



FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART C, F, H, L, and M
FCC CFR47 PART 90 SUBPART S
INDUSTRY CANADA RSS-130 ISSUE 1
INDUSTRY CANADA RSS-132 ISSUE 3
INDUSTRY CANADA RSS-133 ISSUE 6
INDUSTRY CANADA RSS-139 ISSUE 3
INDUSTRY CANADA RSS-199 ISSUE 2

CERTIFICATION TEST REPORT

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

MODEL NUMBER: LG-H790, LGH790, H790

FCC ID: ZNFH790

IC ID: 2703C-H790

REPORT NUMBER: 15I21235-E1V2

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Prepared for

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Revision History

Rev.	Issue Date	Revisions	Revised By
--	8/31/15	Initial Issue	
V2	9/10/15	Updated LTE B26 and LTE 5	D. Corona

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION: CDMA/GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac & NFC
MODEL: LG-H790, LGH790, H790
SERIAL NUMBER: 1ZC4N, 1AC4P (Radiated), 1ZC4M, 1ZC4L, 1ZC4K (Conducted)
DATE TESTED: JULY 7-27, 2015

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

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

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

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 22, FCC CFR Part 24, FCC CFR 47 Part 27, and FCC CFR 47 Part 90, RSS-130, 32, 133, 139, 139 and RSS-GEN Issue 4.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. 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
☒ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☒ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☒ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 2324B-6)
	☐ Chamber G(IC: 2324B-7)
	☐ Chamber H(IC: 2324B-8)

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB
Radiated Disturbance, 1GHz to 40GHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

This EUT is a CDMA/GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac & NFC.

5.2. MAXIMUM OUTPUT POWER

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

FCC Part 22/24/27						
Band	Frequency Range(MHz)	Modulation	Conducted		Radiated	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
GSM850	824~849	GMSK	33.20	2089.30		
	824~849	GPRS	33.20	2089.30	31.01	1261.83
	824~849	EGPRS	27.20	524.81	26.80	478.63
GSM1900	1850~1910	GMSK	24.60	288.40		
	1850~1910	GPRS	24.30	269.15	29.68	928.97
	1850~1910	EGPRS	24.40	275.42	25.12	325.09
Band 5	824~849	REL99	23.80	239.88	23.61	229.61
	824~849	HSDPA	23.90	245.47	22.57	180.72
	824~849	HSUPA	23.90	245.47		
Band 4	1710~1755	REL99	23.80	239.88	26.11	408.32
	1710~1755	HSDPA	23.80	239.88	24.32	270.40
	1710~1755	HSUPA	23.90	245.47		
Band 2	1850~1910	REL99	33.20	2089.30	24.24	265.46
	1850~1910	HSDPA	33.20	2089.30	22.78	189.67
	1850~1910	HSUPA	27.20	524.81		

FCC Part 22/24						
Band	Frequency Range(MHz)	Modulation	Conducted		Radiated	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
BC10	816~824	1xRTT	24.6	288.40	21.99	158.12
	816~824	EVDO REL. 0	24.5	281.84	21.51	141.58
	816~824	EVDO REV. A	24.5	281.84		
BC0	824~849	1xRTT	24.7	295.12	21.57	143.55
	824~849	EVDO REL. 0	24.5	281.84	21.38	137.40
	824~849	EVDO REV. A	24.5	281.84		
BC1	1850~1910	1xRTT	24.7	295.12	27.69	587.49
	1850~1910	EVDO REL. 0	23.7	234.42	27.57	571.48
	1850~1910	EVDO REV. A	23.7	234.42		

5.1. MAXIMUM OUTPUT POWER (LTE)

LTE Band 2

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

FCC Part 24							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE2	1850~1910	20MHz	QPSK	23.40	218.78	26.12	409.26
			16QAM	22.40	173.78	25.37	344.35
		15MHz	QPSK	23.40	218.78	26.10	407.38
			16QAM	22.40	173.78	25.30	338.84
		10MHz	QPSK	23.40	218.78	26.14	411.15
			16QAM	22.35	171.79	25.38	345.14
		5MHz	QPSK	23.39	218.27	26.13	410.20
			16QAM	22.40	173.78	25.18	329.61
		3MHz	QPSK	23.40	218.78	26.11	408.32
			16QAM	22.40	173.78	25.30	338.84
		1.4MHz	QPSK	23.40	218.78	26.16	413.05
			16QAM	22.38	172.98	25.12	325.09

LTE Band 4

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE4	1710~1755	20MHz	QPSK	23.40	218.78	26.03	400.87
			16QAM	22.16	164.44	25.02	317.69
		15MHz	QPSK	23.40	218.78	26.13	410.20
			16QAM	22.29	169.43	25.16	328.10
		10MHz	QPSK	23.40	218.78	26.23	419.76
			16QAM	22.34	171.40	25.25	334.97
		5MHz	QPSK	23.40	218.78	26.19	415.91
			16QAM	22.26	168.27	25.21	331.89
		3MHz	QPSK	23.40	218.78	26.18	414.95
			16QAM	22.40	173.78	25.19	330.37
		1.4MHz	QPSK	23.40	218.78	26.20	416.87
			16QAM	22.40	173.78	25.21	331.89

LTE Band 5

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE5	824~849	10MHz	QPSK	24.10	257.04	22.25	167.88
			16QAM	22.90	194.98	22.13	163.31
		5MHz	QPSK	24.00	251.19	22.47	176.60
			16QAM	23.10	204.17	22.23	167.11
		3MHz	QPSK	24.10	257.04	22.44	175.39
			16QAM	23.00	199.53	22.20	165.96
		1.4MHz	QPSK	24.10	257.04	22.52	178.65
			16QAM	23.00	199.53	21.69	147.57

LTE Band 7

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	PEAK(dBm)	PEAK(mW)
LTE7	2500~2570	20MHz	QPSK	23.50	223.87	22.07	161.06
			16QAM	22.40	173.78	21.23	132.74
		15MHz	QPSK	23.40	218.78	21.73	148.94
			16QAM	22.40	173.78	20.87	122.18
		10MHz	QPSK	23.50	223.87	22.19	165.58
			16QAM	22.40	173.78	21.73	148.94
		5MHz	QPSK	23.50	223.87	22.03	159.59
			16QAM	22.50	177.83	21.67	146.89

LTE Band 12

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE12	699~716	10MHz	QPSK	24.20	263.03	19.96	99.08
			16QAM	22.50	177.83	19.00	79.43
		5MHz	QPSK	23.90	245.47	19.46	88.31
			16QAM	22.90	194.98	18.60	72.44
		3MHz	QPSK	24.10	257.04	19.30	85.11
			16QAM	22.80	190.55	19.70	93.33
		1.4MHz	QPSK	24.00	251.19	19.10	81.28
			16QAM	22.70	186.21	19.10	81.28

LTE Band 13

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE13	777~787	10MHz	QPSK	24.20	263.03	20.00	100.00
			16QAM	22.70	186.21	18.90	77.62
		5MHz	QPSK	24.00	251.19	19.55	90.16
			16QAM	23.00	199.53	18.50	70.79

LTE Band 17

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE17	704~716	10MHz	QPSK	24.00	251.19	19.96	99.08
			16QAM	22.50	177.83	19.00	79.43
		5MHz	QPSK	24.10	257.04	19.46	88.31
			16QAM	22.90	194.98	18.60	72.44

LTE Band 25

FCC Part 24							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE25	1850~1915	20MHz	QPSK	23.40	218.78	26.12	409.26
			16QAM	22.40	173.78	25.37	344.35
		15MHz	QPSK	23.40	218.78	26.10	407.38
			16QAM	22.40	173.78	25.30	338.84
		10MHz	QPSK	23.40	218.78	26.14	411.15
			16QAM	22.35	171.79	25.38	345.14
		5MHz	QPSK	23.39	218.27	26.13	410.20
			16QAM	22.40	173.78	25.18	329.61
		3MHz	QPSK	23.40	218.78	26.11	408.32
			16QAM	22.40	173.78	25.30	338.84
		1.4MHz	QPSK	23.40	218.78	26.16	413.05
			16QAM	22.38	172.98	25.12	325.09

LTE Band 26 PART 90

FCC Part 90							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE26	814~824	10MHz	QPSK	23.90	245.47	23.30	213.80
			16QAM	22.70	186.21	22.95	197.24
		5MHz	QPSK	23.80	239.88	23.66	232.27
			16QAM	22.70	186.21	23.57	227.51
		3MHz	QPSK	23.90	245.47	23.47	222.33
			16QAM	23.00	199.53	23.34	215.77
		1.4MHz	QPSK	24.00	251.19	23.71	234.96
			16QAM	23.00	199.53	23.38	217.77

LTE Band 26 PART 22

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE26	824~849	15MHz	QPSK	23.90	245.47	23.07	202.77
			16QAM	22.90	194.98	22.65	184.08
		10MHz	QPSK	23.90	245.47	22.25	167.88
			16QAM	22.80	190.55	22.13	163.31
		5MHz	QPSK	23.80	239.88	22.47	176.60
			16QAM	22.80	190.55	22.23	167.11
		3MHz	QPSK	24.00	251.19	22.44	175.39
			16QAM	23.00	199.53	22.20	165.96
		1.4MHz	QPSK	24.00	251.19	22.52	178.65
			16QAM	23.00	199.53	21.69	147.57

LTE Band 41

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	Peak(dBm)	Peak(mW)
LTE41	2496~2690	20MHz	QPSK	22.90	194.98	19.70	93.33
			16QAM	22.10	162.18	18.84	76.56
		15MHz	QPSK	22.90	194.98	18.23	66.53
			16QAM	22.00	158.49	17.73	59.29
		10MHz	QPSK	23.10	204.17	18.87	77.09
			16QAM	21.70	147.91	18.77	75.34
		5MHz	QPSK	23.00	199.53	19.25	84.14
			16QAM	21.60	144.54	18.53	71.29

5.2. 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	-4.8
GSM1900, 1850~1910MHz	-0.9
Band 2, 1850~1910MHz	-0.9
Band 4, 1710~1755MHz	-1.4
Band 5, 824~849MHz	-4.8
Band 7, 2500~2570MHz	-2.6
Band 12, 699~716MHz	-4.1
Band 13, 777~787MHz	-3.7
Band 17, 704~716MHz	-4.1
Band 25, 1850~1915MHz	-0.9
Band 26, 824~849MHz	-4.8
Band 41, 2496~2690MHz	-2.6
BC10, 816~824MHz	-4.8
BC0, 824~849MHz	-4.8
BC1, 1850~1910MHz	-0.9

5.3. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-N04WS	SA560000030	N/A
Earphone	LG	-	-	N/A

I/O CABLES (CONDUCTED SETUP)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable 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

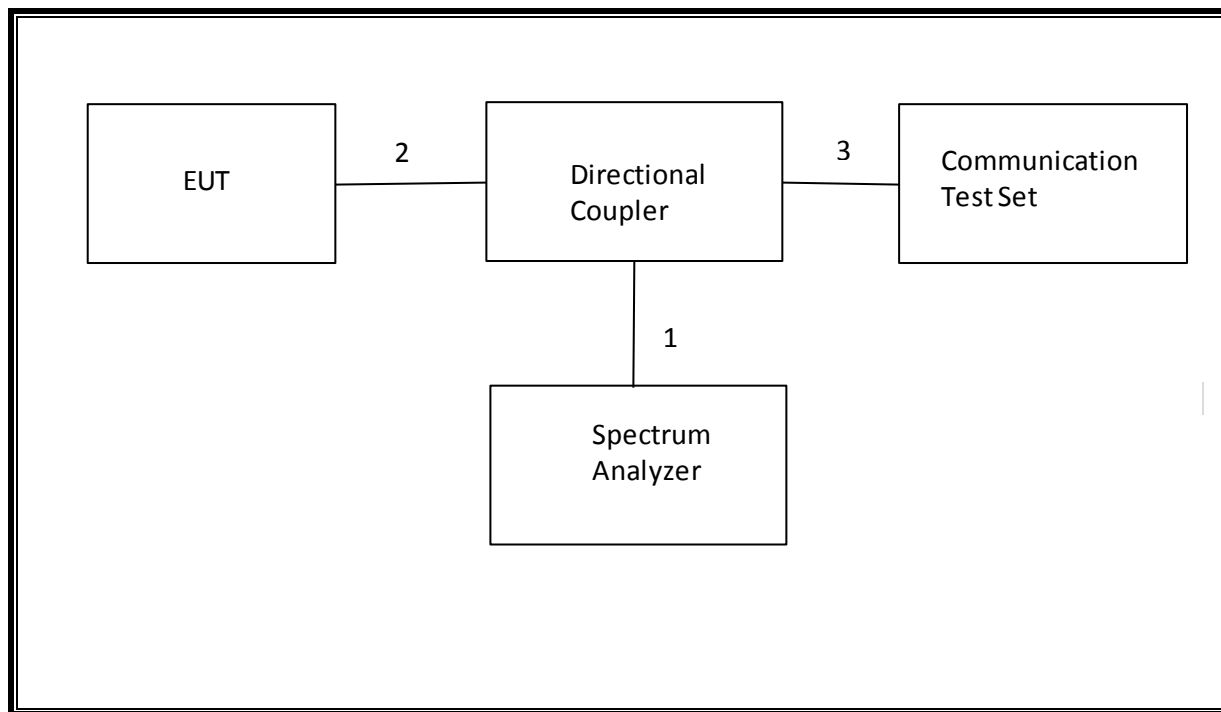
I/O CABLES (RADIATED SETUP)

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	USB	1	AC Adapter	Un-shielded	1.2m	NA
2	Jack	1	Headset	Shielded	1m	NA
3	RF In/out	1	Communication Test Set	Un-shielded	2m	NA

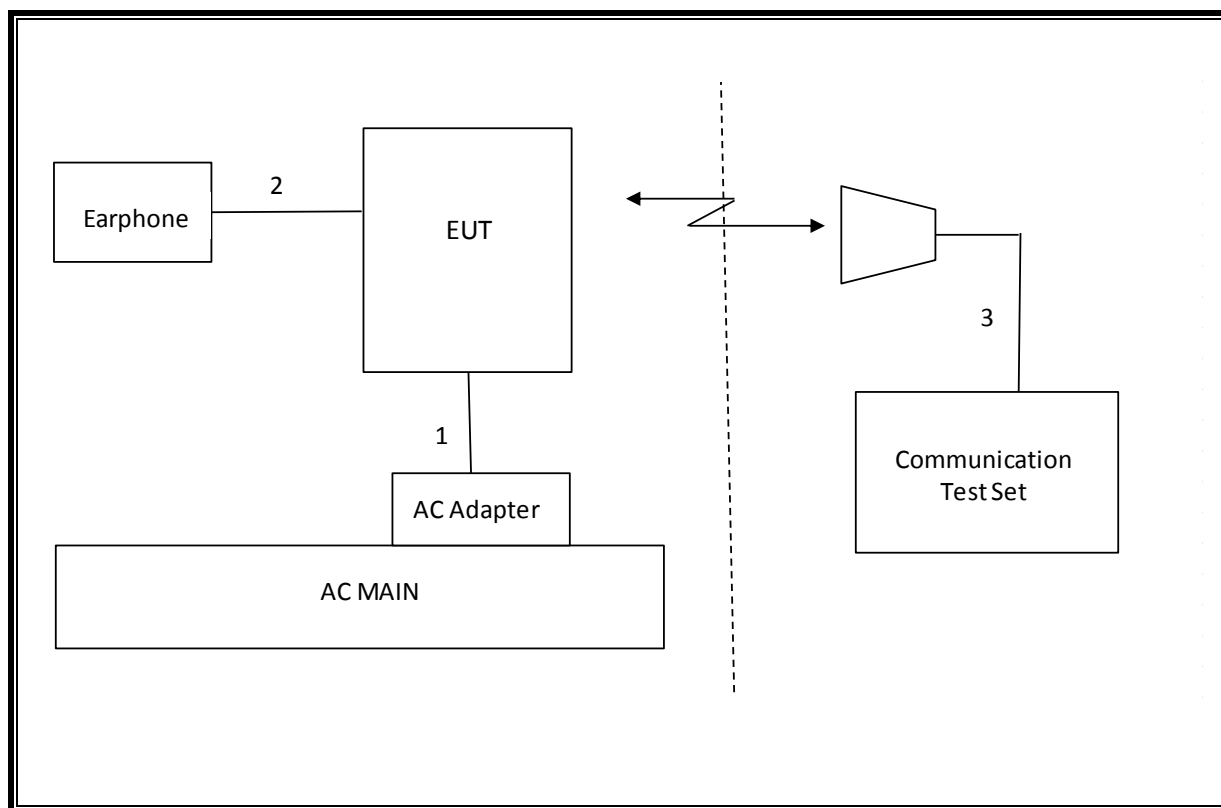
TEST SETUP

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)



6. 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	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	123	10/28/15
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	T243	12/08/15
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn, 18 GHz	EMCO	3115	C00784	10/25/15
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02688	CNR
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	T80	11/01/15
Communications Test Set	R&S	CMW500	T232	01/14/16
DC power supply, 8 V @ 3 A or 15 V	Agilent / HP	E3610A	None	CNR
Vector signal generator, 6 GHz	Agilent / HP	E4438C	T201	06/16/16
Antenna, Tuned Dipole 400~1000	ETS	6502	158071	10/14/15
Directional Coupler	RF-Lambda	RFDC5M06G15	None	CNR
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00589	12/17/15

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

7. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Note
2.1049	N/A	Occupied Band width (99%)	N/A	Conducted	Pass	17.98 MHz
22.917(a) 24.238(a) 27.53(g) 90.691	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Band Edge / Conducted Spurious Emission	-13dBm		Pass	-18.18 dBm
27.53(m)	RSS-199(4.5)		-25dBm		Pass	-32.55 dBm
2.1046	N/A	Conducted output power	N/A		Pass	33.2 dBm
27.53(m) 90.691	RSS-199(4.5)	Emission Mask			Pass	
22.355 24.235 27.54 90.213	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3) RSS-199(4.3)	Frequency Stability	2.5PPM		Pass	0.009 PPM
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38 dBm	Radiated	Pass	31.01 dBm
27.50(c)(10)	N/A		34.77 dBm		Pass	20 dBm
90.635	N/A		50dBm		Pass	23.71 dBm
24.232(c) 27.50(h)(2)	RSS-133(6.4) RSS-199(4.4)	Equivalent Isotropic Radiated Power	33dBm		Pass	29.68 dBm
27.50(d)(4)	RSS-139(6.4)		30dBm		Pass	26.23 dBm
22.917(a) 24.238(a) 27.53(g)	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Radiated Spurious Emission	-13dBm		Pass	-42.1 dBm
27.53(m)	RSS-199(4.5)		-25dBm		Pass	-44.2 dBm

8. RF POWER OUTPUT VERIFICATION

8.1. GSM/GPRS/EDGE

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

> 30 dBm for GPRS1800/1900

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 > CS4 (GPRS) and MCS5 ~ MCS9 (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

8.1.1. GSM OUTPUT POWER RESULT

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)
GSM (Voice)	CS1	1	128	824.2	33.2
			190	836.6	33.1
			251	848.8	33.1
GPRS (GMSK)	CS1	1	128	824.2	33.2
			190	836.6	33.1
			251	848.8	33.2
		2	128	824.2	31.1
			190	836.6	31.0
			251	848.8	31.1
		3	128	824.2	28.9
			190	836.6	28.9
			251	848.8	28.9
		4	128	824.2	27.8
			190	836.6	27.6
			251	848.8	28.1
EGPRS (8PSK)	MCS5	1	128	824.2	27.2
			190	836.6	27.0
			251	848.8	27.0
		2	128	824.2	26.1
			190	836.6	26.0
			251	848.8	26.0
		3	128	824.2	25.0
			190	836.6	24.9
			251	848.8	25.0
		4	128	824.2	24.1
			190	836.6	24.1
			251	848.8	24.2

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)
GSM (Voice)	CS1	1	512	1850.2	29.6
			661	1880.0	29.3
			810	1909.8	29.4
GPRS (GMSK)	CS1	1	512	1850.2	29.7
			661	1880.0	29.4
			810	1909.8	29.4
		2	512	1850.2	27.6
			661	1880.0	27.5
			810	1909.8	27.6
		3	512	1850.2	25.3
			661	1880.0	25.3
			810	1909.8	25.4
		4	512	1850.2	24.6
			661	1880.0	24.5
			810	1909.8	24.7
EGPRS (8PSK)	MCS5	1	512	1850.2	25.6
			661	1880.0	25.5
			810	1909.8	25.7
		2	512	1850.2	24.5
			661	1880.0	24.3
			810	1909.8	24.5
		3	512	1850.2	23.3
			661	1880.0	23.2
			810	1909.8	23.4
		4	512	1850.2	22.5
			661	1880.0	22.4
			810	1909.8	22.6

8.2. UMTS REL 99

TEST PROCEDURE

The following summary of these settings are illustrated below:

	Mode	Rel99
	Subtest	-
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	HSDPA FRC	Not Applicable
	HSUPA Test	Not Applicable
	Power Control Algorithm	Algorithm2
	β_c	Not Applicable
	β_d	Not Applicable
	β_{ec}	Not Applicable
	β_c/β_d	8/15
	β_{hs}	Not Applicable
	β_{ed}	Not Applicable

8.2.1. UMTS REL 99 OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Rel 99 (RMC, 12.2 kbps)	4132	826.4	0.00	24.6
		4183	836.6	0.00	24.5
		4233	846.6	0.00	24.5

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band IV	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	0	23.8
		1413	1732.6	0	23.8
		1513	1752.6	0	23.8

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band II	Rel 99 (RMC, 12.2 kbps)	9262 9662	1852.4	0	23.8
		9400 9800	1880.0	0	23.8
		9538 9937	1907.6	0	23.8

8.3. UMTS HSDPA

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	Rel5 HSDPA			
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	12/15	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			

8.3.1. UMTS HSDPA OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Subtest 1	4132	826.4	0.00	24.3
		4183	836.6	0.00	24.2
		4233	846.6	0.00	24.2
	Subtest 2	4132	826.4	0.00	24.4
		4183	836.6	0.00	24.2
		4233	846.6	0.00	24.3
	Subtest 3	4132	826.4	0.50	23.8
		4183	836.6	0.50	23.8
		4233	846.6	0.50	23.8
	Subtest 4	4132	826.4	0.50	23.9
		4183	836.6	0.50	23.7
		4233	846.6	0.50	23.8

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band IV	Subtest 1	1312	1712.4	0	23.8
		1413	1732.6	0	23.8
		1513	1752.6	0	23.9
	Subtest 2	1312	1712.4	0	23.5
		1413	1732.6	0	23.4
		1513	1752.6	0	23.4
	Subtest 3	1312	1712.4	0.5	23.2
		1413	1732.6	0.5	23.1
		1513	1752.6	0.5	23.2
	Subtest 4	1312	1712.4	0.5	23.2
		1413	1732.6	0.5	23.1
		1513	1752.6	0.5	23.2

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band II	Subtest 1	9262	1852.4	0	23.8
		9400	1880.0	0	23.7
		9538	1907.6	0	23.8
	Subtest 2	9262	1852.4	0	23.7
		9400	1880.0	0	23.8
		9538	1907.6	0	23.8
	Subtest 3	9262	1852.4	0.5	23.3
		9400	1880.0	0.5	23.4
		9538	1907.6	0.5	23.4
	Subtest 4	9262	1852.4	0.5	23.2
		9400	1880.0	0.5	23.3
		9538	1907.6	0.5	23.2

8.4. UMTS HSUPA

TEST PROCEDURE

The following summary of these settings are illustrated below: (ETSI TS 134.121-1 Table C.11.1)

	Mode	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	P-CPICH (dB)	-10				
	P-CCPCH (dB)	-12				
	SCH (dB)	-12				
	PICH(dB)	-15				
	DPCH (dB)	-9				
	HS-SCCH_1 (dB)	-8				
	HS-PDSCH (dB)	-3				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	Bc	11/15	6/15	15/15	2/15	15/15
	Bd	15/15	15/15	9/15	15/15	15/15
	Bec	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	15/15
	Bhs	22/15	12/15	30/15	4/15	30/15
HSDPA Specific Settings	β_{ed} (note1)	1309/225	94/75	47/15	56/75	134/15
	MPR	0	2	1	2	0
	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
HSUPA Specific Settings	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = β_{hs}/β_c	30/15				
	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	Reference E-TFCIs	5	5	2	5	5
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_TFCIs	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18		E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27

Note1: β_{ed} cannot be set directly, it is set by Absolute Grant Value.

8.4.1. UMTS HSUPA OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Subtest 1	4132	826.4	0.00	23.2
		4183	836.6	0.00	23.1
		4233	846.6	0.00	23.3
	Subtest 2	4132	826.4	2.00	22.2
		4183	836.6	2.00	22.2
		4233	846.6	2.00	21.8
	Subtest 3	4132	826.4	1.00	22.2
		4183	836.6	1.00	22.1
		4233	846.6	1.00	22.1
	Subtest 4	4132	826.4	2.00	22.7
		4183	836.6	2.00	22.7
		4233	846.6	2.00	22.6
	Subtest 5	4132	826.4	0.00	24.4
		4183	836.6	0.00	24.2
		4233	846.6	0.00	24.3

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band IV	Subtest 1	1312	1712.4	0	22.9
		1413	1732.6	0	22.9
		1513	1752.6	0	22.9
	Subtest 2	1312	1712.4	2	21.8
		1413	1732.6	2	21.8
		1513	1752.6	2	21.8
	Subtest 3	1312	1712.4	1	22.1
		1413	1732.6	1	22.1
		1513	1752.6	1	22.0
	Subtest 4	1312	1712.4	2	21.9
		1413	1732.6	2	21.9
		1513	1752.6	2	21.9
	Subtest 5	1312	1712.4	0	23.9
		1413	1732.6	0	23.8
		1513	1752.6	0	23.9

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band II	Subtest 1	9262	1852.4	0	22.2
		9400	1880.0	0	23.0
		9538	1907.6	0	22.2
	Subtest 2	9262	1852.4	2	21.5
		9400	1880.0	2	21.9
		9538	1907.6	2	21.6
	Subtest 3	9262	1852.4	1	22.6
		9400	1880.0	1	22.5
		9538	1907.6	1	21.8
	Subtest 4	9262	1852.4	2	21.8
		9400	1880.0	2	21.9
		9538	1907.6	2	21.8
	Subtest 5	9262	1852.4	0	23.9
		9400	1880.0	0	23.8
		9538	1907.6	0	23.8

8.5. DC-HSDPA

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS34.108 v9.5.0. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

Table E.5.0: Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

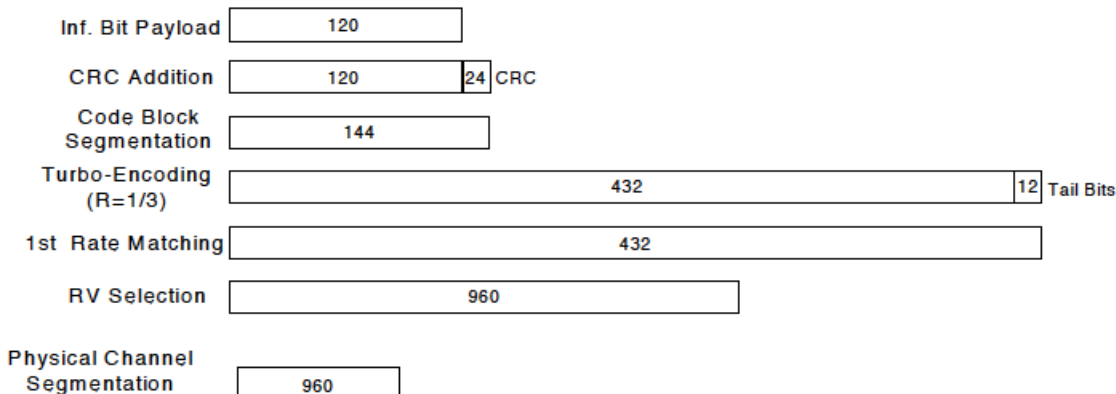


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

	Mode	Rel6 HSDPA	Rel6 HSDPA	Rel6 HSDPA	Rel6 HSDPA
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	β_d (SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
	MPR	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack Repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	$A_{hs} = \beta_{hs} / \beta_c$	30/15			

Up commands are set continuously to set the UE to Max power.

8.5.1. UMTS DC-HSDPA OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Subtest 1	4132	826.4	0.00	24.4
		4183	836.6	0.00	24.5
		4233	846.6	0.00	24.4
	Subtest 2	4132	826.4	0.00	24.4
		4183	836.6	0.00	24.4
		4233	846.6	0.00	24.4
	Subtest 3	4132	826.4	0.50	23.9
		4183	836.6	0.50	23.8
		4233	846.6	0.50	23.8
	Subtest 4	4132	826.4	0.50	23.9
		4183	836.6	0.50	23.8
		4233	846.6	0.50	23.8

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band IV	Subtest 1	1312	1712.4	0	23.9
		1413	1732.6	0	23.8
		1513	1752.6	0	23.8
	Subtest 2	1312	1712.4	0	23.9
		1413	1732.6	0	23.9
		1513	1752.6	0	23.9
	Subtest 3	1312	1712.4	0.5	23.2
		1413	1732.6	0.5	23.1
		1513	1752.6	0.5	23.1
	Subtest 4	1312	1712.4	0.5	23.2
		1413	1732.6	0.5	23.2
		1513	1752.6	0.5	23.2

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band IV	Subtest 1	1312	1712.4	0	23.9
		1413	1732.6	0	23.8
		1513	1752.6	0	23.8
	Subtest 2	1312	1712.4	0	23.9
		1413	1732.6	0	23.9
		1513	1752.6	0	23.9
	Subtest 3	1312	1712.4	0.5	23.2
		1413	1732.6	0.5	23.1
		1513	1752.6	0.5	23.1
	Subtest 4	1312	1712.4	0.5	23.2
		1413	1732.6	0.5	23.2
		1513	1752.6	0.5	23.2

8.6.1. 1xRTT

This procedure assumes the Agilest 8960 Test Set has the following applications installed and with valid license.

