



CERTIFICATION TEST REPORT

Report Number. : 11735596-E4V3

Applicant : MICROSOFT CORP
ONE MICROSOFT WAY
REDMOND, WA 98052, U.S.A.

MODEL NUMBER: 1807

FCC ID : C3K1807

IC : 3048A-1807

EUT Description : PORTABLE COMPUTING DEVICE

Test Standard(s) : FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART F, H, L, and M
FCC CFR47 PART 90 SUBPART S
INDUSTRY CANADA RSS-130 ISSUE 1
INDUSTRY CANADA RSS-132 ISSUE 3
INDUSTRY CANADA RSS-133 ISSUE 6
INDUSTRY CANADA RSS-139 ISSUE 3
INDUSTRY CANADA RSS-195 ISSUE 2
INDUSTRY CANADA RSS-199 ISSUE 3

Date Of Issue:

October 09, 2017

Prepared by:

UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888



NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	9/19/2017	Initial Issue	---
		Updated sections 2 and 11 by adding reference to ANSI/TIA-603-E.	
V2	10/2/2017	Updated section 6.2 by splitting LTE band 26 into two tables. Updated sections 11.3 and 15.1.	Huda Mustapha
V3	10/9/2017	Updated section 6.2 with IC power tables	Huda Mustapha

TABLE OF CONTENTS

1.	ATTESTATION OF TEST RESULTS	5
2.	TEST METHODOLOGY	7
3.	FACILITIES AND ACCREDITATION	7
4.	CALIBRATION AND UNCERTAINTY	8
4.1.	MEASURING INSTRUMENT CALIBRATION	8
4.2.	SAMPLE CALCULATION	8
4.3.	MEASUREMENT UNCERTAINTY	9
5.	EQUIPMENT UNDER TEST	9
5.1.	DESCRIPTION OF EUT	9
6.	MAXIMUM OUTPUT POWER.....	10
6.1.	MAXIMUM OUTPUT POWER (WCDMA)	10
6.2.	MAXIMUM OUTPUT POWER (LTE).....	11
7.	DESCRIPTION OF AVAILABLE ANTENNAS	17
8.	DESCRIPTION OF TEST SETUP	18
9.	TEST AND MEASUREMENT EQUIPMENT	20
10.	SUMMARY TABLE	21
11.	RF POWER OUTPUT VERIFICATION.....	22
11.1.	UMTS REL 99	23
11.2.	UMTS REL 99 OUTPUT POWER RESULT	24
11.3.	UMTS HSDPA.....	25
11.4.	UMTS HSDPA OUTPUT POWER RESULT	26
11.5.	UMTS HSUPA.....	27
11.6.	UMTS HSUPA OUTPUT POWER RESULT	28
11.7.	LTE OUTPUT POWER RESULT.....	29
12.	PEAK TO AVERAGE RATIO	63
12.1.	CONDUCTED PEAK TO AVERAGE RESULT	64
13.	OCCUPIED BANDWIDTH.....	79
13.1.	OCCUPIED BANDWIDTH RESULTS AND PLOTS.....	80
14.	BAND EDGE EMISSIONS	106
14.1.	BAND EDGE PLOTS.....	109
14.2.	EMISSION MASK PLOTS	145
15.	OUT OF BAND EMISSIONS.....	166

15.1.	OUT OF BAND EMISSIONS RESULT AND PLOTS	168
16.	FREQUENCY STABILITY.....	195
16.1.	FREQUENCY STABILITY RESULTS.....	196
17.	RADIATED TEST RESULTS	204
17.1.	FIELD STRENGTH OF SPURIOUS RADIATION.....	204
17.1.1.	SPURIOUS RADIATION PLOTS.....	206
18.	SETUP PHOTOS	221

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: MICROSOFT CORP
ONE MICROSOFT WAY
REDMOND, WA 98052, U.S.A.

EUT DESCRIPTION: PORTABLE COMPUTING DEVICE

SERIAL NUMBER: 031936672953, 032012672953

DATE TESTED: August 7-September 7, 2017

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H, 24E, 27H, 27F, 27L, 27M, 90S	PASS
INDUSTRY CANADA RSS-130, 132, 133, 139, 195, 199	PASS

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Reviewed By:

Huda Mustapha

HUDA MUSTAPHA
CONSUMER TECHNOLOGY DIVISION
Senior Project Engineer
UL VERIFICATION SERVICES INC

Prepared By:



KIYA KEDIDA
CONSUMER TECHNOLOGY DIVISION
WiSE ENGINEER
UL VERIFICATION SERVICES INC

Approved & Released For
UL Verification Services Inc. By:



DAN CORONIA
CONSUMER TECHNOLOGY DIVISION
Senior Project Engineer
UL VERIFICATION SERVICES INC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI/TIA-603-E (2016), ANSI C63.26-2015, FCC CFR 47 Part 2, FCC KDB 971168 D01 v02r02, KDB 971168 D03, Part 22, Part 24, Part 27, Part 90, RSS-130, 132, 133, 139, 195, 199 and RSS-GEN Issue 4.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 22541-1)
☐ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 22541-2)
☒ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 22541-3)
	☐ Chamber G(IC: 22541-4)
	☐ Chamber H(IC: 22541-5)

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through C are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-3, respectively. Chambers D through H are covered under Industry Canada company address code 22541 with site numbers 22541 -1 through 22541-5, respectively.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\text{EIRP} = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (dB)}$$

$$\text{ERP} = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (dB)}$$

$$\text{ERP} = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (dB)}$$

$$\text{ERP} = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (dB)}$$

$$\text{(Path loss = Signal generator output - PSA reading with substitution antenna)}$$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Occupied Channel Bandwidth	± 1.1 %
RF output power, conducted	± 0.35 dB
Power Spectral Density, conducted	± 0.39 dB
Unwanted Emissions, conducted	± 2.9 dB
All emissions, radiated	± 5.36 dB
Temperature	± 0.9 °C
Humidity	± 2.26 % RH
Supply Voltages	± 0.45 %
Time	± 0.2 %

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

This EUT is a portable computing device.

6. MAXIMUM OUTPUT POWER

6.1. MAXIMUM OUTPUT POWER (WCDMA)

The transmitter has a maximum average conducted and radiated ERP / EIRP output powers as follows:

Band 2 and 5

Band	Frequency Range(MHz)	Modulation	Conducted		ERP/EIRP	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
Band 2	1850~1910	REL99	24.0	251.19	24.5	281.84
	1850~1910	HSDPA	23.0	199.53	23.5	223.87
	1850~1910	HSUPA	22.9	194.98	23.4	218.78
Band 5	824~849	REL99	24.1	257.04	22.3	167.88
	824~849	HSDPA	23.2	208.93	21.4	136.46
	824~849	HSUPA	23.6	229.09	21.8	149.62

Band 5 - IC

Band	Frequency Range(MHz)	Modulation	Conducted		EIRP	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
Band 5	824~849	REL99	24.1	257.04	24.4	275.42
	824~849	HSDPA	23.2	208.93	23.5	223.87
	824~849	HSUPA	23.6	229.09	23.9	245.47

6.2. MAXIMUM OUTPUT POWER (LTE)

The transmitter has a maximum average conducted and radiated ERP/EIRP output powers as follows:

LTE Band 2

FCC Part 24							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		EIRP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE2	1850~1910	1.4MHz	QPSK	23.8	239.9	24.3	269.2
			16QAM	22.0	157.8	22.5	177.0
		3MHz	QPSK	23.8	239.9	24.3	269.2
			16QAM	22.1	163.3	22.6	183.2
		5MHz	QPSK	23.8	239.9	24.3	269.2
			16QAM	21.9	154.9	22.4	173.8
		10MHz	QPSK	23.8	239.9	24.3	269.2
			16QAM	21.8	151.0	22.3	169.4
		15MHz	QPSK	23.8	239.9	24.3	269.2
			16QAM	21.8	151.4	22.3	169.8
		20MHz	QPSK	24.1	257.0	24.6	288.4
			16QAM	22.4	173.8	22.9	195.0

LTE Band 4

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		EIRP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE4	1710~1755	1.4MHz	QPSK	23.6	229.1	24.0	251.2
			16QAM	21.9	154.9	22.3	169.8
		3MHz	QPSK	23.7	234.4	24.1	257.0
			16QAM	22.0	157.0	22.4	172.2
		5MHz	QPSK	23.7	234.4	24.1	257.0
			16QAM	22.1	162.2	22.5	177.8
		10MHz	QPSK	23.7	234.4	24.1	257.0
			16QAM	22.0	158.5	22.4	173.8
		15MHz	QPSK	23.9	245.5	24.3	269.2
			16QAM	22.2	166.0	22.6	182.0
		20MHz	QPSK	23.8	239.9	24.2	263.0
			16QAM	22.2	166.0	22.6	182.0

LTE Band 7

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		EIRP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE7	2500~2570	5MHz	QPSK	23.5	223.9	24.3	269.2
			16QAM	21.7	146.9	22.5	176.6
		10MHz	QPSK	23.5	223.9	24.3	269.2
			16QAM	21.9	154.9	22.7	186.2
		15MHz	QPSK	23.6	229.1	24.4	275.4
			16QAM	22.0	158.9	22.8	191.0
		20MHz	QPSK	23.6	229.1	24.4	275.4
			16QAM	22.0	158.5	22.8	190.5

LTE Band 12

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		ERP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE12	699~716	1.4MHz	QPSK	23.9	245.5	20.9	121.6
			16QAM	23.2	209.8	20.2	103.9
		3MHz	QPSK	24.1	256.4	21.0	127.0
			16QAM	23.4	218.3	20.3	108.2
		5MHz	QPSK	24.0	253.0	21.0	125.3
			16QAM	23.5	226.1	20.5	112.0
		10MHz	QPSK	24.0	250.9	20.9	124.3
			16QAM	23.0	201.7	20.0	100.0

LTE Band 12 - IC

RSS-130 (Issue 1, Oct. 2013)							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		EIRP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE12	699~716	1.4MHz	QPSK	23.9	245.5	23.0	199.5
			16QAM	23.2	209.8	22.3	170.5
		3MHz	QPSK	24.1	256.4	23.2	208.4
			16QAM	23.4	218.3	22.5	177.5
		5MHz	QPSK	24.0	253.0	23.1	205.6
			16QAM	23.5	226.1	22.6	183.8
		10MHz	QPSK	24.0	250.9	23.1	204.0
			16QAM	23.0	201.7	22.1	164.0

LTE Band 13

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		ERP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE13	777~787	5MHz	QPSK	24.1	255.8	21.2	132.7
			16QAM	23.2	206.8	20.3	107.3
		10MHz	QPSK	24.1	254.6	21.2	132.1
			16QAM	23.0	199.8	20.2	103.7

LTE Band 13 - IC

RSS-130 (Issue 1, Oct. 2013)							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		EIRP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE13	777~787	5MHz	QPSK	24.1	255.8	23.4	217.8
			16QAM	23.2	206.8	22.5	176.0
		10MHz	QPSK	24.1	254.6	23.4	216.7
			16QAM	23.0	199.8	22.3	170.1

LTE Band 26 Part 90

FCC Part 90							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		ERP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE26	814~824	1.4MHz	QPSK	23.9	244.0	22.0	159.3
			16QAM	23.2	208.7	21.3	136.3
		3MHz	QPSK	24.0	251.8	22.2	164.4
			16QAM	23.3	215.4	21.5	140.7
		5MHz	QPSK	24.0	253.5	22.2	165.6
			16QAM	23.5	221.7	21.6	144.8
		10MHz	QPSK	24.0	251.5	22.2	164.3
			16QAM	23.3	215.8	21.5	141.0

LTE Band 26 Part 22

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		ERP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE26	824~849	1.4MHz	QPSK	23.9	244.0	22.0	159.3
			16QAM	23.2	208.7	21.3	136.3
		3MHz	QPSK	24.0	251.8	22.2	164.4
			16QAM	23.3	215.4	21.5	140.7
		5MHz	QPSK	24.0	253.5	22.2	165.6
			16QAM	23.5	221.7	21.6	144.8
		10MHz	QPSK	24.0	251.5	22.2	164.3
			16QAM	23.3	215.8	21.5	141.0
		15MHz	QPSK	24.0	252.9	22.2	165.2
			16QAM	23.4	220.5	21.6	144.0

LTE Band 26 - IC

RSS-132 (Issue 3, Jan. 2013)							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		EIRP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE26	824~849	1.4MHz	QPSK	23.9	244.0	24.2	261.4
			16QAM	23.2	208.7	23.5	223.7
		3MHz	QPSK	24.0	251.8	24.3	269.8
			16QAM	23.3	215.4	23.6	230.8
		5MHz	QPSK	24.0	253.5	24.3	271.6
			16QAM	23.5	221.7	23.8	237.5
		10MHz	QPSK	24.0	251.5	24.3	269.5
			16QAM	23.3	215.8	23.6	231.3
		15MHz	QPSK	24.0	252.9	24.3	271.0
			16QAM	23.4	220.5	23.7	236.2

LTE Band 30

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		EIRP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE30	2305~2315	5MHz	QPSK	23.0	197.5	23.0	198.4
			16QAM	22.3	171.4	22.4	172.2
		10MHz	QPSK	22.8	191.7	22.8	192.6
			16QAM	21.9	155.6	21.9	156.3

LTE Band 41

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		EIRP	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE41	2496~2690	5MHz	QPSK	23.7	234.4	24.5	281.8
			16QAM	23.0	199.5	23.8	239.9
		10MHz	QPSK	23.8	239.9	24.6	288.4
			16QAM	22.7	186.2	23.5	223.9
		15MHz	QPSK	24.0	248.9	24.8	299.2
			16QAM	23.0	199.5	23.8	239.9
		20MHz	QPSK	23.9	245.5	24.7	295.1
			16QAM	23.2	208.9	24.0	251.2

7. DESCRIPTION OF AVAILABLE ANTENNAS

The maximum peak antenna gain for each band is as follows:

Frequency (MHz)	Peak Gain (dBi)
WCDMA Band 2, 1850~1910	0.5
WCDMA Band 5, 824~849	0.3
LTE Band 2, 1850~1910MHz	0.5
LTE Band 4, 1710~1755MHz	0.4
LTE Band 5, 824~849MHz	0.3
LTE Band 7, 2500~2570MHz	0.8
LTE Band 12, 699~716MHz	-0.9
LTE Band 13, 777~787MHz	-0.7
LTE Band 26, 814~849MHz	0.3
LTE Band 30, 2305~2315MHz	0.02
LTE Band 38, 2570~2620MHz	0.8
LTE Band 41, 2496~2690MHz	0.8

8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Microsoft	1800	0D130E0858H75	n/a

I/O CABLES (CONDUCTED SETUP)

I/O Cable List						
Cable No	Port	# of Identical ports	Connector Type	Serial Type	Cable Length (m)	Remarks
1	RF Out	1	Spectrum Analyzer	Shielded	None	NA
2	Antenna Port	1	EUT	Shielded	0.1	NA
3	RF In/Out	1	Communication Test Set	Shielded	1	NA

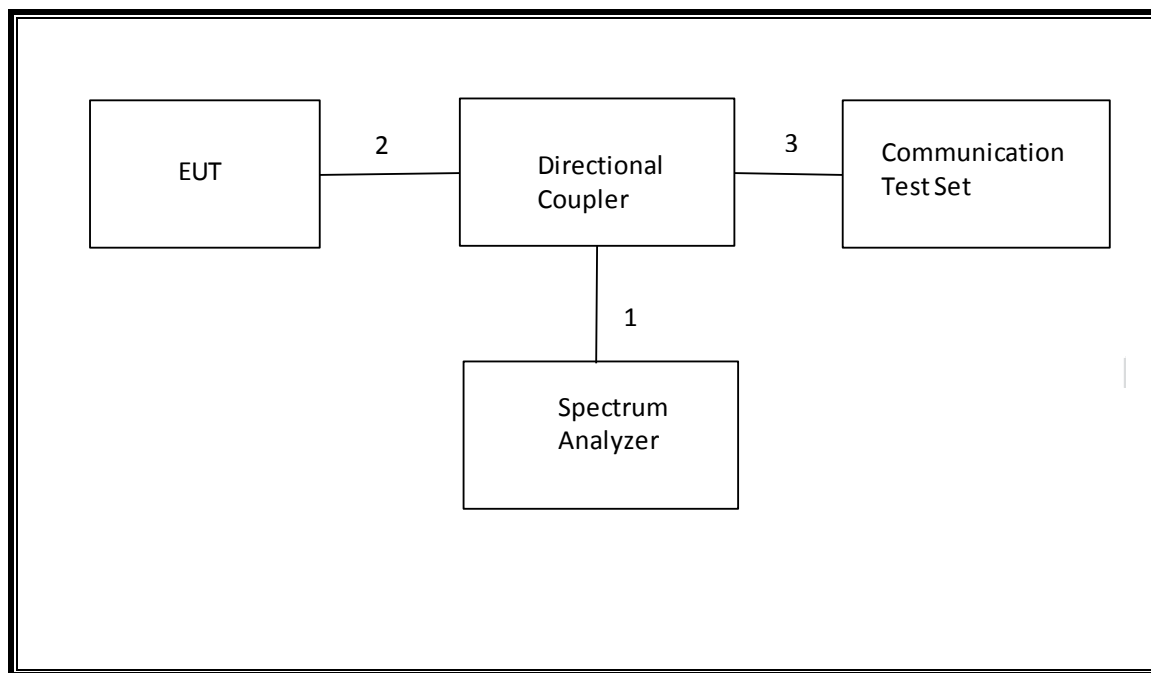
I/O CABLES (RADIATED SETUP)

I/O Cable List						
Cable No	Port	# of Identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC	1	Proprietary	Un-shielded	1.75m	NA
2	AC	1	2-prong	Un-shielded	.5m	NA
3	RF In/out	1	Communication Test Set	Un-shielded	2m	NA

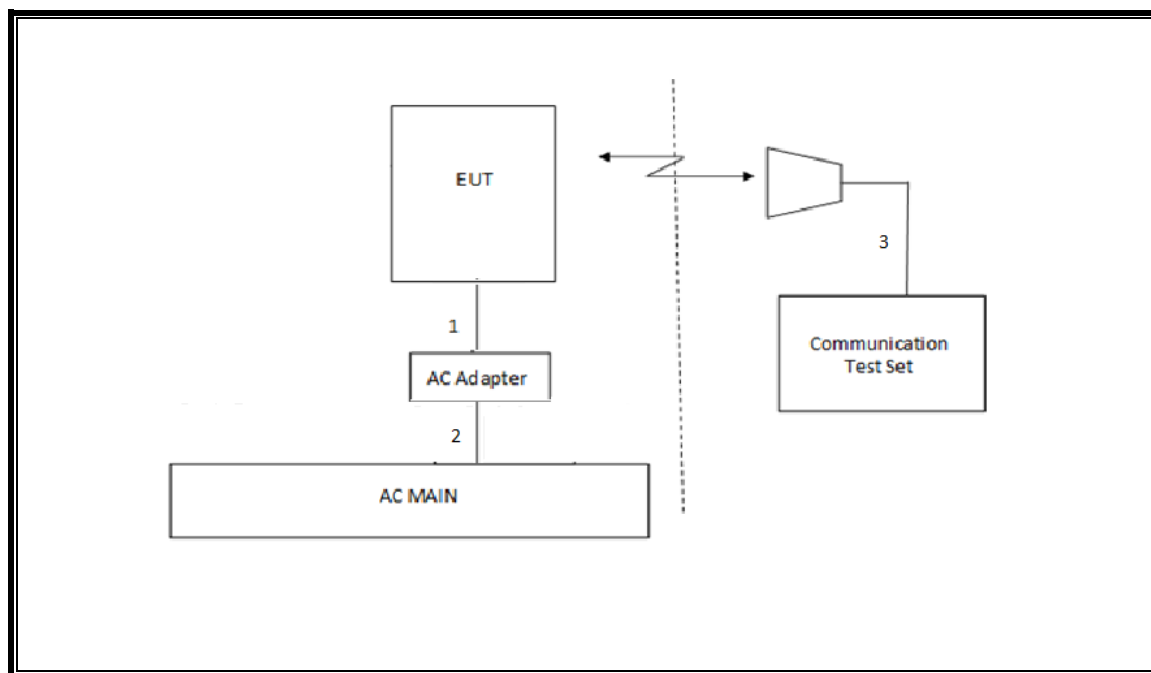
TEST SETUP

The EUT is continuously communicating with the call box during the tests.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



9. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List					
Description	Manufacturer	Model	T Number	Cal Date	Cal Due
Amplifier, 1 to 8 GHz	Miteq	AMF-4D-01000800-30-29P	1156	02/15/17	02/15/18
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	408	11/10/16	11/10/17
Amplifier, 1-18GHz	Miteq	AFS42-00101800-25-S-42	931	06/21/17	06/21/18
Amplifier, 10KHz to 1GHz, 32dB	Keysight	8447D	15	08/14/17	08/14/18
Antenna, Horn 1-18GHz	ETS Lindgren	3117	712	01/30/17	01/30/18
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	905	01/11/17	01/11/18
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T1210	07/17/17	07/17/18
DC power supply, 8 V @ 3 A or 15 V @ 2 A	Agilent / HP	E3610A	None	CNR	None
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121C DB4	T273	6/08/17	6/08/18
Temperature/Humidity Chamber	Thermotron	SE-600-10-10	80	08/18/17	2/18/18
Directional Coupler	Mini-Circuits	ZUDC10-183+	T1136	6/18/17	6/18/18

Test Equipment List			
Description	Manufacturer	Model	T Number
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015
CLT Software	UL	UL RF	Ver 1.0, Feb 2, 2015
Antenna Port Software	UL	UL RF	Ver 3.7, Nov 12, 2015

10. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
2.1049	Occupied Bandwidth (99%)	N/A	Conducted	Pass
22.917(a) 24.238(a) 27.53(g) 90.691	Band Edge / Conducted Spurious Emission	-13dBm		Pass
27.53(m)		-25dBm		
2.1046	Conducted output power	N/A		Pass
27.53(m) 90.691	Emission Mask	Refer to limit under section 14		Pass
22.355 24.235 27.54 90.213	Frequency Stability	2.5PPM		Pass
22.913(a)(2)	Effective Radiated Power	38dBm	Radiated	Pass
27.50(c)(10)		34.77dBm		Pass
90.635		50dBm		Pass
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power	33dBm		Pass
27.50(d)(4)		30dBm		Pass
22.917(a) 24.238(a) 27.53(g)	Radiated Spurious Emission	-13dBm		Pass
27.53(m)		-25dBm		Pass

11. RF POWER OUTPUT VERIFICATION

TEST PROCEDURE

ANSI C63.26:2015/ ANSI/TIA-603-E.
KDB 971168 Section 5.6

$$\text{ERP/EIRP} = \text{PMeas} + \text{GT} - \text{LC}$$

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.2

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

MODES TESTED

- WCDMA Band 2
- WCDMA Band 5
- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 26
- LTE Band 30
- LTE Band 38
- LTE Band 41

11.1. UMTS REL 99

TEST PROCEDURE

The following summary of these settings are illustrated below:

	Mode	Rel99
	Subtest	-
WCDMA General Settings	Loopback Mode	Test Mode 2
	Rel99 RMC	12.2kbps RMC
	HSDPA FRC	Not Applicable
	HSUPA Test	Not Applicable
	Power Control Algorithm	Algorithm2
	β_c	Not Applicable
	β_d	Not Applicable
	β_{ec}	Not Applicable
	β_c/β_d	8/15
	β_{hs}	Not Applicable
	β_{ed}	Not Applicable

RESULTS

11.2. UMTS REL 99 OUTPUT POWER RESULT

Tested By	AJ Newcomer
Date	8/30/2017

Antenna gain Band 5 (dBi)	0.30
Antenna gain Band 2 (dBi)	0.50

Part 22 / RSS 132 850MHz Band (5)

Band	UL Channel	DL Channel	Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
UMTS Rel. 99 850MHz	4132	4357	826.4	24.1	22.3	38.5	-16.3
	4183	4408	836.6	24.1	22.3	38.5	-16.3
	4233	4458	846.6	24.0	22.2	38.5	-16.4

Part 24 / RSS 133 1900MHz Band (2)

Band	UL Channel	DL Channel	Frequency (MHz)	Peak Power (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
UMTS Rel. 99 1900MHz	9262	9662	1852.4	23.6	24.1	33.0	-8.9
	9400	9800	1880.0	24.0	24.5	33.0	-8.5
	9538	9938	1907.6	23.8	24.3	33.0	-8.7

11.3. UMTS HSDPA

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121.

Summary of settings are illustrated below:

	Mode	HSDPA			
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	β_c	2/15	11/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	11/15	15/8	15/4
	β_{hs}	5/15	24/15	30/15	30/15
HSDPA Specific Settings	MPR (dB)	0	0	0.5	0.5
	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	$A_{hs} = \beta_{hs}/\beta_c$	30/15			

RESULTS

11.4. UMTS HSDPA OUTPUT POWER RESULT

Antenna gain Band 5 (dBi)	0.30
Antenna gain Band 2 (dBi)	0.50

Part 22 / RSS 132 850MHz Band (5)

Band	Subtest	UL Channel	DL Channel	Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
UMTS HSDPA 850MHz	1	4132	4357	826.4	23.2	21.4	38.5	-15.3
		4183	4408	836.6	23.0	21.2	38.5	-15.5
		4233	4458	846.6	23.0	21.2	38.5	-15.5
	2	4132	4357	826.4	23.2	21.4	38.5	-15.3
		4183	4408	836.6	23.0	21.2	38.5	-15.5
		4233	4458	846.6	23.0	21.2	38.5	-15.5
	3	4132	4357	826.4	22.5	20.7	38.5	-16.0
		4183	4408	836.6	22.4	20.6	38.5	-16.1
		4233	4458	846.6	22.5	20.7	38.5	-16.0
	4	4132	4357	826.4	22.5	20.7	38.5	-16.0
		4183	4408	836.6	22.4	20.6	38.5	-16.1
		4233	4458	846.6	22.5	20.7	38.5	-16.0

Part 24 / RSS 133 1900MHz Band (2)

Band	Subtest	UL Channel	DL Channel	Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
UMTS HSDPA 1900MHz	1	9262	9662	1852.4	22.7	23.2	33.0	-10.3
		9400	9800	1880.0	23.0	23.5	33.0	-10.0
		9538	9938	1907.6	22.7	23.2	33.0	-10.3
	2	9262	9662	1852.4	22.7	23.2	33.0	-10.3
		9400	9800	1880.0	23.0	23.5	33.0	-10.0
		9538	9938	1907.6	22.7	23.2	33.0	-10.3
	3	9262	9662	1852.4	22.1	22.6	33.0	-10.9
		9400	9800	1880.0	22.5	23.0	33.0	-10.5
		9538	9938	1907.6	22.2	22.7	33.0	-10.8
	4	9262	9662	1852.4	22.1	22.6	33.0	-10.9
		9400	9800	1880.0	22.5	23.0	33.0	-10.5
		9538	9938	1907.6	22.2	22.7	33.0	-10.8

11.5. UMTS HSUPA

The following 5 Sub-tests were completed according to Release 6 procedures in table C,11.1.3 of 3GPP TS 34.121-1 v13.

A summary of these settings are illustrated below:

	Mode	HSPA				
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2 kbps RMC				
	HSDPA FRC	H-Set 1				
	HSUPA Test	HSPA				
	Power Control Algorithm	Algorithm 2				Algorithm 1
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	-
	β_{hs}	22/15	12/15	30/15	4/15	5/15
	β_{ed}	1309/225	94/75	47/15	56/75	47/15
	CM (dB)	1	3	2	3	1
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				0
	DNAK	8				0
	DCQI	8				0
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	$A_{hs} = \beta_{hs}/\beta_c$	30/15				
HSUPA Specific Settings	E-DPDCCH	6	8	8	5	0
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	12
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	67
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E-TFCIs	5	5	2	5	1
	Reference E-TFCI	11	11	11	11	67
	Reference E-TFCI PO	4	4	4	4	18
	Reference E-TFCI	67	67	92	67	67
	Reference E-TFCI PO	18	18	18	18	18
	Reference E-TFCI	71	71	71	71	71
	Reference E-TFCI PO	23	23	23	23	23
	Reference E-TFCI	75	75	75	75	75
	Reference E-TFCI PO	26	26	26	26	26
	Reference E-TFCI	81	81	81	81	81
	Reference E-TFCI PO	27	27	27	27	27
	Maximum Channelization Codes	2xSF2				SF4

RESULT

11.6. UMTS HSUPA OUTPUT POWER RESULT

Antenna gain Band 5 (dBi)	0.30
Antenna gain Band 2 (dBi)	0.50

Part 22 / RSS 132 850MHz Band (5)

Band	Subtest	UL Channel	DL Channel	Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
UMTS HSUPA 850MHz	1	4132	4357	826.4	23.3	21.5	38.5	-15.2
		4183	4408	836.6	23.4	21.6	38.5	-15.1
		4233	4458	846.6	23.6	21.8	38.5	-14.9
	2	4132	4357	826.4	21.4	19.6	38.5	-17.1
		4183	4408	836.6	21.1	19.3	38.5	-17.4
		4233	4458	846.6	21.6	19.8	38.5	-16.9
	3	4132	4357	826.4	22.4	20.6	38.5	-16.1
		4183	4408	836.6	22.1	20.3	38.5	-16.4
		4233	4458	846.6	22.6	20.4	38.5	-15.9
	4	4132	4357	826.4	21.4	19.6	38.5	-17.1
		4183	4408	836.6	21.1	19.3	38.5	-17.4
		4233	4458	846.6	21.6	19.4	38.5	-16.9
	5	4132	4357	826.4	23.3	21.5	38.5	-15.2
		4183	4408	836.6	23.4	21.6	38.5	-15.1
		4233	4458	846.6	23.6	21.8	38.5	-14.9

Part 24 / RSS 133 1900MHz Band (2)

Band	Subtest	UL Channel	DL Channel	Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
UMTS HSUPA 1900MHz	1	9262	9662	1852.4	22.5	23.0	33.0	-10.5
		9400	9800	1880.0	22.9	23.4	33.0	-10.1
		9538	9938	1907.6	22.7	23.2	33.0	-10.3
	2	9262	9662	1852.4	20.5	21.0	33.0	-12.5
		9400	9800	1880.0	20.9	21.4	33.0	-12.1
		9538	9938	1907.6	20.6	21.1	33.0	-12.4
	3	9262	9662	1852.4	21.5	22.0	33.0	-11.5
		9400	9800	1880.0	21.9	22.4	33.0	-11.1
		9538	9938	1907.6	21.7	22.2	33.0	-11.3
	4	9262	9662	1852.4	20.5	21.0	33.0	-12.5
		9400	9800	1880.0	20.9	21.4	33.0	-12.1
		9538	9938	1907.6	20.6	21.1	33.0	-12.4
	5	9262	9662	1852.4	22.5	23.0	33.0	-10.5
		9400	9800	1880.0	22.9	23.4	33.0	-10.1
		9538	9938	1907.6	22.7	23.2	33.0	-10.3

11.7. LTE OUTPUT POWER RESULT

LTE Band 5 Measured Results

LTE Band 5 (Frequency range: 824-849 MHz) is covered by LTE Band 26 (Frequency range: 814-849 MHz) due to being a subset of Band 26 and it has the same output power as Band 26.

LTE Band 38 Measured Results

LTE Band 38 (Frequency range: 2570-2620 MHz) is covered by LTE Band 41 (Frequency range: 2496-2690 MHz) due to being a subset of Band 41 and they have the same output power.

RESULT

Tested By	AJ Newcomer
Date	8/29/17-8/31/2017

LTE Band 2

OUTPUT POWER FOR LTE BAND 2 (1.4 MHz)

Antenna gain (dBi)		0.50							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	18607	1850.7	QPSK	1	0	23.3	23.8	33.0	-9.2
				1	3	23.4	23.9	33.0	-9.2
				1	5	23.3	23.8	33.0	-9.2
				3	0	23.3	23.8	33.0	-9.2
				3	1	23.4	23.9	33.0	-9.1
				3	3	23.4	23.9	33.0	-9.1
			16QAM	6	0	21.3	21.8	33.0	-11.2
				1	0	21.3	21.8	33.0	-11.2
				1	3	21.4	21.9	33.0	-11.1
				1	5	21.4	21.9	33.0	-11.2
				3	0	21.5	22.0	33.0	-11.0
				3	1	21.5	22.0	33.0	-11.0
				3	3	21.5	22.0	33.0	-11.0
				6	0	20.5	21.0	33.0	-12.0
1.4	18900	1880.0	QPSK	1	0	23.6	24.1	33.0	-8.9
				1	3	23.6	24.1	33.0	-8.9
				1	5	23.6	24.1	33.0	-8.9
				3	0	23.6	24.1	33.0	-8.9
				3	1	23.6	24.1	33.0	-8.9
				3	3	23.6	24.1	33.0	-8.9
			16QAM	6	0	21.6	22.1	33.0	-10.9
				1	0	21.9	22.4	33.0	-10.6
				1	3	22.0	22.5	33.0	-10.5
				1	5	21.9	22.4	33.0	-10.6
				3	0	21.8	22.3	33.0	-10.8
				3	1	21.8	22.3	33.0	-10.7
				3	3	21.8	22.3	33.0	-10.8
				6	0	20.5	21.0	33.0	-12.0
1.4	19193	1909.3	QPSK	1	0	23.5	24.0	33.0	-9.0
				1	3	23.6	24.1	33.0	-9.0
				1	5	23.1	23.6	33.0	-9.4
				3	0	23.8	24.3	33.0	-8.7
				3	1	23.0	23.5	33.0	-9.5
				3	3	23.0	23.5	33.0	-9.5
			16QAM	6	0	21.5	22.0	33.0	-11.0
				1	0	21.6	22.1	33.0	-10.9
				1	3	21.6	22.1	33.0	-10.9
				1	5	21.6	22.1	33.0	-10.9
				3	0	21.6	22.1	33.0	-10.9
				3	1	21.6	22.1	33.0	-10.9
				3	3	21.6	22.1	33.0	-10.9
				6	0	20.7	21.2	33.0	-11.9

OUTPUT POWER FOR LTE BAND 2 (3.0 MHz)

Antenna gain (dBi)		0.50										
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)			
3.0	18615	1851.5	QPSK	1	0	23.4	23.9	33.0	-9.1			
				1	8	23.5	24.0	33.0	-9.0			
				1	14	23.4	23.9	33.0	-9.1			
				8	0	21.4	21.9	33.0	-11.1			
				8	4	21.4	21.9	33.0	-11.1			
				8	7	21.4	21.9	33.0	-11.1			
			16QAM	15	0	21.4	21.9	33.0	-11.1			
				1	0	21.4	21.9	33.0	-11.1			
				1	8	21.5	22.0	33.0	-11.0			
				1	14	21.4	21.9	33.0	-11.1			
				8	0	20.4	20.9	33.0	-12.1			
				8	4	20.5	21.0	33.0	-12.0			
			3.0	18900	1880.0	QPSK	8	7	20.5	21.0	33.0	-12.0
							15	0	20.3	20.8	33.0	-12.2
16QAM	1	0	23.7	24.2	33.0		-8.8					
	1	8	23.8	24.3	33.0		-8.7					
	1	14	23.6	24.1	33.0		-8.9					
	8	0	21.6	22.1	33.0		-10.9					
	8	4	21.7	22.2	33.0	-10.8						
	8	7	21.7	22.2	33.0	-10.9						
	15	0	21.6	22.1	33.0	-10.9						
	1	0	22.1	22.6	33.0	-10.4						
	1	8	22.1	22.6	33.0	-10.4						
	1	14	22.0	22.5	33.0	-10.5						
3.0	19185	1908.5	QPSK	8	0	20.8	21.3	33.0	-11.7			
				8	4	20.8	21.3	33.0	-11.7			
				8	7	20.7	21.2	33.0	-11.8			
				15	0	20.7	21.2	33.0	-11.8			
				1	0	23.7	24.2	33.0	-8.8			
				1	8	23.7	24.2	33.0	-8.8			
			16QAM	1	14	23.7	24.2	33.0	-8.8			
				8	0	21.6	22.1	33.0	-10.9			
				8	4	21.6	22.1	33.0	-10.9			
				8	7	21.6	22.1	33.0	-10.9			
				15	0	21.6	22.1	33.0	-10.9			
				1	0	21.5	22.0	33.0	-11.0			
				1	8	21.6	22.1	33.0	-10.9			
				1	14	21.4	21.9	33.0	-11.1			
8	0	20.7	21.2	33.0	-11.8							
8	4	20.7	21.2	33.0	-11.8							
8	7	20.7	21.2	33.0	-11.8							
15	0	20.7	21.2	33.0	-11.9							

OUTPUT POWER FOR LTE BAND 2 (5.0 MHz)

Antenna gain (dBi)		0.50							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	18625	1852.5	QPSK	1	0	23.5	24.0	33.0	-9.0
				1	12	23.5	24.0	33.0	-9.0
				1	24	23.5	24.0	33.0	-9.0
				12	0	21.5	22.0	33.0	-11.1
				12	7	21.5	22.0	33.0	-11.1
				12	13	21.5	22.0	33.0	-11.1
				25	0	21.4	21.9	33.0	-11.1
			16QAM	1	0	21.5	22.0	33.0	-11.0
				1	12	21.5	22.0	33.0	-11.0
				1	24	21.6	22.1	33.0	-10.9
				12	0	20.5	21.0	33.0	-12.0
				12	7	20.5	21.0	33.0	-12.0
				12	13	20.5	21.0	33.0	-12.0
				25	0	20.4	20.9	33.0	-12.1
5.0	18900	1880.0	QPSK	1	0	23.8	24.3	33.0	-8.7
				1	12	23.6	24.1	33.0	-8.9
				1	24	23.7	24.2	33.0	-8.8
				12	0	21.7	22.2	33.0	-10.8
				12	7	21.7	22.2	33.0	-10.9
				12	13	21.6	22.1	33.0	-10.9
				25	0	21.7	22.2	33.0	-10.8
			16QAM	1	0	21.9	22.4	33.0	-10.6
				1	2	21.8	22.3	33.0	-10.7
				1	5	21.8	22.3	33.0	-10.7
				3	0	20.8	21.3	33.0	-11.7
				3	1	20.8	21.3	33.0	-11.8
				3	2	20.7	21.2	33.0	-11.8
				6	0	20.7	21.2	33.0	-11.8
5.0	19175	1907.5	QPSK	1	0	23.8	24.3	33.0	-8.7
				1	12	23.6	24.1	33.0	-8.9
				1	24	23.8	24.3	33.0	-8.7
				12	0	21.6	22.1	33.0	-10.9
				12	7	21.6	22.1	33.0	-10.9
				12	13	21.6	22.1	33.0	-10.9
				25	0	21.6	22.1	33.0	-10.9
			16QAM	1	0	21.8	22.3	33.0	-10.7
				1	2	21.7	22.2	33.0	-10.8
				1	5	21.7	22.2	33.0	-10.8
				3	0	20.7	21.2	33.0	-11.8
				3	1	20.7	21.2	33.0	-11.8
				3	2	20.7	21.2	33.0	-11.8
				6	0	20.6	21.1	33.0	-11.9

OUTPUT POWER FOR LTE BAND 2 (10 MHz)

Antenna gain (dBi)		0.50							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	18650	1855.0	QPSK	1	0	23.5	24.0	33.0	-9.0
				1	25	23.4	23.9	33.0	-9.1
				1	49	23.5	24.0	33.0	-9.0
				25	0	21.5	22.0	33.0	-11.0
				25	12	21.5	22.0	33.0	-11.0
				25	25	21.5	22.0	33.0	-11.0
				50	0	21.5	22.0	33.0	-11.0
			16QAM	1	0	21.4	21.9	33.0	-11.1
				1	25	21.4	21.9	33.0	-11.1
				1	49	21.4	21.9	33.0	-11.1
				25	0	20.5	21.0	33.0	-12.0
				25	12	20.4	20.9	33.0	-12.1
				25	25	20.5	21.0	33.0	-12.1
				50	0	20.5	21.0	33.0	-12.0
10.0	18900	1880.0	QPSK	1	0	23.8	24.3	33.0	-8.7
				1	25	23.6	24.1	33.0	-8.9
				1	49	23.6	24.1	33.0	-8.9
				25	0	21.8	22.3	33.0	-10.7
				25	12	21.7	22.2	33.0	-10.8
				25	25	21.6	22.1	33.0	-10.9
				50	0	21.7	22.2	33.0	-10.8
			16QAM	1	0	21.7	22.2	33.0	-10.8
				1	25	21.5	22.0	33.0	-11.0
				1	49	21.5	22.0	33.0	-11.0
				25	0	20.7	21.2	33.0	-11.8
				25	12	20.6	21.1	33.0	-11.9
				25	25	20.6	21.1	33.0	-11.9
				50	0	20.7	21.2	33.0	-11.8
10.0	19150	1905.0	QPSK	1	0	23.8	24.3	33.0	-8.7
				1	25	23.6	24.1	33.0	-8.9
				1	49	23.8	24.3	33.0	-8.7
				25	0	21.7	22.2	33.0	-10.8
				25	12	21.7	22.2	33.0	-10.9
				25	25	21.6	22.1	33.0	-10.9
				50	0	21.7	22.2	33.0	-10.9
			16QAM	1	0	21.8	22.3	33.0	-10.7
				1	25	21.6	22.1	33.0	-10.9
				1	49	21.6	22.1	33.0	-10.9
				25	0	20.8	21.3	33.0	-11.7
				25	12	20.8	21.3	33.0	-11.7
				25	25	20.7	21.2	33.0	-11.8
				50	0	20.7	21.2	33.0	-11.8

