FCC CFR47 PART 22H, 24E, AND 27L
CERTIFICATION TEST REPORT

FOR

CELLULAR/PCS/AWS CDMA AND AWS LTE WITH BLUETOOTH AND WLAN

MODEL NUMBER: MS840, LG-MS840, LGMS840

FCC ID: ZNFMS840

REPORT NUMBER: 11U13993-1, Revision B

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Prepared for
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Revision History

Rev.	Issue Date	Revisions	Revised By
---	09/16/11	Initial Issue	T. Chan
A	09/29/11	Revised model numbers	A. Zaffar
B	10/11/11	Addressed TCB's Questions	M. Mekuria

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
10101 OLD GROVE ROAD
SAN DIEGO, CA 92131

EUT DESCRIPTION: Cellular/PCS/AWS CDMA and AWS LTE with Bluetooth and WLAN

MODEL: LG-MS840

SERIAL NUMBER: 99000073000106

DATE TESTED: AUGUST 22 TO SEPTEMBER 08, 2011

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 22H, 24E, and 27L	Pass

Compliance Certification Services (UL CCS) 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 CCS 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 CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 2, FCC CFR 47 Part 22, FCC CFR Part 24, and FCC Part 27.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a smart-phone that features Cellular/PCS/AWS CDMA and AWS LTE with Bluetooth and WLAN.

5.2. MAXIMUM OUTPUT POWER

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

Part 22 Cellular Band					
Frequency range (MHz)	Modulation	Conducted		ERP	
		dBm	mW	dBm	mW
824.7 – 848.31	CDMA 2000 1xRTT	29.78	950.6	25.79	379.3

Part 24 PCS Band					
Frequency range (MHz)	Modulation	Conducted		EIRP	
		dBm	mW	dBm	mW
1851.25-1908.75	CDMA 2000 1xRTT	28.53	712.9	28.56	717.8
	CDMA 2000 EVDO REV. A	29.08	809.1	27.47	558.5

Part 27 AWS Band					
Frequency range (MHz)	Modulation	Conducted		EIRP	
		dBm	mW	dBm	mW
1711.25-1753.75	CDMA 2000 1xRTT	28.96	787.0	27.46	557.2
	CDMA 2000 EVDO REV. A	28.94	783.4	25.76	376.7

Part 27 LTE Band 4 MODE (1.4 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		ERP	
			dBm	mW	dBm	mW
1710.7 - 1754.3	QPSK	1/0	28.26	669.9	26.76	474.2
		1/5	28.15	653.1	26.47	443.6
		3/2	27.97	626.6	26.53	449.8
		6/0	28.67	736.2	26.60	457.1
	16QAM	1/0	28.53	712.9	26.83	481.9
		1/5	28.37	687.1	26.70	467.7
		3/2	28.88	772.7	26.71	468.8
		6/0	29.60	912.0	26.82	480.8

Part 27 LTE Band 4 MODE (3.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		ERP	
			dBm	mW	dBm	mW
1711.5 - 1753.5	QPSK	1/0	28.24	666.8	25.65	367.3
		1/14	28.14	651.6	25.80	380.2
		8/4	28.23	665.3	25.84	383.7
		15/0	28.87	770.9	25.49	354.0
	16QAM	1/0	28.65	732.8	26.01	399.0
		1/14	28.54	714.5	26.14	411.1
		8/4	29.31	853.1	26.14	411.1
		15/0	29.56	903.6	25.74	375.0

Part 27 LTE Band 4 MODE (5.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		ERP	
			dBm	mW	dBm	mW
1712.5 - 1752.5	QPSK	1/0	27.97	626.6	25.23	333.4
		1/24	28.00	631.0	25.78	378.4
		12/6	28.68	737.9	25.42	348.3
		25/0	28.87	770.9	24.12	258.2
	16QAM	1/0	28.42	695.0	25.50	354.8
		1/24	28.50	707.9	25.91	389.9
		12/6	28.72	744.7	25.70	371.5
		25/0	29.63	918.3	24.50	281.8

Part 27 LTE Band 2 MODE (1.4 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		ERP	
			dBm	mW	dBm	mW
1850.7 - 1909.3	QPSK	1/0	27.86	610.9	28.45	699.8
		1/5	27.87	612.4	28.18	657.7
		3/2	27.66	583.4	28.25	668.3
		6/0	28.51	709.6	28.35	683.9
	16QAM	1/0	28.23	665.3	28.78	755.1
		1/5	28.17	656.1	28.62	727.8
		3/2	28.63	729.5	28.74	748.2
		6/0	29.39	869.0	28.84	765.6

Part 27 LTE Band 2 MODE (3.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		ERP	
			dBm	mW	dBm	mW
1851.5 - 1908.5	QPSK	1/0	27.79	601.2	27.89	615.2
		1/14	27.70	588.8	27.75	595.7
		8/4	27.83	606.7	27.85	609.5
		15/0	28.22	663.7	27.35	543.3
	16QAM	1/0	28.26	669.9	28.47	703.1
		1/14	28.17	656.1	28.12	648.6
		8/4	28.84	765.6	28.30	676.1
		15/0	28.72	744.7	27.97	626.6

Part 27 LTE Band 2 MODE (5.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		ERP	
			dBm	mW	dBm	mW
1852.5 - 1907.5	QPSK	1/0	27.93	620.9	28.04	636.8
		1/24	27.70	588.8	27.60	575.4
		12/6	28.64	731.1	27.37	545.8
		25/0	28.54	714.5	25.57	360.6
	16QAM	1/0	28.56	717.8	28.36	685.5
		1/24	28.28	673.0	27.96	625.2
		12/6	29.05	803.5	27.93	620.9
		25/0	29.65	922.6	26.95	495.5

5.3. SOFTWARE AND FIRMWARE

The EUT software installed during testing was MS840C01.

The test utility software used during testing was WiFi Test.

5.4. WORST-CASE CONFIGURATION AND MODE

The worst-case is EUT on the highest power. Based on Peak Power measurement investigations, the following modes should be considered as worst-case scenario for all other measurements.

Worst-case modes:
- CDMA 2000 1xRTT
- CDMA 2000 EVDO REV. A
- LTE Band 2 and 4

For the fundamental investigation, since the EUT is a portable device that has three orientations; an X, Y and Z orientations and the worst among X, Y, and Z with AC/DC adapter and headset have been investigated. And the worst case was found to be a Y-position with AC/DC adapter and headset on Cell and PCS bands respectively and X-Position with headset on LTE bands.

5.5. DESCRIPTION OF TEST SETUP

RADIATED TESTS SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST			
Description	**Manufacturer**	**Model**	**Serial Number**
AC ADAPTER	LG ELECTRONICS	STA-U13WT	TA150000001
HEADSET	LG ELECTRONICS	NA	N/A

I/O CABLES (RF Conducted Test)

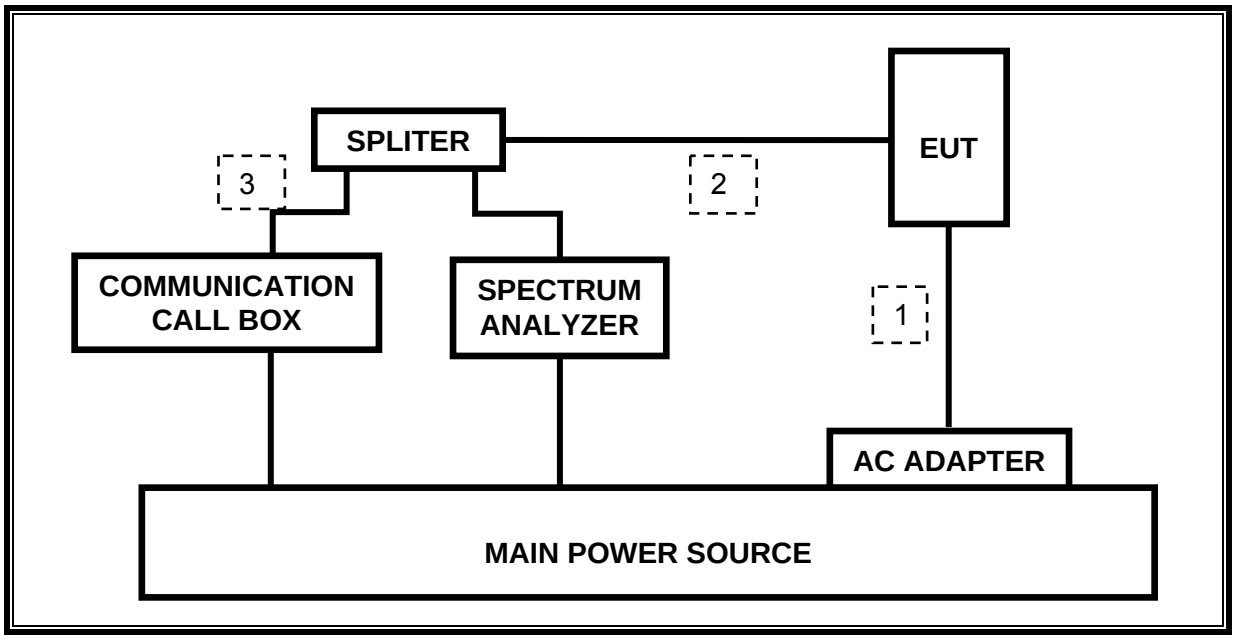
I/O CABLE LIST						
Cable No.	**Port**	**# of Identica Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	DC	1	MINI USB	UN-SHELDED	1.0m	N/A
2	RF	1	RF	SHELDED	0.1m	N/A
3	RF	1	SMA	SHELDED	0.6 m	N/A

I/O CABLES (RF Radiated Test)

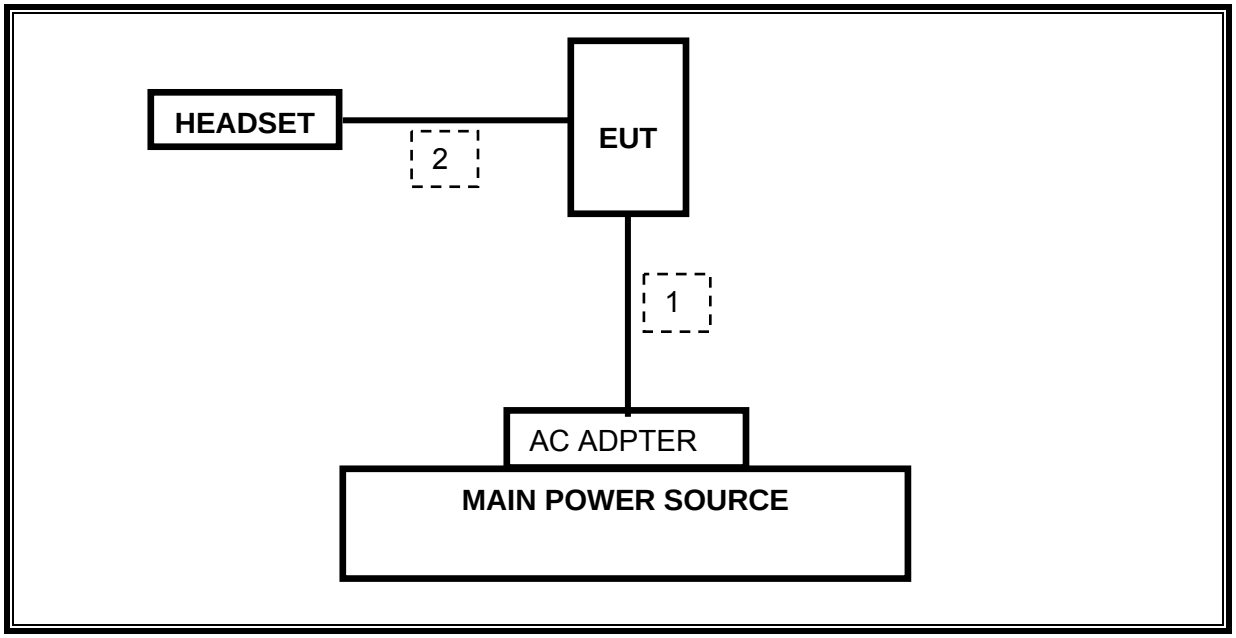
I/O CABLE LIST						
Cable No.	**Port**	**# of Identica Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	DC	1	MINI USB	UN-SHELDED	1.0m	N/A
2	AUDIO	1	MINI JACK	UN-SHELDED	1.0m	Volume control on cable

TEST SETUP

CONDUCTED SETUP DIAGRAM FOR TESTS



RADIATED SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01179	01/19/12
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	04/07/12
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	08/15/12
Antenna, Horn, 18 GHz	EMCO	3115	C00783	06/29/12
Antenna, Horn, 18 GHz	EMCO	3115	C00945	06/29/12
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	06/30/12
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	07/12/12
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	07/12/12
Communications Test Set	Agilent / HP	E5515C	C01086	06/17/12
Communication Test Set	R & S	CMW500	N/A	01/25/12
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	C00930	10/20/11
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689`	CNR
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Directional Coupler, 4.2 GHz, 40 dB	A-R	DC7144A	C00983	CNR
Sleeve Dipole 1730~2030 MHz	ETS	3126-1880	C01157	10/01/11
Signal Generator, 20 GHz	Agilent / HP	83732B	C00774	07/14/12
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121C DB4	C00993	07/10/12

7. RF POWER OUTPUT VERIFICATION

Maximum output power is verified on the Low, Middle and High channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E for 1xRTT, section 3.1.2.3.4 of 3GPP2 C.S0033-0/TIA-866 for Rel. 0 and section 4.3.4 of 3GPP2 C.S0033-A for Rev. A

7.1. CDMA2000

CDMA2000 1xRTT

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

Application	Rev, License
CDMA2000 Mobile Test	B.15.18, L

- Protocol Rev > 6 (IS-2000-0)
- System ID: 7; NID: 1, Reg. Ch. #.: 610 for Cell, 600 for PCS & 450 for AWS
- Radio Config (RC) > RC1 or RC3
- Service Option (SO) Setup > SO55 or SO32
- Traffic Data Rate > Full
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

RF Output Power for Cellular Band

Radio Configuration (RC)	Service Option (SO)	RF Pwr (dBm)		
		Ch. 1013/824.7 MHz	Ch.384/836.52 MHz	Ch.777/848.31 MHz
		Peak	Peak	Peak
RC1	2 (Loopback)	29.69	29.73	29.43
	55 (Loopback)	29.64	**29.78**	29.52
RC2	9 (Loopback)	29.56	29.71	29.50
	55 (Loopback)	29.67	29.71	29.54
RC3	2 (Loopback)	29.04	29.17	29.05
	55 (Loopback)	29.02	29.12	28.89
	32 (+F-SCH)	28.92	29.03	28.71
	32 (+SCH)	28.95	29.10	28.75
RC4	2 (Loopback)	29.01	29.02	28.66
	55 (Loopback)	29.03	29.19	28.79
	32 (+F-SCH)	28.91	29.04	28.75
	32 (+SCH)	28.94	29.09	28.78
RC5	9 (Loopback)	29.22	29.10	28.85
	55 (Loopback)	29.15	29.23	28.95

RF Output Power for PCS Band

Radio Configuration (RC)	Service Option (SO)	RF Pwr (dBm)		
		Ch. 25/1851.25 MHz	Ch.600/1880 MHz	Ch.1175/1908.75 MHz
		Peak	Peak	Peak
RC1	2 (Loopback)	28.05	28.47	27.70
	55 (Loopback)	28.04	28.50	27.73
RC2	9 (Loopback)	28.13	**28.53**	27.75
	55 (Loopback)	28.08	28.47	27.77
RC3	2 (Loopback)	27.90	28.35	27.56
	55 (Loopback)	27.90	28.24	27.57
	32 (+F-SCH)	28.06	28.44	27.83
	32 (+SCH)	28.08	28.23	28.32
RC4	2 (Loopback)	27.93	28.42	27.60
	55 (Loopback)	27.91	28.31	27.59
	32 (+F-SCH)	27.99	28.19	28.24
	32 (+SCH)	27.89	28.11	28.15
RC5	9 (Loopback)	27.87	28.27	27.69
	55 (Loopback)	27.95	28.35	27.68

RF Output Power for AWS Band

Radio Configuration (RC)	Service Option (SO)	RF Pwr (dBm)		
		Ch.25/1711.25 MHz	Ch.450/1732.5 MHz	Ch.875/1754.75 MHz
		Peak	Peak	Peak
RC1	2 (Loopback)	28.70	**28.96**	28.86
	55 (Loopback)	28.68	28.89	28.86
RC2	9 (Loopback)	28.64	28.86	28.83
	55 (Loopback)	28.71	28.84	28.75
RC3	2 (Loopback)	28.37	28.55	28.48
	55 (Loopback)	28.43	28.51	28.45
	32 (+F-SCH)	28.66	28.82	28.77
	32 (+SCH)	28.77	28.91	28.90
RC4	2 (Loopback)	28.33	28.50	28.52
	55 (Loopback)	28.36	28.54	28.46
	32 (+F-SCH)	28.25	28.42	28.37
	32 (+SCH)	28.76	28.95	28.88
RC5	9 (Loopback)	28.28	28.44	28.41
	55 (Loopback)	28.36	28.45	28.44

1xEv-Do - Release 0 (Rel. 0)

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

EVDO Release 0 - RTAP

- Call Setup > Shift & Preset
- Call Control:
  - Access Network Info > Cell Parameters > Sector ID > 00000000 : 00000000 : 00000000 : 00000000 > Subnet Mask > 0
  - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Parms:
  - Cell Power > -105.5 dBm/1.23 MHz
  - System ID: 7; NID: 1, Reg. Ch. #.: 610 for Cell, 600 for PCS & 450 for AWS
  - 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 : 00000000 : 00000000 : 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)

PCS Band

FTAP Rate	RTAP Rate	Channel	f (MHz)	RF Pwr (dBm)
				Peak
307.2 kbps (2 slot, QPSK)	153.6 kbps	25	1851.25	28.06
		600	1880.00	29.00
		1175	1908.75	28.50

AWS Band

FTAP Rate	RTAP Rate	Channel	f (MHz)	RF Pwr (dBm)
				Peak
307.2 kbps (2 slot, QPSK)	153.6 kbps	25	1711.25	28.77
		450	1732.50	28.50
		875	1753.75	28.64

1xEv-Do - Revision A (Rev. A)

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 Rev. 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: 00000000: 00000000: 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 Rev. 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: 00000000: 00000000: 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)

PCS Band

FETAP Traffic Format	RETAP Data Payload Size	Channel	f (MHz)	RF Pwr (dBm) Peak
307.2k, QPSK/ ACK channel is transmitted at all the slots	4096	25	1851.25	28.04
		600	1880.00	**29.08**
		1175	1908.75	28.67

AWS Band

FETAP Traffic Format	RETAP Data Payload Size	Channel	f (MHz)	RF Pwr (dBm) Peak
307.2k, QPSK/ ACK channel is transmitted at all the slots	4096	25	1711.25	**28.94**
		450	1732.50	28.54
		875	1753.75	28.73

7.2. LTE Band 2 & Band 4

Output power for LTE Band 4 (1.4MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)
1710.7	19957	QPSK	1.4	1	0	28.16
				1	5	28.04
				3	2	27.94
				6	0	28.58
		16-QAM		1	0	28.33
				1	5	28.23
				3	2	28.70
				6	0	29.49
1732.5	20175	QPSK		1	0	27.97
				1	5	28.07
				3	2	27.81
				6	0	28.52
		16-QAM		1	0	28.22
				1	5	**28.37**
				3	2	28.78
				6	0	29.51
1754.3	20393	QPSK		1	0	**28 26**
				1	5	**28.15**
				3	2	**27.97**
				6	0	**28.67**
		16-QAM		1	0	**28.53**
				1	5	28.31
				3	2	**28.88**
				6	0	**29.60**

Output power for LTE Band 4 (3 MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)
1711.5	19965	QPSK	3.0	1	0	28.06
				1	14	28.08
				8	4	**28.23**
				15	0	28.50
		16-QAM		1	0	28.33
				1	14	28.41
				8	4	28.70
				15	0	**29.56**
1732.5	20175	QPSK		1	0	28.01
				1	14	28.05
				8	4	28.00
				15	0	28.51
		16-QAM		1	0	28.18
				1	14	28.14
				8	4	28.63
				15	0	28.84
1753.5	20385	QPSK		1	0	**28.24**
				1	14	**28.14**
				8	4	28.03
				15	0	**28.87**
		16-QAM		1	0	**28.65**
				1	14	**28.54**
				8	4	**29.31**
				15	0	29.33

Output power for LTE Band 4 (5 MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)
1712.5	19975	QPSK	5.0	1	0	**27.97**
				1	24	**28.00**
				12	6	**28.68**
				25	0	**28.87**
		16-QAM		1	0	**28.42**
				1	24	**28.50**
				12	6	**28.72**
				25	0	**29.63**
1732.5	20175	QPSK		1	0	27.81
				1	24	27.83
				12	6	28.38
				25	0	28.81
		16-QAM		1	0	28.35
				1	24	28.29
				12	6	28.63
				25	0	29.54
1752.5	20375	QPSK		1	0	27.86
				1	24	27.71
				12	6	28.30
				25	0	28.75
		16-QAM		1	0	28.29
				1	24	28.18
				12	6	28.53
				25	0	29.42

Output power for LTE Band 2 (1.4MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)
1850.7	18607	QPSK	1.4	1	0	27.55
				1	5	27.19
				3	2	26.92
				6	0	27.68
		16-QAM		1	0	27.65
				1	5	27.68
				3	2	27.95
				6	0	28.60
1880.0	18900	QPSK		1	0	**27.86**
				1	5	**27.87**
				3	2	**27.66**
				6	0	**28.51**
		16-QAM		1	0	**28.23**
				1	5	**28.17**
				3	2	**28.63**
				6	0	**29.39**
1909.3	19193	QPSK		1	0	27.36
				1	5	27.14
				3	2	26.95
				6	0	27.73
		16-QAM		1	0	27.53
				1	5	27.33
				3	2	27.73
				6	0	28.75

Output power for LTE Band 2 (3 MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)
1851.5	18615	QPSK	3.0	1	0	27.36
				1	14	27.52
				8	4	27.24
				15	0	28.20
		16-QAM		1	0	27.74
				1	14	27.83
				8	4	28.20
				15	0	28.52
1880.0	18900	QPSK		1	0	**27.79**
				1	14	**27.70**
				8	4	**27.83**
				15	0	**28.22**
		16-QAM		1	0	**28.26**
				1	14	**28.17**
				8	4	**28.84**
				15	0	**28.72**
1908.5	19185	QPSK		1	0	27.54
				1	14	27.16
				8	4	27.25
				15	0	27.93
		16-QAM		1	0	27.61
				1	14	27.15
				8	4	27.59
				15	0	28.23

Output power for LTE Band 2 (5 MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)
1852.5	18625	QPSK	5.0	1	0	27.40
				1	24	27.50
				12	6	28.07
				25	0	28.33
		16-QAM		1	0	27.98
				1	24	27.99
				12	6	28.37
				25	0	29.05
1880.0	18900	QPSK		1	0	**27.93**
				1	24	**27.70**
				12	6	**28.64**
				25	0	**28.54**
		16-QAM		1	0	**28.56**
				1	24	**28.28**
				12	6	**29.05**
				25	0	**29.65**
1907.5	19175	QPSK		1	0	27.55
				1	24	27.05
				12	6	28.48
				25	0	28.16
		16-QAM		1	0	28.44
				1	24	27.83
				12	6	28.62
				25	0	29.17

8. CONDUCTED TEST RESULTS

8.1. 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.

MODES TESTED

- CDMA 2000 1xRTT
- CDMA 2000 EVDO REV. A
- LTE Band 2 and 4

RESULTS

Mode	Band	Channel	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
CDMA 2000 1xRTT	CELL	1013	824.70	1260.8	1400.0
		384	836.52	1264.3	1408.0
		777	848.31	1269.4	1423.0
	PCS	25	1851.25	1263.0	1411.0
		600	1880.00	1260.7	1407.0
		1175	1908.75	1269.6	1432.0
	AWS	25	1711.25	1267.0	1406.0
		450	1732.50	1268.8	1411.0
		875	1753.75	1260.9	1405.0

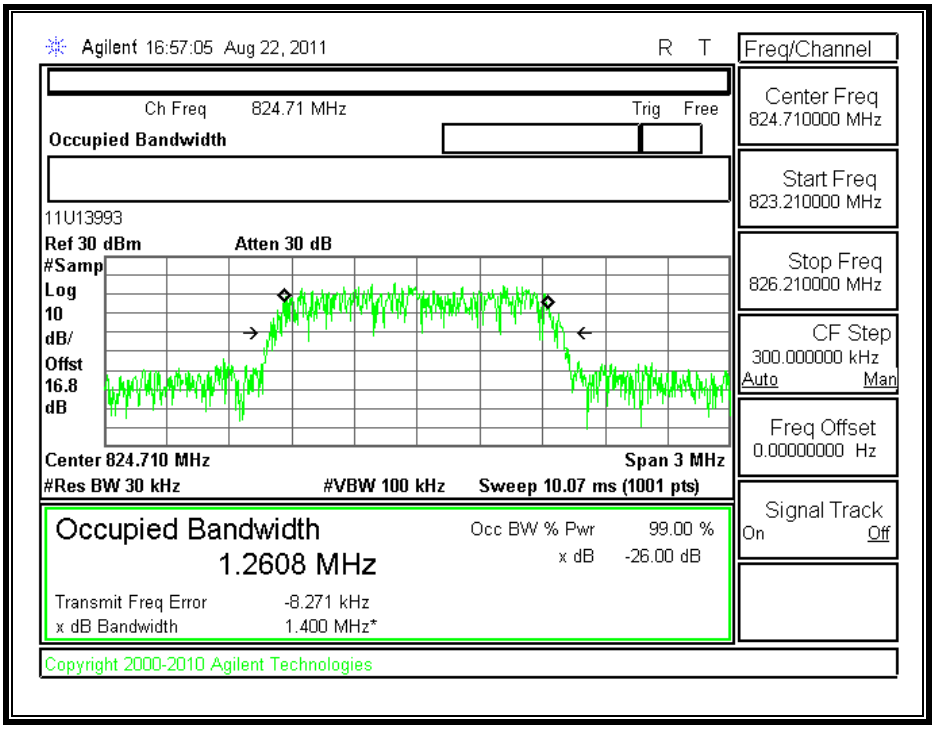
Mode	Band	Channel	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
CDMA 2000 EVDO REV.A	PCS	25	1851.25	1268.6	1411.0
		600	1880.00	1267.9	1413.0
		1175	1908.75	1267.4	1424.0
	AWS	25	1711.25	1276.1	1415.0
		450	1732.50	1263.3	1415.0
		875	1753.75	1265.8	1415.0

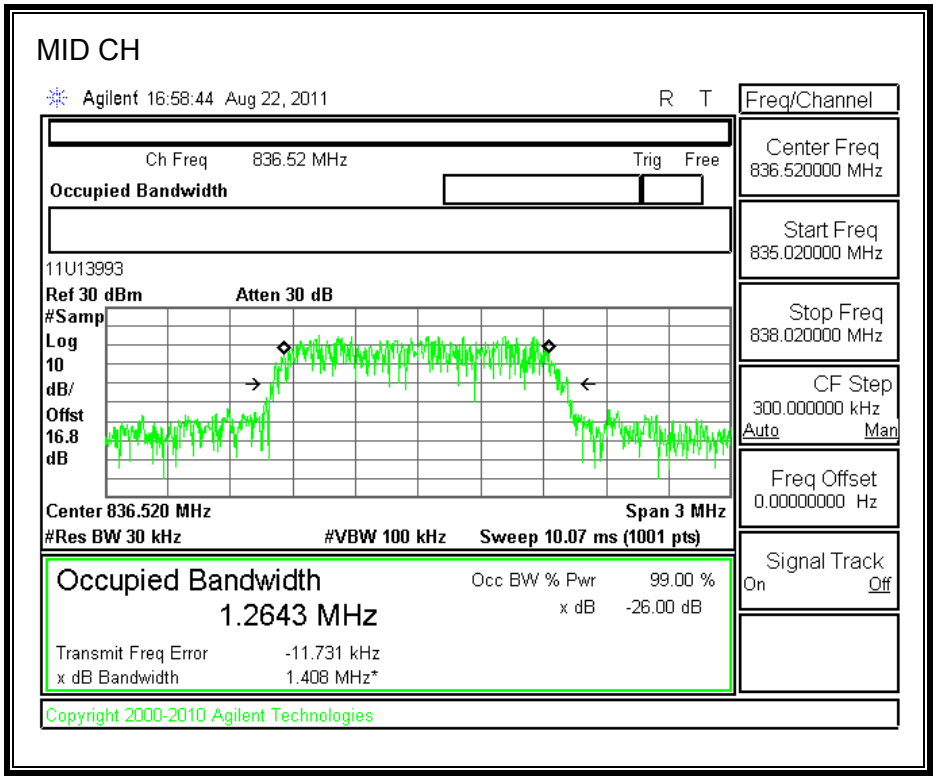
Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
LTE BAND 4	1.4 MHz BAND QPSK	3/2	1710.7	563.4921	847.498
		6/0		1091.800	1244.000
	1.4 MHz BAND 16QAM	3/2		554.6036	828.118
		6/0		1105.100	1267.000
	1.4 MHz BAND QPSK	3/2	1732.5	567.5483	895.745
		6/0		1092.900	1331.000
	1.4 MHz BAND 16QAM	3/2		557.7877	862.235
		6/0		1083.200	1223.000
	1.4 MHz BAND QPSK	3/2	1754.3	569.6120	826.885
		6/0		1082.900	1257.000
	1.4 MHz BAND 16QAM	3/2		567.2532	868.295
		6/0		1079.700	1331.000
	3.0 MHz BAND QPSK	8/4	1711.5	1720.700	2031.000
		15/0		2881.800	3338.000
	3.0 MHz BAND 16QAM	8/4		1760.900	2145.000
		15/0		2924.500	3259.000
	3.0 MHz BAND QPSK	8/4	1732.5	1765.200	2132.000
		15/0		2914.600	3316.000
	3.0 MHz BAND 16QAM	8/4		1765.900	2322.000
		15/0		2934.100	3314.000
	3.0 MHz BAND QPSK	8/4	1753.5	1753.100	2059.000
		15/0		2905.700	3277.000
	3.0 MHz BAND 16QAM	8/4		1738.300	2110.000
		15/0		2892.500	3311.000
	5.0 MHz BAND QPSK	12/6	1712.5	2704.100	3197.000
		25/0		4894.900	5551.000
	5.0 MHz BAND 16QAM	12/6		2725.700	3335.000
		25/0		4914.000	5581.000
	5.0 MHz BAND QPSK	12/6	1732.5	2719.400	3264.000
		25/0		4919.900	5573.000
	5.0 MHz BAND 16QAM	12/6		2720.600	3206.000
		25/0		4885.900	5612.000
	5.0 MHz BAND QPSK	12/6	1752.5	2704.600	3226.000
		25/0		4833.900	5499.000
	5.0 MHz BAND 16QAM	12/6		2750.500	3392.000
		25/0		4931.000	5552.000

Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
LTE BAND 2	1.4 MHz BAND QPSK	3/2	1850.7	561.1704	879.554
		6/0		1192.900	1448.000
	1.4 MHz BAND 16QAM	3/2		557.2910	815.692
		6/0		1221.100	1428.000
	1.4 MHz BAND QPSK	3/2	1880.0	563.7397	829.272
		6/0		1194.100	1381.000
	1.4 MHz BAND 16QAM	3/2		556.3851	859.466
		6/0		1201.600	1472.000
	1.4 MHz BAND QPSK	3/2	1909.3	573.0293	869.056
		6/0		1215.500	1408.000
	1.4 MHz BAND 16QAM	3/2		581.8607	879.656
		6/0		1209.800	1427.000
	3.0 MHz BAND QPSK	8/4	1851.5	1749.200	2044.000
		15/0		2933.700	3295.000
	3.0 MHz BAND 16QAM	8/4		1749.100	2127.000
		15/0		2959.700	3258.000
	3.0 MHz BAND QPSK	8/4	1880.0	1728.900	2183.000
		15/0		2934.600	3297.000
	3.0 MHz BAND 16QAM	8/4		1742.400	2023.000
		15/0		2902.100	3279.000
	3.0 MHz BAND QPSK	8/4	1908.5	1748.100	2055.000
		15/0		2953.100	3268.000
	3.0 MHz BAND 16QAM	8/4		1741.200	2144.000
		15/0		2897.400	3367.000
	5.0 MHz BAND QPSK	12/6	1852.5	2704.600	3302.000
		25/0		4899.800	5618.000
	5.0 MHz BAND 16QAM	12/6		2693.800	3347.000
		25/0		4841.800	5550.000
	5.0 MHz BAND QPSK	12/6	1880.0	2668.300	3216.000
		25/0		4933.400	5606.000
	5.0 MHz BAND 16QAM	12/6		2688.600	3119.000
		25/0		4910.200	5484.000
	5.0 MHz BAND QPSK	12/6	1907.5	2686.000	3303.000
		25/0		4837.200	5485.000
	5.0 MHz BAND 16QAM	12/6		2693.800	3347.000
		25/0		4841.800	5550.000

