
				1	49	1	22.52	22 ± 1
				25	0	2	21.46	22 ± 1
				25	12	2	21.43	22 ± 1
				25	24	2	21.39	22 ± 1
				50	0	2	21.17	22 ± 1
	20175	1732.5	QPSK	1	0	0	23.32	23 ± 1
				1	24	0	23.38	23 ± 1
				1	49	0	23.37	23 ± 1
				25	0	1	22.25	23 ± 1
				25	12	1	22.27	23 ± 1
				25	24	1	22.29	23 ± 1
				50	0	1	22.26	23 ± 1
			16QAM	1	0	1	22.09	22 ± 1
				1	24	1	22.14	22 ± 1
				1	49	1	22.15	22 ± 1
				25	0	2	21.76	22 ± 1
				25	12	2	21.74	22 ± 1
				25	24	2	21.72	22 ± 1
				50	0	2	21.27	22 ± 1
	20350	1750.0	QPSK	1	0	0	23.33	23 ± 1
				1	24	0	23.37	23 ± 1
				1	49	0	23.34	23 ± 1
				25	0	1	22.21	23 ± 1
				25	12	1	22.22	23 ± 1
				25	24	1	22.20	23 ± 1
				50	0	1	22.20	23 ± 1
			16QAM	1	0	1	22.22	22 ± 1
				1	24	1	22.24	22 ± 1
				1	49	1	22.16	22 ± 1
				25	0	2	21.84	22 ± 1
				25	12	2	21.83	22 ± 1
				25	24	2	21.81	22 ± 1
				50	0	2	21.22	22 ± 1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
5MHz	20000	1715.0	QPSK	1	0	0	23.26	23 ± 1
				1	12	0	23.24	23 ± 1
				1	24	0	23.17	23 ± 1
				12	0	1	22.25	23 ± 1
				12	6	1	22.24	23 ± 1
				12	11	1	22.20	23 ± 1
				25	0	1	22.18	23 ± 1
			16QAM	1	0	1	22.57	22 ± 1
				1	12	1	22.53	22 ± 1
				1	24	1	22.44	22 ± 1
				12	0	2	21.46	22 ± 1
				12	6	2	21.43	22 ± 1
				12	11	2	21.41	22 ± 1
				25	0	2	21.15	22 ± 1
	20175	1732.5	QPSK	1	0	0	23.22	23 ± 1
				1	12	0	23.23	23 ± 1
				1	24	0	23.19	23 ± 1
				12	0	1	22.29	23 ± 1
				12	6	1	22.28	23 ± 1
				12	11	1	22.30	23 ± 1
				25	0	1	22.23	23 ± 1
			16QAM	1	0	1	22.26	22 ± 1
				1	12	1	22.25	22 ± 1
				1	24	1	22.23	22 ± 1
				12	0	2	21.74	22 ± 1
				12	6	2	21.68	22 ± 1
				12	11	2	21.63	22 ± 1
				25	0	2	21.25	22 ± 1
	20350	1750.0	QPSK	1	0	0	23.37	23 ± 1
				1	12	0	23.35	23 ± 1
				1	24	0	23.27	23 ± 1
				12	0	1	22.33	23 ± 1
				12	6	1	22.28	23 ± 1
				12	11	1	22.29	23 ± 1
				25	0	1	22.23	23 ± 1
			16QAM	1	0	1	22.22	22 ± 1
				1	12	1	22.21	22 ± 1
				1	24	1	22.13	22 ± 1
				12	0	2	21.78	22 ± 1
				12	6	2	21.75	22 ± 1
				12	11	2	21.76	22 ± 1
				25	0	2	21.24	22 ± 1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	19965	1711.5	QPSK	1	0	0	23.27	23 ± 1
				1	7	0	23.30	23 ± 1
				1	14	0	23.25	23 ± 1
				8	0	1	22.23	23 ± 1
				8	4	1	22.21	23 ± 1
				8	7	1	22.19	23 ± 1
				15	0	1	22.21	23 ± 1
			16QAM	1	0	1	22.02	22 ± 1
				1	7	1	22.03	22 ± 1
				1	14	1	21.98	22 ± 1
				8	0	2	21.83	22 ± 1
				8	4	2	21.81	22 ± 1
				8	7	2	21.78	22 ± 1
				15	0	2	21.14	22 ± 1
	20175	1732.5	QPSK	1	0	0	23.25	23 ± 1
				1	7	0	23.29	23 ± 1
				1	14	0	23.28	23 ± 1
				8	0	1	22.25	23 ± 1
				8	4	1	22.24	23 ± 1
				8	7	1	22.23	23 ± 1
				15	0	1	22.24	23 ± 1
			16QAM	1	0	1	22.17	22 ± 1
				1	7	1	22.19	22 ± 1
				1	14	1	22.16	22 ± 1
				8	0	2	21.63	22 ± 1
				8	4	2	21.61	22 ± 1
				8	7	2	21.58	22 ± 1
				15	0	2	21.25	22 ± 1
	20385	1753.5	QPSK	1	0	0	23.22	23 ± 1
				1	7	0	23.27	23 ± 1
				1	14	0	23.20	23 ± 1
				8	0	1	22.24	23 ± 1
				8	4	1	22.25	23 ± 1
				8	7	1	22.23	23 ± 1
				15	0	1	22.26	23 ± 1
			16QAM	1	0	1	22.61	22 ± 1
				1	7	1	22.60	22 ± 1
				1	14	1	22.53	22 ± 1
				8	0	2	21.69	22 ± 1
				8	4	2	21.67	22 ± 1
				8	7	2	21.65	22 ± 1
				15	0	2	21.29	22 ± 1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	19957	1710.7	QPSK	1	0	0	23.30	23±1
				1	2	0	23.31	23±1
				1	5	0	23.31	23±1
				3	0	0	23.30	23±1
				3	1	0	23.29	23±1
				3	2	0	23.26	23±1
				6	0	1	22.24	23±1
			16QAM	1	0	1	22.05	22±1
				1	2	1	22.06	22±1
				1	5	1	22.04	22±1
				3	0	1	21.72	22±1
				3	1	1	21.71	22±1
				3	2	1	21.69	22±1
				6	0	2	21.16	22±1
	20175	1732.5	QPSK	1	0	0	23.26	23±1
				1	2	0	23.33	23±1
				1	5	0	23.28	23±1
				3	0	0	23.25	23±1
				3	1	0	23.28	23±1
				3	2	0	23.31	23±1
				6	0	1	22.24	23±1
			16QAM	1	0	1	22.18	22±1
				1	2	1	22.29	22±1
				1	5	1	22.22	22±1
				3	0	1	21.42	22±1
				3	1	1	21.39	22±1
				3	2	1	21.38	22±1
				6	0	2	21.07	22±1
	20393	1754.3	QPSK	1	0	0	23.28	23±1
				1	2	0	23.32	23±1
				1	5	0	23.29	23±1
				3	0	0	23.27	23±1
				3	1	0	23.24	23±1
				3	2	0	23.25	23±1
				6	0	1	22.34	23±1
			16QAM	1	0	1	21.86	22±1
				1	2	1	21.90	22±1
				1	5	1	21.86	22±1
				3	0	1	21.47	22±1
				3	1	1	21.46	22±1
				3	2	1	21.43	22±1
				6	0	2	21.16	22±1

LTE Band 5:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
10MHz	20450	829	QPSK	1	0	0	22.57	22 ± 1
				1	24	0	22.52	22 ± 1
				1	49	0	22.46	22 ± 1
				25	0	1	21.71	22 ± 1
				25	12	1	21.68	22 ± 1
				25	24	1	21.64	22 ± 1
				50	0	1	21.69	22 ± 1
			16QAM	1	0	1	22.27	21.3 ± 1
				1	24	1	22.21	21.3 ± 1
				1	49	1	22.28	21.3 ± 1
				25	0	2	21.48	21.3 ± 1
				25	12	2	21.42	21.3 ± 1
				25	24	2	21.41	21.3 ± 1
				50	0	2	21.75	21.3 ± 1
	20525	836.5	QPSK	1	0	0	22.52	22 ± 1
				1	24	0	22.51	22 ± 1
				1	49	0	22.39	22 ± 1
				25	0	1	21.67	22 ± 1
				25	12	1	21.66	22 ± 1
				25	24	1	21.65	22 ± 1
				50	0	1	21.68	22 ± 1
			16QAM	1	0	1	22.25	21.3 ± 1
				1	24	1	22.24	21.3 ± 1
				1	49	1	22.19	21.3 ± 1
				25	0	2	21.65	21.3 ± 1
				25	12	2	21.62	21.3 ± 1
				25	24	2	21.61	21.3 ± 1
				50	0	2	20.74	21.3 ± 1
	20600	844	QPSK	1	0	0	22.69	22 ± 1
				1	24	0	22.63	22 ± 1
				1	49	0	22.55	22 ± 1
				25	0	1	21.65	22 ± 1
				25	12	1	21.62	22 ± 1
				25	24	1	21.63	22 ± 1
				50	0	1	21.65	22 ± 1
			16QAM	1	0	1	21.61	21.3 ± 1
				1	24	1	21.51	21.3 ± 1
				1	49	1	21.42	21.3 ± 1
				25	0	2	21.15	21.3 ± 1
				25	12	2	21.08	21.3 ± 1
				25	24	2	20.89	21.3 ± 1
				50	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
5MHz	20425	826.5	QPSK	1	0	0	22.69	22 ± 1
				1	12	0	22.64	22 ± 1
				1	24	0	22.62	22 ± 1
				12	0	1	21.75	22 ± 1
				12	6	1	21.76	22 ± 1
				12	11	1	21.72	22 ± 1
				25	0	1	21.70	22 ± 1
			16QAM	1	0	1	22.18	21.3 ± 1
				1	12	1	22.14	21.3 ± 1
				1	24	1	22.08	21.3 ± 1
				12	0	2	21.84	21.3 ± 1
				12	6	2	21.81	21.3 ± 1
				12	11	2	21.78	21.3 ± 1
				25	0	2	20.70	21.3 ± 1
	20525	836.5	QPSK	1	0	0	22.56	22 ± 1
				1	12	0	22.57	22 ± 1
				1	24	0	22.51	22 ± 1
				12	0	1	21.74	22 ± 1
				12	6	1	21.72	22 ± 1
				12	11	1	21.71	22 ± 1
				25	0	1	21.69	22 ± 1
			16QAM	1	0	1	21.73	21.3 ± 1
				1	12	1	21.74	21.3 ± 1
				1	24	1	21.68	21.3 ± 1
				12	0	2	21.32	21.3 ± 1
				12	6	2	21.29	21.3 ± 1
				12	11	2	21.27	21.3 ± 1
				25	0	2	20.78	21.3 ± 1
	20625	846.5	QPSK	1	0	0	22.68	22 ± 1
				1	12	0	22.67	22 ± 1
				1	24	0	22.53	22 ± 1
				12	0	1	21.74	22 ± 1
				12	6	1	21.71	22 ± 1
				12	11	1	21.67	22 ± 1
				25	0	1	21.63	22 ± 1
			16QAM	1	0	1	21.69	21.3 ± 1
				1	12	1	21.68	21.3 ± 1
				1	24	1	21.57	21.3 ± 1
				12	0	2	21.26	21.3 ± 1
				12	6	2	21.24	21.3 ± 1
				12	11	2	21.23	21.3 ± 1
				25	0	2	20.72	21.3 ± 1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
3MHz	20415	825.5	QPSK	1	0	0	22.67	22 ± 1
				1	7	0	22.68	22 ± 1
				1	14	0	22.61	22 ± 1
				8	0	1	21.71	22 ± 1
				8	4	1	21.69	22 ± 1
				8	7	1	21.65	22 ± 1
				15	0	1	21.68	22 ± 1
			16QAM	1	0	1	21.55	21.3 ± 1
				1	7	1	21.54	21.3 ± 1
				1	14	1	21.48	21.3 ± 1
				8	0	2	21.12	21.3 ± 1
				8	4	2	21.09	21.3 ± 1
				8	7	2	21.07	21.3 ± 1
				15	0	2	20.65	21.3 ± 1
	20525	836.5	QPSK	1	0	0	22.62	22 ± 1
				1	7	0	22.65	22 ± 1
				1	14	0	22.58	22 ± 1
				8	0	1	21.69	22 ± 1
				8	4	1	21.70	22 ± 1
				8	7	1	21.71	22 ± 1
				15	0	1	21.69	22 ± 1
			16QAM	1	0	1	21.68	21.3 ± 1
				1	7	1	21.67	21.3 ± 1
				1	14	1	21.63	21.3 ± 1
				8	0	2	21.34	21.3 ± 1
				8	4	2	21.32	21.3 ± 1
				8	7	2	21.31	21.3 ± 1
				15	0	2	20.75	21.3 ± 1
	20635	847.5	QPSK	1	0	0	22.45	22 ± 1
				1	7	0	22.44	22 ± 1
				1	14	0	22.33	22 ± 1
				8	0	1	21.65	22 ± 1
				8	4	1	21.63	22 ± 1
				8	7	1	21.60	22 ± 1
				15	0	1	21.63	22 ± 1
			16QAM	1	0	1	22.18	21.3 ± 1
				1	7	1	22.14	21.3 ± 1
				1	14	1	22.02	21.3 ± 1
				8	0	2	21.67	21.3 ± 1
				8	4	2	21.64	21.3 ± 1
				8	7	2	21.63	21.3 ± 1
				15	0	2	20.77	21.3 ± 1

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
1.4MHz	20407	824.7	QPSK	1	0	0	22.67	22 ± 1
				1	2	0	22.70	22 ± 1
				1	5	0	22.70	22 ± 1
				3	0	0	22.79	22 ± 1
				3	1	0	22.77	22 ± 1
				3	2	0	22.78	22 ± 1
				6	0	1	21.61	22 ± 1
			16QAM	1	0	1	21.56	21.3 ± 1
				1	2	1	21.59	21.3 ± 1
				1	5	1	21.57	21.3 ± 1
				3	0	1	21.28	21.3 ± 1
				3	1	1	21.26	21.3 ± 1
				3	2	1	21.14	21.3 ± 1
				6	0	2	20.65	21.3 ± 1
	20525	836.5	QPSK	1	0	0	22.63	22 ± 1
				1	2	0	22.67	22 ± 1
				1	5	0	22.65	22 ± 1
				3	0	0	22.72	22 ± 1
				3	1	0	22.74	22 ± 1
				3	2	0	22.77	22 ± 1
				6	0	1	21.58	22 ± 1
			16QAM	1	0	1	21.68	21.3 ± 1
				1	2	1	21.78	21.3 ± 1
				1	5	1	21.71	21.3 ± 1
				3	0	1	21.42	21.3 ± 1
				3	1	1	21.39	21.3 ± 1
				3	2	1	21.38	21.3 ± 1
				6	0	2	20.52	21.3 ± 1
	20643	848.3	QPSK	1	0	0	22.49	22 ± 1
				1	2	0	22.50	22 ± 1
				1	5	0	22.45	22 ± 1
				3	0	0	22.65	22 ± 1
				3	1	0	22.64	22 ± 1
				3	2	0	22.63	22 ± 1
				6	0	1	21.56	22 ± 1
			16QAM	1	0	1	21.23	21.3 ± 1
				1	2	1	21.24	21.3 ± 1
				1	5	1	21.20	21.3 ± 1
				3	0	1	21.09	21.3 ± 1
				3	1	1	21.07	21.3 ± 1
				3	2	1	21.06	21.3 ± 1
				6	0	2	20.54	21.3 ± 1

LTE Band 7:

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	Tune up Power tolerant
20MHz	20850	2510	QPSK	1	0	0	22.46	22 ± 1
				1	49	0	22.84	22 ± 1
				1	99	0	21.59	22 ± 1
				50	0	1	22.34	22 ± 1
				50	24	1	21.84	22 ± 1
				50	49	1	21.31	22 ± 1
				100	0	1	21.84	22 ± 1
			16QAM	1	0	1	21.88	21.3 ± 1
				1	49	1	22.19	21.3 ± 1
				1	99	1	20.96	21.3 ± 1
				50	0	2	21.26	21.3 ± 1
				50	24	2	21.25	21.3 ± 1
				50	49	2	21.17	21.3 ± 1
				100	0	2	20.93	21.3 ± 1
	21100	2535	QPSK	1	0	0	21.26	22 ± 1
				1	49	0	22.26	22 ± 1
				1	99	0	22.25	22 ± 1
				50	0	1	21.11	22 ± 1
				50	24	1	21.36	22 ± 1
				50	49	1	22.39	22 ± 1
				100	0	1	21.75	22 ± 1
			16QAM	1	0	1	20.61	21.3 ± 1
				1	49	1	21.74	21.3 ± 1
				1	99	1	22.29	21.3 ± 1
				50	0	2	20.49	21.3 ± 1
				50	24	2	21.36	21.3 ± 1
				50	49	2	22.14	21.3 ± 1
				100	0	2	20.92	21.3 ± 1
	21350	2560	QPSK	1	0	0	22.23	21.3 ± 1
				1	49	0	21.19	21.3 ± 1
				1	99	0	21.26	21.3 ± 1
				50	0	1	21.38	21.3 ± 1
				50	24	1	21.08	21.3 ± 1
				50	49	1	20.31	21.3 ± 1
				100	0	1	20.80	21.3 ± 1
			16QAM	1	0	1	22.23	21.3 ± 1
				1	49	1	20.38	21.3 ± 1
				1	99	1	20.49	21.3 ± 1
				50	0	2	21.24	21.3 ± 1
				50	24	2	20.51	21.3 ± 1
				50	49	2	20.42	21.3 ± 1
				100	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
15MHz	20825	1717.5	QPSK	1	0	0	22.25	22 ± 1
				1	37	0	22.75	22 ± 1
				1	74	0	21.80	22 ± 1
				36	0	1	21.98	22 ± 1
				36	16	1	21.76	22 ± 1
				36	35	1	21.61	22 ± 1
				75	0	1	21.81	22 ± 1
			16QAM	1	0	1	21.22	21.3 ± 1
				1	37	1	21.84	21.3 ± 1
				1	74	1	20.83	21.3 ± 1
				36	0	2	21.26	21.3 ± 1
				36	16	2	21.15	21.3 ± 1
				36	35	2	20.98	21.3 ± 1
				75	0	2	20.95	21.3 ± 1
	21100	1732.5	QPSK	1	0	0	20.92	21.3 ± 1
				1	37	0	21.94	21.3 ± 1
				1	74	0	22.22	21.3 ± 1
				36	0	1	20.62	21.3 ± 1
				36	16	1	21.13	21.3 ± 1
				36	35	1	21.91	21.3 ± 1
				75	0	1	21.29	21.3 ± 1
			16QAM	1	0	1	20.34	21.3 ± 1
				1	37	1	21.25	21.3 ± 1
				1	74	1	22.19	21.3 ± 1
				36	0	2	21.23	21.3 ± 1
				36	16	2	21.15	21.3 ± 1
				36	35	2	21.11	21.3 ± 1
				75	0	2	20.47	21.3 ± 1
	21375	1747.5	QPSK	1	0	0	21.56	21.3 ± 1
				1	37	0	20.45	21.3 ± 1
				1	74	0	21.02	21.3 ± 1
				36	0	1	20.31	21.3 ± 1
				36	16	1	20.41	21.3 ± 1
				36	35	1	20.38	21.3 ± 1
				75	0	1	20.32	21.3 ± 1
			16QAM	1	0	1	21.23	21.3 ± 1
				1	37	1	20.36	21.3 ± 1
				1	74	1	20.67	21.3 ± 1
				36	0	2	21.12	21.3 ± 1
				36	16	2	20.35	21.3 ± 1
				36	35	2	20.31	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
10MHz	20800	2502	QPSK	1	0	0	21.85	22 ± 1
				1	24	0	22.52	22 ± 1
				1	49	0	22.29	22 ± 1
				25	0	1	21.67	22 ± 1
				25	12	1	21.84	22 ± 1
				25	24	1	21.99	22 ± 1
				50	0	1	21.86	22 ± 1
			16QAM	1	0	1	20.82	21.3 ± 1
				1	24	1	21.61	21.3 ± 1
				1	49	1	21.38	21.3 ± 1
				25	0	2	21.21	21.3 ± 1
				25	12	2	21.14	21.3 ± 1
				25	24	2	21.08	21.3 ± 1
				50	0	2	20.96	21.3 ± 1
	21100	2535	QPSK	1	0	0	21.19	22 ± 1
				1	24	0	22.02	22 ± 1
				1	49	0	22.52	22 ± 1
				25	0	1	21.88	22 ± 1
				25	12	1	21.13	22 ± 1
				25	24	1	21.72	22 ± 1
				50	0	1	21.33	22 ± 1
			16QAM	1	0	1	20.36	21.3 ± 1
				1	24	1	20.18	21.3 ± 1
				1	49	1	21.72	21.3 ± 1
				25	0	2	20.86	21.3 ± 1
				25	12	2	20.75	21.3 ± 1
				25	24	2	20.71	21.3 ± 1
				50	0	2	20.55	21.3 ± 1
	21400	2565	QPSK	1	0	0	21.02	21.3 ± 1
				1	24	0	20.77	21.3 ± 1
				1	49	0	21.13	21.3 ± 1
				25	0	1	20.34	21.3 ± 1
				25	12	1	20.36	21.3 ± 1
				25	24	1	20.39	21.3 ± 1
				50	0	1	20.31	21.3 ± 1
			16QAM	1	0	1	20.65	21.3 ± 1
				1	24	1	20.47	21.3 ± 1
				1	49	1	20.75	21.3 ± 1
				25	0	2	20.51	21.3 ± 1
				25	12	2	20.43	21.3 ± 1
				25	24	2	20.38	21.3 ± 1
				50	0	2	20.32	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	22.08	22 ± 1
				1	12	0	22.17	22 ± 1
				1	24	0	22.62	22 ± 1
				12	0	1	21.38	22 ± 1
				12	6	1	21.56	22 ± 1
				12	11	1	21.80	22 ± 1
				25	0	1	21.59	22 ± 1
			16QAM	1	0	1	21.61	21.3 ± 1
				1	12	1	21.72	21.3 ± 1
				1	24	1	22.22	21.3 ± 1
				12	0	2	21.48	21.3 ± 1
				12	6	2	21.45	21.3 ± 1
				12	11	2	21.41	21.3 ± 1
				25	0	2	20.68	21.3 ± 1
	20175	1732.5	QPSK	1	0	0	21.76	22 ± 1
				1	12	0	21.88	22 ± 1
				1	24	0	22.36	22 ± 1
				12	0	1	21.11	22 ± 1
				12	6	1	21.32	22 ± 1
				12	11	1	21.58	22 ± 1
				25	0	1	21.33	22 ± 1
			16QAM	1	0	1	21.03	21.3 ± 1
				1	12	1	21.15	21.3 ± 1
				1	24	1	21.69	21.3 ± 1
				12	0	2	21.32	21.3 ± 1
				12	6	2	21.29	21.3 ± 1
				12	11	2	21.26	21.3 ± 1
				25	0	2	20.55	21.3 ± 1
	20375	1752.5	QPSK	1	0	0	21.04	21.3 ± 1
				1	12	0	20.91	21.3 ± 1
				1	24	0	21.36	21.3 ± 1
				12	0	1	20.31	21.3 ± 1
				12	6	1	20.45	21.3 ± 1
				12	11	1	20.59	21.3 ± 1
				25	0	1	20.41	21.3 ± 1
			16QAM	1	0	1	20.38	21.3 ± 1
				1	12	1	20.37	21.3 ± 1
				1	24	1	20.74	21.3 ± 1
				12	0	2	20.51	21.3 ± 1
				12	6	2	20.42	21.3 ± 1
				12	11	2	20.36	21.3 ± 1
				25	0	2	20.34	21.3 ± 1

ERP & EIRP

EIRP for LTE Band 2 (Part 24E)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
1850.7	1.4	QPSK	1/0	17.94	V	7.88	0.85	18.31	33.01
1880	1.4	QPSK	1/0	17.98	V	7.88	0.85	18.35	33.01
1909.3	1.4	QPSK	1/0	17.93	V	7.88	0.85	18.26	33.01
1850.7	1.4	QPSK	1/0	17.12	H	7.88	0.85	17.40	33.01
1880	1.4	QPSK	1/0	17.19	H	7.88	0.85	17.45	33.01
1909.3	1.4	QPSK	1/0	17.08	H	7.88	0.85	17.36	33.01
1850.7	1.4	16-QAM	1/0	16.93	V	7.88	0.85	17.18	33.01
1880	1.4	16-QAM	1/0	16.89	V	7.88	0.85	17.10	33.01
1909.3	1.4	16-QAM	1/0	16.92	V	7.88	0.85	17.14	33.01
1850.7	1.4	16-QAM	1/0	16.09	H	7.88	0.85	16.32	33.01
1880	1.4	16-QAM	1/0	16.03	H	7.88	0.85	16.24	33.01
1909.3	1.4	16-QAM	1/0	16.07	H	7.88	0.85	16.27	33.01
1851.5	3	QPSK	1/0	17.85	V	7.88	0.85	18.28	33.01
1880	3	QPSK	1/0	17.82	V	7.88	0.85	18.15	33.01
1908.5	3	QPSK	1/0	17.89	V	7.88	0.85	18.27	33.01
1851.5	3	QPSK	1/0	16.95	H	7.88	0.85	17.41	33.01
1880	3	QPSK	1/0	16.94	H	7.88	0.85	17.28	33.01
1908.5	3	QPSK	1/0	16.97	H	7.88	0.85	17.35	33.01
1851.5	3	16-QAM	1/0	16.81	V	7.88	0.85	17.16	33.01
1880	3	16-QAM	1/0	16.77	V	7.88	0.85	17.06	33.01
1908.5	3	16-QAM	1/0	16.85	V	7.88	0.85	17.18	33.01
1851.5	3	16-QAM	1/0	15.96	H	7.88	0.85	16.30	33.01
1880	3	16-QAM	1/0	15.94	H	7.88	0.85	16.14	33.01
1908.5	3	16-QAM	1/0	15.93	H	7.88	0.85	16.26	33.01
1852.5	5	QPSK	1/24	17.76	V	7.88	0.85	18.24	33.01
1880	5	QPSK	1/0	17.79	V	7.88	0.85	18.11	33.01
1907.5	5	QPSK	1/24	17.82	V	7.88	0.85	18.19	33.01
1852.5	5	QPSK	1/24	16.85	H	7.88	0.85	17.44	33.01
1880	5	QPSK	1/0	16.92	H	7.88	0.85	17.30	33.01
1907.5	5	QPSK	1/24	16.84	H	7.88	0.85	17.36	33.01
1852.5	5	16-QAM	1/24	16.69	V	7.88	0.85	17.22	33.01
1880	5	16-QAM	1/0	16.72	V	7.88	0.85	17.11	33.01

1907.5	5	16-QAM	1/24	16.64	V	7.88	0.85	17.15	33.01
1852.5	5	16-QAM	1/24	15.82	H	7.88	0.85	16.27	33.01
1880	5	16-QAM	1/0	15.93	H	7.88	0.85	16.14	33.01
1907.5	5	16-QAM	1/24	15.88	H	7.88	0.85	16.21	33.01
1855	10	QPSK	1/0	17.86	V	7.88	0.85	18.28	33.01
1880	10	QPSK	1/0	17.92	V	7.88	0.85	18.16	33.01
1905	10	QPSK	1/49	17.98	V	7.88	0.85	18.32	33.01
1855	10	QPSK	1/0	16.94	H	7.88	0.85	17.38	33.01
1880	10	QPSK	1/0	16.98	H	7.88	0.85	17.24	33.01
1905	10	QPSK	1/49	17.05	H	7.88	0.85	17.41	33.01
1855	10	16-QAM	1/0	16.95	V	7.88	0.85	17.18	33.01
1880	10	16-QAM	1/0	16.89	V	7.88	0.85	17.06	33.01
1905	10	16-QAM	1/49	16.92	V	7.88	0.85	17.24	33.01
1855	10	16-QAM	1/0	16.13	H	7.88	0.85	16.30	33.01
1880	10	16-QAM	1/0	16.08	H	7.88	0.85	16.16	33.01
1905	10	16-QAM	1/49	16.15	H	7.88	0.85	16.35	33.01
1857.5	15	QPSK	1/0	18.13	V	7.88	0.85	18.38	33.01
1880	15	QPSK	1/0	18.18	V	7.88	0.85	18.22	33.01
1902.5	15	QPSK	1/0	18.22	V	7.88	0.85	18.25	33.01
1857.5	15	QPSK	1/0	17.46	H	7.88	0.85	17.54	33.01
1880	15	QPSK	1/0	17.52	H	7.88	0.85	17.39	33.01
1902.5	15	QPSK	1/0	17.56	H	7.88	0.85	17.46	33.01
1857.5	15	16-QAM	1/0	17.24	V	7.88	0.85	17.32	33.01
1880	15	16-QAM	1/0	17.19	V	7.88	0.85	17.15	33.01
1902.5	15	16-QAM	1/0	17.28	V	7.88	0.85	17.18	33.01
1857.5	15	16-QAM	1/0	16.59	H	7.88	0.85	16.41	33.01
1880	15	16-QAM	1/0	16.62	H	7.88	0.85	16.17	33.01
1902.5	15	16-QAM	1/0	16.66	H	7.88	0.85	16.22	33.01
1860	20	QPSK	1/0	18.12	V	7.88	0.85	18.32	33.01
1880	20	QPSK	1/0	18.08	V	7.88	0.85	18.08	33.01
1900	20	QPSK	1/0	18.16	V	7.88	0.85	18.15	33.01
1860	20	QPSK	1/0	17.38	H	7.88	0.85	17.40	33.01
1880	20	QPSK	1/0	17.33	H	7.88	0.85	17.17	33.01
1900	20	QPSK	1/0	17.42	H	7.88	0.85	17.22	33.01
1860	20	16-QAM	1/0	17.09	V	7.88	0.85	17.26	33.01
1880	20	16-QAM	1/0	17.13	V	7.88	0.85	17.07	33.01
1900	20	16-QAM	1/0	17.18	V	7.88	0.85	17.11	33.01
1860	20	16-QAM	1/0	16.38	H	7.88	0.85	16.20	33.01

Test Report	15050054-FCC-R5
Page	34 of 120

1880	20	16-QAM	1/0	16.35	H	7.88	0.85	16.09	33.01
1900	20	16-QAM	1/0	16.41	H	7.88	0.85	16.16	33.01

EIRP for LTE Band 4 (Part 27)

Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
1710.7	1.4	QPSK	1/0	17.79	V	7.95	0.79	19.12	30
1732.5	1.4	QPSK	1/0	17.76	V	7.95	0.79	19.07	30
1754.3	1.4	QPSK	1/0	17.75	V	7.95	0.79	19.03	30
1710.7	1.4	QPSK	1/0	16.91	H	7.95	0.79	18.30	30
1732.5	1.4	QPSK	1/0	16.89	H	7.95	0.79	18.24	30
1754.3	1.4	QPSK	1/0	16.97	H	7.95	0.79	18.21	30
1710.7	1.4	16-QAM	1/5	17.12	V	7.95	0.79	17.93	30
1732.5	1.4	16-QAM	1/0	17.08	V	7.95	0.79	17.85	30
1754.3	1.4	16-QAM	1/0	17.16	V	7.95	0.79	17.88	30
1710.7	1.4	16-QAM	1/5	16.28	H	7.95	0.79	17.01	30
1732.5	1.4	16-QAM	1/0	16.22	H	7.95	0.79	16.95	30
1754.3	1.4	16-QAM	1/0	16.31	H	7.95	0.79	16.97	30
1711.5	3	QPSK	1/0	17.16	V	7.95	0.79	19.08	30
1732.5	3	QPSK	1/0	17.18	V	7.95	0.79	19.04	30
1753.5	3	QPSK	1/0	17.22	V	7.95	0.79	19.01	30
1711.5	3	QPSK	1/0	16.48	H	7.95	0.79	18.21	30
1732.5	3	QPSK	1/0	16.52	H	7.95	0.79	18.17	30
1753.5	3	QPSK	1/0	16.55	H	7.95	0.79	18.12	30
1711.5	3	16-QAM	1/0	16.35	V	7.95	0.79	17.91	30
1732.5	3	16-QAM	1/0	16.39	V	7.95	0.79	17.88	30
1753.5	3	16-QAM	1/0	16.42	V	7.95	0.79	17.84	30
1711.5	3	16-QAM	1/0	15.67	H	7.95	0.79	16.97	30
1732.5	3	16-QAM	1/0	15.62	H	7.95	0.79	16.92	30
1753.5	3	16-QAM	1/0	15.73	H	7.95	0.79	16.88	30
1712.5	5	QPSK	1/0	17.34	V	7.95	0.79	19.05	30
1732.5	5	QPSK	1/0	17.41	V	7.95	0.79	19.08	30
1752.5	5	QPSK	1/24	17.45	V	7.95	0.79	19.12	30
1712.5	5	QPSK	1/0	16.59	H	7.95	0.79	18.19	30
1732.5	5	QPSK	1/0	16.63	H	7.95	0.79	18.3	30
1752.5	5	QPSK	1/24	16.68	H	7.95	0.79	18.24	30
1712.5	5	16-QAM	1/0	16.59	V	7.95	0.79	17.89	30
1732.5	5	16-QAM	1/0	16.62	V	7.95	0.79	17.85	30
1752.5	5	16-QAM	1/24	16.68	V	7.95	0.79	17.91	30
1712.5	5	16-QAM	1/0	15.83	H	7.95	0.79	16.77	30
1732.5	5	16-QAM	1/0	15.89	H	7.95	0.79	16.74	30

1752.5	5	16-QAM	1/24	15.95	H	7.95	0.79	16.82	30
1715	10	QPSK	1/0	17.58	V	7.95	0.79	19.02	30
1732.5	10	QPSK	1/49	17.66	V	7.95	0.79	19.05	30
1750	10	QPSK	1/0	17.71	V	7.95	0.79	19.01	30
1715	10	QPSK	1/0	16.77	H	7.95	0.79	18.07	30
1732.5	10	QPSK	1/49	16.79	H	7.95	0.79	18.04	30
1750	10	QPSK	1/0	16.83	H	7.95	0.79	17.99	30
1715	10	16-QAM	1/0	16.63	V	7.95	0.79	17.93	30
1732.5	10	16-QAM	1/49	16.62	V	7.95	0.79	17.98	30
1750	10	16-QAM	1/0	16.68	V	7.95	0.79	18.02	30
1715	10	16-QAM	1/0	15.95	H	7.95	0.79	16.67	30
1732.5	10	16-QAM	1/49	15.88	H	7.95	0.79	16.73	30
1750	10	16-QAM	1/0	15.97	H	7.95	0.79	16.71	30
1717.5	15	QPSK	1/0	17.68	V	7.95	0.79	19.09	30
1732.5	15	QPSK	1/74	17.74	V	7.95	0.79	19.02	30
1747.5	15	QPSK	1/0	17.77	V	7.95	0.79	19.11	30
1717.5	15	QPSK	1/0	16.95	H	7.95	0.79	18.34	30
1732.5	15	QPSK	1/74	16.93	H	7.95	0.79	18.25	30
1747.5	15	QPSK	1/0	17.08	H	7.95	0.79	18.29	30
1717.5	15	16-QAM	1/0	16.83	V	7.95	0.79	17.91	30
1732.5	15	16-QAM	1/74	16.85	V	7.95	0.79	17.97	30
1747.5	15	16-QAM	1/0	16.91	V	7.95	0.79	17.95	30
1717.5	15	16-QAM	1/0	16.11	H	7.95	0.79	17.01	30
1732.5	15	16-QAM	1/74	16.18	H	7.95	0.79	17.08	30
1747.5	15	16-QAM	1/0	16.24	H	7.95	0.79	17.05	30
1720	20	QPSK	1/99	17.48	V	7.95	0.79	19.11	30
1732.5	20	QPSK	1/99	17.53	V	7.95	0.79	19.07	30
1745	20	QPSK	1/0	17.59	V	7.95	0.79	19.03	30
1720	20	QPSK	1/99	16.77	H	7.95	0.79	17.29	30
1732.5	20	QPSK	1/99	16.71	H	7.95	0.79	17.31	30
1745	20	QPSK	1/0	16.79	H	7.95	0.79	17.25	30
1720	20	16-QAM	1/99	16.42	V	7.95	0.79	17.97	30
1732.5	20	16-QAM	1/99	16.49	V	7.95	0.79	17.92	30
1745	20	16-QAM	1/0	16.55	V	7.95	0.79	17.90	30
1720	20	16-QAM	1/99	15.61	H	7.95	0.79	16.74	30
1732.5	20	16-QAM	1/99	15.66	H	7.95	0.79	16.69	30
1745	20	16-QAM	1/0	15.68	H	7.95	0.79	16.70	30

EIRP for LTE Band 5 (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	18.76	V	6.8	0.44	19.07	34.77
836.5	1.4	QPSK	1/5	18.71	V	6.8	0.44	18.95	34.77
848.3	1.4	QPSK	1/5	17.75	V	6.9	0.44	19.09	34.77
824.7	1.4	QPSK	1/5	17.93	H	6.8	0.44	18.22	34.77
836.5	1.4	QPSK	1/5	17.98	H	6.8	0.44	17.98	34.77
848.3	1.4	QPSK	1/5	18.06	H	6.9	0.44	18.21	34.77
824.7	1.4	16-QAM	1/5	17.72	V	6.8	0.44	18.04	34.77
836.5	1.4	16-QAM	1/5	17.68	V	6.8	0.44	17.78	34.77
848.3	1.4	16-QAM	1/5	17.73	V	6.9	0.44	18.03	34.77
824.7	1.4	16-QAM	1/5	16.85	H	6.8	0.44	16.89	34.77
836.5	1.4	16-QAM	1/5	16.82	H	6.8	0.44	16.74	34.77
848.3	1.4	16-QAM	1/5	16.89	H	6.9	0.44	16.97	34.77
825.5	3	QPSK	1/14	18.45	V	6.8	0.44	18.99	34.77
836.5	3	QPSK	1/0	18.52	V	6.8	0.44	19.07	34.77
847.5	3	QPSK	1/14	18.59	V	6.9	0.44	18.94	34.77
825.5	3	QPSK	1/14	17.67	H	6.8	0.44	17.95	34.77
836.5	3	QPSK	1/0	17.73	H	6.8	0.44	17.98	34.77
847.5	3	QPSK	1/14	17.74	H	6.9	0.44	17.99	34.77
825.5	3	16-QAM	1/14	17.41	V	6.8	0.44	17.91	34.77
836.5	3	16-QAM	1/0	17.49	V	6.8	0.44	17.98	34.77
847.5	3	16-QAM	1/14	17.55	V	6.9	0.44	18.04	34.77
825.5	3	16-QAM	1/14	16.73	H	6.8	0.44	17.09	34.77
836.5	3	16-QAM	1/0	16.79	H	6.8	0.44	17.04	34.77
847.5	3	16-QAM	1/14	16.82	H	6.9	0.44	17.10	34.77
826.5	5	QPSK	1/24	18.79	V	6.8	0.44	18.84	34.77
836.5	5	QPSK	1/24	18.75	V	6.8	0.44	18.89	34.77
846.5	5	QPSK	1/24	18.81	V	6.8	0.44	18.83	34.77
826.5	5	QPSK	1/24	17.95	H	6.8	0.44	17.88	34.77
836.5	5	QPSK	1/24	17.91	H	6.8	0.44	17.92	34.77
846.5	5	QPSK	1/24	17.98	H	6.8	0.44	17.84	34.77
826.5	5	16-QAM	1/24	17.82	V	6.8	0.44	17.73	34.77
836.5	5	16-QAM	1/24	17.78	V	6.8	0.44	17.81	34.77
846.5	5	16-QAM	1/24	17.83	V	6.8	0.44	17.77	34.77

