



CERTIFICATION TEST REPORT

Report Number. : 11783785-E1V2

Applicant : SONY MOBILE COMMUNICATIONS INC.
4-12-3 HIGASHI-SHINAGAWA,
SHINAGAWA -KU,TOKYO, 140-0002, JAPAN

FCC ID : PY7-22031B

EUT Description : GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, NFC & GPS

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

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V1	08/09/17	Initial Issue	D. Corona
V2	08/14/17	Added Section 6.2, 6.3 and Updated Section 17 (LTE B7 & B41)	D. Corona

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS5

2. TEST METHODOLOGY 6

3. FACILITIES AND ACCREDITATION6

4. CALIBRATION AND UNCERTAINTY 6

 4.1. MEASURING INSTRUMENT CALIBRATION 6

 4.2. SAMPLE CALCULATION 6

 4.3. MEASUREMENT UNCERTAINTY 7

5. EQUIPMENT UNDER TEST8

 5.1. DESCRIPTION OF EUT 8

6. REUSE OF TEST DATA..... 9

 6.1. EQUIPMENT UNDER TEST 9

 6.2. VERIFICATION RESULTS SUMMARY 9

 6.3. REFERENCE DETAIL 9

7. MAXIMUM OUTPUT POWER 10

 7.1. MAXIMUM OUTPUT POWER (GSM/EGPRS)..... 10

 7.2. MAXIMUM OUTPUT POWER (WCDMA)..... 11

 7.3. MAXIMUM OUTPUT POWER (LTE)..... 12

8. DESCRIPTION OF AVAILABLE ANTENNAS 16

9. DESCRIPTION OF TEST SETUP 17

10. TEST AND MEASUREMENT EQUIPMENT20

11. SUMMARY TABLE.....21

12. RF POWER OUTPUT VERIFICATION.....22

 12.1. GSM/GPRS/EDGE 23

 12.2. GSM OUTPUT POWER RESULT 24

 12.3. UMTS REL 99..... 26

 12.4. UMTS REL 99 OUTPUT POWER RESULT 27

 12.5. UMTS HSDPA 28

 12.6. UMTS HSDPA OUTPUT POWER RESULT 29

 12.7. UMTS HSUPA 30

 12.8. UMTS HSUPA OUTPUT POWER RESULT 31

 12.9. LTE OUTPUT POWER RESULT 33

13. PEAK TO AVERAGE RATIO 73

13.1.	CONDUCTED PEAK TO AVERAGE RESULT	74
14.	OCCUPIED BANDWIDTH	84
14.1.	OCCUPIED BANDWIDTH RESULTS AND PLOTS	85
15.	BAND EDGE EMISSIONS.....	103
15.1.	BAND EDGE PLOTS.....	104
15.2.	EMISSION MASK PLOTS	128
16.	OUT OF BAND EMISSIONS	143
16.1.	OUT OF BAND EMISSIONS RESULT AND PLOTS.....	144
17.	FREQUENCY STABILITY	161
17.1.	FREQUENCY STABILITY RESULTS.....	162
18.	RADIATED TEST RESULTS.....	165
18.1.	FIELD STRENGTH OF SPURIOUS RADIATION.....	165
18.1.1.	SPURIOUS RADIATION PLOTS.....	166
19.	SETUP PHOTOS	179

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATIONS, INC.
4-12-3 HIGASHI-SHINAGAWA,
SHINAGAWA –KU, TOKYO, 140-0002, JAPAN

EUT DESCRIPTION: GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, NFC & GPS

SERIAL NUMBER: BH9000NE84, BH9000KK84(conducted)
BH9000F784, BH9000PQ84(radiated)

DATE TESTED: July 17- August 9, 2017

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H, 24E, 27H, 27F, 27L, 27M, 90S	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.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-D, FCC CFR 47 Part 2, FCC KDB 971168 D01 v02r02, Part 22, Part 24, Part 27 & Part 90.

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. Line conducted emissions are measured only at the 47173 address. 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
<input type="checkbox"/> Chamber A(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 22541-1)
<input type="checkbox"/> Chamber B(IC: 2324B-2)	<input type="checkbox"/> Chamber E(IC: 22541-2)
<input checked="" type="checkbox"/> Chamber C(IC: 2324B-3)	<input type="checkbox"/> Chamber F(IC: 22541-3)
	<input type="checkbox"/> Chamber G(IC: 22541-4)
	<input type="checkbox"/> 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.

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:

EIRP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna) + Substitution Antenna Factor (dBi)

ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna)

(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 GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac, GPS & NFC.

6. REUSE OF TEST DATA

6.1. EQUIPMENT UNDER TEST

According to manufacturer, FCC ID: PY7-65365K and FCC ID: PY7-22031B licensed radios (GSM850, LTE Band 13, and LTE Band 17) are electrically identical. They share the same chipset and same power. The FCC ID: PY7-65365K test data (all conducted test data) shall remain representative of FCC ID: PY7-22031B so, FCC ID: PY7-22031B leverages all conducted test data from FCC ID: PY7-65365K.

NOTE1: GSM850, WCDMA Band 5, LTE Band 13 and LTE Band 17, Radiated Spurious Emissions was verified and presented in the test report (Section 18.1).

The applicant takes full responsibility that the test data as referenced in this section represent compliance for this FCC ID.

6.2. VERIFICATION RESULTS SUMMARY

Full verification for GSM850, WCDMA Band 5, LTE Band 13 and LTE Band 17 has been done on device PY7-22031B for RSE (Radiated Spurious Emissions). The data from the application has been verified through appropriate RSE testing to demonstrate compliance for this device as shown in Section 18.1.

NOTE2: Per client request WCDMA Band 5 has been verified all conducted and Radiated Spurious Emissions testing as shown in Section 12.3, 12.4, 12.6, 12.8, 13.1, 14.1, 16.1, 17 & 18.1.

6.3. REFERENCE DETAIL

Equipment Class	Reference FCC ID	Report Title/Section
WWAN (PCE)	PY7-65365K	11785223-E1V2 FCC Report WWAN

7. MAXIMUM OUTPUT POWER

7.1. MAXIMUM OUTPUT POWER (GSM/EGPRS)

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

FCC Part 22/24						
Band	Frequency Range(MHz)	Modulation	Conducted (Average)		ERP/EIRP (Average)	
			AVG(dBm)	AVG(mW)	dBm	mW
850	824~849	GPRS	33.4	2187.76	24.75	298.54
	824~849	EGPRS	27.7	588.84	19.05	80.35
1900	1850~1910	GPRS	26.7	467.74	23.20	208.93
	1850~1910	EGPRS	26.0	398.11	22.50	177.83

7.2. MAXIMUM OUTPUT POWER (WCDMA)

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

FCC Part 22/24/27						
Band	Frequency Range(MHz)	Modulation	Conducted (Average)		ERP/EIRP (Average)	
			AVG(dBm)	AVG(mW)	dBm	mW
Band 2	1850~1910	REL99	19.1	81.28	15.6	36.31
	1850~1910	HSDPA	18.1	64.57	14.6	28.84
	1850~1910	HSUPA	18.0	63.10	14.5	28.18
Band 4	1710~1755	REL99	18.5	70.79	12.2	16.60
	1710~1755	HSDPA	17.4	54.95	11.1	12.88
	1710~1755	HSUPA	17.7	58.88	11.4	13.80
Band 5	824~849	REL99	24.7	295.12	15.7	37.15
	824~849	HSDPA	23.7	234.42	14.7	29.51
	824~849	HSUPA	23.7	234.42	14.7	29.51

7.3. MAXIMUM OUTPUT POWER (LTE)

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

LTE Band 4

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted (Average)		EIRP (Average)	
				AVG(dBm)	AVG(mW)	dBm	mW
LTE4	1710~1755	1.4MHz	QPSK	18.7	74.64	12.40	17.38
			16QAM	18.5	71.45	12.30	16.98
		3MHz	QPSK	18.9	77.62	12.60	18.20
			16QAM	18.7	74.64	12.40	17.38
		5MHz	QPSK	18.8	76.38	12.50	17.78
			16QAM	18.8	76.38	12.50	17.78
		10MHz	QPSK	18.9	77.27	12.60	18.20
			16QAM	18.6	73.11	12.30	16.98
		15MHz	QPSK	18.9	77.45	12.60	18.20
			16QAM	18.8	75.16	12.50	17.78
		20MHz	QPSK	18.9	78.16	12.60	18.20
			16QAM	19.0	78.89	12.70	18.62

LTE Band 7

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted (Average)		EIRP (Average)	
				AVG(dBm)	AVG(mW)	dBm	mW
LTE7	2500~2570	5MHz	QPSK	21.8	150.66	16.70	46.77
			16QAM	21.4	138.04	16.30	42.66
		10MHz	QPSK	21.8	151.36	16.70	46.77
			16QAM	21.3	135.52	16.20	41.69
		15MHz	QPSK	21.7	148.25	16.60	45.71
			16QAM	21.4	137.09	16.30	42.66
		20MHz	QPSK	21.3	134.59	16.20	41.69
			16QAM	21.2	131.83	16.10	40.74

LTE Band 13

Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted (Average)		ERP (Average)	
				AVG(dBm)	AVG(mW)	dBm	mW
LTE13	777~787	5MHz	QPSK	23.7	231.74	14.60	28.84
			16QAM	22.7	187.50	13.70	23.44
		10MHz	QPSK	23.6	230.14	14.60	28.84
			16QAM	22.5	179.06	13.50	22.39

LTE Band 17

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted (Average)		ERP (Average)	
				AVG(dBm)	AVG(mW)	dBm	mW
LTEB17	704~716	5MHz	QPSK	24.9	309.03	15.20	33.11
			16QAM	24.0	251.19	14.30	26.92
		10MHz	QPSK	24.7	295.12	15.00	31.62
			16QAM	23.8	239.88	14.00	25.12

LTE Band 26

FCC Part 22/90							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted (Average)		ERP (Average)	
				AVG(dBm)	AVG(mW)	dBm	mW
LTE26	814~849	1.4MHz	QPSK	24.7	295.12	16.20	41.69
			16QAM	24.1	255.27	15.50	35.48
		3MHz	QPSK	24.7	295.12	16.20	41.69
			16QAM	24.1	258.82	15.60	36.31
		5MHz	QPSK	24.7	295.12	16.20	41.69
			16QAM	24.0	251.77	15.50	35.48
		10MHz	QPSK	24.8	302.00	16.30	42.66
			16QAM	24.1	259.42	15.60	36.31
		15MHz	QPSK	24.8	303.39	16.30	42.66
			16QAM	24.1	258.23	15.60	36.31

LTE Band 41

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted (Average)		EIRP (Average)	
				AVG(dBm)	AVG(mW)	dBm	mW
LTE41	2496~2690	5MHz	QPSK	23.9	243.78	19.10	81.28
			16QAM	23.2	207.49	18.70	74.13
		10MHz	QPSK	23.7	231.74	19.10	81.28
			16QAM	23.0	199.07	18.50	70.79
		15MHz	QPSK	23.7	233.35	19.10	81.28
			16QAM	23.1	205.59	18.60	72.44
		20MHz	QPSK	23.7	236.59	19.20	83.18
			16QAM	23.3	214.78	18.60	72.44

8. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna for the [List the bands supported] with a maximum peak gain as follow:

Frequency (MHz)	Peak Gain (dBi)
GSM850, 824~849MHz	-6.5
GSM1900, 1850~1910MHz	-3.5
LTE Band 7, 2500~2570MHz	-5.1
LTE Band 4, 1710~1755MHz	-6.3
LTE Band 5, 824~849MHz	-6.5
LTE Band 13, 777~787MHz	-6.5
LTE Band 17, 704~716MHz	-7.6
LTE Band 26, 814~849MHz	-6.4
LTE Band 41, 2496~2690MHz	-4.5

9. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SONY	1300-7137.1	4016W40310044	NA
Earphone	SONY	N/A	N/A	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	0.1m	NA
3	RF In/Out	1	Communication Test Set	Shielded	1m	NA

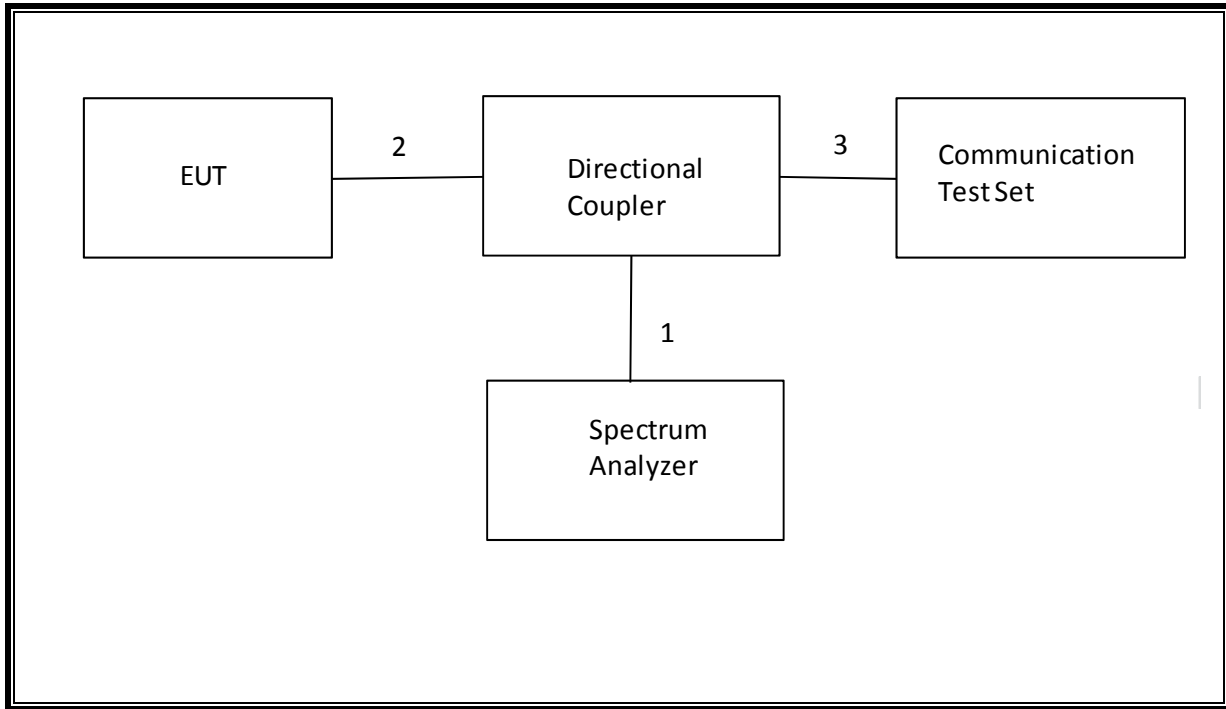
I/O CABLES (RADIATED SETUP)

I/O Cable List						
Cable No	Port	# of Identical ports	Connector Type	Serial Type	Cable Length (m)	Remarks
1	USB	1	AC Adapter	Un-shielded	1.2m	No
2	Jack	1	Headset	Shielded	1m	No
3	RF In/out	1	Communication Test Set	Un-shielded	2m	Yes

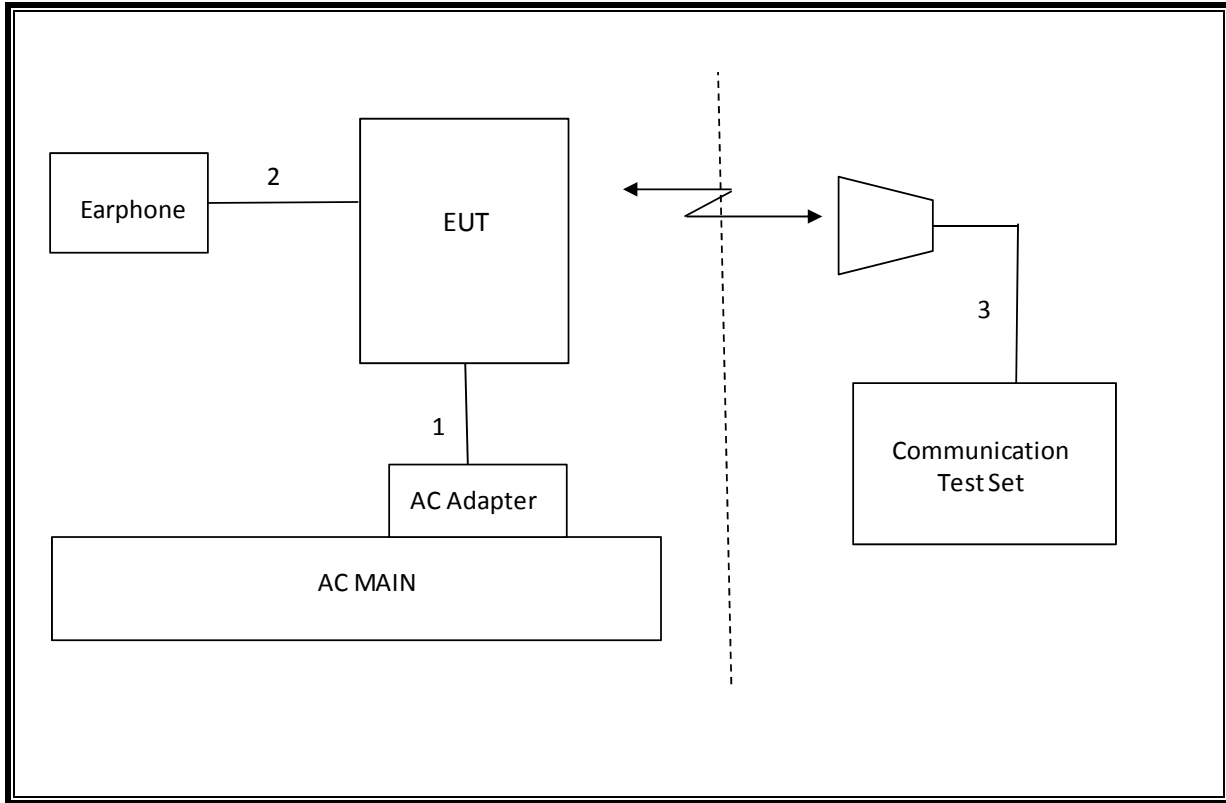
TEST SETUP

The EUT is continuously communicated to the call box during the tests.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



10. 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
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T905	1/11/2017	1/11/2018
Antenna, Horn 1-18GHz	EMCO	3115	T509	n/a	n/a
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T712	1/30/2017	1/30/2018
Amplifier, 1-18GHz	Miteq Inc.	AFS42-00101800-25-S-42	T931	6/21/2017	6/24/2018
Amplifier, 10KHz-1GHz, 32dB	Keysight	8447D	T15	8/26/2016	8/26/2017
Highpass Filter, 2.7 GHz	Micro-Circuits	H2G518G6	T772	7/5/2016	07/5/2018
Highpass Filter, 1 GHz	Micro-Tronics	HPM18129	T889	2/21/2017	02/21/2018
Highpass Filter, 4GHz	Micro-Tronics	HPM13351	T1241	06/17/2017	06/17/2018
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	T956	None	None
PXA, Signal Analyzer	Agilent Technologies	N9030A	T1931	06/06/2017	06/06/2018
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	6/08/2017	6/08/2018
Directional Coupler	Mini-Circuits	ZUDC10-183+	T1136	6/18/2017	6/18/2018

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

11. 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	Please refer to limit under section 14		Pass
22.355 90.213	Frequency Stability	2.5PPM		Pass
24.235 27.54		Please refer to limit under section 16		Pass
22.913(a)(2)	Effective Radiated Power	38dBm		Pass
27.50©(10)		34.77dBm		Pass
90.635		50dBm		Pass
		36.98dBm		Pass
		40.6dBm		
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) 90.691	Radiated Spurious Emission	-13dBm	Radiated	Pass
27.53(m)		-25dBm		

12. RF POWER OUTPUT VERIFICATION

TEST PROCEDURE

ANSI C63.26:2015/ TIA / EIA 603-D Clause 2.2.17
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.

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

- GSM 850
- GSM 1900
- WCDMA Band 2
- WCDMA Band 4
- WCDMA Band 5
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 13
- LTE Band 26
- LTE Band 41

12.1. GSM/GPRS/EDGE

Using CMW500 Communication Test Set

Function: Menu select > GSM Mobile Station > GSM 850/900/1800/1900

Press Connection control to choose the different menus

Press RESET > choose all to reset all settings

Connection Press Signal Off to turn off the signal and change settings
Network Support > GSM+GPRS or GSM+EGPRS
Main Service > Packet Data
Service selection > Test Mode A – Auto Slot Config. off

MS Signal Press Slot Config bottom on the right twice to select and change the number of time slots and power setting
> Slot configuration > Uplink/Gamma
> 33 dBm for GPRS 850/900
> 27 dBm for EGPRS 850/900
> 30 dBm for GPRS1800/1900
> 26 dBm for EGPRS1800/1900

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel

Frequency Offset > + 0 Hz
Mode > BCCH and TCH
BCCH Level > -85 dBm (May need to adjust if link is not stable)
BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]
Channel Type > Off
P0> 4 dB
Slot Config > Unchanged (if already set under MS Signal)
TCH > choose desired test channel
Hopping > Off
Main Timeslot > 3 (Default)

Network Coding Scheme > CS 4 (GPRS) and MCS5-9 (EGPRS)
Bit Stream > 2E9-1PSR Bit Pattern

AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input

Connection Press Signal On to turn on the signal and change settings

12.2. GSM OUTPUT POWER RESULT

Tested By	Alexander Joseph
Date	7/17/2017

GSM 850

Antenna gain (dBi)		-6.50					
Mode	Ch.	f (MHz)	Modulation	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
GPRS	128	824.2	1 Time slot	33.30	24.65	38.5	-13.85
	190	836.6		33.40	24.75	38.5	-13.75
	251	848.8		33.40	24.75	38.5	-13.75
	128	824.2	2 Time slot	31.60	22.95	38.5	-15.55
	190	836.6		31.60	22.95	38.5	-15.55
	251	848.8		31.70	23.05	38.5	-15.45
	128	824.2	3 Time slot	29.70	21.05	38.5	-17.45
	190	836.6		29.70	21.05	38.5	-17.45
	251	848.8		29.70	21.05	38.5	-17.45
	128	824.2	4 Time slot	28.60	19.95	38.5	-18.55
	190	836.6		28.70	20.05	38.5	-18.45
	251	848.8		28.60	19.95	38.5	-18.55
EGPRS	128	824.2	1 Time slot	27.60	18.95	38.5	-19.55
	190	836.6		27.70	19.05	38.5	-19.45
	251	848.8		27.70	19.05	38.5	-19.45
	128	824.2	2 Time slot	25.70	17.05	38.5	-21.45
	190	836.6		25.70	17.05	38.5	-21.45
	251	848.8		25.60	16.95	38.5	-21.55
	128	824.2	3 Time slot	24.00	15.35	38.5	-23.15
	190	836.6		24.00	15.35	38.5	-23.15
	251	848.8		23.90	15.25	38.5	-23.25
	128	824.2	4 Time slot	23.30	14.65	38.5	-23.85
	190	836.6		23.30	14.65	38.5	-23.85
	251	848.8		23.30	14.65	38.5	-23.85

GSM 1900

Antenna gain (dBi)		-3.50					
Mode	Ch.	f (MHz)	Modulation	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
GPRS	512	1850.2	1 Time slot	26.60	23.10	33.0	-9.90
	661	1880		26.70	23.20	33.0	-9.80
	810	1909.8		26.70	23.20	33.0	-9.80
	512	1850.2	2 Time slot	25.40	21.90	33.0	-11.10
	661	1880		25.40	21.90	33.0	-11.10
	810	1909.8		25.40	21.90	33.0	-11.10
	512	1850.2	3 Time slot	24.10	20.60	33.0	-12.40
	661	1880		24.20	20.70	33.0	-12.30
	810	1909.8		24.20	20.70	33.0	-12.30
	512	1850.2	4 Time slot	22.60	19.10	33.0	-13.90
	661	1880		22.50	19.00	33.0	-14.00
	810	1909.8		22.50	19.00	33.0	-14.00
EGPRS	512	1850.2	1 Time slot	26.00	22.50	33.0	-10.50
	661	1880		26.00	22.50	33.0	-10.50
	810	1909.8		26.00	22.50	33.0	-10.50
	512	1850.2	2 Time slot	24.30	20.80	33.0	-12.20
	661	1880		24.40	20.90	33.0	-12.10
	810	1909.8		24.40	20.90	33.0	-12.10
	512	1850.2	3 Time slot	22.20	18.70	33.0	-14.30
	661	1880		22.40	18.90	33.0	-14.10
	810	1909.8		22.40	18.90	33.0	-14.10
	512	1850.2	4 Time slot	21.10	17.60	33.0	-15.40
	661	1880		21.30	17.80	33.0	-15.20
	810	1909.8		21.30	17.80	33.0	-15.20

12.3. UMTS REL 99

TEST PROCEDURE

Release 99 Setup Procedures used to establish the test signals

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

The following summary of these settings are illustrated below:

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 2
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c/β_d	8/15

RESULTS

Tested By	Nathan Sousa
Date	7/17/2017

12.4. UMTS REL 99 OUTPUT POWER RESULT

Antenna gain Band 5 (dBi)	-6.50
Antenna gain Bnad 2 (dBi)	-3.50
Antenna gain Band 4 (dBi)	-6.30

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	24.5	15.5	38.5	-23.0
	4183	4408	836.6	24.7	15.7	38.5	-22.8
	4233	4458	846.6	24.7	15.7	38.5	-22.8

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	19.1	15.6	33.0	-17.4
	9400	9800	1880.0	18.9	15.4	33.0	-17.6
	9538	9938	1907.6	19.0	15.5	33.0	-17.5

Part 27 / RSS 139 1700MHz Band (4)

Band	UL Channel	DL Channel	Frequency (MHz)	Peak Power (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
UMTS Rel. 99 1700MHz	1312	1537	1712.4	18.2	11.9	30.0	-18.1
	1413	1638	1732.6	18.5	12.2	30.0	-17.8
	1513	1738	1752.6	18.3	12.0	30.0	-18.0

12.5. UMTS HSDPA

HSDPA Setup Procedures used to establish the test signals

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	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set 1			
	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}	4/15	24/15	30/15	30/15
MPR (dB)	0	0	0.5	0.5	
HSDPA Specific Settings	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

Tested By	Nathan Sousa
Date	7/17/2017

12.6. UMTS HSDPA OUTPUT POWER RESULT

Antenna gain Band 5 (dBi)	-6.50
Antenna gain Bnad 2 (dBi)	-3.50
Antenna gain Band 4 (dBi)	-6.30

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	23.5	14.5	38.5	-15.0
		4183	4408	836.6	23.7	14.7	38.5	-14.8
		4233	4458	846.6	23.7	14.7	38.5	-14.8
	2	4132	4357	826.4	23.5	14.5	38.5	-15.0
		4183	4408	836.6	23.7	14.7	38.5	-14.8
		4233	4458	846.6	23.7	14.7	38.5	-14.8
	3	4132	4357	826.4	23.0	14.0	38.5	-15.5
		4183	4408	836.6	23.2	14.2	38.5	-15.3
		4233	4458	846.6	23.2	14.2	38.5	-15.3
	4	4132	4357	826.4	23.0	14.0	38.5	-15.5
		4183	4408	836.6	23.2	14.2	38.5	-15.3
		4233	4458	846.6	23.2	14.2	38.5	-15.3

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	18.1	14.6	33.0	-14.9
		9400	9800	1880.0	17.9	14.4	33.0	-15.1
		9538	9938	1907.6	18.0	14.5	33.0	-15.0
	2	9262	9662	1852.4	18.1	14.6	33.0	-14.9
		9400	9800	1880.0	17.9	14.4	33.0	-15.1
		9538	9938	1907.6	18.0	14.5	33.0	-15.0
	3	9262	9662	1852.4	17.4	13.9	33.0	-15.6
		9400	9800	1880.0	17.4	13.9	33.0	-15.6
		9538	9938	1907.6	17.4	13.9	33.0	-15.6
	4	9262	9662	1852.4	17.4	13.9	33.0	-15.6
		9400	9800	1880.0	17.4	13.9	33.0	-15.6
		9538	9938	1907.6	17.4	13.9	33.0	-15.6

Part 27 / RSS 139 1700MHz Band (4)

Band	Subtest	UL Channel	DL Channel	Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
UMTS HSDPA 1700MHz	1	1312	1537	1712.4	17.3	11.0	30.0	-12.7
		1413	1638	1732.6	17.4	11.1	30.0	-12.6
		1513	1738	1752.6	17.3	11.0	30.0	-12.7
	2	1312	1537	1712.4	17.3	11.0	30.0	-12.7
		1413	1638	1732.6	17.4	11.1	30.0	-12.6
		1513	1738	1752.6	17.3	11.0	30.0	-12.7
	3	1312	1537	1712.4	16.6	10.3	30.0	-13.4
		1413	1638	1732.6	16.8	10.5	30.0	-13.2
		1513	1738	1752.6	16.8	10.5	30.0	-13.2
	4	1312	1537	1712.4	16.6	10.3	30.0	-13.4
		1413	1638	1732.6	16.8	10.5	30.0	-13.2
		1513	1738	1752.6	16.8	10.5	30.0	-13.2

12.7. 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

Summary of 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} = β_{hs}/β_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

Tested By	Nathan Sousa
Date	7/17/2017

12.8. UMTS HSUPA OUTPUT POWER RESULT

Antenna gain Band 5 (dBi)	-6.50
Antenna gain Bnad 2 (dBi)	-3.50

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	23.5	14.5	38.5	-15.0
		4183	4408	836.6	23.7	14.7	38.5	-14.8
		4233	4458	846.6	23.7	14.7	38.5	-14.8
	2	4132	4357	826.4	21.5	12.5	38.5	-17.0
		4183	4408	836.6	21.7	12.7	38.5	-16.8
		4233	4458	846.6	21.7	12.7	38.5	-16.8
	3	4132	4357	826.4	22.6	13.6	38.5	-15.9
		4183	4408	836.6	22.7	13.7	38.5	-15.8
		4233	4458	846.6	22.7	13.7	38.5	-15.8
	4	4132	4357	826.4	21.5	12.5	38.5	-17.0
		4183	4408	836.6	21.7	12.7	38.5	-16.8
		4233	4458	846.6	21.7	12.7	38.5	-16.8
	5	4132	4357	826.4	23.5	14.5	38.5	-15.0
		4183	4408	836.6	23.7	14.7	38.5	-14.8
		4233	4458	846.6	23.7	14.7	38.5	-14.8

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	18.0	14.5	33.0	-15.0
		9400	9800	1880.0	18.0	14.5	33.0	-15.0
		9538	9938	1907.6	18.0	14.5	33.0	-15.0
	2	9262	9662	1852.4	16.5	13.0	33.0	-16.5
		9400	9800	1880.0	16.3	12.8	33.0	-16.7
		9538	9938	1907.6	16.6	13.1	33.0	-16.4
	3	9262	9662	1852.4	17.4	13.9	33.0	-15.6
		9400	9800	1880.0	17.3	13.8	33.0	-15.7
		9538	9938	1907.6	17.4	13.9	33.0	-15.6
	4	9262	9662	1852.4	16.5	13.0	33.0	-16.5
		9400	9800	1880.0	16.3	12.8	33.0	-16.7
		9538	9938	1907.6	16.6	13.1	33.0	-16.4
	5	9262	9662	1852.4	18.0	14.5	33.0	-15.0
		9400	9800	1880.0	18.0	14.5	33.0	-15.0
		9538	9938	1907.6	18.0	14.5	33.0	-15.0

Antenna gain Band 4 (dBi)	-6.30
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Part 27 / RSS 139 1700MHz Band (4)

Band	Subtest	UL Channel	DL Channel	Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
UMTS HSUPA 1700MHz	1	1312	1537	1712.4	17.4	11.1	30.0	-12.6
		1413	1638	1732.6	17.7	11.4	30.0	-12.3
		1513	1738	1752.6	17.4	11.1	30.0	-12.6
	2	1312	1537	1712.4	15.4	9.1	30.0	-14.6
		1413	1638	1732.6	15.7	9.4	30.0	-14.3
		1513	1738	1752.6	15.3	9.0	30.0	-14.7
	3	1312	1537	1712.4	16.3	10.0	30.0	-13.7
		1413	1638	1732.6	16.6	10.3	30.0	-13.4
		1513	1738	1752.6	16.5	10.2	30.0	-13.5
	4	1312	1537	1712.4	15.4	9.1	30.0	-14.6
		1413	1638	1732.6	15.7	9.4	30.0	-14.3
		1513	1738	1752.6	15.3	9.0	30.0	-14.7
	5	1312	1537	1712.4	17.4	11.1	30.0	-12.6
		1413	1638	1732.6	17.7	11.4	30.0	-12.3
		1513	1738	1752.6	17.4	11.1	30.0	-12.6

12.9. LTE OUTPUT POWER RESULT

Note(s):

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 similar frequency range, same maximum tune-up limit and same channel bandwidth.