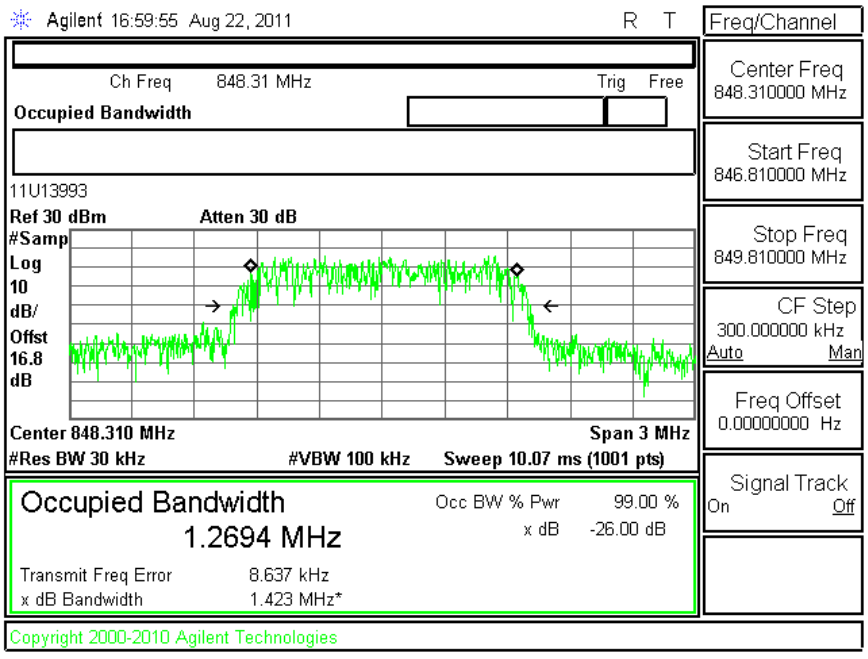
99% BANDWIDTH and 26dB

1xRTT 850 BAND



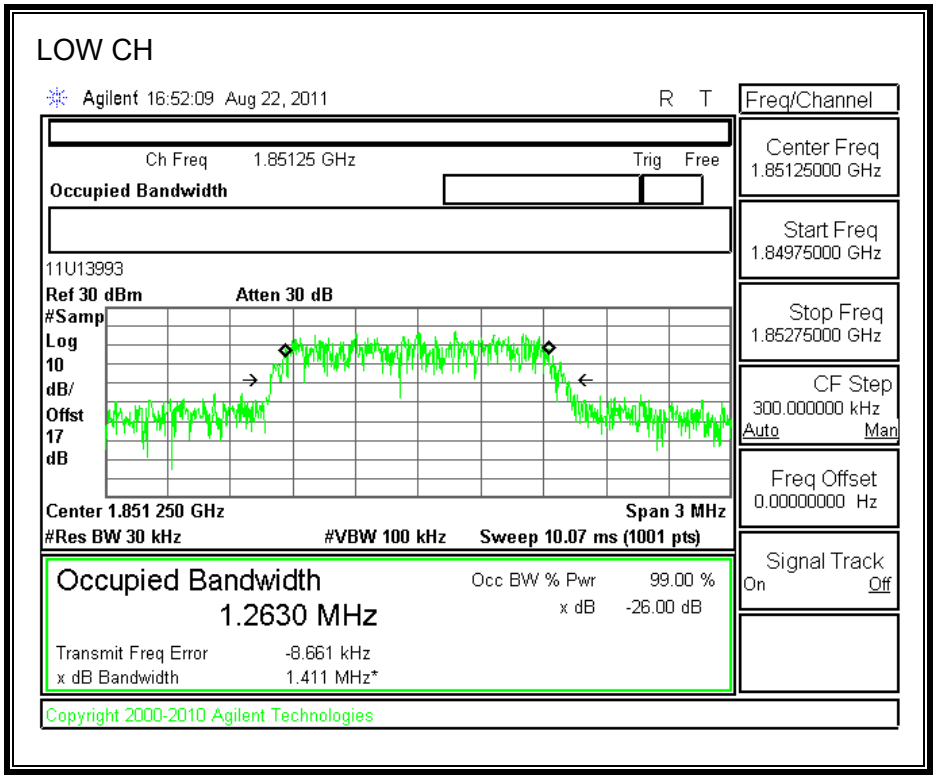


HIGH CH

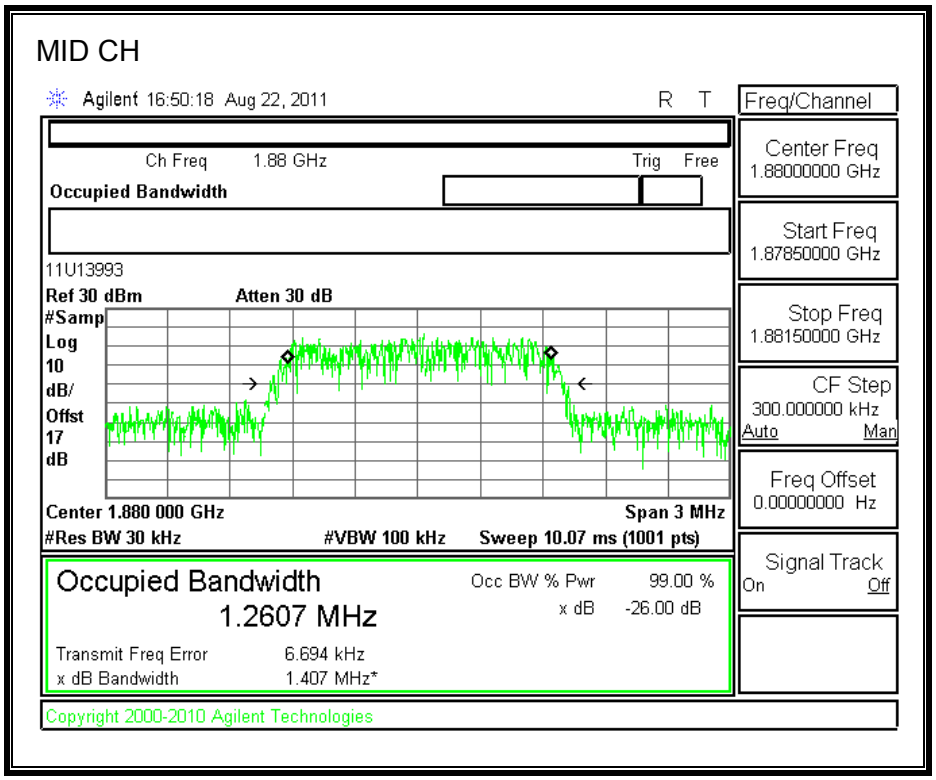


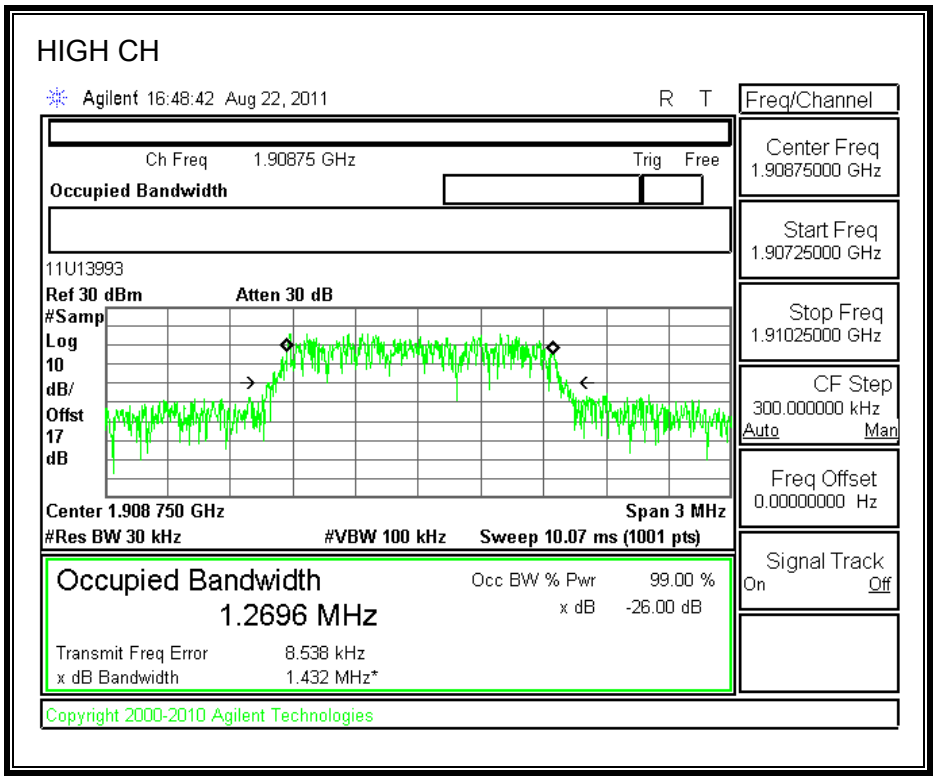
1xRTT 1900 BAND

LOW CH

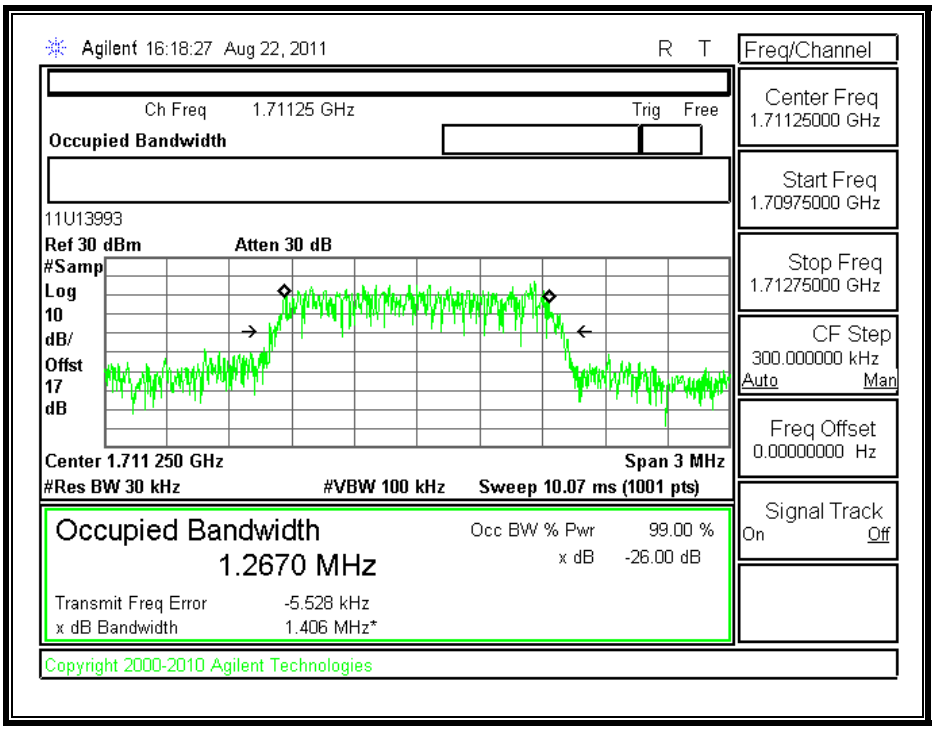


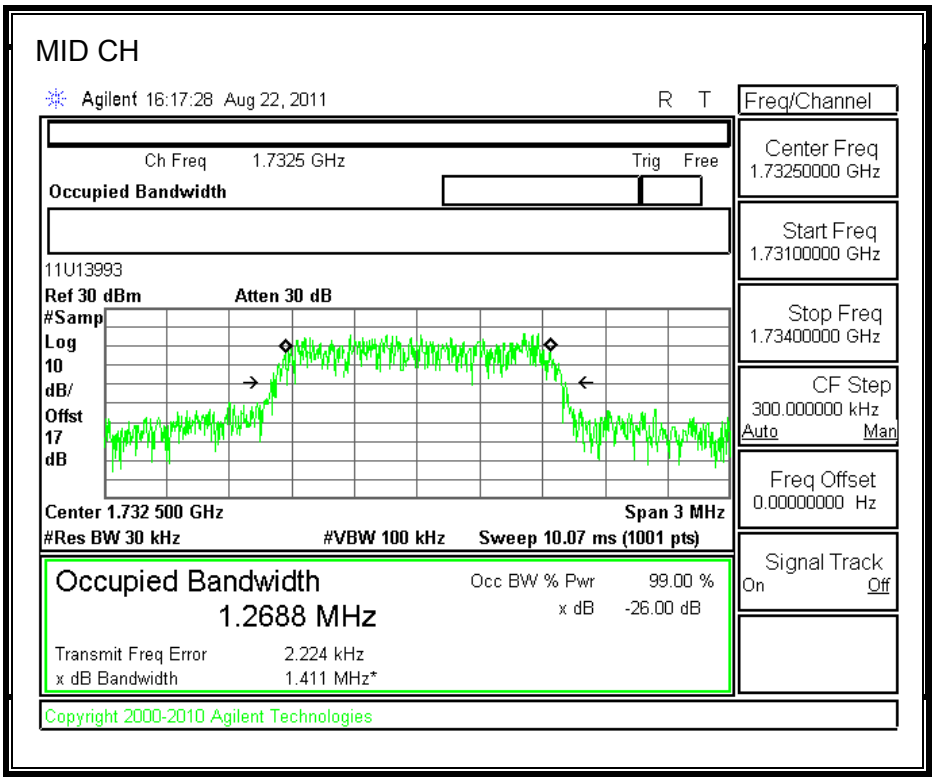
MID CH



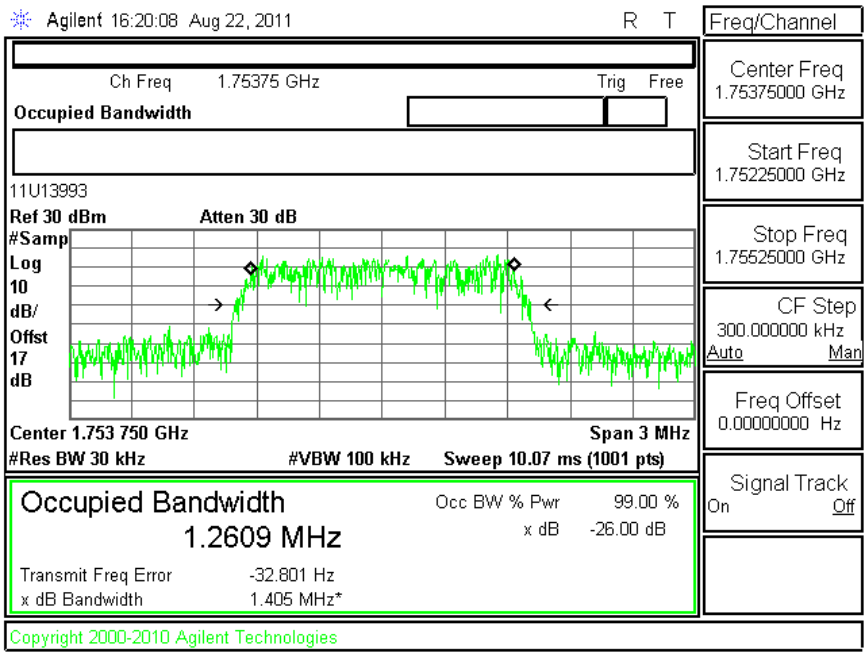


1xRTT 1700 BAND

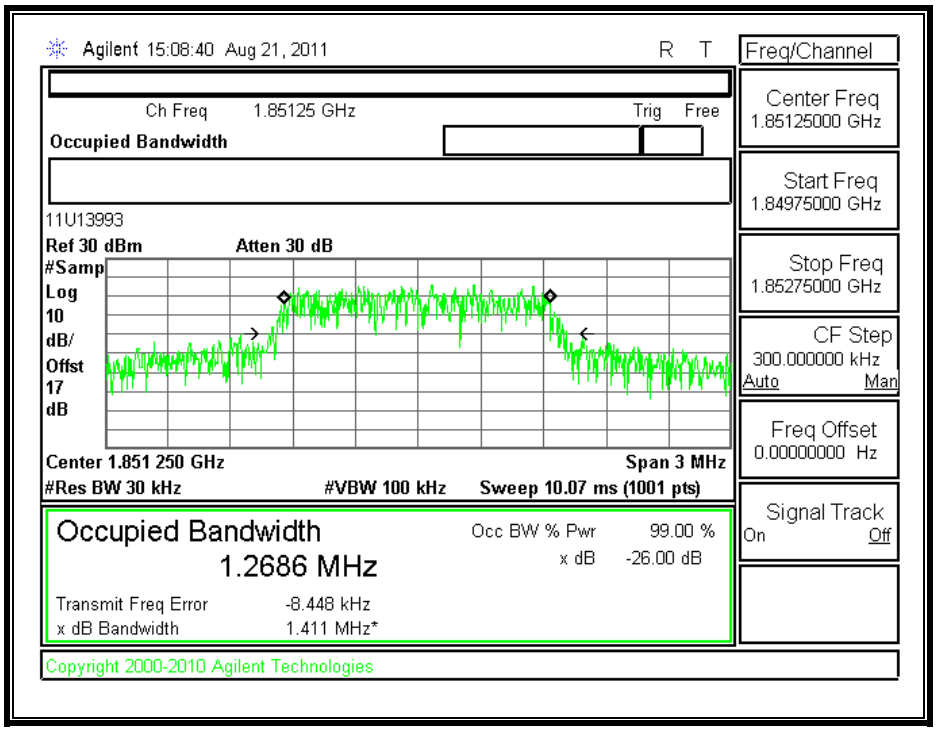


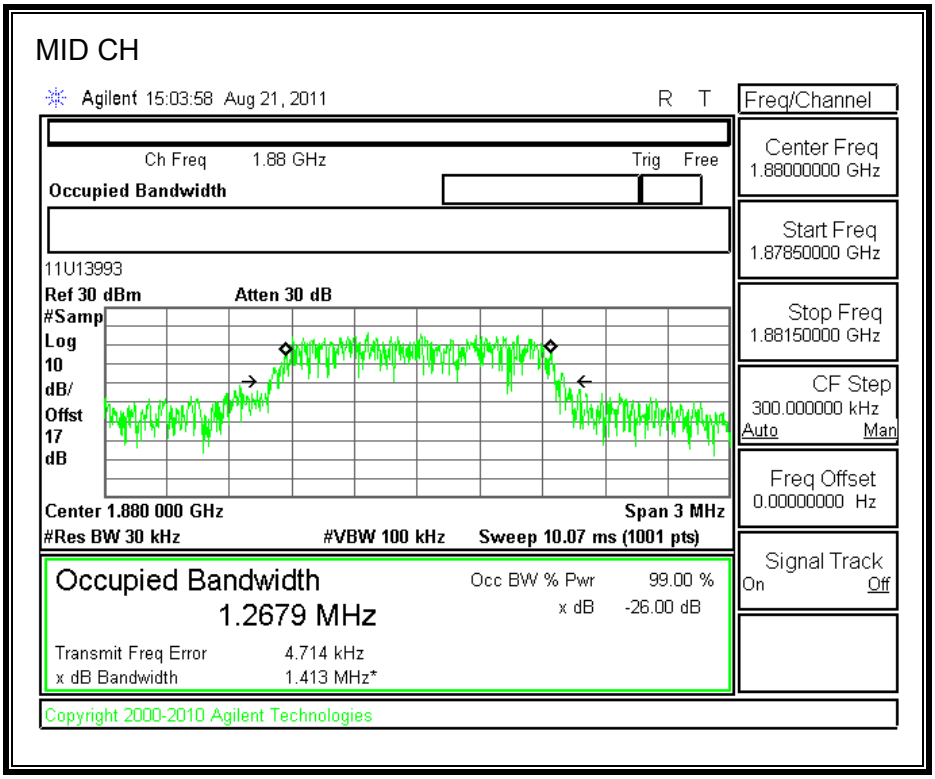


HIGH CH

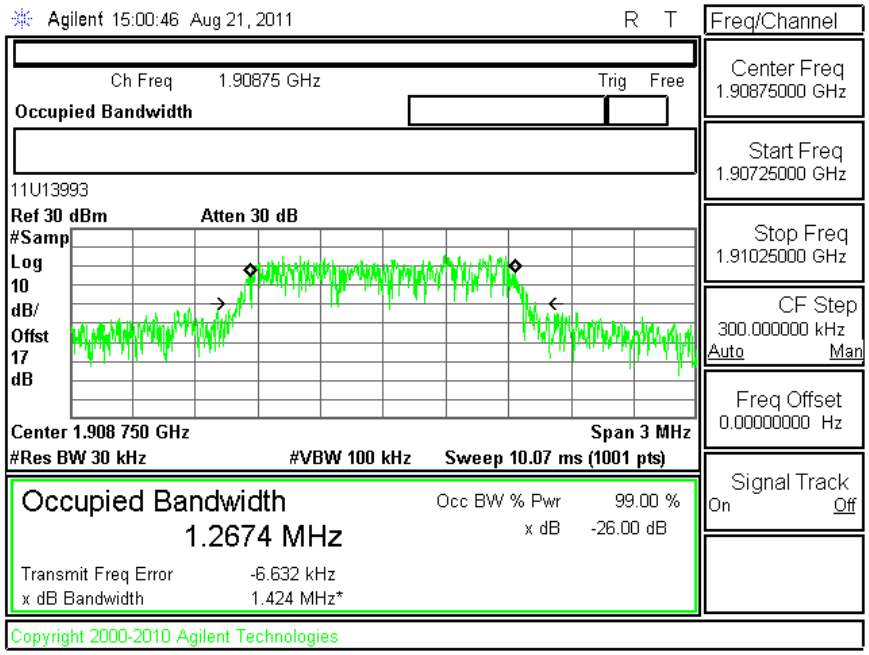


EVDO REV A.1900 BAND

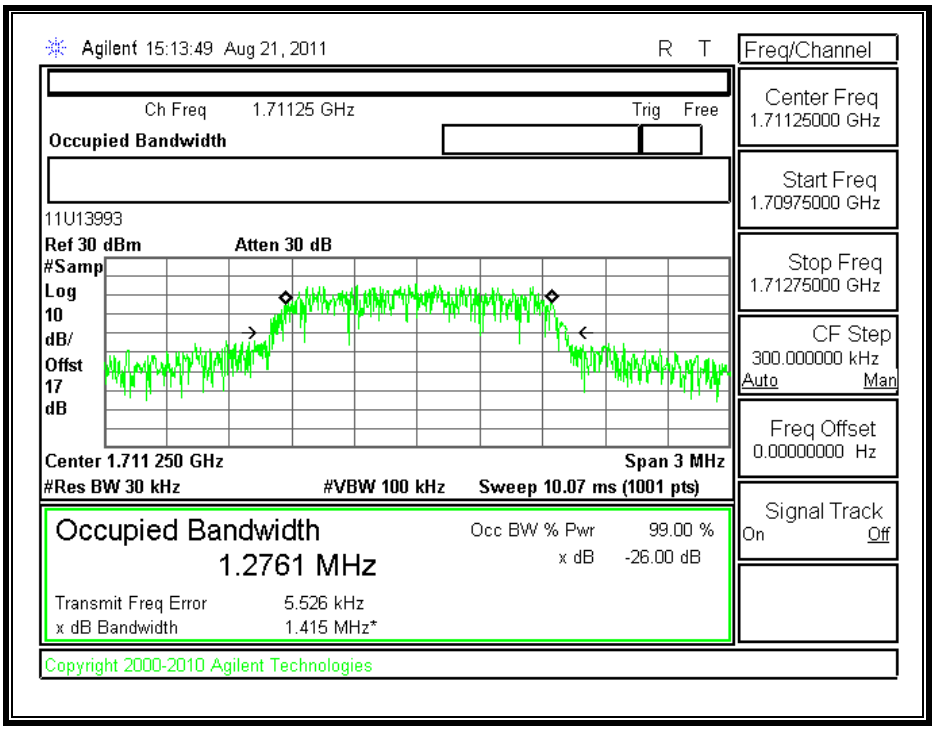


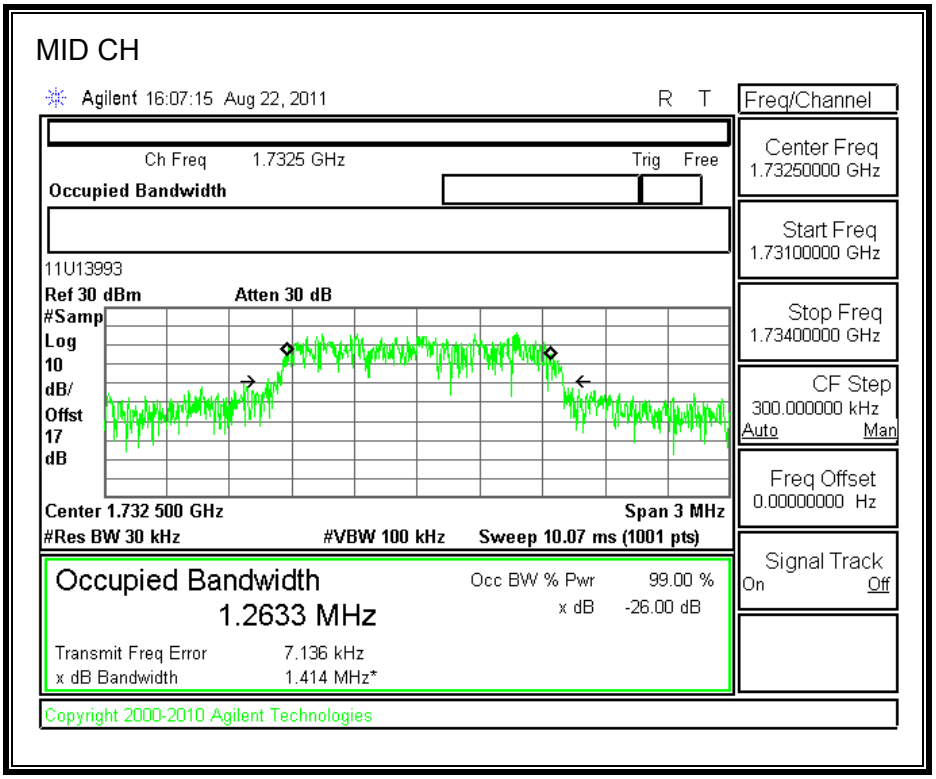


HIGH CH

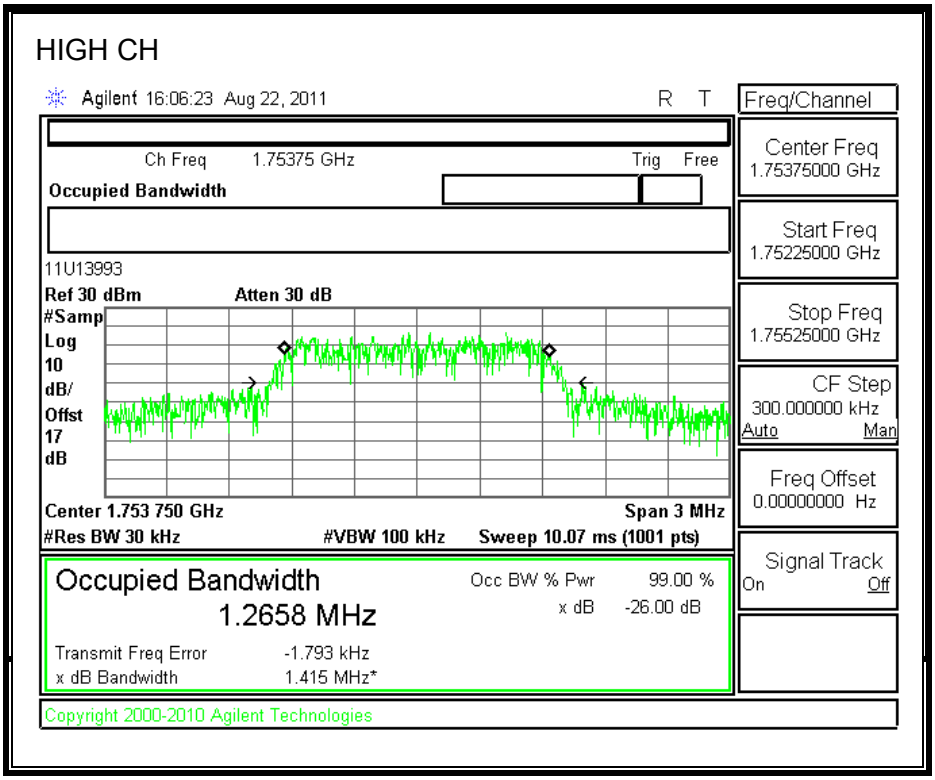


EVDO REV A.1700 BAND



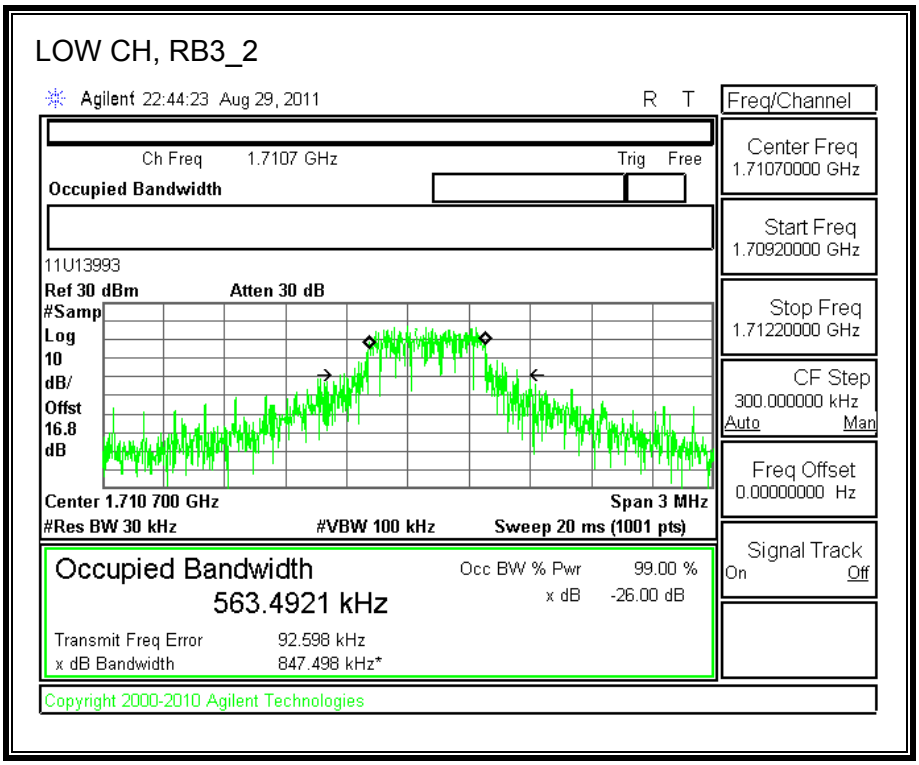


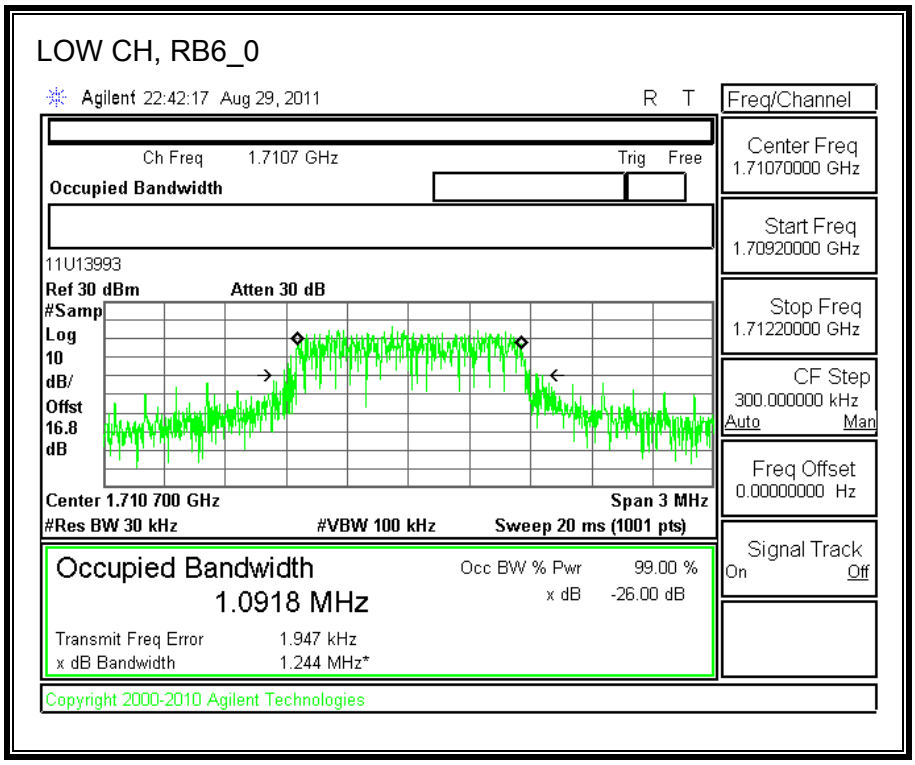
HIGH CH



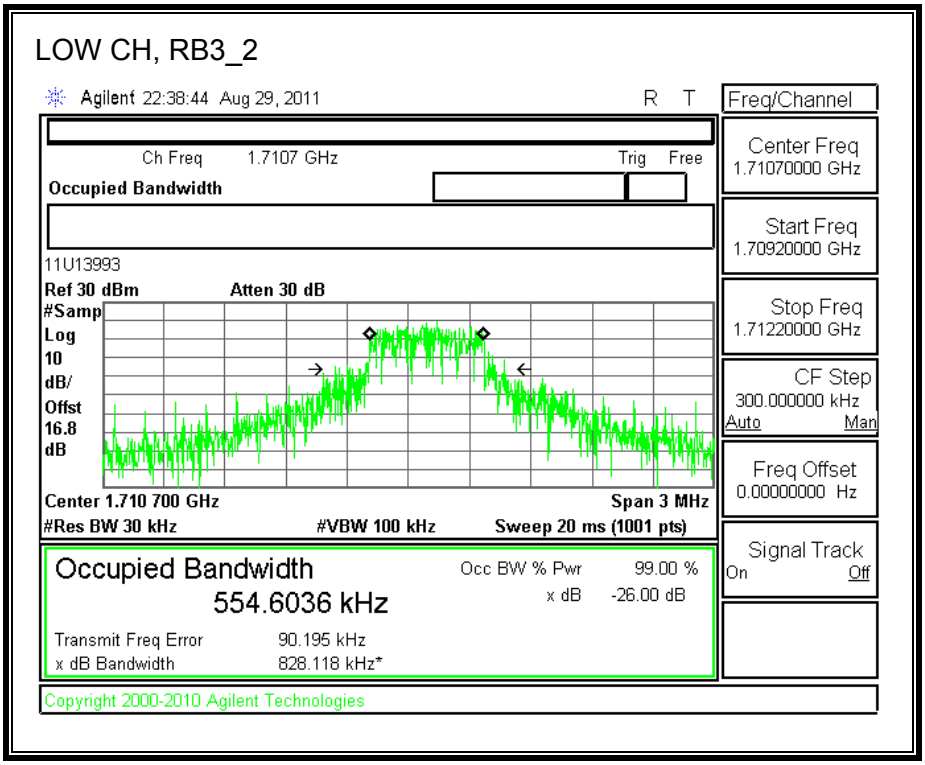
LTE, Band 4 (1.4MHz BAND WIDTH)