<u>Application</u>	<u>Rev, License</u>
CDMA2000 Mobile Test	B.13.08, L

- Call Setup > Shift & Preset
- Cell Info > Cell Parameters > System ID (SID) > 7
 > Network ID (NID) > 1
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > Please see following table or details
- FCH Service Option (SO) Setup > Please see following table or details
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps
 > R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Rvs Power Ctrl > Active bits
 - Rvs Power Ctrl > All Up bits (Maximum TxPout)

8.6.2. CDMA2000 OUTPUT POWER RESULT

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC10	RC1, SO55 (Loopback)	476	817.90	24.6
		580	820.50	24.6
		684	823.10	24.6
	RC3, SO55 (Loopback)	476	817.90	24.6
		580	820.50	24.6
		684	823.10	24.5
	RC3, SO32 (+F-SCH)	476	817.90	24.6
		580	820.50	24.6
		684	823.10	24.6

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC0	RC1, SO55 (Loopback)	1013	824.70	24.7
		384	836.52	24.6
		777	848.31	24.7
	RC3, SO55 (Loopback)	1013	824.70	24.6
		384	836.52	24.6
		777	848.31	24.6
	RC3, SO32 (+F-SCH)	1013	824.70	24.6
		384	836.52	24.6
		777	848.31	24.6

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC1	RC1, SO55 (Loopback)	25	1851.25	24.7
		600	1880.00	24.7
		1175	1908.75	24.7
	RC3, SO55 (Loopback)	25	1851.25	24.6
		600	1880.00	24.6
		1175	1908.75	24.6
	RC3, SO32 (+F-SCH)	25	1851.25	24.7
		600	1880.00	24.6
		1175	1908.75	24.5

8.6.3. 1xEV-DO Release 0

TEST PROCEDURE

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

<u>Application</u>	<u>Rev, License</u>
1xEV-DO Terminal Test	A.09.13

EVDO Release 0 - RTAP

- Call Setup > Shift & Preset
- Call Control:
 - Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
 - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Params:
 - Cell Power > -105.5 dBm/1.23 MHz
 - Cell Band > (Select US Cellular or US PCS)
 - Channel > (Enter channel number)
 - Application Config > Enhanced Test Application Protocol > RTAP
 - RTAP Rate > 153.6 kbps
 - Rvs Power Ctrl > Active bits
 - Protocol Rel > 0 (1xEV-DO)
- Press "Start Data Connection" when "Session Open" appear in "Active Cell"
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

EVDO Release 0 - FTAP

- Call Setup > Shift & Preset
- Call Control:
 - Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
 - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Params:
 - Cell Power > -105.5 dBm/1.23 MHz
 - Cell Band > (Select US Cellular or US PCS)
 - Channel > (Enter channel number)
 - Application Config > Enhanced Test Application Protocol > FTAP (default)
 - FTAP Rate > 307.2 kbps (2 Slot, QPSK)
 - Rvs Power Ctrl > Active bits
 - Protocol Rel > 0 (1xEV-DO)
- Press "Start Data Connection" when "Session Open" appear in "Active Cell"
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

8.6.4. 1XEVD0 REL 0 OUTPUT POWER RESULT

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC10	307.2 kbps (2 slot, QPSK)	476	817.90	24.5
		580	820.50	24.5
		684	823.10	24.5

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC10	307.2 kbps (2 slot, QPSK)	476	817.90	24.5
		580	820.50	24.5
		684	823.10	24.5

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC1	307.2 kbps (2 slot, QPSK)	25	1851.25	23.66
		600	1880.00	23.69
		1175	1908.75	23.68

8.6.5. 1xEV-DO Rev. A

TEST PROCEDURE

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

<u>Application</u>	<u>Rev, License</u>
1xEV-DO Terminal Test	A.09.13

EVDO Release A – RETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > RETAP
- R-Data Pkt Size > 4096
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2
- > PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

EVDO Release A - FETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > FETAP
- F-Traffic Format > 4 (1024, 2,128) Canonical (307.2k, QPSK)
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2
- > PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

8.6.6. 1xEVDO REV A OUTPUT RESULT

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC10	307.2k, QPSK/ ACK channel is transmitted at all the slots	476	817.90	24.5
		580	820.50	24.5
		684	823.10	24.4

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2k, QPSK/ ACK channel is transmitted at all the slots	1013	824.70	24.5
		384	836.52	24.4
		777	848.31	24.4

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC1	307.2k, QPSK/ ACK channel is transmitted at all the slots	25	1851.25	23.60
		600	1880.00	23.65
		1175	1908.75	23.65

8.7. LTE POWER VERIFICATION

LTE Band 2

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18700	18900	19100
						1860 MHz	1880 MHz	1900 MHz
LTE Band 2	20	QPSK	1	0	0	23.40	23.40	23.38
			1	49	0	23.24	23.37	23.38
			1	99	0	23.13	23.39	23.35
			50	0	1	22.35	22.19	22.32
			50	24	1	22.34	22.18	22.36
			50	50	1	22.29	22.26	22.35
			100	0	1	22.32	22.26	22.37
		16QAM	1	0	1	22.38	22.35	22.40
			1	49	1	22.40	22.16	22.40
			1	99	1	22.13	22.17	22.35
			50	0	2	21.23	21.03	21.18
			50	24	2	21.16	21.02	21.29
			50	50	2	21.17	21.15	21.21
			100	0	2	21.17	21.16	21.3
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18675	18900	19125
						1857.5 MHz	1880 MHz	1902.5 MHz
LTE Band 2	15	QPSK	1	0	0	23.40	23.40	23.39
			1	37	0	23.19	23.4	23.38
			1	74	0	23.22	23.34	23.26
			36	0	1	22.11	22.12	22.31
			36	20	1	22.12	22.28	22.32
			36	39	1	22.15	22.20	22.22
			75	0	1	22.16	22.16	22.35
		16QAM	1	0	1	22.35	22.35	22.38
			1	37	1	22.12	22.40	22.34
			1	74	1	22.07	22.33	22.26
			36	0	2	20.98	21.01	21.16
			36	20	2	21.01	21.11	21.19
			36	39	2	21.00	21.06	21.13
			75	0	2	21.01	21.01	21.22

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18650	18900	19150
						1855 MHz	1880 MHz	1905 MHz
LTE Band 2	10	QPSK	1	0	0	23.32	23.28	23.40
			1	25	0	23.36	23.07	23.25
			1	49	0	23.31	23.09	23.09
			25	0	1	22.02	22.02	21.9
			25	12	1	22.16	22.15	21.94
			25	25	1	22.03	21.97	21.94
			50	0	1	22.07	21.99	22.00
		16QAM	1	0	1	22.35	22.28	22.30
			1	25	1	22.19	22.15	22.15
			1	49	1	22.27	22.16	22.28
			25	0	2	20.76	20.86	20.65
			25	12	2	20.98	20.93	20.83
			25	25	2	20.84	20.81	20.89
			50	0	2	20.86	20.83	20.88
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18625	18900	19175
						1852.5 MHz	1880 MHz	1907.5 MHz
LTE Band 2	5	QPSK	1	0	0	23.35	23.39	23.18
			1	12	0	23.19	23.06	23.20
			1	24	0	23.36	23.27	23.03
			12	0	1	22.04	22.00	21.95
			12	7	1	22.00	21.99	22.00
			12	13	1	22.04	22.05	22.03
			25	0	1	21.98	22.02	22.08
		16QAM	1	0	1	22.35	22.13	21.86
			1	12	1	22.40	22.09	21.97
			1	24	1	22.40	22.03	21.89
			12	0	2	20.99	20.86	20.79
			12	7	2	21.01	20.96	20.84
			12	13	2	21.00	20.96	20.88
			25	0	2	20.92	20.94	20.94

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18615	18900	19185
						1851.5 MHz	1880 MHz	1908.5 MHz
LTE Band 2	3	QPSK	1	0	0	23.29	23.2	23.23
			1	8	0	23.3	23.33	23.4
			1	14	0	23.18	23.24	23.07
			8	0	1	22.04	22.07	21.98
			8	4	1	22.18	22.03	21.98
			8	7	1	22.05	21.98	21.88
			15	0	1	22.14	21.97	22.01
		16QAM	1	0	1	22.26	22.24	22.3
			1	8	1	22.35	22.2	22.38
			1	14	1	22.36	22.4	22.16
			8	0	2	20.92	20.85	20.71
			8	4	2	20.97	20.87	20.74
			8	7	2	20.88	20.8	20.69
			15	0	2	20.85	20.9	20.73
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18607	18900	19193
						1850.7 MHz	1880 MHz	1909.3 MHz
LTE Band 2	1.4	QPSK	1	0	0	23.4	23.33	23.03
			1	3	0	23.4	23.3	23.17
			1	5	0	23.4	23.22	22.97
			3	0	0	23.17	23.24	22.93
			3	1	0	23.2	23.25	22.97
			3	3	0	23.19	23.19	22.98
			6	0	1	22.04	22.01	21.96
		16QAM	1	0	1	22.3	22.25	21.92
			1	3	1	22.24	22.38	22.11
			1	5	1	22.26	22.28	21.81
			3	0	1	21.82	22.01	21.81
			3	1	1	21.89	21.97	21.8
			3	3	1	21.89	21.94	21.86
			6	0	2	20.78	20.8	20.77

LTE Band 4

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20050 1720 MHz	20175 1732.5 MHz	20300 1745 MHz
LTE Band 4	20	QPSK	1	0	0		23.4	
			1	49	0		23.15	
			1	99	0		23.14	
			50	0	1		22.21	
			50	24	1		22.09	
			50	50	1		22.04	
			100	0	1		22.12	
		16QAM	1	0	1		22.16	
			1	49	1		21.95	
			1	99	1		21.85	
			50	0	2		21.07	
			50	24	2		20.95	
			50	50	2		20.93	
			100	0	2		20.96	
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20025 1717.5 MHz	20175 1732.5 MHz	20325 1747.5 MHz
LTE Band 4	15	QPSK	1	0	0	23.4	23.4	23.33
			1	37	0	23.23	23.35	23.35
			1	74	0	23.07	23.33	23.39
			36	0	1	22.07	22.13	22.28
			36	20	1	22.08	22.11	22.26
			36	39	1	22.04	22.02	22.28
			75	0	1	22.01	22.02	22.25
		16QAM	1	0	1	22.04	22.14	22.29
			1	37	1	21.97	22.06	22.25
			1	74	1	21.71	21.99	22.31
			36	0	2	20.93	21.03	21.13
			36	20	2	20.95	21.12	21.05
			36	39	2	20.91	21.02	21.1
			75	0	2	20.86	20.98	21.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20000	20175	20350
						1715 MHz	1732.5 MHz	1750 MHz
LTE Band 4	10	QPSK	1	0	0	23.4	23.32	23.24
			1	25	0	23.4	22.95	23.33
			1	49	0	23.12	23.11	23.14
			25	0	1	22.08	22.01	21.96
			25	12	1	22.01	22.03	22.01
			25	25	1	22.05	21.88	21.98
			50	0	1	22.16	21.94	22
		16QAM	1	0	1	22.32	22.34	22.06
			1	25	1	22.2	21.7	22.01
			1	49	1	22.14	21.98	22.09
			25	0	2	21.06	20.84	20.85
			25	12	2	21.03	20.88	21.03
			25	25	2	21.03	20.73	20.96
			50	0	2	20.96	20.77	20.93
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19975	20175	20375
						1712.5 MHz	1732.5 MHz	1752.5 MHz
LTE Band 4	5	QPSK	1	0	0	23.4	23.4	23.37
			1	12	0	23.15	23.32	22.95
			1	24	0	23.31	23.4	23.4
			12	0	1	22.03	21.92	22.08
			12	7	1	22.11	21.87	22.13
			12	13	1	22.05	21.98	22.06
			25	0	1	22.1	21.98	22.11
		16QAM	1	0	1	22.18	22.26	22.12
			1	12	1	21.84	21.58	22.1
			1	24	1	22.1	22.28	22.25
			12	0	2	20.93	20.95	21.01
			12	7	2	21	20.87	21.09
			12	13	2	20.97	20.9	20.98
			25	0	2	21.03	20.89	20.99

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19965	20175	20385
						1711.5 MHz	1732.5 MHz	1753.5 MHz
LTE Band 4	3	QPSK	1	0	0	23.2	23.22	23.35
			1	8	0	23.4	23.15	23.34
			1	14	0	23.14	22.99	23.4
			8	0	1	22.08	21.95	22.03
			8	4	1	22.06	21.89	22.15
			8	7	1	22.04	21.92	22.11
			15	0	1	22.07	21.87	22.12
		16QAM	1	0	1	22.39	21.68	22.4
			1	8	1	22.4	21.95	22.2
			1	14	1	22.19	21.66	22.4
			8	0	2	21	20.81	20.86
			8	4	2	20.88	20.88	20.97
			8	7	2	20.94	20.86	20.91
			15	0	2	21.01	20.7	21.08
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19957	20175	20393
						1710.7 MHz	1732.5 MHz	1754.3 MHz
LTE Band 4	1.4	QPSK	1	0	0	23.4	23.17	23.24
			1	3	0	23.31	23.05	23.29
			1	5	0	23.32	23.02	23.4
			3	0	0	23.17	23.07	23.08
			3	1	0	23.27	23.02	23.25
			3	3	0	23.26	22.97	23.14
			6	0	1	22.03	21.8	22.06
		16QAM	1	0	1	22.4	21.71	22.13
			1	3	1	22.21	21.82	22.27
			1	5	1	22.2	21.68	22.05
			3	0	1	21.89	21.78	21.89
			3	1	1	21.9	21.68	21.95
			3	3	1	21.85	21.74	21.87
			6	0	2	20.96	20.71	20.97

LTE Band 5

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20450 829 MHz	20525 836.5 MHz	20600 844 MHz
LTE Band 5	10	QPSK	1	0	0		24.1	
			1	25	0		23.9	
			1	49	0		24.0	
			25	0	1		22.9	
			25	12	1		22.7	
			25	25	1		22.7	
		16QAM	50	0	1		22.8	
			1	0	1		22.9	
			1	25	1		22.5	
			1	49	1		22.8	
			25	0	2		21.8	
			25	12	2		21.7	
			25	25	2		21.6	
			50	0	2		21.7	
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20425 826.5 MHz	20525 836.5 MHz	20625 846.5 MHz
LTE Band 5	5	QPSK	1	0	0	23.9	24.0	23.9
			1	12	0	23.9	23.9	23.8
			1	24	0	24.0	23.9	23.8
			12	0	1	22.8	22.8	22.7
			12	7	1	22.8	22.8	22.7
			12	13	1	22.7	22.7	22.7
			25	0	1	22.8	22.7	22.8
		16QAM	1	0	1	22.8	22.6	23.1
			1	12	1	23.0	22.6	22.6
			1	24	1	22.9	22.7	23.0
			12	0	2	21.7	21.7	21.7
			12	7	2	21.7	21.7	21.6
			12	13	2	21.7	21.6	21.6
			25	0	2	21.6	21.7	21.6

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20415	20525	20635
						825.5 MHz	836.5 MHz	847.5 MHz
LTE Band 5	3	QPSK	1	0	0	24.1	24.0	23.9
			1	8	0	24.1	24.0	24.1
			1	14	0	24.1	24.0	23.9
			8	0	1	22.8	22.9	22.7
			8	4	1	22.9	22.8	22.7
			8	7	1	22.9	22.8	22.7
			15	0	1	22.9	22.8	22.7
		16QAM	1	0	1	23.0	22.6	23.0
			1	8	1	23.1	22.5	22.7
			1	14	1	22.9	22.5	23.0
			8	0	2	21.8	21.8	21.5
			8	4	2	21.8	21.8	21.5
			8	7	2	21.7	21.7	21.5
			15	0	2	21.8	21.6	21.6
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20407	20525	20643
						824.7 MHz	836.5 MHz	848.3 MHz
LTE Band 5	1.4	QPSK	1	0	0	24.1	24.1	23.9
			1	3	0	24.1	23.9	23.9
			1	5	0	24.1	23.9	23.8
			3	0	0	24.0	24.0	23.7
			3	1	0	24.0	24.0	23.8
			3	3	0	24.1	24.0	23.7
			6	0	1	22.8	22.8	22.7
		16QAM	1	0	1	23.0	22.5	22.7
			1	3	1	22.9	22.9	22.9
			1	5	1	23.1	22.6	22.6
			3	0	1	22.5	22.6	22.4
			3	1	1	22.5	22.5	22.4
			3	3	1	22.5	22.5	22.4
			6	0	2	21.7	21.7	21.6

LTE Band 7

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20850	21100	21350
						2510 MHz	2535 MHz	2560 MHz
LTE Band 7	20	QPSK	1	0	0	23.5	23.5	22.8
			1	49	0	23.5	23.4	23.0
			1	99	0	23.2	23.3	22.8
			50	0	1	22.5	22.3	22.1
			50	24	1	22.4	22.3	22.1
			50	50	1	22.3	22.2	22.0
			100	0	1	22.5	22.3	22.0
		16QAM	1	0	1	22.4	22.0	21.9
			1	49	1	22.3	22.0	22.2
			1	99	1	22.1	21.8	21.9
			50	0	2	21.6	21.3	21.1
			50	24	2	21.4	21.3	21.1
			50	50	2	21.6	21.2	20.8
			100	0	2	21.4	21.2	21.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20825	21100	21375
						2507.5 MHz	2535 MHz	2562.5 MHz
LTE Band 7	15	QPSK	1	0	0	23.2	23.4	23.2
			1	37	0	23.4	23.4	23.3
			1	74	0	23.3	23.1	23.1
			36	0	1	22.5	22.4	22.1
			36	20	1	22.6	22.4	22.2
			36	39	1	22.4	22.3	22.0
			75	0	1	22.5	22.3	22.2
		16QAM	1	0	1	22.4	21.9	21.7
			1	37	1	22.3	22.0	21.9
			1	74	1	22.4	21.7	21.7
			36	0	2	21.5	21.3	21.1
			36	20	2	21.5	21.3	21.3
			36	39	2	21.4	21.2	21.1
			75	0	2	21.4	21.3	21.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20800	21100	21400
						2505 MHz	2535 MHz	2565 MHz
LTE Band 7	10	QPSK	1	0	0	23.4	23.3	23.4
			1	25	0	23.5	23.4	23.7
			1	49	0	23.0	23.1	23.3
			25	0	1	22.4	22.3	22.2
			25	12	1	22.4	22.3	22.2
			25	25	1	22.4	22.3	22.2
			50	0	1	22.4	22.3	22.2
		16QAM	1	0	1	22.3	22.4	22.0
			1	25	1	22.2	21.9	22.0
			1	49	1	22.3	22.0	21.9
			25	0	2	21.3	21.2	21.3
			25	12	2	21.4	21.3	21.3
			25	25	2	21.4	21.3	21.2
			50	0	2	21.3	21.2	21.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20775	21100	21425
						2502.5 MHz	2535 MHz	2567.5 MHz
LTE Band 7	5	QPSK	1	0	0	23.5	23.3	23.4
			1	12	0	23.4	23.1	23.1
			1	24	0	23.3	23.1	23.1
			12	0	1	22.4	22.2	22.3
			12	7	1	22.3	22.3	22.3
			12	13	1	22.3	22.2	22.2
			25	0	1	22.3	22.2	22.2
		16QAM	1	0	1	22.4	21.9	22.4
			1	12	1	22.5	22.0	22.0
			1	24	1	22.4	21.9	22.3
			12	0	2	21.3	21.1	21.3
			12	7	2	21.2	21.2	21.3
			12	13	2	21.3	21.1	21.2
			25	0	2	21.2	21.3	21.2

LTE Band 12

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23060 704 MHz	23095 707.5 MHz	23130 711 MHz
LTE Band 12	10	QPSK	1	0	0		24.0	
			1	25	0		24.2	
			1	49	0		23.8	
			25	0	1		22.8	
			25	12	1		22.8	
			25	25	1		22.8	
			50	0	1		22.8	
		16QAM	1	0	1		22.4	
			1	25	1		22.5	
			1	49	1		22.3	
			25	0	2		21.9	
			25	12	2		21.9	
			25	25	2		21.8	
			50	0	2		21.8	
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23035 701.5 MHz	23095 707.5 MHz	23155 713.5 MHz
LTE Band 12	5	QPSK	1	0	0	23.7	23.7	23.9
			1	12	0	23.9	23.8	23.6
			1	24	0	23.7	23.7	23.7
			12	0	1	22.6	22.7	22.8
			12	7	1	22.7	22.8	22.8
			12	13	1	22.7	22.7	22.7
			25	0	1	22.6	22.7	22.7
		16QAM	1	0	1	22.4	22.2	22.9
			1	12	1	22.7	22.5	22.3
			1	24	1	22.6	22.2	22.7
			12	0	2	21.6	21.7	21.8
			12	7	2	21.7	21.8	21.7
			12	13	2	21.7	21.7	21.7
			25	0	2	21.6	21.8	21.7

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23025	23095	23165
						700.5 MHz	707.5 MHz	714.5 MHz
LTE Band 12	3	QPSK	1	0	0	23.7	23.8	23.7
			1	8	0	24.0	24.1	23.8
			1	14	0	23.8	23.8	23.8
			8	0	1	22.7	22.9	22.6
			8	4	1	22.8	22.9	22.7
			8	7	1	22.8	22.8	22.6
			15	0	1	22.7	22.8	22.6
		16QAM	1	0	1	22.5	22.3	22.7
			1	8	1	22.8	22.4	22.2
			1	14	1	22.5	22.2	22.8
			8	0	2	21.7	21.9	21.5
			8	4	2	21.7	21.9	21.6
			8	7	2	21.8	21.8	21.5
			15	0	2	21.7	21.7	21.7
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23017	23095	23173
						699.7 MHz	707.5 MHz	715.3 MHz
LTE Band 12	1.4	QPSK	1	0	0	24.0	23.9	23.7
			1	3	0	23.9	23.7	23.8
			1	5	0	24.0	23.9	23.7
			3	0	0	23.9	23.8	23.6
			3	1	0	23.8	23.9	23.7
			3	3	0	23.7	23.8	23.5
			6	0	1	22.8	22.7	22.5
		16QAM	1	0	1	22.7	22.2	22.3
			1	3	1	22.5	22.3	22.6
			1	5	1	22.5	22.2	22.4
			3	0	1	22.3	22.3	22.2
			3	1	1	22.2	22.3	22.2
			3	3	1	22.2	22.3	22.3
			6	0	2	21.8	21.8	21.7

LTE Band 13

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)
						23230
						782 MHz
LTE Band 13	10	QPSK	1	0	0	24.2
			1	25	0	24.2
			1	49	0	24.0
			25	0	1	22.8
			25	12	1	22.8
			25	25	1	22.9
			50	0	1	22.9
		16QAM	1	0	1	22.7
			1	25	1	22.6
			1	49	1	22.6
			25	0	2	21.7
			25	12	2	21.7
			25	25	2	21.7
			50	0	2	21.6
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)
						23230
						782 MHz
LTE Band 13	5	QPSK	1	0	0	24.0
			1	12	0	24.0
			1	24	0	24.0
			12	0	1	22.7
			12	7	1	22.8
			12	13	1	22.8
			25	0	1	22.7
		16QAM	1	0	1	22.7
			1	12	1	23.0
			1	24	1	22.9
			12	0	2	21.5
			12	7	2	21.6
			12	13	2	21.6
			25	0	2	21.4

LTE Band 17

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)
						23790
						710 MHz
LTE Band 17	10	QPSK	1	0	0	23.9
			1	25	0	24.0
			1	49	0	23.9
			25	0	1	22.8
			25	12	1	22.8
			25	25	1	22.7
			50	0	1	22.8
		16QAM	1	0	1	22.5
			1	25	1	22.5
			1	49	1	22.4
			25	0	2	21.8
			25	12	2	21.8
			25	25	2	21.8
			50	0	2	21.7
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)
						23790
						710 MHz
LTE Band 17	5	QPSK	1	0	0	23.9
			1	12	0	24.1
			1	24	0	23.8
			12	0	1	22.8
			12	7	1	22.8
			12	13	1	22.6
			25	0	1	22.7
		16QAM	1	0	1	22.6
			1	12	1	22.9
			1	24	1	22.5
			12	0	2	21.8
			12	7	2	21.8
			12	13	2	21.7
			25	0	2	21.7

LTE Band 25

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26140	26365	26590
						1860 MHz	1882.5 MHz	1905 MHz
LTE Band 25	20	QPSK	1	0	0	23.4	23.4	23.38
			1	49	0	23.24	23.37	23.38
			1	99	0	23.13	23.39	23.35
			50	0	1	22.35	22.19	22.32
			50	24	1	22.34	22.18	22.36
			50	50	1	22.29	22.26	22.35
			100	0	1	22.32	22.26	22.37
		16QAM	1	0	1	22.38	22.35	22.4
			1	49	1	22.4	22.16	22.4
			1	99	1	22.13	22.17	22.35
			50	0	2	21.23	21.03	21.18
			50	24	2	21.16	21.02	21.29
			50	50	2	21.17	21.15	21.21
			100	0	2	21.17	21.16	21.3
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26115	26365	26615
						1857.5 MHz	1882.5 MHz	1907.5 MHz
LTE Band 25	15	QPSK	1	0	0	23.4	23.4	23.39
			1	37	0	23.19	23.4	23.38
			1	74	0	23.22	23.34	23.26
			36	0	1	22.11	22.12	22.31
			36	20	1	22.12	22.28	22.32
			36	39	1	22.15	22.2	22.22
			75	0	1	22.16	22.16	22.35
		16QAM	1	0	1	22.35	22.35	22.38
			1	37	1	22.12	22.4	22.34
			1	74	1	22.07	22.33	22.26
			36	0	2	20.98	21.01	21.16
			36	20	2	21.01	21.11	21.19
			36	39	2	21	21.06	21.13
			75	0	2	21.01	21.01	21.22

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26090	26365	26640
						1855 MHz	1882.5 MHz	1910 MHz
LTE Band 25	10	QPSK	1	0	0	23.32	23.28	23.4
			1	25	0	23.36	23.07	23.25
			1	49	0	23.31	23.09	23.09
			25	0	1	22.02	22.02	21.9
			25	12	1	22.16	22.15	21.94
			25	25	1	22.03	21.97	21.94
			50	0	1	22.07	21.99	22
		16QAM	1	0	1	22.35	22.28	22.3
			1	25	1	22.19	22.15	22.15
			1	49	1	22.27	22.16	22.28
			25	0	2	20.76	20.86	20.65
			25	12	2	20.98	20.93	20.83
			25	25	2	20.84	20.81	20.89
			50	0	2	20.86	20.83	20.88
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26065	26365	26665
						1852.5 MHz	1882.5 MHz	1912.5 MHz
LTE Band 25	5	QPSK	1	0	0	23.35	23.39	23.18
			1	12	0	23.19	23.06	23.2
			1	24	0	23.36	23.27	23.03
			12	0	1	22.04	22	21.95
			12	7	1	22	21.99	22
			12	13	1	22.04	22.05	22.03
			25	0	1	21.98	22.02	22.08
		16QAM	1	0	1	22.35	22.13	21.86
			1	12	1	22.4	22.09	21.97
			1	24	1	22.4	22.03	21.89
			12	0	2	20.99	20.86	20.79
			12	7	2	21.01	20.96	20.84
			12	13	2	21	20.96	20.88
			25	0	2	20.92	20.94	20.94

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26055	26365	26675
						1851.5 MHz	1882.5 MHz	1913.5 MHz
LTE Band 25	3	QPSK	1	0	0	23.29	23.2	23.23
			1	8	0	23.3	23.33	23.4
			1	14	0	23.18	23.24	23.07
			8	0	1	22.04	22.07	21.98
			8	4	1	22.18	22.03	21.98
			8	7	1	22.05	21.98	21.88
			15	0	1	22.14	21.97	22.01
		16QAM	1	0	1	22.26	22.24	22.3
			1	8	1	22.35	22.2	22.38
			1	14	1	22.36	22.4	22.16
			8	0	2	20.92	20.85	20.71
			8	4	2	20.97	20.87	20.74
			8	7	2	20.88	20.8	20.69
			15	0	2	20.85	20.9	20.73
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26047	26365	26683
						1850.7 MHz	1882.5 MHz	1914.3 MHz
LTE Band 25	1.4	QPSK	1	0	0	23.4	23.33	23.03
			1	3	0	23.4	23.3	23.17
			1	5	0	23.4	23.22	22.97
			3	0	0	23.17	23.24	22.93
			3	1	0	23.2	23.25	22.97
			3	3	0	23.19	23.19	22.98
			6	0	1	22.04	22.01	21.96
		16QAM	1	0	1	22.3	22.25	21.92
			1	3	1	22.24	22.38	22.11
			1	5	1	22.26	22.28	21.81
			3	0	1	21.82	22.01	21.81
			3	1	1	21.89	21.97	21.8
			3	3	1	21.89	21.94	21.86
			6	0	2	20.78	20.8	20.77

LTE Band 26

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26765	26865	26965
						831.5 MHz	836.5 MHz	841.5 MHz
LTE Band 26	15	QPSK	1	0	0	23.8	23.9	23.9
			1	37	0	24.1	23.9	23.8
			1	74	0	23.6	23.7	23.7
			36	0	1	22.8	22.7	22.6
			36	20	1	22.8	22.7	22.8
			36	39	1	22.8	22.7	22.6
			75	0	1	22.7	22.7	22.7
		16QAM	1	0	1	22.6	22.9	22.7
			1	37	1	22.6	22.8	22.5
			1	74	1	22.4	22.6	22.2
			36	0	2	21.7	21.8	21.6
			36	20	2	21.7	21.7	21.8
			36	39	2	21.7	21.7	21.5
			75	0	2	21.7	21.8	21.6
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26740	26865	26990
						819 MHz	831.5 MHz	844 MHz
LTE Band 26	10	QPSK	1	0	0	23.8	23.8	23.6
			1	25	0	23.9	23.6	23.7
			1	49	0	23.7	23.6	23.4
			25	0	1	22.6	22.6	22.3
			25	12	1	22.6	22.6	22.3
			25	25	1	22.5	22.5	22.2
			50	0	1	22.5	22.6	22.4
		16QAM	1	0	1	22.7	22.8	22.3
			1	25	1	22.6	22.2	22.7
			1	49	1	22.6	22.4	22.7
			25	0	2	21.5	21.5	21.4
			25	12	2	21.6	21.5	21.4
			25	25	2	21.4	21.4	21.4
			50	0	2	21.4	21.4	21.4

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26715	26865	27015
						816.5 MHz	831.5 MHz	846.5 MHz
LTE Band 26	5	QPSK	1	0	0	23.8	23.7	23.8
			1	12	0	23.7	23.7	23.7
			1	24	0	23.6	23.5	23.7
			12	0	1	22.7	22.5	22.8
			12	7	1	22.7	22.5	22.8
			12	13	1	22.5	22.6	22.7
			25	0	1	22.5	22.6	22.7
		16QAM	1	0	1	22.7	22.3	22.8
			1	12	1	23.2	22.4	23.1
			1	24	1	22.6	22.3	22.7
			12	0	2	21.6	21.4	21.7
			12	7	2	21.6	21.4	21.7
			12	13	2	21.3	21.4	21.7
			25	0	2	21.4	21.5	21.6
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26705	26865	27025
						815.5 MHz	831.5 MHz	847.5 MHz
LTE Band 26	3	QPSK	1	0	0	23.9	23.8	23.4
			1	8	0	23.9	24.0	23.7
			1	14	0	23.6	23.7	23.3
			8	0	1	22.8	22.8	22.4
			8	4	1	22.9	22.8	22.4
			8	7	1	22.7	22.8	22.4
			15	0	1	22.8	22.7	22.4
		16QAM	1	0	1	23.0	22.7	22.8
			1	8	1	23.0	22.7	22.3
			1	14	1	22.8	22.5	22.6
			8	0	2	21.8	21.8	21.3
			8	4	2	21.8	21.8	21.3
			8	7	2	21.8	21.8	21.3
			15	0	2	21.9	21.7	21.4

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26697	26865	27033
						814.7 MHz	831.5 MHz	848.3 MHz
LTE Band 26	1.4	QPSK	1	0	0	24.0	23.7	23.6
			1	3	0	24.0	23.7	23.5
			1	5	0	23.9	23.7	23.5
			3	0	0	23.8	23.7	23.3
			3	1	0	23.8	23.7	23.3
			3	3	0	23.7	23.7	23.3
			6	0	1	22.8	22.7	22.4
		16QAM	1	0	1	23.0	22.4	22.7
			1	3	1	22.9	22.7	22.5
			1	5	1	23.0	22.4	22.5
			3	0	1	22.6	22.5	22.3
			3	1	1	22.5	22.6	22.2
			3	3	1	22.4	22.5	22.2
			6	0	2	21.9	21.8	21.4

LTE Band 41

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						39750	40620	41490
						2506 MHz	2593 MHz	2680 MHz
LTE Band 41	20	QPSK	1	0	0	22.8	23.2	23.1
			1	49	0	22.9	23.0	23.0
			1	99	0	22.8	23.1	22.8
			50	0	1	21.8	21.7	21.7
			50	24	1	21.8	21.7	21.7
			50	50	1	21.7	21.7	21.7
			100	0	1	21.8	21.6	21.7
		16QAM	1	0	1	22.1	21.7	21.7
			1	49	1	22.0	21.6	21.6
			1	99	1	21.8	21.5	21.4
			50	0	2	20.7	20.7	20.8
			50	24	2	20.7	20.7	20.7
			50	50	2	20.7	20.7	20.6
			100	0	2	20.8	20.8	20.7
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						39725	40620	41515
						2503.5 MHz	2593 MHz	2682.5 MHz
LTE Band 41	15	QPSK	1	0	0	22.9	22.6	23.0
			1	37	0	22.8	22.7	22.8
			1	74	0	22.9	22.6	22.7
			36	0	1	21.7	21.7	21.7
			36	20	1	21.8	21.7	21.7
			36	39	1	21.7	21.6	21.5
			75	0	1	21.7	21.6	21.6
		16QAM	1	0	1	22.0	21.6	21.6
			1	37	1	21.8	21.4	21.5
			1	74	1	21.7	21.4	21.3
			36	0	2	20.7	20.8	20.7
			36	20	2	20.8	20.7	20.6
			36	39	2	20.7	20.6	20.5
			75	0	2	20.6	20.6	20.6

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						39700	40620	41540
						2501 MHz	2593 MHz	2685 MHz
LTE Band 41	10	QPSK	1	0	0	23.1	22.8	22.8
			1	25	0	22.9	22.7	22.6
			1	49	0	23.1	22.6	22.6
			25	0	1	21.7	21.4	21.4
			25	12	1	21.7	21.5	21.5
			25	25	1	21.7	21.6	21.3
			50	0	1	21.7	21.5	21.4
		16QAM	1	0	1	21.5	21.6	21.6
			1	25	1	21.4	21.8	21.8
			1	49	1	21.7	21.7	21.6
			25	0	2	20.5	20.5	20.5
			25	12	2	20.7	20.7	20.5
			25	25	2	20.8	20.6	20.3
			50	0	2	20.7	20.5	20.4
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						39675	40620	41565
						2498.5 MHz	2593 MHz	2687.5 MHz
LTE Band 41	5	QPSK	1	0	0	23.0	22.6	23.2
			1	12	0	22.6	22.7	22.7
			1	24	0	23.0	22.9	22.9
			12	0	1	21.5	21.5	21.5
			12	7	1	21.6	21.5	21.4
			12	13	1	21.6	21.5	21.4
			25	0	1	21.5	21.5	21.3
		16QAM	1	0	1	21.6	21.6	21.7
			1	12	1	21.4	21.7	21.5
			1	24	1	21.6	21.6	21.7
			12	0	2	20.7	20.5	20.5
			12	7	2	20.6	20.4	20.5
			12	13	2	20.5	20.5	20.4
			25	0	2	20.7	20.4	20.3

9. PEAK TO AVERAGE RATIO

TEST PROCEDURE

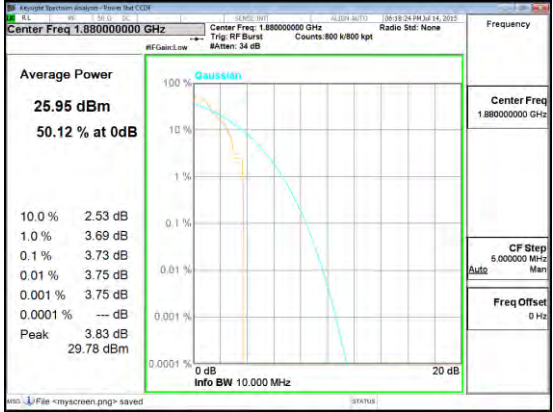
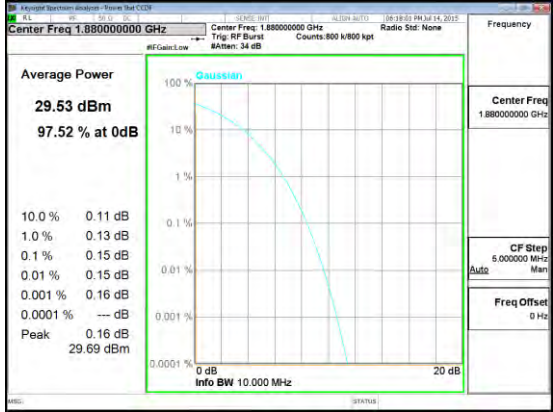
Per KDB 971168 D01 Power Meas License Digital Systems v02r02

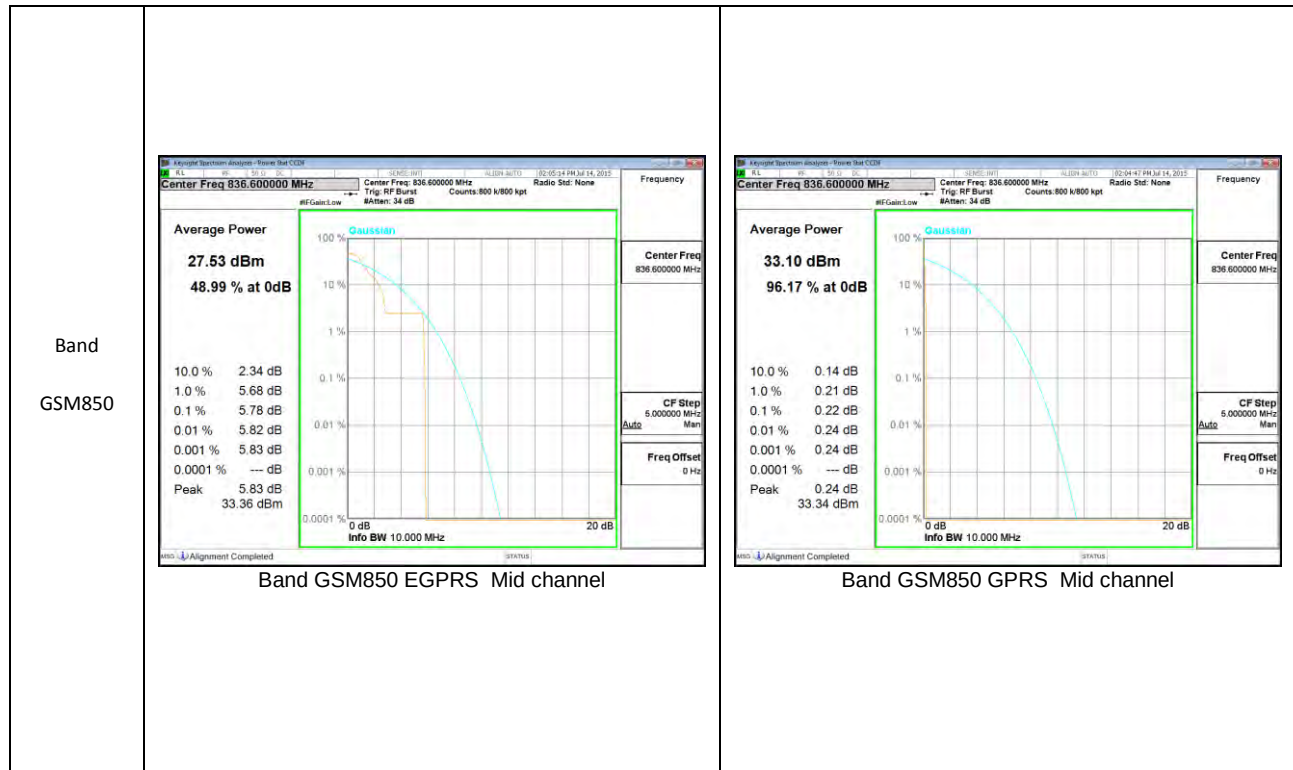
TEST SPEC

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.