LTE Band 38 Measured Results

LTE Band 38 (Frequency range: 2570-2620 MHz) is covered by LTE Band 41 (Frequency range: 2496-2690 MHz) and no testing is necessary due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth and same modulations.

64QAM Measured Results

Measured QPSK, 16QAM & 64QAM Mode Output power and found that QPSK and 16QAM results was the worst case. All testing were performed using QPSK and 16QAM mode to represent the worst case mode.

Tested By	Vanessa Moestopo
Date	7/19/2017

LTE Band 4

Antenna gain (dBi)		-6.30													
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	18.6	12.3	33.0	-20.7						
				1	3	18.7	12.4	33.0	-20.7						
				1	5	18.6	12.3	33.0	-20.7						
				3	0	18.6	12.3	33.0	-20.7						
				3	1	18.7	12.4	33.0	-20.6						
				3	3	18.7	12.4	33.0	-20.6						
			16QAM	6	0	18.6	12.3	33.0	-20.7						
				1	0	18.2	11.9	33.0	-21.1						
				1	3	18.2	11.9	33.0	-21.1						
				1	5	18.2	11.9	33.0	-21.1						
				3	0	18.3	12.0	33.0	-21.0						
				3	1	18.4	12.1	33.0	-21.0						
			64QAM	3	3	18.4	12.1	33.0	-21.0						
				6	0	18.4	12.1	33.0	-21.0						
				1	0	18.3	12.0	33.0	-21.0						
				1	3	18.4	12.1	33.0	-20.9						
				1	5	18.3	12.0	33.0	-21.0						
				3	0	18.1	11.8	33.0	-21.2						
			1.4	20175	1732.5	QPSK	3	1	18.1	11.8	33.0	-21.2			
							3	3	18.2	11.9	33.0	-21.1			
							6	0	18.0	11.7	33.0	-21.3			
1	0	18.7					12.4	33.0	-20.6						
1	3	18.7					12.4	33.0	-20.6						
1	5	18.7					12.4	33.0	-20.6						
16QAM	3	0				18.7	12.4	33.0	-20.6						
	3	1				18.7	12.4	33.0	-20.6						
	3	3				18.7	12.4	33.0	-20.6						
	6	0				18.6	12.3	33.0	-20.7						
	1	0				18.5	12.2	33.0	-20.8						
	1	3				18.6	12.3	33.0	-20.7						
64QAM	1	5				18.5	12.2	33.0	-20.8						
	3	0				18.4	12.1	33.0	-21.0						
	3	1				18.4	12.1	33.0	-20.9						
	3	3	18.4	12.1	33.0	-20.9									
	6	0	18.1	11.8	33.0	-21.2									
	1	0	18.4	12.1	33.0	-20.9									
										1	3	18.5	12.2	33.0	-20.8
										1	5	18.3	12.0	33.0	-21.0
										3	0	18.1	11.8	33.0	-21.2
										3	1	18.1	11.8	33.0	-21.2
										3	3	18.0	11.7	33.0	-21.3
6	0	18.0	11.7	33.0	-21.3										

Antenna gain (dBi)		-6.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	20393	1754.3	QPSK	1	0	18.6	12.3	33.0	-20.7
				1	3	18.6	12.3	33.0	-20.7
				1	5	18.6	12.3	33.0	-20.7
				3	0	18.6	12.3	33.0	-20.7
				3	1	18.6	12.3	33.0	-20.7
				3	3	18.6	12.3	33.0	-20.7
				6	0	18.6	12.3	33.0	-20.7
			16QAM	1	0	18.2	11.9	33.0	-21.1
				1	3	18.3	12.0	33.0	-21.1
				1	5	18.2	11.9	33.0	-21.1
				3	0	18.1	11.8	33.0	-21.2
				3	1	18.2	11.9	33.0	-21.1
				3	3	18.2	11.9	33.0	-21.1
				6	0	18.2	11.9	33.0	-21.1
			64QAM	1	0	18.2	11.9	33.0	-21.1
				1	3	18.0	11.7	33.0	-21.3
				1	5	18.0	11.7	33.0	-21.3
				3	0	18.0	11.7	33.0	-21.3
				3	1	18.0	11.7	33.0	-21.3
				3	3	18.0	11.7	33.0	-21.3
				3	3	18.0	11.7	33.0	-21.3
				6	0	17.9	11.6	33.0	-21.4

Antenna gain (dBi)		-6.30							
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	18.7	12.4	33.0	-20.6
				1	8	18.7	12.4	33.0	-20.6
				1	14	18.6	12.3	33.0	-20.8
				8	0	18.7	12.4	33.0	-20.6
				8	4	18.7	12.4	33.0	-20.6
				8	7	18.6	12.3	33.0	-20.7
			16QAM	15	0	18.6	12.3	33.0	-20.7
				1	0	18.3	12.0	33.0	-21.0
				1	8	18.2	11.9	33.0	-21.1
				1	14	18.1	11.8	33.0	-21.2
				8	0	18.3	12.0	33.0	-21.0
				8	4	18.3	12.0	33.0	-21.0
			64QAM	8	7	18.2	11.9	33.0	-21.1
				15	0	18.1	11.8	33.0	-21.2
				1	0	18.4	12.1	33.0	-20.9
				1	8	18.3	12.0	33.0	-21.0
				1	14	18.3	12.0	33.0	-21.0
				8	0	18.1	11.8	33.0	-21.2
				8	4	18.0	11.7	33.0	-21.3
				8	7	18.0	11.7	33.0	-21.3
				15	0	17.9	11.6	33.0	-21.4
3.0	20175	1732.5	QPSK	1	0	18.8	12.5	33.0	-20.5
				1	8	18.9	12.6	33.0	-20.4
				1	14	18.7	12.4	33.0	-20.6
				8	0	18.8	12.5	33.0	-20.5
				8	4	18.7	12.4	33.0	-20.6
				8	7	18.7	12.4	33.0	-20.6
			16QAM	15	0	18.8	12.5	33.0	-20.5
				1	0	18.6	12.3	33.0	-20.7
				1	8	18.7	12.4	33.0	-20.6
				1	14	18.6	12.3	33.0	-20.7
				8	0	18.4	12.1	33.0	-20.9
				8	4	18.4	12.1	33.0	-21.0
			64QAM	8	7	18.3	12.0	33.0	-21.0
				15	0	18.3	12.0	33.0	-21.0
				1	0	18.2	11.9	33.0	-21.1
				1	8	18.3	12.0	33.0	-21.0
				1	14	18.2	11.9	33.0	-21.1
				8	0	18.1	11.8	33.0	-21.2
				8	4	18.1	11.8	33.0	-21.2
				8	7	18.0	11.7	33.0	-21.3
				15	0	18.0	11.7	33.0	-21.3

Antenna gain (dBi)		-6.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3.0	20385	1753.5	QPSK	1	0	18.6	12.3	33.0	-20.7
				1	8	18.7	12.4	33.0	-20.6
				1	14	18.6	12.3	33.0	-20.7
				8	0	18.7	12.4	33.0	-20.6
				8	4	18.7	12.4	33.0	-20.6
				8	7	18.7	12.4	33.0	-20.6
				15	0	18.7	12.4	33.0	-20.6
			16QAM	1	0	18.1	11.8	33.0	-21.2
				1	8	18.2	11.9	33.0	-21.1
				1	14	18.0	11.7	33.0	-21.3
				8	0	18.3	12.0	33.0	-21.0
				8	4	18.3	12.0	33.0	-21.0
				8	7	18.3	12.0	33.0	-21.0
				15	0	18.2	11.9	33.0	-21.1
			64QAM	1	0	18.2	11.9	33.0	-21.1
				1	8	18.2	11.9	33.0	-21.1
				1	14	18.2	11.9	33.0	-21.1
				8	0	18.0	11.7	33.0	-21.3
				8	4	18.0	11.7	33.0	-21.3
				8	7	18.0	11.7	33.0	-21.3
				15	0	17.9	11.6	33.0	-21.4

Antenna gain (dBi)		-6.30							
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	18.8	12.5	33.0	-20.5
				1	12	18.6	12.3	33.0	-20.7
				1	24	18.6	12.3	33.0	-20.7
				12	0	18.8	12.5	33.0	-20.6
				12	7	18.7	12.4	33.0	-20.6
				12	13	18.6	12.3	33.0	-20.7
				25	0	18.6	12.3	33.0	-20.7
			16QAM	1	0	18.4	12.1	33.0	-20.9
				1	12	18.2	11.9	33.0	-21.1
				1	24	18.2	11.9	33.0	-21.1
				12	0	18.3	12.0	33.0	-21.0
				12	7	18.2	11.9	33.0	-21.1
				12	13	18.2	11.9	33.0	-21.2
				25	0	18.1	11.8	33.0	-21.2
			64QAM	1	0	18.3	12.0	33.0	-21.0
				1	12	18.2	11.9	33.0	-21.1
				1	24	18.2	11.9	33.0	-21.1
				12	0	18.1	11.8	33.0	-21.2
				12	7	18.0	11.7	33.0	-21.3
				12	13	17.9	11.6	33.0	-21.4
				25	0	17.9	11.6	33.0	-21.4
5.0	20175	1732.5	QPSK	1	0	18.8	12.5	33.0	-20.5
				1	12	18.7	12.4	33.0	-20.6
				1	24	18.7	12.4	33.0	-20.6
				12	0	18.8	12.5	33.0	-20.5
				12	7	18.8	12.5	33.0	-20.5
				12	13	18.7	12.4	33.0	-20.6
				25	0	18.8	12.5	33.0	-20.6
			16QAM	1	0	18.8	12.5	33.0	-20.5
				1	2	18.7	12.4	33.0	-20.6
				1	5	18.8	12.5	33.0	-20.6
				3	0	18.5	12.2	33.0	-20.9
				3	1	18.5	12.2	33.0	-20.9
				3	2	18.4	12.1	33.0	-20.9
				6	0	18.3	12.0	33.0	-21.0
			64QAM	1	0	18.3	12.0	33.0	-21.0
				1	12	18.3	12.0	33.0	-21.0
				1	24	18.3	12.0	33.0	-21.0
				12	0	18.1	11.8	33.0	-21.2
				12	7	18.1	11.8	33.0	-21.2
				12	13	18.1	11.8	33.0	-21.2
				25	0	18.0	11.7	33.0	-21.3

Antenna gain (dBi)		-6.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	20375	1752.5	QPSK	1	0	18.8	12.5	33.0	-20.5
				1	12	18.7	12.4	33.0	-20.6
				1	24	18.7	12.4	33.0	-20.6
				12	0	18.7	12.4	33.0	-20.6
				12	7	18.7	12.4	33.0	-20.6
				12	13	18.7	12.4	33.0	-20.7
				25	0	18.7	12.4	33.0	-20.6
			16QAM	1	0	18.4	12.1	33.0	-20.9
				1	12	18.3	12.0	33.0	-21.0
				1	24	18.3	12.0	33.0	-21.0
				12	0	18.3	12.0	33.0	-21.0
				12	7	18.3	12.0	33.0	-21.1
				12	13	18.3	12.0	33.0	-21.0
				25	0	18.2	11.9	33.0	-21.1
			64QAM	1	0	18.2	11.9	33.0	-21.1
				1	12	18.3	12.0	33.0	-21.0
				1	24	18.2	11.9	33.0	-21.1
				12	0	18.1	11.8	33.0	-21.2
				12	7	18.1	11.8	33.0	-21.2
				12	13	18.0	11.7	33.0	-21.3
				25	0	18.0	11.7	33.0	-21.3

Antenna gain (dBi)		-6.30										
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	18.6	12.3	33.0	-20.7			
				1	25	18.4	12.1	33.0	-20.9			
				1	49	18.3	12.0	33.0	-21.1			
				25	0	18.5	12.2	33.0	-20.8			
				25	12	18.4	12.1	33.0	-20.9			
				25	25	18.4	12.1	33.0	-20.9			
			16QAM	50	0	18.4	12.1	33.0	-20.9			
				1	0	18.2	11.9	33.0	-21.2			
				1	25	17.9	11.6	33.0	-21.4			
				1	49	17.8	11.5	33.0	-21.5			
				25	0	18.1	11.8	33.0	-21.2			
				25	12	18.0	11.7	33.0	-21.3			
			64QAM	25	25	18.0	11.7	33.0	-21.3			
				50	0	18.0	11.7	33.0	-21.3			
				1	0	18.2	11.9	33.0	-21.1			
				1	25	17.9	11.6	33.0	-21.4			
				1	49	17.9	11.6	33.0	-21.4			
				25	0	17.7	11.4	33.0	-21.6			
			10.0	20175	1732.5	QPSK	25	12	17.8	11.5	33.0	-21.5
							25	25	17.7	11.4	33.0	-21.6
							50	0	17.7	11.4	33.0	-21.6
1	0	18.9					12.6	33.0	-20.4			
1	25	18.8					12.5	33.0	-20.5			
1	49	18.6					12.3	33.0	-20.7			
16QAM	25	0				18.8	12.5	33.0	-20.5			
	25	12				18.8	12.5	33.0	-20.5			
	25	25				18.8	12.5	33.0	-20.6			
	50	0				18.8	12.5	33.0	-20.5			
	1	0				18.6	12.3	33.0	-20.7			
	1	25				18.6	12.3	33.0	-20.7			
64QAM	1	49				18.5	12.2	33.0	-20.8			
	25	0				18.4	12.1	33.0	-20.9			
	25	12				18.3	12.0	33.0	-21.0			
	25	25				18.3	12.0	33.0	-21.0			
	50	0				18.3	12.0	33.0	-21.0			
	1	0				18.4	12.1	33.0	-20.9			
64QAM	1	25				18.4	12.1	33.0	-20.9			
	1	49				18.3	12.0	33.0	-21.0			
	25	0				18.1	11.8	33.0	-21.2			
	25	12	18.1	11.8	33.0	-21.2						
	25	25	18.1	11.8	33.0	-21.2						
	50	0	18.1	11.8	33.0	-21.2						

Antenna gain (dBi)		-6.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	20350	1750.0	QPSK	1	0	18.6	12.3	33.0	-20.7
				1	25	18.5	12.2	33.0	-20.8
				1	49	18.5	12.2	33.0	-20.8
				25	0	18.6	12.3	33.0	-20.7
				25	12	18.6	12.3	33.0	-20.7
				25	25	18.6	12.3	33.0	-20.7
			16QAM	50	0	18.6	12.3	33.0	-20.7
				1	0	18.1	11.8	33.0	-21.2
				1	25	18.0	11.7	33.0	-21.3
				1	49	18.0	11.7	33.0	-21.4
				25	0	18.2	11.9	33.0	-21.1
				25	12	18.1	11.8	33.0	-21.2
			64QAM	25	25	18.1	11.8	33.0	-21.2
				50	0	18.1	11.8	33.0	-21.2
				1	0	18.0	11.7	33.0	-21.3
				1	25	18.0	11.7	33.0	-21.3
				1	49	17.9	11.6	33.0	-21.4
				25	0	18.0	11.7	33.0	-21.3
				25	12	17.9	11.6	33.0	-21.4
				25	25	17.9	11.6	33.0	-21.4
			50	0	17.9	11.6	33.0	-21.4	

Antenna gain (dBi)		-6.30										
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	18.4	12.1	33.0	-20.9			
				1	37	18.0	11.7	33.0	-21.3			
				1	74	18.1	11.8	33.0	-21.2			
				36	0	18.2	11.9	33.0	-21.1			
				36	20	18.1	11.8	33.0	-21.2			
				36	39	18.1	11.8	33.0	-21.2			
			16QAM	75	0	18.2	11.9	33.0	-21.1			
				1	0	18.3	12.0	33.0	-21.0			
				1	37	17.9	11.6	33.0	-21.4			
				1	74	17.9	11.6	33.0	-21.4			
				36	0	17.7	11.4	33.0	-21.6			
				36	20	17.7	11.4	33.0	-21.7			
			64QAM	36	39	17.6	11.3	33.0	-21.7			
				75	0	17.7	11.4	33.0	-21.6			
				1	0	18.0	11.7	33.0	-21.3			
				1	37	17.7	11.4	33.0	-21.6			
				1	74	17.7	11.4	33.0	-21.6			
				36	0	17.5	11.2	33.0	-21.8			
			15.0	20175	1732.5	QPSK	36	20	17.5	11.2	33.0	-21.8
							36	39	17.4	11.1	33.0	-21.9
							75	0	17.5	11.2	33.0	-21.8
1	0	18.9					12.6	33.0	-20.4			
1	37	18.8					12.5	33.0	-20.5			
1	74	18.8					12.5	33.0	-20.6			
16QAM	36	0				18.8	12.5	33.0	-20.5			
	36	20				18.8	12.5	33.0	-20.5			
	36	39				18.8	12.5	33.0	-20.5			
	75	0				18.7	12.4	33.0	-20.6			
	1	0				18.8	12.5	33.0	-20.6			
	1	37				18.6	12.3	33.0	-20.7			
64QAM	1	74				18.6	12.3	33.0	-20.7			
	36	0				18.4	12.1	33.0	-20.9			
	36	20				18.4	12.1	33.0	-20.9			
	36	39	18.3	12.0	33.0	-21.0						
	75	0	18.3	12.0	33.0	-21.1						
	1	0	18.5	12.2	33.0	-20.8						
64QAM	1	37	18.2	11.9	33.0	-21.1						
	1	74	18.4	12.1	33.0	-20.9						
	36	0	18.1	11.8	33.0	-21.2						
	36	20	18.1	11.8	33.0	-21.2						
	36	39	18.1	11.8	33.0	-21.2						
	75	0	18.0	11.7	33.0	-21.3						

Antenna gain (dBi)		-6.30							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	20325	1747.5	QPSK	1	0	18.8	12.5	33.0	-20.5
				1	37	18.5	12.2	33.0	-20.8
				1	74	18.5	12.2	33.0	-20.8
				36	0	18.7	12.4	33.0	-20.6
				36	20	18.7	12.4	33.0	-20.6
				36	39	18.6	12.3	33.0	-20.7
				75	0	18.6	12.3	33.0	-20.7
			16QAM	1	0	18.3	12.0	33.0	-21.1
				1	37	18.0	11.7	33.0	-21.3
				1	74	18.0	11.7	33.0	-21.3
				36	0	18.2	11.9	33.0	-21.1
				36	20	18.2	11.9	33.0	-21.2
				36	39	18.1	11.8	33.0	-21.2
				75	0	18.1	11.8	33.0	-21.2
			64QAM	1	0	18.5	12.2	33.0	-20.8
				1	37	18.3	12.0	33.0	-21.0
				1	74	18.3	12.0	33.0	-21.0
				36	0	18.0	11.7	33.0	-21.3
				36	20	18.0	11.7	33.0	-21.3
				36	39	17.9	11.6	33.0	-21.4
				75	0	17.9	11.6	33.0	-21.4

Antenna gain (dBi)		-6.30							
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	18.9	12.6	33.0	-20.4
				1	12	18.7	12.4	33.0	-20.6
				1	24	18.7	12.4	33.0	-20.6
				12	0	18.8	12.5	33.0	-20.5
				12	7	18.8	12.5	33.0	-20.5
				12	13	18.7	12.4	33.0	-20.6
				25	0	18.8	12.5	33.0	-20.6
			16QAM	1	0	19.0	12.7	33.0	-20.3
				1	12	18.8	12.5	33.0	-20.5
				1	24	18.7	12.4	33.0	-20.6
				12	0	18.4	12.1	33.0	-21.0
				12	7	18.4	12.1	33.0	-20.9
				12	13	18.3	12.0	33.0	-21.0
				25	0	18.3	12.0	33.0	-21.0
			64QAM	1	0	18.4	12.1	33.0	-20.9
				1	12	18.3	12.0	33.0	-21.0
				1	24	18.2	11.9	33.0	-21.1
				12	0	18.1	11.8	33.0	-21.2
				12	7	18.1	11.8	33.0	-21.2
				12	13	18.1	11.8	33.0	-21.2
				25	0	18.0	11.7	33.0	-21.3

LTE Band 7

Antenna gain (dBi)		-5.10										
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	21.3	16.2	33.0	-16.8			
				1	12	21.3	16.2	33.0	-16.9			
				1	24	21.1	16.0	33.0	-17.0			
				12	0	21.2	16.1	33.0	-16.9			
				12	7	21.2	16.1	33.0	-16.9			
				12	13	21.1	16.0	33.0	-17.0			
			16QAM	25	0	21.1	16.0	33.0	-17.0			
				1	0	20.9	15.8	33.0	-17.2			
				1	12	20.8	15.7	33.0	-17.3			
				1	24	20.8	15.7	33.0	-17.3			
				12	0	20.8	15.7	33.0	-17.3			
				12	7	20.9	15.8	33.0	-17.2			
			64QAM	12	13	20.7	15.6	33.0	-17.4			
				12	13	20.6	15.5	33.0	-17.5			
				1	0	20.4	15.3	33.0	-17.7			
				1	12	20.4	15.3	33.0	-17.7			
				1	24	20.2	15.1	33.0	-17.9			
				12	0	20.3	15.2	33.0	-17.8			
			5.0	21100	2535.0	QPSK	12	7	20.3	15.2	33.0	-17.8
							12	7	20.3	15.2	33.0	-17.8
							12	13	20.2	15.1	33.0	-17.9
25	0	20.1					15.0	33.0	-18.0			
1	0	21.3					16.2	33.0	-16.8			
1	12	21.3					16.2	33.0	-16.8			
16QAM	1	24				21.3	16.2	33.0	-16.9			
	12	0				21.4	16.3	33.0	-16.7			
	12	7				21.3	16.2	33.0	-16.8			
	12	13				21.3	16.2	33.0	-16.8			
	25	0				21.4	16.3	33.0	-16.7			
	1	0				21.3	16.2	33.0	-16.8			
64QAM	1	2				21.3	16.2	33.0	-16.8			
	1	5				21.3	16.2	33.0	-16.9			
	3	0				21.0	15.9	33.0	-17.1			
	3	1				21.0	15.9	33.0	-17.1			
	3	2				21.0	15.9	33.0	-17.1			
	6	0				20.9	15.8	33.0	-17.2			
64QAM	1	0				20.5	15.4	33.0	-17.6			
	1	12				20.5	15.4	33.0	-17.6			
	1	24				20.5	15.4	33.0	-17.6			
	12	0	20.4	15.3	33.0	-17.7						
	12	7	20.4	15.3	33.0	-17.7						
	12	13	20.3	15.2	33.0	-17.8						
25	0	20.3	15.2	33.0	-17.8							

Antenna gain (dBi)		-5.10							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	21425	2567.5	QPSK	1	0	21.7	16.6	33.0	-16.4
				1	12	21.8	16.7	33.0	-16.3
				1	24	21.8	16.7	33.0	-16.3
				12	0	21.7	16.6	33.0	-16.4
				12	7	21.8	16.7	33.0	-16.4
				12	13	21.7	16.6	33.0	-16.4
				25	0	21.8	16.7	33.0	-16.3
			16QAM	1	0	21.3	16.2	33.0	-16.8
				1	12	21.4	16.3	33.0	-16.7
				1	24	21.4	16.3	33.0	-16.7
				12	0	21.3	16.2	33.0	-16.8
				12	7	21.3	16.2	33.0	-16.8
				12	13	21.3	16.2	33.0	-16.8
				25	0	21.3	16.2	33.0	-16.8
			64QAM	1	0	20.8	15.7	33.0	-17.3
				1	12	20.9	15.8	33.0	-17.2
				1	24	20.7	15.6	33.0	-17.4
				12	0	20.1	15.0	33.0	-18.0
				12	7	20.0	14.9	33.0	-18.1
				12	13	20.3	15.2	33.0	-17.8
				25	0	20.4	15.3	33.0	-17.7

Antenna gain (dBi)		-5.10								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)	
10.0	20880	2505.0	QPSK	1	0	21.5	16.4	33.0	-16.6	
				1	25	21.3	16.2	33.0	-16.8	
				1	49	21.2	16.1	33.0	-16.9	
				25	0	21.4	16.3	33.0	-16.7	
				25	12	21.4	16.3	33.0	-16.7	
				25	25	21.2	16.1	33.0	-16.9	
				50	0	21.4	16.3	33.0	-16.8	
			16QAM	1	0	21.1	16.0	33.0	-17.1	
				1	25	20.9	15.8	33.0	-17.3	
				1	49	20.7	15.6	33.0	-17.4	
				25	0	21.0	15.9	33.0	-17.1	
				25	12	21.0	15.9	33.0	-17.1	
				25	25	20.9	15.8	33.0	-17.2	
				50	0	20.9	15.8	33.0	-17.2	
			64QAM	1	0	20.6	15.5	33.0	-17.5	
				1	25	20.4	15.3	33.0	-17.7	
				1	49	20.3	15.2	33.0	-17.8	
				25	0	20.3	15.2	33.0	-17.8	
				25	12	20.2	15.1	33.0	-17.9	
				25	25	20.3	15.2	33.0	-17.8	
				50	0	20.4	15.3	33.0	-17.7	
10.0	21100	2535.0	QPSK	1	0	21.5	16.4	33.0	-16.6	
				1	25	21.4	16.3	33.0	-16.7	
				1	49	21.4	16.3	33.0	-16.7	
				25	0	21.4	16.3	33.0	-16.7	
				25	12	21.4	16.3	33.0	-16.7	
				25	25	21.3	16.2	33.0	-16.8	
				50	0	21.4	16.3	33.0	-16.7	
			16QAM	1	0	21.3	16.2	33.0	-16.8	
				1	25	21.2	16.1	33.0	-16.9	
				1	49	21.2	16.1	33.0	-16.9	
				25	0	20.9	15.8	33.0	-17.2	
				25	12	21.0	15.9	33.0	-17.1	
				25	25	20.9	15.8	33.0	-17.2	
				50	0	21.0	15.9	33.0	-17.1	
			64QAM	1	0	20.5	15.4	33.0	-17.6	
				1	25	20.4	15.3	33.0	-17.7	
				1	49	20.4	15.3	33.0	-17.7	
				25	0	20.3	15.2	33.0	-17.8	
				25	12	20.3	15.2	33.0	-17.8	
				25	25	20.3	15.2	33.0	-17.8	
				50	0	20.3	15.2	33.0	-17.8	

Antenna gain (dBi)		-5.10							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	21400	2565.0	QPSK	1	0	21.7	16.6	33.0	-16.4
				1	25	21.7	16.6	33.0	-16.4
				1	49	21.8	16.7	33.0	-16.3
				25	0	21.8	16.7	33.0	-16.3
				25	12	21.8	16.7	33.0	-16.3
				25	25	21.8	16.7	33.0	-16.3
				50	0	21.8	16.7	33.0	-16.4
			16QAM	1	0	21.2	16.1	33.0	-17.0
				1	25	21.1	16.0	33.0	-17.0
				1	49	21.2	16.1	33.0	-16.9
				25	0	21.3	16.2	33.0	-16.8
				25	12	21.3	16.2	33.0	-16.8
				25	25	21.3	16.2	33.0	-16.8
				50	0	21.2	16.1	33.0	-16.9
			64QAM	1	0	20.6	15.5	33.0	-17.5
				1	25	20.6	15.5	33.0	-17.5
				1	49	20.6	15.5	33.0	-17.5
				25	0	20.4	15.3	33.0	-17.7
				25	12	20.1	15.0	33.0	-18.0
				25	25	20.4	15.3	33.0	-17.7
				50	0	20.0	14.9	33.0	-18.1