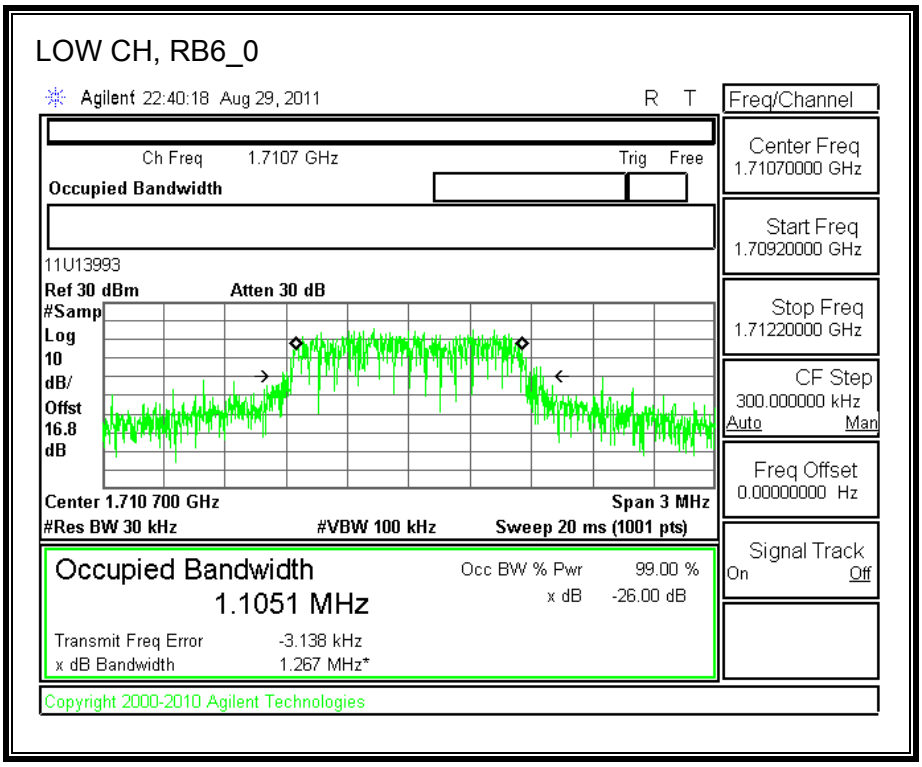
QPSK



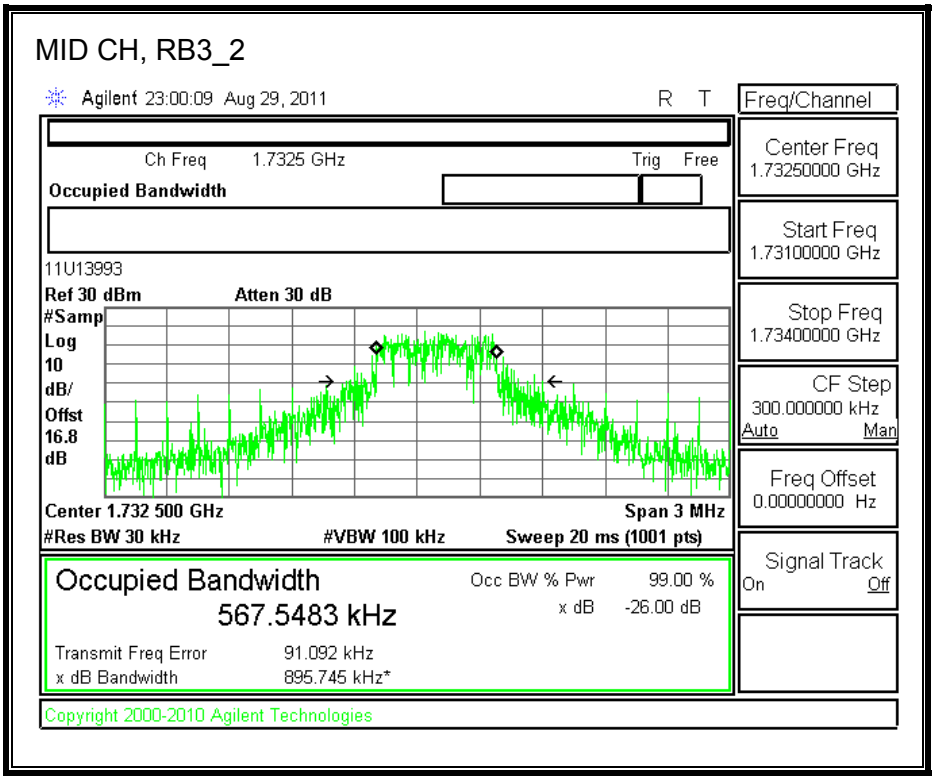


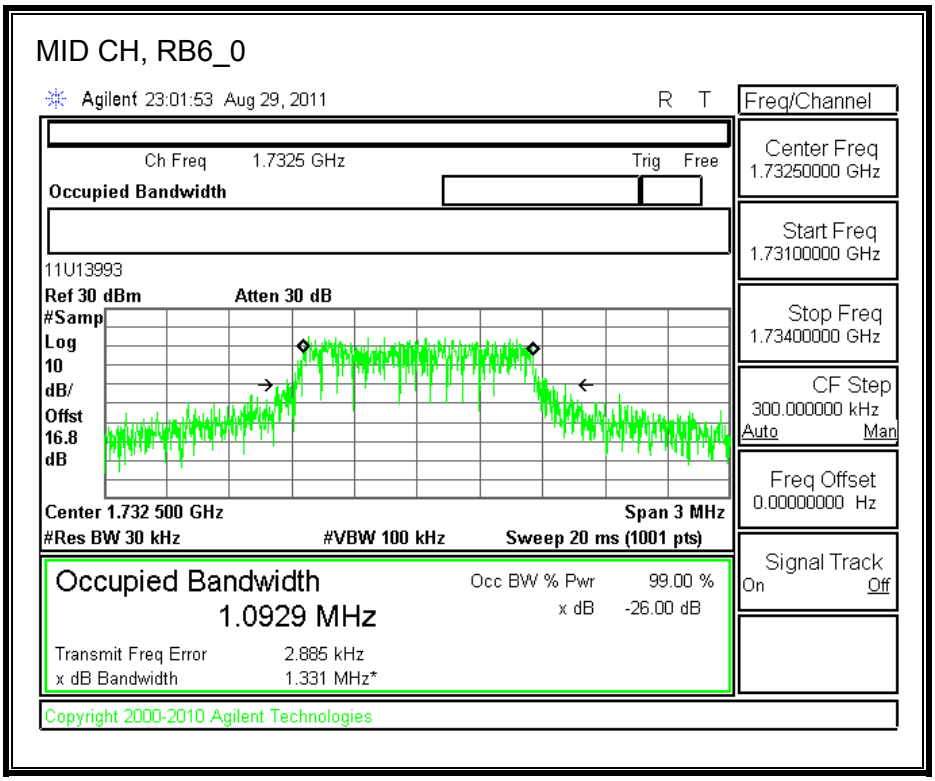
16QAM





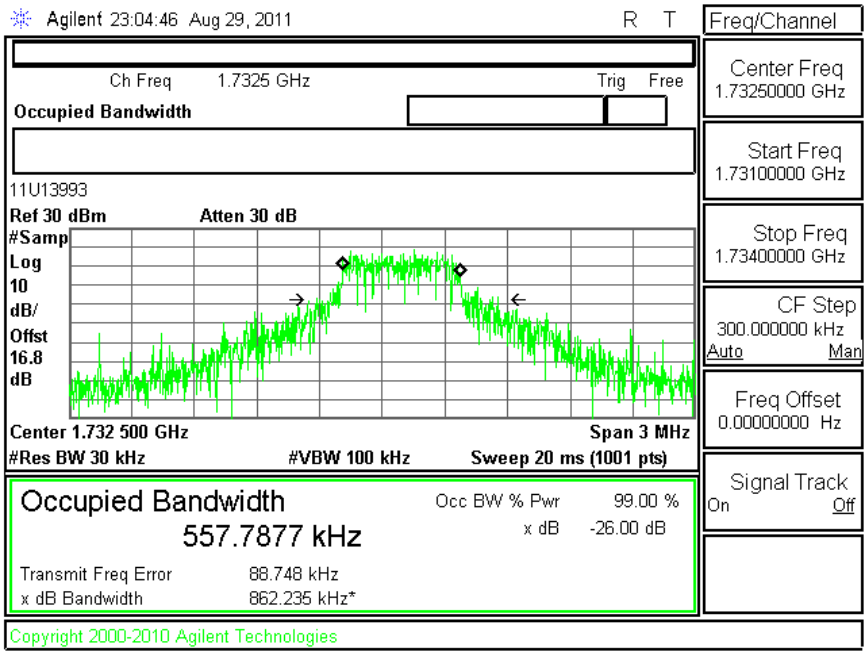
QPSK



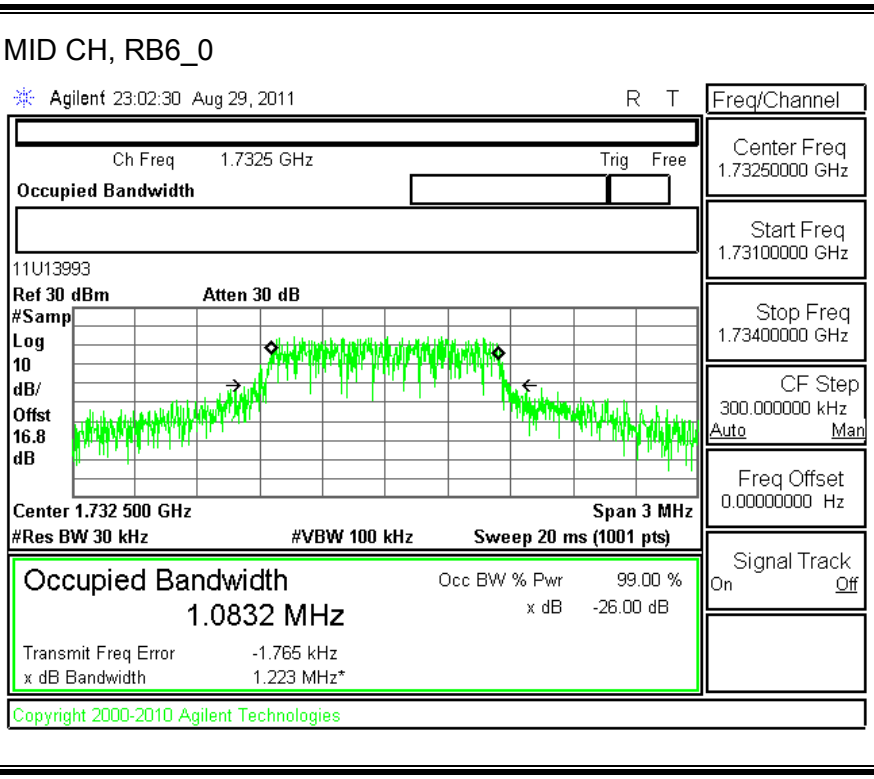


16QAM

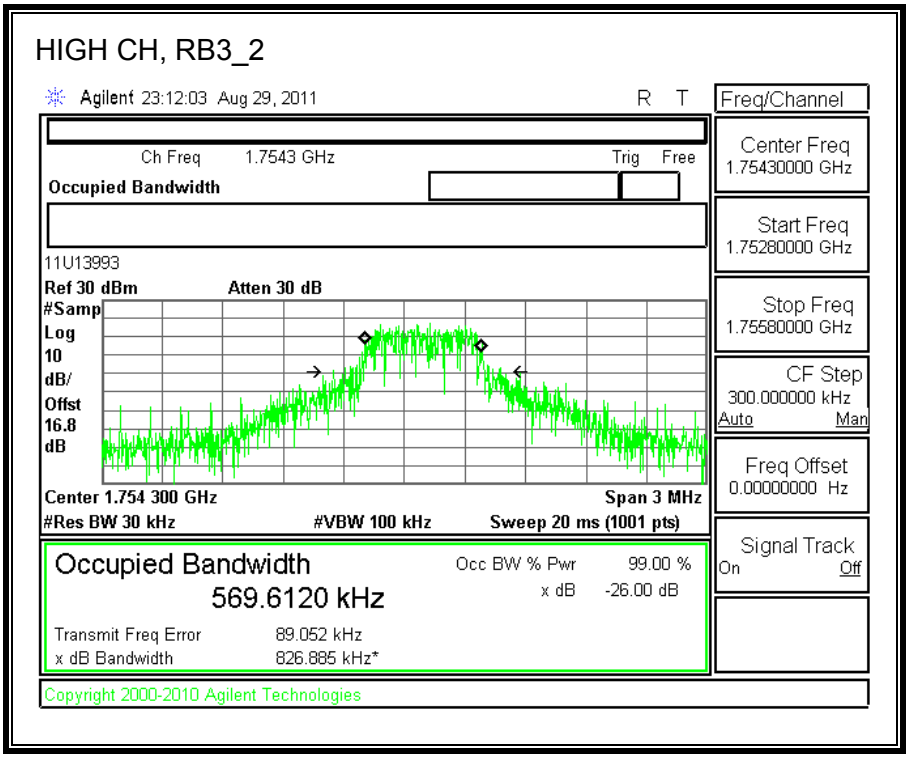
MID CH, RB3_2

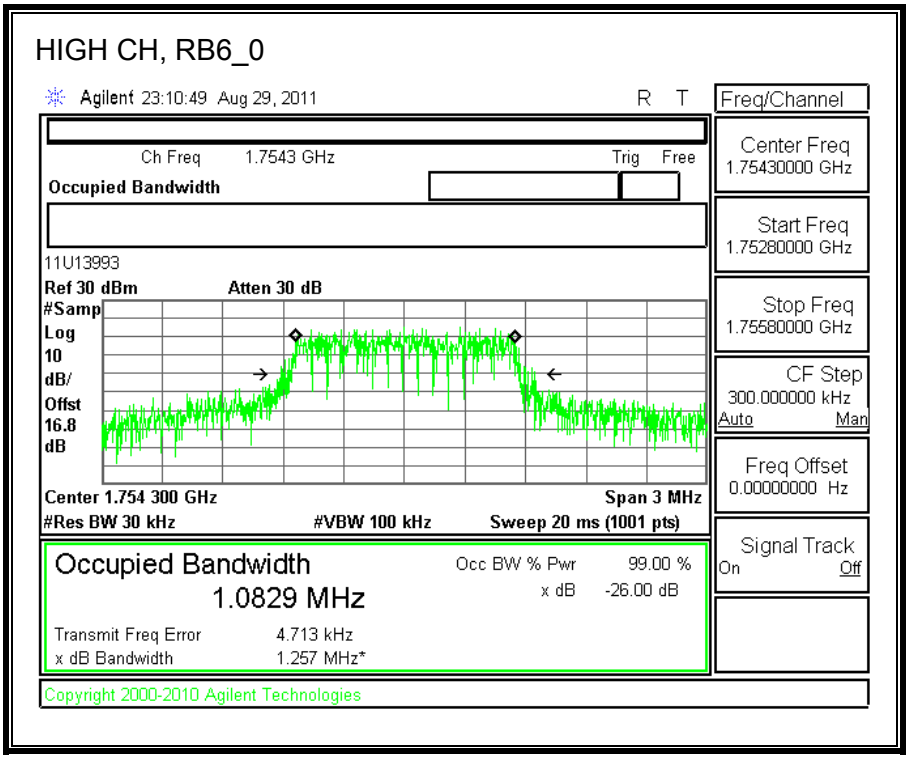


MID CH, RB6_0



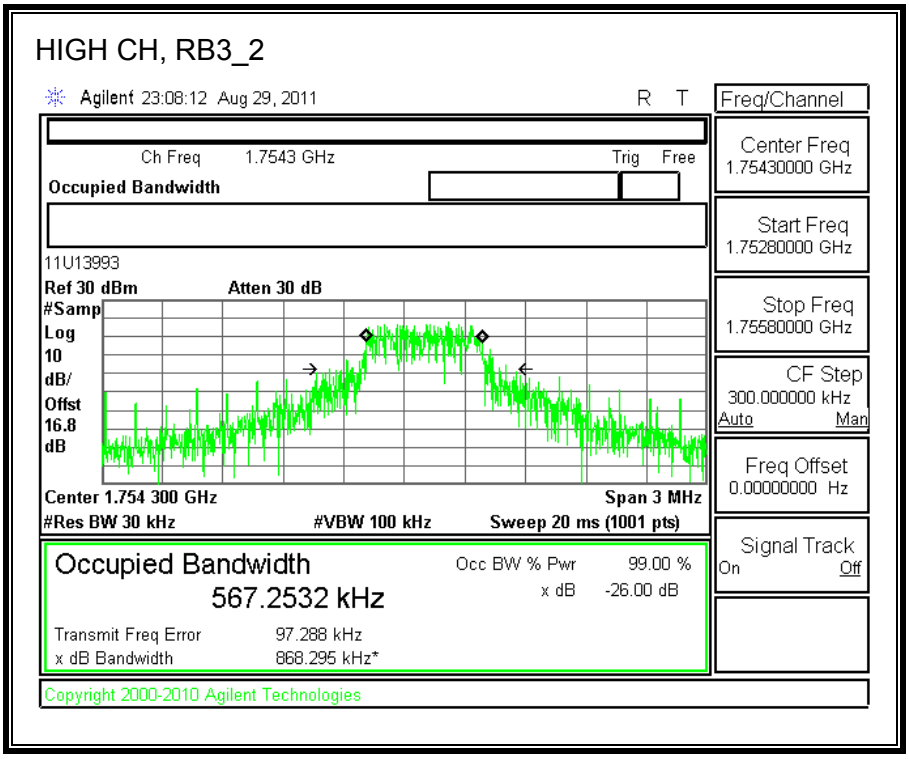
QPSK



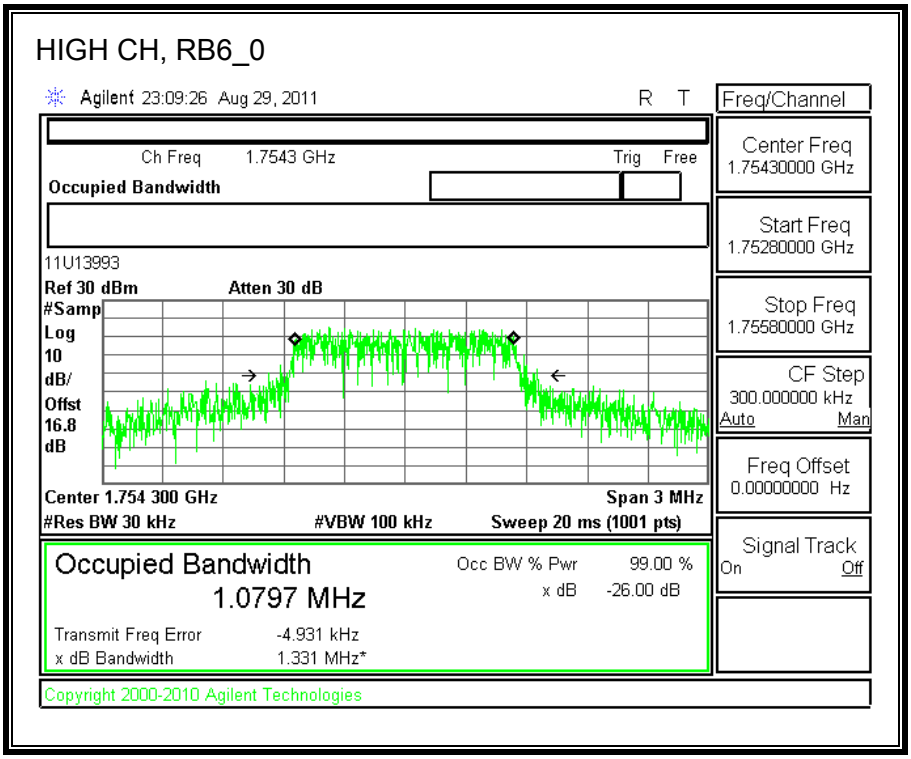


16QAM

HIGH CH, RB3_2

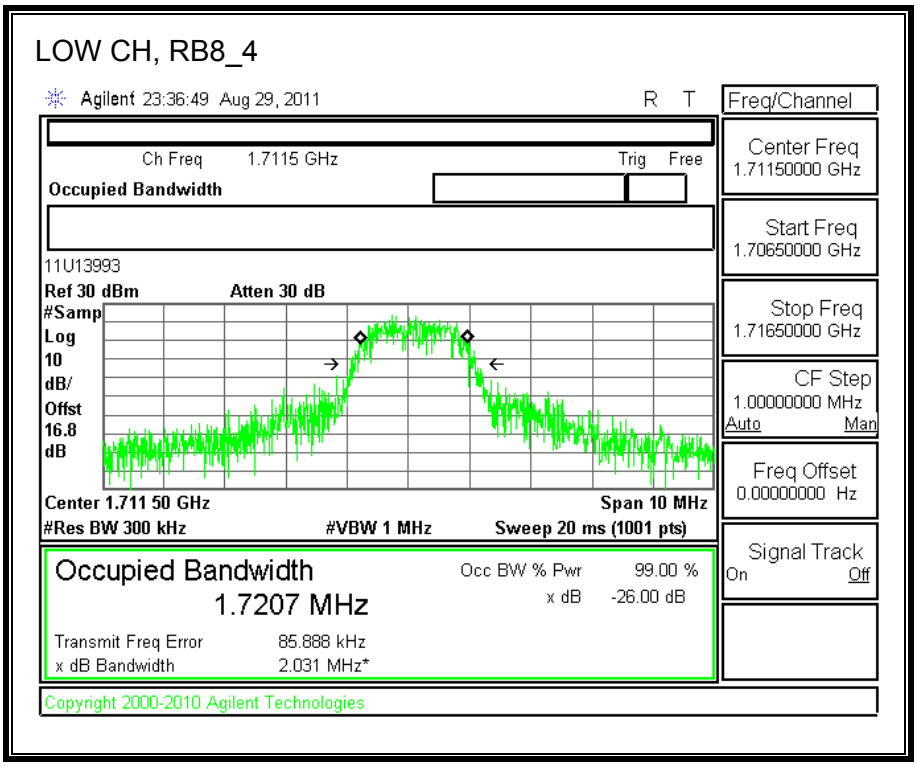


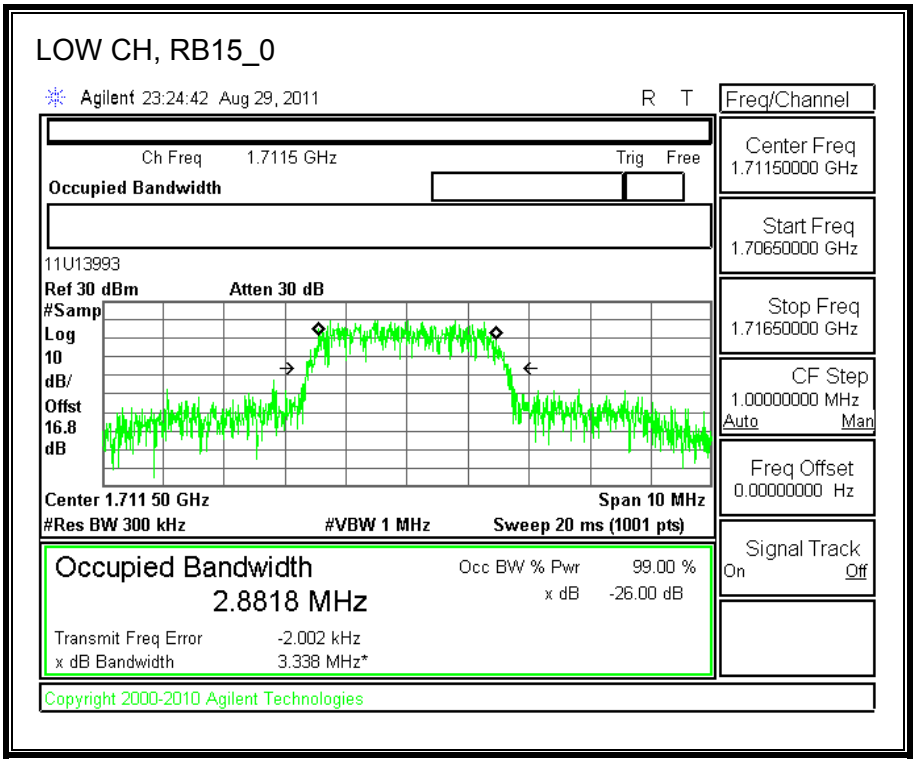
HIGH CH, RB6_0



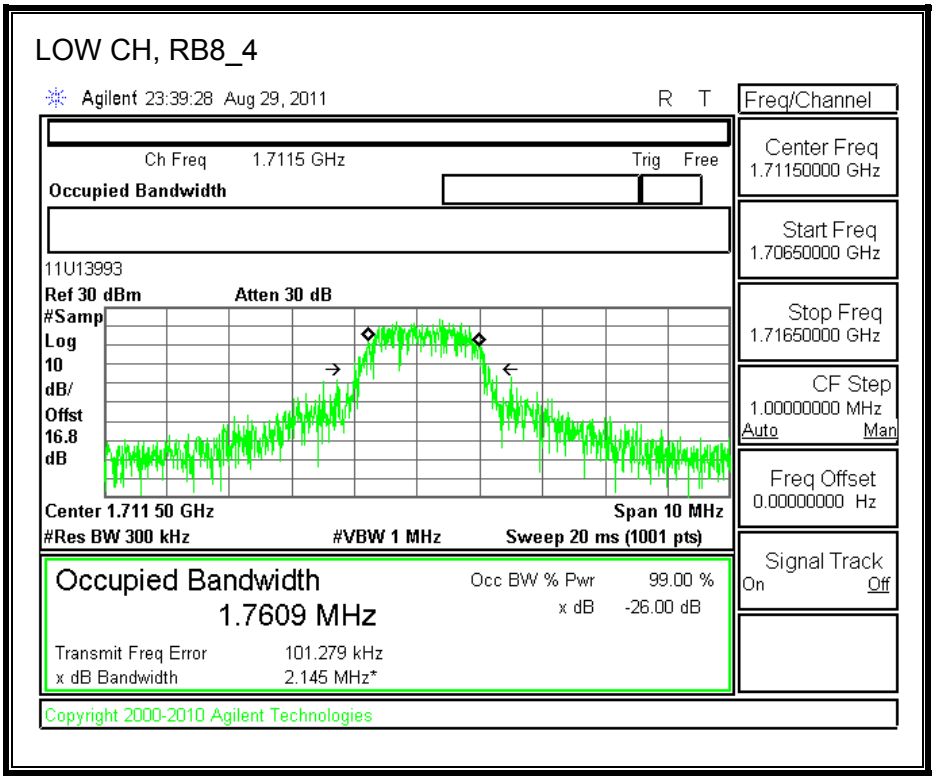
LTE, Band 4 (3.0MHz BAND WIDTH)

