FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART H
FCC CFR47 PART 27 SUBPART L

CERTIFICATION TEST REPORT

FOR

CDMA/LTE PHONE WITH BT + DTS WLAN b/g/n

MODEL NUMBER: LG-US375, LGUS375, US375, LG-AS375, LGAS375, AS375

FCC ID: ZNFUS375

REPORT NUMBER: 16I22599-E1V3

ISSUE DATE: 2/1/2016

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	1/22/2016	Initial Issue	D. CORONIA
V2	1/27/2016	Updated Section 5, 5.3, 5.4, 9.1, 10.1 & 13	D. CORONIA
V3	2/1/2016	Updated Table of Contents	D. CORONIA

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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS 5
2. TEST METHODOLOGY 6
3. FACILITIES AND ACCREDITATION 6
4. CALIBRATION AND UNCERTAINTY 6
4.1. MEASURING INSTRUMENT CALIBRATION 6
4.2. SAMPLE CALCULATION 6
4.3. MEASUREMENT UNCERTAINTY 7
5. EQUIPMENT UNDER TEST 8
5.1. DESCRIPTION OF EUT 8
5.2. MAXIMUM OUTPUT POWER (CDMA) 9
5.3. MAXIMUM OUTPUT POWER (LTE) 10
5.4. DESCRIPTION OF AVAILABLE ANTENNAS 13
5.5. DESCRIPTION OF TEST SETUP 14
6. TEST AND MEASUREMENT EQUIPMENT 17
7. SUMMARY TABLE 18
8. RF POWER OUTPUT VERIFICATION 19
8.1. CDMA2000 19
8.1.1. 1xRTT 19
8.1.2. CDMA2000 OUTPUT POWER RESULT 20
8.1.3. 1xEV-DO Release 0 21
8.1.4. 1XEVDO REL 0 OUTPUT POWER RESULT 22
8.1.5. 1xEV-DO Rev. A 23
8.1.6. 1xEVDO REV A OUTPUT RESULT 24
8.2. LTE OUTPUT POWER RESULT 25
9. PEAK TO AVERAGE RATIO 39
9.1. CONDUCTED PEAK TO AVERAGE RESULT 40
10. OCCUPIED BANDWIDTH 52
10.1. OCCUPIED BANDWIDTH RESULTS AND PLOTS 53
11. BAND EDGE EMISSIONS 72
11.1. BAND EDGE PLOTS 73
12. OUT OF BAND EMISSIONS 114
12.1. OUT OF BAND EMISSIONS RESULT AND PLOTS 115

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13. FREQUENCY STABILITY 134
13.1. FREQUENCY STABILITY RESULTS 135
14. RADIATED TEST RESULTS 139
14.1. RADIATED POWER (ERP & EIRP) 139
14.1.1. ERP/EIRP RESULTS AND TABLE 140
14.2. FIELD STRENGTH OF SPURIOUS RADIATION 159
14.2.1. SPURIOUS EMISSION TEST DATA 160
15. SETUP PHOTOS 172

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION:	CDMA/LTE PHONE WITH BT + DTS WLAN b/g/n
MODEL:	LG-US375, LGUS375, US375, LG-AS375, LGAS375, AS375
SERIAL NUMBER:	510CYCV000091 9(Conducted), 510CYZP000093 (Radiated)
DATE TESTED:	JANUARY 5-22, 2016

APPLICABLE STANDARDS

STANDARD	TEST RESULTS
FCC PART 22H, 24E, 27H & 27L	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 revision 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.

Approved & Released For
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Tested By:

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-D, FCC CFR 47 Part 22, FCC CFR Part 24, and FCC CFR 47 Part 27.

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	☐ Chamber D
☒ Chamber B	☐ Chamber E
☒ Chamber C	☐ Chamber F
	☐ Chamber G
	☐ Chamber H

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

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

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

(Path loss = Signal generator output – PSA reading with substitution antenna)

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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, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance,1000 to 6000 MHz	3.86 dB
Radiated Disturbance,6000 to 18000 MHz	4.23 dB
Radiated Disturbance,18000 to 26000 MHz	5.30 dB
Radiated Disturbance,26000 to 40000 MHz	5.23 dB

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

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

This EUT is a CDMA/LTE PHONE WITH BT + DTS WLAN b/g/n.

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5.2. MAXIMUM OUTPUT POWER (CDMA)

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

FCC Part 22/24						
Band	Frequency Range(MHz)	Modulation	Conducted		Radiated	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
BC0	824~849	1xRTT	25.20	331.13	24.61	289.07
	824~849	EVDO REL. 0	25.10	323.59	25.66	368.13
	824~849	EVDO REV. A	25.10	323.59		
BC1	1850~1910	1xRTT	24.20	263.03	27.63	579.43
	1850~1910	EVDO REL. 0	24.00	251.19	27.50	562.34
	1850~1910	EVDO REV. A	24.00	251.19		

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5.3. MAXIMUM OUTPUT POWER (LTE)

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	1.4MHz	QPSK	22.89	194.54	25.04	319.15
			16QAM	22.20	165.96	24.51	282.49
		3MHz	QPSK	23.05	201.84	25.17	328.85
			16QAM	22.20	165.96	24.71	295.80
		5MHz	QPSK	22.79	190.11	24.91	309.74
			16QAM	21.90	154.88	24.51	282.49
		10MHz	QPSK	22.99	199.07	25.01	316.96
			16QAM	22.20	165.96	24.51	282.49
		15MHz	QPSK	23.20	208.93	25.41	347.54
			16QAM	22.20	165.96	24.81	302.69
		20MHz	QPSK	23.10	204.17	26.19	415.91
			16QAM	22.20	165.96	25.71	372.39

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE4	1710~1755	1.4MHz	QPSK	24.22	264.24	24.86	306.20
			16QAM	23.48	222.84	24.06	254.68
		3MHz	QPSK	24.47	279.90	25.12	325.09
			16QAM	23.47	222.33	24.46	279.25
		5MHz	QPSK	24.41	276.06	24.97	293.09
			16QAM	23.59	228.56	24.47	279.90
		10MHz	QPSK	24.40	275.42	25.11	324.34
			16QAM	23.60	229.09	24.56	285.76
		15MHz	QPSK	24.58	287.08	24.34	271.64
			16QAM	23.60	229.09	23.76	237.68
		20MHz	QPSK	24.56	285.76	24.87	306.90
			16QAM	23.10	204.17	24.27	267.30

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FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE5	824~849	1.4MHz	QPSK	24.18	261.82	22.46	176.20
			16QAM	23.40	218.78	21.80	151.36
		3MHz	QPSK	24.01	251.77	22.53	179.06
			16QAM	23.38	217.77	21.94	156.31
		5MHz	QPSK	24.10	257.04	22.36	172.19
			16QAM	23.29	213.30	21.36	136.77
		10MHz	QPSK	24.20	263.03	23.02	200.45
			16QAM	23.20	208.93	22.36	172.19

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE12	699~716	1.4MHz	QPSK	24.31	269.77	19.68	92.90
			16QAM	23.40	218.78	19.02	79.80
		3MHz	QPSK	24.30	269.15	19.82	95.94
			16QAM	23.40	218.78	18.93	98.40
		5MHz	QPSK	24.40	275.42	19.72	93.76
			16QAM	23.40	218.78	19.10	81.28
		10MHz	QPSK	24.30	269.15	20.17	103.99
			16QAM	23.20	208.93	19.14	82.04

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FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE17	704~716	5MHz	QPSK	23.80	239.88	19.87	97.05
			16QAM	23.00	199.53	18.79	75.68
		10MHz	QPSK	24.20	263.03	19.76	94.62
			16QAM	23.10	204.17	18.89	77.45

FCC Part 24							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE25	1850~1915	1.4MHz	QPSK	22.91	195.43	25.04	319.15
			16QAM	22.20	165.96	24.51	282.49
		3MHz	QPSK	22.85	192.75	25.17	328.85
			16QAM	21.99	158.12	24.71	295.80
		5MHz	QPSK	22.87	193.64	24.91	309.74
			16QAM	22.03	159.59	24.51	282.49
		10MHz	QPSK	22.91	195.43	25.01	316.96
			16QAM	22.20	165.96	24.51	282.49
		15MHz	QPSK	22.88	194.09	25.41	347.54
			16QAM	22.20	165.96	24.81	302.69
		20MHz	QPSK	23.00	199.53	26.19	415.91
			16QAM	22.10	162.18	25.71	372.39

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5.4. 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)
CDMA BC1 / LTE Band 2, 1850~1910MHz	2.56
LTE Band 4, 1710~1755MHz	1.37
CDMA BC0 / LTE Band 5, 824~849MHz	0.51
LTE Band 12, 699~716MHz	-4.08
LTE Band 17, 704~716MHz	-4.07
LTE Band 25, 1850~1915MHz	2.56

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5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MMCS-02WRE	N/A	N/A
Earphone	LG	N/A	N/A	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	No
2	Jack	1	Headset	Shielded	1m	No
3	RF In/out	1	Communication Test Set	Un-shielded	2m	Yes

TEST SETUP

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

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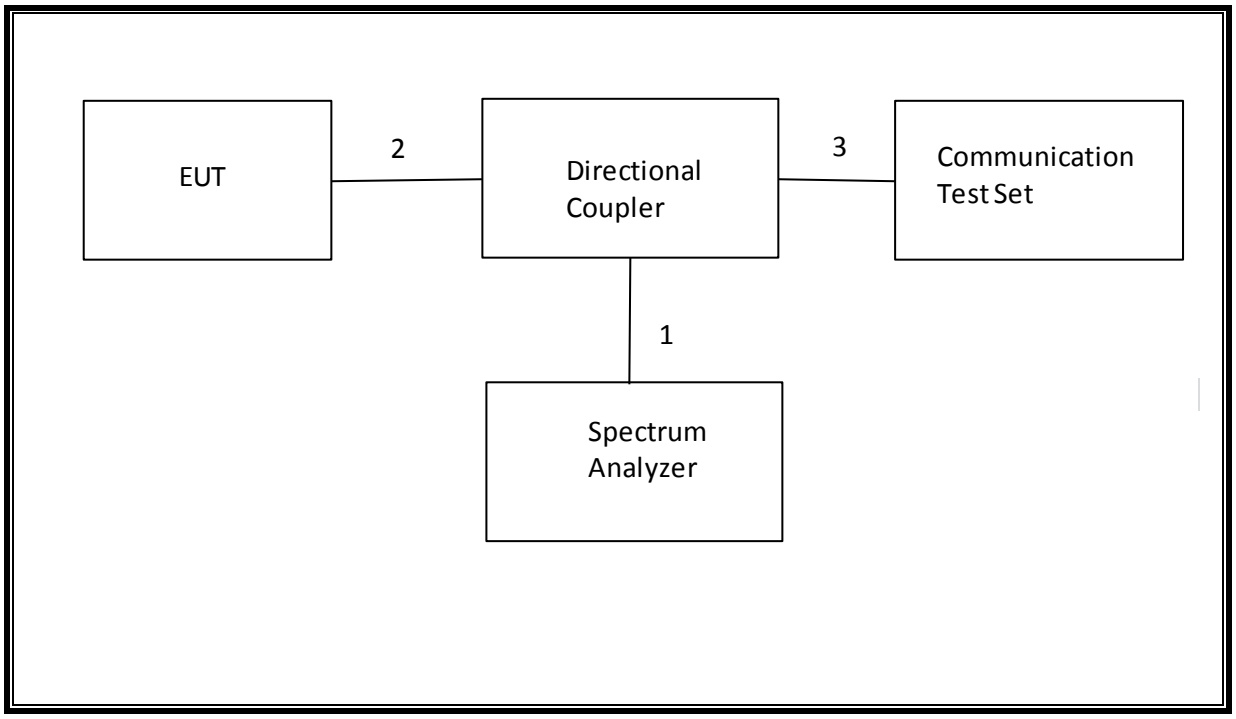
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



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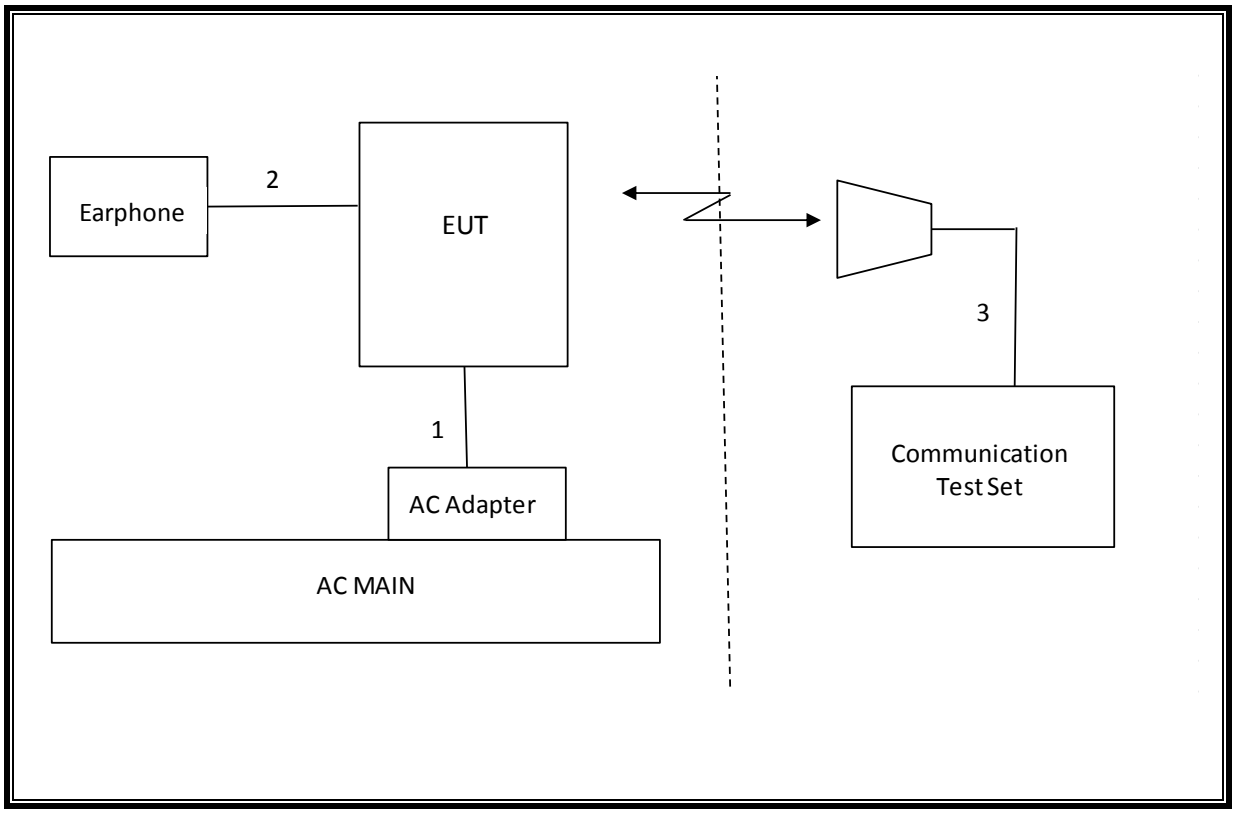
SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



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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	T Number	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	123	10/22/16
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	130	06/10/16
Antenna, Horn, 18 GHz	EMCO	3115	59	11/18/16
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	151	CNR
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	153	CNR
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	80	05/15/16
Communications Test Set	R&S	CMW500	159	07/10/16
DC power supply, 8 V @ 3 A or 15 V	Agilent / HP	E3610A	None	CNR
Vector signal generator, 6 GHz	Agilent / HP	E4438C	None	06/16/16
Antenna, Tuned Dipole 400~1000	ETS	3121C DB4	273	05/05/16
Directional Coupler	RF-Lambda	RFDC5M06G15	None	CNR
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/18/16

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

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7. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
2.1049	N/A	Occupied Bandwidth (99%)	N/A	Conducted	Pass
22.917(a) 24.238(a) 27.53(g)	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Band Edge / Conducted Spurious Emission	-13dBm		Pass
2.1046	N/A	Conducted output power	N/A		Pass
22.355 24.235 27.54	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3)	Frequency Stability	2.5PPM		Pass
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38 dBm	Radiated	Pass
27.50(c)(10)	N/A		34.77 dBm		Pass
24.232(c) 27.50(h)(2)	RSS-133(6.4) RSS-199(4.4)	Equivalent Isotropic Radiated Power	33dBm		Pass
27.50(d)(4)	RSS-139(6.4)		30dBm		Pass
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

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8. RF POWER OUTPUT VERIFICATION

8.1. CDMA2000

8.1.1. 1xRTT

TEST PROCEDURE

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

Application	Rev, License
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)

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8.1.2. CDMA2000 OUTPUT POWER RESULT

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC0	RC1, SO55 (Loopback)	1013	824.70	25.2
		384	836.52	25.2
		777	848.31	25.2
	RC3, SO55 (Loopback)	1013	824.70	25.2
		384	836.52	25.1
		777	848.31	25.1
	RC3, SO32 (+F-SCH)	1013	824.70	25.2
		384	836.52	25.2
		777	848.31	25.2

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC1	RC1, SO55 (Loopback)	25	1851.25	24.0
		600	1880.00	24.1
		1175	1908.75	24.0
	RC3, SO55 (Loopback)	25	1851.25	24.2
		600	1880.00	24.2
		1175	1908.75	24.2
	RC3, SO32 (+F-SCH)	25	1851.25	24.2
		600	1880.00	24.2
		1175	1908.75	24.2

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8.1.3. 1xEV-DO Release 0

TEST PROCEDURE

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

Application	Rev, License
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 Parms:
  - 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 Parms:
  - 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)

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8.1.4. 1XEVDO REL 0 OUTPUT POWER RESULT

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2 kbps (2 slot, QPSK)	1013	824.70	24.9
		384	836.52	25.1
		777	848.31	25.1

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC1	307.2 kbps (2 slot, QPSK)	25	1851.25	24.0
		600	1880.00	24.0
		1175	1908.75	23.9

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8.1.5. 1xEV-DO Rev. A

TEST PROCEDURE

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

Application	Rev, License
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)

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8.1.6. 1xEVDO REV A OUTPUT RESULT

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	24.9
		384	836.52	25.1
		777	848.31	25.1

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	24.0
		600	1880.00	24.0
		1175	1908.75	24.0

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8.2. LTE OUTPUT POWER RESULT

LTE Band 2

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	22.73	22.68	22.54
			1	3	0	22.58	22.73	22.73
			1	5	0	22.67	22.70	22.66
			3	0	0	22.68	22.67	22.67
			3	1	0	22.65	22.72	22.70
			3	3	0	22.59	22.74	22.89
			6	0	1	21.63	21.70	21.67
		16QAM	1	0	1	22.20	22.20	21.95
			1	3	1	22.20	22.20	22.03
			1	5	1	22.20	22.17	21.88
			3	0	1	21.91	21.77	21.67
			3	1	1	21.98	21.70	21.73
			3	3	1	21.91	21.70	21.52
			6	0	2	20.82	20.42	20.65

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	22.77	22.67	22.54
			1	8	0	23.05	22.68	22.81
			1	14	0	22.76	22.49	22.79
			8	0	1	21.77	21.67	21.60
			8	4	1	21.75	21.70	21.78
			8	7	1	21.83	21.72	21.75
			15	0	1	21.82	21.77	21.66
		16QAM	1	0	1	22.20	22.01	21.59
			1	8	1	22.20	22.09	21.48
			1	14	1	22.20	21.81	22.02
			8	0	2	20.45	20.93	20.95
			8	4	2	20.57	20.91	21.04
			8	7	2	20.88	20.86	20.93
			15	0	2	20.88	20.63	20.86

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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	22.55	22.50	22.62
			1	12	0	22.60	22.79	22.69
			1	24	0	22.53	22.48	22.76
			12	0	1	21.77	21.69	21.65
			12	7	1	21.83	21.84	21.67
			12	13	1	21.84	21.63	21.70
			25	0	1	21.70	21.72	21.72
		16QAM	1	0	1	21.71	21.68	21.63
			1	12	1	21.90	21.50	21.72
			1	24	1	21.67	21.60	21.58
			12	0	2	20.66	20.60	20.62
			12	7	2	20.76	20.50	20.98
			12	13	2	20.73	20.73	20.93
			25	0	2	20.75	20.80	20.96

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	22.81	22.78	22.90
			1	25	0	22.99	22.91	22.77
			1	49	0	22.68	22.61	22.80
			25	0	1	21.74	21.76	21.70
			25	12	1	21.78	21.78	21.71
			25	25	1	21.80	21.68	21.71
			50	0	1	21.81	21.66	21.69
		16QAM	1	0	1	22.20	22.00	21.83
			1	25	1	22.20	22.09	22.20
			1	49	1	22.01	21.95	21.96
			25	0	2	20.71	20.84	20.67
			25	12	2	20.66	20.90	20.78
			25	25	2	20.75	20.78	20.66
			50	0	2	20.87	20.69	20.66

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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	22.79	22.86	22.84
			1	37	0	22.90	23.20	22.73
			1	74	0	22.80	22.77	22.67
			36	0	1	21.83	21.78	21.75
			36	20	1	21.84	21.70	21.68
			36	39	1	21.76	21.63	21.63
			75	0	1	21.88	21.63	21.69
		16QAM	1	0	1	22.20	22.20	21.70
			1	37	1	22.20	22.20	21.83
			1	74	1	22.15	22.20	21.76
			36	0	2	20.83	20.68	20.73
			36	20	2	21.04	20.58	20.54
			36	39	2	20.88	20.62	20.60
			75	0	2	20.69	20.74	20.79

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	22.80	23.00	22.90
			1	49	0	23.10	23.10	22.90
			1	99	0	22.80	22.80	22.80
			50	0	1	22.10	22.00	22.00
			50	24	1	22.10	22.00	22.00
			50	50	1	22.00	22.00	22.00
			100	0	1	22.00	22.00	22.00
		16QAM	1	0	1	22.20	21.90	22.10
			1	49	1	22.10	22.00	21.80
			1	99	1	22.00	22.00	21.80
			50	0	2	21.10	21.00	21.10
			50	24	2	21.10	21.10	21.10
			50	50	2	21.00	21.20	21.00
			100	0	2	21.10	21.00	21.00

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LTE Band 4

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	23.89	24.09	24.21
			1	3	0	24.07	24.12	24.22
			1	5	0	24.11	24.08	24.10
			3	0	0	24.07	24.15	24.16
			3	1	0	23.98	24.12	24.17
			3	3	0	23.96	24.12	24.14
			6	0	1	23.05	23.04	23.11
		16QAM	1	0	1	23.26	23.35	23.47
			1	3	1	23.28	23.20	23.48
			1	5	1	23.27	23.06	23.34
			3	0	1	23.37	22.91	23.19
			3	1	1	23.21	22.94	23.30
			3	3	1	23.21	23.36	23.12
			6	0	2	21.87	22.20	22.21

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	24.06	24.31	24.36
			1	8	0	23.78	24.08	24.47
			1	14	0	23.84	24.07	24.32
			8	0	1	23.01	23.20	23.23
			8	4	1	22.89	23.00	23.22
			8	7	1	22.89	23.14	23.14
			15	0	1	22.90	23.04	23.18
		16QAM	1	0	1	23.11	23.18	23.37
			1	8	1	23.32	23.14	23.38
			1	14	1	23.21	23.13	23.47
			8	0	2	21.97	22.36	21.90
			8	4	2	22.12	22.36	22.14
			8	7	2	22.14	22.28	21.99
			15	0	2	21.97	22.26	22.18

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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	23.95	24.03	24.35
			1	12	0	24.41	24.15	24.18
			1	24	0	23.97	24.12	24.07
			12	0	1	22.92	23.05	23.17
			12	7	1	22.94	23.21	23.14
			12	13	1	22.93	23.15	23.18
			25	0	1	22.94	23.05	23.16
		16QAM	1	0	1	23.28	23.08	23.59
			1	12	1	23.05	22.87	23.15
			1	24	1	22.87	23.05	22.99
			12	0	2	22.02	22.04	22.25
			12	7	2	22.06	22.00	22.30
			12	13	2	22.09	22.15	22.46
			25	0	2	21.91	22.12	22.46

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	24.01	24.25	24.13
			1	25	0	23.99	24.40	24.18
			1	49	0	24.02	24.02	24.05
			25	0	1	23.06	23.19	23.19
			25	12	1	22.99	23.19	23.23
			25	25	1	23.05	23.09	23.15
			50	0	1	23.06	23.19	23.20
		16QAM	1	0	1	23.39	23.26	23.36
			1	25	1	23.53	23.21	23.60
			1	49	1	23.34	23.08	23.33
			25	0	2	22.20	22.30	22.25
			25	12	2	22.13	22.26	22.33
			25	25	2	22.02	21.89	22.12
			50	0	2	22.08	22.23	22.25

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Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20025	20175	20325
						1717.5 MHz	1732.5 MHz	1747.5 MHz
LTE Band 4	15	QPSK	1	0	0	24.31	24.25	24.30
			1	37	0	24.14	24.58	24.40
			1	74	0	24.00	24.11	24.20
			36	0	1	23.05	23.20	23.20
			36	20	1	23.05	23.18	23.20
			36	39	1	23.12	23.13	23.20
			75	0	1	22.99	23.13	23.20
		16QAM	1	0	1	23.56	23.60	23.40
			1	37	1	23.43	23.60	23.50
			1	74	1	23.39	23.60	23.40
			36	0	2	22.17	22.32	22.50
			36	20	2	22.21	22.15	22.30
			36	39	2	22.27	21.95	22.30
			75	0	2	22.10	22.19	22.10

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20050	20175	20300
						1720 MHz	1732.5 MHz	1745 MHz
LTE Band 4	20	QPSK	1	0	0		24.50	
			1	49	0		24.56	
			1	99	0		24.44	
			50	0	1		23.26	
			50	24	1		23.28	
			50	50	1		23.10	
			100	0	1		23.20	
		16QAM	1	0	1		23.00	
			1	49	1		23.10	
			1	99	1		22.90	
			50	0	2		22.33	
			50	24	2		22.15	
			50	50	2		22.06	
			100	0	2		22.25	

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LTE Band 5

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	23.82	23.85	24.05
			1	3	0	24.18	23.91	24.00
			1	5	0	24.10	23.77	23.92
			3	0	0	24.00	23.96	23.96
			3	1	0	23.93	24.07	23.89
			3	3	0	24.09	24.06	23.88
			6	0	1	23.00	22.94	22.92
		16QAM	1	0	1	23.30	23.13	23.40
			1	3	1	23.40	23.24	23.40
			1	5	1	23.31	23.12	23.40
			3	0	1	22.98	22.92	23.21
			3	1	1	22.87	22.89	23.25
			3	3	1	22.99	22.78	23.23
			6	0	2	21.69	21.89	21.95

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	23.90	23.99	23.90
			1	8	0	23.93	24.01	23.96
			1	14	0	23.81	23.96	23.86
			8	0	1	22.96	22.86	23.00
			8	4	1	22.92	22.90	22.97
			8	7	1	22.92	22.87	23.06
			15	0	1	22.95	22.93	22.92
		16QAM	1	0	1	23.25	23.37	23.20
			1	8	1	23.33	23.34	23.13
			1	14	1	23.19	23.38	23.23
			8	0	2	22.15	22.17	21.74
			8	4	2	22.11	22.13	21.75
			8	7	2	22.12	21.82	22.00
			15	0	2	21.91	21.81	21.99

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Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20425	20525	20625
						826.5 MHz	836.5 MHz	846.5 MHz
LTE Band 5	5	QPSK	1	0	0	23.95	23.71	23.97
			1	12	0	24.10	23.98	23.91
			1	24	0	23.88	23.83	24.03
			12	0	1	22.94	22.96	22.79
			12	7	1	22.98	22.91	22.92
			12	13	1	22.93	22.84	22.92
			25	0	1	23.02	22.91	22.91
		16QAM	1	0	1	23.29	22.81	23.39
			1	12	1	23.07	22.58	22.93
			1	24	1	23.20	22.77	22.79
			12	0	2	22.10	21.97	21.96
			12	7	2	21.95	21.94	21.93
			12	13	2	21.91	21.98	22.01
			25	0	2	22.10	22.08	21.99

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20450	20525	20600
						829 MHz	836.5 MHz	844 MHz
LTE Band 5	10	QPSK	1	0	0		24.00	
			1	25	0		24.20	
			1	49	0		23.90	
			25	0	1		23.00	
			25	12	1		22.90	
			25	25	1		23.00	
			50	0	1		22.90	
		16QAM	1	0	1		23.20	
			1	25	1		23.20	
			1	49	1		22.80	
			25	0	2		22.00	
			25	12	2		22.00	
			25	25	2		22.30	
			50	0	2		22.10	

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LTE Band 12

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	24.10	24.13	24.19
			1	3	0	24.09	24.24	24.27
			1	5	0	24.09	24.07	24.09
			3	0	0	23.90	24.17	24.27
			3	1	0	23.95	24.31	24.23
			3	3	0	23.90	24.06	24.25
			6	0	1	22.95	23.04	23.31
		16QAM	1	0	1	23.40	23.40	23.40
			1	3	1	23.40	23.40	23.40
			1	5	1	23.40	23.40	23.24
			3	0	1	23.18	23.10	23.14
			3	1	1	23.18	23.14	23.20
			3	3	1	23.17	23.13	22.98
			6	0	2	22.13	21.81	22.07

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	24.18	24.30	24.10
			1	8	0	24.08	24.23	24.19
			1	14	0	24.14	24.14	24.05
			8	0	1	23.01	23.22	23.19
			8	4	1	23.00	23.03	23.11
			8	7	1	23.03	23.07	23.18
			15	0	1	23.06	23.17	23.19
		16QAM	1	0	1	22.83	23.14	23.40
			1	8	1	23.40	22.99	23.40
			1	14	1	23.24	23.39	23.17
			8	0	2	22.09	22.28	22.20
			8	4	2	22.11	22.19	22.15
			8	7	2	22.31	22.25	22.24
			15	0	2	22.01	22.09	22.31

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Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23035	23095	23155
						701.5 MHz	707.5 MHz	713.5 MHz
LTE Band 12	5	QPSK	1	0	0	24.08	24.10	24.18
			1	12	0	24.40	24.30	24.08
			1	24	0	24.18	24.10	24.14
			12	0	1	22.96	23.10	23.01
			12	7	1	23.10	23.00	23.00
			12	13	1	22.98	22.90	23.03
			25	0	1	23.01	23.10	23.06
		16QAM	1	0	1	23.06	23.00	22.83
			1	12	1	23.40	23.20	23.40
			1	24	1	23.40	23.00	23.24
			12	0	2	22.04	22.10	22.09
			12	7	2	22.18	22.00	22.11
			12	13	2	22.11	22.00	22.31
			25	0	2	22.08	22.10	22.01

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23060	23095	23130
						704 MHz	707.5 MHz	711 MHz
LTE Band 12	10	QPSK	1	0	0		24.10	
			1	25	0		24.30	
			1	49	0		24.10	
			25	0	1		23.10	
			25	12	1		23.00	
			25	25	1		22.90	
			50	0	1		23.10	
		16QAM	1	0	1		23.00	
			1	25	1		23.20	
			1	49	1		23.00	
			25	0	2		22.10	
			25	12	2		22.00	
			25	25	2		22.00	
			50	0	2		22.10	

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LTE Band 17

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm) 23790 710 MHz
LTE Band 17	5	QPSK	1	0	0	23.80
			1	12	0	23.80
			1	24	0	23.60
			12	0	1	22.80
			12	7	1	22.80
			12	13	1	22.80
			25	0	1	22.70
		16QAM	1	0	1	23.00
			1	12	1	23.00
			1	24	1	22.80
			12	0	2	21.70
			12	7	2	21.70
			12	13	2	21.60
			25	0	2	21.80
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm) 23790 710 MHz
LTE Band 17	10	QPSK	1	0	0	24.10
			1	25	0	24.20
			1	42	0	24.00
			25	0	1	22.90
			25	12	1	22.80
			25	25	1	22.80
			50	0	1	22.70
		16QAM	1	0	1	23.10
			1	25	1	22.90
			1	42	1	22.80
			25	0	2	22.00
			25	12	2	22.00
			25	25	2	21.80
			50	0	2	21.70

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LTE Band 25

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	22.47	22.61	22.61
			1	3	0	22.38	22.61	22.91
			1	5	0	22.41	22.42	22.89
			3	0	0	22.61	22.80	22.85
			3	1	0	22.64	22.67	22.85
			3	3	0	22.66	22.73	22.91
			6	0	1	21.53	21.68	21.83
		16QAM	1	0	1	21.83	22.20	22.20
			1	3	1	21.60	22.20	22.20
			1	5	1	21.74	22.20	22.15
			3	0	1	21.65	21.83	21.44
			3	1	1	21.53	21.87	21.54
			3	3	1	21.56	21.88	22.02
			6	0	2	20.73	20.83	20.90

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	22.48	22.82	22.73
			1	8	0	22.44	22.81	22.80
			1	14	0	22.47	22.85	22.71
			8	0	1	21.57	21.73	21.74
			8	4	1	21.65	21.77	21.79
			8	7	1	21.63	21.68	21.75
			15	0	1	21.65	21.70	21.76
		16QAM	1	0	1	21.94	21.64	22.15
			1	8	1	21.99	21.57	21.91
			1	14	1	21.93	21.60	21.92
			8	0	2	20.91	20.85	20.39
			8	4	2	20.89	20.99	20.45
			8	7	2	20.98	20.90	20.43
			15	0	2	20.64	20.84	20.80

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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	22.63	22.56	22.54
			1	12	0	22.59	22.87	22.71
			1	24	0	22.49	22.55	22.62
			12	0	1	21.67	21.74	21.69
			12	7	1	21.73	21.67	21.66
			12	13	1	21.76	21.73	21.72
			25	0	1	21.71	21.73	21.69
		16QAM	1	0	1	21.86	21.47	21.45
			1	12	1	21.29	21.69	21.25
			1	24	1	21.50	22.03	21.34
			12	0	2	20.64	20.64	20.54
			12	7	2	20.65	20.51	20.64
			12	13	2	20.77	20.69	20.80
			25	0	2	20.95	20.71	20.84

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	22.64	22.87	22.91
			1	25	0	22.53	22.81	22.84
			1	49	0	22.73	22.57	22.74
			25	0	1	21.72	21.72	21.64
			25	12	1	21.73	21.80	21.74
			25	25	1	21.73	21.73	21.66
			50	0	1	21.67	21.74	21.68
		16QAM	1	0	1	22.05	21.99	22.19
			1	25	1	22.06	22.20	22.20
			1	49	1	21.99	22.20	21.88
			25	0	2	21.06	20.62	20.63
			25	12	2	20.88	20.70	20.56
			25	25	2	20.87	20.63	20.58
			50	0	2	20.75	20.75	20.80

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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	22.73	22.85	22.71
			1	37	0	22.73	22.88	22.72
			1	74	0	22.74	22.67	22.67
			36	0	1	21.77	21.72	21.72
			36	20	1	21.77	21.80	21.69
			36	39	1	21.79	21.69	21.62
			75	0	1	21.72	21.66	21.65
		16QAM	1	0	1	22.20	22.01	22.14
			1	37	1	22.20	22.20	22.02
			1	74	1	22.20	22.19	22.06
			36	0	2	20.74	20.77	20.84
			36	20	2	20.71	20.78	20.84
			36	39	2	20.64	20.58	20.78
			75	0	2	20.79	20.75	20.79

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	22.90	22.80	22.80
			1	49	0	22.80	22.50	23.00
			1	99	0	22.60	22.50	22.80
			50	0	1	21.40	21.50	21.30
			50	24	1	21.40	21.30	21.30
			50	50	1	21.40	21.20	21.30
			100	0	1	21.40	21.20	21.40
		16QAM	1	0	1	22.00	22.00	21.70
			1	49	1	22.10	22.10	21.90
			1	99	1	21.70	21.70	21.70
			50	0	2	20.40	20.70	20.50
			50	24	2	20.40	20.40	20.20
			50	50	2	20.50	20.40	20.20
			100	0	2	20.30	20.30	20.40

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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.

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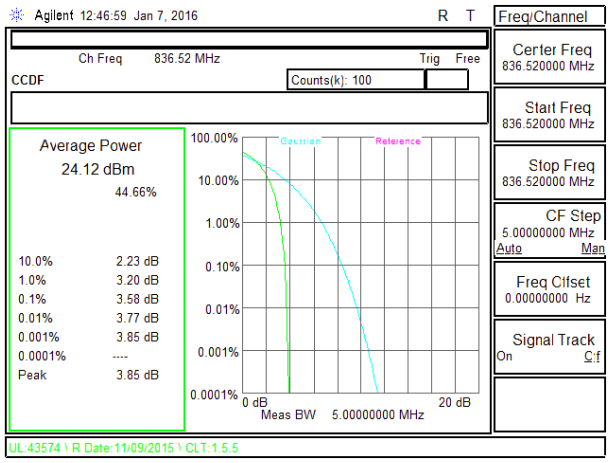
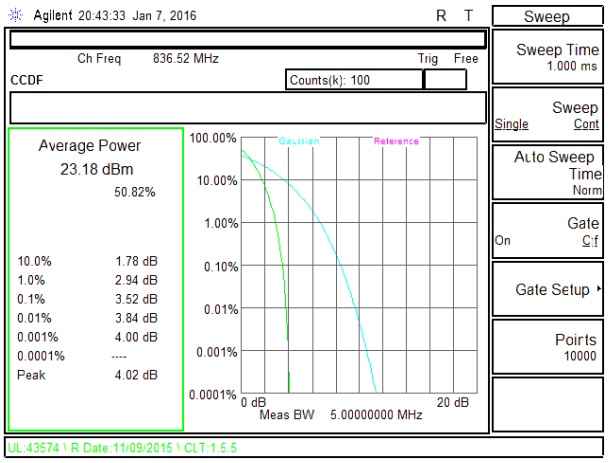
9.1. CONDUCTED PEAK TO AVERAGE RESULT

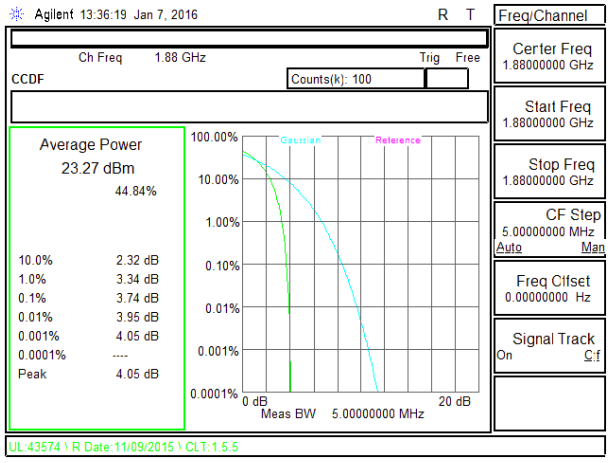
CDMA



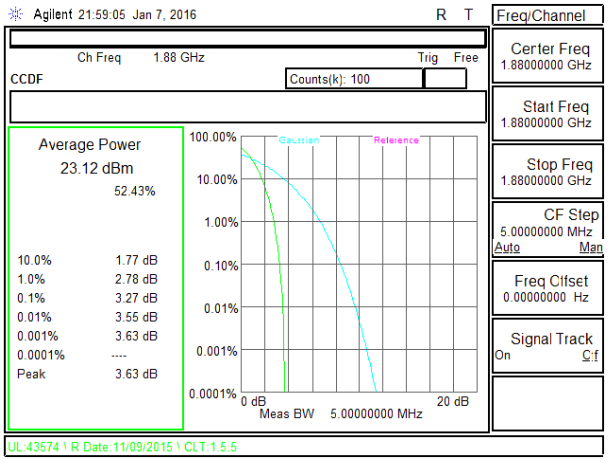
BC0 1xRTT Middle Channel



BC0 EVDO Rel.0 Middle Channel



BC1 1xRTT Middle Channel



BC1 EVDO Rel.0 Middle Channel

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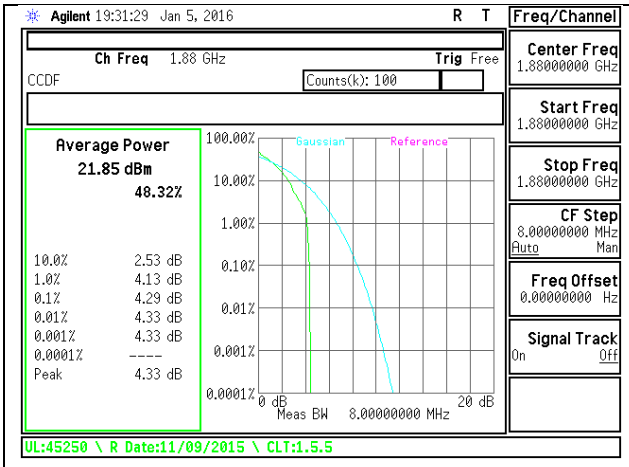
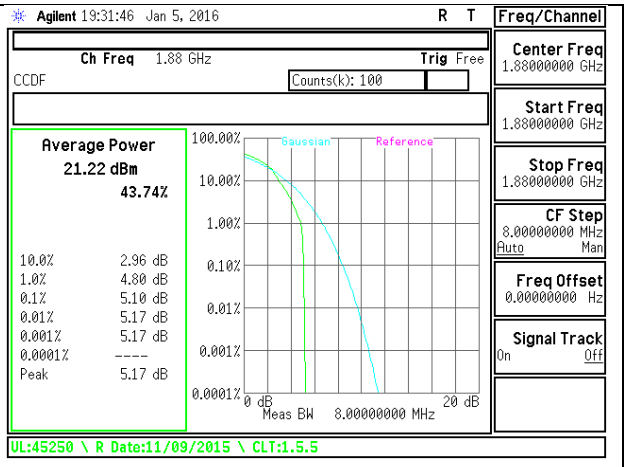
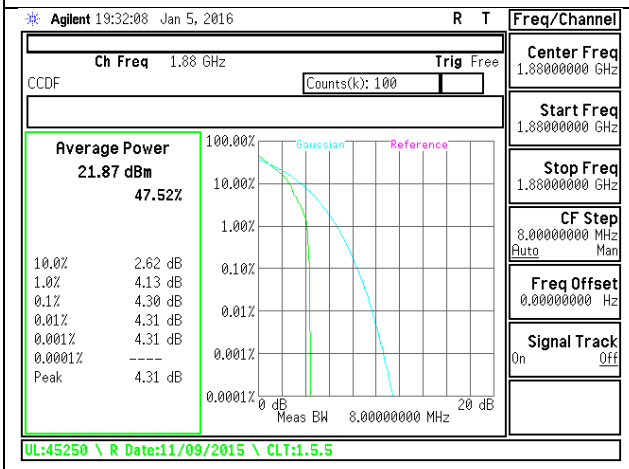
LTE Band 2