OUTPUT POWER FOR LTE BAND 2 (15 MHz)

Antenna gain (dBi)		0.50							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	18675	1857.5	QPSK	1	0	23.6	24.1	33.0	-8.9
				1	37	23.5	24.0	33.0	-9.0
				1	74	23.5	24.0	33.0	-9.0
				36	0	21.5	22.0	33.0	-11.0
				36	20	21.5	22.0	33.0	-11.0
				36	39	21.5	22.0	33.0	-11.0
				75	0	21.5	22.0	33.0	-11.0
			16QAM	1	0	21.5	22.0	33.0	-11.0
				1	37	21.4	21.9	33.0	-11.1
				1	74	21.5	22.0	33.0	-11.0
				36	0	20.5	21.0	33.0	-12.0
				36	20	20.6	21.1	33.0	-11.9
				36	39	20.6	21.1	33.0	-11.9
				75	0	20.5	21.0	33.0	-12.0
15.0	18900	1880.0	QPSK	1	0	23.8	24.3	33.0	-8.7
				1	37	23.5	24.0	33.0	-9.0
				1	74	23.4	23.9	33.0	-9.1
				36	0	21.8	22.3	33.0	-10.7
				36	20	21.7	22.2	33.0	-10.8
				36	39	21.6	22.1	33.0	-10.9
				75	0	21.7	22.2	33.0	-10.8
			16QAM	1	0	21.8	22.3	33.0	-10.7
				1	37	21.5	22.0	33.0	-11.0
				1	74	21.4	21.9	33.0	-11.1
				36	0	20.8	21.3	33.0	-11.7
				36	20	20.7	21.2	33.0	-11.8
				36	39	20.6	21.1	33.0	-11.9
				75	0	20.7	21.2	33.0	-11.8
15.0	19125	1902.5	QPSK	1	0	23.7	24.2	33.0	-8.8
				1	37	23.4	23.9	33.0	-9.1
				1	74	23.4	23.9	33.0	-9.1
				36	0	21.7	22.2	33.0	-10.8
				36	20	21.6	22.1	33.0	-10.9
				36	39	21.5	22.0	33.0	-11.0
				75	0	21.6	22.1	33.0	-10.9
			16QAM	1	0	21.7	22.2	33.0	-10.8
				1	37	21.4	21.9	33.0	-11.1
				1	74	21.4	21.9	33.0	-11.1
				36	0	20.6	21.1	33.0	-11.9
				36	20	20.6	21.1	33.0	-11.9
				36	39	20.6	21.1	33.0	-11.9
				75	0	20.6	21.1	33.0	-11.9

OUTPUT POWER FOR LTE BAND 2 (20 MHz)

Antenna gain (dBi)		0.50							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	18700	1860.0	QPSK	1	0	23.7	24.2	33.0	-8.8
				1	49	23.6	24.1	33.0	-8.9
				1	99	23.6	24.1	33.0	-8.9
				50	0	21.7	22.2	33.0	-10.8
				50	24	21.6	22.1	33.0	-10.9
				50	50	21.6	22.1	33.0	-10.9
				100	0	21.7	22.2	33.0	-10.8
			16QAM	1	0	22.2	22.7	33.0	-10.3
				1	49	22.1	22.6	33.0	-10.4
				1	99	22.1	22.6	33.0	-10.4
				50	0	20.7	21.2	33.0	-11.8
				50	24	20.7	21.2	33.0	-11.8
				50	50	20.7	21.2	33.0	-11.8
				100	0	20.7	21.2	33.0	-11.8
20.0	18900	1880.0	QPSK	1	0	23.8	24.3	33.0	-8.7
				1	49	23.5	24.0	33.0	-9.0
				1	99	23.3	23.8	33.0	-9.2
				50	0	21.8	22.3	33.0	-10.7
				50	24	21.7	22.2	33.0	-10.8
				50	50	21.6	22.1	33.0	-10.9
				100	0	21.7	22.2	33.0	-10.8
			16QAM	1	0	22.2	22.7	33.0	-10.3
				1	49	22.2	22.7	33.0	-10.3
				1	99	21.9	22.4	33.0	-10.6
				50	0	20.8	21.3	33.0	-11.7
				50	24	20.8	21.3	33.0	-11.7
				50	50	20.7	21.2	33.0	-11.8
				100	0	20.7	21.2	33.0	-11.8
20.0	19100	1900.0	QPSK	1	0	24.1	24.6	33.0	-8.4
				1	49	23.5	24.0	33.0	-9.0
				1	99	23.9	24.4	33.0	-8.6
				50	0	21.7	22.2	33.0	-10.8
				50	24	21.6	22.1	33.0	-10.9
				50	50	21.5	22.0	33.0	-11.0
				100	0	21.6	22.1	33.0	-10.9
			16QAM	1	0	22.4	22.9	33.0	-10.1
				1	49	22.0	22.5	33.0	-10.5
				1	99	22.0	22.5	33.0	-10.5
				50	0	20.7	21.2	33.0	-11.8
				50	24	20.7	21.2	33.0	-11.8
				50	50	20.5	21.0	33.0	-12.0
				100	0	20.6	21.1	33.0	-11.9

LTE Band 4

OUTPUT POWER FOR LTE BAND 4 (1.4 MHz)

Antenna gain (dBi)		0.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	19957	1710.7	QPSK	1	0	23.4	23.8	30.0	-6.2
				1	3	23.4	23.8	30.0	-6.2
				1	5	23.4	23.8	30.0	-6.2
				3	0	23.4	23.8	30.0	-6.2
				3	1	23.5	23.9	30.0	-6.1
				3	3	23.5	23.9	30.0	-6.1
			16QAM	6	0	21.4	21.8	30.0	-8.2
				1	0	21.4	21.8	30.0	-8.2
				1	3	21.5	21.9	30.0	-8.1
				1	5	21.5	21.9	30.0	-8.1
				3	0	21.6	22.0	30.0	-8.0
				3	1	21.6	22.0	30.0	-8.0
				3	3	21.6	22.0	30.0	-8.0
				6	0	20.6	21.0	30.0	-9.0
1.4	20175	1732.5	QPSK	1	0	23.5	23.9	30.0	-6.1
				1	3	23.6	24.0	30.0	-6.0
				1	5	23.5	23.9	30.0	-6.1
				3	0	23.6	24.0	30.0	-6.0
				3	1	23.6	24.0	30.0	-6.0
				3	3	23.6	24.0	30.0	-6.0
			16QAM	6	0	21.5	21.9	30.0	-8.1
				1	0	21.9	22.3	30.0	-7.7
				1	3	21.9	22.3	30.0	-7.7
				1	5	21.9	22.3	30.0	-7.7
				3	0	21.7	22.1	30.0	-7.9
				3	1	21.7	22.1	30.0	-7.9
				3	3	21.7	22.1	30.0	-7.9
				6	0	20.4	20.8	30.0	-9.2
1.4	20393	1754.3	QPSK	1	0	23.5	23.9	30.0	-6.1
				1	3	23.5	23.9	30.0	-6.1
				1	5	23.4	23.8	30.0	-6.2
				3	0	23.4	23.8	30.0	-6.2
				3	1	23.5	23.9	30.0	-6.1
				3	3	23.4	23.8	30.0	-6.2
			16QAM	6	0	21.5	21.9	30.0	-8.1
				1	0	21.6	22.0	30.0	-8.0
				1	3	21.6	22.0	30.0	-8.0
				1	5	21.6	22.0	30.0	-8.0
				3	0	21.5	21.9	30.0	-8.1
				3	1	21.6	22.0	30.0	-8.0
				3	3	21.5	21.9	30.0	-8.1
				6	0	20.6	21.0	30.0	-9.0

OUTPUT POWER FOR LTE BAND 4 (3.0 MHz)

Antenna gain (dBi)		0.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3.0	19965	1711.5	QPSK	1	0	23.5	23.9	33.0	-9.1
				1	8	23.7	24.1	33.0	-8.9
				1	14	23.5	23.9	33.0	-9.1
				8	0	21.4	21.8	33.0	-11.2
				8	4	21.5	21.9	33.0	-11.1
				8	7	21.5	21.9	33.0	-11.1
				15	0	21.5	21.9	33.0	-11.1
			16QAM	1	0	21.9	22.3	33.0	-10.7
				1	8	22.0	22.4	33.0	-10.7
				1	14	21.9	22.3	33.0	-10.7
				8	0	20.6	21.0	33.0	-12.0
				8	4	20.6	21.0	33.0	-12.1
				8	7	20.5	20.9	33.0	-12.1
				15	0	20.5	20.9	33.0	-12.1
3.0	20175	1732.5	QPSK	1	0	23.6	24.0	33.0	-9.0
				1	8	23.7	24.1	33.0	-8.9
				1	14	23.5	23.9	33.0	-9.1
				8	0	21.6	22.0	33.0	-11.0
				8	4	21.6	22.0	33.0	-11.0
				8	7	21.6	22.0	33.0	-11.0
				15	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	21.5	21.9	33.0	-11.1
				1	8	21.6	22.0	33.0	-11.0
				1	14	21.4	21.8	33.0	-11.2
				8	0	20.7	21.1	33.0	-12.0
				8	4	20.7	21.1	33.0	-11.9
				8	7	20.7	21.1	33.0	-11.9
				15	0	20.6	21.0	33.0	-12.0
3.0	20385	1753.5	QPSK	1	0	23.5	23.9	33.0	-9.1
				1	8	23.6	24.0	33.0	-9.0
				1	14	23.5	23.9	33.0	-9.1
				8	0	21.6	22.0	33.0	-11.1
				8	4	21.6	22.0	33.0	-11.0
				8	7	21.6	22.0	33.0	-11.0
				15	0	21.5	21.9	33.0	-11.1
			16QAM	1	0	21.6	22.0	33.0	-11.0
				1	8	21.7	22.1	33.0	-11.0
				1	14	21.5	21.9	33.0	-11.1
				8	0	20.6	21.0	33.0	-12.0
				8	4	20.6	21.0	33.0	-12.0
				8	7	20.6	21.0	33.0	-12.0
				15	0	20.5	20.9	33.0	-12.1

OUTPUT POWER FOR LTE BAND 4 (5.0 MHz)

Antenna gain (dBi)		0.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	19975	1712.5	QPSK	1	0	23.6	24.0	33.0	-9.0
				1	12	23.5	23.9	33.0	-9.1
				1	24	23.6	24.0	33.0	-9.1
				12	0	21.5	21.9	33.0	-11.1
				12	7	21.5	21.9	33.0	-11.1
				12	13	21.5	21.9	33.0	-11.1
				25	0	21.5	21.9	33.0	-11.1
			16QAM	1	0	22.1	22.5	33.0	-10.6
				1	12	22.0	22.4	33.0	-10.6
				1	24	22.1	22.5	33.0	-10.5
				12	0	20.7	21.1	33.0	-11.9
				12	7	20.7	21.1	33.0	-11.9
				12	13	20.7	21.1	33.0	-12.0
				25	0	20.6	21.0	33.0	-12.0
5.0	20175	1732.5	QPSK	1	0	23.7	24.1	33.0	-8.9
				1	12	23.6	24.0	33.0	-9.0
				1	24	23.6	24.0	33.0	-9.0
				12	0	21.6	22.0	33.0	-11.0
				12	7	21.6	22.0	33.0	-11.0
				12	13	21.6	22.0	33.0	-11.0
				25	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	21.8	22.2	33.0	-10.8
				1	2	21.7	22.1	33.0	-10.9
				1	5	21.8	22.2	33.0	-10.8
				3	0	20.7	21.1	33.0	-11.9
				3	1	20.7	21.1	33.0	-11.9
				3	2	20.6	21.0	33.0	-12.0
				6	0	20.6	21.0	33.0	-12.0
5.0	20375	1752.5	QPSK	1	0	23.7	24.1	33.0	-8.9
				1	12	23.6	24.0	33.0	-9.0
				1	24	23.6	24.0	33.0	-9.0
				12	0	21.6	22.0	33.0	-11.0
				12	7	21.6	22.0	33.0	-11.0
				12	13	21.6	22.0	33.0	-11.0
				25	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	21.8	22.2	33.0	-10.9
				1	2	21.7	22.1	33.0	-10.9
				1	5	21.7	22.1	33.0	-11.0
				3	0	20.6	21.0	33.0	-12.0
				3	1	20.6	21.0	33.0	-12.0
				3	2	20.6	21.0	33.0	-12.0
				6	0	20.5	20.9	33.0	-12.1

OUTPUT POWER FOR LTE BAND 4 (10 MHz)

Antenna gain (dBi)		0.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	20000	1715.0	QPSK	1	0	23.7	24.1	33.0	-8.9
				1	25	23.6	24.0	33.0	-9.0
				1	49	23.6	24.0	33.0	-9.0
				25	0	21.6	22.0	33.0	-11.0
				25	12	21.6	22.0	33.0	-11.0
				25	25	21.5	21.9	33.0	-11.1
				50	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	22.0	22.4	33.0	-10.6
				1	25	21.9	22.3	33.0	-10.7
				1	49	21.9	22.3	33.0	-10.7
				25	0	20.6	21.0	33.0	-12.0
				25	12	20.6	21.0	33.0	-12.0
				25	25	20.6	21.0	33.0	-12.0
				50	0	20.6	21.0	33.0	-12.0
10.0	20175	1732.5	QPSK	1	0	23.7	24.1	33.0	-8.9
				1	25	23.6	24.0	33.0	-9.0
				1	49	23.5	23.9	33.0	-9.1
				25	0	21.7	22.1	33.0	-10.9
				25	12	21.6	22.0	33.0	-11.0
				25	25	21.6	22.0	33.0	-11.0
				50	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	21.7	22.1	33.0	-10.9
				1	25	21.5	21.9	33.0	-11.1
				1	49	21.5	21.9	33.0	-11.1
				25	0	20.7	21.1	33.0	-11.9
				25	12	20.6	21.0	33.0	-12.0
				25	25	20.6	21.0	33.0	-12.0
				50	0	20.6	21.0	33.0	-12.0
10.0	20350	1750.0	QPSK	1	0	23.7	24.1	33.0	-8.9
				1	25	23.6	24.0	33.0	-9.0
				1	49	23.5	23.9	33.0	-9.1
				25	0	21.7	22.1	33.0	-10.9
				25	12	21.6	22.0	33.0	-11.0
				25	25	21.6	22.0	33.0	-11.0
				50	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	21.8	22.2	33.0	-10.8
				1	25	21.6	22.0	33.0	-11.0
				1	49	21.6	22.0	33.0	-11.0
				25	0	20.7	21.1	33.0	-11.9
				25	12	20.7	21.1	33.0	-11.9
				25	25	20.7	21.1	33.0	-11.9
				50	0	20.6	21.0	33.0	-12.0

OUTPUT POWER FOR LTE BAND 4 (15 MHz)

Antenna gain (dBi)		0.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	20025	1717.5	QPSK	1	0	23.8	24.2	33.0	-8.8
				1	37	23.6	24.0	33.0	-9.0
				1	74	23.7	24.1	33.0	-8.9
				36	0	21.7	22.1	33.0	-10.9
				36	20	21.6	22.0	33.0	-11.0
				36	39	21.6	22.0	33.0	-11.0
				75	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	22.1	22.5	33.0	-10.5
				1	37	22.0	22.4	33.0	-10.6
				1	74	21.9	22.3	33.0	-10.7
				36	0	20.7	21.1	33.0	-11.9
				36	20	20.6	21.0	33.0	-12.0
				36	39	20.6	21.0	33.0	-12.0
				75	0	20.6	21.0	33.0	-12.0
15.0	20175	1732.5	QPSK	1	0	23.7	24.1	33.0	-8.9
				1	37	23.6	24.0	33.0	-9.0
				1	74	23.6	24.0	33.0	-9.0
				36	0	21.7	22.1	33.0	-10.9
				36	20	21.6	22.0	33.0	-11.0
				36	39	21.6	22.0	33.0	-11.0
				75	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	21.7	22.1	33.0	-10.9
				1	37	21.4	21.8	33.0	-11.2
				1	74	21.5	21.9	33.0	-11.1
				36	0	20.7	21.1	33.0	-11.9
				36	20	20.7	21.1	33.0	-11.9
				36	39	20.6	21.0	33.0	-12.0
				75	0	20.6	21.0	33.0	-12.0
15.0	20325	1747.5	QPSK	1	0	23.9	24.3	33.0	-8.7
				1	37	23.6	24.0	33.0	-9.0
				1	74	23.6	24.0	33.0	-9.0
				36	0	21.7	22.1	33.0	-10.9
				36	20	21.7	22.1	33.0	-10.9
				36	39	21.6	22.0	33.0	-11.0
				75	0	21.6	22.0	33.0	-11.0
			16QAM	1	0	22.2	22.6	33.0	-10.4
				1	37	22.0	22.4	33.0	-10.6
				1	74	22.0	22.4	33.0	-10.6
				36	0	20.7	21.1	33.0	-11.9
				36	20	20.7	21.1	33.0	-11.9
				36	39	20.6	21.0	33.0	-12.0
				75	0	20.7	21.1	33.0	-11.9

OUTPUT POWER FOR LTE BAND 4 (20 MHz)

Antenna gain (dBi)		0.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	20175	1732.5	QPSK	1	0	23.8	24.2	33.0	-8.8
				1	12	23.6	24.0	33.0	-9.0
				1	24	23.6	24.0	33.0	-9.0
				12	0	21.7	22.1	33.0	-10.9
				12	7	21.7	22.1	33.0	-10.9
				12	13	21.6	22.0	33.0	-11.0
				25	0	21.7	22.1	33.0	-10.9
			16QAM	1	0	22.2	22.6	33.0	-10.4
				1	12	22.0	22.4	33.0	-10.6
				1	24	21.9	22.3	33.0	-10.7
				12	0	20.7	21.1	33.0	-11.9
				12	7	20.7	21.1	33.0	-11.9
				12	13	20.6	21.0	33.0	-12.0
				25	0	20.7	21.1	33.0	-11.9

LTE Band 7

OUTPUT POWER FOR LTE BAND 7 (5.0 MHz)

Antenna gain (dBi)		0.80							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	20775	2052.5	QPSK	1	0	23.5	24.3	33.0	-8.7
				1	12	23.5	24.3	33.0	-8.7
				1	24	23.4	24.2	33.0	-8.8
				12	0	21.5	22.3	33.0	-10.7
				12	7	21.5	22.3	33.0	-10.7
				12	13	21.5	22.3	33.0	-10.8
				25	0	21.5	22.3	33.0	-10.8
			16QAM	1	0	21.6	22.4	33.0	-10.6
				1	12	21.5	22.3	33.0	-10.7
				1	24	21.5	22.3	33.0	-10.7
				12	0	20.5	21.3	33.0	-11.7
				12	7	20.5	21.3	33.0	-11.7
				12	13	20.5	21.3	33.0	-11.7
				25	0	20.4	21.2	33.0	-11.8
5.0	21100	2535.0	QPSK	1	0	23.2	24.0	33.0	-9.0
				1	12	23.1	23.9	33.0	-9.1
				1	24	23.1	23.9	33.0	-9.1
				12	0	21.2	22.0	33.0	-11.1
				12	7	21.2	22.0	33.0	-11.0
				12	13	21.2	22.0	33.0	-11.1
				25	0	21.2	22.0	33.0	-11.1
			16QAM	1	0	21.7	22.5	33.0	-10.5
				1	2	21.7	22.5	33.0	-10.6
				1	5	21.6	22.4	33.0	-10.6
				3	0	20.3	21.1	33.0	-11.9
				3	1	20.3	21.1	33.0	-11.9
				3	2	20.3	21.1	33.0	-11.9
				6	0	20.2	21.0	33.0	-12.0
5.0	21425	2567.5	QPSK	1	0	23.3	24.1	33.0	-8.9
				1	12	23.3	24.1	33.0	-8.9
				1	24	23.3	24.1	33.0	-9.0
				12	0	21.3	22.1	33.0	-10.9
				12	7	21.3	22.1	33.0	-10.9
				12	13	21.3	22.1	33.0	-10.9
				25	0	21.3	22.1	33.0	-10.9
			16QAM	1	0	21.5	22.3	33.0	-10.7
				1	2	21.5	22.3	33.0	-10.8
				1	5	21.4	22.2	33.0	-10.8
				3	0	20.4	21.2	33.0	-11.8
				3	1	20.4	21.2	33.0	-11.8
				3	2	20.3	21.1	33.0	-11.9
				6	0	20.3	21.1	33.0	-11.9