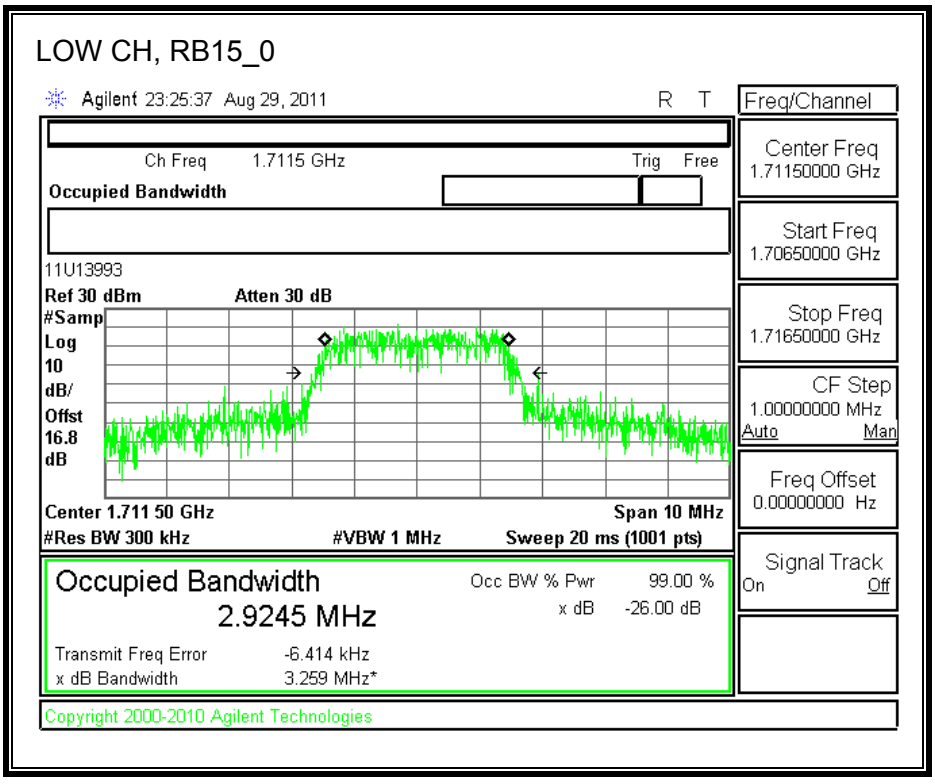
QPSK





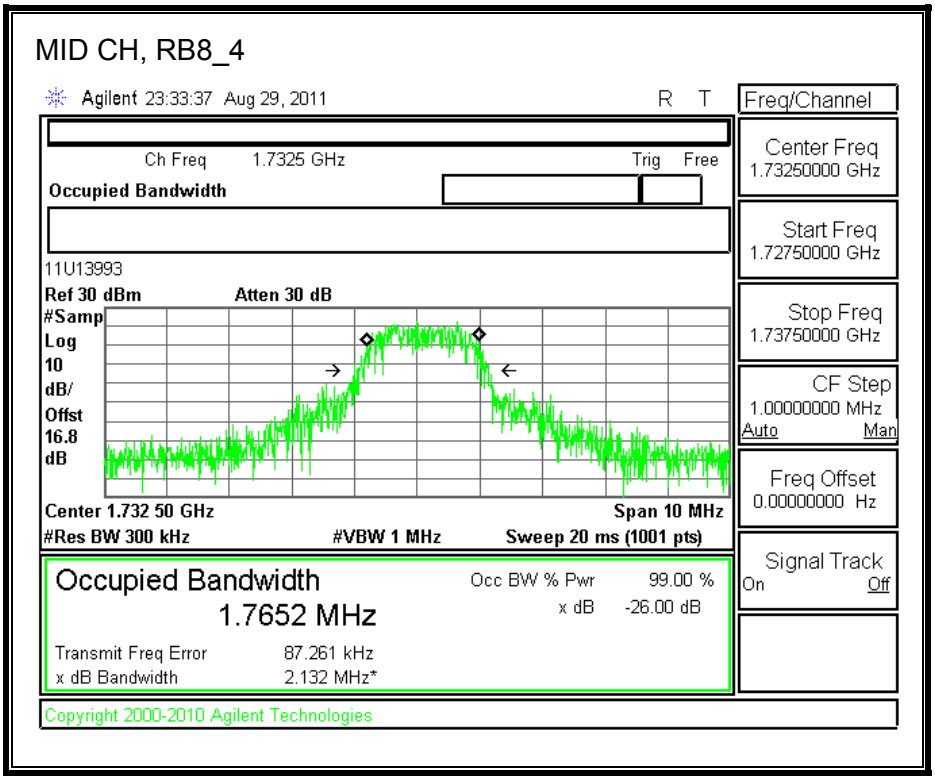
16QAM



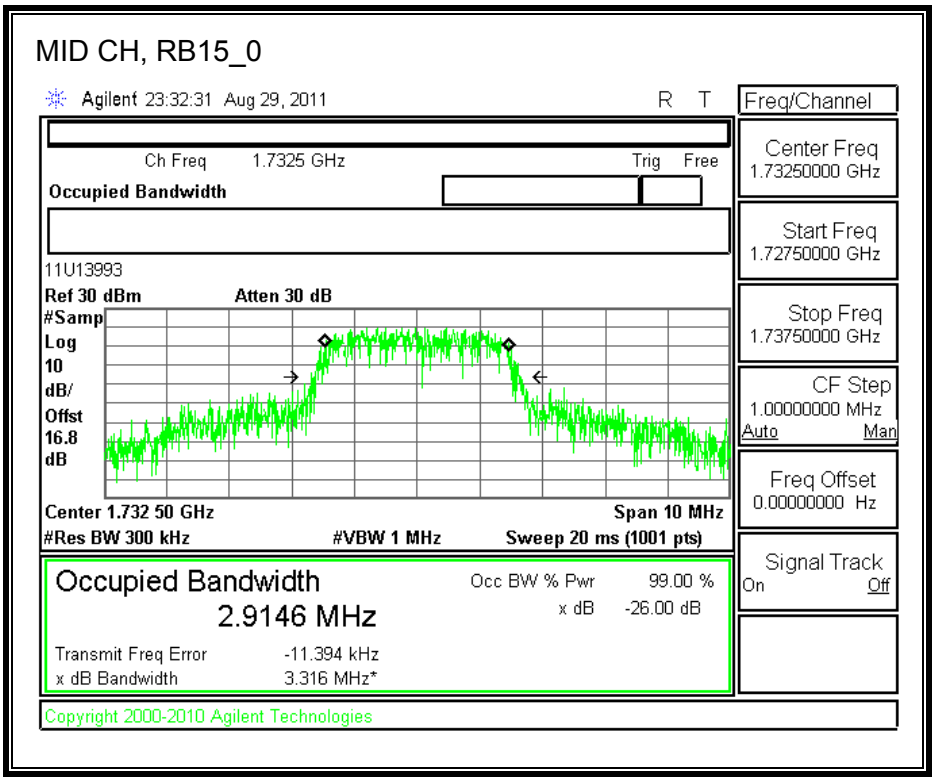


QPSK

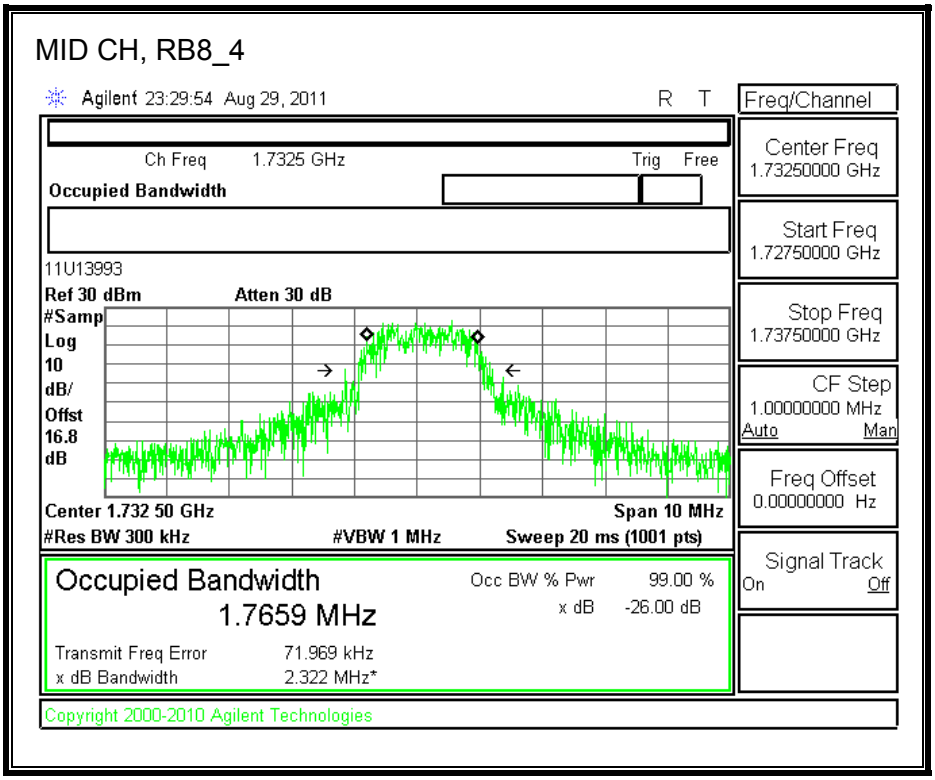
MID CH, RB8_4

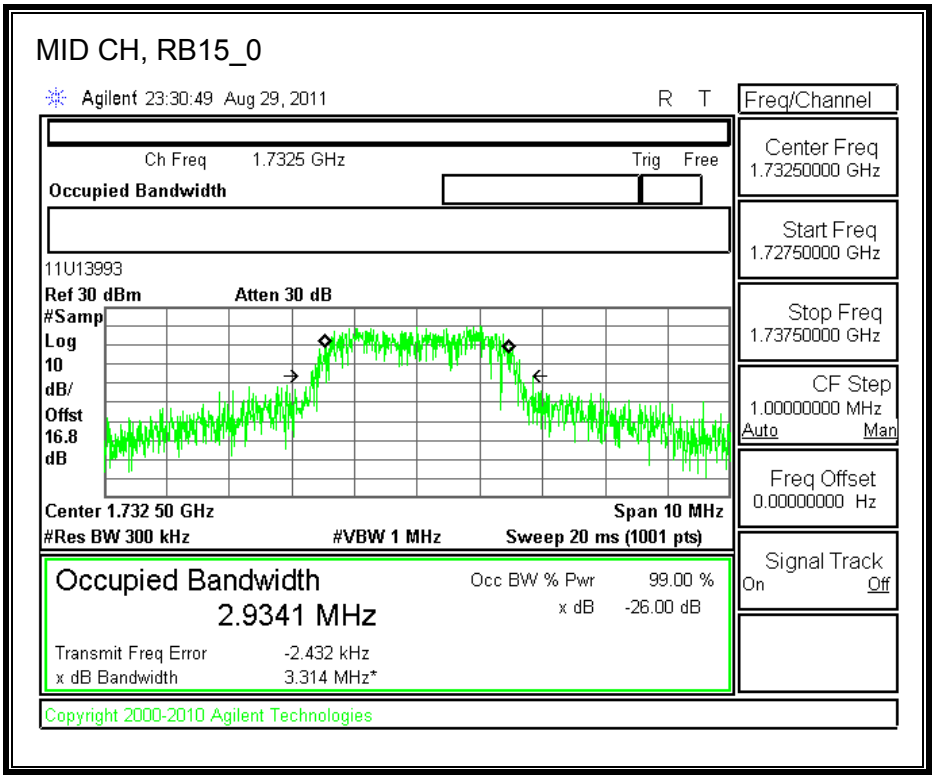


MID CH, RB15_0



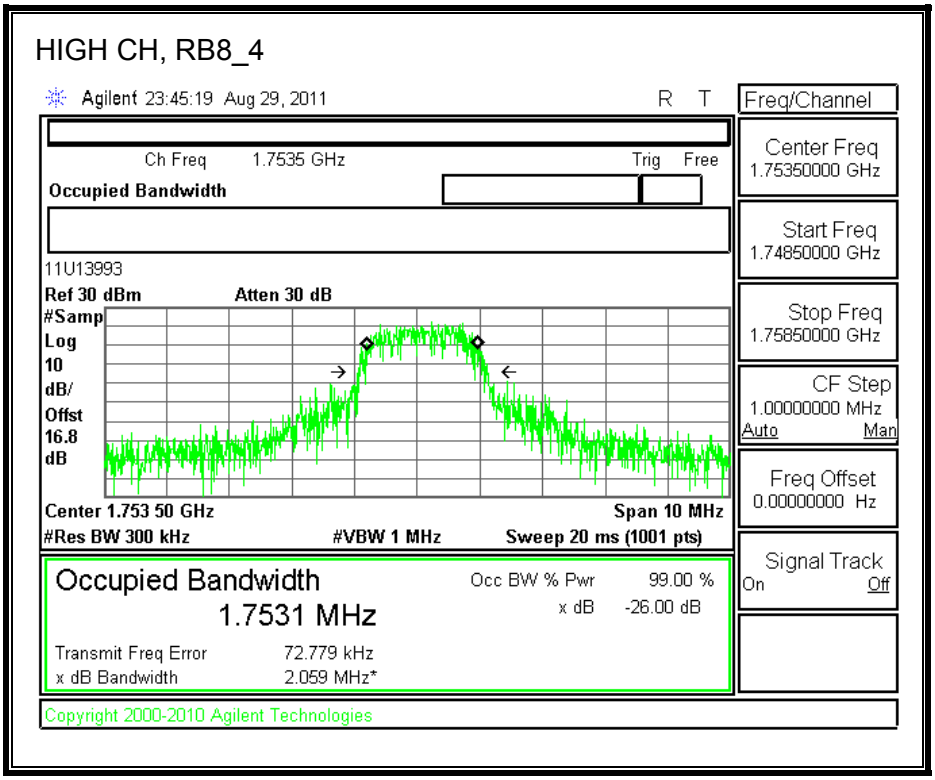
16QAM



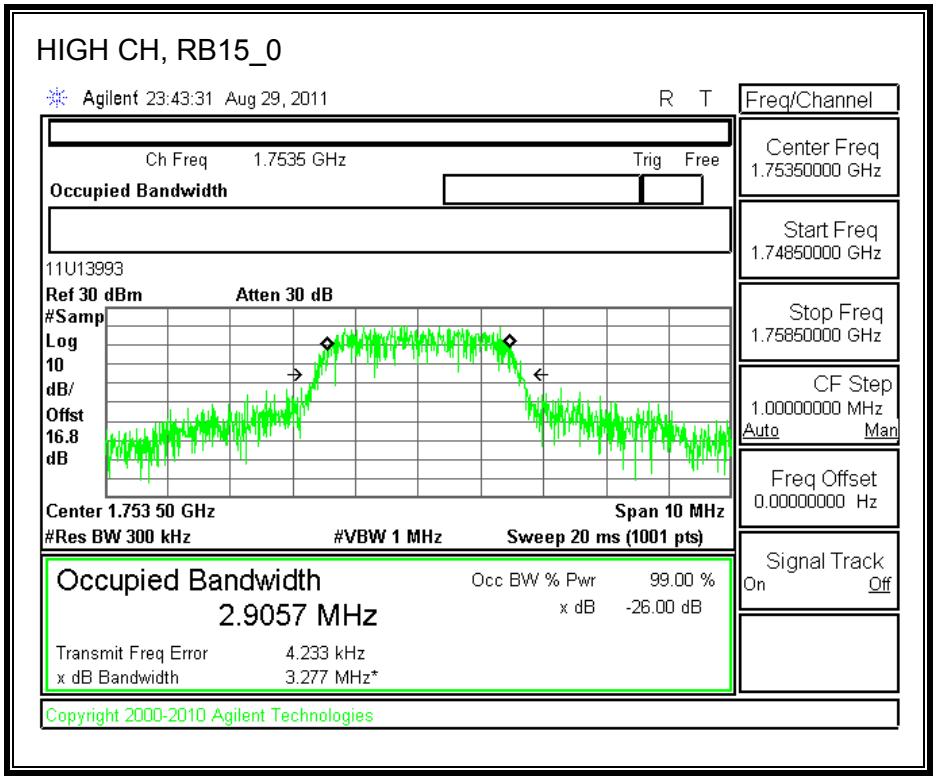


QPSK

HIGH CH, RB8_4

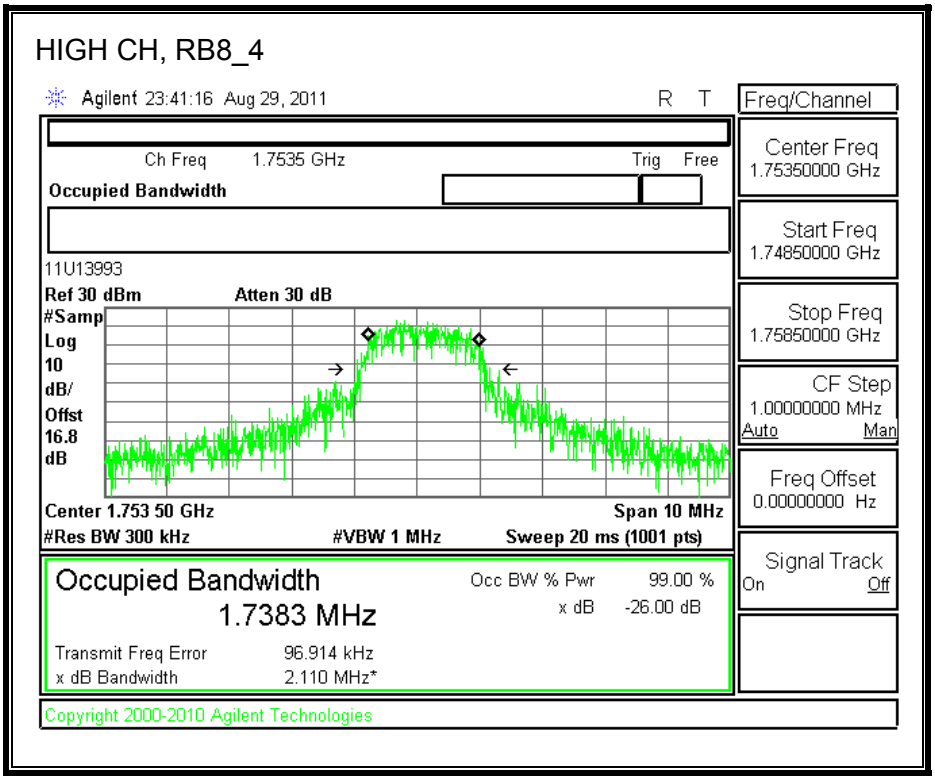


HIGH CH, RB15_0

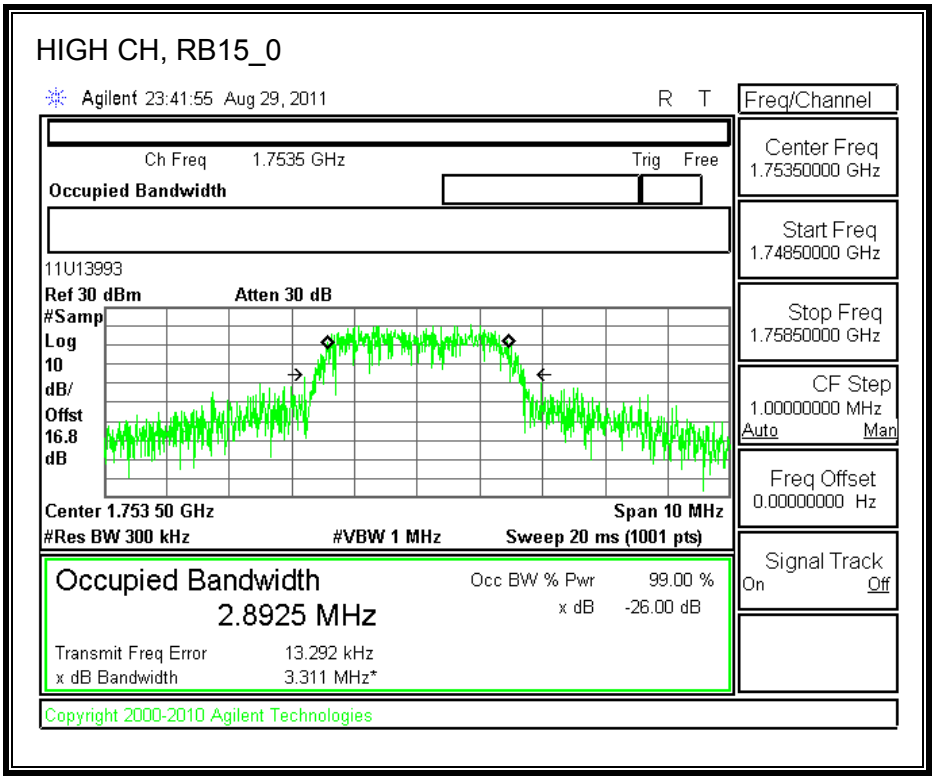


16QAM

HIGH CH, RB8_4

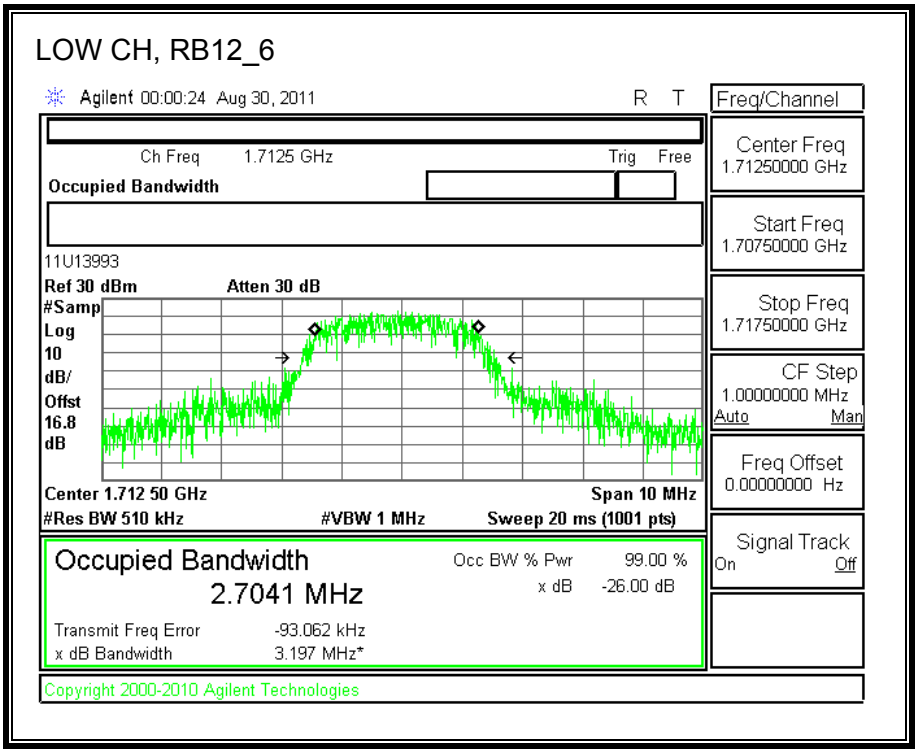


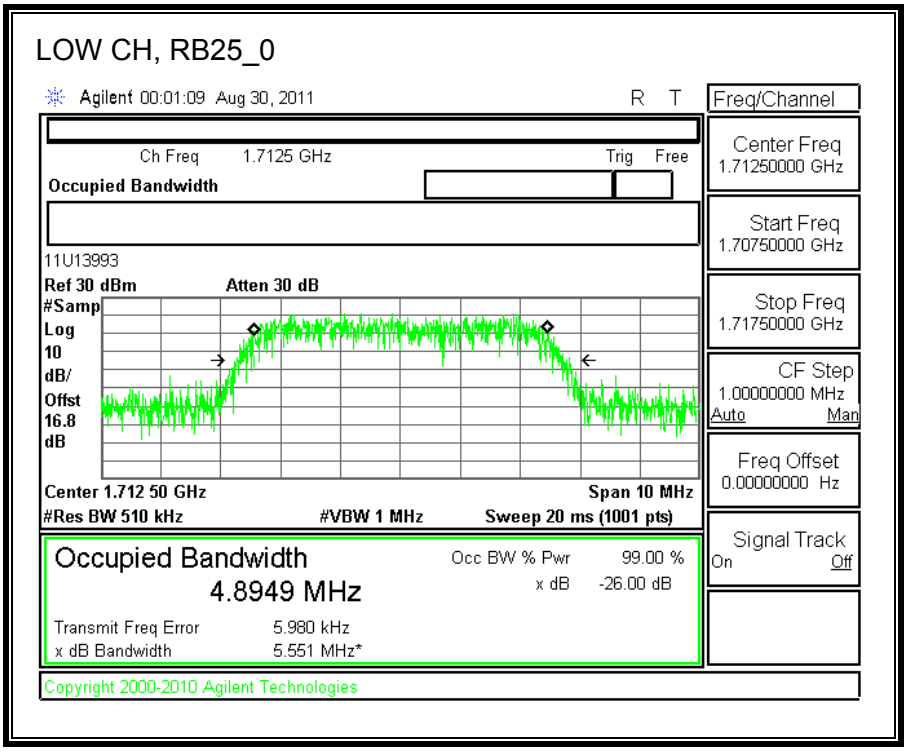
HIGH CH, RB15_0



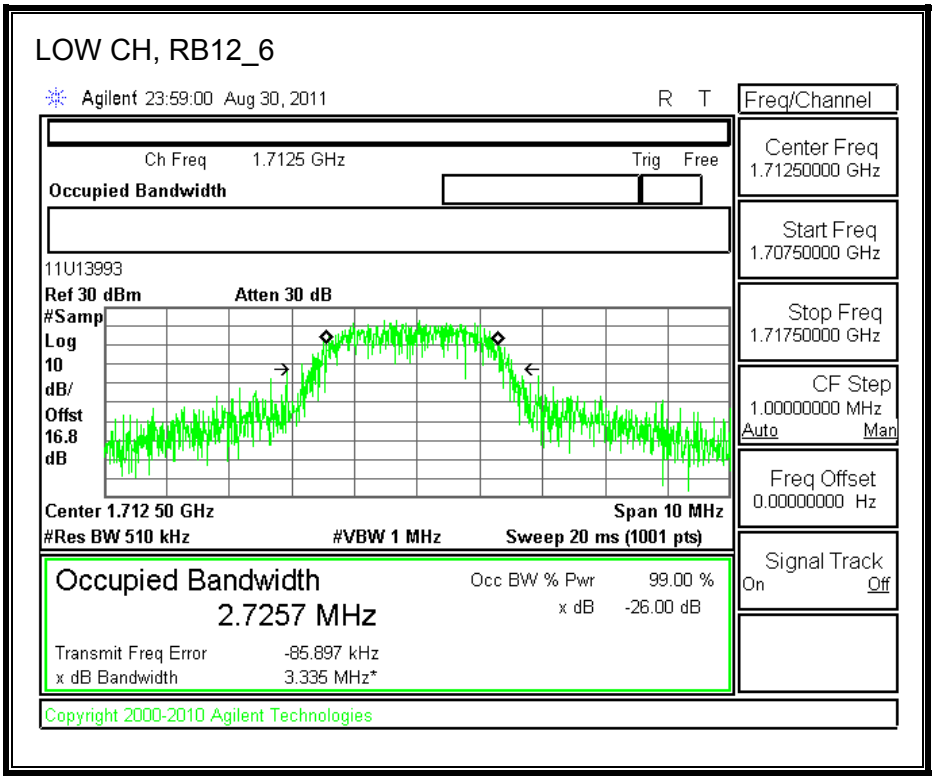
LTE, Band 4 (5.0MHz BAND WIDTH)

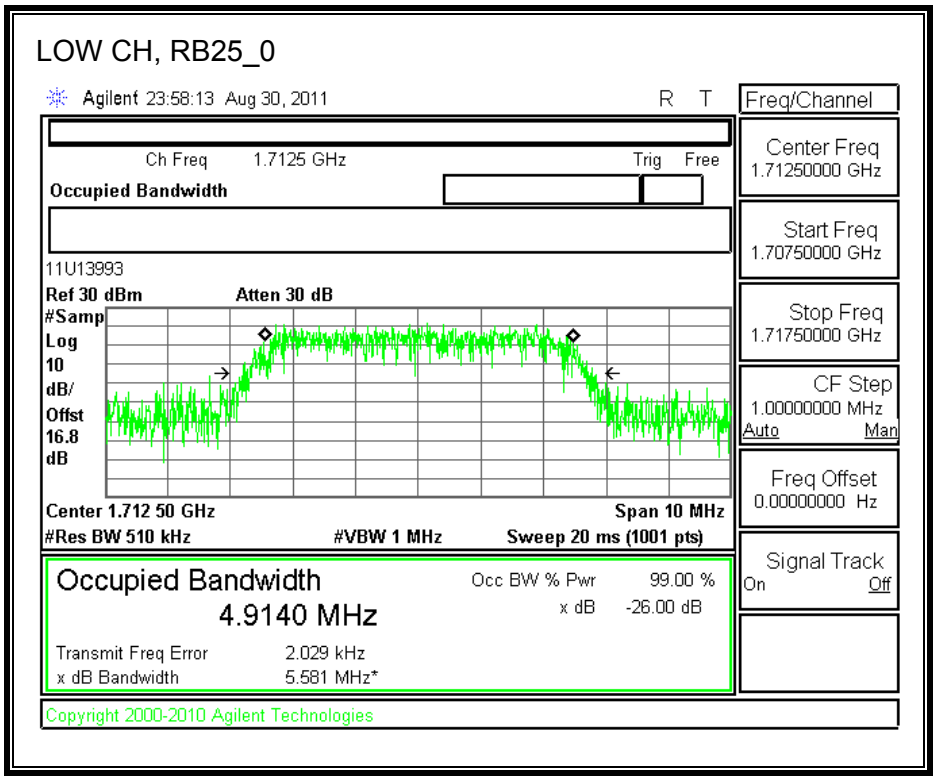
QPSK



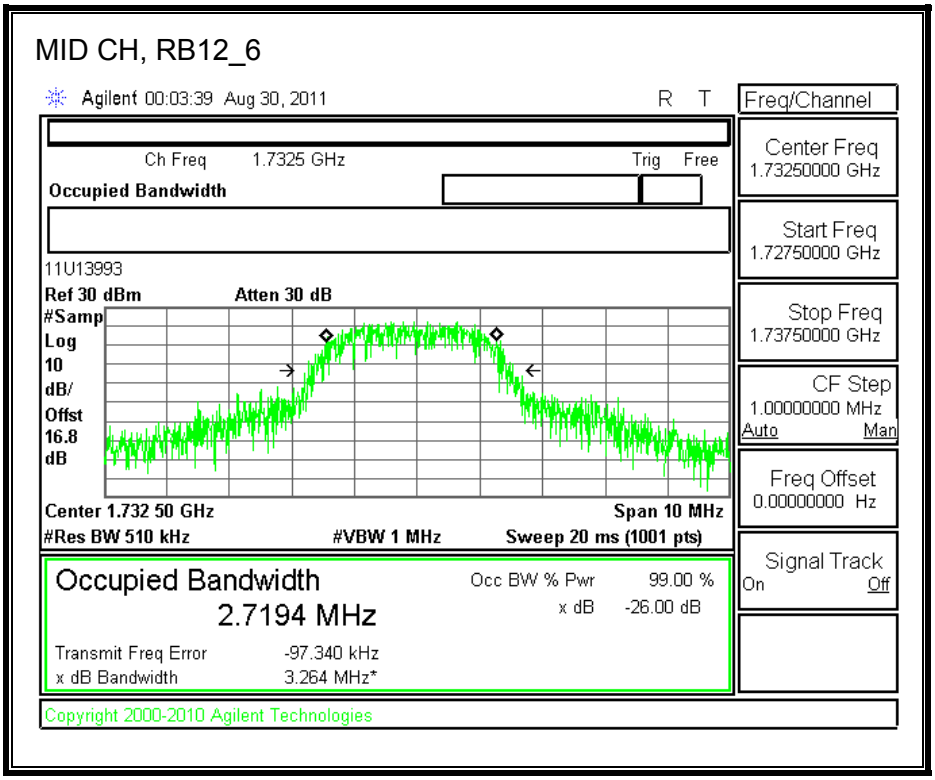


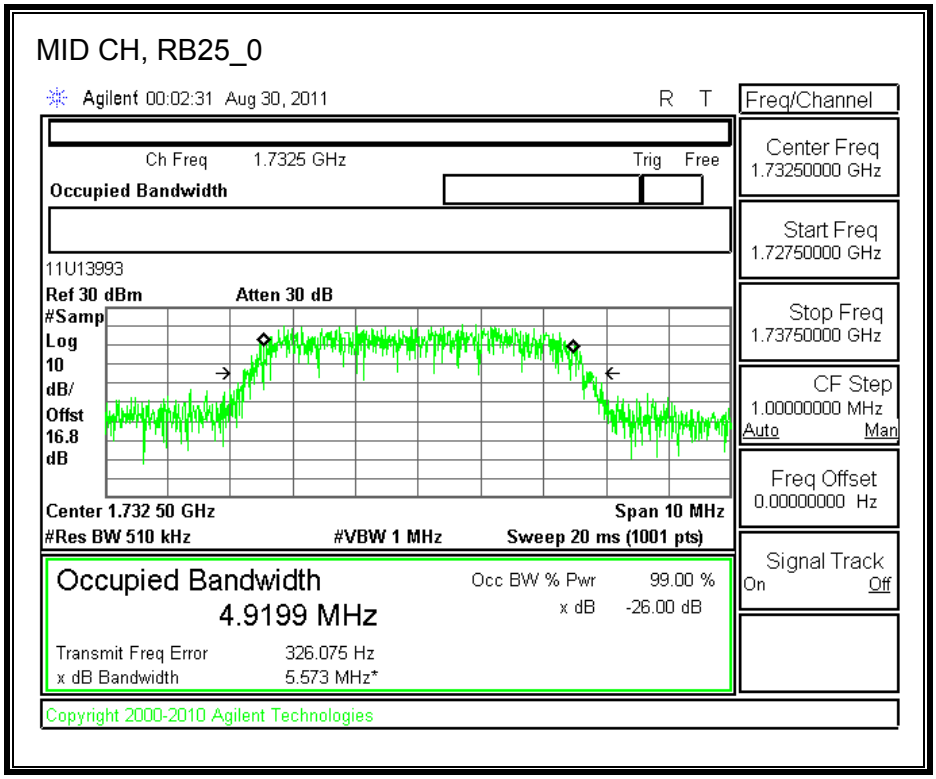
16QAM



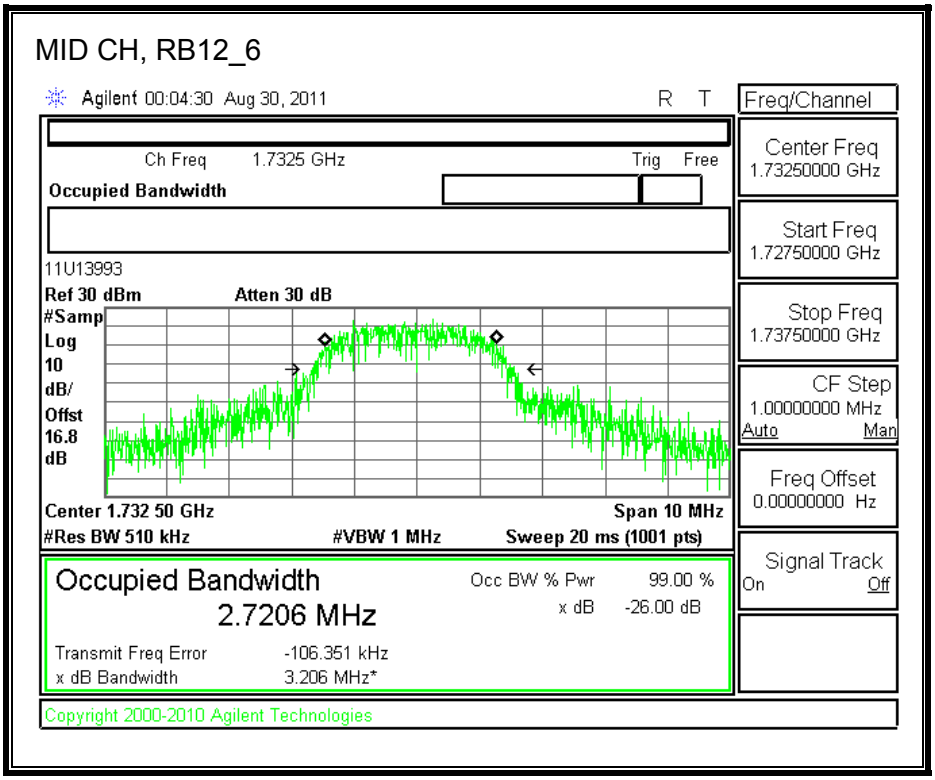


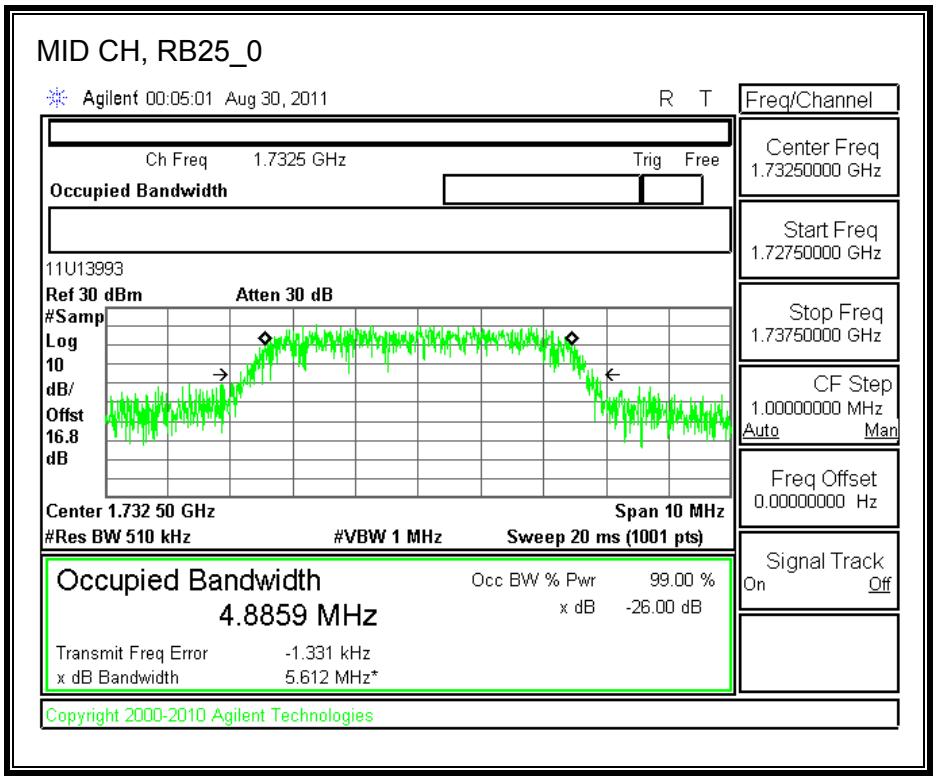
QPSK



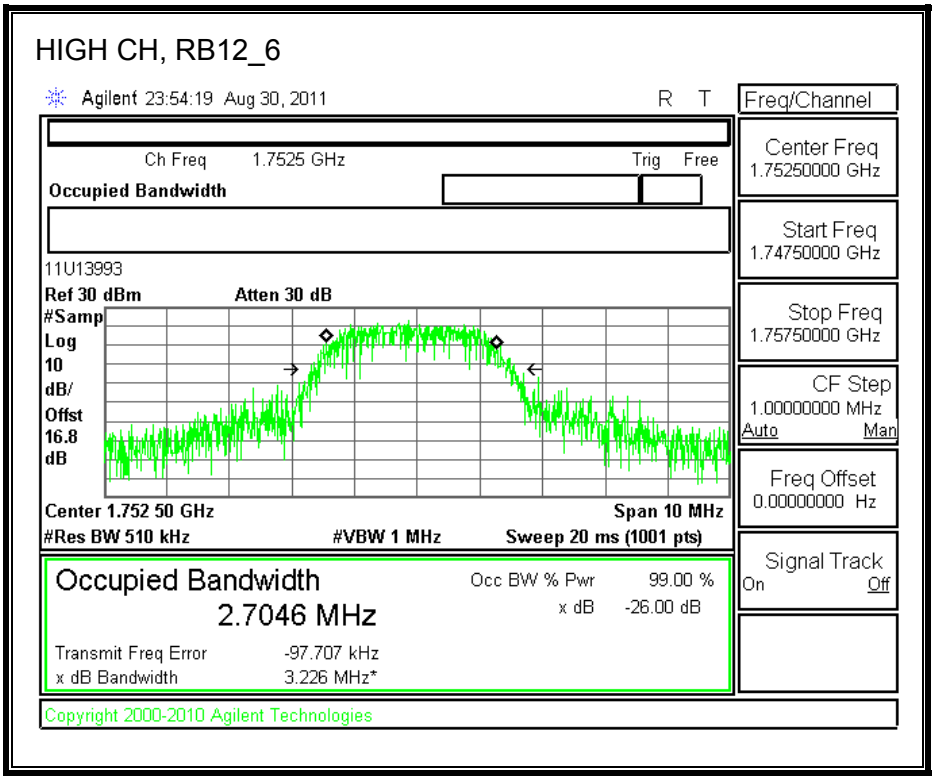


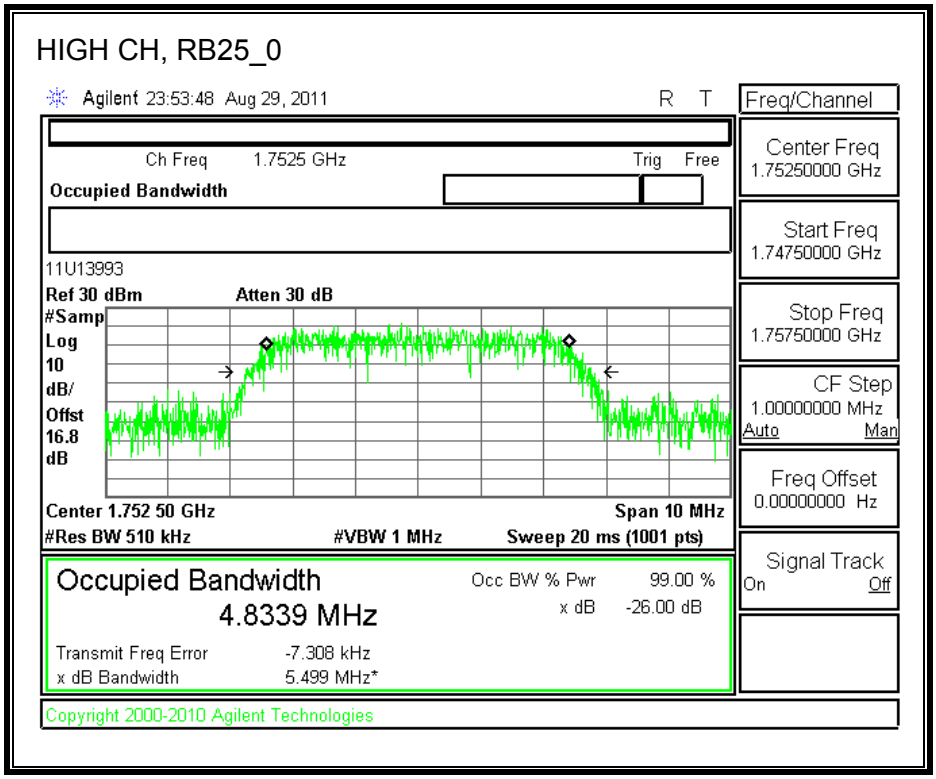
16QAM





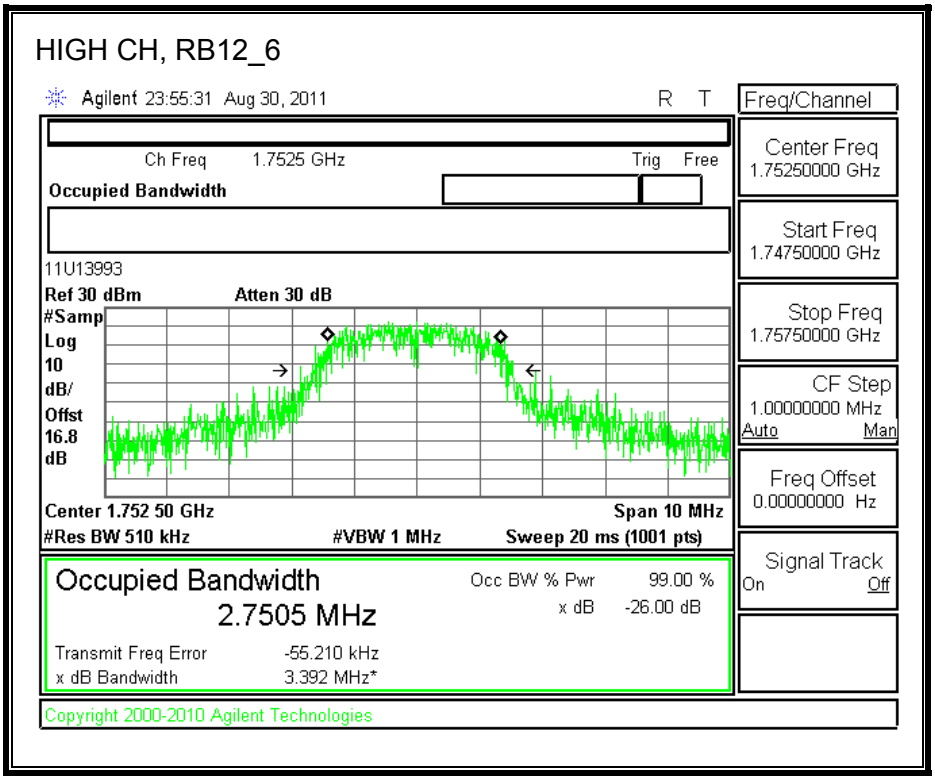
QPSK



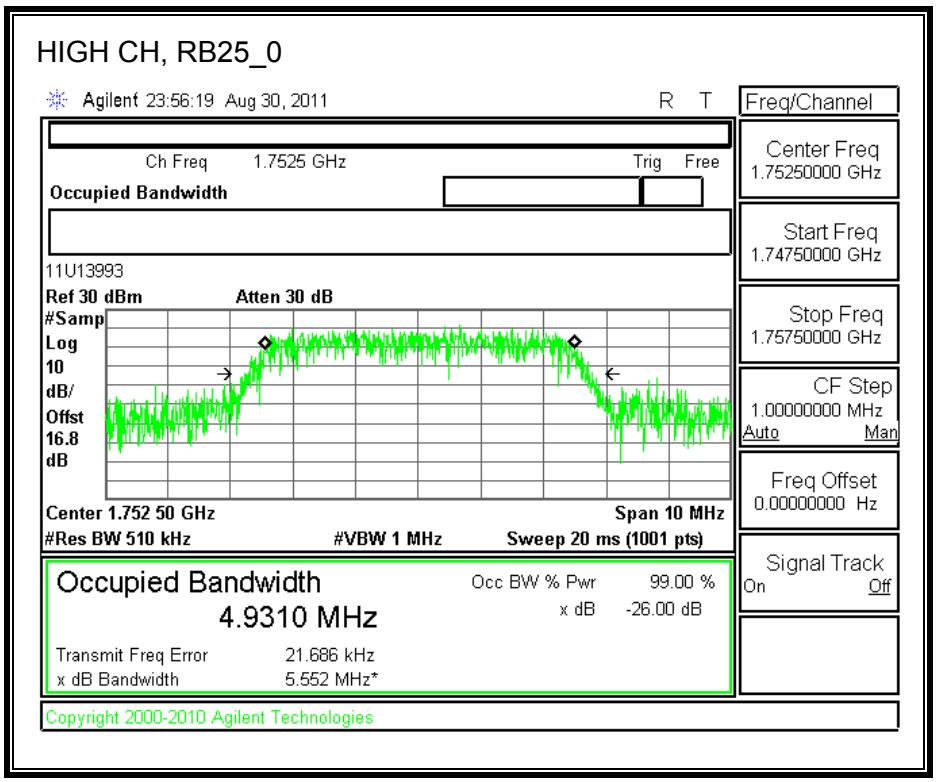


16QAM

HIGH CH, RB12_6

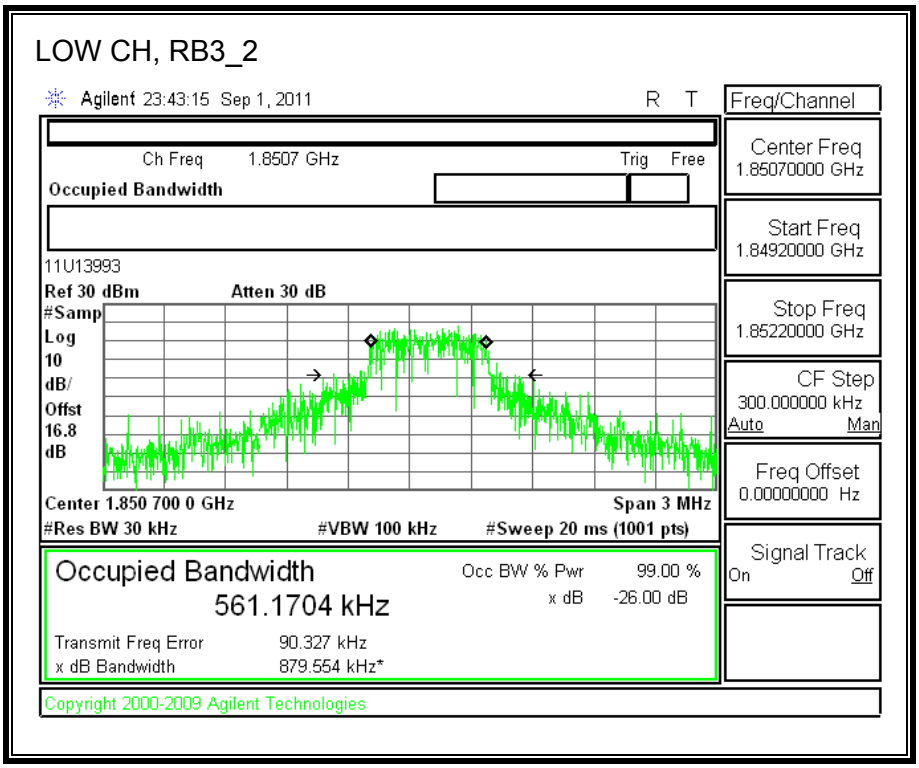


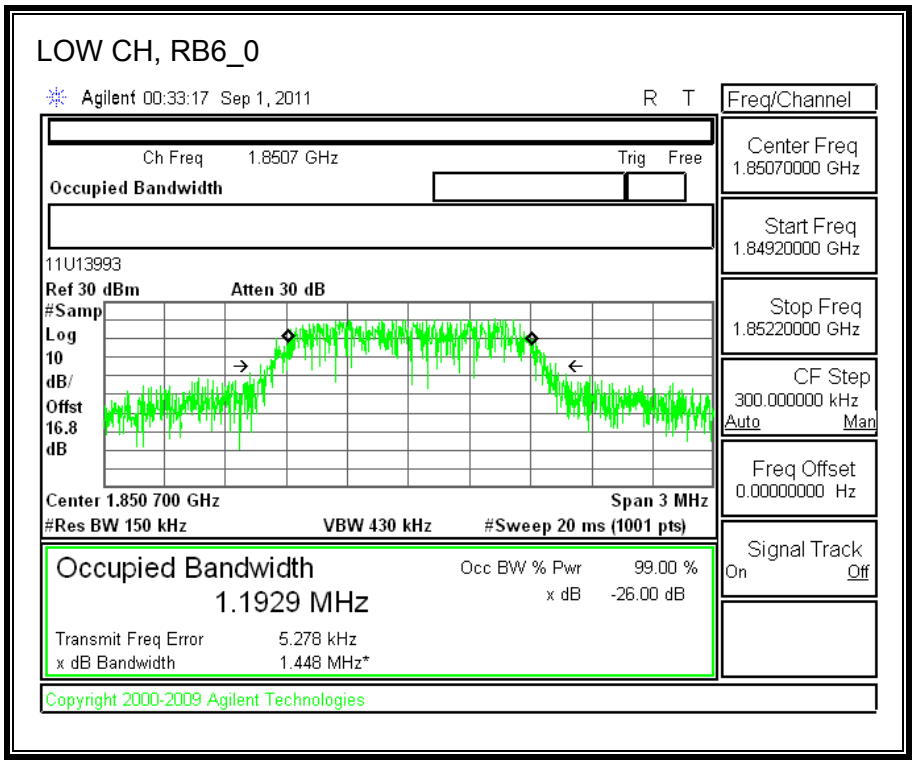
HIGH CH, RB25_0



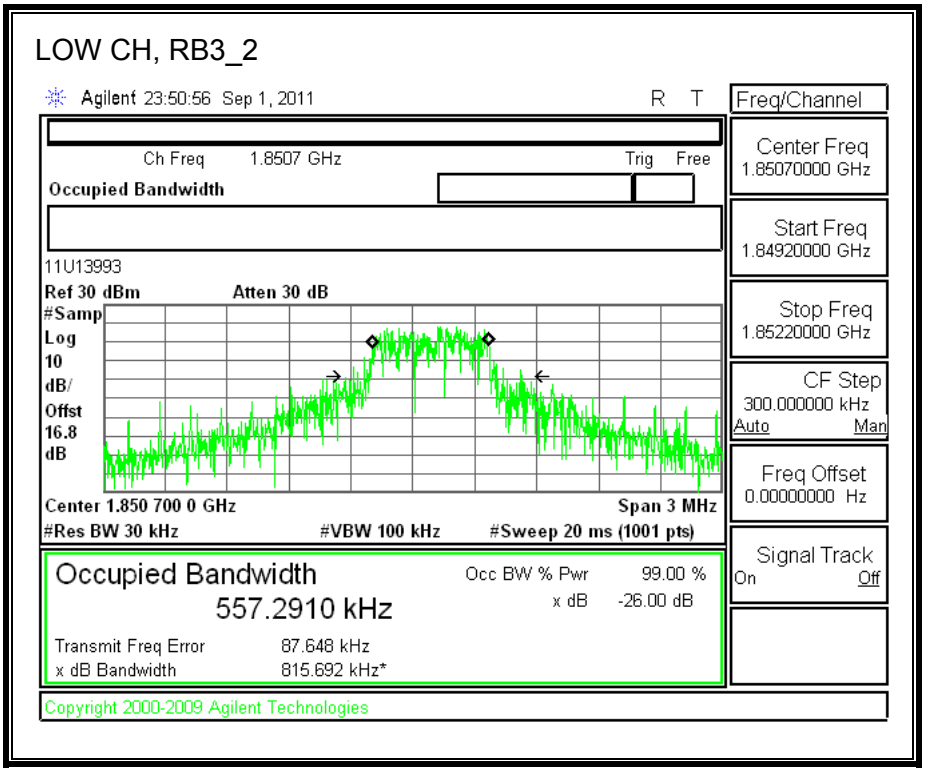
LTE, Band 2 (1.4MHz BAND WIDTH)