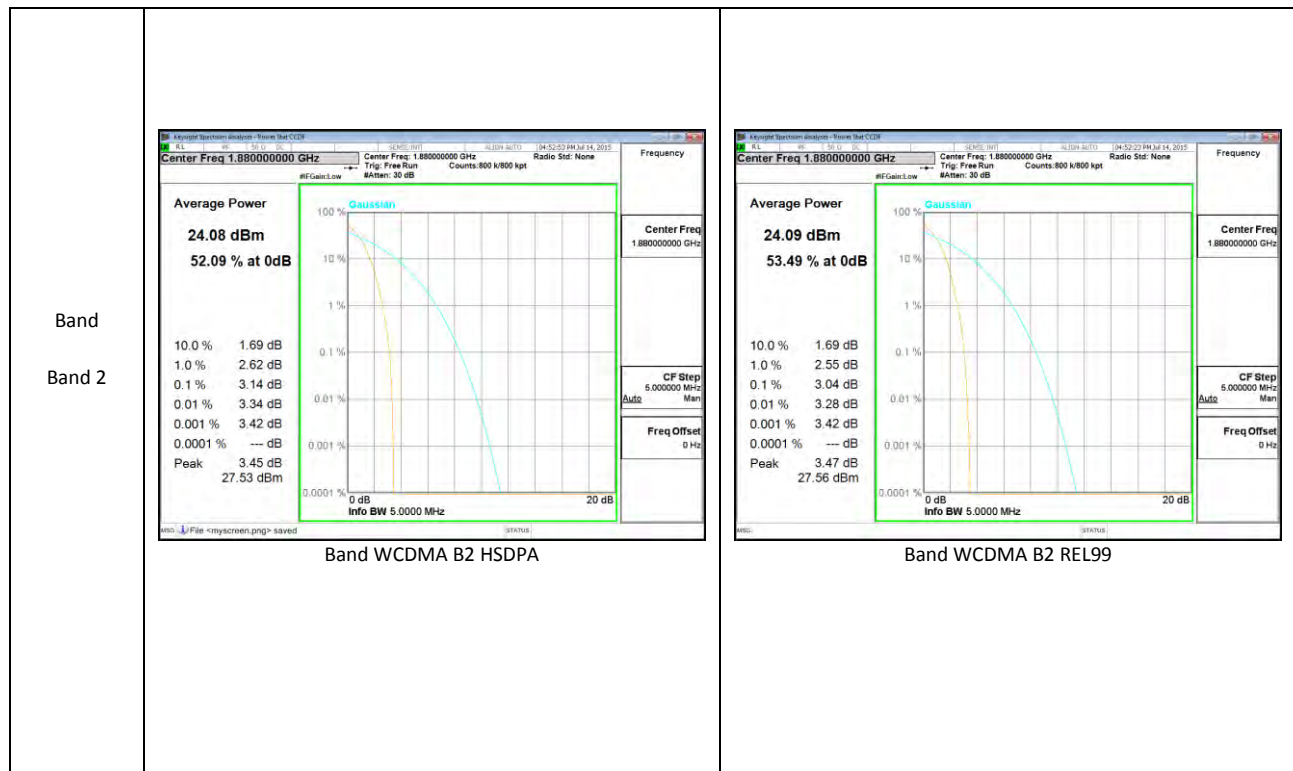
9.1. CONDUCTED PEAK TO AVERAGE RESULT

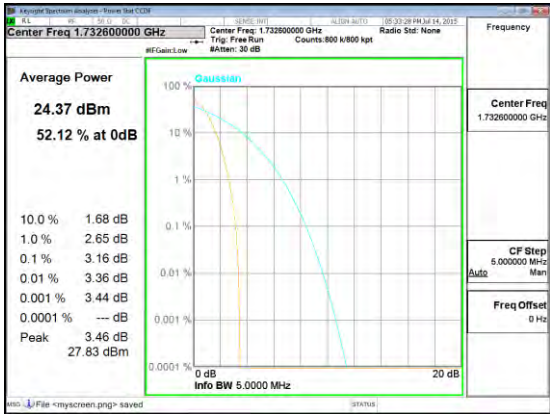
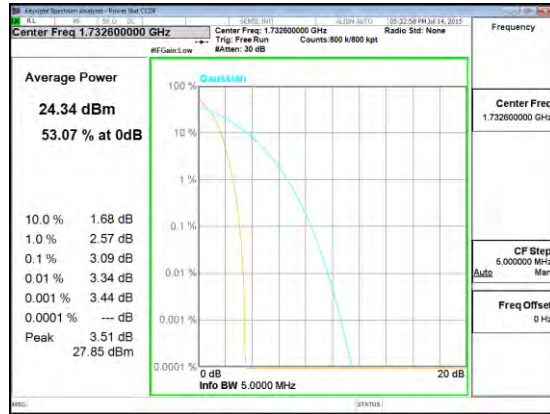
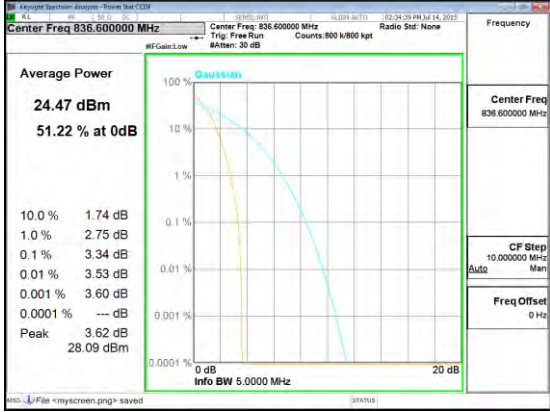
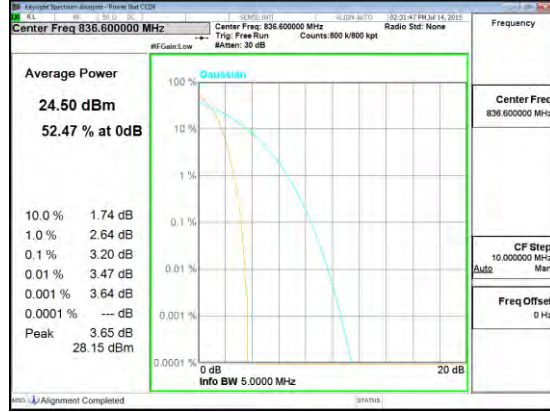
GSM

Band GSM1900	 Average Power 25.95 dBm 50.12 % at 0dB 10.0 % 2.53 dB 1.0 % 3.69 dB 0.1 % 3.73 dB 0.01 % 3.75 dB 0.001 % 3.75 dB 0.0001 % --- dB Peak 3.83 dB 29.78 dBm Center Freq 1.880000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz Band GSM1900 EGPRS Mid channel	 Average Power 29.53 dBm 97.52 % at 0dB 10.0 % 0.11 dB 1.0 % 0.13 dB 0.1 % 0.15 dB 0.01 % 0.15 dB 0.001 % 0.16 dB 0.0001 % --- dB Peak 0.16 dB 29.69 dBm Center Freq 1.880000000 GHz CF Step 5.000000 MHz Freq Offset 0 Hz Band GSM1900 GPRS Mid channel
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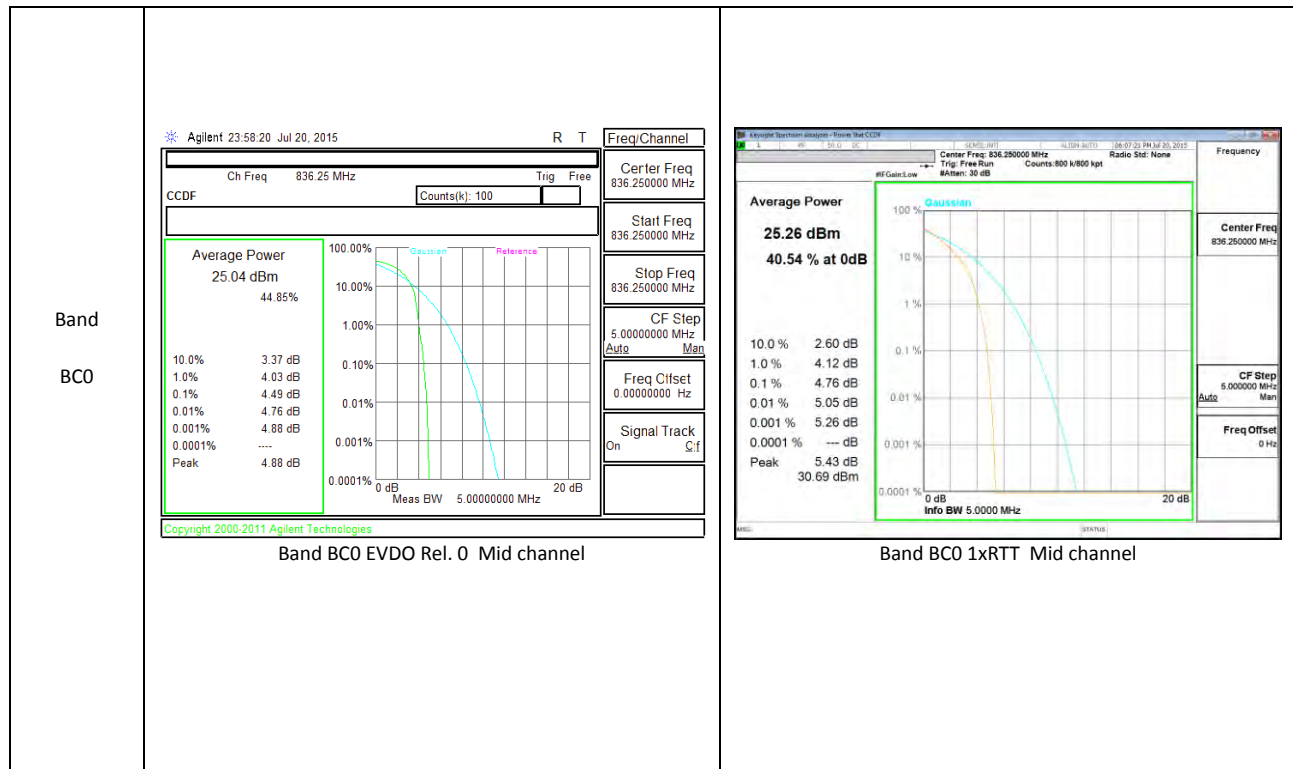
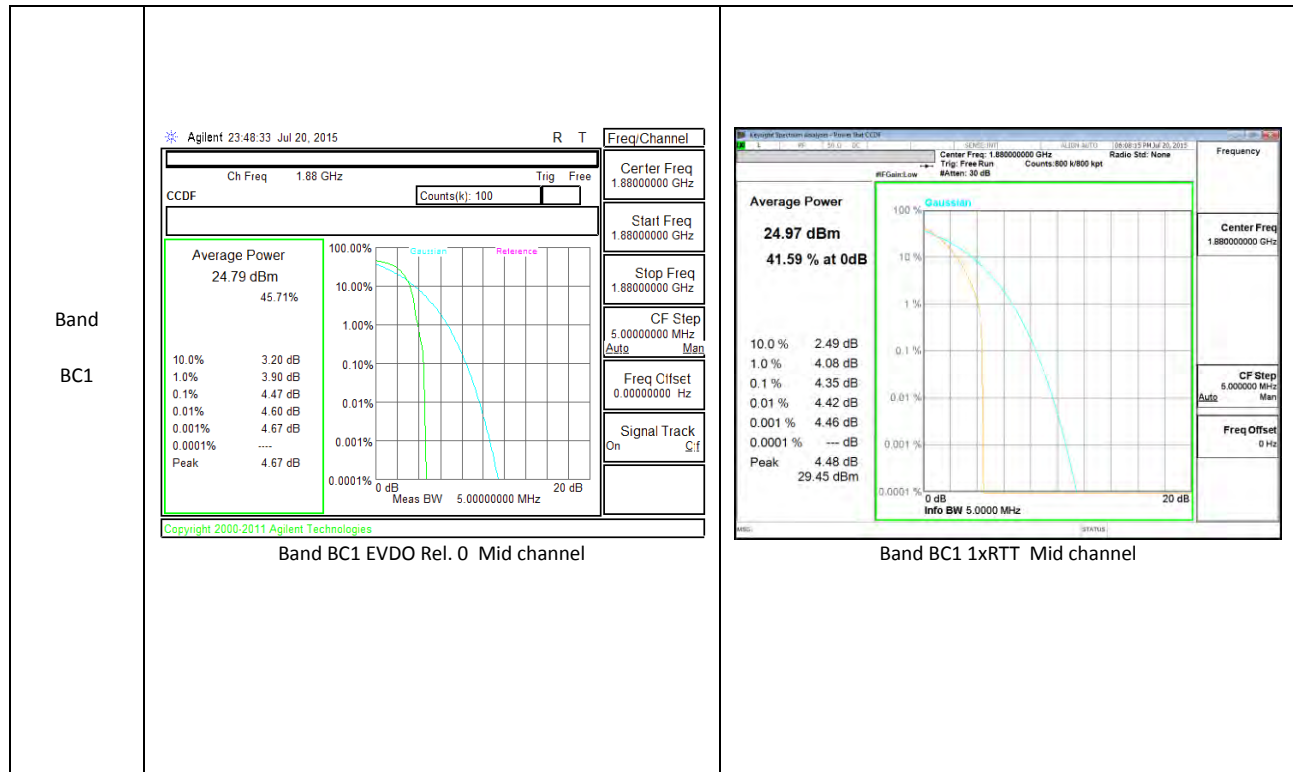


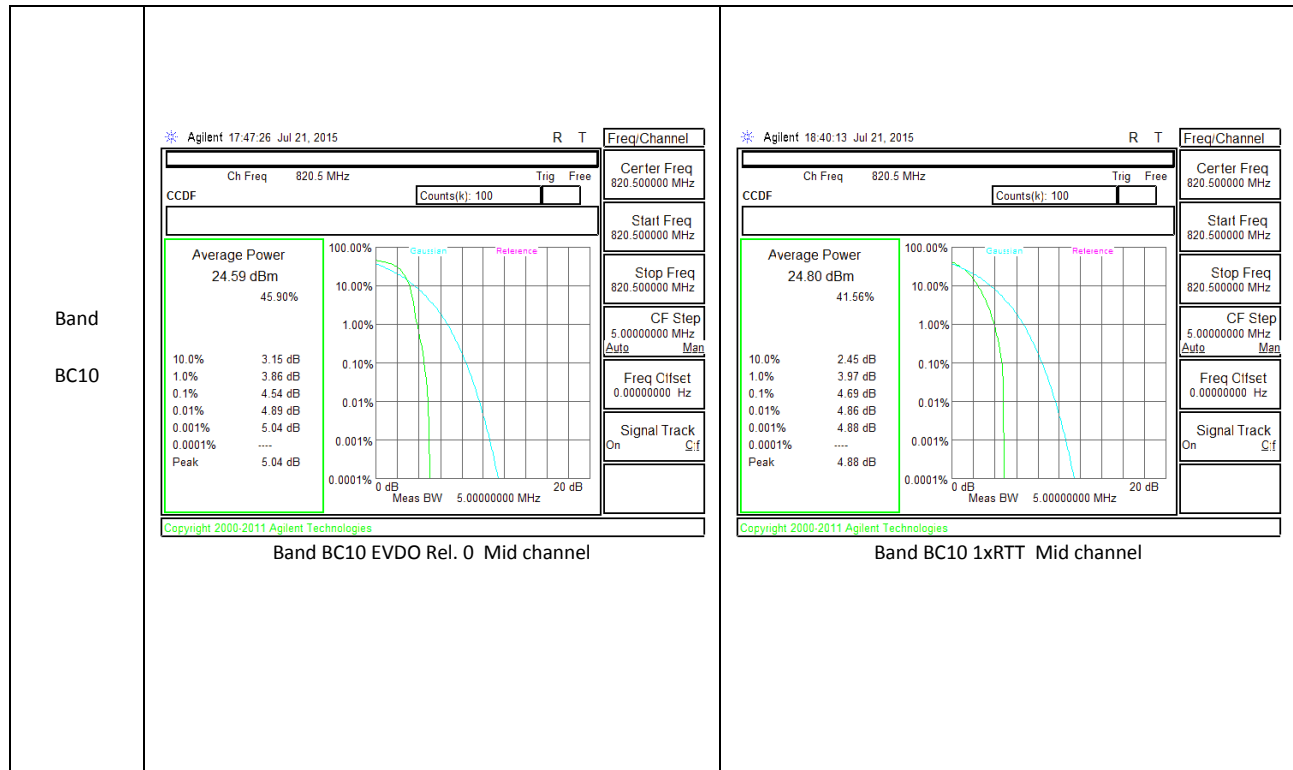
WCDMA



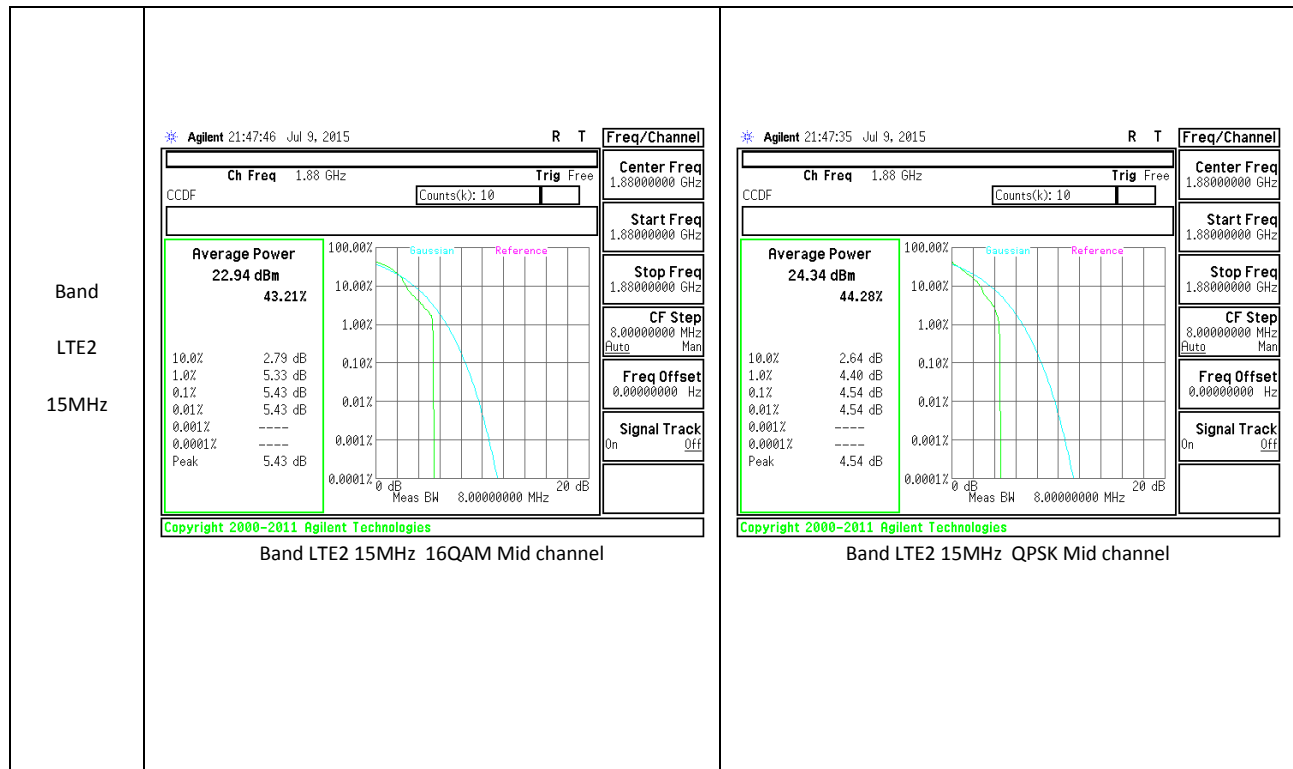
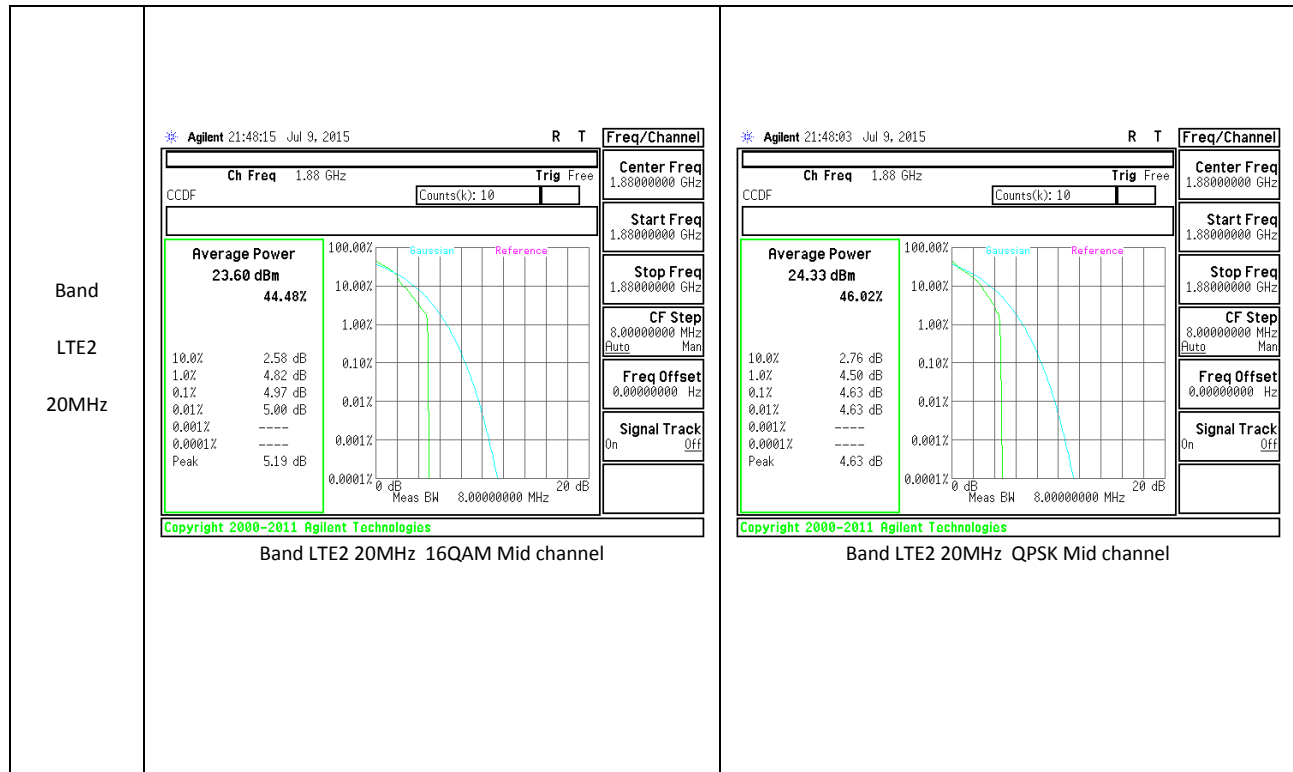
Band Band 4	 Average Power 24.37 dBm 52.12 % at 0dB 10.0 % 1.68 dB 1.0 % 2.65 dB 0.1 % 3.16 dB 0.01 % 3.36 dB 0.001 % 3.44 dB 0.0001 % --- dB Peak 3.46 dB 27.83 dBm Center Freq: 1.732600000 GHz Info BW 5.0000 MHz CF Step: 5.000000 MHz Auto Freq Offset: 0 Hz Band WCDMA B4 HSDPA	 Average Power 24.34 dBm 53.07 % at 0dB 10.0 % 1.68 dB 1.0 % 2.57 dB 0.1 % 3.09 dB 0.01 % 3.34 dB 0.001 % 3.44 dB 0.0001 % --- dB Peak 3.51 dB 27.85 dBm Center Freq: 1.732600000 GHz Info BW 5.0000 MHz CF Step: 5.000000 MHz Auto Freq Offset: 0 Hz Band WCDMA B4 REL99
Band Band 5	 Average Power 24.47 dBm 51.22 % at 0dB 10.0 % 1.74 dB 1.0 % 2.75 dB 0.1 % 3.34 dB 0.01 % 3.53 dB 0.001 % 3.60 dB 0.0001 % --- dB Peak 3.62 dB 28.09 dBm Center Freq: 836.600000 MHz Info BW 5.0000 MHz CF Step: 10.000000 MHz Auto Freq Offset: 0 Hz Band WCDMA B5 HSDPA	 Average Power 24.50 dBm 52.47 % at 0dB 10.0 % 1.74 dB 1.0 % 2.64 dB 0.1 % 3.20 dB 0.01 % 3.47 dB 0.001 % 3.64 dB 0.0001 % --- dB Peak 3.65 dB 28.15 dBm Center Freq: 836.600000 MHz Info BW 5.0000 MHz CF Step: 10.000000 MHz Auto Freq Offset: 0 Hz Band WCDMA B5 REL99

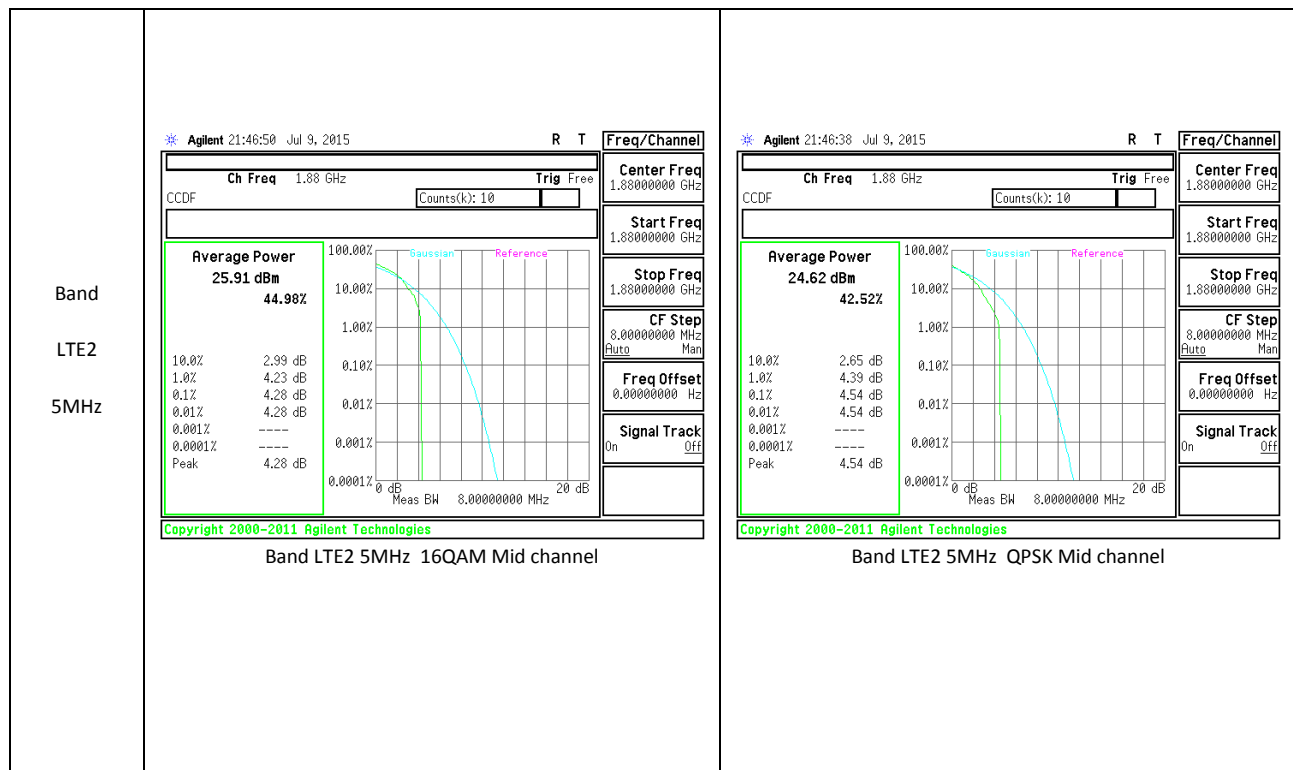
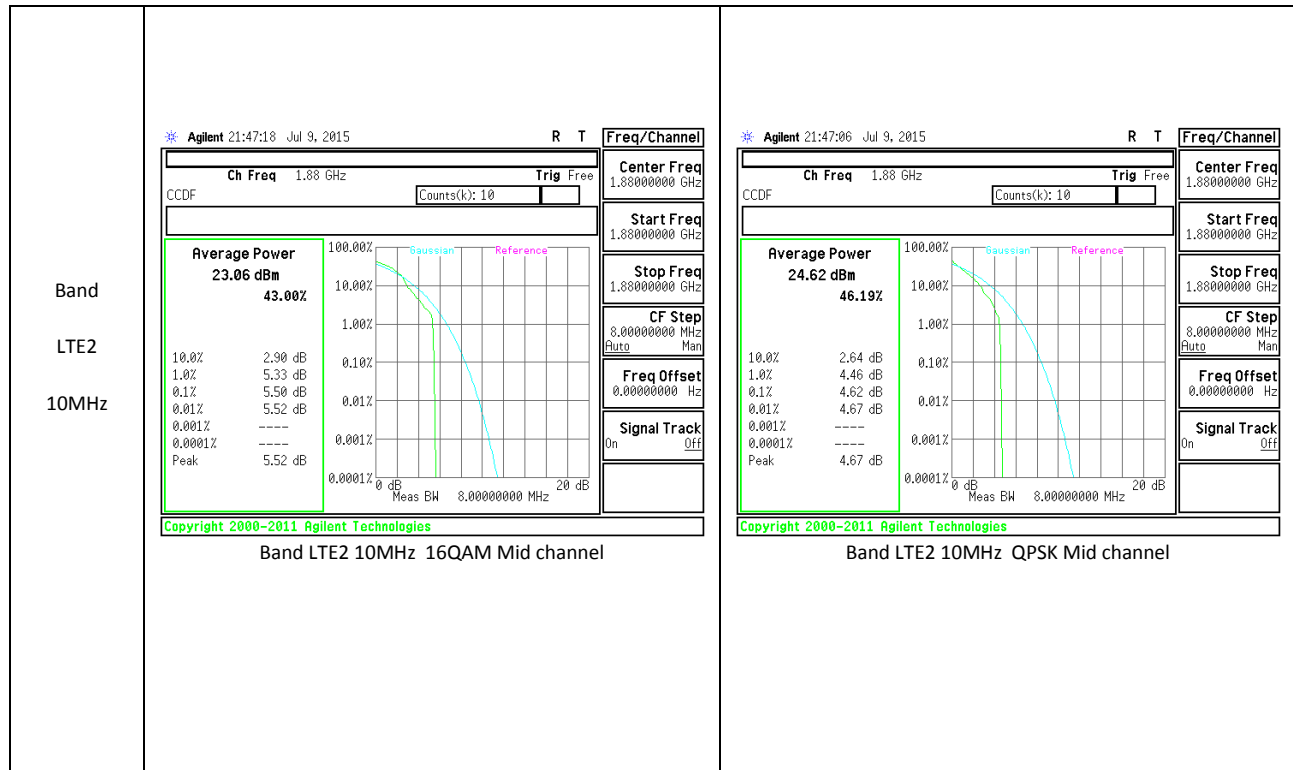
CDMA

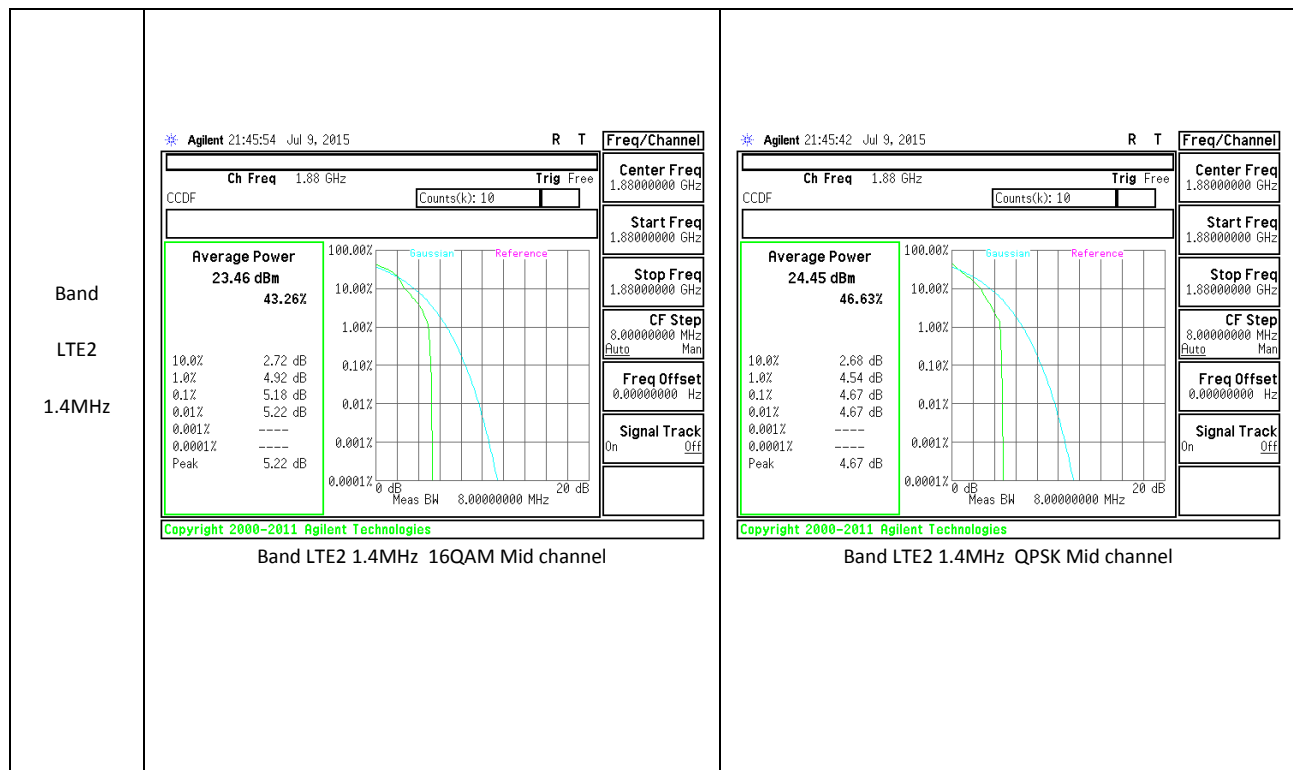
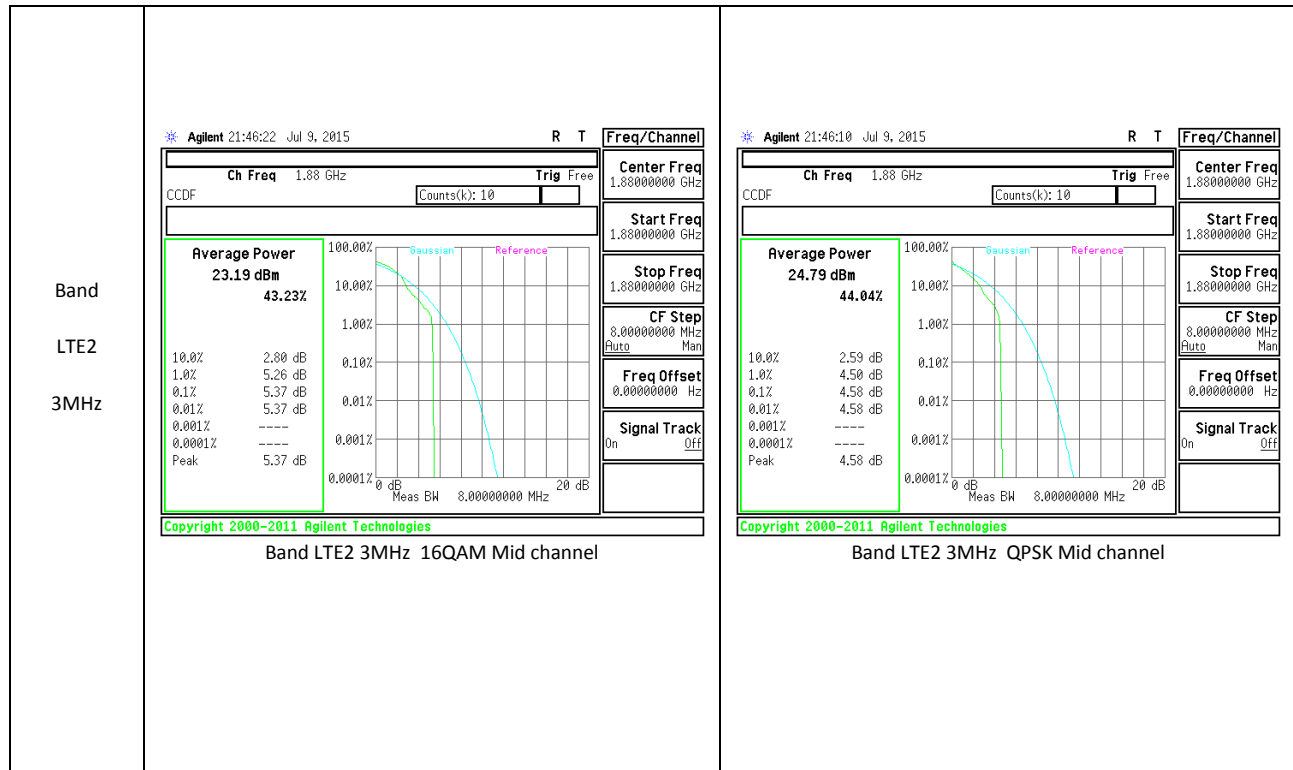