826.5	5	16-QAM	1/24	17.11	H	6.8	0.44	16.94	34.77
836.5	5	16-QAM	1/24	17.08	H	6.8	0.44	16.98	34.77
846.5	5	16-QAM	1/24	17.15	H	6.8	0.44	16.89	34.77
829	10	QPSK	1/49	18.66	V	6.8	0.44	18.95	34.77
836.5	10	QPSK	1/49	18.71	V	6.8	0.44	18.90	34.77
844	10	QPSK	1/49	18.74	V	6.8	0.44	18.84	34.77
829	10	QPSK	1/49	17.84	H	6.8	0.44	17.85	34.77
836.5	10	QPSK	1/49	17.81	H	6.8	0.44	17.89	34.77
844	10	QPSK	1/49	17.87	H	6.8	0.44	17.81	34.77
829	10	16-QAM	1/49	17.73	V	6.8	0.44	17.99	34.77
836.5	10	16-QAM	1/49	17.68	V	6.8	0.44	17.95	34.77
844	10	16-QAM	1/49	17.72	V	6.8	0.44	17.91	34.77
829	10	16-QAM	1/49	16.85	H	6.8	0.44	16.93	34.77
836.5	10	16-QAM	1/49	16.89	H	6.8	0.44	16.77	34.77
844	10	16-QAM	1/49	16.94	H	6.8	0.44	16.84	34.77

ERP for LTE Band 7 (Part 27)

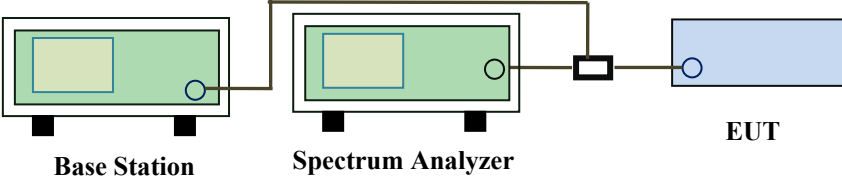
Frequency (MHz)	BW (MHz)	Modulation	RB Size/Offset	Substituted level (dBm)	Antenna Polarization	Antenna Gain correction (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)
2502.5	5	QPSK	1/0	15.11	V	8.93	0.83	18.91	30
2535	5	QPSK	1/0	15.18	V	8.93	0.83	18.67	30
2567.5	5	QPSK	1/24	15.24	V	8.93	0.83	18.55	30
2502.5	5	QPSK	1/0	14.37	H	8.93	0.83	17.84	30
2535	5	QPSK	1/0	14.42	H	8.93	0.83	17.48	30
2567.5	5	QPSK	1/24	14.49	H	8.93	0.83	17.52	30
2502.5	5	16-QAM	1/0	14.08	V	8.93	0.83	17.75	30
2535	5	16-QAM	1/0	14.13	V	8.93	0.83	17.68	30
2567.5	5	16-QAM	1/24	14.19	V	8.93	0.83	17.61	30
2502.5	5	16-QAM	1/0	13.28	H	8.93	0.83	16.87	30
2535	5	16-QAM	1/0	13.33	H	8.93	0.83	16.83	30
2567.5	5	16-QAM	1/24	13.39	H	8.93	0.83	16.79	30
2505	10	QPSK	1/0	15.21	V	8.93	0.83	18.67	30
2535	10	QPSK	1/49	15.27	V	8.93	0.83	18.44	30
2565	10	QPSK	1/0	15.34	V	8.93	0.83	18.49	30
2505	10	QPSK	1/0	16.48	H	8.93	0.83	17.71	30
2535	10	QPSK	1/49	16.52	H	8.93	0.83	17.78	30
2565	10	QPSK	1/0	16.58	H	8.93	0.83	17.69	30
2505	10	16-QAM	1/0	14.19	V	8.93	0.83	17.57	30
2535	10	16-QAM	1/49	14.21	V	8.93	0.83	17.62	30
2565	10	16-QAM	1/0	14.26	V	8.93	0.83	17.53	30
2505	10	16-QAM	1/0	13.44	H	8.93	0.83	16.66	30
2535	10	16-QAM	1/49	13.47	H	8.93	0.83	16.72	30
2565	10	16-QAM	1/0	13.51	H	8.93	0.83	16.67	30
2507.5	15	QPSK	1/0	15.31	V	8.93	0.83	18.82	30
2535	15	QPSK	1/74	15.36	V	8.93	0.83	18.58	30
2562.5	15	QPSK	1/0	15.39	V	8.93	0.83	18.73	30
2507.5	15	QPSK	1/0	14.58	H	8.93	0.83	17.79	30
2535	15	QPSK	1/74	14.62	H	8.93	0.83	17.72	30
2562.5	15	QPSK	1/0	14.65	H	8.93	0.83	17.75	30
2507.5	15	16-QAM	1/0	14.29	V	8.93	0.83	17.68	30
2535	15	16-QAM	1/74	14.32	V	8.93	0.83	17.63	30
2562.5	15	16-QAM	1/0	14.33	V	8.93	0.83	17.71	30

2507.5	15	16-QAM	1/0	13.46	H	8.93	0.83	16.77	30
2535	15	16-QAM	1/74	13.52	H	8.93	0.83	16.53	30
2562.5	15	16-QAM	1/0	13.57	H	8.93	0.83	16.65	30
2510	20	QPSK	1/99	16.05	V	8.93	0.83	19.06	30
2535	20	QPSK	1/99	16.11	V	8.93	0.83	18.74	30
2560	20	QPSK	1/0	16.09	V	8.93	0.83	18.97	30
2510	20	QPSK	1/99	15.28	H	8.93	0.83	17.93	30
2535	20	QPSK	1/99	15.34	H	8.93	0.83	17.68	30
2560	20	QPSK	1/0	15.37	H	8.93	0.83	17.84	30
2510	20	16-QAM	1/99	15.09	V	8.93	0.83	17.79	30
2535	20	16-QAM	1/99	15.05	V	8.93	0.83	17.55	30
2560	20	16-QAM	1/0	15.03	V	8.93	0.83	17.66	30
2510	20	16-QAM	1/99	14.35	H	8.93	0.83	16.62	30
2535	20	16-QAM	1/99	14.29	H	8.93	0.83	16.49	30
2560	20	16-QAM	1/0	14.31	H	8.93	0.83	16.66	30

6.3 Peak-Average Ratio

Temperature	22°C
Relative Humidity	51%
Atmospheric Pressure	1009mbar
Test date :	December 09, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable
§24.232(d) § 27.50(d)	a)	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.	☒
Test Setup	 Base Station Spectrum Analyzer EUT		
Test Procedure	According with KDB 971168 1. The signal analyzer' s CCDF measurement profile is enabled 2. Frequency = carrier center frequency 3. Measurement BW > Emission bandwidth of signal 4. The signal analyzer was set to collect one million samples to generate the CCDF curve 5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal “ RF Burst” trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the “ on time” of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power		
Remark			
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

LTE Band 2 (part 24E)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1880	RB 1/0	QPSK	25.87	23.27	2.6
			16QAM	24.53	22.06	2.47
3	1880	RB 1/0	QPSK	25.39	23.06	2.33
			16QAM	24.74	22.63	2.11
5	1880	RB 1/0	QPSK	25.43	23.19	2.24
			16QAM	24.65	22.26	2.39
10	1880	RB 1/0	QPSK	25.67	23.35	2.32
			16QAM	24.22	22.13	2.09
15	1880	RB 1/0	QPSK	25.61	23.23	2.38
			16QAM	24.49	22.52	1.97
20	1880	RB 1/0	QPSK	25.72	23.31	2.41
			16QAM	24.81	22.73	2.08

LTE Band 4 (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1732.5	RB 1/0	QPSK	25.74	23.26	2.48
			16QAM	24.36	22.18	2.18
3	1732.5	RB 1/0	QPSK	25.57	23.25	2.32
			16QAM	24.68	22.17	2.51
5	1732.5	RB 1/0	QPSK	25.81	23.22	2.59
			16QAM	24.38	22.26	2.12
10	1732.5	RB 1/0	QPSK	25.64	23.32	2.32
			16QAM	24.49	22.09	2.4
15	1732.5	RB 1/0	QPSK	25.67	23.32	2.35
			16QAM	24.61	22.07	2.54
20	1732.5	RB 1/0	QPSK	25.69	23.37	2.32
			16QAM	24.85	22.21	2.64

LTE Band 5 (part 22H)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	836.5	RB 1/0	QPSK	25.64	22.63	3.01
			16QAM	24.32	21.68	2.64
3	836.5	RB 1/0	QPSK	25.51	22.62	2.89
			16QAM	24.75	21.68	3.07
5	836.5	RB 1/0	QPSK	25.34	22.56	2.78
			16QAM	24.29	21.73	2.56
10	836.5	RB 1/0	QPSK	25.49	22.52	2.97
			16QAM	24.66	22.35	2.31

LTE Band 7 (part 27)

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	2535	RB 1/0	QPSK	24.35	21.76	2.59
			16QAM	24.28	21.03	3.25
10	2535	RB 1/0	QPSK	24.14	21.19	2.95
			16QAM	22.26	20.36	1.9
15	2535	RB 1/0	QPSK	22.31	20.92	1.39
			16QAM	22.18	20.34	1.84
20	2535	RB 1/0	QPSK	24.33	21.26	3.07
			16QAM	22.37	20.61	1.76

6.4 Occupied Bandwidth

Temperature	24°C
Relative Humidity	59%
Atmospheric Pressure	1007mbar
Test date :	December 07, 2015
Tested By :	Winnie Zhang

Requirement(s):

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

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

LTE Band 2 (Part 24E)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1850.7	16QAM	1.1001	1.306
			QPSK	1.1125	1.848
1.4	18900	1880	16QAM	1.0983	1.276
			QPSK	1.1074	1.266
1.4	19193	1909.3	16QAM	1.1040	1.291
			QPSK	1.1061	1.313
3	18615	1851.5	16QAM	2.7446	3.110
			QPSK	2.7466	3.308
3	18900	1880	16QAM	2.7348	3.062
			QPSK	2.7449	3.079
3	19185	1908.5	16QAM	2.7395	3.108
			QPSK	2.7494	3.112
5	18625	1852.5	16QAM	4.5273	5.096
			QPSK	4.5441	5.082
5	18900	1880	16QAM	4.5311	5.116
			QPSK	4.5212	5.045
5	19175	1907.5	16QAM	4.5292	5.027
			QPSK	4.5079	5.081
10	18650	1855	16QAM	9.0827	10.238
			QPSK	9.0780	10.121
10	18900	1880	16QAM	9.0491	10.076
			QPSK	9.0524	9.989
10	19150	1905	16QAM	9.0419	9.992
			QPSK	9.0298	9.986
15	18675	1857.5	16QAM	13.4735	14.900
			QPSK	13.4885	14.932
15	18900	1880	16QAM	13.4565	14.654
			QPSK	13.4864	14.886
15	19125	1902.5	16QAM	13.4423	14.837
			QPSK	13.5009	14.808

20	18700	1860	16QAM	17.8889	19.468
			QPSK	17.9007	19.324
20	18900	1880	16QAM	17.8907	19.290
			QPSK	17.8839	19.349
20	19100	1900	16QAM	17.8943	19.510
			QPSK	17.8932	19.445

LTE Band 4 (Part 27)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	19957	1710.7	16QAM	1.1049	1.291
			QPSK	1.1040	1.310
1.4	20175	1732.5	16QAM	1.0950	1.264
			QPSK	1.1019	1.280
1.4	20393	1754.3	16QAM	1.1035	1.296
			QPSK	1.1026	1.295
3	19965	1711.5	16QAM	2.7478	3.093
			QPSK	2.7447	3.088
3	20175	1732.5	16QAM	2.7278	3.079
			QPSK	2.7444	3.092
3	20385	1753.5	16QAM	2.7381	3.070
			QPSK	2.787	3.103
5	19975	1712.5	16QAM	4.5145	5.041
			QPSK	4.5173	5.064
5	20175	1732.5	16QAM	4.5321	5.025
			QPSK	4.5246	5.032
5	20375	1752.5	16QAM	4.5391	5.110
			QPSK	4.5134	5.075
10	20000	1715	16QAM	9.0532	10.138
			QPSK	9.0591	10.146
10	20175	1732.5	16QAM	9.0401	10.290
			QPSK	9.0576	10.109
10	20350	1750	16QAM	9.0687	10.041
			QPSK	9.0617	10.299

15	20025	1717.5	16QAM	13.4861	14.862
			QPSK	13.4817	14.876
15	20175	1732.5	16QAM	13.4332	14.994
			QPSK	13.4413	14.811
15	20325	1747.5	16QAM	13.4715	14.764
			QPSK	13.4787	14.819
20	20050	1720	16QAM	17.8745	19.492
			QPSK	17.9126	19.430
20	20175	1732.5	16QAM	17.9454	19.390
			QPSK	17.9251	19.334
20	20300	1745	16QAM	17.9191	19.328
			QPSK	17.9006	19.215

LTE Band 5 (Part 22H)

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	20407	824.7	16QAM	1.1002	1.284
			QPSK	1.0938	1.274
1.4	20525	936.5	16QAM	1.0906	1.258
			QPSK	1.1018	1.302
1.4	20643	949.3	16QAM	1.1026	1.288
			QPSK	1.0941	1.270
3	20415	825.5	16QAM	2.7332	3.076
			QPSK	2.7390	3.095
3	20525	936.5	16QAM	2.7329	3.077
			QPSK	2.7501	3.090
3	20635	847.5	16QAM	2.7358	3.090
			QPSK	2.7412	3.084
5	20425	826.5	16QAM	4.5091	5.056
			QPSK	4.5324	5.065
5	20525	936.5	16QAM	4.5260	5.055
			QPSK	4.5250	5.049
5	20625	846.5	16QAM	4.5359	5.076
			QPSK	4.5198	5.063

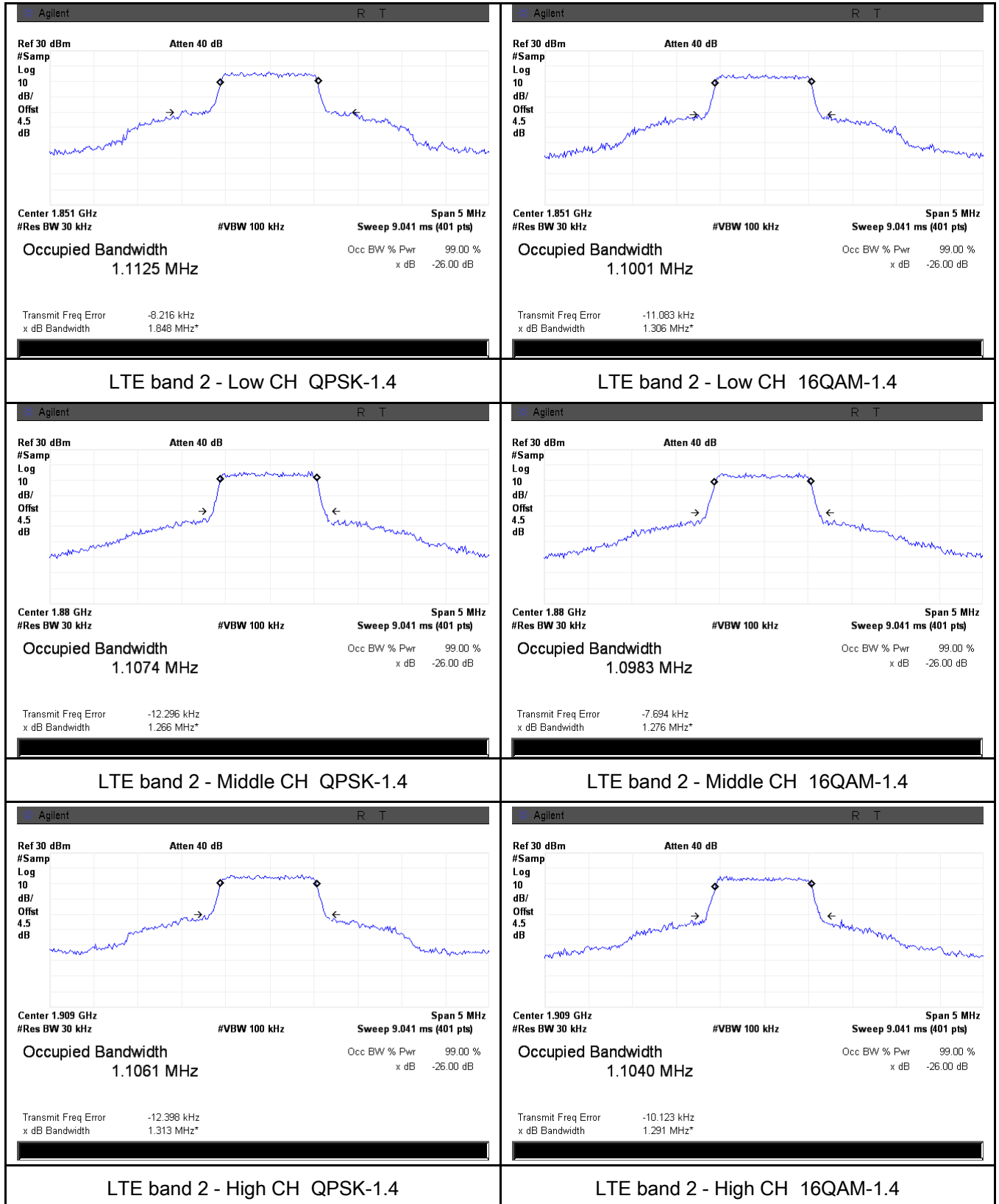
10	20450	829	16QAM	9.0828	10.355
			QPSK	9.1053	10.286
10	20525	936.5	16QAM	9.1087	10.210
			QPSK	9.1047	10.219
10	20800	844	16QAM	9.0553	10.091
			QPSK	9.0510	10.020

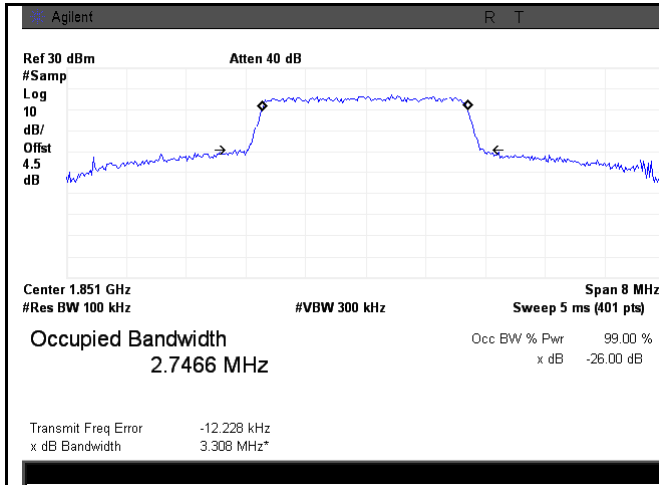
LTE Band 7 (Part 27) result

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	20775	2502.5	16QAM	4.5643	7.564
			QPSK	4.5580	7.262
5	21100	2535	16QAM	4.5694	7.842
			QPSK	4.5505	7.640
5	21425	2567.5	16QAM	4.5700	6.362
			QPSK	4.5317	6.017
10	20800	2505	16QAM	9.1086	11.107
			QPSK	9.1243	12.440
10	21100	2535	16QAM	9.1165	14.381
			QPSK	9.1820	14.296
10	21400	2562.5	16QAM	9.1140	10.229
			QPSK	9.1246	10.631
15	20825	2507.5	16QAM	17.9386	19.455
			QPSK	13.5219	15.491
15	21100	2535	16QAM	13.5775	19.417
			QPSK	13.5497	20.312
15	21400	2562.5	16QAM	13.5372	14.784
			QPSK	13.5847	14.935
20	20850	2510	16QAM	17.8899	19.471
			QPSK	17.9395	19.224
20	21100	2535	16QAM	17.9541	23.986
			QPSK	17.9937	26.331
20	21350	2560	16QAM	17.9758	19.209
			QPSK	17.9395	19.367

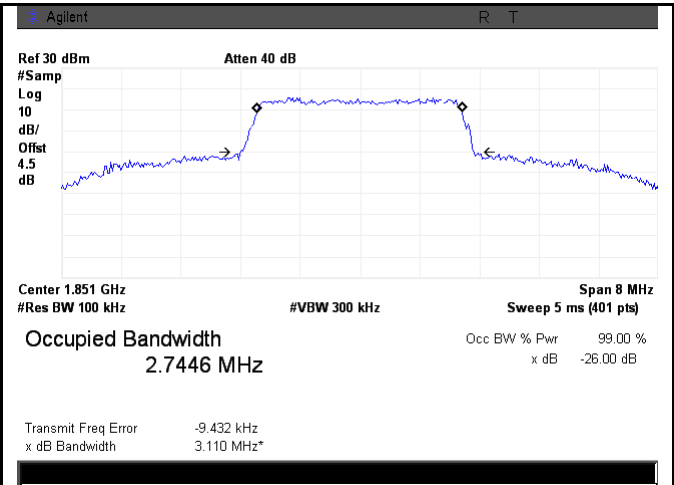
Test Plots

LTE Band 2 (Part 24E)