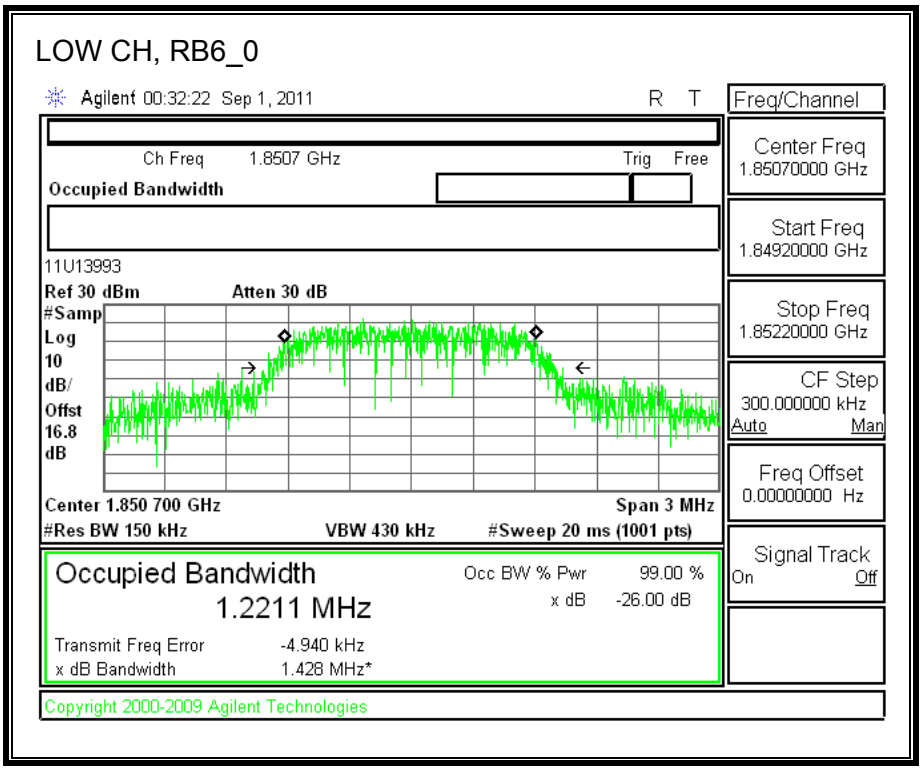
QPSK



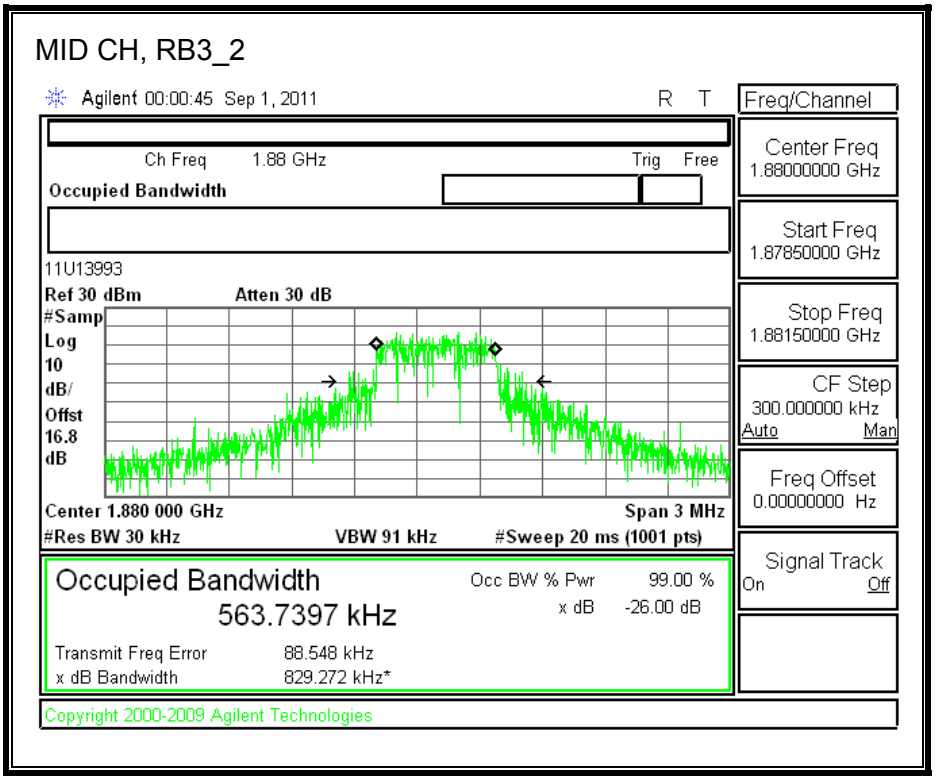


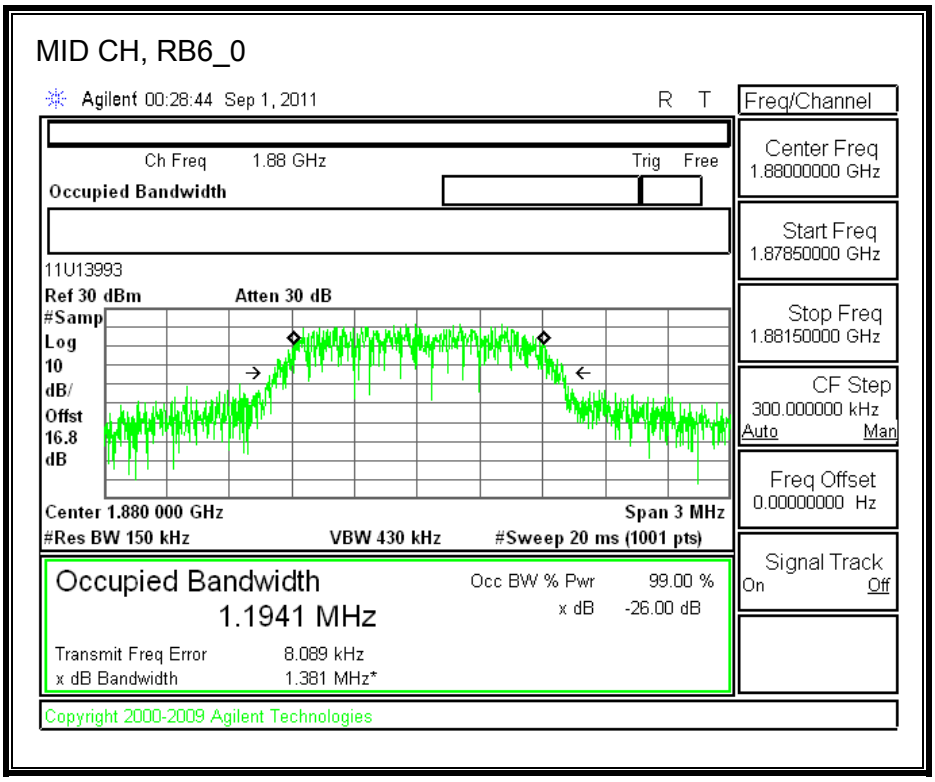
16QAM



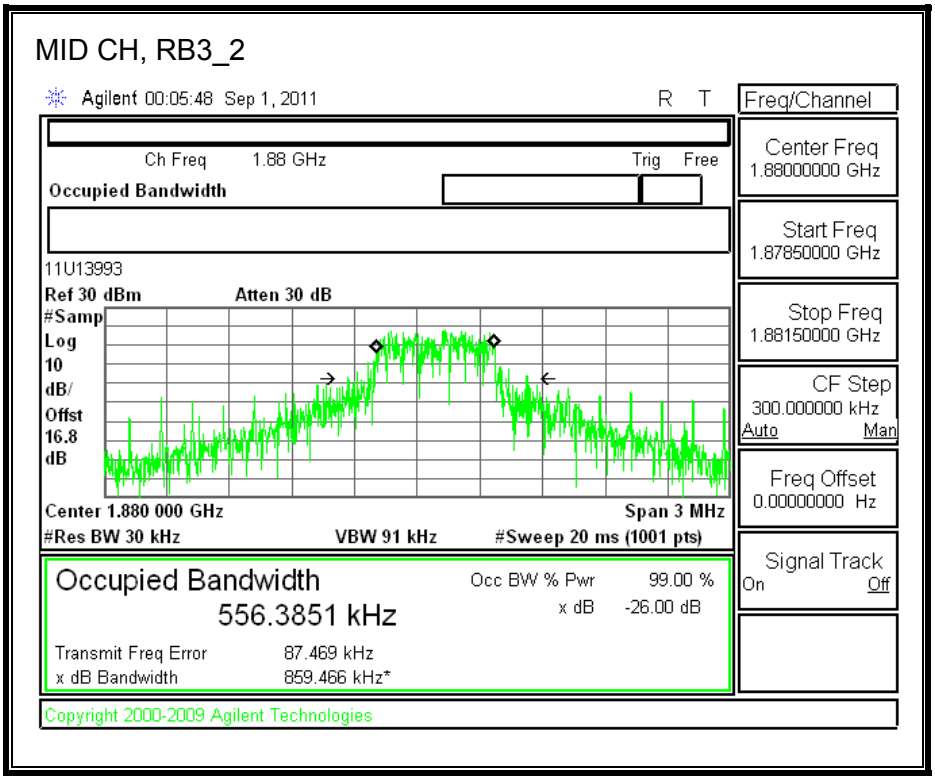


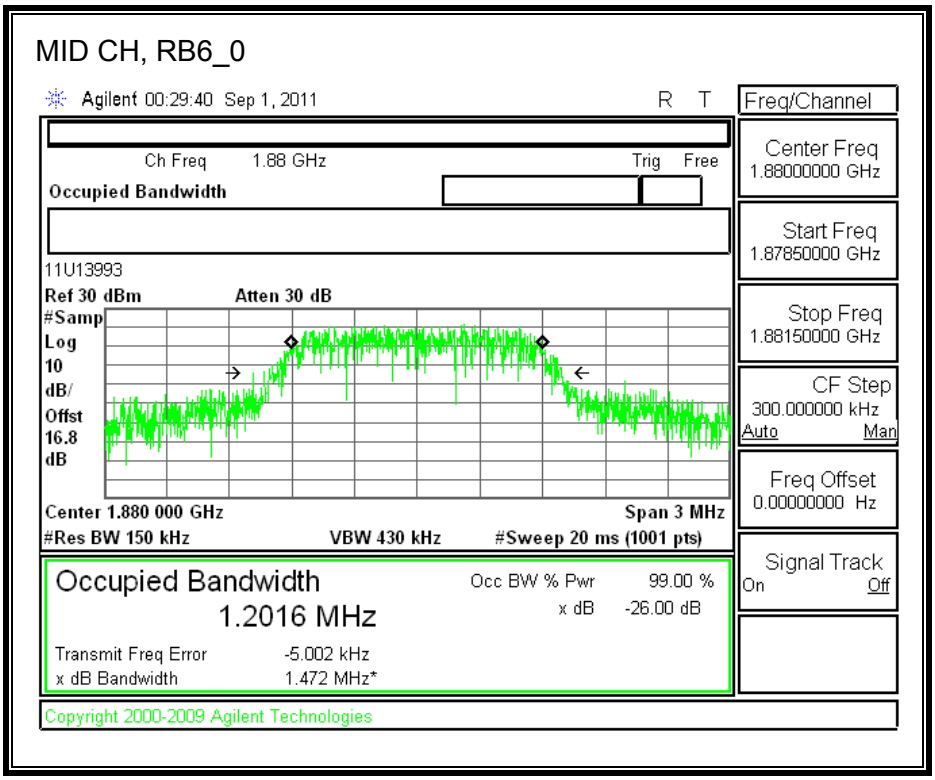
QPSK





16QAM





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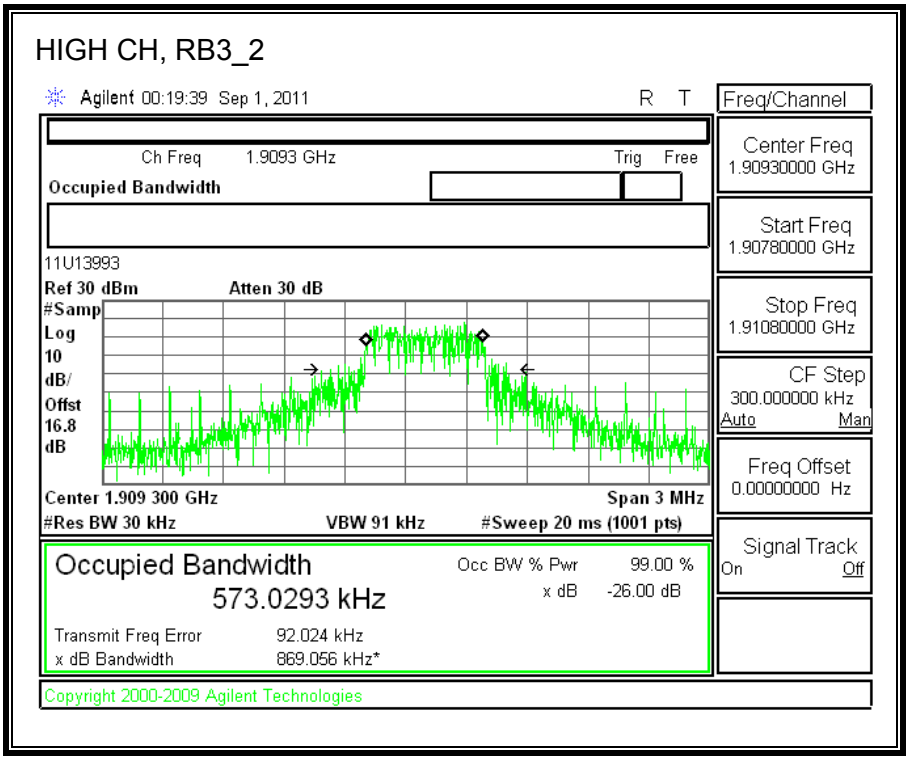
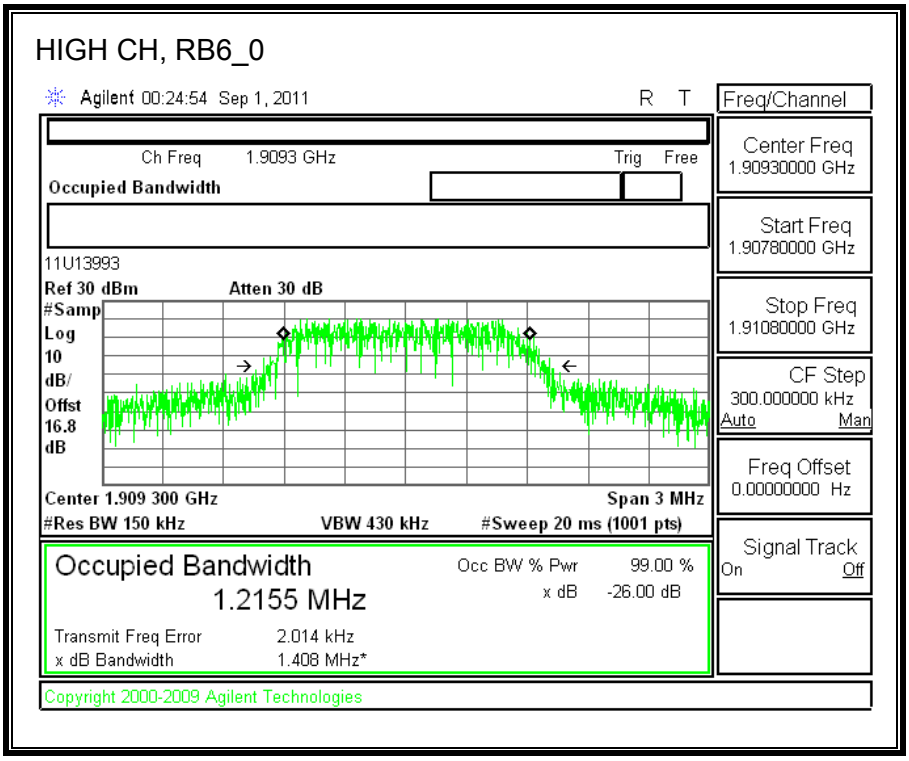
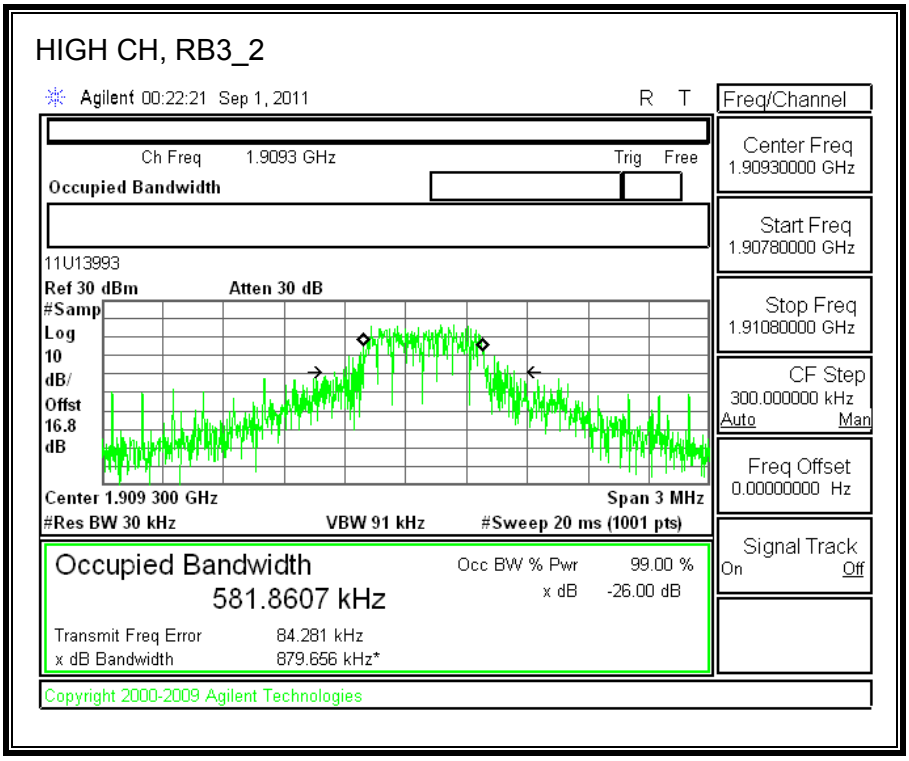


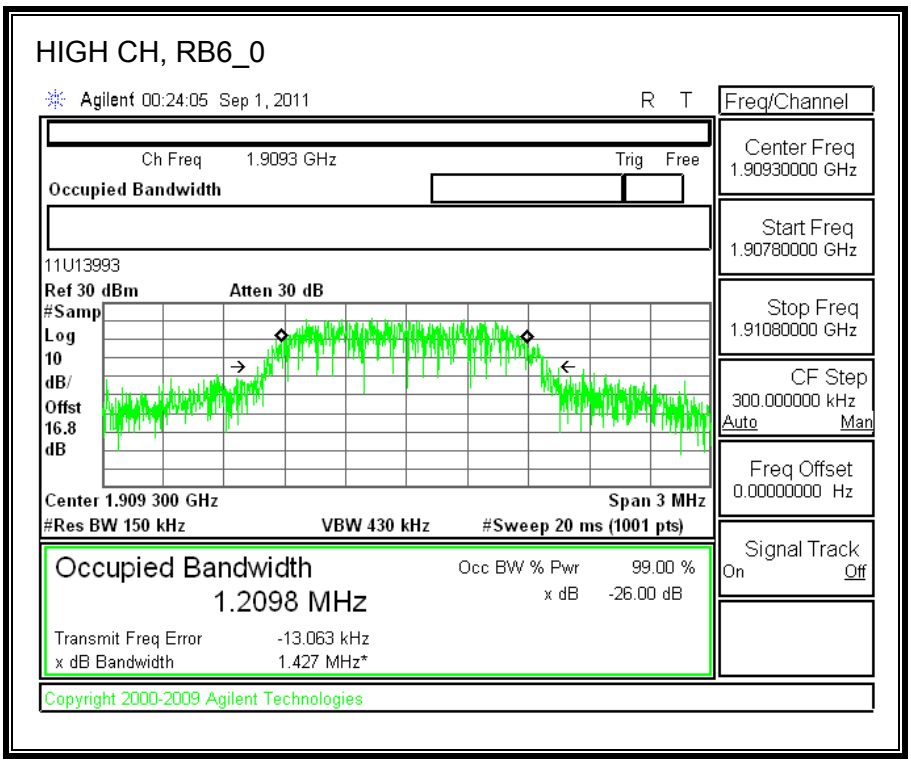


16QAM

HIGH CH, RB3_2

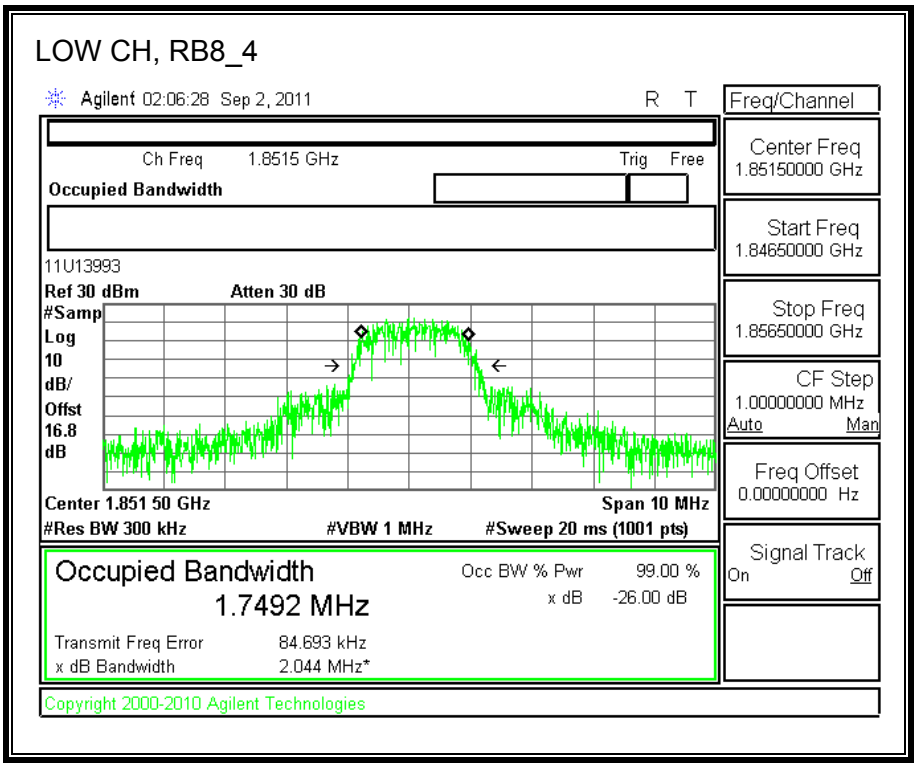


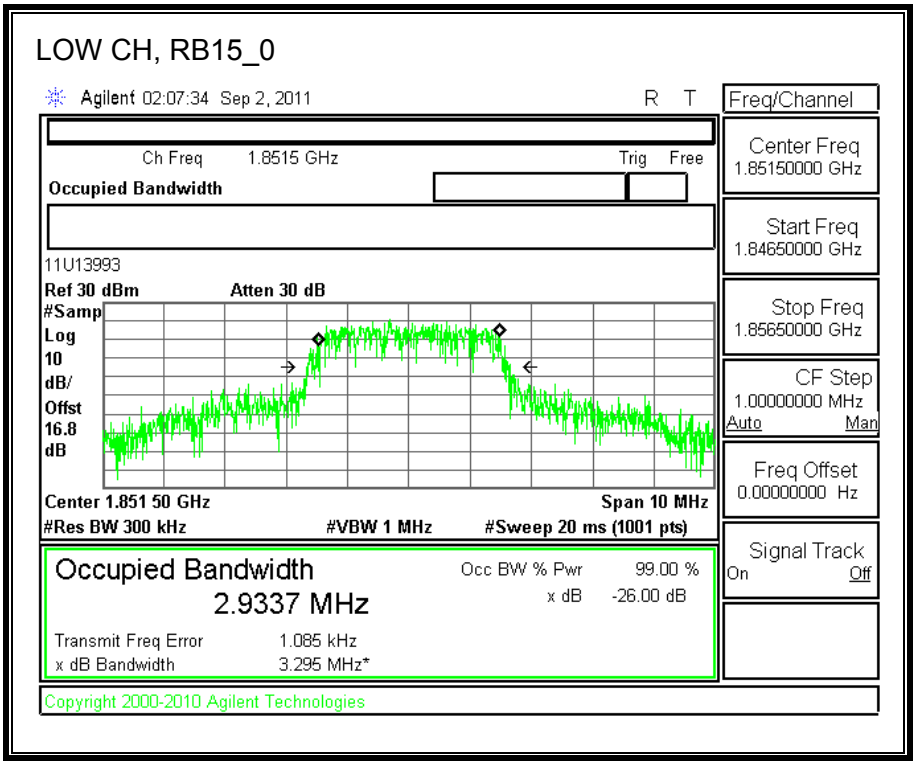
HIGH CH, RB6_0



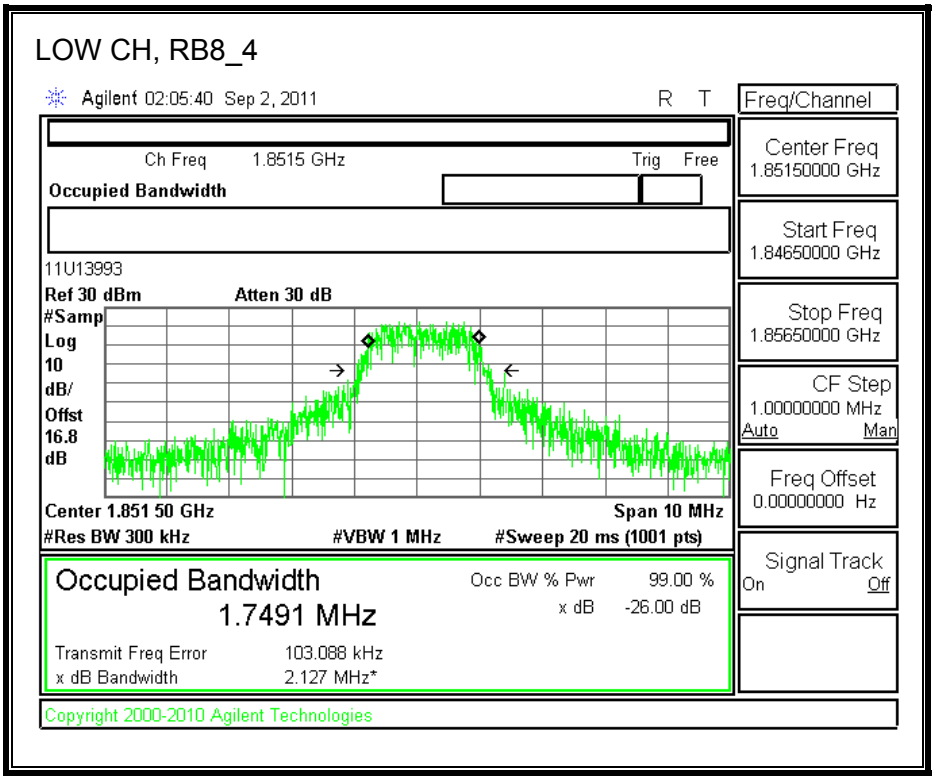
LTE, Band 2 (3.0MHz BAND WIDTH)