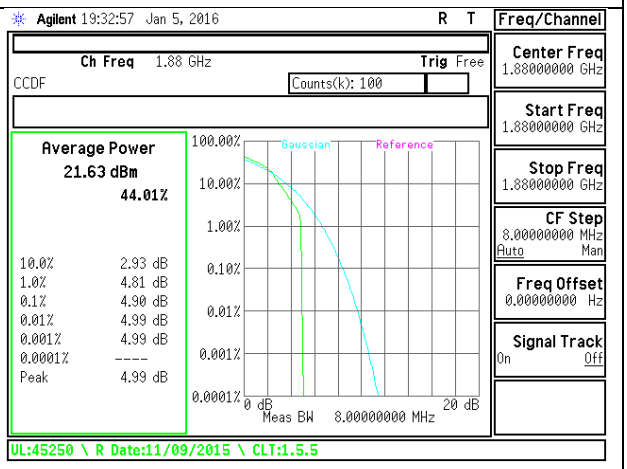
LTE B2 1.4MHz QPSK Middle Channel



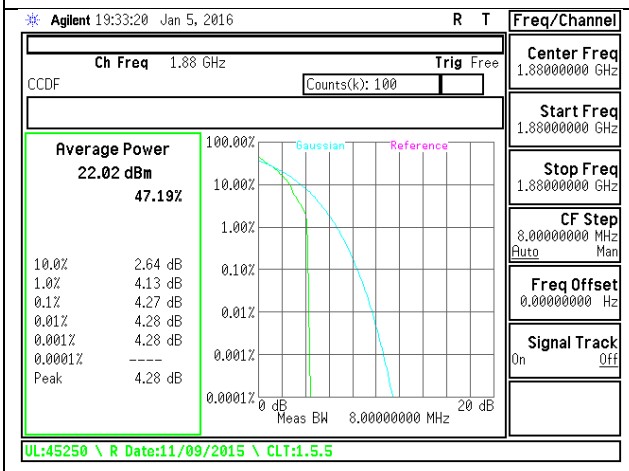
LTE B2 1.4MHz 16QAM Middle Channel



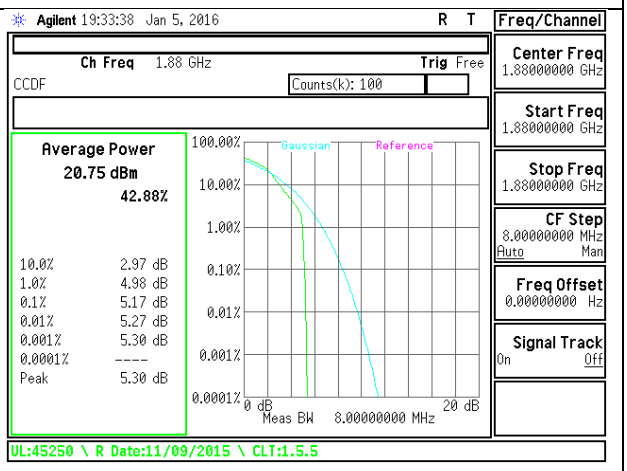
LTE B2 3MHz QPSK Middle Channel



LTE B2 3MHz 16QAM Middle Channel



LTE B2 5MHz QPSK Middle Channel



LTE B2 5MHz 16QAM Middle Channel

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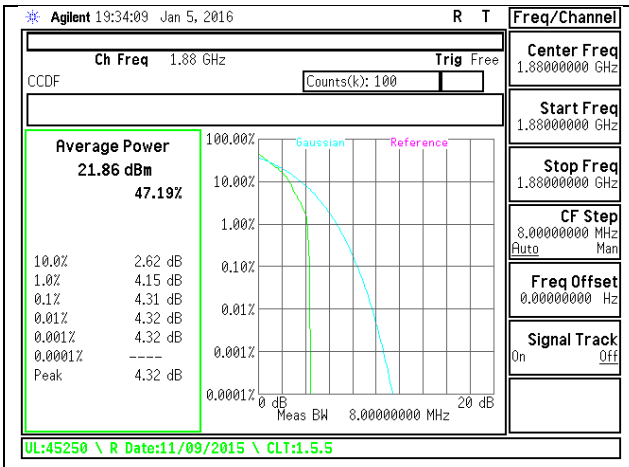
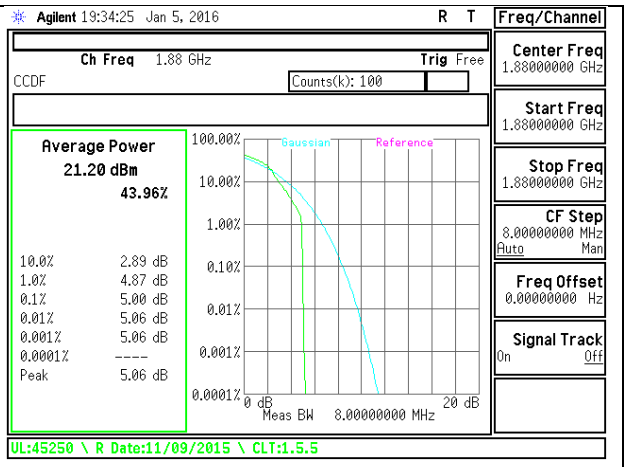
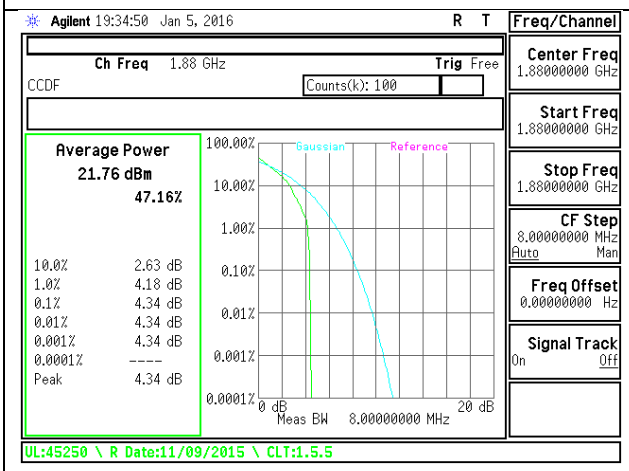


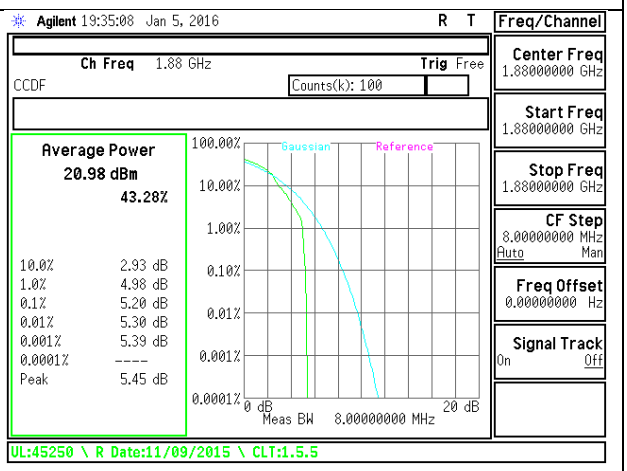
LTE B2 10MHz QPSK Middle Channel



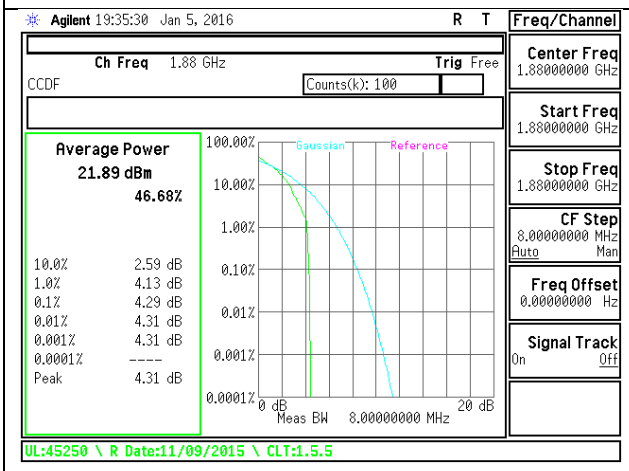
LTE B2 10MHz 16QAM Middle Channel



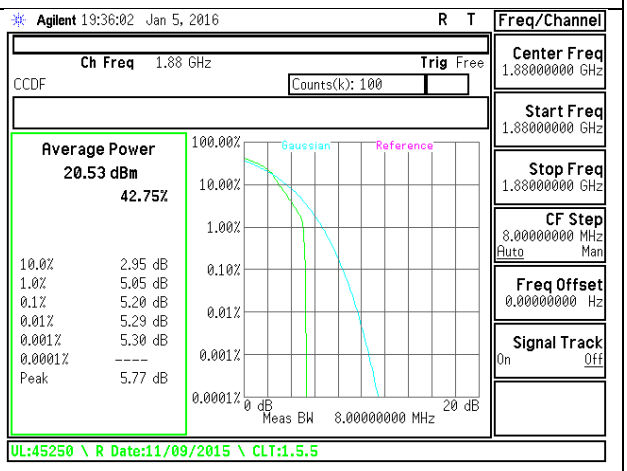
LTE B2 15MHz QPSK Middle Channel



LTE B2 15MHz 16QAM Middle Channel



LTE B2 20MHz QPSK Middle Channel



LTE B2 20MHz 16QAM Middle Channel

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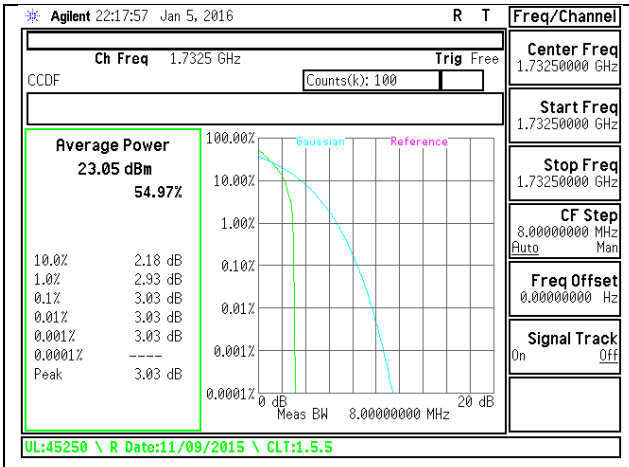
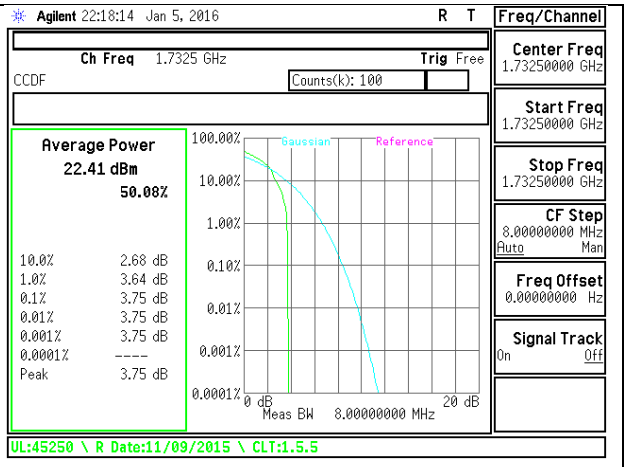
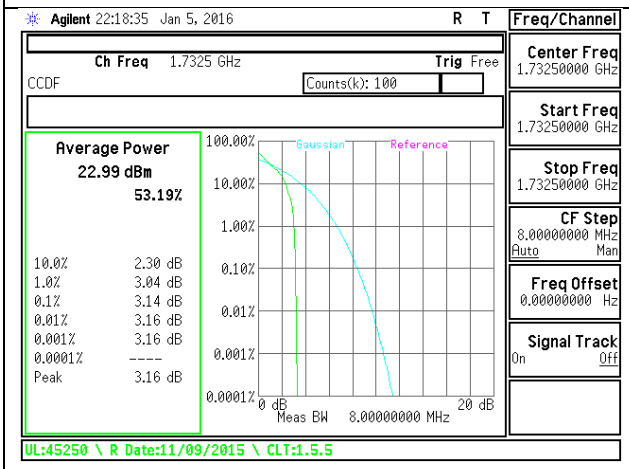
LTE Band 4



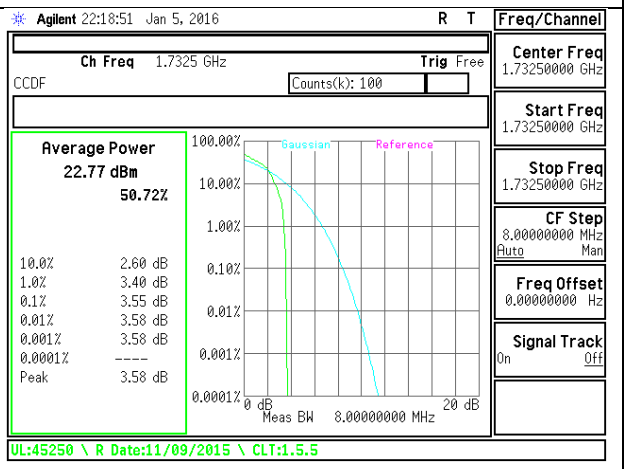
LTE B4 1.4MHz QPSK Middle Channel



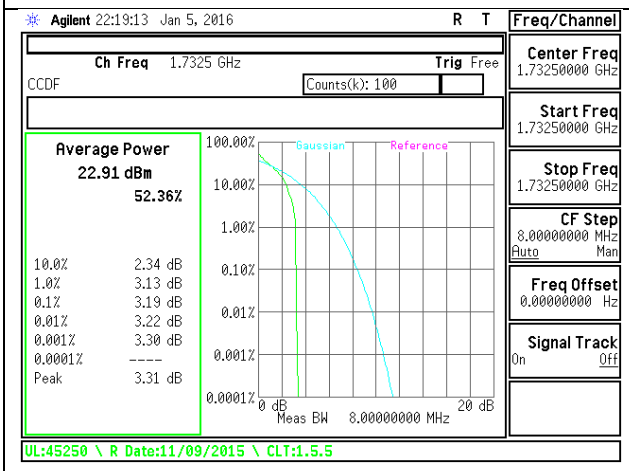
LTE B4 1.4MHz 16QAM Middle Channel



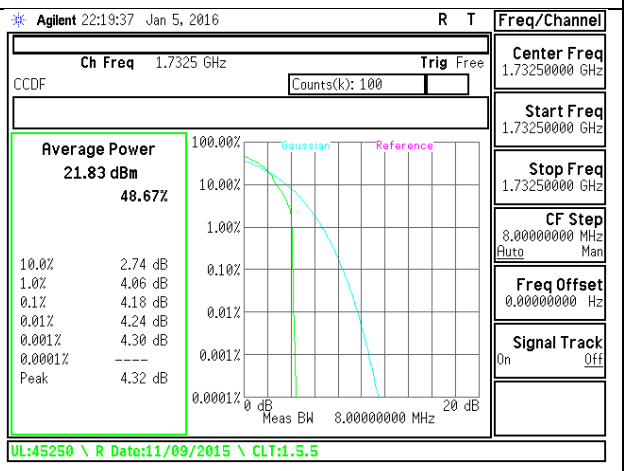
LTE B4 3MHz QPSK Middle Channel



LTE B4 3MHz 16QAM Middle Channel



LTE B4 5MHz QPSK Middle Channel



LTE B4 5MHz 16QAM Middle Channel

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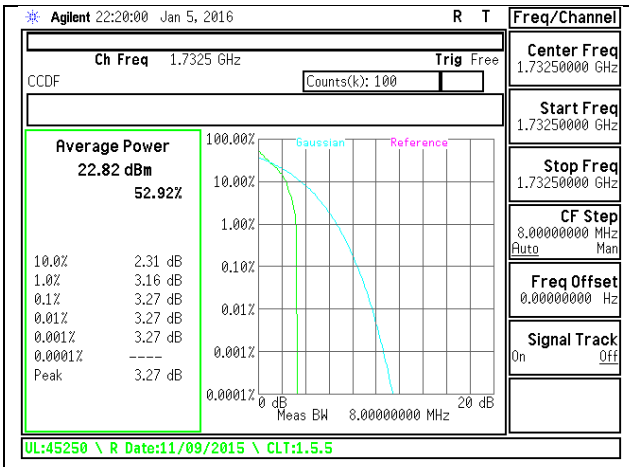
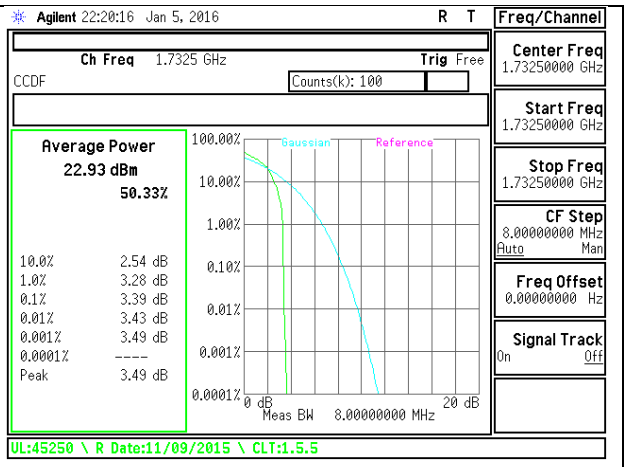
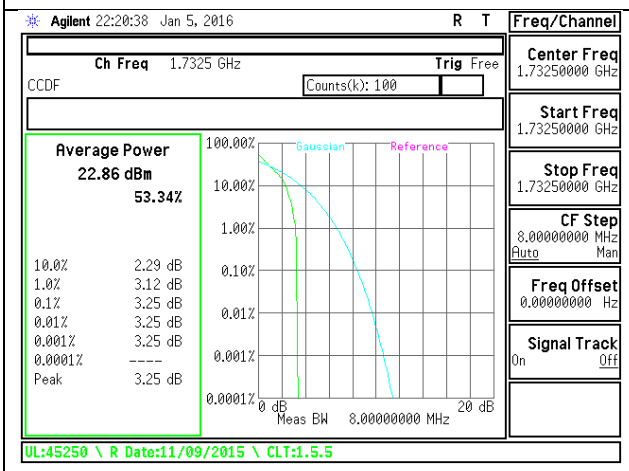


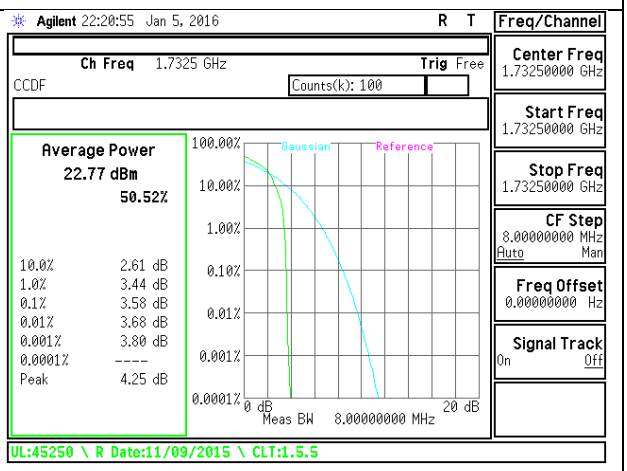
LTE B4 10MHz QPSK Middle Channel



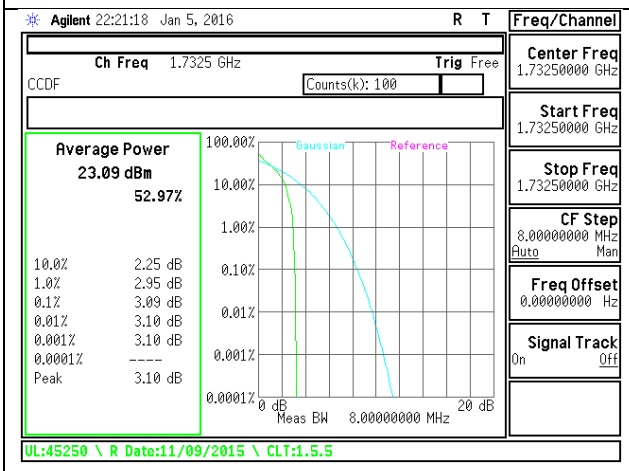
LTE B4 10MHz 16QAM Middle Channel



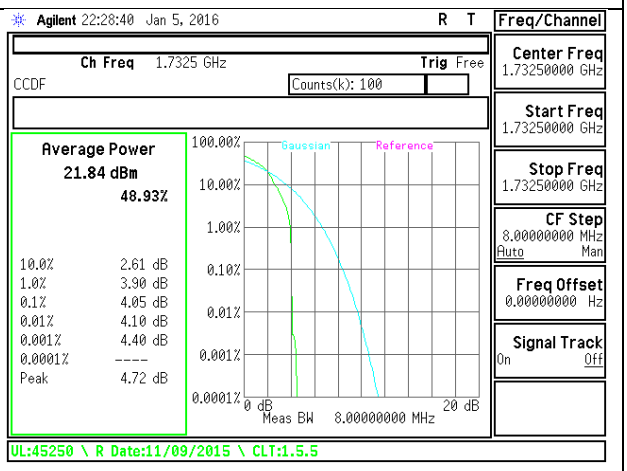
LTE B4 15MHz QPSK Middle Channel



LTE B4 15MHz 16QAM Middle Channel



LTE B4 20MHz QPSK Middle Channel



LTE B4 20MHz 16QAM Middle Channel

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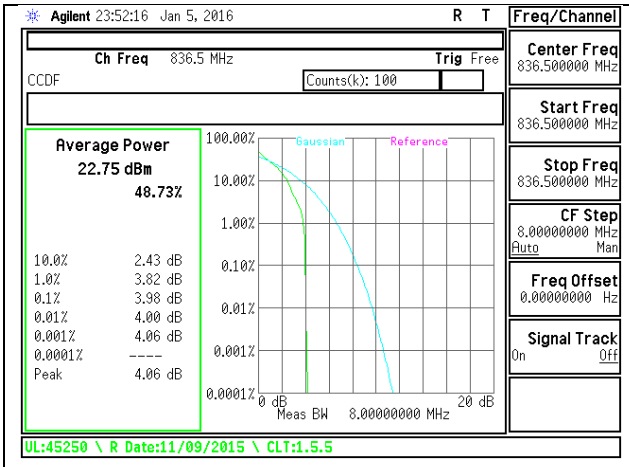
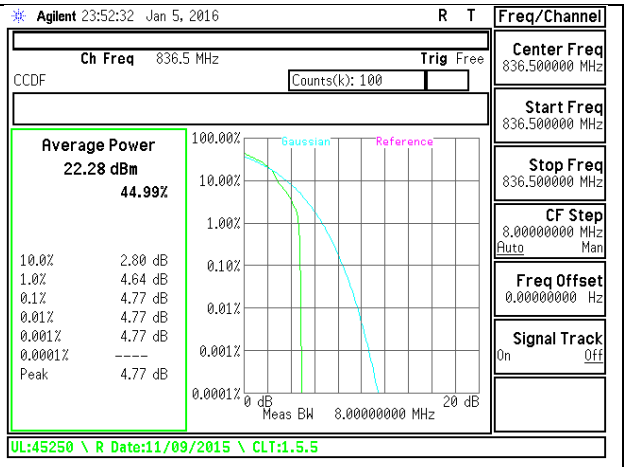
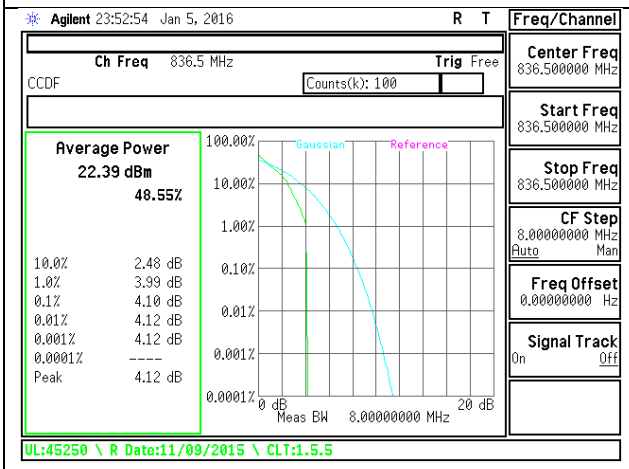
LTE Band 5



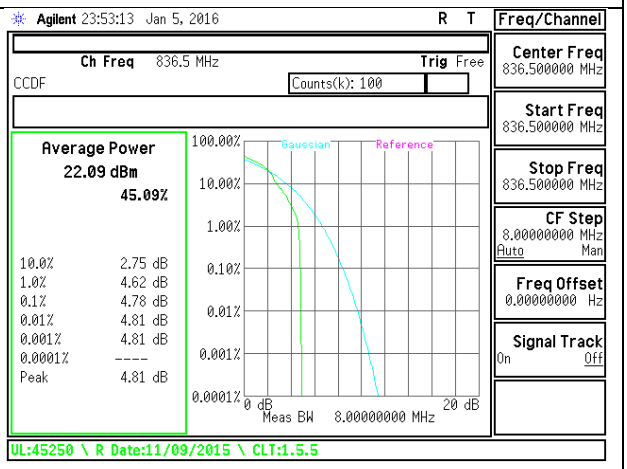
LTE B5 1.4MHz QPSK Middle Channel



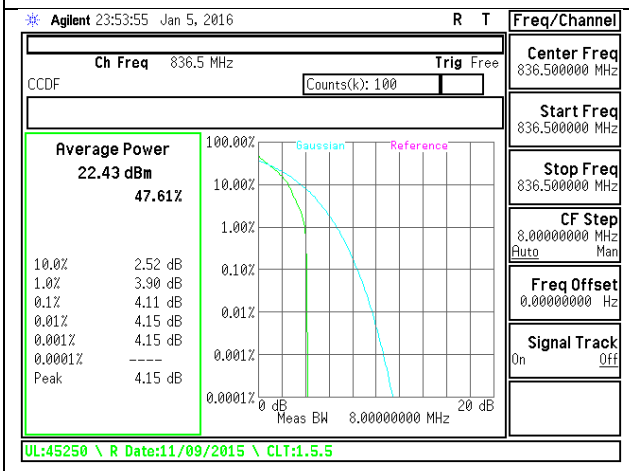
LTE B5 1.4MHz 16QAM Middle Channel



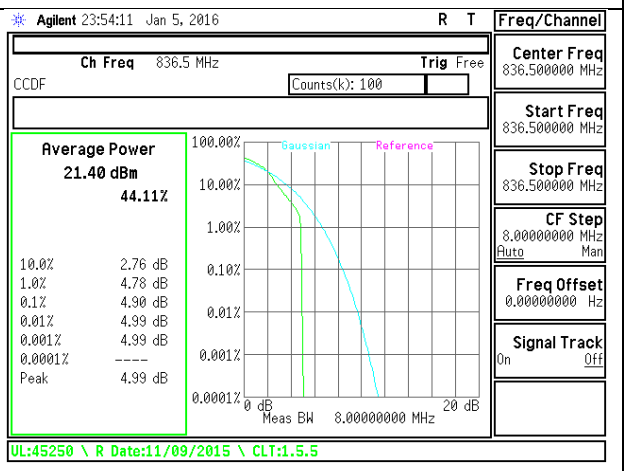
LTE B5 3MHz QPSK Middle Channel



LTE B5 3MHz 16QAM Middle Channel



LTE B5 5MHz QPSK Middle Channel



LTE B5 5MHz 16QAM Middle Channel

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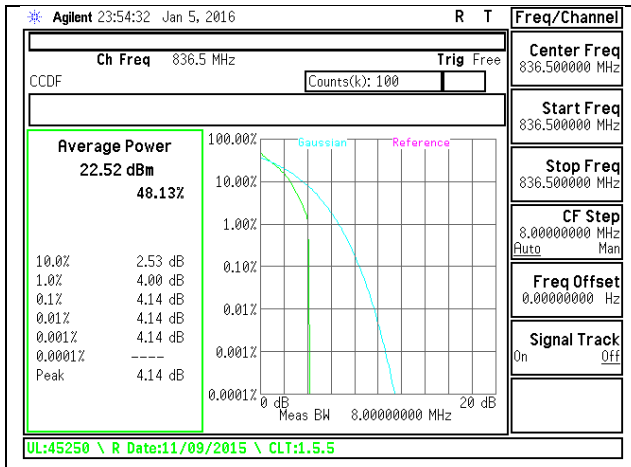
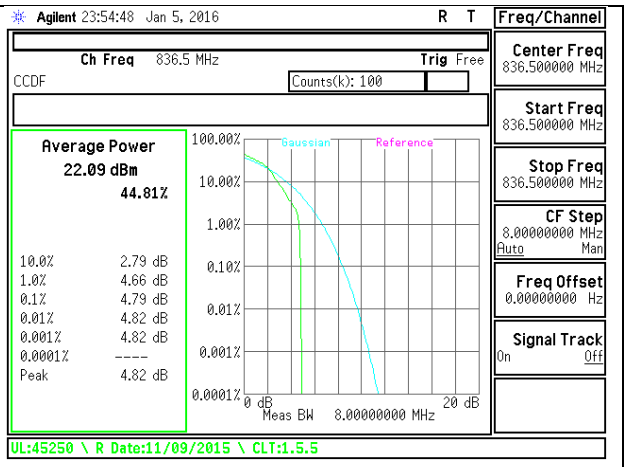


LTE B5 10MHz QPSK Middle Channel



LTE B5 10MHz 16QAM Middle Channel

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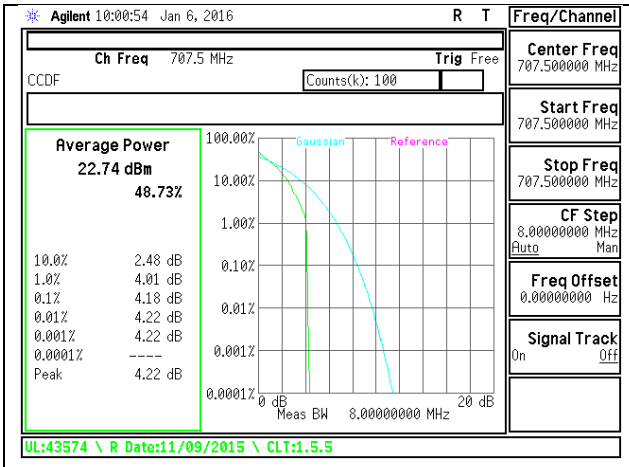
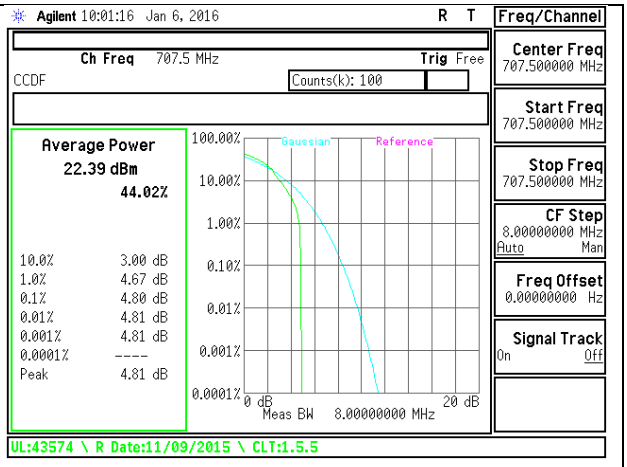
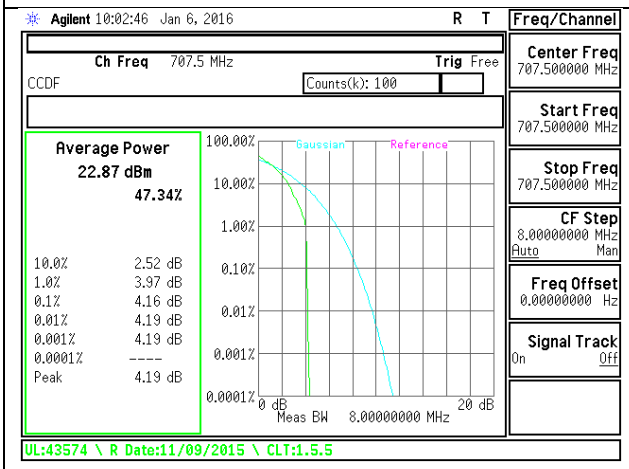
LTE Band 12



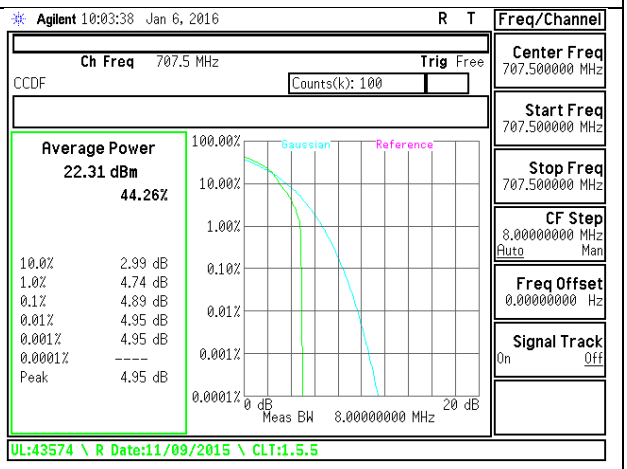
LTE B12 1.4MHz QPSK Middle Channel



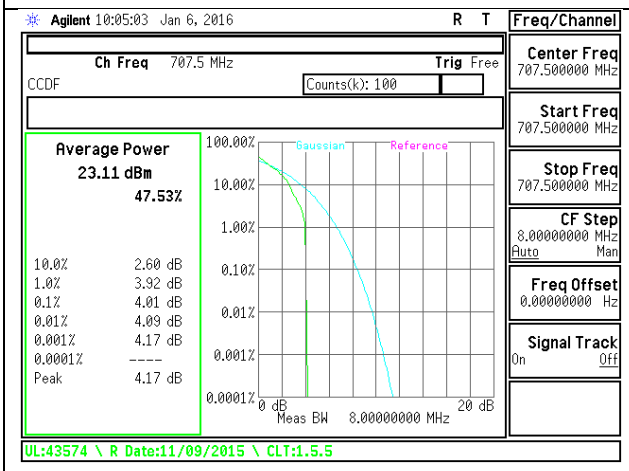
LTE B12 1.4MHz 16QAM Middle Channel



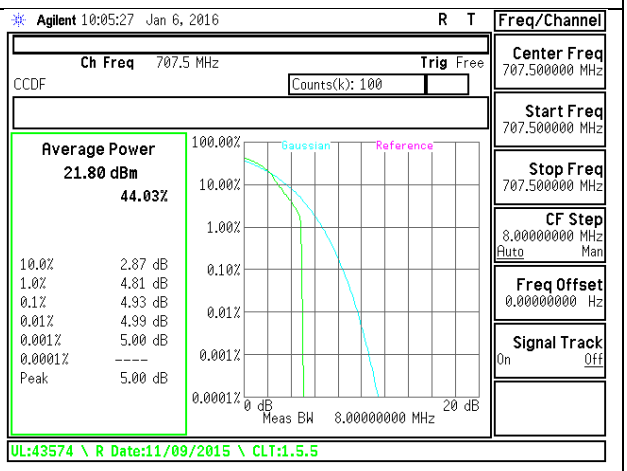
LTE B12 3MHz QPSK Middle Channel



LTE B12 3MHz 16QAM Middle Channel



LTE B12 5MHz QPSK Middle Channel



LTE B12 5MHz 16QAM Middle Channel

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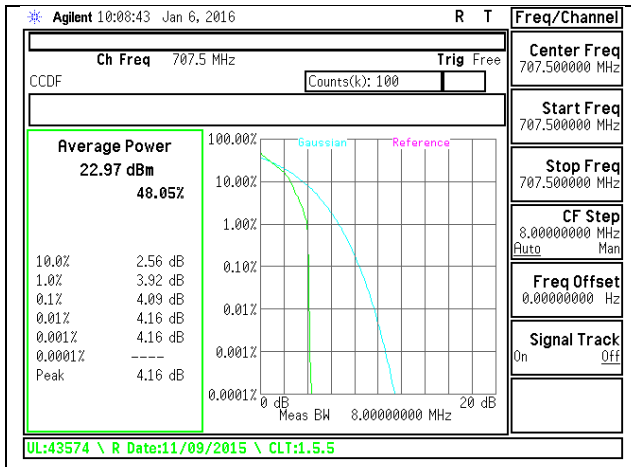
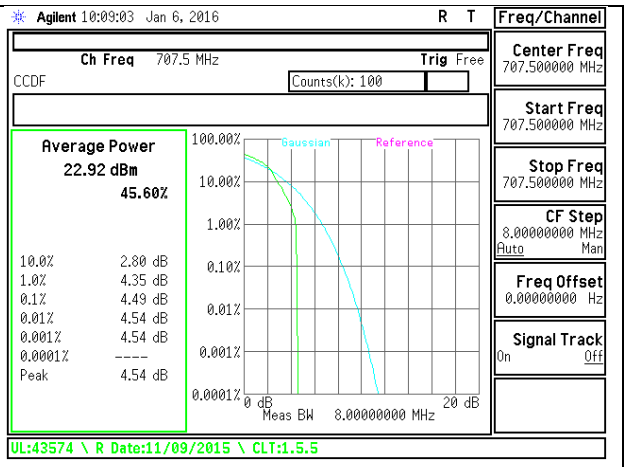


LTE B12 10MHz QPSK Middle Channel



LTE B12 10MHz 16QAM Middle Channel

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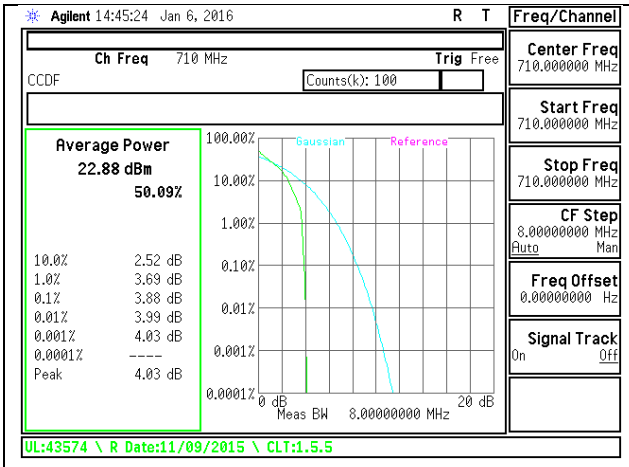
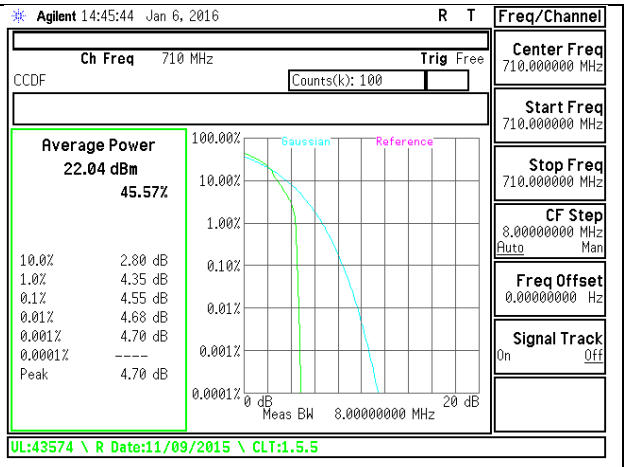
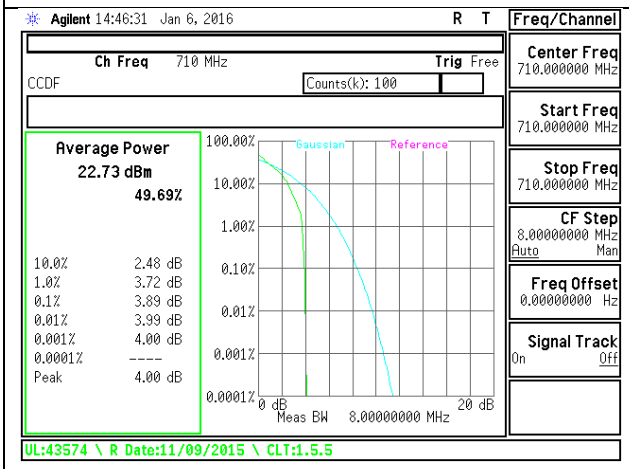
LTE Band 17



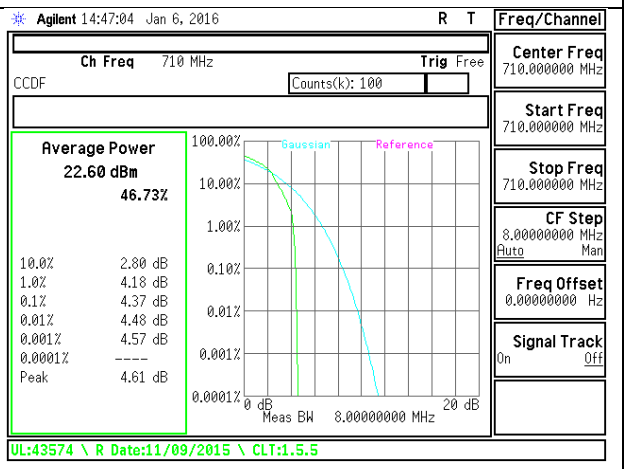
LTE B17 5MHz QPSK Middle Channel



LTE B17 5MHz 16QAM Middle Channel



LTE B17 10MHz QPSK Middle Channel



LTE B17 10MHz 16QAM Middle Channel

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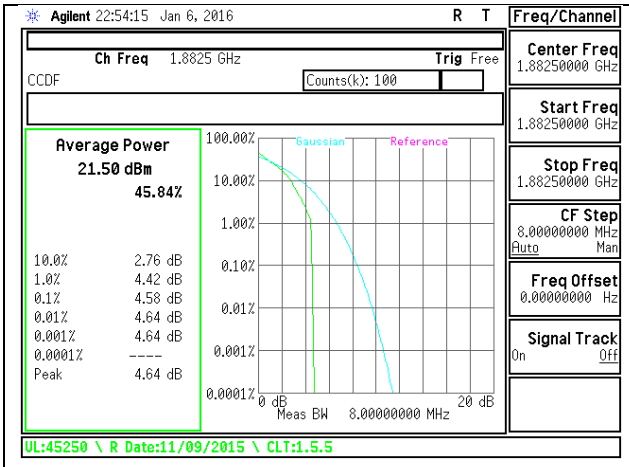
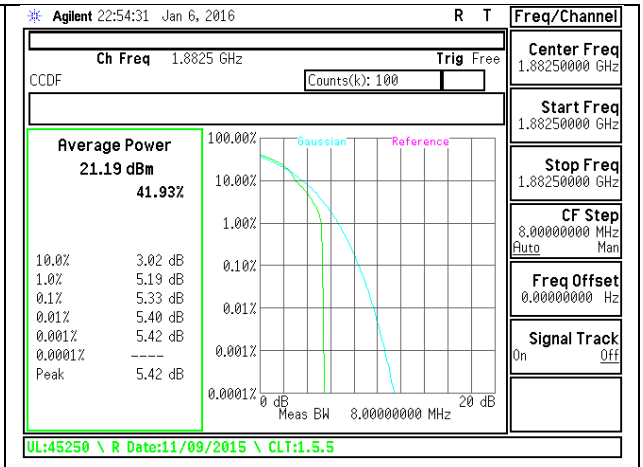
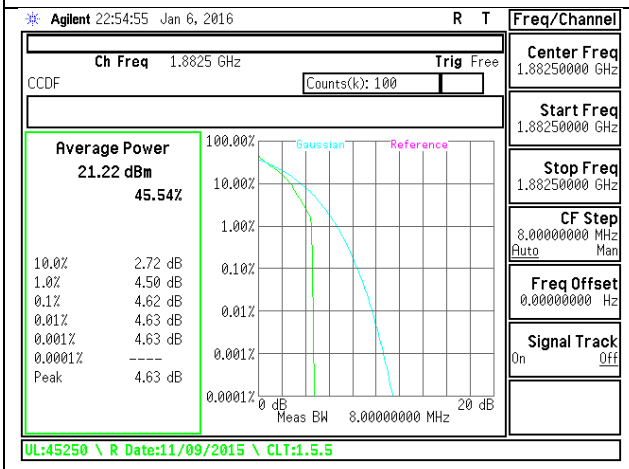
LTE Band 25