OUTPUT POWER FOR LTE BAND 7 (10 MHz)

Antenna gain (dBi)		0.80							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	20800	2505.0	QPSK	1	0	23.5	24.3	33.0	-8.7
				1	25	23.4	24.2	33.0	-8.8
				1	49	23.4	24.2	33.0	-8.8
				25	0	21.5	22.3	33.0	-10.7
				25	12	21.5	22.3	33.0	-10.8
				25	25	21.4	22.2	33.0	-10.8
				50	0	21.4	22.2	33.0	-10.8
			16QAM	1	0	21.9	22.7	33.0	-10.3
				1	25	21.8	22.6	33.0	-10.4
				1	49	21.7	22.5	33.0	-10.5
				25	0	20.5	21.3	33.0	-11.7
				25	12	20.5	21.3	33.0	-11.7
				25	25	20.4	21.2	33.0	-11.8
				50	0	20.5	21.3	33.0	-11.7
10.0	21100	2535.0	QPSK	1	0	23.1	23.9	33.0	-9.1
				1	25	23.1	23.9	33.0	-9.1
				1	49	23.1	23.9	33.0	-9.1
				25	0	21.2	22.0	33.0	-11.0
				25	12	21.2	22.0	33.0	-11.0
				25	25	21.2	22.0	33.0	-11.1
				50	0	21.2	22.0	33.0	-11.1
			16QAM	1	0	21.2	22.0	33.0	-11.0
				1	25	21.0	21.8	33.0	-11.2
				1	49	21.0	21.8	33.0	-11.2
				25	0	20.2	21.0	33.0	-12.0
				25	12	20.2	21.0	33.0	-12.0
				25	25	20.2	21.0	33.0	-12.0
				50	0	20.2	21.0	33.0	-12.0
10.0	21400	2565.0	QPSK	1	0	23.3	24.1	33.0	-8.9
				1	25	23.2	24.0	33.0	-9.0
				1	49	23.2	24.0	33.0	-9.0
				25	0	21.3	22.1	33.0	-10.9
				25	12	21.3	22.1	33.0	-10.9
				25	25	21.3	22.1	33.0	-10.9
				50	0	21.3	22.1	33.0	-10.9
			16QAM	1	0	21.4	22.2	33.0	-10.8
				1	25	21.3	22.1	33.0	-10.9
				1	49	21.3	22.1	33.0	-11.0
				25	0	20.4	21.2	33.0	-11.8
				25	12	20.4	21.2	33.0	-11.8
				25	25	20.3	21.1	33.0	-11.9
				50	0	20.3	21.1	33.0	-11.9

OUTPUT POWER FOR LTE BAND 7 (15 MHz)

Antenna gain (dBi)		0.80							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	20825	2507.5	QPSK	1	0	23.6	24.4	33.0	-8.6
				1	37	23.4	24.2	33.0	-8.8
				1	74	23.3	24.1	33.0	-9.0
				36	0	21.5	22.3	33.0	-10.7
				36	20	21.4	22.2	33.0	-10.8
				36	39	21.3	22.1	33.0	-10.9
				75	0	21.4	22.2	33.0	-10.8
			16QAM	1	0	22.0	22.8	33.0	-10.2
				1	37	21.7	22.5	33.0	-10.5
				1	74	21.7	22.5	33.0	-10.5
				36	0	20.5	21.3	33.0	-11.7
				36	20	20.4	21.2	33.0	-11.8
				36	39	20.3	21.1	33.0	-11.9
				75	0	20.4	21.2	33.0	-11.8
15.0	21100	2535.0	QPSK	1	0	23.3	24.1	33.0	-8.9
				1	37	23.1	23.9	33.0	-9.1
				1	74	23.1	23.9	33.0	-9.1
				36	0	21.2	22.0	33.0	-11.0
				36	20	21.2	22.0	33.0	-11.0
				36	39	21.2	22.0	33.0	-11.0
				75	0	21.2	22.0	33.0	-11.0
			16QAM	1	0	21.6	22.4	33.0	-10.6
				1	37	21.5	22.3	33.0	-10.7
				1	74	21.5	22.3	33.0	-10.7
				36	0	20.2	21.0	33.0	-12.0
				36	20	20.3	21.1	33.0	-12.0
				36	39	20.2	21.0	33.0	-12.0
				75	0	20.2	21.0	33.0	-12.0
15.0	21375	2562.5	QPSK	1	0	23.3	24.1	33.0	-8.9
				1	37	23.2	24.0	33.0	-9.0
				1	74	23.1	23.9	33.0	-9.1
				36	0	21.3	22.1	33.0	-10.9
				36	20	21.3	22.1	33.0	-10.9
				36	39	21.3	22.1	33.0	-10.9
				75	0	21.3	22.1	33.0	-10.9
			16QAM	1	0	21.3	22.1	33.0	-10.9
				1	37	21.1	21.9	33.0	-11.1
				1	74	21.1	21.9	33.0	-11.1
				36	0	20.3	21.1	33.0	-11.9
				36	20	20.3	21.1	33.0	-11.9
				36	39	20.2	21.0	33.0	-12.0
				75	0	20.3	21.1	33.0	-11.9

OUTPUT POWER FOR LTE BAND 7 (20 MHz)

Antenna gain (dBi)		0.80							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	20850	2510.0	QPSK	1	0	23.6	24.4	33.0	-8.6
				1	49	23.3	24.1	33.0	-8.9
				1	99	23.2	24.0	33.0	-9.0
				50	0	21.5	22.3	33.0	-10.7
				50	24	21.4	22.2	33.0	-10.8
				50	50	21.3	22.1	33.0	-10.9
				100	0	21.4	22.2	33.0	-10.8
			16QAM	1	0	22.0	22.8	33.0	-10.2
				1	49	21.7	22.5	33.0	-10.5
				1	99	21.6	22.4	33.0	-10.6
				50	0	20.5	21.3	33.0	-11.7
				50	24	20.4	21.2	33.0	-11.8
				50	50	20.3	21.1	33.0	-11.9
				100	0	20.4	21.2	33.0	-11.8
20.0	21100	2535.0	QPSK	1	0	23.3	24.1	33.0	-8.9
				1	49	23.1	23.9	33.0	-9.1
				1	99	23.2	24.0	33.0	-9.1
				50	0	21.3	22.1	33.0	-10.9
				50	24	21.2	22.0	33.0	-11.0
				50	50	21.2	22.0	33.0	-11.0
				100	0	21.2	22.0	33.0	-11.0
			16QAM	1	0	21.7	22.5	33.0	-10.5
				1	49	21.7	22.5	33.0	-10.6
				1	99	21.6	22.4	33.0	-10.7
				50	0	20.3	21.1	33.0	-11.9
				50	24	20.2	21.0	33.0	-12.0
				50	50	20.2	21.0	33.0	-12.0
				100	0	20.2	21.0	33.0	-12.0
20.0	21350	2560.0	QPSK	1	0	23.3	24.1	33.0	-8.9
				1	49	23.2	24.0	33.0	-9.0
				1	99	23.2	24.0	33.0	-9.0
				50	0	21.3	22.1	33.0	-10.9
				50	24	21.3	22.1	33.0	-10.9
				50	50	21.3	22.1	33.0	-11.0
				100	0	21.3	22.1	33.0	-10.9
			16QAM	1	0	21.9	22.7	33.0	-10.3
				1	49	21.7	22.5	33.0	-10.5
				1	99	21.7	22.5	33.0	-10.5
				50	0	20.4	21.2	33.0	-11.9
				50	24	20.3	21.1	33.0	-11.9
				50	50	20.3	21.1	33.0	-11.9
				100	0	20.3	21.1	33.0	-11.9

LTE Band 12

OUTPUT POWER FOR LTE BAND 12 (1.4 MHz)

Antenna gain (dBi)		-0.90							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
1.4	23017	699.7	QPSK	1	0	23.8	20.8	34.7	-13.9
				1	3	23.9	20.8	34.7	-13.9
				1	5	23.8	20.8	34.7	-13.9
				3	0	23.8	20.8	34.7	-13.9
				3	1	23.9	20.9	34.7	-13.8
				3	3	23.9	20.8	34.7	-13.9
			16QAM	6	0	22.8	19.8	34.7	-14.9
				1	0	23.2	20.1	34.7	-14.6
				1	3	23.2	20.2	34.7	-14.5
				1	5	23.1	20.1	34.7	-14.6
				3	0	23.0	20.0	34.7	-14.7
				3	1	23.0	20.0	34.7	-14.7
				3	3	23.0	20.0	34.7	-14.7
				6	0	21.7	18.6	34.7	-16.1
1.4	23095	707.5	QPSK	1	0	23.8	20.8	34.7	-13.9
				1	3	23.9	20.8	34.7	-13.9
				1	5	23.8	20.8	34.7	-13.9
				3	0	23.9	20.8	34.7	-13.9
				3	1	23.9	20.8	34.7	-13.9
				3	3	23.9	20.8	34.7	-13.9
			16QAM	6	0	22.8	19.8	34.7	-14.9
				1	0	22.9	19.8	34.7	-14.9
				1	3	22.9	19.9	34.7	-14.8
				1	5	22.9	19.8	34.7	-14.9
				3	0	23.0	20.0	34.7	-14.7
				3	1	23.1	20.0	34.7	-14.7
				3	3	23.1	20.0	34.7	-14.7
				6	0	22.0	18.9	34.7	-15.8
1.4	23173	715.3	QPSK	1	0	23.8	20.7	34.7	-14.0
				1	3	23.8	20.7	34.7	-14.0
				1	5	23.7	20.7	34.7	-14.0
				3	0	23.7	20.7	34.7	-14.0
				3	1	23.8	20.7	34.7	-14.0
				3	3	23.7	20.7	34.7	-14.0
			16QAM	6	0	22.7	19.7	34.7	-15.0
				1	0	22.8	19.7	34.7	-15.0
				1	3	22.9	19.8	34.7	-14.9
				1	5	22.8	19.8	34.7	-14.9
				3	0	22.8	19.7	34.7	-15.0
				3	1	22.8	19.8	34.7	-14.9
				3	3	22.8	19.8	34.7	-14.9
				6	0	21.9	18.8	34.7	-15.9

OUTPUT POWER FOR LTE BAND 12 (3.0 MHz)

Antenna gain (dBi)		-0.90							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
3.0	23025	700.5	QPSK	1	0	23.8	20.7	34.7	-14.0
				1	8	23.9	20.8	34.7	-13.9
				1	14	23.8	20.7	34.7	-14.0
				8	0	22.8	19.8	34.7	-14.9
				8	4	22.8	19.8	34.7	-14.9
				8	7	22.8	19.8	34.7	-14.9
			16QAM	15	0	22.8	19.7	34.7	-15.0
				1	0	22.7	19.7	34.7	-15.0
				1	8	22.8	19.8	34.7	-14.9
				1	14	22.7	19.6	34.7	-15.1
				8	0	21.9	18.8	34.7	-15.9
				8	4	21.9	18.8	34.7	-15.9
				8	7	21.9	18.8	34.7	-15.9
				15	0	21.8	18.8	34.7	-15.9
3.0	23095	707.5	QPSK	1	0	23.9	20.9	34.7	-13.8
				1	8	24.0	20.9	34.7	-13.8
				1	14	23.8	20.8	34.7	-13.9
				8	0	22.9	19.8	34.7	-14.9
				8	4	22.9	19.9	34.7	-14.8
				8	7	22.9	19.9	34.7	-14.8
			16QAM	15	0	22.9	19.8	34.7	-14.9
				1	0	23.0	19.9	34.7	-14.8
				1	8	23.0	20.0	34.7	-14.7
				1	14	22.9	19.8	34.7	-14.9
				8	0	21.9	18.9	34.7	-15.8
				8	4	22.0	18.9	34.7	-15.8
				8	7	22.0	18.9	34.7	-15.8
				15	0	21.8	18.8	34.7	-15.9
3.0	23165	714.5	QPSK	1	0	24.0	20.9	34.7	-13.8
				1	8	24.1	21.0	34.7	-13.7
				1	14	23.9	20.9	34.7	-13.8
				8	0	22.9	19.8	34.7	-14.9
				8	4	22.9	19.9	34.7	-14.8
				8	7	22.9	19.8	34.7	-14.9
			16QAM	15	0	22.9	19.9	34.7	-14.8
				1	0	23.3	20.3	34.7	-14.4
				1	8	23.4	20.3	34.7	-14.4
				1	14	23.3	20.2	34.7	-14.5
				8	0	22.0	19.0	34.7	-15.7
				8	4	22.0	19.0	34.7	-15.7
				8	7	22.0	19.0	34.7	-15.7
				15	0	22.0	18.9	34.7	-15.8

OUTPUT POWER FOR LTE BAND 12 (5.0 MHz)

Antenna gain (dBi)		-0.90							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	23035	701.5	QPSK	1	0	24.0	21.0	34.7	-13.7
				1	12	23.9	20.9	34.7	-13.8
				1	24	23.9	20.9	34.7	-13.8
				12	0	22.9	19.9	34.7	-14.8
				12	7	22.9	19.8	34.7	-14.9
				12	13	22.9	19.8	34.7	-14.9
				25	0	22.9	19.9	34.7	-14.8
			16QAM	1	0	23.1	20.1	34.7	-14.6
				1	12	23.1	20.0	34.7	-14.7
				1	24	23.1	20.1	34.7	-14.6
				12	0	22.0	18.9	34.7	-15.8
				12	7	22.0	18.9	34.7	-15.8
				12	13	21.9	18.9	34.7	-15.8
				25	0	21.9	18.8	34.7	-15.9
5.0	23095	707.5	QPSK	1	0	24.0	21.0	34.7	-13.7
				1	12	24.0	20.9	34.7	-13.8
				1	24	23.9	20.9	34.7	-13.8
				12	0	23.0	19.9	34.7	-14.8
				12	7	22.9	19.9	34.7	-14.8
				12	13	22.9	19.9	34.7	-14.8
				25	0	22.9	19.9	34.7	-14.8
			16QAM	1	0	23.1	20.0	34.7	-14.7
				1	2	23.0	19.9	34.7	-14.8
				1	5	23.0	19.9	34.7	-14.8
				3	0	22.0	18.9	34.7	-15.8
				3	1	22.0	18.9	34.7	-15.8
				3	2	21.9	18.9	34.7	-15.8
				6	0	21.8	18.8	34.7	-15.9
5.0	23155	713.5	QPSK	1	0	24.0	21.0	34.7	-13.7
				1	12	24.0	20.9	34.7	-13.8
				1	24	23.9	20.9	34.7	-13.8
				12	0	23.0	19.9	34.7	-14.8
				12	7	23.0	20.0	34.7	-14.7
				12	13	23.0	19.9	34.7	-14.8
				25	0	22.9	19.9	34.7	-14.8
			16QAM	1	0	23.5	20.5	34.7	-14.2
				1	2	23.5	20.4	34.7	-14.3
				1	5	23.5	20.4	34.7	-14.3
				3	0	22.1	19.1	34.7	-15.6
				3	1	22.1	19.1	34.7	-15.6
				3	2	22.1	19.0	34.7	-15.7
				6	0	22.0	19.0	34.7	-15.7

OUTPUT POWER FOR LTE BAND 12 (10.0 MHz)

Antenna gain (dBi)		-0.90							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	23095	707.5	QPSK	1	0	24.0	20.9	34.7	-13.8
				1	25	23.9	20.9	34.7	-13.8
				1	49	23.8	20.8	34.7	-13.9
				25	0	23.0	19.9	34.7	-14.8
				25	12	22.9	19.9	34.7	-14.8
				25	25	22.9	19.8	34.7	-14.9
			16QAM	50	0	22.9	19.9	34.7	-14.8
				1	0	23.0	20.0	34.7	-14.7
				1	25	22.9	19.8	34.7	-14.9
				1	49	22.8	19.8	34.7	-14.9
				25	0	22.1	19.0	34.7	-15.7
				25	12	22.0	19.0	34.7	-15.7
				25	25	21.9	18.9	34.7	-15.8
				50	0	21.9	18.9	34.7	-15.8

LTE Band 13

OUTPUT POWER FOR LTE BAND 13 (5.0 MHz)

Antenna gain (dBi)		-0.70							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	23230	782.0	QPSK	1	0	24.1	21.2	34.7	-13.5
				1	12	24.1	21.2	34.7	-13.5
				1	24	24.0	21.2	34.7	-13.5
				12	0	23.0	20.2	34.7	-14.5
				12	7	23.0	20.2	34.7	-14.5
				12	13	23.0	20.2	34.7	-14.5
				25	0	23.0	20.2	34.7	-14.5
			16QAM	1	0	23.2	20.3	34.7	-14.4
				1	12	23.1	20.2	34.7	-14.5
				1	24	23.1	20.2	34.7	-14.5
				12	0	22.1	19.3	34.7	-15.4
				12	7	22.1	19.2	34.7	-15.5
				12	13	22.0	19.2	34.7	-15.5
				25	0	21.9	19.1	34.7	-15.6

OUTPUT POWER FOR LTE BAND 13 (10.0 MHz)

Antenna gain (dBi)		-0.70							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	23230	782.0	QPSK	1	0	24.1	21.2	34.7	-13.5
				1	25	23.9	21.1	34.7	-13.6
				1	49	23.9	21.0	34.7	-13.7
				25	0	23.0	20.2	34.7	-14.5
				25	12	23.0	20.2	34.7	-14.5
				25	25	22.9	20.1	34.7	-14.6
				50	0	23.0	20.1	34.7	-14.6
			16QAM	1	0	23.0	20.2	34.7	-14.5
				1	25	22.9	20.0	34.7	-14.7
				1	49	22.8	20.0	34.7	-14.7
				25	0	22.1	19.2	34.7	-15.5
				25	12	22.1	19.2	34.7	-15.5
				25	25	22.0	19.1	34.7	-15.6
				50	0	22.0	19.1	34.7	-15.6

LTE Band 26

OUTPUT POWER FOR LTE BAND 26 (1.4 MHz)

Antenna gain (dBi)		0.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
1.4	26697	814.7	QPSK	1	0	23.8	21.9	38.5	-16.5
				1	3	23.8	22.0	38.5	-16.5
				1	5	23.8	21.9	38.5	-16.5
				3	0	23.8	21.9	38.5	-16.5
				3	1	23.8	22.0	38.5	-16.5
				3	3	23.8	22.0	38.5	-16.5
			16QAM	6	0	22.8	21.0	38.5	-17.5
				1	0	22.8	21.0	38.5	-17.5
				1	3	22.9	21.0	38.5	-17.4
				1	5	22.8	21.0	38.5	-17.5
				3	0	23.0	21.1	38.5	-17.3
				3	1	23.0	21.2	38.5	-17.3
				3	3	23.0	21.1	38.5	-17.3
				6	0	22.0	20.1	38.5	-18.3
1.4	26865	831.5	QPSK	1	0	23.8	22.0	38.5	-16.5
				1	3	23.9	22.0	38.5	-16.4
				1	5	23.8	22.0	38.5	-16.5
				3	0	23.8	22.0	38.5	-16.5
				3	1	23.9	22.0	38.5	-16.4
				3	3	23.8	22.0	38.5	-16.5
			16QAM	6	0	22.8	20.9	38.5	-17.5
				1	0	23.2	21.3	38.5	-17.1
				1	3	23.2	21.3	38.5	-17.1
				1	5	23.1	21.3	38.5	-17.2
				3	0	23.0	21.1	38.5	-17.3
				3	1	23.0	21.2	38.5	-17.3
				3	3	23.0	21.1	38.5	-17.3
				6	0	21.7	19.9	38.5	-18.6
1.4	27033	848.3	QPSK	1	0	23.8	22.0	38.5	-16.5
				1	3	23.9	22.0	38.5	-16.4
				1	5	23.8	22.0	38.5	-16.5
				3	0	23.8	22.0	38.5	-16.5
				3	1	23.9	22.0	38.5	-16.4
				3	3	23.8	22.0	38.5	-16.5
			16QAM	6	0	22.8	21.0	38.5	-17.5
				1	0	22.9	21.0	38.5	-17.4
				1	3	23.0	21.1	38.5	-17.3
				1	5	22.9	21.1	38.5	-17.4
				3	0	22.9	21.1	38.5	-17.4
				3	1	22.9	21.1	38.5	-17.4
				3	3	23.0	21.1	38.5	-17.3
				6	0	22.0	20.1	38.5	-18.3