Antenna gain (dBi)		-5.10							
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	21.5	16.4	33.0	-16.6
				1	37	21.1	16.0	33.0	-17.0
				1	74	21.0	15.9	33.0	-17.1
				36	0	21.3	16.2	33.0	-16.8
				36	20	21.2	16.1	33.0	-16.9
				36	39	21.2	16.1	33.0	-16.9
				75	0	21.2	16.1	33.0	-16.9
			16QAM	1	0	21.4	16.3	33.0	-16.7
				1	37	21.0	15.9	33.0	-17.1
				1	74	20.9	15.8	33.0	-17.2
				36	0	20.8	15.7	33.0	-17.3
				36	20	20.7	15.6	33.0	-17.4
				36	39	20.6	15.5	33.0	-17.5
				75	0	20.8	15.7	33.0	-17.3
			64QAM	1	0	20.7	15.6	33.0	-17.4
				1	37	20.3	15.2	33.0	-17.8
				1	74	20.2	15.1	33.0	-17.9
				36	0	20.2	15.1	33.0	-17.9
				36	20	20.3	15.2	33.0	-17.8
				36	39	20.0	14.9	33.0	-18.1
				75	0	20.0	14.9	33.0	-18.1
15.0	21100	2535.0	QPSK	1	0	21.4	16.3	33.0	-16.7
				1	37	21.3	16.2	33.0	-16.8
				1	74	21.2	16.1	33.0	-16.9
				36	0	21.3	16.2	33.0	-16.8
				36	20	21.4	16.3	33.0	-16.8
				36	39	21.3	16.2	33.0	-16.8
				75	0	21.3	16.2	33.0	-16.8
			16QAM	1	0	21.2	16.1	33.0	-16.9
				1	37	21.1	16.0	33.0	-17.0
				1	74	21.1	16.0	33.0	-17.0
				36	0	20.9	15.8	33.0	-17.2
				36	20	20.9	15.8	33.0	-17.2
				36	39	20.9	15.8	33.0	-17.2
				75	0	20.9	15.8	33.0	-17.2
			64QAM	1	0	20.5	15.4	33.0	-17.6
				1	37	20.4	15.3	33.0	-17.7
				1	74	20.4	15.3	33.0	-17.7
				36	0	20.4	15.3	33.0	-17.7
				36	20	20.4	15.3	33.0	-17.7
				36	39	20.4	15.3	33.0	-17.7
				75	0	20.3	15.2	33.0	-17.8

Antenna gain (dBi)		-5.10							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	21375	2562.5	QPSK	1	0	21.7	16.6	33.0	-16.4
				1	37	21.6	16.5	33.0	-16.5
				1	74	21.6	16.5	33.0	-16.5
				36	0	21.7	16.6	33.0	-16.4
				36	20	21.6	16.5	33.0	-16.5
				36	39	21.6	16.5	33.0	-16.5
				75	0	21.7	16.6	33.0	-16.5
			16QAM	1	0	21.1	16.0	33.0	-17.0
				1	37	21.0	15.9	33.0	-17.1
				1	74	21.1	16.0	33.0	-17.1
				36	0	21.2	16.1	33.0	-16.9
				36	20	21.2	16.1	33.0	-16.9
				36	39	21.1	16.0	33.0	-17.0
				75	0	21.2	16.1	33.0	-17.0
			64QAM	1	0	21.0	15.9	33.0	-17.1
				1	37	20.8	15.7	33.0	-17.3
				1	74	20.8	15.7	33.0	-17.3
				36	0	20.6	15.5	33.0	-17.5
				36	20	20.4	15.3	33.0	-17.7
				36	39	20.0	14.9	33.0	-18.1
				75	0	20.1	15.0	33.0	-18.0

Antenna gain (dBi)		-5.10										
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	21.3	16.2	33.0	-16.8			
				1	49	20.9	15.8	33.0	-17.2			
				1	99	20.9	15.8	33.0	-17.2			
				50	0	21.1	16.0	33.0	-17.0			
				50	24	21.0	15.9	33.0	-17.1			
				50	50	20.8	15.7	33.0	-17.3			
			16QAM	100	0	21.1	16.0	33.0	-17.0			
				1	0	21.2	16.1	33.0	-16.9			
				1	49	20.8	15.7	33.0	-17.3			
				1	99	20.7	15.6	33.0	-17.4			
				50	0	20.6	15.5	33.0	-17.5			
				50	24	20.5	15.4	33.0	-17.6			
			64QAM	50	50	20.4	15.3	33.0	-17.7			
				100	0	20.5	15.4	33.0	-17.6			
				1	0	20.8	15.7	33.0	-17.3			
				1	49	20.4	15.3	33.0	-17.7			
				1	99	20.3	15.2	33.0	-17.8			
				50	0	20.0	14.9	33.0	-18.1			
			20.0	21100	2535.0	QPSK	50	24	20.1	15.0	33.0	-18.0
							50	50	20.0	14.9	33.0	-18.1
							100	0	20.2	15.1	33.0	-17.9
1	0	21.0					15.9	33.0	-17.1			
1	49	20.9					15.8	33.0	-17.2			
1	99	21.0					15.9	33.0	-17.1			
16QAM	50	0				21.1	16.0	33.0	-17.0			
	50	24				21.0	15.9	33.0	-17.1			
	50	50				21.0	15.9	33.0	-17.1			
	100	0				21.0	15.9	33.0	-17.1			
	1	0				21.0	15.9	33.0	-17.1			
	1	49				20.9	15.8	33.0	-17.2			
64QAM	1	99				20.9	15.8	33.0	-17.2			
	50	0				20.6	15.5	33.0	-17.5			
	50	24				20.5	15.4	33.0	-17.6			
	50	50				20.5	15.4	33.0	-17.6			
	100	0				20.5	15.4	33.0	-17.6			
	1	0				20.5	15.4	33.0	-17.6			
64QAM	1	49				20.5	15.4	33.0	-17.6			
	1	99				20.6	15.5	33.0	-17.5			
	50	0				20.4	15.3	33.0	-17.7			
	50	24	20.4	15.3	33.0	-17.7						
	50	50	20.3	15.2	33.0	-17.8						
	100	0	20.3	15.2	33.0	-17.8						

Antenna gain (dBi)		-5.10							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	21350	2560.0	QPSK	1	0	21.1	16.0	33.0	-17.0
				1	49	21.1	16.0	33.0	-17.0
				1	99	21.1	16.0	33.0	-17.0
				50	0	21.2	16.1	33.0	-16.9
				50	24	21.2	16.1	33.0	-16.9
				50	50	21.1	16.0	33.0	-17.0
				100	0	21.2	16.1	33.0	-16.9
			16QAM	1	0	21.2	16.1	33.0	-16.9
				1	49	21.1	16.0	33.0	-17.0
				1	99	21.2	16.1	33.0	-16.9
				50	0	20.8	15.7	33.0	-17.3
				50	24	20.7	15.6	33.0	-17.4
				50	50	20.6	15.5	33.0	-17.5
				100	0	20.8	15.7	33.0	-17.3
			64QAM	1	0	20.6	15.5	33.0	-17.5
				1	49	20.6	15.5	33.0	-17.5
				1	99	20.5	15.4	33.0	-17.6
				50	0	20.5	15.4	33.0	-17.6
				50	24	20.5	15.4	33.0	-17.6
				50	50	20.2	15.1	33.0	-17.9
				100	0	20.2	15.1	33.0	-17.9

LTE Band 13

Antenna gain (dBi)		-6.50							
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	23.6	14.6	34.7	-20.1
				1	12	23.6	14.6	34.7	-20.1
				1	24	23.6	14.6	34.7	-20.1
				12	0	22.5	13.5	34.7	-21.2
				12	7	22.5	13.5	34.7	-21.2
				12	13	22.6	13.6	34.7	-21.1
			16QAM	1	0	22.7	13.7	34.7	-21.0
				1	12	22.7	13.7	34.7	-21.0
				1	24	22.7	13.7	34.7	-21.0
				12	0	21.6	12.6	34.7	-22.1
				12	7	21.6	12.6	34.7	-22.1
				12	13	21.7	12.7	34.7	-22.0
			64QAM	25	0	21.6	12.6	34.7	-22.1
				1	0	21.6	12.6	34.7	-22.1
				1	12	21.7	12.7	34.7	-22.0
				1	24	21.7	12.7	34.7	-22.0
				12	0	20.5	11.5	34.7	-23.2
				12	7	20.4	11.4	34.7	-23.3
			12	13	20.5	11.5	34.7	-23.2	
			25	0	20.4	11.4	34.7	-23.3	

Antenna gain (dBi)		-6.50							
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	23.6	14.6	34.7	-20.1
				1	25	23.5	14.5	34.7	-20.2
				1	49	23.6	14.6	34.7	-20.1
				25	0	22.6	13.6	34.7	-21.1
				25	12	22.6	13.6	34.7	-21.1
				25	25	22.6	13.6	34.7	-21.1
			16QAM	50	0	22.5	13.5	34.7	-21.2
				1	0	22.5	13.5	34.7	-21.2
				1	25	22.4	13.4	34.7	-21.3
				1	49	22.5	13.5	34.7	-21.2
				25	0	21.6	12.6	34.7	-22.1
				25	12	21.6	12.6	34.7	-22.1
			64QAM	25	25	21.6	12.6	34.7	-22.1
				50	0	21.5	12.5	34.7	-22.2
				1	0	21.7	12.7	34.7	-22.0
				1	25	21.6	12.6	34.7	-22.1
				1	49	21.6	12.6	34.7	-22.1
				25	0	20.4	11.4	34.7	-23.3
			25	12	20.4	11.4	34.7	-23.3	
			25	25	20.4	11.4	34.7	-23.3	
			50	0	20.3	11.3	34.7	-23.4	

LTE Band 17

Antenna gain (dBi)		-7.60							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	23790	710.0	QPSK	1	0	24.9	15.2	38.5	-23.3
				1	12	24.9	15.1	38.5	-23.4
				1	24	24.9	15.2	38.5	-23.3
				12	0	23.8	14.1	38.5	-24.4
				12	7	23.8	14.1	38.5	-24.4
				12	13	23.8	14.1	38.5	-24.4
			16QAM	25	0	23.8	14.1	38.5	-24.4
				1	0	24.0	14.3	38.5	-24.3
				1	12	24.0	14.3	38.5	-24.3
				1	24	24.0	14.3	38.5	-24.3
				12	0	22.9	13.2	38.5	-25.3
				12	7	22.9	13.2	38.5	-25.3
			64QAM	12	13	22.9	13.1	38.5	-25.4
				25	0	22.9	13.1	38.5	-25.4
				1	0	22.8	13.1	38.5	-25.5
				1	12	22.7	13.0	38.5	-25.6
				1	24	22.8	13.1	38.5	-25.5
				12	0	21.5	11.8	38.5	-26.8
			12	7	21.5	11.8	38.5	-26.8	
			12	13	21.5	11.8	38.5	-26.8	
			25	0	21.4	11.7	38.5	-26.9	

Antenna gain (dBi)		-7.60							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	23790	710.0	QPSK	1	0	24.6	14.8	38.5	-23.7
				1	25	24.7	15.0	38.5	-23.5
				1	49	24.7	15.0	38.5	-23.5
				25	0	23.8	14.0	38.5	-24.5
				25	12	23.8	14.1	38.5	-24.4
				25	25	23.9	14.1	38.5	-24.4
			16QAM	50	0	23.8	14.1	38.5	-24.4
				1	0	23.7	13.9	38.5	-24.6
				1	25	23.8	14.0	38.5	-24.5
				1	49	23.8	14.0	38.5	-24.5
				25	0	22.9	13.1	38.5	-25.4
				25	12	22.9	13.2	38.5	-25.3
			64QAM	25	25	22.9	13.2	38.5	-25.3
				50	0	22.8	13.1	38.5	-25.4
				1	0	22.4	12.7	38.5	-25.9
				1	25	22.5	12.8	38.5	-25.8
				1	49	22.5	12.8	38.5	-25.8
				25	0	21.4	11.7	38.5	-26.9
			25	12	21.4	11.7	38.5	-26.9	
			25	25	21.5	11.8	38.5	-26.8	
			50	0	21.4	11.7	38.5	-26.9	

LTE Band 26

Antenna gain (dBi)		-6.40										
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	24.6	16.1	38.5	-22.4			
				1	3	24.6	16.1	38.5	-22.4			
				1	5	24.6	16.1	38.5	-22.4			
				3	0	24.5	16.0	38.5	-22.5			
				3	1	24.6	16.1	38.5	-22.4			
				3	3	24.6	16.1	38.5	-22.4			
			16QAM	6	0	23.7	15.1	38.5	-23.3			
				1	0	24.0	15.5	38.5	-23.0			
				1	3	24.1	15.5	38.5	-22.9			
				1	5	24.0	15.5	38.5	-23.0			
				3	0	23.9	15.3	38.5	-23.1			
				3	1	23.9	15.4	38.5	-23.1			
			64QAM	3	3	23.9	15.3	38.5	-23.1			
				6	0	22.7	14.1	38.5	-24.3			
				1	0	23.0	14.5	38.5	-24.0			
				1	3	23.0	14.5	38.5	-24.0			
				1	5	23.0	14.5	38.5	-24.0			
				3	0	22.8	14.3	38.5	-24.2			
			1.4	26865	831.5	QPSK	3	1	22.8	14.3	38.5	-24.2
							3	3	22.8	14.3	38.5	-24.2
							6	0	21.7	13.2	38.5	-25.3
							1	0	24.6	16.1	38.5	-22.4
							1	3	24.7	16.2	38.5	-22.3
							1	5	24.6	16.1	38.5	-22.4
16QAM	3	0				24.6	16.1	38.5	-22.4			
	3	1				24.7	16.2	38.5	-22.3			
	3	3				24.6	16.1	38.5	-22.4			
	6	0				23.7	15.1	38.5	-23.3			
	1	0				23.7	15.2	38.5	-23.3			
	1	3				23.8	15.2	38.5	-23.2			
64QAM	1	5				23.7	15.2	38.5	-23.3			
	3	0				23.7	15.2	38.5	-23.3			
	3	1				23.8	15.2	38.5	-23.2			
	3	3				23.8	15.2	38.5	-23.2			
	6	0				22.9	14.4	38.5	-24.1			
	1	0				23.0	14.5	38.5	-24.0			
16QAM	1	3				23.0	14.5	38.5	-24.0			
	1	5				22.9	14.4	38.5	-24.1			
	3	0				22.7	14.2	38.5	-24.3			
	3	1				22.8	14.3	38.5	-24.2			
	3	3				22.7	14.2	38.5	-24.3			
	6	0				21.7	13.2	38.5	-25.3			

Antenna gain (dBi)		-6.40										
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)			
1.4	27033	848.3	QPSK	1	0	24.3	15.8	38.5	-22.8			
				1	3	24.2	15.7	38.5	-22.9			
				1	5	24.4	15.9	38.5	-22.7			
				3	0	24.3	15.8	38.5	-22.8			
				3	1	24.4	15.9	38.5	-22.7			
				3	3	24.3	15.8	38.5	-22.8			
			16QAM	1	0	23.8	15.3	38.5	-23.2			
				1	3	23.8	15.3	38.5	-23.2			
				1	5	23.7	15.2	38.5	-23.3			
				3	0	23.9	15.4	38.5	-23.1			
				3	1	24.0	15.4	38.5	-23.1			
				3	3	23.9	15.4	38.5	-23.1			
			64QAM	1	0	22.6	14.1	38.5	-24.5			
				1	3	22.6	14.1	38.5	-24.5			
				1	5	22.6	14.1	38.5	-24.5			
				3	0	22.5	14.0	38.5	-24.6			
				3	1	22.5	14.0	38.5	-24.6			
				3	3	22.5	14.0	38.5	-24.6			
							6	0	21.6	13.1	38.5	-25.5

Antenna gain (dBi)		-6.40							
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	24.6	16.1	38.5	-22.5
				1	8	24.6	16.1	38.5	-22.5
				1	14	24.7	16.2	38.5	-22.4
				8	0	23.8	15.2	38.5	-23.3
				8	4	23.8	15.2	38.5	-23.3
				8	7	23.7	15.2	38.5	-23.3
				15	0	23.7	15.2	38.5	-23.3
			16QAM	1	0	23.8	15.2	38.5	-23.3
				1	8	23.8	15.3	38.5	-23.2
				1	14	23.7	15.1	38.5	-23.4
				8	0	22.9	14.3	38.5	-24.2
				8	4	22.9	14.4	38.5	-24.1
				8	7	22.9	14.4	38.5	-24.1
				15	0	22.8	14.2	38.5	-24.3
			64QAM	1	0	22.7	14.2	38.5	-24.4
				1	8	22.9	14.4	38.5	-24.2
				1	14	22.8	14.3	38.5	-24.3
				8	0	21.8	13.3	38.5	-25.3
				8	4	21.7	13.2	38.5	-25.4
				8	7	21.7	13.2	38.5	-25.4
				15	0	21.7	13.2	38.5	-25.4
3.0	26865	831.5	QPSK	1	0	24.7	16.2	38.5	-22.4
				1	8	24.7	16.2	38.5	-22.4
				1	14	24.7	16.2	38.5	-22.4
				8	0	23.7	15.2	38.5	-23.3
				8	4	23.8	15.2	38.5	-23.3
				8	7	23.7	15.2	38.5	-23.3
				15	0	23.7	15.2	38.5	-23.3
			16QAM	1	0	24.1	15.5	38.5	-23.0
				1	8	24.1	15.6	38.5	-22.9
				1	14	24.0	15.5	38.5	-23.0
				8	0	22.9	14.4	38.5	-24.1
				8	4	22.9	14.4	38.5	-24.1
				8	7	22.9	14.4	38.5	-24.1
				15	0	22.9	14.3	38.5	-24.2
			64QAM	1	0	23.2	14.7	38.5	-23.9
				1	8	23.1	14.6	38.5	-24.0
				1	14	23.1	14.6	38.5	-24.0
				8	0	21.8	13.3	38.5	-25.3
				8	4	21.8	13.3	38.5	-25.3
				8	7	21.8	13.3	38.5	-25.3
				15	0	21.8	13.3	38.5	-25.3

Antenna gain (dBi)		-6.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
3.0	27025	847.5	QPSK	1	0	24.3	15.8	38.5	-22.8
				1	8	24.3	15.8	38.5	-22.8
				1	14	24.5	16.0	38.5	-22.6
				8	0	23.9	15.3	38.5	-23.2
				8	4	23.8	15.3	38.5	-23.2
				8	7	23.9	15.4	38.5	-23.1
				15	0	23.8	15.3	38.5	-23.2
			16QAM	1	0	23.5	14.9	38.5	-23.6
				1	8	23.8	15.3	38.5	-23.2
				1	14	23.6	15.0	38.5	-23.5
				8	0	22.9	14.3	38.5	-24.2
				8	4	22.9	14.3	38.5	-24.2
				8	7	22.9	14.4	38.5	-24.1
				15	0	22.9	14.4	38.5	-24.1
			64QAM	1	0	22.8	14.3	38.5	-24.3
				1	8	22.6	14.1	38.5	-24.5
				1	14	22.8	14.3	38.5	-24.3
				8	0	21.6	13.1	38.5	-25.5
				8	4	21.6	13.1	38.5	-25.5
				8	7	21.6	13.1	38.5	-25.5
				15	0	21.5	13.0	38.5	-25.6

Antenna gain (dBi)		-6.40							
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	24.7	16.2	38.5	-22.4
				1	12	24.7	16.2	38.5	-22.4
				1	24	24.6	16.1	38.5	-22.5
				12	0	23.8	15.2	38.5	-23.3
				12	7	23.8	15.2	38.5	-23.3
				12	13	23.7	15.2	38.5	-23.3
				25	0	23.7	15.2	38.5	-23.3
			16QAM	1	0	23.8	15.3	38.5	-23.2
				1	12	23.8	15.2	38.5	-23.3
				1	24	23.8	15.2	38.5	-23.3
				12	0	22.9	14.4	38.5	-24.1
				12	7	22.9	14.4	38.5	-24.1
				12	13	22.9	14.3	38.5	-24.2
				25	0	22.8	14.2	38.5	-24.3
			64QAM	1	0	23.0	14.5	38.5	-24.1
				1	12	23.0	14.5	38.5	-24.1
				1	24	23.0	14.5	38.5	-24.1
				12	0	21.8	13.3	38.5	-25.3
				12	7	21.8	13.3	38.5	-25.3
				12	13	21.7	13.2	38.5	-25.4
				25	0	21.7	13.2	38.5	-25.4
5.0	26865	831.5	QPSK	1	0	24.7	16.2	38.5	-22.4
				1	12	24.7	16.2	38.5	-22.4
				1	24	24.7	16.2	38.5	-22.4
				12	0	23.7	15.2	38.5	-23.3
				12	7	23.7	15.2	38.5	-23.3
				12	13	23.7	15.2	38.5	-23.3
				25	0	23.7	15.2	38.5	-23.3
			16QAM	1	0	24.0	15.5	38.5	-23.1
				1	2	23.8	15.3	38.5	-23.3
				1	5	24.0	15.5	38.5	-23.1
				3	0	23.0	14.4	38.5	-24.1
				3	1	23.0	14.4	38.5	-24.1
				3	2	22.9	14.4	38.5	-24.1
				6	0	22.9	14.3	38.5	-24.2
			64QAM	1	0	23.0	14.5	38.5	-24.1
				1	12	23.0	14.5	38.5	-24.1
				1	24	23.0	14.5	38.5	-24.1
				12	0	21.8	13.3	38.5	-25.3
				12	7	21.8	13.3	38.5	-25.3
				12	13	21.8	13.3	38.5	-25.3
				25	0	21.8	13.3	38.5	-25.3

Antenna gain (dBi)		-6.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	27015	846.5	QPSK	1	0	24.6	16.1	38.5	-22.5
				1	12	24.3	15.8	38.5	-22.8
				1	24	24.4	15.9	38.5	-22.7
				12	0	23.9	15.3	38.5	-23.2
				12	7	23.8	15.3	38.5	-23.2
				12	13	23.8	15.2	38.5	-23.3
				25	0	24.0	15.5	38.5	-23.0
			16QAM	1	0	24.0	15.5	38.5	-23.0
				1	12	23.7	15.1	38.5	-23.4
				1	24	23.9	15.3	38.5	-23.2
				12	0	22.9	14.4	38.5	-24.1
				12	7	22.9	14.4	38.5	-24.1
				12	13	22.9	14.4	38.5	-24.1
				25	0	22.8	14.3	38.5	-24.2
			64QAM	1	0	23.2	14.7	38.5	-23.9
				1	12	22.6	14.1	38.5	-24.5
				1	24	22.9	14.4	38.5	-24.2
				12	0	21.7	13.2	38.5	-25.4
				12	7	21.6	13.1	38.5	-25.5
				12	13	21.6	13.1	38.5	-25.5
				25	0	21.6	13.1	38.5	-25.5

Antenna gain (dBi)		-6.40										
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	24.7	16.2	38.5	-22.4			
				1	25	24.7	16.2	38.5	-22.4			
				1	49	24.6	16.1	38.5	-22.5			
				25	0	23.8	15.2	38.5	-23.3			
				25	12	23.8	15.3	38.5	-23.2			
				25	25	23.8	15.2	38.5	-23.3			
			16QAM	50	0	23.8	15.2	38.5	-23.3			
				1	0	23.8	15.2	38.5	-23.3			
				1	25	23.8	15.2	38.5	-23.3			
				1	49	23.7	15.1	38.5	-23.4			
				25	0	23.0	14.4	38.5	-24.1			
				25	12	23.0	14.5	38.5	-24.0			
			64QAM	25	25	22.9	14.4	38.5	-24.1			
				50	0	22.9	14.4	38.5	-24.1			
				1	0	23.2	14.7	38.5	-23.9			
				1	25	23.0	14.5	38.5	-24.1			
				1	49	23.0	14.5	38.5	-24.1			
				25	0	21.7	13.2	38.5	-25.4			
			10.0	26865	831.5	QPSK	25	12	21.8	13.3	38.5	-25.3
							25	25	21.7	13.2	38.5	-25.4
							50	0	21.6	13.1	38.5	-25.5
1	0	24.8					16.3	38.5	-22.3			
1	25	24.6					16.1	38.5	-22.5			
1	49	24.7					16.2	38.5	-22.4			
16QAM	25	0				23.8	15.2	38.5	-23.3			
	25	12				23.8	15.2	38.5	-23.3			
	25	25				23.8	15.2	38.5	-23.3			
	50	0				23.8	15.2	38.5	-23.3			
	1	0				24.1	15.6	38.5	-22.9			
	1	25				24.1	15.5	38.5	-23.0			
64QAM	1	49				24.1	15.5	38.5	-23.0			
	25	0				22.9	14.4	38.5	-24.1			
	25	12				22.9	14.3	38.5	-24.2			
	25	25				22.9	14.4	38.5	-24.1			
	50	0				22.9	14.3	38.5	-24.2			
	1	0				23.0	14.5	38.5	-24.1			
64QAM	1	25				22.9	14.4	38.5	-24.2			
	1	49				23.0	14.5	38.5	-24.1			
	25	0				21.8	13.3	38.5	-25.3			
	25	12	21.8	13.3	38.5	-25.3						
	25	25	21.8	13.3	38.5	-25.3						
	50	0	21.8	13.3	38.5	-25.3						

Antenna gain (dBi)		-6.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	26990	844.0	QPSK	1	0	24.7	16.2	38.5	-22.4
				1	25	24.7	16.2	38.5	-22.4
				1	49	24.4	15.9	38.5	-22.7
				25	0	23.9	15.4	38.5	-23.1
				25	12	24.0	15.4	38.5	-23.1
				25	25	23.9	15.3	38.5	-23.2
			16QAM	50	0	24.0	15.4	38.5	-23.1
				1	0	23.7	15.2	38.5	-23.3
				1	25	23.7	15.1	38.5	-23.4
				1	49	23.6	15.0	38.5	-23.5
				25	0	22.9	14.4	38.5	-24.1
				25	12	23.0	14.5	38.5	-24.0
			64QAM	25	25	22.9	14.4	38.5	-24.1
				50	0	23.0	14.4	38.5	-24.1
				1	0	22.9	14.4	38.5	-24.2
				1	25	22.9	14.4	38.5	-24.2
				1	49	22.7	14.2	38.5	-24.4
				25	0	21.9	13.4	38.5	-25.2
				25	12	21.9	13.4	38.5	-25.2
				25	25	21.6	13.1	38.5	-25.5
				50	0	21.9	13.4	38.5	-25.2

Antenna gain (dBi)		-6.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
15.0	26865	821.5	QPSK	1	0	24.8	16.3	38.5	-22.3
				1	37	24.8	16.3	38.5	-22.3
				1	74	24.8	16.3	38.5	-22.3
				36	0	23.8	15.2	38.5	-23.3
				36	20	23.8	15.3	38.5	-23.2
				36	39	23.7	15.2	38.5	-23.3
				75	0	23.7	15.2	38.5	-23.3
			16QAM	1	0	24.1	15.5	38.5	-23.0
				1	37	24.1	15.5	38.5	-23.0
				1	74	24.0	15.5	38.5	-23.0
				36	0	23.0	14.4	38.5	-24.1
				36	20	23.0	14.5	38.5	-24.0
				36	39	22.9	14.4	38.5	-24.1
				75	0	23.0	14.4	38.5	-24.1
			64QAM	1	0	23.0	14.5	38.5	-24.1
				1	37	23.0	14.5	38.5	-24.1
				1	74	23.0	14.5	38.5	-24.1
				36	0	21.8	13.3	38.5	-25.3
				36	20	21.9	13.4	38.5	-25.2
				36	39	21.8	13.3	38.5	-25.3
				75	0	21.8	13.3	38.5	-25.3
15.0	26865	831.5	QPSK	1	0	24.7	16.2	38.5	-22.4
				1	37	24.7	16.2	38.5	-22.4
				1	74	24.8	16.3	38.5	-22.3
				36	0	23.8	15.3	38.5	-23.2
				36	20	23.8	15.2	38.5	-23.3
				36	39	23.8	15.2	38.5	-23.3
				75	0	23.7	15.2	38.5	-23.3
			16QAM	1	0	24.1	15.6	38.5	-22.9
				1	37	24.0	15.5	38.5	-23.0
				1	74	24.1	15.6	38.5	-22.9
				36	0	23.0	14.4	38.5	-24.1
				36	20	23.0	14.4	38.5	-24.1
				36	39	22.9	14.4	38.5	-24.1
				75	0	22.9	14.3	38.5	-24.2
			64QAM	1	0	23.0	14.5	38.5	-24.1
				1	37	22.9	14.4	38.5	-24.2
				1	74	23.0	14.5	38.5	-24.1
				36	0	21.9	13.4	38.5	-25.2
				36	20	21.8	13.3	38.5	-25.3
				36	39	21.8	13.3	38.5	-25.3
				75	0	21.8	13.3	38.5	-25.3