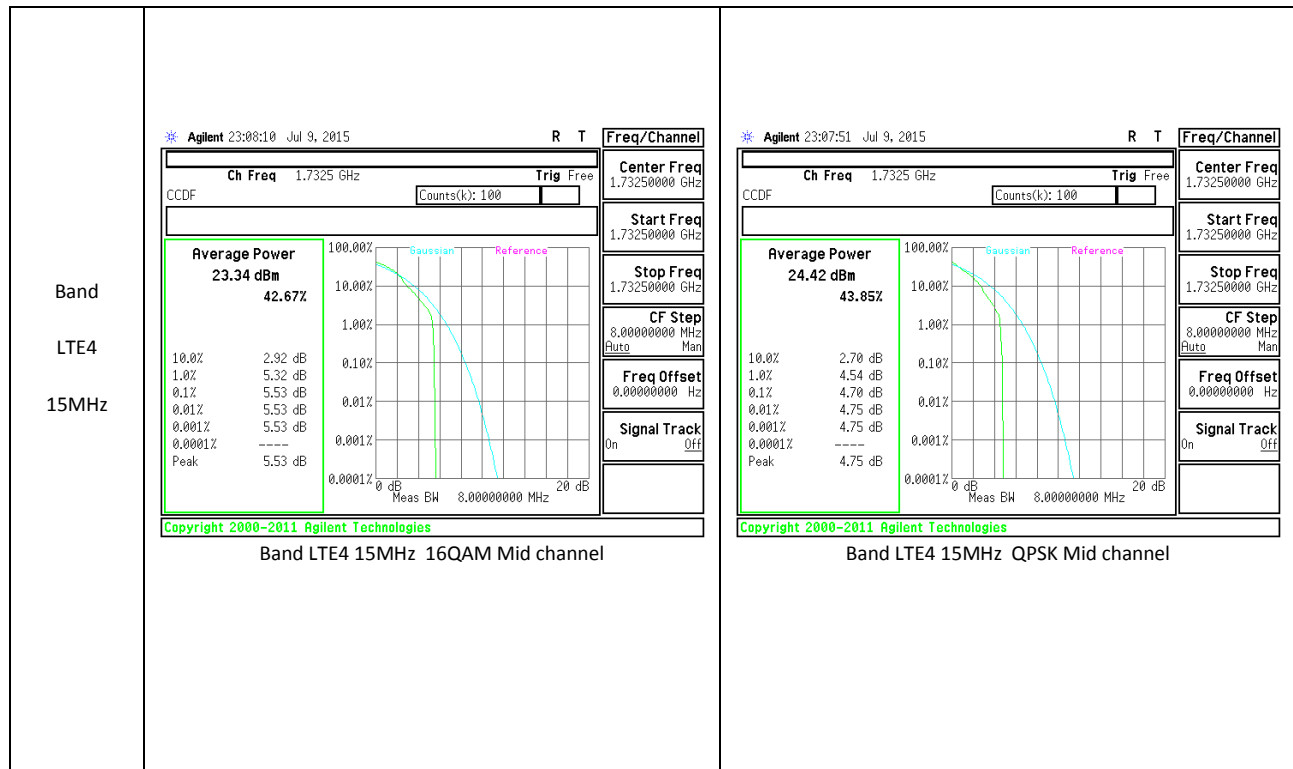
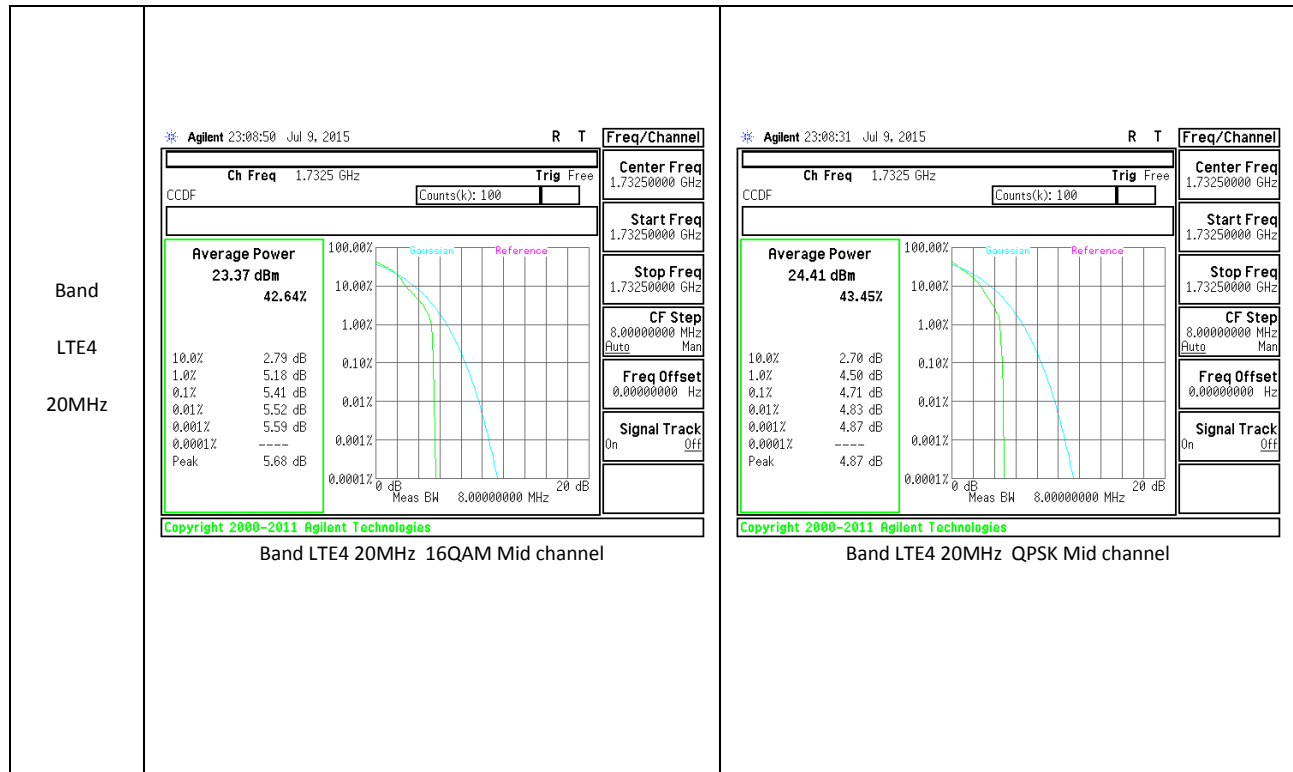
LTE Band 2

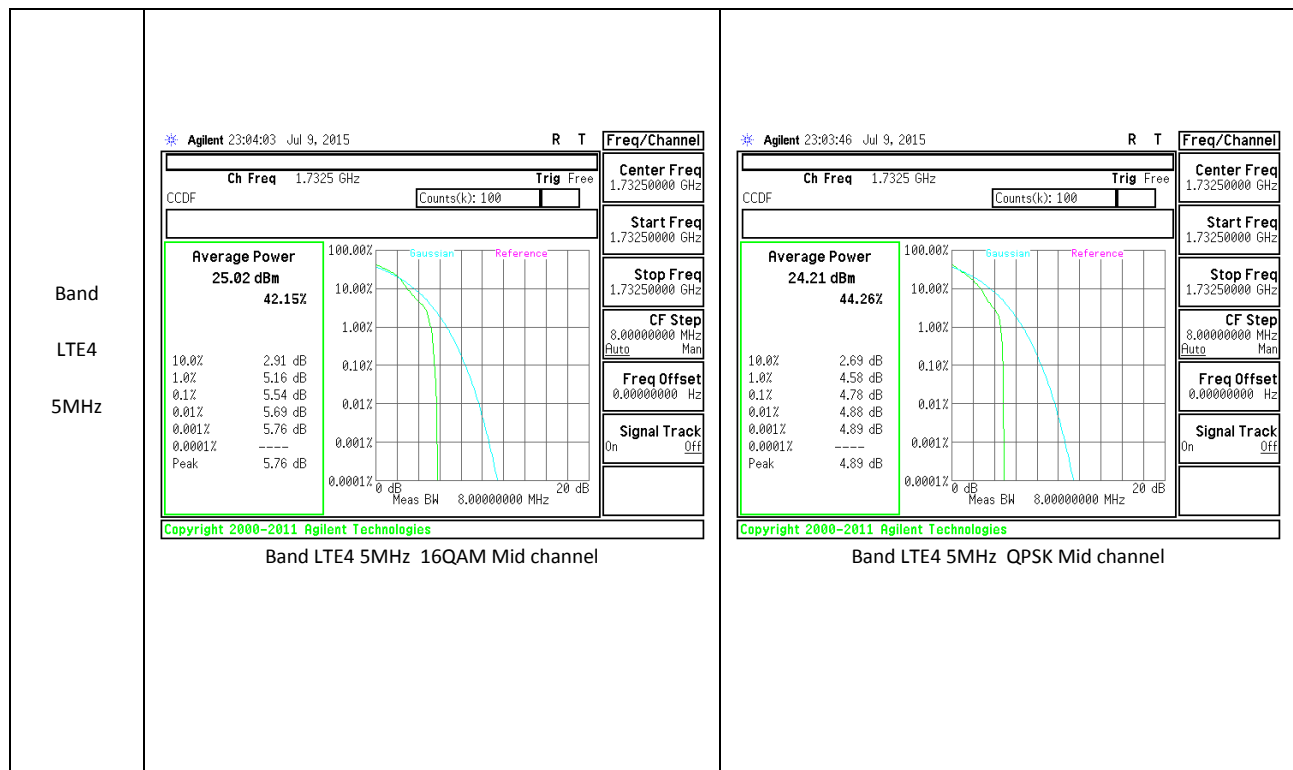
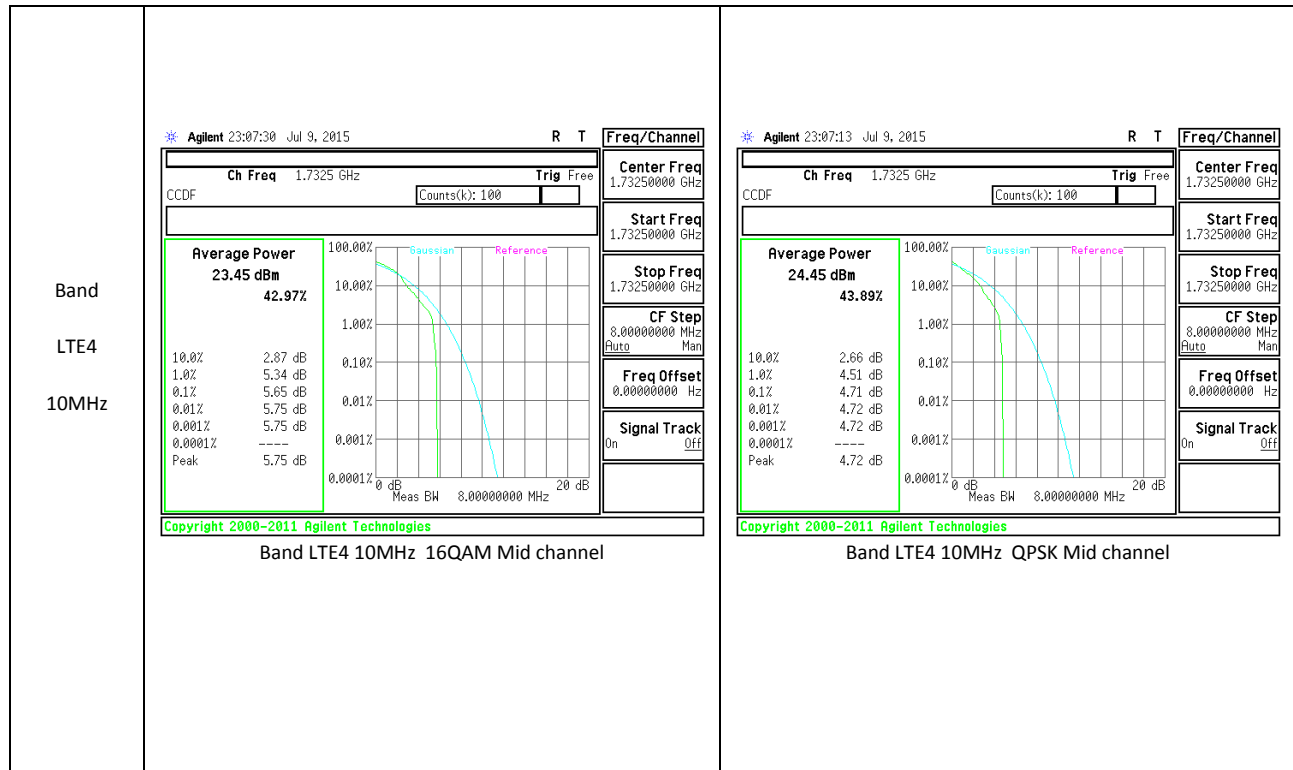


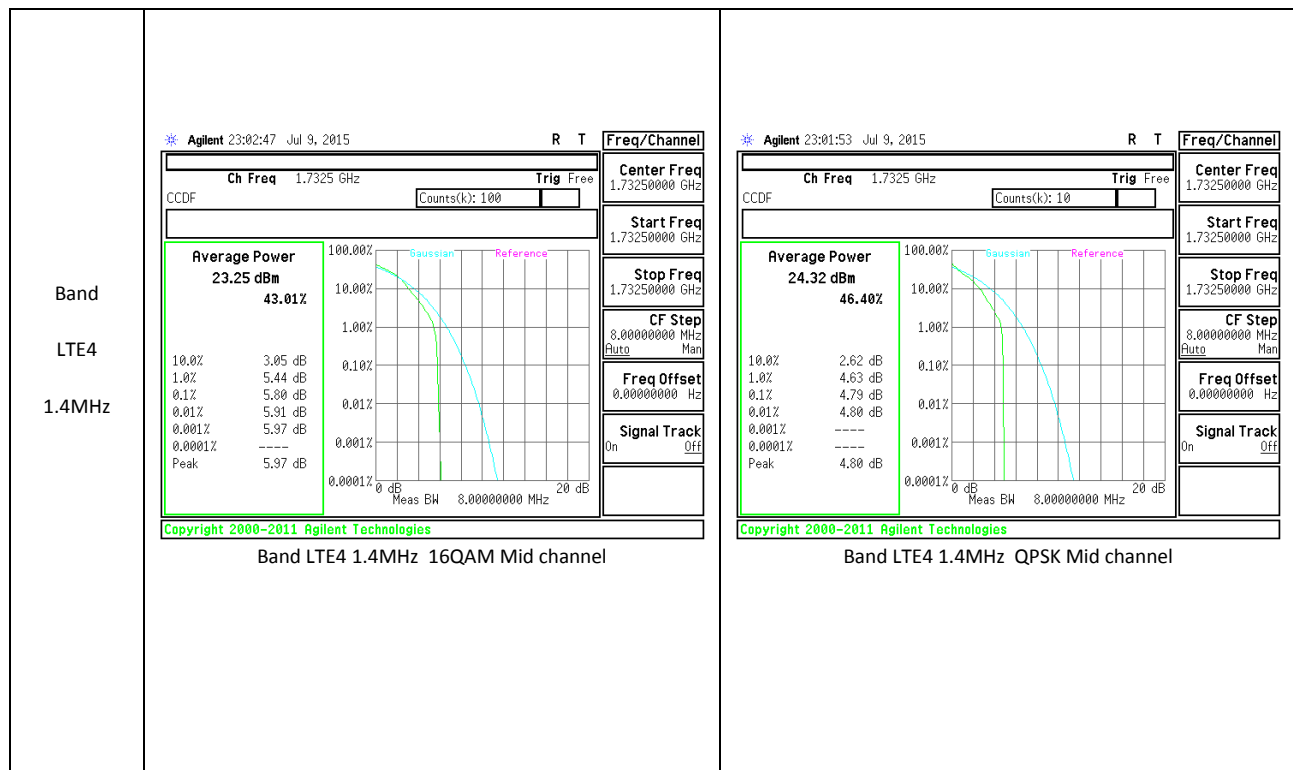
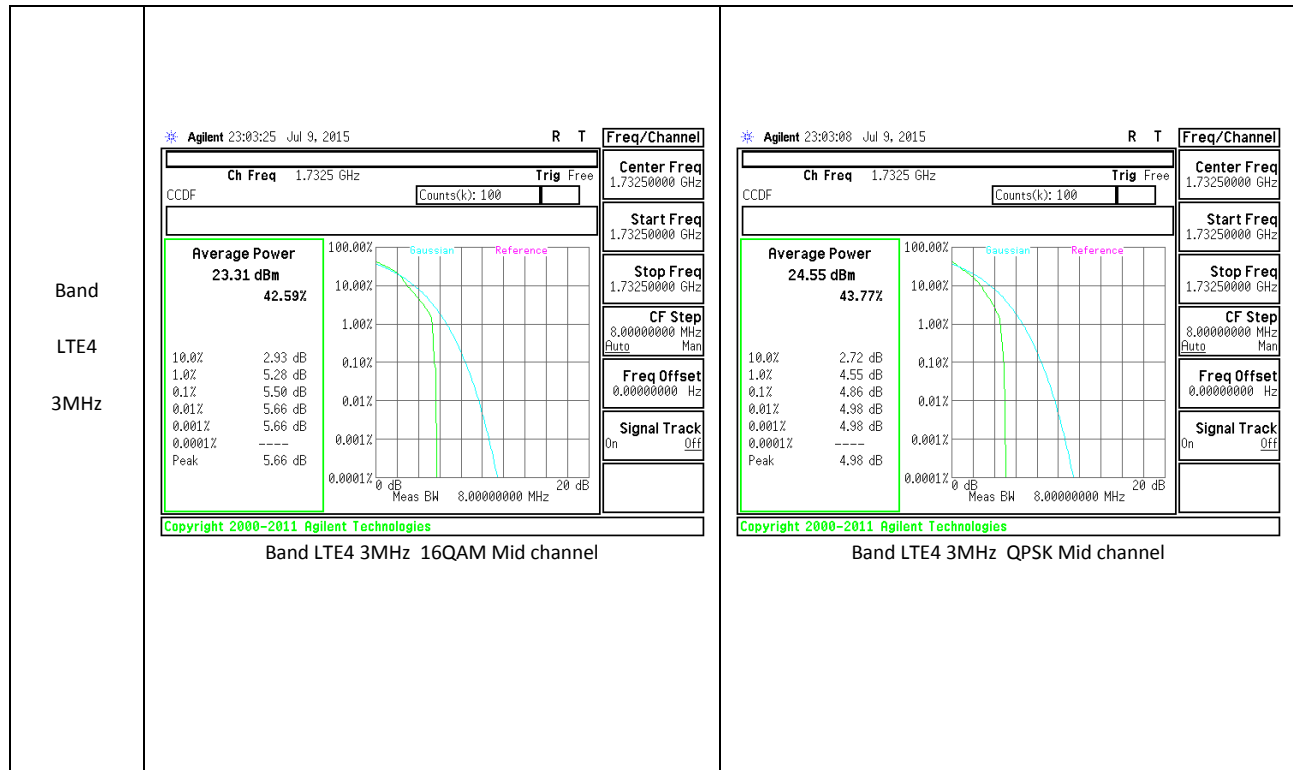




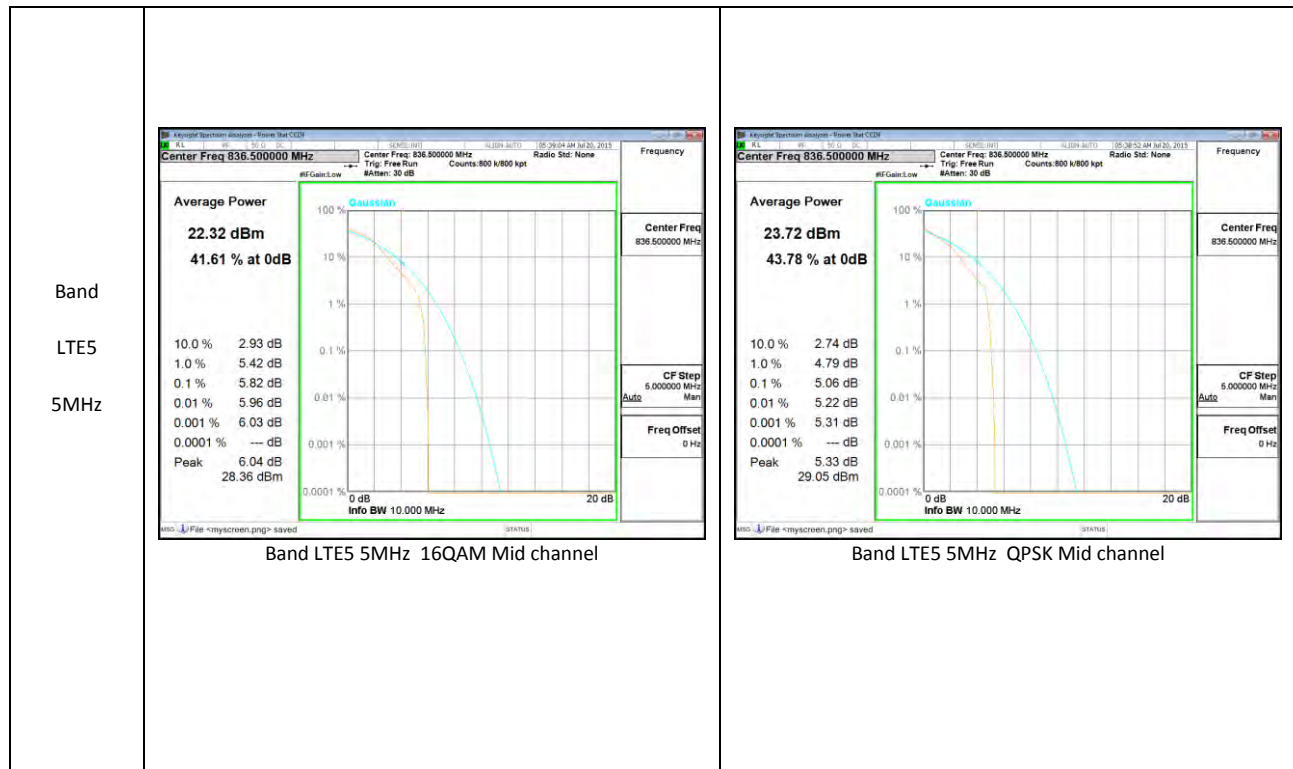
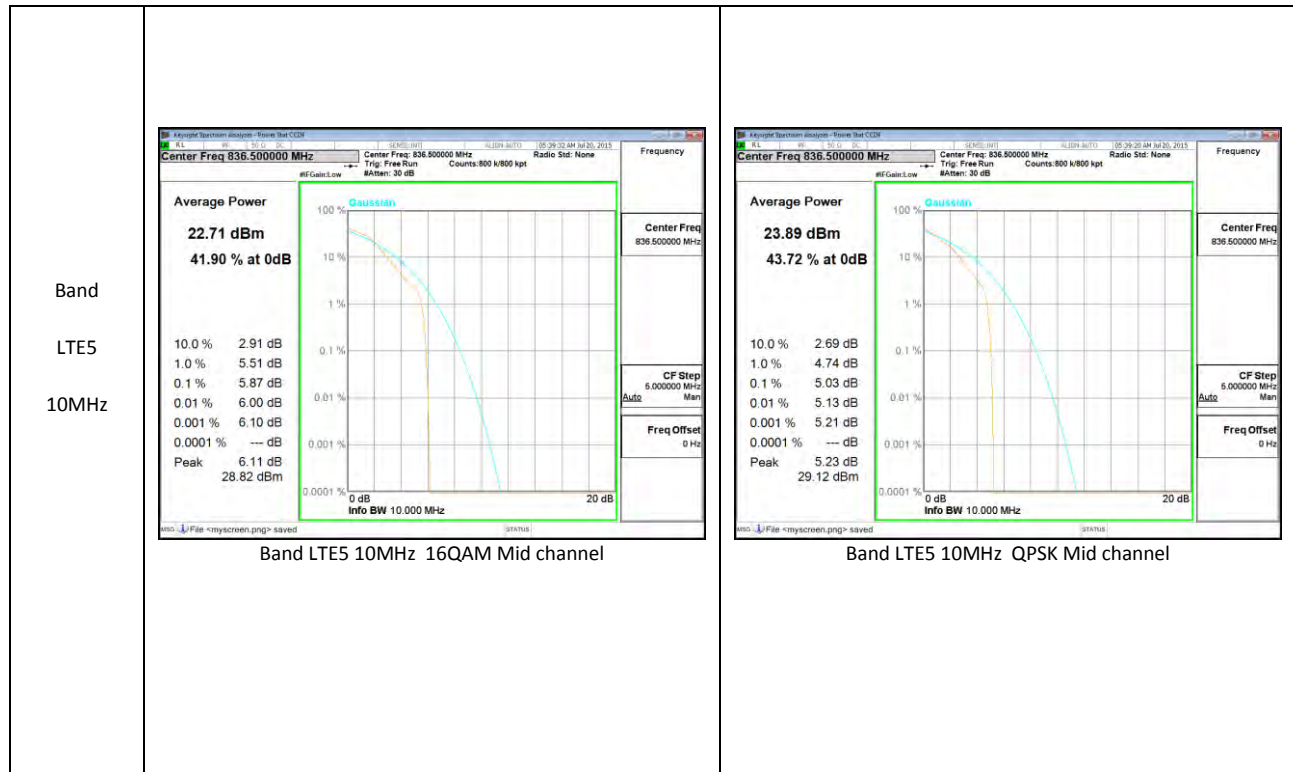
LTE Band 4

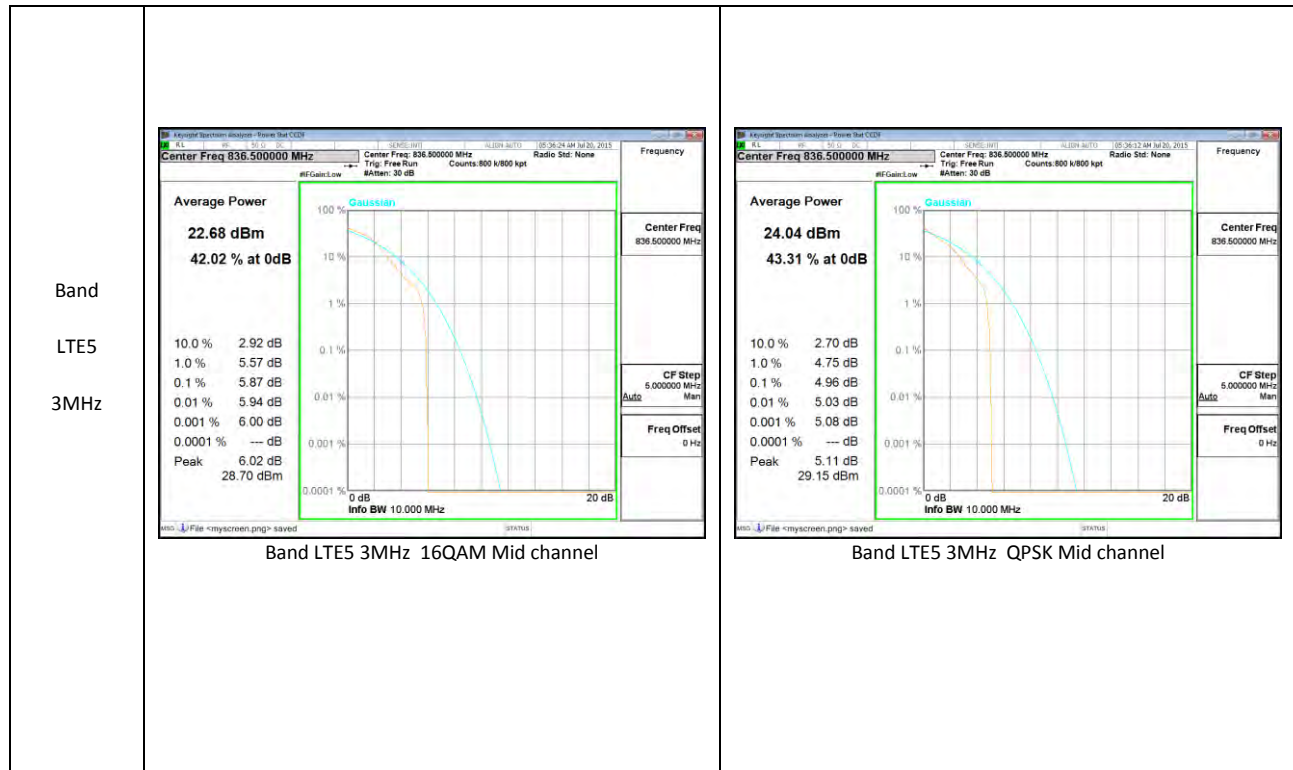




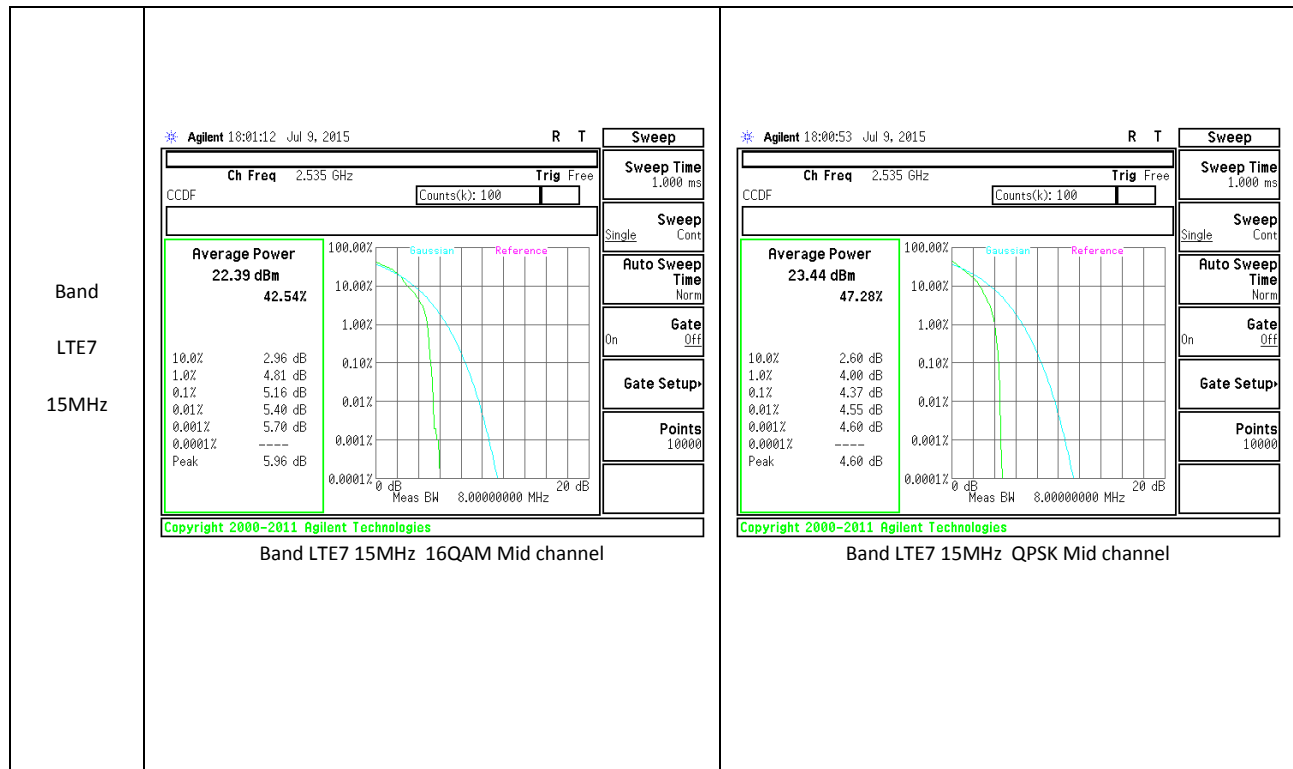
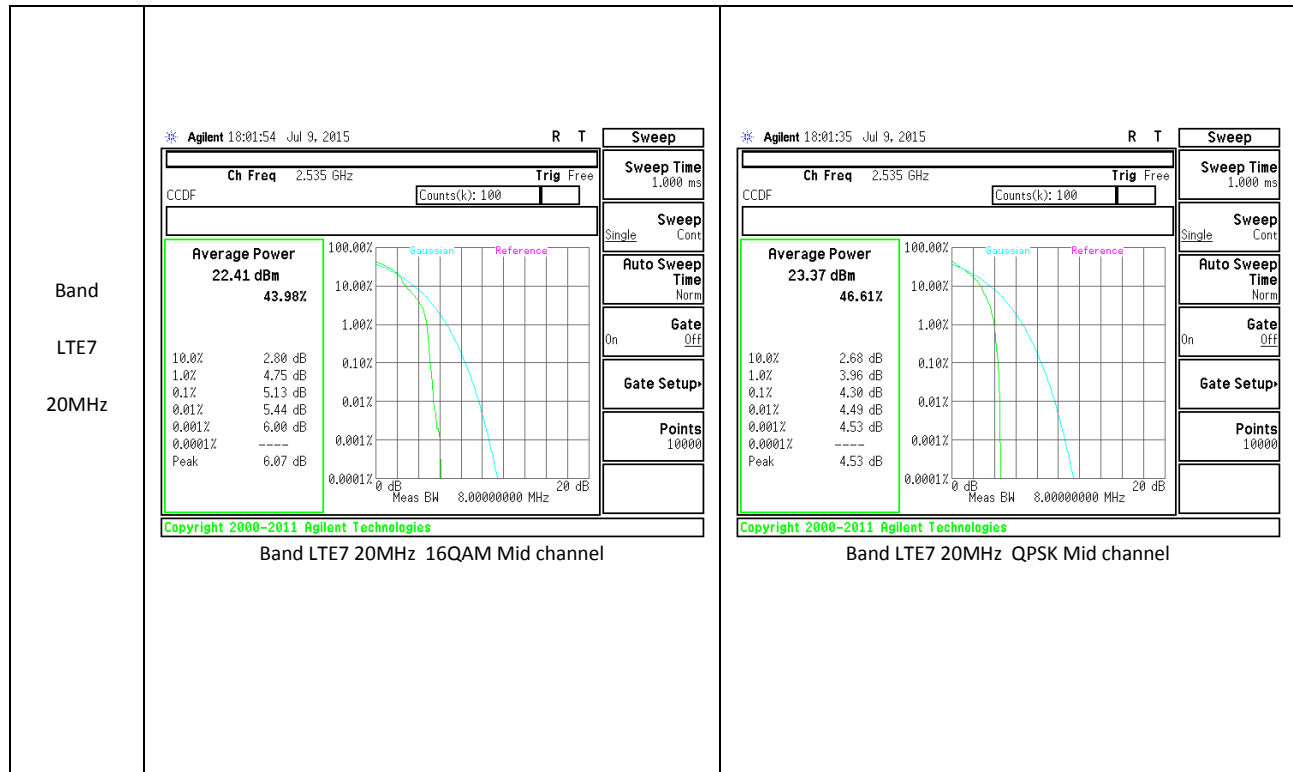