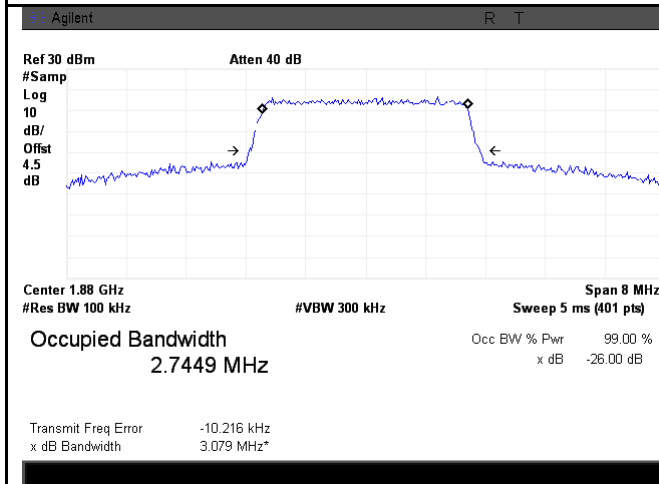




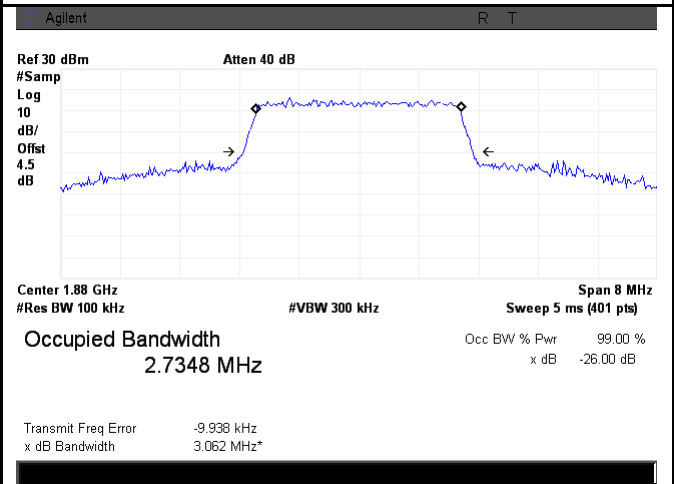
LTE band 2 - Low CH QPSK-3



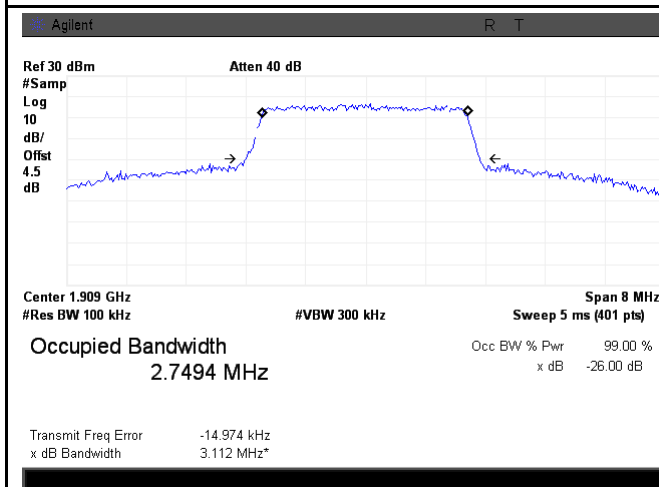
LTE band 2 - Low CH 16QAM-3



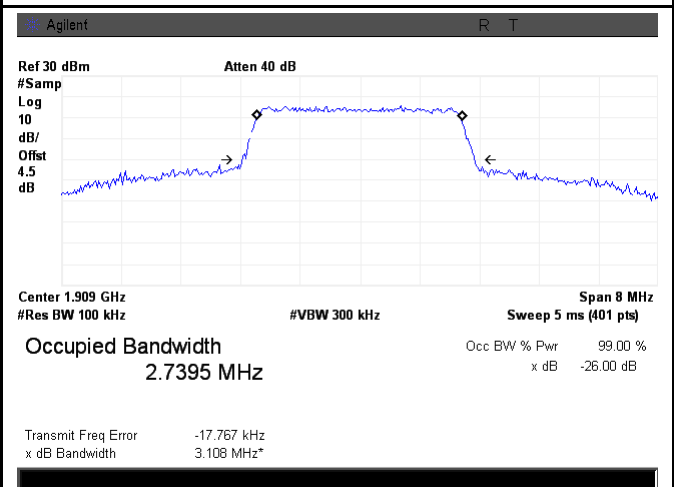
LTE band 2 - Middle CH QPSK-3



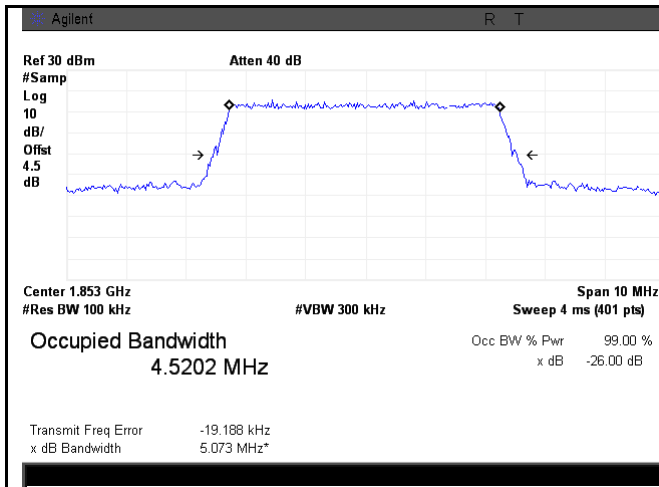
LTE band 2 - Middle CH 16QAM-3



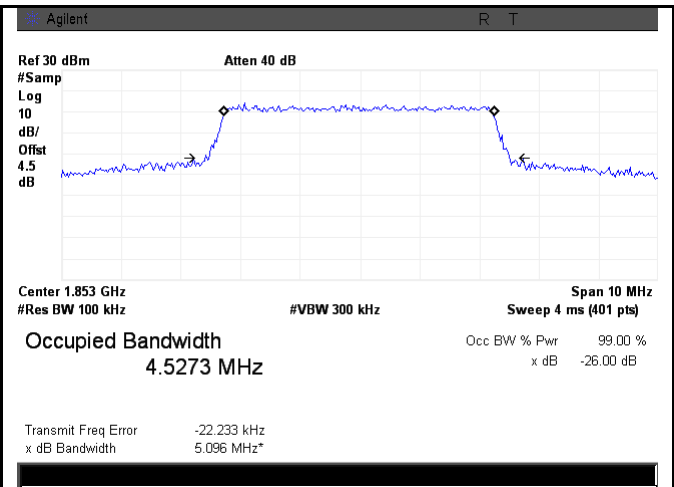
LTE band 2 - High CH QPSK-3



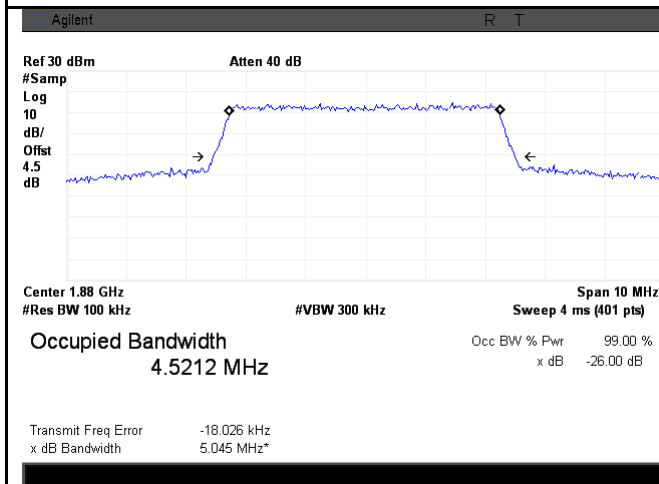
LTE band 2 - High CH 16QAM-3



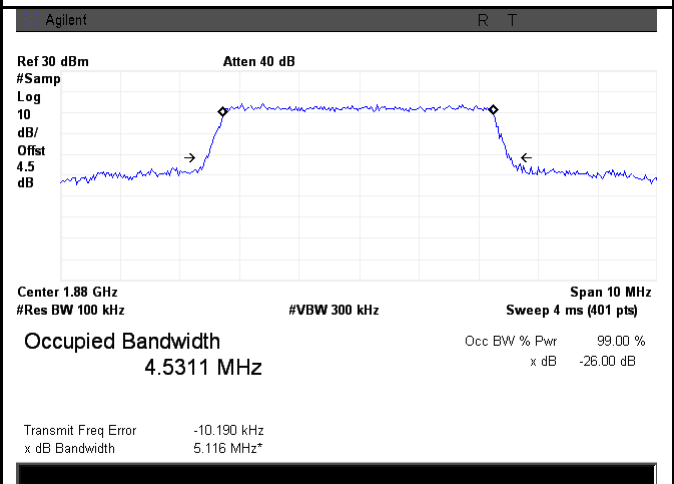
LTE band 2 - Low CH QPSK-5



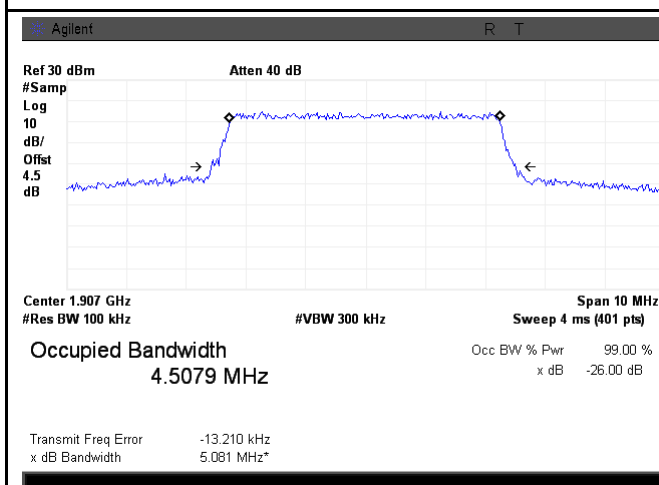
LTE band 2 - Low CH 16QAM-5



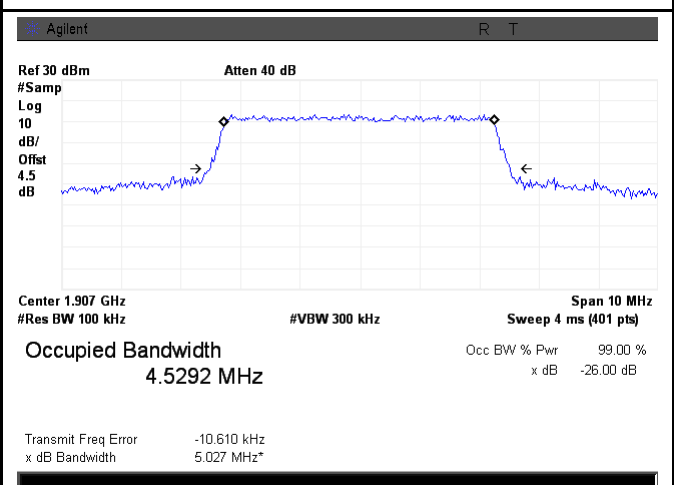
LTE band 2 - Middle CH QPSK-5



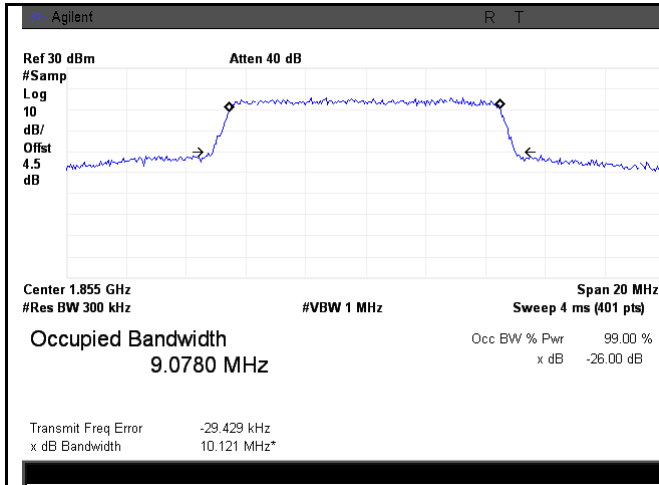
LTE band 2 - Middle CH 16QAM-5



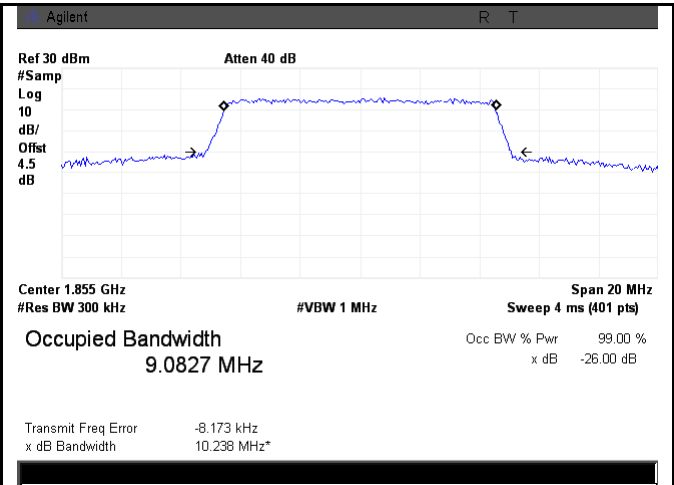
LTE band 2 - High CH QPSK-5



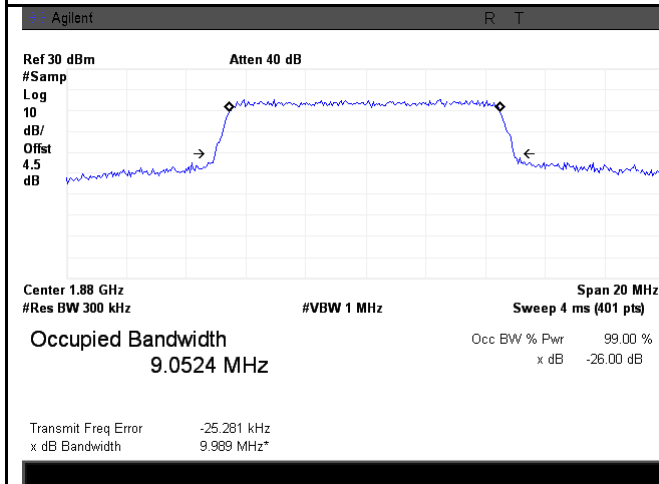
LTE band 2 - High CH 16QAM-5



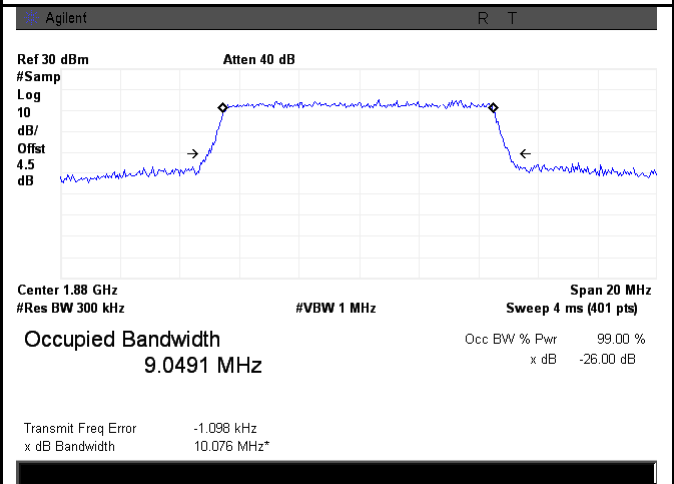
LTE band 2 - Low CH QPSK-10



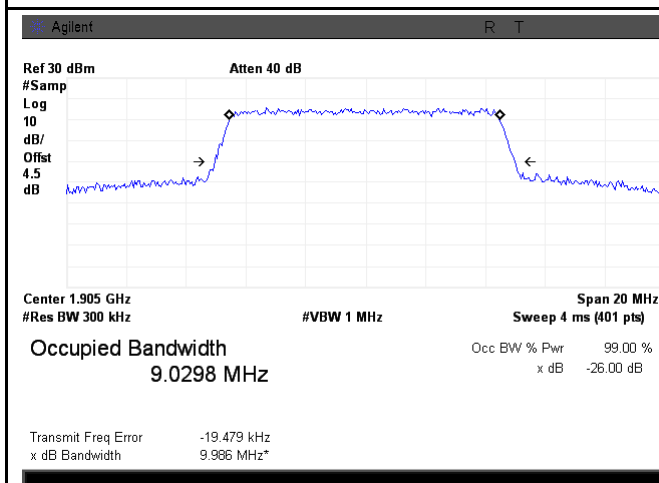
LTE band 2 - Low CH 16QAM-10



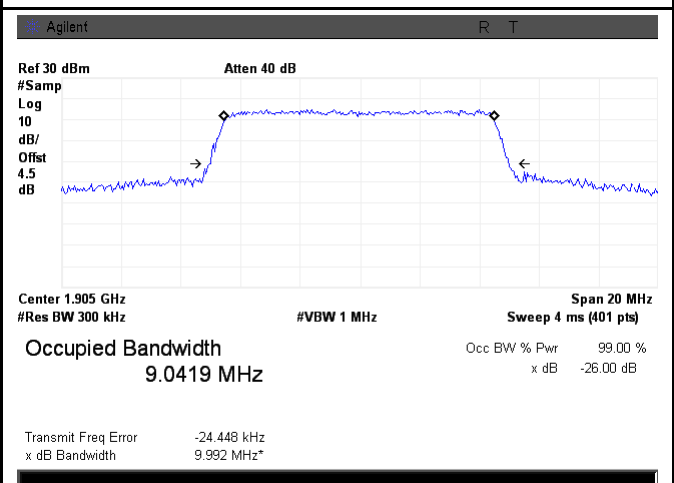
LTE band 2 - Middle CH QPSK-10



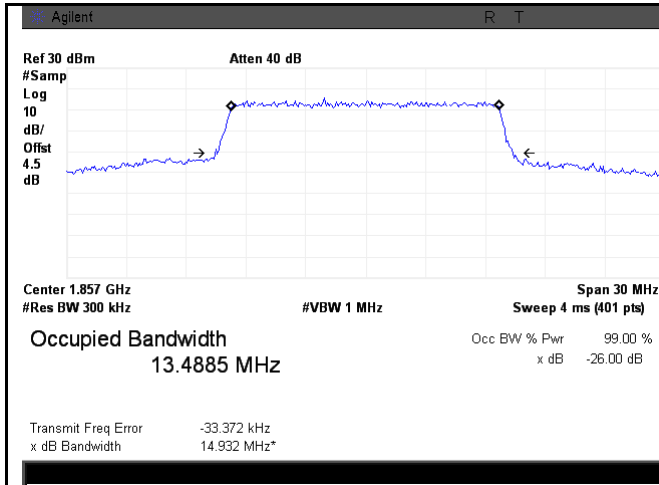
LTE band 2 - Middle CH 16QAM-10



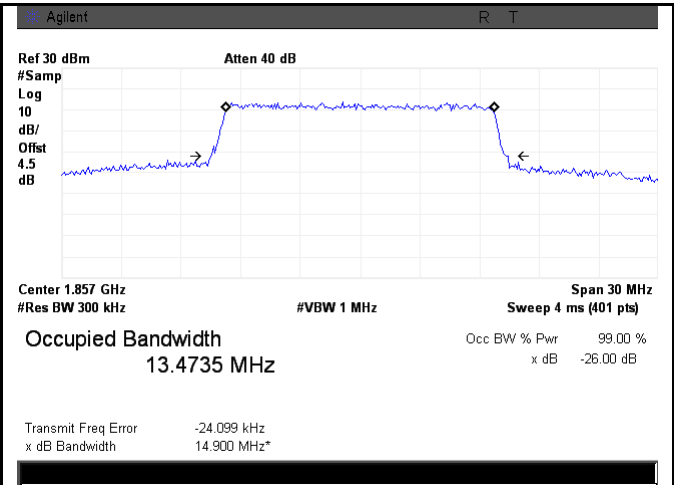
LTE band 2 - High CH QPSK-10



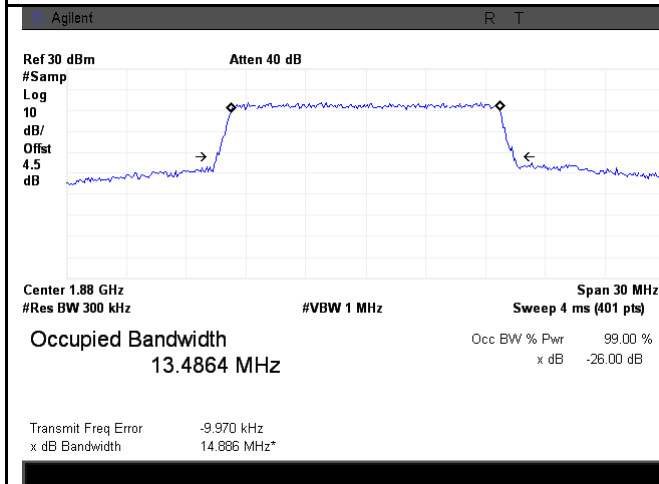
LTE band 2 - High CH 16QAM-10



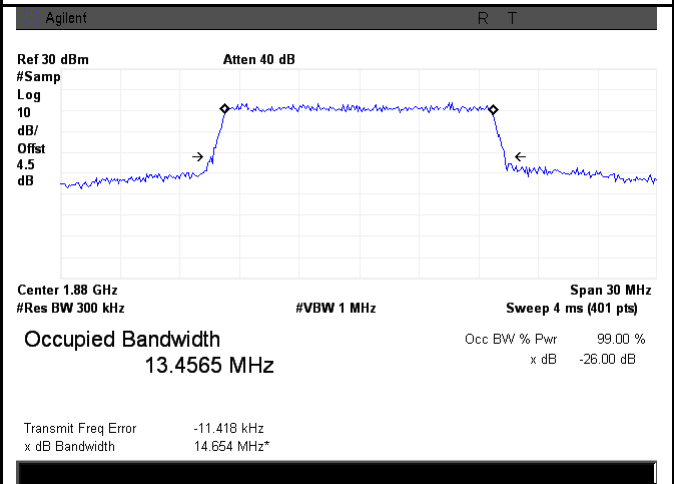
LTE band 2 - Low CH QPSK-15



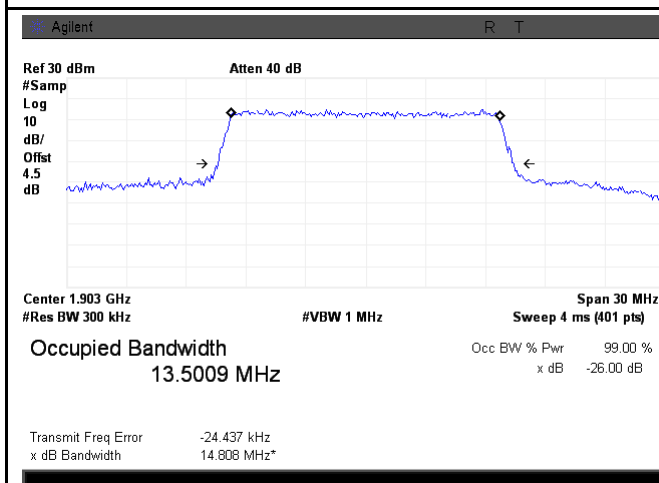
LTE band 2 - Low CH 16QAM-15



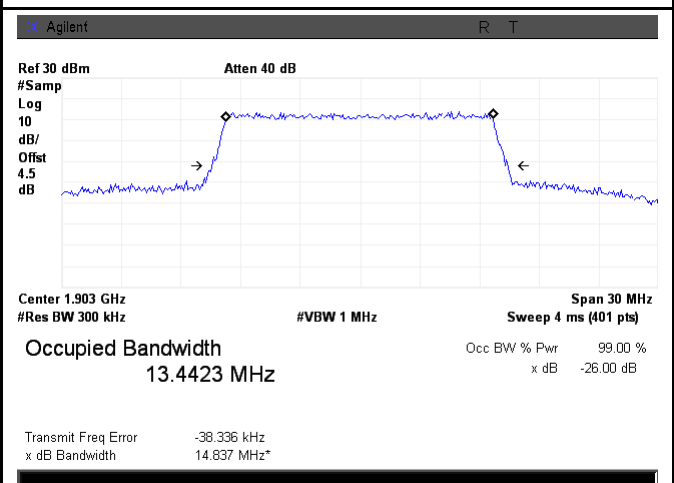
LTE band 2 - Middle CH QPSK-15



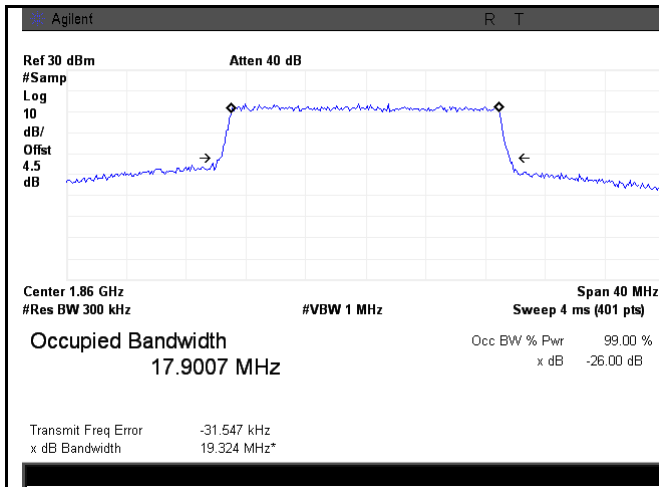
LTE band 2 - Middle CH 16QAM-15



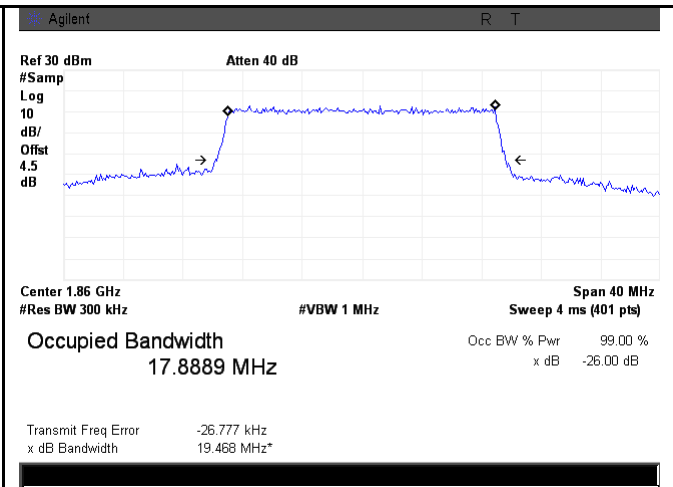
LTE band 2 - High CH QPSK-15



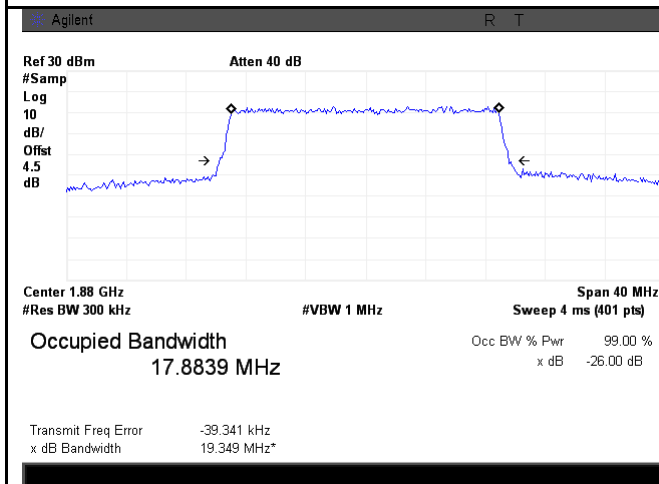
LTE band 2 - High CH 16QAM-15



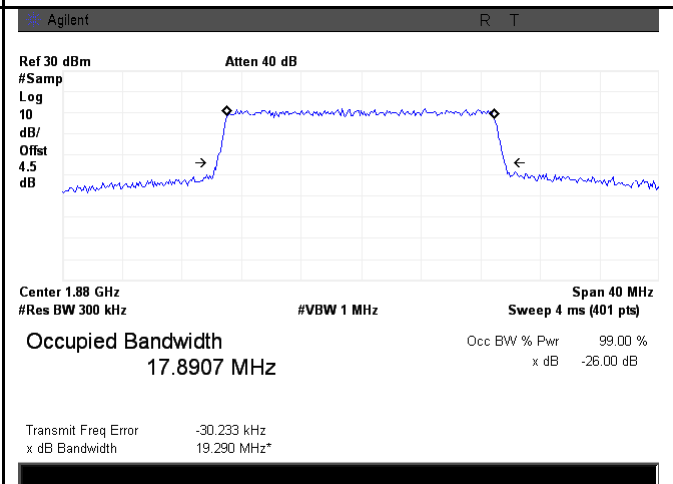
LTE band 2 - Low CH QPSK-20



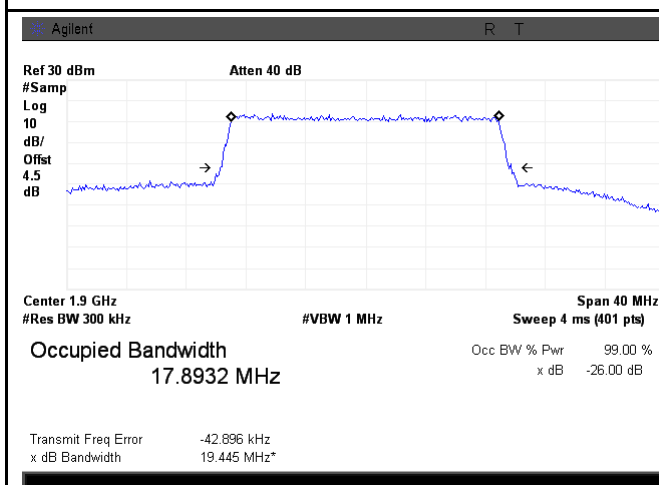
LTE band 2 - Low CH 16QAM-20



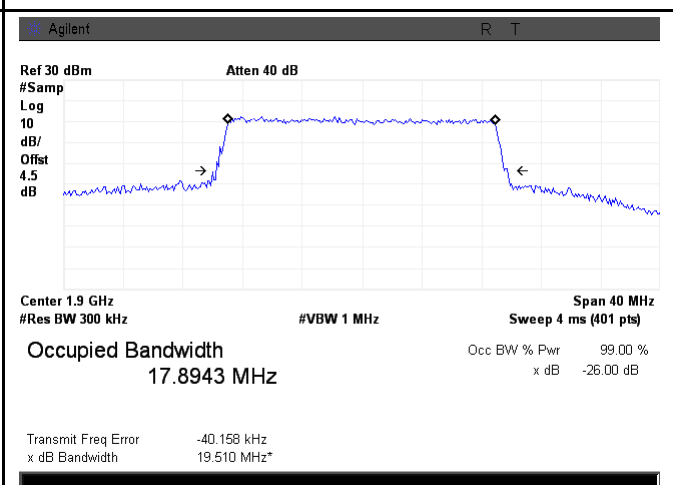
LTE band 2 - Middle CH QPSK-20



LTE band 2 - Middle CH 16QAM-20

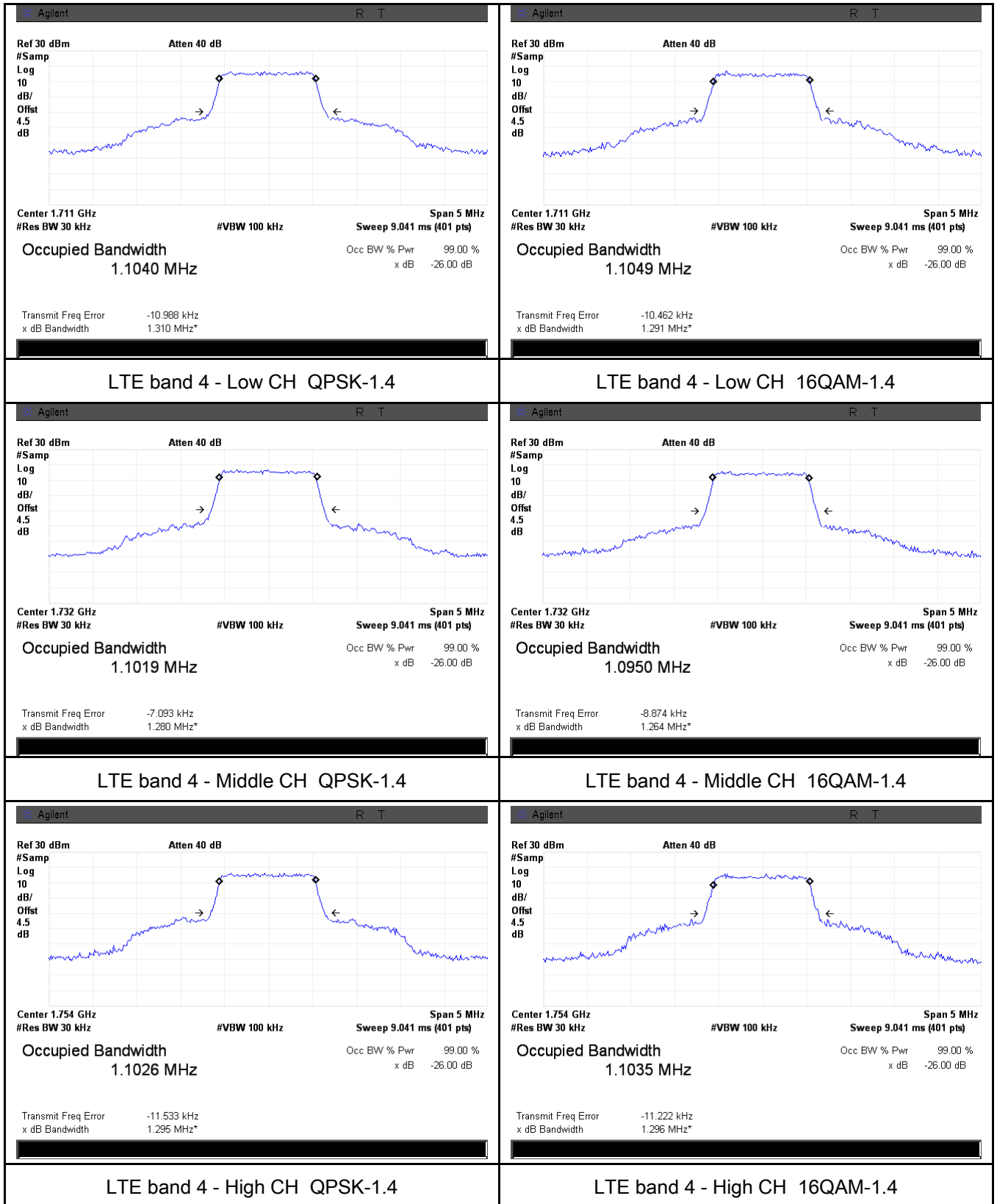


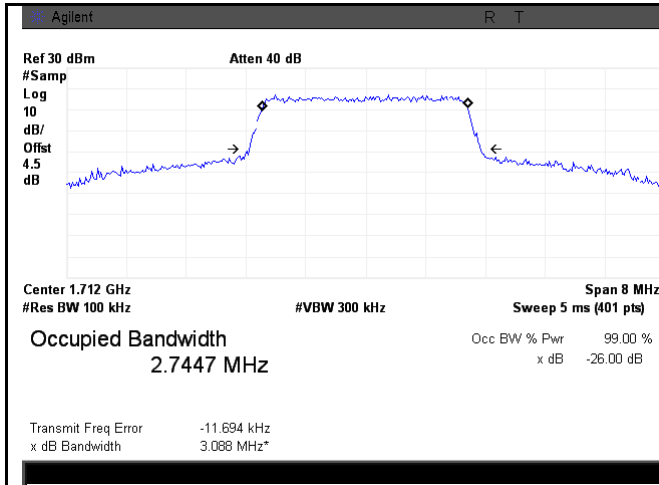
LTE band 2 - High CH QPSK-20



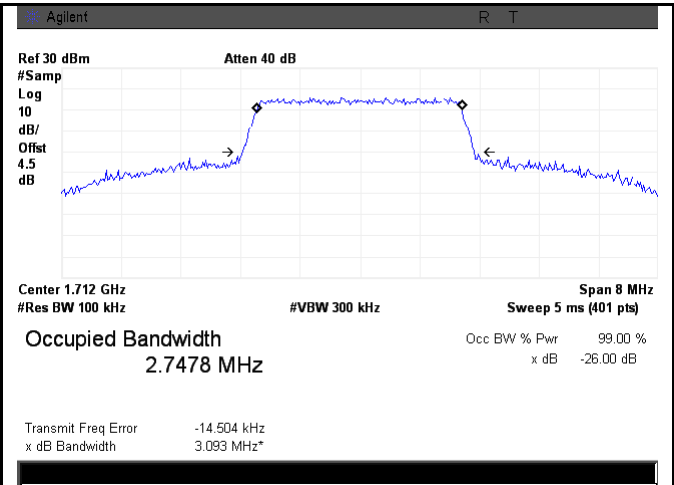
LTE band 2 - High CH 16QAM-20

LTE Band 4 (Part 27)