Antenna gain (dBi)		-6.40							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
15.0	26865	841.5	QPSK	1	0	24.6	16.1	38.5	-22.5
				1	37	24.7	16.2	38.5	-22.4
				1	74	24.4	15.9	38.5	-22.7
				36	0	23.8	15.2	38.5	-23.3
				36	20	24.0	15.4	38.5	-23.1
				36	39	23.8	15.3	38.5	-23.2
				75	0	23.7	15.2	38.5	-23.3
			16QAM	1	0	23.6	15.0	38.5	-23.5
				1	37	23.8	15.2	38.5	-23.3
				1	74	23.5	15.0	38.5	-23.5
				36	0	22.8	14.3	38.5	-24.2
				36	20	23.0	14.4	38.5	-24.1
				36	39	23.0	14.4	38.5	-24.1
				75	0	22.9	14.4	38.5	-24.1
			64QAM	1	0	23.0	14.5	38.5	-24.1
				1	37	23.2	14.7	38.5	-23.9
				1	74	22.9	14.4	38.5	-24.2
				36	0	21.7	13.2	38.5	-25.4
				36	20	21.9	13.4	38.5	-25.2
				36	39	21.8	13.3	38.5	-25.3
				75	0	21.8	13.3	38.5	-25.3

LTE Band 41

Antenna gain (dBi)		-4.50							
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	23.1	18.6	33.0	-14.4
				1	12	23.0	18.5	33.0	-14.5
				1	24	22.9	18.4	33.0	-14.6
				12	0	23.1	18.6	33.0	-14.4
				12	7	23.1	18.6	33.0	-14.4
				12	13	23.0	18.5	33.0	-14.5
				25	0	23.1	18.6	33.0	-14.4
			16QAM	1	0	22.6	18.1	33.0	-15.0
				1	12	22.6	18.1	33.0	-14.9
				1	24	22.4	17.9	33.0	-15.1
				12	0	21.6	17.1	33.0	-15.9
				12	7	21.6	17.1	33.0	-15.9
				12	13	21.5	17.0	33.0	-16.0
				25	0	21.6	17.1	33.0	-15.9
			64QAM	1	0	21.7	17.2	33.0	-15.8
				1	12	21.8	17.3	33.0	-15.7
				1	24	21.4	16.9	33.0	-16.1
				12	0	20.5	16.0	33.0	-17.0
				12	7	20.5	16.0	33.0	-17.0
				12	13	20.5	16.0	33.0	-17.0
				25	0	20.4	15.9	33.0	-17.1
5.0	40620	2593.0	QPSK	1	0	23.6	19.1	33.0	-13.9
				1	12	23.5	19.0	33.0	-14.0
				1	24	23.5	19.0	33.0	-14.0
				12	0	23.6	19.1	33.0	-13.9
				12	7	23.6	19.1	33.0	-13.9
				12	13	23.6	19.1	33.0	-13.9
				25	0	23.6	19.1	33.0	-13.9
			16QAM	1	0	23.2	18.7	33.0	-14.3
				1	12	23.2	18.7	33.0	-14.4
				1	24	23.1	18.6	33.0	-14.4
				12	0	22.1	17.6	33.0	-15.4
				12	7	22.1	17.6	33.0	-15.4
				12	13	22.1	17.6	33.0	-15.4
				25	0	22.1	17.6	33.0	-15.4
			64QAM	1	0	22.1	17.6	33.0	-15.4
				1	12	22.0	17.5	33.0	-15.5
				1	24	22.1	17.6	33.0	-15.4
				12	0	20.8	16.3	33.0	-16.7
				12	7	20.7	16.2	33.0	-16.8
				12	13	20.7	16.2	33.0	-16.8
				25	0	20.7	16.2	33.0	-16.8

Antenna gain (dBi)		-4.50							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	41565	2687.5	QPSK	1	0	23.3	18.8	33.0	-14.2
				1	12	23.2	18.7	33.0	-14.3
				1	24	23.2	18.7	33.0	-14.3
				12	0	23.3	18.8	33.0	-14.2
				12	7	23.3	18.8	33.0	-14.2
				12	13	23.3	18.8	33.0	-14.2
				25	0	23.2	18.7	33.0	-14.3
			16QAM	1	0	22.7	18.2	33.0	-14.8
				1	12	22.7	18.2	33.0	-14.8
				1	24	22.6	18.1	33.0	-14.9
				12	0	21.7	17.2	33.0	-15.8
				12	7	21.7	17.2	33.0	-15.8
				12	13	21.7	17.2	33.0	-15.8
				25	0	21.8	17.3	33.0	-15.8
			64QAM	1	0	21.3	16.8	33.0	-16.2
				1	12	21.4	16.9	33.0	-16.1
				1	24	21.2	16.7	33.0	-16.3
				12	0	20.3	15.8	33.0	-17.2
				12	7	20.4	15.9	33.0	-17.1
				12	13	20.3	15.8	33.0	-17.2
				25	0	20.2	15.7	33.0	-17.3

Antenna gain (dBi)		-4.50										
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	23.2	18.7	33.0	-14.3			
				1	25	23.1	18.6	33.0	-14.4			
				1	49	23.0	18.5	33.0	-14.5			
				25	0	23.1	18.6	33.0	-14.4			
				25	12	23.1	18.6	33.0	-14.4			
				25	25	23.0	18.5	33.0	-14.5			
			16QAM	50	0	23.0	18.5	33.0	-14.5			
				1	0	22.7	18.2	33.0	-14.8			
				1	25	22.6	18.1	33.0	-14.9			
				1	49	22.4	17.9	33.0	-15.1			
				25	0	21.6	17.1	33.0	-15.9			
				25	12	21.6	17.1	33.0	-15.9			
			64QAM	25	25	21.5	17.0	33.0	-16.0			
				50	0	21.5	17.0	33.0	-16.0			
				1	0	21.4	16.9	33.0	-16.1			
				1	25	21.3	16.8	33.0	-16.2			
				1	49	21.2	16.7	33.0	-16.3			
				25	0	20.5	16.0	33.0	-17.0			
			10.0	40620	2593.0	QPSK	25	12	20.5	16.0	33.0	-17.0
							25	25	20.4	15.9	33.0	-17.1
							50	0	20.5	16.0	33.0	-17.0
1	0	23.5					19.0	33.0	-14.0			
1	25	23.5					19.0	33.0	-14.0			
1	49	23.5					19.0	33.0	-14.0			
16QAM	25	0				23.6	19.1	33.0	-13.9			
	25	12				23.6	19.1	33.0	-13.9			
	25	25				23.6	19.1	33.0	-13.9			
	50	0				23.6	19.1	33.0	-13.9			
	1	0				23.0	18.5	33.0	-14.5			
	1	25				23.0	18.5	33.0	-14.5			
64QAM	1	49				23.0	18.5	33.0	-14.5			
	25	0				22.1	17.6	33.0	-15.4			
	25	12				22.1	17.6	33.0	-15.4			
	25	25				22.1	17.6	33.0	-15.4			
	50	0				22.1	17.6	33.0	-15.4			
	1	0				21.5	17.0	33.0	-16.0			
	1	25				21.6	17.1	33.0	-15.9			
	1	49				21.6	17.1	33.0	-15.9			
	25	0				20.8	16.3	33.0	-16.7			
25	12	20.7	16.2	33.0	-16.8							
25	25	20.7	16.2	33.0	-16.8							
50	0	20.8	16.3	33.0	-16.7							

Antenna gain (dBi)		-4.50							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	41540	2685.0	QPSK	1	0	23.3	18.8	33.0	-14.2
				1	25	23.1	18.6	33.0	-14.4
				1	49	23.2	18.7	33.0	-14.3
				25	0	23.2	18.7	33.0	-14.3
				25	12	23.1	18.6	33.0	-14.4
				25	25	23.1	18.6	33.0	-14.4
				50	0	23.2	18.7	33.0	-14.3
			16QAM	1	0	22.9	18.4	33.0	-14.6
				1	25	22.8	18.3	33.0	-14.7
				1	49	22.9	18.4	33.0	-14.6
				25	0	21.8	17.3	33.0	-15.7
				25	12	21.8	17.3	33.0	-15.8
				25	25	21.7	17.2	33.0	-15.9
				50	0	21.8	17.3	33.0	-15.7
			64QAM	1	0	21.3	16.8	33.0	-16.2
				1	25	21.1	16.6	33.0	-16.4
				1	49	21.1	16.6	33.0	-16.4
				25	0	20.2	15.7	33.0	-17.3
				25	12	20.3	15.8	33.0	-17.2
				25	25	20.2	15.7	33.0	-17.3
				50	0	20.3	15.8	33.0	-17.2

Antenna gain (dBi)		-4.50							
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	23.4	18.9	33.0	-14.1
				1	37	23.1	18.6	33.0	-14.4
				1	74	23.0	18.5	33.0	-14.5
				36	0	23.2	18.7	33.0	-14.3
				36	20	23.2	18.7	33.0	-14.3
				36	39	23.0	18.5	33.0	-14.5
				75	0	23.1	18.6	33.0	-14.4
			16QAM	1	0	22.9	18.4	33.0	-14.6
				1	37	22.6	18.1	33.0	-14.9
				1	74	22.4	17.9	33.0	-15.1
				36	0	21.7	17.2	33.0	-15.8
				36	20	21.7	17.2	33.0	-15.8
				36	39	21.5	17.0	33.0	-16.0
				75	0	21.6	17.1	33.0	-15.9
			64QAM	1	0	21.5	17.0	33.0	-16.0
				1	37	21.3	16.8	33.0	-16.2
				1	74	21.1	16.6	33.0	-16.4
				36	0	20.6	16.1	33.0	-16.9
				36	20	20.6	16.1	33.0	-16.9
				36	39	20.5	16.0	33.0	-17.0
				75	0	20.5	16.0	33.0	-17.0
15.0	40620	2593.0	QPSK	1	0	23.6	19.1	33.0	-13.9
				1	37	23.5	19.0	33.0	-14.0
				1	74	23.5	19.0	33.0	-14.1
				36	0	23.6	19.1	33.0	-14.0
				36	20	23.7	19.2	33.0	-13.9
				36	39	23.6	19.1	33.0	-13.9
				75	0	23.6	19.1	33.0	-13.9
			16QAM	1	0	23.1	18.6	33.0	-14.4
				1	37	23.0	18.5	33.0	-14.5
				1	74	23.0	18.5	33.0	-14.6
				36	0	22.1	17.6	33.0	-15.5
				36	20	22.1	17.6	33.0	-15.4
				36	39	22.0	17.5	33.0	-15.5
				75	0	22.1	17.6	33.0	-15.4
			64QAM	1	0	22.4	17.9	33.0	-15.1
				1	37	22.3	17.8	33.0	-15.2
				1	74	22.3	17.8	33.0	-15.2
				36	0	20.8	16.3	33.0	-16.7
				36	20	20.8	16.3	33.0	-16.7
				36	39	20.7	16.2	33.0	-16.8
				75	0	20.8	16.3	33.0	-16.7

Antenna gain (dBi)		-4.50							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	41515	2682.5	QPSK	1	0	23.4	18.9	33.0	-14.2
				1	37	23.2	18.7	33.0	-14.3
				1	74	23.2	18.7	33.0	-14.3
				36	0	23.3	18.8	33.0	-14.2
				36	20	23.3	18.8	33.0	-14.2
				36	39	23.3	18.8	33.0	-14.2
				75	0	23.1	18.6	33.0	-14.4
			16QAM	1	0	22.9	18.4	33.0	-14.6
				1	37	22.8	18.3	33.0	-14.8
				1	74	22.8	18.3	33.0	-14.8
				36	0	21.9	17.4	33.0	-15.6
				36	20	21.8	17.3	33.0	-15.7
				36	39	21.8	17.3	33.0	-15.7
				75	0	21.8	17.3	33.0	-15.7
			64QAM	1	0	21.3	16.8	33.0	-16.2
				1	37	21.0	16.5	33.0	-16.5
				1	74	21.3	16.8	33.0	-16.2
				36	0	20.4	15.9	33.0	-17.1
				36	20	20.4	15.9	33.0	-17.1
				36	39	20.4	15.9	33.0	-17.1
				75	0	20.3	15.8	33.0	-17.2

Antenna gain (dBi)		-4.50								
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	23.5	19.0	33.0	-14.1	
				1	49	23.2	18.7	33.0	-14.4	
				1	99	23.0	18.5	33.0	-14.5	
				50	0	23.2	18.7	33.0	-14.3	
				50	24	23.1	18.6	33.0	-14.4	
				50	50	23.0	18.5	33.0	-14.5	
				100	0	23.1	18.6	33.0	-14.4	
			16QAM	1	0	23.1	18.6	33.0	-14.4	
				1	49	22.8	18.3	33.0	-14.7	
				1	99	22.6	18.1	33.0	-14.9	
				50	0	21.8	17.3	33.0	-15.7	
				50	24	21.6	17.1	33.0	-15.9	
				50	50	21.6	17.1	33.0	-15.9	
				100	0	21.6	17.1	33.0	-15.9	
			64QAM	1	0	21.5	17.0	33.0	-16.0	
				1	49	21.3	16.8	33.0	-16.2	
				1	99	21.2	16.7	33.0	-16.3	
				50	0	20.6	16.1	33.0	-16.9	
				50	24	20.6	16.1	33.0	-16.9	
				50	50	20.5	16.0	33.0	-17.0	
				100	0	20.5	16.0	33.0	-17.0	
20.0	40620	2593.0	QPSK	1	0	23.7	19.2	33.0	-13.8	
				1	49	23.6	19.1	33.0	-13.9	
				1	99	23.6	19.1	33.0	-13.9	
				50	0	23.6	19.1	33.0	-13.9	
				50	24	23.7	19.2	33.0	-13.8	
				50	50	23.6	19.1	33.0	-13.9	
				100	0	23.7	19.2	33.0	-13.8	
			16QAM	1	0	23.1	18.6	33.0	-14.4	
				1	49	23.0	18.5	33.0	-14.5	
				1	99	22.9	18.4	33.0	-14.7	
				50	0	22.1	17.6	33.0	-15.4	
				50	24	22.2	17.7	33.0	-15.3	
				50	50	22.1	17.6	33.0	-15.4	
				100	0	22.1	17.6	33.0	-15.4	
			64QAM	1	0	21.7	17.2	33.0	-15.8	
				1	49	21.6	17.1	33.0	-15.9	
				1	99	21.5	17.0	33.0	-16.0	
				50	0	20.8	16.3	33.0	-16.7	
				50	24	20.8	16.3	33.0	-16.7	
				50	50	20.7	16.2	33.0	-16.8	
				100	0	20.8	16.3	33.0	-16.7	

Antenna gain (dBi)		-4.50							
Bandwidth	UL Channel	-1.5	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	41490	2680.0	QPSK	1	0	23.4	18.9	33.0	-14.1
				1	49	23.2	18.7	33.0	-14.3
				1	99	23.2	18.7	33.0	-14.3
				50	0	23.2	18.7	33.0	-14.3
				50	24	23.3	18.8	33.0	-14.2
				50	50	23.3	18.8	33.0	-14.2
				100	0	22.9	18.4	33.0	-14.6
			16QAM	1	0	22.9	18.4	33.0	-14.7
				1	49	22.7	18.2	33.0	-14.8
				1	99	22.7	18.2	33.0	-14.8
				50	0	21.9	17.4	33.0	-15.6
				50	24	21.8	17.3	33.0	-15.7
				50	50	21.7	17.2	33.0	-15.8
				100	0	21.8	17.3	33.0	-15.7
			64QAM	1	0	21.7	17.2	33.0	-15.8
				1	49	21.4	16.9	33.0	-16.1
				1	99	21.4	16.9	33.0	-16.1
				50	0	20.4	15.9	33.0	-17.1
				50	24	20.3	15.8	33.0	-17.2
				50	50	20.3	15.8	33.0	-17.2
				100	0	20.2	15.7	33.0	-17.3

13. PEAK TO AVERAGE RATIO

TEST PROCEDURE

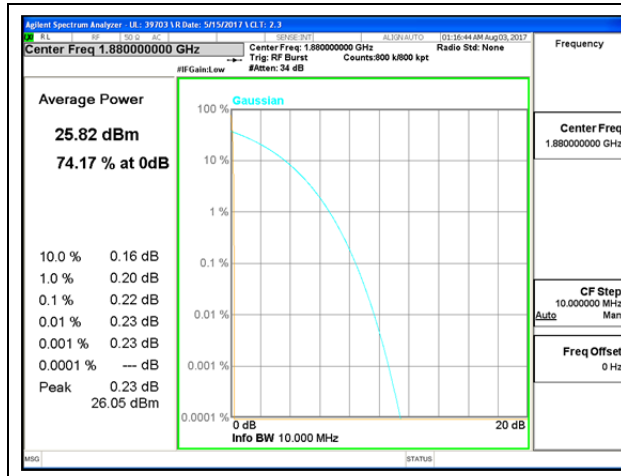
Per KDB 971168 D01 Power Meas License Digital Systems v02r02

TEST SPEC

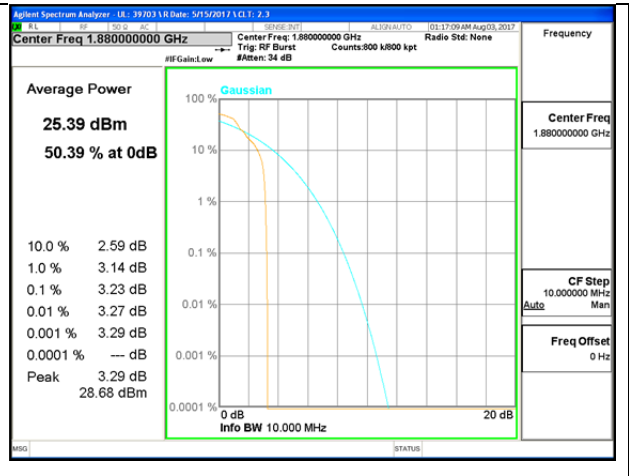
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