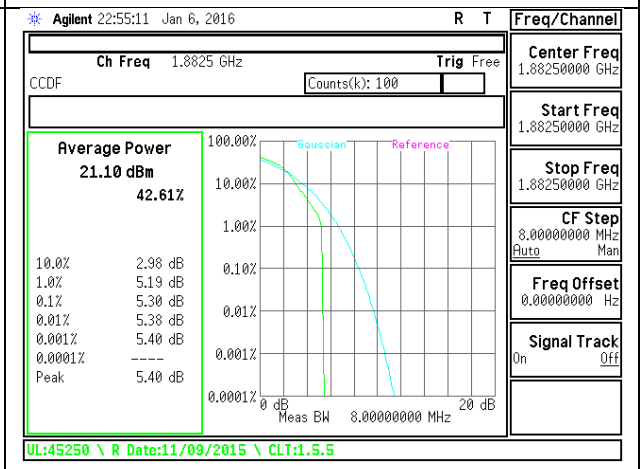
LTE B25 1.4MHz QPSK Middle Channel



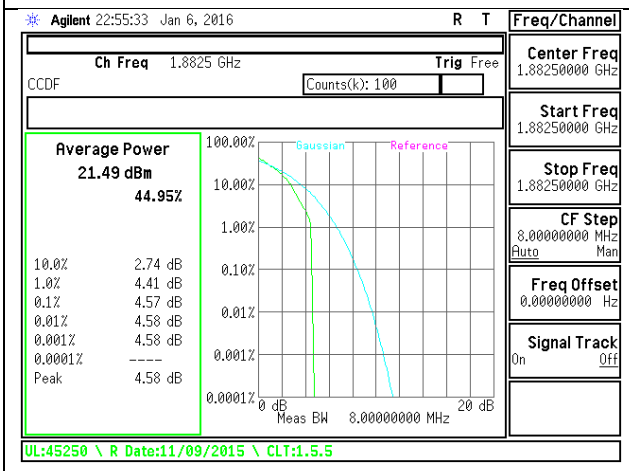
LTE B25 1.4MHz 16QAM Middle Channel



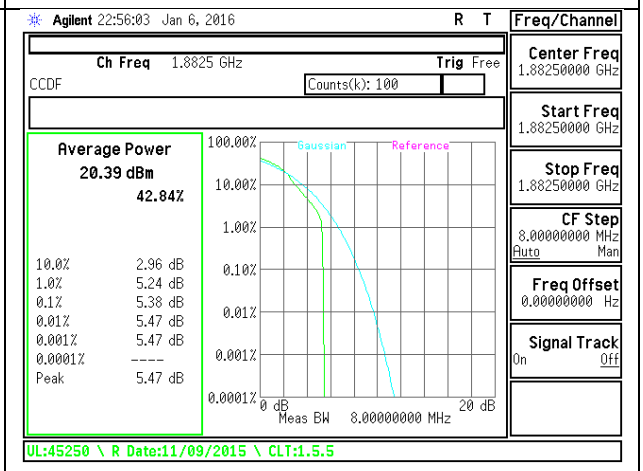
LTE B25 3MHz QPSK Middle Channel



LTE B25 3MHz 16QAM Middle Channel



LTE B25 5MHz QPSK Middle Channel



LTE B25 5MHz 16QAM Middle Channel

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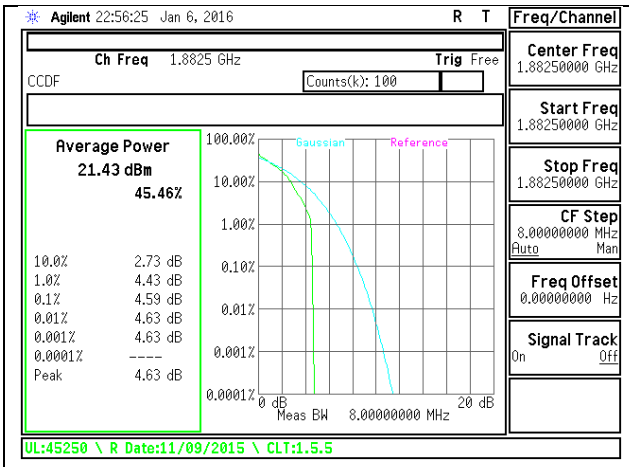
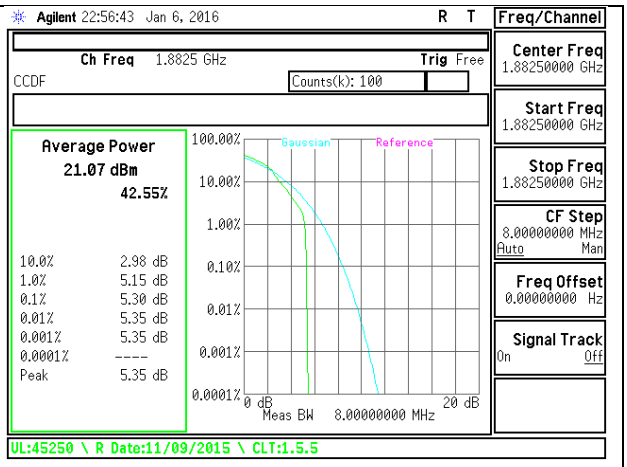
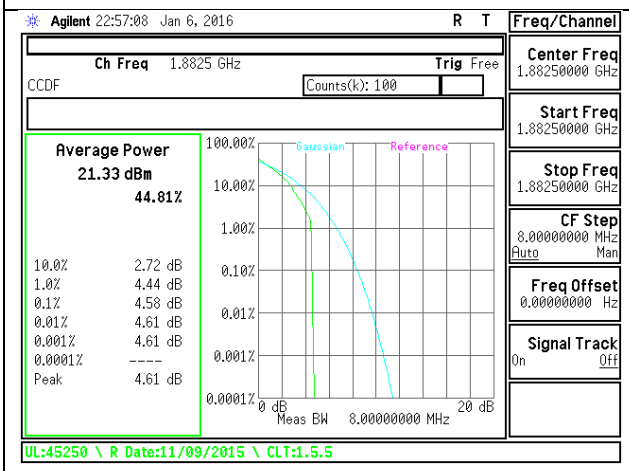


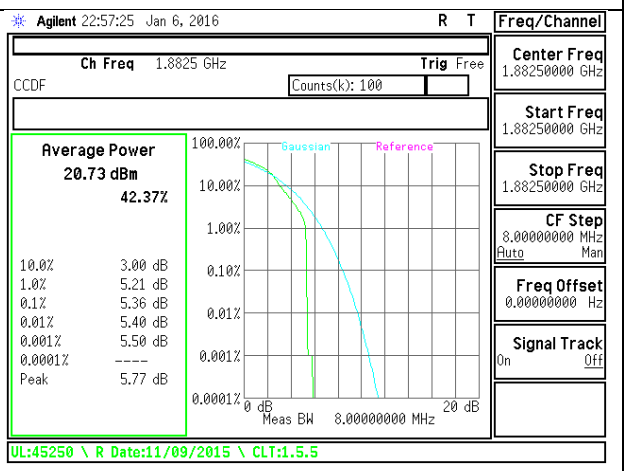
LTE B25 10MHz QPSK Middle Channel



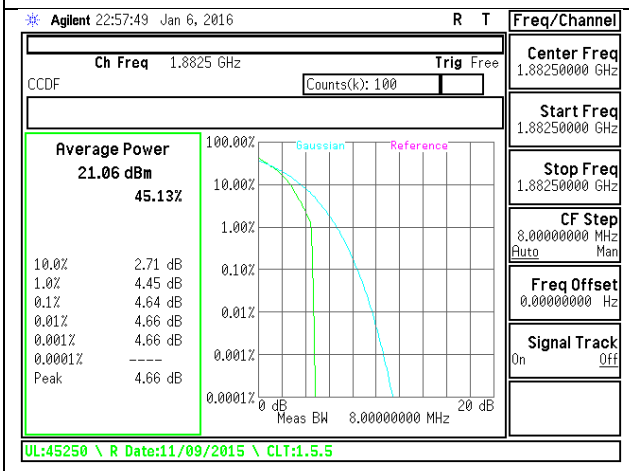
LTE B25 10MHz 16QAM Middle Channel



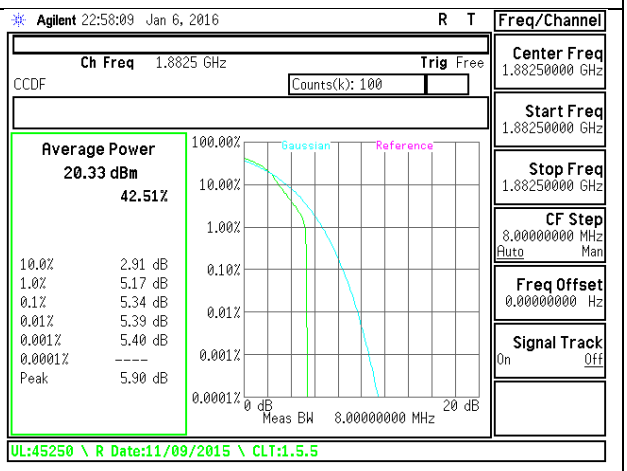
LTE B25 15MHz QPSK Middle Channel



LTE B25 15MHz 16QAM Middle Channel



LTE B25 20MHz QPSK Middle Channel



LTE B25 20MHz 16QAM Middle Channel

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10. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

(KDB 971168 D01 Power Meas License Digital Systems v02r02)

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10.1. OCCUPIED BANDWIDTH RESULTS AND PLOTS

CDMA

Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB (MHz)
BC0	1xRTT	1013	824.7	1.2774	1.442
		384	836.52	1.2750	1.438
		777	848.31	1.2866	1.2866
	EVDO REL. 0	1013	824.7	1.2697	1.428
		384	836.52	1.2750	1.438
		777	848.31	1.2682	1.417
BC1	1xRTT	25	1851.25	1.2805	1.450
		600	1880.0	1.2845	1.446
		1175	1908.75	1.2813	1.439
	EVDO REL. 0	25	1851.25	1.2748	1.431
		600	1880.0	1.2726	1.441
		1175	1908.75	1.2714	1.444

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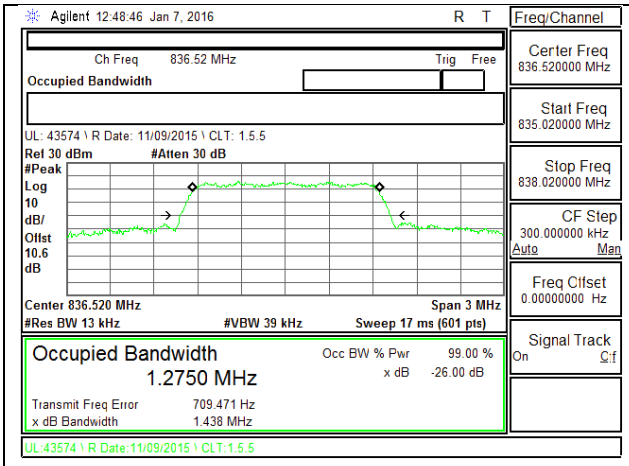
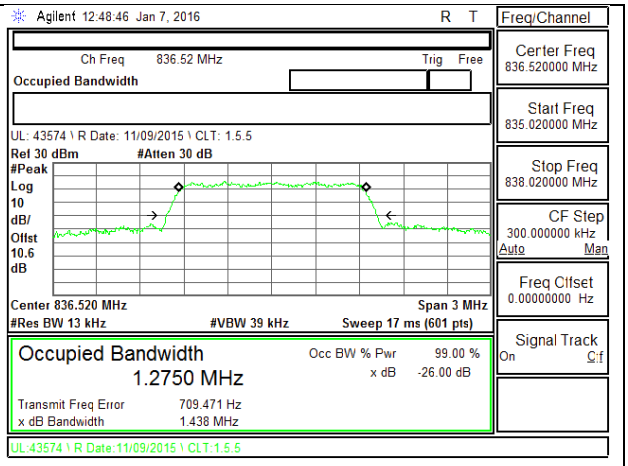
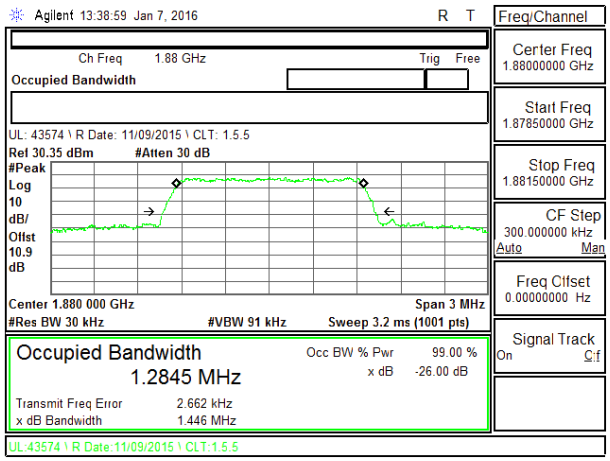


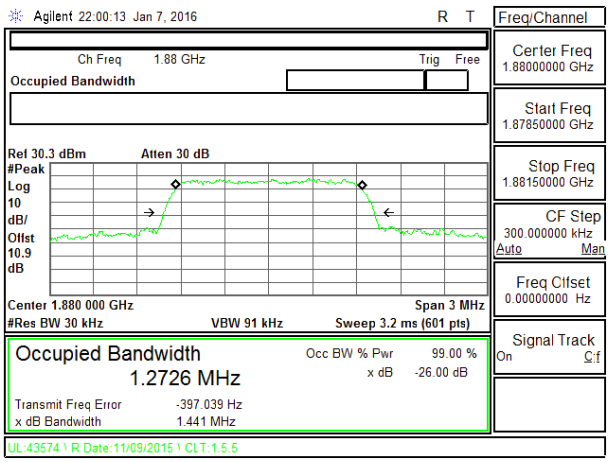
BC0 1xRTT Middle Channel



BC0 EVDO Rel.0 Middle Channel



BC1 1xRTT Middle Channel



BC1 EVDO Rel.0 Middle Channel

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LTE Band 2

BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
1.4	QPSK	6/0	1850.7	1.089	1.315
		6/0	1880	1.089	1.331
		6/0	1909.3	1.081	1.268
	16QAM	6/0	1850.7	1.089	1.353
		6/0	1880	1.085	1.315
		6/0	1909.3	1.09	1.258
3	QPSK	15/0	1851.5	2.686	2.978
		15/0	1880	2.686	2.953
		15/0	1908.5	2.69	2.956
	16QAM	15/0	1851.5	2.688	2.988
		15/0	1880	2.69	2.958
		15/0	1908.5	2.687	2.987
5	QPSK	25/0	1852.5	4.504	4.948
		25/0	1880	4.507	4.927
		25/0	1907.5	4.514	4.933
	16QAM	25/0	1852.5	4.501	4.979
		25/0	1880	4.496	4.980
		25/0	1907.5	4.502	4.990
10	QPSK	50/0	1855	8.94	9.884
		50/0	1880	8.959	9.751
		50/0	1905	8.946	9.806
	16QAM	50/0	1855	8.947	9.813
		50/0	1880	8.935	9.868
		50/0	1905	8.974	9.791
15	QPSK	75/0	1857.5	13.421	14.630
		75/0	1880	13.387	14.574
		75/0	1902.5	13.402	14.461
	16QAM	75/0	1857.5	13.135	14.508
		75/0	1880	13.415	14.576
		75/0	1902.5	13.411	14.503
20	QPSK	100/0	1860	17.910	19.038
		100/0	1880	17.862	19.351
		100/0	1900	17.844	19.269
	16QAM	100/0	1860	17.854	19.030
		100/0	1880	17.870	19.228
		100/0	1900	17.856	19.234

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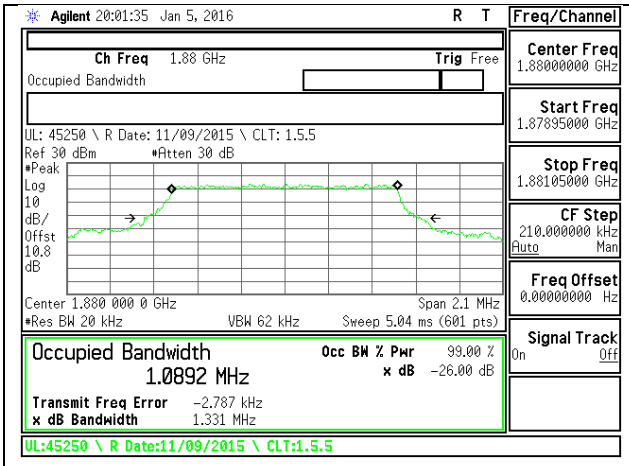
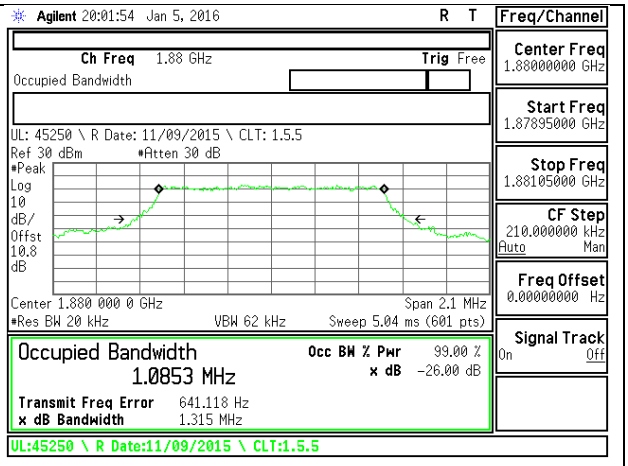
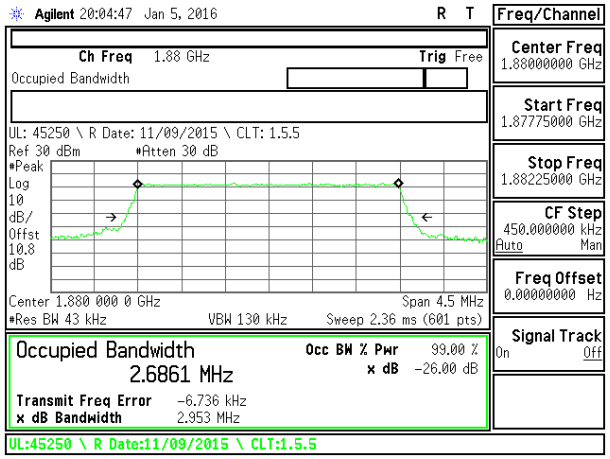


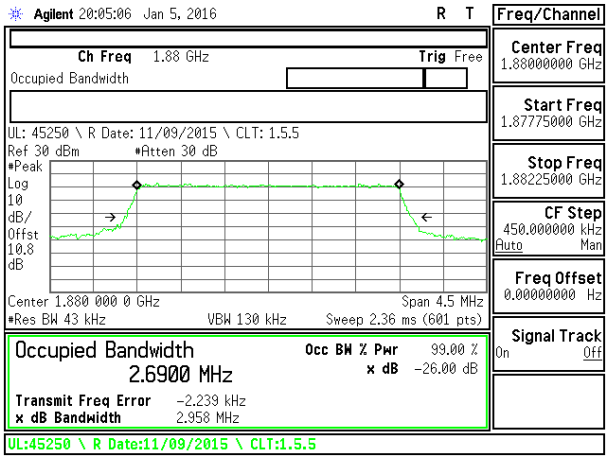
LTE B2 1.4MHz QPSK Middle Channel



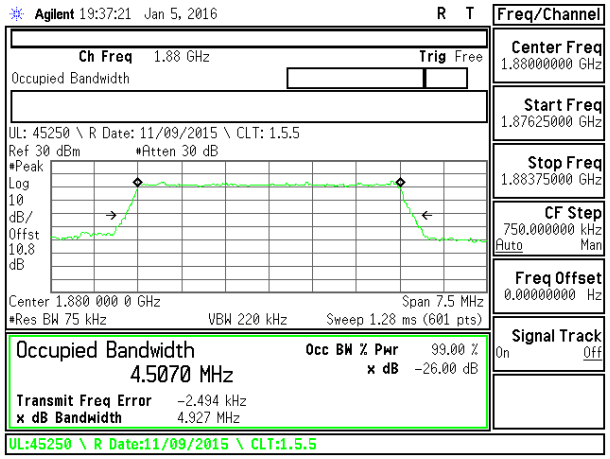
LTE B2 1.4MHz 16QAM Middle Channel



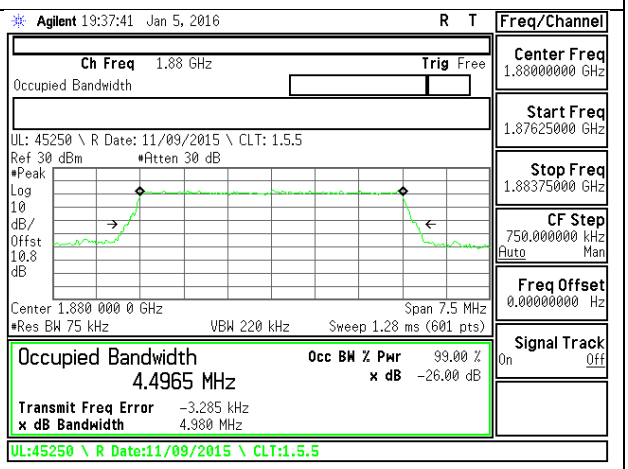
LTE B2 3MHz QPSK Middle Channel



LTE B2 3MHz 16QAM Middle Channel



LTE B2 5MHz QPSK Middle Channel



LTE B2 5MHz 16QAM Middle Channel

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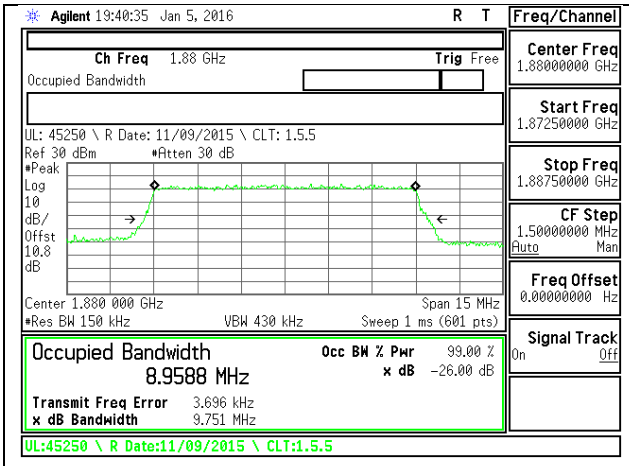
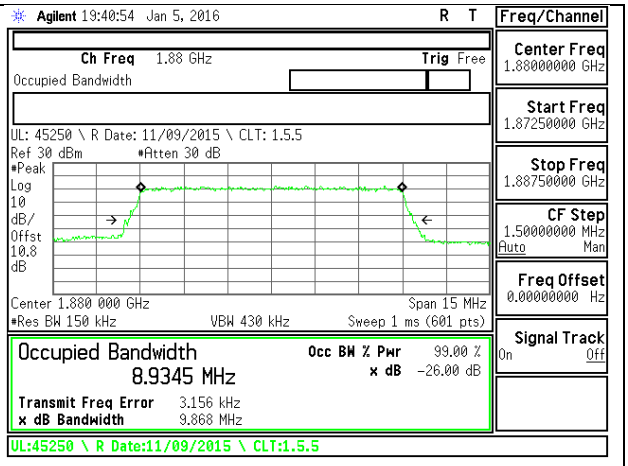
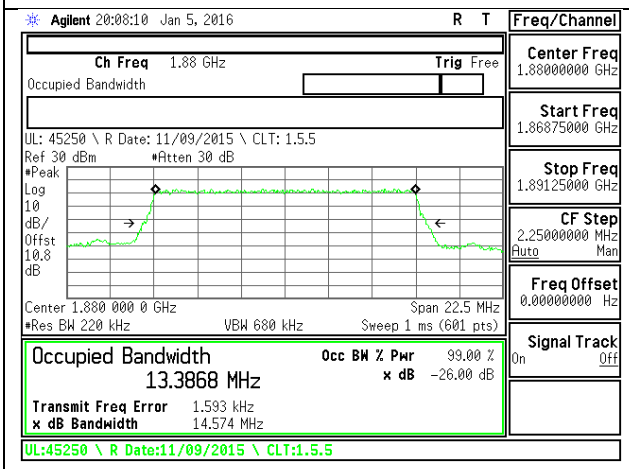


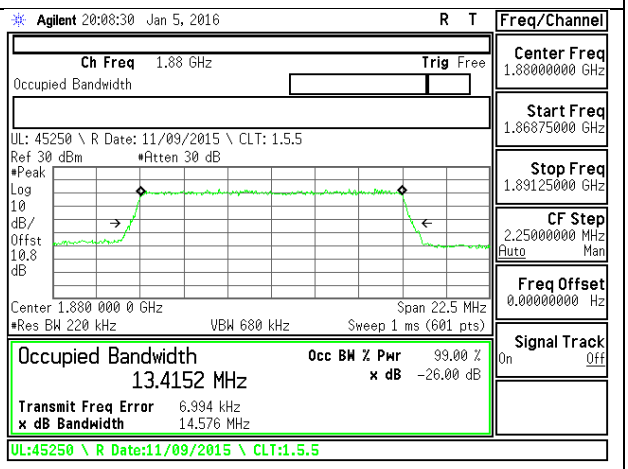
LTE B2 10MHz QPSK Middle Channel



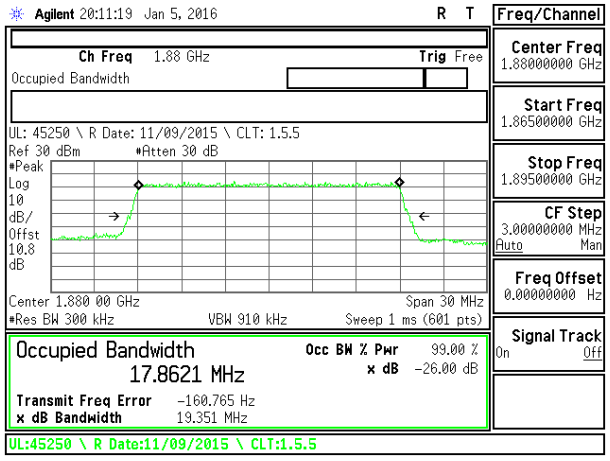
LTE B2 10MHz 16QAM Middle Channel



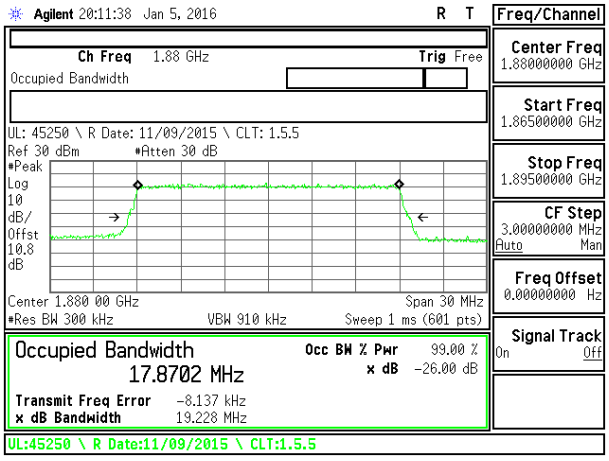
LTE B2 15MHz QPSK Middle Channel



LTE B2 15MHz 16QAM Middle Channel



LTE B2 20MHz QPSK Middle Channel



LTE B2 20MHz 16QAM Middle Channel

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LTE Band 4

BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
1.4	QPSK	6/0	1710.7	1.088	1.28
		6/0	1732.5	1.082	1.283
		6/0	1754.3	1.088	1.276
	16QAM	6/0	1710.7	1.082	1.278
		6/0	1732.5	1.086	1.308
		6/0	1754.3	1.093	1.277
3	QPSK	15/0	1711.5	2.691	2.947
		15/0	1732.5	2.693	2.985
		15/0	1753.5	2.679	2.961
	16QAM	15/0	1711.5	2.687	2.957
		15/0	1732.5	2.69	2.953
		15/0	1753.5	2.683	2.976
5	QPSK	25/0	1712.5	4.525	4.982
		25/0	1732.5	4.496	4.984
		25/0	1752.5	4.49	4.99
	16QAM	25/0	1712.5	4.506	4.997
		25/0	1732.5	4.506	4.991
		25/0	1752.5	4.498	4.962
10	QPSK	50/0	1715	8.934	9.713
		50/0	1732.5	8.953	9.821
		50/0	1750	8.974	9.797
	16QAM	50/0	1715	9.003	9.824
		50/0	1732.5	8.944	9.822
		50/0	1750	8.947	9.667
15	QPSK	75/0	1717.5	13.400	14.496
		75/0	1732.5	13.418	14.771
		75/0	1747.5	13.451	14.640
	16QAM	75/0	1717.5	13.433	14.567
		75/0	1732.5	13.425	14.740
		75/0	1747.5	13.433	14.497
20	QPSK	100/0	1720	17.852	19.214
		100/0	1732.5	17.874	19.240
		100/0	1745	17.891	19.105
	16QAM	100/0	1720	17.874	19.385
		100/0	1732.5	17.881	19.230
		100/0	1745	17.901	19.358

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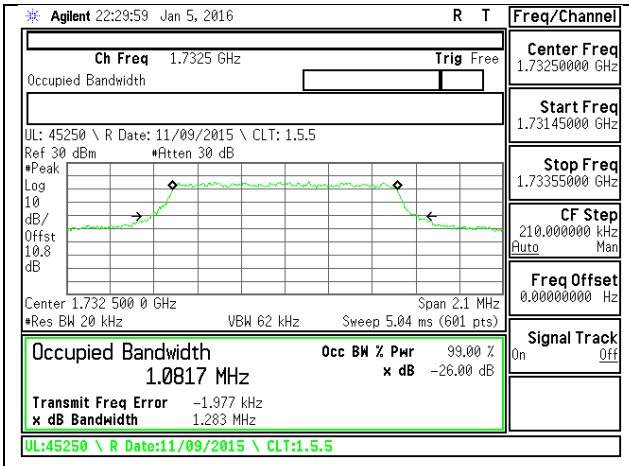
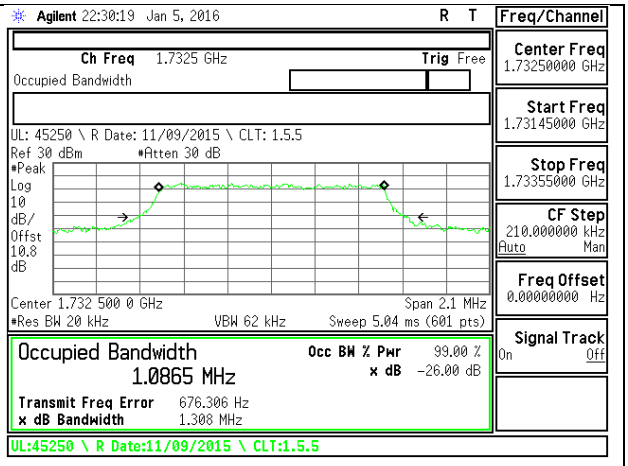
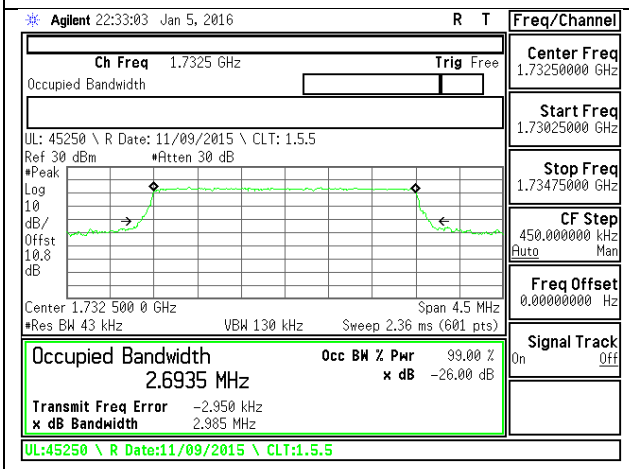


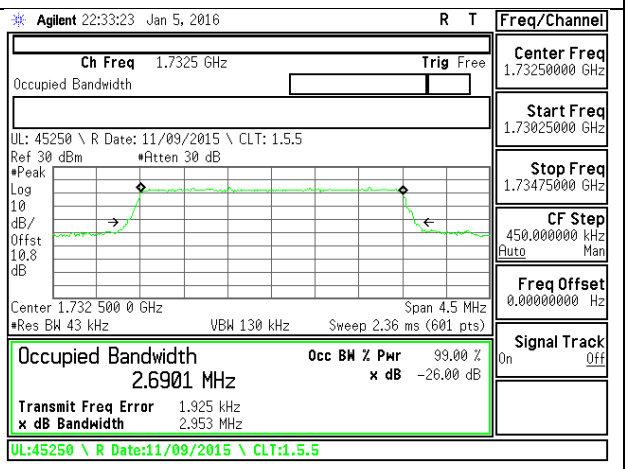
LTE B4 1.4MHz QPSK Middle Channel



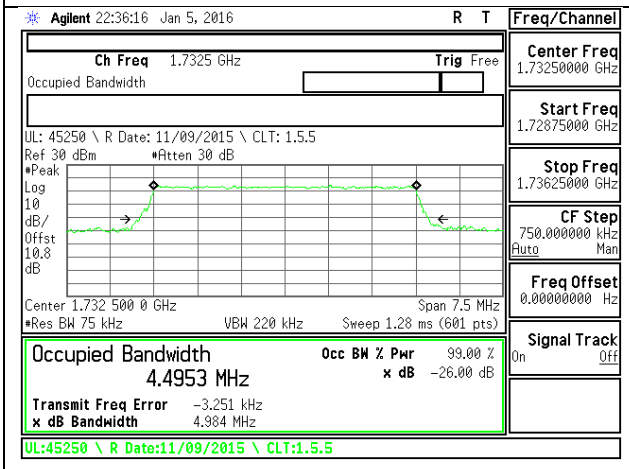
LTE B4 1.4MHz 16QAM Middle Channel



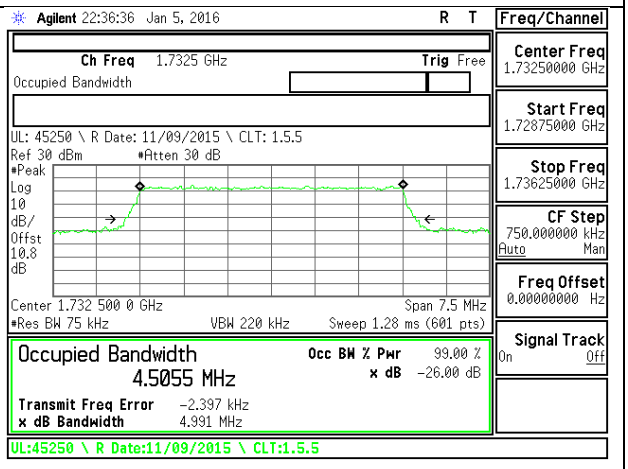
LTE B4 3MHz QPSK Middle Channel



LTE B4 3MHz 16QAM Middle Channel



LTE B4 5MHz QPSK Middle Channel



LTE B4 5MHz 16QAM Middle Channel

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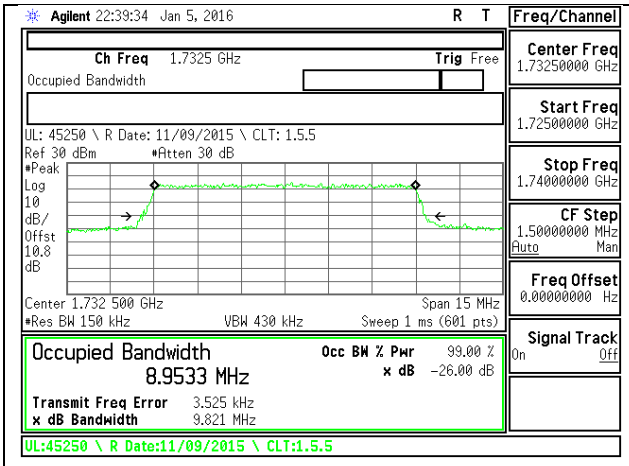
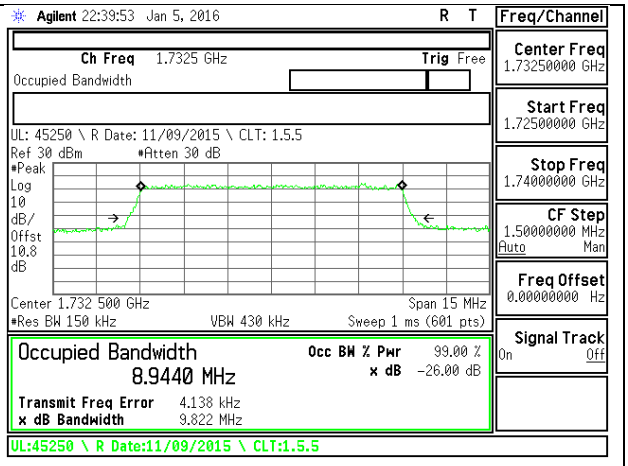
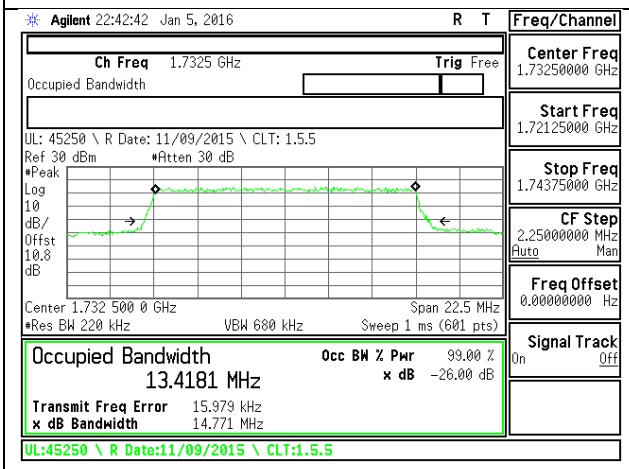


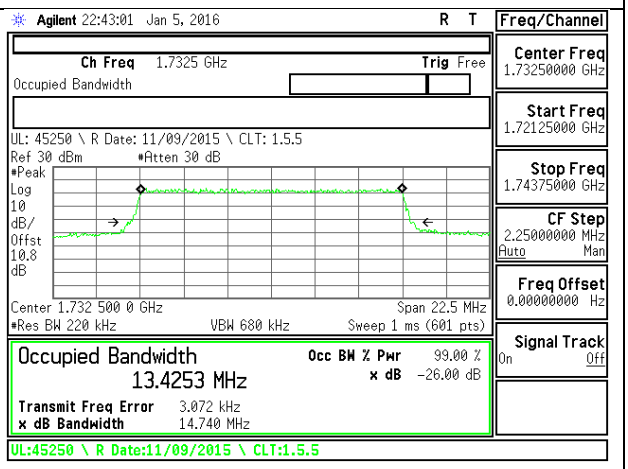
LTE B4 10MHz QPSK Middle Channel



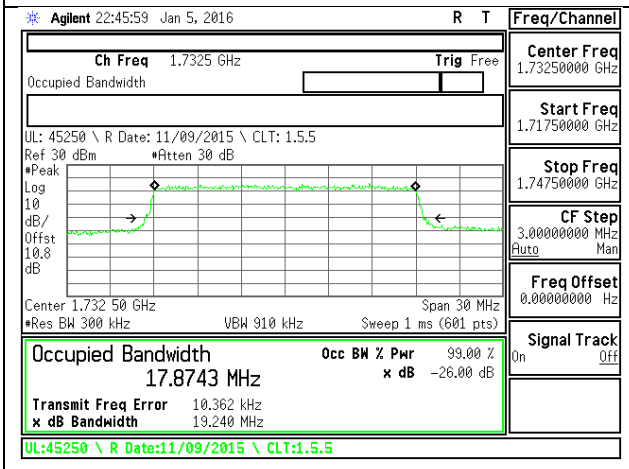
LTE B4 10MHz 16QAM Middle Channel



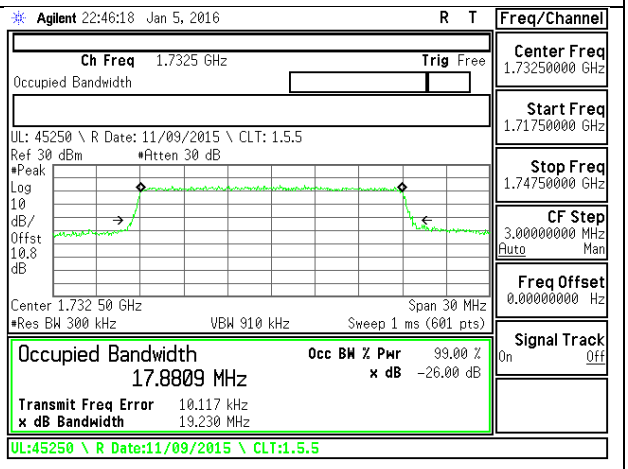
LTE B4 15MHz QPSK Middle Channel



LTE B4 15MHz 16QAM Middle Channel



LTE B4 20MHz QPSK Middle Channel



LTE B4 20MHz 16QAM Middle Channel

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LTE Band 5

BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
1.4	QPSK	6/0	824.7	1.091	1.429
		6/0	836.5	1.095	1.537
		6/0	848.3	1.15	1.846
	16QAM	6/0	824.7	1.096	1.555
		6/0	836.5	1.114	1.556
		6/0	848.3	1.145	1.593
3	QPSK	15/0	825.5	2.688	2.988
		15/0	836.5	2.696	3.04
		15/0	847.5	2.694	3.05
	16QAM	15/0	825.5	2.69	3.006
		15/0	836.5	2.691	3.069
		15/0	847.5	2.69	3.169
5	QPSK	25/0	826.5	4.5	4.933
		25/0	836.5	4.505	5.03
		25/0	846.5	4.513	5.003
	16QAM	25/0	826.5	4.511	4.987
		25/0	836.5	4.507	4.93
		25/0	846.5	4.5	5
10	QPSK	50/0	829	8.919	9.744
		50/0	836.5	8.956	9.71
		50/0	844	8.96	9.861
	16QAM	50/0	829	8.946	9.802
		50/0	836.5	8.952	9.744
		50/0	844	8.953	9.726

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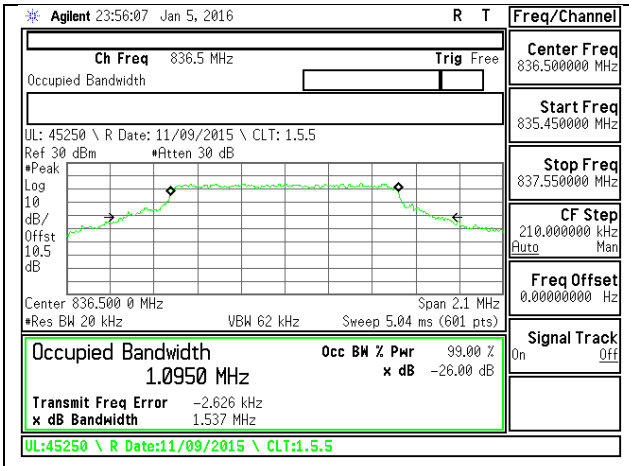
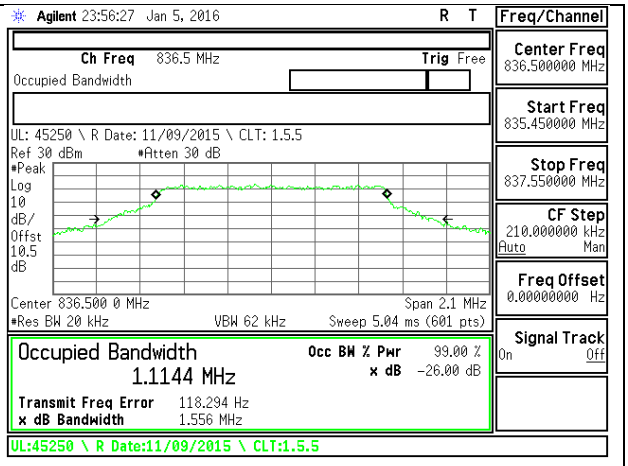
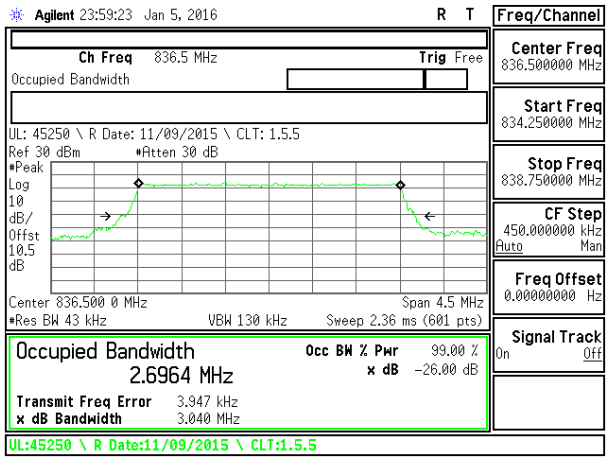


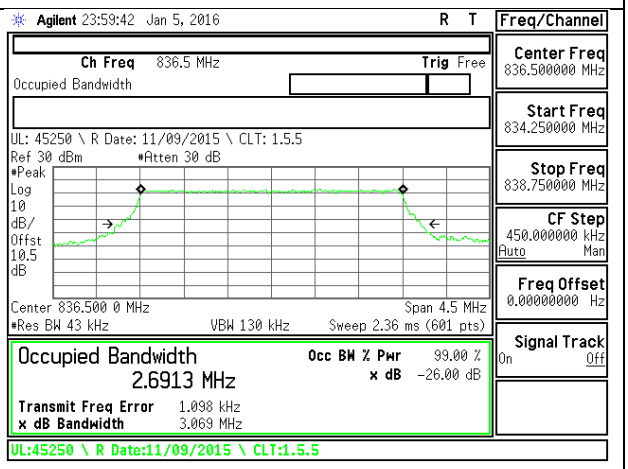
LTE B5 1.4MHz QPSK Middle Channel



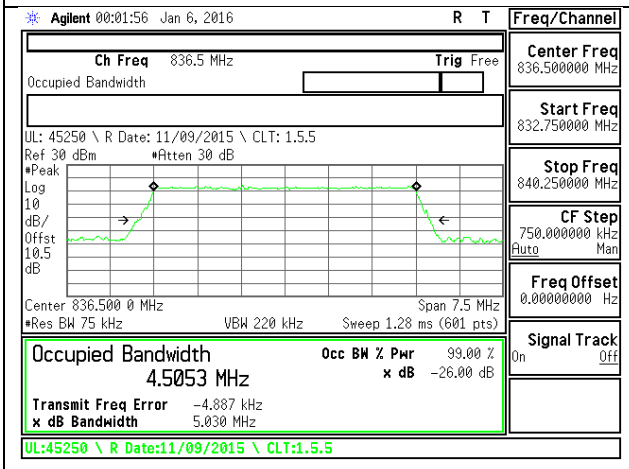
LTE B5 1.4MHz 16QAM Middle Channel



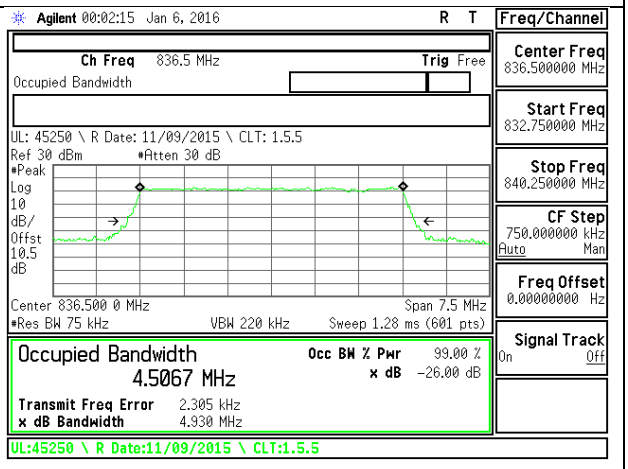
LTE B5 3MHz QPSK Middle Channel



LTE B5 3MHz 16QAM Middle Channel



LTE B5 5MHz QPSK Middle Channel



LTE B5 5MHz 16QAM Middle Channel

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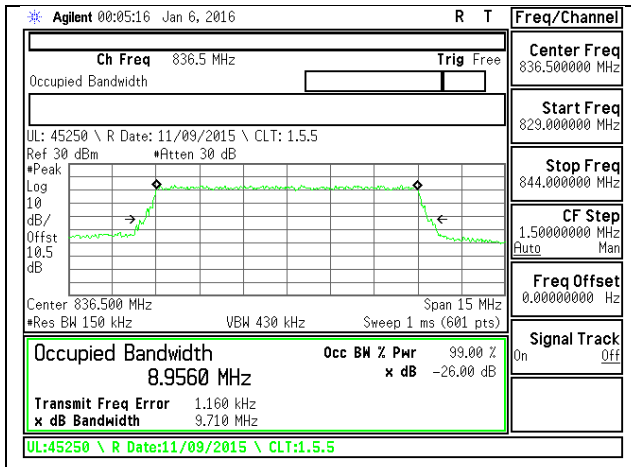
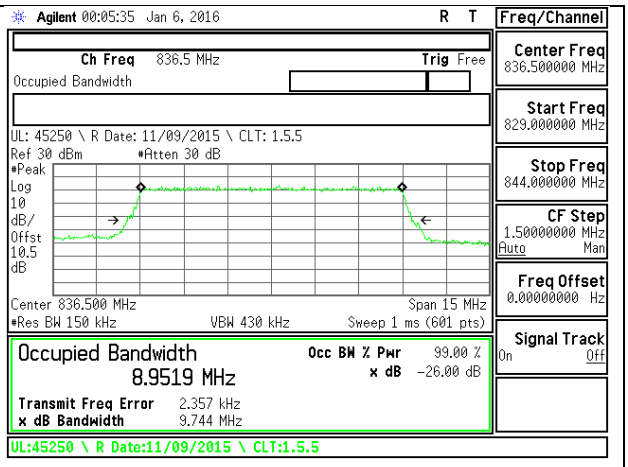