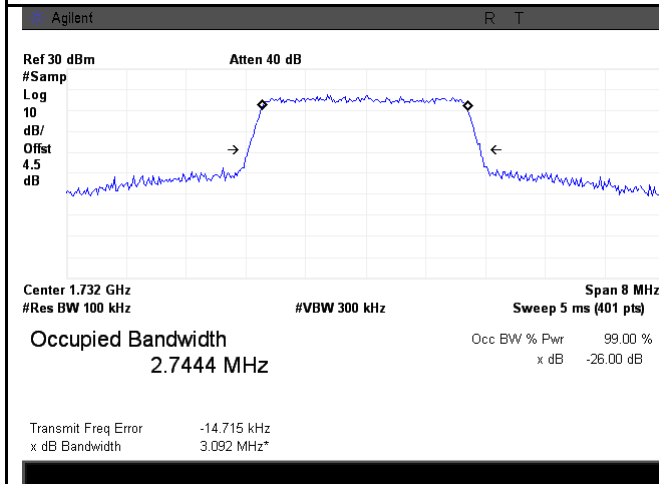




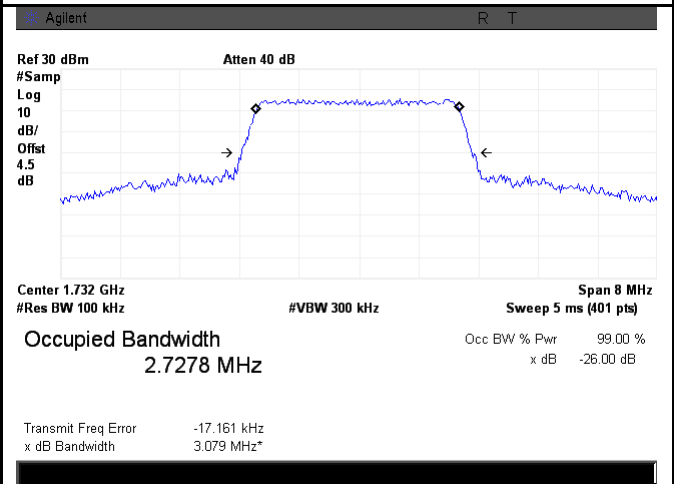
LTE band 4 - Low CH QPSK-3



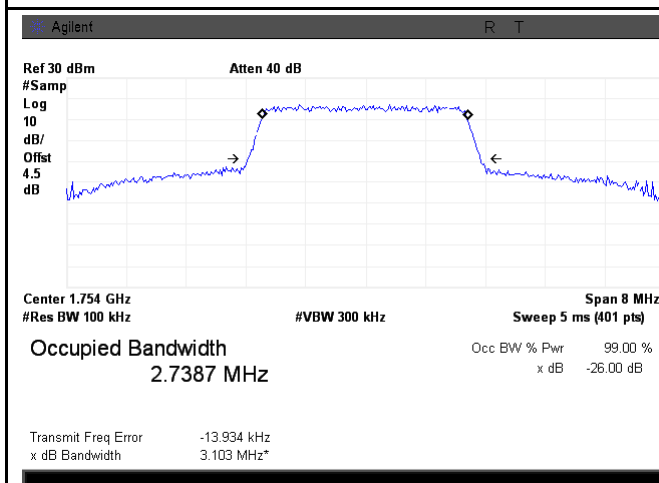
LTE band 4 - Low CH 16QAM-3



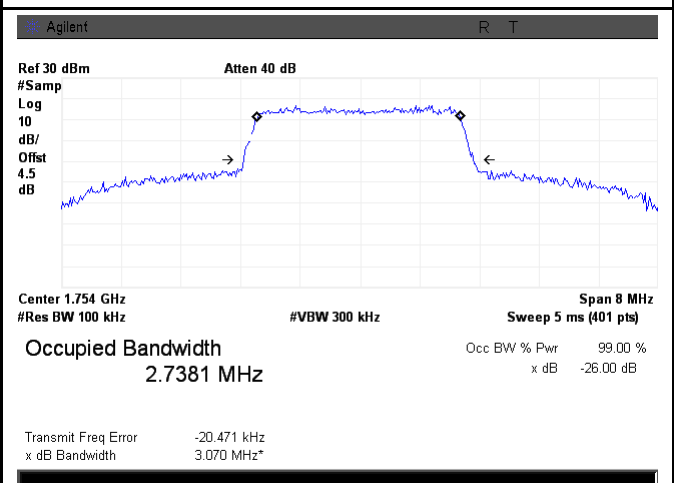
LTE band 4 - Middle CH QPSK-3



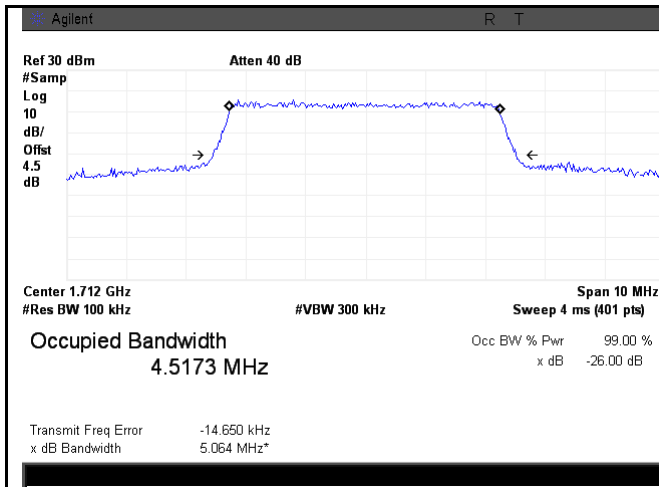
LTE band 4 - Middle CH 16QAM-3



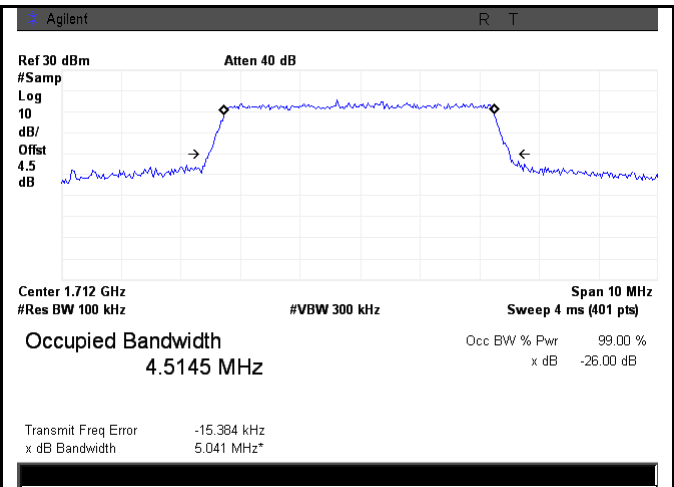
LTE band 4 - High CH QPSK-3



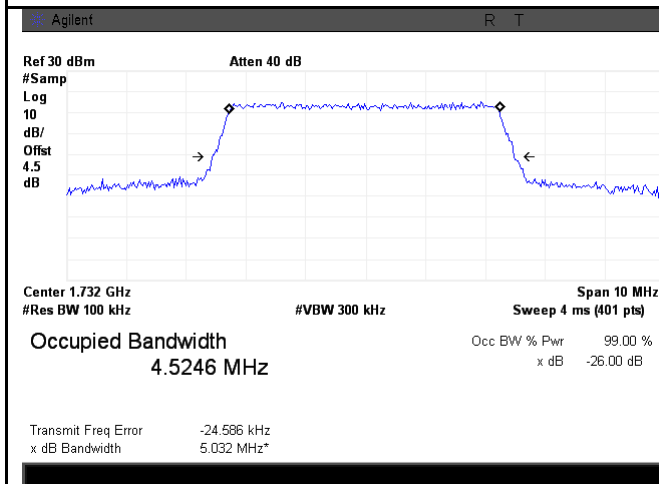
LTE band 4 - High CH 16QAM-3



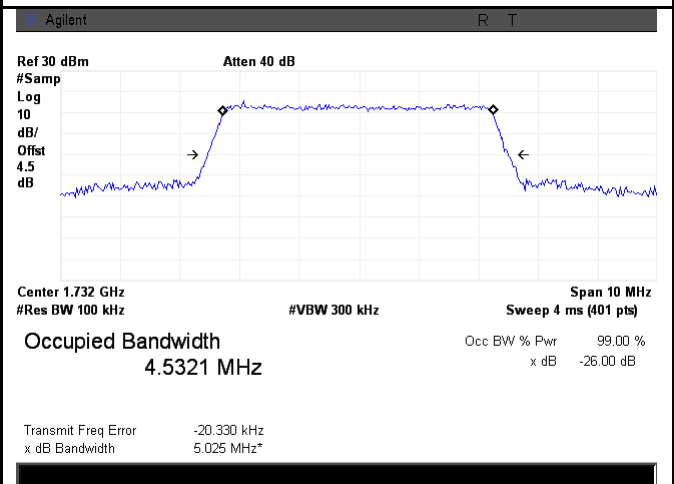
LTE band 4 - Low CH QPSK-5



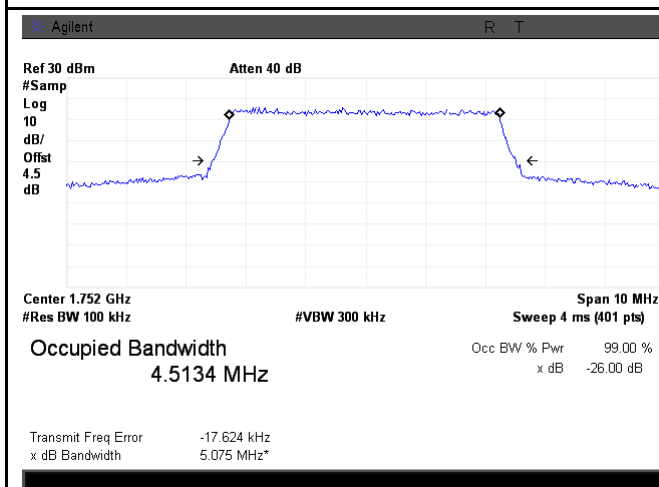
LTE band 4 - Low CH 16QAM-5



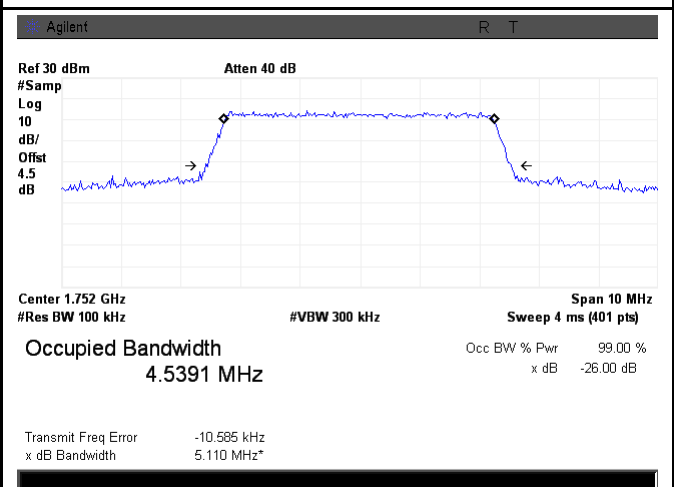
LTE band 4 - Middle CH QPSK-5



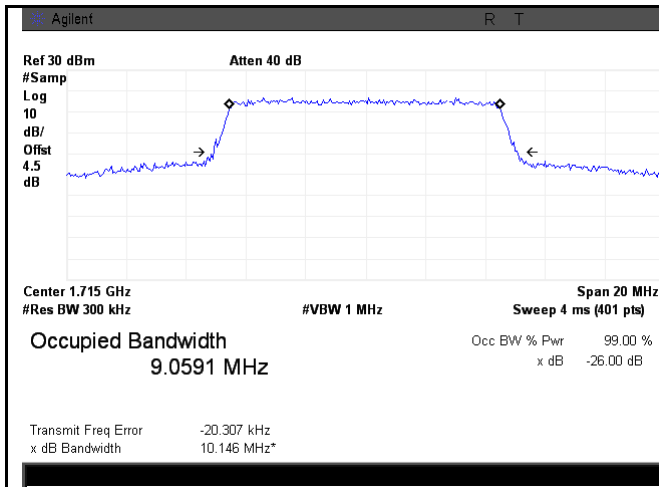
LTE band 4 - Middle CH 16QAM-5



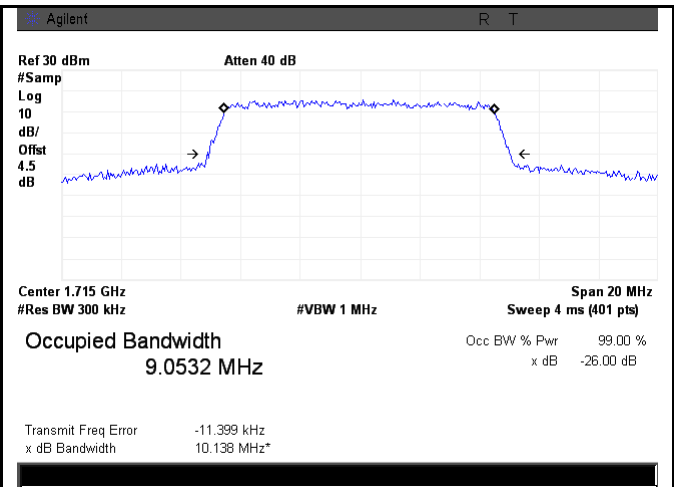
LTE band 4 - High CH QPSK-5



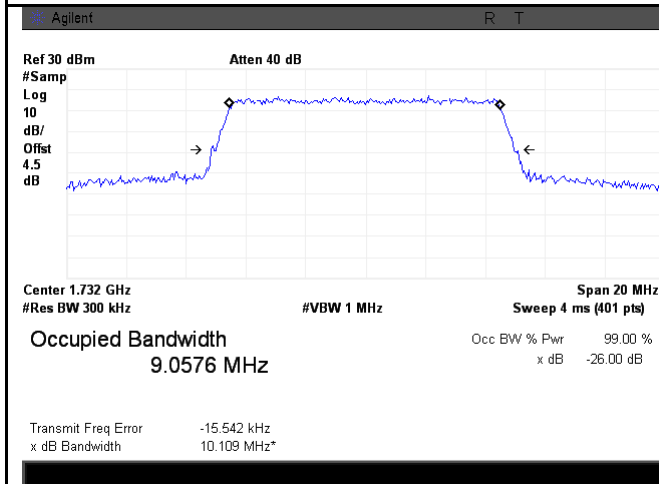
LTE band 4 - High CH 16QAM-5



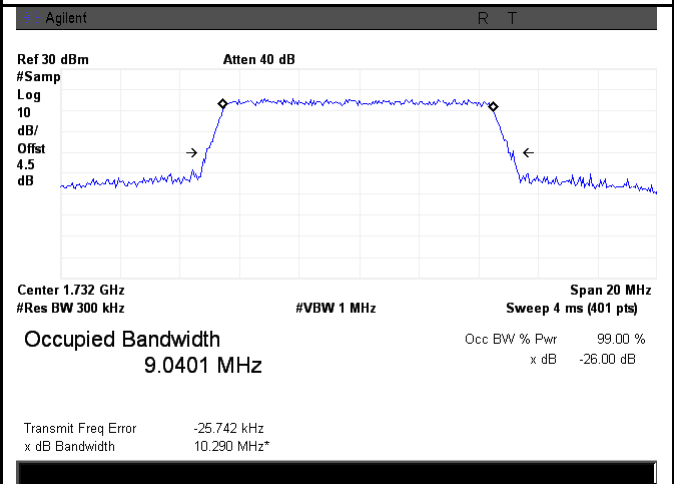
LTE band 4 - Low CH QPSK-10



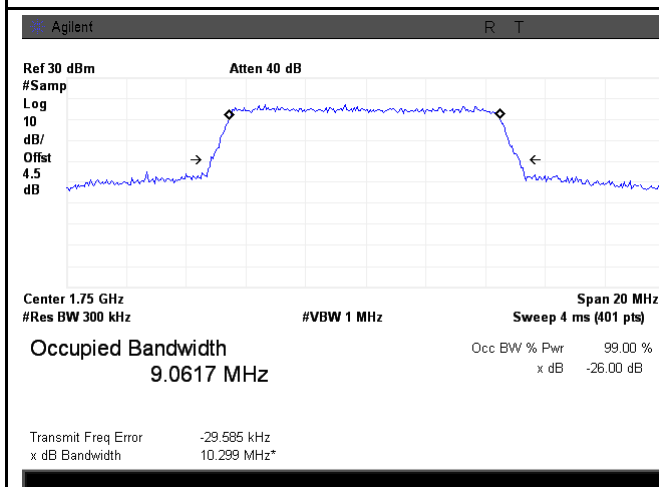
LTE band 4 - Low CH 16QAM-10



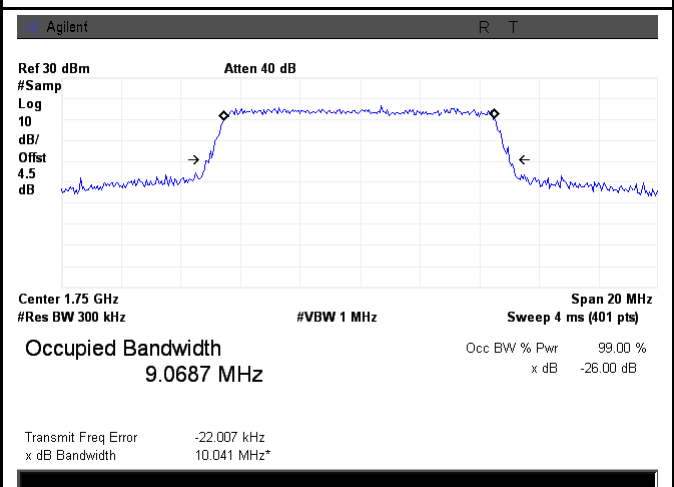
LTE band 4 - Middle CH QPSK-10



LTE band 4 - Middle CH 16QAM-10



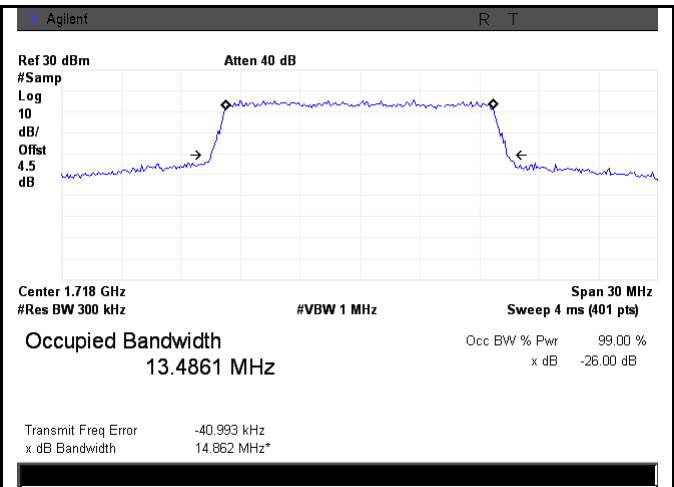
LTE band 4 - High CH QPSK-10



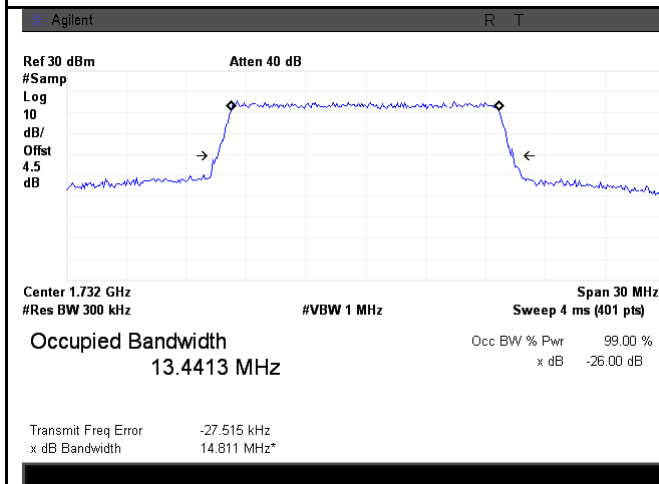
LTE band 4 - High CH 16QAM-10



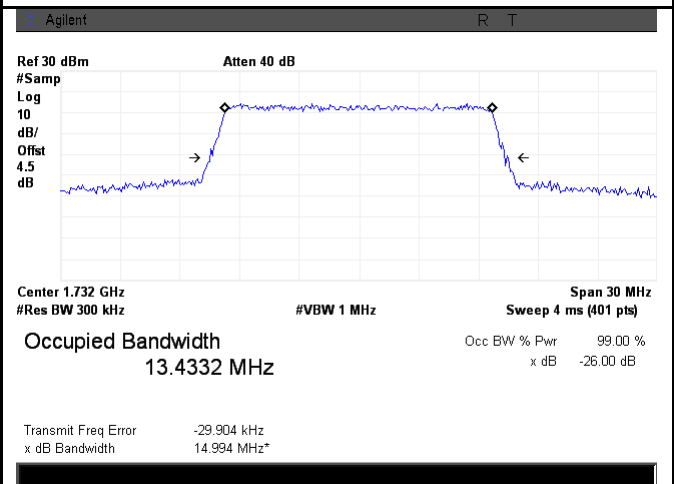
LTE band 4 - Low CH QPSK-15



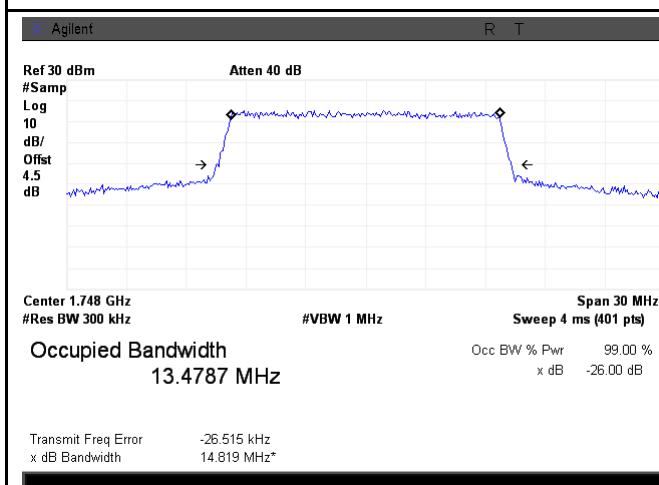
LTE band 4 - Low CH 16QAM-15



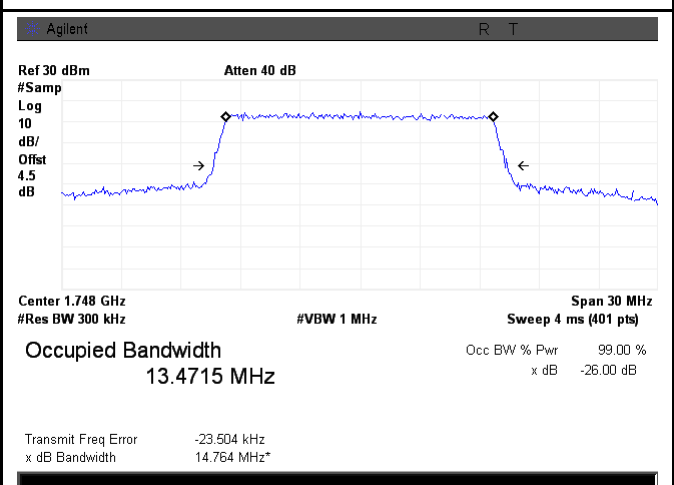
LTE band 4 - Middle CH QPSK-15



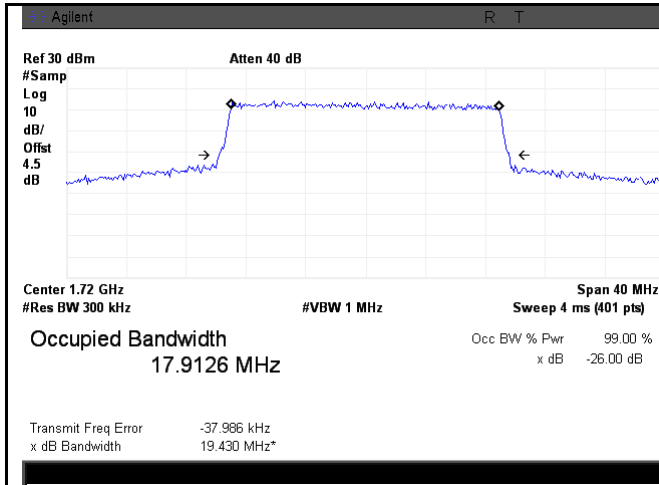
LTE band 4 - Middle CH 16QAM-15



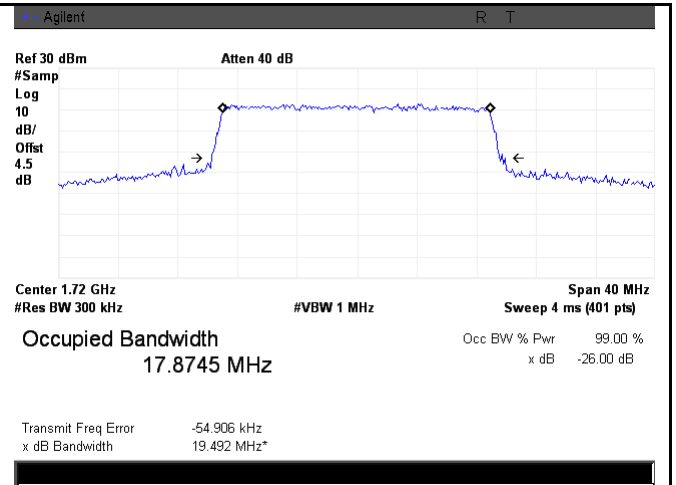
LTE band 4 - High CH QPSK-15



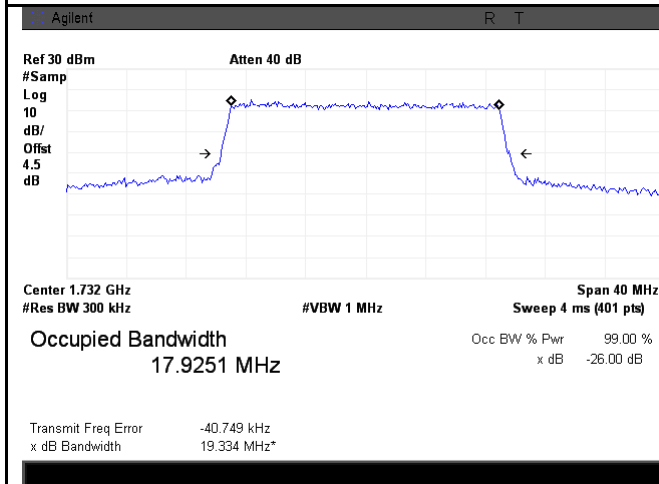
LTE band 4 - High CH 16QAM-15



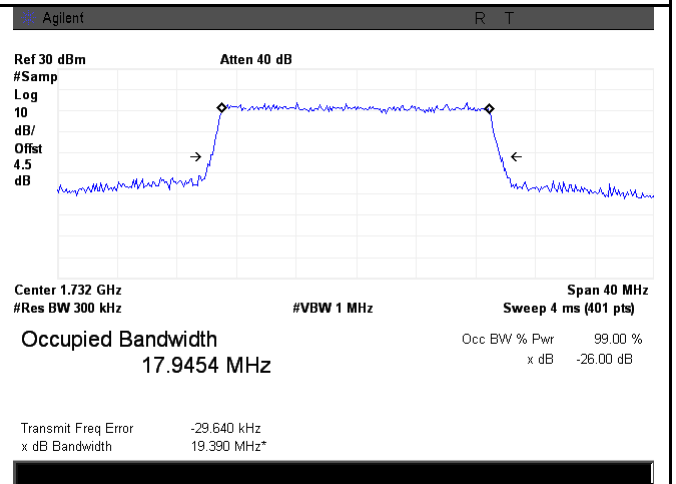
LTE band 4 - Low CH QPSK-20



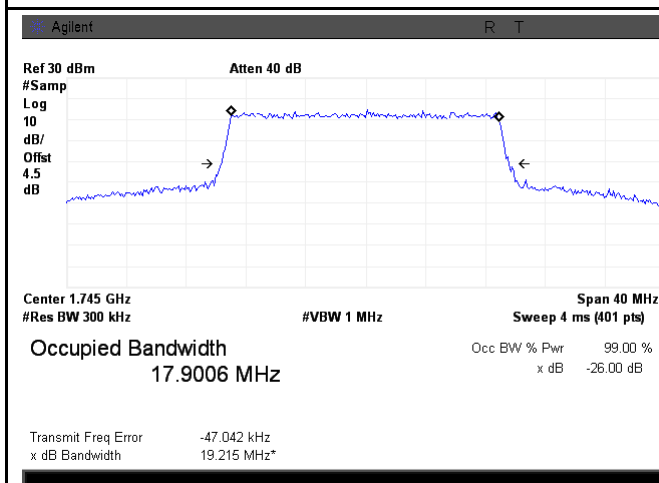
LTE band 4 - Low CH 16QAM-20



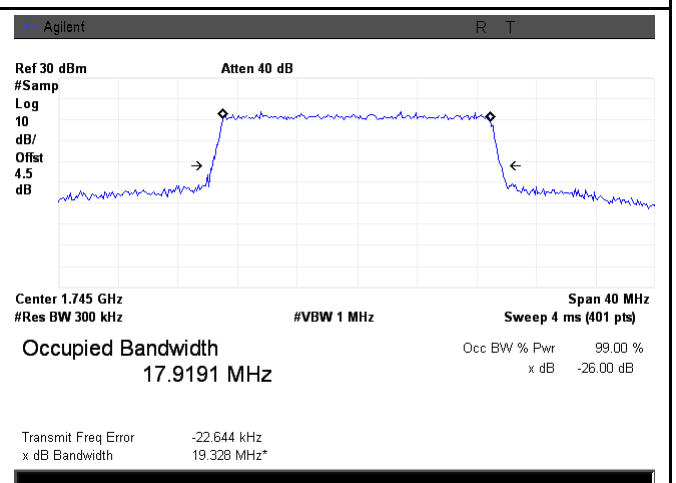
LTE band 4 - Middle CH QPSK-20



LTE band 4 - Middle CH 16QAM-20

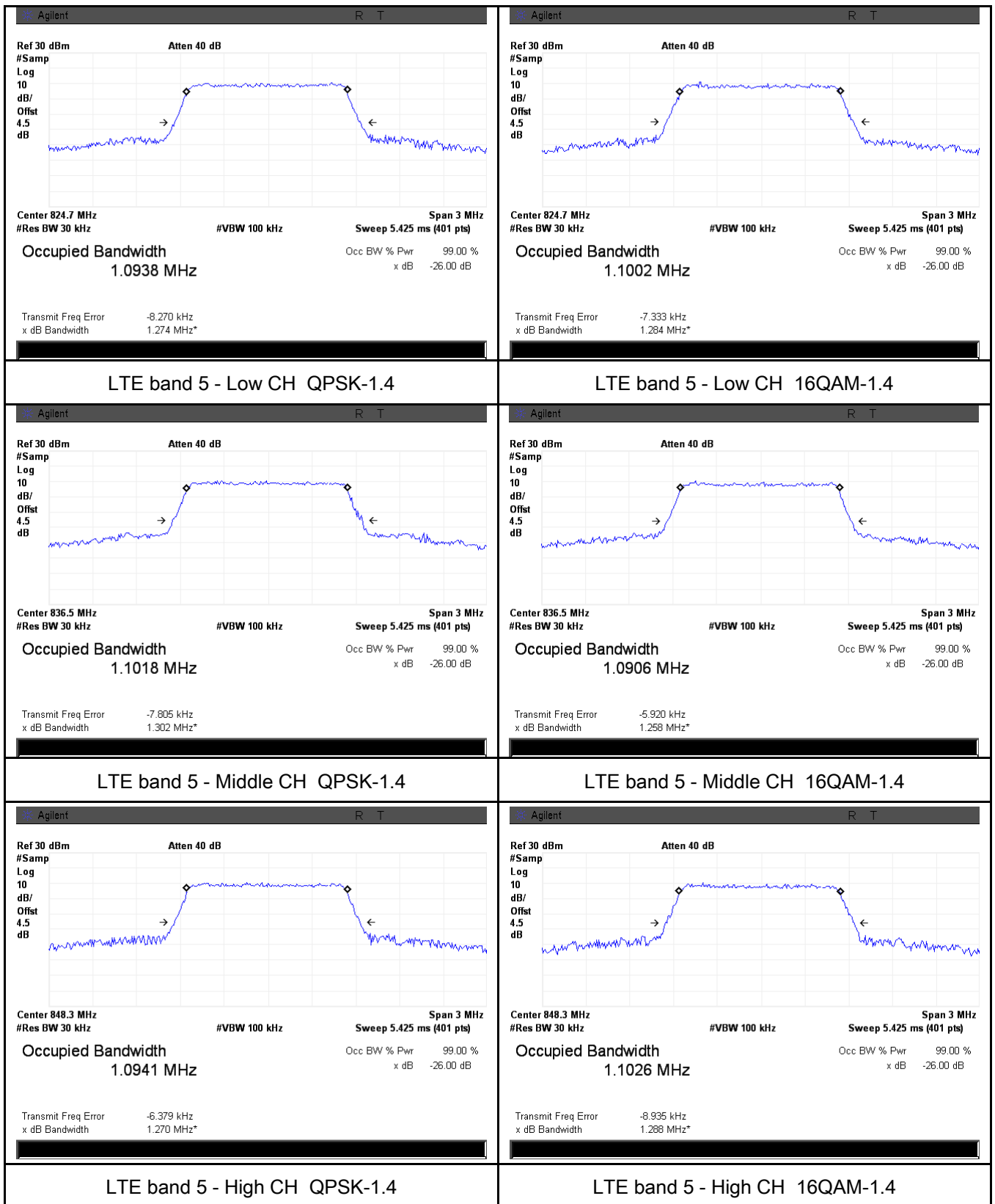


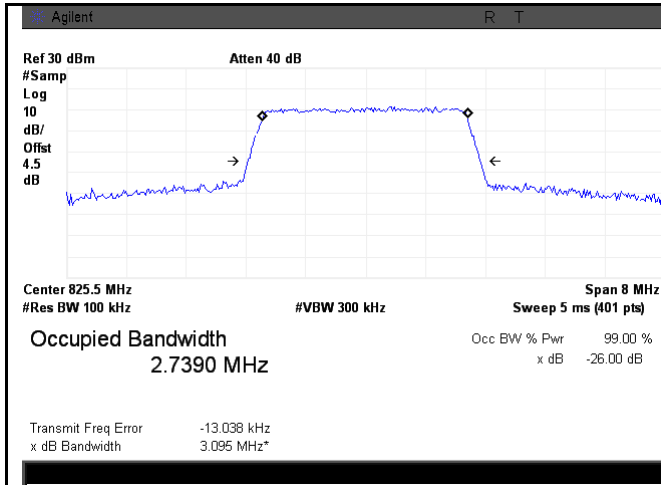
LTE band 4 - High CH QPSK-20



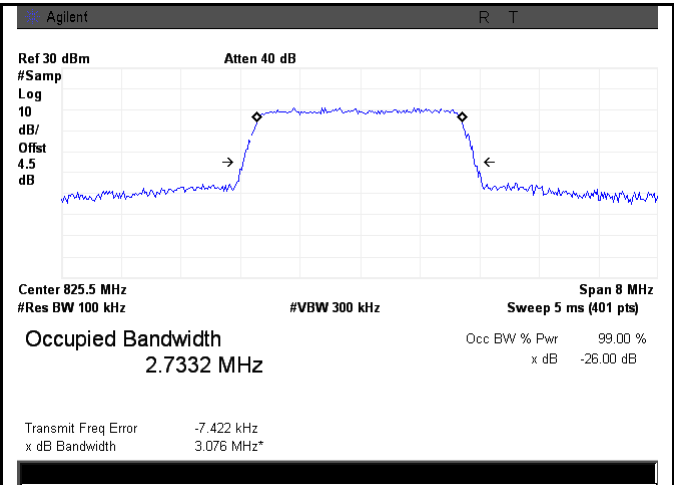
LTE band 4 - High CH 16QAM-20

LTE Band 5 (Part 22H)

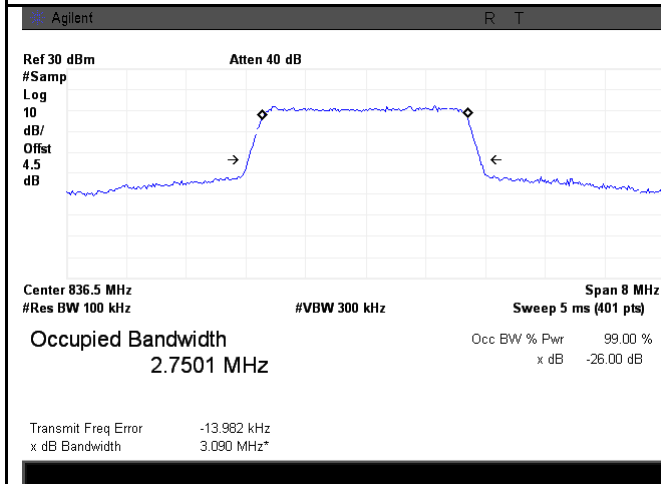




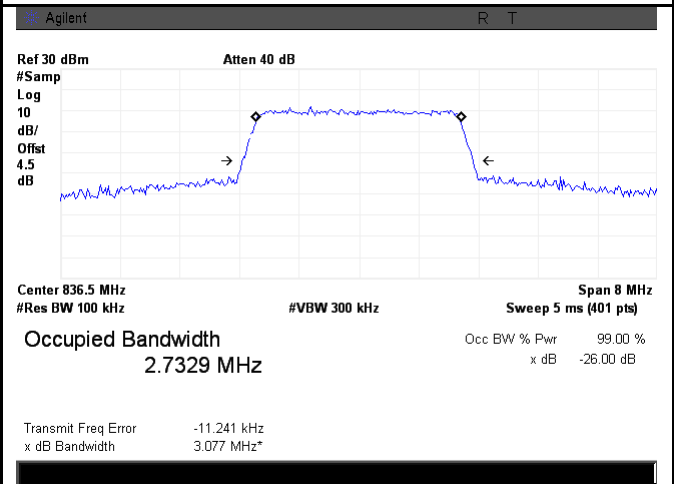
LTE band 5 - Low CH QPSK-3



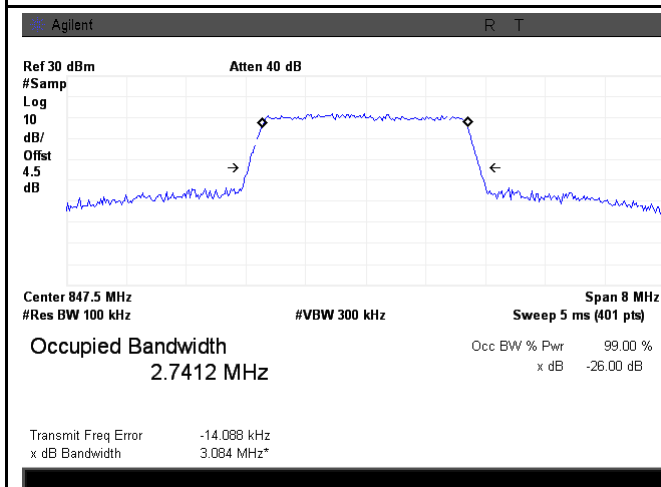
LTE band 5 - Low CH 16QAM-3



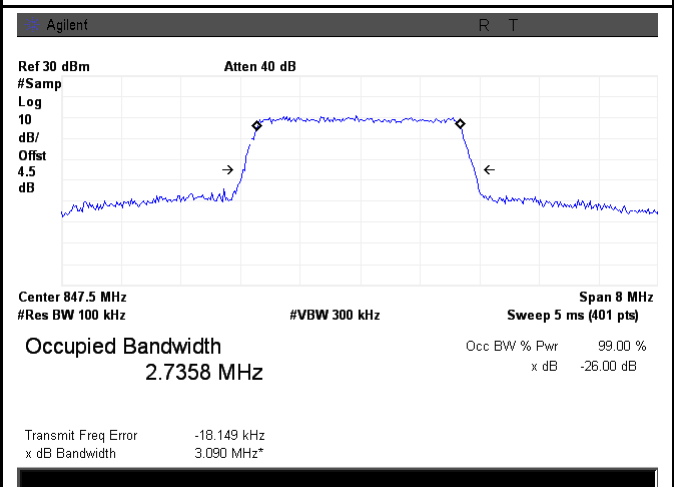
LTE band 5 - Middle CH QPSK-3



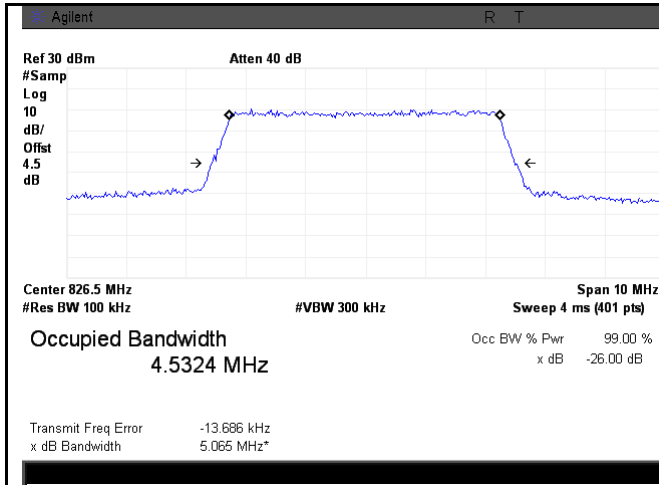
LTE band 5 - Middle CH 16QAM-3



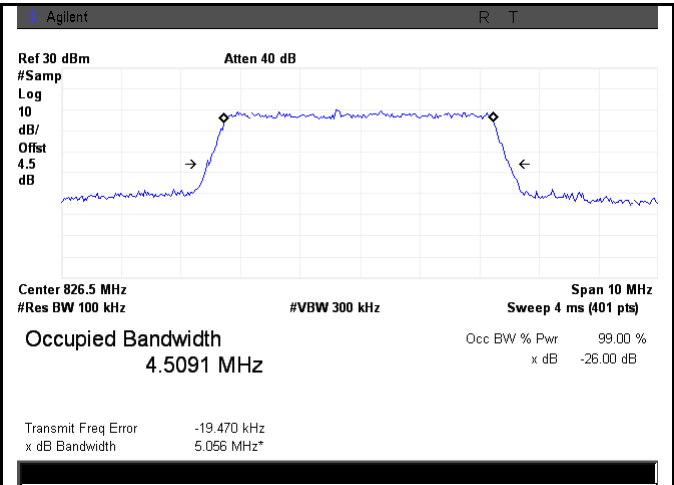
LTE band 5 - High CH QPSK-3



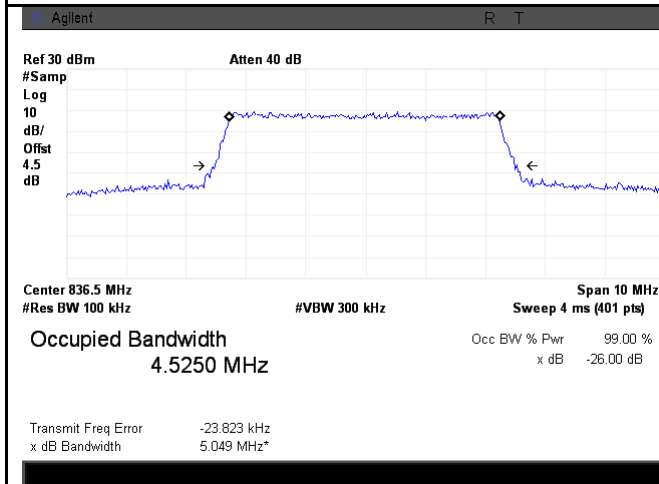
LTE band 5 - High CH 16QAM-3



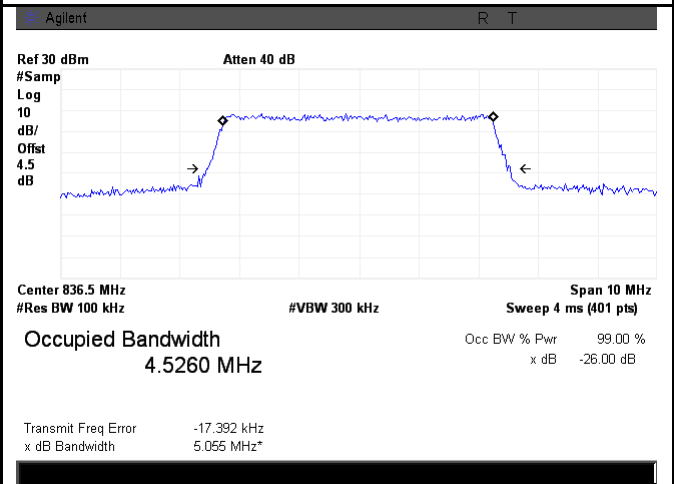
LTE band 5 - Low CH QPSK-5



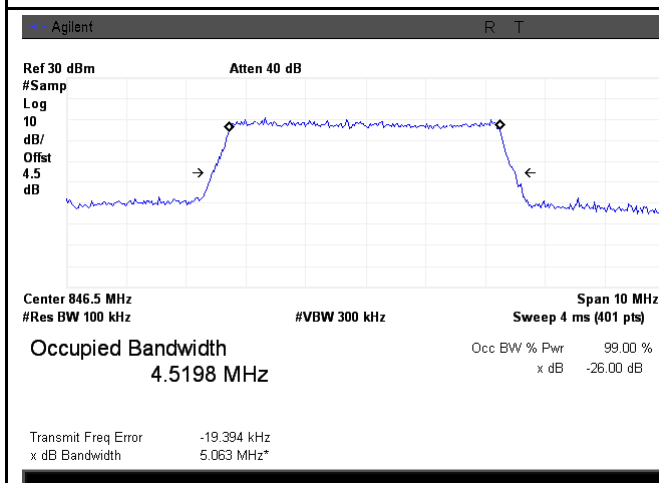
LTE band 5 - Low CH 16QAM-5



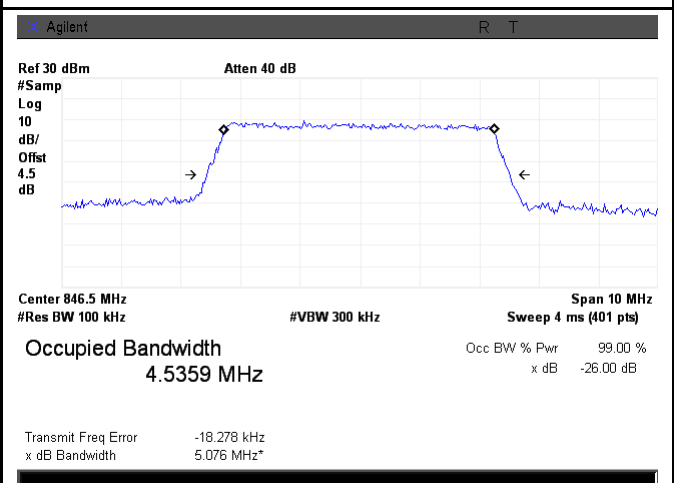
LTE band 5 - Middle CH QPSK-5



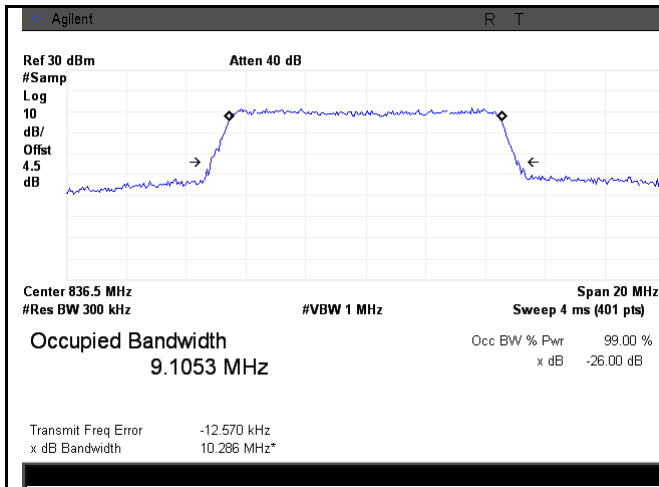
LTE band 5 - Middle CH 16QAM-5



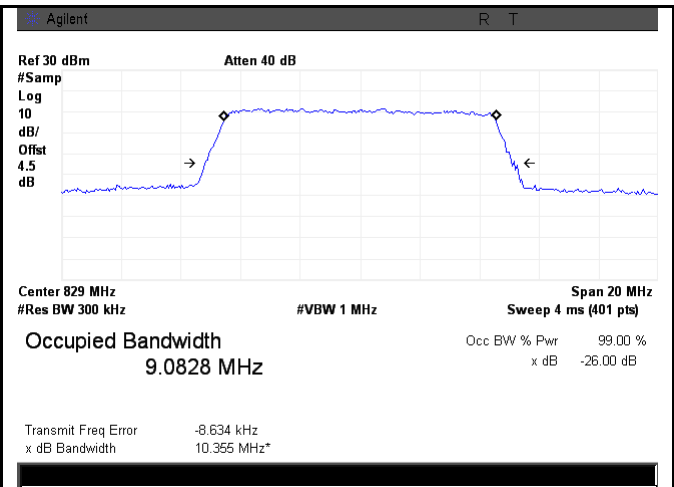
LTE band 5 - High CH QPSK-5



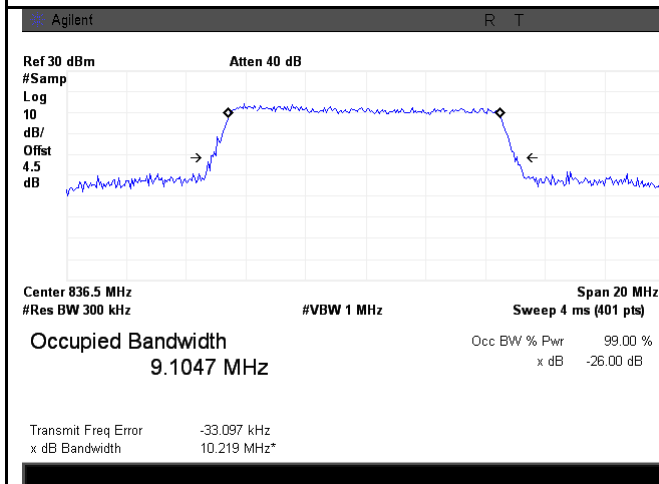
LTE band 5 - High CH 16QAM-5



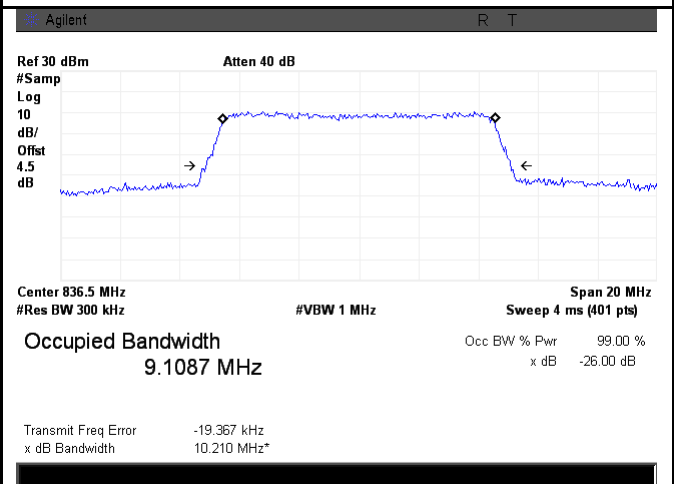
LTE band 5 - Low CH QPSK-10



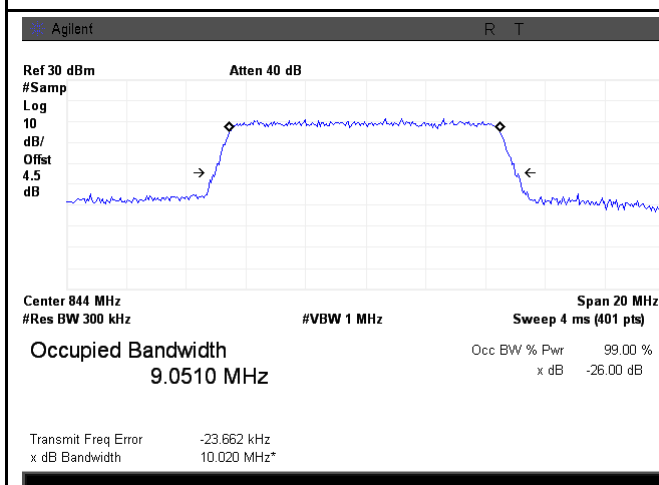
LTE band 5 - Low CH 16QAM-10



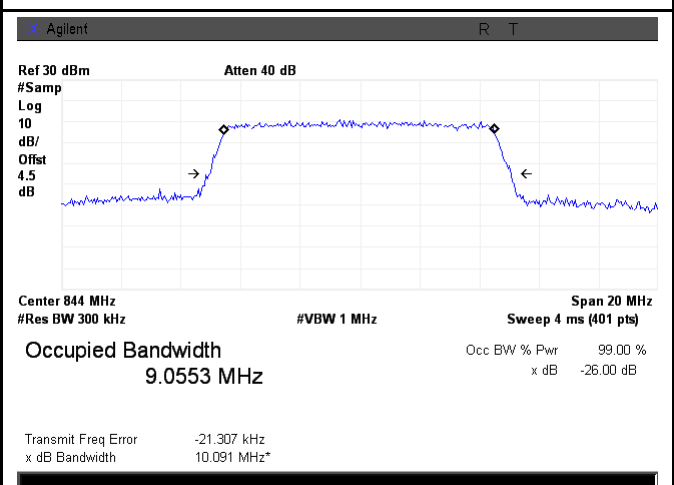
LTE band 5 - Middle CH QPSK-10



LTE band 5 - Middle CH 16QAM-10

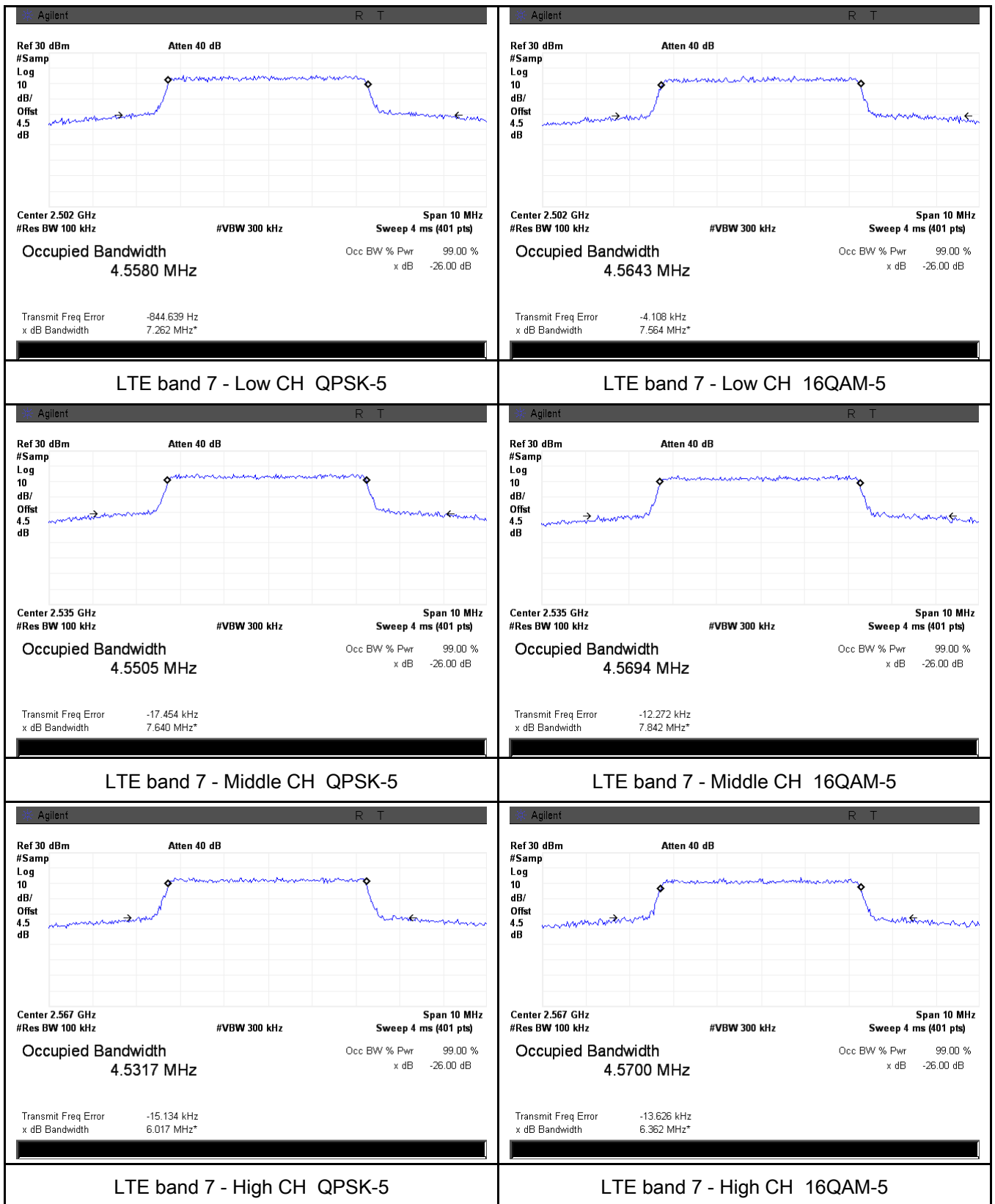


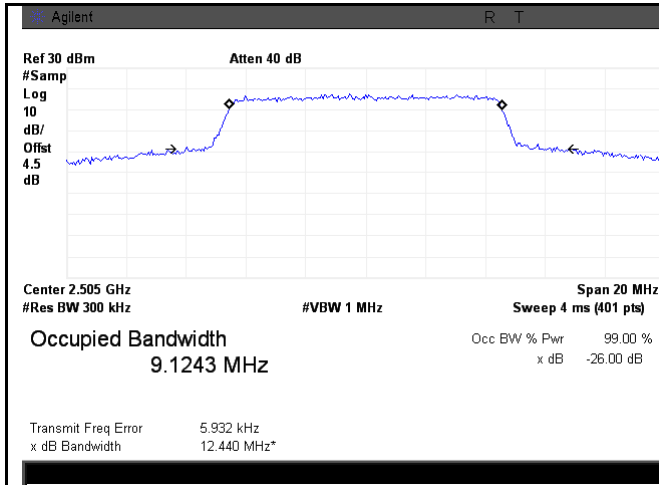
LTE band 5 - High CH QPSK-10



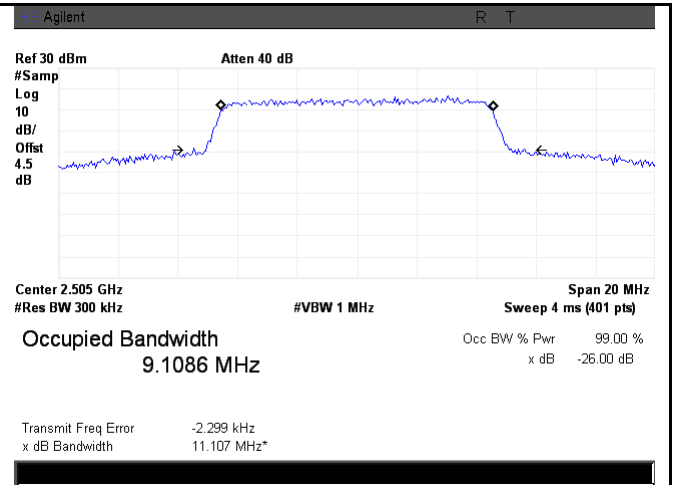
LTE band 5 - High CH 16QAM-10

LTE Band 7 (Part 27)