13.1. CONDUCTED PEAK TO AVERAGE RESULT

GSM

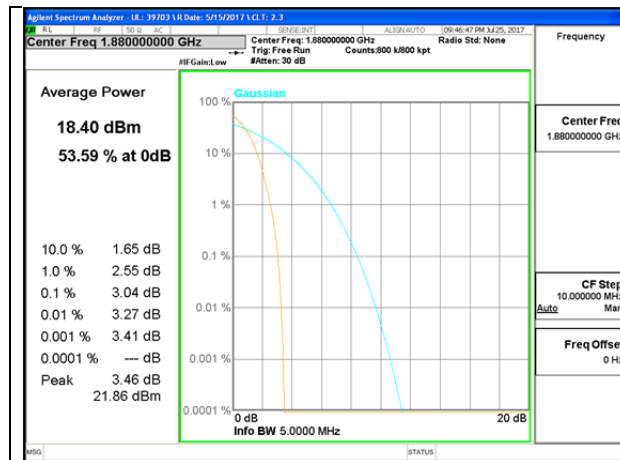


GSM1900 GPRS Middle Channel

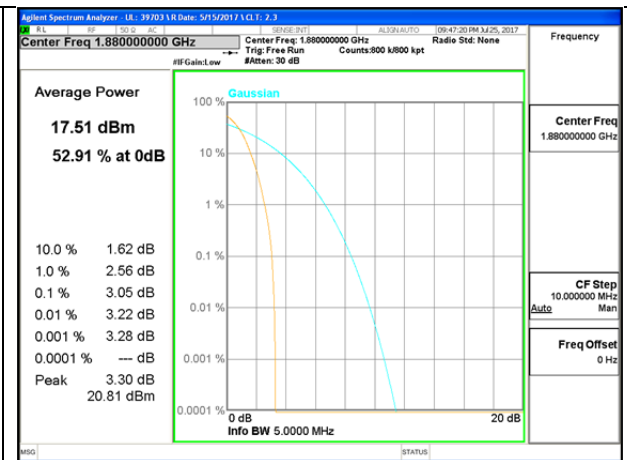


GSM1900 EGPRS Middle Channel

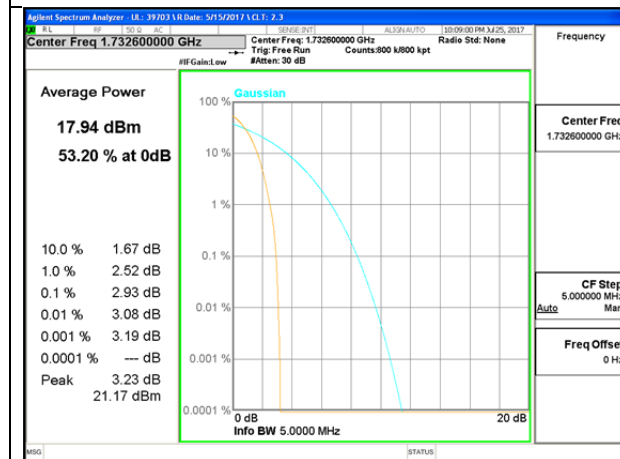
WCDMA



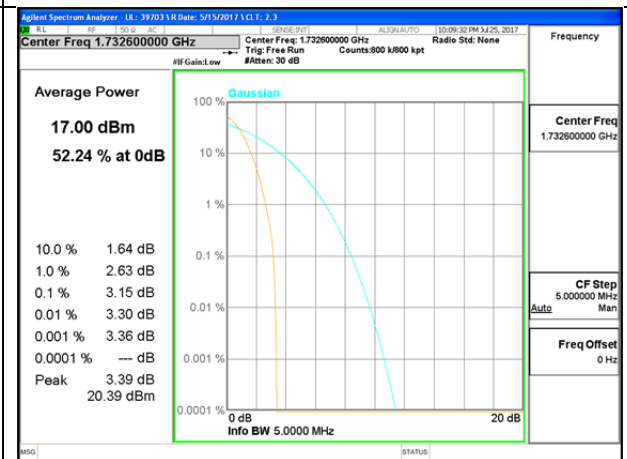
B2 REL99



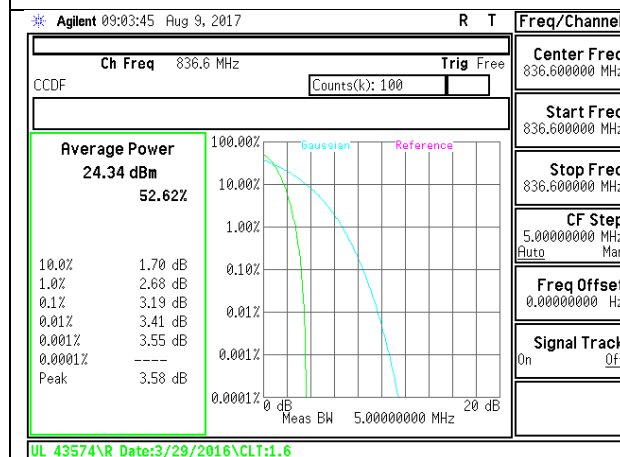
B2 HSDPA



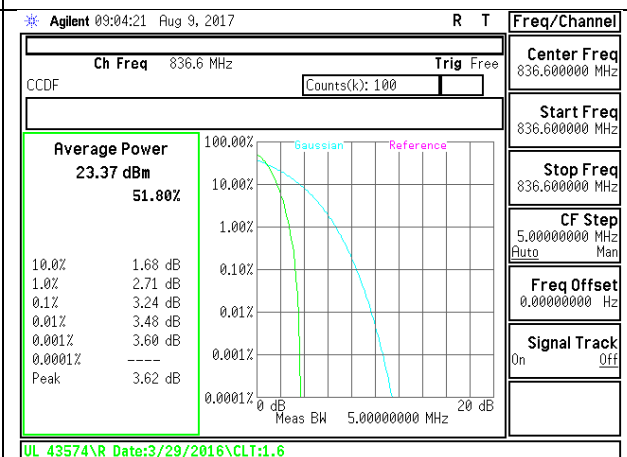
B4 REL99



B4 HSDPA

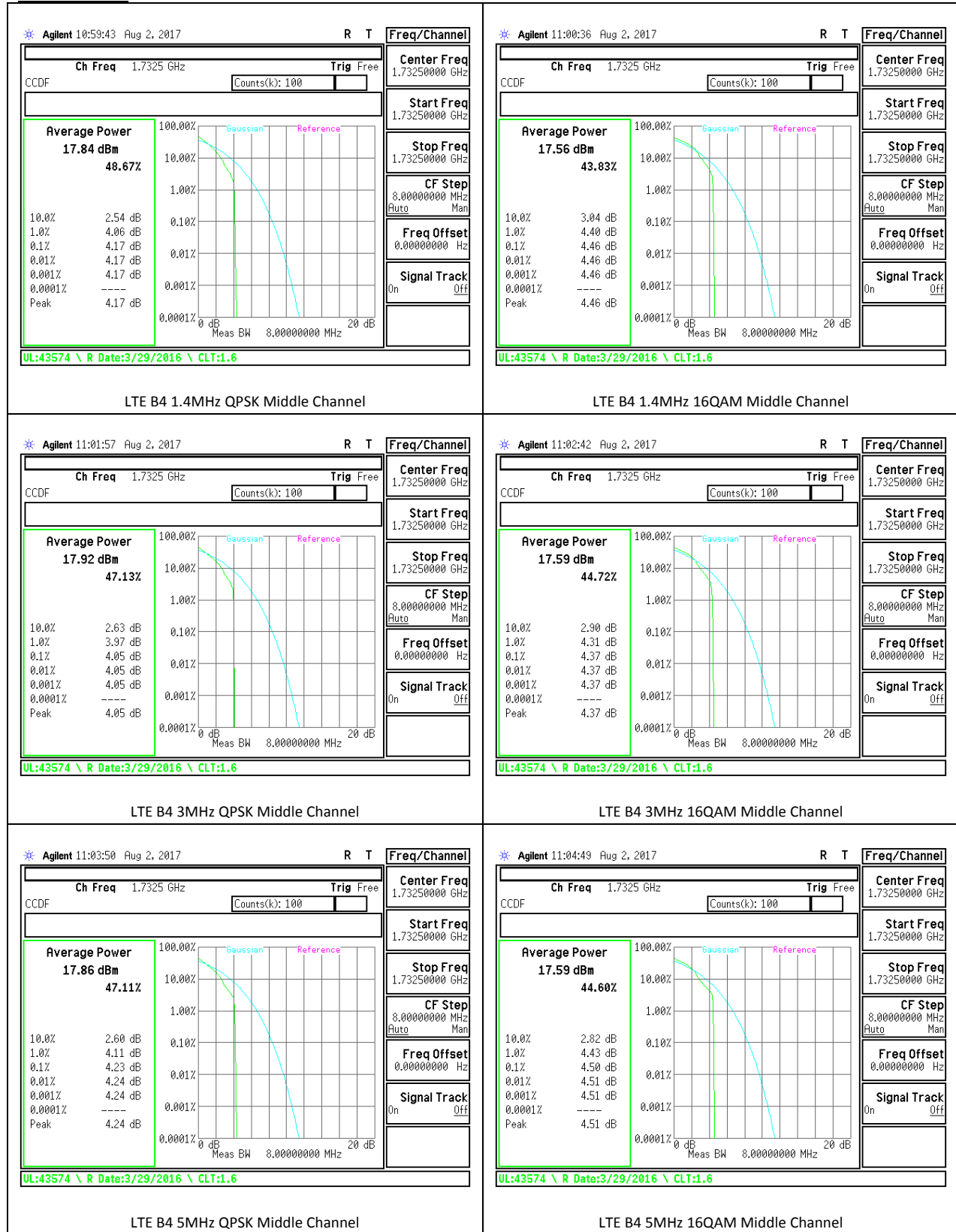


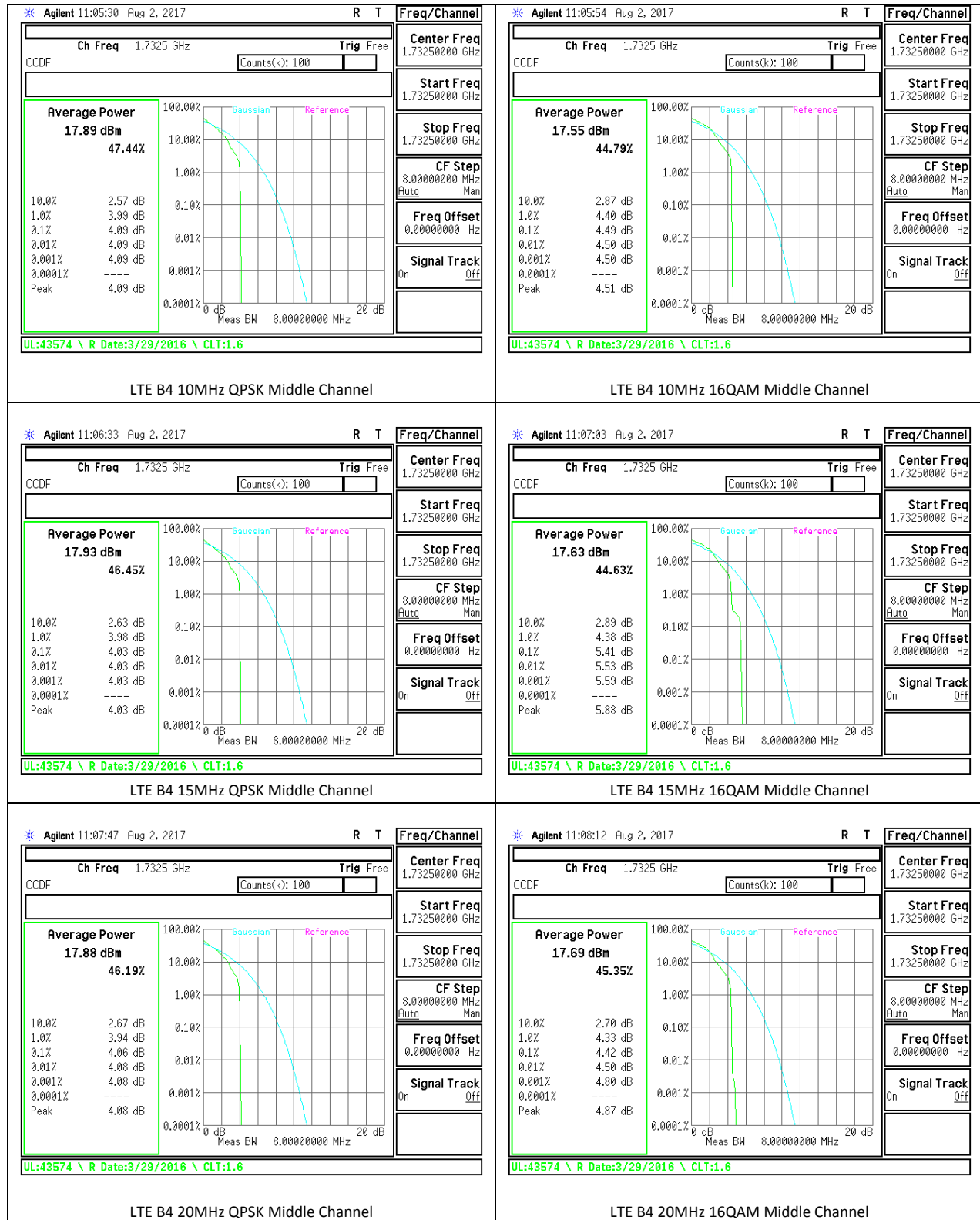
B5 REL99



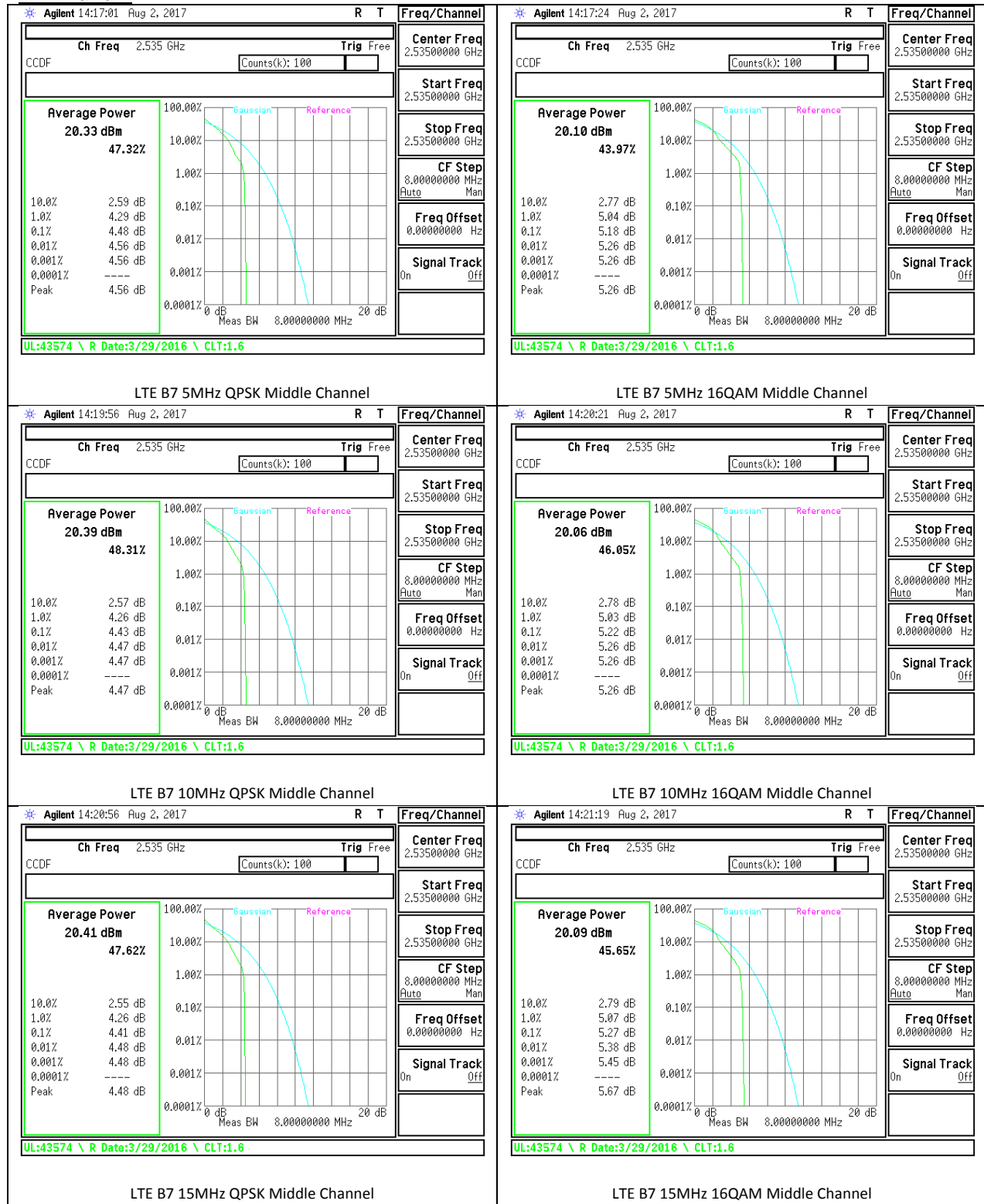
B5 HSDPA

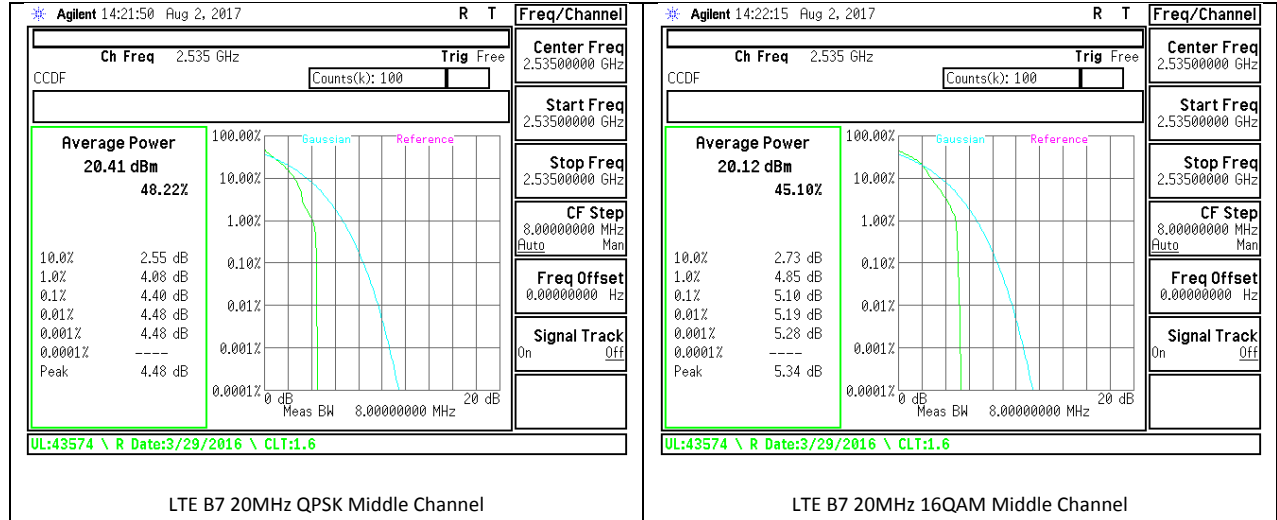
LTE Band 4



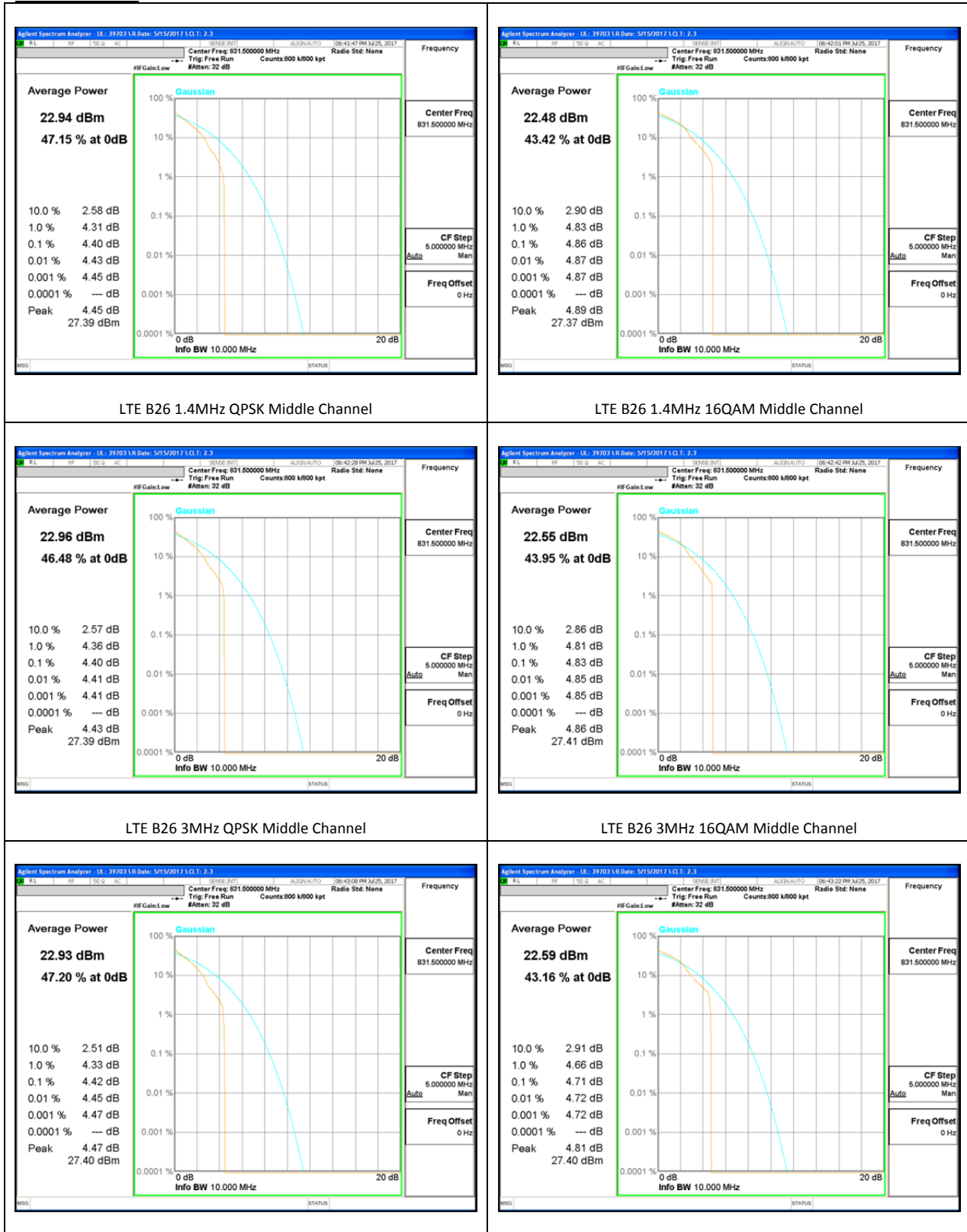


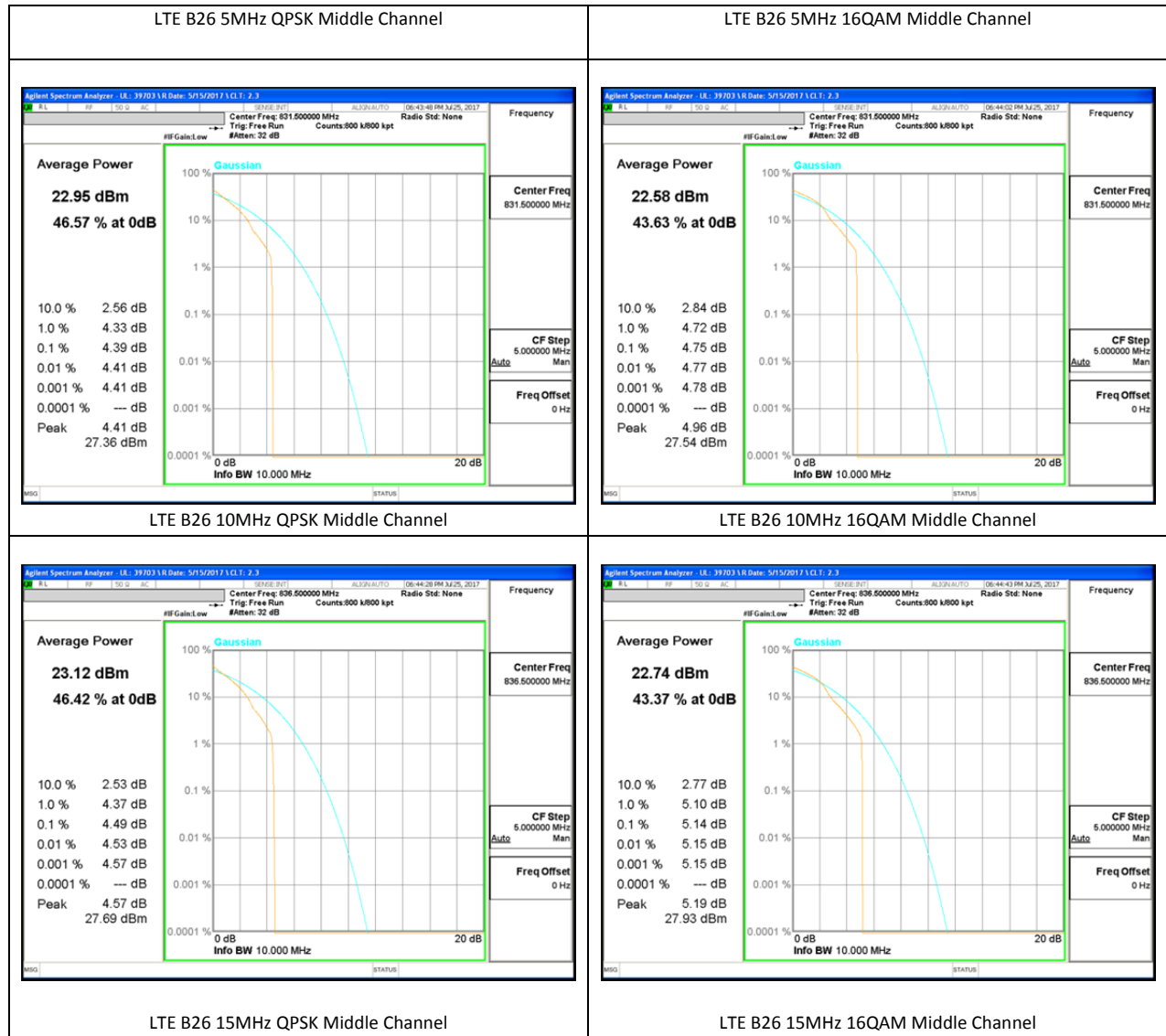
LTE Band 7



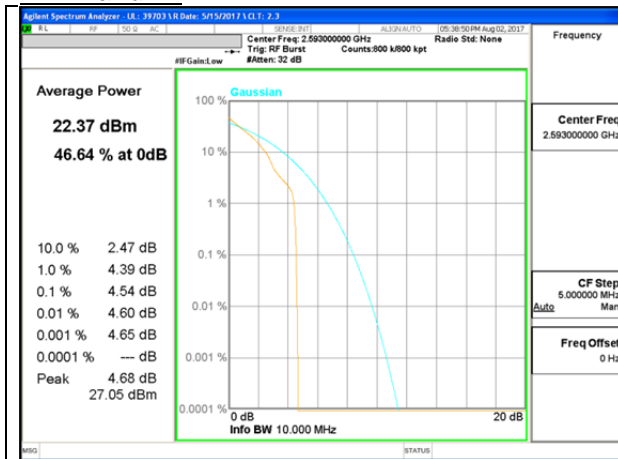


LTE Band 26

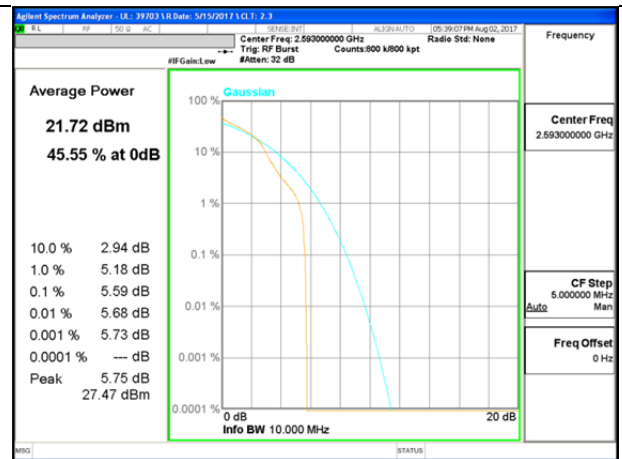




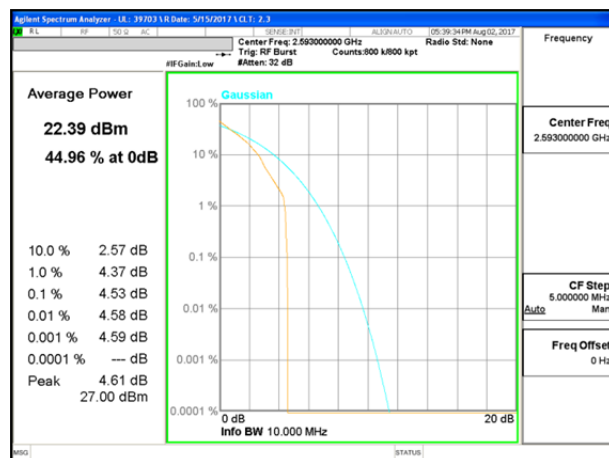
LTE Band 41



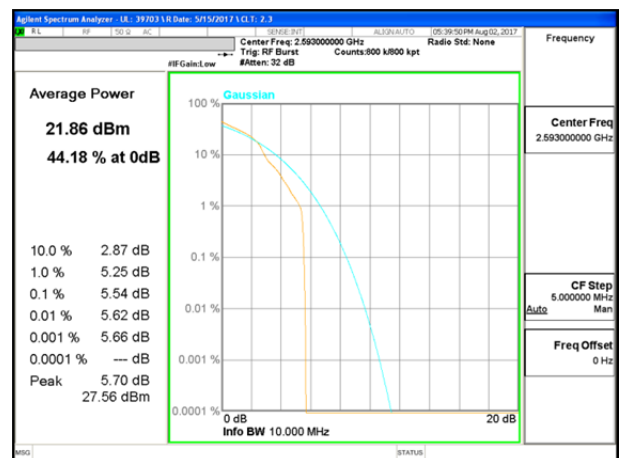
LTE B41 5MHz QPSK Middle Channel



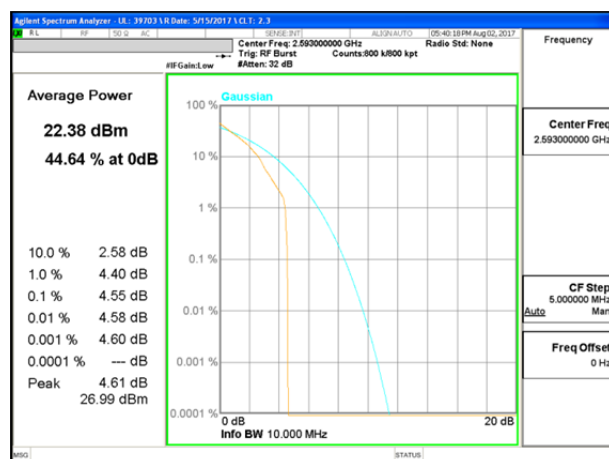
LTE B41 5MHz 16QAM Middle Channel



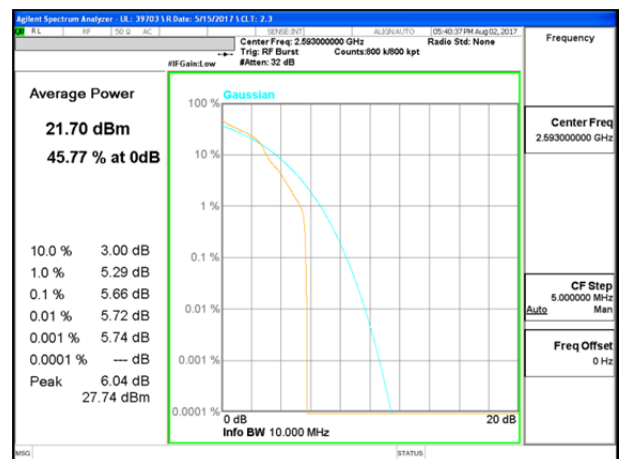
LTE B41 10MHz QPSK Middle Channel



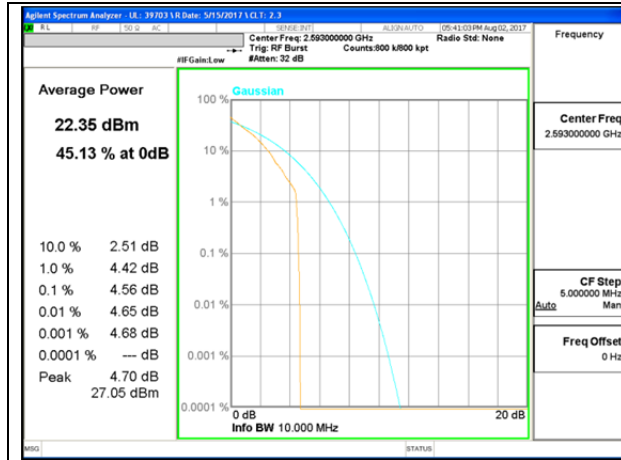
LTE B41 10MHz 16QAM Middle Channel



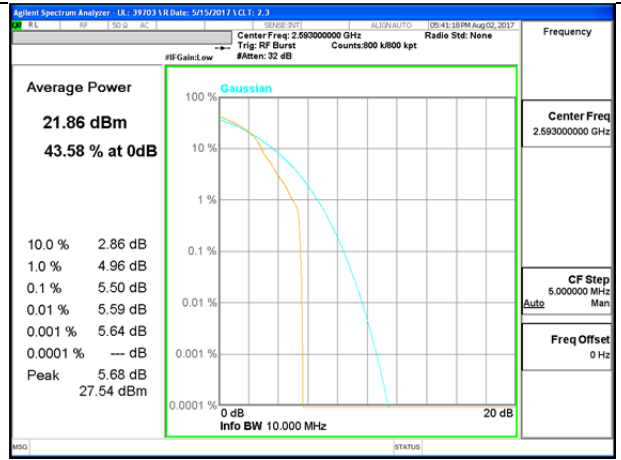
LTE B41 15MHz QPSK Middle Channel



LTE B41 15MHz 16QAM Middle Channel



LTE B41 20MHz QPSK Middle Channel



LTE B41 20MHz 16QAM Middle Channel

14. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

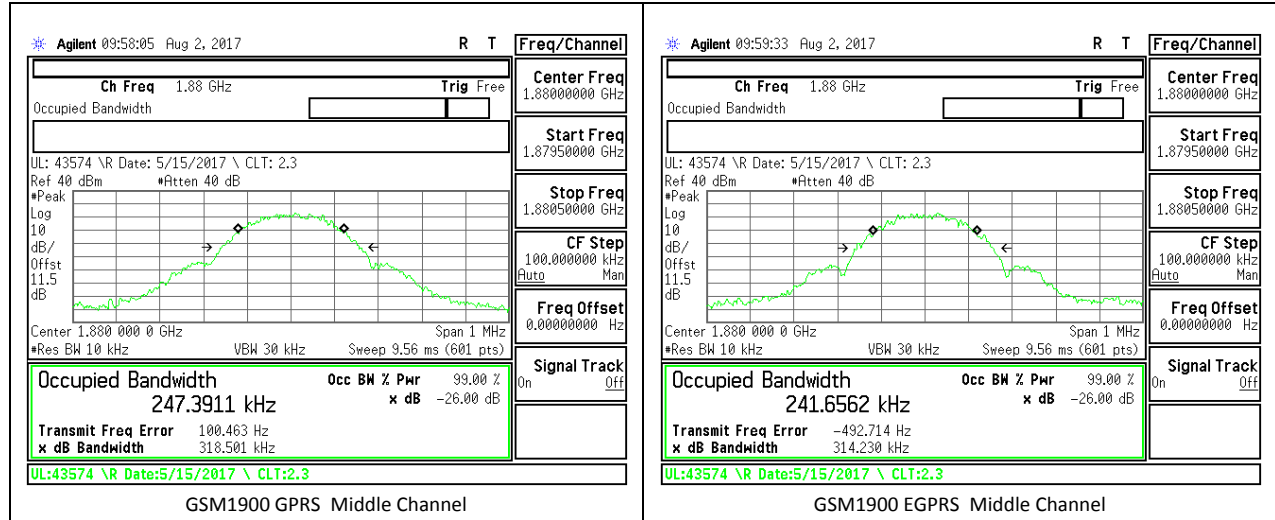
The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

(KDB 971168 D01 Power Meas License Digital Systems v02r02)

14.1. OCCUPIED BANDWIDTH RESULTS AND PLOTS

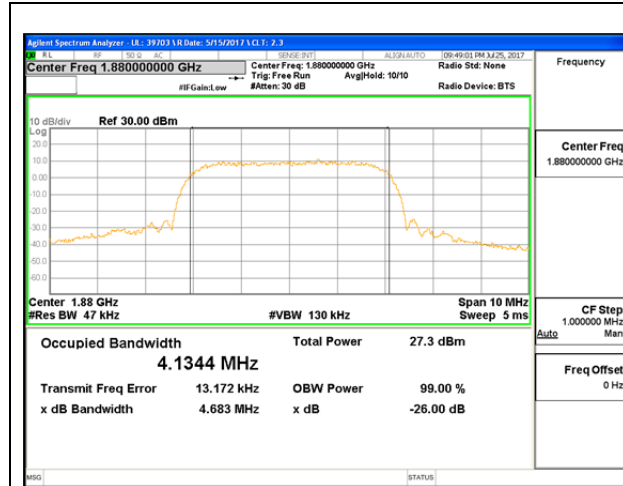
GSM

Band	Mode	Channel	f (MHz)	99% BW (kHz)	-26dB (kHz)
GSM 1900	GPRS	512	1850.2	243.4	313.6
		661	1880	247.4	316.8
		810	1909.8	247.5	316.6
	EGPRS	512	1850.2	248.1	303.0
		661	1880	241.7	314.2
		810	1909.8	237.9	311.0

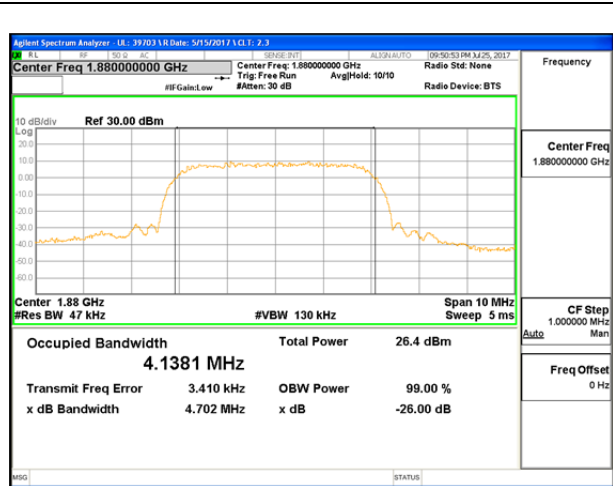


WCDMA

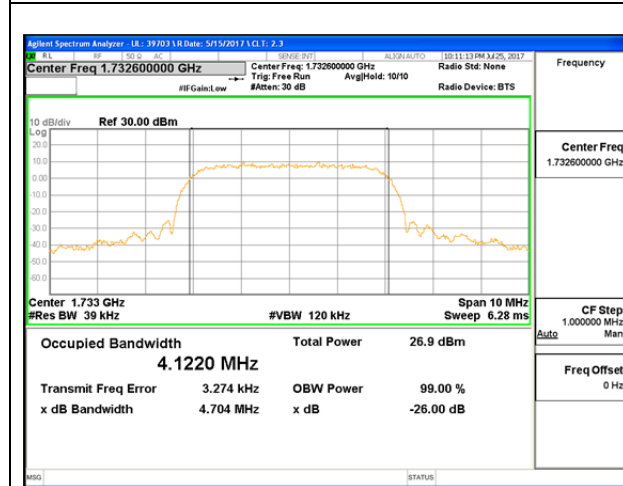
Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB (MHz)
Band 2	REL99	9262	1852.4	4.1323	4.684
		9400	1880	4.1344	4.683
		9538	1907.6	4.1346	4.675
	HSDPA	9262	1852.4	4.1336	4.698
		9400	1880	4.1381	4.702
		9538	1907.6	4.1220	4.683
Band 4	REL99	9262	1712.4	4.1238	4.676
		9400	1732.6	4.1220	4.704
		9538	1752.6	4.1325	4.691
	HSDPA	9262	1712.4	4.1374	4.691
		9400	1732.6	4.1253	4.658
		9538	1752.6	4.1322	4.692
Band 5	REL99	4132	826.4	4.1338	4.673
		4183	836.6	4.1340	4.672
		4233	846.6	4.1405	4.685
	HSDPA	4132	826.4	4.1069	4.665
		4183	836.6	4.1211	4.653
		4233	846.6	4.1290	4.690