LTE B5 10MHz QPSK Middle Channel



LTE B5 10MHz 16QAM Middle Channel

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LTE Band 12

BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
1.4	QPSK	6/0	699.7	1.083	1.298
		6/0	707.5	1.087	1.295
		6/0	715.3	1.090	1.369
	16QAM	6/0	699.7	1.087	1.356
		6/0	707.5	1.087	1.330
		6/0	715.3	1.086	1.437
3	QPSK	15/0	700.5	2.690	2.986
		15/0	707.5	2.684	2.958
		15/0	714.5	2.679	2.972
	16QAM	15/0	700.5	2.695	3.000
		15/0	707.5	2.698	2.956
		15/0	714.5	2.675	2.969
5	QPSK	25/0	701.5	4.511	4.981
		25/0	707.5	4.495	4.895
		25/0	713.5	4.497	4.970
	16QAM	25/0	701.5	4.505	4.986
		25/0	707.5	4.499	4.954
		25/0	713.5	4.517	4.933
10	QPSK	50/0	704	8.913	9.610
		50/0	707.5	8.957	9.586
		50/0	711	9.007	9.809
	16QAM	50/0	704	8.891	9.584
		50/0	707.5	8.957	9.736
		50/0	711	9.008	9.868

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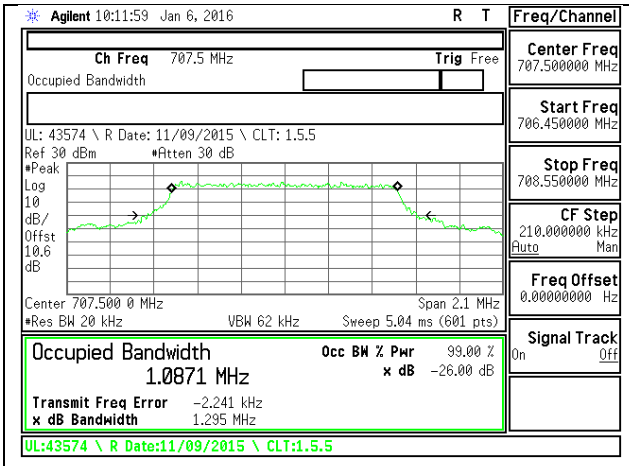
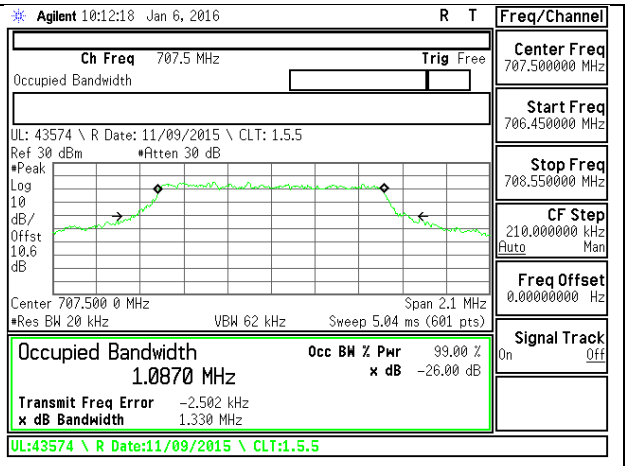
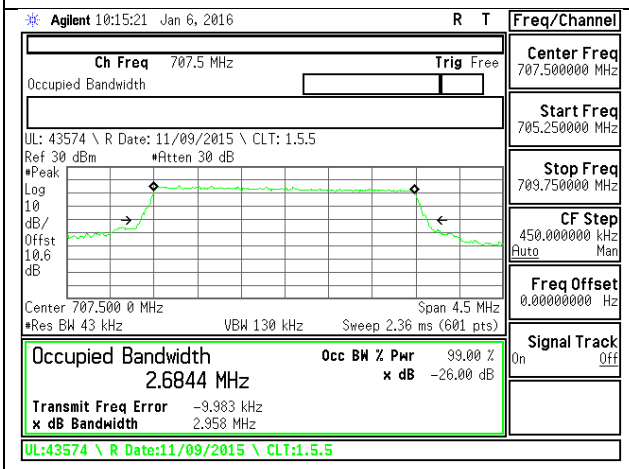


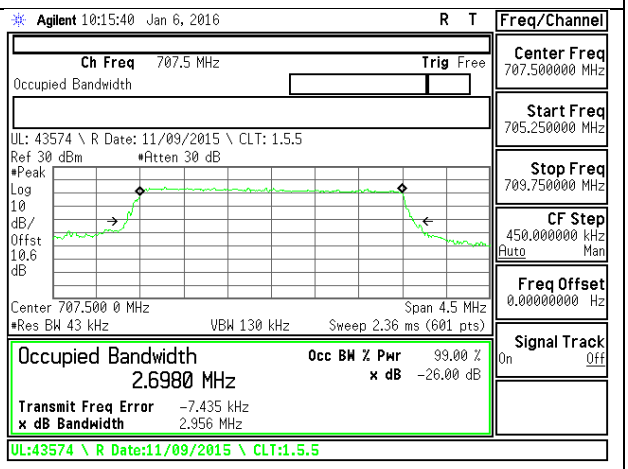
LTE B12 1.4MHz QPSK Middle Channel



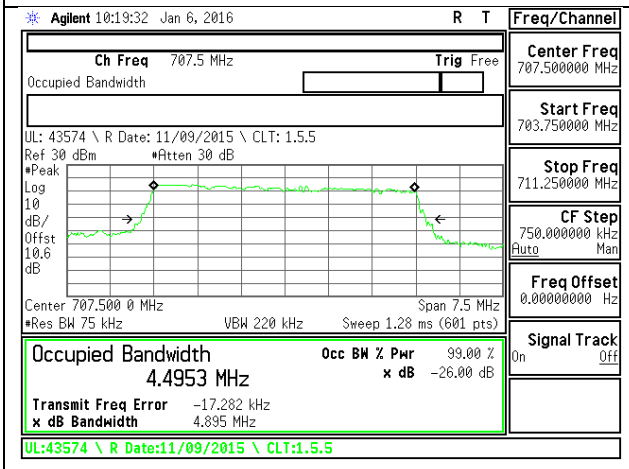
LTE B12 1.4MHz 16QAM Middle Channel



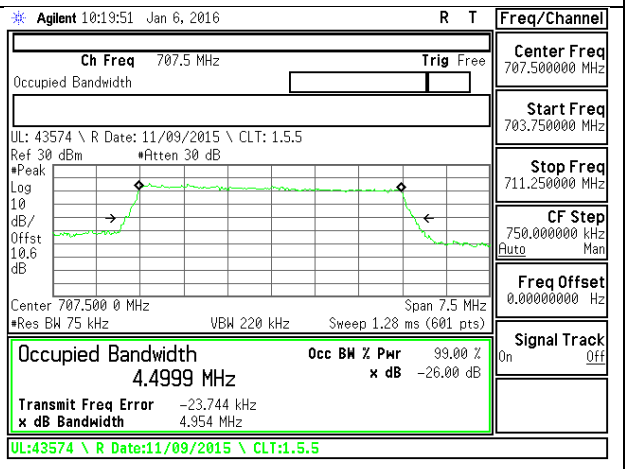
LTE B12 3MHz QPSK Middle Channel



LTE B12 3MHz 16QAM Middle Channel



LTE B12 5MHz QPSK Middle Channel



LTE B12 5MHz 16QAM Middle Channel

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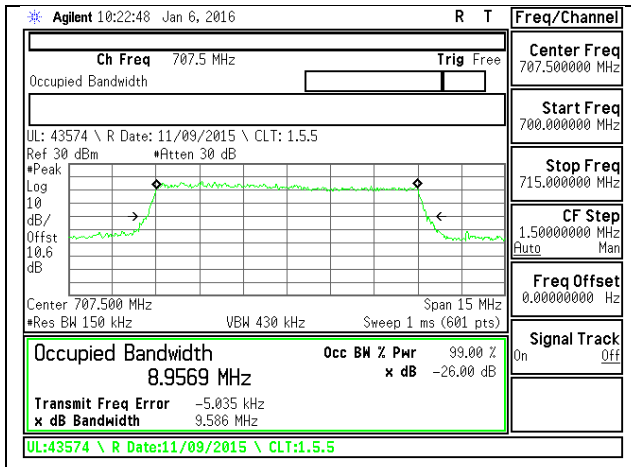
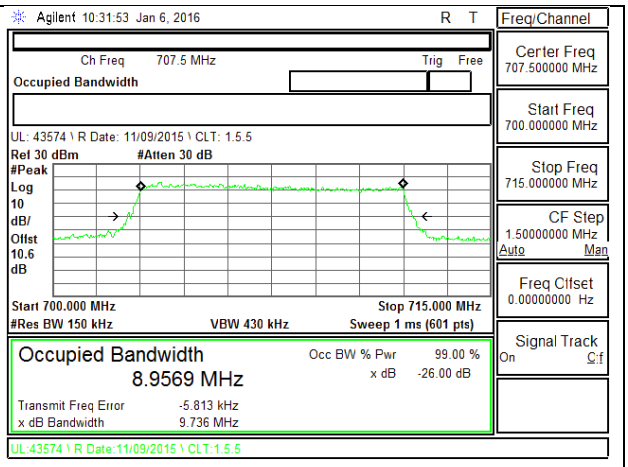


LTE B12 10MHz QPSK Middle Channel



LTE B12 10MHz 16QAM Middle Channel

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LTE Band 17

BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
5	QPSK	25/0	706.5	4.487	4.908
		25/0	710	4.520	5.045
		25/0	713.5	4.491	4.960
	16QAM	25/0	706.5	4.499	5.012
		25/0	710	4.514	4.975
		25/0	713.5	4.495	4.934
10	QPSK	50/0	709	9.000	9.758
		50/0	710	9.024	9.817
		50/0	711	9.010	9.672
	16QAM	50/0	709	9.016	9.758
		50/0	710	9.017	9.752
		50/0	711	8.979	9.731

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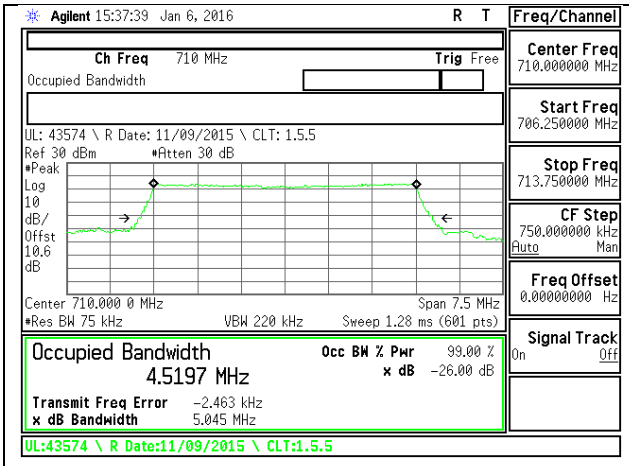
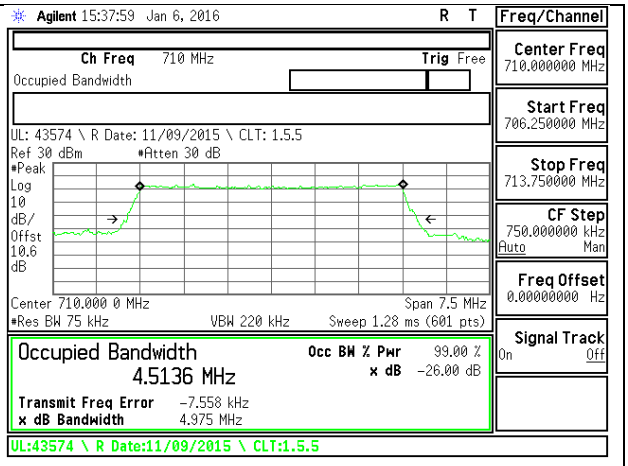
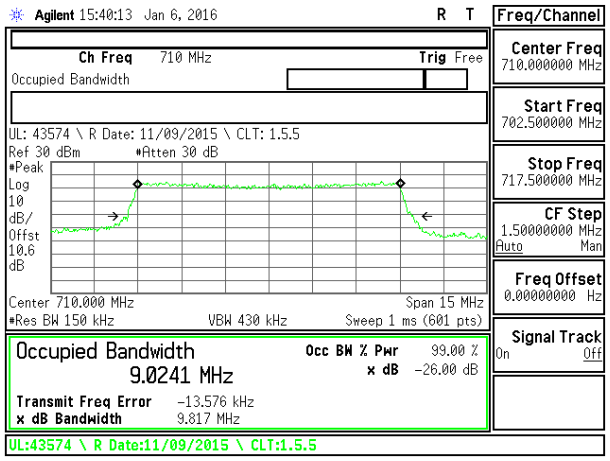


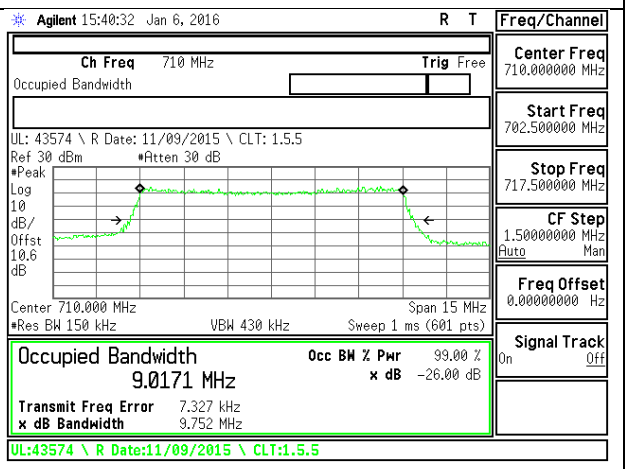
LTE B17 5MHz QPSK Middle Channel



LTE B17 5MHz 16QAM Middle Channel



LTE B17 10MHz QPSK Middle Channel



LTE B17 10MHz 16QAM Middle Channel

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LTE Band 25

BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
1.4	QPSK	6/0	1850.7	1.087	1.269
		6/0	1882.5	1.081	1.269
		6/0	1914.3	1.087	1.27
	16QAM	6/0	1850.7	1.08	1.266
		6/0	1882.5	1.088	1.292
		6/0	1914.3	1.084	1.301
3	QPSK	15/0	1851.5	2.688	2.971
		15/0	1882.5	2.692	2.941
		15/0	1913.5	2.678	2.946
	16QAM	15/0	1851.5	2.687	2.956
		15/0	1882.5	2.7	2.951
		15/0	1913.5	2.687	2.951
5	QPSK	25/0	1852.5	4.498	4.898
		25/0	1882.5	4.498	4.956
		25/0	1912.5	4.518	5.041
	16QAM	25/0	1852.5	4.502	4.942
		25/0	1882.5	4.504	4.991
		25/0	1912.5	4.511	4.958
10	QPSK	50/0	1855	8.944	9.648
		50/0	1882.5	8.956	9.703
		50/0	1910	8.975	9.745
	16QAM	50/0	1855	8.935	9.715
		50/0	1882.5	8.975	9.744
		50/0	1910	8.957	9.77
15	QPSK	75/0	1857.5	13.395	14.518
		75/0	1882.5	13.416	14.516
		75/0	1907.5	13.470	14.429
	16QAM	75/0	1857.5	13.406	14.647
		75/0	1882.5	13.423	14.579
		75/0	1907.5	13.413	14.641
20	QPSK	100/0	1860	17.822	19.105
		100/0	1882.5	17.868	19.214
		100/0	1905	17.917	19.220
	16QAM	100/0	1860	17.848	19.215
		100/0	1882.5	17.871	19.304
		100/0	1905	17.884	19.167

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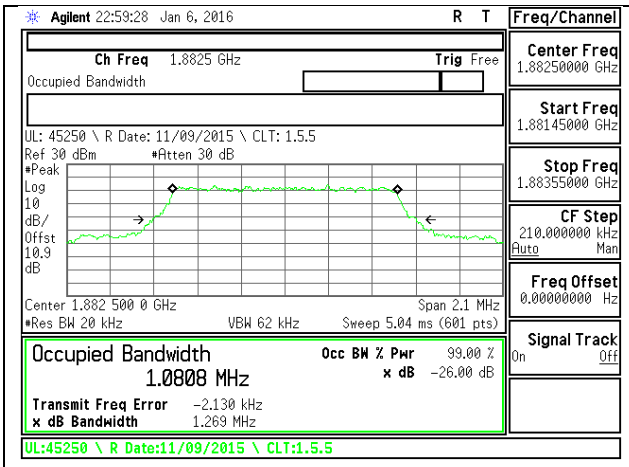
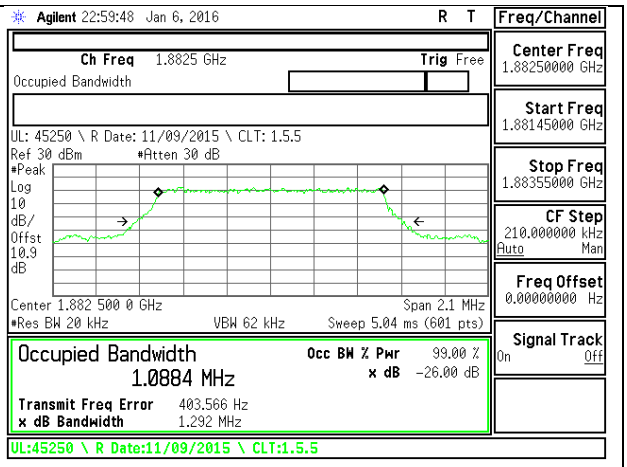
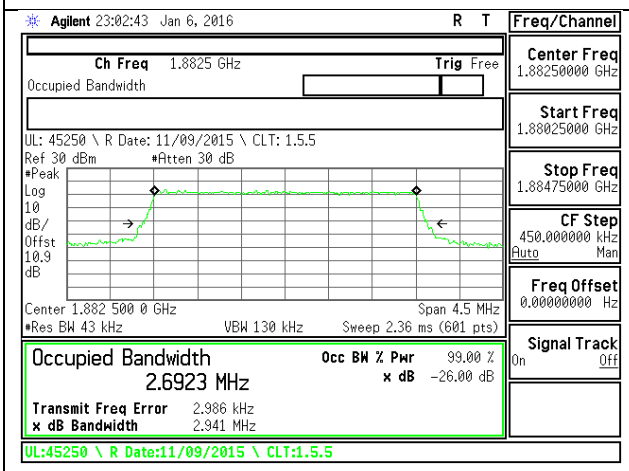


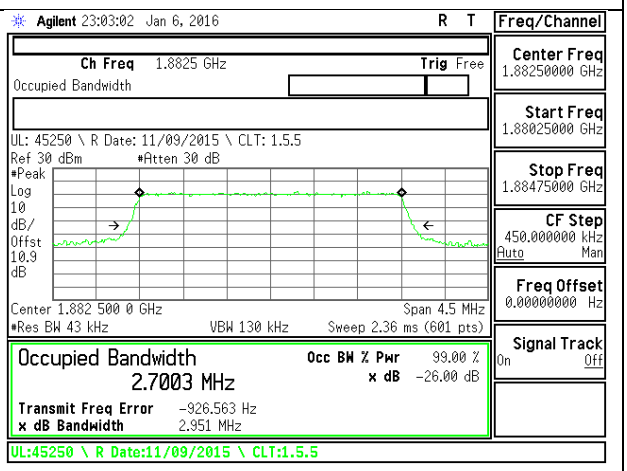
LTE B25 1.4MHz QPSK Middle Channel



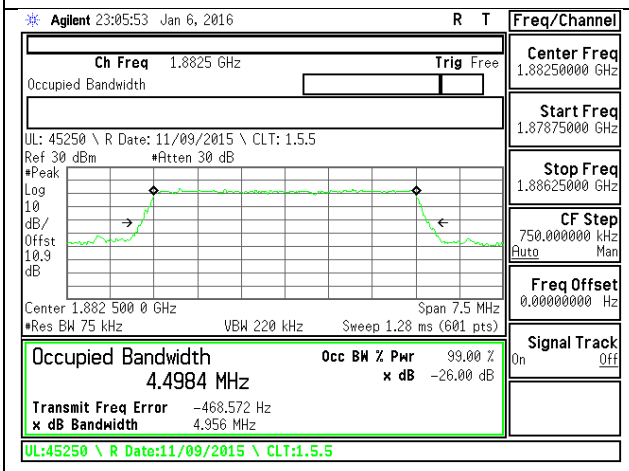
LTE B25 1.4MHz 16QAM Middle Channel



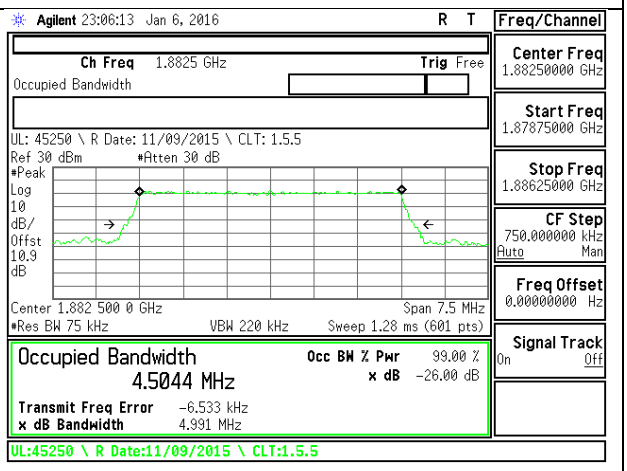
LTE B25 3MHz QPSK Middle Channel



LTE B25 3MHz 16QAM Middle Channel



LTE B25 5MHz QPSK Middle Channel



LTE B25 5MHz 16QAM Middle Channel

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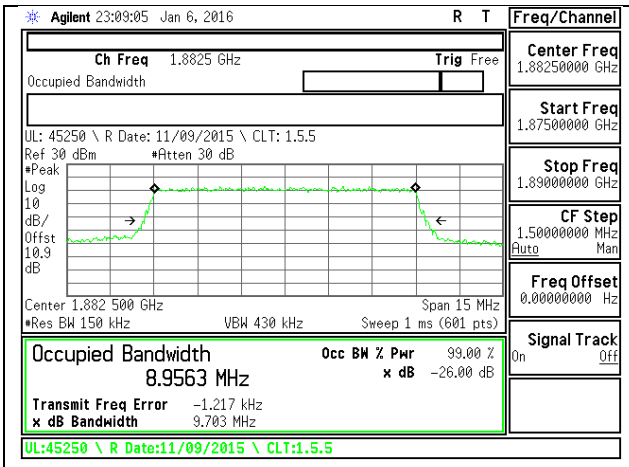
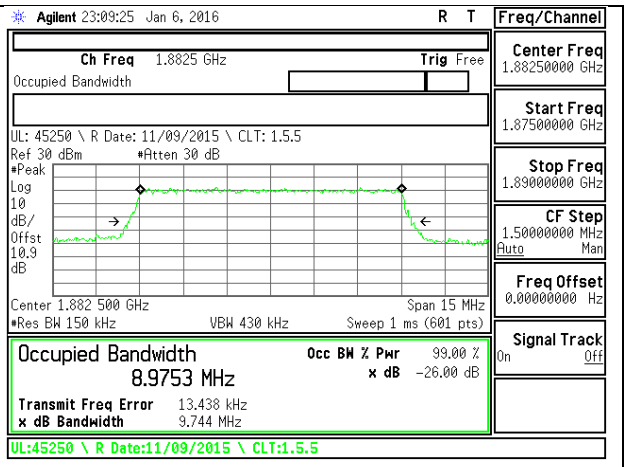
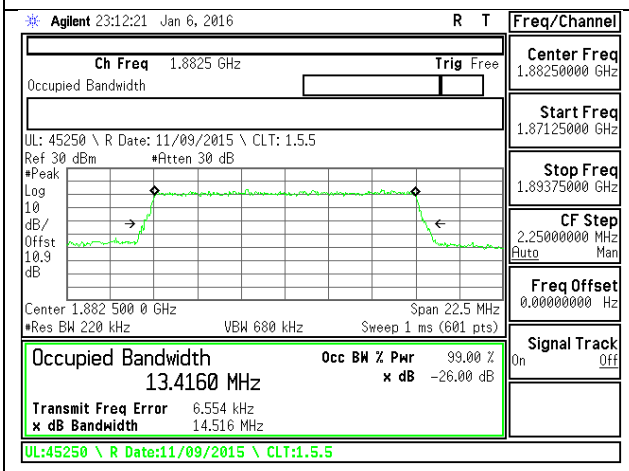


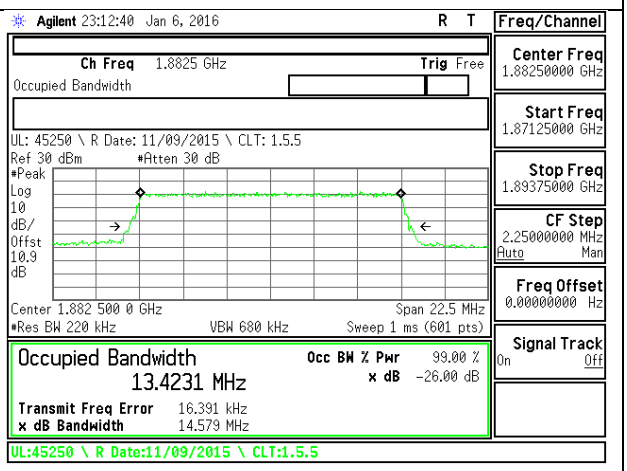
LTE B25 10MHz QPSK Middle Channel



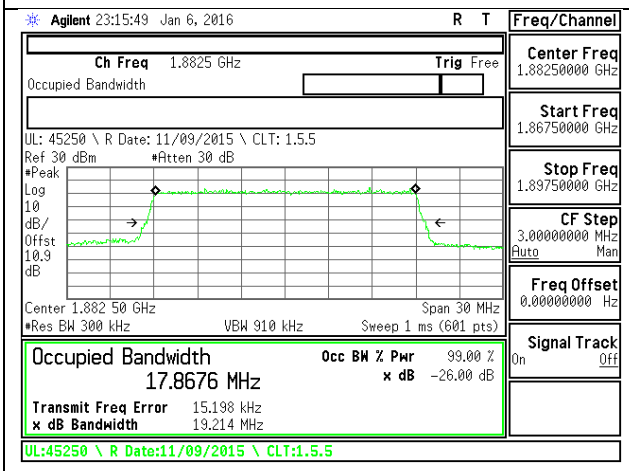
LTE B25 10MHz 16QAM Middle Channel



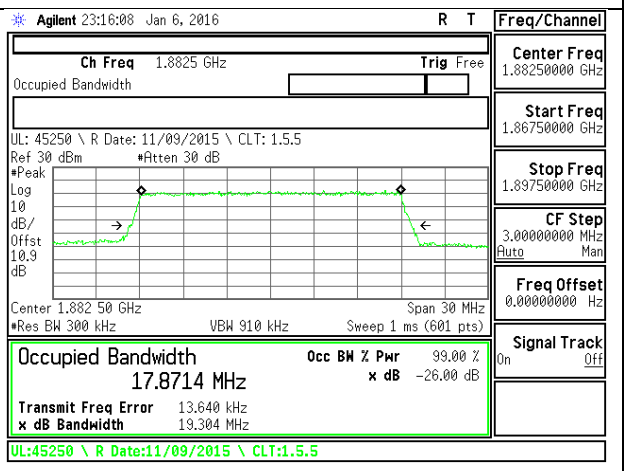
LTE B25 15MHz QPSK Middle Channel



LTE B25 15MHz 16QAM Middle Channel



LTE B25 20MHz QPSK Middle Channel



LTE B25 20MHz 16QAM Middle Channel

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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11. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.359, §24.238

LIMITS

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

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02
The transmitter output was connected to an Agilent 8960 or a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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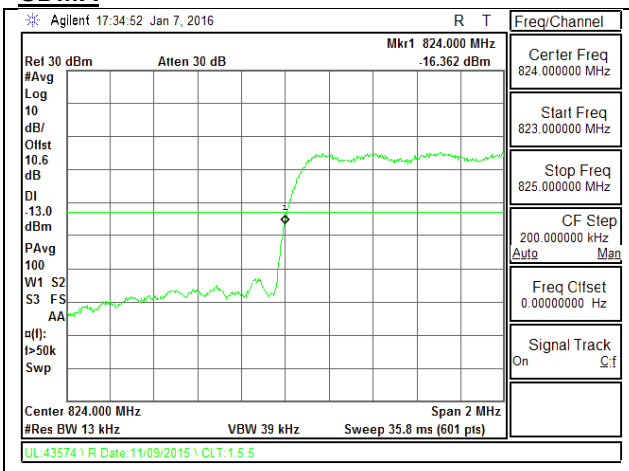
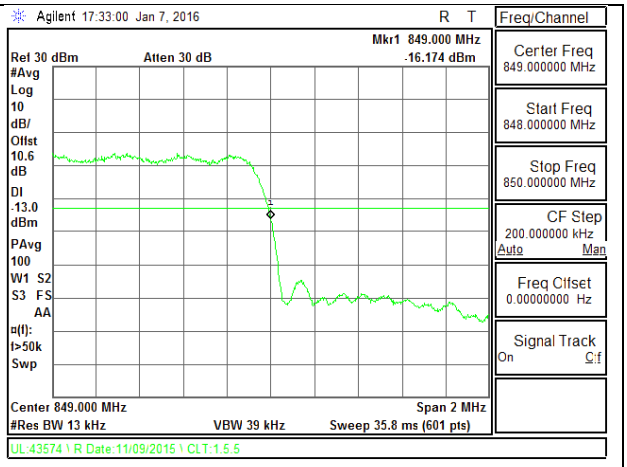
11.1. BAND EDGE PLOTS

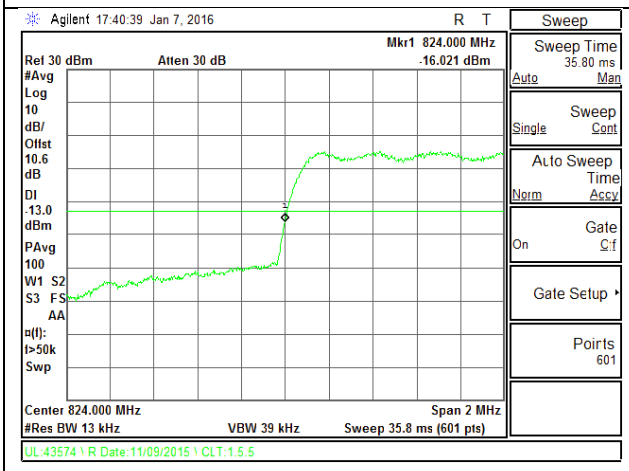
CDMA



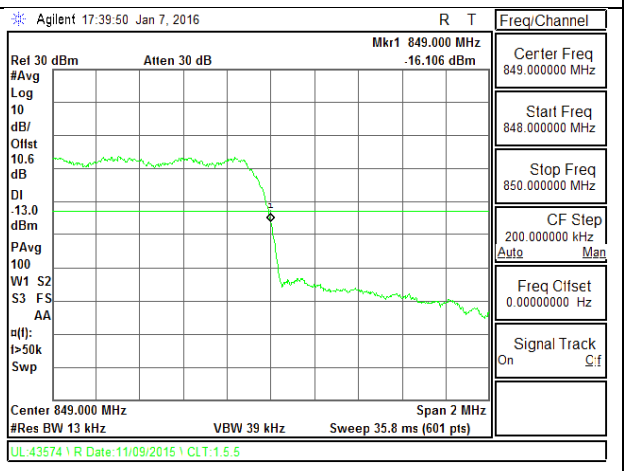
BC0 1xRTT Low Channel



BC0 1xRTT High Channel



BC0 EVDO Rel.0 Low Channel



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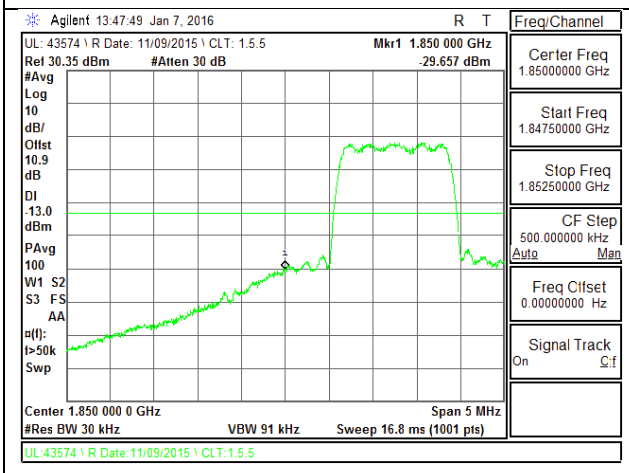
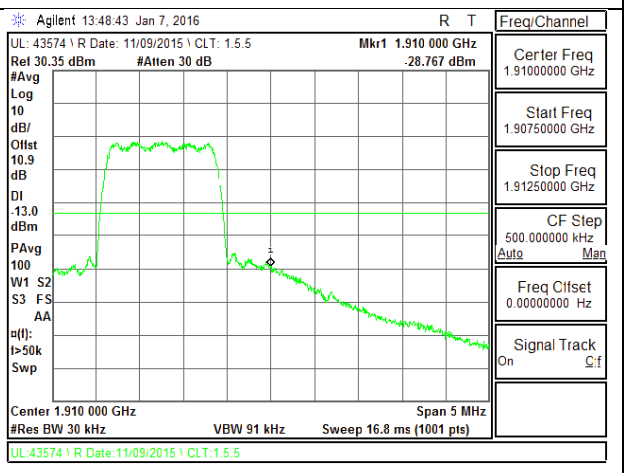


BC1 1xRTT Low Channel



BC1 1xRTT High Channel

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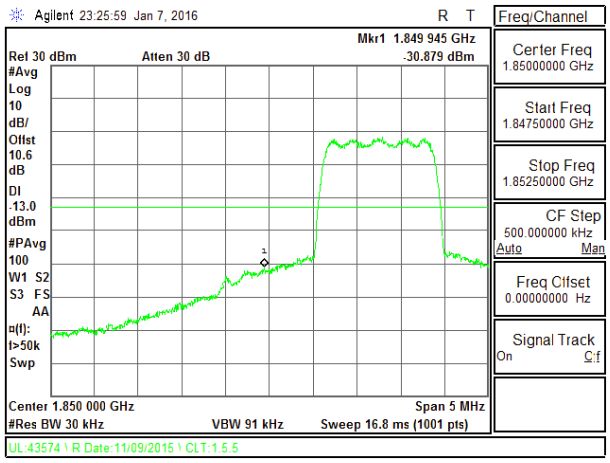
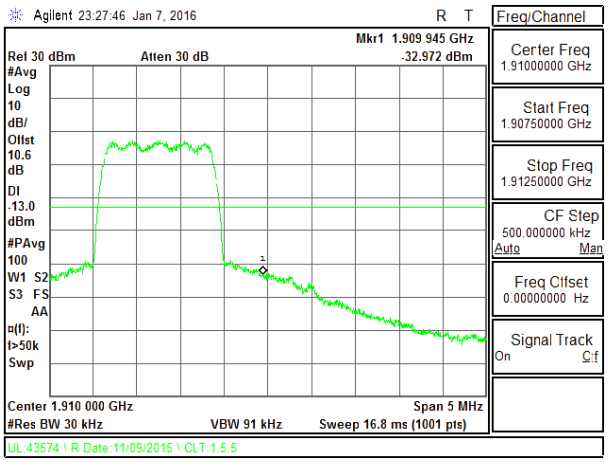


BC1 EVDO Rel.0 Low Channel



BC1 EVDO Rel.0 High Channel

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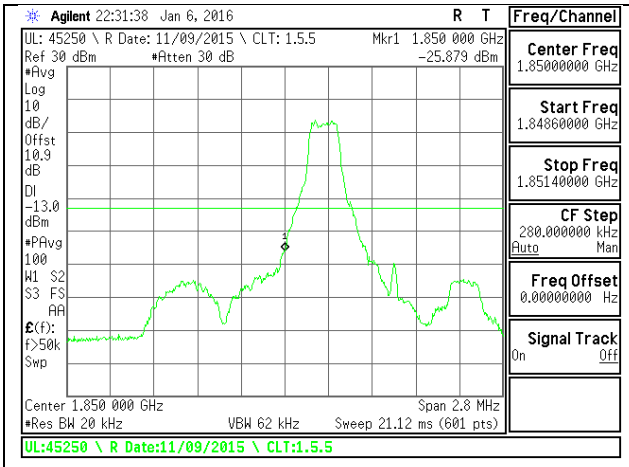
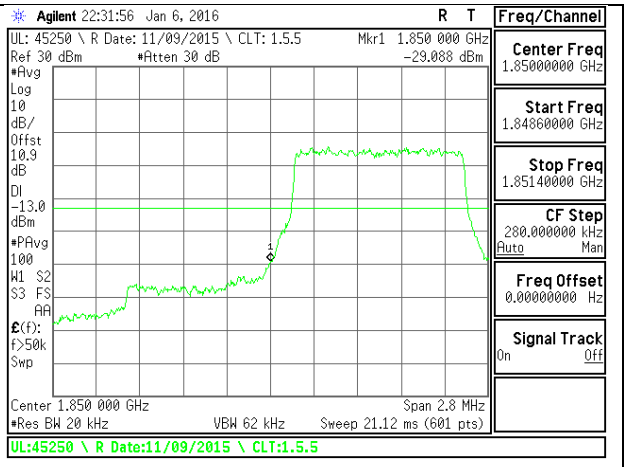
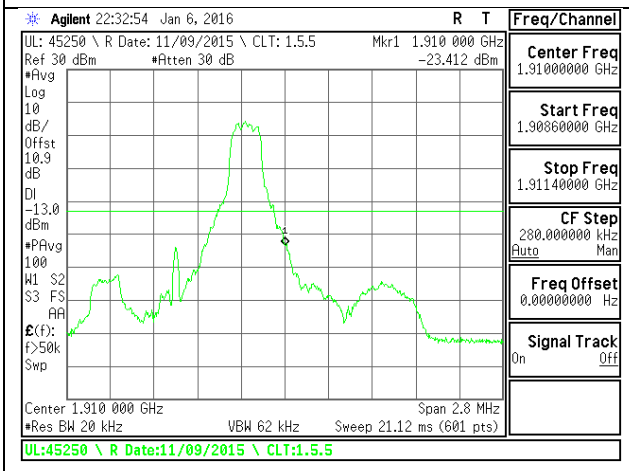
LTE Band 2



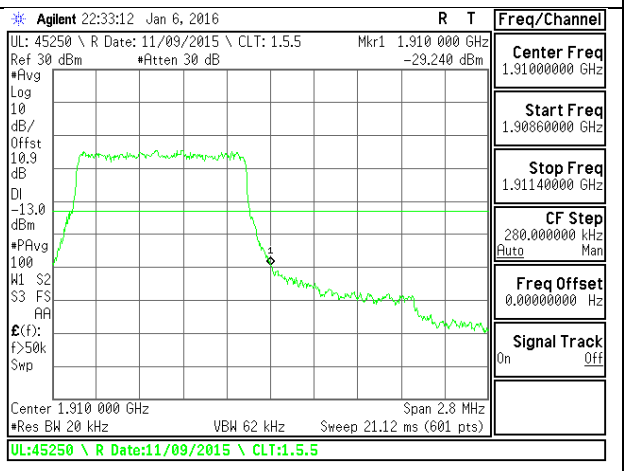
LTE B2 1.4MHz QPSK Low Channel 1RB



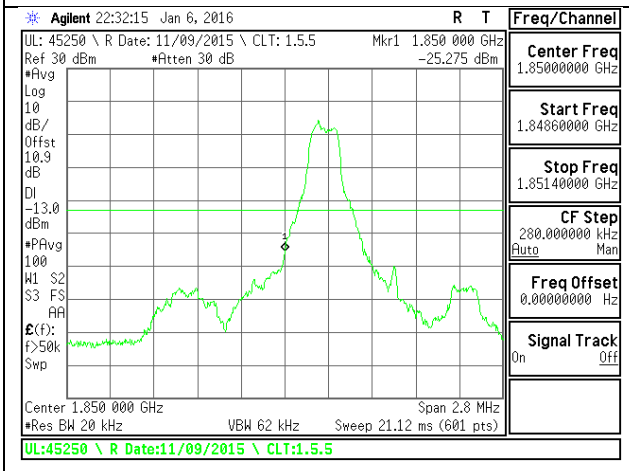
LTE B2 1.4MHz QPSK Low Channel FRB



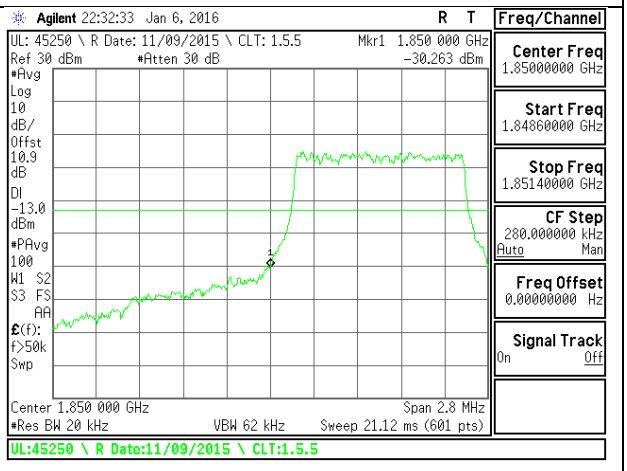
LTE B2 1.4MHz QPSK High Channel 1RB



LTE B2 1.4MHz QPSK High Channel FRB



LTE B2 1.4MHz 16QAM Low Channel 1RB



LTE B2 1.4MHz 16QAM Low Channel FRB

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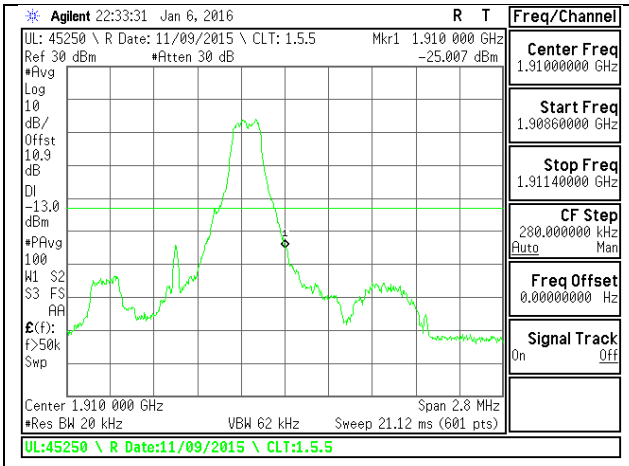
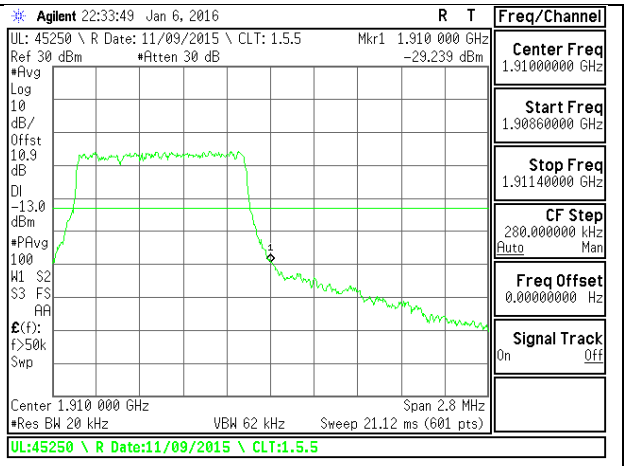
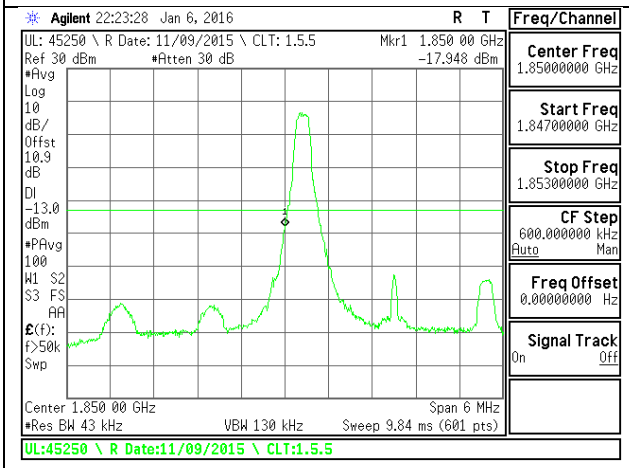