OUTPUT POWER FOR LTE BAND 26 (3.0 MHz)

Antenna gain (dBi)		0.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
3.0	26705	815.5	QPSK	1	0	23.9	22.0	38.5	-16.5
				1	8	24.0	22.1	38.5	-16.4
				1	14	23.8	22.0	38.5	-16.5
				8	0	22.9	21.1	38.5	-17.4
				8	4	22.9	21.1	38.5	-17.4
				8	7	22.9	21.1	38.5	-17.4
			16QAM	15	0	22.9	21.0	38.5	-17.5
				1	0	22.9	21.1	38.5	-17.4
				1	8	23.0	21.1	38.5	-17.4
				1	14	22.9	21.0	38.5	-17.5
				8	0	21.9	20.1	38.5	-18.4
				8	4	22.0	20.1	38.5	-18.4
				8	7	22.0	20.1	38.5	-18.4
				15	0	21.8	20.0	38.5	-18.5
3.0	26865	831.5	QPSK	1	0	23.9	22.1	38.5	-16.4
				1	8	24.0	22.2	38.5	-16.3
				1	14	23.9	22.0	38.5	-16.5
				8	0	22.8	21.0	38.5	-17.5
				8	4	22.9	21.0	38.5	-17.5
				8	7	22.8	21.0	38.5	-17.5
			16QAM	15	0	22.9	21.0	38.5	-17.5
				1	0	23.3	21.4	38.5	-17.1
				1	8	23.3	21.5	38.5	-17.0
				1	14	23.2	21.4	38.5	-17.1
				8	0	22.0	20.1	38.5	-18.4
				8	4	21.9	20.1	38.5	-18.4
				8	7	21.9	20.1	38.5	-18.4
				15	0	21.9	20.0	38.5	-18.5
3.0	27025	847.5	QPSK	1	0	23.8	22.0	38.5	-16.5
				1	8	24.0	22.1	38.5	-16.4
				1	14	23.9	22.0	38.5	-16.5
				8	0	22.9	21.1	38.5	-17.4
				8	4	22.9	21.1	38.5	-17.4
				8	7	22.9	21.0	38.5	-17.5
			16QAM	15	0	22.9	21.1	38.5	-17.4
				1	0	22.8	21.0	38.5	-17.5
				1	8	22.9	21.1	38.5	-17.4
				1	14	22.8	20.9	38.5	-17.6
				8	0	22.0	20.1	38.5	-18.4
				8	4	22.0	20.2	38.5	-18.3
				8	7	22.0	20.1	38.5	-18.4
				15	0	22.0	20.1	38.5	-18.4

OUTPUT POWER FOR LTE BAND 26 (5.0 MHz)

Antenna gain (dBi)		0.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	26715	816.5	QPSK	1	0	23.9	22.1	38.5	-16.4
				1	12	23.9	22.1	38.5	-16.4
				1	24	23.9	22.0	38.5	-16.5
				12	0	22.9	21.1	38.5	-17.4
				12	7	22.9	21.1	38.5	-17.4
				12	13	22.9	21.1	38.5	-17.4
				25	0	22.9	21.1	38.5	-17.4
			16QAM	1	0	23.0	21.2	38.5	-17.3
				1	12	22.9	21.1	38.5	-17.4
				1	24	23.0	21.1	38.5	-17.4
				12	0	22.0	20.1	38.5	-18.4
				12	7	22.0	20.1	38.5	-18.4
				12	13	21.9	20.1	38.5	-18.4
				25	0	21.9	20.0	38.5	-18.5
5.0	26865	831.5	QPSK	1	0	23.9	22.1	38.5	-16.4
				1	12	23.9	22.0	38.5	-16.5
				1	24	23.8	22.0	38.5	-16.5
				12	0	22.9	21.0	38.5	-17.5
				12	7	22.9	21.0	38.5	-17.5
				12	13	22.9	21.0	38.5	-17.5
				25	0	22.9	21.0	38.5	-17.5
			16QAM	1	0	23.5	21.6	38.5	-16.9
				1	2	23.4	21.5	38.5	-17.0
				1	5	23.4	21.5	38.5	-17.0
				3	0	22.1	20.2	38.5	-18.3
				3	1	22.0	20.2	38.5	-18.3
				3	2	22.0	20.2	38.5	-18.3
				6	0	22.0	20.1	38.5	-18.4
5.0	27015	846.5	QPSK	1	0	24.0	22.2	38.5	-16.3
				1	12	23.9	22.1	38.5	-16.4
				1	24	24.0	22.1	38.5	-16.4
				12	0	22.9	21.1	38.5	-17.4
				12	7	22.9	21.1	38.5	-17.4
				12	13	22.9	21.1	38.5	-17.4
				25	0	22.9	21.1	38.5	-17.4
			16QAM	1	0	23.2	21.3	38.5	-17.2
				1	2	23.1	21.3	38.5	-17.2
				1	5	23.1	21.3	38.5	-17.2
				3	0	22.0	20.2	38.5	-18.3
				3	1	22.0	20.2	38.5	-18.3
				3	2	22.0	20.1	38.5	-18.4
				6	0	22.0	20.1	38.5	-18.4

OUTPUT POWER FOR LTE BAND 26 (10.0 MHz)

Antenna gain (dBi)		0.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	26740	819.0	QPSK	1	0	24.0	22.2	38.5	-16.3
				1	25	23.9	22.1	38.5	-16.4
				1	49	23.9	22.0	38.5	-16.5
				25	0	23.0	21.2	38.5	-17.3
				25	12	23.0	21.1	38.5	-17.4
				25	25	22.9	21.1	38.5	-17.4
				50	0	23.0	21.1	38.5	-17.4
			16QAM	1	0	23.1	21.2	38.5	-17.3
				1	25	23.0	21.1	38.5	-17.4
				1	49	22.9	21.0	38.5	-17.5
				25	0	22.1	20.3	38.5	-18.2
				25	12	22.1	20.2	38.5	-18.3
				25	25	22.0	20.1	38.5	-18.4
				50	0	22.0	20.1	38.5	-18.4
10.0	26865	831.5	QPSK	1	0	24.0	22.2	38.5	-16.3
				1	25	23.9	22.1	38.5	-16.4
				1	49	23.9	22.0	38.5	-16.5
				25	0	22.9	21.1	38.5	-17.4
				25	12	22.9	21.1	38.5	-17.4
				25	25	22.8	21.0	38.5	-17.5
				50	0	22.9	21.0	38.5	-17.5
			16QAM	1	0	23.3	21.5	38.5	-17.0
				1	25	23.3	21.4	38.5	-17.1
				1	49	23.2	21.3	38.5	-17.2
				25	0	22.0	20.1	38.5	-18.4
				25	12	22.0	20.1	38.5	-18.4
				25	25	21.9	20.0	38.5	-18.5
				50	0	21.9	20.1	38.5	-18.4
10.0	26990	844.0	QPSK	1	0	24.0	22.1	38.5	-16.4
				1	25	23.9	22.0	38.5	-16.5
				1	49	23.9	22.0	38.5	-16.5
				25	0	23.0	21.1	38.5	-17.4
				25	12	23.0	21.1	38.5	-17.4
				25	25	22.9	21.1	38.5	-17.4
				50	0	23.0	21.1	38.5	-17.4
			16QAM	1	0	23.0	21.1	38.5	-17.4
				1	25	22.9	21.0	38.5	-17.5
				1	49	22.8	21.0	38.5	-17.5
				25	0	22.0	20.1	38.5	-18.4
				25	12	22.0	20.1	38.5	-18.4
				25	25	21.9	20.1	38.5	-18.4
				50	0	22.0	20.1	38.5	-18.4

OUTPUT POWER FOR LTE BAND 26 (15.0 MHz)

Antenna gain (dBi)		0.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
15.0	26865	831.5	QPSK	1	0	24.0	22.2	38.5	-16.3
				1	37	24.0	22.1	38.5	-16.4
				1	74	23.8	21.9	38.5	-16.6
				36	0	23.0	21.1	38.5	-17.4
				36	20	22.9	21.1	38.5	-17.4
				36	39	22.9	21.0	38.5	-17.5
				75	0	22.9	21.0	38.5	-17.5
			16QAM	1	0	23.4	21.6	38.5	-16.9
				1	37	23.3	21.5	38.5	-17.0
				1	74	23.1	21.2	38.5	-17.3
				36	0	22.0	20.1	38.5	-18.4
				36	20	21.9	20.1	38.5	-18.4
				36	39	21.8	20.0	38.5	-18.5
				75	0	21.9	20.0	38.5	-18.5

LTE Band 30

OUTPUT POWER FOR LTE BAND 30 (5.0 MHz)

Antenna gain (dBi)		0.02							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	27685	2307.5	QPSK	1	0	22.8	22.8	24.0	-1.2
				1	12	22.8	22.9	24.0	-1.1
				1	24	22.8	22.9	24.0	-1.1
				12	0	21.8	21.8	24.0	-2.2
				12	7	21.8	21.8	24.0	-2.2
				12	13	21.8	21.8	24.0	-2.2
				25	0	21.8	21.8	24.0	-2.2
			16QAM	1	0	21.9	21.9	24.0	-2.1
				1	12	21.9	21.9	24.0	-2.1
				1	24	21.9	22.0	24.0	-2.0
				12	0	20.8	20.9	24.0	-3.1
				12	7	20.9	20.9	24.0	-3.1
				12	13	20.9	20.9	24.0	-3.1
				25	0	20.7	20.8	24.0	-3.2
5.0	27710	2310.0	QPSK	1	0	22.8	22.8	24.0	-1.2
				1	12	22.8	22.8	24.0	-1.2
				1	24	22.8	22.8	24.0	-1.2
				12	0	21.8	21.8	24.0	-2.2
				12	7	21.8	21.8	24.0	-2.2
				12	13	21.8	21.8	24.0	-2.2
				25	0	21.8	21.8	24.0	-2.2
			16QAM	1	0	22.3	22.4	24.0	-1.6
				1	2	22.3	22.3	24.0	-1.7
				1	5	22.3	22.4	24.0	-1.6
				3	0	21.0	21.0	24.0	-3.0
				3	1	20.9	21.0	24.0	-3.0
				3	2	21.0	21.0	24.0	-3.0
				6	0	20.9	20.9	24.0	-3.1
5.0	27735	2312.5	QPSK	1	0	23.0	23.0	24.0	-1.0
				1	12	22.9	22.9	24.0	-1.1
				1	24	22.9	22.9	24.0	-1.1
				12	0	21.9	21.9	24.0	-2.1
				12	7	21.9	21.9	24.0	-2.1
				12	13	21.9	21.9	24.0	-2.1
				25	0	21.9	21.9	24.0	-2.1
			16QAM	1	0	22.1	22.1	24.0	-1.9
				1	2	22.0	22.0	24.0	-2.0
				1	5	22.0	22.0	24.0	-2.0
				3	0	21.0	21.0	24.0	-3.0
				3	1	21.0	21.0	24.0	-3.0
				3	2	20.9	20.9	24.0	-3.1
				6	0	20.9	20.9	24.0	-3.1

OUTPUT POWER FOR LTE BAND 30 (10.0 MHz)

Antenna gain (dBi)		0.02							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	27710	2310.0	QPSK	1	0	22.8	22.8	34.7	-11.9
				1	25	22.8	22.8	34.7	-11.9
				1	49	22.8	22.8	34.7	-11.9
				25	0	21.9	21.9	34.7	-12.8
				25	12	21.9	21.9	34.7	-12.8
				25	25	21.8	21.9	34.7	-12.8
				50	0	21.9	21.9	34.7	-12.8
			16QAM	1	0	21.9	21.9	34.7	-12.8
				1	25	21.9	21.9	34.7	-12.8
				1	49	21.9	21.9	34.7	-12.8
				25	0	21.0	21.0	34.7	-13.7
				25	12	21.0	21.0	34.7	-13.7
				25	25	20.9	21.0	34.7	-13.7
				50	0	20.9	20.9	34.7	-13.8

LTE Band 41

OUTPUT POWER FOR LTE BAND 41 (5.0 MHz)

Antenna gain (dBi)		0.80							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	39675	2498.5	QPSK	1	0	23.5	24.3	33.0	-8.7
				1	12	23.6	24.4	33.0	-8.6
				1	24	23.5	24.3	33.0	-8.7
				12	0	22.5	23.3	33.0	-9.7
				12	7	22.6	23.4	33.0	-9.7
				12	13	22.5	23.3	33.0	-9.7
				25	0	22.5	23.3	33.0	-9.7
			16QAM	1	0	22.5	23.3	33.0	-9.7
				1	12	22.5	23.3	33.0	-9.7
				1	24	22.5	23.3	33.0	-9.7
				12	0	21.5	22.3	33.0	-10.7
				12	7	21.5	22.3	33.0	-10.7
				12	13	21.5	22.3	33.0	-10.7
				25	0	21.6	22.4	33.0	-10.7
5.0	40620	2593.0	QPSK	1	0	23.5	24.3	33.0	-8.7
				1	12	23.5	24.3	33.0	-8.7
				1	24	23.5	24.3	33.0	-8.7
				12	0	22.5	23.3	33.0	-9.7
				12	7	22.6	23.4	33.0	-9.6
				12	13	22.6	23.4	33.0	-9.6
				25	0	22.5	23.3	33.0	-9.7
			16QAM	1	0	22.5	23.3	33.0	-9.7
				1	12	22.4	23.2	33.0	-9.8
				1	24	22.5	23.3	33.0	-9.7
				12	0	21.6	22.4	33.0	-10.6
				12	7	21.7	22.5	33.0	-10.5
				12	13	21.6	22.4	33.0	-10.6
				25	0	21.6	22.4	33.0	-10.6
5.0	41565	2687.5	QPSK	1	0	23.7	24.5	33.0	-8.5
				1	12	23.7	24.5	33.0	-8.5
				1	24	23.7	24.5	33.0	-8.5
				12	0	22.8	23.6	33.0	-9.4
				12	7	22.8	23.6	33.0	-9.4
				12	13	22.7	23.5	33.0	-9.5
				25	0	22.7	23.5	33.0	-9.5
			16QAM	1	0	23.0	23.8	33.0	-9.2
				1	12	23.0	23.8	33.0	-9.2
				1	24	22.9	23.7	33.0	-9.3
				12	0	21.8	22.6	33.0	-10.4
				12	7	21.8	22.6	33.0	-10.4
				12	13	21.7	22.5	33.0	-10.5
				25	0	21.7	22.5	33.0	-10.5

OUTPUT POWER FOR LTE BAND 41 (10 MHz)

Antenna gain (dBi)		0.80							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	39700	2501.0	QPSK	1	0	23.6	24.4	33.0	-8.6
				1	25	23.6	24.4	33.0	-8.6
				1	49	23.5	24.3	33.0	-8.7
				25	0	22.6	23.4	33.0	-9.6
				25	12	22.6	23.4	33.0	-9.6
				25	25	22.5	23.3	33.0	-9.7
				50	0	22.6	23.4	33.0	-9.6
			16QAM	1	0	22.6	23.4	33.0	-9.6
				1	25	22.6	23.4	33.0	-9.6
				1	49	22.5	23.3	33.0	-9.7
				25	0	21.5	22.3	33.0	-10.7
				25	12	21.6	22.4	33.0	-10.6
				25	25	21.5	22.3	33.0	-10.7
				50	0	21.6	22.4	33.0	-10.6
10.0	40620	2593.0	QPSK	1	0	23.6	24.4	33.0	-8.6
				1	25	23.5	24.3	33.0	-8.7
				1	49	23.5	24.3	33.0	-8.7
				25	0	22.6	23.4	33.0	-9.6
				25	12	22.6	23.4	33.0	-9.6
				25	25	22.6	23.4	33.0	-9.6
				50	0	22.6	23.4	33.0	-9.6
			16QAM	1	0	22.6	23.4	33.0	-9.6
				1	25	22.6	23.4	33.0	-9.6
				1	49	22.5	23.3	33.0	-9.7
				25	0	21.7	22.5	33.0	-10.5
				25	12	21.6	22.4	33.0	-10.6
				25	25	21.6	22.4	33.0	-10.6
				50	0	21.6	22.4	33.0	-10.6
10.0	41540	2685.0	QPSK	1	0	23.8	24.6	33.0	-8.4
				1	25	23.8	24.6	33.0	-8.4
				1	49	23.7	24.5	33.0	-8.5
				25	0	22.8	23.6	33.0	-9.4
				25	12	22.7	23.5	33.0	-9.5
				25	25	22.7	23.5	33.0	-9.5
				50	0	22.7	23.5	33.0	-9.5
			16QAM	1	0	22.6	23.4	33.0	-9.6
				1	25	22.7	23.5	33.0	-9.5
				1	49	22.5	23.3	33.0	-9.7
				25	0	21.7	22.5	33.0	-10.5
				25	12	21.7	22.5	33.0	-10.5
				25	25	21.7	22.5	33.0	-10.5
				50	0	21.8	22.6	33.0	-10.4

OUTPUT POWER FOR LTE BAND 41 (15.0 MHz)

Antenna gain (dBi)		0.80							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	39725	2503.5	QPSK	1	0	23.7	24.5	33.0	-8.5
				1	37	23.6	24.4	33.0	-8.7
				1	74	23.4	24.2	33.0	-8.8
				36	0	22.6	23.4	33.0	-9.6
				36	20	22.6	23.4	33.0	-9.6
				36	39	22.5	23.3	33.0	-9.7
				75	0	22.5	23.3	33.0	-9.7
			16QAM	1	0	22.6	23.4	33.0	-9.6
				1	37	22.4	23.2	33.0	-9.8
				1	74	22.3	23.1	33.0	-9.9
				36	0	21.6	22.4	33.0	-10.6
				36	20	21.6	22.4	33.0	-10.7
				36	39	21.5	22.3	33.0	-10.7
				75	0	21.6	22.4	33.0	-10.6
15.0	40620	2593.0	QPSK	1	0	23.6	24.4	33.0	-8.6
				1	37	23.5	24.3	33.0	-8.7
				1	74	23.5	24.3	33.0	-8.7
				36	0	22.6	23.4	33.0	-9.6
				36	20	22.6	23.4	33.0	-9.6
				36	39	22.6	23.4	33.0	-9.7
				75	0	22.6	23.4	33.0	-9.6
			16QAM	1	0	22.6	23.4	33.0	-9.6
				1	37	22.4	23.2	33.0	-9.8
				1	74	22.5	23.3	33.0	-9.7
				36	0	21.6	22.4	33.0	-10.6
				36	20	21.6	22.4	33.0	-10.6
				36	39	21.5	22.3	33.0	-10.7
				75	0	21.6	22.4	33.0	-10.6
15.0	41515	2682.5	QPSK	1	0	23.9	24.7	33.0	-8.3
				1	37	23.9	24.7	33.0	-8.3
				1	74	23.8	24.6	33.0	-8.4
				36	0	22.9	23.7	33.0	-9.3
				36	20	22.9	23.7	33.0	-9.3
				36	39	22.9	23.7	33.0	-9.3
				75	0	22.8	23.6	33.0	-9.4
			16QAM	1	0	23.0	23.8	33.0	-9.2
				1	37	22.8	23.6	33.0	-9.4
				1	74	22.9	23.7	33.0	-9.3
				36	0	21.9	22.7	33.0	-10.3
				36	20	21.9	22.7	33.0	-10.3
				36	39	21.9	22.7	33.0	-10.3
				75	0	21.8	22.6	33.0	-10.4