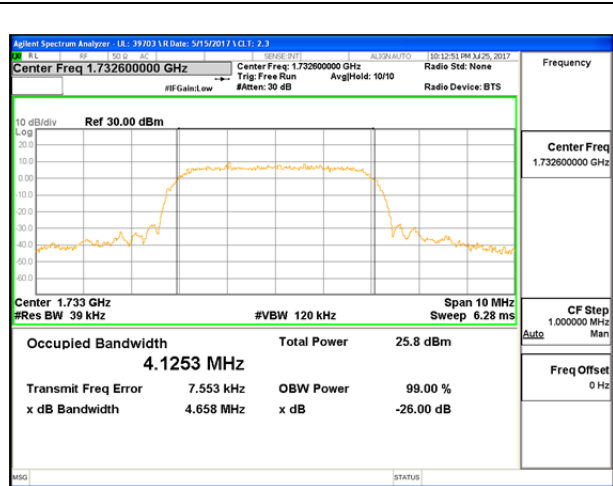
B2 REL99 Middle Channel



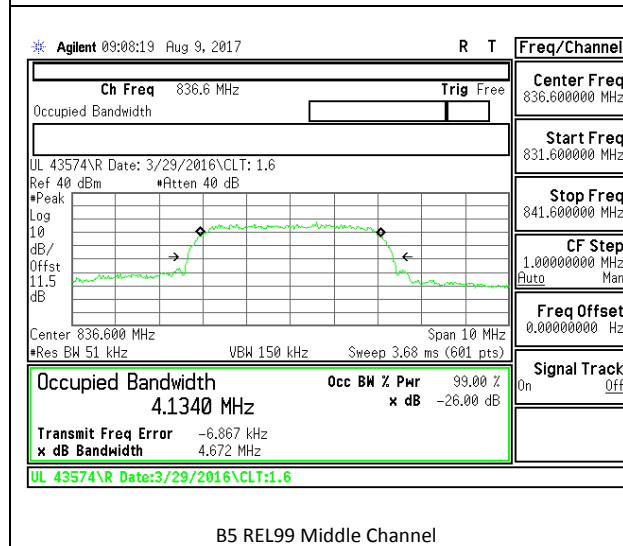
B2 HSDPA Middle Channel



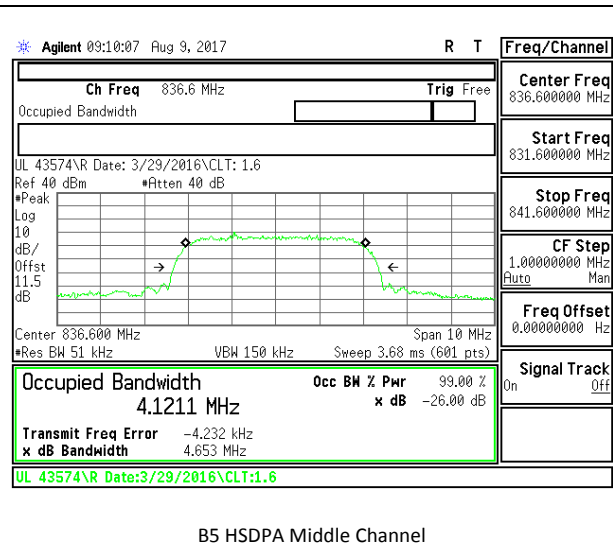
B4 REL99 Middle Channel



B4 HSDPA Middle Channel



B5 REL99 Middle Channel

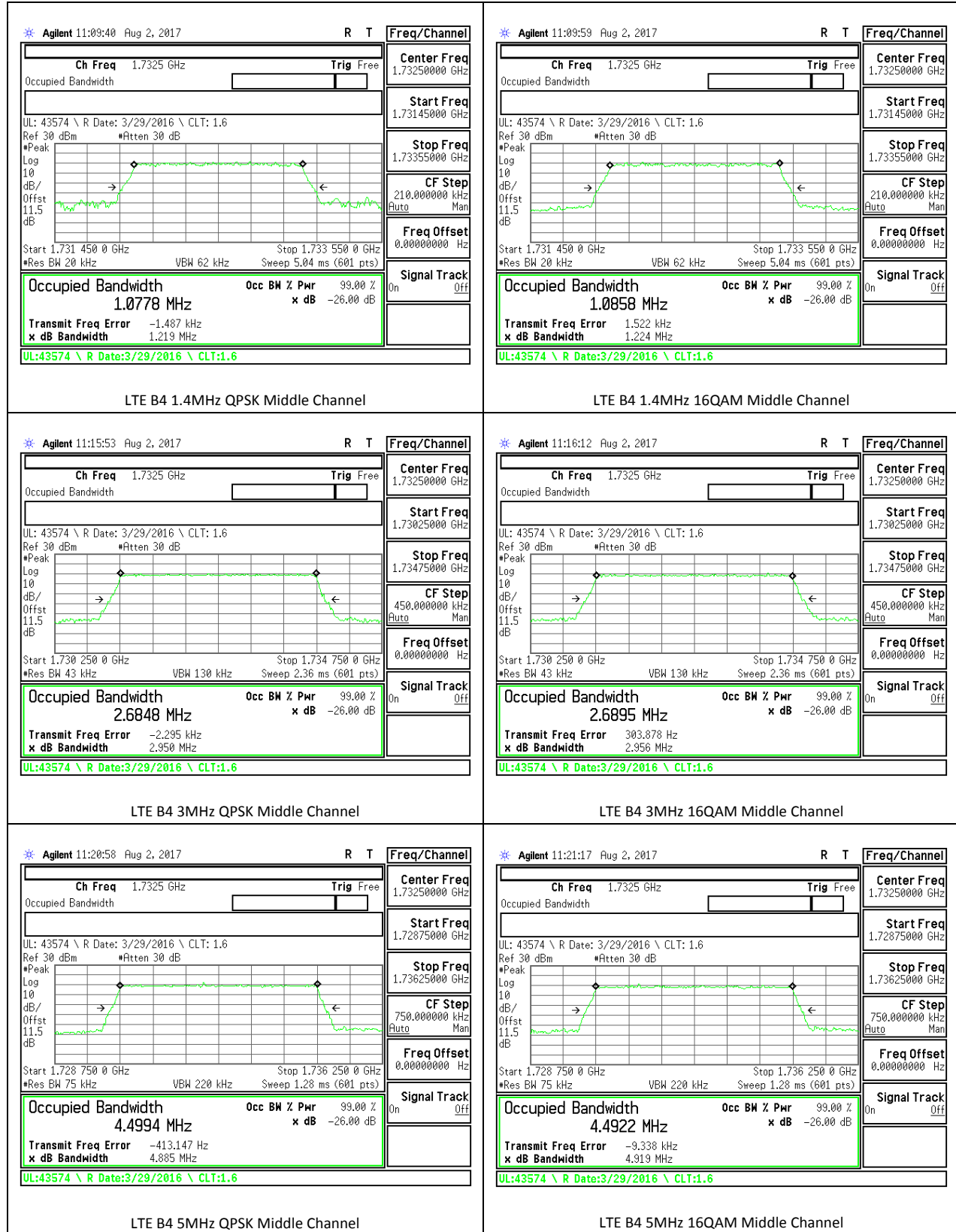


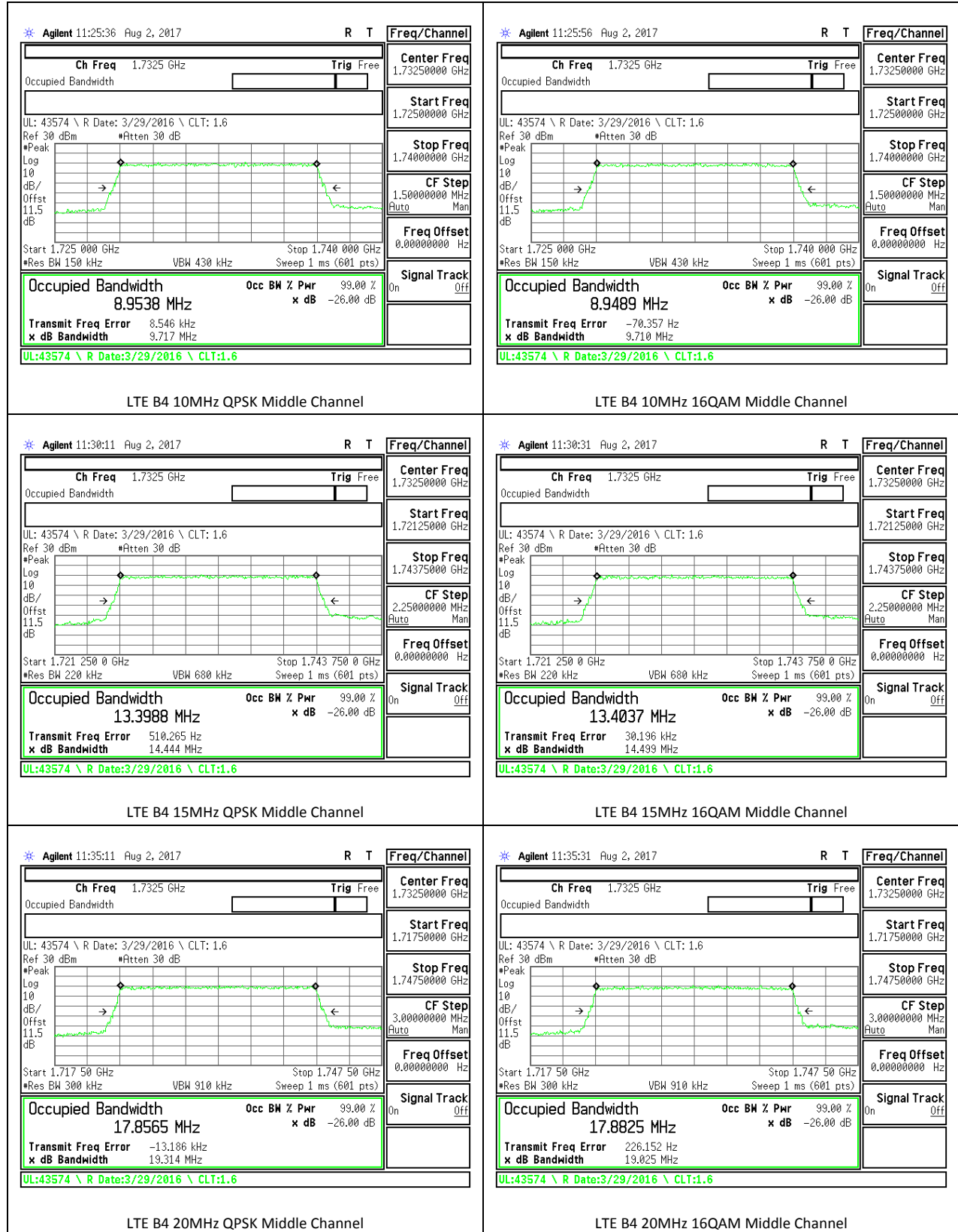
B5 HSDPA Middle Channel

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	1.22
		16QAM	6/0	1710.7	1.08	1.22
			6/0	1732.5	1.09	1.22
			6/0	1754.3	1.09	1.23
	3	QPSK	15/0	1711.5	2.69	2.94
			15/0	1732.5	2.68	2.95
			15/0	1753.5	2.69	2.95
		16QAM	15/0	1711.5	2.68	2.98
			15/0	1732.5	2.69	2.96
			15/0	1753.5	2.69	2.96
	5	QPSK	25/0	1712.5	4.51	4.96
			25/0	1732.5	4.5	4.89
			25/0	1752.5	4.49	4.98
		16QAM	25/0	1712.5	4.49	4.93
			25/0	1732.5	4.49	4.92
			25/0	1752.5	4.51	4.91
	10	QPSK	50/0	1715	8.96	9.75
			50/0	1732.5	8.95	9.72
			50/0	1750	8.94	9.68
16QAM		50/0	1715	8.96	9.68	
		50/0	1732.5	8.95	9.71	
		50/0	1750	8.95	9.67	

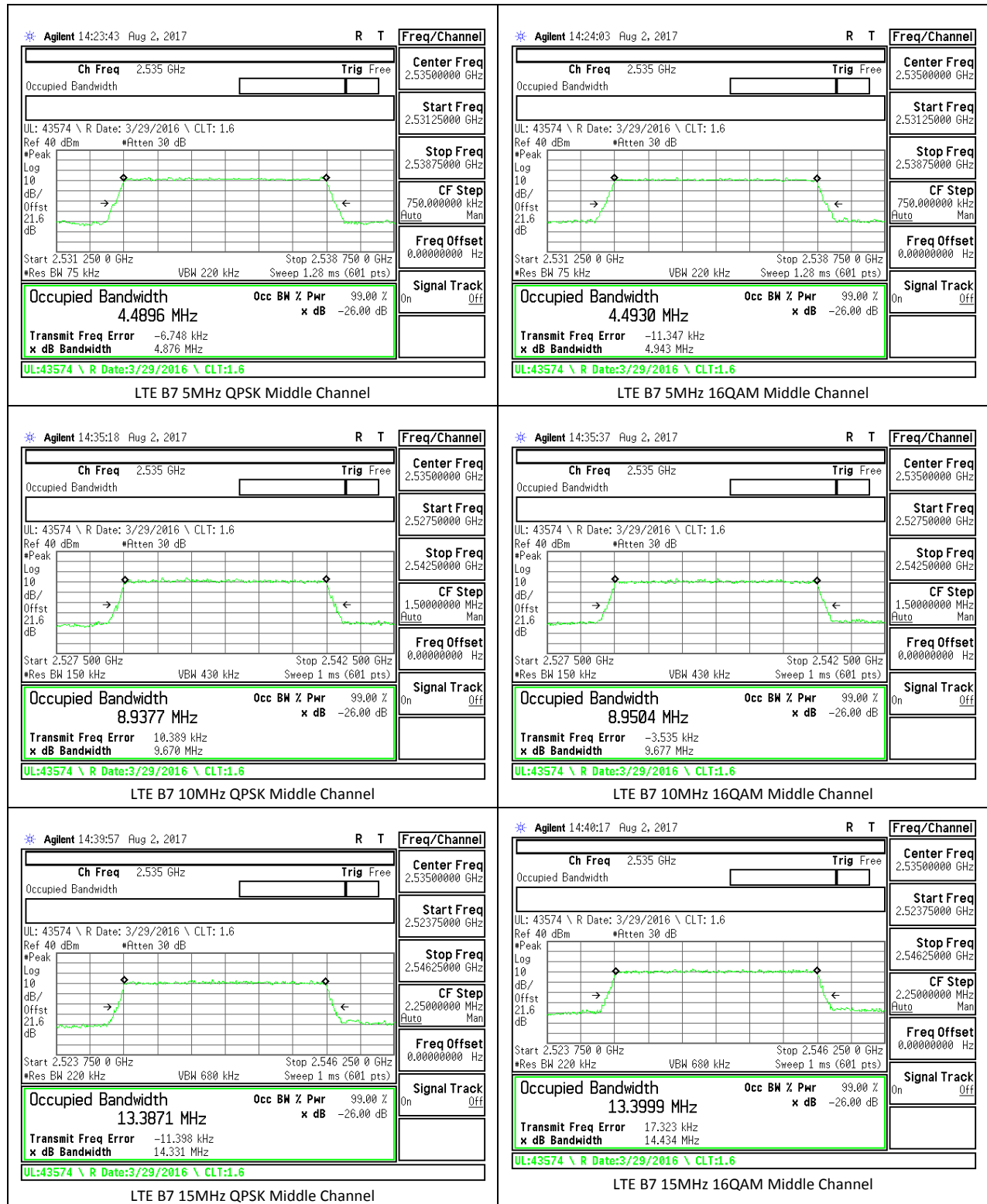
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	15	QPSK	75/0	1717.5	13.42	14.09
			75/0	1732.5	13.4	14.44
			75/0	1747.5	13.42	14.44
		16QAM	75/0	1717.5	13.43	14.50
			75/0	1732.5	13.4	14.50
			75/0	1747.5	13.4	14.43
	20	QPSK	100/0	1720	17.84	19.23
			100/0	1732.5	17.86	19.31
			100/0	1745	17.84	19.41
		16QAM	100/0	1720	17.89	19.30
			100/0	1732.5	17.88	19.03
			100/0	1745	17.86	19.12

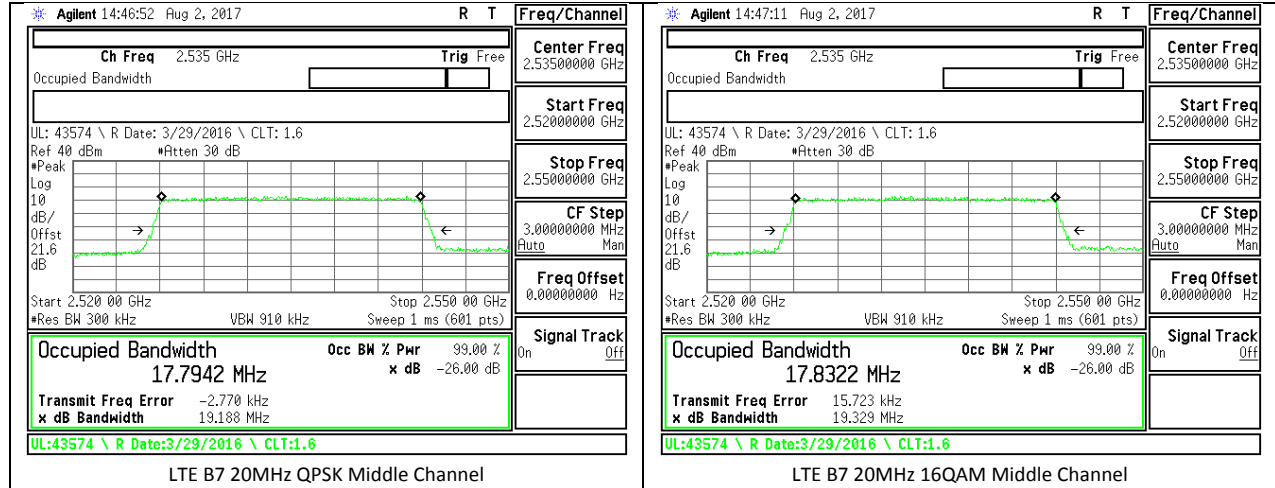




LTE Band 7

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE7	5	QPSK	50/0	2502.5	4.49	4.96
			50/0	2535	4.49	4.88
			50/0	2567.5	4.5	4.9
		16QAM	25/0	2502.5	4.49	4.93
			25/0	2535	4.49	4.94
			25/0	2567.5	4.49	4.93
	10	QPSK	1/0	2505	8.94	9.64
			50/0	2535	8.94	9.67
			1/0	2565	8.96	9.75
		16QAM	50/0	2505	8.93	9.64
			50/0	2535	8.95	9.68
			50/0	2565	8.94	9.66
	15	QPSK	1/0	2507.5	13.35	14.47
			75/0	2535	13.39	14.33
			1/0	2562.5	13.39	14.52
		16QAM	1/0	2507.5	13.36	14.3
			75/0	2535	13.4	14.43
			75/0	2562.5	13.38	14.47
	20	QPSK	1/0	2510	17.86	19.14
			100/0	2535	17.79	19.19
			1/0	2560	17.84	19.13
16QAM		100/0	2510	17.87	19.08	
		100/0	2535	17.83	19.33	
		100/0	2560	17.83	18.97	

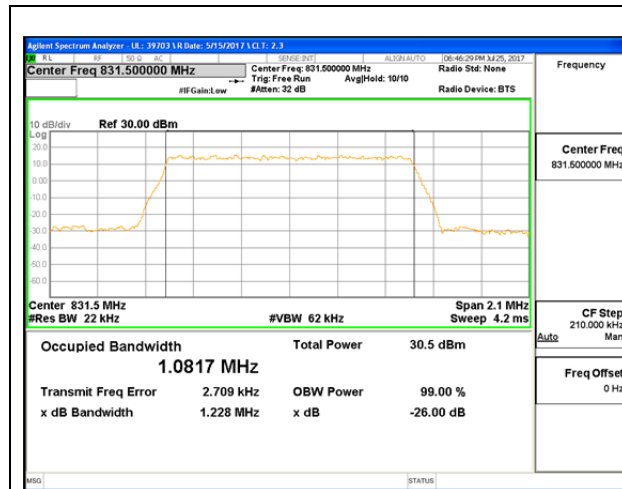




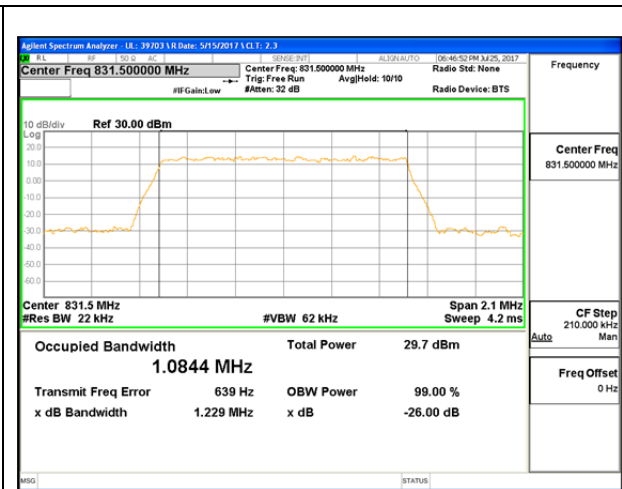
LTE Band 26

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE26	1.4	QPSK	6/0	814.7	1.0952	1.239
			6/0	831.5	1.0817	1.228
			6/0	848.3	1.0859	1.225
		16QAM	6/0	814.7	1.0806	1.236
			6/0	831.5	1.0844	1.229
			6/0	848.3	1.0938	1.240
	3	QPSK	25/0	815.5	2.6969	3.012
			25/0	831.5	2.6975	2.993
			25/0	847.5	2.6997	2.983
		16QAM	25/0	815.5	2.7006	2.981
			25/0	831.5	2.6952	2.985
			25/0	847.5	2.6946	3.012
	5	QPSK	25/0	816.5	4.5088	4.963
			25/0	831.5	4.4884	4.948
			25/0	846.5	4.4938	4.916
		16QAM	25/0	816.5	4.4957	4.943
			25/0	831.5	4.4872	4.926
			25/0	846.5	4.4778	4.871
	10	QPSK	50/0	819	8.9605	9.823
			50/0	831.5	8.9516	9.822
			50/0	844	8.9793	9.735
16QAM		50/0	819	8.9715	9.760	
		50/0	831.5	8.9518	9.792	
		50/0	844	8.9884	9.736	

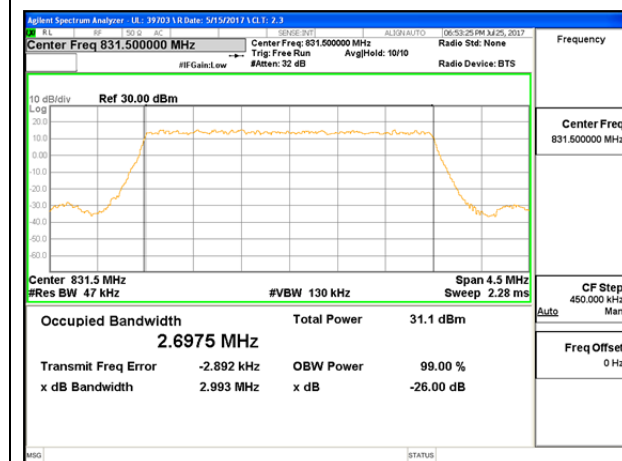
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
	15	QPSK	75/0	831.5	13.426	14.53
			75/0	836.5	13.428	14.50
			75/0	841.5	13.424	14.60
		16QAM	75/0	831.5	13.444	14.50
			75/0	836.5	13.413	14.65
			75/0	841.5	13.402	14.54



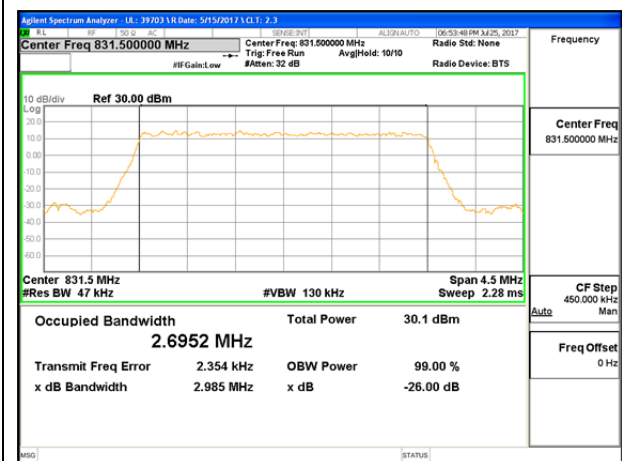
LTE B26 1.4MHz QPSK Middle Channel



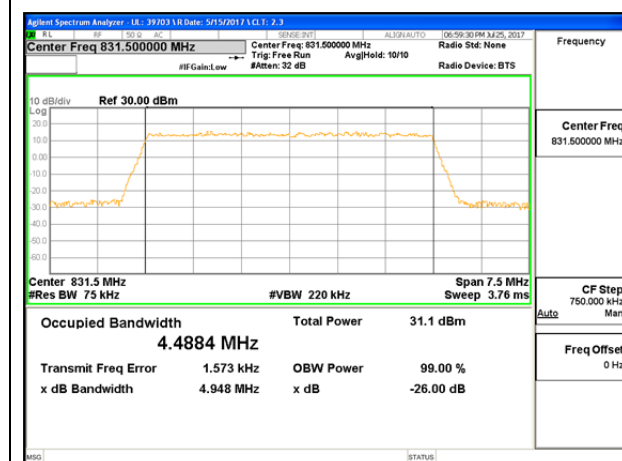
LTE B26 1.4MHz 16QAM Middle Channel



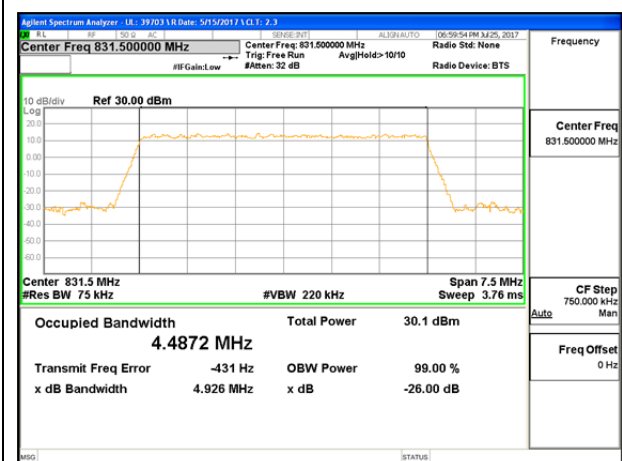
LTE B26 3MHz QPSK Middle Channel



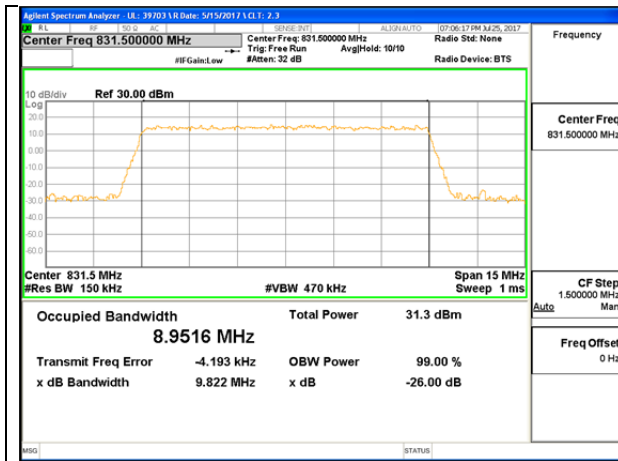
LTE B26 3MHz 16QAM Middle Channel



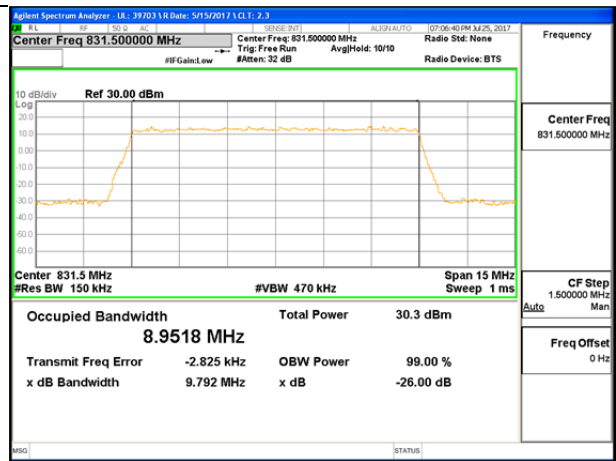
LTE B26 5MHz QPSK Middle Channel



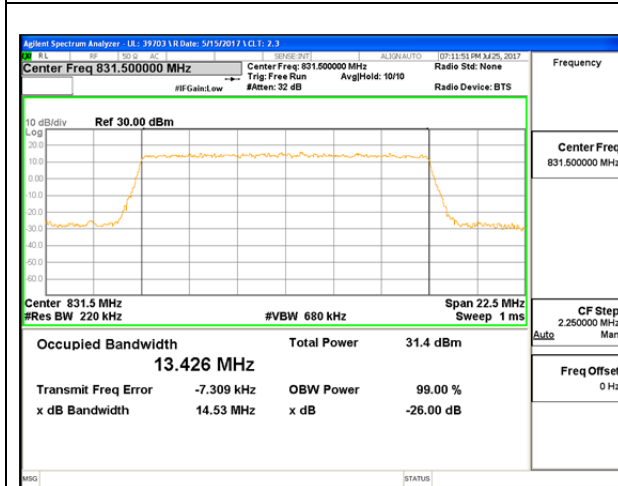
LTE B26 5MHz 16QAM Middle Channel



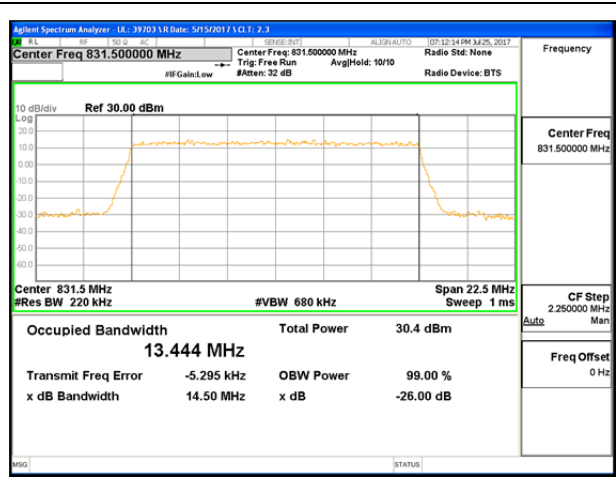
LTE B26 10MHz QPSK Middle Channel



LTE B26 10MHz 16QAM Middle Channel



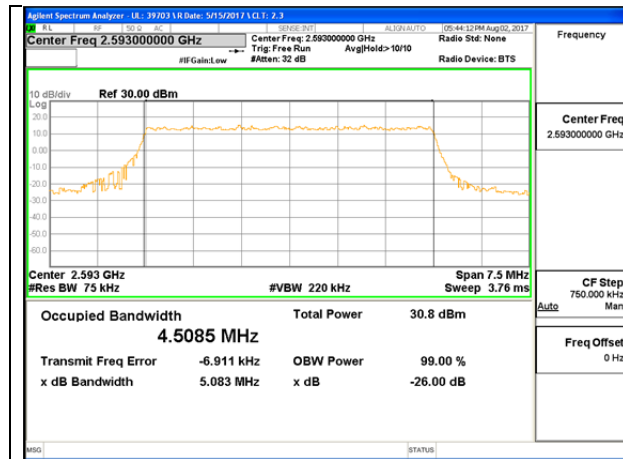
LTE B26 15MHz QPSK Middle Channel



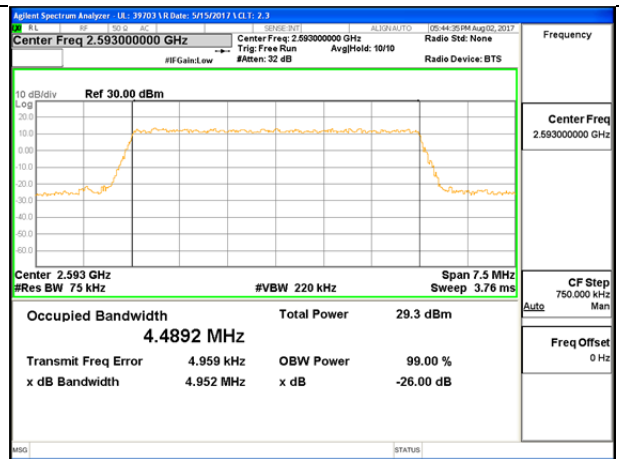
LTE B26 15MHz 16QAM Middle Channel

LTE Band 41

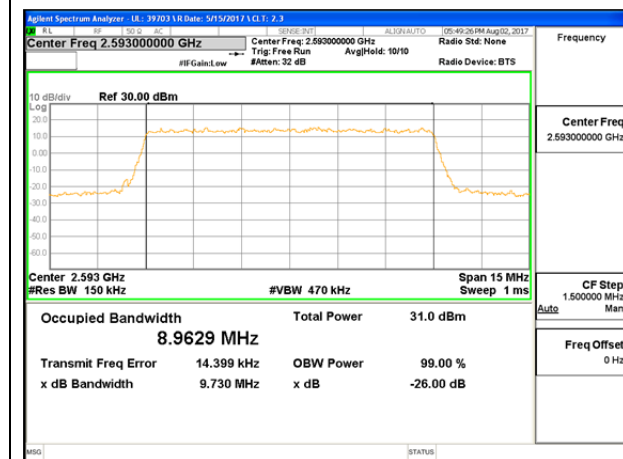
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE41	5	QPSK	25/0	2498.5	4.51	4.95
			25/0	2593	4.51	5.08
			25/0	2687.5	4.49	4.91
		16QAM	25/0	2498.5	4.49	4.92
			25/0	2593	4.49	4.95
			25/0	2687.5	4.49	4.93
	10	QPSK	50/0	2501	8.95	9.75
			50/0	2593	8.96	9.73
			50/0	2685	9.0	9.76
		16QAM	50/0	2501	8.97	9.72
			50/0	2593	8.94	9.8
			50/0	2685	8.96	9.72
	15	QPSK	75/0	2503.5	13.42	14.51
			75/0	2593	13.45	14.47
			75/0	2682.5	13.44	14.51
		16QAM	75/0	2503.5	13.45	14.55
			75/0	2593	13.43	14.51
			75/0	2682.5	13.43	14.52
	20	QPSK	100/0	2506	17.88	19.19
			100/0	2593	17.89	19.26
			100/0	2680	17.85	19.13
16QAM		100/0	2506	17.87	19.28	
		100/0	2593	17.87	19.18	
		100/0	2680	17.82	19.09	