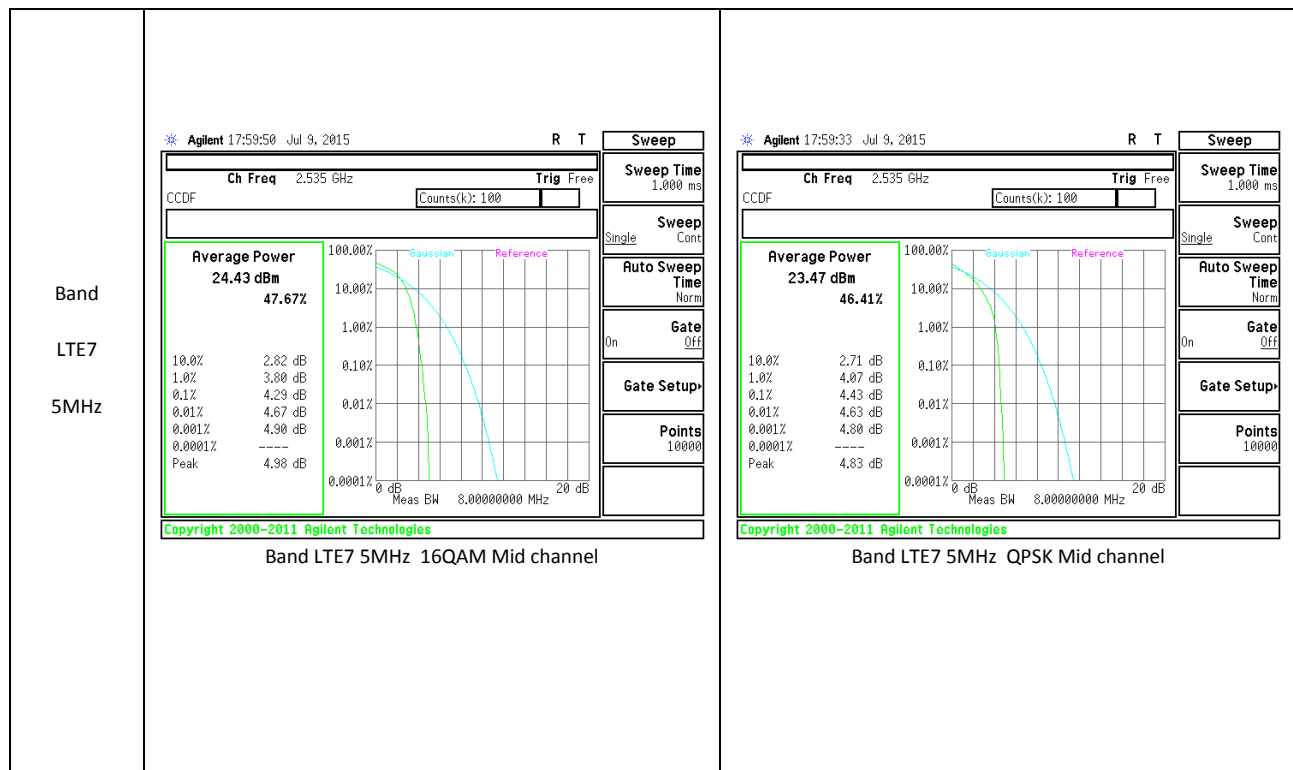
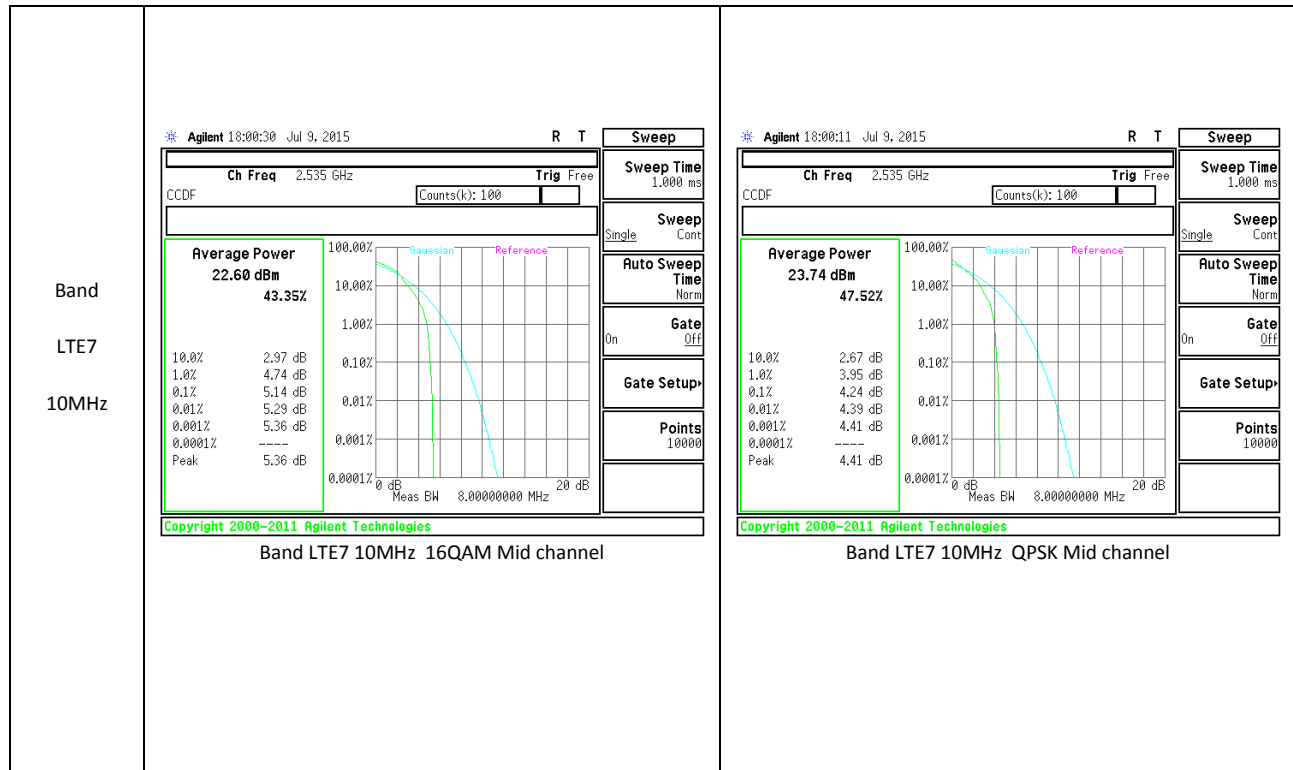
LTE Band 5



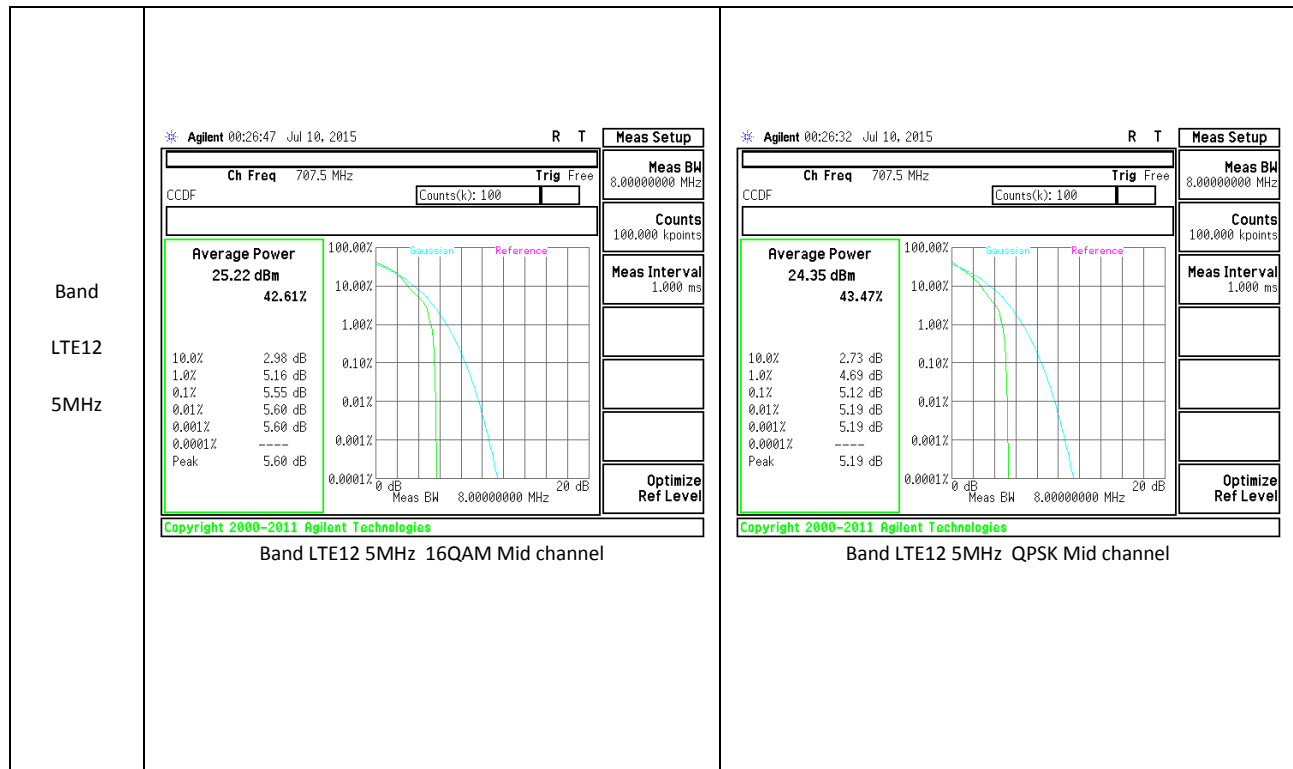
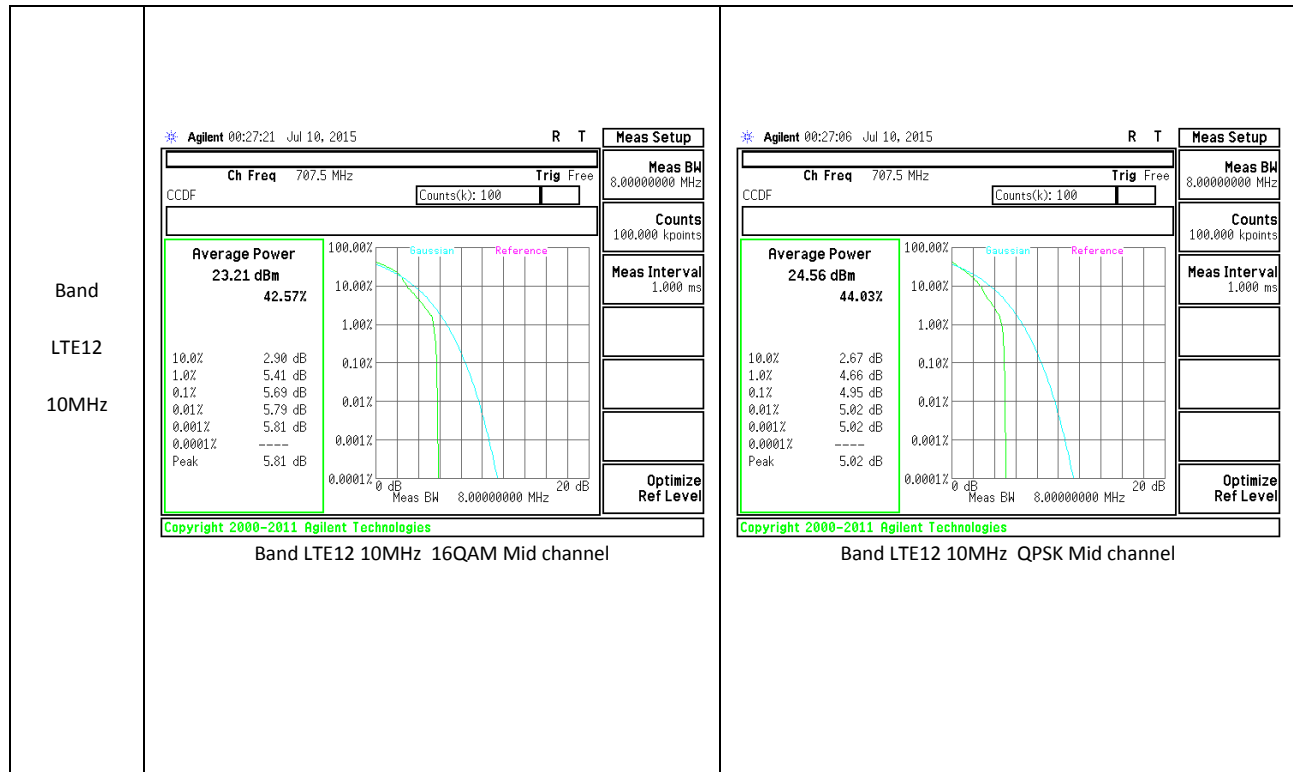


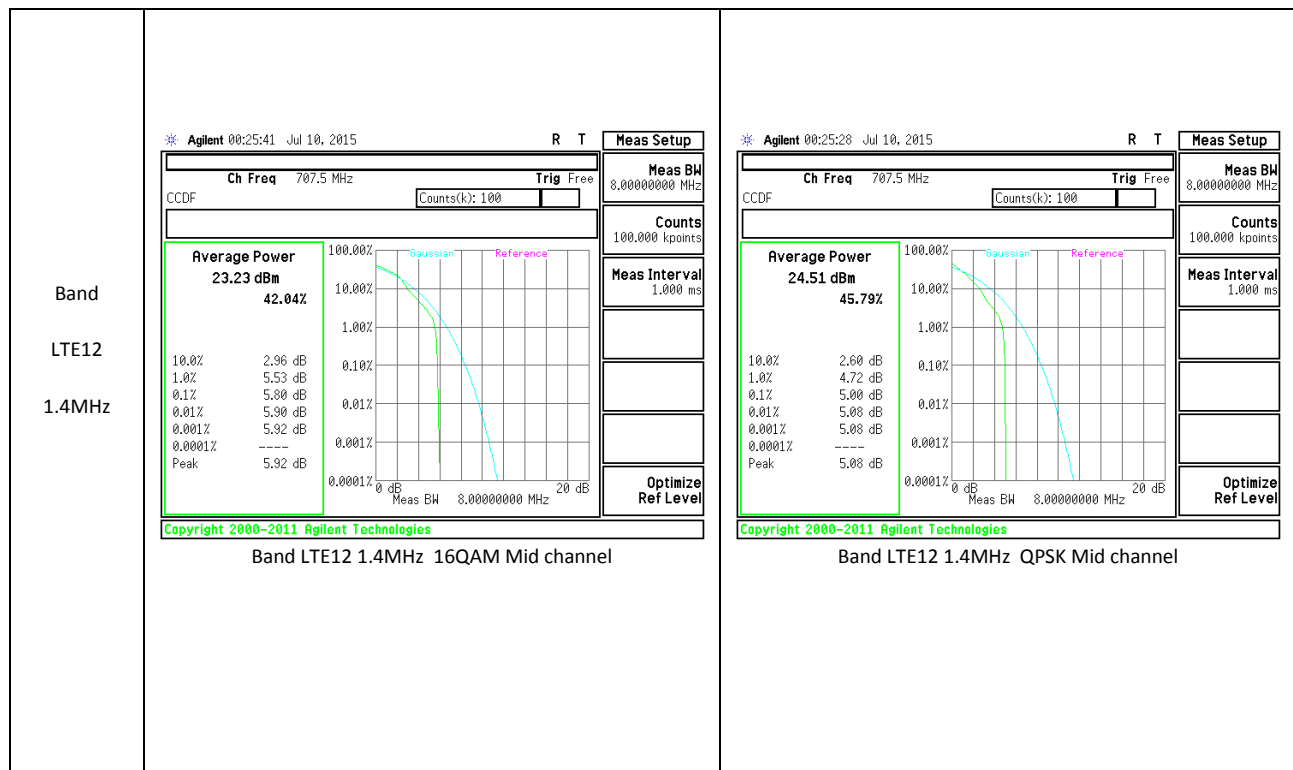
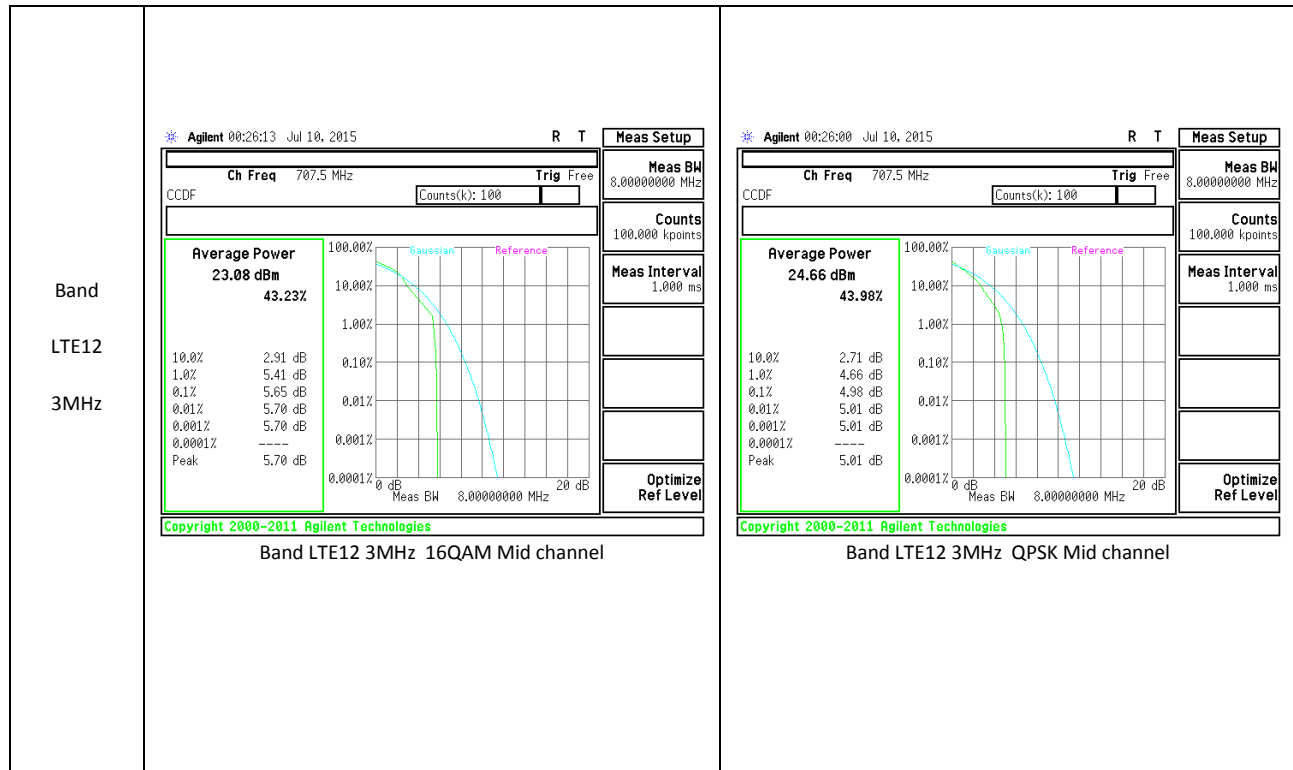
LTE Band 7



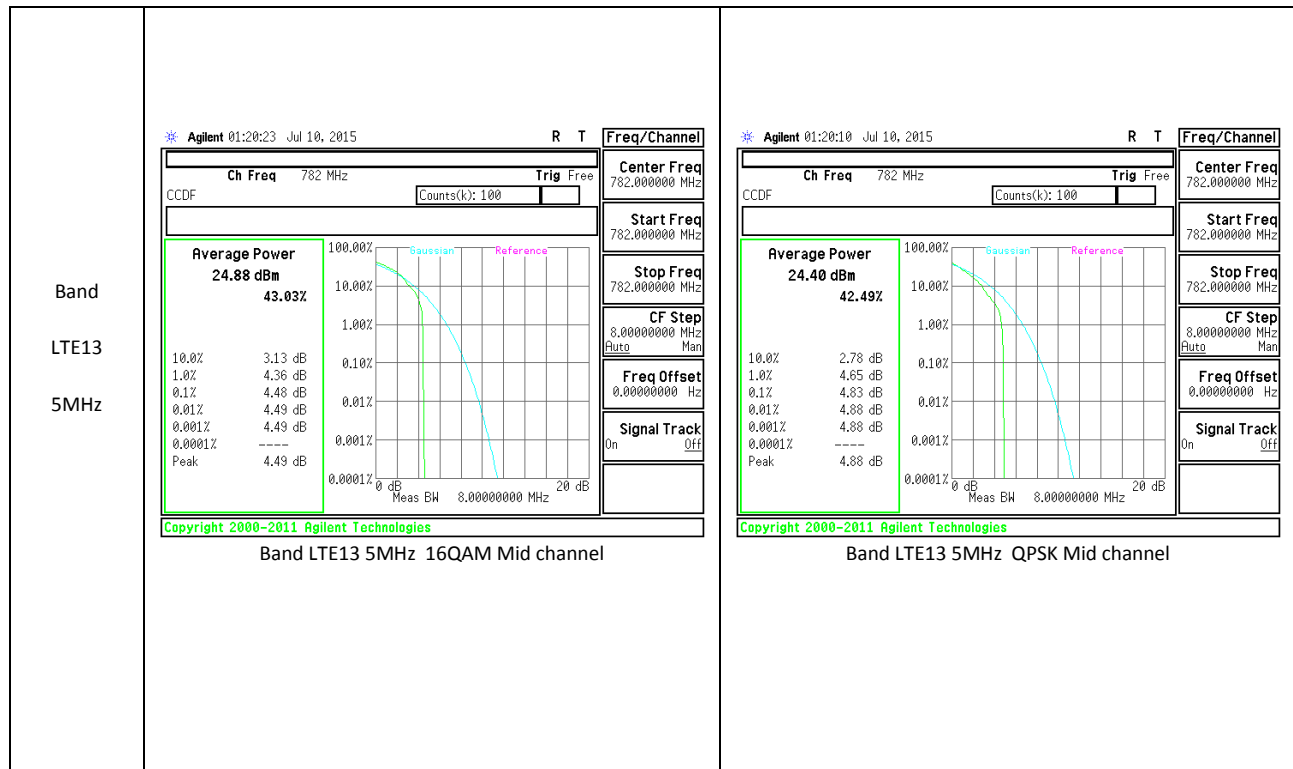
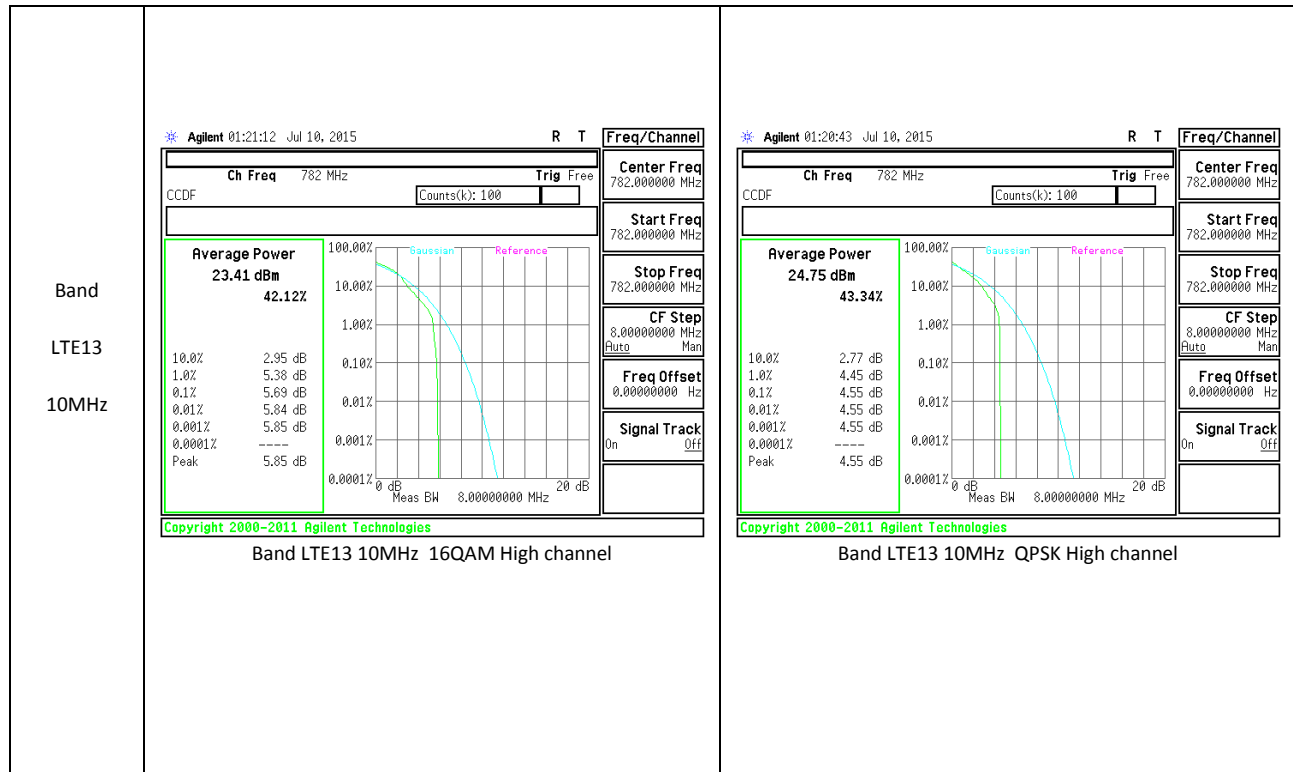


LTE Band 12

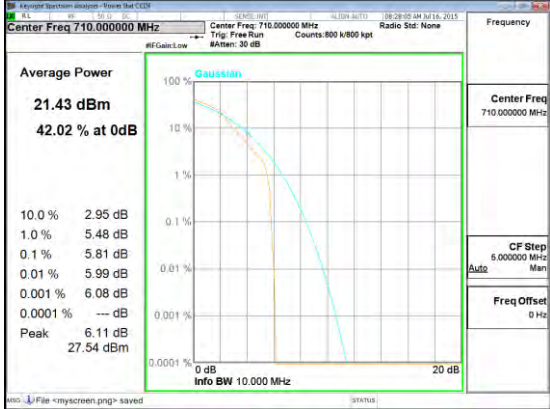
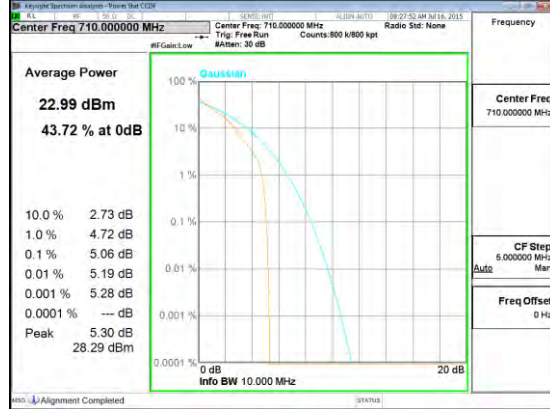


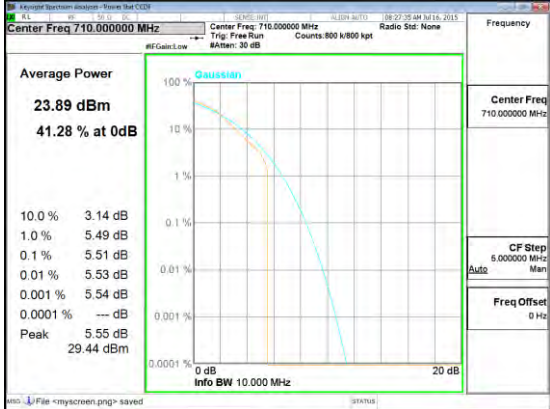
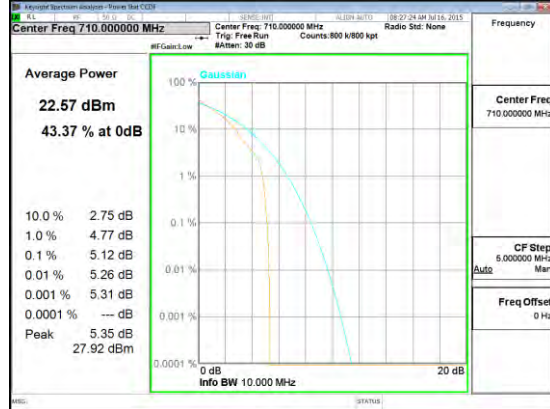


LTE Band 13

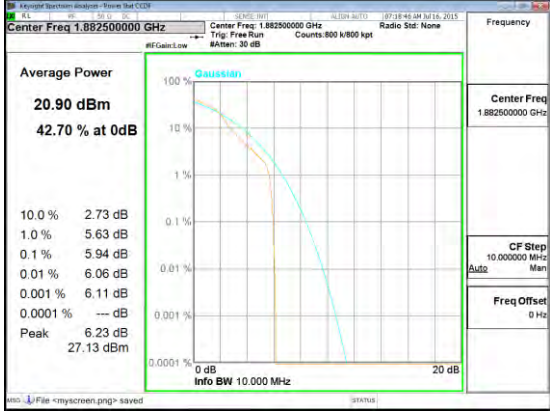
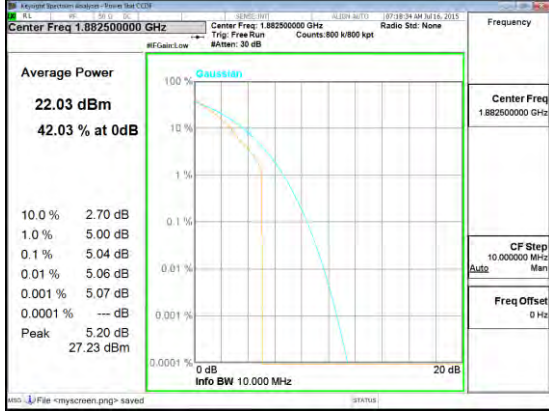


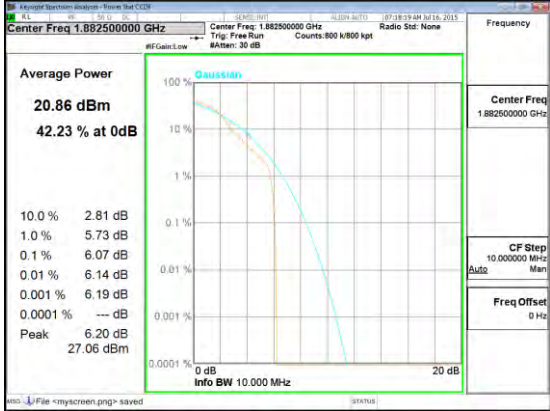
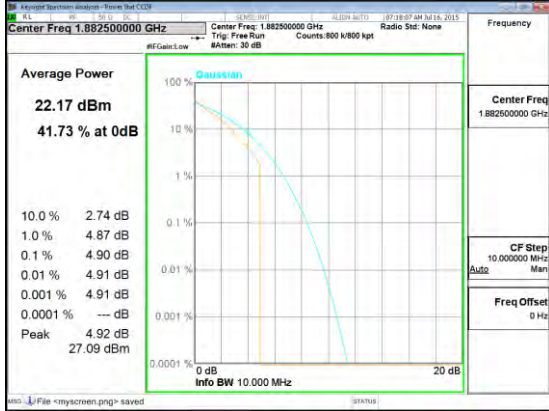
LTE Band 17