OUTPUT POWER FOR LTE BAND 41 (20 MHz)

Antenna gain (dBi)		0.80							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	39750	2506.0	QPSK	1	0	23.7	24.5	33.0	-8.5
				1	49	23.5	24.3	33.0	-8.7
				1	99	23.4	24.2	33.0	-8.8
				50	0	22.7	23.5	33.0	-9.6
				50	24	22.6	23.4	33.0	-9.6
				50	50	22.5	23.3	33.0	-9.7
				100	0	22.6	23.4	33.0	-9.7
			16QAM	1	0	22.6	23.4	33.0	-9.6
				1	49	22.4	23.2	33.0	-9.8
				1	99	22.3	23.1	33.0	-9.9
				50	0	21.6	22.4	33.0	-10.6
				50	24	21.6	22.4	33.0	-10.6
				50	50	21.5	22.3	33.0	-10.7
				100	0	21.6	22.4	33.0	-10.6
20.0	40620	2593.0	QPSK	1	0	23.7	24.5	33.0	-8.5
				1	49	23.6	24.4	33.0	-8.6
				1	99	23.6	24.4	33.0	-8.6
				50	0	22.6	23.4	33.0	-9.6
				50	24	22.6	23.4	33.0	-9.6
				50	50	22.6	23.4	33.0	-9.6
				100	0	22.6	23.4	33.0	-9.6
			16QAM	1	0	22.7	23.5	33.0	-9.6
				1	49	22.4	23.2	33.0	-9.8
				1	99	22.5	23.3	33.0	-9.7
				50	0	21.6	22.4	33.0	-10.6
				50	24	21.6	22.4	33.0	-10.6
				50	50	21.6	22.4	33.0	-10.7
				100	0	21.6	22.4	33.0	-10.6
20.0	41490	2680.0	QPSK	1	0	23.9	24.7	33.0	-8.3
				1	49	23.8	24.6	33.0	-8.4
				1	99	23.7	24.5	33.0	-8.5
				50	0	22.9	23.7	33.0	-9.3
				50	24	22.9	23.7	33.0	-9.3
				50	50	22.8	23.6	33.0	-9.4
				100	0	22.7	23.5	33.0	-9.5
			16QAM	1	0	23.2	24.0	33.0	-9.0
				1	49	23.1	23.9	33.0	-9.1
				1	99	23.0	23.8	33.0	-9.2
				50	0	21.9	22.7	33.0	-10.3
				50	24	21.9	22.7	33.0	-10.3
				50	50	21.8	22.6	33.0	-10.4
				100	0	21.8	22.6	33.0	-10.4