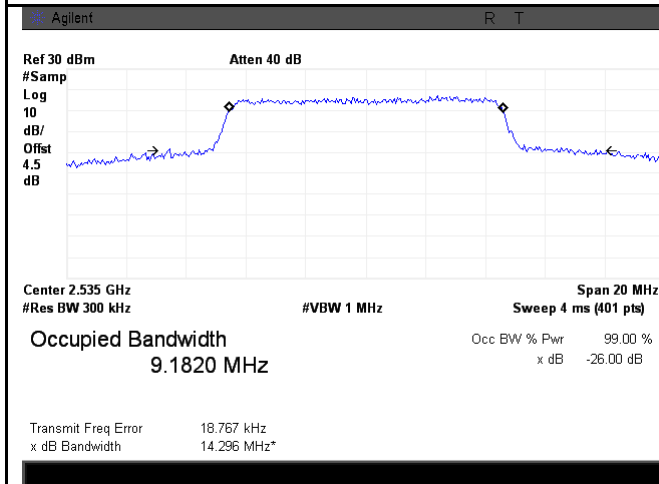




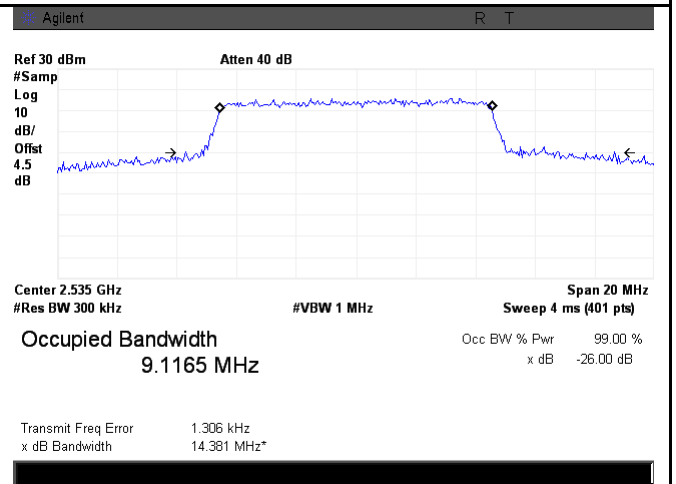
LTE band 7 - Low CH QPSK-10



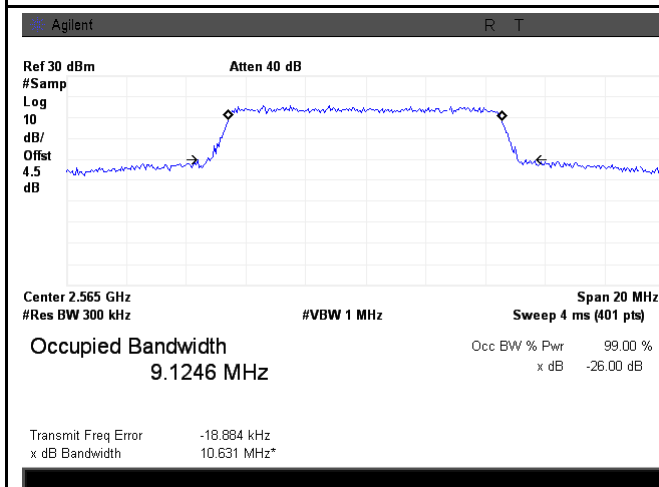
LTE band 7 - Low CH 16QAM-10



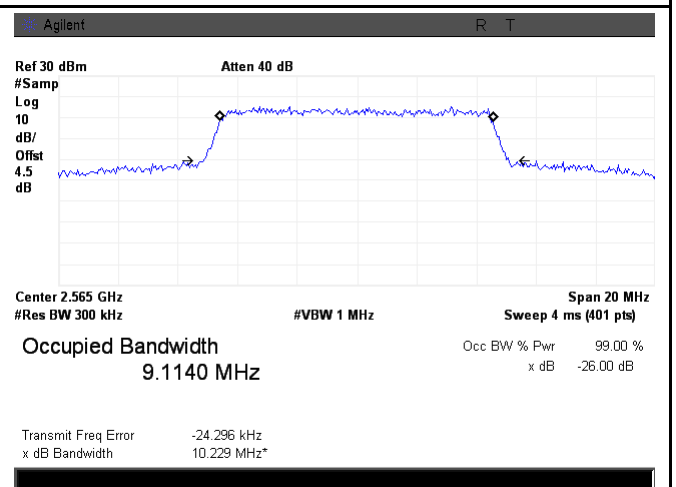
LTE band 7 - Middle CH QPSK-10



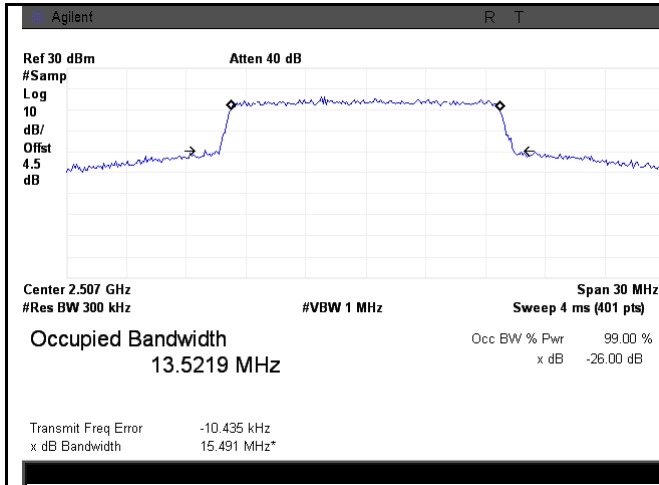
LTE band 7 - Middle CH 16QAM-10



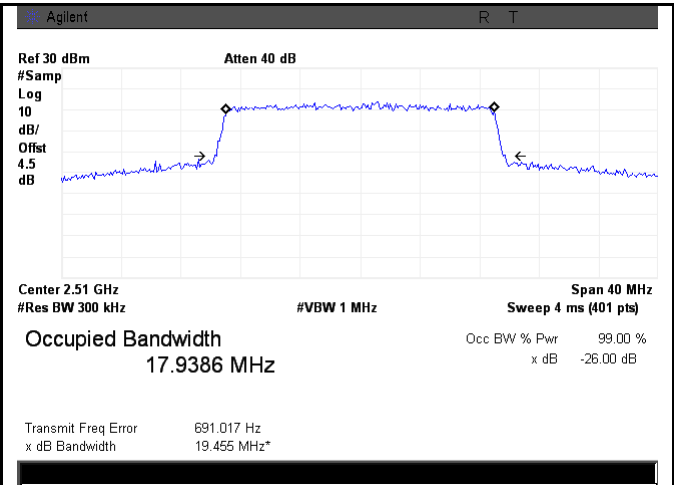
LTE band 7 - High CH QPSK-10



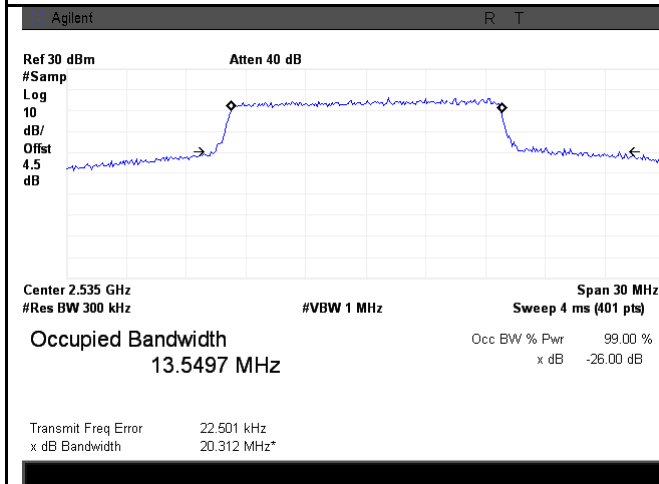
LTE band 7 - High CH 16QAM-10



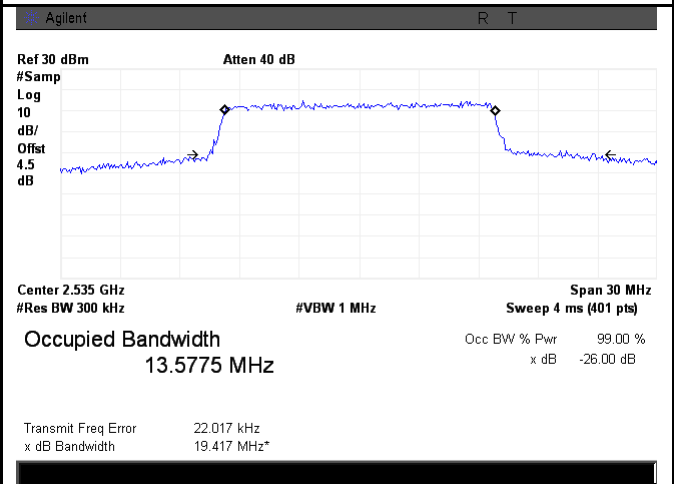
LTE band 7 - Low CH QPSK-15



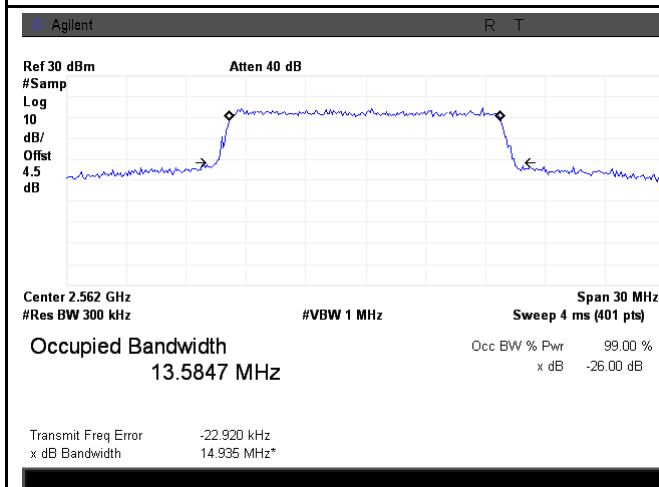
LTE band 7 - Low CH 16QAM-15



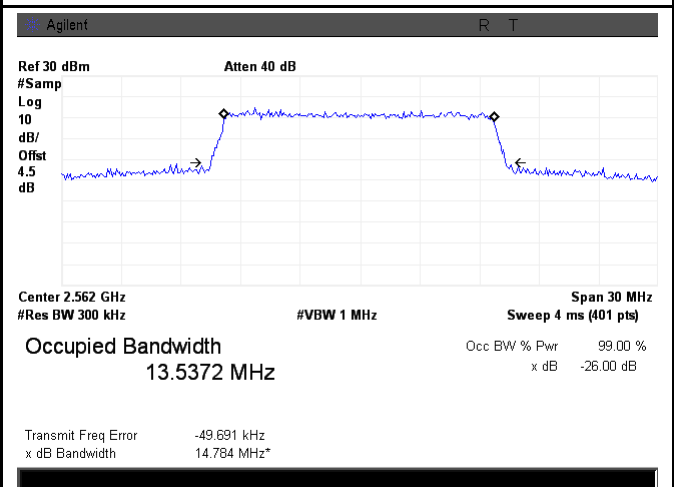
LTE band 7 - Middle CH QPSK-15



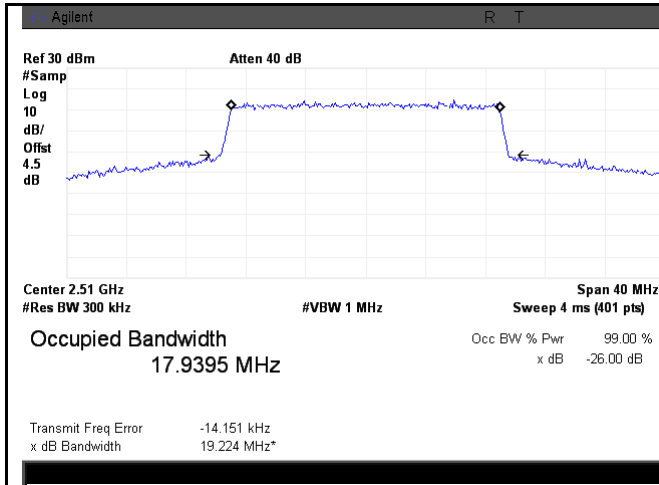
LTE band 7 - Middle CH 16QAM-15



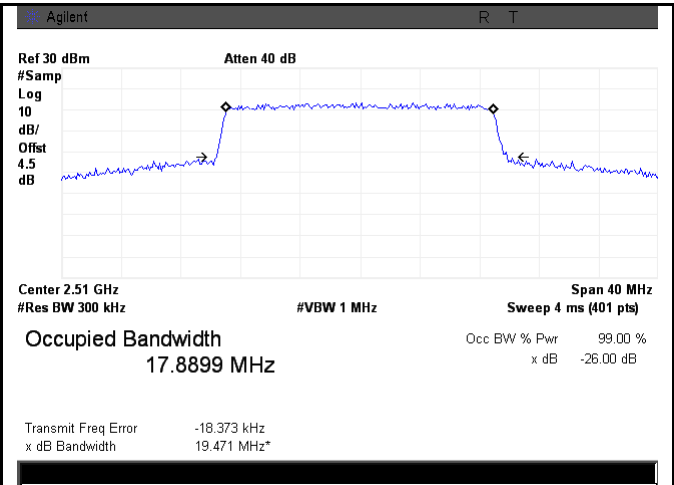
LTE band 7 - High CH QPSK-15



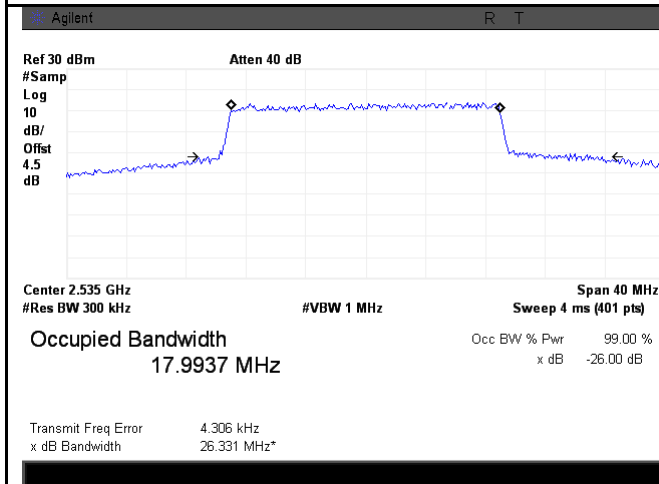
LTE band 7 - High CH 16QAM-15



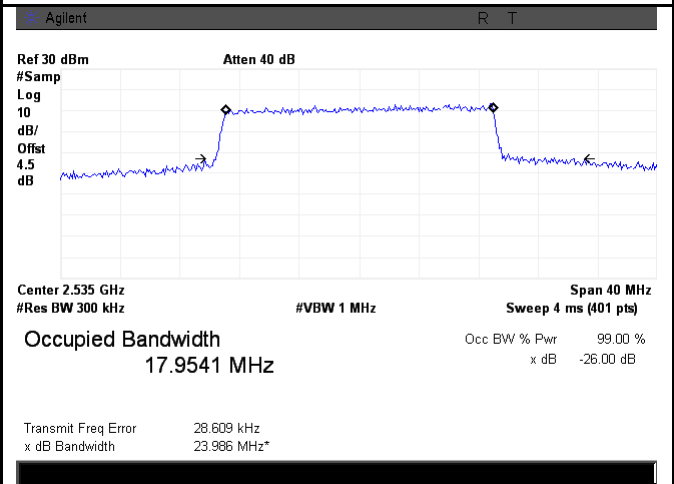
LTE band 7 - Low CH QPSK-20



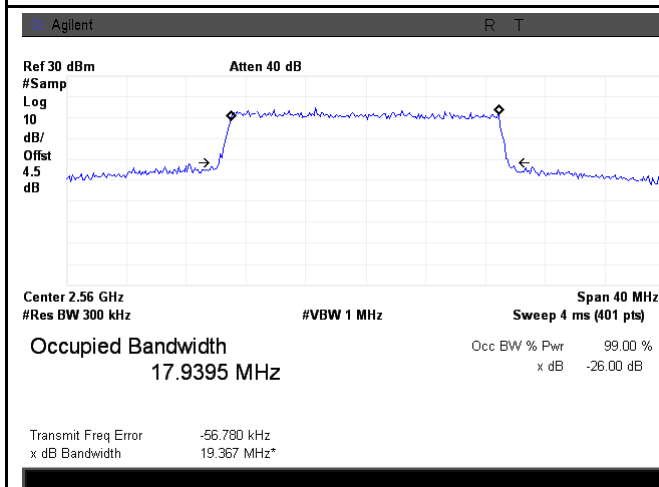
LTE band 7 - Low CH 16QAM-20



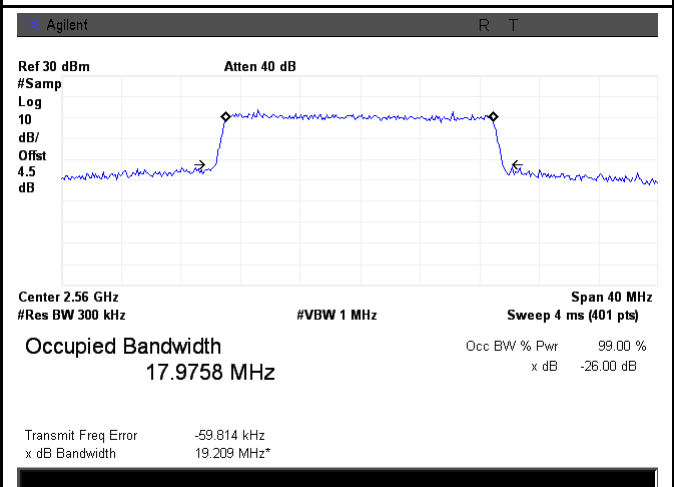
LTE band 7 - Middle CH QPSK-20



LTE band 7 - Middle CH 16QAM-20



LTE band 7 - High CH QPSK-20



LTE band 7 - High CH 16QAM-20

6.5 Spurious Emissions at Antenna Terminals

Temperature	24°C
Relative Humidity	59%
Atmospheric Pressure	1007mbar
Test date :	December 07, 2015
Tested By :	Winnie Zhang

Requirement(s):

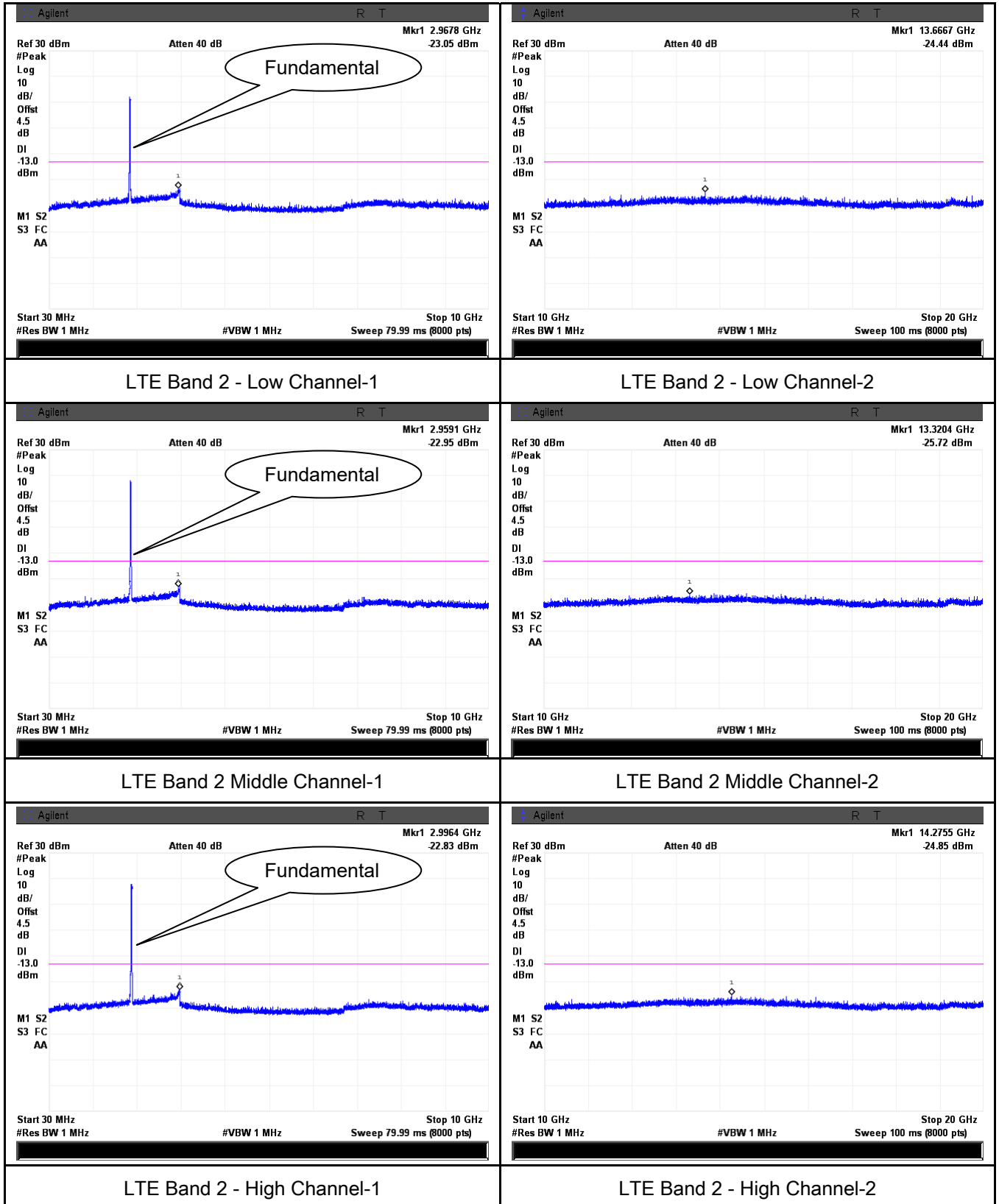
Spec	Item	Requirement	Applicable
§2.1051, §22.917(a)& §24.238(a) § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB	☒
Test Setup	Base Station Spectrum Analyzer EUT		
Test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

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test Plots 30MHz-5GHz

LTE Band 2 (Part 24E)

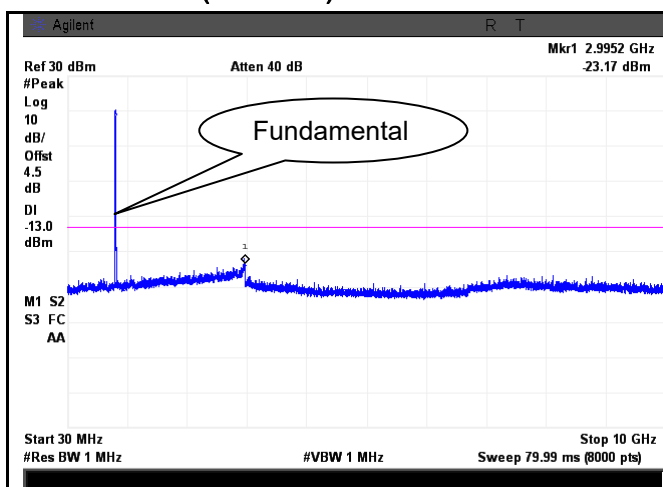


The figure displays six Agilent spectrum analyzer plots arranged in a 3x2 grid, showing LTE Band 4 signals. Each plot includes a 'Fundamental' callout pointing to a peak at 2.98 GHz.

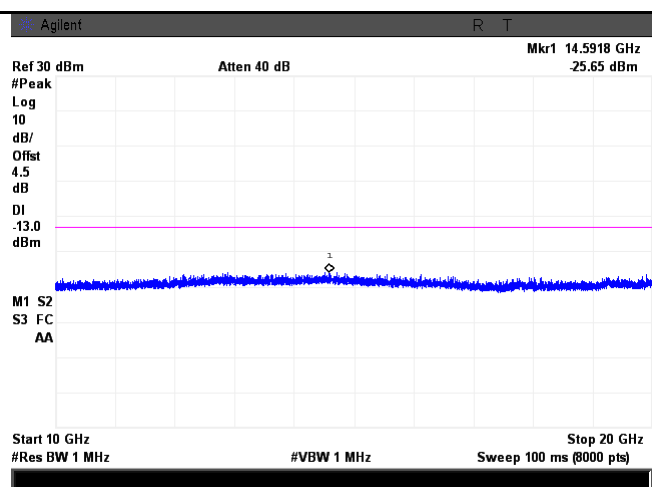
- Top Row (Low Channels):**
 - Top Left (LTE Band 4 - Low Channel-1):** Mkr1 2.9977 GHz, -23.4 dBm. Start 30 MHz, Stop 10 GHz, Sweep 79.99 ms (8000 pts).
 - Top Right (LTE Band 4 - Low Channel-2):** Mkr1 12.8741 GHz, -24.44 dBm. Start 10 GHz, Stop 20 GHz, Sweep 100 ms (8000 pts).
- Middle Row (Middle Channels):**
 - Middle Left (LTE Band 4 - Middle Channel-1):** Mkr1 2.9877 GHz, -23.15 dBm. Start 30 MHz, Stop 10 GHz, Sweep 79.99 ms (8000 pts).
 - Middle Right (LTE Band 4 - Middle Channel-2):** Mkr1 15.4969 GHz, -25.62 dBm. Start 10 GHz, Stop 20 GHz, Sweep 100 ms (8000 pts).
- Bottom Row (High Channels):**
 - Bottom Left (LTE Band 4 - High Channel-1):** Mkr1 2.9827 GHz, -22.82 dBm. Start 30 MHz, Stop 10 GHz, Sweep 79.99 ms (8000 pts).
 - Bottom Right (LTE Band 4 - High Channel-2):** Mkr1 14.0805 GHz, -25.64 dBm. Start 10 GHz, Stop 20 GHz, Sweep 100 ms (8000 pts).

Each plot shows a blue signal trace on a grid. The y-axis is labeled 'Peak Log' and ranges from -13.0 dBm to 10 dBm. The x-axis is labeled 'Start' and 'Stop' with frequency values. The plots are titled 'LTE Band 4 - Low Channel-1', 'LTE Band 4 - Low Channel-2', 'LTE Band 4 - Middle Channel-1', 'LTE Band 4 - Middle Channel-2', 'LTE Band 4 - High Channel-1', and 'LTE Band 4 - High Channel-2'.

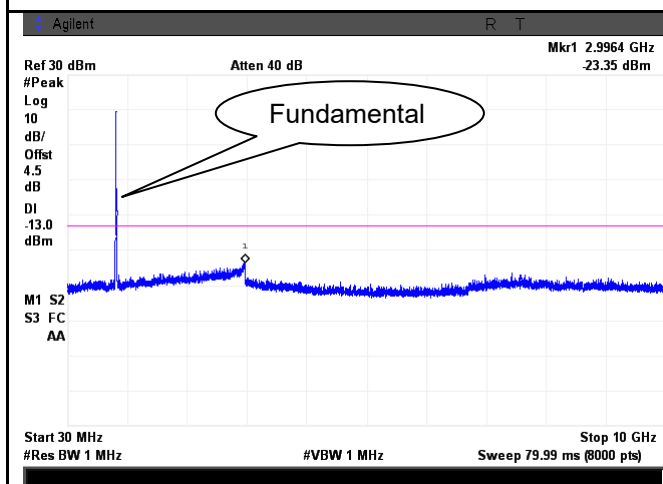
LTE Band 5 (Part 22H)



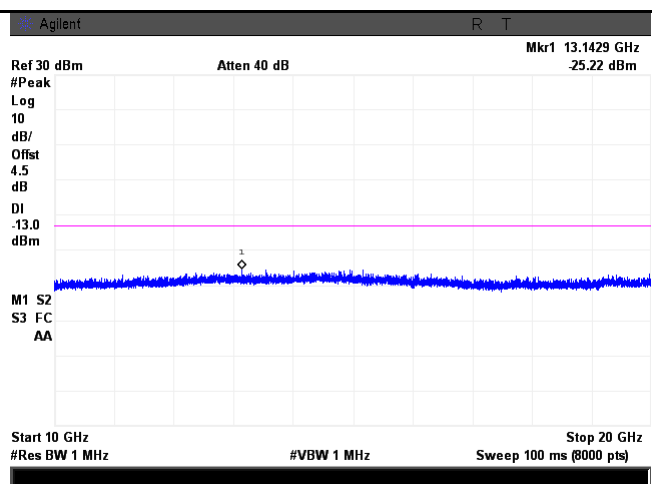
LTE Band 5 - Low Channel-1



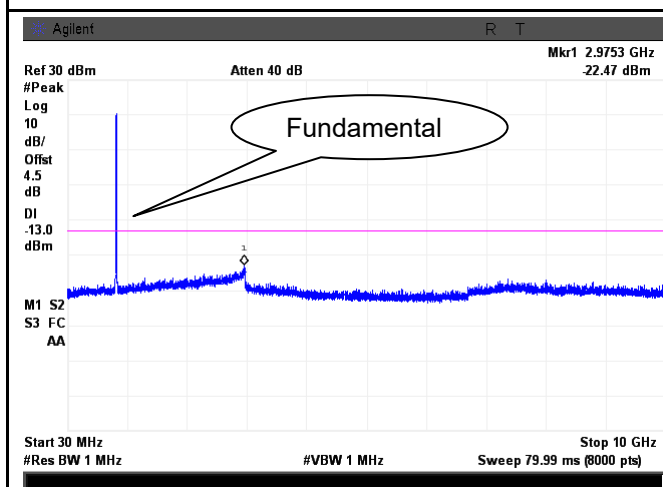
LTE Band 5 - Low Channel-2



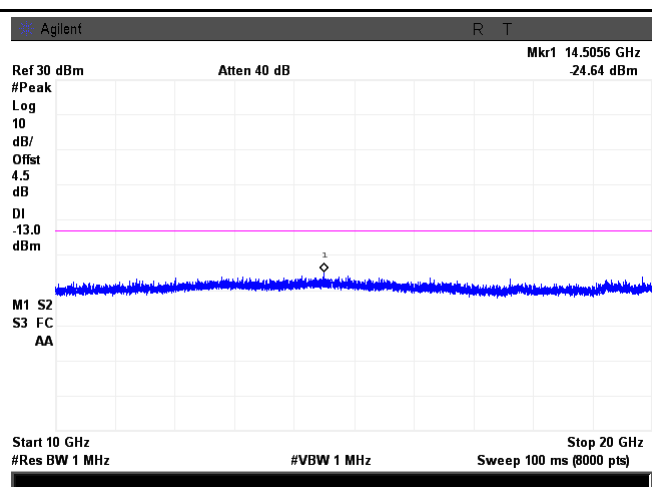
LTE Band 5- Middle Channel-1



LTE Band 5 - Middle Channel-2

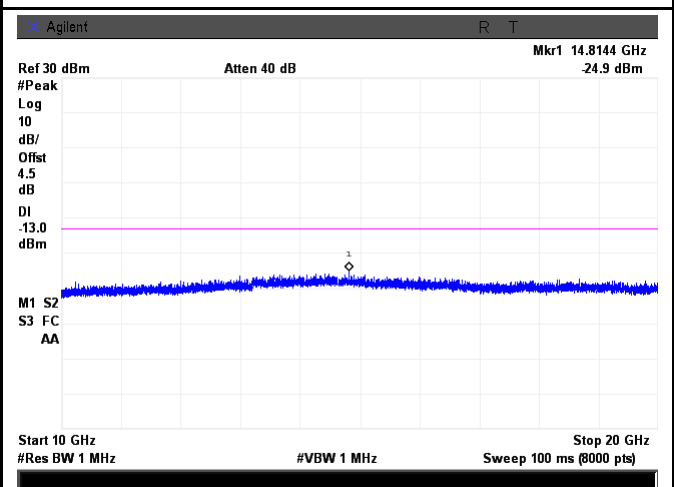
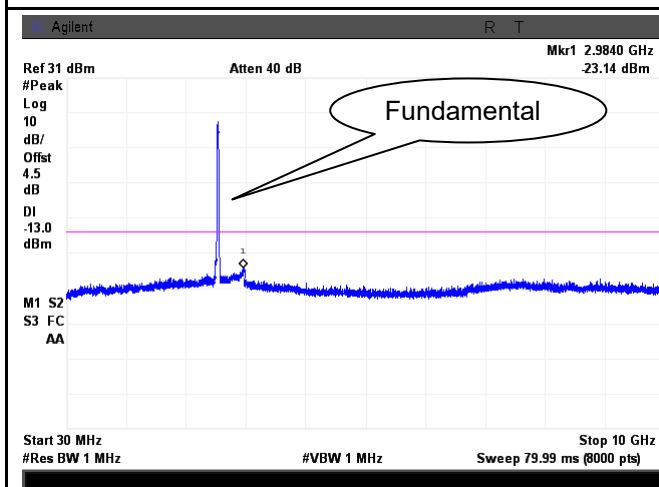
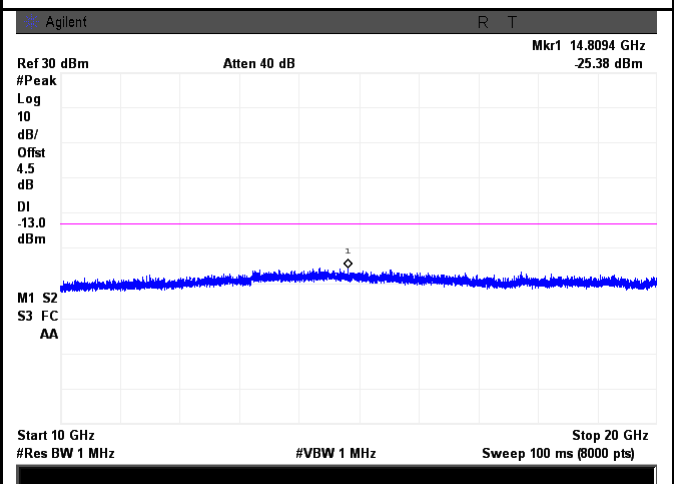
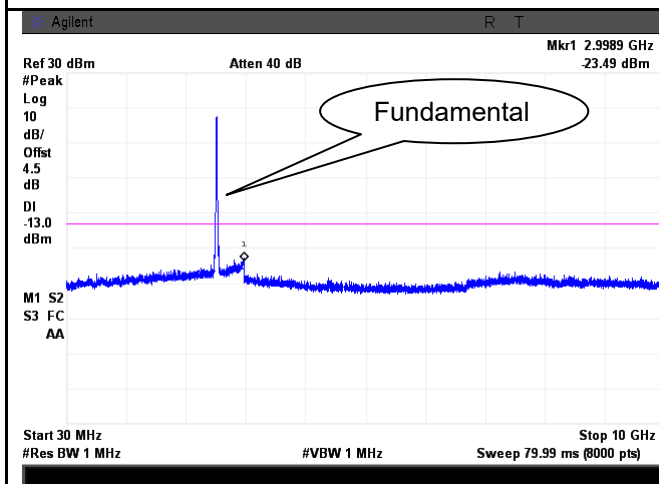
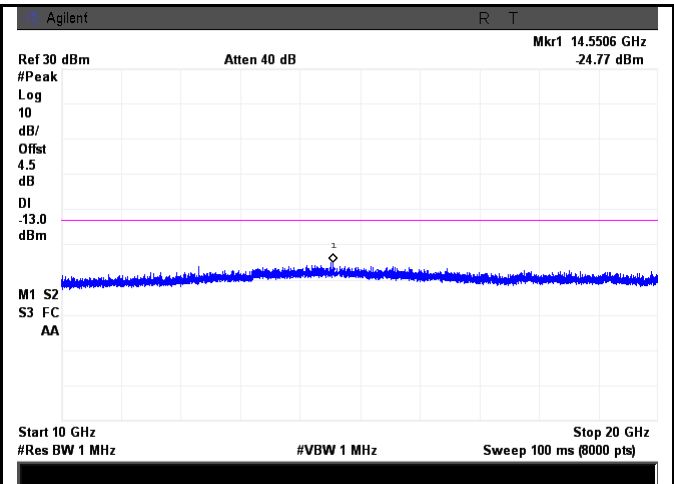
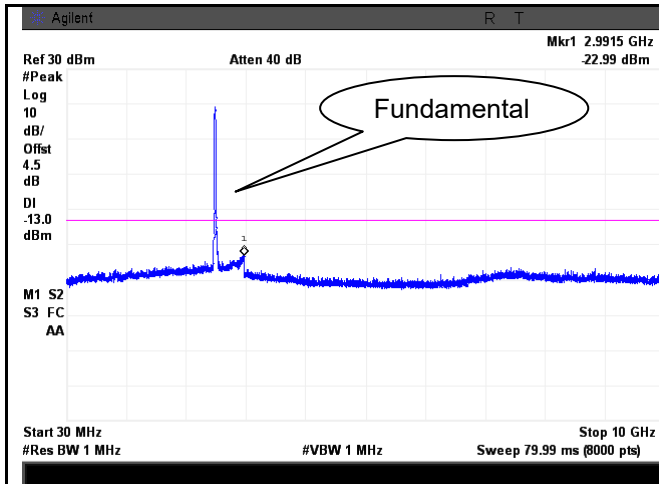


LTE Band 5 - High Channel-1



LTE Band 5 - High Channel-2

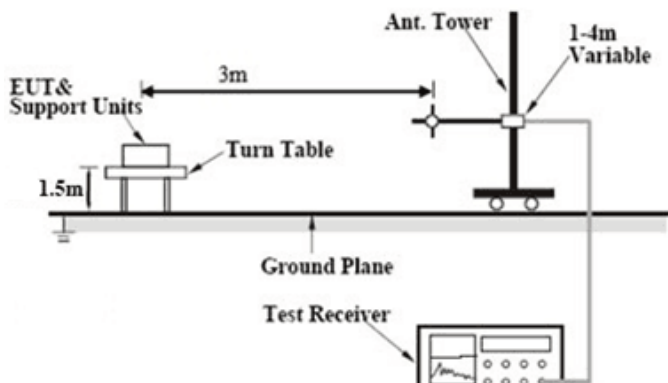
LTE Band 7 (Part 27)



6.6 Spurious Radiated Emissions

Temperature	22°C
Relative Humidity	51%
Atmospheric Pressure	1009mbar
Test date :	December 09, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable
§2.1053, §22.917 & §24.238 § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.	☒
Test setup			
Test Procedure		1. The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable. 2. 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. 3. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution. Sample Calculation: EUT Field Strength = Raw Amplitude (dBμV/m) – Amplifier Gain (dB) + Antenna Factor (dB) + Cable Loss (dB) + Filter Attenuation (dB, if used)	
Remark			

Test Report	15050054-FCC-R5
Page	75 of 120

Result	☒ Pass ☐ Fail
--------	--

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

LTE Band 2 (Part 24E) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3720	-44.62	V	10.25	2.73	-37.1	-13	-24.1
3720	-44.97	H	10.25	2.73	-37.45	-13	-24.45
46.2	-39.24	V	-4.2	0.11	-43.55	-13	-30.55
173.5	-48.38	H	4.6	0.18	-43.96	-13	-30.96

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3760	-44.57	V	10.25	2.73	-37.05	-13	-24.05
3760	-44.91	H	10.25	2.73	-37.39	-13	-24.39
46.8	-39.35	V	-4.2	0.11	-43.66	-13	-30.66
173.3	-48.48	H	4.6	0.18	-44.06	-13	-31.06

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3800	-44.62	V	10.36	2.73	-36.99	-13	-23.99
3800	-44.83	H	10.36	2.73	-37.2	-13	-24.2
46.4	-39.41	V	-4.2	0.11	-43.72	-13	-30.72
173.7	-48.55	H	4.6	0.18	-44.13	-13	-31.13

Note:

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

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

LTE Band 4(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3440	-45.67	V	10.06	2.52	-38.13	-13	-25.13
3440	-46.05	H	10.06	2.52	-38.51	-13	-25.51
47.1	-40.22	V	-4.2	0.11	-44.53	-13	-31.53
172.6	-49.58	H	4.6	0.18	-45.16	-13	-32.16

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3465	-45.61	V	10.09	2.52	-38.04	-13	-25.04
3465	-46.15	H	10.09	2.52	-38.58	-13	-25.58
47.5	-40.37	V	-4.2	0.11	-44.68	-13	-31.68
172.3	-49.41	H	4.6	0.18	-44.99	-13	-31.99

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3490	-45.56	V	10.09	2.52	-37.99	-13	-24.99
3490	-45.92	H	10.09	2.52	-38.35	-13	-25.35
47.4	-40.27	V	-4.2	0.11	-44.58	-13	-31.58
172.8	-49.34	H	4.6	0.18	-44.92	-13	-31.92

Note:

- 1, The testing has been conformed to $10 \times 1752.5 \text{ MHz} = 17,525 \text{ MHz}$
- 2, All other emissions more than 30 dB below the limit