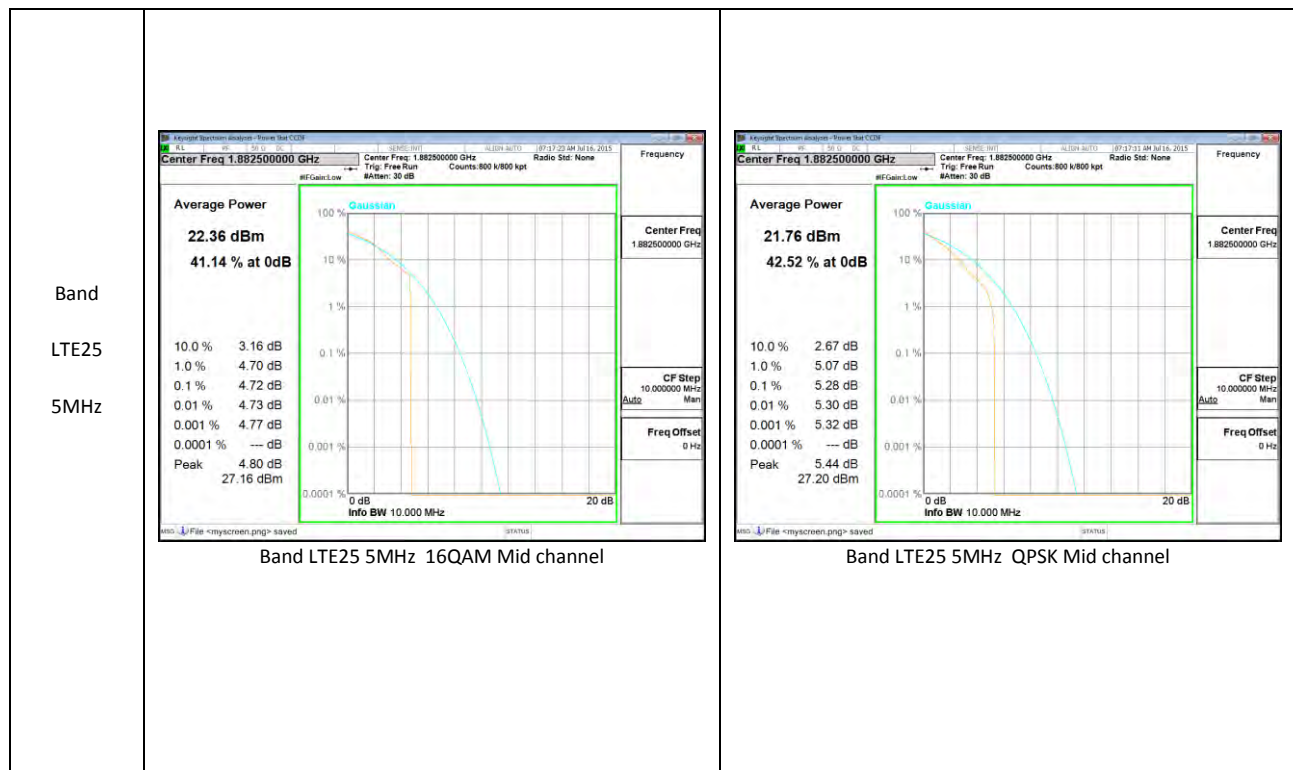
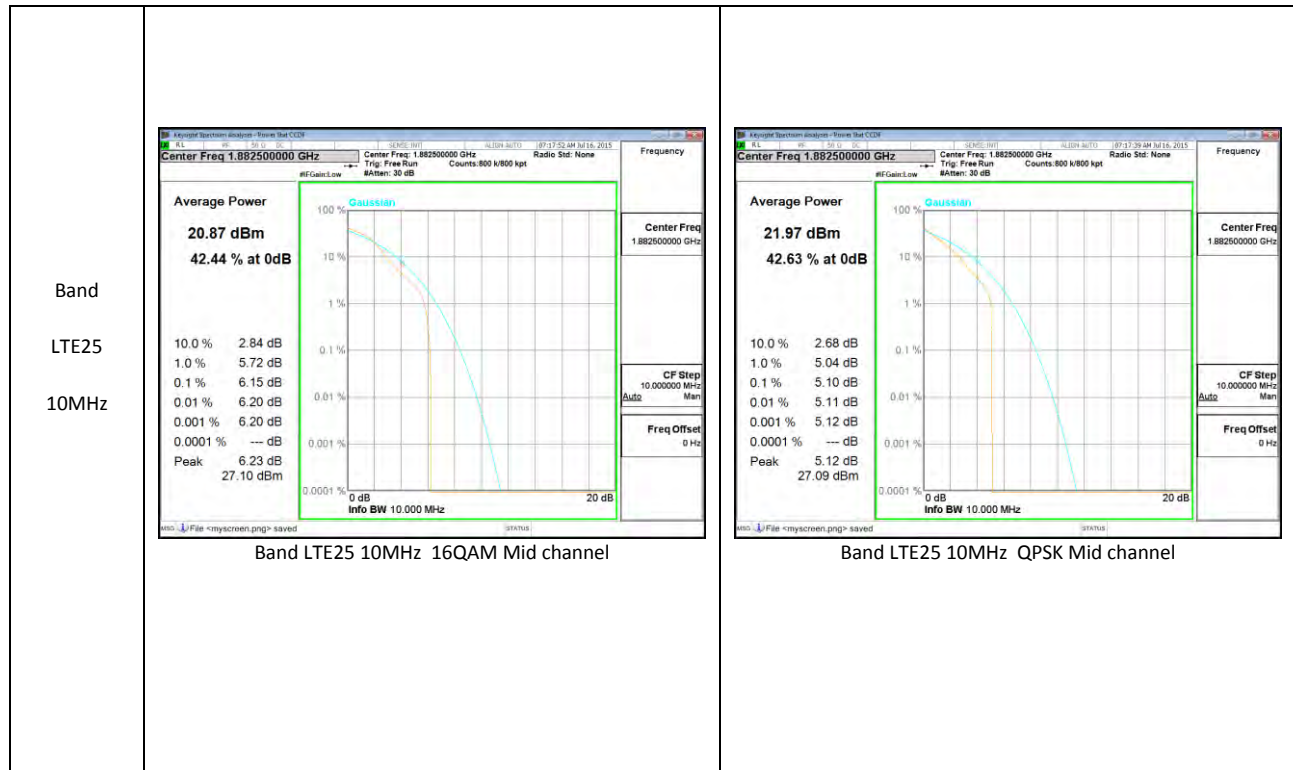
Band LTE17 10MHz	 Average Power 21.43 dBm 42.02 % at 0dB 10.0 % 2.95 dB 1.0 % 5.48 dB 0.1 % 5.81 dB 0.01 % 5.99 dB 0.001 % 6.08 dB 0.0001 % --- dB Peak 6.11 dB 27.54 dBm Center Freq 710.000000 MHz Trig: Free Run Batten: 30 dB Counts: 800 k/800 kpt Radio Std: None CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz Band LTE17 10MHz 16QAM Mid channel	 Average Power 22.99 dBm 43.72 % at 0dB 10.0 % 2.73 dB 1.0 % 4.72 dB 0.1 % 5.06 dB 0.01 % 5.19 dB 0.001 % 5.28 dB 0.0001 % --- dB Peak 5.30 dB 28.29 dBm Center Freq 710.000000 MHz Trig: Free Run Batten: 30 dB Counts: 800 k/800 kpt Radio Std: None CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz Band LTE17 10MHz QPSK Mid channel
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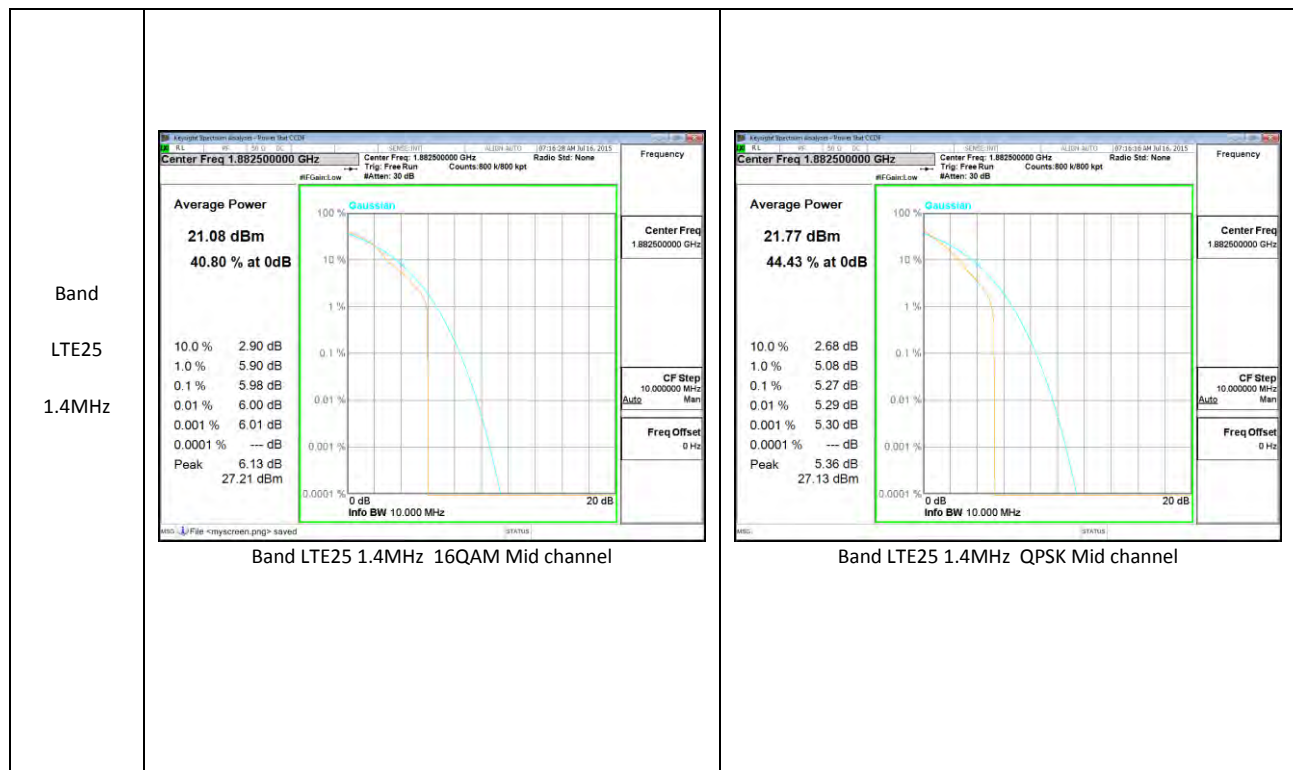
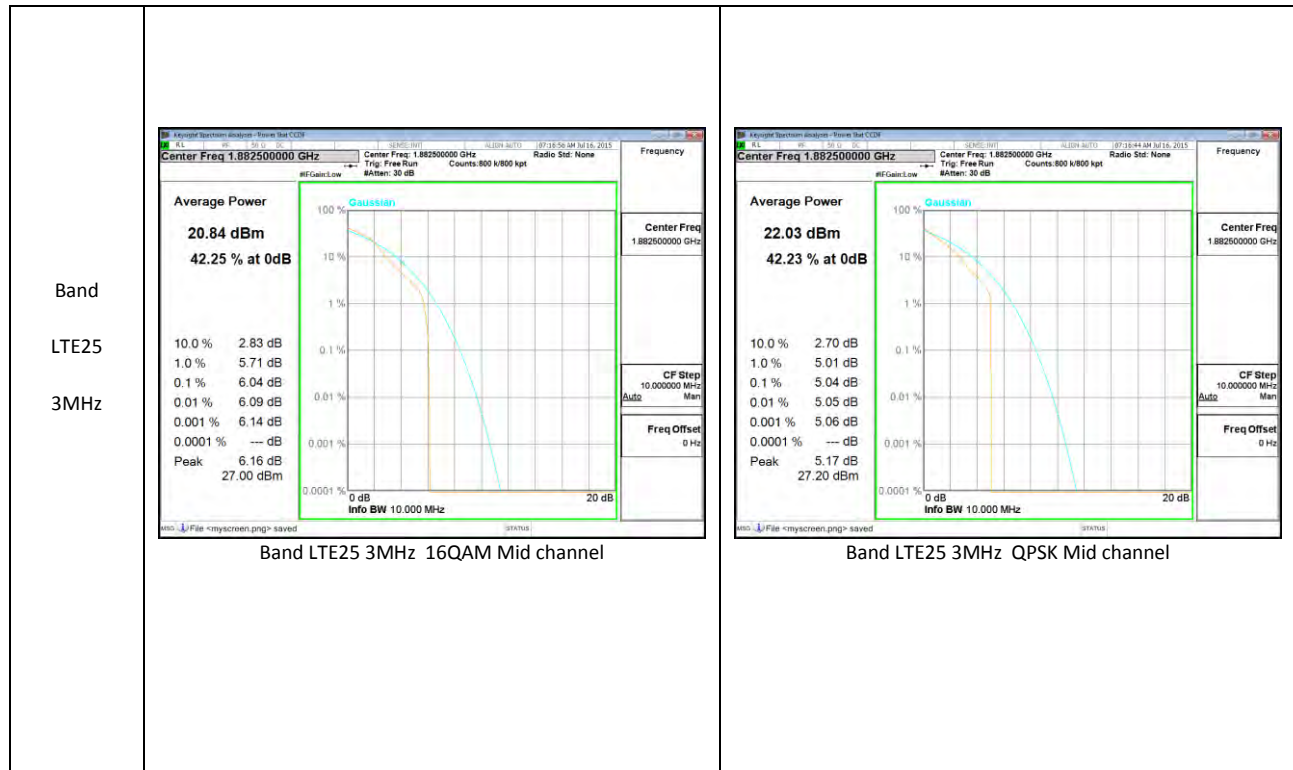
Band LTE17 5MHz	 Average Power 23.89 dBm 41.28 % at 0dB 10.0 % 3.14 dB 1.0 % 5.49 dB 0.1 % 5.51 dB 0.01 % 5.53 dB 0.001 % 5.54 dB 0.0001 % --- dB Peak 5.55 dB 29.44 dBm Center Freq 710.000000 MHz Trig: Free Run Batten: 30 dB Counts: 800 k/800 kpt Radio Std: None CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz Band LTE17 5MHz 16QAM Mid channel	 Average Power 22.57 dBm 43.37 % at 0dB 10.0 % 2.75 dB 1.0 % 4.77 dB 0.1 % 5.12 dB 0.01 % 5.26 dB 0.001 % 5.31 dB 0.0001 % --- dB Peak 5.35 dB 27.92 dBm Center Freq 710.000000 MHz Trig: Free Run Batten: 30 dB Counts: 800 k/800 kpt Radio Std: None CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz Band LTE17 5MHz QPSK Mid channel
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LTE Band 25

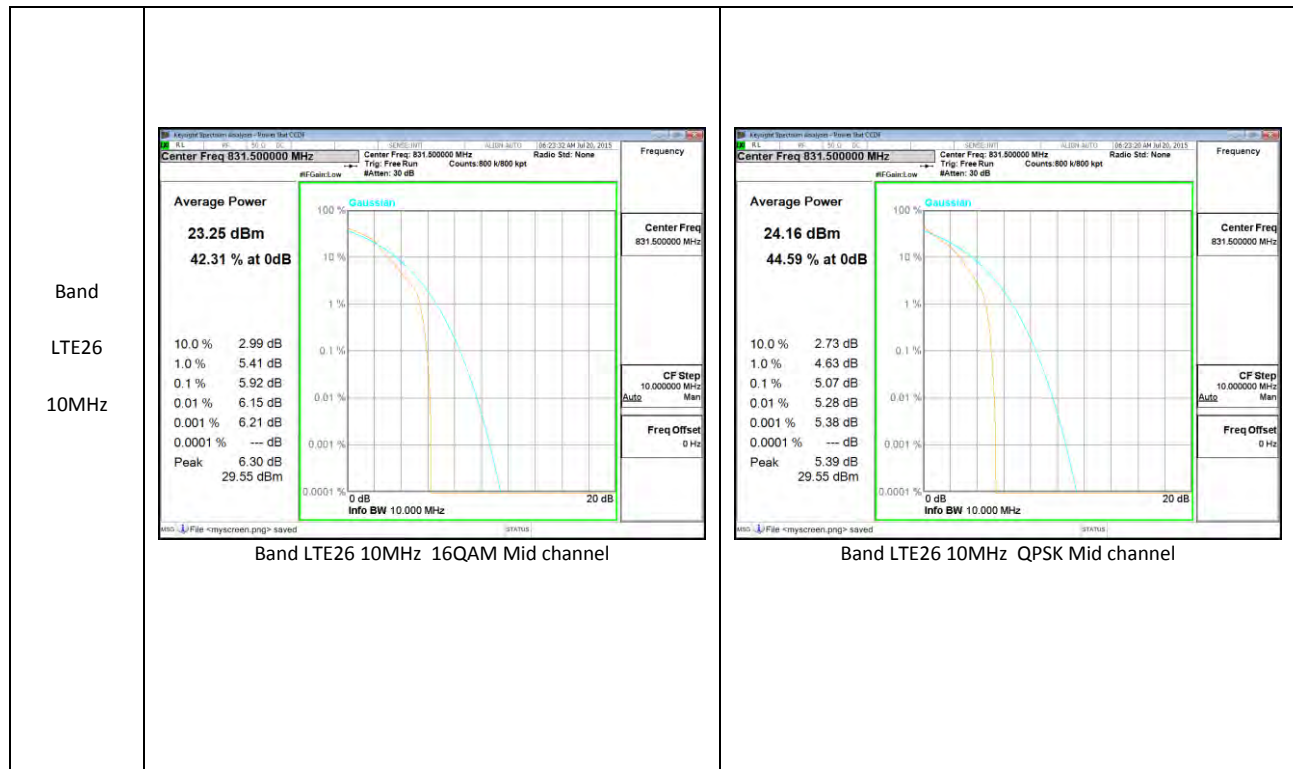
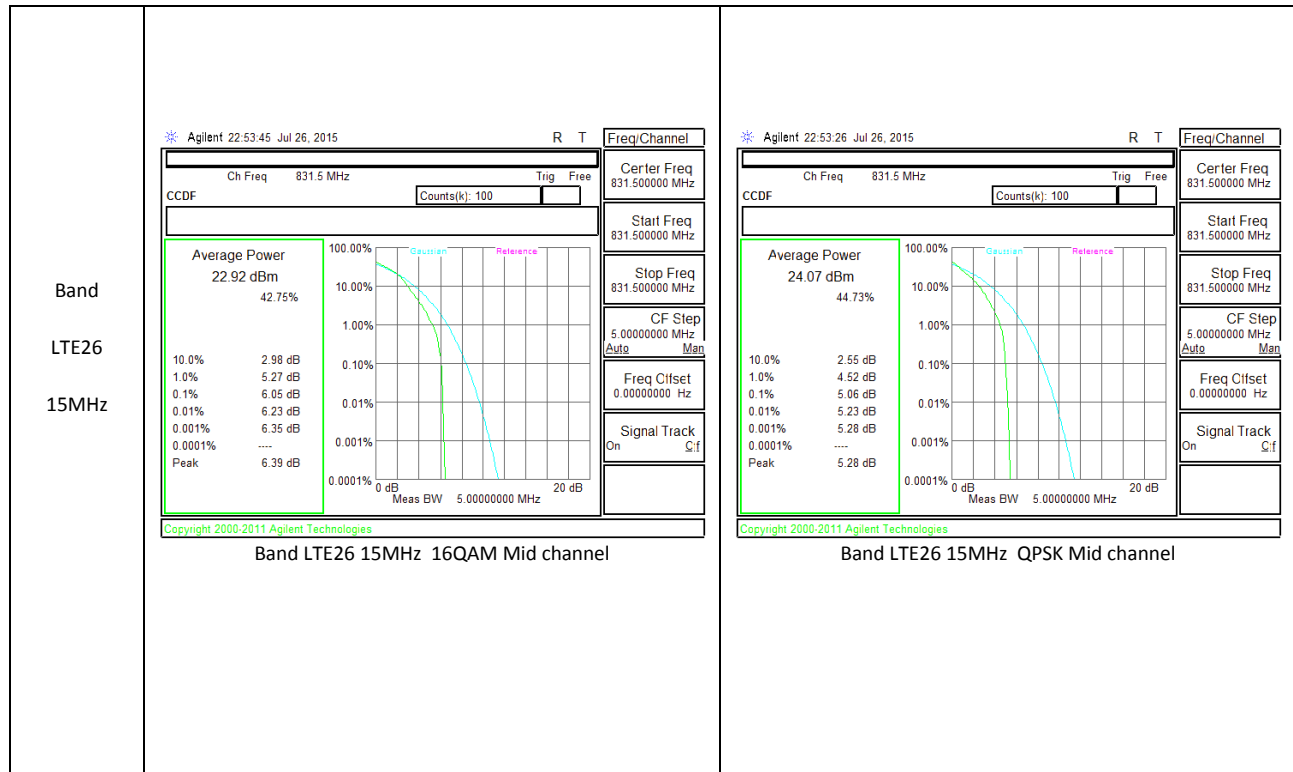
Band LTE25 20MHz	 Average Power 20.90 dBm 42.70 % at 0dB 10.0 % 2.73 dB 1.0 % 5.63 dB 0.1 % 5.94 dB 0.01 % 6.06 dB 0.001 % 6.11 dB 0.0001 % --- dB Peak 6.23 dB 27.13 dBm Center Freq 1.882500000 GHz CF Step 10.000000 MHz Freq Offset 0 Hz Band LTE25 20MHz 16QAM Mid channel	 Average Power 22.03 dBm 42.03 % at 0dB 10.0 % 2.70 dB 1.0 % 5.00 dB 0.1 % 5.04 dB 0.01 % 5.06 dB 0.001 % 5.07 dB 0.0001 % --- dB Peak 5.20 dB 27.23 dBm Center Freq 1.882500000 GHz CF Step 10.000000 MHz Freq Offset 0 Hz Band LTE25 20MHz QPSK Mid channel
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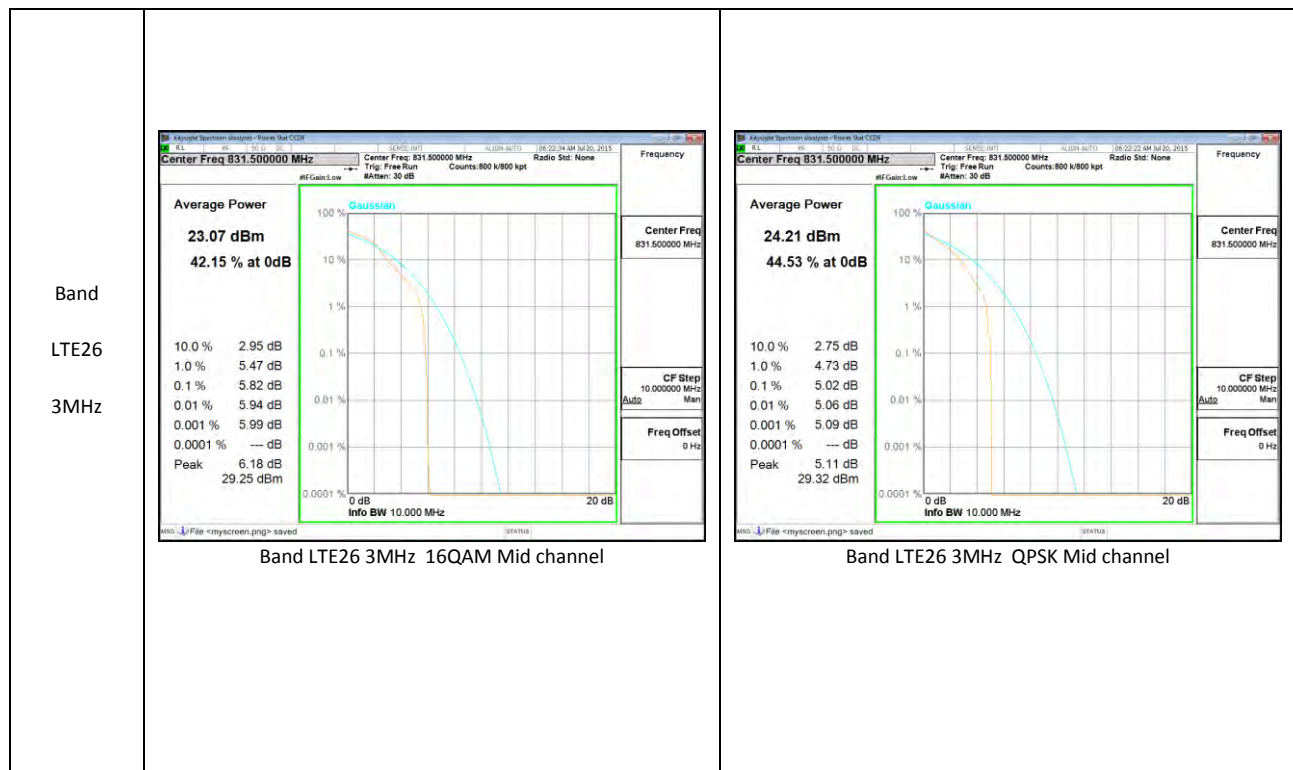
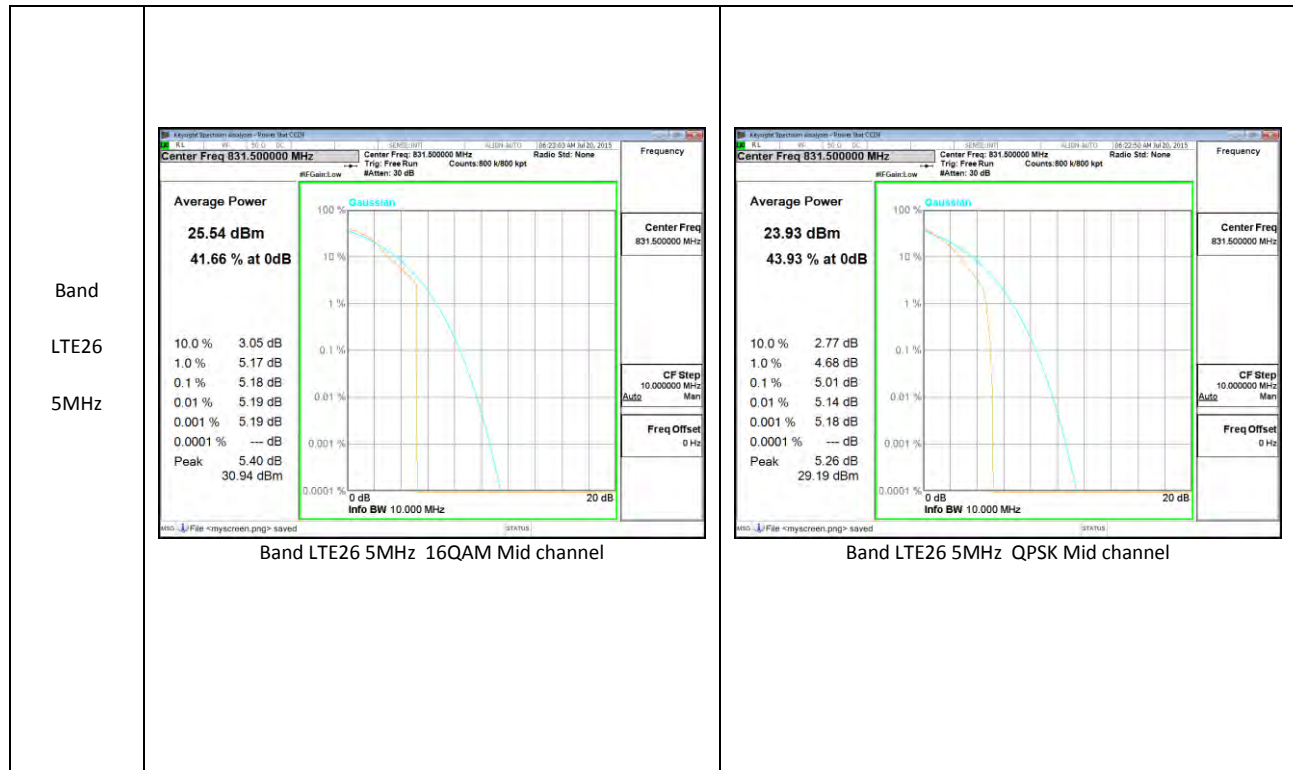
Band LTE25 15MHz	 Average Power 20.86 dBm 42.23 % at 0dB 10.0 % 2.81 dB 1.0 % 5.73 dB 0.1 % 6.07 dB 0.01 % 6.14 dB 0.001 % 6.19 dB 0.0001 % --- dB Peak 6.20 dB 27.06 dBm Center Freq 1.882500000 GHz CF Step 10.000000 MHz Freq Offset 0 Hz Band LTE25 15MHz 16QAM Mid channel	 Average Power 22.17 dBm 41.73 % at 0dB 10.0 % 2.74 dB 1.0 % 4.87 dB 0.1 % 4.90 dB 0.01 % 4.91 dB 0.001 % 4.91 dB 0.0001 % --- dB Peak 4.92 dB 27.09 dBm Center Freq 1.882500000 GHz CF Step 10.000000 MHz Freq Offset 0 Hz Band LTE25 15MHz QPSK Mid channel
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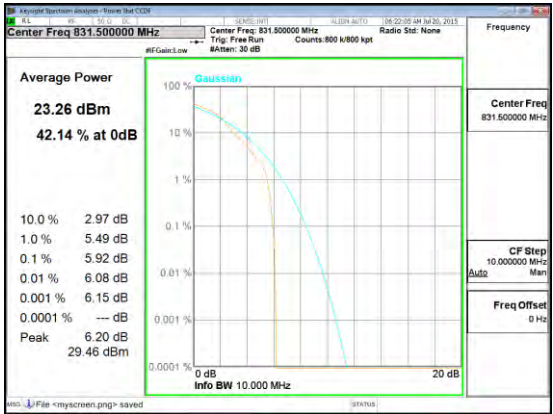
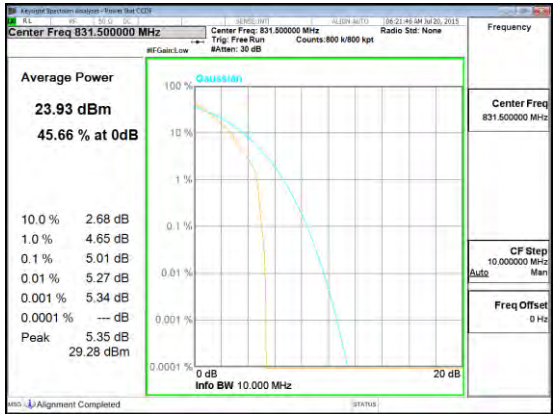




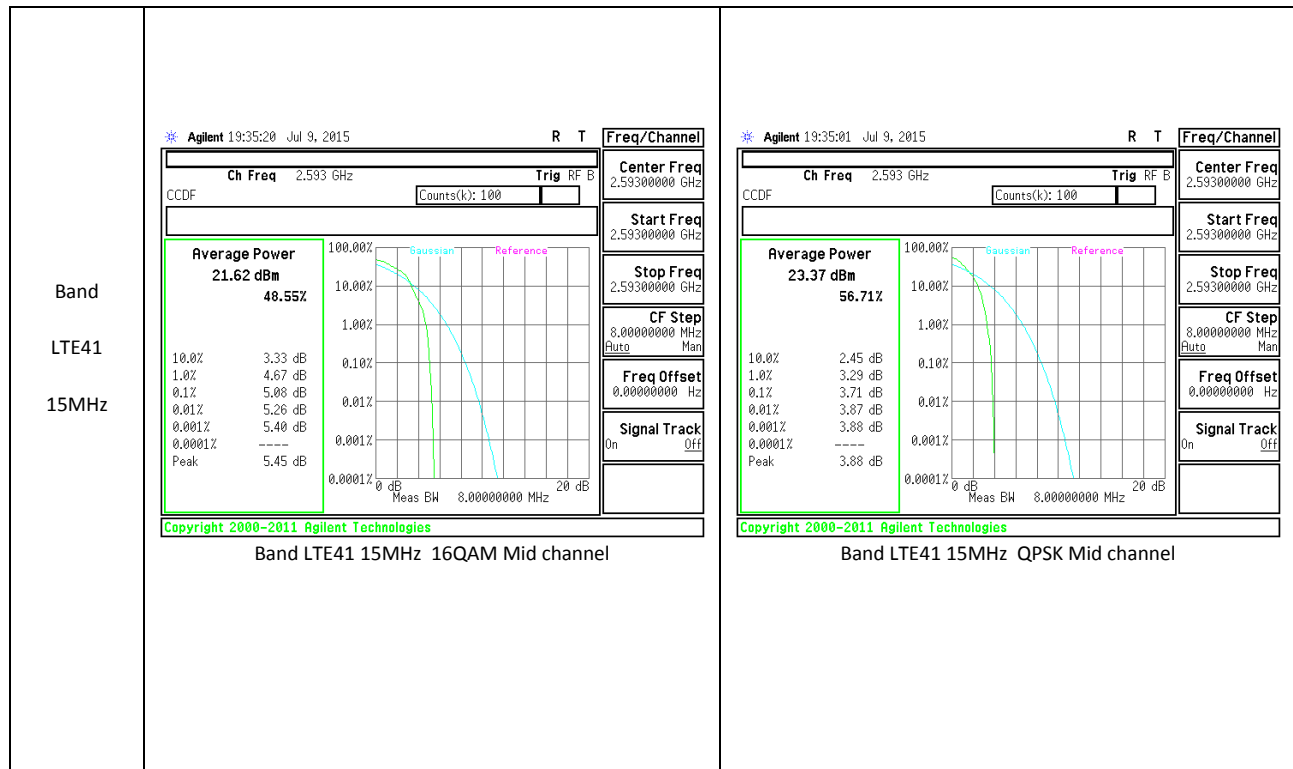
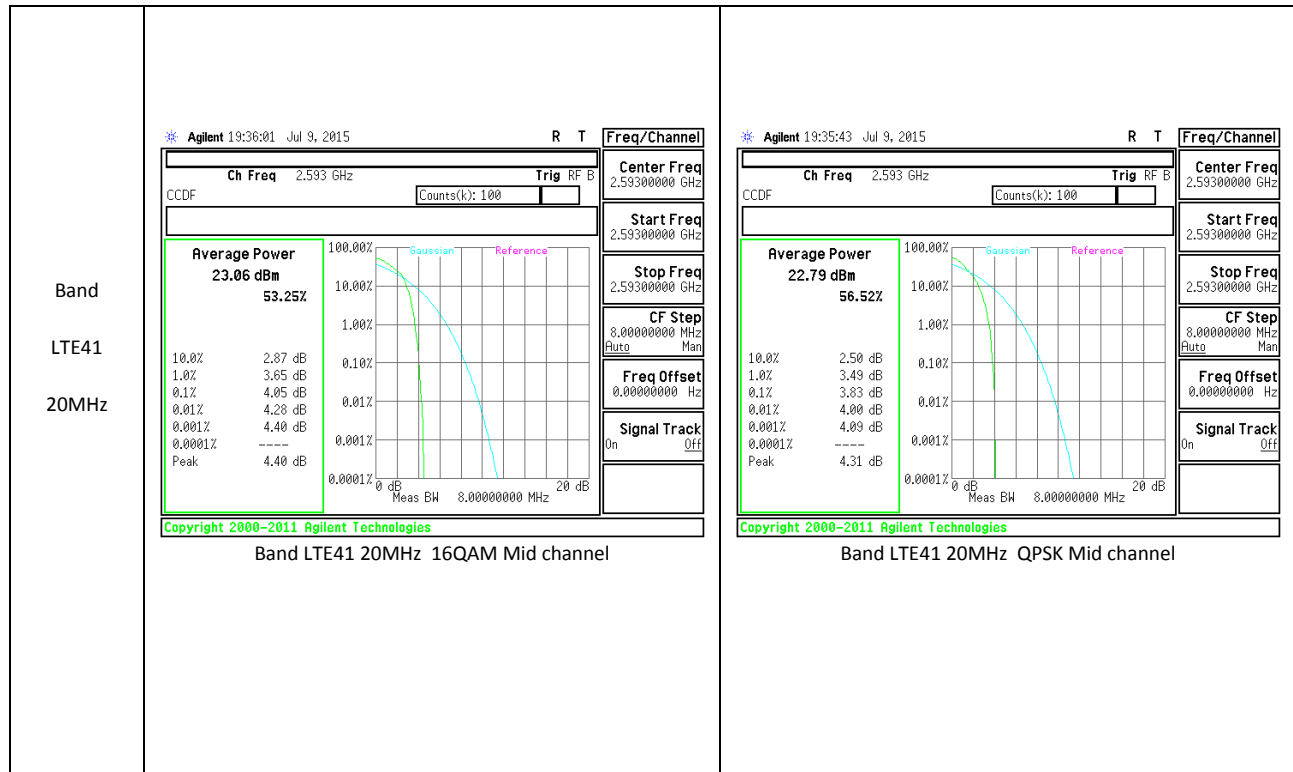
LTE band 26