12. PEAK TO AVERAGE RATIO

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

TEST SPEC

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

LTE Band 2





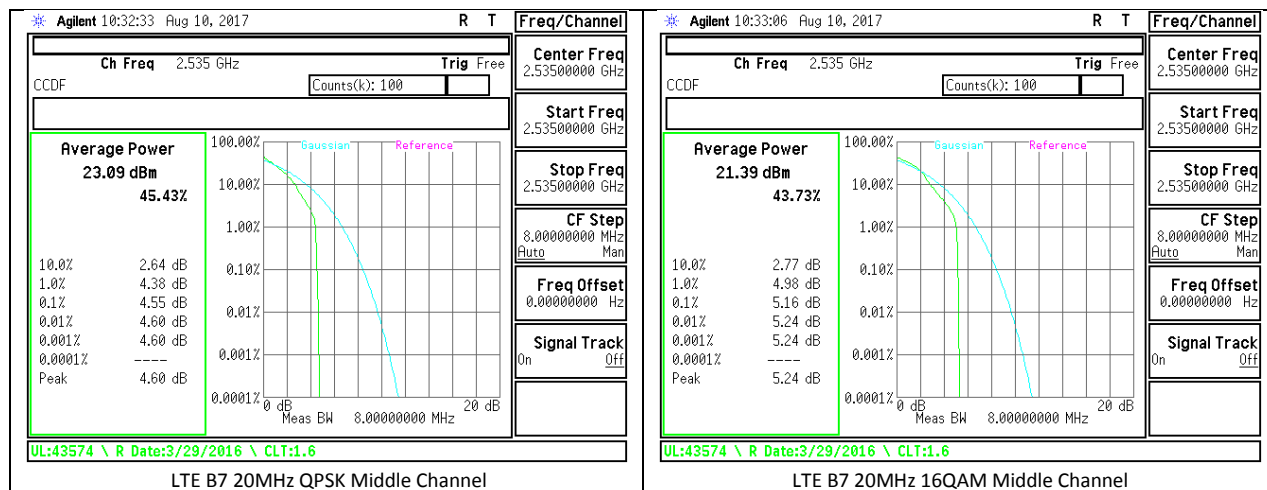
LTE Band 4



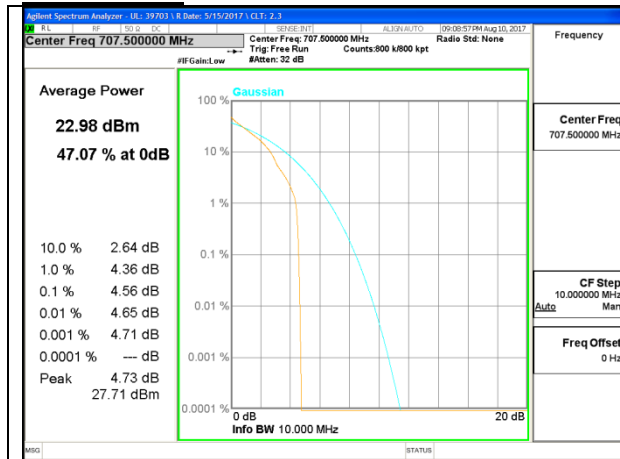


LTE Band 7

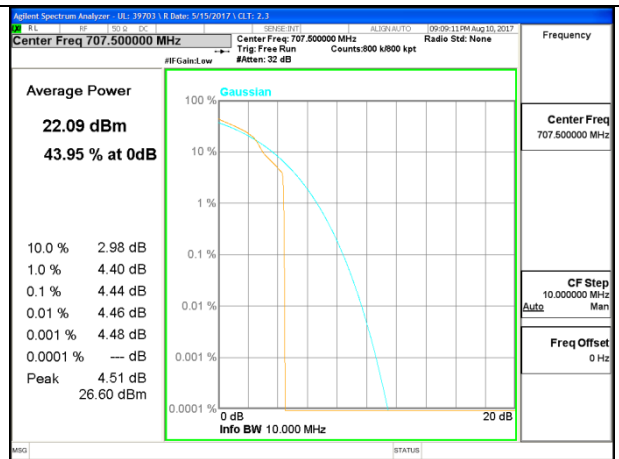




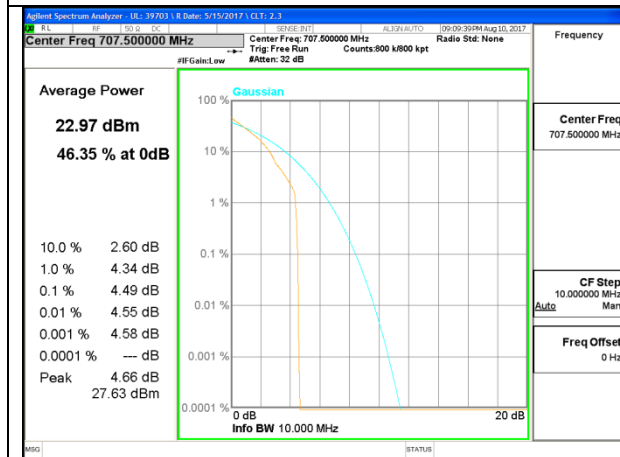
LTE Band 12



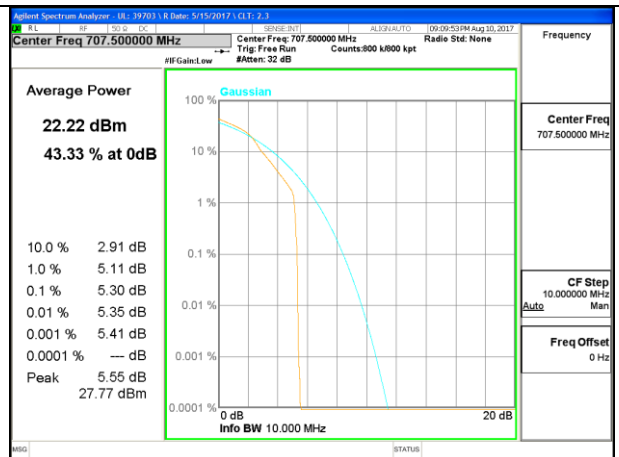
LTE B12 1.4MHz QPSK Middle Channel



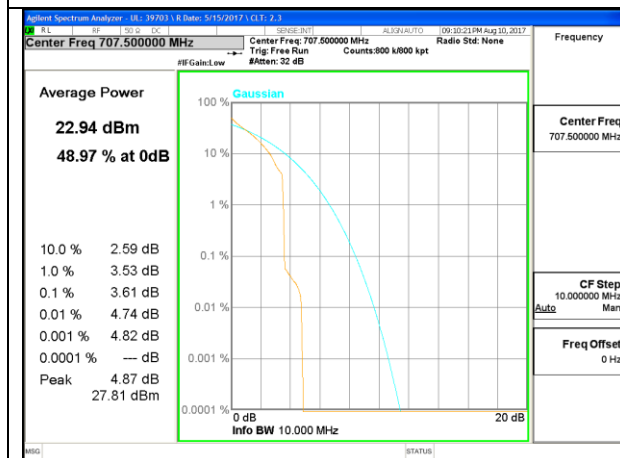
LTE B12 1.4MHz 16QAM Middle Channel



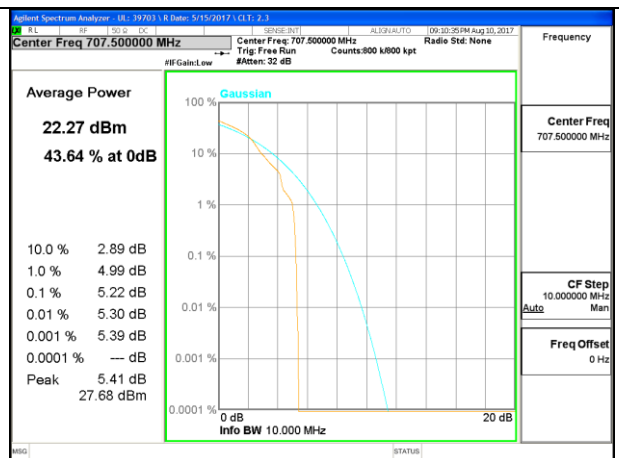
LTE B12 3MHz QPSK Middle Channel



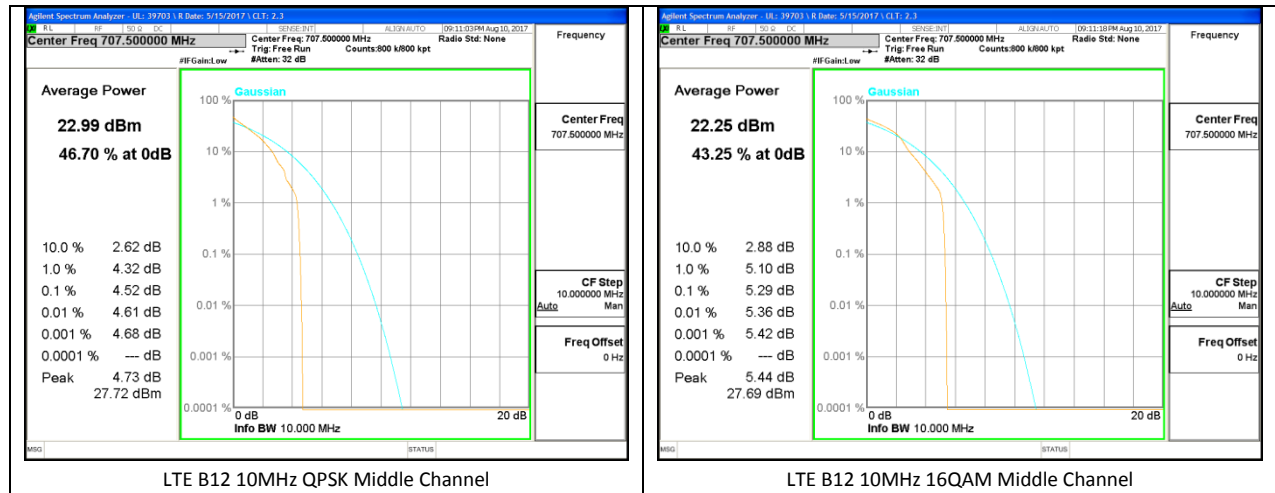
LTE B12 3MHz 16QAM Middle Channel



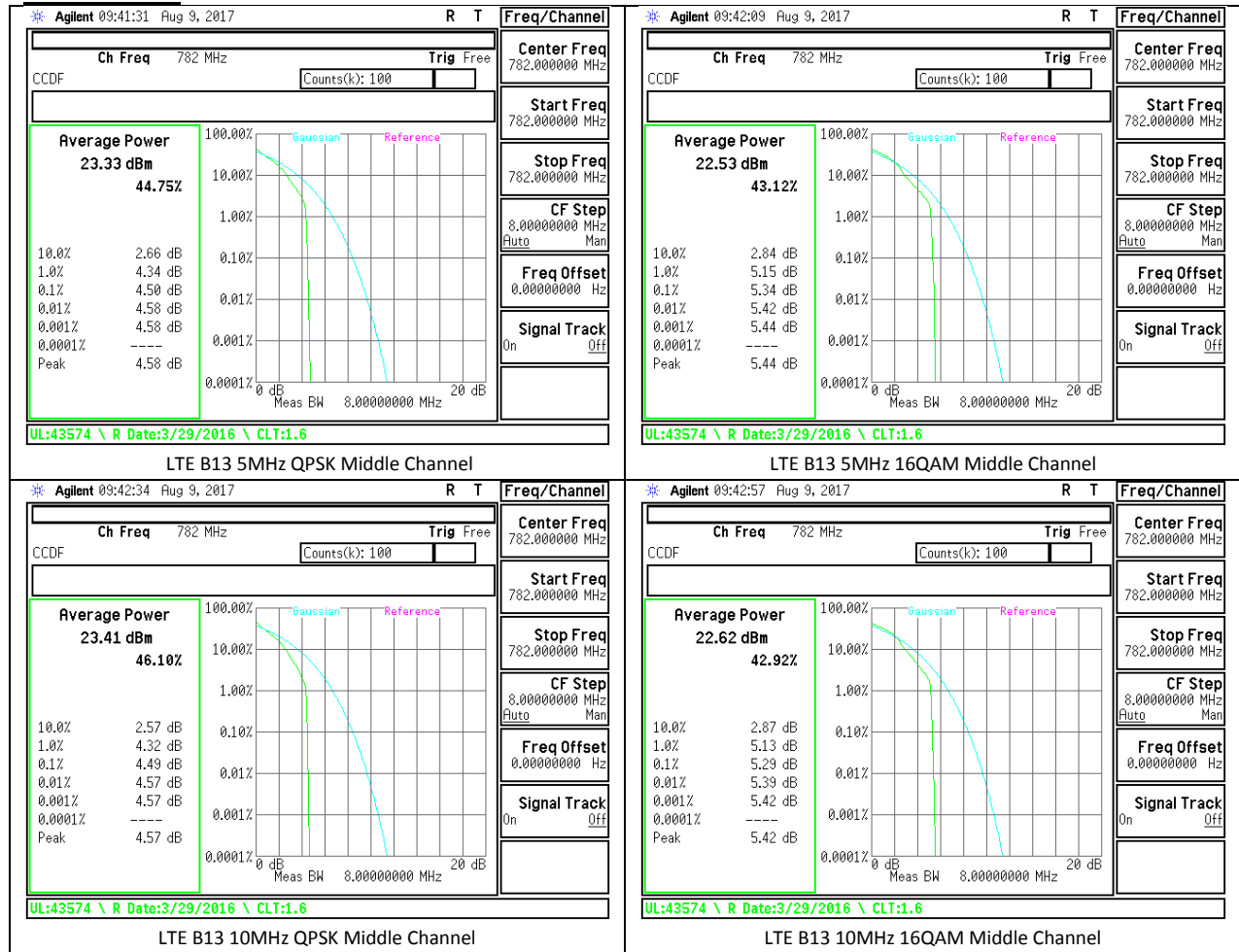
LTE B12 5MHz QPSK Middle Channel



LTE B12 5MHz 16QAM Middle Channel

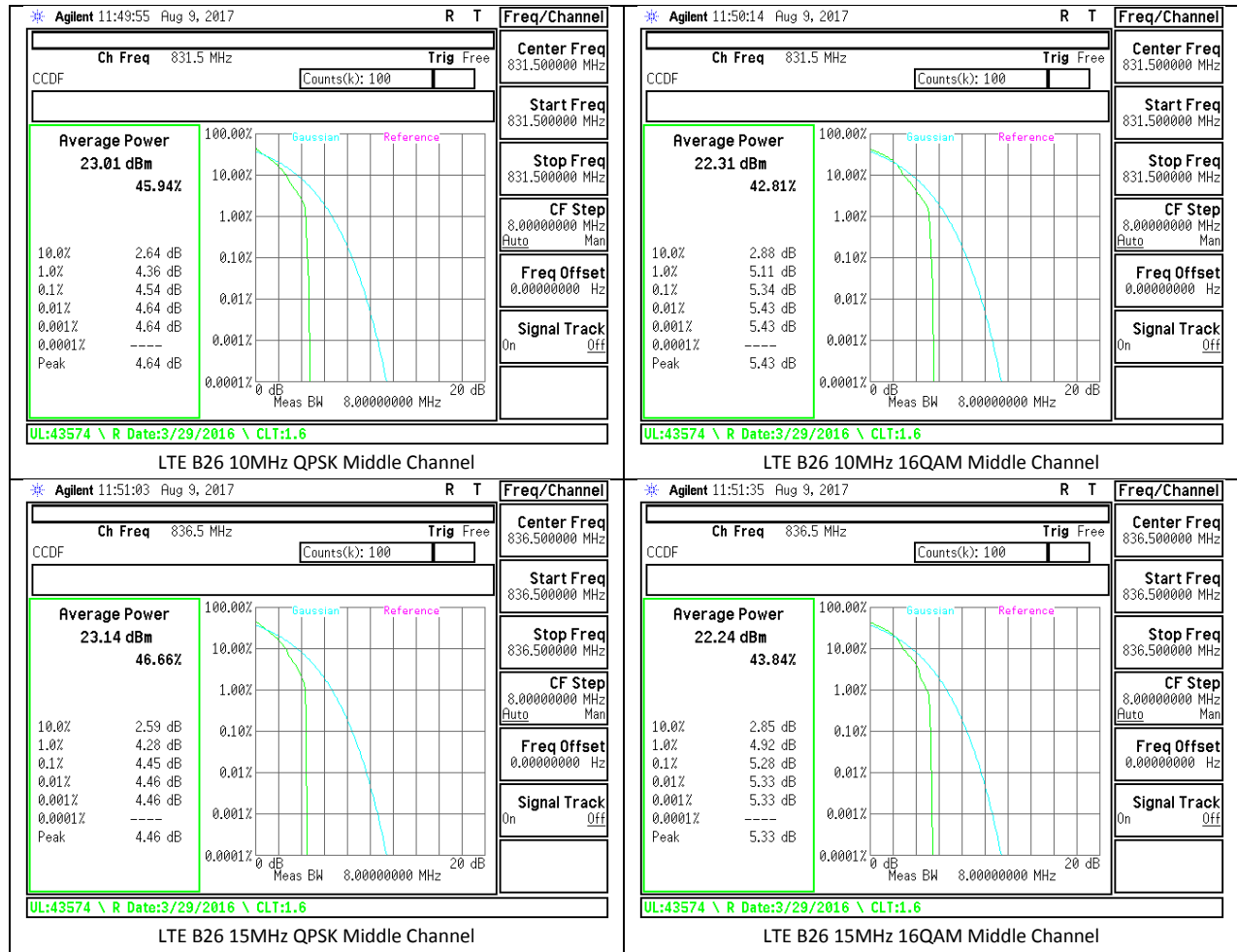


LTE Band 13

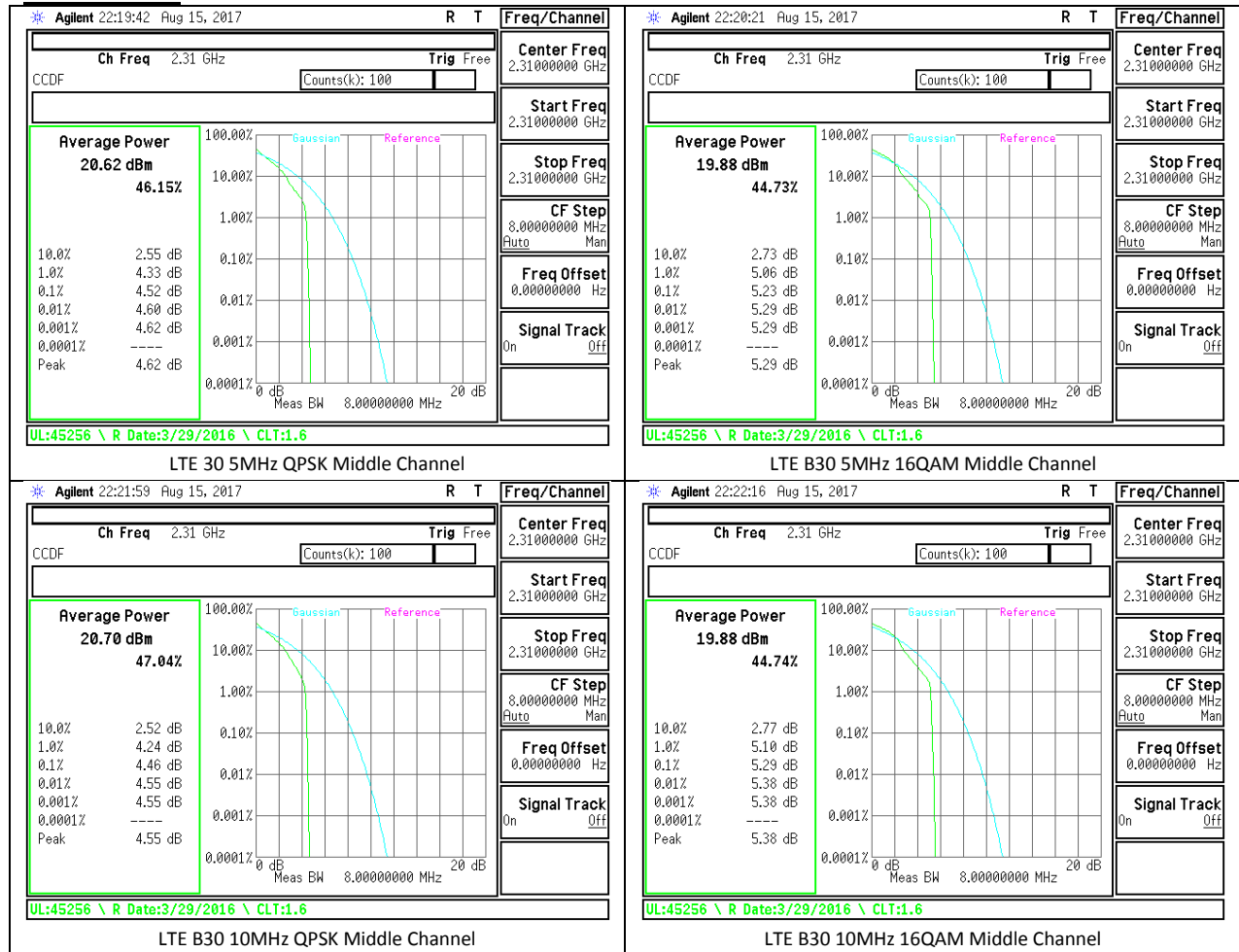


LTE Band 26



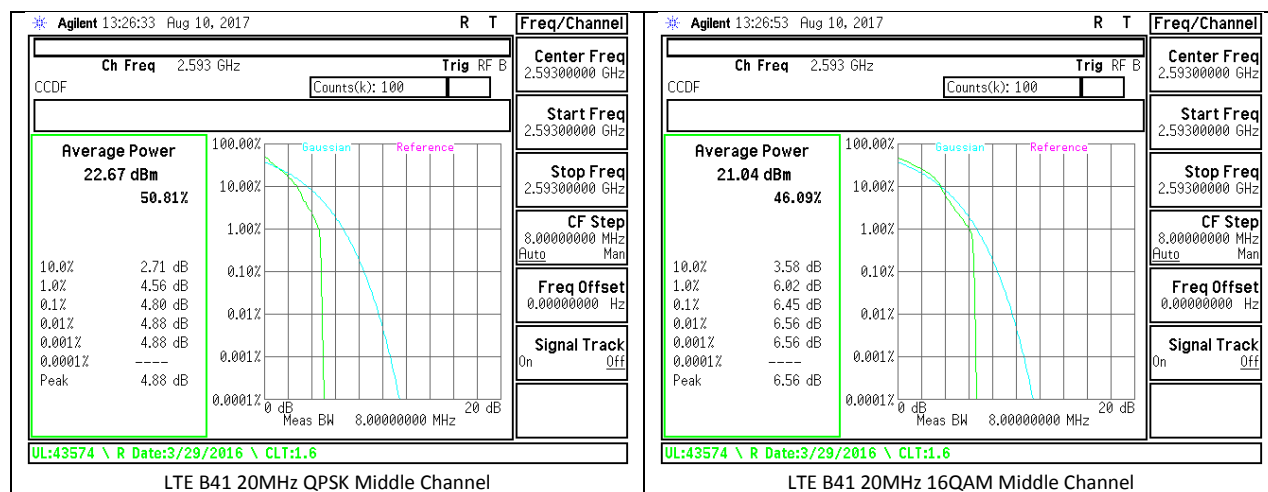


LTE Band 30



LTE Band 41





13. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.104

IC: RSS130, RSS132; RSS133 §2.3, RSS139, RSS195 and RSS199§4.2

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

(KDB 971168 D01 Power Meas License Digital Systems v02r02)

13.1. OCCUPIED BANDWIDTH RESULTS AND PLOTS

WCDMA

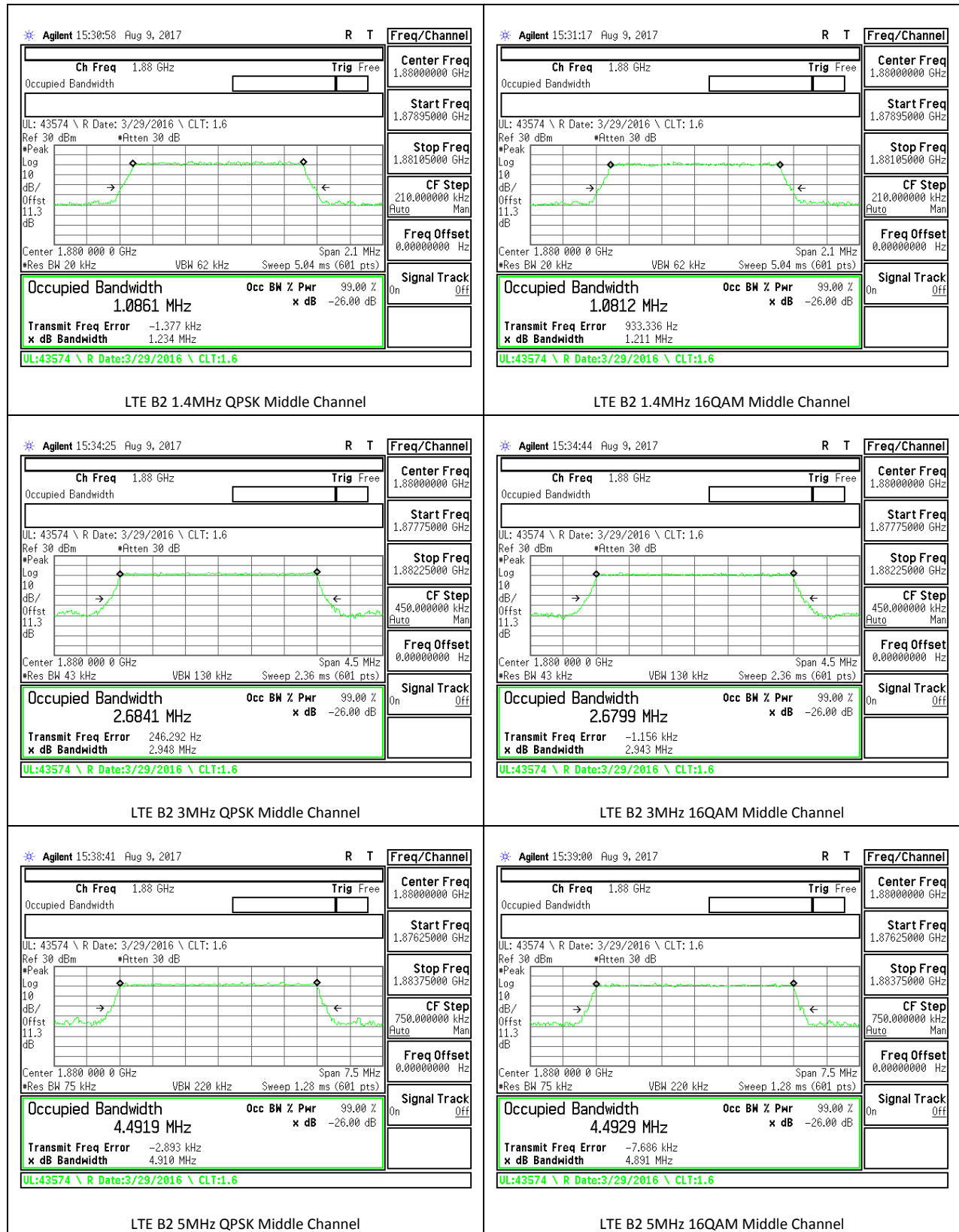
Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB (MHz)
Band 2	REL99	9262	1852.4	4.11	4.69
		9400	1880	4.11	4.67
		9538	1907.6	4.12	4.7
	HSDPA	9262	1852.4	4.15	4.69
		9400	1880	4.13	4.7
		9538	1907.6	4.12	4.68
Band 5	REL99	4132	826.4	4.13	4.69
		4183	836.6	4.12	4.67
		4233	846.6	4.09	4.67
	HSDPA	4132	826.4	4.14	4.7
		4183	836.6	4.11	4.69
		4233	846.6	4.13	4.69

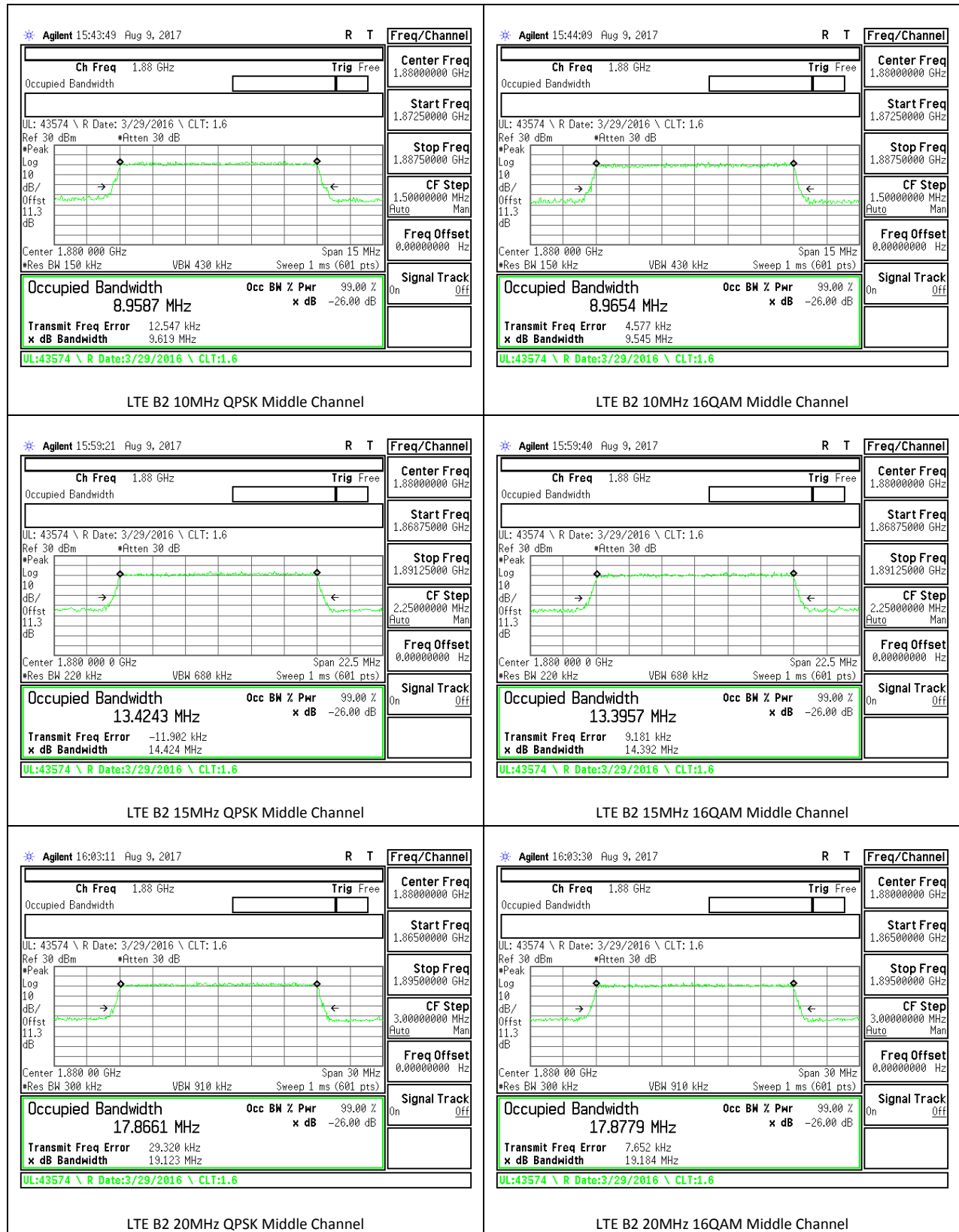


LTE Band 2

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE2	1.4	QPSK	6/0	1850.7	1.08	1.23
			6/0	1880	1.09	1.23
			6/0	1909.3	1.08	1.21
		16QAM	6/0	1850.7	1.08	1.21
			6/0	1880	1.08	1.21
			6/0	1909.3	1.08	1.23
	3	QPSK	15/0	1851.5	2.69	2.95
			15/0	1880	2.68	2.95
			15/0	1908.5	2.69	2.97
		16QAM	15/0	1851.5	2.7	2.97
			15/0	1880	2.68	2.94
			15/0	1908.5	2.69	2.98
	5	QPSK	25/0	1852.5	4.49	4.88
			25/0	1880	4.49	4.91
			25/0	1907.5	4.48	4.87
		16QAM	25/0	1852.5	4.49	4.97
			25/0	1880	4.49	4.89
			25/0	1907.5	4.49	4.93
	10	QPSK	50/0	1855	8.96	9.72
			50/0	1880	8.96	9.62
			50/0	1905	8.96	9.64
		16QAM	50/0	1855	8.96	9.74
			50/0	1880	8.97	9.55
			50/0	1905	8.97	9.63

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE2	15	QPSK	75/0	1857.5	13.39	14.45
			75/0	1880	13.42	14.42
			75/0	1902.5	13.39	14.47
		16QAM	75/0	1857.5	13.4	14.45
			75/0	1880	13.4	14.39
			75/0	1902.5	13.39	14.44
	20	QPSK	100/0	1860	17.86	18.88
			100/0	1880	17.87	19.12
			100/0	1900	17.88	19.25
		16QAM	100/0	1860	17.89	19.29
			100/0	1880	17.88	19.18
			100/0	1900	17.88	19.27