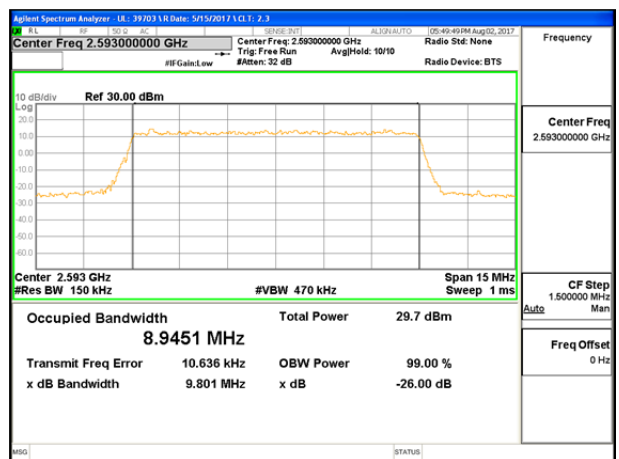
LTE B41 5MHz QPSK Middle Channel



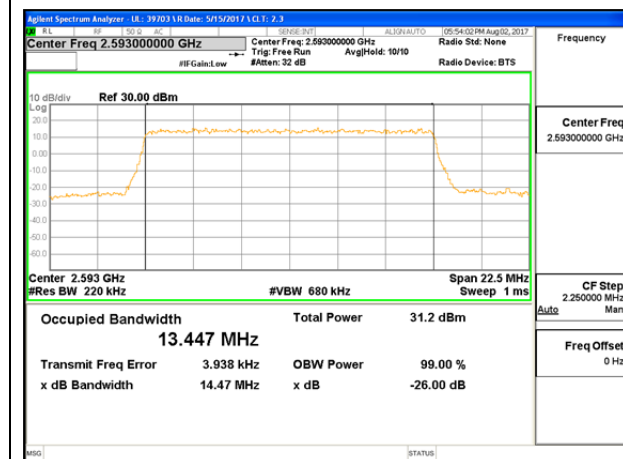
LTE B41 5MHz 16QAM Middle Channel



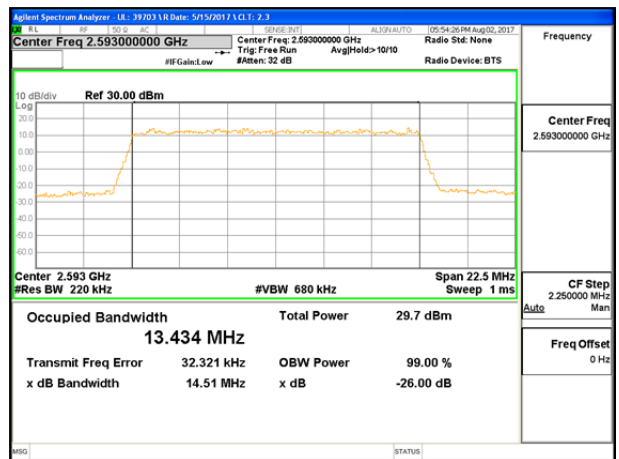
LTE B41 10MHz QPSK Middle Channel



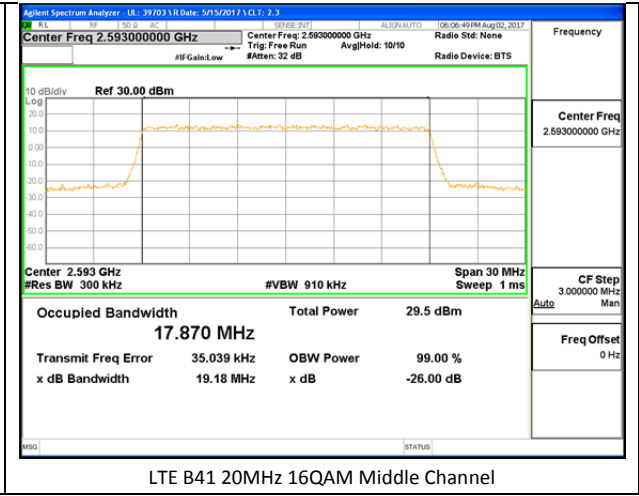
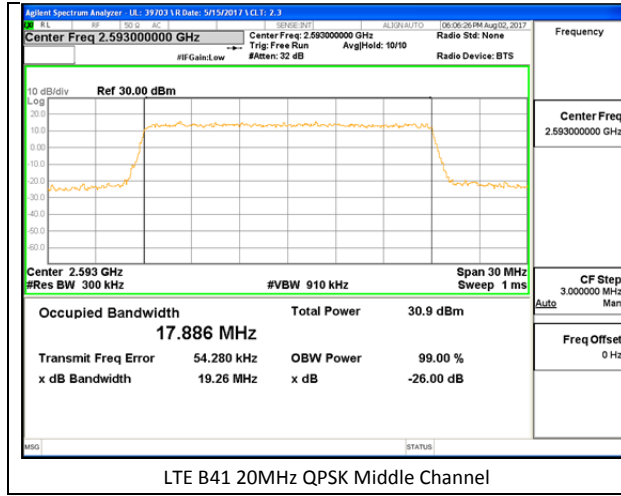
LTE B41 10MHz 16QAM Middle Channel



LTE B41 15MHz QPSK Middle Channel



LTE B41 15MHz 16QAM Middle Channel



15. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.359, §24.238, §27.53 and § 90.691

FCC LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Part 27: (m)(4) (4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

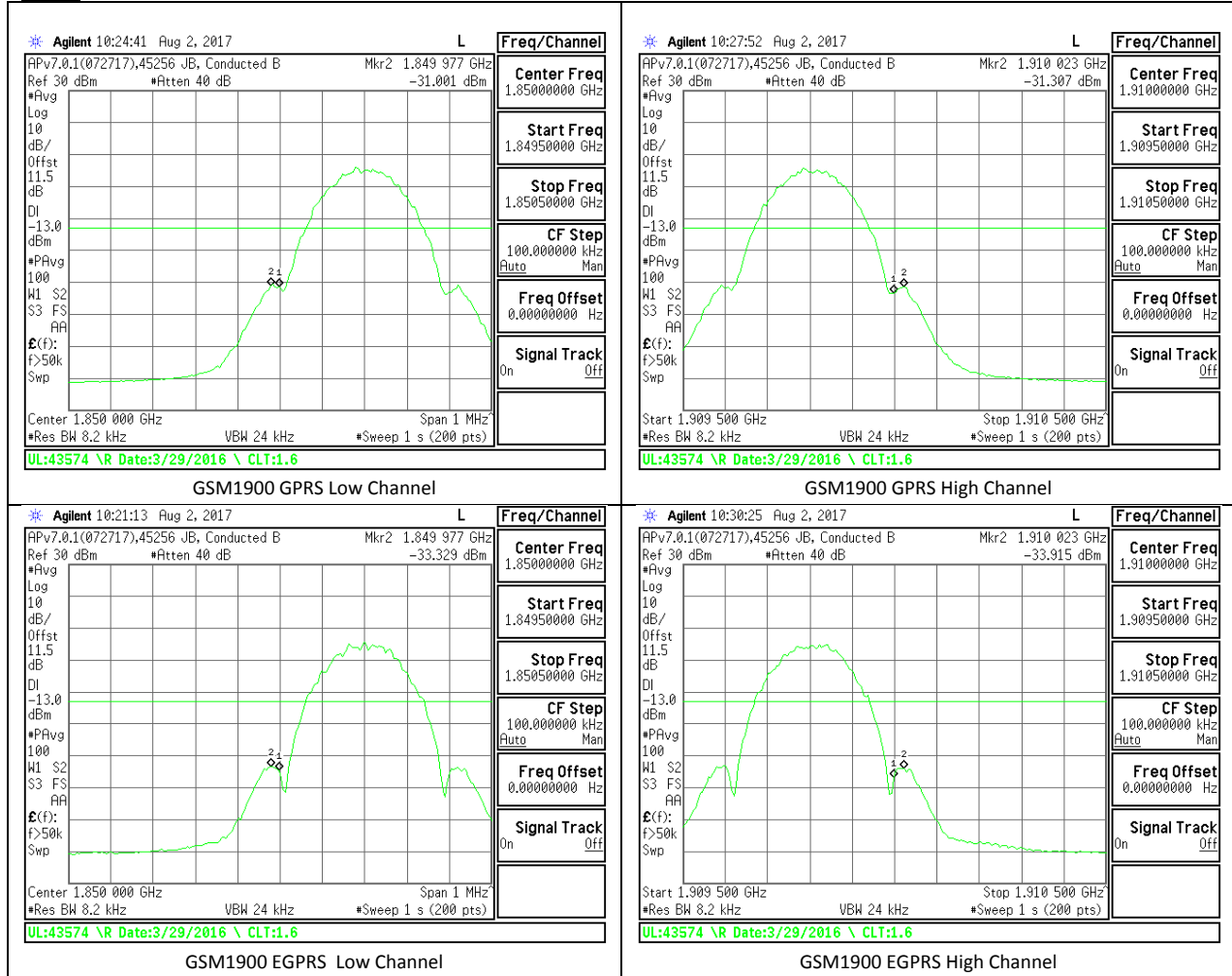
The transmitter output was connected to an Agilent 8960 or a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

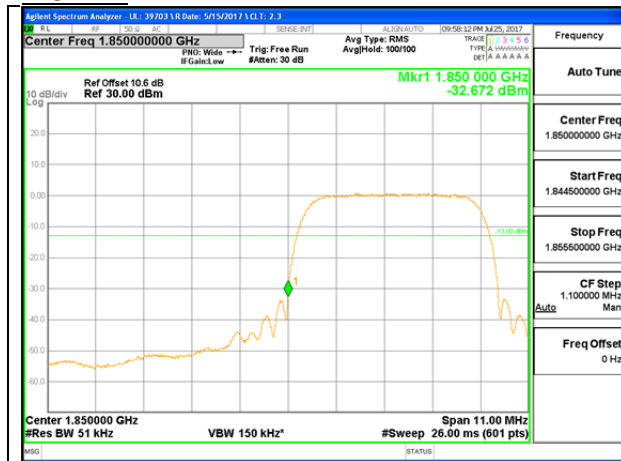
- Set the spectrum analyzer span to include the block edge frequency.
- Set a marker to point the corresponding band edge frequency in each test case.
- Set display line at -13 dBm
- Set resolution bandwidth to at least 1% of emission bandwidth.