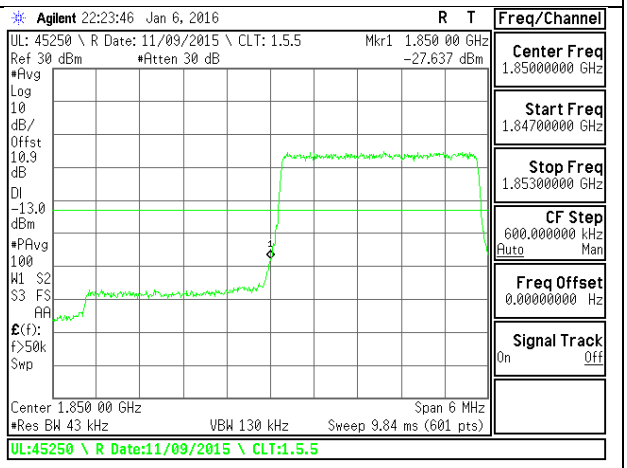
LTE B2 1.4MHz 16QAM High Channel 1RB



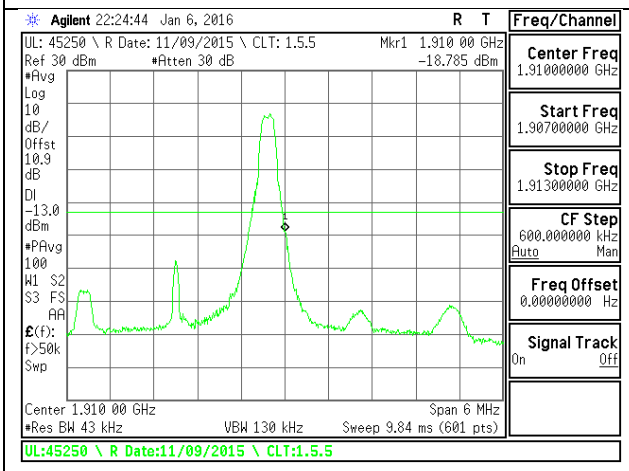
LTE B2 1.4MHz 16QAM High Channel FRB



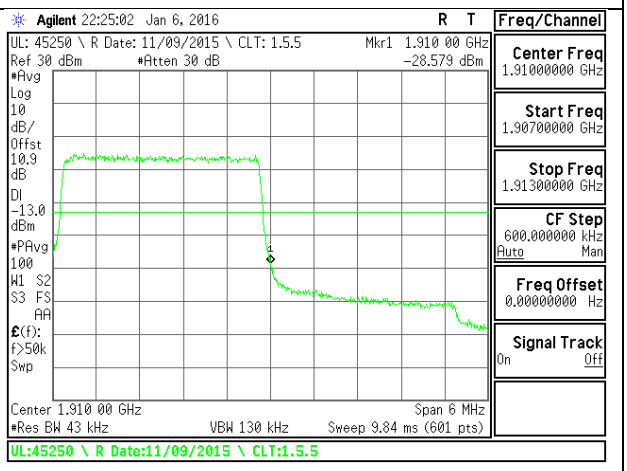
LTE B2 3MHz QPSK Low Channel 1RB



LTE B2 3MHz QPSK Low Channel FRB



LTE B2 3MHz QPSK High Channel 1RB



LTE B2 3MHz QPSK High Channel FRB

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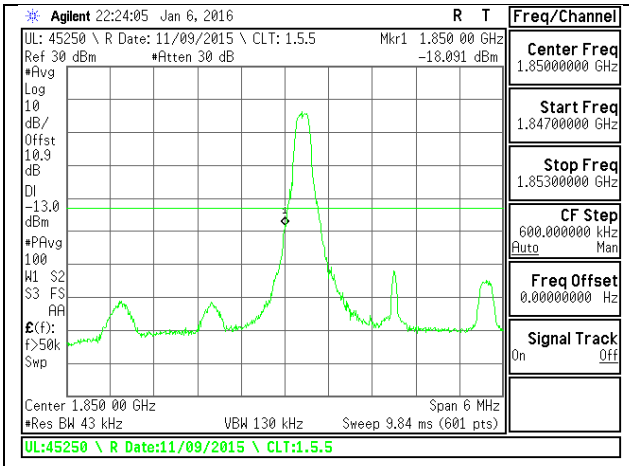
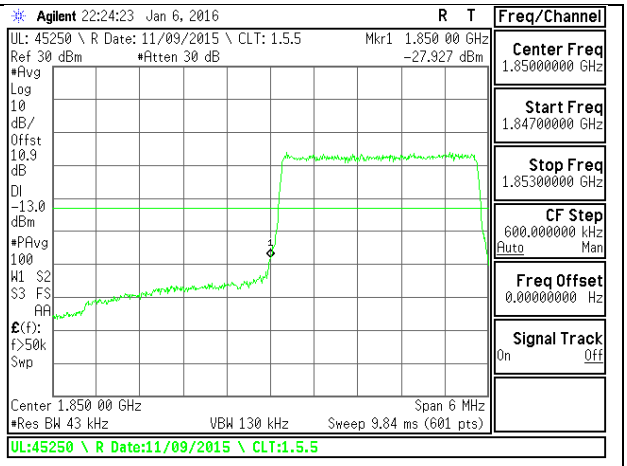
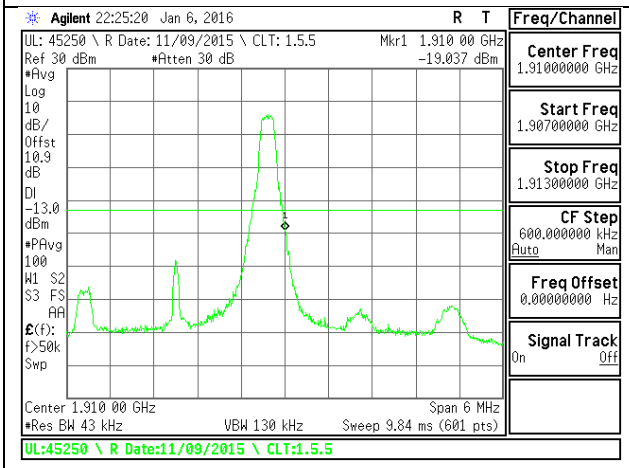


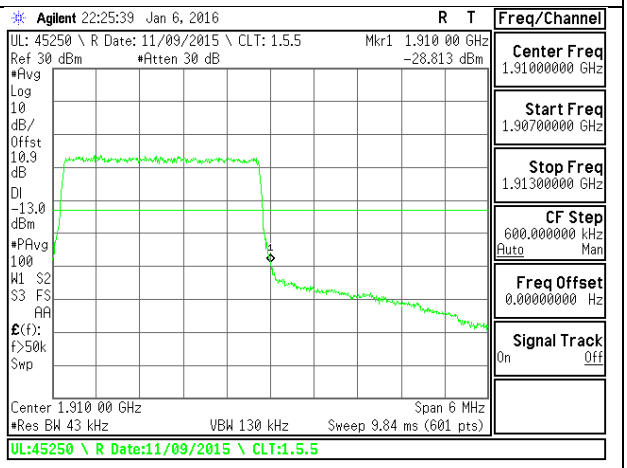
LTE B2 3MHz 16QAM Low Channel 1RB



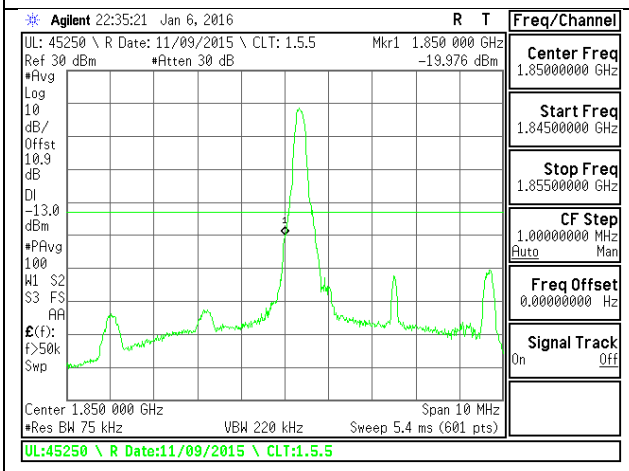
LTE B2 3MHz 16QAM Low Channel FRB



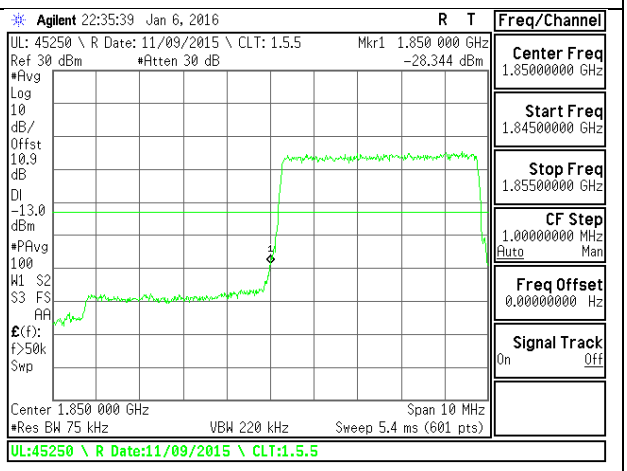
LTE B2 3MHz 16QAM High Channel 1RB



LTE B2 3MHz 16QAM High Channel FRB



LTE B2 5MHz QPSK Low Channel 1RB



LTE B2 5MHz QPSK Low Channel FRB

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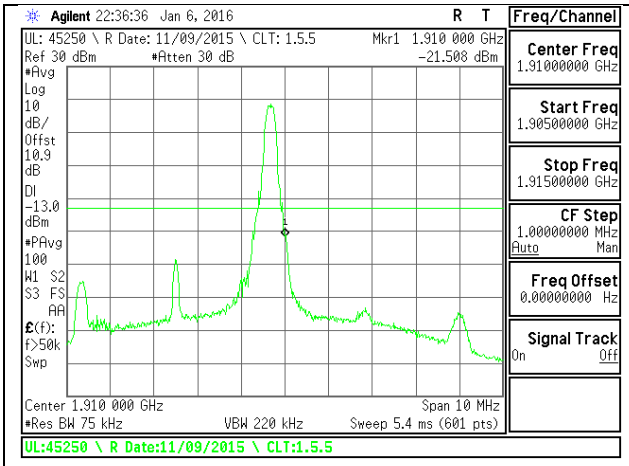
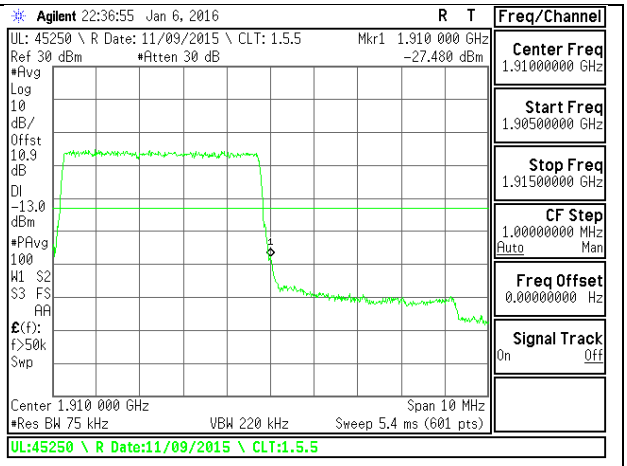


LTE B2 5MHz QPSK High Channel 1RB



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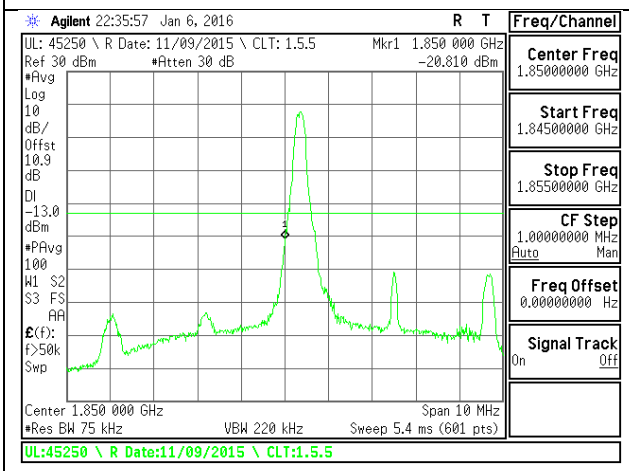

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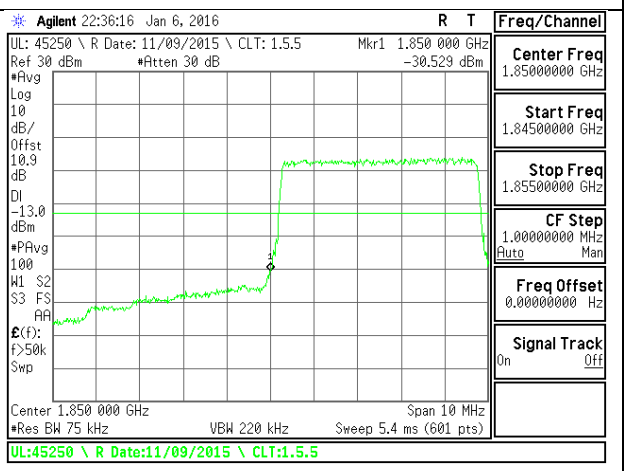

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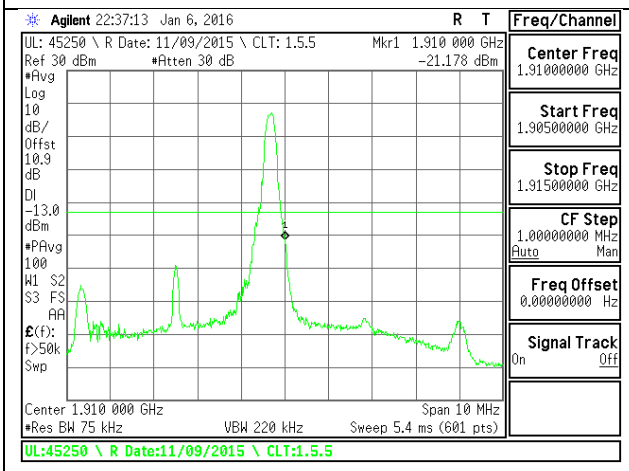

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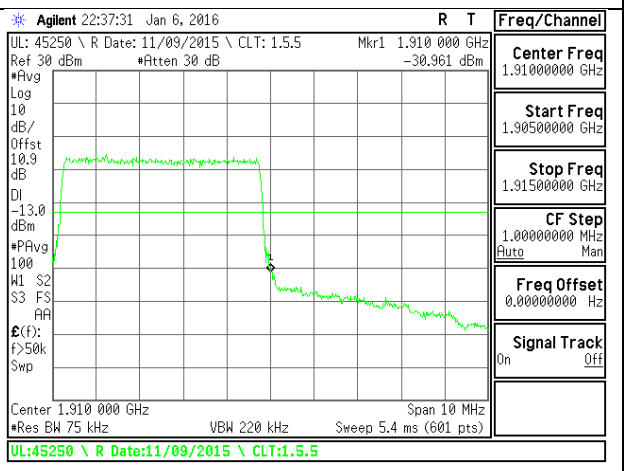

LTE B2 3MHz 16QAM High Channel FRB

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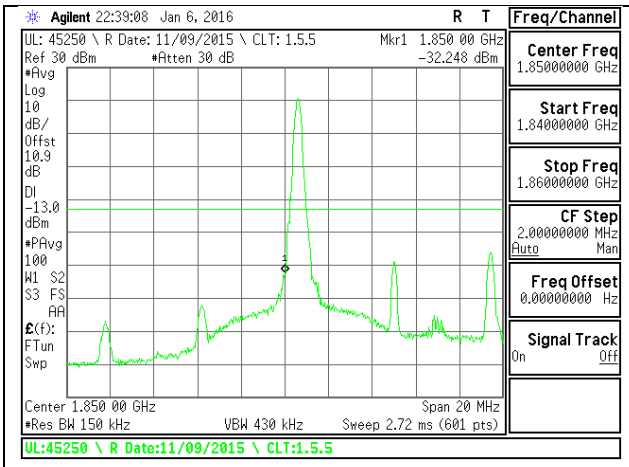

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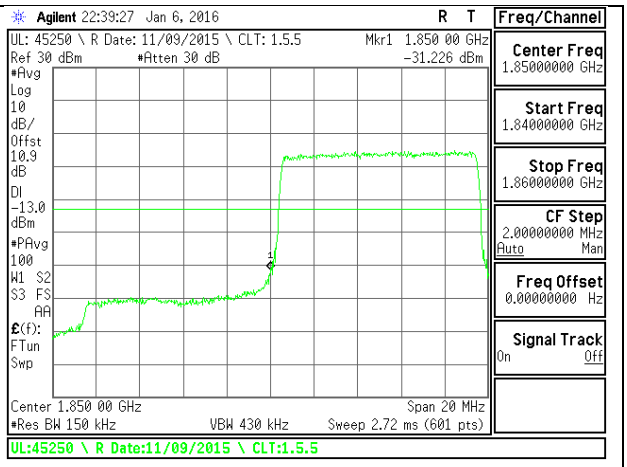

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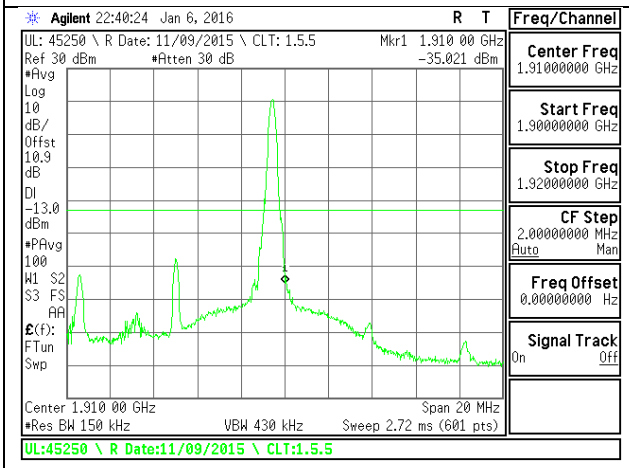

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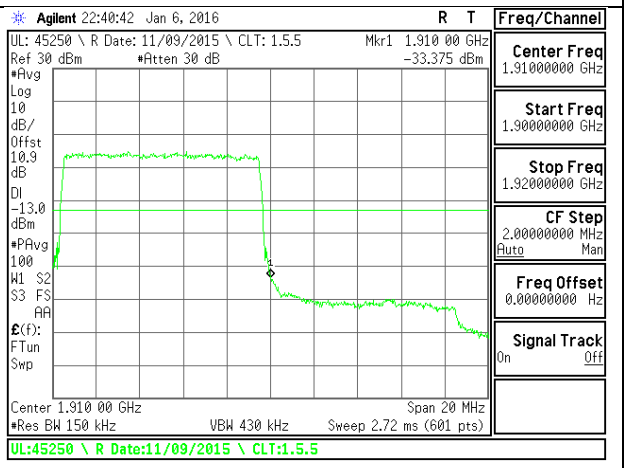

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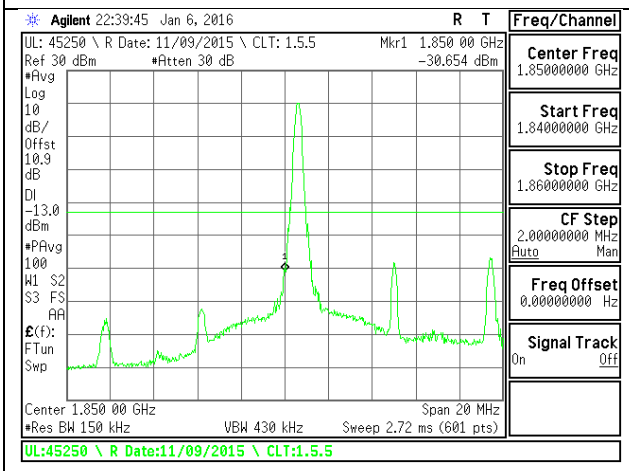

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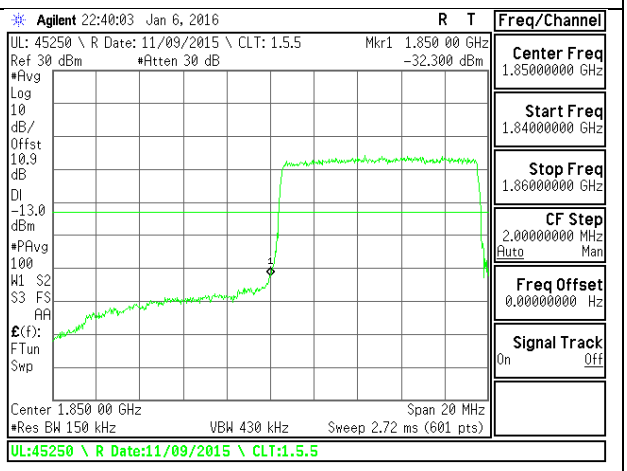

LTE B2 10MHz 16QAM Low Channel FRB

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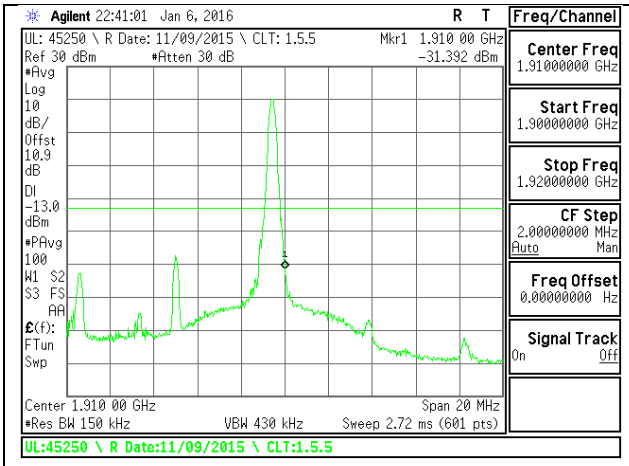

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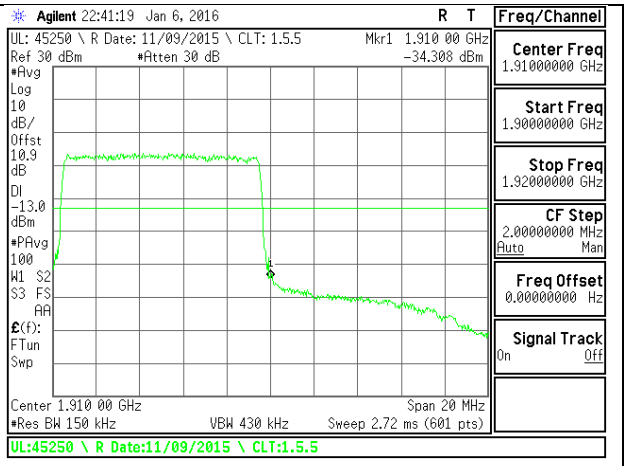
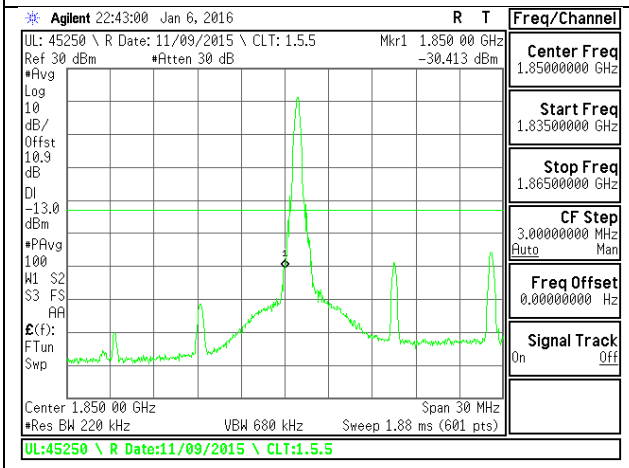
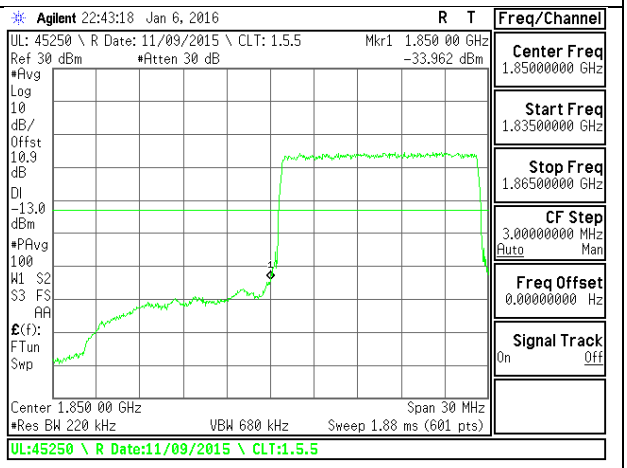


LTE B2 10MHz 16QAM High Channel FRB



LTE B2 15MHz QPSK Low Channel 1RB



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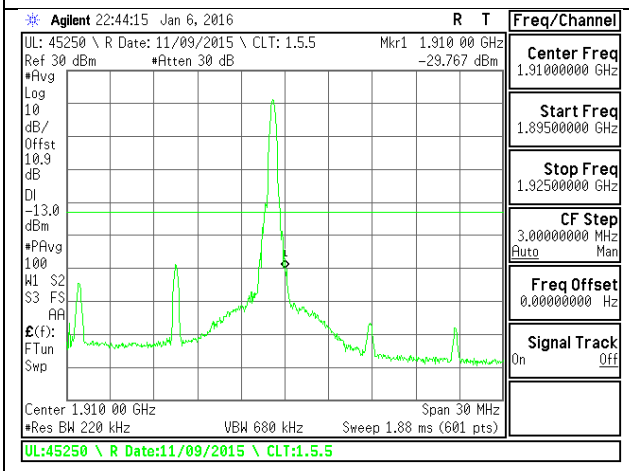

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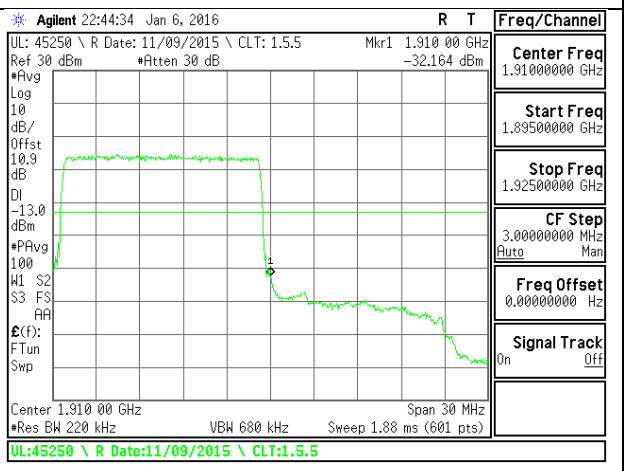

LTE B2 15MHz QPSK High Channel FRB

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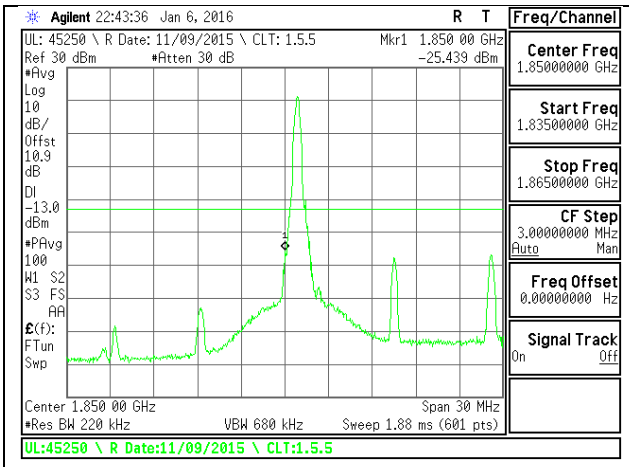
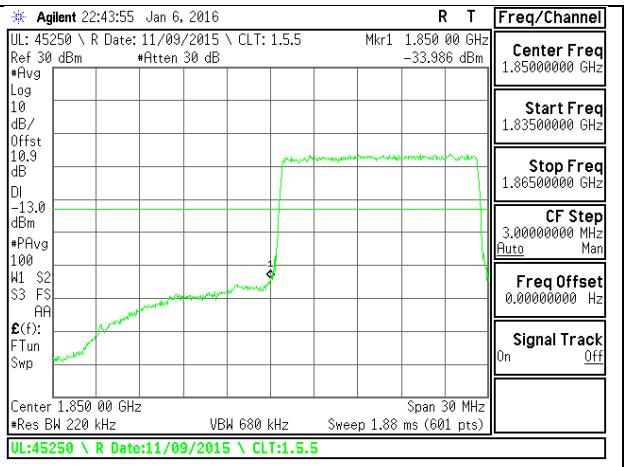
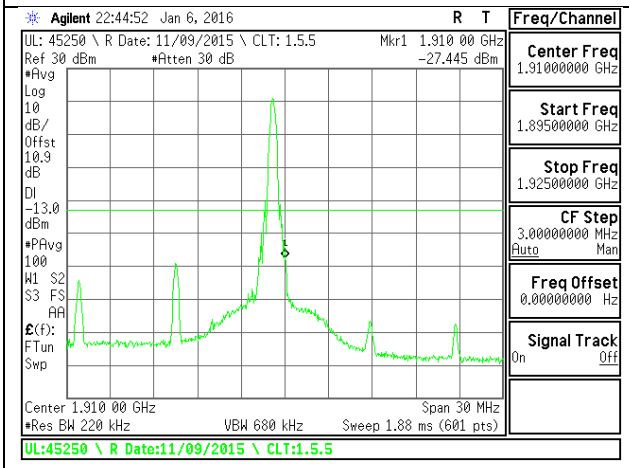


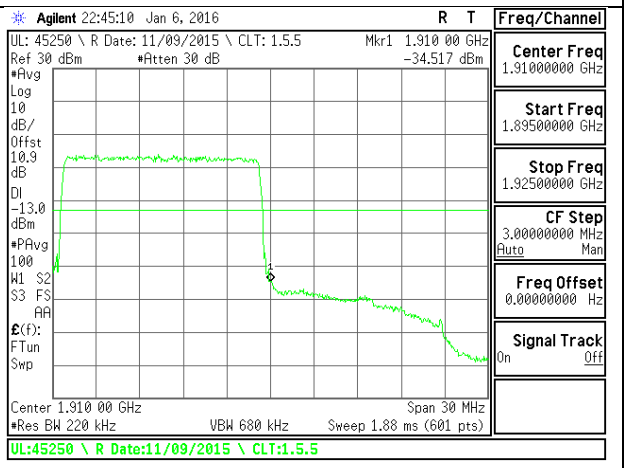
LTE B2 15MHz 16QAM Low Channel 1RB



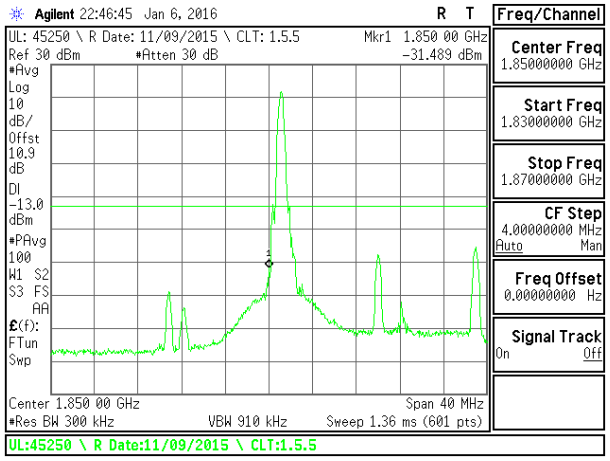
LTE B2 15MHz 16QAM Low Channel FRB



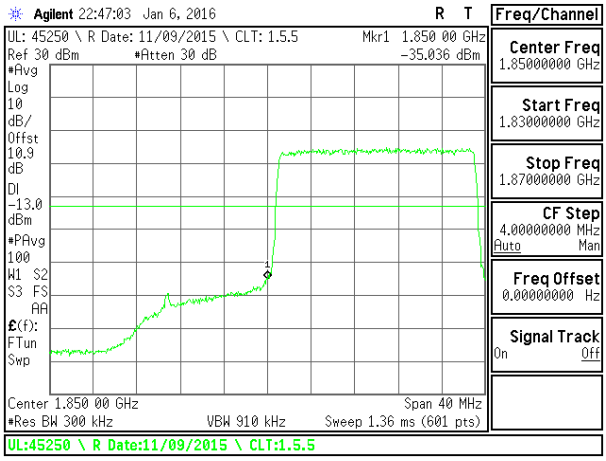
LTE B2 15MHz 16QAM High Channel 1RB



LTE B2 15MHz 16QAM High Channel FRB



LTE B2 20MHz QPSK Low Channel 1RB



LTE B2 20MHz QPSK Low Channel FRB

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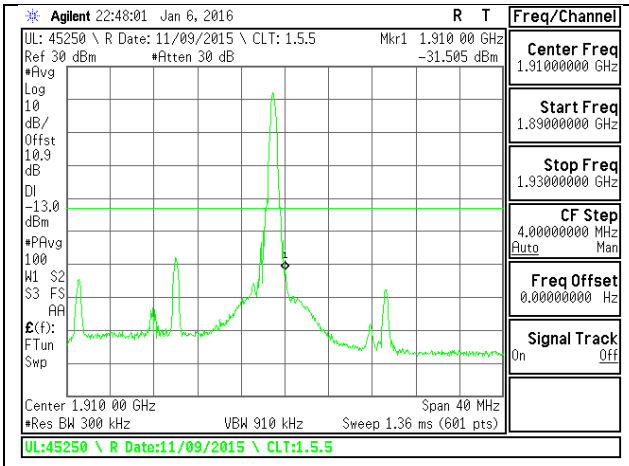
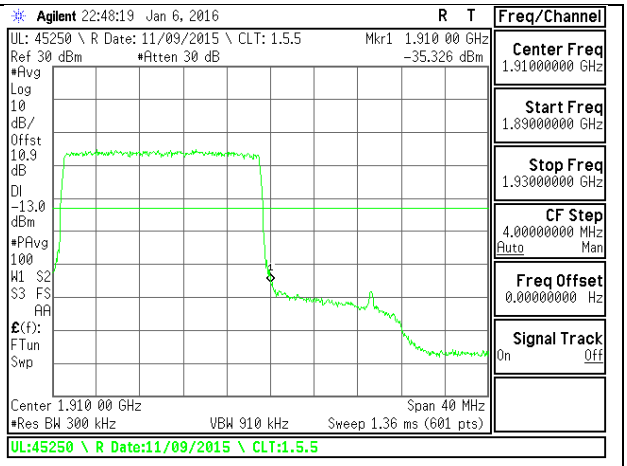


LTE B2 20MHz QPSK High Channel 1RB



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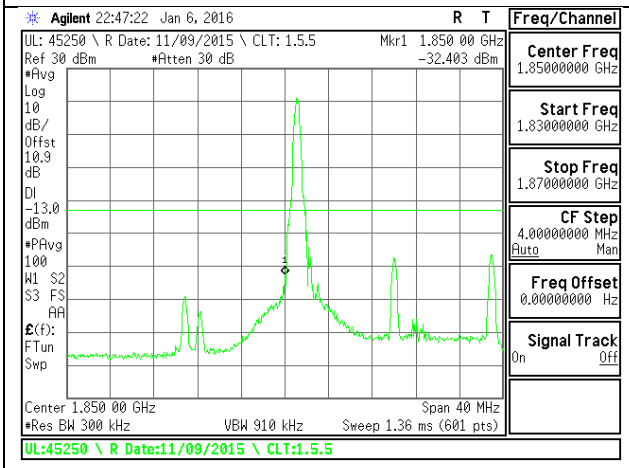
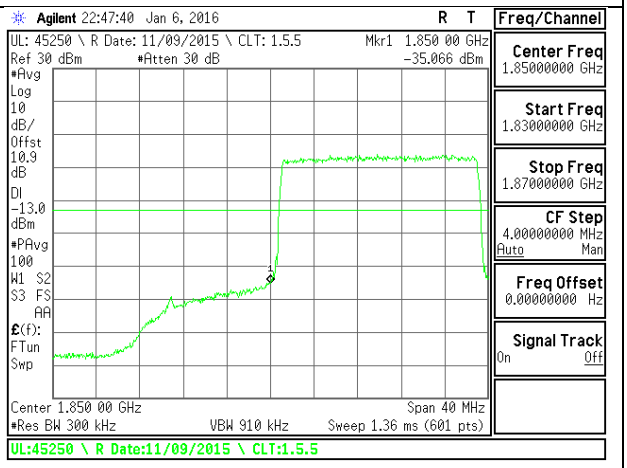
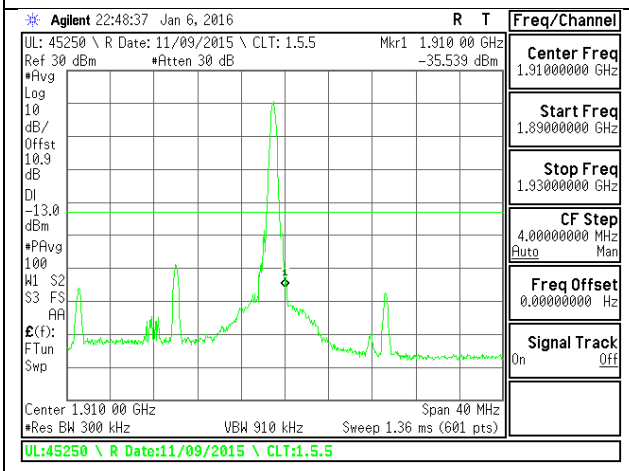


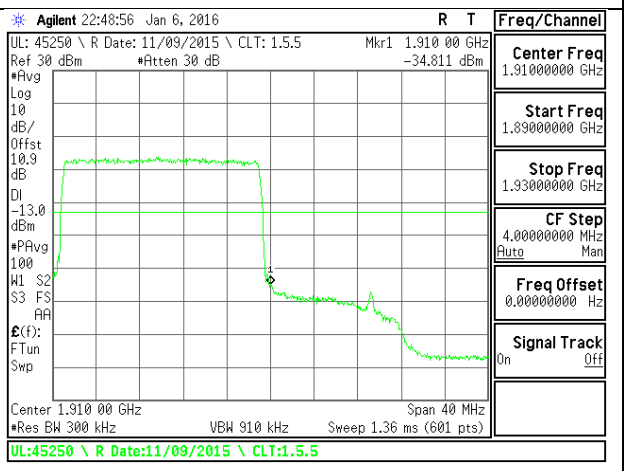
LTE B2 20MHz 16QAM Low Channel 1RB



LTE B2 20MHz 16QAM Low Channel FRB



LTE B2 20MHz 16QAM High Channel 1RB



LTE B2 20MHz 16QAM High Channel FRB

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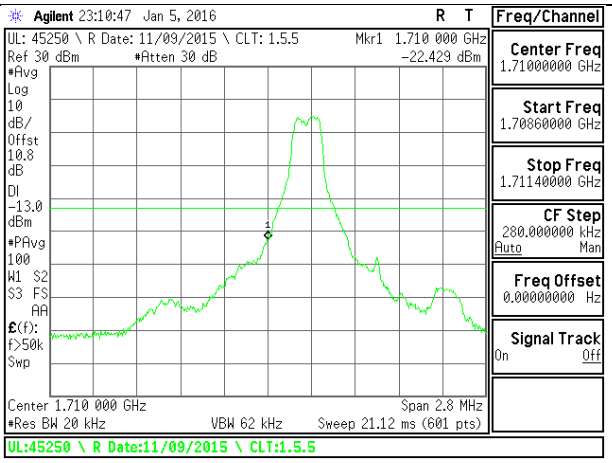
LTE Band 4



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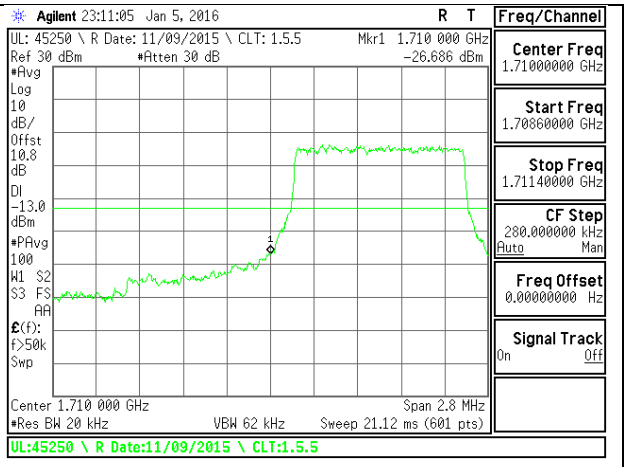

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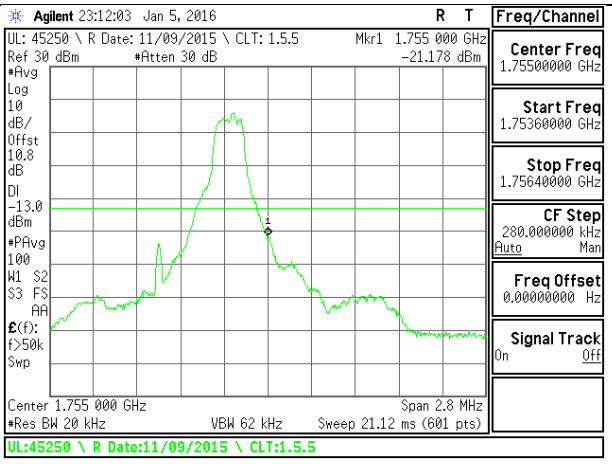

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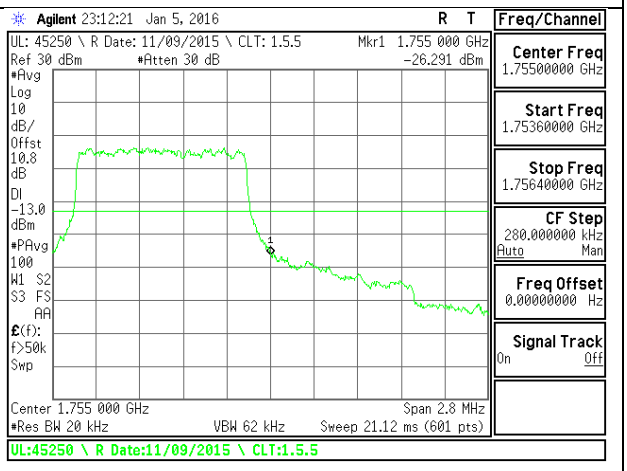

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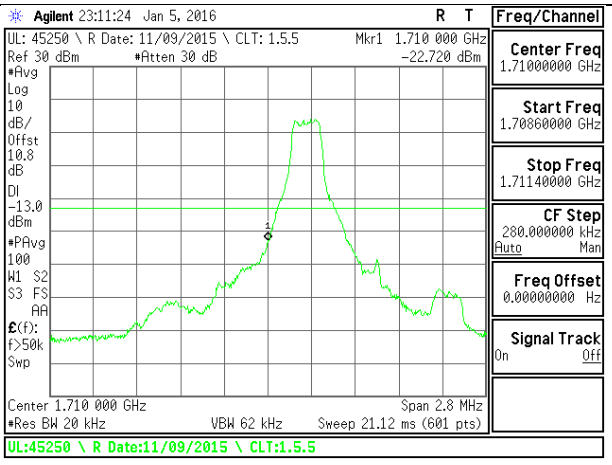