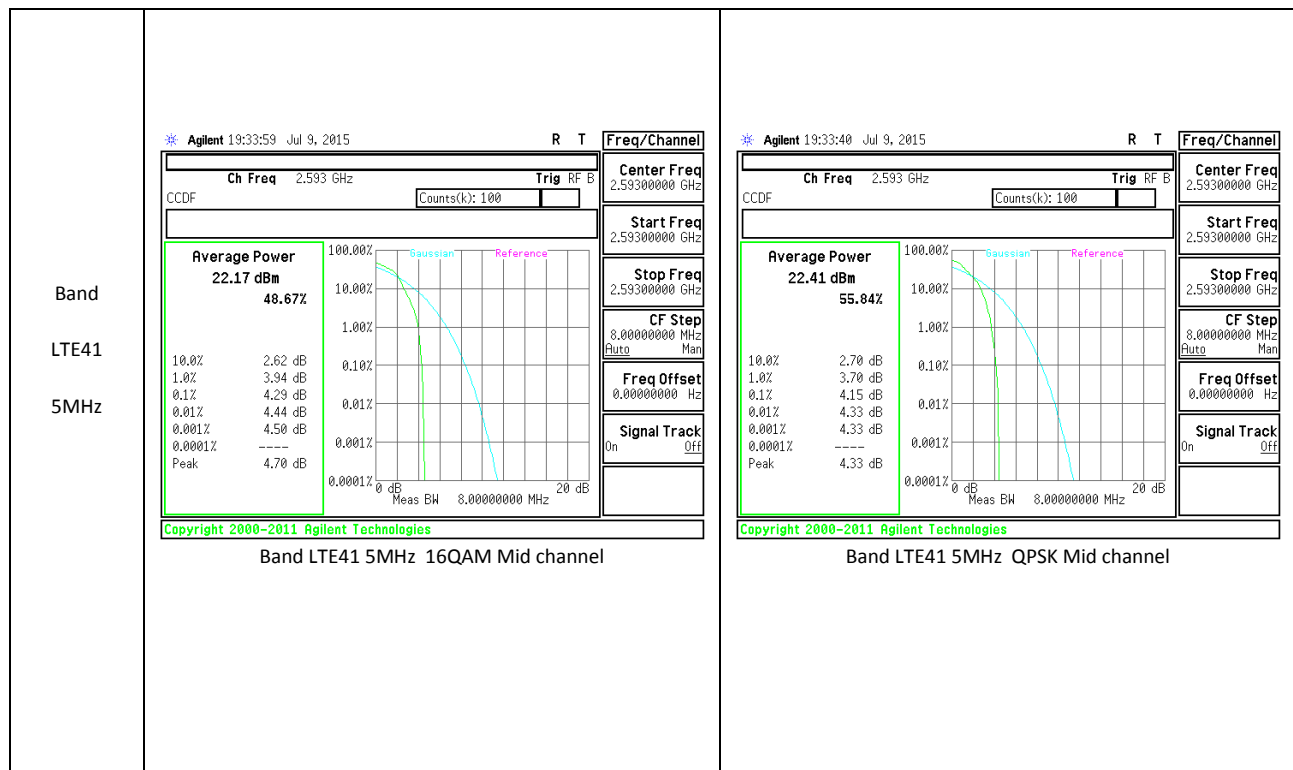
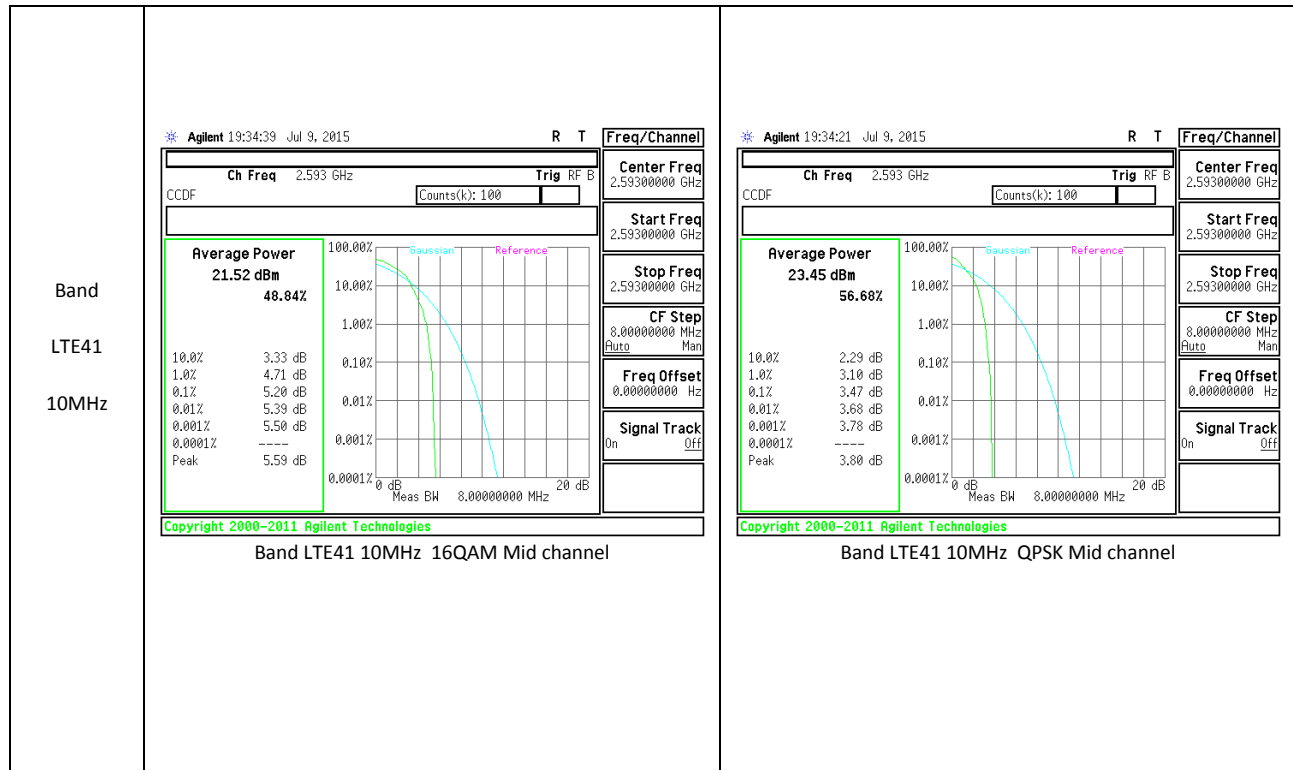




Band LTE26 1.4MHz	 Average Power 23.26 dBm 42.14 % at 0dB 10.0 % 2.97 dB 1.0 % 5.49 dB 0.1 % 5.92 dB 0.01 % 6.08 dB 0.001 % 6.15 dB 0.0001 % --- dB Peak 6.20 dB 29.46 dBm Center Freq 831.500000 MHz Info BW 10.000 MHz CF Step 10.000000 MHz Auto Man Freq Offset 0 Hz Band LTE26 1.4MHz 16QAM Mid channel	 Average Power 23.93 dBm 45.66 % at 0dB 10.0 % 2.68 dB 1.0 % 4.65 dB 0.1 % 5.01 dB 0.01 % 5.27 dB 0.001 % 5.34 dB 0.0001 % --- dB Peak 5.35 dB 29.28 dBm Center Freq 831.500000 MHz Info BW 10.000 MHz CF Step 10.000000 MHz Auto Man Freq Offset 0 Hz Band LTE26 1.4MHz QPSK Mid channel
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LTE Band 41





10. LIMITS AND CONDUCTED RESULTS

10.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

IC: RSS-132, 4.5; RSS-133, 6.5

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)

MODES TESTED

GSM, WCDMA CDMA and LTE

10.1.1. OCCUPIED BANDWIDTH RESULTS

GSM

Band	Mode	Channel	f (MHz)	99% BW (kHz)	-26dB (kHz)
GSM 850	GPRS	128	824.2	245.5	322.8
		190	836.6	244.6	322.3
		251	848.8	246.4	322.2
	EGPRS	128	824.2	244.7	304.5
		190	836.6	236.6	293.6
		251	848.8	238.5	303.5
GSM 1900	GPRS	512	1850.2	244.7	318.5
		661	1880	246.4	317.1
		810	1909.8	242.7	315.9
	EGPRS	512	1850.2	246.5	320.7
		661	1880	244.8	313.3
		810	1909.8	243.5	300.7

WCDMA

Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB (MHz)
Band 5	REL99	4132	826.4	4.139	4.687
		4183	836.6	4.132	4.691
		4233	846.6	4.131	4.692
	HSDPA	4132	826.4	4.155	4.674
		4183	836.6	4.14	4.69
		4233	846.6	4.133	4.693
Band 4	REL99	9262	1712.4	4.137	4.696
		9400	1732.6	4.135	4.668
		9538	1752.6	4.141	4.692
	HSDPA	9262	1712.4	4.146	4.685
		9400	1732.6	4.146	4.691
		9538	1752.6	4.144	4.676
Band 2	REL99	9262	1852.4	4.152	4.702
		9400	1880	4.144	4.702
		9538	1907.6	4.153	4.711
	HSDPA	9262	1852.4	4.165	4.700
		9400	1880	4.154	4.708
		9538	1907.6	4.154	4.696

CDMA

Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB (MHz)
BC10	1xRTT	476	817.9	1.255	1.391
		580	820.5	1.277	1.383
		684	823.1	1.275	1.385
	EVDO REL. 0	476	817.9	1.265	1.375
		580	820.5	1.266	1.377
		684	823.1	1.269	1.387
BC0	1xRTT	1013	824.7	1.270	1.415
		384	836.52	1.273	1.405
		777	848.31	1.277	1.406
	EVDO REL. 0	1013	824.7	1.268	1.412
		384	836.52	1.267	1.407
		777	848.31	1.269	1.432
BC1	1xRTT	25	1851.25	1.280	1.428
		600	1880	1.275	1.430
		1175	1908.75	1.281	1.428
	EVDO REL. 0	25	1851.25	1.271	1.421
		600	1880	1.275	1.420
		1175	1908.75	1.271	1.421

LTE Band 2

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE2	20	16QAM	100/0	1860	17.89	19.07
			100/0	1880	17.91	19.33
			100/0	1900	17.89	19.29
		QPSK	100/0	1860	17.86	19.07
			100/0	1880	17.87	19.32
			100/0	1900	17.9	19.27
	15	16QAM	75/0	1857.5	13.39	14.53
			75/0	1880	13.46	14.35
			75/0	1902.5	13.43	14.4
		QPSK	75/0	1857.5	13.39	14.51
			75/0	1880	13.39	14.48
			75/0	1902.5	13.39	14.51
	10	16QAM	50/0	1855	8.958	9.719
			50/0	1880	8.96	9.647
			50/0	1905	8.93	9.665
		QPSK	50/0	1855	8.955	9.634
			50/0	1880	8.945	9.663
			50/0	1905	8.952	9.744
	5	16QAM	25/0	1852.5	4.499	4.892
			25/0	1880	4.484	4.947
			25/0	1907.5	4.498	4.914
		QPSK	25/0	1852.5	4.488	4.92
			25/0	1880	4.487	4.953
			25/0	1907.5	4.489	4.914

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE2	3	16QAM	15/0	1851.5	2.689	2.999
			15/0	1880	2.686	2.960
			15/0	1908.5	2.680	2.964
		QPSK	15/0	1851.5	2.683	2.931
			15/0	1880	2.686	2.979
			15/0	1908.5	2.672	2.939
	1.4	16QAM	6/0	1850.7	1.079	1.219
			6/0	1880	1.082	1.228
			6/0	1909.3	1.087	1.229
		QPSK	6/0	1850.7	1.080	1.213
			6/0	1880	1.080	1.217
			6/0	1909.3	1.082	1.214

LTE Band 4

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	20	16QAM	100/0	1720	17.91	19.12
			100/0	1732.5	17.88	19.31
			100/0	1745	17.82	19.37
		QPSK	100/0	1720	17.88	19.32
			100/0	1732.5	17.9	19.27
			100/0	1745	17.88	19.34
	15	16QAM	75/0	1717.5	13.41	14.48
			75/0	1732.5	13.4	14.5
			75/0	1747.5	13.42	14.54
		QPSK	75/0	1717.5	13.44	14.49
			75/0	1732.5	13.42	14.53
			75/0	1747.5	13.41	14.36
	10	16QAM	50/0	1715	8.95	9.692
			50/0	1732.5	8.948	9.759
			50/0	1750	8.945	9.657
		QPSK	50/0	1715	8.97	9.802
			50/0	1732.5	8.957	9.682
			50/0	1750	8.971	9.629
	5	16QAM	25/0	1712.5	4.484	4.9
			25/0	1732.5	4.499	4.954
			25/0	1752.5	4.488	4.922
		QPSK	25/0	1712.5	4.505	4.907
			25/0	1732.5	4.492	4.903
			25/0	1752.5	4.487	4.929

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	3	16QAM	15/0	1711.5	2.686	3.004
			15/0	1732.5	2.681	2.961
			15/0	1753.5	2.689	2.999
		QPSK	15/0	1711.5	2.681	2.944
			15/0	1732.5	2.683	2.957
			15/0	1753.5	2.674	2.979
	1.4	16QAM	6/0	1710.7	1.079	1.216
			6/0	1732.5	1.085	1.215
			6/0	1754.3	1.088	1.225
		QPSK	6/0	1710.7	1.082	1.209
			6/0	1732.5	1.08	1.219
			6/0	1754.3	1.082	1.219

LTE Band 5

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE5	10	16QAM	50/0	829	8.983	9.763
			50/0	836.5	8.975	9.834
			50/0	844	8.946	9.802
		QPSK	50/0	829	8.958	9.733
			50/0	836.5	8.983	9.748
			50/0	844	8.976	9.787
	5	16QAM	25/0	826.5	4.484	4.904
			25/0	836.5	4.500	4.963
			25/0	846.5	4.489	4.924
		QPSK	25/0	826.5	4.486	4.917
			25/0	836.5	4.506	4.947
			25/0	846.5	4.493	4.908
	3	16QAM	15/0	825.5	2.693	2.997
			15/0	836.5	2.700	2.999
			15/0	847.5	2.696	2.980
		QPSK	15/0	825.5	2.704	2.991
			15/0	836.5	2.697	2.984
			15/0	847.5	2.700	2.993
	1.4	16QAM	6/0	824.7	1.084	1.239
			6/0	836.5	1.085	1.238
			6/0	848.3	1.096	1.244
		QPSK	6/0	824.7	1.087	1.233
			6/0	836.5	1.081	1.227
			6/0	848.3	1.085	1.228

LTE Band 7

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE7	20	16QAM	100/0	2510	17.89	19.2
			100/0	2535	17.85	19.3
			100/0	2560	17.86	19.2
		QPSK	100/0	2510	17.86	19.22
			100/0	2535	17.85	19.13
			100/0	2560	17.92	19.21
	15	16QAM	75/0	2507.5	13.43	14.45
			75/0	2535	13.45	14.38
			75/0	2562.5	13.39	14.48
		QPSK	75/0	2507.5	13.44	14.5
			75/0	2535	13.44	14.52
			75/0	2562.5	13.44	14.07
	10	16QAM	50/0	2505	8.97	9.742
			50/0	2535	8.96	9.671
			50/0	2565	8.958	9.732
		QPSK	50/0	2505	8.967	9.684
			50/0	2535	8.963	9.674
			50/0	2565	8.958	9.703
	5	16QAM	25/0	2502.5	4.49	4.928
			25/0	2535	4.494	4.868
			25/0	2567.5	4.494	4.918
		QPSK	25/0	2502.5	4.5	4.916
			25/0	2535	4.497	4.943
			25/0	2567.5	4.489	4.916

LTE Band 12

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE12	10	16QAM	50/0	704	8.958	9.711
			50/0	707.5	8.948	9.754
			50/0	711	8.940	9.771
		QPSK	50/0	704	8.952	9.636
			50/0	707.5	8.949	9.699
			50/0	711	8.956	9.707
	5	16QAM	25/0	701.5	4.491	4.927
			25/0	707.5	4.479	4.914
			25/0	713.5	4.484	4.875
		QPSK	25/0	701.5	4.501	4.913
			25/0	707.5	4.495	4.906
			25/0	713.5	4.492	4.893
	3	16QAM	15/0	700.5	2.685	2.961
			15/0	707.5	2.683	2.926
			15/0	714.5	2.682	2.982
		QPSK	15/0	700.5	2.690	2.961
			15/0	707.5	2.682	2.950
			15/0	714.5	2.693	2.995
	1.4	16QAM	6/0	699.7	1.081	1.227
			6/0	707.5	1.085	1.226
			6/0	715.3	1.082	1.238
		QPSK	6/0	699.7	1.083	1.214
			6/0	707.5	1.081	1.220
			6/0	715.3	1.084	1.229

LTE Band 13

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW(MKHz)	-26dB BW (MHz)
LTE13	10	16QAM	50/0	782	8.9574	9.571
		QPSK	50/0	782	8.9288	9.536
	5	16QAM	25/0	779.5	4.491	4.946
			25/0	782	4.502	4.915
			25/0	784.5	4.502	4.896
		QPSK	25/0	779.5	4.5	4.914
			25/0	782	4.5	4.896
			25/0	784.5	4.493	4.893

LTE Band 17

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE17	10	16QAM	50/0	709	8.959	9.767
			50/0	710	8.948	9.775
			50/0	711	8.978	9.764
		QPSK	50/0	709	8.967	9.746
			50/0	710	8.971	9.747
			50/0	711	8.946	9.686
	5	16QAM	25/0	706.5	4.491	4.924
			25/0	710	4.482	4.916
			25/0	713.5	4.497	4.943
		QPSK	25/0	706.5	4.499	4.943
			25/0	710	4.485	4.931
			25/0	713.5	4.503	4.952

LTE Band 25

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE25	20	16QAM	100/0	1860	17.951	19.461
			100/0	1882.5	17.936	19.473
			100/0	1905	17.981	29.281
		QPSK	100/0	1860	17.937	19.375
			100/0	1882.5	17.965	19.492
			100/0	1905	18.036	24.788
	15	16QAM	75/0	1857.5	13.460	14.621
			75/0	1882.5	13.479	14.649
			75/0	1907.5	13.500	22.026
		QPSK	75/0	1857.5	13.478	14.714
			75/0	1882.5	13.472	14.580
			75/0	1907.5	13.527	22.397
	10	16QAM	50/0	1855	8.985	9.836
			50/0	1882.5	8.964	9.739
			50/0	1910	8.993	9.820
		QPSK	50/0	1855	8.972	9.808
			50/0	1882.5	8.969	9.737
			50/0	1910	8.966	9.791
	5	16QAM	25/0	1852.5	4.503	4.968
			25/0	1882.5	4.487	4.931
			25/0	1912.5	4.480	4.956
		QPSK	25/0	1852.5	4.506	4.947
			25/0	1882.5	4.495	4.934
			25/0	1912.5	4.485	4.925

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE25	3	16QAM	15/0	1851.5	2.707	3.024
			15/0	1882.5	2.696	3.002
			15/0	1913.5	2.698	3.003
		QPSK	15/0	1851.5	2.699	2.986
			15/0	1882.5	2.700	2.992
			15/0	1913.5	2.706	2.997
	1.4	16QAM	6/0	1850.7	1.085	1.238
			6/0	1882.5	1.086	1.230
			6/0	1914.3	1.097	1.246
		QPSK	6/0	1850.7	1.088	1.232
			6/0	1882.5	1.082	1.231
			6/0	1914.3	1.086	1.234

LTE Band 26

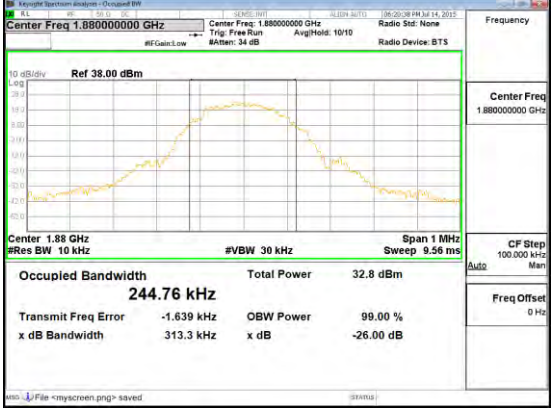
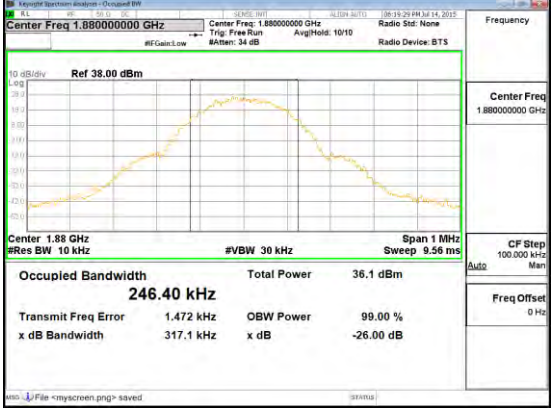
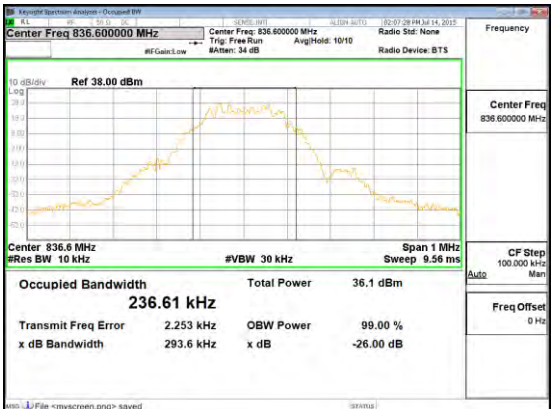
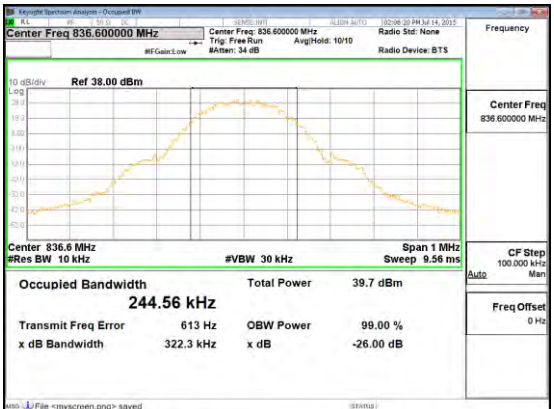
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE26	15	16QAM	75/0	831.5	13.439	14.545
			75/0	836.5	13.413	14.578
			75/0	841.5	13.436	14.608
		QPSK	75/0	831.5	13.443	14.614
			75/0	836.5	13.422	14.609
			75/0	841.5	13.429	14.569
	10	16QAM	50/0	819	8.979	9.811
			50/0	831.5	8.957	9.778
			50/0	844	8.982	9.746
		QPSK	50/0	819	8.965	9.801
			50/0	831.5	8.987	9.722
			50/0	844	8.952	9.756
	5	16QAM	25/0	816.5	4.502	4.963
			25/0	831.5	4.495	4.946
			25/0	846.5	4.478	4.895
		QPSK	25/0	816.5	4.506	4.959
			25/0	831.5	4.495	4.925
			25/0	846.5	4.482	4.927
	3	16QAM	15/0	815.5	2.701	3.002
			15/0	831.5	2.698	2.995
			15/0	847.5	2.695	2.999
		QPSK	15/0	815.5	2.699	2.962
			15/0	831.5	2.698	2.994
			15/0	847.5	2.701	2.992
	1.4	16QAM	6/0	814.7	1.082	1.234
			6/0	831.5	1.085	1.234
			6/0	848.3	1.096	1.244
		QPSK	6/0	814.7	1.086	1.230
			6/0	831.5	1.082	1.224
			6/0	848.3	1.084	1.229

LTE Band 41

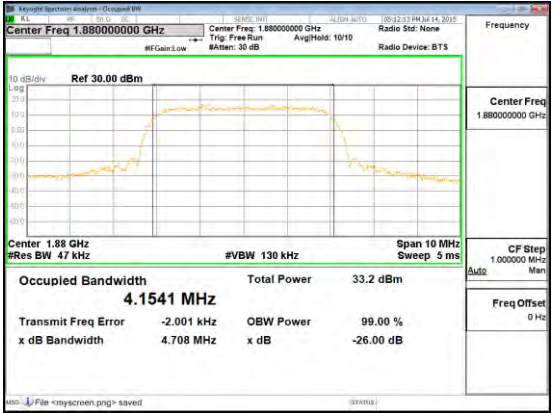
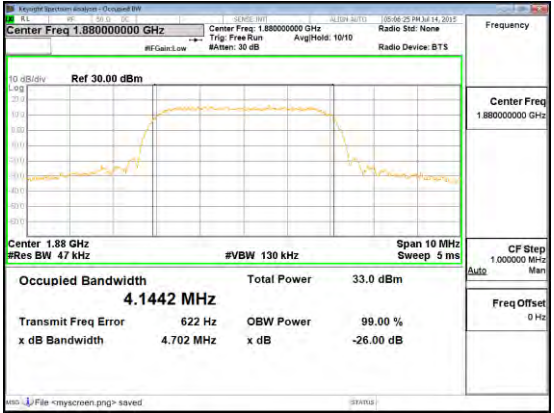
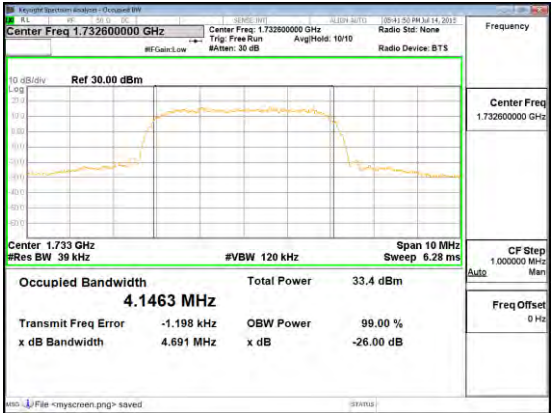
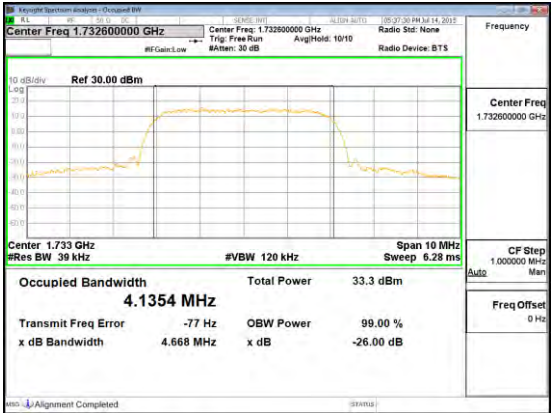
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE41	20	16QAM	100/0	2506	17.82	19.16
			100/0	2593	17.86	20.04
			100/0	2680	17.87	18.95
		QPSK	100/0	2506	17.91	19.63
			100/0	2593	17.85	18.95
			100/0	2680	17.89	19.52
	15	16QAM	75/0	2503.5	13.4	14.47
			75/0	2593	13.43	14.48
			75/0	2682.5	13.46	14.75
		QPSK	75/0	2503.5	13.43	14.56
			75/0	2593	13.4	14.48
			75/0	2682.5	13.41	14.68
	10	16QAM	50/0	2501	8.951	9.587
			50/0	2593	8.951	1.003
			50/0	2685	8.948	9.550
		QPSK	50/0	2501	8.896	9.348
			50/0	2593	8.951	9.612
			50/0	2685	8.967	9.656
	5	16QAM	25/0	2498.5	4.463	4.908
			25/0	2593	4.470	4.838
			25/0	2687.5	4.483	4.886
		QPSK	25/0	2498.5	4.503	4.865
			25/0	2593	4.496	4.833
			25/0	2687.5	4.494	4.899

10.1.2. OCCUPIED BANDWIDTH PLOTS

GSM

Band GSM 1900	 Band GSM1900 EGPRS OBW Mid channel	 Band GSM1900 GPRS OBW Mid channel
Band GSM 850	 Band GSM850 EGPRS OBW Mid channel	 Band GSM850 GPRS OBW Mid channel

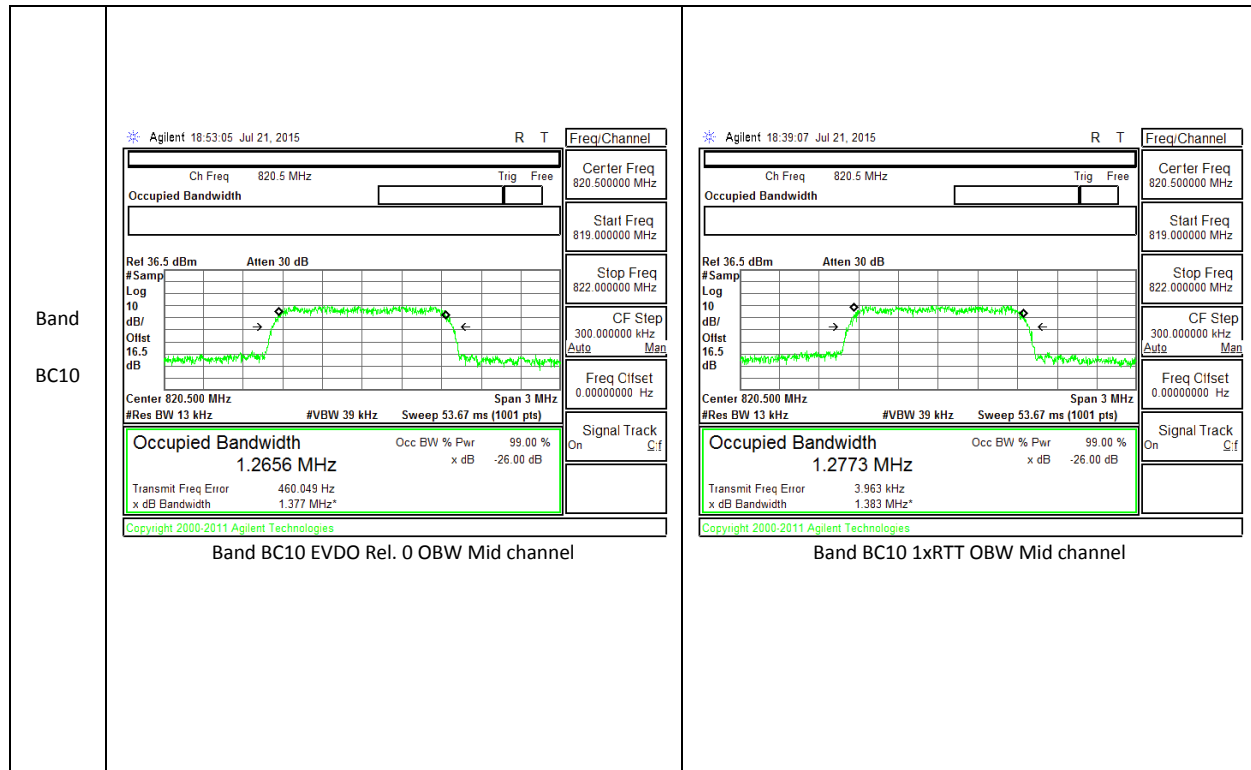
WCDMA

Band Band 2	 Band WCDMA B2 HSDPA OBW	 Band WCDMA B2 REL99 OBW
Band Band 4	 Band WCDMA B4 HSDPA OBW	 Band WCDMA B4 REL99 OBW



CDMA

Band BC1	Agilent 23:46:42 Jul 20, 2015 R T Ch Freq 1.88 GHz Trig Free Occupied Bandwidth Ref 36.9 dBm Atten 30 dB #Samp Log 10 dBI Offst 16.9 dB Center 1.880 000 GHz #Res BW 30 kHz VBW 91 kHz Sweep 10.07 ms (1001 pts) Span 3 MHz Occupied Bandwidth 1.2748 MHz Transmit Freq Error 1.039 kHz x dB Bandwidth 1.420 MHz* Copyright 2000-2011 Agilent Technologies Band BC1 EVDO Rel. 0 OBW Mid channel Freq/Channel Center Freq 1.88000000 GHz Start Freq 1.87850000 GHz Stop Freq 1.88150000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off	 Band BC1 1xRTT OBW Mid channel
Band BC0	Agilent 00:18:50 Jul 21, 2015 R T Ch Freq 836.52 MHz Trig Free Occupied Bandwidth Ref 40.9 dBm Atten 40 dB #Samp Log 10 dBI Offst 16.9 dB Center 836.520 MHz #Res BW 13 kHz VBW 39 kHz Sweep 53.67 ms (1001 pts) Span 3 MHz Occupied Bandwidth 1.2668 MHz Transmit Freq Error -1.740 kHz x dB Bandwidth 1.407 MHz* Copyright 2000-2011 Agilent Technologies Band BC0 EVDO Rel. 0 OBW Mid channel Freq/Channel Center Freq 836.520000 MHz Start Freq 835.020000 MHz Stop Freq 838.020000 MHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off	 Band BC0 1xRTT OBW Mid channel



LTE Band 2

Band LTE2 20MHz	Agilent 22:02:13 Jul 9, 2015 R T Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.86500000 GHz Stop Freq 1.89500000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 22 dBm Peak Log 10 dB/Offst 20.9 dB Center 1.880 00 GHz Span 30 MHz Res BW 300 kHz VBW 910 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.9102 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 9.852 kHz x dB Bandwidth 19.334 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE2 20MHz OBW 16QAM Mid Channel FRB.gif
Band LTE2 15MHz	Agilent 21:59:44 Jul 9, 2015 R T Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.86875000 GHz Stop Freq 1.89125000 GHz CF Step 2.25000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 22 dBm Peak Log 10 dB/Offst 20.9 dB Center 1.880 000 0 GHz Span 22.5 MHz Res BW 220 kHz VBW 680 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 13.4585 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 9.925 kHz x dB Bandwidth 14.352 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE2 15MHz OBW 16QAM Mid Channel FRB.gif
Agilent 22:01:55 Jul 9, 2015 R T Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.86500000 GHz Stop Freq 1.89500000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 22 dBm Peak Log 10 dB/Offst 20.9 dB Center 1.880 00 GHz Span 30 MHz Res BW 300 kHz VBW 910 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 17.8825 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 19.667 kHz x dB Bandwidth 19.316 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE2 20MHz OBW QPSK Mid Channel FRB.gif	Agilent 21:59:26 Jul 9, 2015 R T Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.86875000 GHz Stop Freq 1.89125000 GHz CF Step 2.25000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 22 dBm Peak Log 10 dB/Offst 20.9 dB Center 1.880 000 0 GHz Span 22.5 MHz Res BW 220 kHz VBW 680 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 13.3925 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 10.552 kHz x dB Bandwidth 14.481 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE2 15MHz OBW QPSK Mid Channel FRB.gif

Band LTE2 3MHz	Agilent 21:52:18 Jul 9, 2015 Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.87775000 GHz Stop Freq 1.88225000 GHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal On Ref 22 dBm Peak Log 10 dB/Offst 26.9 dB Atten 22 dB Center 1.880 000 0 GHz Res BW 43 kHz VBW 130 kHz Sweep 2.36 ms (601 pts) Span 4.5 MHz Occupied Bandwidth 2.6859 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -1.050 kHz x dB Bandwidth 2.960 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE2 3MHz OBW 16QAM Mid Channel FRB.gif	Agilent 21:52:00 Jul 9, 2015 Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.87775000 GHz Stop Freq 1.88225000 GHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal On Ref 22 dBm Peak Log 10 dB/Offst 26.9 dB Atten 22 dB Center 1.880 000 0 GHz Res BW 43 kHz VBW 130 kHz Sweep 2.36 ms (601 pts) Span 4.5 MHz Occupied Bandwidth 2.6855 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 16.454 Hz x dB Bandwidth 2.979 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE2 3MHz OBW QPSK Mid Channel FRB.gif
	Agilent 21:49:50 Jul 9, 2015 Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.87895000 GHz Stop Freq 1.88105000 GHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal On Ref 22 dBm Peak Log 10 dB/Offst 26.9 dB Atten 22 dB Center 1.880 000 0 GHz Res BW 20 kHz VBW 62 kHz Sweep 5.04 ms (601 pts) Span 2.1 MHz Occupied Bandwidth 1.0825 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 966.822 Hz x dB Bandwidth 1.228 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE2 1.4MHz OBW 16QAM Mid Channel FRB.gif	Agilent 21:49:31 Jul 9, 2015 Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.87895000 GHz Stop Freq 1.88105000 GHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal On Ref 22 dBm Peak Log 10 dB/Offst 26.9 dB Atten 22 dB Center 1.880 000 0 GHz Res BW 20 kHz VBW 62 kHz Sweep 5.04 ms (601 pts) Span 2.1 MHz Occupied Bandwidth 1.0800 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -2.195 kHz x dB Bandwidth 1.217 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE2 1.4MHz OBW QPSK Mid Channel FRB.gif

The figure displays four Agilent spectrum analyzer screenshots arranged in a 2x2 grid, showing LTE4 channel power measurements. Each screenshot includes a main plot, a summary table, and a status bar.