15.1. BAND EDGE PLOTS

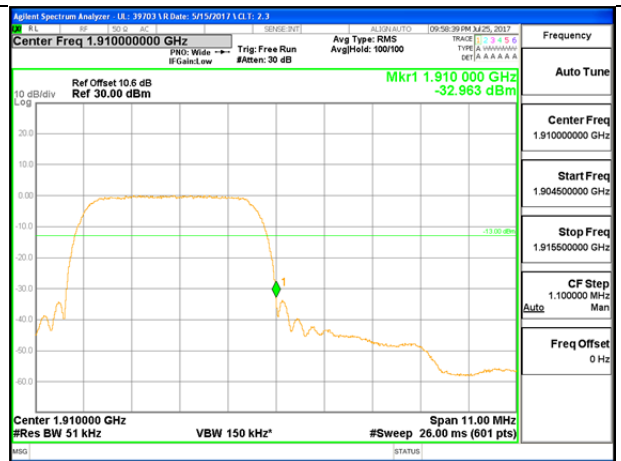
GSM



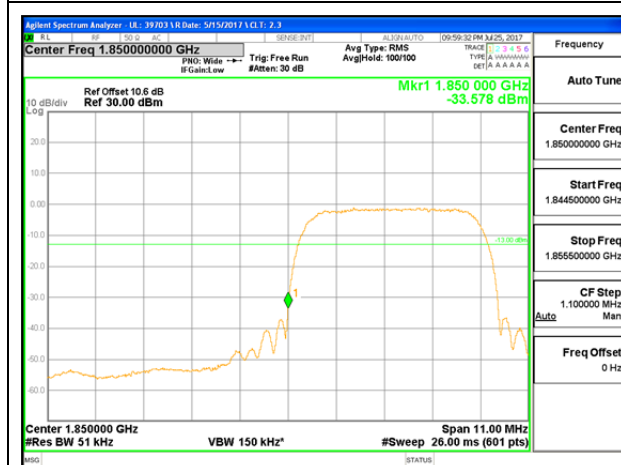
WCDMA



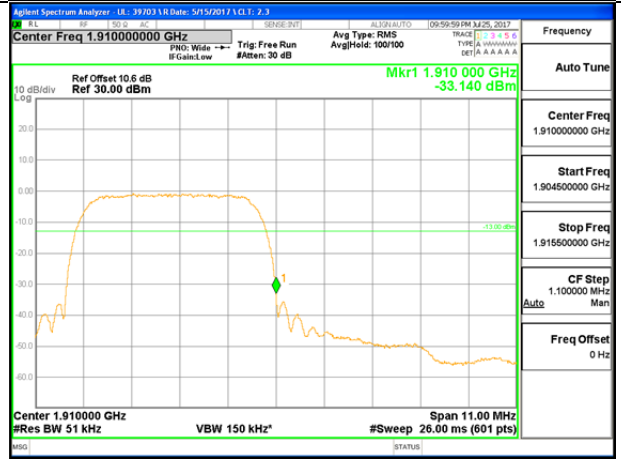
B2 REL99 Low Channel



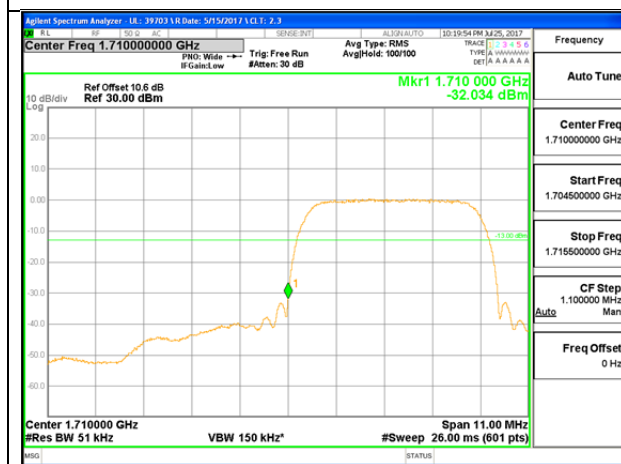
B2 REL99 High Channel



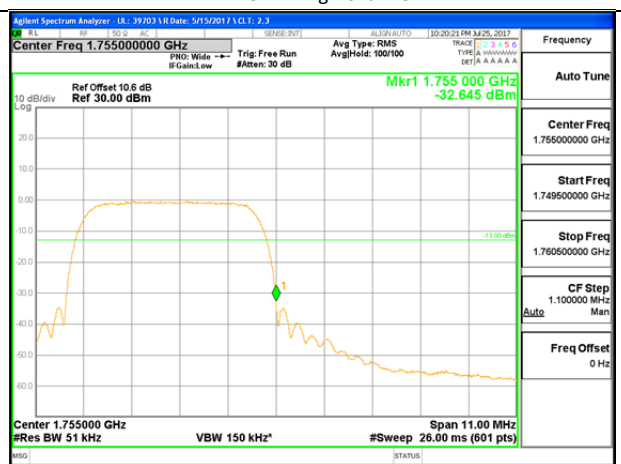
B2 HSDPA Low Channel



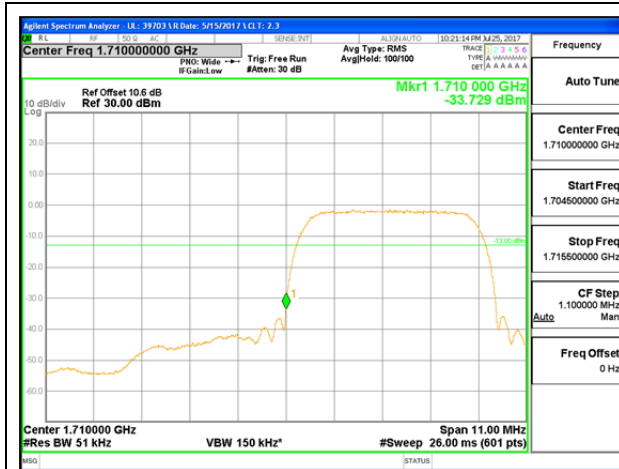
B2 HSDPA High Channel



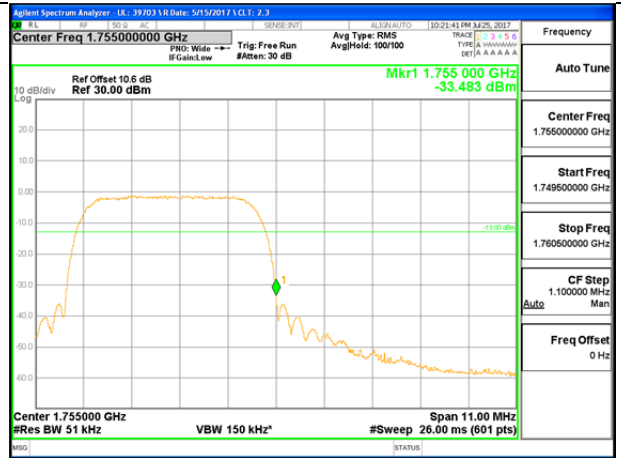
B4 REL99 Low Channel



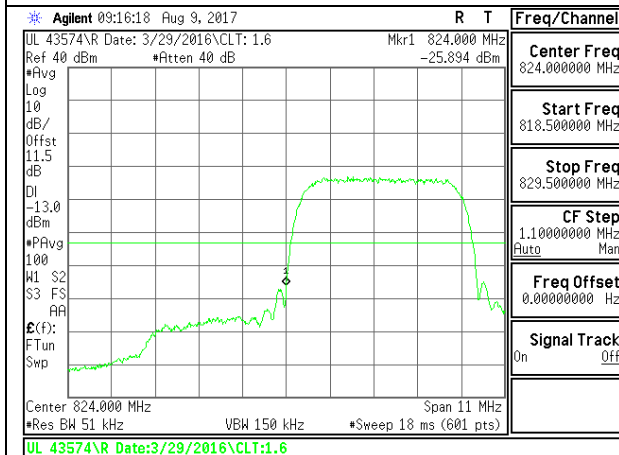
B4 REL99 High Channel



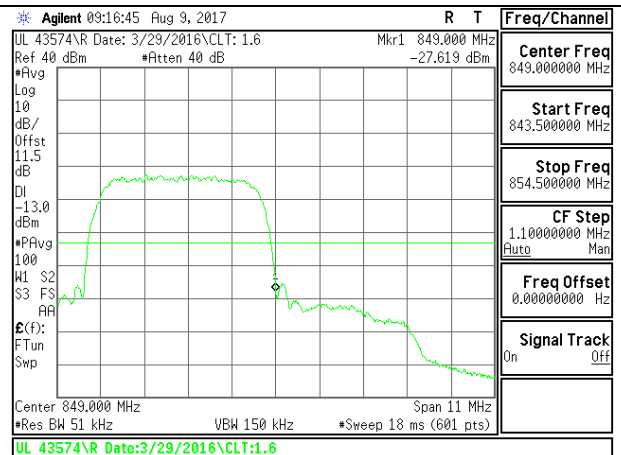
B4 HSDPA Low Channel



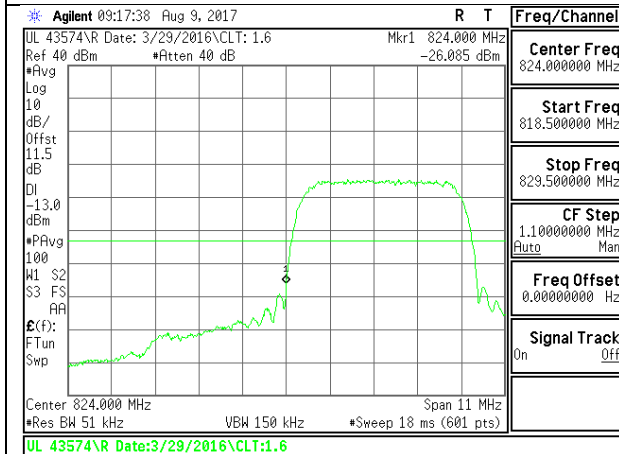
B4 HSDPA High Channel



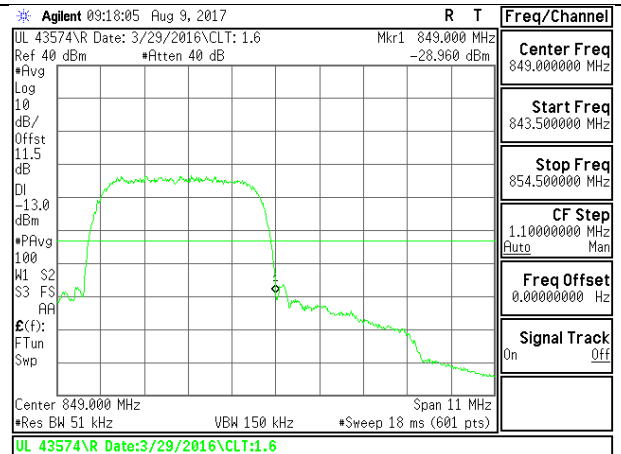
B5 REL99 Low Channel



B5 REL99 High Channel

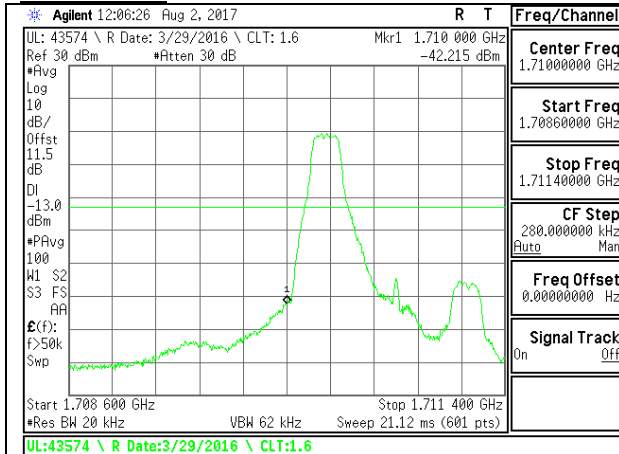


B5 HSDPA Low Channel

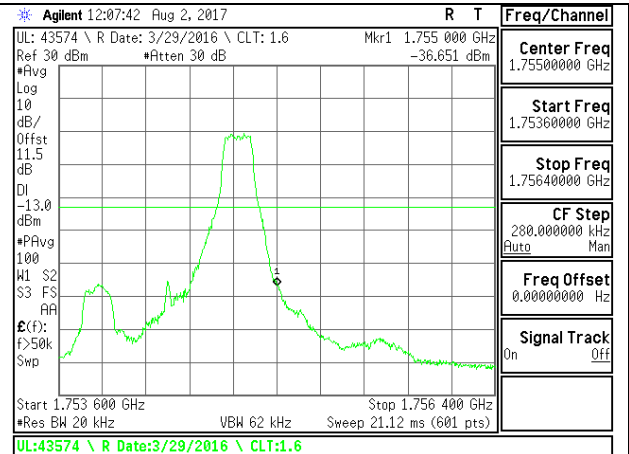


B5 HSDPA High Channel

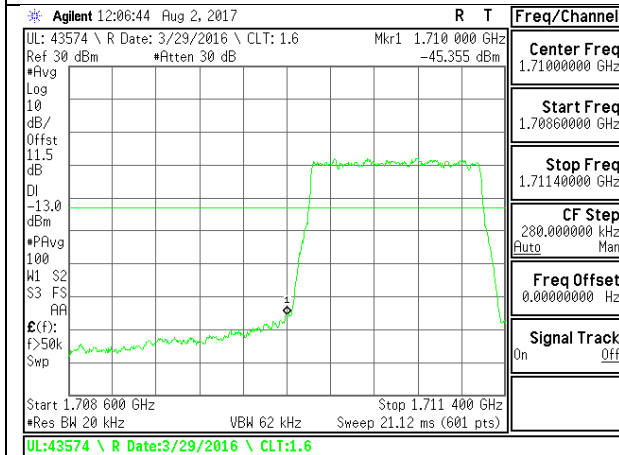
LTE Band 4



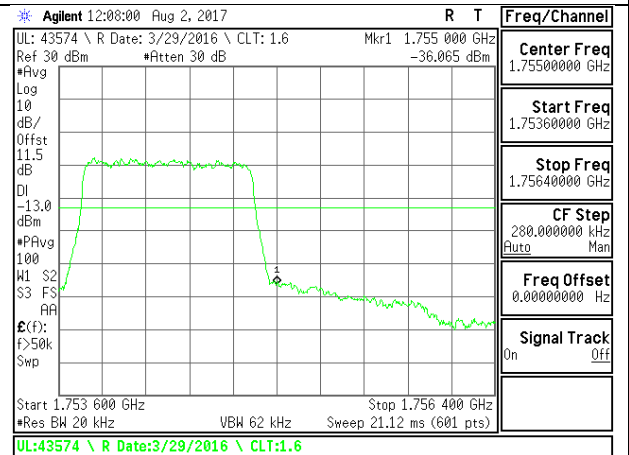
LTE B4 1.4MHz QPSK Low Channel 1RB



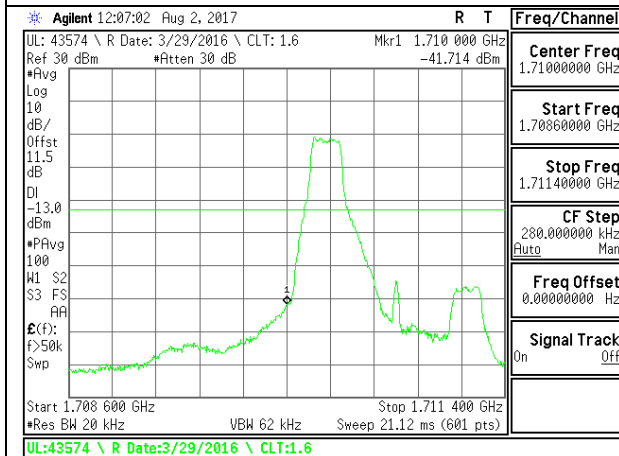
LTE B4 1.4MHz QPSK High Channel 1RB



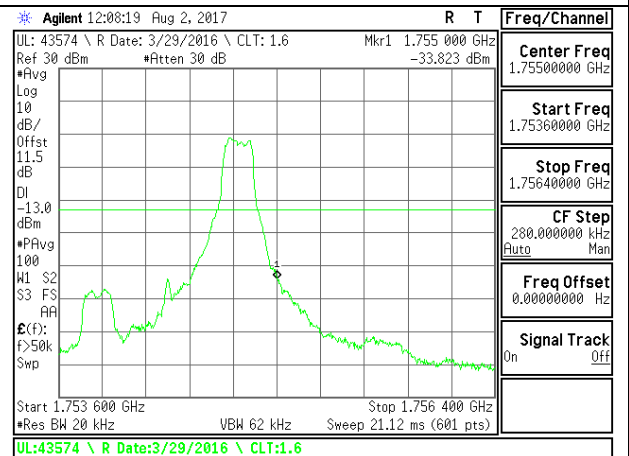
LTE B4 1.4MHz QPSK Low Channel FRB



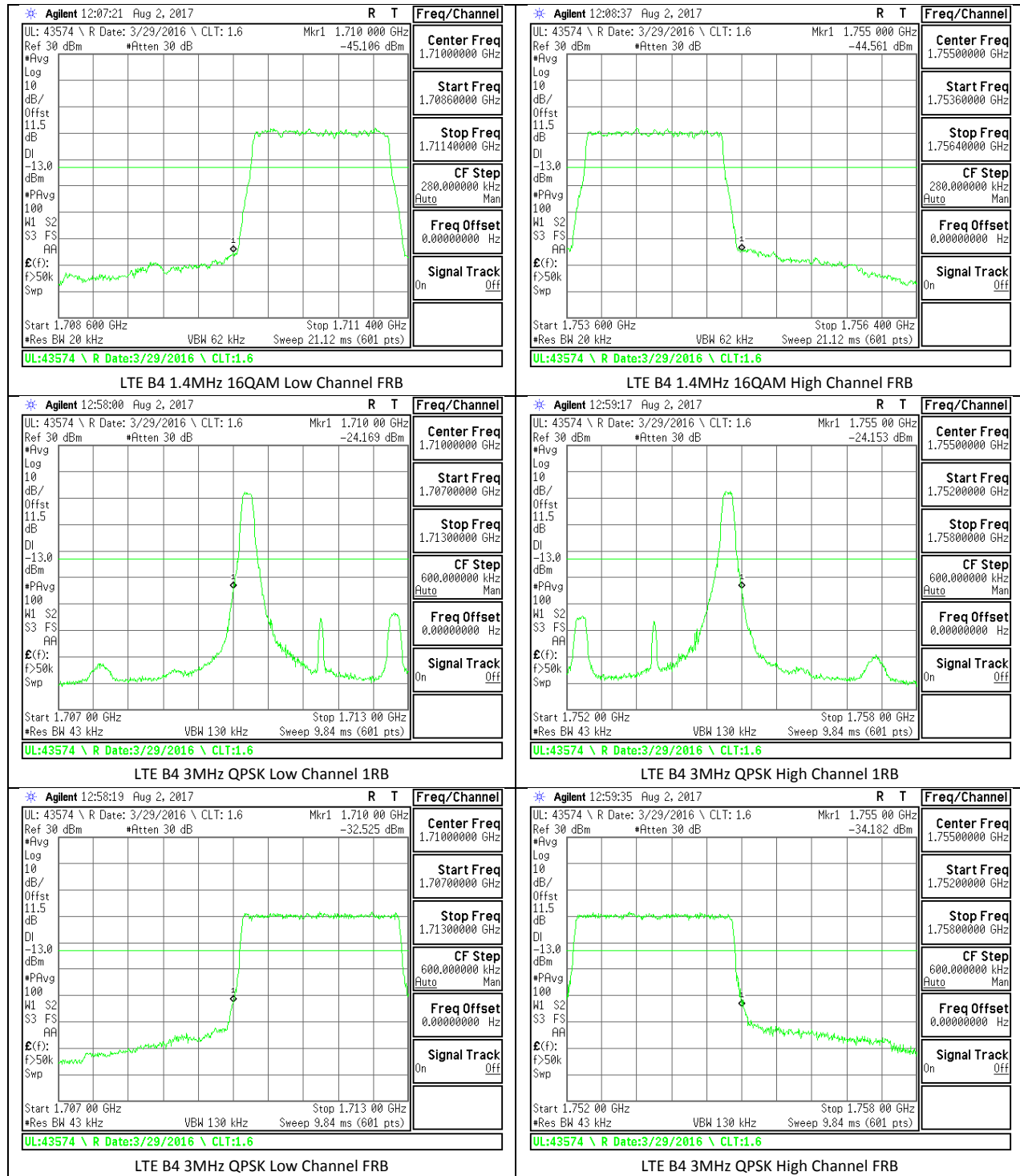
LTE B4 1.4MHz QPSK High Channel FRB

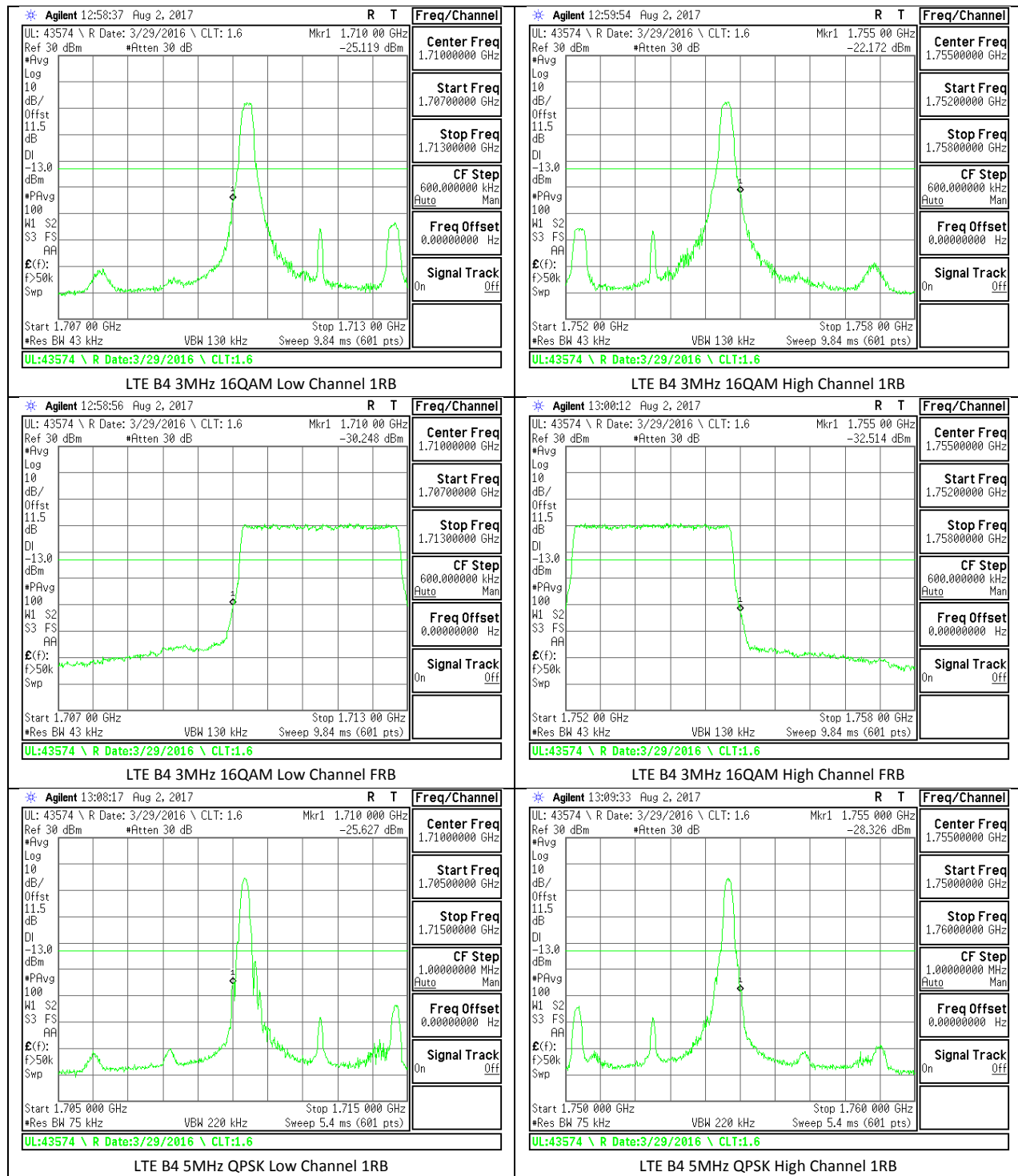


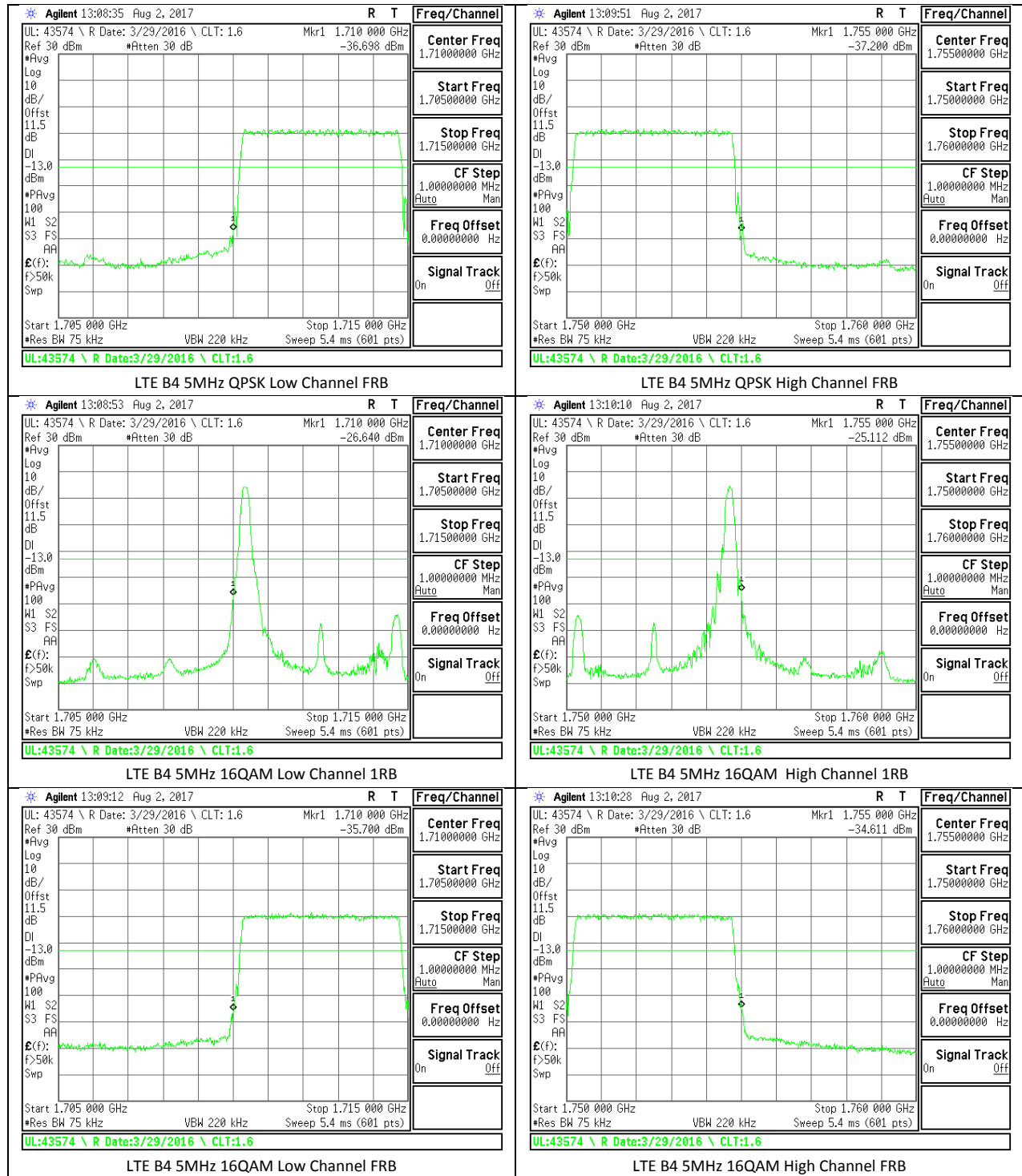
LTE B4 1.4MHz 16QAM Low Channel 1RB

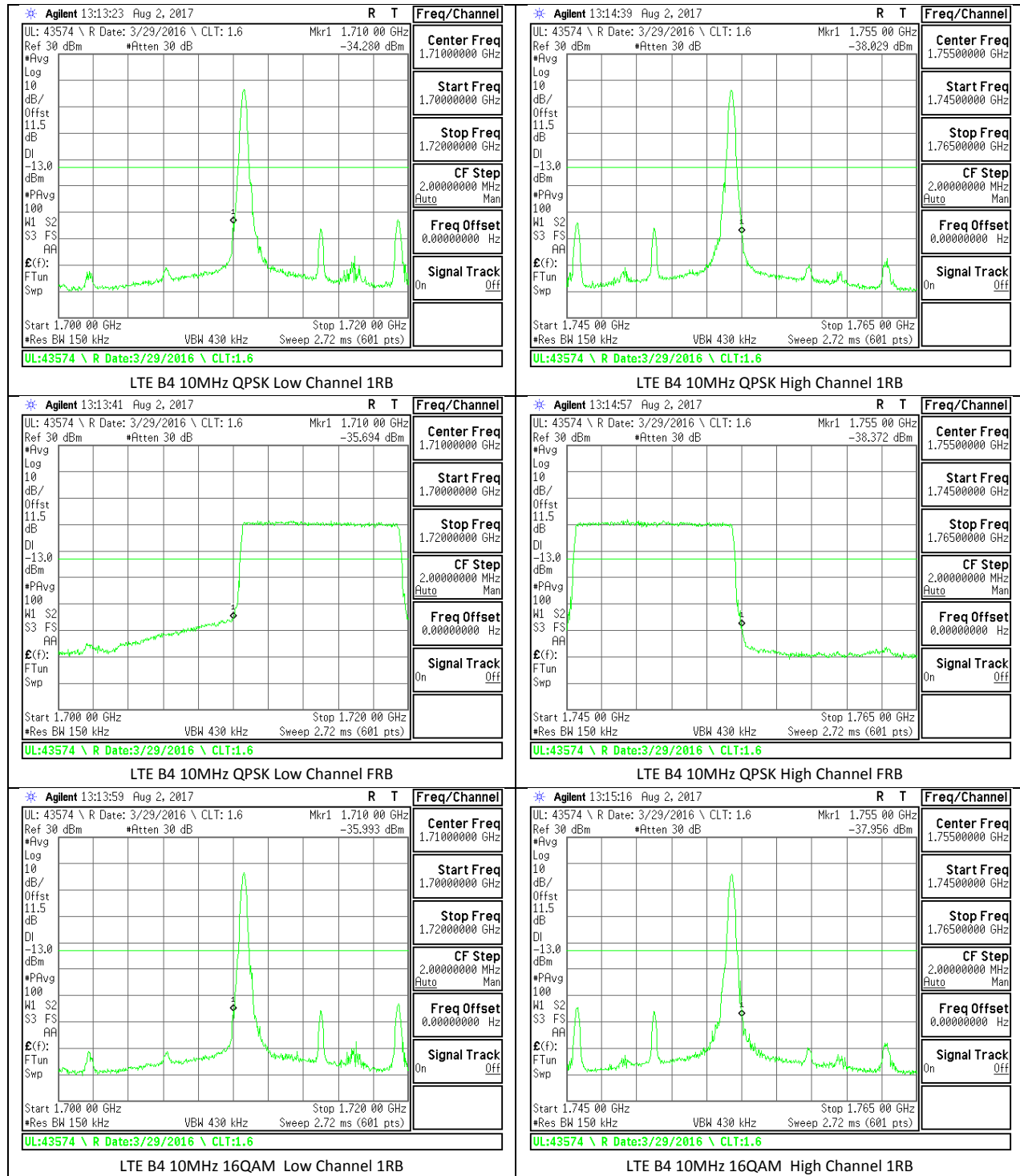


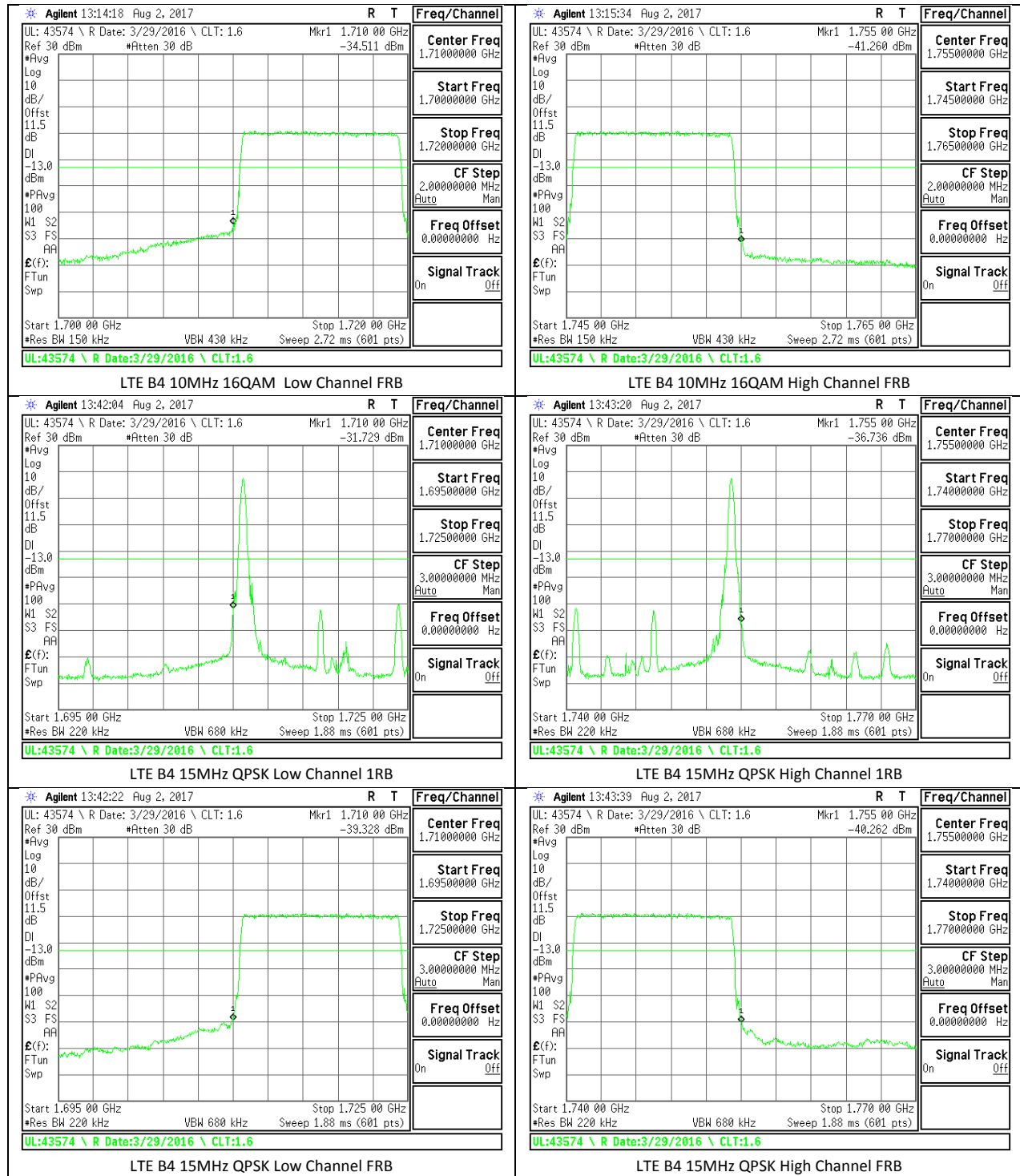
LTE B4 1.4MHz 16QAM High Channel 1RB

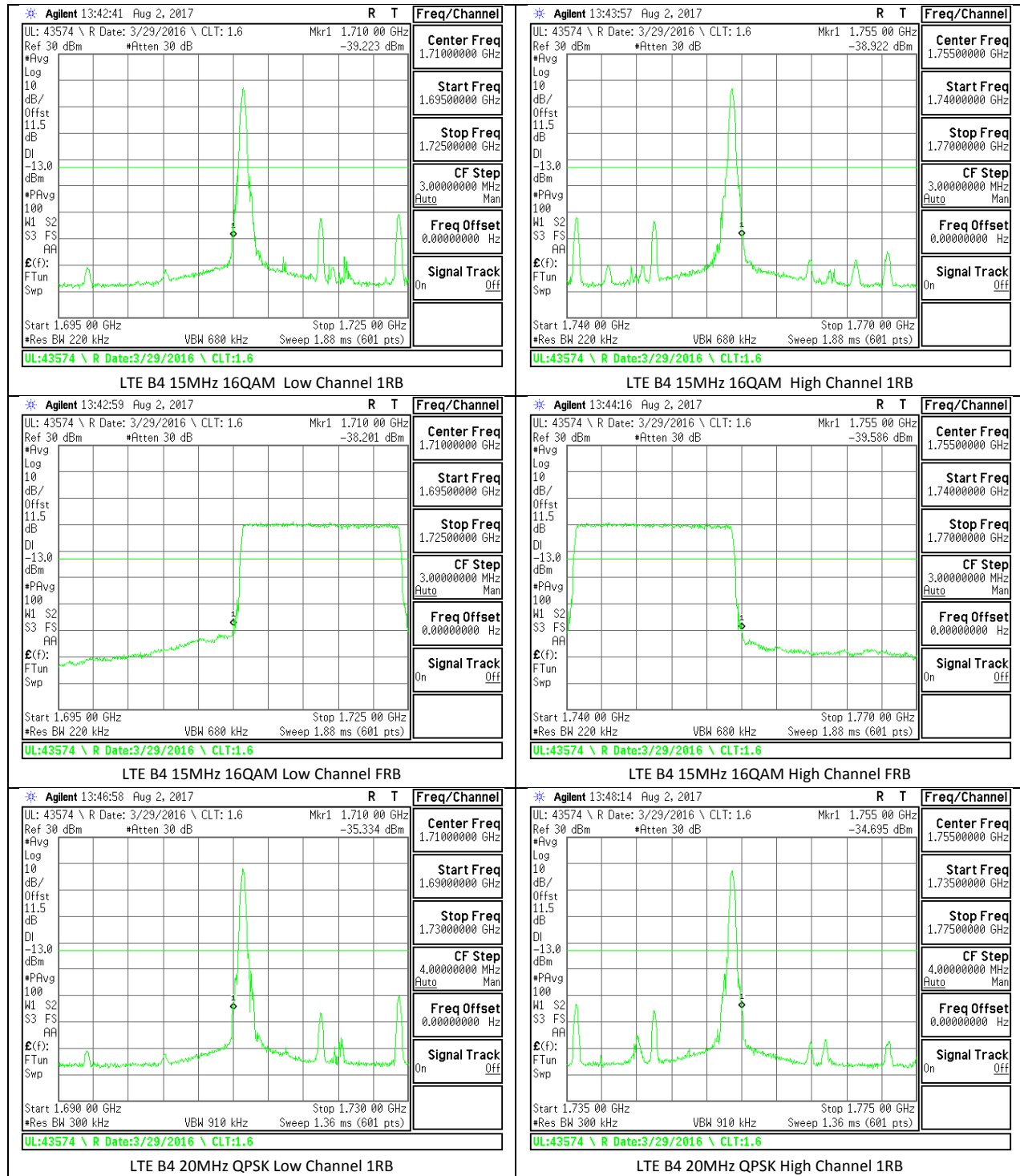


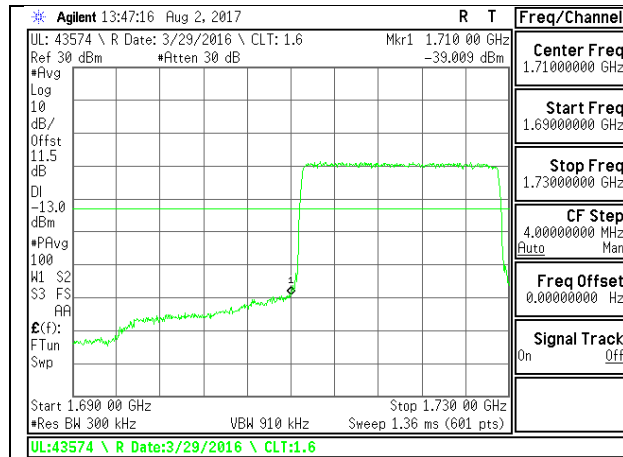




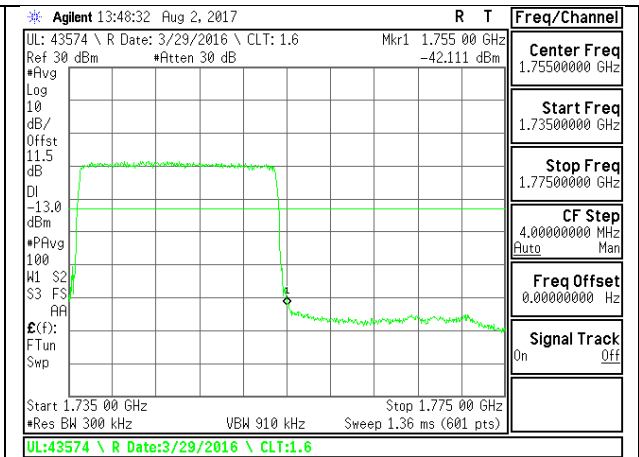




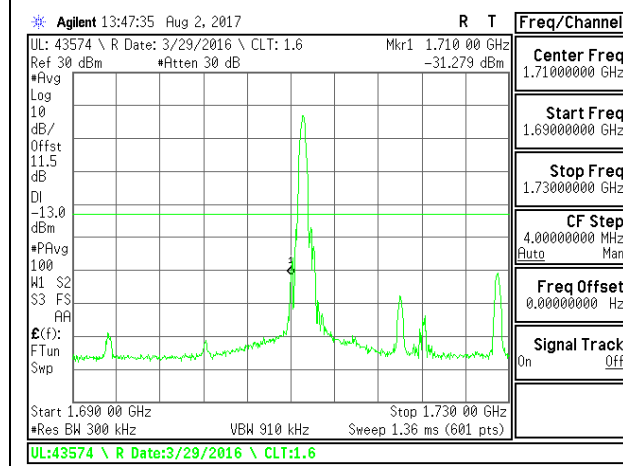




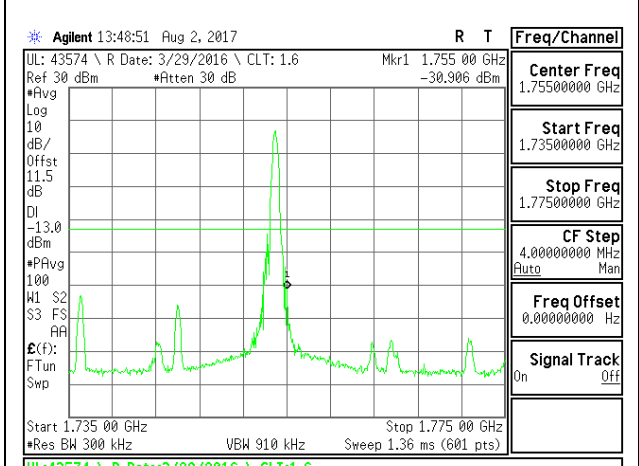
LTE B4 20MHz QPSK Low Channel FRB



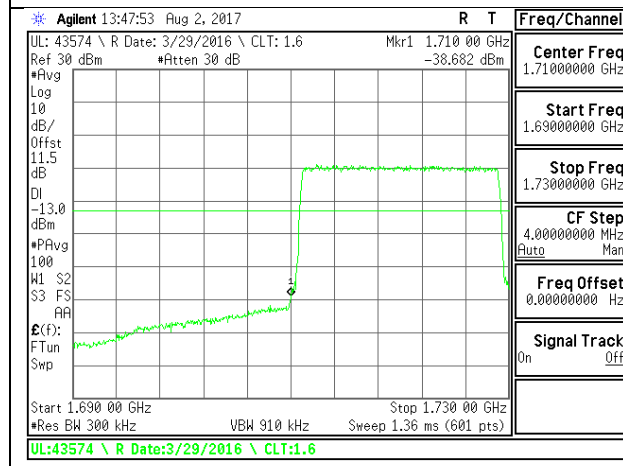
LTE B4 20MHz QPSK High Channel FRB



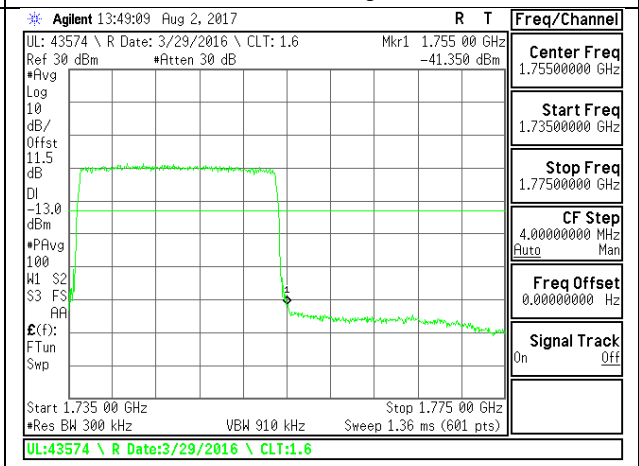
LTE B4 20MHz 16QAM Low Channel 1RB



LTE B4 20MHz 16QAM High Channel 1RB



LTE B4 20MHz 16QAM Low Channel FRB



LTE B4 20MHz 16QAM High Channel FRB

LTE Band 7