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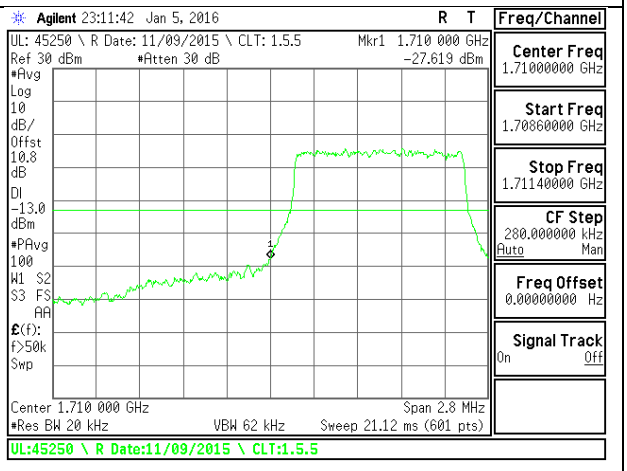

LTE B4 1.4MHz 16QAM Low Channel FRB

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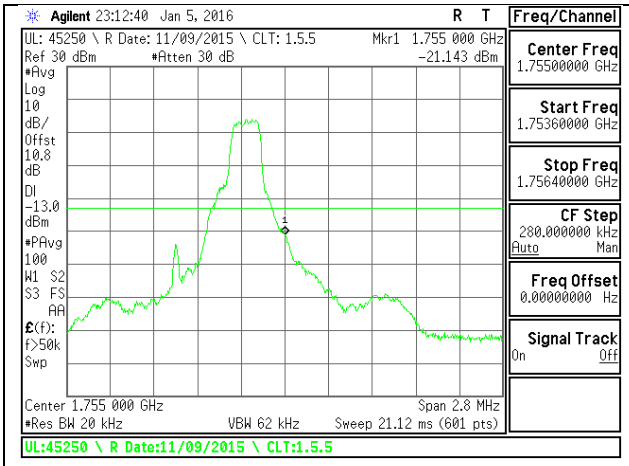
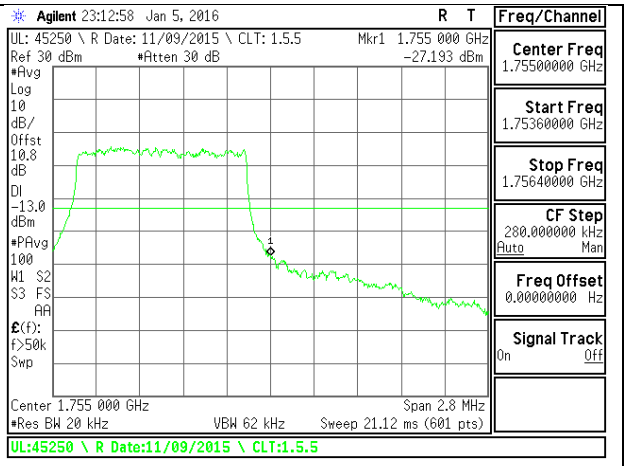
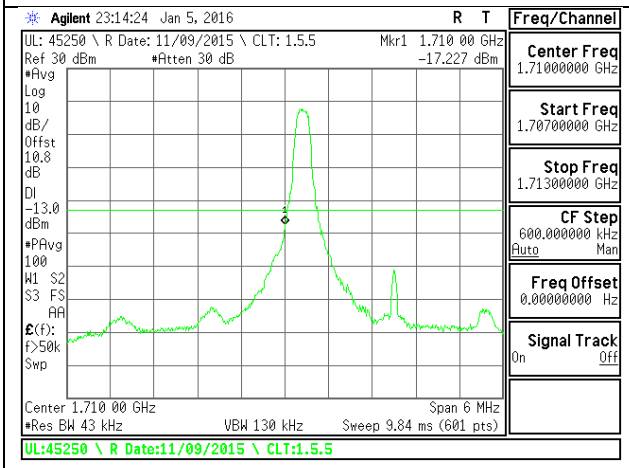


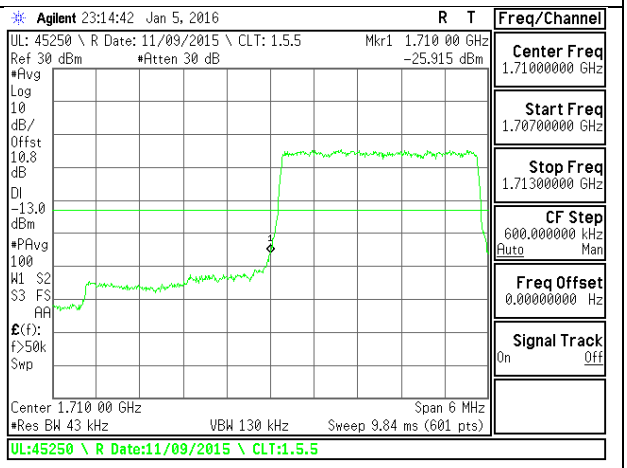
LTE B4 1.4MHz 16QAM High Channel 1RB



LTE B4 1.4MHz 16QAM High Channel FRB



LTE B4 3MHz QPSK Low Channel 1RB



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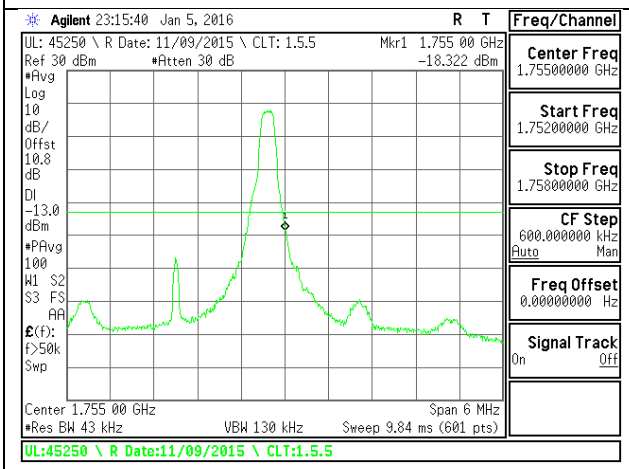

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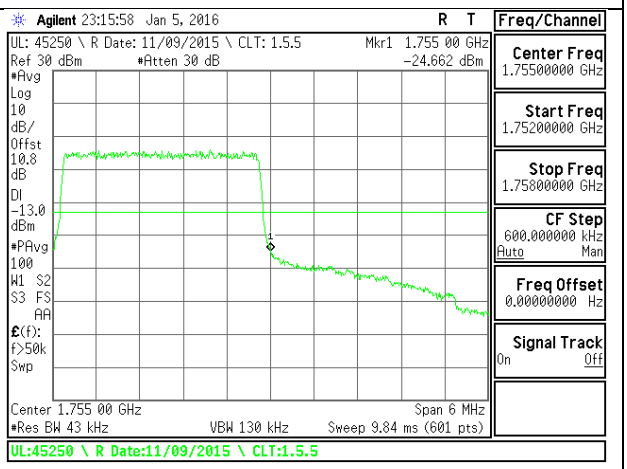

LTE B4 3MHz QPSK High Channel FRB

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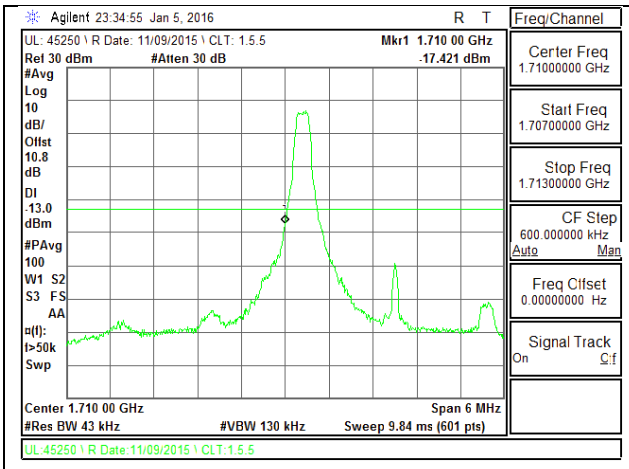
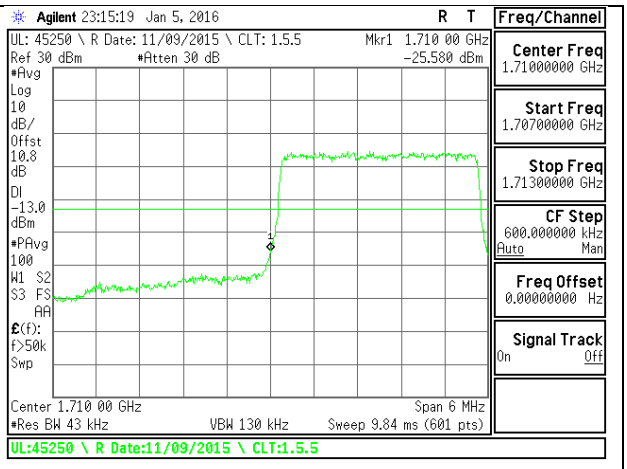
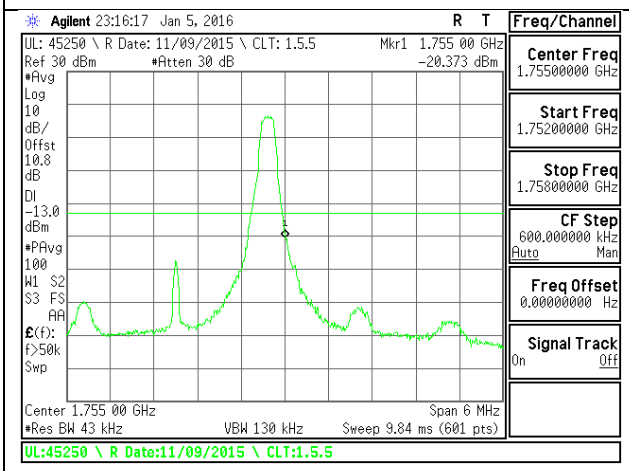


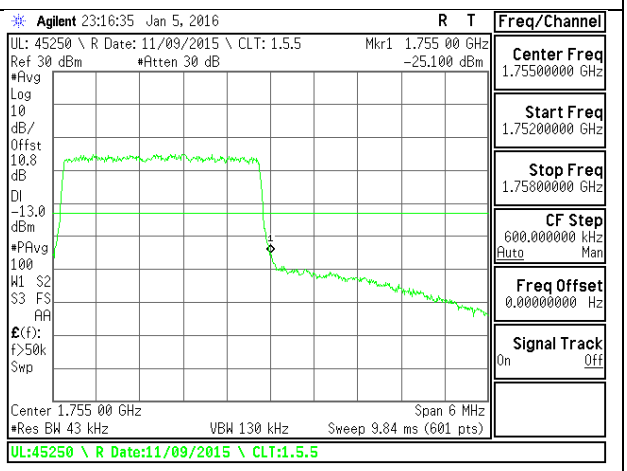
LTE B4 3MHz 16QAM Low Channel 1RB



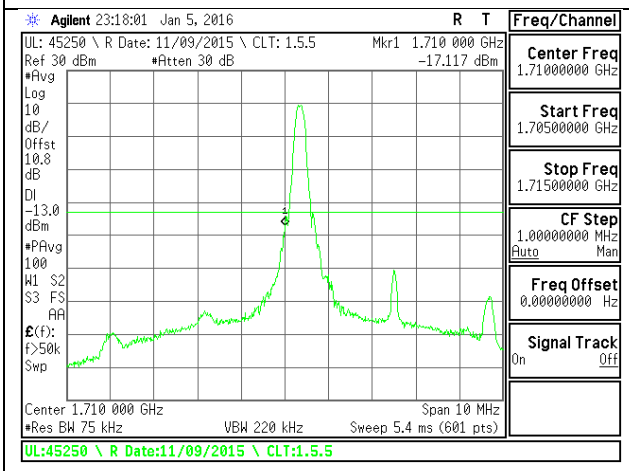
LTE B4 3MHz 16QAM Low Channel FRB



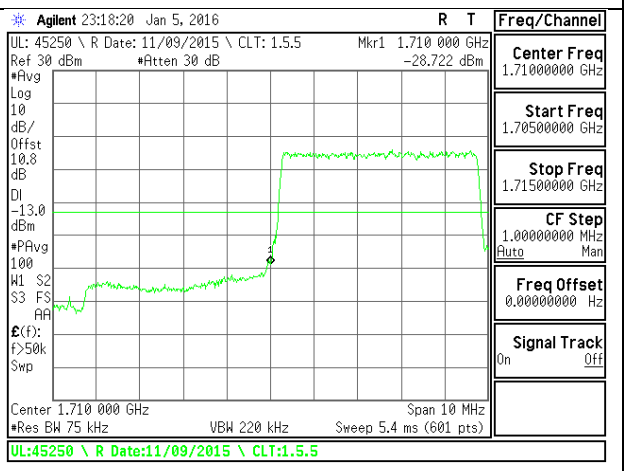
LTE B4 3MHz 16QAM High Channel 1RB



LTE B4 3MHz 16QAM High Channel FRB



LTE B4 5MHz QPSK Low Channel 1RB



LTE B4 5MHz QPSK Low Channel FRB

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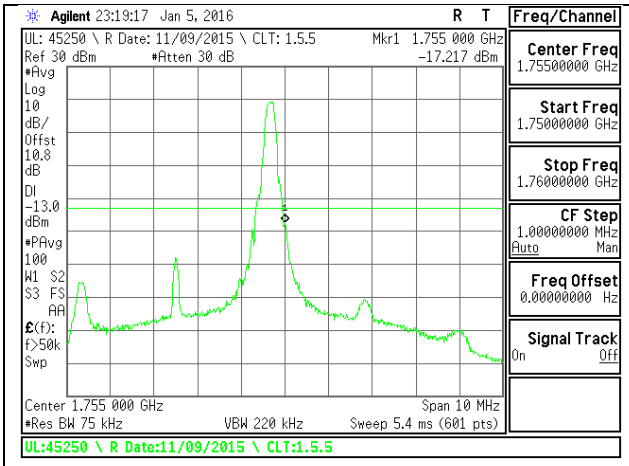
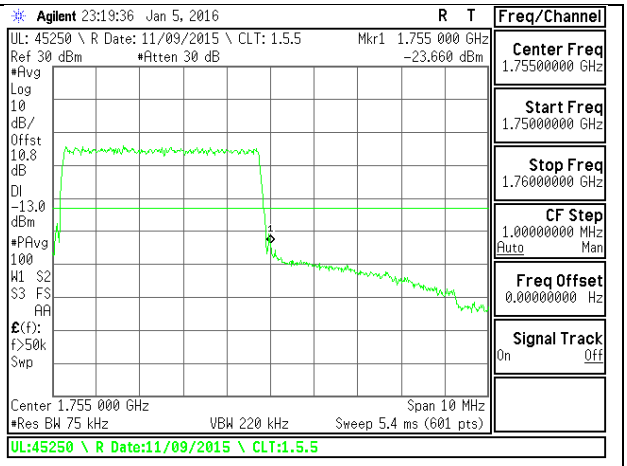
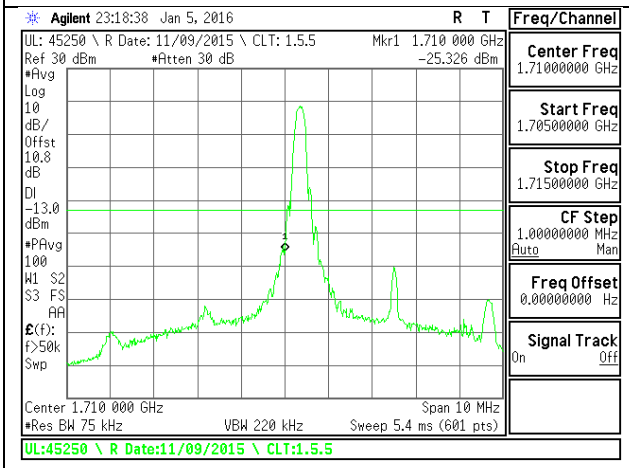


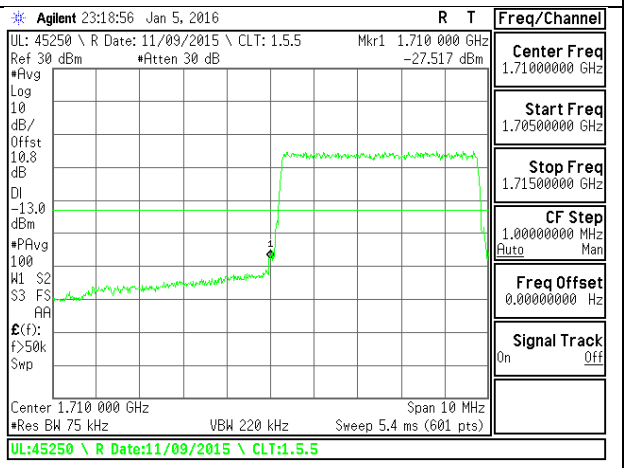
LTE B4 5MHz QPSK High Channel 1RB



LTE B4 5MHz QPSK High Channel FRB



LTE B4 5MHz 16QAM Low Channel 1RB



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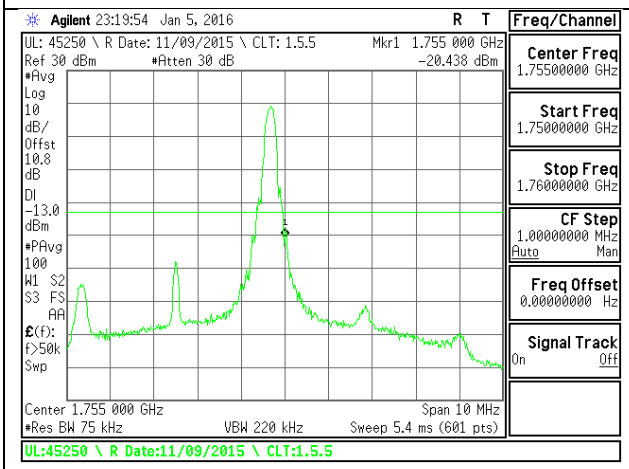

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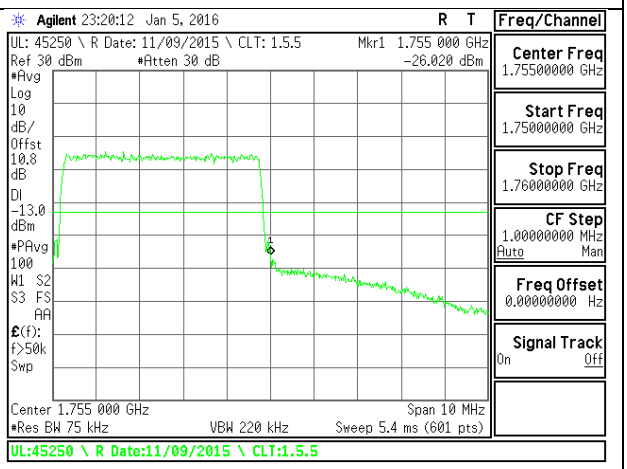

LTE B4 3MHz 16QAM High Channel FRB

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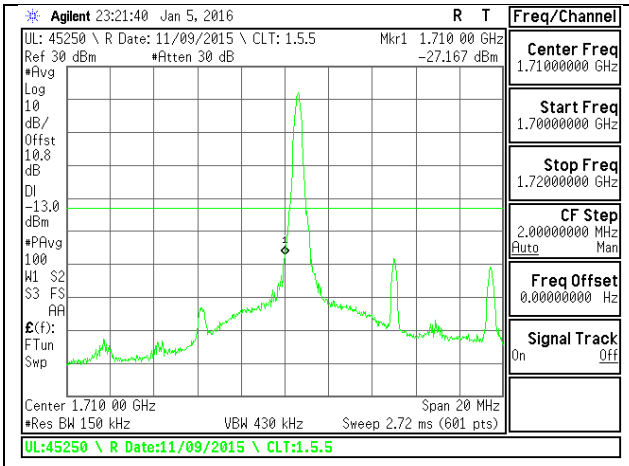

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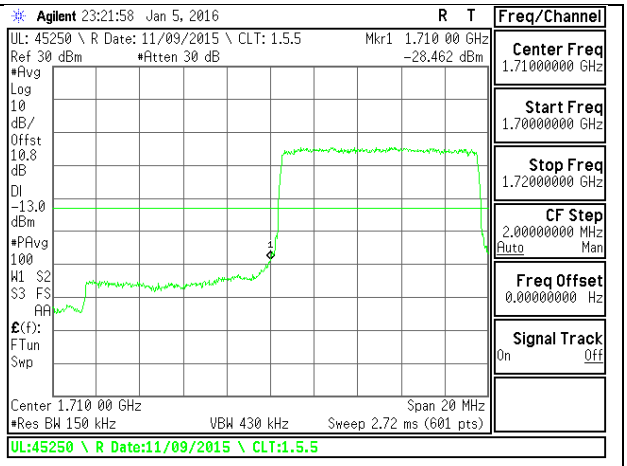

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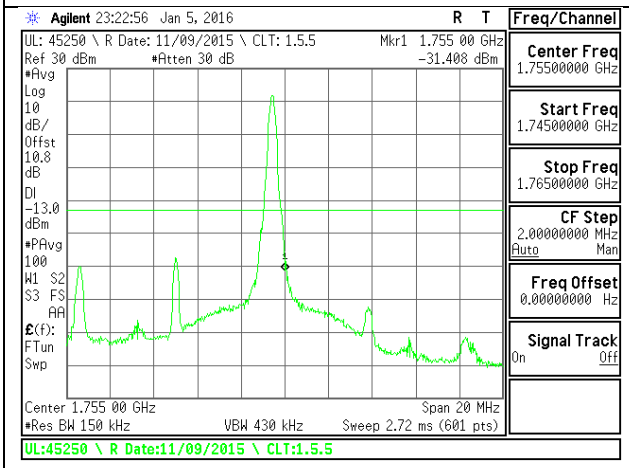

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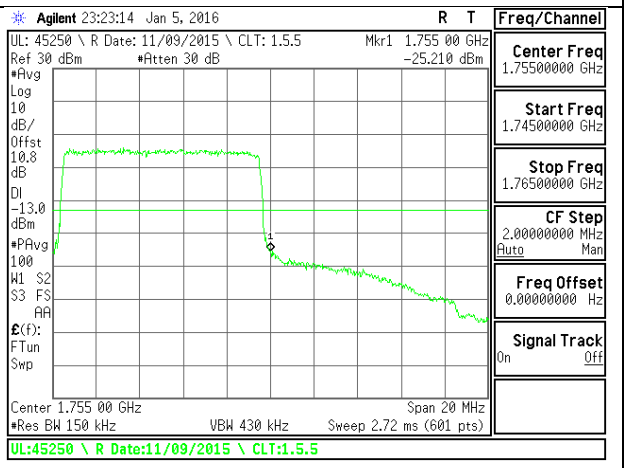

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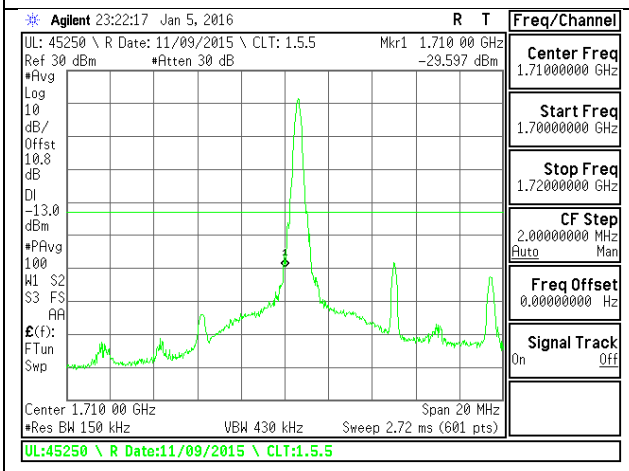

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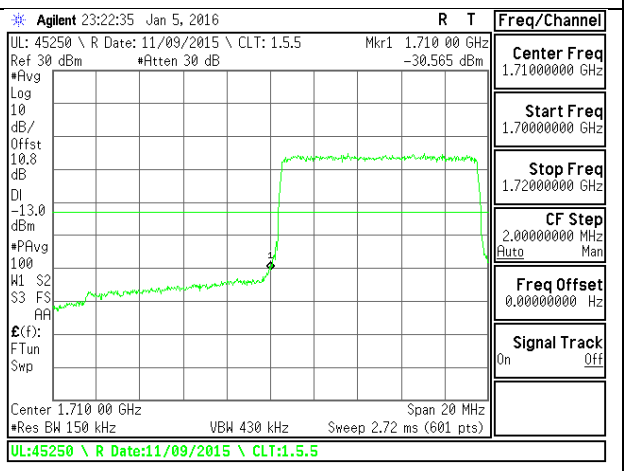

LTE B4 10MHz 16QAM Low Channel FRB

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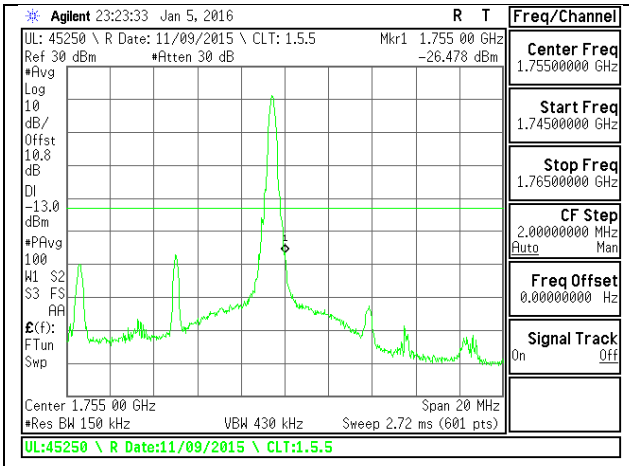
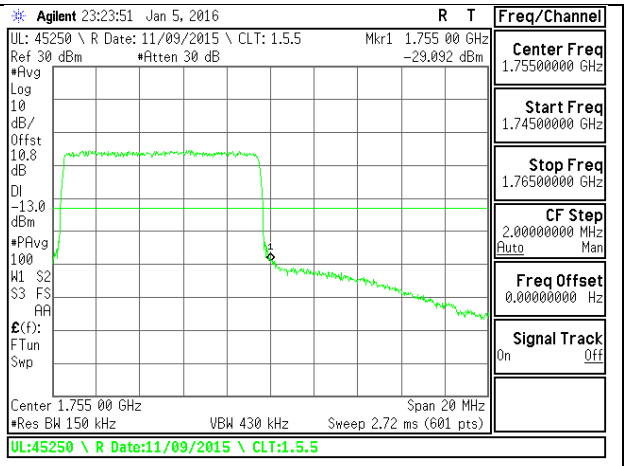
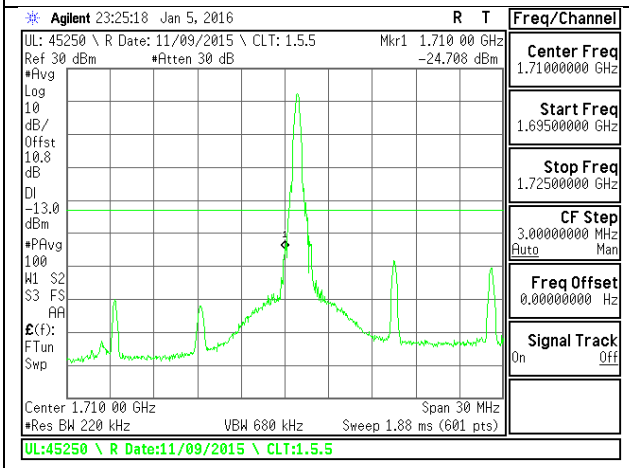


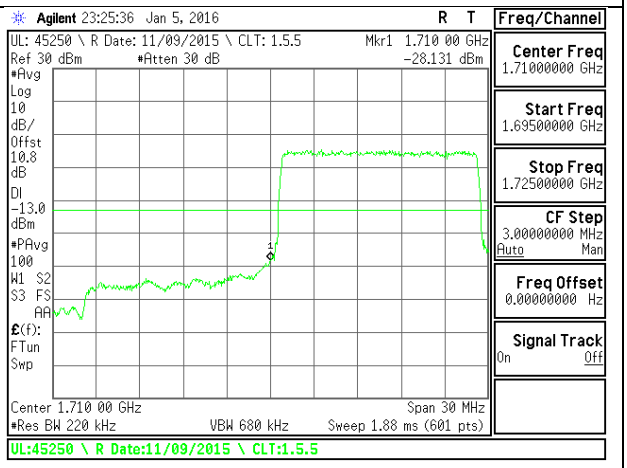
LTE B4 10MHz 16QAM High Channel 1RB



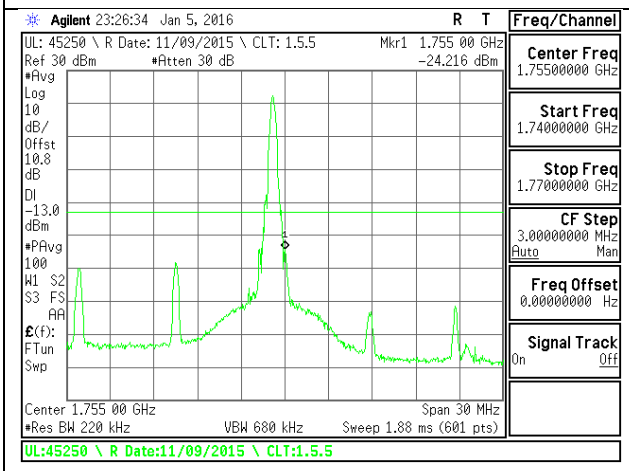
LTE B4 10MHz 16QAM High Channel FRB



LTE B4 15MHz QPSK Low Channel 1RB



LTE B4 15MHz QPSK Low Channel FRB



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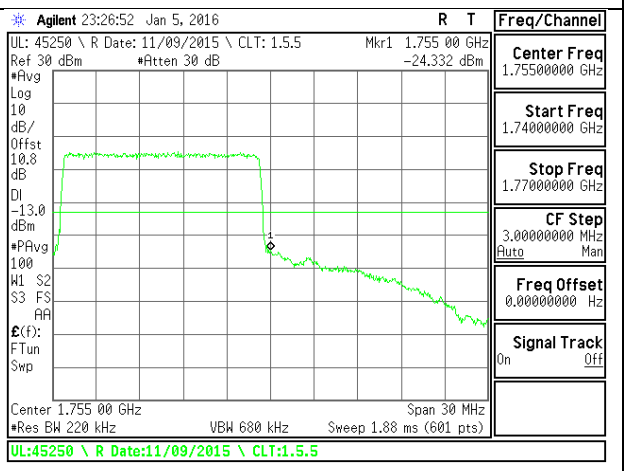

LTE B4 15MHz QPSK High Channel FRB

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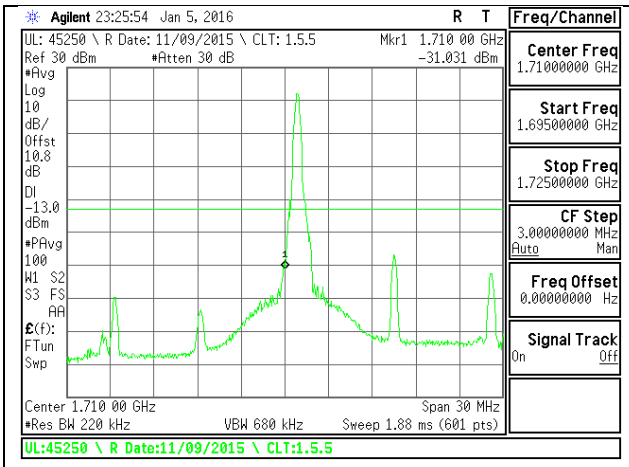
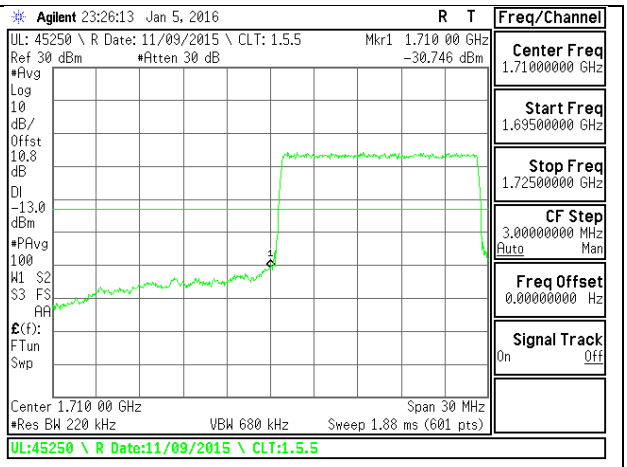
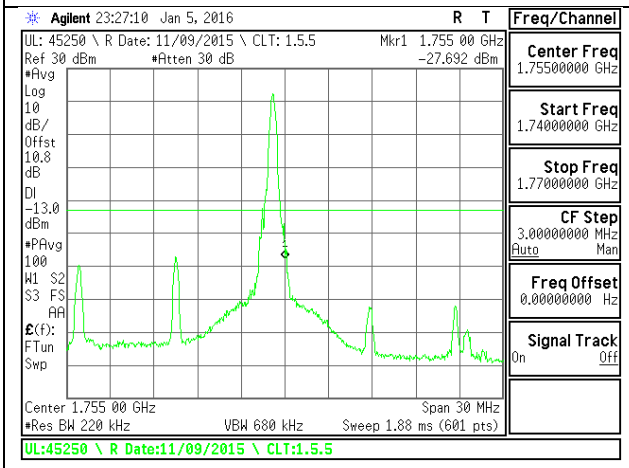


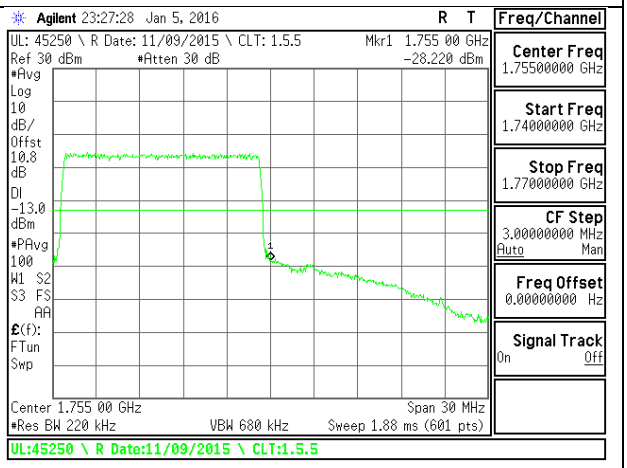
LTE B4 15MHz 16QAM Low Channel 1RB



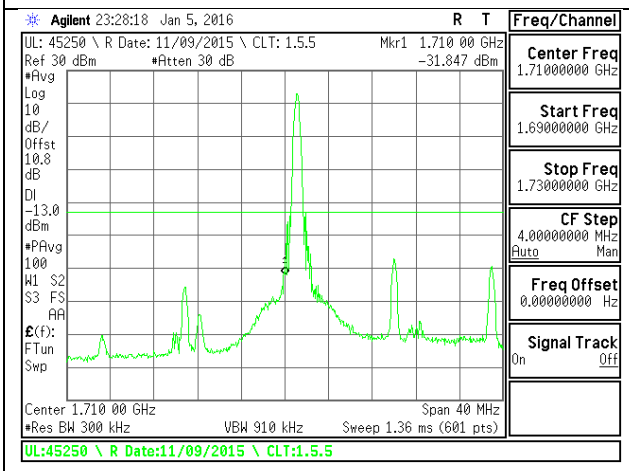
LTE B4 15MHz 16QAM Low Channel FRB



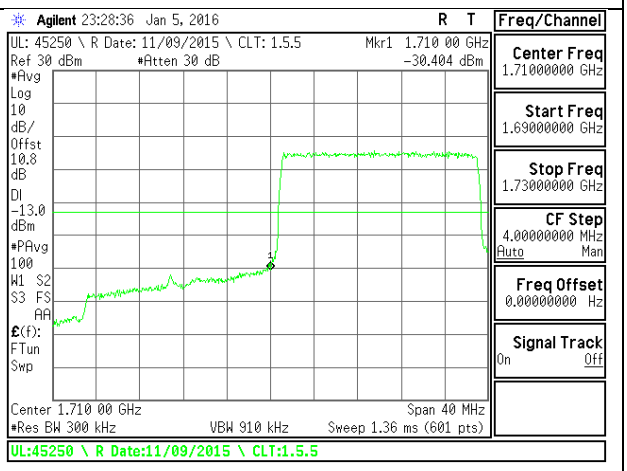
LTE B4 15MHz 16QAM High Channel 1RB



LTE B4 15MHz 16QAM High Channel FRB



LTE B4 20MHz QPSK Low Channel 1RB



LTE B4 20MHz QPSK Low Channel FRB

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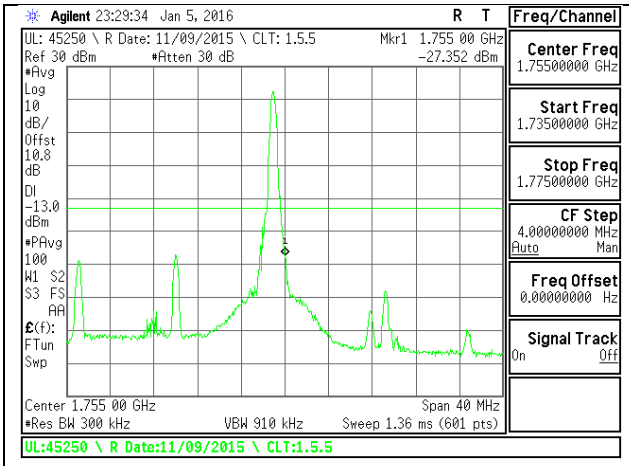

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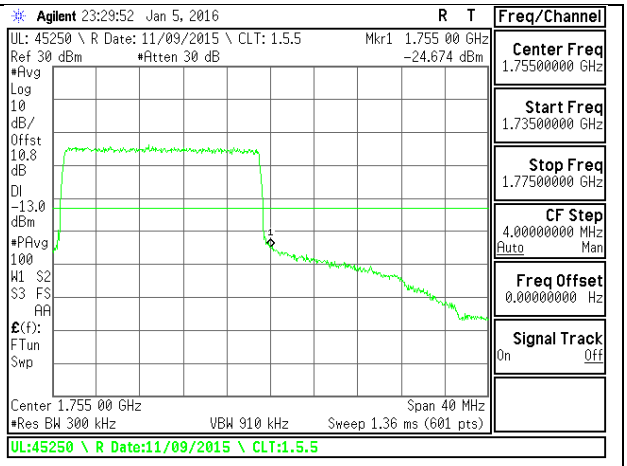

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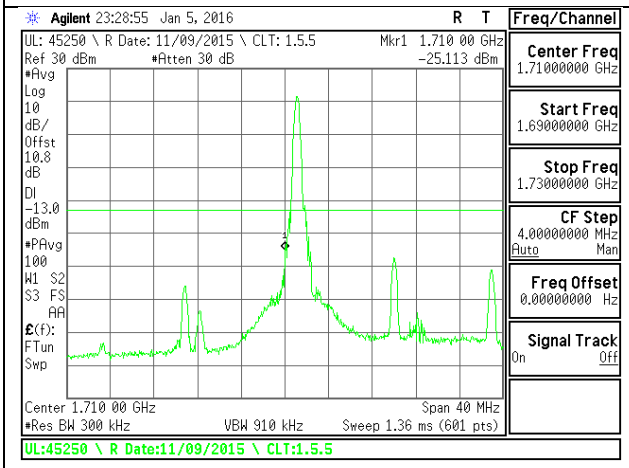
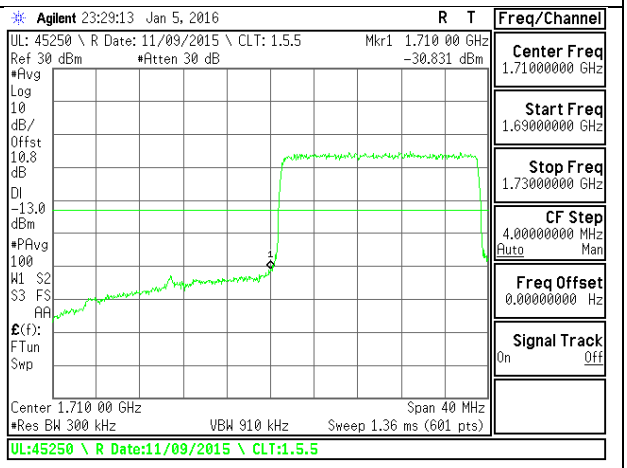
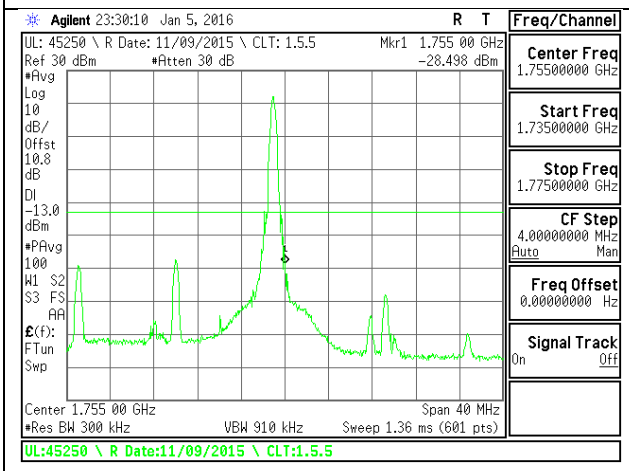


LTE B4 20MHz 16QAM Low Channel 1RB



LTE B4 20MHz 16QAM Low Channel FRB



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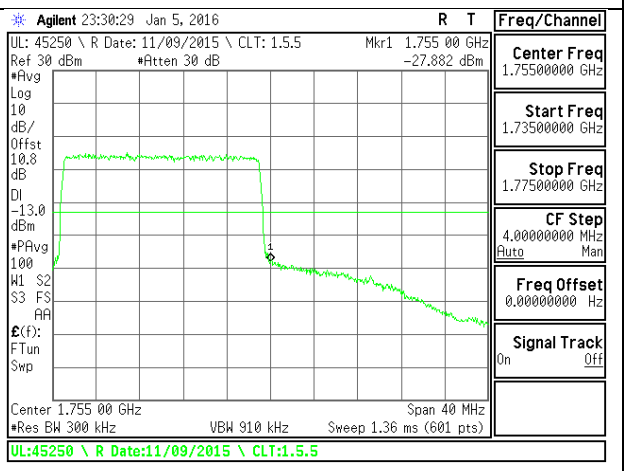

LTE B4 20MHz 16QAM High Channel FRB

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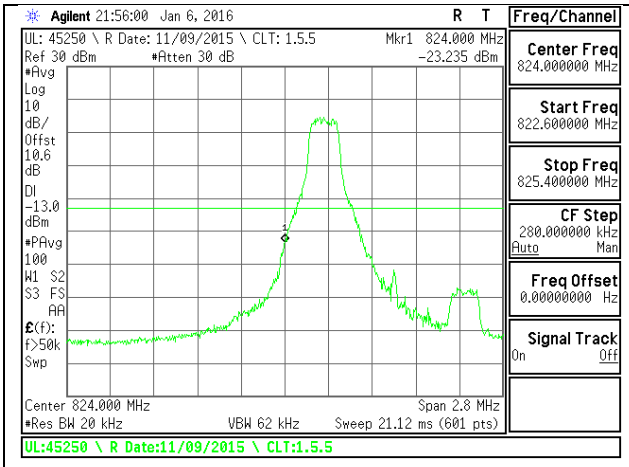
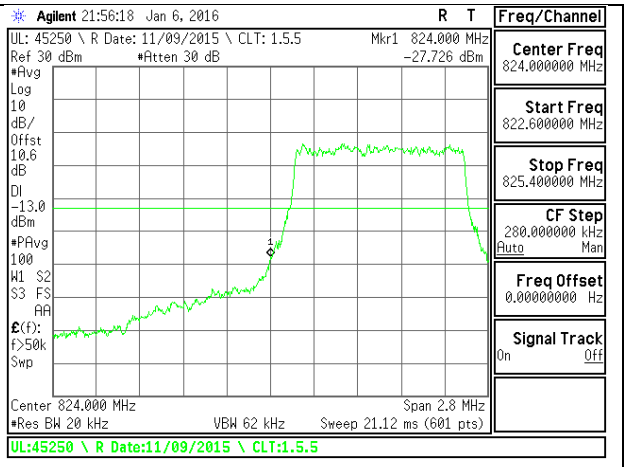
LTE Band 5



LTE B5 1.4MHz QPSK Low Channel 1RB



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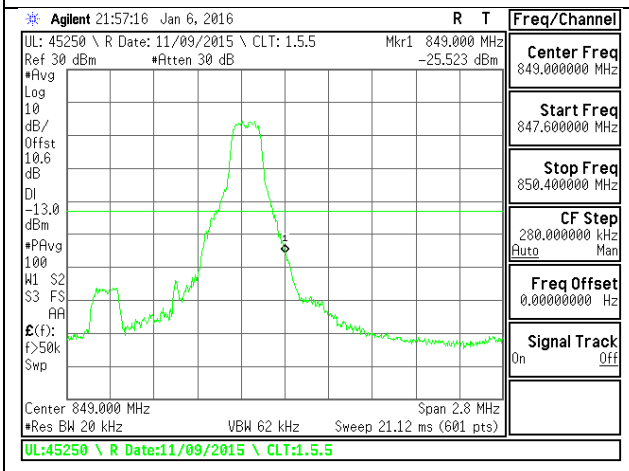