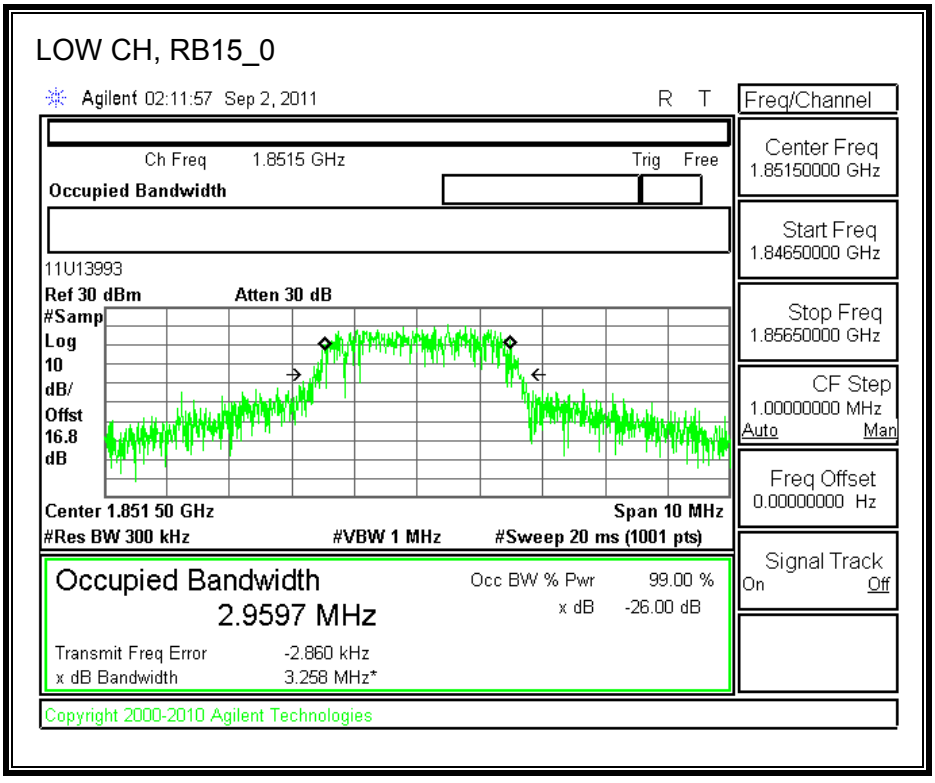
QPSK



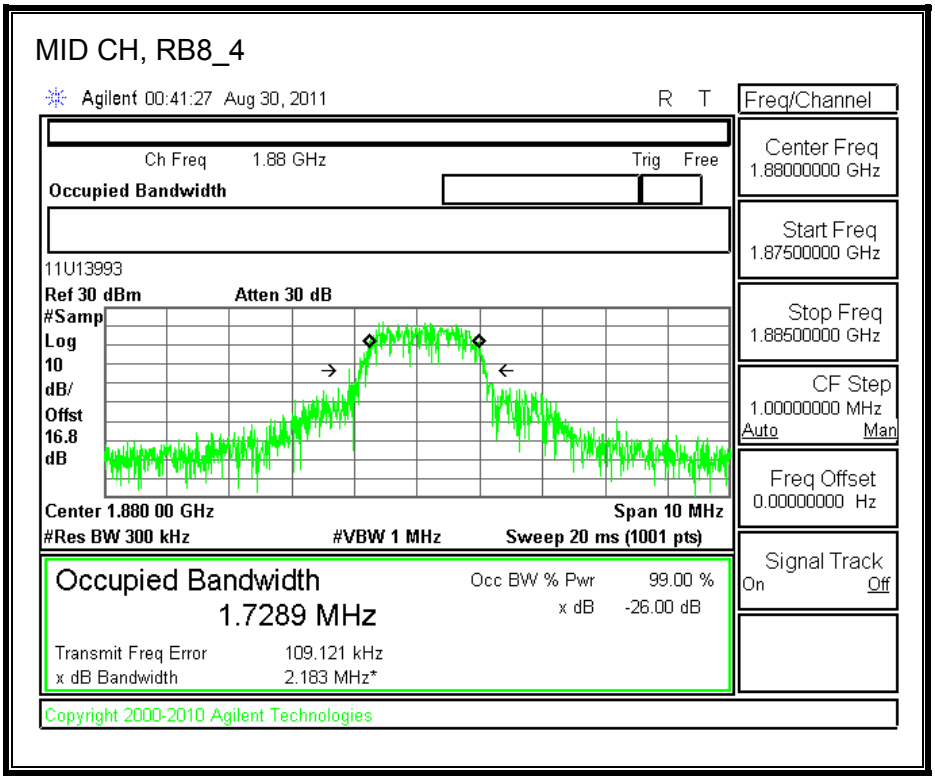


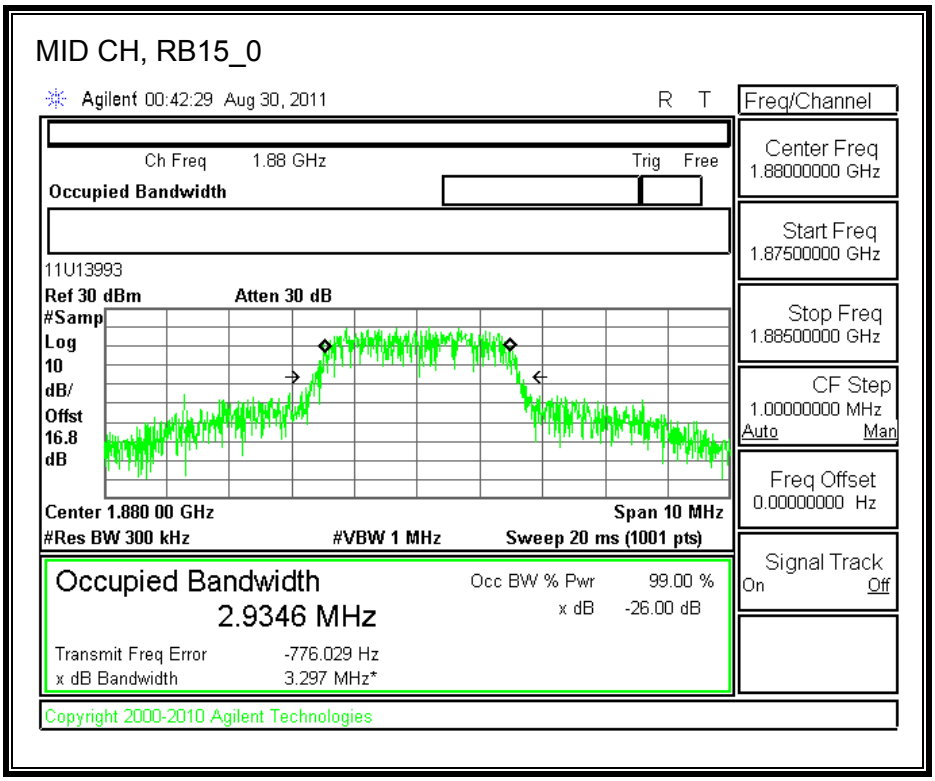
16QAM



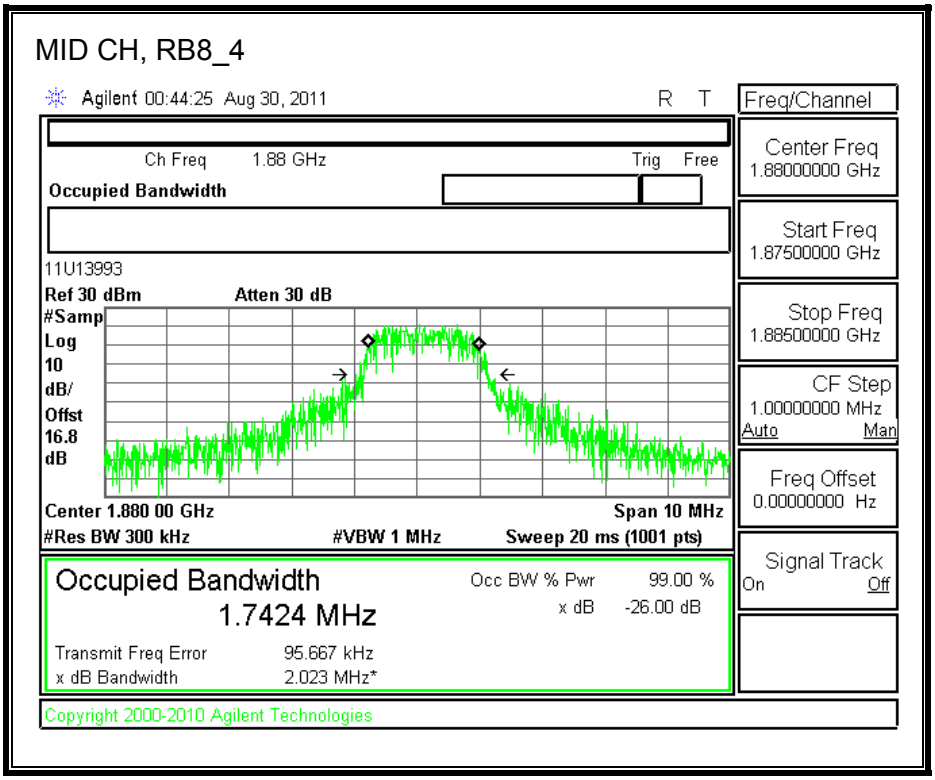


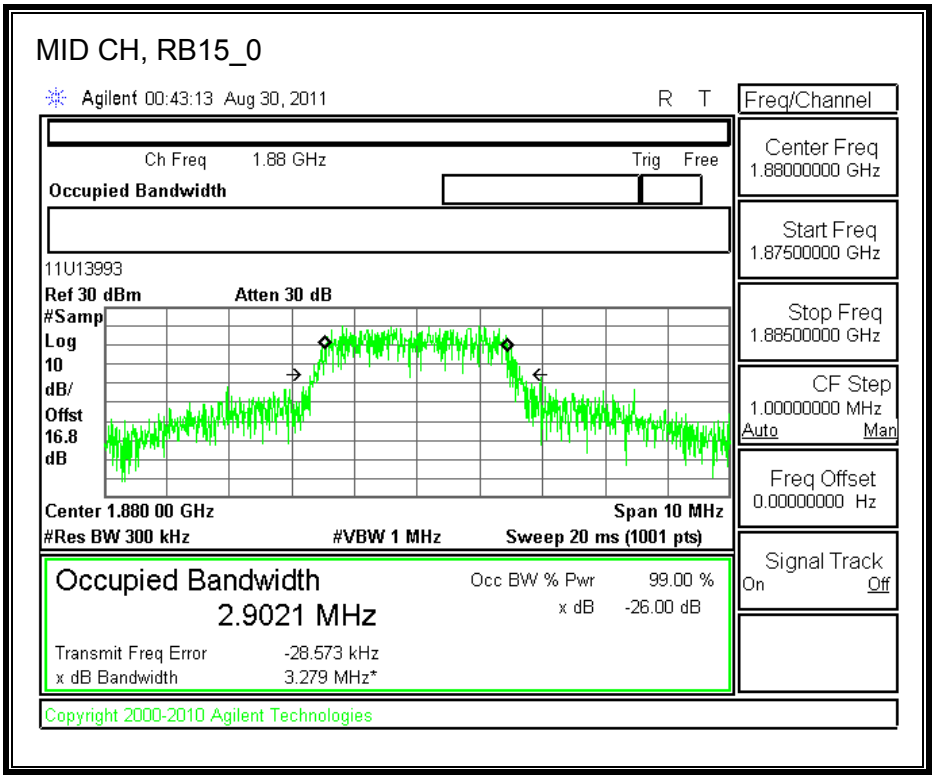
QPSK





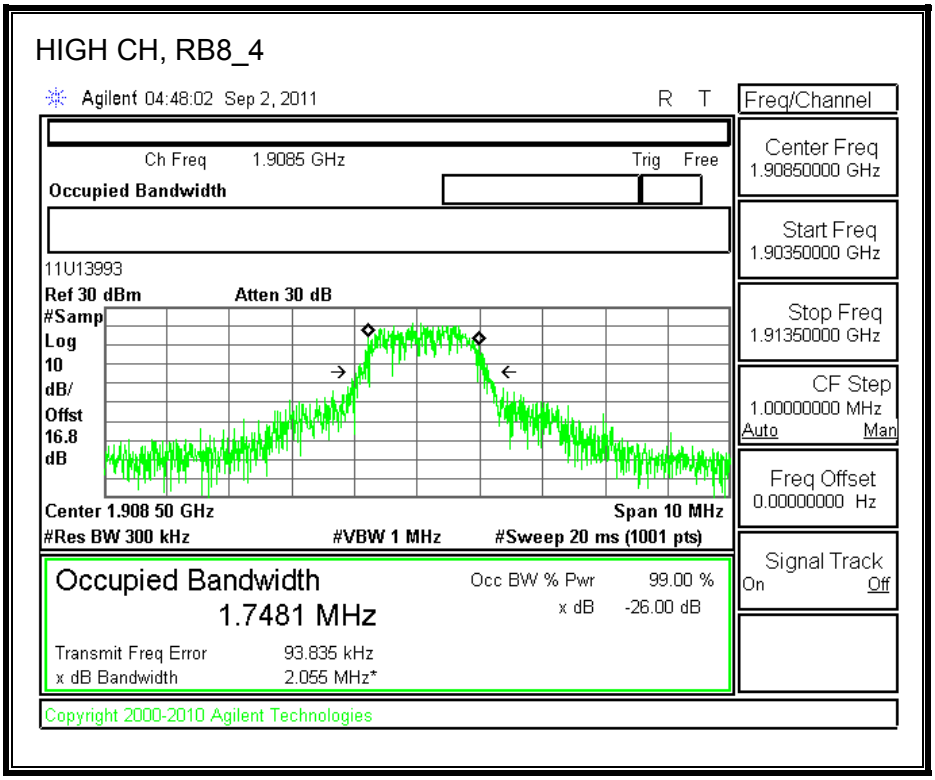
16QAM



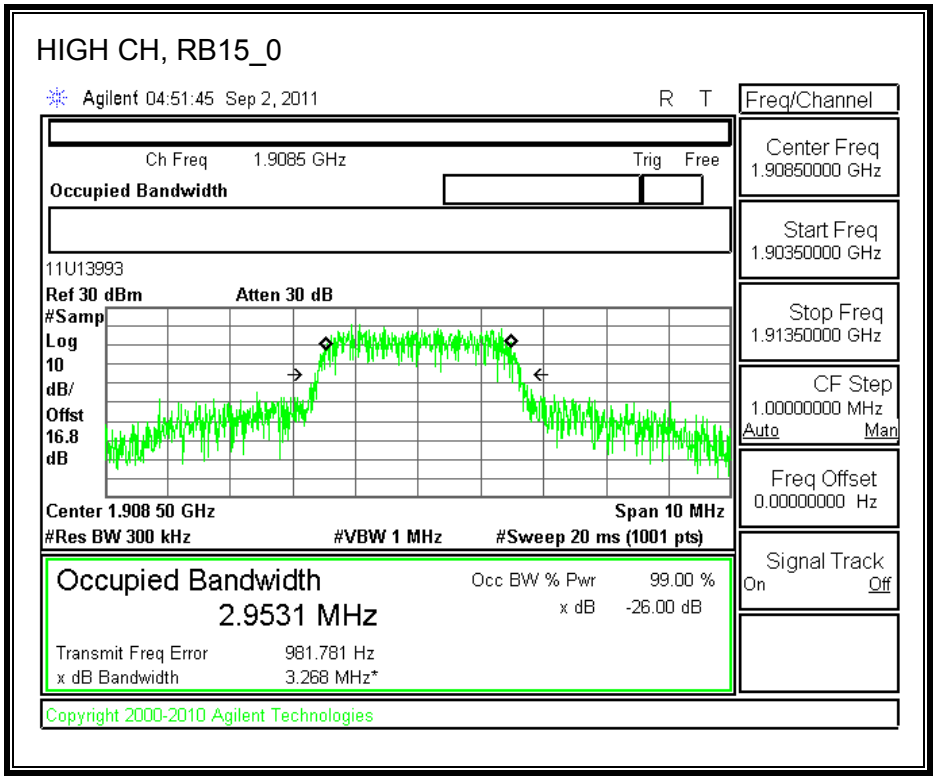


QPSK

HIGH CH, RB8_4

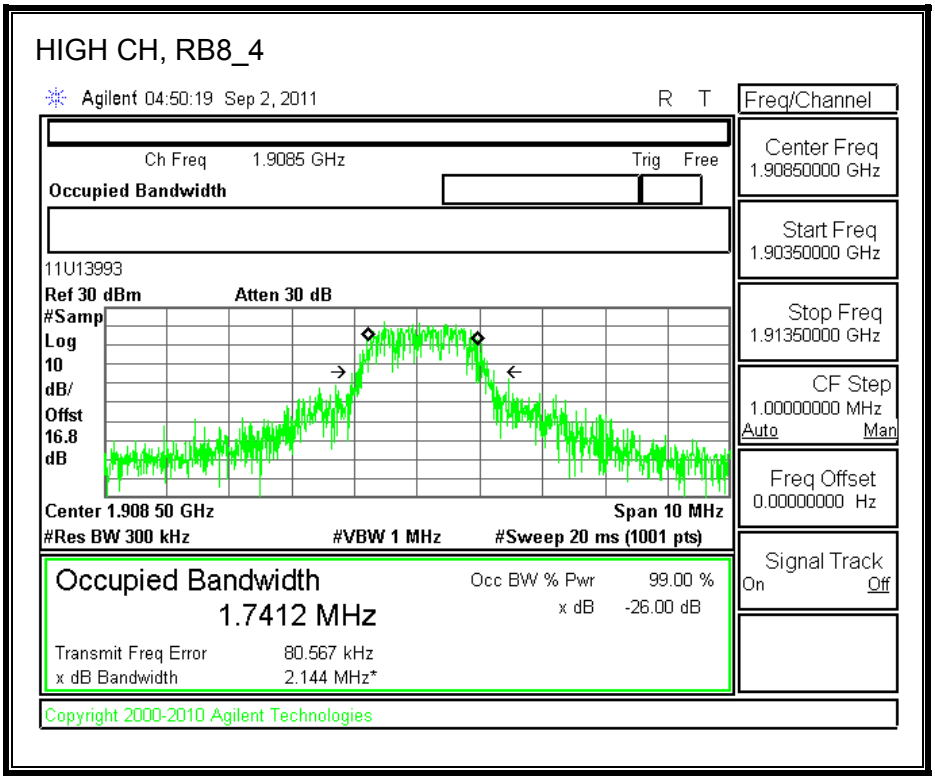


HIGH CH, RB15_0

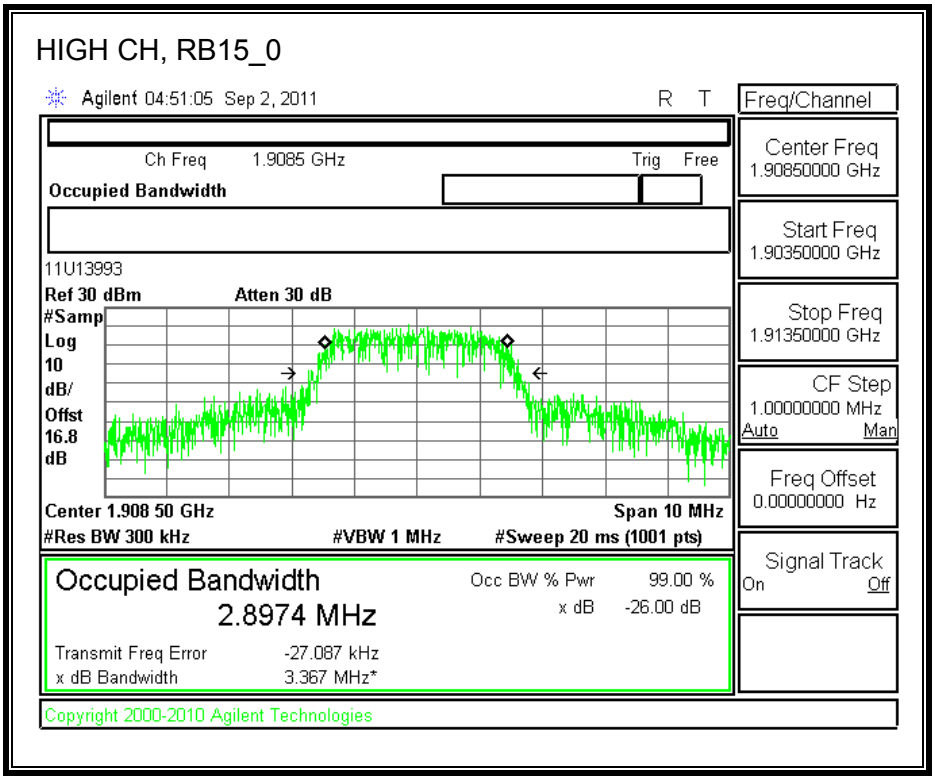


16QAM

HIGH CH, RB8_4

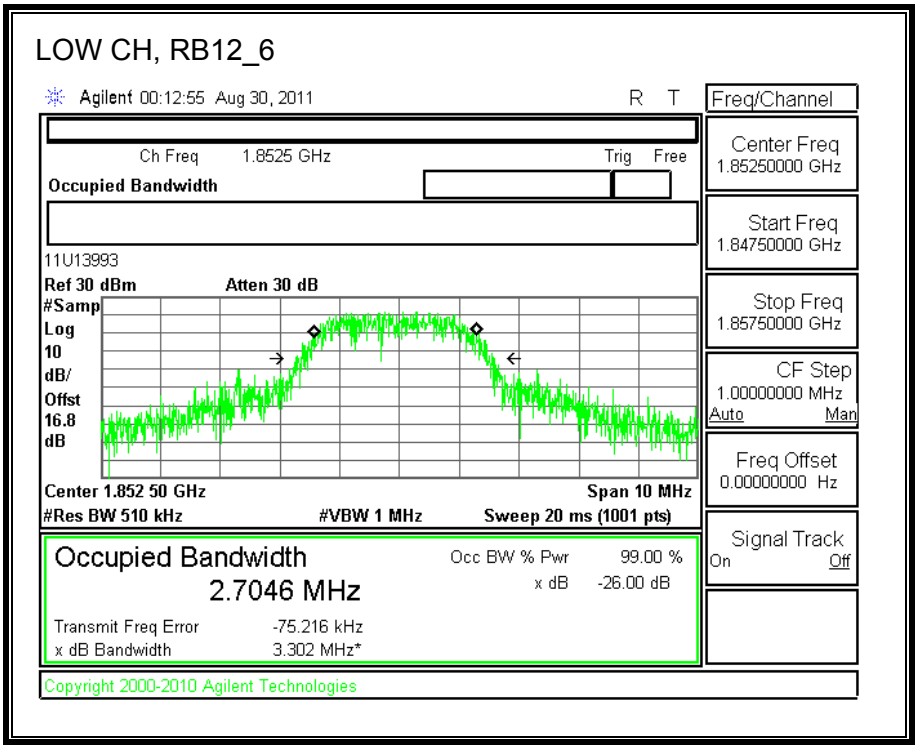


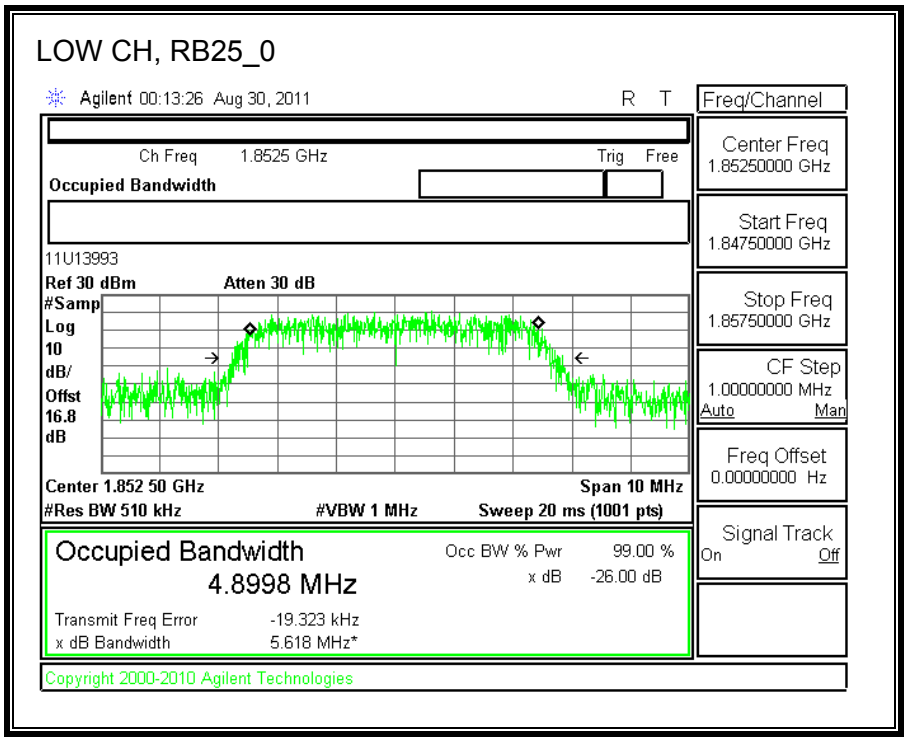
HIGH CH, RB15_0



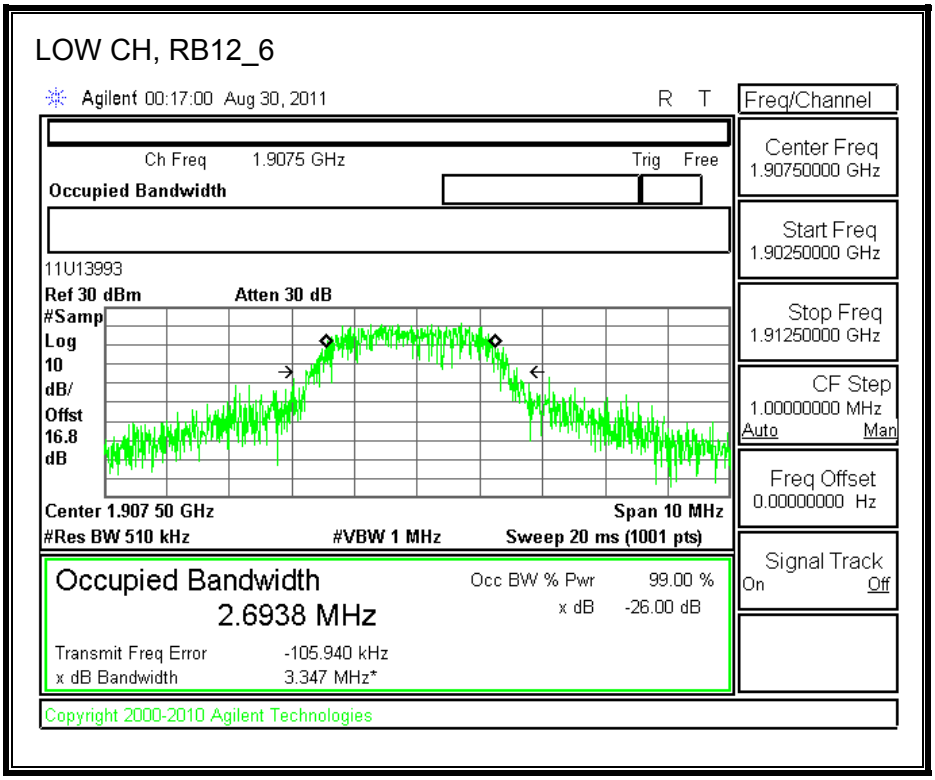
LTE, Band 2 (5.0MHz BAND WIDTH)