Top Left Screenshot (20MHz, 16QAM):

- Ch Freq:** 1.7325 GHz
- Center Freq:** 1.73250000 GHz
- Start Freq:** 1.71750000 GHz
- Stop Freq:** 1.74750000 GHz
- CF Step:** 3.00000000 MHz
- Freq Offset:** 0.00000000 Hz
- Occupied Bandwidth:** 17.8774 MHz
- Transmit Freq Error:** 12.090 kHz
- x dB Bandwidth:** 19.306 MHz
- Occ BW % Pwr:** 99.00 %
- x dB:** -26.00 dB

Top Right Screenshot (20MHz, QPSK):

- Ch Freq:** 1.7325 GHz
- Center Freq:** 1.73250000 GHz
- Start Freq:** 1.71750000 GHz
- Stop Freq:** 1.74750000 GHz
- CF Step:** 3.00000000 MHz
- Freq Offset:** 0.00000000 Hz
- Occupied Bandwidth:** 17.9037 MHz
- Transmit Freq Error:** 20.142 kHz
- x dB Bandwidth:** 19.267 MHz
- Occ BW % Pwr:** 99.00 %
- x dB:** -26.00 dB

Bottom Left Screenshot (15MHz, 16QAM):

- Ch Freq:** 1.7325 GHz
- Center Freq:** 1.73250000 GHz
- Start Freq:** 1.72125000 GHz
- Stop Freq:** 1.74375000 GHz
- CF Step:** 2.25000000 MHz
- Freq Offset:** 0.00000000 Hz
- Occupied Bandwidth:** 13.4013 MHz
- Transmit Freq Error:** 8.194 kHz
- x dB Bandwidth:** 14.499 MHz
- Occ BW % Pwr:** 99.00 %
- x dB:** -26.00 dB

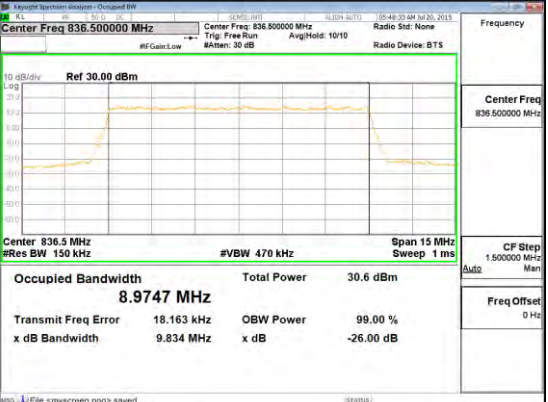
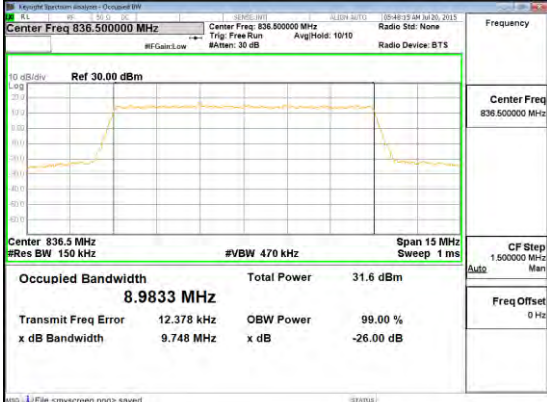
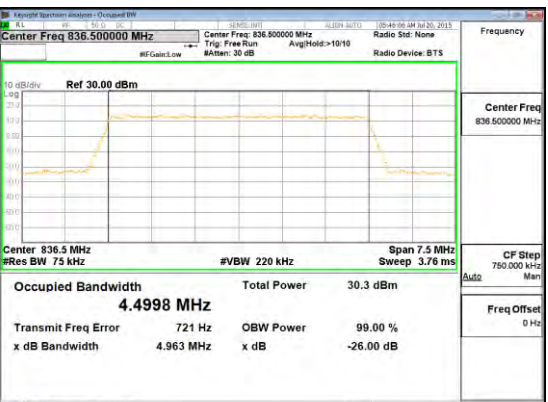
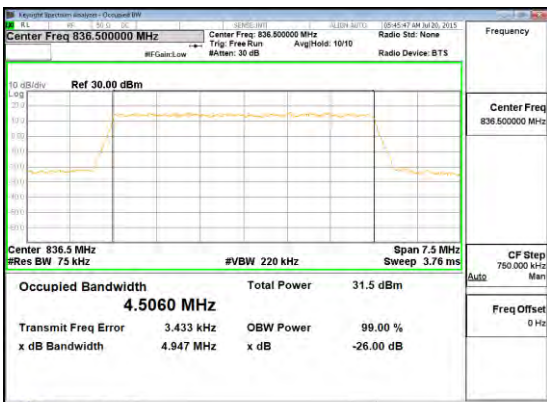
Bottom Right Screenshot (15MHz, QPSK):

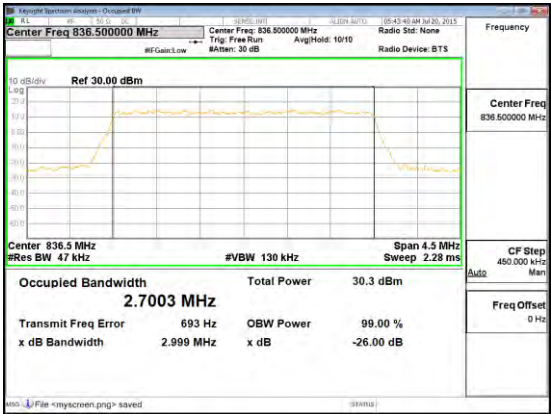
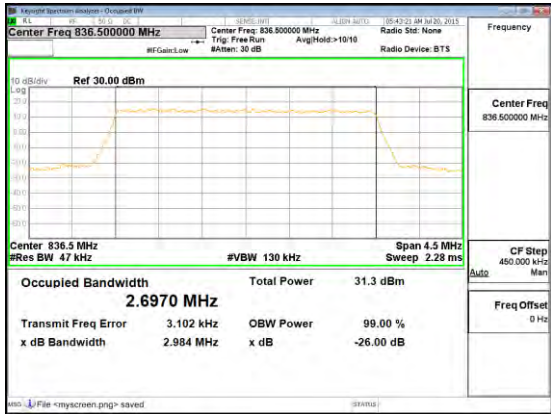
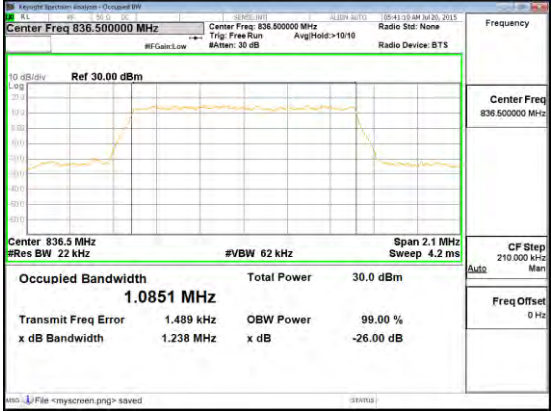
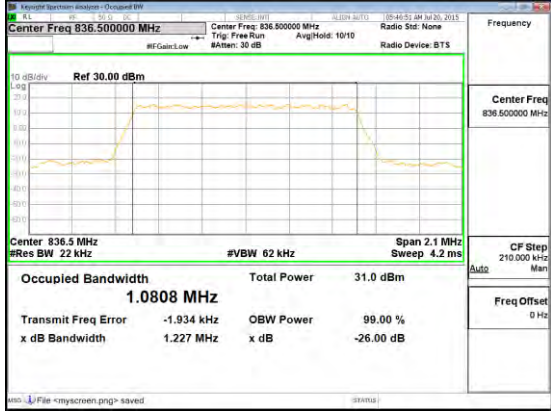
- Ch Freq:** 1.7325 GHz
- Center Freq:** 1.73250000 GHz
- Start Freq:** 1.72125000 GHz
- Stop Freq:** 1.74375000 GHz
- CF Step:** 2.25000000 MHz
- Freq Offset:** 0.00000000 Hz
- Occupied Bandwidth:** 13.4296 MHz
- Transmit Freq Error:** 3.512 kHz
- x dB Bandwidth:** 14.531 MHz
- Occ BW % Pwr:** 99.00 %
- x dB:** -26.00 dB

Band LTE4 10MHz	Agilent 23:22:00 Jul 9, 2015 R T Ch Freq 1.7325 GHz Trig Free Center Freq 1.73250000 GHz Start Freq 1.72500000 GHz Stop Freq 1.74000000 GHz CF Step 1.50000000 MHz Freq Offset 0.00000000 Hz Signal Track On Ref 22 dBm Peak Log 10 dB/Offst 26.9 dB Center 1.732 500 GHz Span 15 MHz Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 8.9482 MHz Occ BN % Pwr 99.00 % Transmit Freq Error 14.153 kHz x dB Bandwidth 3.759 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE4 10MHz OBW 16QAM Mid Channel FRB.gif	Agilent 23:21:41 Jul 9, 2015 R T Ch Freq 1.7325 GHz Trig Free Center Freq 1.73250000 GHz Start Freq 1.72500000 GHz Stop Freq 1.74000000 GHz CF Step 1.50000000 MHz Freq Offset 0.00000000 Hz Signal Track On Ref 22 dBm Peak Log 10 dB/Offst 26.9 dB Center 1.732 500 GHz Span 15 MHz Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 8.9572 MHz Occ BN % Pwr 99.00 % Transmit Freq Error 5.065 kHz x dB Bandwidth 3.682 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE4 10MHz OBW QPSK Mid Channel FRB.gif
Band LTE4 5MHz	Agilent 23:18:16 Jul 9, 2015 R T Ch Freq 1.7325 GHz Trig Free Center Freq 1.73250000 GHz Start Freq 1.72875000 GHz Stop Freq 1.73625000 GHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Ref 22 dBm Peak Log 10 dB/Offst 26.9 dB Center 1.732 500 GHz Span 7.5 MHz Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.4989 MHz Occ BN % Pwr 99.00 % Transmit Freq Error -6.889 kHz x dB Bandwidth 4.354 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE4 5MHz OBW 16QAM Mid Channel FRB.gif	Agilent 23:17:58 Jul 9, 2015 R T Ch Freq 1.7325 GHz Trig Free Center Freq 1.73250000 GHz Start Freq 1.72875000 GHz Stop Freq 1.73625000 GHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Ref 22 dBm Peak Log 10 dB/Offst 26.9 dB Center 1.732 500 GHz Span 7.5 MHz Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.4913 MHz Occ BN % Pwr 99.00 % Transmit Freq Error -6.984 kHz x dB Bandwidth 4.303 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE4 5MHz OBW QPSK Mid Channel FRB.gif

Band LTE4 3MHz	Agilent 23:14:35 Jul 9, 2015 R T Ch Freq 1.7325 GHz Trig Free Occupied Bandwidth Center 1.732 500 0 GHz Span 4.5 MHz Res BW 43 kHz VBW 130 kHz Sweep 2.36 ms (601 pts) Occupied Bandwidth 2.6812 MHz Transmit Freq Error 520.782 Hz x dB Bandwidth 2.961 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE4 3MHz OBW 16QAM Mid Channel FRB.gif	Agilent 23:14:17 Jul 9, 2015 R T Ch Freq 1.7325 GHz Trig Free Occupied Bandwidth Center 1.732 500 0 GHz Span 4.5 MHz Res BW 43 kHz VBW 130 kHz Sweep 2.36 ms (601 pts) Occupied Bandwidth 2.6833 MHz Transmit Freq Error -2.526 kHz x dB Bandwidth 2.957 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE4 3MHz OBW QPSK Mid Channel FRB.gif
Band LTE4 1.4MHz	Agilent 23:10:31 Jul 9, 2015 R T Ch Freq 1.7325 GHz Trig Free Occupied Bandwidth Center 1.732 500 0 GHz Span 2.1 MHz Res BW 20 kHz VBW 62 kHz Sweep 5.04 ms (601 pts) Occupied Bandwidth 1.0848 MHz Transmit Freq Error -21.074 Hz x dB Bandwidth 1.215 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE4 1.4MHz OBW 16QAM Mid Channel FRB.gif	Agilent 23:10:13 Jul 9, 2015 R T Ch Freq 1.7325 GHz Trig Free Occupied Bandwidth Center 1.732 500 0 GHz Span 2.1 MHz Res BW 20 kHz VBW 62 kHz Sweep 5.04 ms (601 pts) Occupied Bandwidth 1.0798 MHz Transmit Freq Error -2.305 kHz x dB Bandwidth 1.219 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE4 1.4MHz OBW QPSK Mid Channel FRB.gif

LTE Band 5

Band LTE5 10MHz	 Center Freq 836.500000 MHz #VBW 470 kHz Span 15 MHz Sweep 1 ms CF Step 1.500000 MHz Man Freq Offset 0 Hz Occupied Bandwidth 8.9747 MHz Total Power 30.6 dBm Transmit Freq Error 18.163 kHz OBW Power 99.00 % x dB Bandwidth 9.834 MHz x dB -26.00 dB Band LTE5 10MHz OBW 16QAM Mid Channel FRB.gif	 Center Freq 836.500000 MHz #VBW 470 kHz Span 15 MHz Sweep 1 ms CF Step 1.500000 MHz Man Freq Offset 0 Hz Occupied Bandwidth 8.9833 MHz Total Power 31.6 dBm Transmit Freq Error 12.378 kHz OBW Power 99.00 % x dB Bandwidth 9.748 MHz x dB -26.00 dB Band LTE5 10MHz OBW QPSK Mid Channel FRB.gif
Band LTE5 5MHz	 Center Freq 836.500000 MHz #VBW 220 kHz Span 7.5 MHz Sweep 3.76 ms CF Step 750.000 kHz Man Freq Offset 0 Hz Occupied Bandwidth 4.4998 MHz Total Power 30.3 dBm Transmit Freq Error 721 Hz OBW Power 99.00 % x dB Bandwidth 4.963 MHz x dB -26.00 dB Band LTE5 5MHz OBW 16QAM Mid Channel FRB.gif	 Center Freq 836.500000 MHz #VBW 220 kHz Span 7.5 MHz Sweep 3.76 ms CF Step 750.000 kHz Man Freq Offset 0 Hz Occupied Bandwidth 4.5060 MHz Total Power 31.5 dBm Transmit Freq Error 3.433 kHz OBW Power 99.00 % x dB Bandwidth 4.947 MHz x dB -26.00 dB Band LTE5 5MHz OBW QPSK Mid Channel FRB.gif

Band LTE5 3MHz	 Band LTE5 3MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE5 3MHz OBW QPSK Mid Channel FRB.gif
Band LTE5 1.4MHz	 Band LTE5 1.4MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE5 1.4MHz OBW QPSK Mid Channel FRB.gif

Band LTE7 10MHz	Agilent 18:06:24 Jul 9, 2015 Ch Freq 2.535 GHz Trig Free Occupied Bandwidth Occupied Bandwidth 8.9600 MHz Transmit Freq Error 13.801 kHz x dB Bandwidth 3.671 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE7 10MHz OBW 16QAM Mid Channel FRB.gif	Agilent 18:06:05 Jul 9, 2015 Ch Freq 2.535 GHz Trig Free Occupied Bandwidth Occupied Bandwidth 8.9633 MHz Transmit Freq Error 599.727 Hz x dB Bandwidth 3.674 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE7 10MHz OBW QPSK Mid Channel FRB.gif
Band LTE7 5MHz	Agilent 18:03:33 Jul 9, 2015 Ch Freq 2.535 GHz Trig Free Occupied Bandwidth Occupied Bandwidth 4.4944 MHz Transmit Freq Error -8.215 kHz x dB Bandwidth 4.868 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE7 5MHz OBW 16QAM Mid Channel FRB.gif	Agilent 18:03:15 Jul 9, 2015 Ch Freq 2.535 GHz Trig Free Occupied Bandwidth Occupied Bandwidth 4.4969 MHz Transmit Freq Error -2.817 kHz x dB Bandwidth 4.943 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE7 5MHz OBW QPSK Mid Channel FRB.gif

LTE Band 12

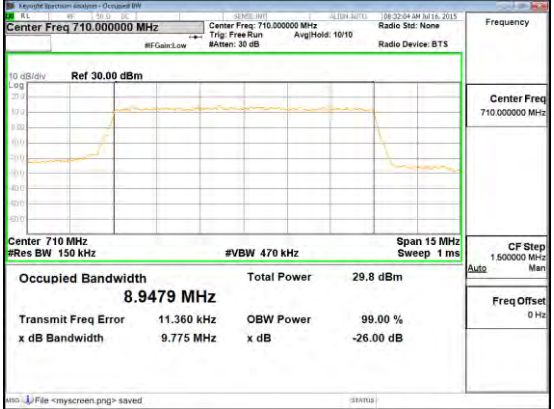
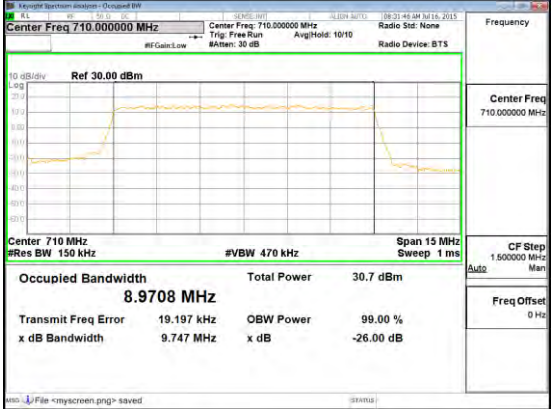
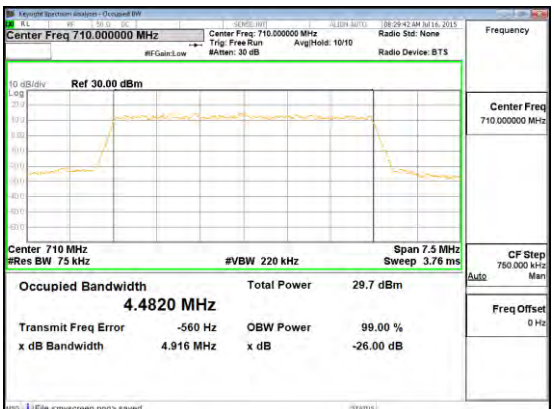
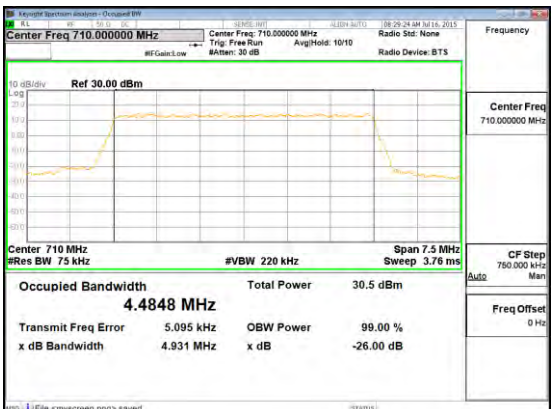
Band LTE12 10MHz	Agilent 00:39:21 Jul 10, 2015 Ch Freq 707.5 MHz Trig Free Center Freq 707.500000 MHz Start Freq 700.000000 MHz Stop Freq 715.000000 MHz CF Step 1.50000000 MHz Freq Offset 0.00000000 Hz Signal Track On Ref 22 dBm Atten 22 dB Peak Log 10 dB/Offset 20.5 dB Center 707.500 MHz Span 15 MHz Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 8.9757 MHz Occ BW % Pwr 99.00 % Transmit Freq Error 14.859 kHz x dB Bandwidth 9.754 MHz x dB -26.00 dB File Operation Status, C:PICTURE.GIF file saved Band LTE12 10MHz OBW 16QAM Mid Channel FRB.gif
Band LTE12 5MHz	Agilent 00:35:39 Jul 10, 2015 Ch Freq 707.5 MHz Trig Free Center Freq 707.500000 MHz Start Freq 703.750000 MHz Stop Freq 711.250000 MHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Ref 22 dBm Atten 22 dB Peak Log 10 dB/Offset 20.5 dB Center 707.500 MHz Span 7.5 MHz Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.4791 MHz Occ BW % Pwr 99.00 % Transmit Freq Error 3.148 kHz x dB Bandwidth 4.914 MHz x dB -26.00 dB File Operation Status, C:PICTURE.GIF file saved Band LTE12 5MHz OBW 16QAM Mid Channel FRB.gif
	Agilent 00:39:03 Jul 10, 2015 Ch Freq 707.5 MHz Trig Free Center Freq 707.500000 MHz Start Freq 700.000000 MHz Stop Freq 715.000000 MHz CF Step 1.50000000 MHz Freq Offset 0.00000000 Hz Signal Track Off Ref 22 dBm Atten 22 dB Peak Log 10 dB/Offset 20.5 dB Center 707.500 MHz Span 15 MHz Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 8.9487 MHz Occ BW % Pwr 99.00 % Transmit Freq Error 4.307 kHz x dB Bandwidth 9.699 MHz x dB -26.00 dB File Operation Status, C:PICTURE.GIF file saved Band LTE12 10MHz OBW QPSK Mid Channel FRB.gif
	Agilent 00:35:20 Jul 10, 2015 Ch Freq 707.5 MHz Trig Free Center Freq 707.500000 MHz Start Freq 703.750000 MHz Stop Freq 711.250000 MHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track Off Ref 22 dBm Atten 22 dB Peak Log 10 dB/Offset 20.5 dB Center 707.500 MHz Span 7.5 MHz Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.4946 MHz Occ BW % Pwr 99.00 % Transmit Freq Error -3.235 kHz x dB Bandwidth 4.906 MHz x dB -26.00 dB File Operation Status, C:PICTURE.GIF file saved Band LTE12 5MHz OBW QPSK Mid Channel FRB.gif

Band LTE12 3MHz	Agilent 00:32:42 Jul 10, 2015 Ch Freq 707.5 MHz Trig Free Occupied Bandwidth Ref 22 dBm Peak Log 10 dB/Offst 26.5 dB Atten 22 dB Center 707.500 0 MHz Res BW 43 kHz VBW 130 kHz Sweep 2.36 ms (601 pts) Span 4.5 MHz Occupied Bandwidth 2.6830 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -4.369 kHz x dB Bandwidth 2.926 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE12 3MHz OBW 16QAM Mid Channel FRB.gif	Agilent 00:32:24 Jul 10, 2015 Ch Freq 707.5 MHz Trig Free Occupied Bandwidth Ref 22 dBm Peak Log 10 dB/Offst 26.5 dB Atten 22 dB Center 707.500 0 MHz Res BW 43 kHz VBW 130 kHz Sweep 2.36 ms (601 pts) Span 4.5 MHz Occupied Bandwidth 2.6815 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -3.400 kHz x dB Bandwidth 2.950 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE12 3MHz OBW QPSK Mid Channel FRB.gif
Band LTE12 1.4MHz	Agilent 00:28:59 Jul 10, 2015 Ch Freq 707.5 MHz Trig Free Occupied Bandwidth Ref 22 dBm Peak Log 10 dB/Offst 26.5 dB Atten 22 dB Center 707.500 0 MHz Res BW 20 kHz VBW 62 kHz Sweep 5.04 ms (601 pts) Span 2.1 MHz Occupied Bandwidth 1.0847 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 905.158 Hz x dB Bandwidth 1.226 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE12 1.4MHz OBW 16QAM Mid Channel FRB.gif	Agilent 00:28:41 Jul 10, 2015 Ch Freq 707.5 MHz Trig Free Occupied Bandwidth Ref 22 dBm Peak Log 10 dB/Offst 26.5 dB Atten 22 dB Center 707.500 0 MHz Res BW 20 kHz VBW 62 kHz Sweep 5.04 ms (601 pts) Span 2.1 MHz Occupied Bandwidth 1.0808 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -1.411 kHz x dB Bandwidth 1.220 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE12 1.4MHz OBW QPSK Mid Channel FRB.gif

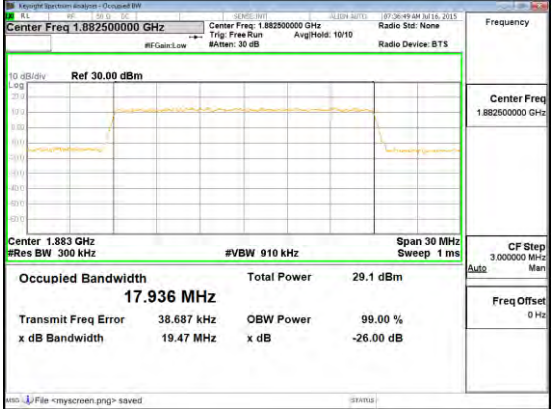
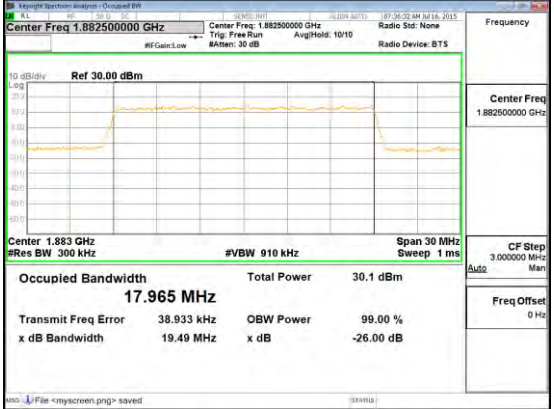
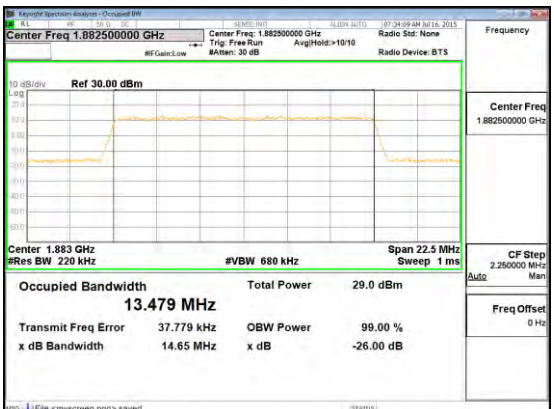
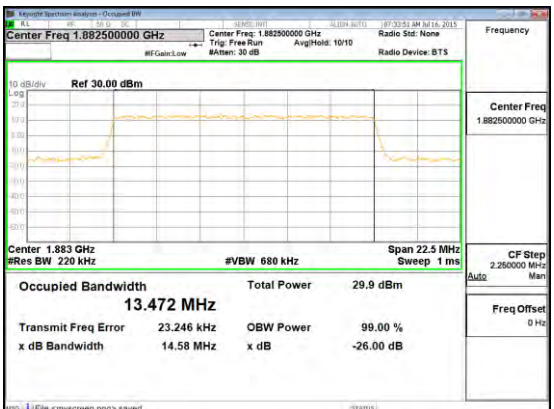
LTE Band 13

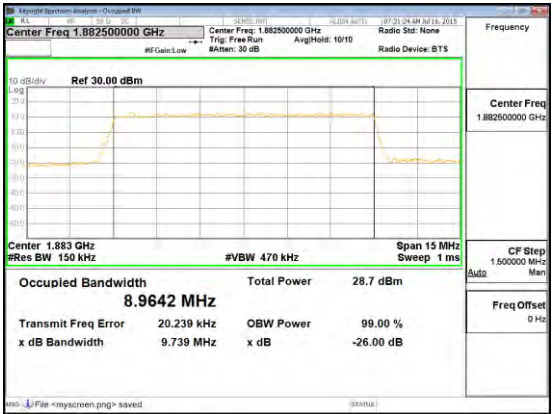
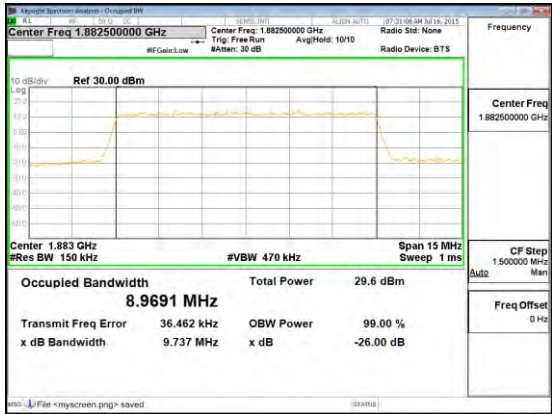
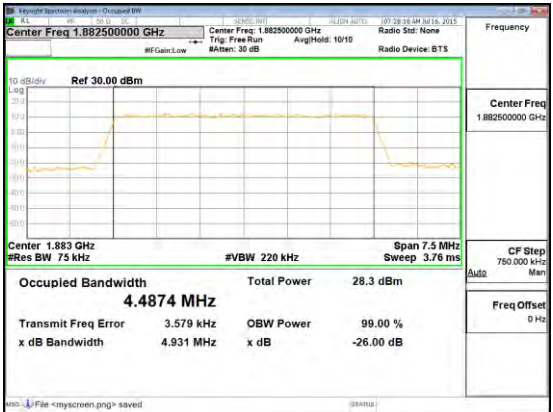
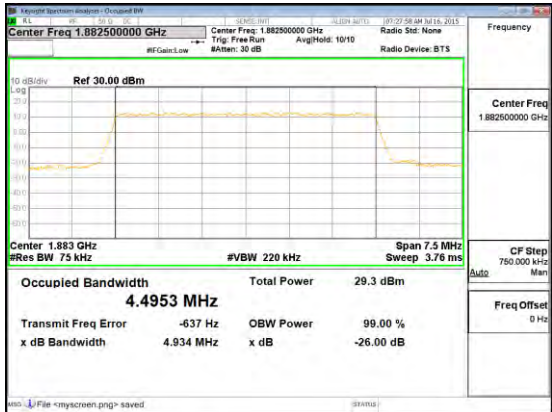
Band LTE13 10MHz	Agilent 01:31:36 Jul 10, 2015 R T Ch Freq 782 MHz Trig Free Center Freq 782.000000 MHz Start Freq 774.500000 MHz Stop Freq 789.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 22 dBm Peak Log 10 dB/Offset 20.5 dB Center 782.000 MHz Span 15 MHz Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 8.9574 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -8.231 kHz x dB Bandwidth 9.571 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE13 10MHz OBW 16QAM High Channel FRB.gif
Band LTE13 5MHz	Agilent 01:22:50 Jul 10, 2015 R T Ch Freq 782 MHz Trig Free Center Freq 782.000000 MHz Start Freq 778.250000 MHz Stop Freq 785.750000 MHz CF Step 750.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 22 dBm Peak Log 10 dB/Offset 20.5 dB Center 782.000 MHz Span 7.5 MHz Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.5019 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -5.503 kHz x dB Bandwidth 4.915 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE13 5MHz OBW 16QAM Mid Channel FRB.gif
Agilent 01:31:18 Jul 10, 2015 R T Ch Freq 782 MHz Trig Free Center Freq 782.000000 MHz Start Freq 774.500000 MHz Stop Freq 789.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 22 dBm Peak Log 10 dB/Offset 20.5 dB Center 782.000 MHz Span 15 MHz Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Occupied Bandwidth 8.9288 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 18.589 kHz x dB Bandwidth 9.536 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE13 10MHz OBW QPSK High Channel FRB.gif	Agilent 01:22:32 Jul 10, 2015 R T Ch Freq 782 MHz Trig Free Center Freq 782.000000 MHz Start Freq 778.250000 MHz Stop Freq 785.750000 MHz CF Step 750.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 22 dBm Peak Log 10 dB/Offset 20.5 dB Center 782.000 MHz Span 7.5 MHz Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.4995 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 2.706 kHz x dB Bandwidth 4.896 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE13 5MHz OBW QPSK Mid Channel FRB.gif

LTE Band 17

Band LTE17 10MHz	 Band LTE17 10MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE17 10MHz OBW QPSK Mid Channel FRB.gif
Band LTE17 5MHz	 Band LTE17 5MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE17 5MHz OBW QPSK Mid Channel FRB.gif

LTE Band 25

Band LTE25 20MHz	 Band LTE25 20MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE25 20MHz OBW QPSK Mid Channel FRB.gif
Band LTE25 15MHz	 Band LTE25 15MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE25 15MHz OBW QPSK Mid Channel FRB.gif

Band LTE25 10MHz	 Band LTE25 10MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE25 10MHz OBW QPSK Mid Channel FRB.gif
Band LTE25 5MHz	 Band LTE25 5MHz OBW 16QAM Mid Channel FRB.gif	 Band LTE25 5MHz OBW QPSK Mid Channel FRB.gif