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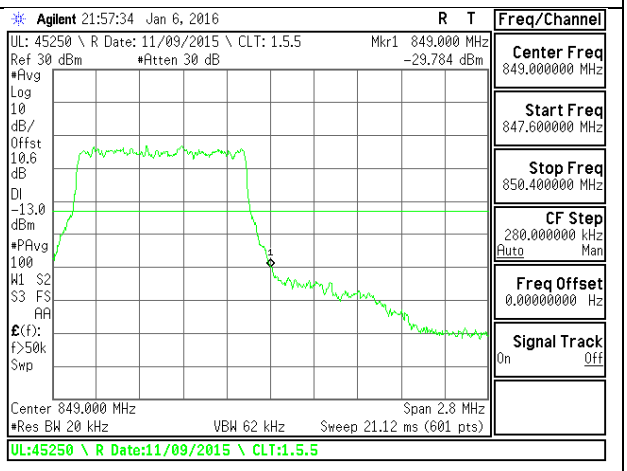

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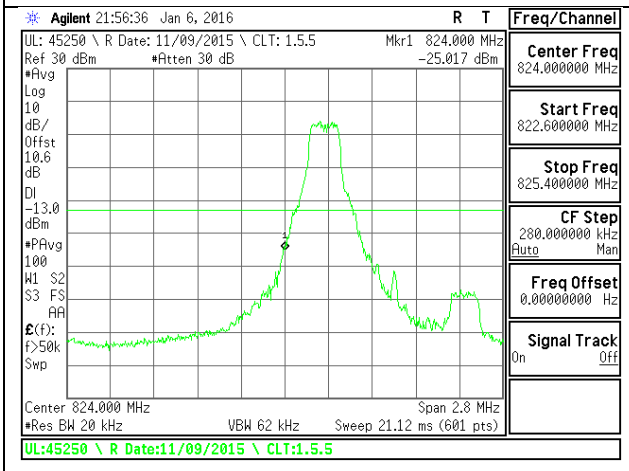
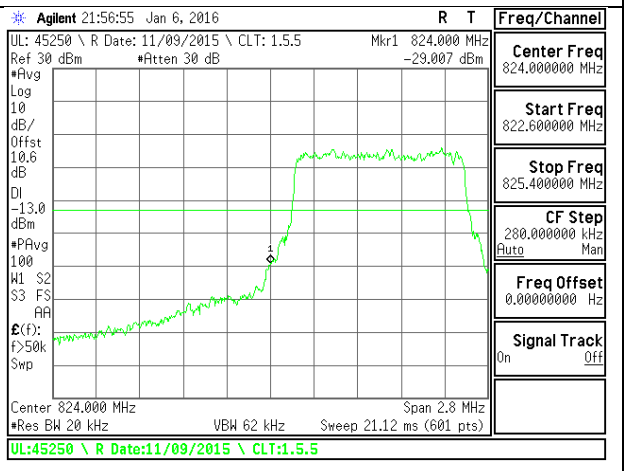


LTE B5 1.4MHz 16QAM Low Channel 1RB



LTE B5 1.4MHz 16QAM Low Channel FRB

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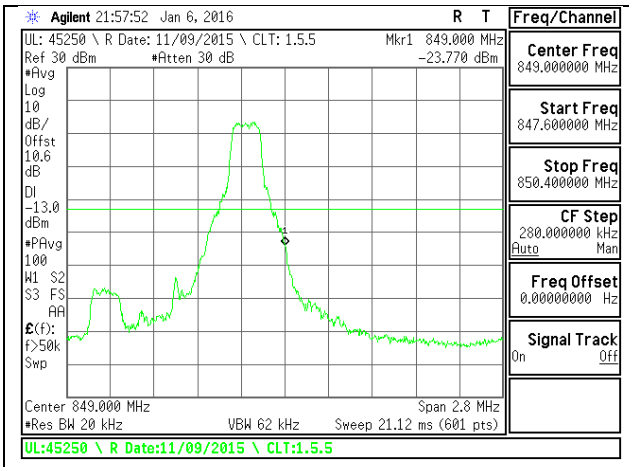
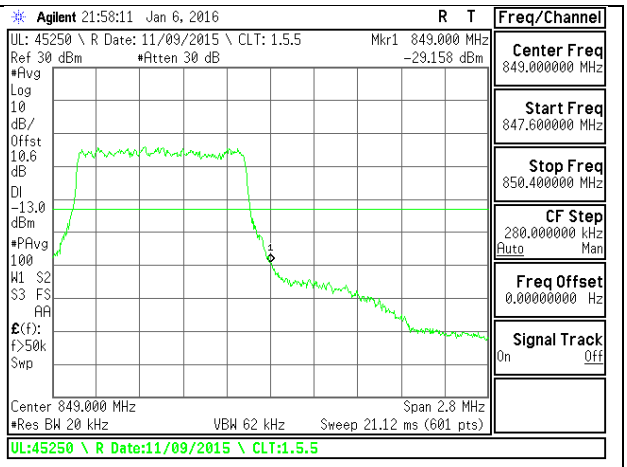
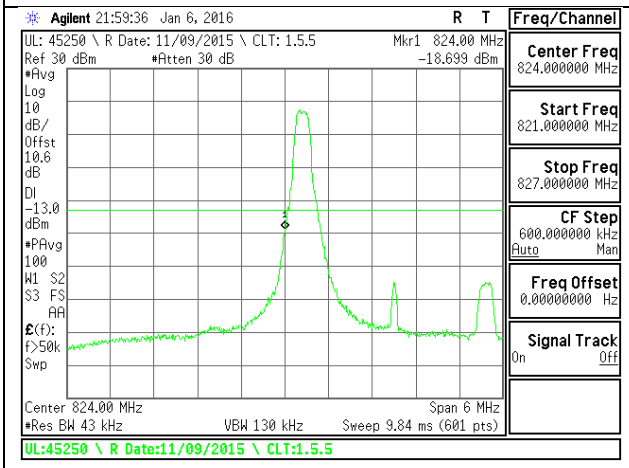


LTE B5 1.4MHz 16QAM High Channel 1RB



LTE B5 1.4MHz 16QAM High Channel FRB



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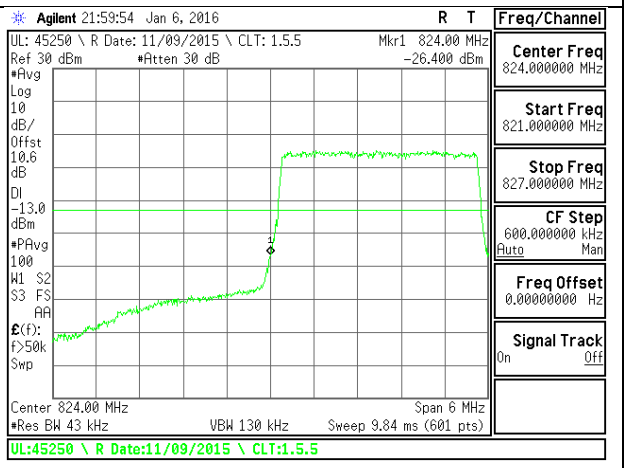

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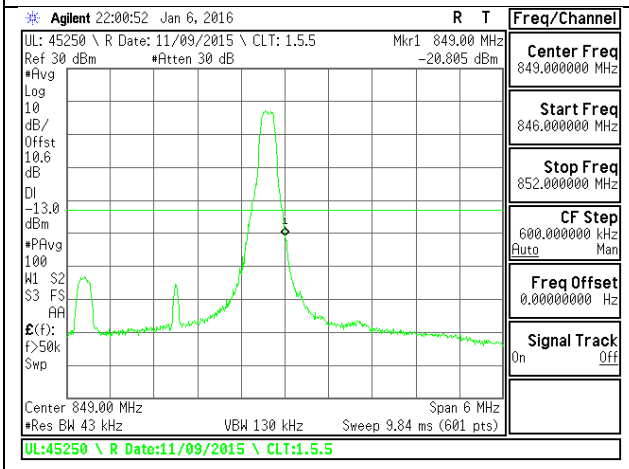

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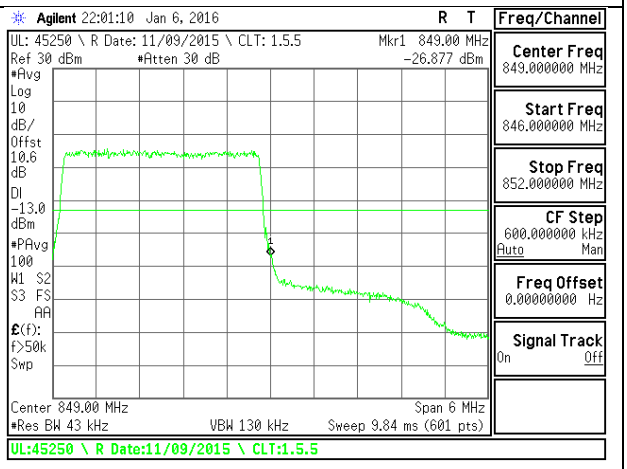

LTE B5 3MHz QPSK High Channel FRB

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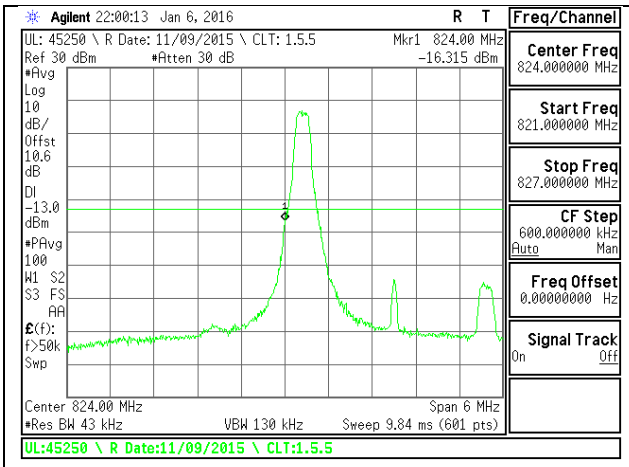
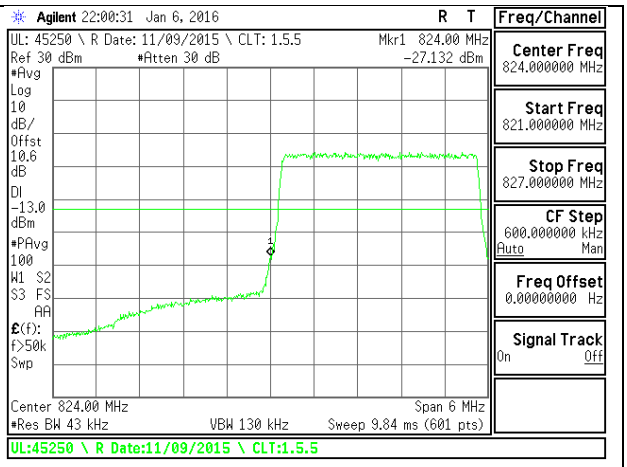
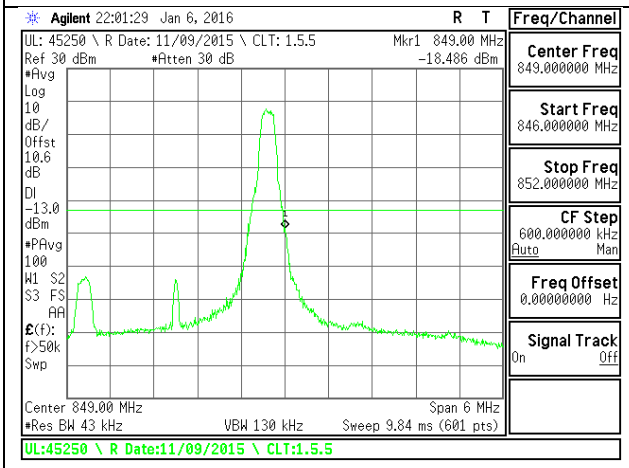


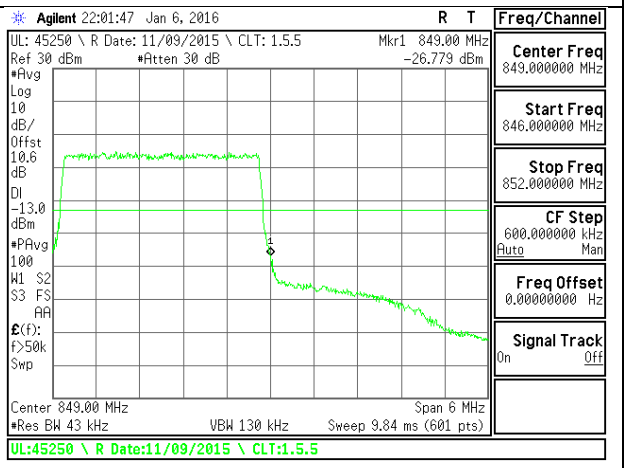
LTE B5 3MHz 16QAM Low Channel 1RB



LTE B5 3MHz 16QAM Low Channel FRB



LTE B5 3MHz 16QAM High Channel 1RB



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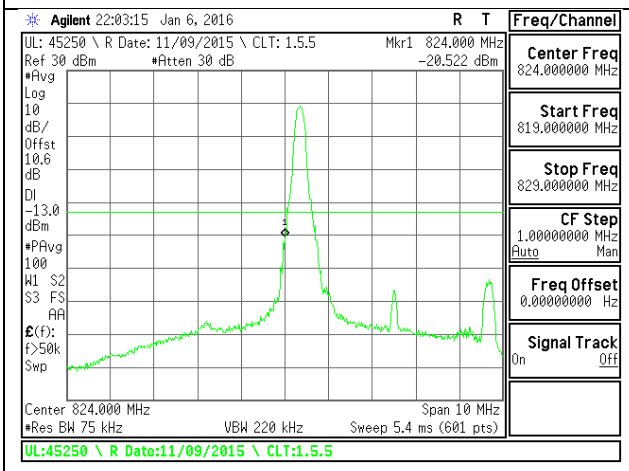
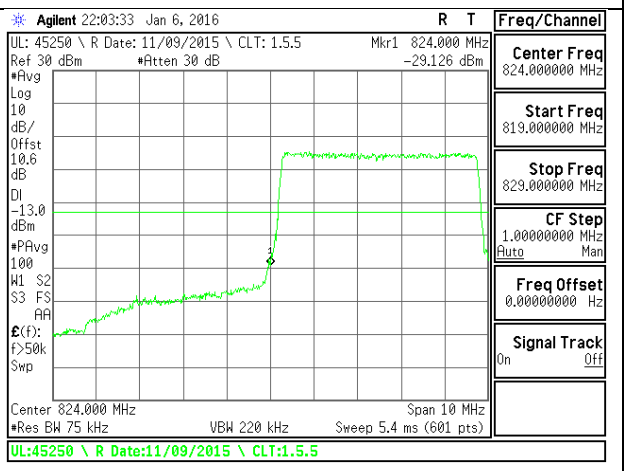


LTE B5 5MHz QPSK Low Channel 1RB



LTE B5 5MHz QPSK Low Channel FRB

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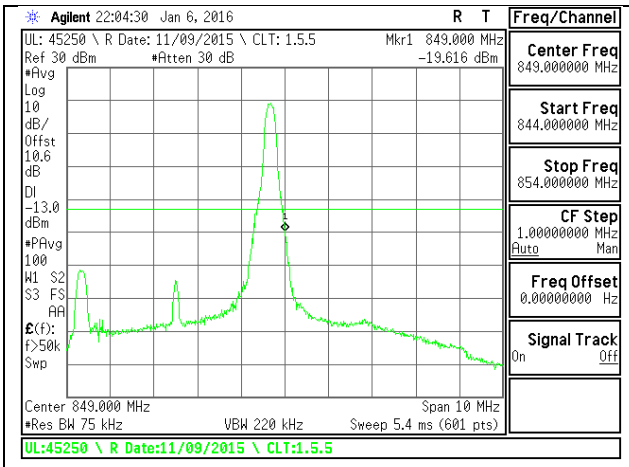
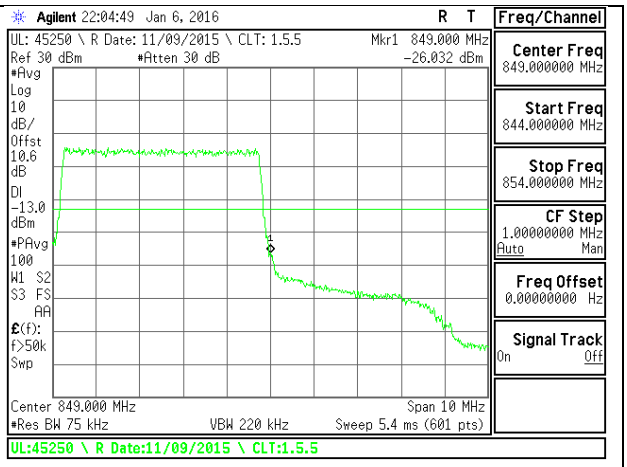
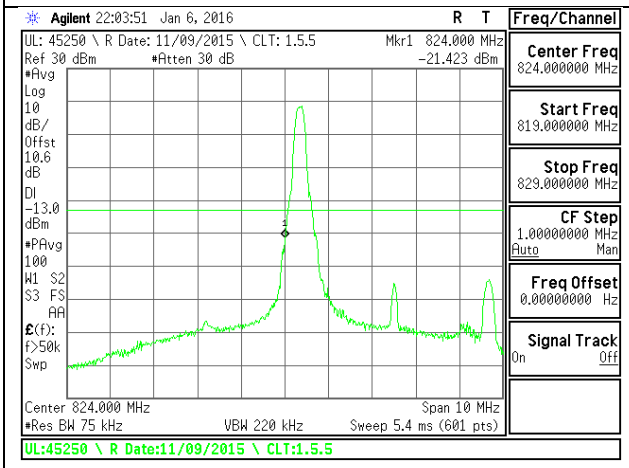


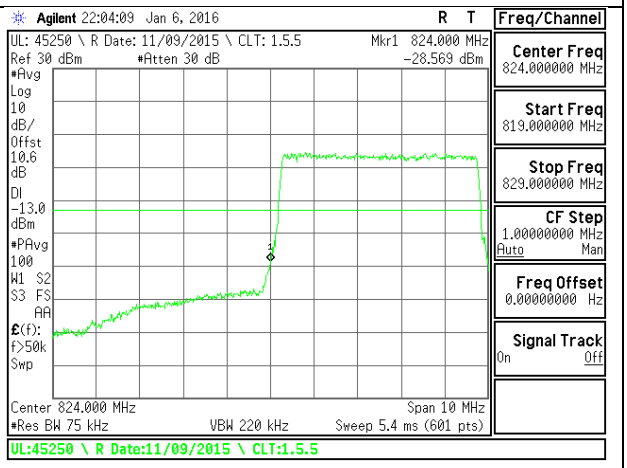
LTE B5 5MHz QPSK High Channel 1RB



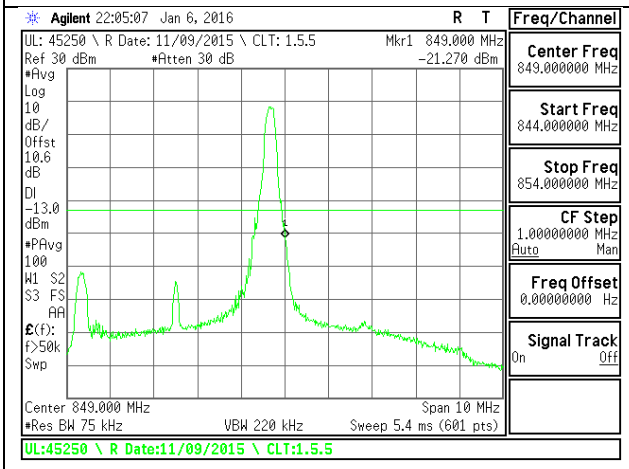
LTE B5 5MHz QPSK High Channel FRB



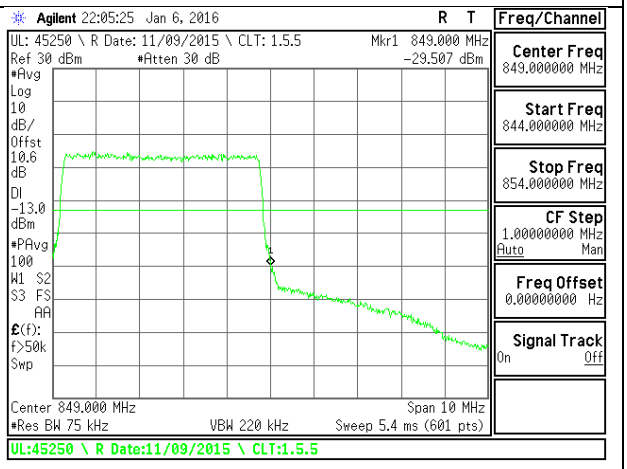
LTE B5 5MHz 16QAM Low Channel 1RB



LTE B5 3MHz 16QAM Low Channel FRB



LTE B5 5MHz 16QAM High Channel 1RB



LTE B5 3MHz 16QAM High Channel FRB

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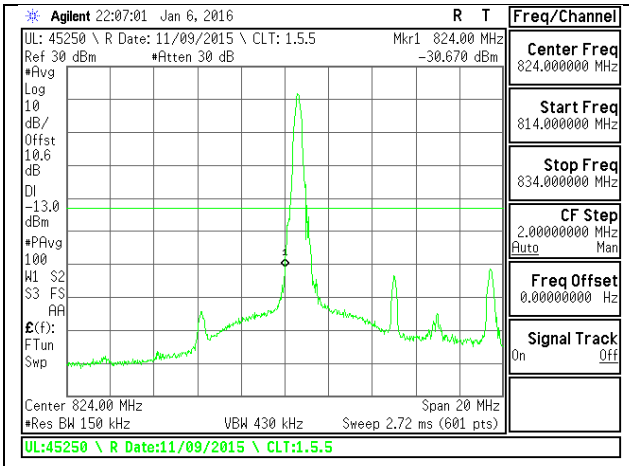
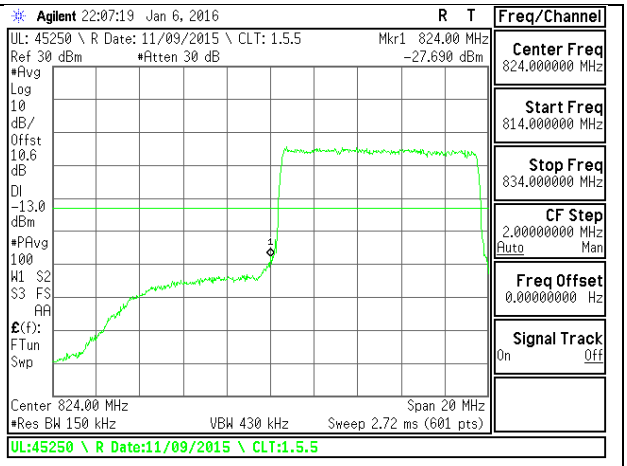
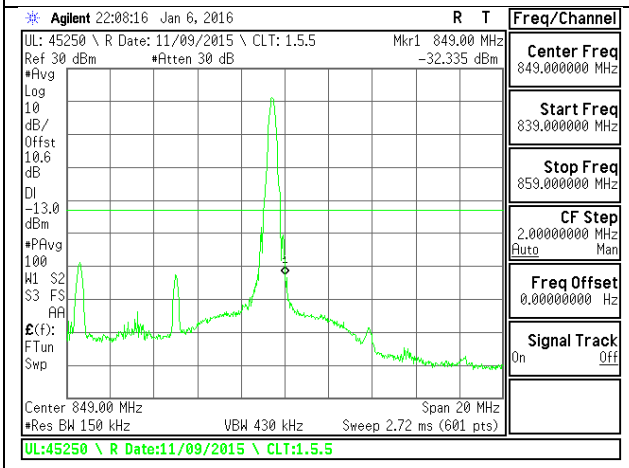


LTE B5 10MHz QPSK Low Channel 1RB



LTE B5 10MHz QPSK Low Channel FRB



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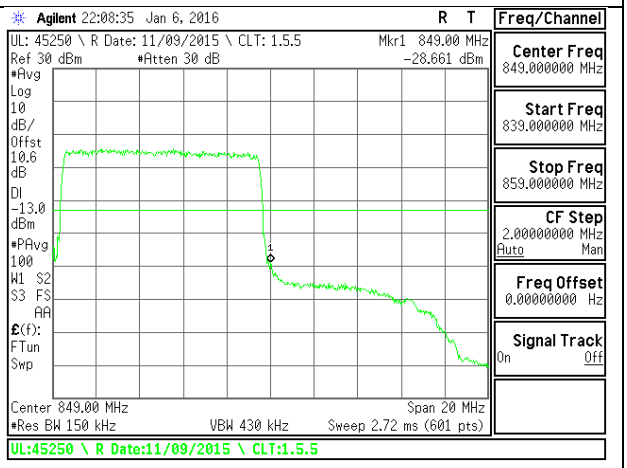
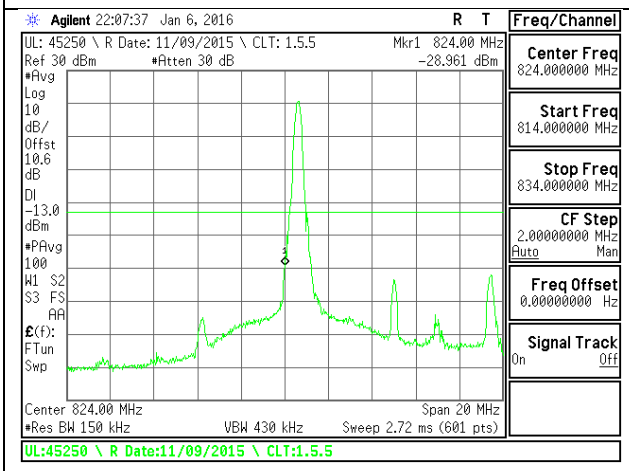
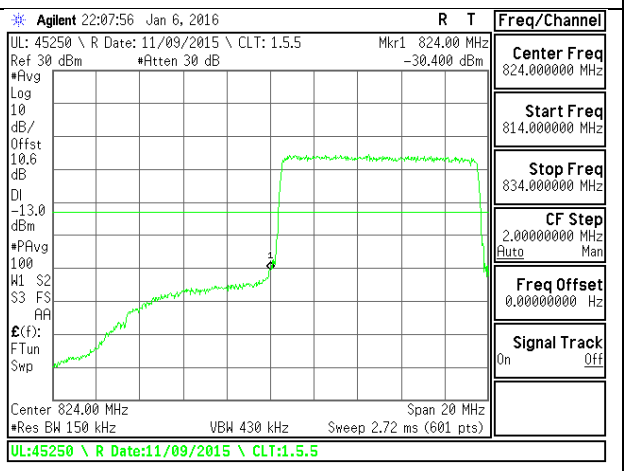


LTE B5 10MHz QPSK High Channel FRB



LTE B5 10MHz 16QAM Low Channel 1RB



LTE B5 10MHz 16QAM Low Channel FRB

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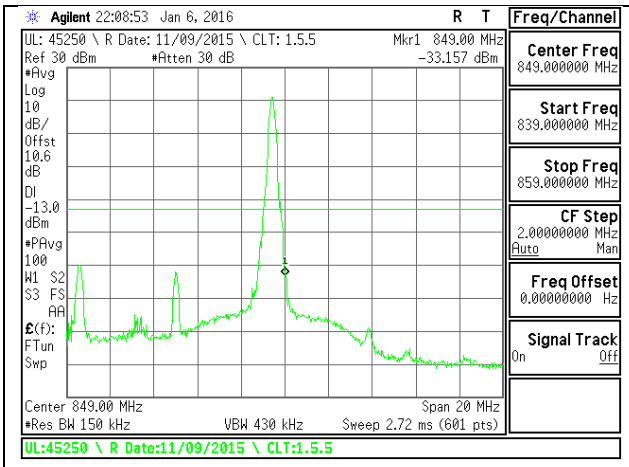
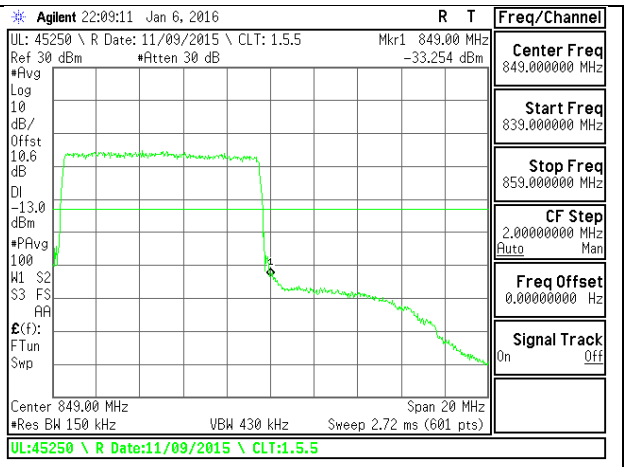


LTE B5 10MHz 16QAM High Channel 1RB



LTE B5 10MHz 16QAM High Channel FRB

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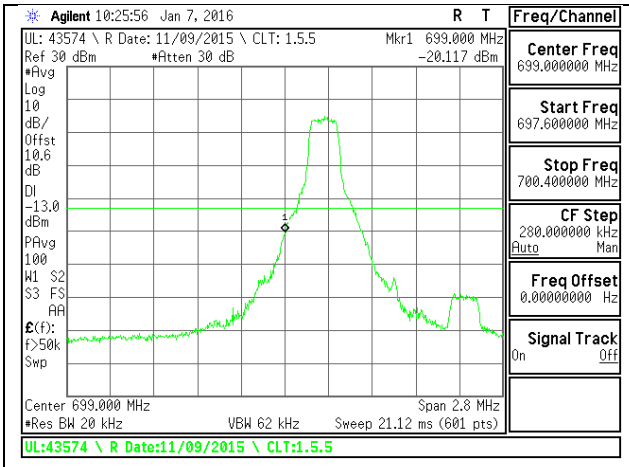
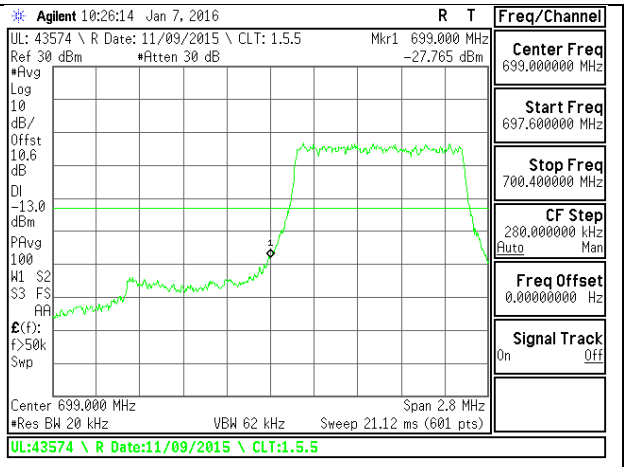
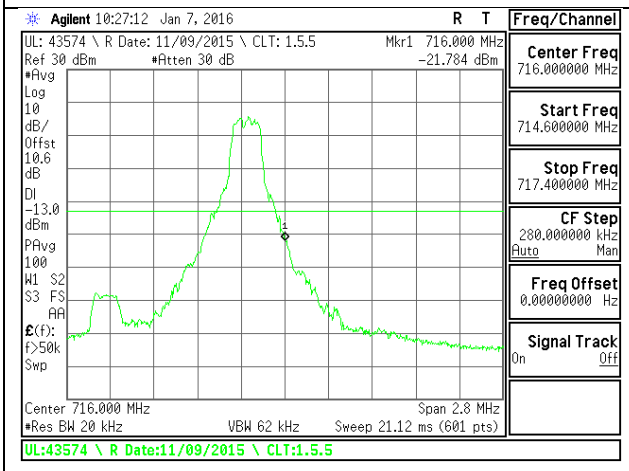
LTE Band 12



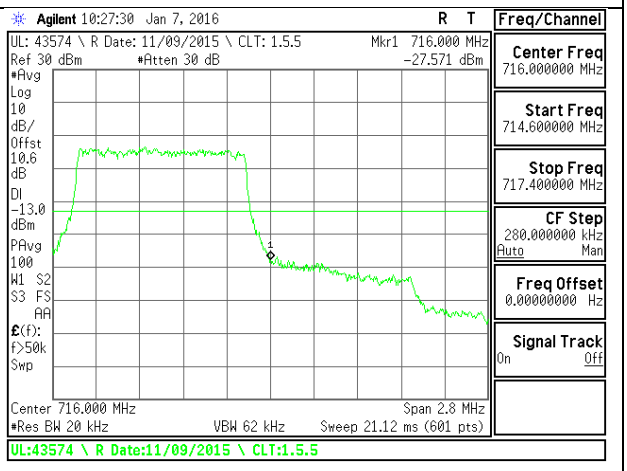
LTE B12 1.4MHz QPSK Low Channel 1RB.gif



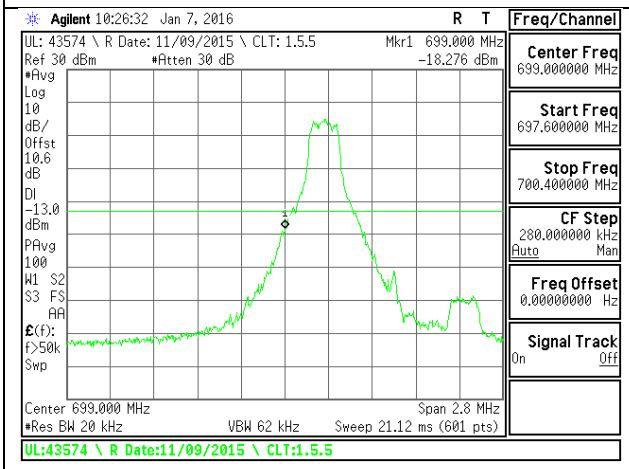
LTE B12 1.4MHz QPSK Low Channel FRB.gif



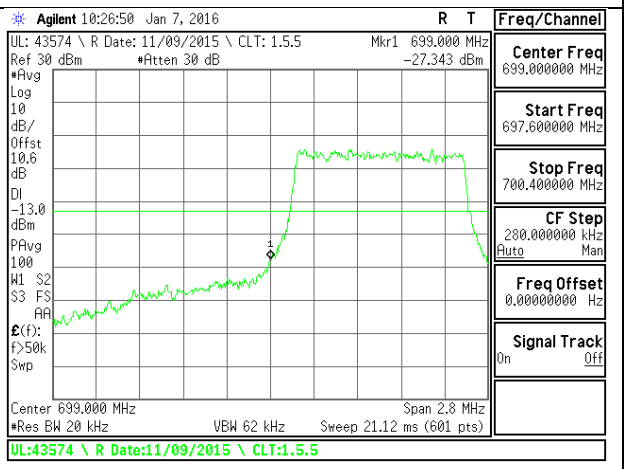
LTE B12 1.4MHz QPSK High Channel 1RB.gif



LTE B12 1.4MHz QPSK High Channel FRB.gif



LTE B12 1.4MHz 16QAM Low Channel 1RB.gif



LTE B12 1.4MHz 16QAM Low Channel FRB.gif

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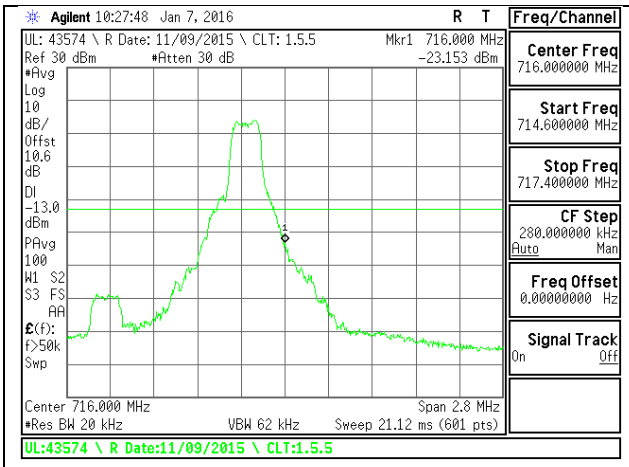
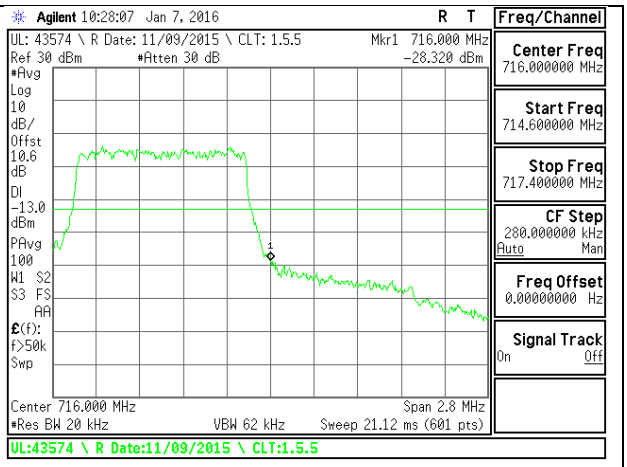
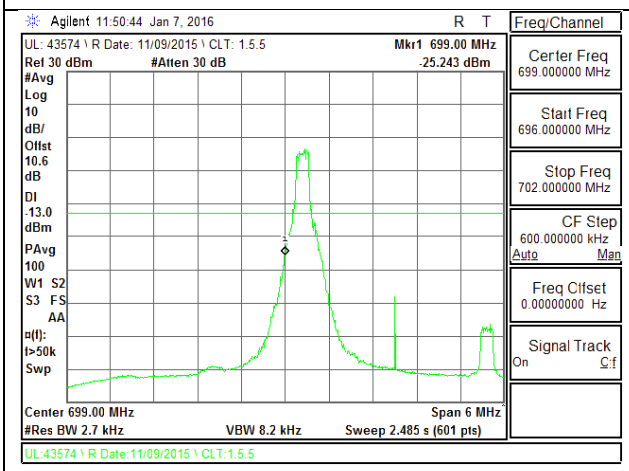


LTE B12 1.4MHz 16QAM High Channel 1RB.gif

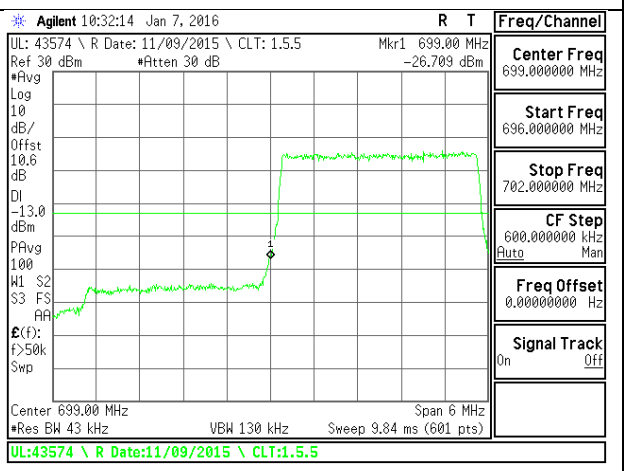


LTE B12 1.4MHz 16QAM High Channel FRB.gif

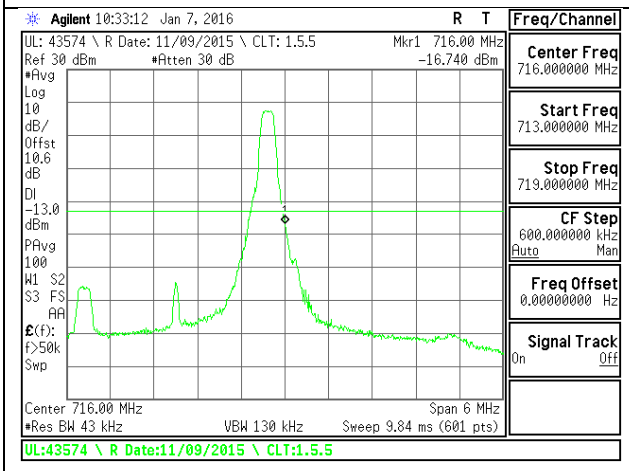


LTE B12 3MHz QPSK Low Channel 1RB.gif

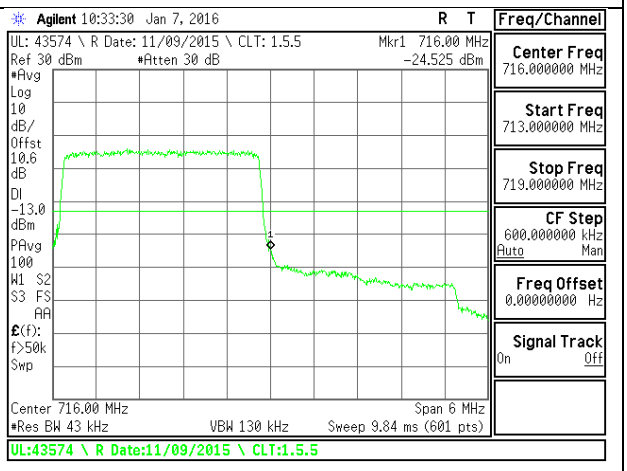
Note: RBW used is 1% of 1RB OBW.



LTE B12 3MHz QPSK Low Channel FRB.gif



LTE B12 3MHz QPSK High Channel 1RB.gif



LTE B12 3MHz QPSK High Channel FRB.gif

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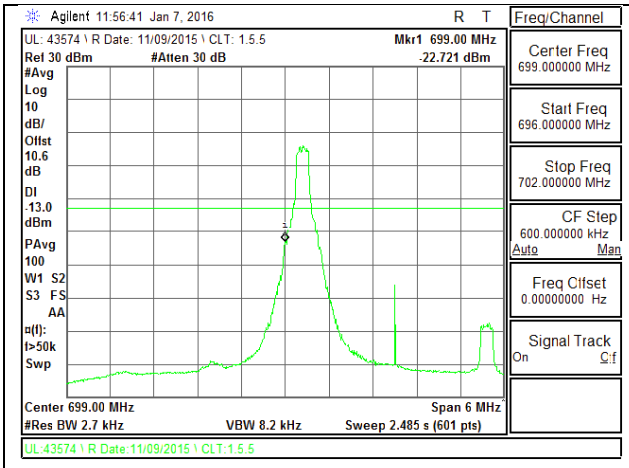
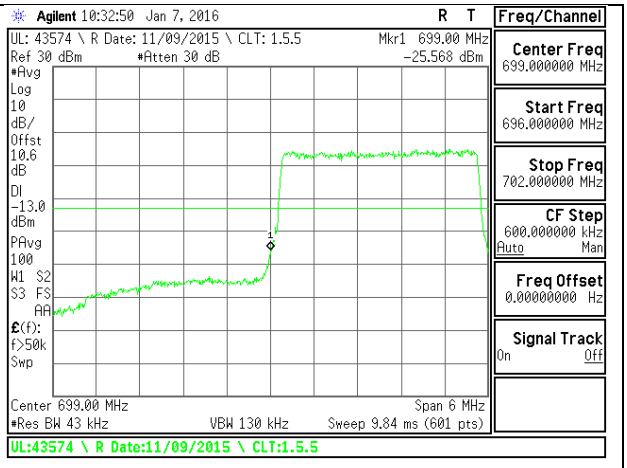
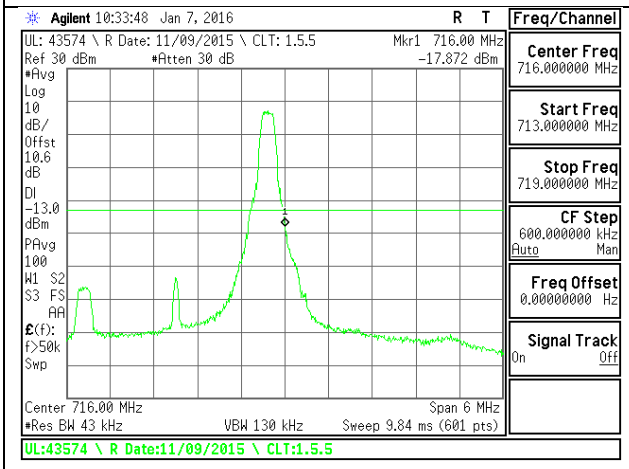


LTE B12 3MHz 16QAM Low Channel 1RB.gif

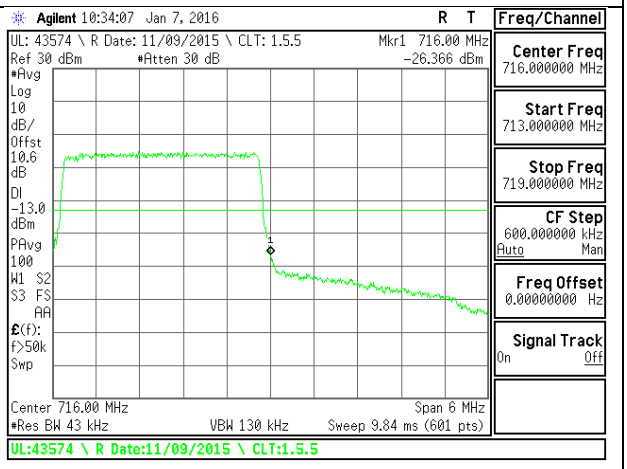
Note: RBW used is 1% of 1RB OBW.