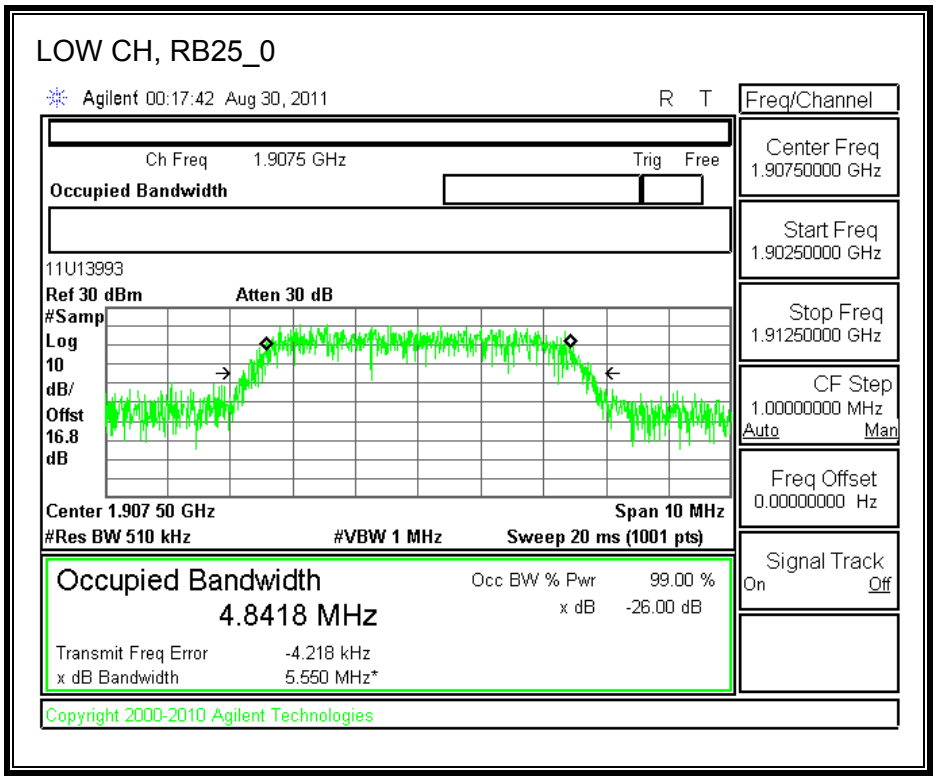
QPSK



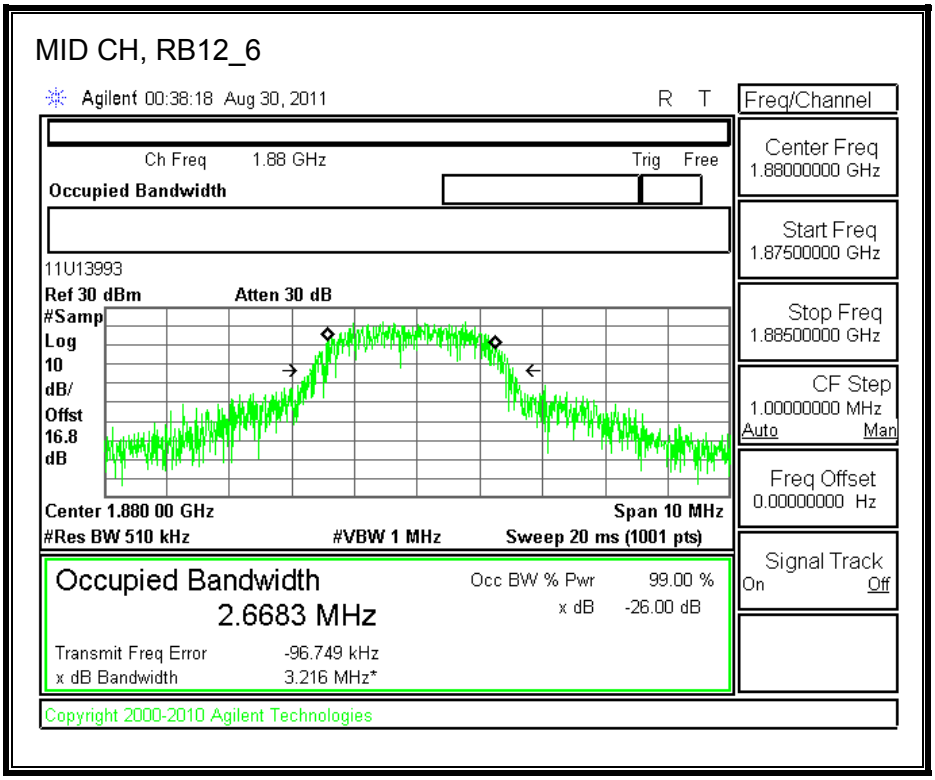


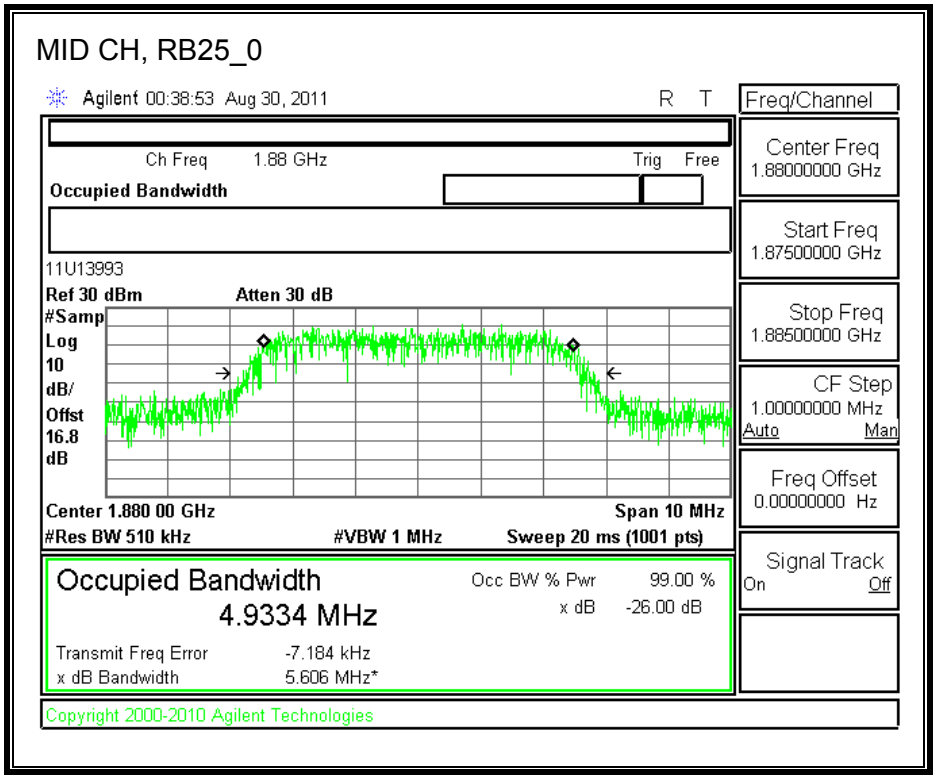
16QAM



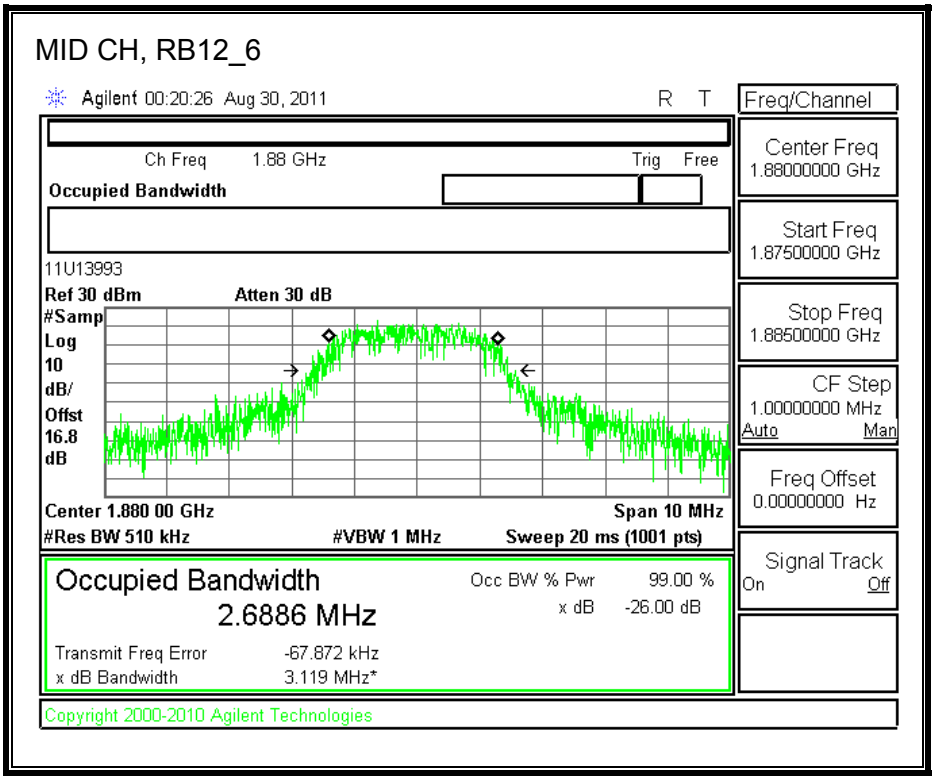


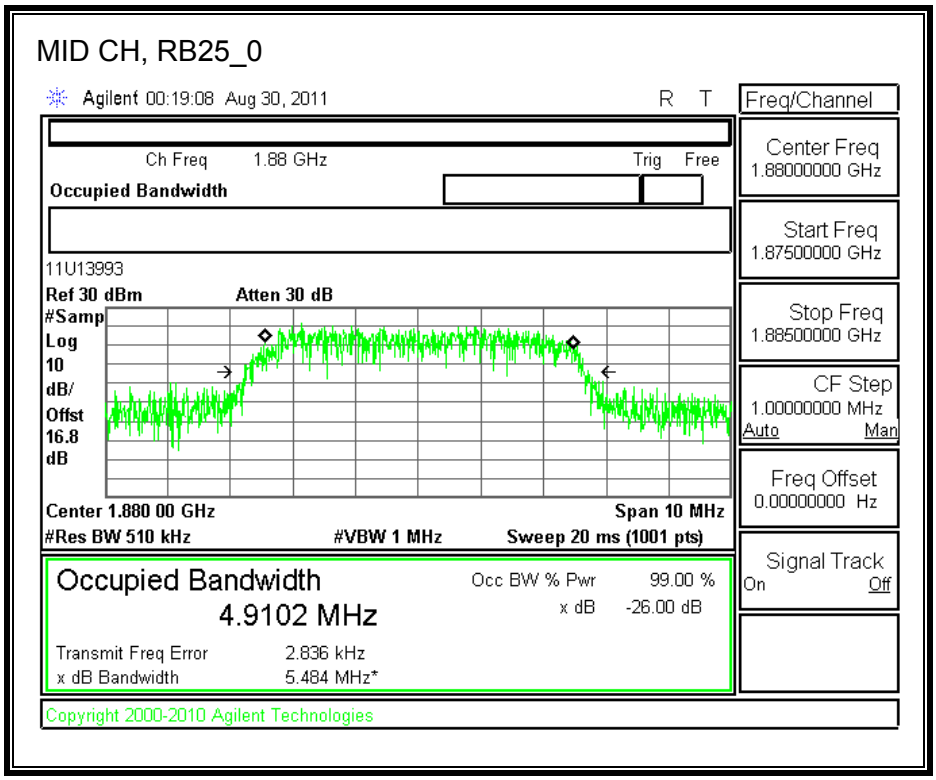
QPSK





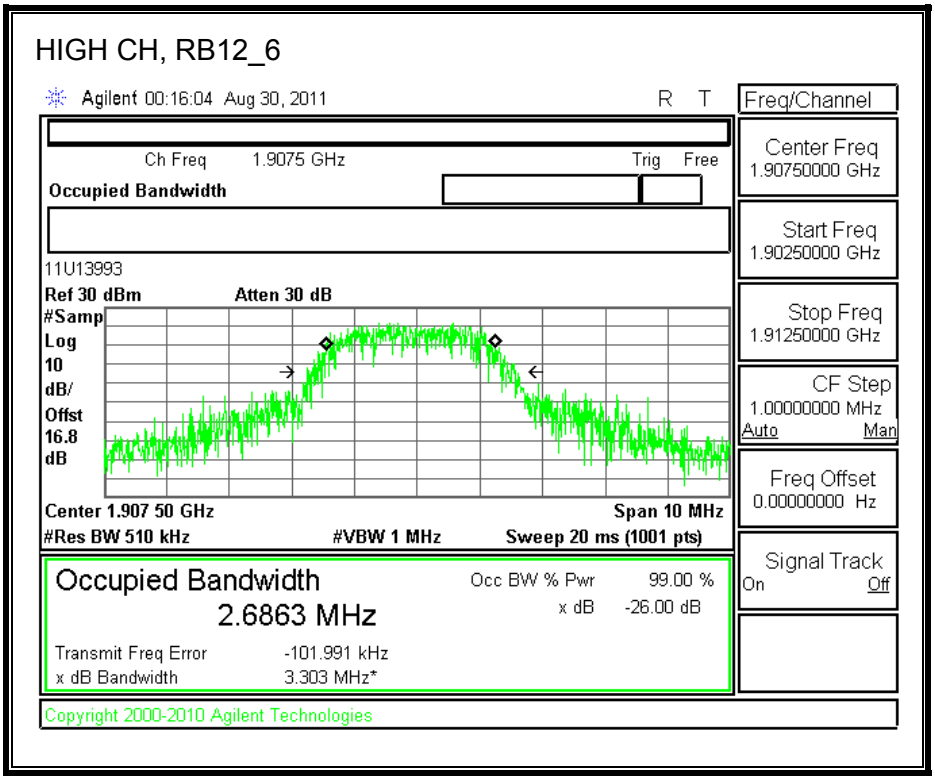
16QAM



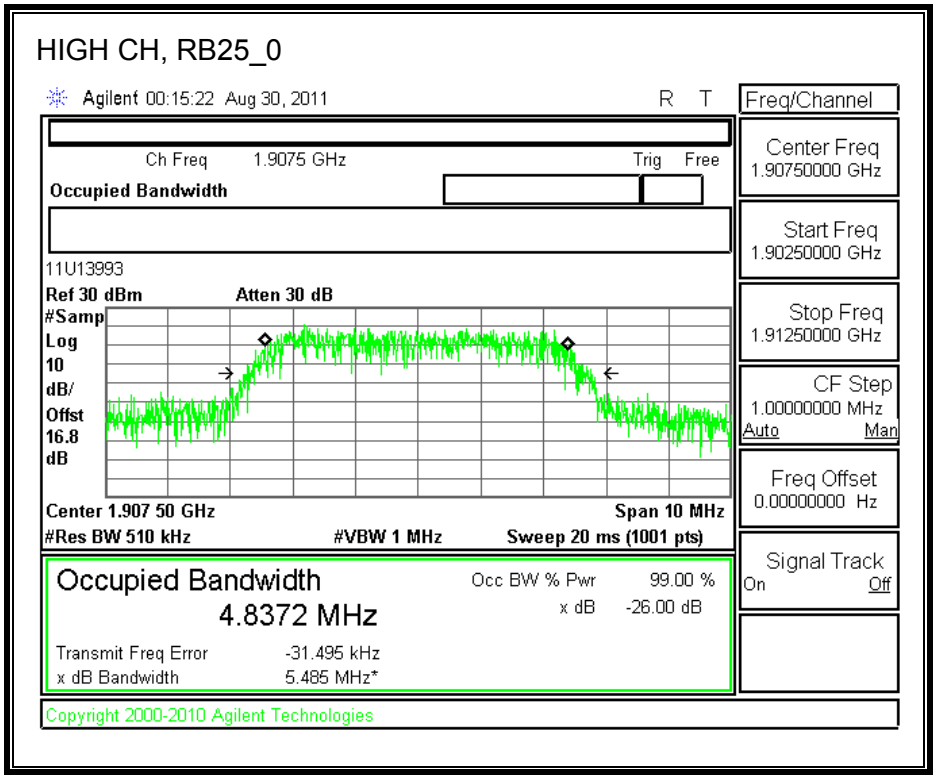


QPSK

HIGH CH, RB12_6

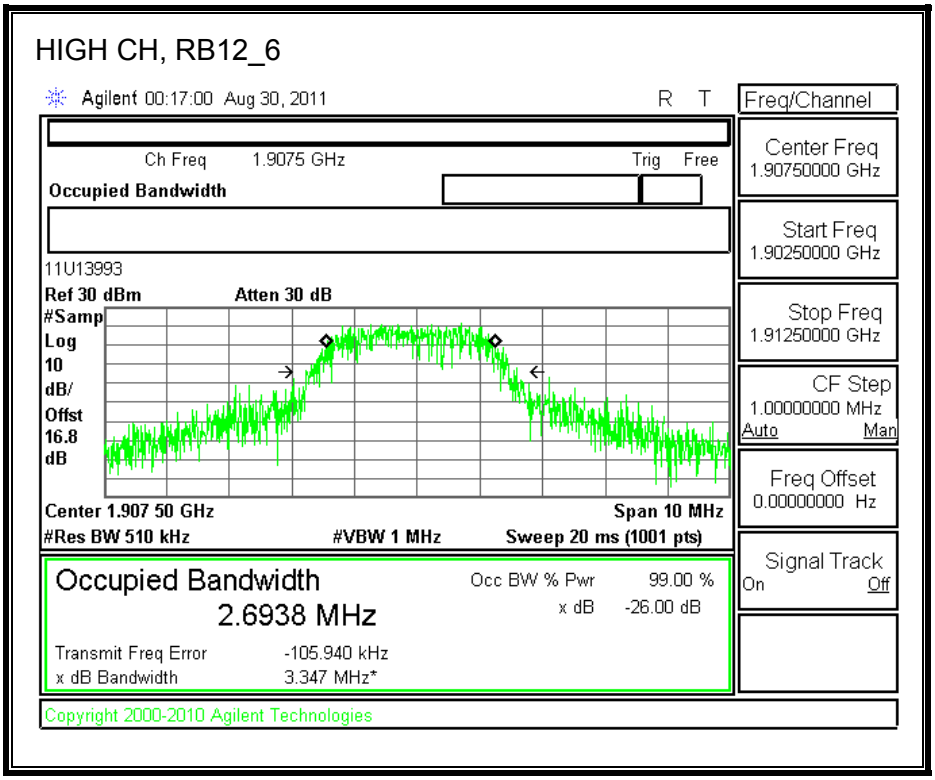


HIGH CH, RB25_0

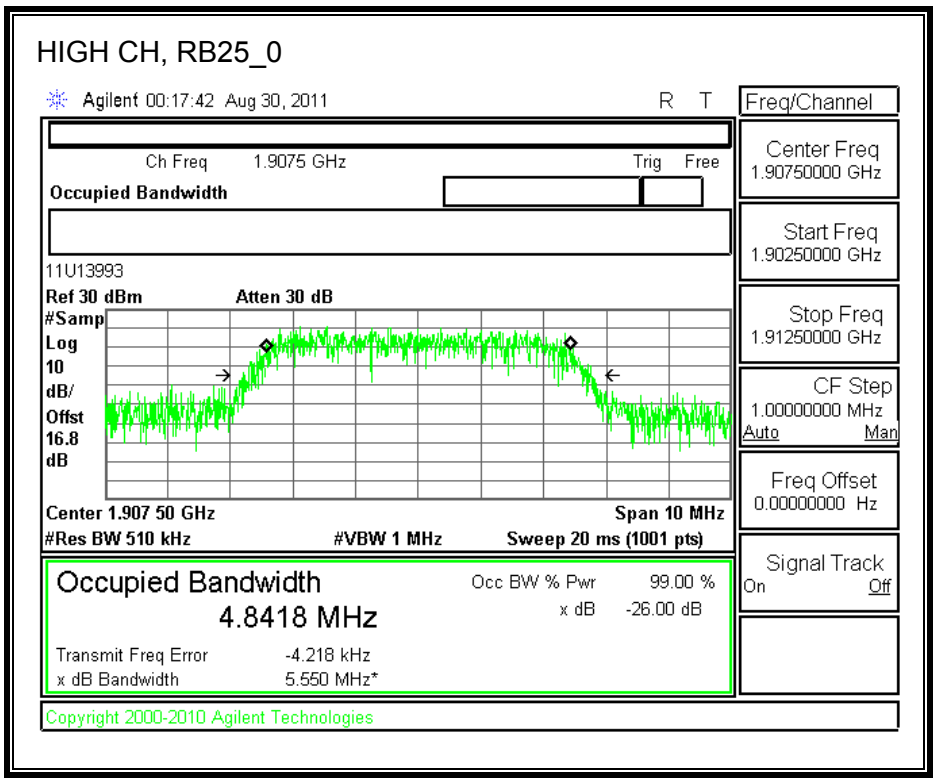


16QAM

HIGH CH, RB12_6



HIGH CH, RB25_0



8.2. BAND EDGE

RULE PART(S)

FCC: §22.359, 24.238, and 27.

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

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

- Set the spectrum analyzer span to include the block edge frequency (824, 849, 1850, 1910MHz)
- Set a marker to point the corresponding band edge frequency in each test case.
- Set display line at -13 dBm
- Set resolution bandwidth to at least 1% of emission bandwidth.

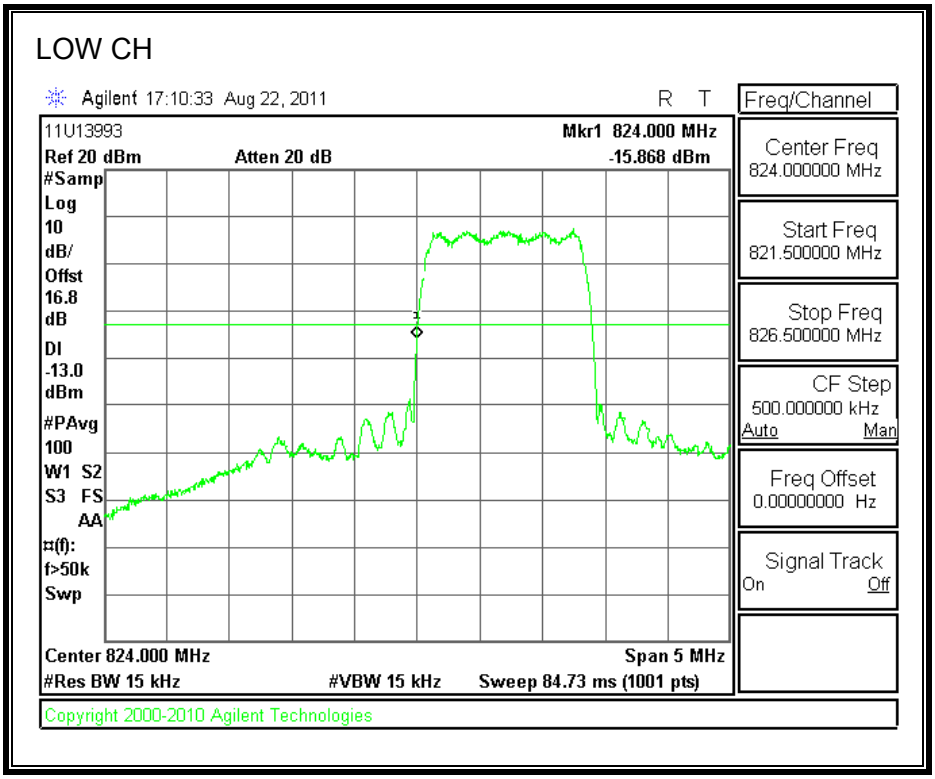
MODES TESTED

- CDMA 2000 1xRTT
- CDMA 2000 EVDO REV. A
- LTE Band 2 and 4

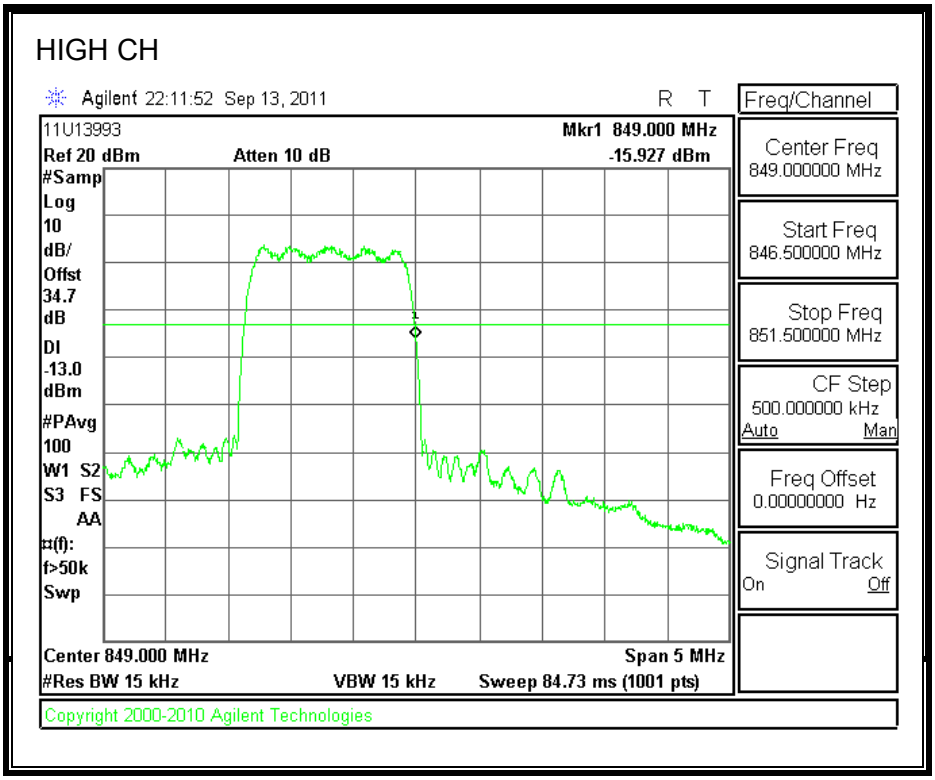
RESULTS

BANDEDGE

1xRTT 850 BAND

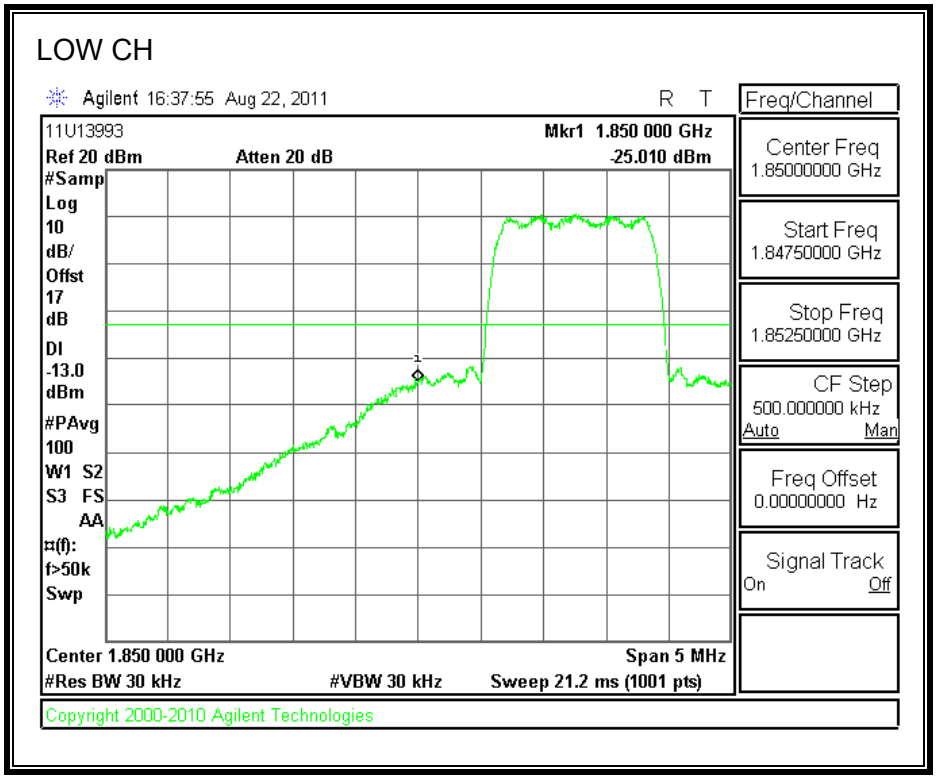


HIGH CH

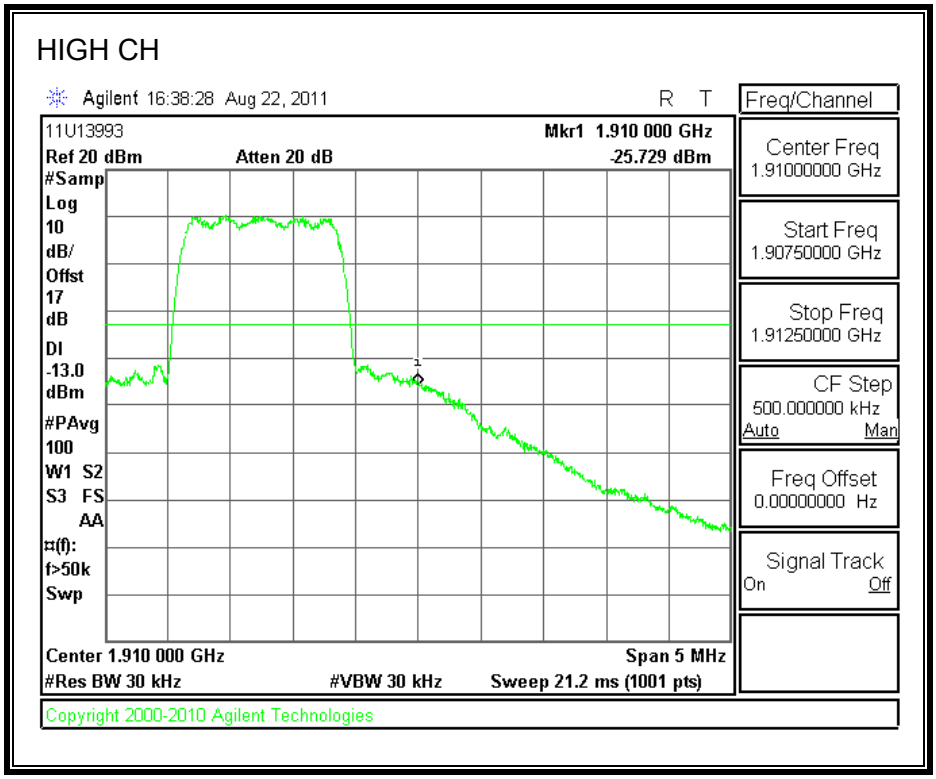


1xRTT 1900 BAND

LOW CH

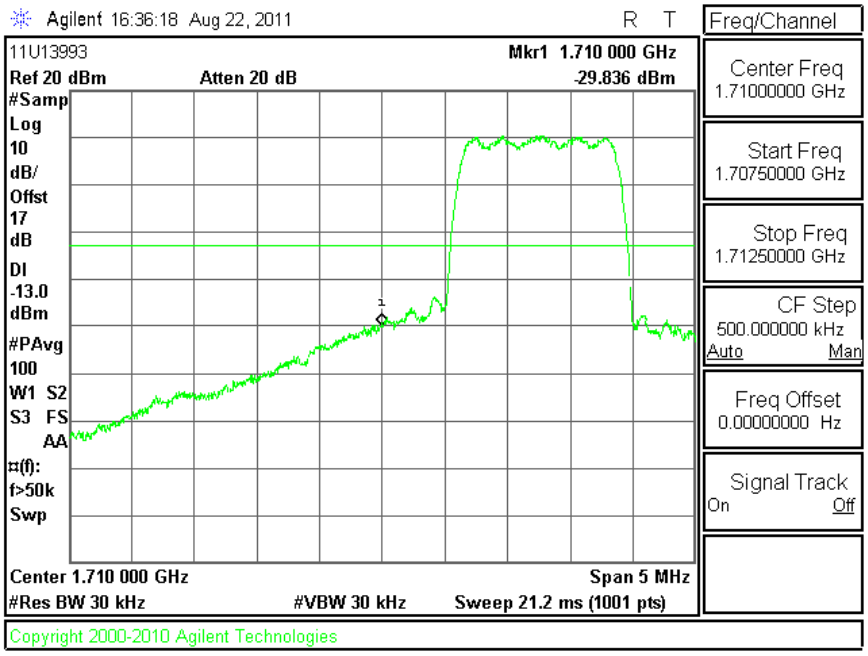


HIGH CH

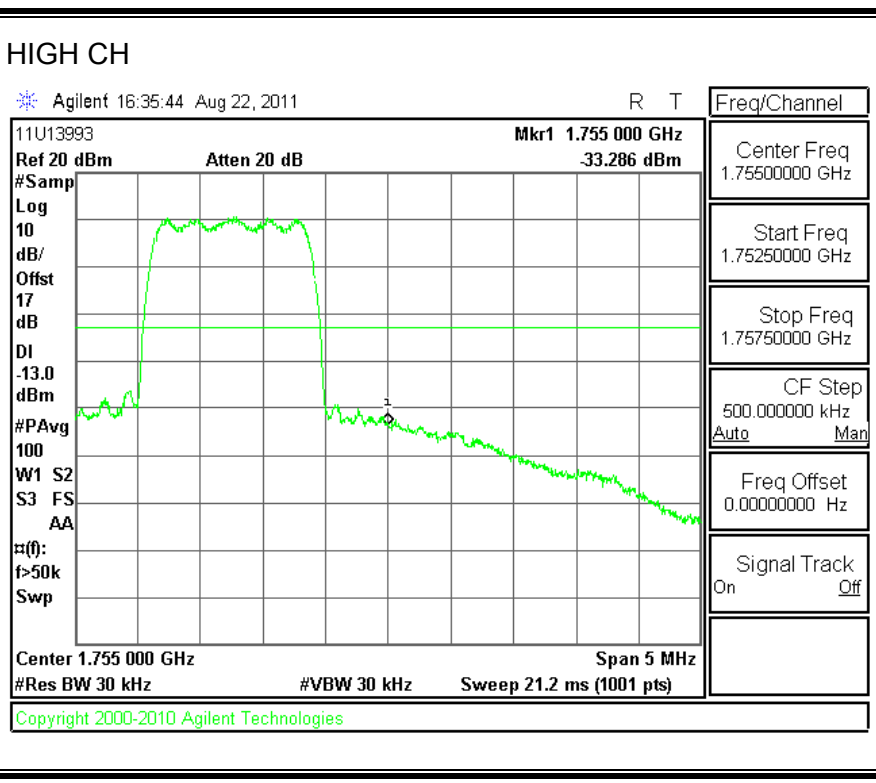


1xRTT 1700 BAND

LOW CH

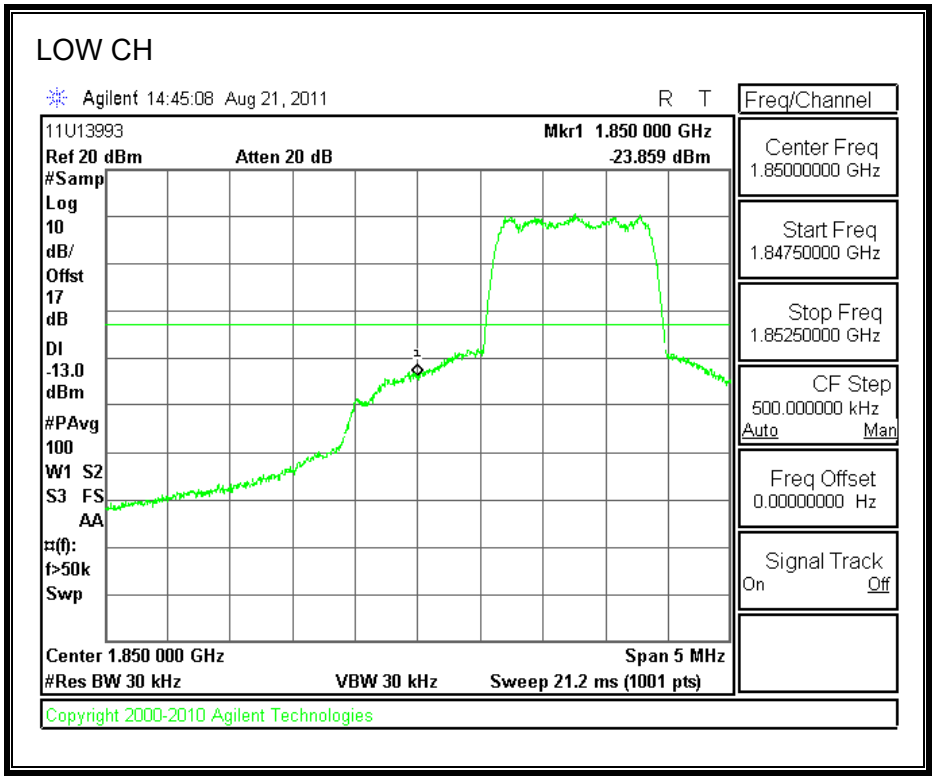


HIGH CH

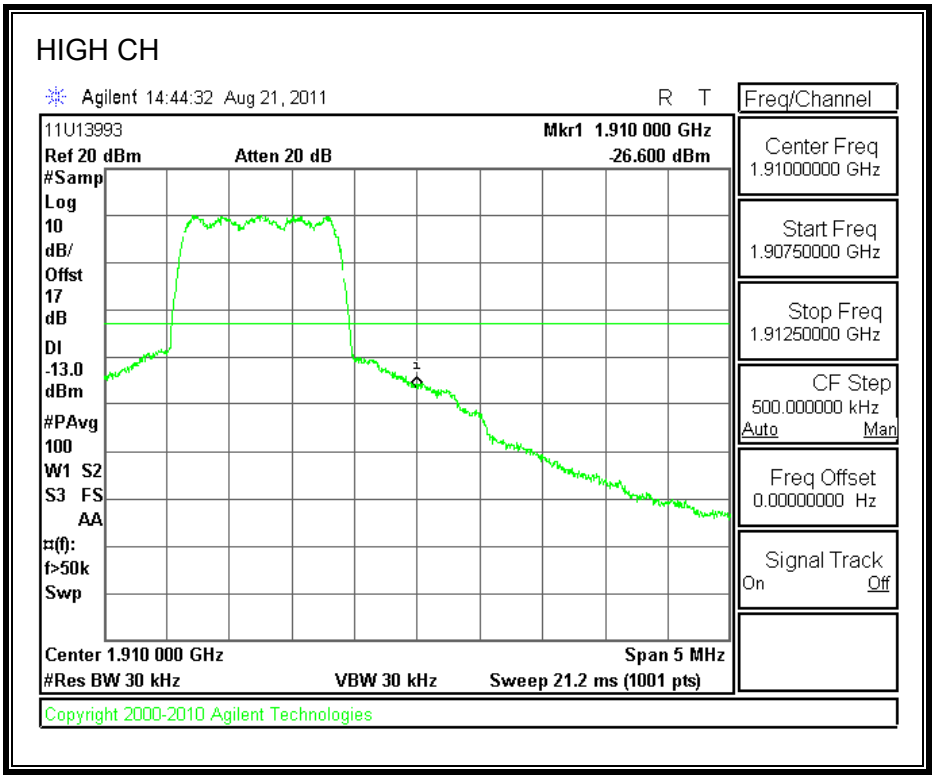


EVDO REV A.1900 BAND

LOW CH

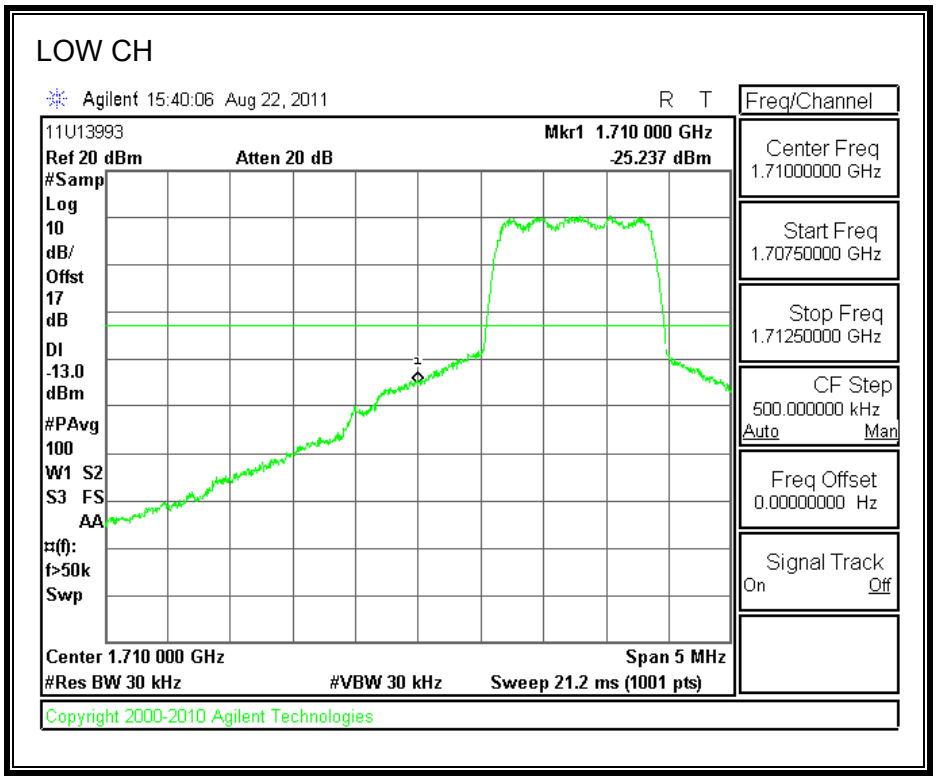


HIGH CH

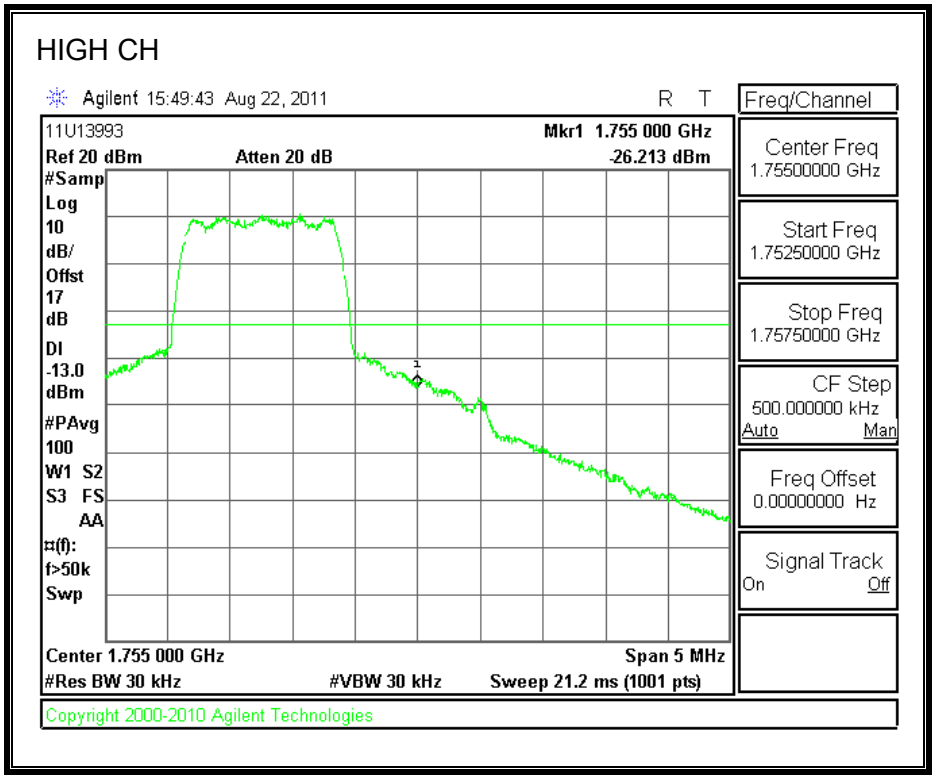


EVDO REV A.1700 BAND

LOW CH



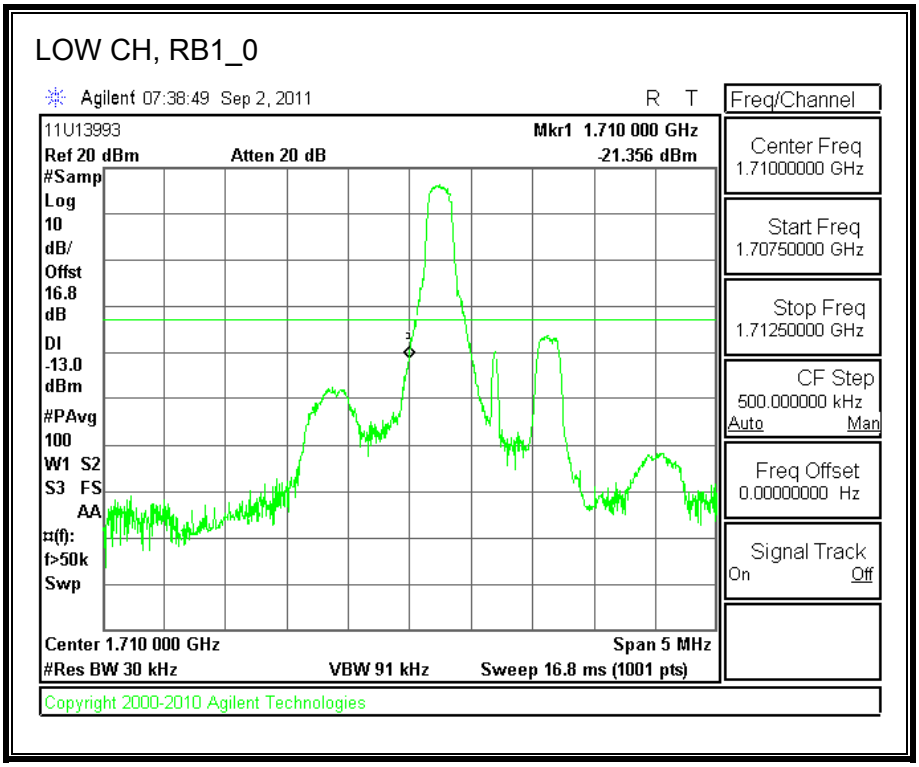
HIGH CH



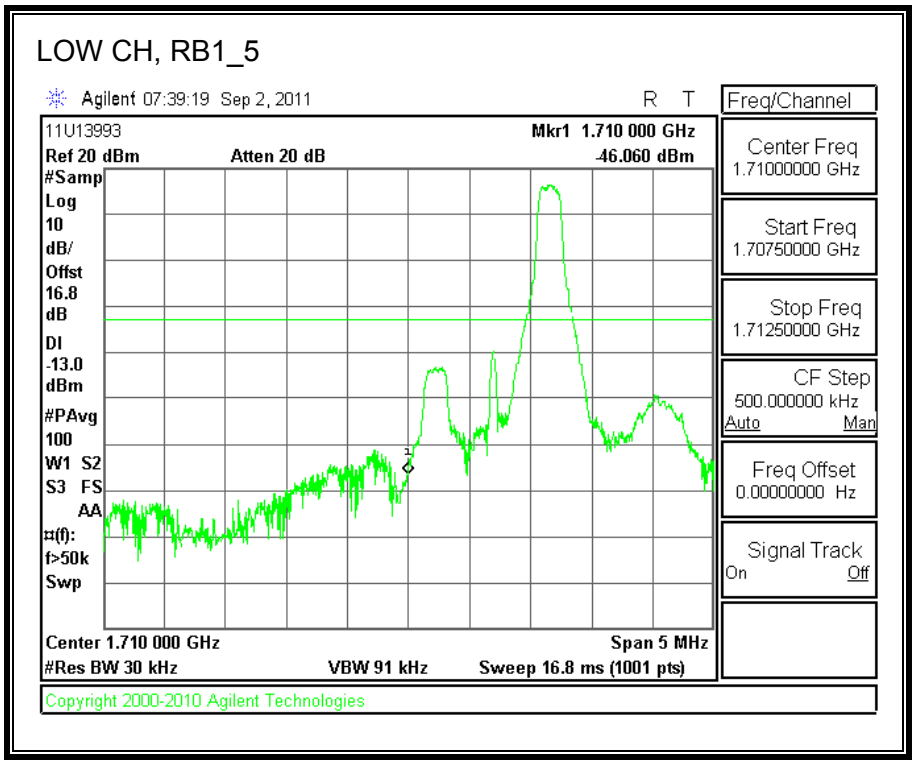
LTE, Band 4 (1.4MHz BAND WIDTH)