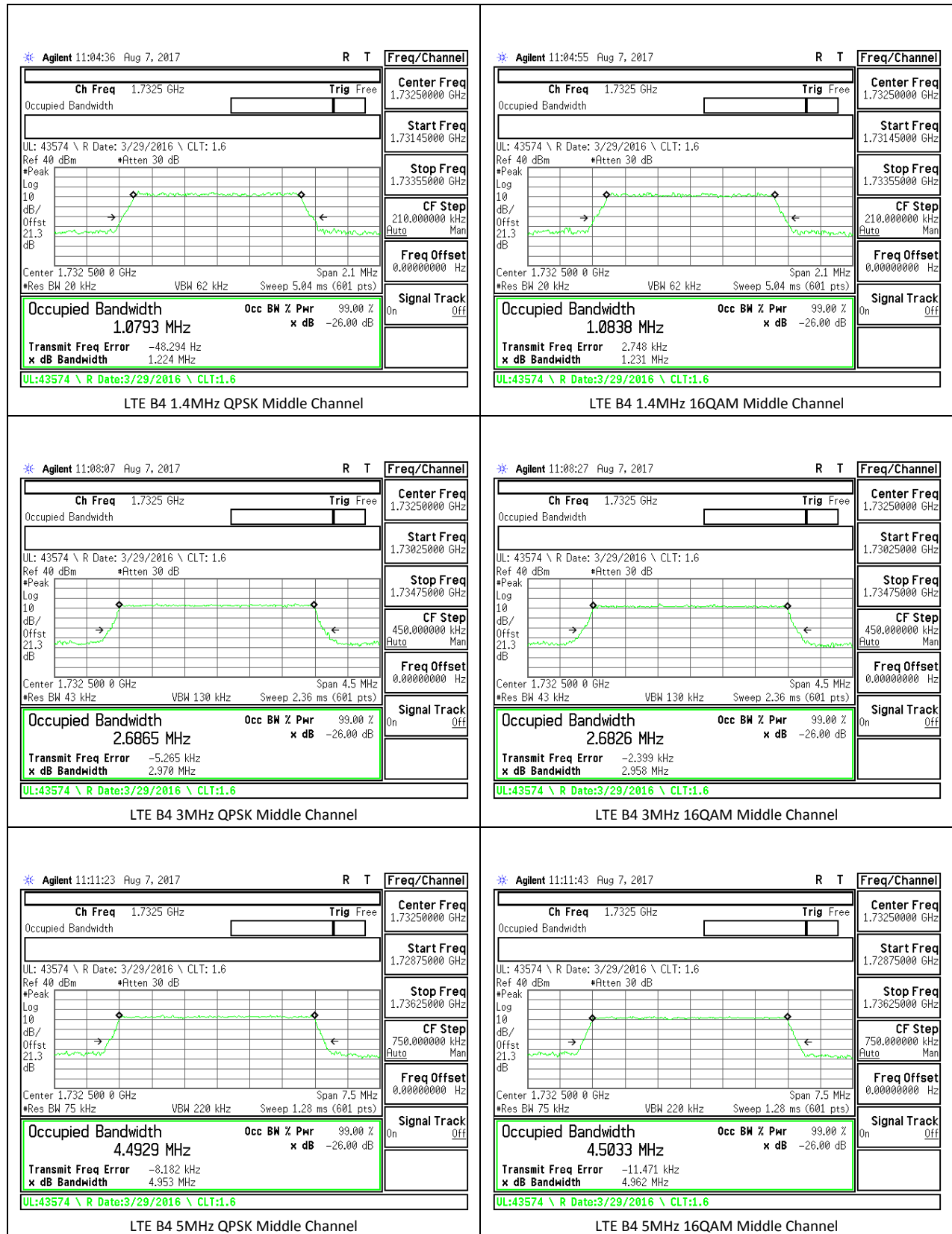


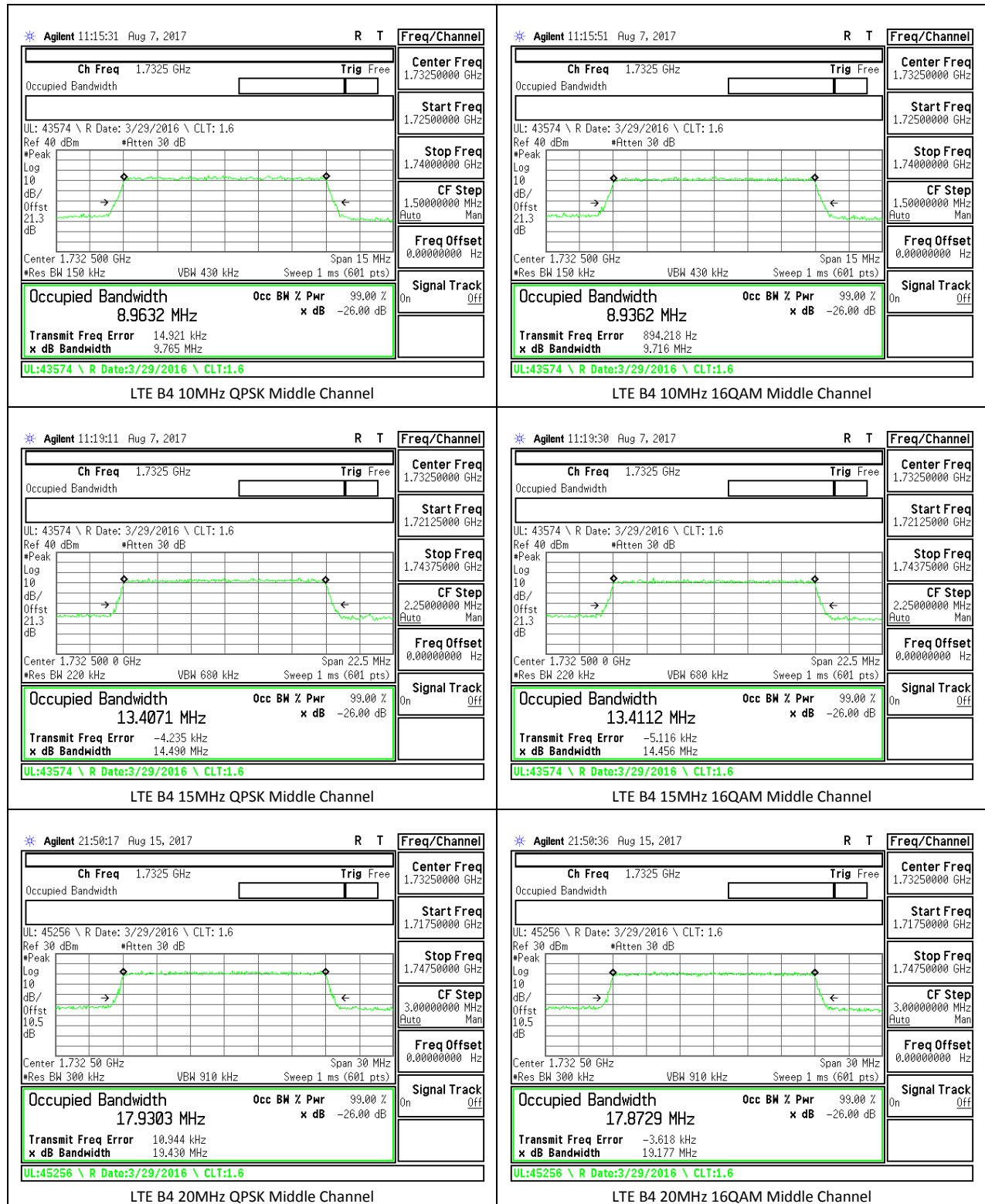


LTE Band 4

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	1.4	QPSK	6/0	1710.7	1.08	1.22
			6/0	1732.5	1.08	1.22
			6/0	1754.3	1.08	1.21
		16QAM	6/0	1710.7	1.08	1.22
			6/0	1732.5	1.08	1.23
			6/0	1754.3	1.08	1.23
	3	QPSK	15/0	1711.5	2.68	2.98
			15/0	1732.5	2.69	2.97
			15/0	1753.5	2.68	2.95
		16QAM	15/0	1711.5	2.69	2.99
			15/0	1732.5	2.68	2.96
			15/0	1753.5	2.69	2.98
	5	QPSK	25/0	1712.5	4.5	4.96
			25/0	1732.5	4.49	4.95
			25/0	1752.5	4.49	4.9
		16QAM	25/0	1712.5	4.5	4.9
			25/0	1732.5	4.5	4.96
			25/0	1752.5	4.5	4.9
	10	QPSK	50/0	1715	8.95	9.72
			50/0	1732.5	8.96	9.76
			50/0	1750	8.95	9.64
		16QAM	50/0	1715	8.94	9.75
			50/0	1732.5	8.93	9.72
			50/0	1750	8.96	9.7

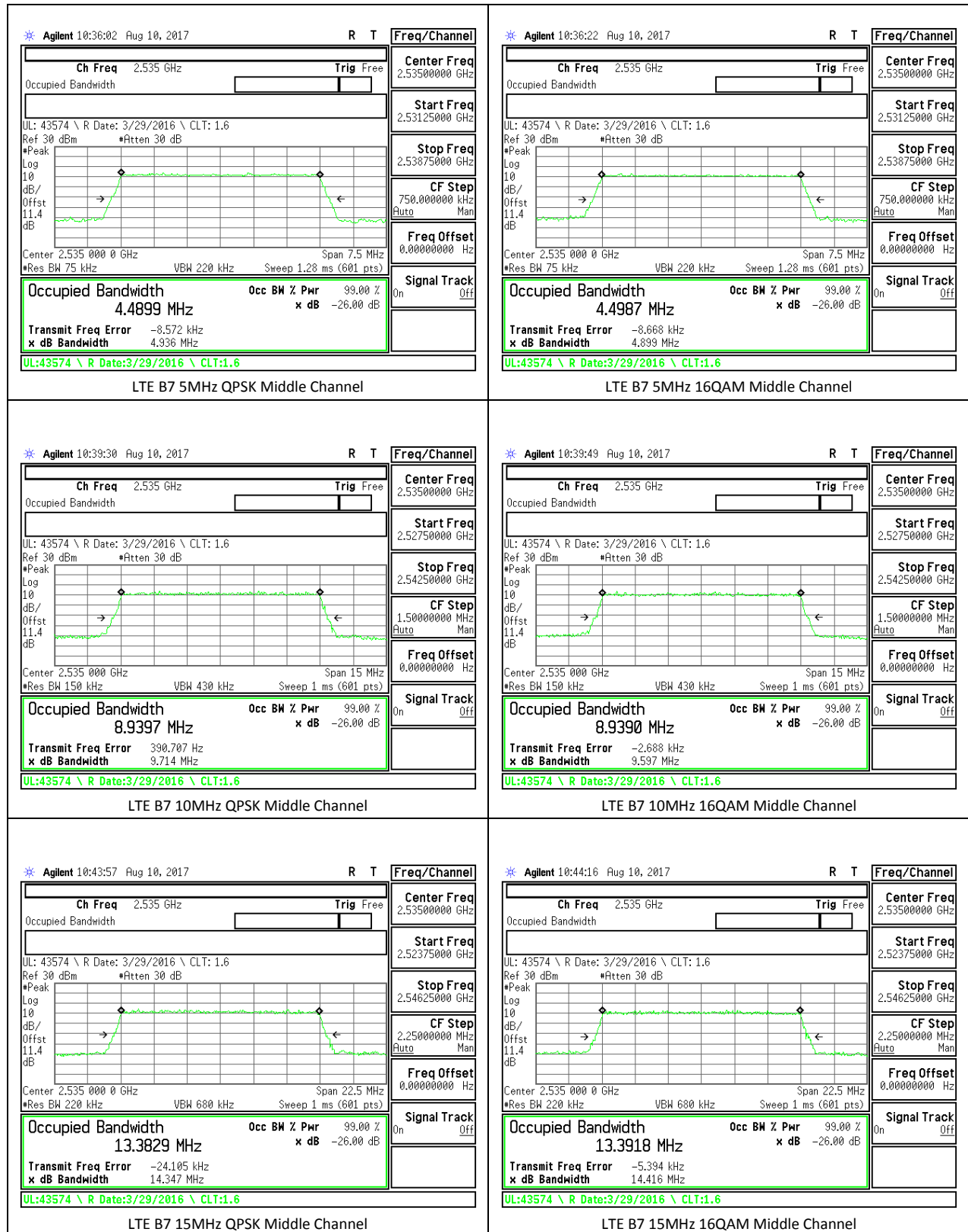
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	15	QPSK	75/0	1717.5	13.4	14.52
			75/0	1732.5	13.41	14.49
			75/0	1747.5	13.41	14.45
		16QAM	75/0	1717.5	13.4	14.42
			75/0	1732.5	13.41	14.46
			75/0	1747.5	13.42	14.57
	20	QPSK	100/0	1720	17.85	19.2
			100/0	1732.5	17.93	19.43
			100/0	1745	17.8	19.23
		16QAM	100/0	1720	17.9	19.17
			100/0	1732.5	17.87	19.18
			100/0	1745	17.9	19.16

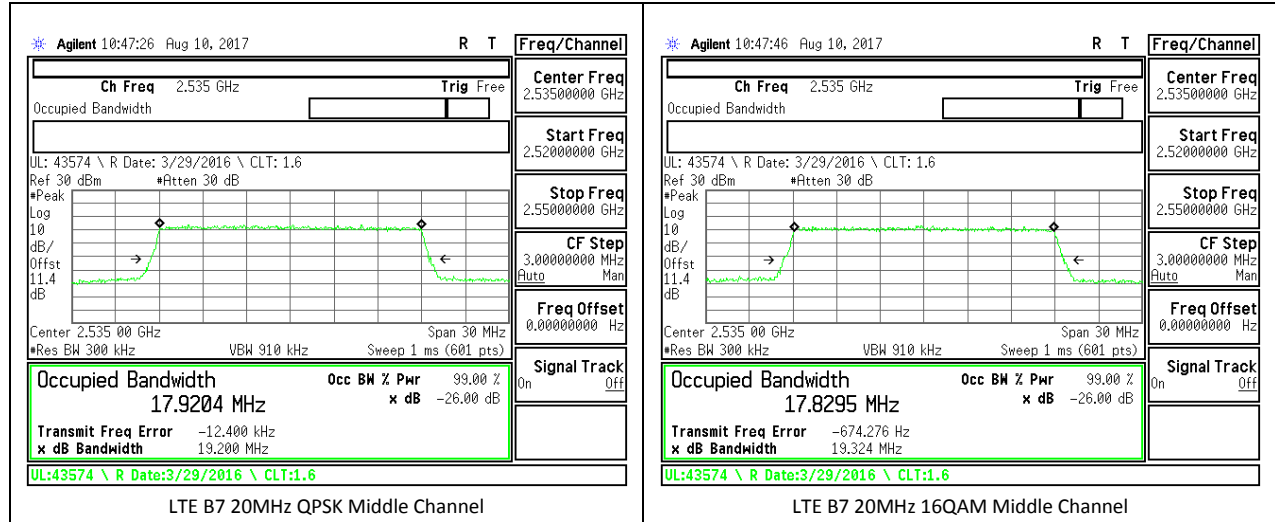




LTE Band 7

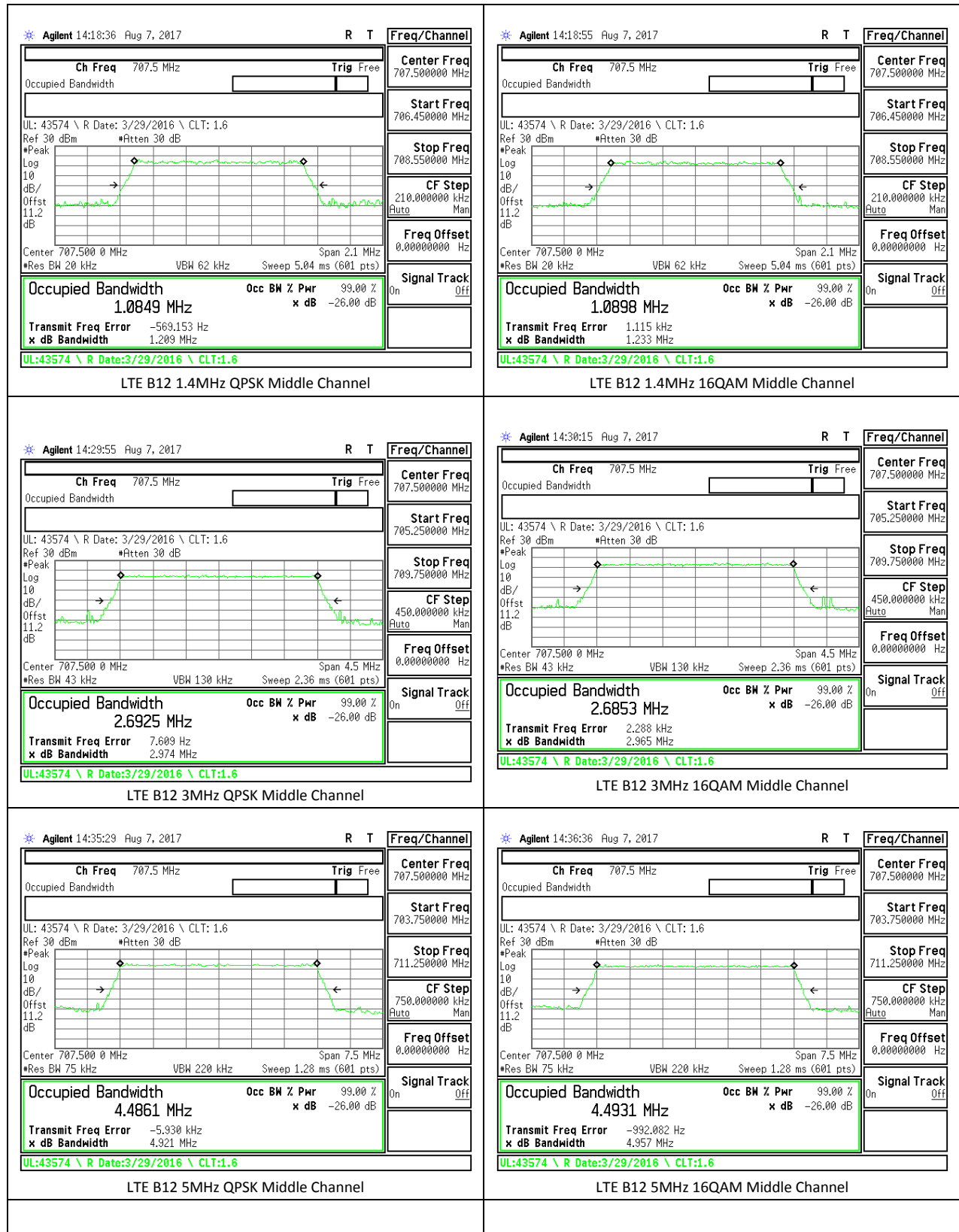
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE7	5	QPSK	50/0	2505	4.49	4.95
			50/0	2535	4.49	4.94
			50/0	2565	4.5	4.97
		16QAM	25/0	2502.5	4.49	4.94
			25/0	2535	4.5	4.9
			25/0	2567.5	4.5	4.89
	10	QPSK	50/0	2505	8.96	9.68
			50/0	2535	8.94	9.71
			50/0	2565	8.94	9.64
		16QAM	50/0	2505	8.95	9.71
			50/0	2535	8.94	9.6
			50/0	2565	8.95	9.66
	15	QPSK	75/0	2507.5	13.42	14.4
			75/0	2535	13.38	14.35
			75/0	2562.5	13.41	14.58
		16QAM	75/0	2507.5	13.4	14.34
			75/0	2535	13.39	14.42
			75/0	2562.5	13.41	14.38
	20	QPSK	100/0	2510	17.85	19.19
			100/0	2535	17.92	19.2
			100/0	2560	17.83	19.24
		16QAM	100/0	2510	17.83	19.31
			100/0	2535	17.83	19.32
			100/0	2560	17.87	19.08

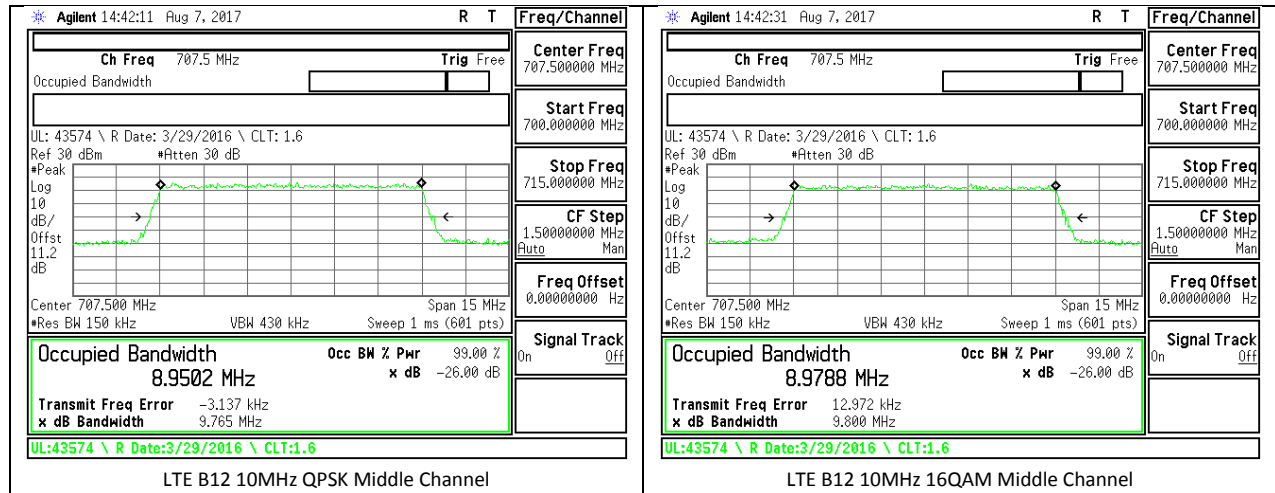




LTE Band 12

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE12	1.4	QPSK	6/0	699.7	1.08	1.22
			6/0	707.5	1.08	1.21
			6/0	715.3	1.08	1.23
		16QAM	6/0	699.7	1.08	1.23
			6/0	707.5	1.09	1.23
			6/0	715.3	1.08	1.23
	3	QPSK	15/0	700.5	2.69	2.97
			15/0	707.5	2.69	2.97
			15/0	714.5	2.68	2.94
		16QAM	15/0	700.5	2.68	2.98
			15/0	707.5	2.69	2.97
			15/0	714.5	2.68	2.99
	5	QPSK	25/0	701.5	4.49	4.9
			25/0	707.5	4.49	4.92
			25/0	713.5	4.49	4.91
		16QAM	25/0	701.5	4.49	4.94
			25/0	707.5	4.49	4.96
			25/0	713.5	4.48	4.88
	10	QPSK	50/0	704	8.95	9.63
			50/0	707.5	8.95	9.76
			50/0	711	8.95	9.66
		16QAM	50/0	704	9	9.67
			50/0	707.5	8.98	9.8
			50/0	711	8.94	9.64





LTE Band 13

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE13	5	QPSK	25/0	779.5	4.5	4.94
			25/0	782	4.49	4.92
			25/0	784.5	4.49	4.94
		16QAM	25/0	779.5	4.49	4.9
			25/0	782	4.5	4.89
			25/0	784.5	4.5	4.94
	10	QPSK	50/0			
			50/0	782	8.91	9.54
			50/0			
		16QAM	50/0			
			50/0	782	8.93	9.69
			50/0			



LTE Band 26-Part 90

BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
1.4	QPSK	6/0	814.7	1.0897	1.230
	16QAM	6/0	814.7	1.0849	1.232
3	QPSK	15/0	815.5	2.6927	2.966
	16QAM	15/0	815.5	2.6906	2.975
5	QPSK	25/0	816.5	4.5043	4.938
	16QAM	25/0	816.5	4.4966	4.950
10	QPSK	50/0	819	8.9689	9.604
	16QAM	50/0	819	8.9601	9.673

LTE Band 26-Part 22

BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
1.4	QPSK	6/0	831.5	1.0816	1.225
		6/0	848.3	1.0765	1.222
	16QAM	6/0	831.5	1.0788	1.226
		6/0	848.3	1.0823	1.226
3	QPSK	15/0	831.5	2.6847	2.968
		15/0	847.5	2.6832	2.947
	16QAM	15/0	831.5	2.6817	2.964
		15/0	847.5	2.6781	2.990
5	QPSK	25/0	831.5	4.4894	4.922
		25/0	846.5	4.4936	4.918
	16QAM	25/0	831.5	4.4896	4.876
		25/0	846.5	4.5006	4.955
10	QPSK	50/0	831.5	8.9431	9.678
		50/0	844	8.9427	9.755
	16QAM	50/0	831.5	8.9517	9.683
		50/0	844	8.9551	9.635
15	QPSK	75/0	836.5	13.3982	14.508
		75/0	841.5	13.4097	15.545
	16QAM	75/0	836.5	13.3788	14.468
		75/0	841.5	13.3726	14.538