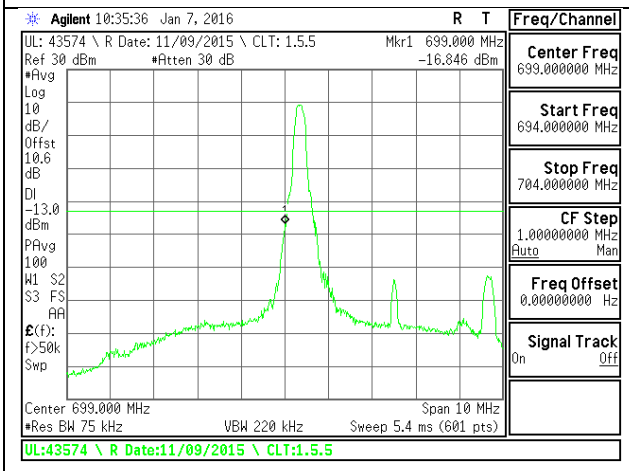
LTE B12 3MHz 16QAM Low Channel FRB.gif



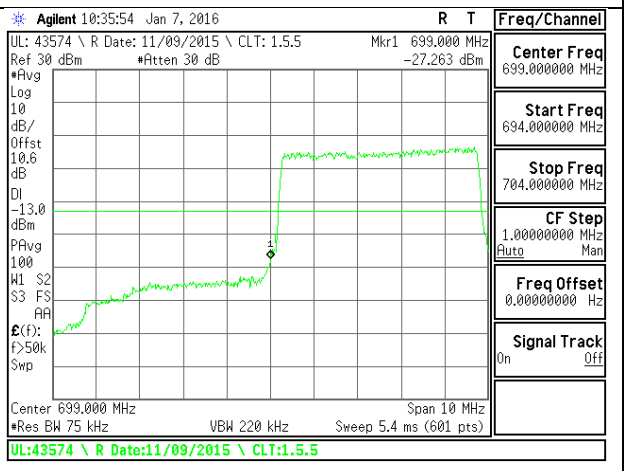
LTE B12 3MHz 16QAM High Channel 1RB.gif



LTE B12 3MHz 16QAM High Channel FRB.gif



LTE B12 5MHz QPSK Low Channel 1RB.gif



LTE B12 5MHz QPSK Low Channel FRB.gif

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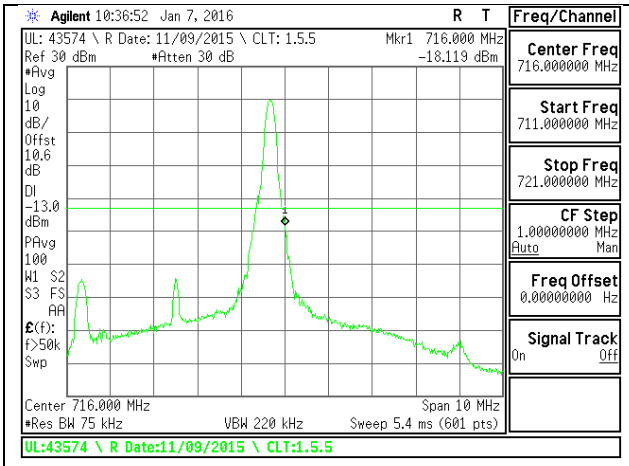
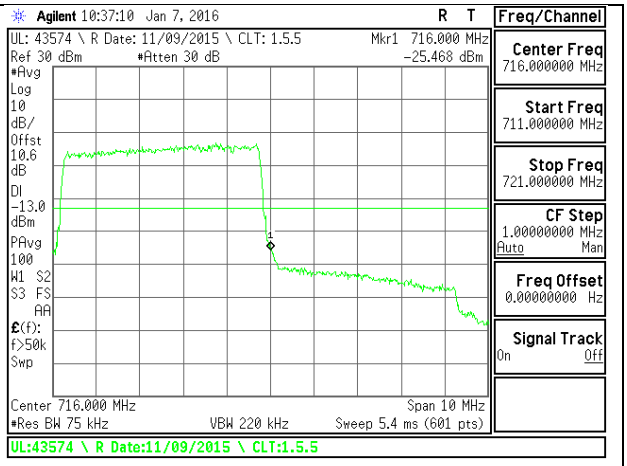
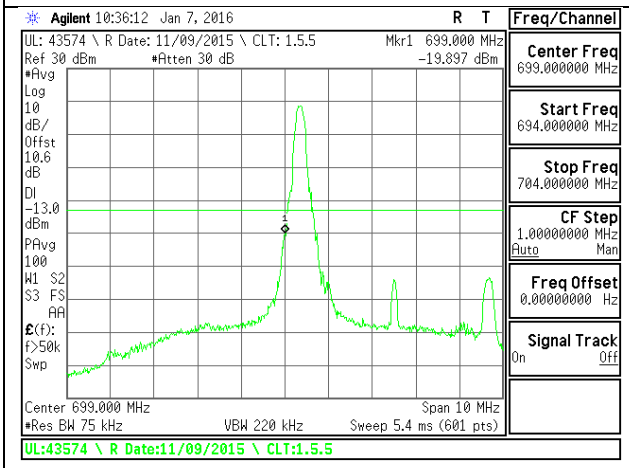


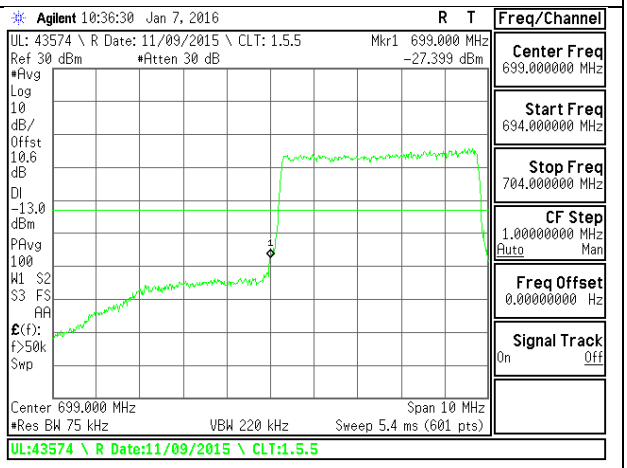
LTE B12 5MHz QPSK High Channel 1RB.gif



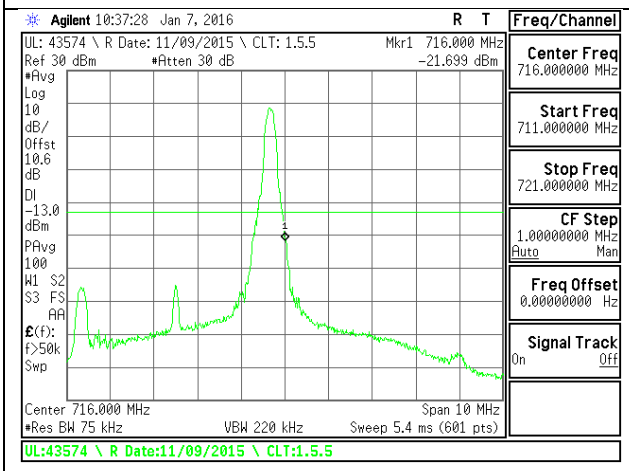
LTE B12 5MHz QPSK High Channel FRB.gif



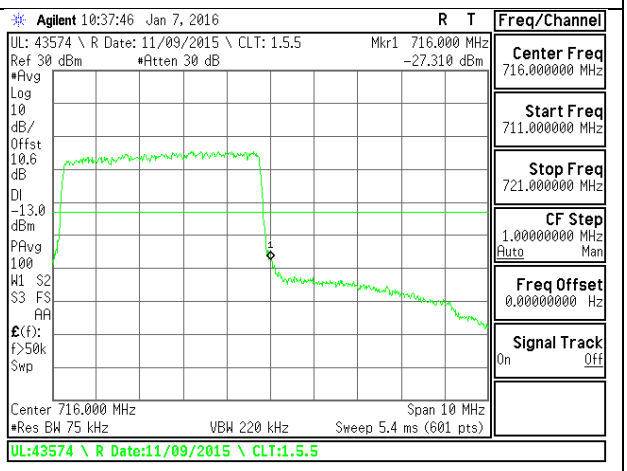
LTE B12 5MHz 16QAM Low Channel 1RB.gif



LTE B12 3MHz 16QAM Low Channel FRB.gif



LTE B12 5MHz 16QAM High Channel 1RB.gif



LTE B12 3MHz 16QAM High Channel FRB.gif

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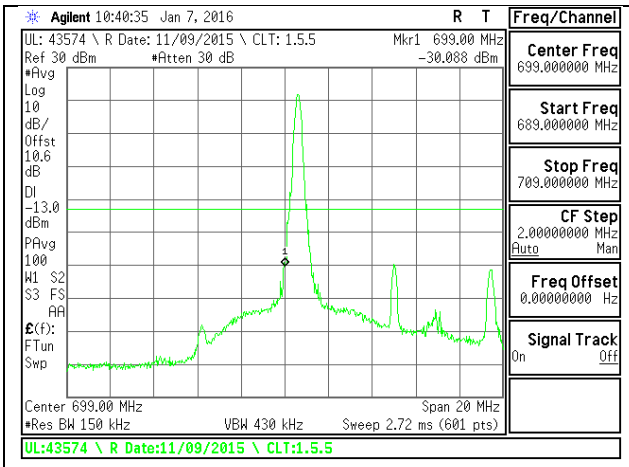
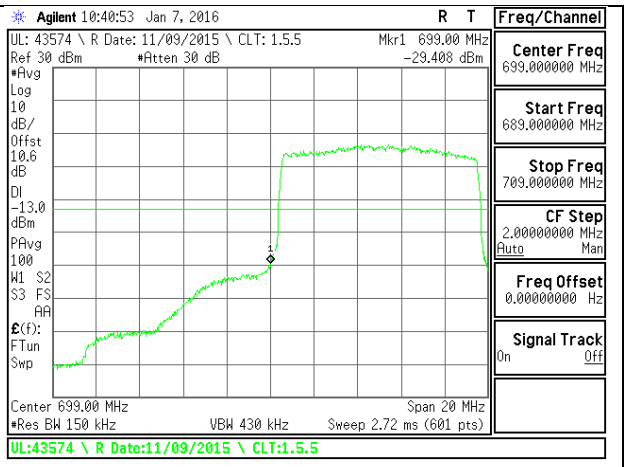


LTE B12 10MHz QPSK Low Channel 1RB.gif



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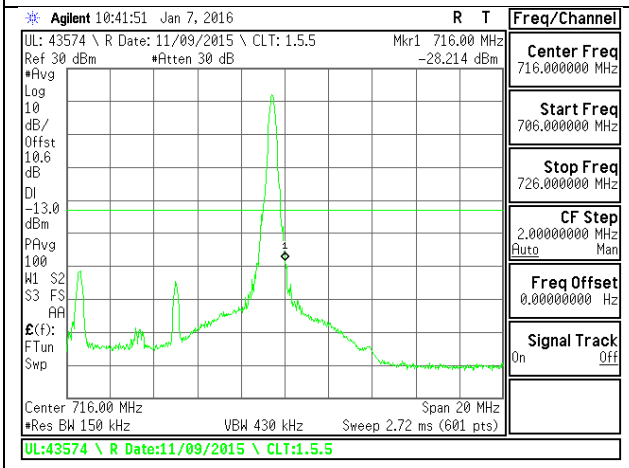
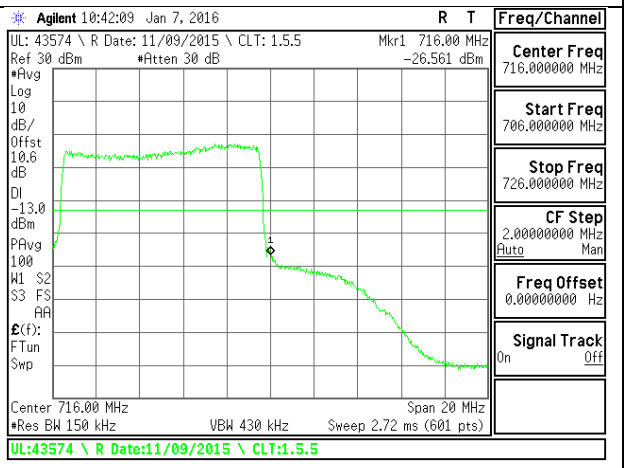
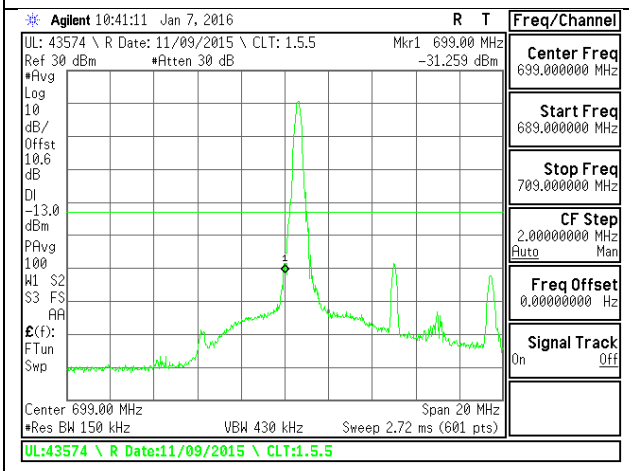


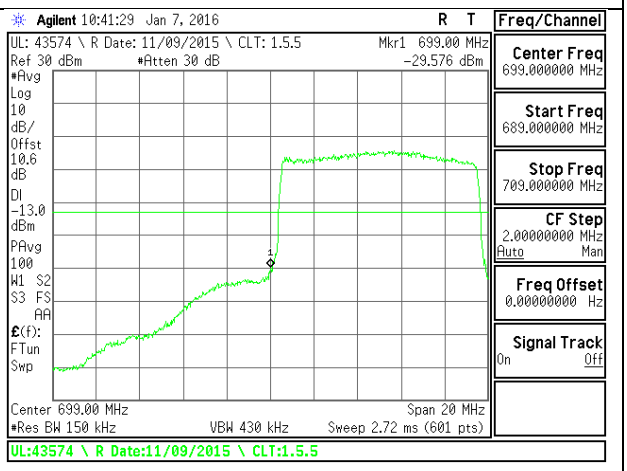
LTE B12 10MHz QPSK High Channel 1RB.gif



LTE B12 10MHz QPSK High Channel FRB.gif



LTE B12 10MHz 16QAM Low Channel 1RB.gif



LTE B12 10MHz 16QAM Low Channel FRB.gif

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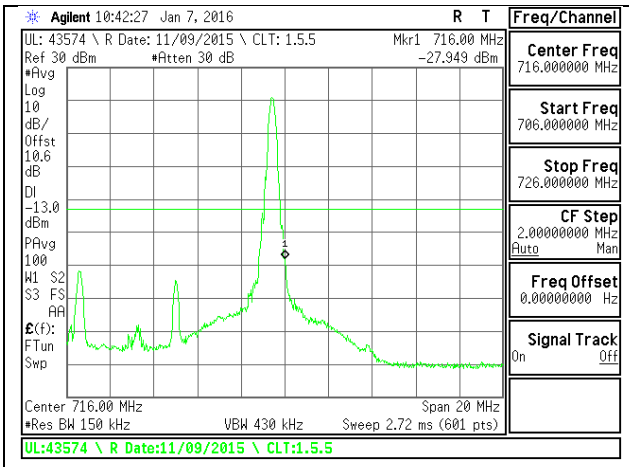
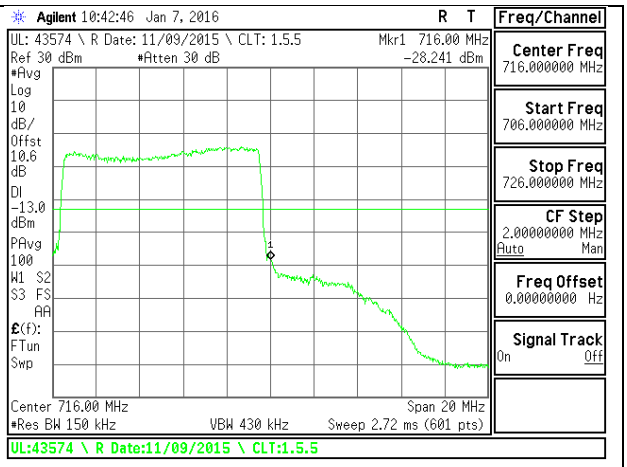


LTE B12 10MHz 16QAM High Channel 1RB.gif



LTE B12 10MHz 16QAM High Channel FRB.gif

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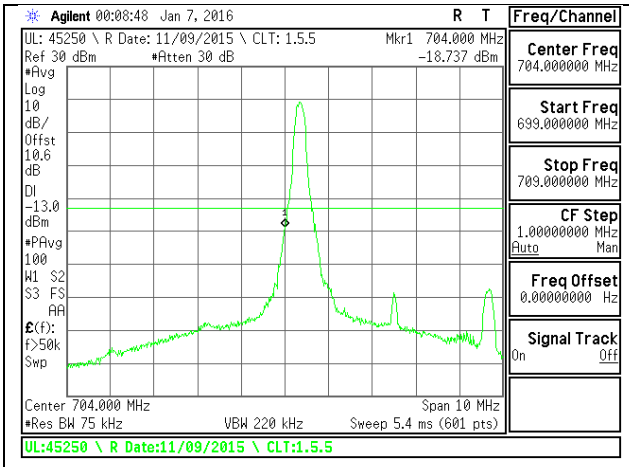
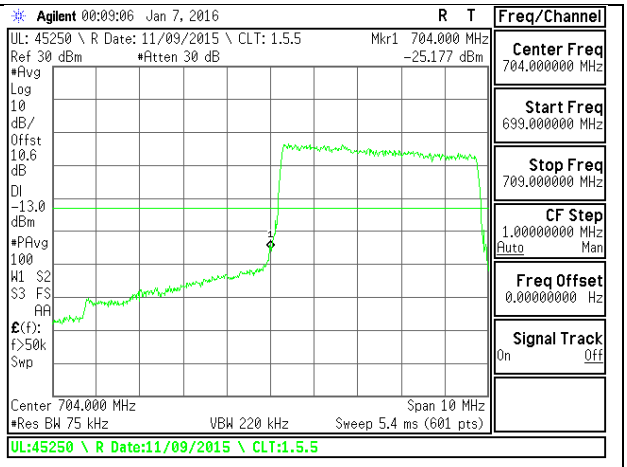
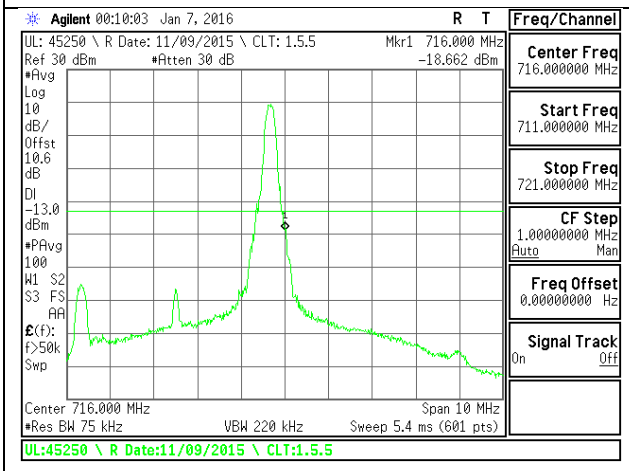
LTE Band 17



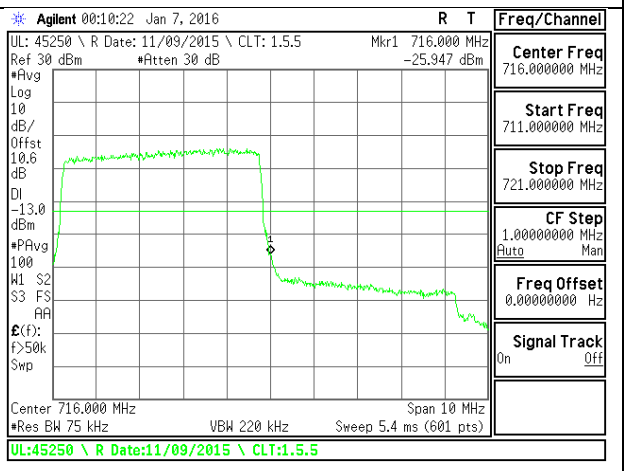
LTE B17 5MHz QPSK Low Channel 1RB.gif



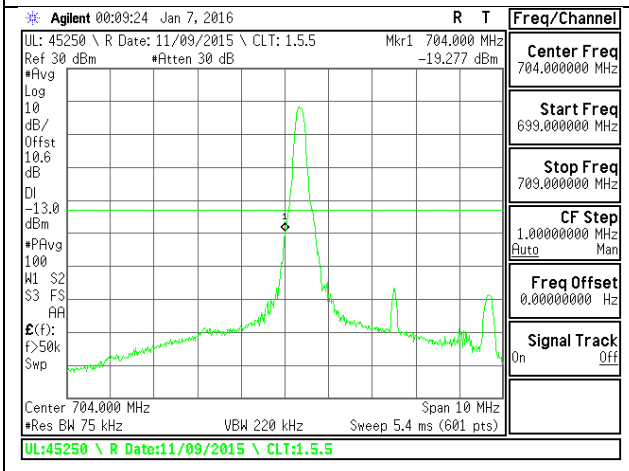
LTE B17 5MHz QPSK Low Channel FRB.gif



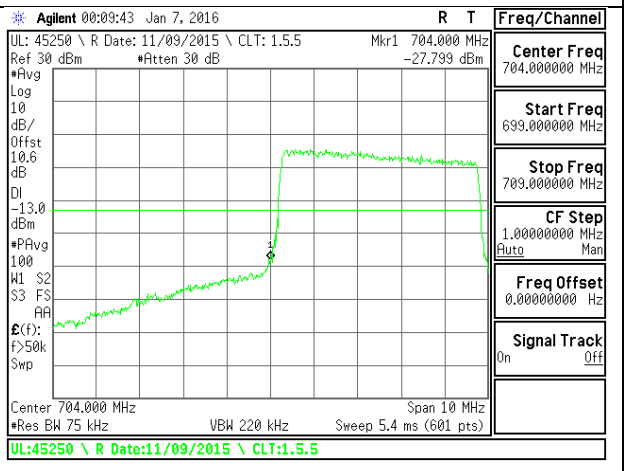
LTE B17 5MHz QPSK High Channel 1RB.gif



LTE B17 5MHz QPSK High Channel FRB.gif



LTE B17 5MHz 16QAM Low Channel 1RB.gif



LTE B17 3MHz 16QAM Low Channel FRB.gif

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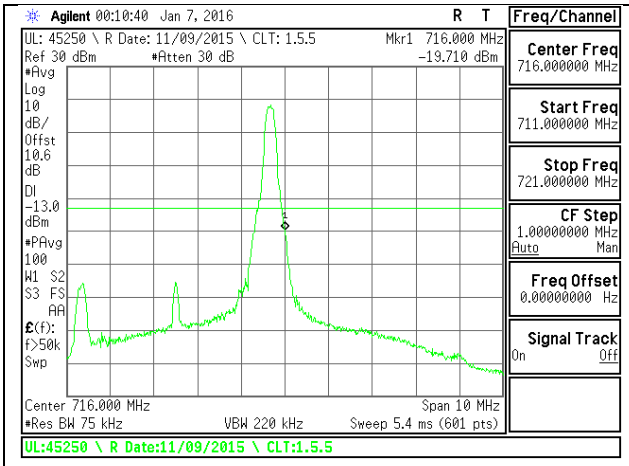
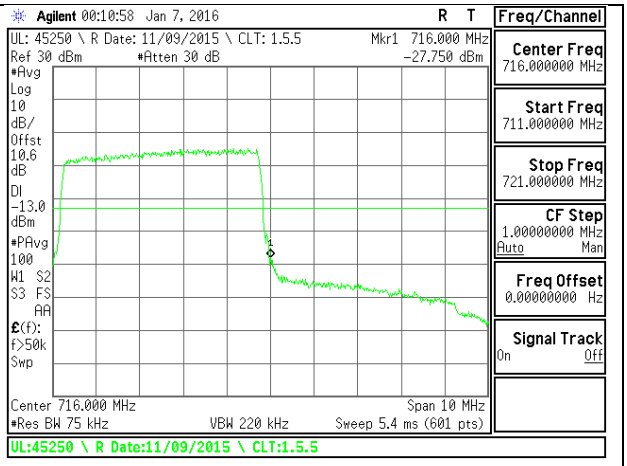
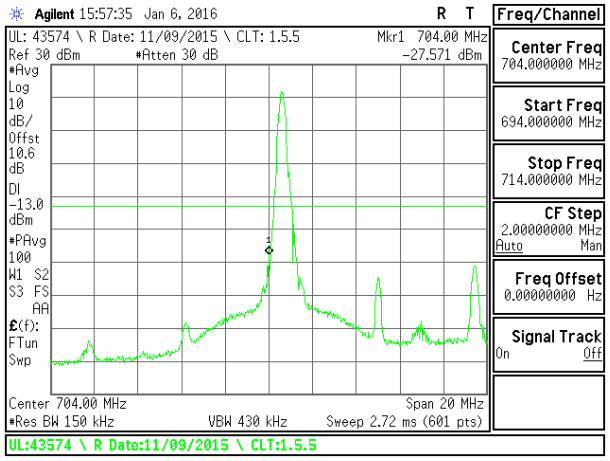


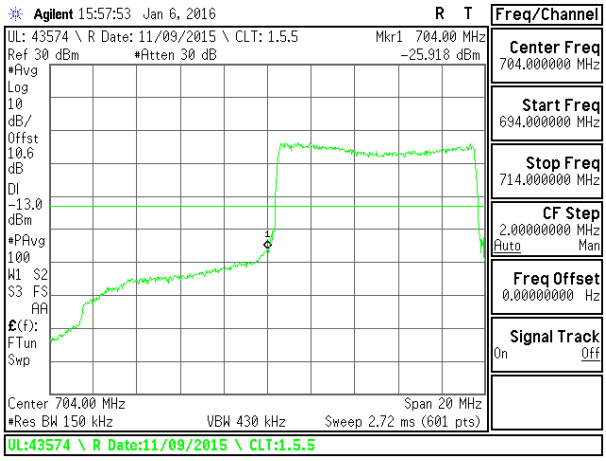
LTE B17 5MHz 16QAM High Channel 1RB.gif



LTE B17 3MHz 16QAM High Channel FRB.gif



LTE B17 10MHz QPSK Low Channel 1RB.gif



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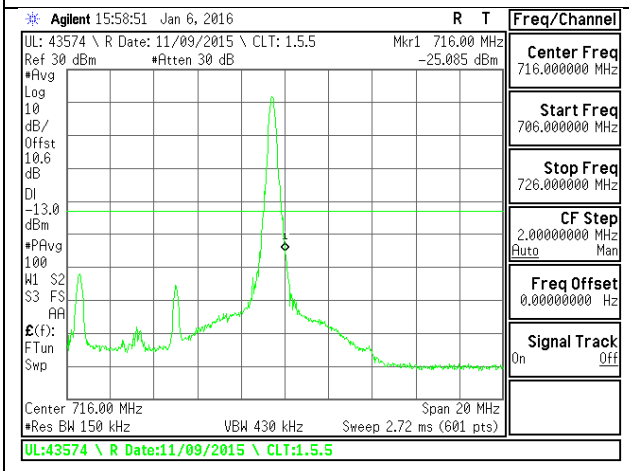

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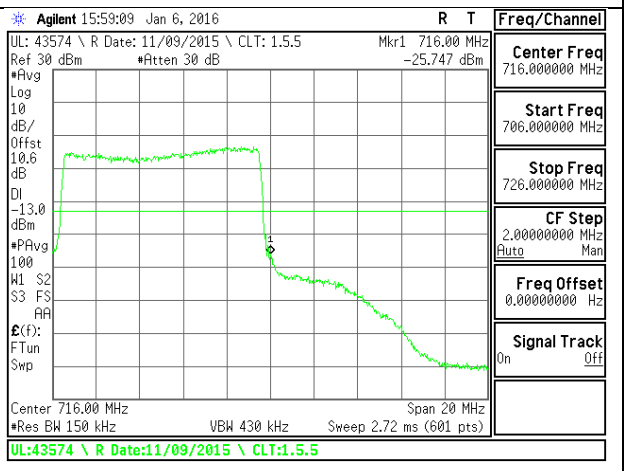

LTE B17 10MHz QPSK High Channel FRB.gif

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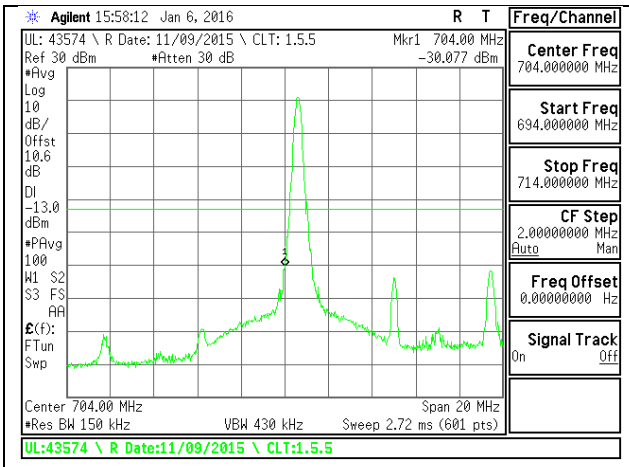
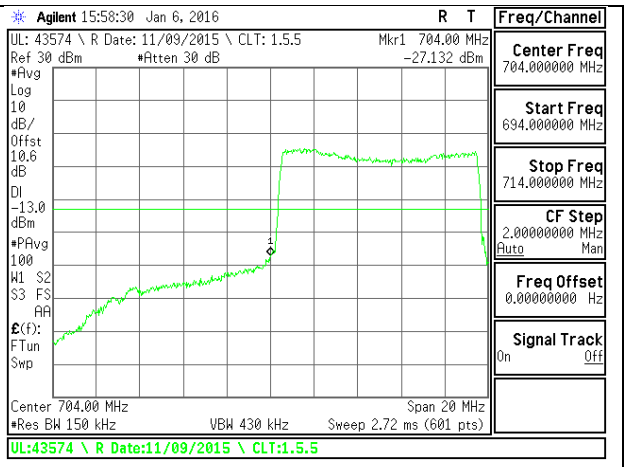
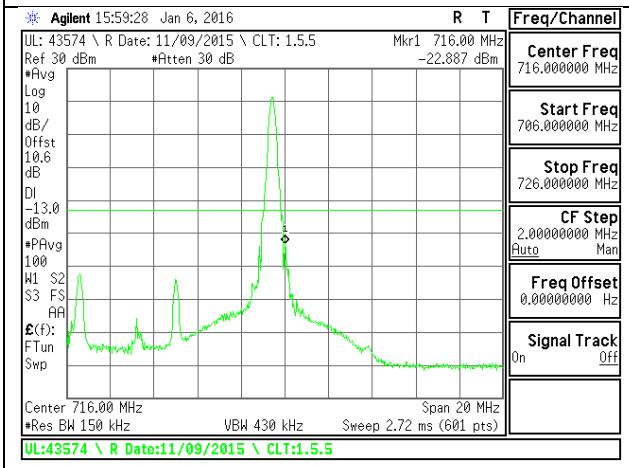


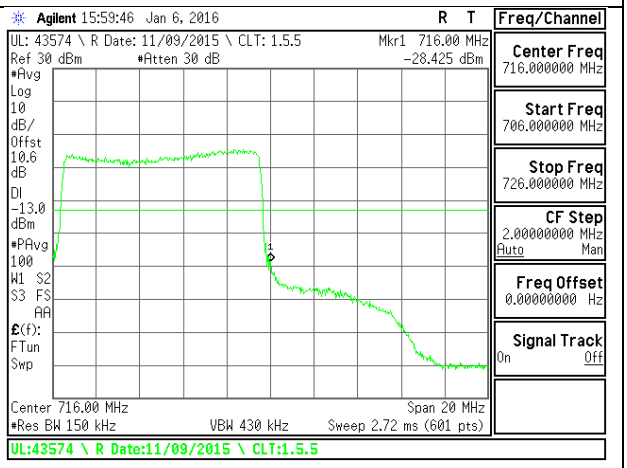
LTE B17 10MHz 16QAM Low Channel 1RB.gif



LTE B17 10MHz 16QAM Low Channel FRB.gif



LTE B17 10MHz 16QAM High Channel 1RB.gif



LTE B17 10MHz 16QAM High Channel FRB.gif

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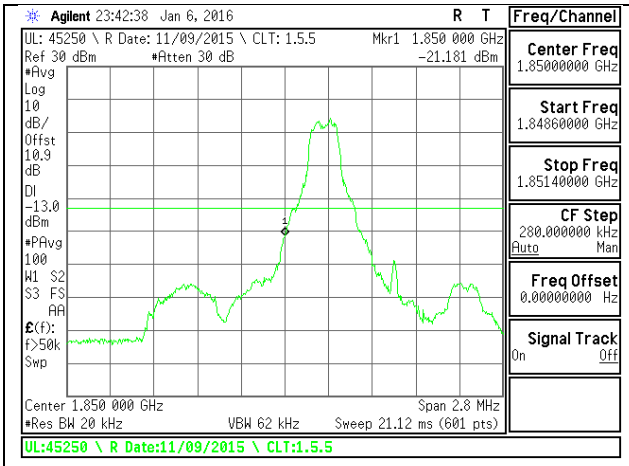
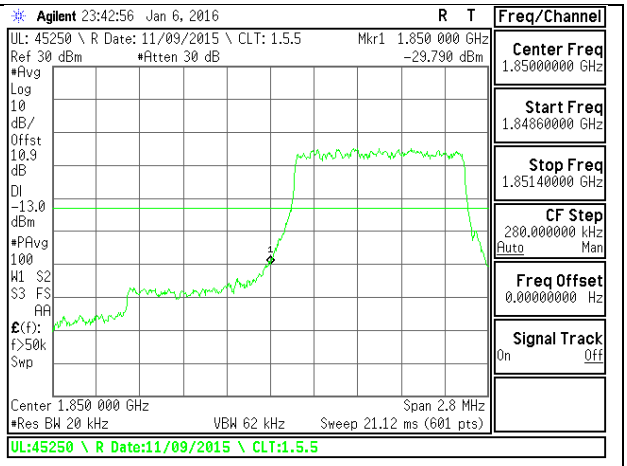
LTE Band 25



LTE B25 1.4MHz QPSK Low Channel 1RB.gif



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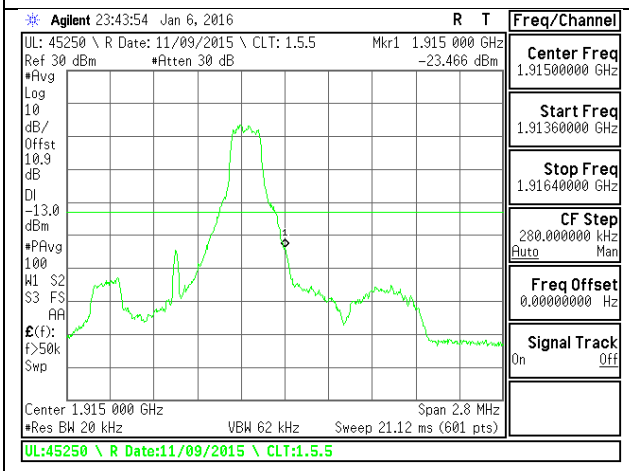
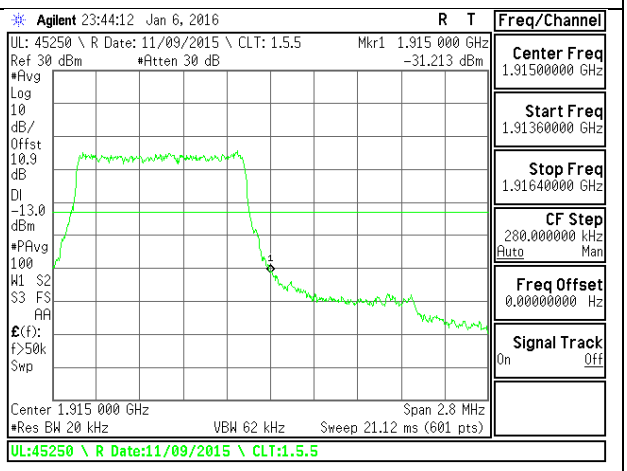


LTE B25 1.4MHz QPSK High Channel 1RB.gif



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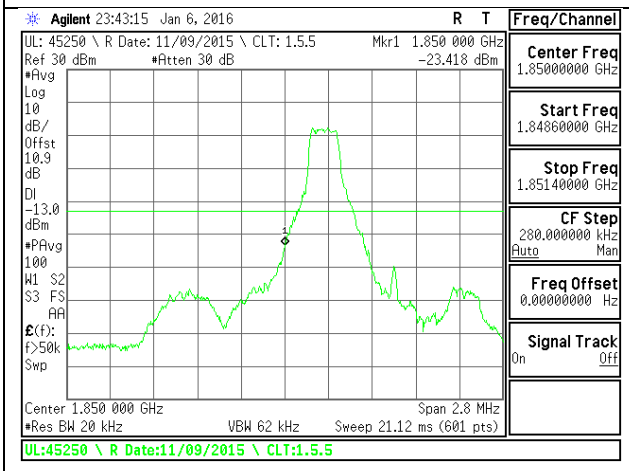
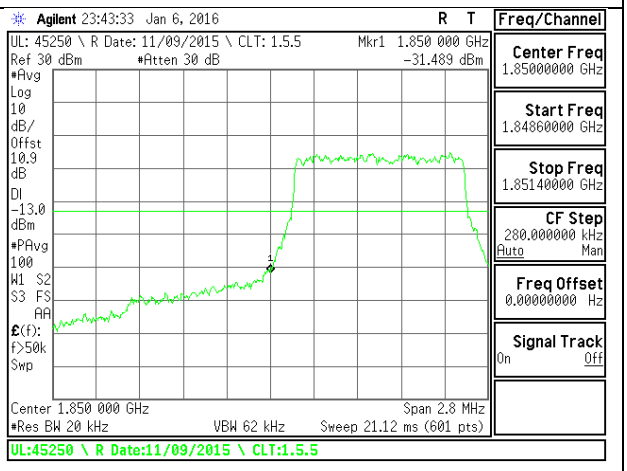


LTE B25 1.4MHz 16QAM Low Channel 1RB.gif



LTE B25 1.4MHz 16QAM Low Channel FRB.gif

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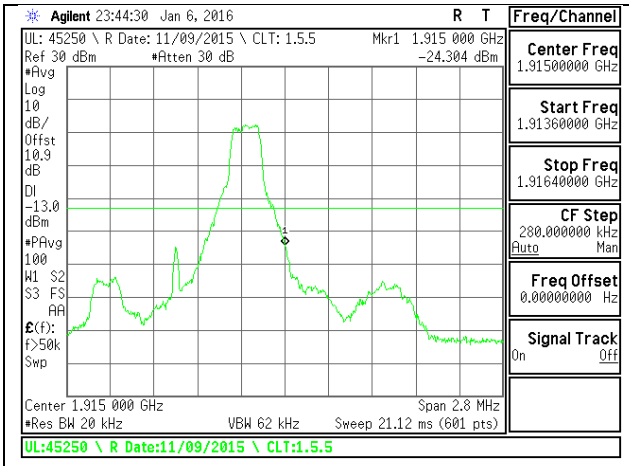
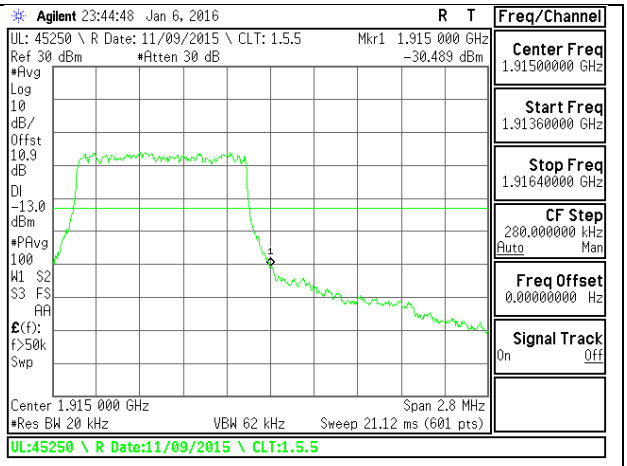
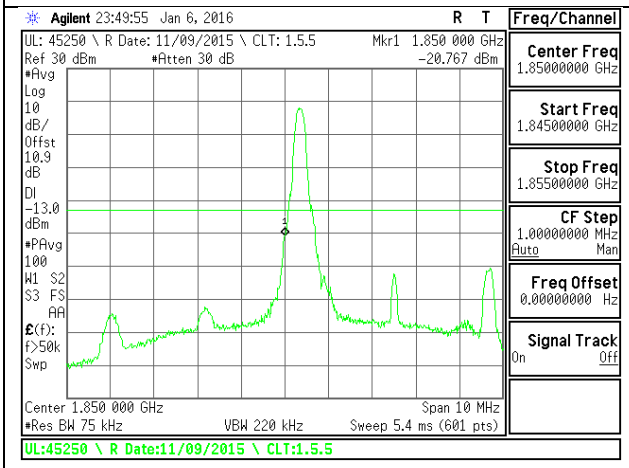


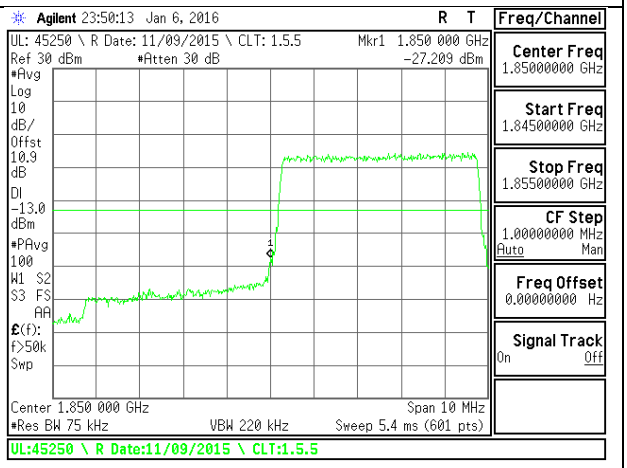
LTE B25 1.4MHz 16QAM High Channel 1RB.gif



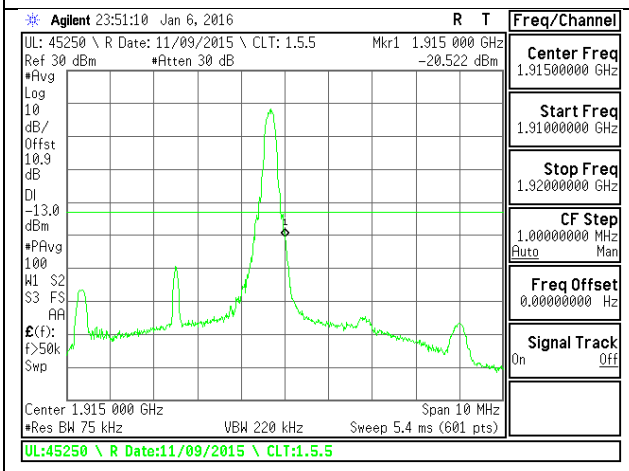
LTE B25 1.4MHz 16QAM High Channel FRB.gif



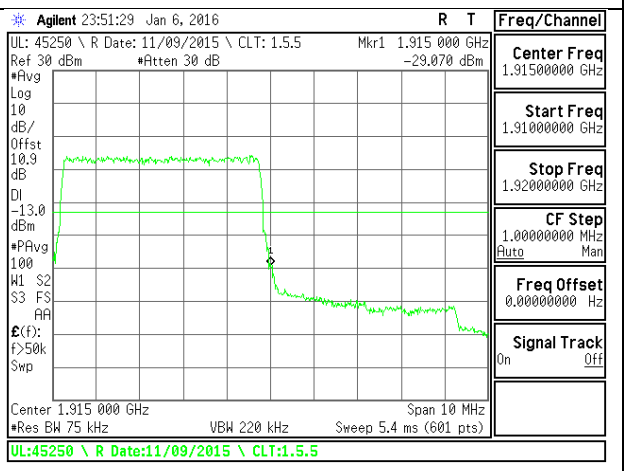
LTE B25 3MHz QPSK Low Channel 1RB.gif



LTE B25 3MHz QPSK Low Channel FRB.gif



LTE B26 3MHz QPSK High Channel 1RB.gif5



LTE B25 3MHz QPSK High Channel FRB.gif

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