LTE Band 5(Part22H) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1658	-46.49	V	7.95	0.78	-39.32	-13	-26.32
1658	-46.82	H	7.95	0.78	-39.65	-13	-26.65
45.8	-40.65	V	-4.2	0.11	-44.96	-13	-31.96
174.5	-49.76	H	4.6	0.18	-45.34	-13	-32.34

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1673	-46.52	V	7.95	0.78	-39.35	-13	-26.35
1673	-46.78	H	7.95	0.78	-39.61	-13	-26.61
45.5	-40.61	V	-4.2	0.11	-44.92	-13	-31.92
174.1	-49.85	H	4.6	0.18	-45.43	-13	-32.43

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1688	-46.47	V	7.95	0.78	-39.3	-13	-26.3
1688	-46.83	H	7.95	0.78	-39.66	-13	-26.66
45.9	-40.55	V	-4.2	0.11	-44.86	-13	-31.86
174.3	-49.76	H	4.6	0.18	-45.34	-13	-32.34

Note:

- 1, The testing has been conformed to $10 \times 846.5 \text{ MHz} = 8,465 \text{ MHz}$
- 2, All other emissions more than 30 dB below the limit

LTE Band 7(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5020	-49.35	V	10.29	0.98	-40.04	-13	-27.04
5020	-49.72	H	10.29	0.98	-40.41	-13	-27.41
48.3	-41.16	V	-4.2	0.11	-45.47	-13	-32.47
172.6	-50.39	H	4.6	0.18	-45.97	-13	-32.97

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5070	-49.28	V	10.3	0.99	-39.97	-13	-26.97
5070	-49.63	H	10.3	0.99	-40.32	-13	-27.32
48.1	-41.24	V	-4.2	0.11	-45.55	-13	-32.55
172.5	-50.31	H	4.6	0.18	-45.89	-13	-32.89

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5120	-49.31	V	10.32	1	-39.99	-13	-26.99
5120	-49.56	H	10.32	1	-40.24	-13	-27.24
48.6	-41.18	V	-4.2	0.11	-45.49	-13	-32.49
172.9	-50.25	H	4.6	0.18	-45.83	-13	-32.83

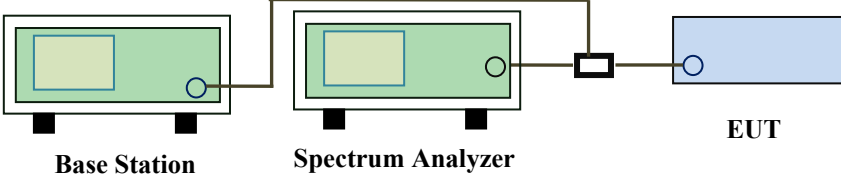
Note:

- 1, The testing has been conformed to $10 \times 2567.5 \text{ MHz} = 25,675 \text{ MHz}$
- 2, All other emissions more than 30 dB below the limit

6.7 Band Edge

Temperature	24°C
Relative Humidity	53%
Atmospheric Pressure	1001mbar
Test date :	December 01, 2015
Tested By :	Winnie Zhang

Requirement(s):

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

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

LTE Band 2 (Part 24E) result

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	18607	1850.7	QPSK	-16.50	-13
			16QAM	-15.03	-13
1.4	18900	1909.3	QPSK	-15.97	-13
			16QAM	-19.77	-13
3	18615	1851.5	QPSK	-18.69	-13
			16QAM	-19.55	-13
3	19185	1908.5	QPSK	-15.20	-13
			16QAM	-17.20	-13
5	18625	1852.5	QPSK	-17.72	-13
			16QAM	-20.44	-13
5	19175	1907.5	QPSK	-22.03	-13
			16QAM	-22.96	-13
10	18650	1855	QPSK	-19.81	-13
			16QAM	-21.36	-13
10	19150	1905	QPSK	-23.04	-13
			16QAM	-26.42	-13
15	18675	1857.5	QPSK	-18.93	-13
			16QAM	-21.67	-13
15	19125	1902.5	QPSK	-23.07	-13
			16QAM	-26.75	-13
20	18700	1860	QPSK	-22.20	-13
			16QAM	-26.48	-13
20	19100	1900	QPSK	-25.74	-13
			16QAM	-23.57	-13

LTE Band 4 (Part 27) result

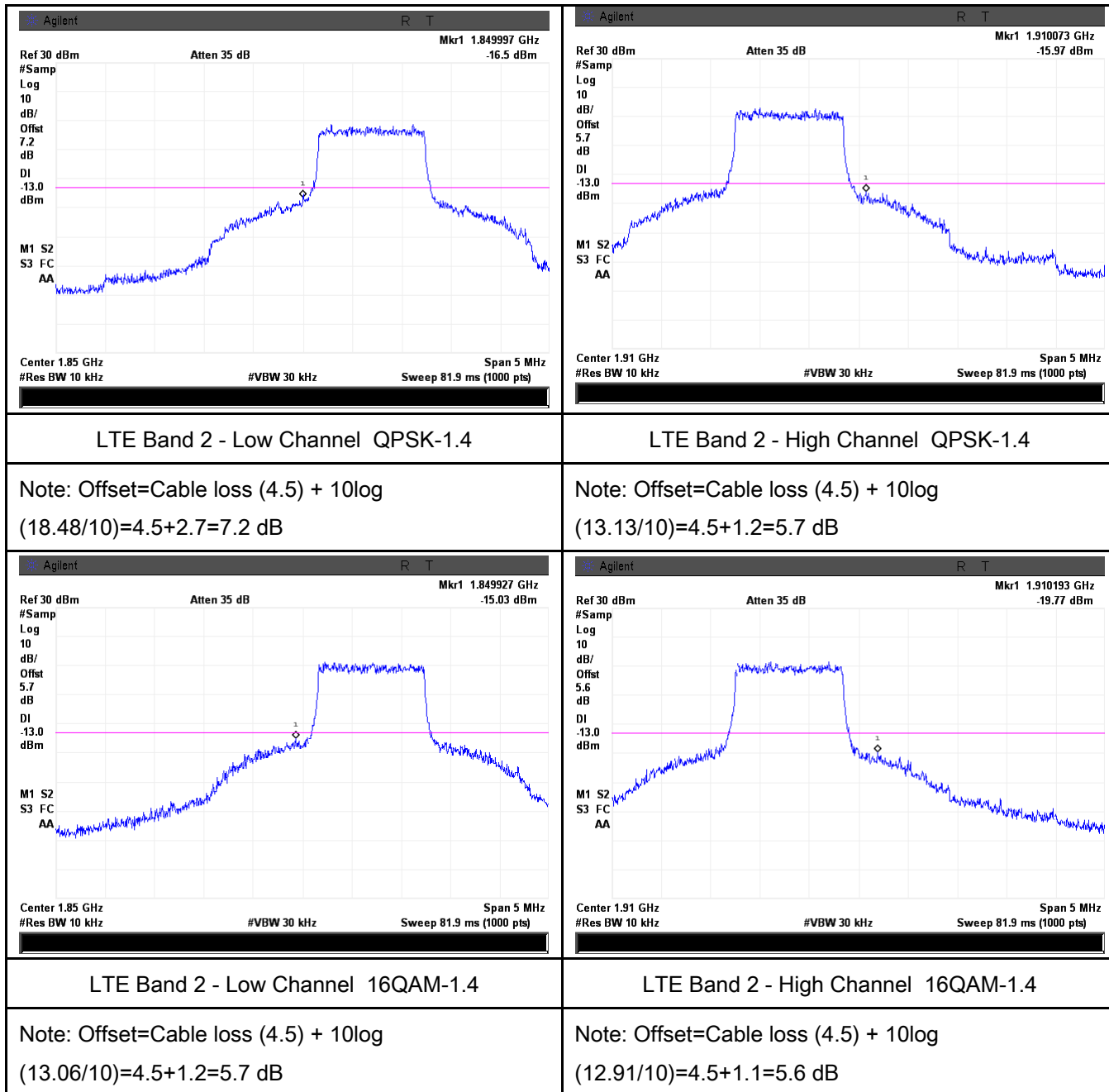
BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	19957	1710.7	QPSK	-21.35	-13
			16QAM	-24.66	-13
1.4	20393	1754.3	QPSK	-24.19	-13
			16QAM	-26.56	-13
3	19965	1711.5	QPSK	-15.93	-13
			16QAM	-15.53	-13
3	20385	1753.5	QPSK	-18.09	-13
			16QAM	-20.00	-13
5	19975	1712.5	QPSK	-17.99	-13
			16QAM	-22.85	-13
5	20375	1752.5	QPSK	-22.45	-13
			16QAM	-23.27	-13
10	20000	1715	QPSK	-22.02	-13
			16QAM	-23.98	-13
10	20350	1750	QPSK	-24.16	-13
			16QAM	-25.74	-13
15	20025	1717.5	QPSK	-21.12	-13
			16QAM	-23.61	-13
15	20325	1747.5	QPSK	-26.00	-13
			16QAM	-26.72	-13
20	20050	1720	QPSK	-23.14	-13
			16QAM	-24.97	-13
20	20300	1745	QPSK	-27.96	-13
			16QAM	-29.10	-13

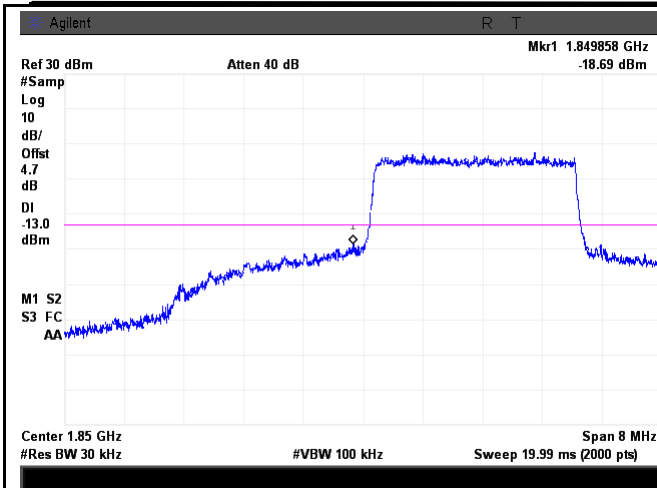
LTE Band 5 (Part 22H) result

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	20407	824.7	QPSK	-24.22	-13
			16QAM	-24.68	-13
1.4	20643	848.3	QPSK	-24.86	-13
			16QAM	-27.17	-13
3	20415	825.5	QPSK	-21.19	-13
			16QAM	-20.66	-13
3	20635	847.5	QPSK	-21.06	-13
			16QAM	-22.88	-13
5	20425	826.5	QPSK	-15.85	-13
			16QAM	-15.52	-13
5	20625	846.5	QPSK	-18.47	-13
			16QAM	-17.68	-13
10	20450	829	QPSK	-16.71	-13
			16QAM	-17.04	-13
10	20800	844	QPSK	-19.00	-13
			16QAM	-18.55	-13

Test Plots

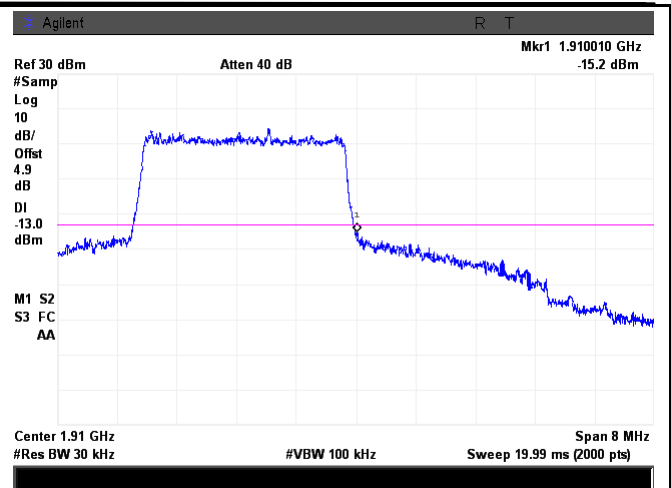
LTE Band 2 (Part 24E)





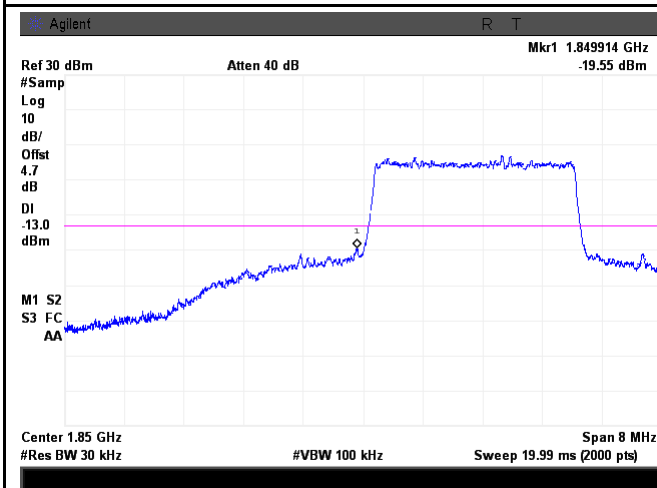
LTE Band 2 - Low Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(33.08/30)=4.5+0.2=4.7 dB



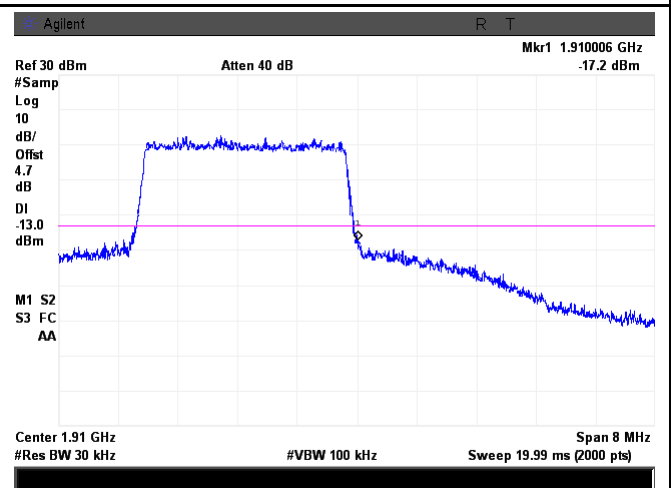
LTE Band 2 - High Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(31.12/30)=4.5+0.4=4.9 dB



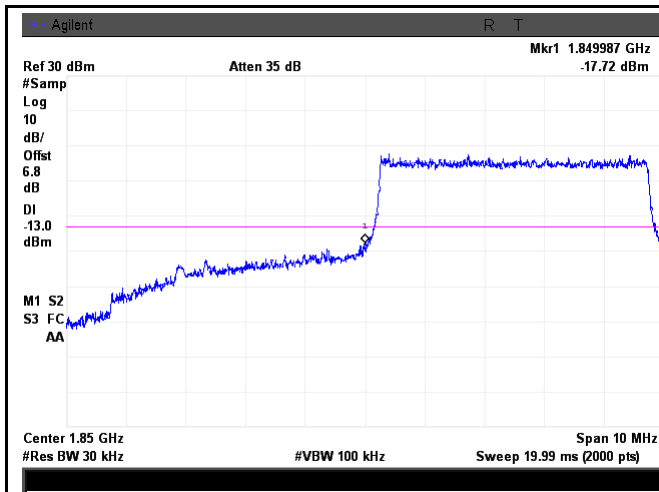
LTE Band 2 - Low Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(31.10/30)=4.5+0.2=4.7 dB



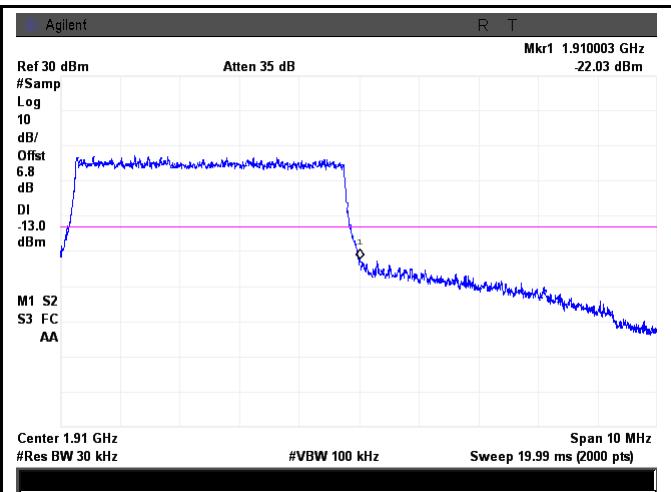
LTE Band 2 - High Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(31.08/30)=4.5+0.2=4.7 dB



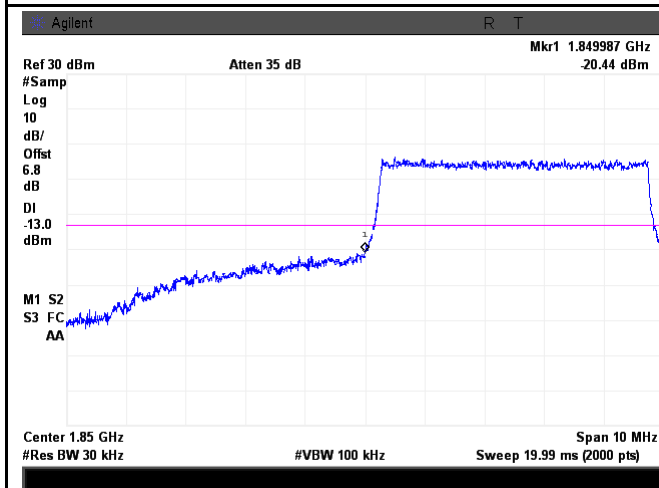
LTE Band 2 - Low Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.82/30)=4.5+2.3=6.8 dB



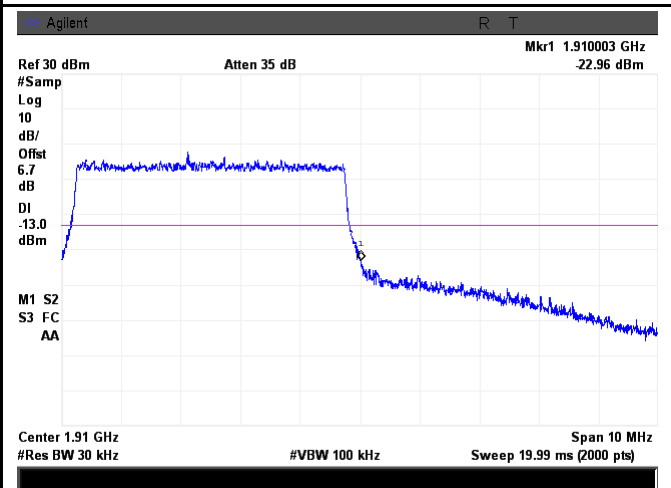
LTE Band 2 - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.81/30)=4.5+2.3=6.8 dB



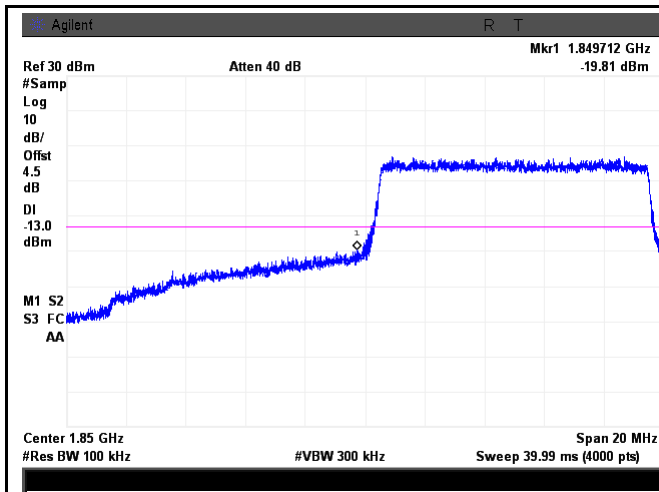
LTE Band 2 - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(50.96/30)=4.5+2.3=6.8 dB

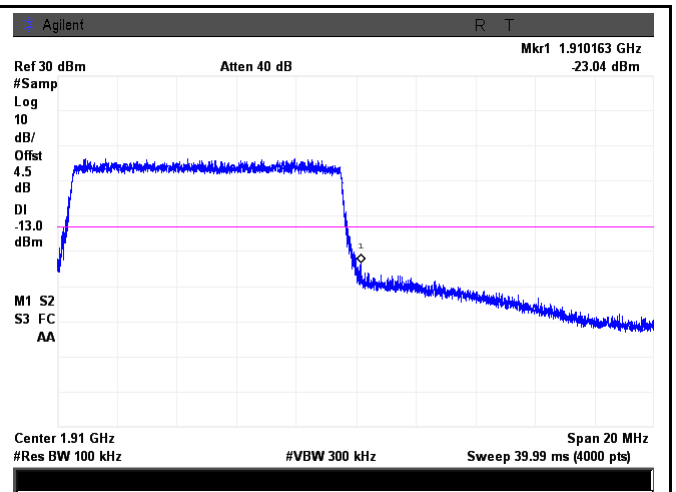


LTE Band 2 - High Channel 16QAM-5

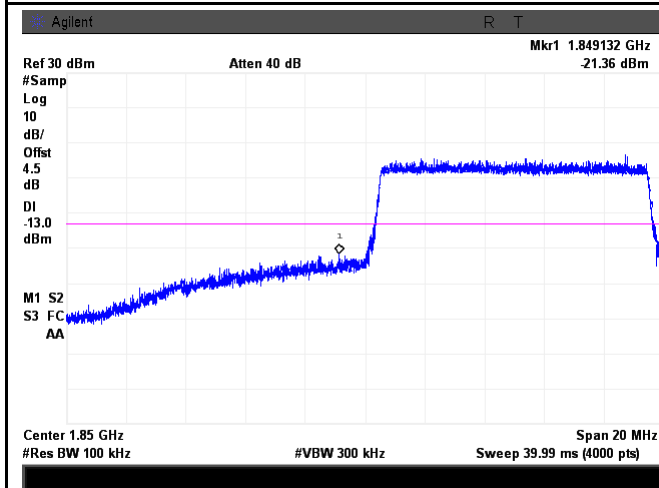
Note: Offset=Cable loss (4.5) + 10log
(50.27/30)=4.5+2.2=6.7 dB



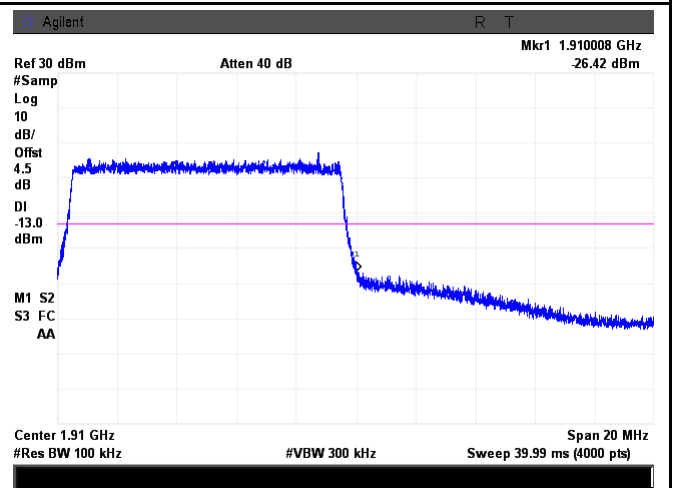
LTE Band 2 - Low Channel QPSK-10



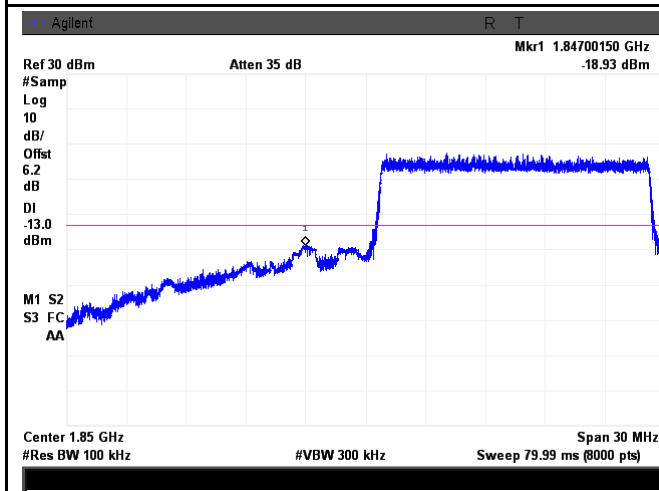
LTE Band 2 - High Channel QPSK-10



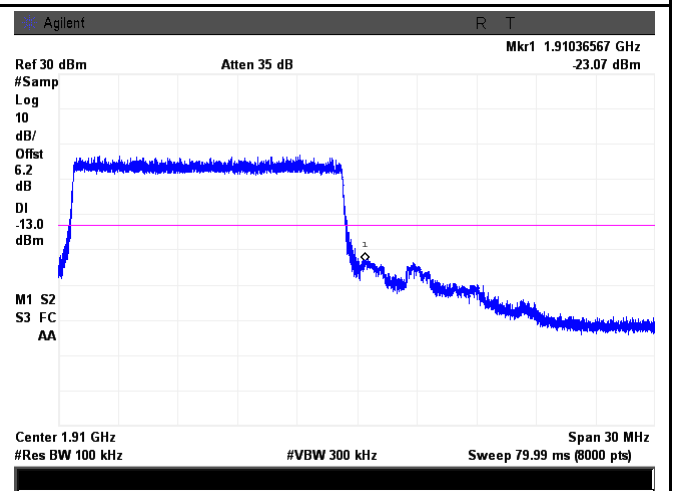
LTE Band 2 - Low Channel 16QAM-10



LTE Band 2 - High Channel 16QAM-10



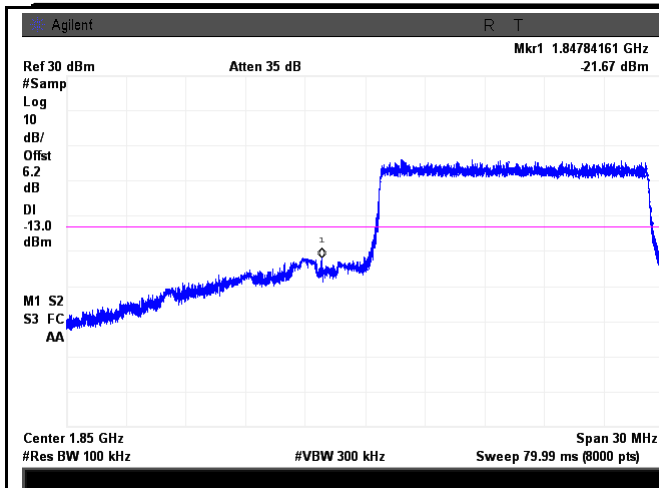
LTE Band 2 - Low Channel QPSK-15



LTE Band 2 - High Channel QPSK-15

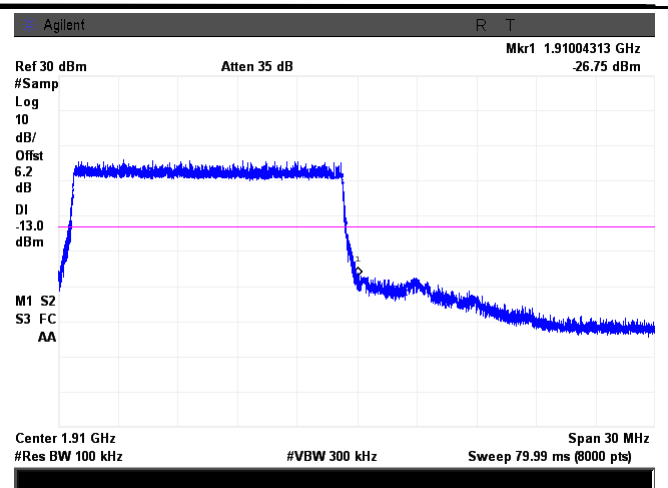
Note: Offset=Cable loss (4.5) + 10log
(149.32/100)=4.5+1.7=6.2 dB

Note: Offset=Cable loss (4.5) + 10log
(148.08/100)=4.5+1.7=6.2 dB



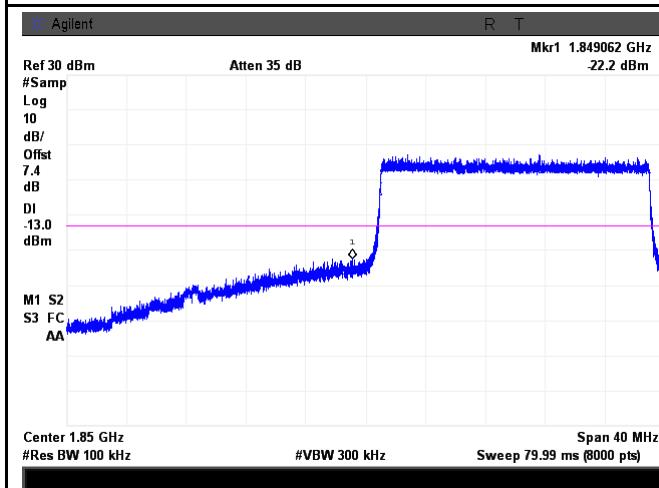
LTE Band 2 - Low Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(149.00/100)=4.5+1.7=6.2 dB



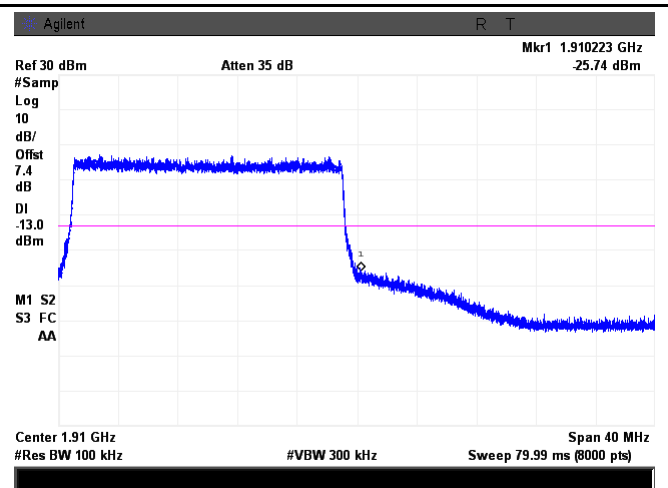
LTE Band 2 - High Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(148.37/100)=4.5+1.7=6.2 dB



LTE Band 2 - Low Channel QPSK-20

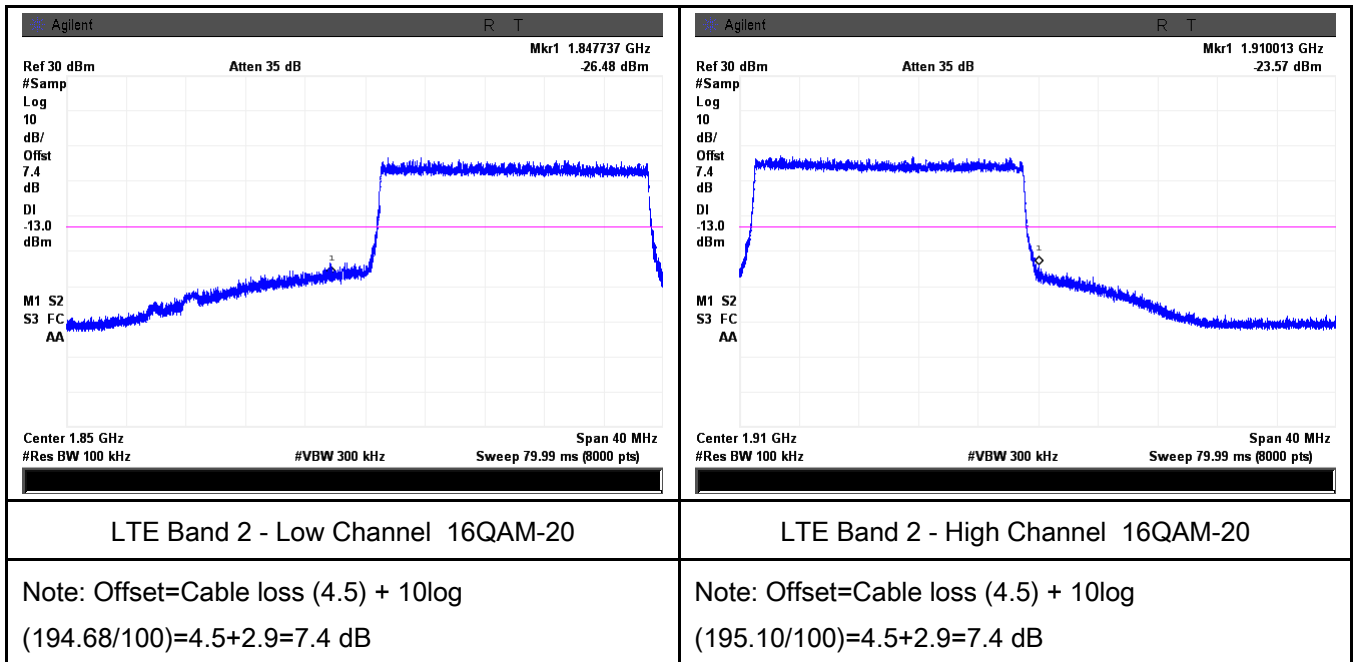
Note: Offset=Cable loss (4.5) + 10log
(193.24/100)=4.5+2.9=7.4 dB



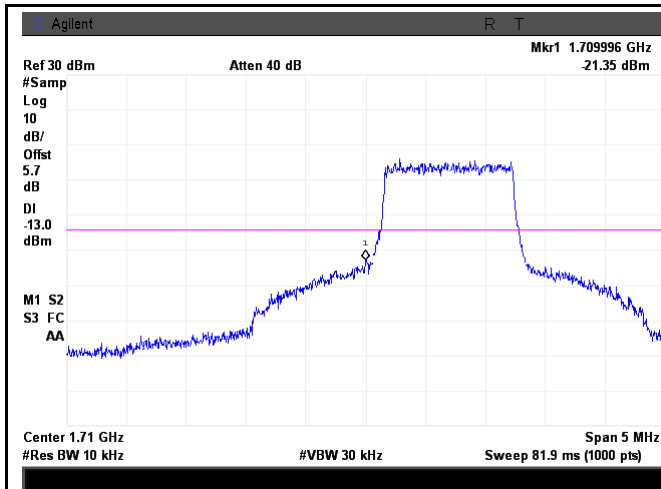
LTE Band 2 - High Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log
(194.45/100)=4.5+2.9=7.4 dB

Test Report	15050054-FCC-R5
Page	89 of 120

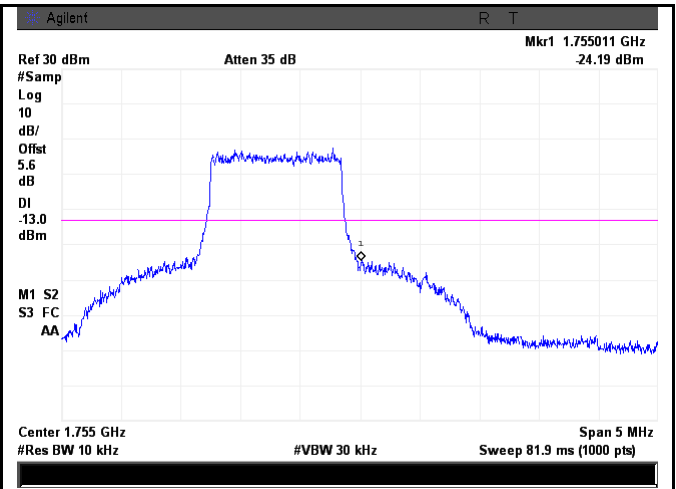


LTE Band 4 (Part 27)



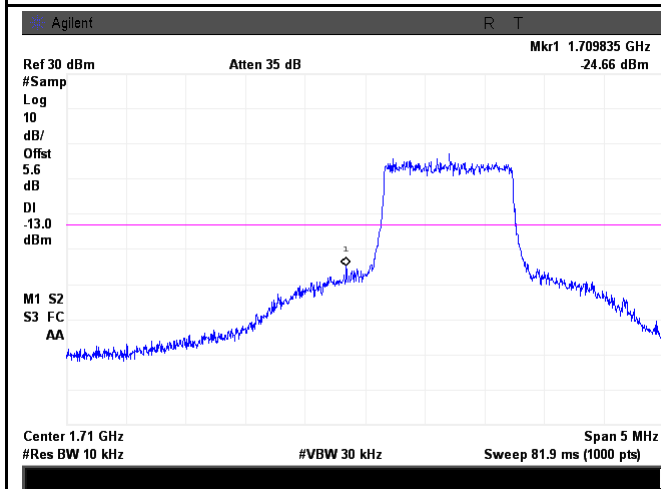
LTE Band 4 - Low Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(13.10/10)=4.5+1.2=5.7 dB



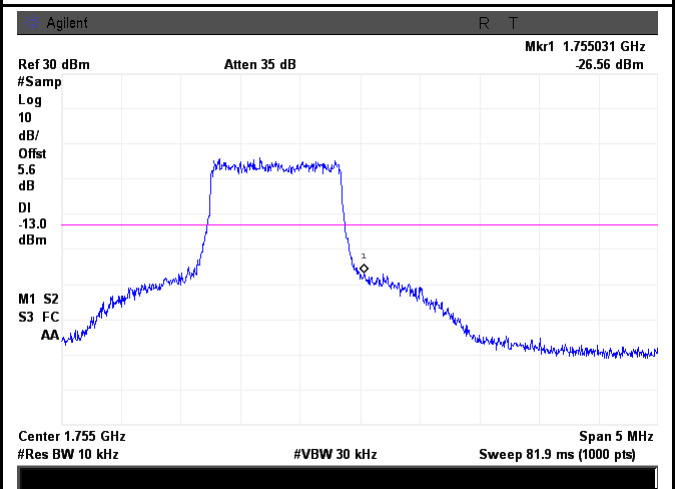
LTE Band 4 - High Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.95/10)=4.5+1.1=5.6 dB



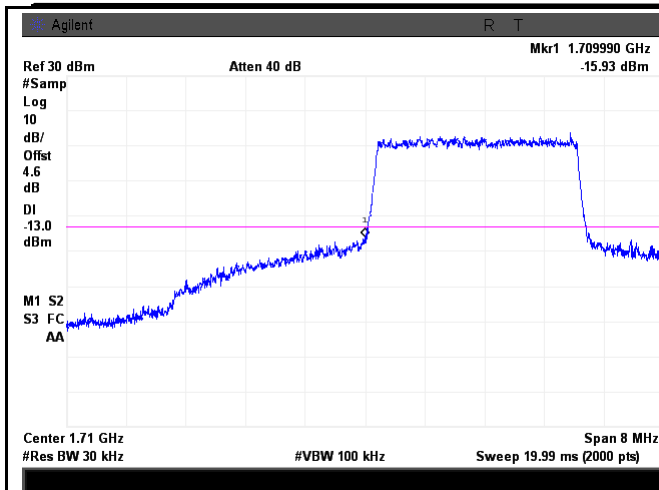
LTE Band 4 - Low Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.91/10)=4.5+1.1=5.6 dB



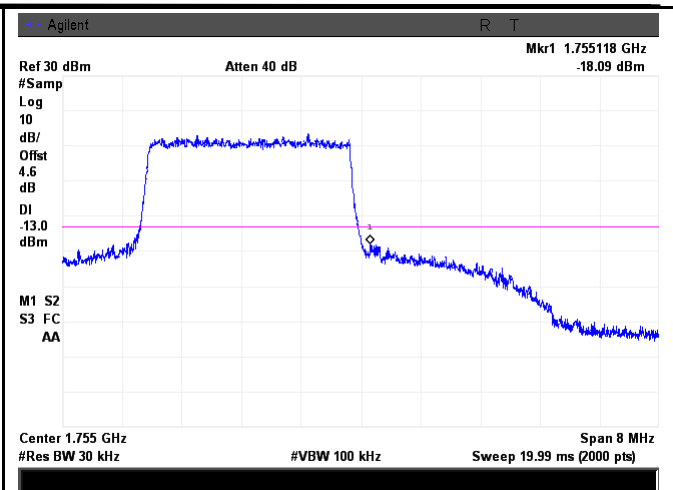
LTE Band 4 - High Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.96/10)=4.5+1.1=5.6 dB



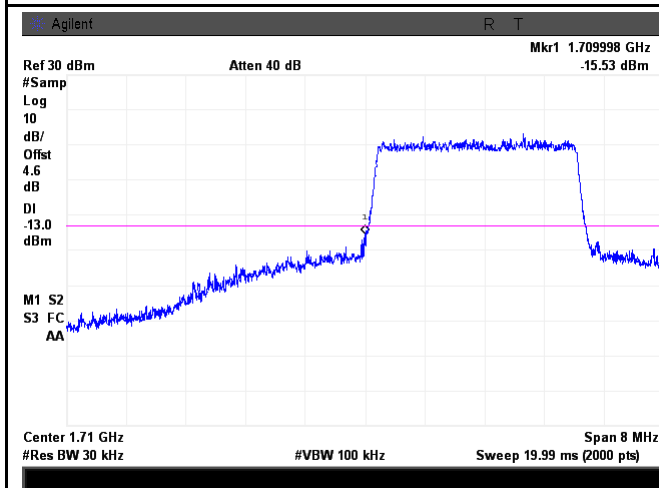
LTE Band 4 - Low Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.88/30)=4.5+0.1=4.6 dB



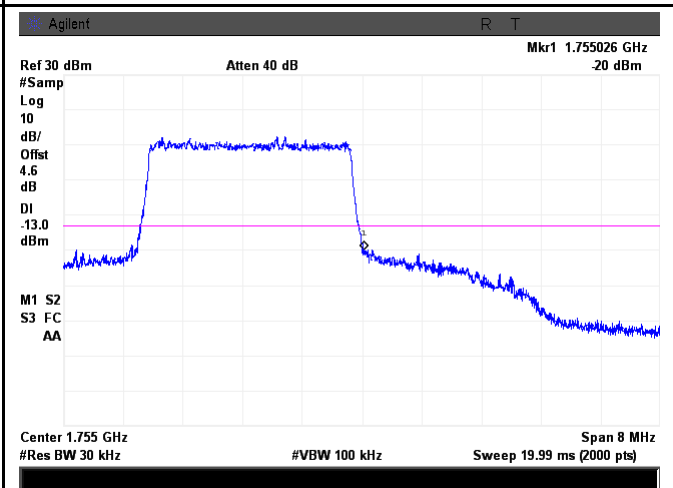
LTE Band 4 - High Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(31.03/30)=4.5+0.1=4.6 dB



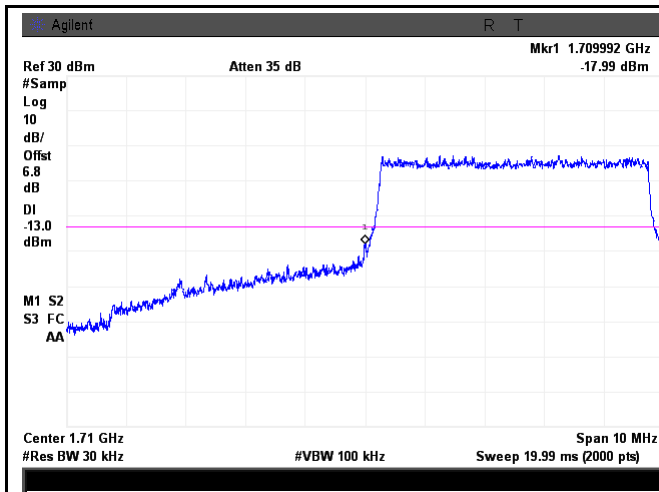
LTE Band 4 - Low Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.93/30)=4.5+0.1=4.6 dB



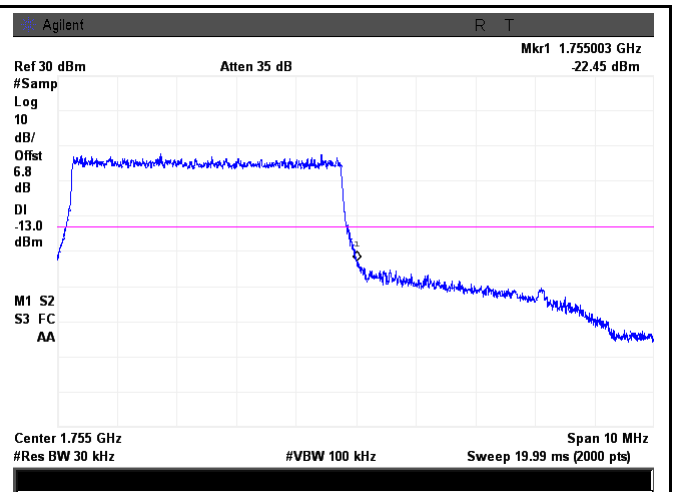
LTE Band 4 - High Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.70/30)=4.5+0.1=4.6 dB



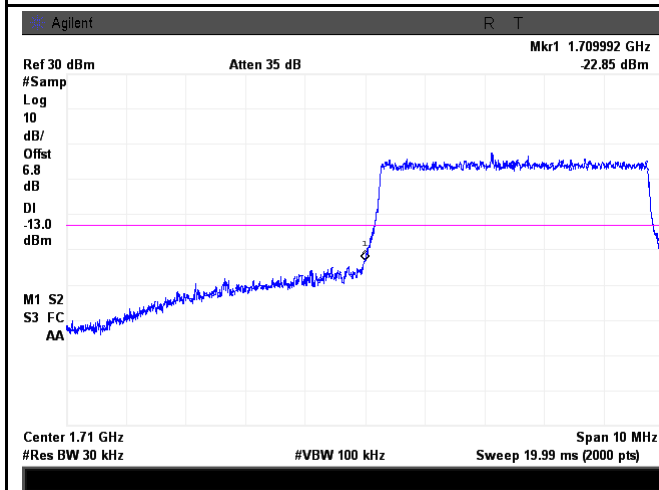
LTE Band 4 - Low Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.64/30)=4.5+2.3=6.8 dB



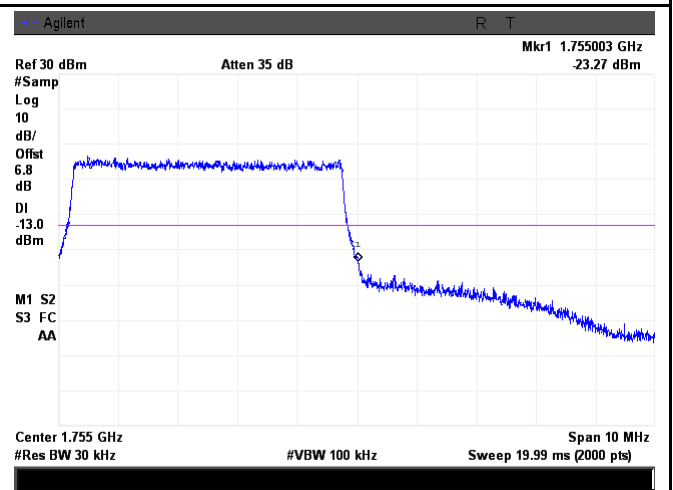
LTE Band 4 - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.75/30)=4.5+2.3=6.8 dB



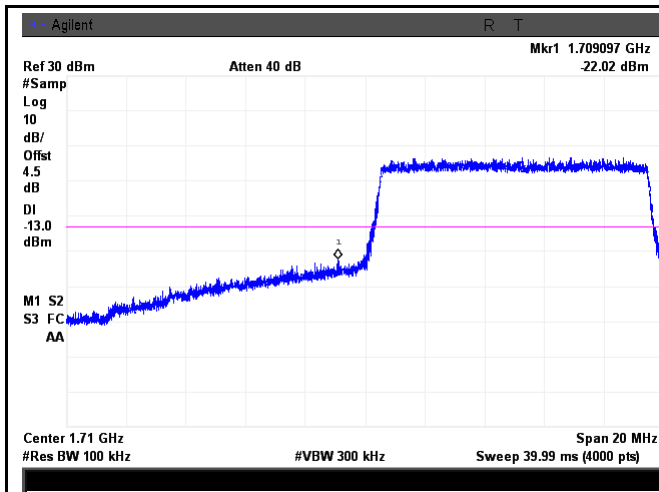
LTE Band 4 - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(50.41/30)=4.5+2.3=6.8 dB

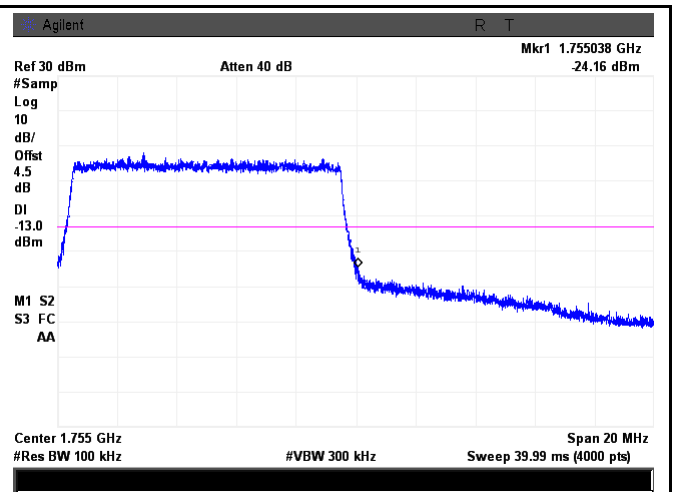


LTE Band 4 - High Channel 16QAM-5

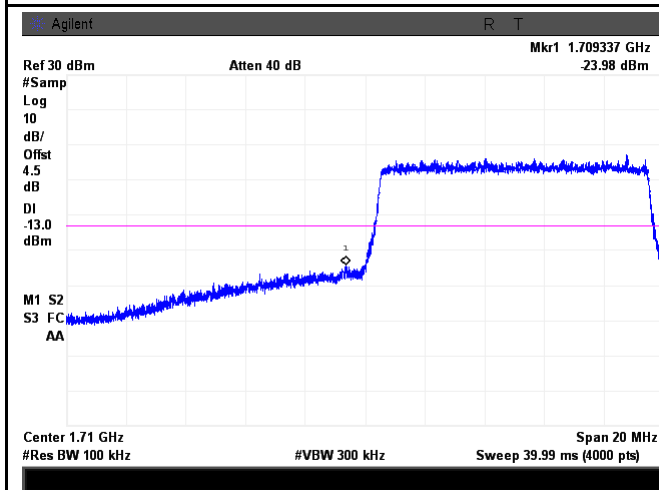
Note: Offset=Cable loss (4.5) + 10log
(51.10/30)=4.5+2.3=6.8 dB



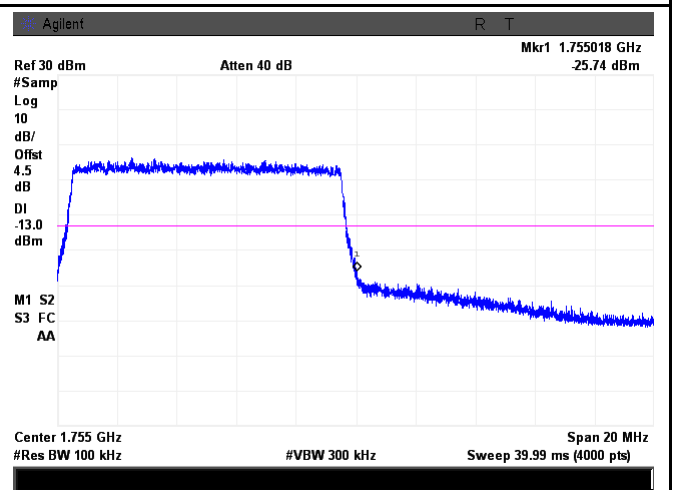
LTE Band 4 - Low Channel QPSK-10



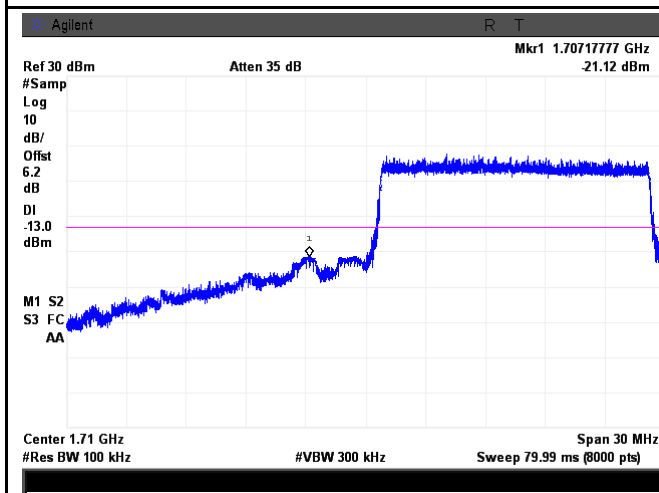
LTE Band 4 - High Channel QPSK-10



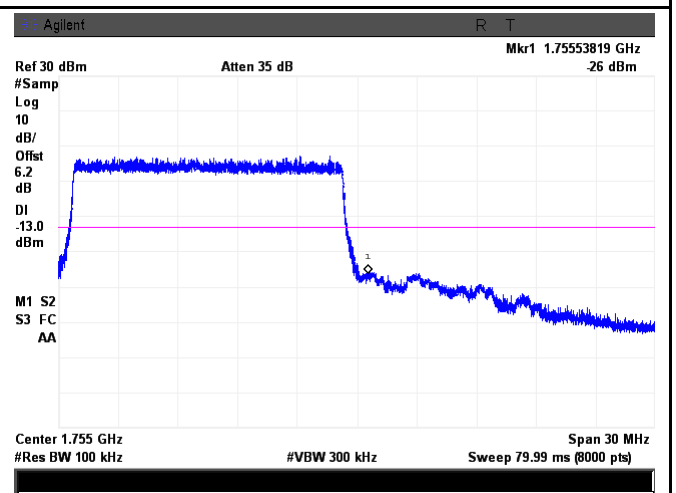
LTE Band 4 - Low Channel 16QAM-10



LTE Band 4 - High Channel 16QAM-10



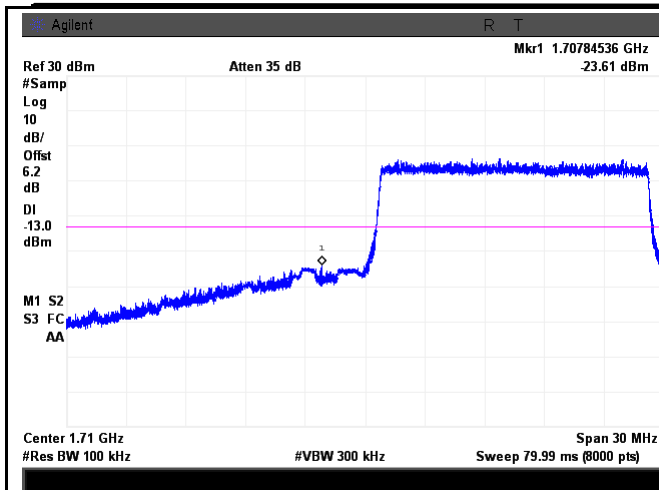
LTE Band 4 - Low Channel QPSK-15



LTE Band 4 - High Channel QPSK-15

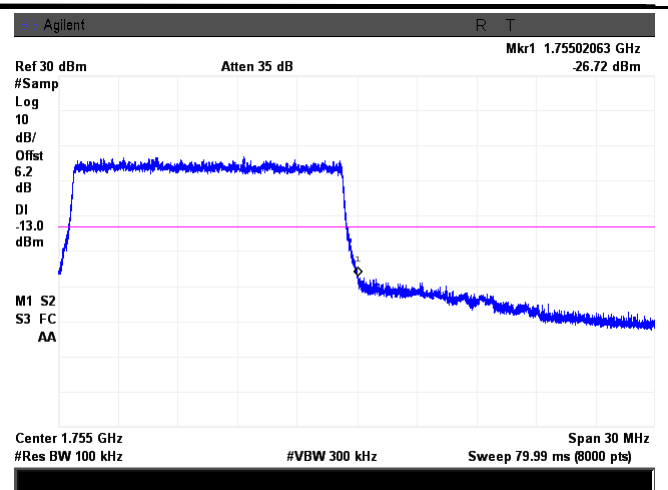
Note: Offset=Cable loss (4.5) + 10log
(148.76/100)=4.5+1.7=6.2 dB

Note: Offset=Cable loss (4.5) + 10log
(148.19/100)=4.5+1.7=6.2 dB



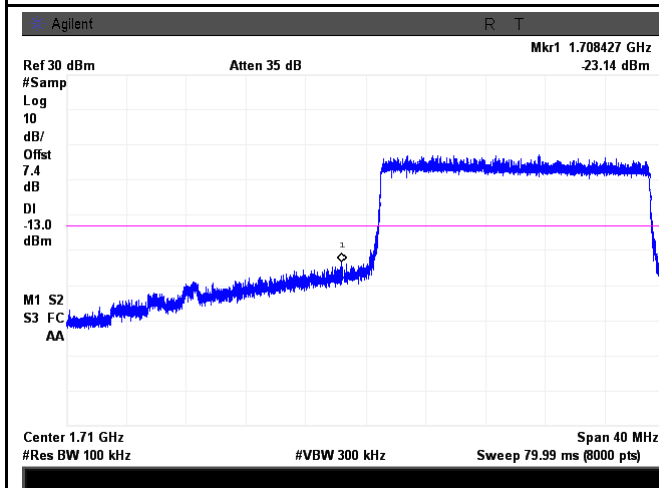
LTE Band 4 - Low Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(148.62/100)=4.5+1.7=6.2 dB



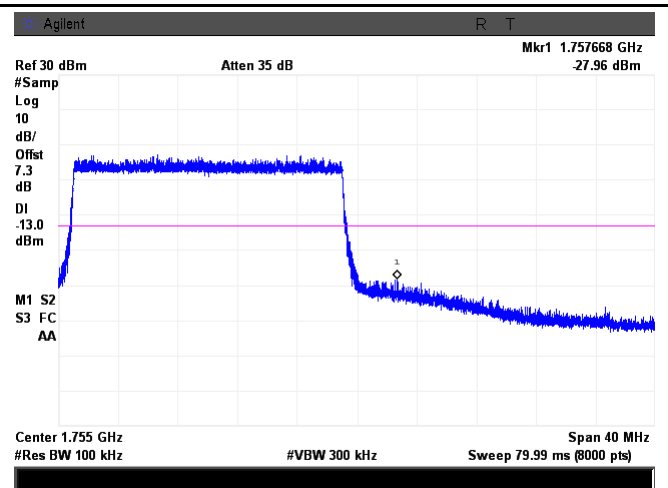
LTE Band 4 - High Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(147.64/100)=4.5+1.7=6.2 dB



LTE Band 4 - Low Channel QPSK-20

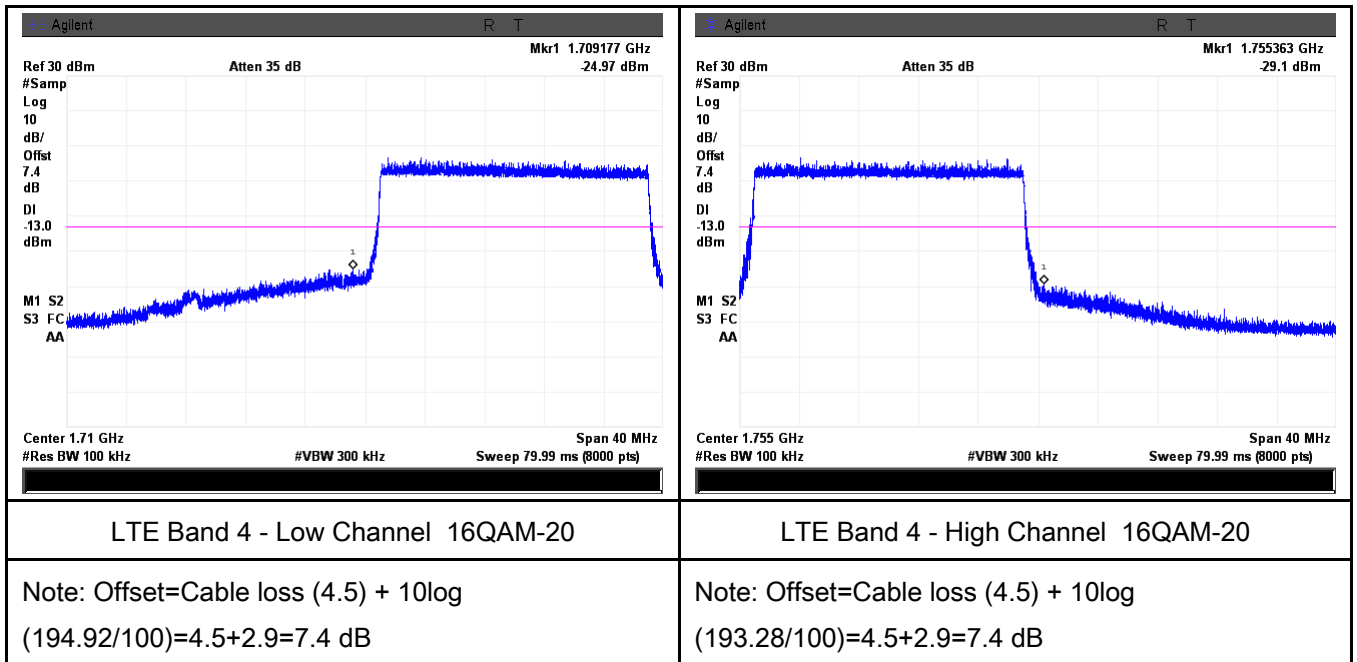
Note: Offset=Cable loss (4.5) + 10log
(194.30/100)=4.5+2.9=7.4 dB



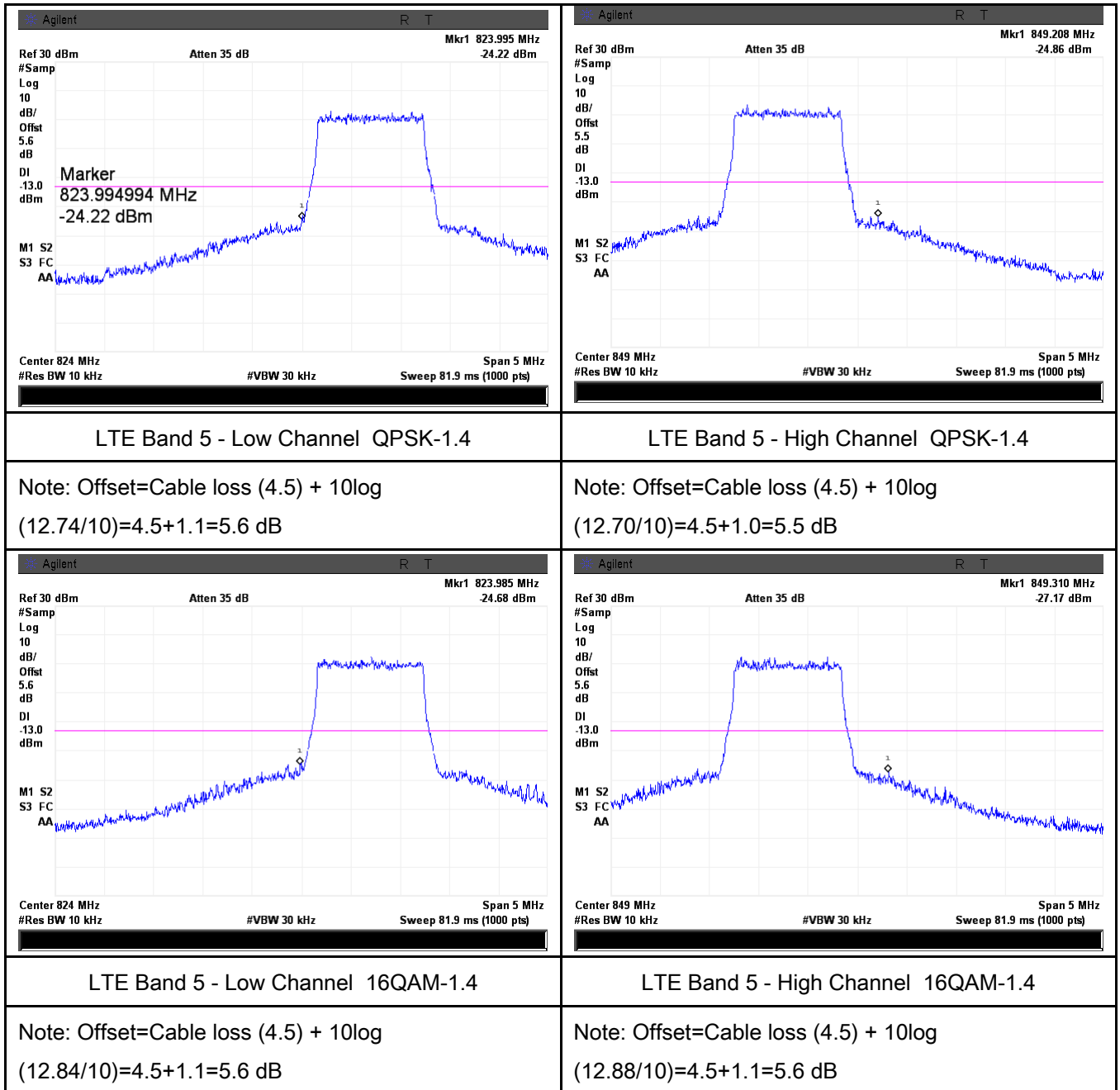
LTE Band 4 - High Channel QPSK-20

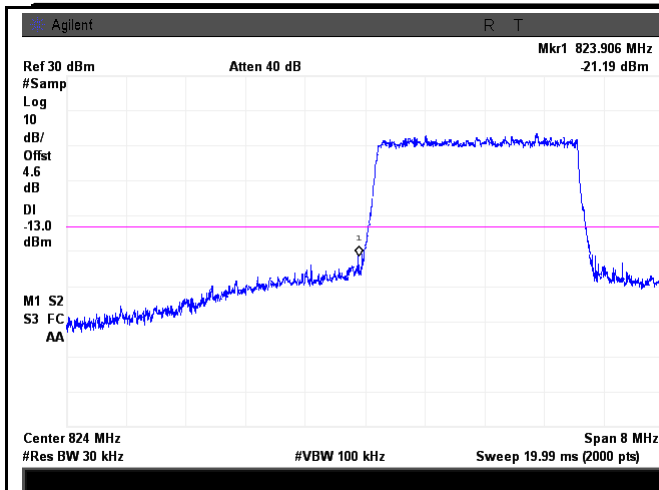
Note: Offset=Cable loss (4.5) + 10log
(192.15/100)=4.5+2.8=7.3 dB

Test Report	15050054-FCC-R5
Page	95 of 120



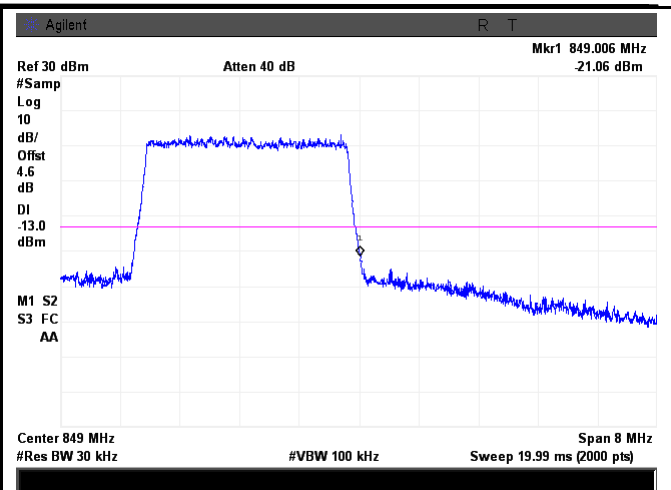
LTE Band 5 (Part 22H)





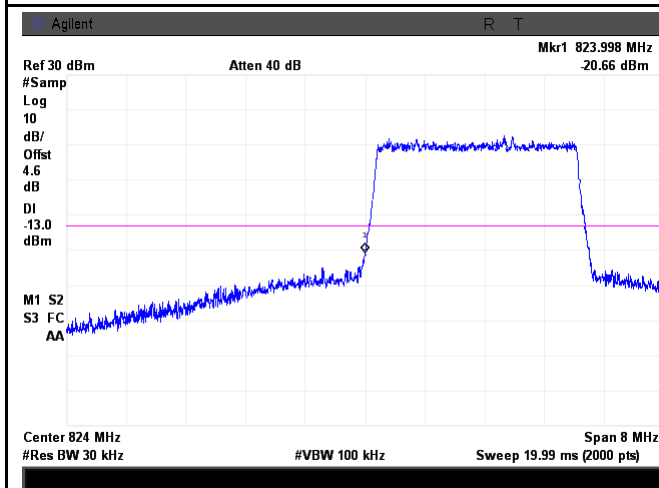
LTE Band 5 - Low Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.95/30)=4.5+0.1=4.6 dB



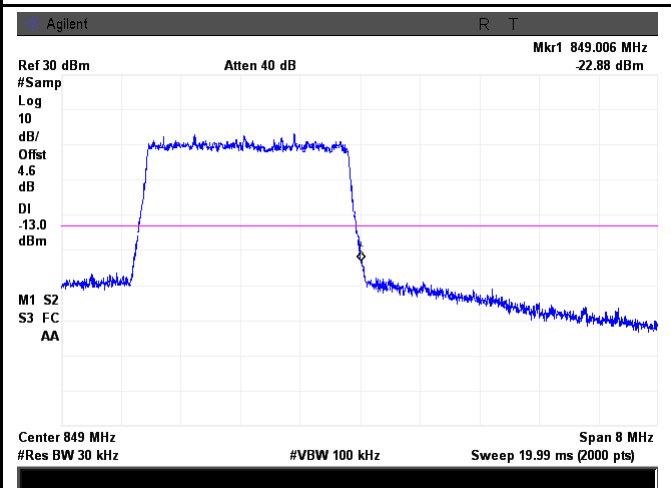
LTE Band 5 - High Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.84/30)=4.5+0.1=4.6 dB



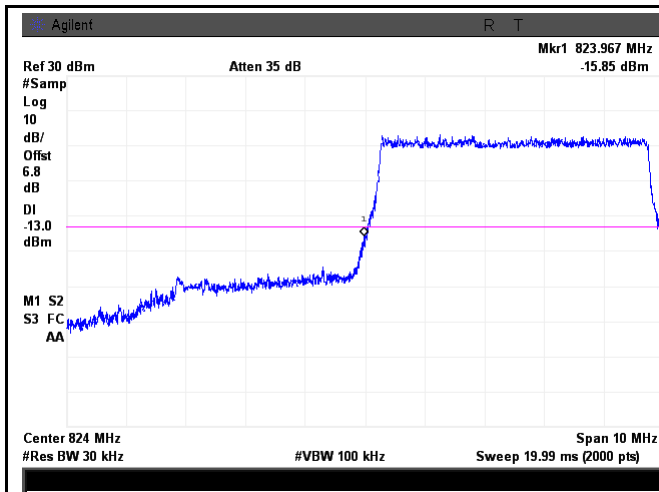
LTE Band 5 - Low Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.76/30)=4.5+0.1=4.6 dB



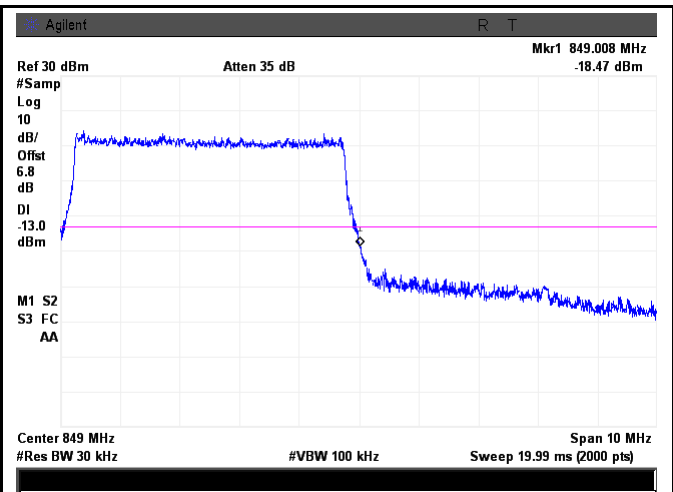
LTE Band 5 - High Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.90/30)=4.5+0.1=4.6 dB



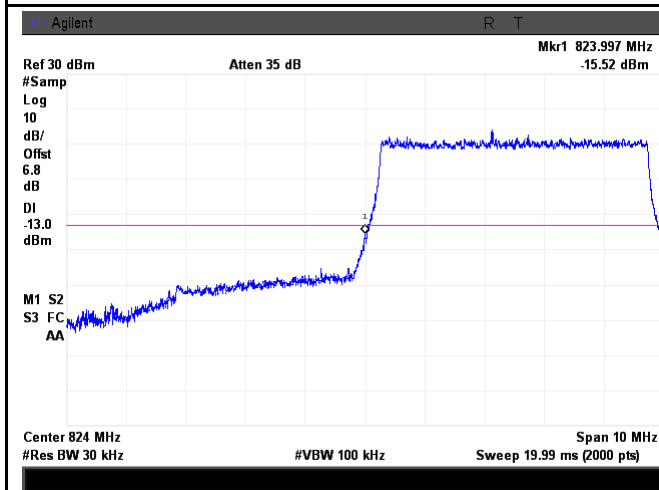
LTE Band 5 - Low Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.65/30)=4.5+2.3=6.8 dB



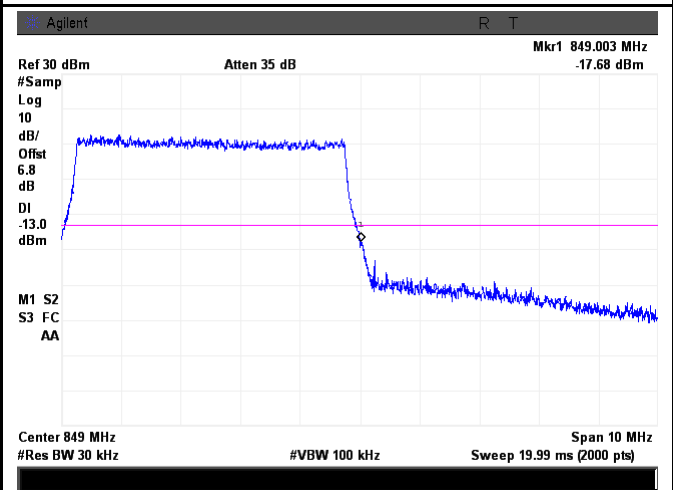
LTE Band 5 - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.63/30)=4.5+2.3=6.8 dB



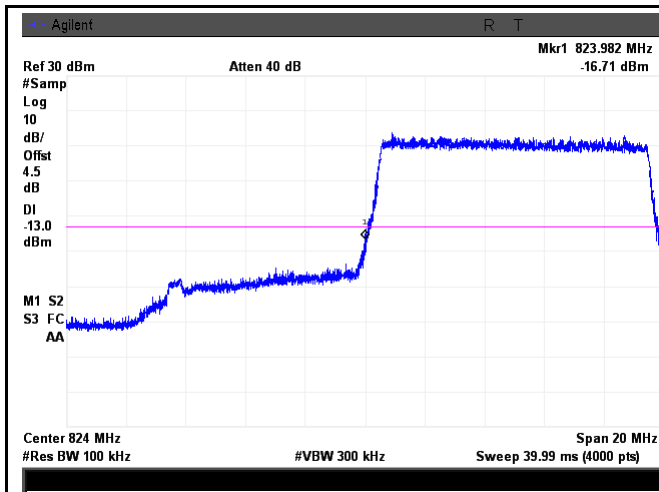
LTE Band 5 - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(50.56/30)=4.5+2.3=6.8 dB

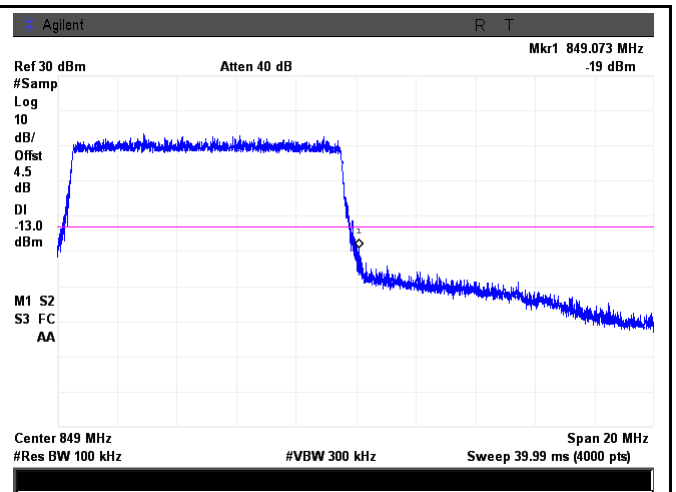


LTE Band 5 - High Channel 16QAM-5

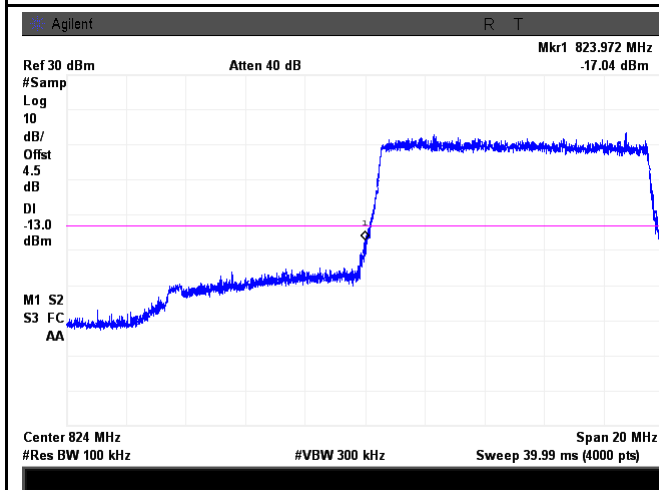
Note: Offset=Cable loss (4.5) + 10log
(50.76/30)=4.5+2.3=6.8 dB



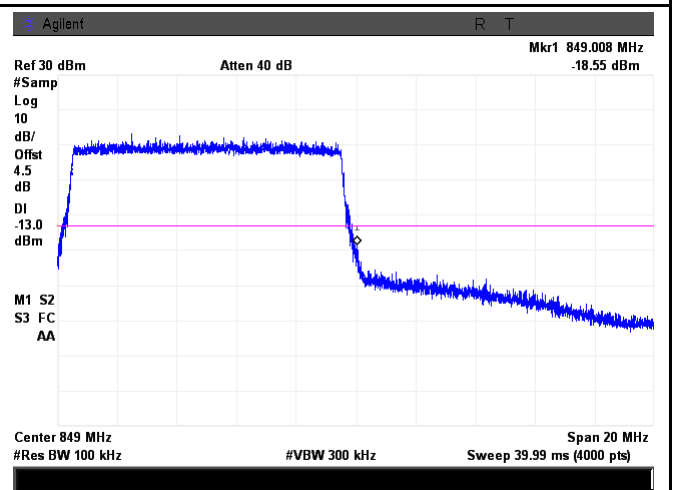
LTE Band 5 - Low Channel QPSK-10



LTE Band 5 - High Channel QPSK-10



LTE Band 5 - Low Channel 16QAM-10

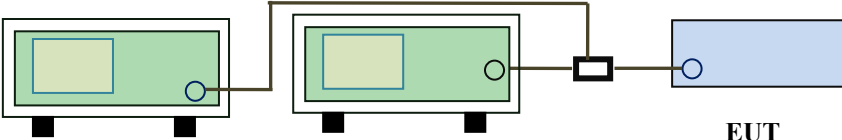


LTE Band 5 - High Channel 16QAM-10

6.8 Band Edge 27.53(m)

Temperature	25°C
Relative Humidity	54%
Atmospheric Pressure	1002mbar
Test date :	December 02, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Requirement	Applicable
§27.53(m)	According to FCC 27.53(m)(4) specified that power of any emission outside of the channel edge must be attenuated below the transmitting power(P) by a factor shall be not less than $43+10\log(P)$ dB at the channel edge, the limit of emission equal to -13dBm. And $55+10\log(P)$ dB at 5.5MHz from the channel edges, the limit of emission equal to -25dBm. In the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.	☒
Test Setup	 Base Station Spectrum Analyzer EUT	
Test Procedure	- The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers.	
Remark		
Result	☒ Pass ☐ Fail	

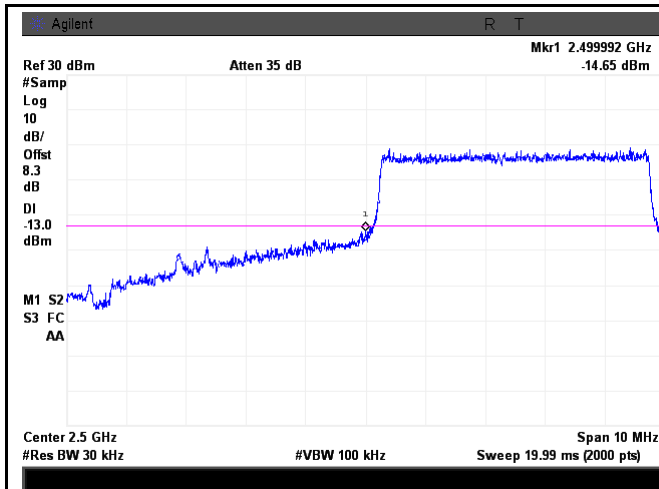
Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

LTE Band 7 (Part 27) result

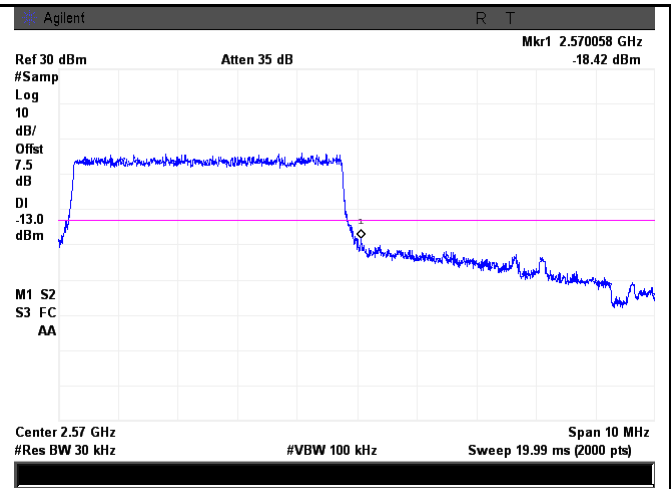
BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
5	20775	2502.5	QPSK	-14.65	-13
			16QAM	-16.98	-13
5	21425	2567.5	QPSK	-18.42	-13
			16QAM	-18.55	-13
10	20800	2505	QPSK	-17.99	-13
			16QAM	-20.39	-13
10	21400	2562.5	QPSK	-21.10	-13
			16QAM	-21.78	-13
15	20825	2507.5	QPSK	-17.88	-13
			16QAM	-19.88	-13
15	21400	2562.5	QPSK	-20.49	-13
			16QAM	-22.71	-13
20	20850	2510	QPSK	-21.03	-13
			16QAM	-21.28	-13
20	21350	2560	QPSK	-20.72	-13
			16QAM	-22.19	-13

LTE Band 7 (Part 27)



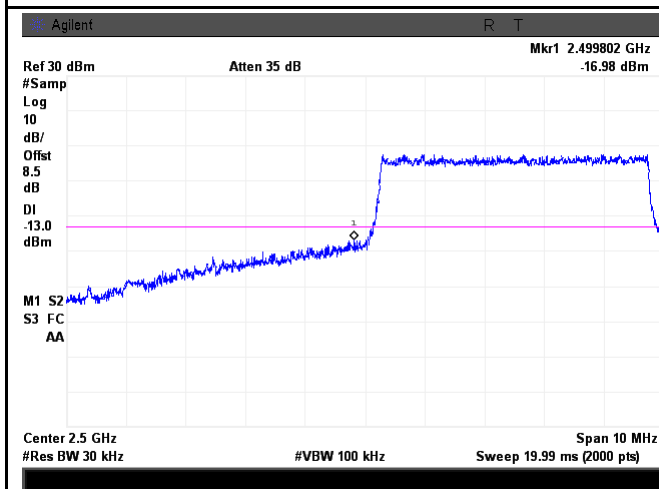
LTE Band 7 - Low Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(72.62/30)=4.5+3.8=8.3 dB



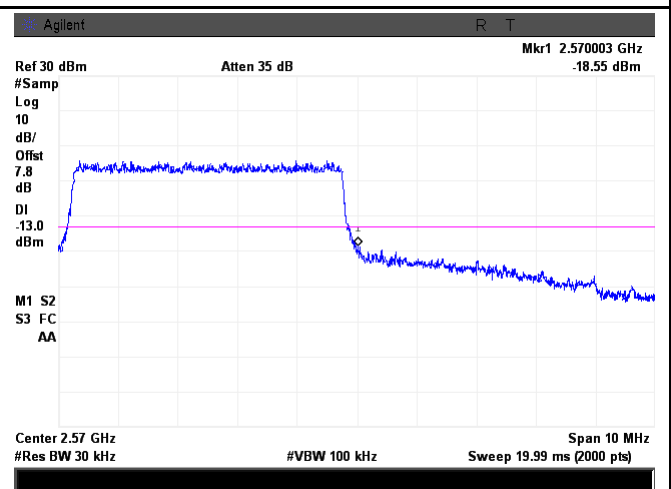
LTE Band 7 - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(60.17/30)=4.5+3.0=7.5 dB



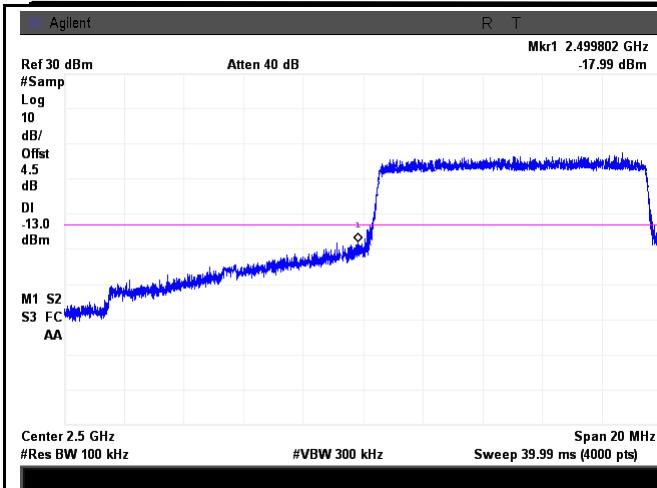
LTE Band 7 - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(75.64/30)=4.5+4.0=8.5 dB

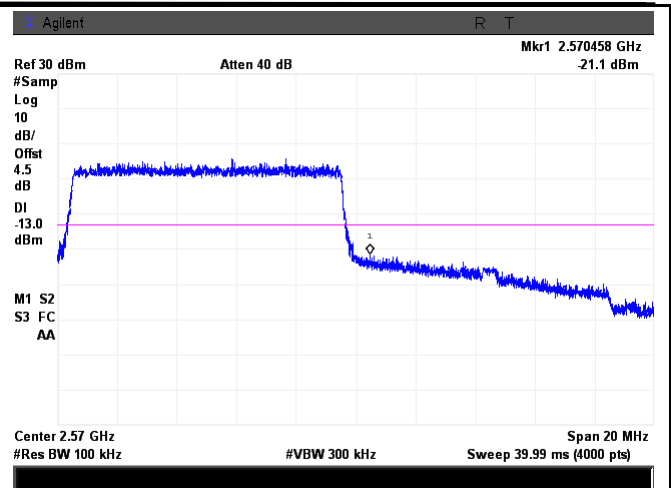


LTE Band 7 - High Channel 16QAM-5

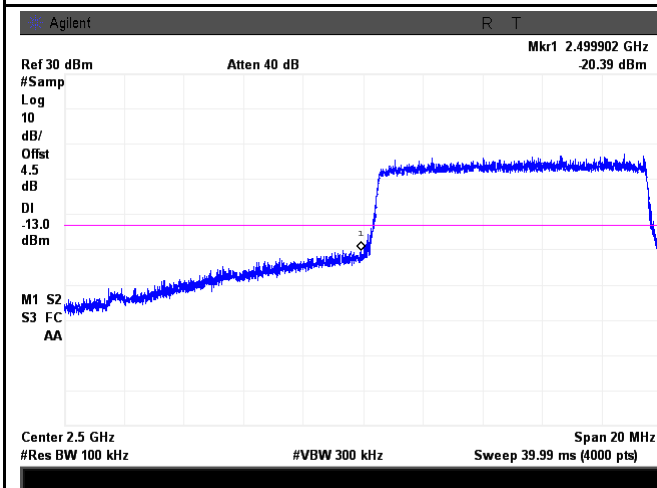
Note: Offset=Cable loss (4.5) + 10log
(63.62/30)=4.5+3.3=7.8 dB



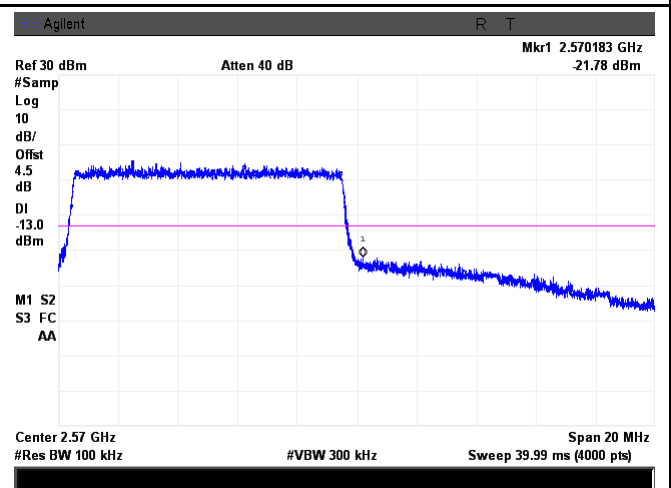
LTE Band 7 - Low Channel QPSK-10



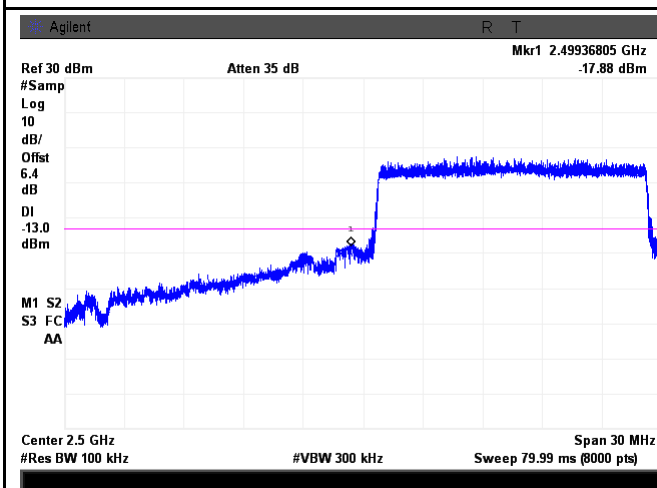
LTE Band 7 - High Channel QPSK-10



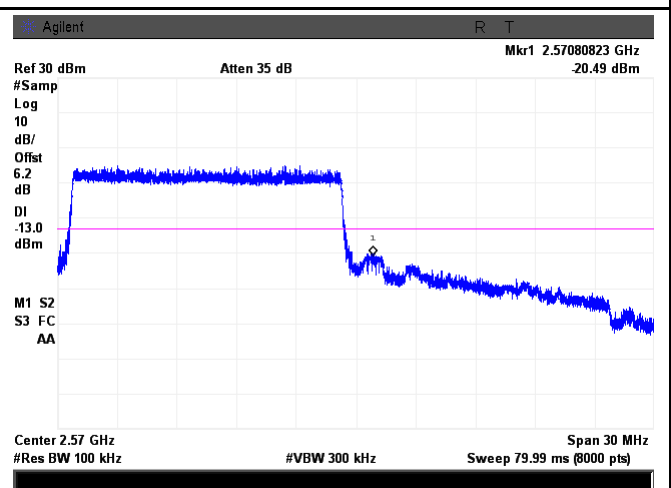
LTE Band 7 - Low Channel 16QAM-10



LTE Band 7 - High Channel 16QAM-10



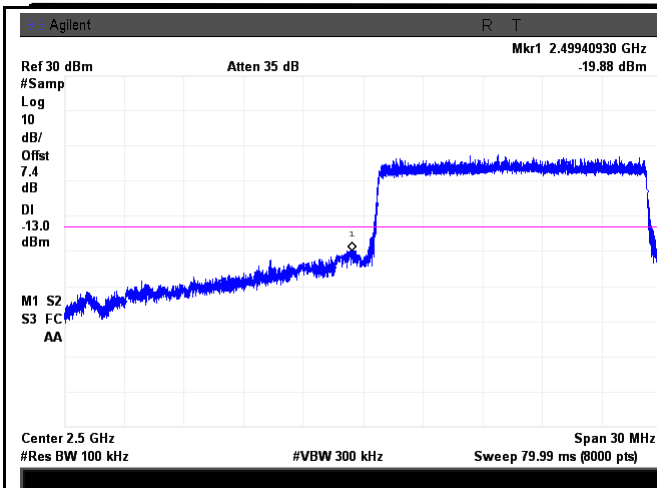
LTE Band 7 - Low Channel QPSK-15



LTE Band 7 - High Channel QPSK-15

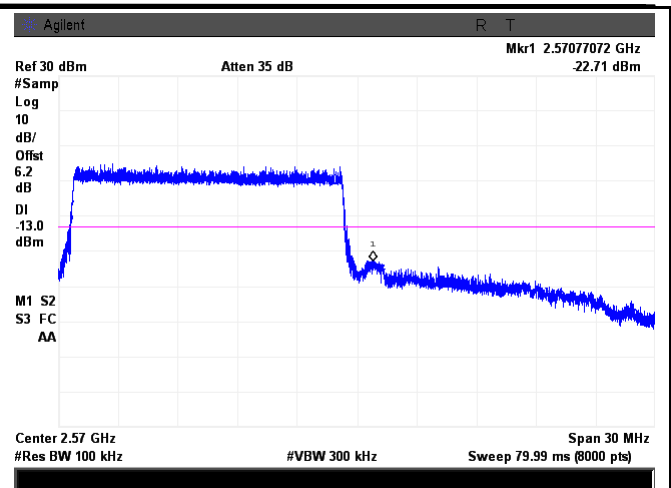
Note: Offset=Cable loss (4.5) + 10log
(154.91/100)=4.5+1.9=6.4 dB

Note: Offset=Cable loss (4.5) + 10log
(149.35/100)=4.5+1.7=6.2 dB



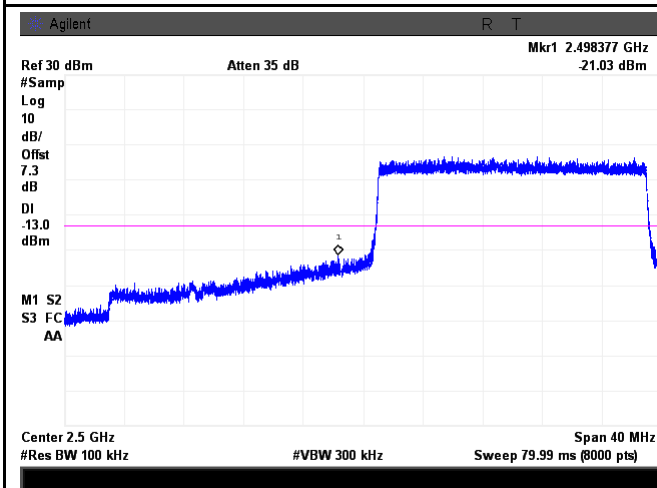
LTE Band 7 - Low Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(194.55/100)=4.5+1.9=7.4 dB



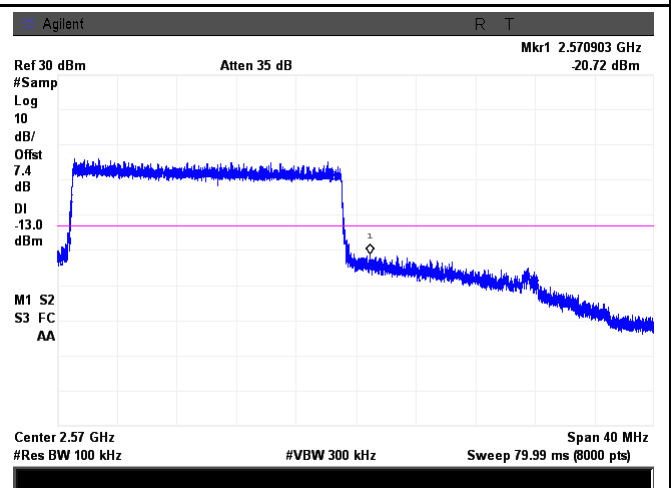
LTE Band 7 - High Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(147.84/100)=4.5+1.7=6.2 dB



LTE Band 7 - Low Channel QPSK-20

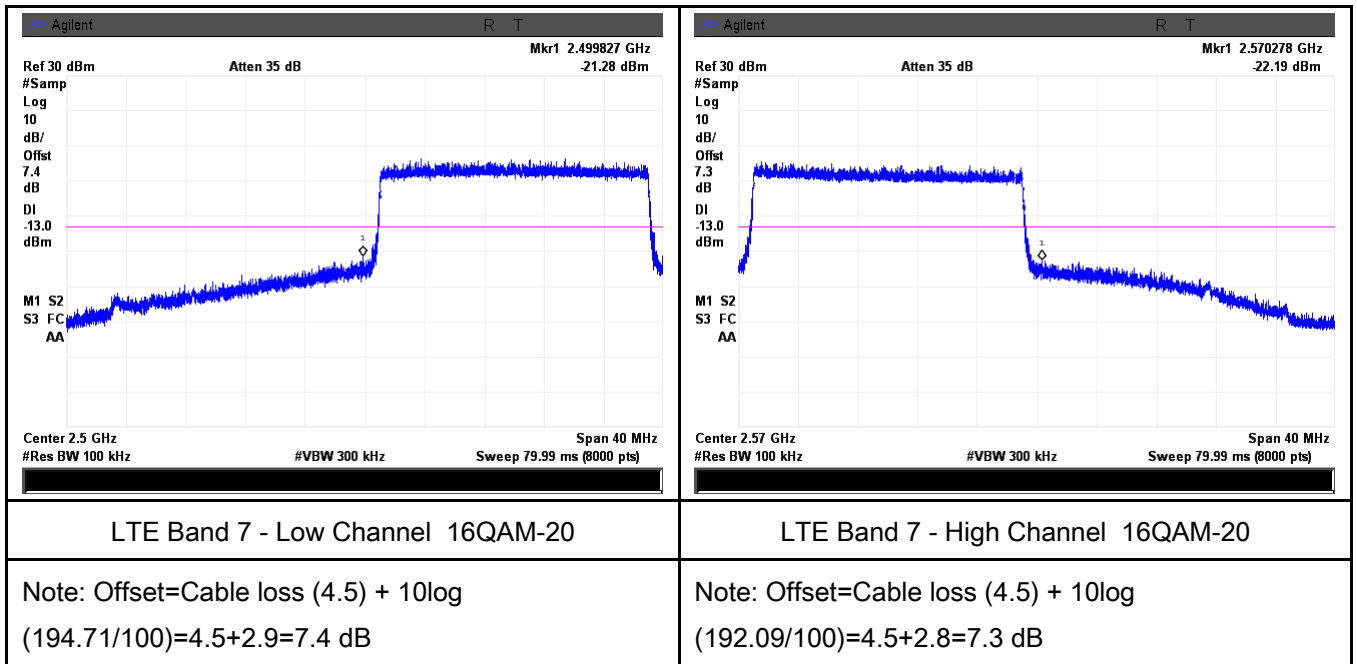
Note: Offset=Cable loss (4.5) + 10log
(192.24/100)=4.5+2.8=7.3 dB



LTE Band 7 - High Channel QPSK-20

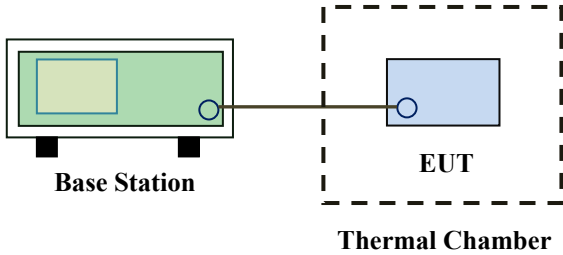
Note: Offset=Cable loss (4.5) + 10log
(193.67/100)=4.5+2.9=7.4 dB

Test Report	15050054-FCC-R5
Page	105 of 120



Temperature	22°C
Relative Humidity	51%
Atmospheric Pressure	1009mbar
Test date :	December 09, 2015
Tested By :	Winnie Zhang

Spec	Item	Requirement	Applicable																																
§2.1055, §22.355 & §24.235 § 27.5(h); § 27.54	a)	According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below: Frequency Tolerance for Transmitters in the Public Mobile Services <table border="1"> <thead> <tr> <th>Frequency Range (MHz)</th><th>Base, fixed (ppm)</th><th>Mobile ≤ 3 watts (ppm)</th><th>Mobile ≤ 3 watts (ppm)</th></tr> </thead> <tbody> <tr> <td>25 to 50</td><td>20.0</td><td>20.0</td><td>50.0</td></tr> <tr> <td>to 450</td><td>5.0</td><td>5.0</td><td>50.0</td></tr> <tr> <td>450 to 512</td><td>2.5</td><td>5.0</td><td>5 0</td></tr> <tr> <td>821 to 896</td><td>1.5</td><td>2.5</td><td>2.5</td></tr> <tr> <td>928 to 929.</td><td>5.0</td><td>N/A</td><td>N/A</td></tr> <tr> <td>929 to 960.</td><td>1.5</td><td>N/A</td><td>N/A</td></tr> <tr> <td>2110 to 2220</td><td>10.0</td><td>N/A</td><td>N/A</td></tr> </tbody> </table> According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency block. According to §27.54, The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.	Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile ≤ 3 watts (ppm)	25 to 50	20.0	20.0	50.0	to 450	5.0	5.0	50.0	450 to 512	2.5	5.0	5 0	821 to 896	1.5	2.5	2.5	928 to 929.	5.0	N/A	N/A	929 to 960.	1.5	N/A	N/A	2110 to 2220	10.0	N/A	N/A	
		Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile ≤ 3 watts (ppm)																														
		25 to 50	20.0	20.0	50.0																														
		to 450	5.0	5.0	50.0																														
		450 to 512	2.5	5.0	5 0																														
		821 to 896	1.5	2.5	2.5																														
		928 to 929.	5.0	N/A	N/A																														
		929 to 960.	1.5	N/A	N/A																														
		2110 to 2220	10.0	N/A	N/A																														

Test setup	 Base Station EUT Thermal Chamber
Procedure	A communication link was established between EUT and base station. The frequency error was monitored and measured by base station under variation of ambient temperature and variation of primary supply voltage. Limit: The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.
Remark	Frequency Stability versus Temperature: The Frequency tolerance of the carrier signal shall be maintained within 2.5ppm of the operating frequency over a temperature variation of -10°C to $+55^{\circ}\text{C}$ at normal supply voltage.
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

LTE Band 2 (Part 24E) result

Middle Channel, $f_0 = 1880$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	-6	0.0032	2.5
0		-8	0.0043	2.5
10		-5	0.0027	2.5
20		-7	0.0037	2.5
30		-9	0.0048	2.5
40		-7	0.0037	2.5
50		-10	0.0053	2.5
55		-11	0.0059	2.5
25	4.2	-9	0.0048	2.5
	3.5	-11	0.0059	2.5

LTE Band 4 (Part 27) result

Middle Channel, $f_0 = 1732.5$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	-11	0.0063	2.5
0		-12	0.0069	2.5
10		-13	0.0075	2.5
20		-14	0.0081	2.5
30		-10	0.0058	2.5
40		-15	0.0087	2.5
50		-12	0.0069	2.5
55		-13	0.0075	2.5
25	4.2	-14	0.0081	2.5
	3.5	-16	0.0092	2.5

LTE Band 5 (Part 22H) result

Middle Channel, $f_0 = 836.5$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	8	0.0096	2.5
0		7	0.0084	2.5
10		5	0.0060	2.5
20		4	0.0048	2.5
30		9	0.0108	2.5
40		10	0.0120	2.5
50		11	0.0132	2.5
55		13	0.0155	2.5
25	4.2	10	0.0120	2.5
	3.5	13	0.0155	2.5

LTE Band 7 (Part 27) result

Middle Channel, $f_0 = 2535$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	-11	0.0043	2.5
0		-9	0.0036	2.5
10		-12	0.0047	2.5
20		-10	0.0039	2.5
30		-13	0.0051	2.5
40		-12	0.0047	2.5
50		-7	0.0028	2.5
55		-13	0.0051	2.5
25	4.2	-8	0.0032	2.5
	3.5	-11	0.0043	2.5

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
RF Conducted Test					
Agilent ESA-E SERIES SPECTRUM ANALYZER	E4407B	MY45108319	09/17/2015	09/16/2016	☒
Power Splitter	1#	1#	09/01/2015	08/31/2016	☒
Universal Radio Communication Tester	CMU200	121393	09/25/2015	09/24/2016	☒
Wideband Radio Communication Tester	CMW500	120906	03/29/2015	03/28/2016	☒
Temperature/Humidity Chamber	UHL-270	001	10/09/2015	10/08/2016	☒
DC Power Supply	E3640A	MY40004013	09/17/2015	09/16/2016	☒
Radiated Emissions					
EMI test receiver	ESL6	100262	09/17/2015	09/16/2016	☒
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/01/2015	08/31/2016	☒
Microwave Preamplifier (0.5 ~ 18GHz)	PAM-118	443008	09/01/2015	08/31/2016	☒
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/21/2015	09/20/2016	☒
Bilog Antenna (30MHz~2GHz)	JB1	A112017	09/21/2015	09/20/2016	☒
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71259	09/24/2015	09/23/2016	☒
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/24/2015	09/23/2016	☒
SYNTHESIZED SIGNAL GENERATOR	8665B	3744A01293	09/17/2015	09/16/2016	☒
Tunable Notch Filter	3NF-800/1000-S	AA4	09/01/2015	08/31/2016	☒
Tunable Notch Filter	3NF-1000/2000-S	AM 4	09/01/2015	08/31/2016	☒

Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo





EUT - Top View



EUT - Bottom View



EUT - Left View



EUT - Right View

Annex B.ii. Photograph: EUT Internal Photo



Cover Off - Top View 1



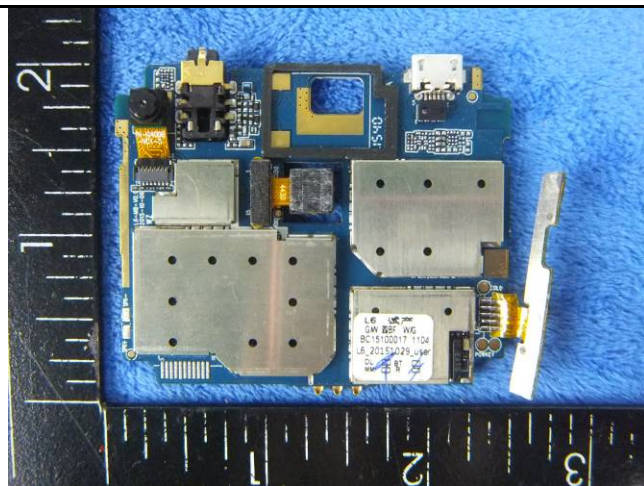
Cover Off - Top View 2



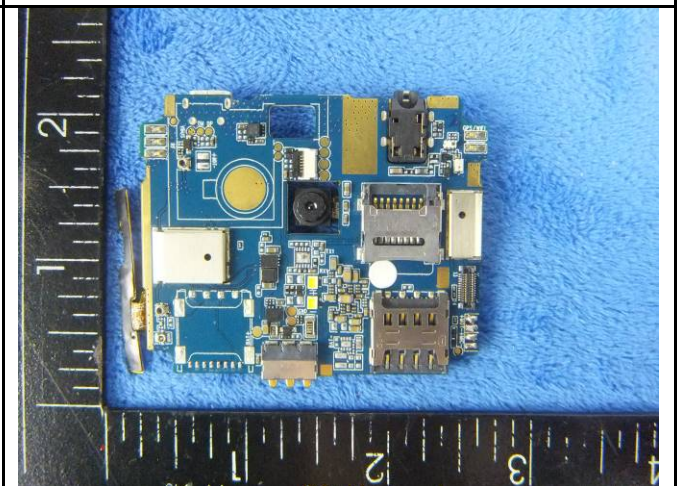
Battery - Front View



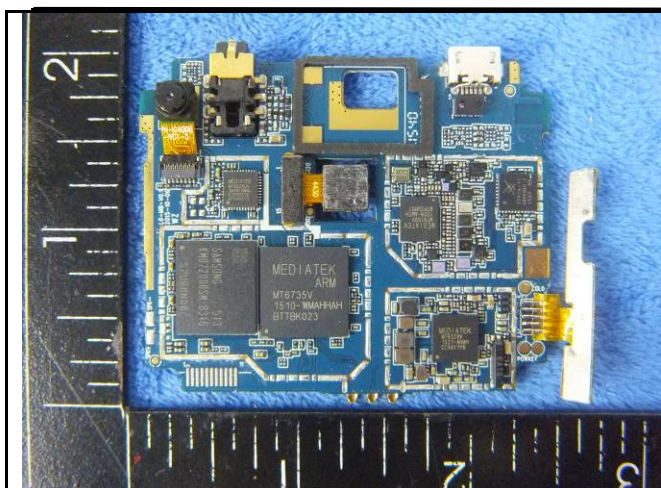
Battery - Rear View



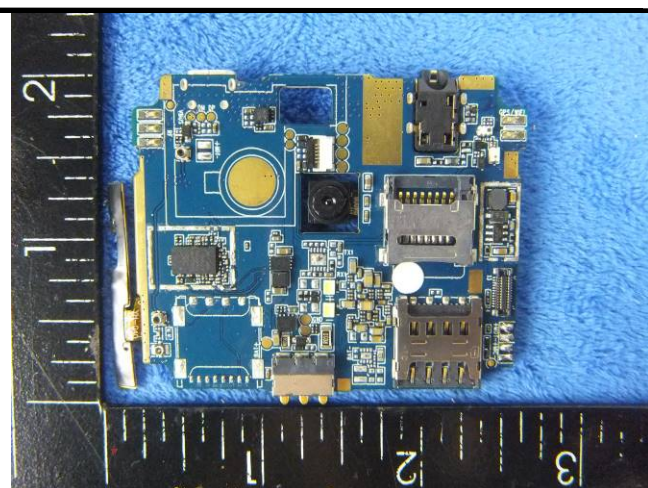
Mainboard with Shielding - Front View



Mainboard with Shielding - Rear View



Mainboard without shielding - Front View



Mainboard without Shielding - Rear View



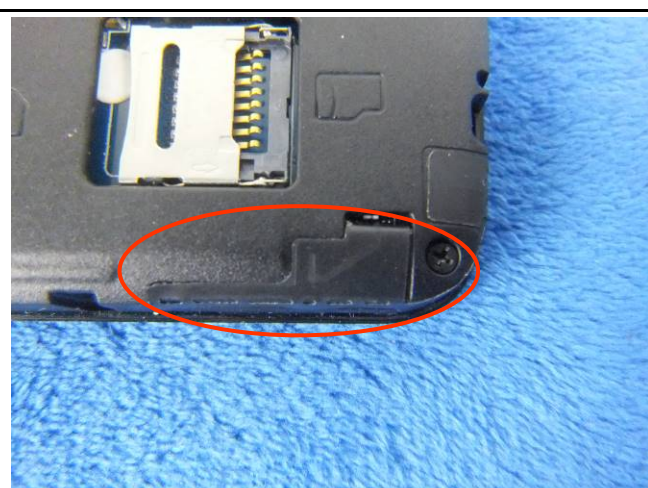
LCD - Front View



LCD - Rear View

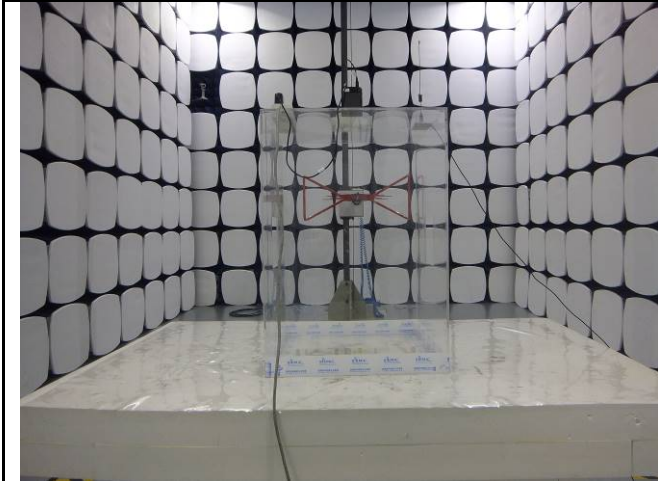


GSM/PCS/UMTS-FDD/LTE - Antenna View

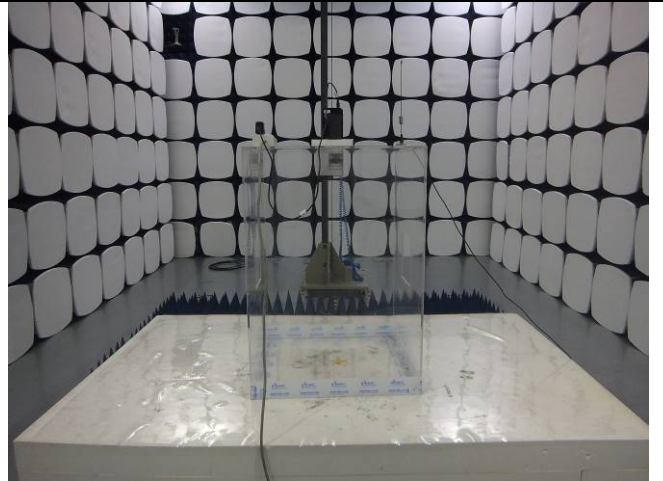


WIFI/BT/BLE/GPS - Antenna View

Annex B.iii. Photograph: Test Setup Photo



Radiated Spurious Emissions Test Setup Below 1GHz

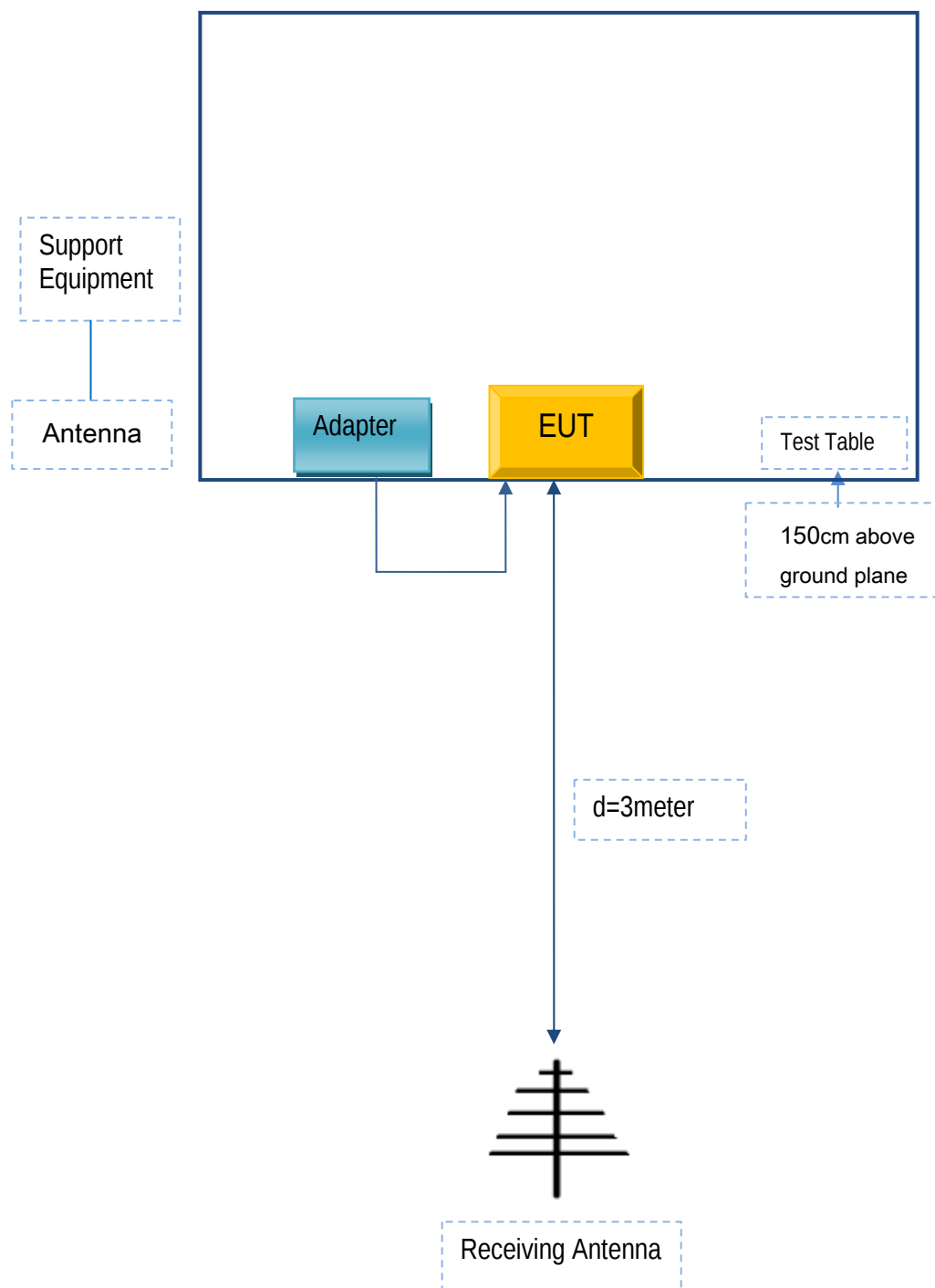


Radiated Spurious Emissions Test Setup Above
1GHz

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Radiated Emissions



Annex C. ii. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Manufacturer	Equipment Description	Model	Serial No
b mobile HK Limited	Adapter	N/A	CX12503647

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	0.8m	KH13054266

Test Report	15050054-FCC-R5
Page	118 of 120

Annex C.ii. EUT OPERATING CONKITIONS

N/A

Test Report	15050054-FCC-R5
Page	119 of 120

Annex D. User Manual / Block Diagram / Schematics / Partlist

Please see attachment

Test Report	15050054-FCC-R5
Page	120 of 120

Annex E. DECLARATION OF SIMILARITY

b Mobile HK Limited

To SIEMIC Inc
775 Montague Expressway
Milpitas, CA 95035.

Statement

We, b Mobile HK limited apply a multiple-listing certification for the below models.

Product Name: Mobile phone

Model number: AX1010/AX1005

FCC ID: ZSW-30-021

We hereby state that these models are identical in interior structure, electrical circuits and components, and just model name is different for the marketing requirement.

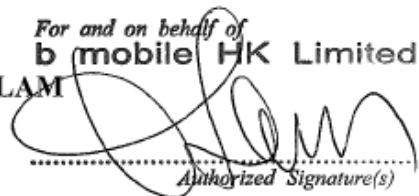
Your assistance on this matter is highly appreciated.

Sincerely,

Name: KA SHING LAM

Title: Director

Signature:

For and on behalf of
b (mobile) HK Limited

Authorized Signature(s)