QPSK

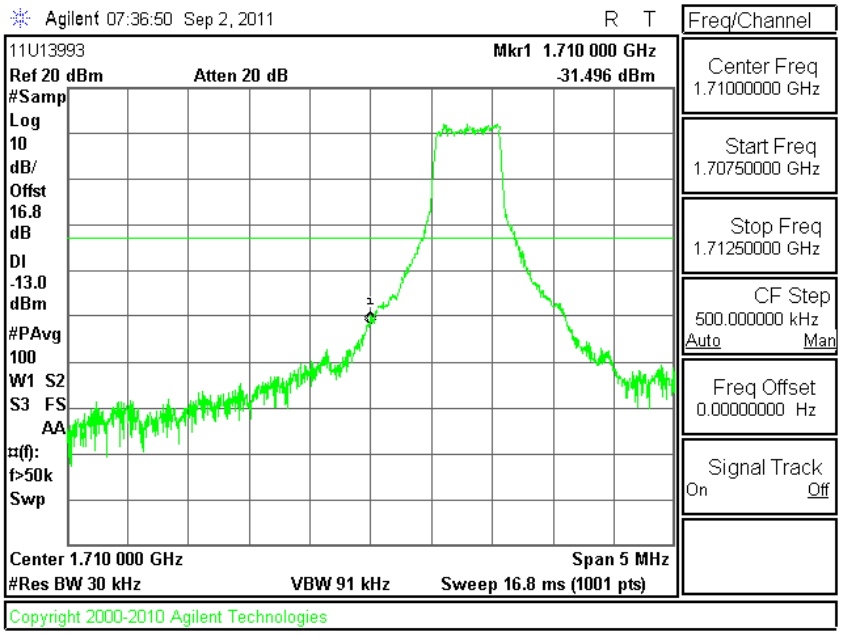
LOW CH, RB1_0



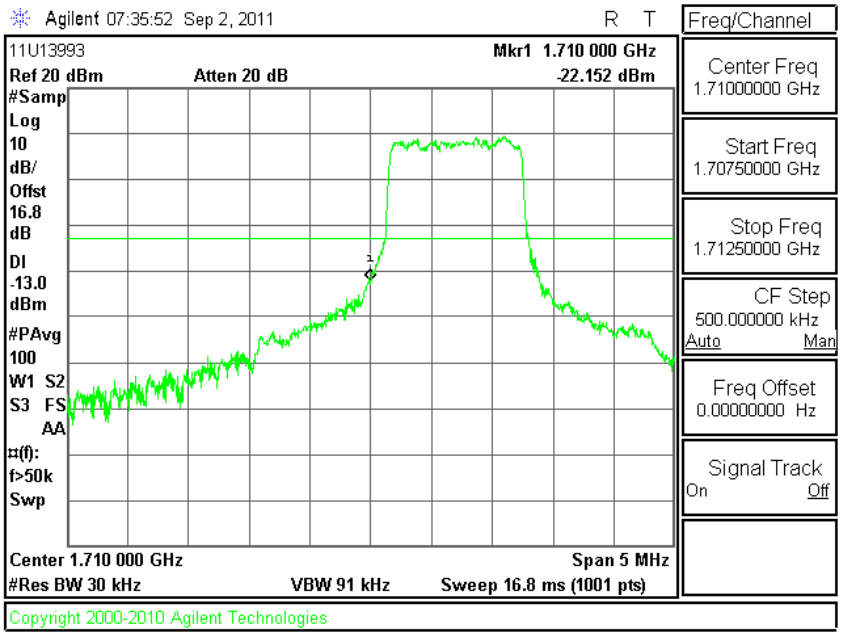
LOW CH, RB1_5



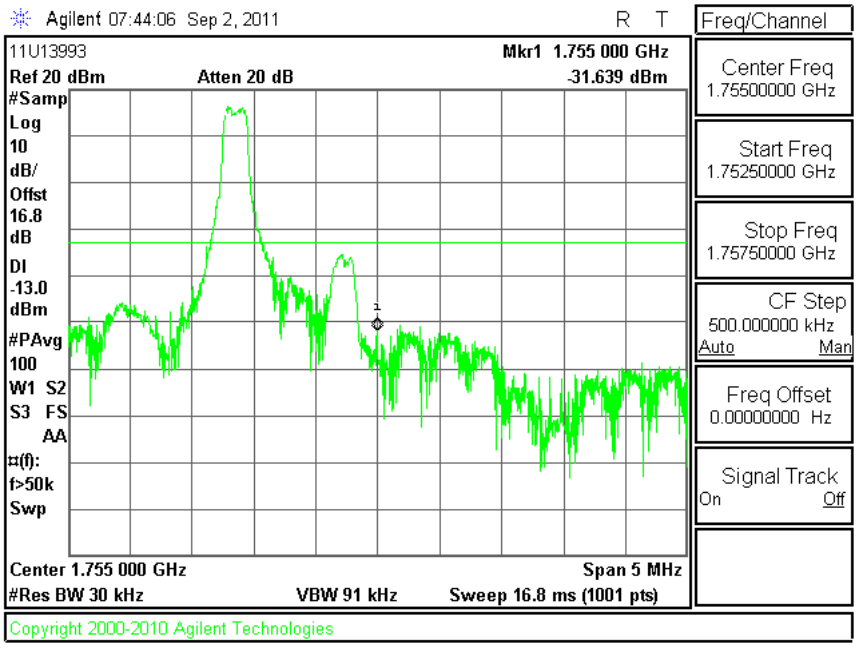
LOW CH, RB3_2



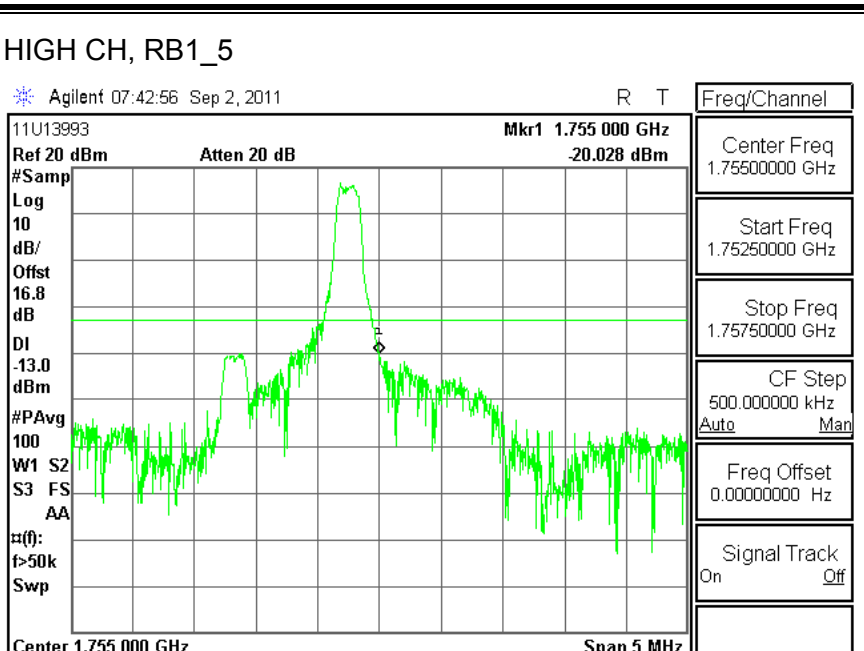
LOW CH, RB6_0



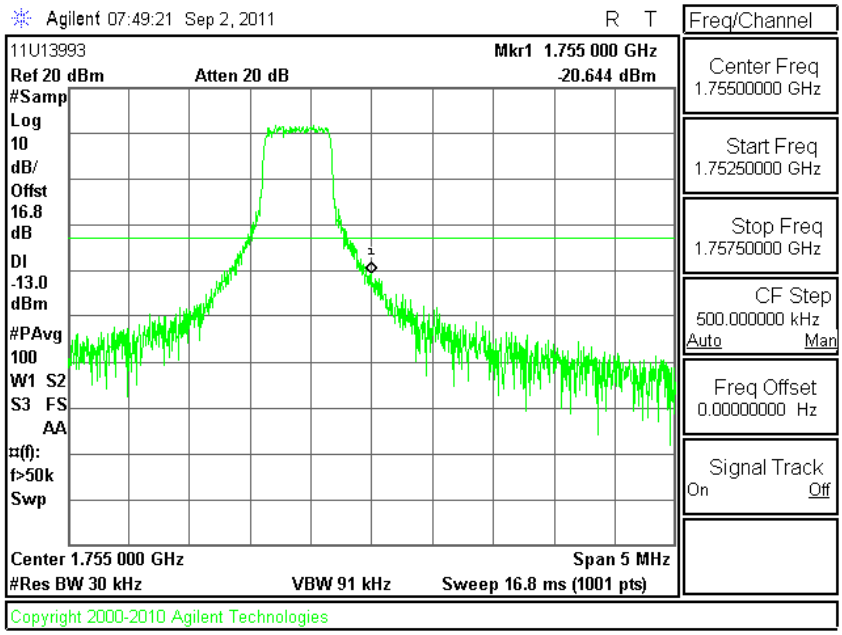
HIGH CH, RB1_0



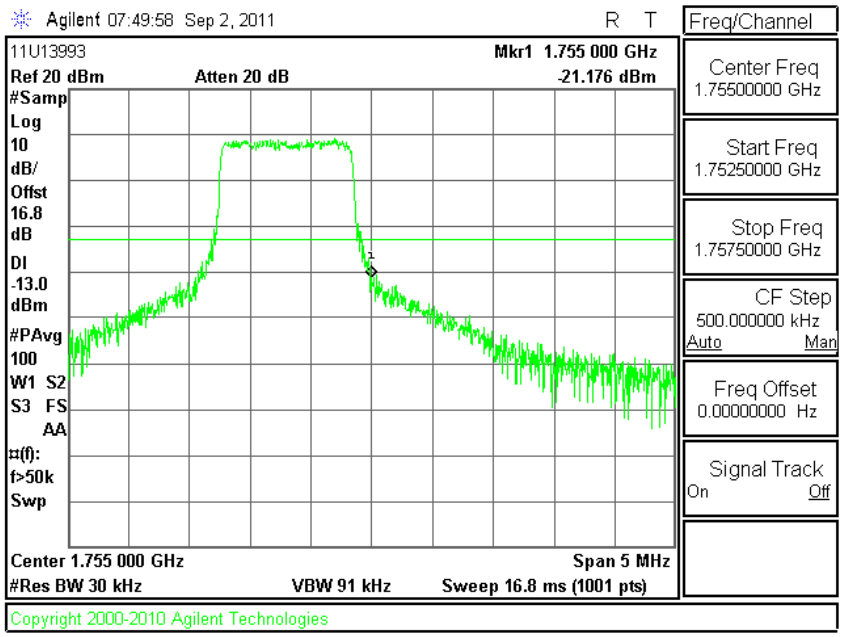
HIGH CH, RB1_5



HIGH CH, RB3_2

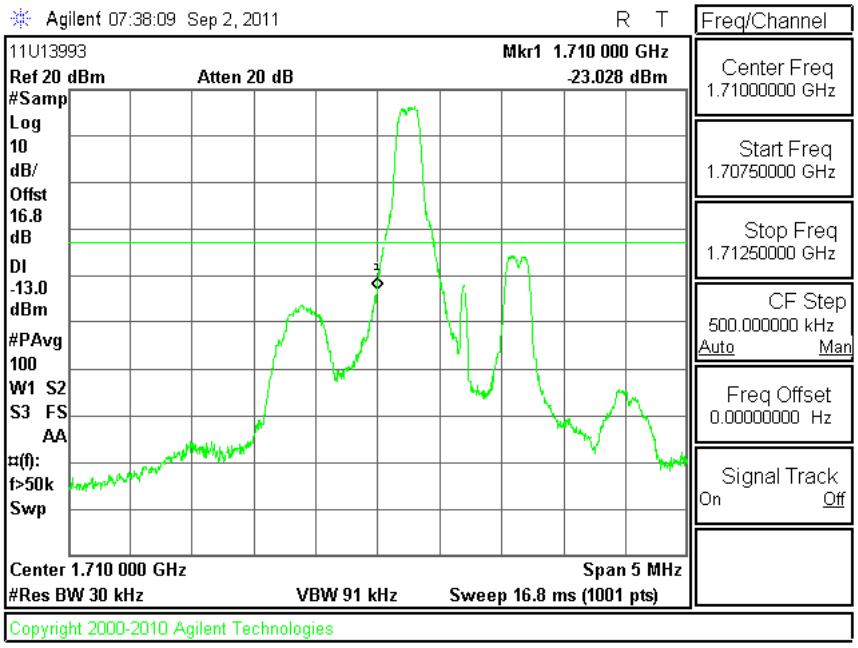


HIGH CH, RB6_0

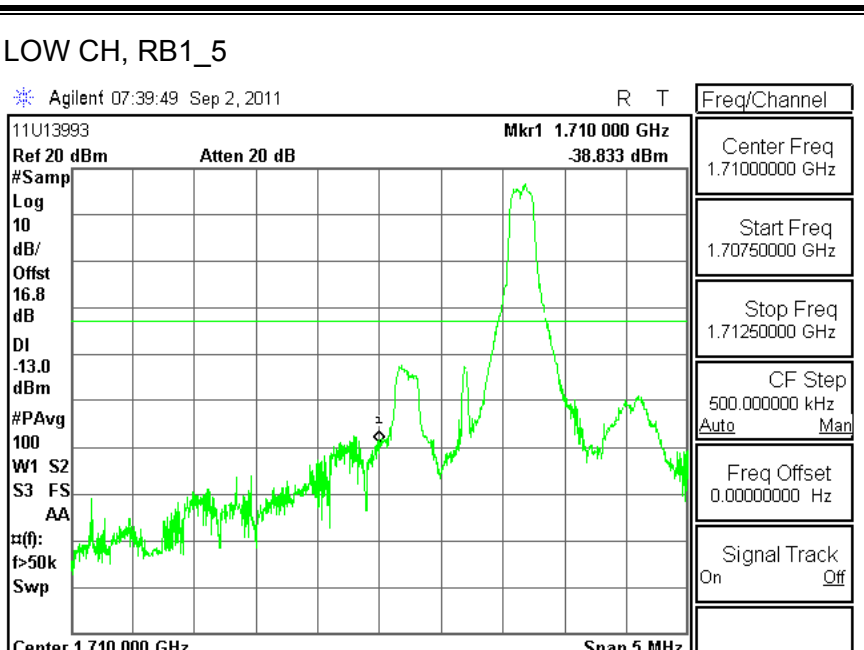


16QAM

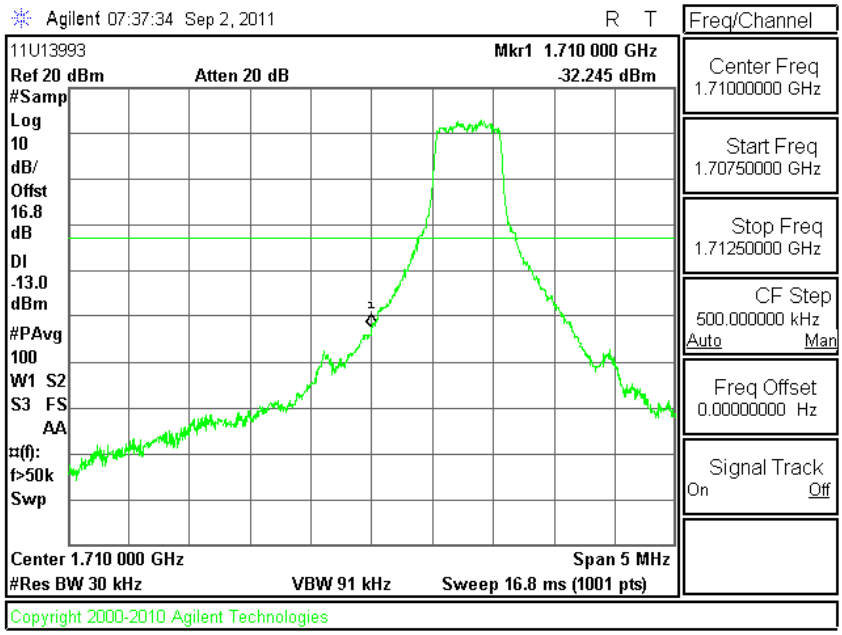
LOW CH, RB1_0



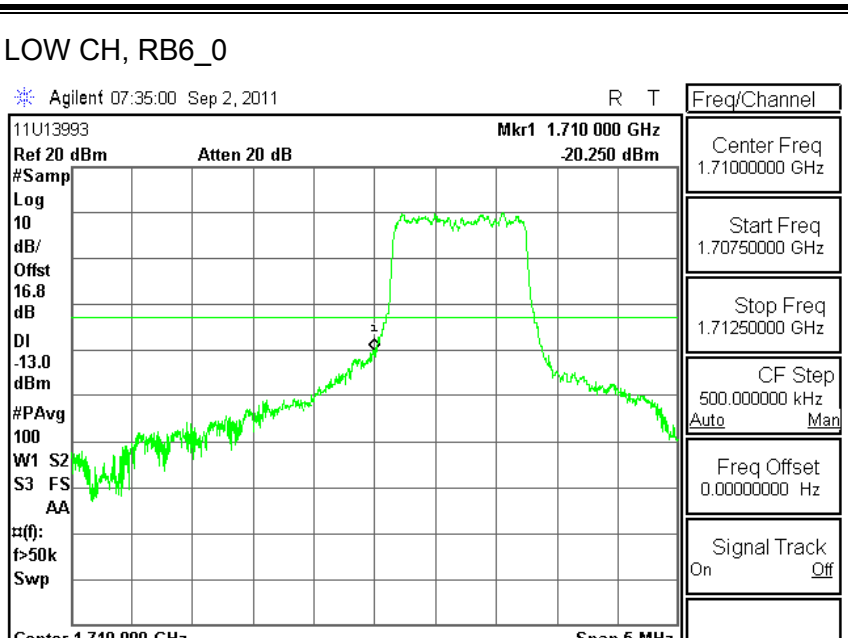
LOW CH, RB1_5



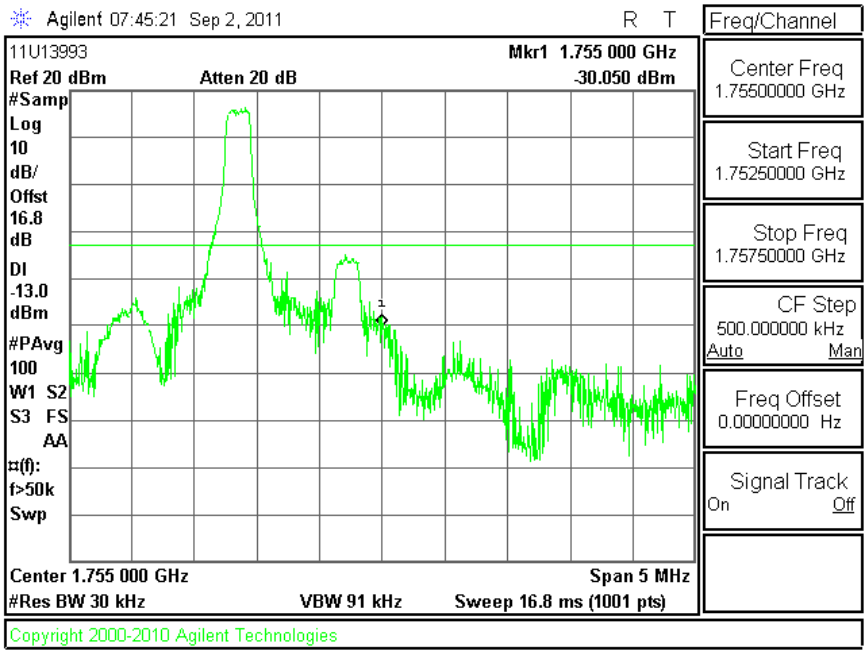
LOW CH, RB3_2



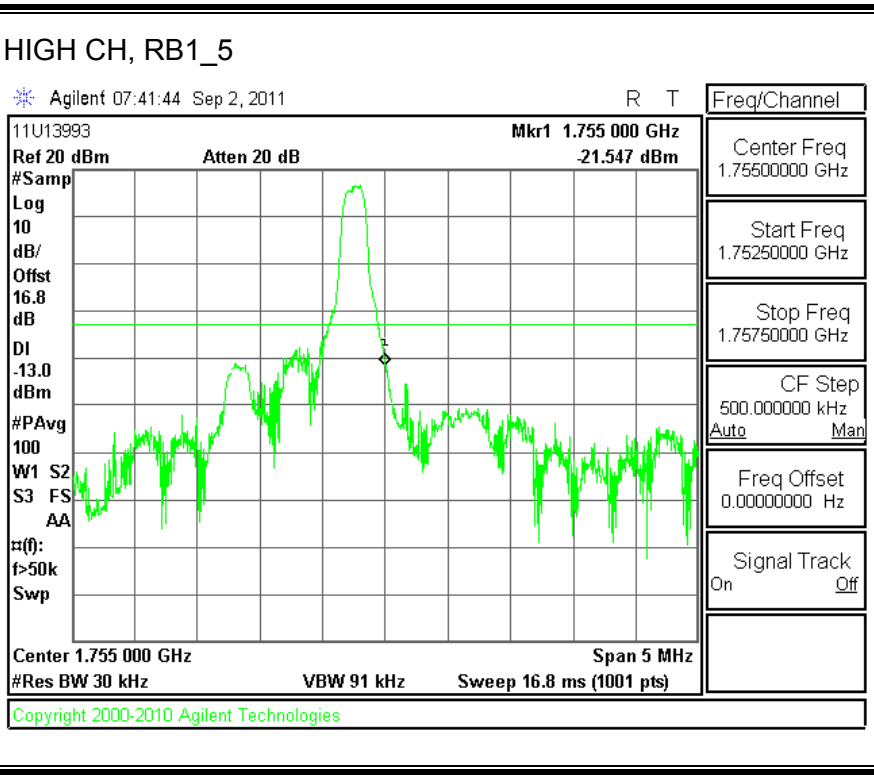
LOW CH, RB6_0



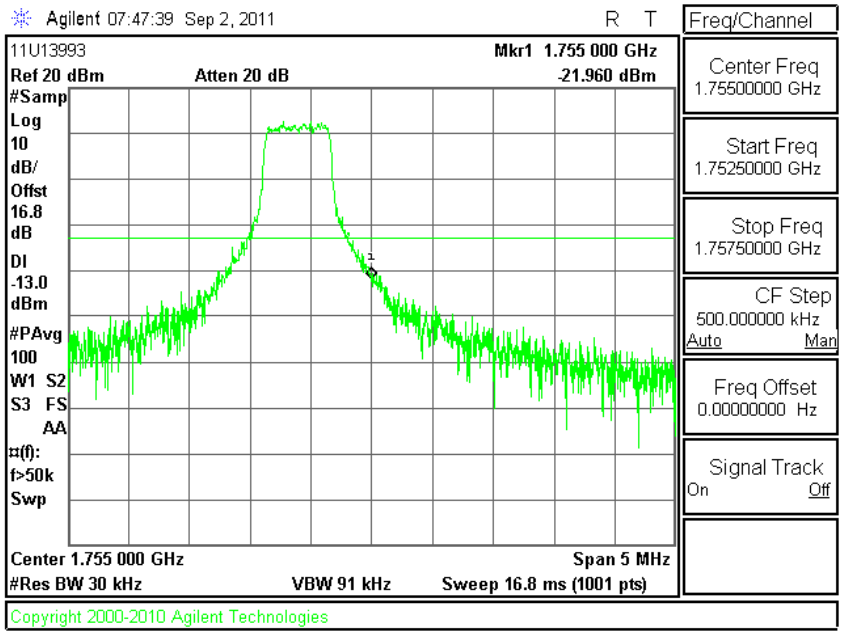
HIGH CH, RB1_0



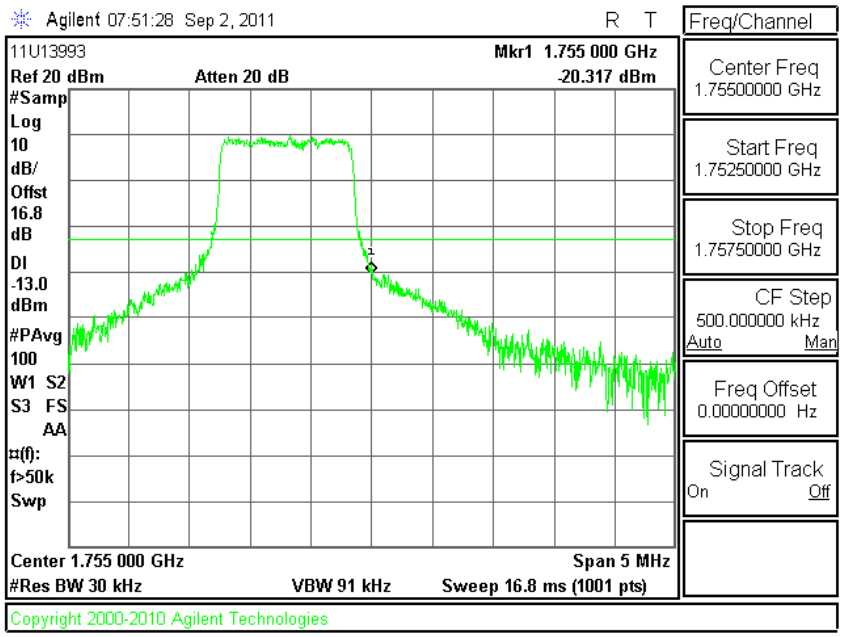
HIGH CH, RB1_5



HIGH CH, RB3_2



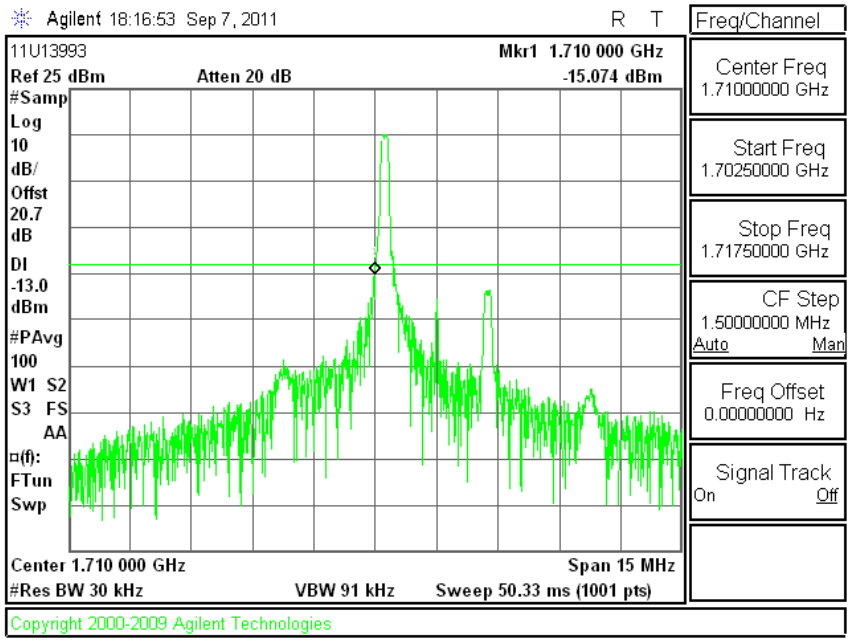
HIGH CH, RB6_0



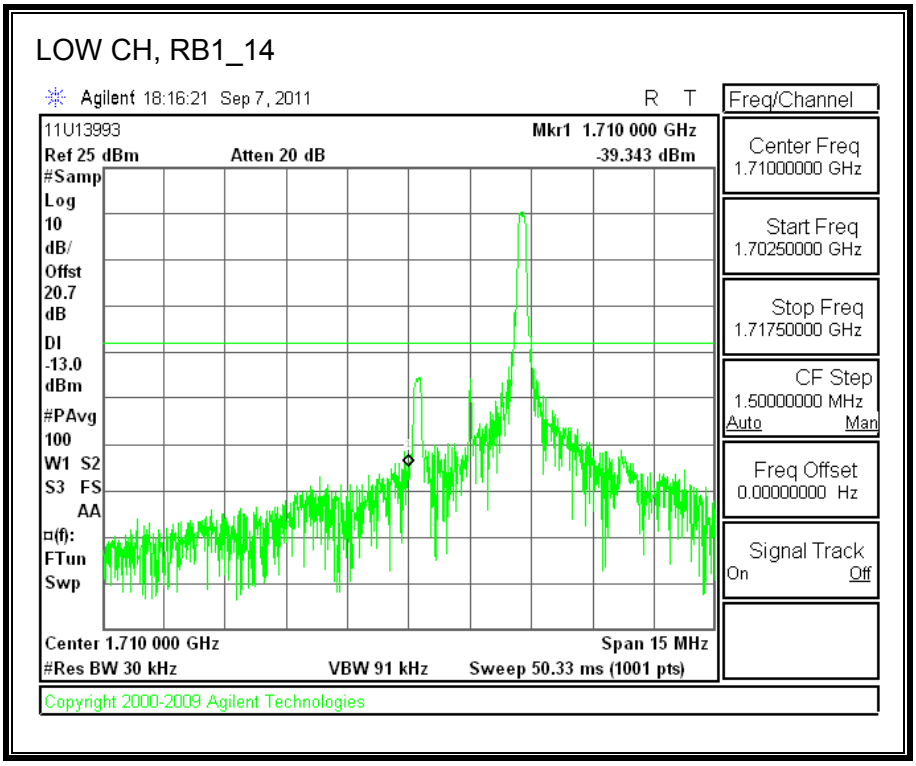
LTE, Band 4 (3.0MHz BAND WIDTH)

QPSK

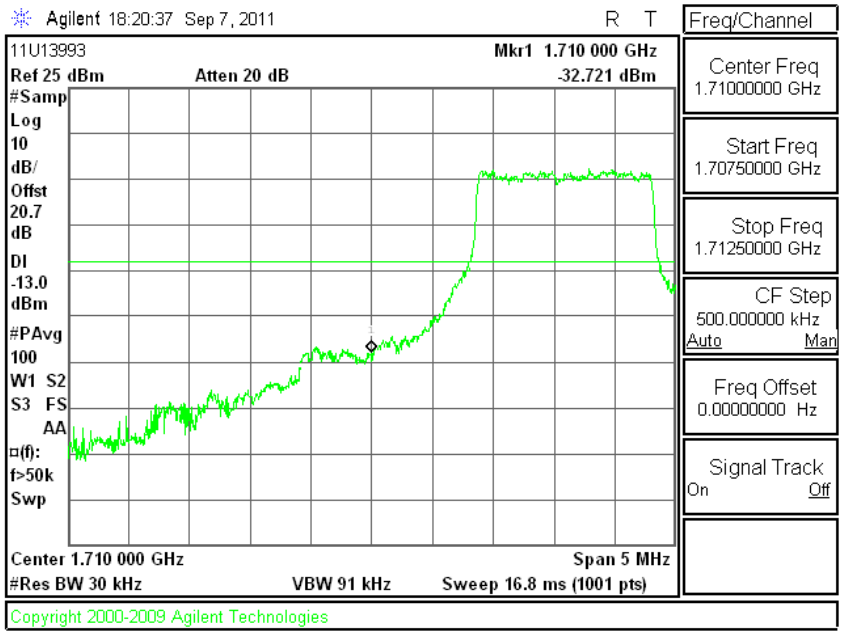
LOW CH, RB1_0



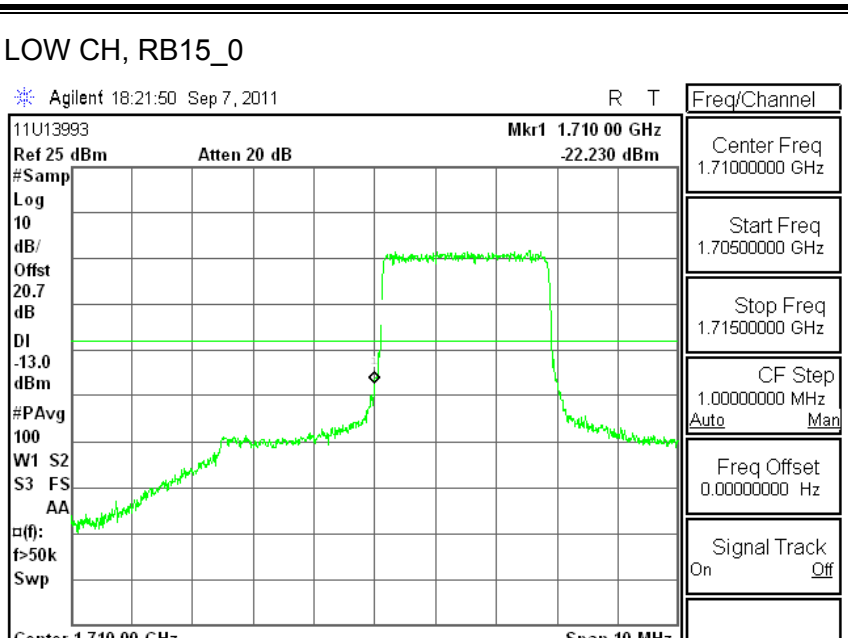
LOW CH, RB1_14



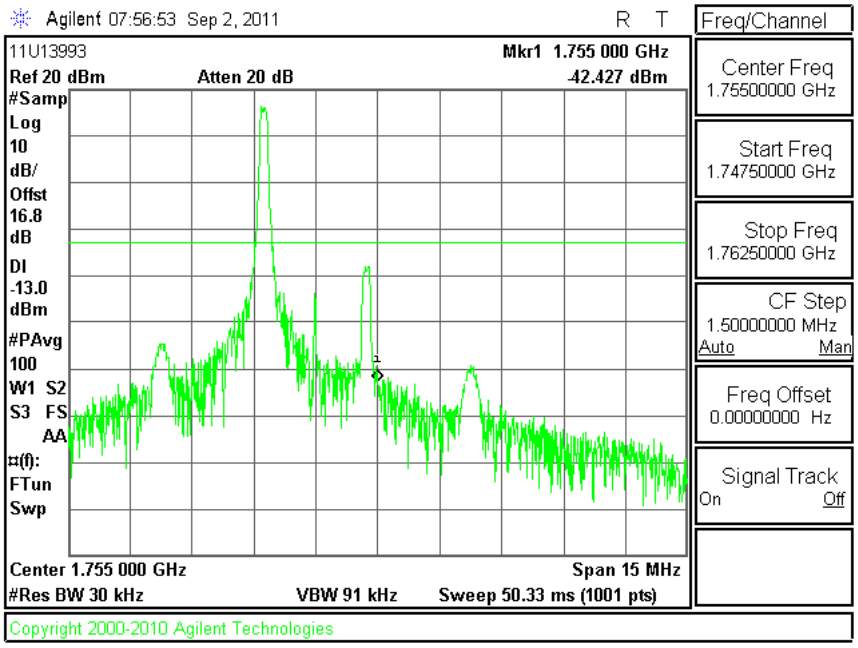
LOW CH, RB8_4



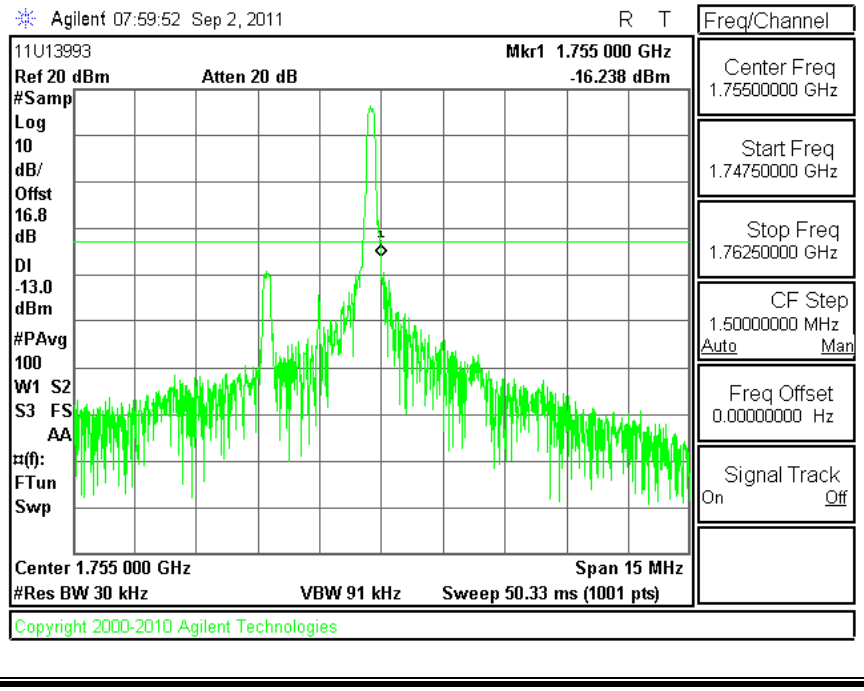
LOW CH, RB15_0



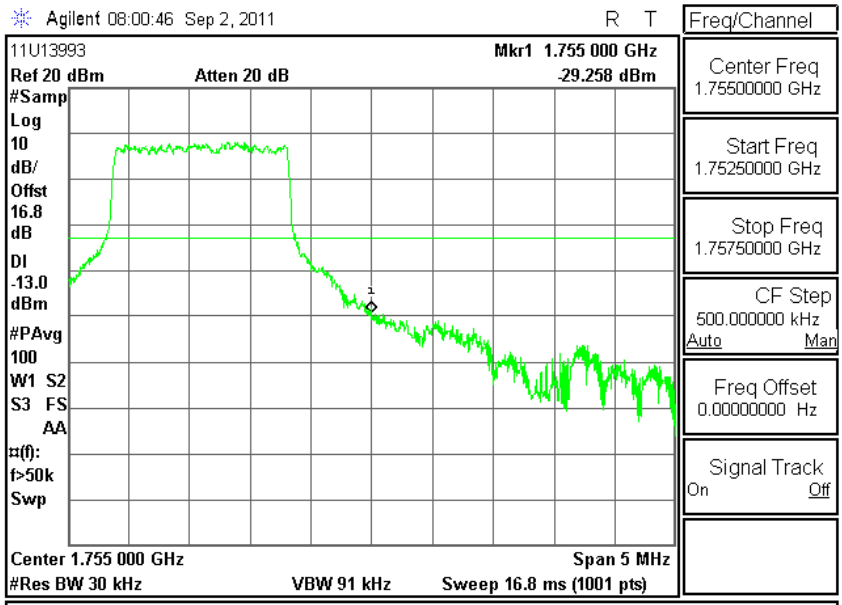
HIGH CH, RB1_0



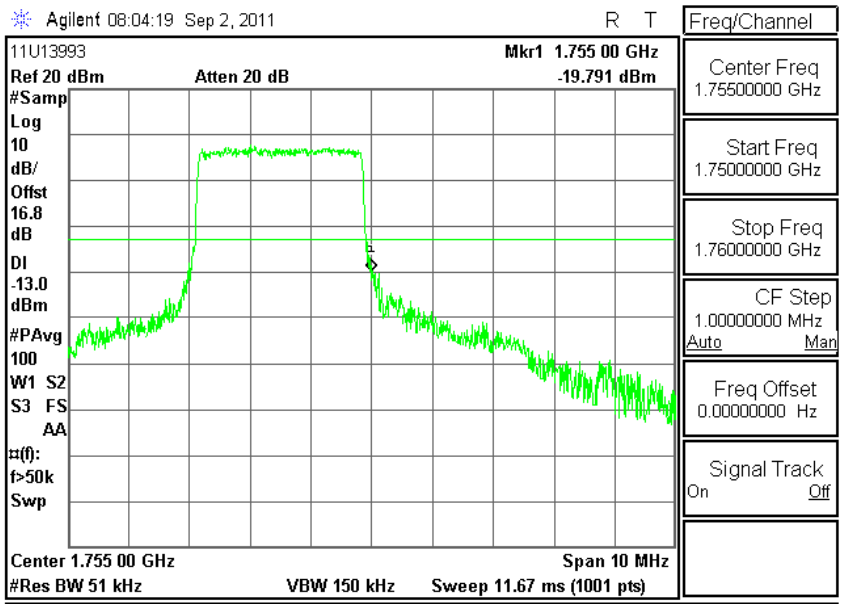
HIGH CH, RB1_14



HIGH CH, RB8_4

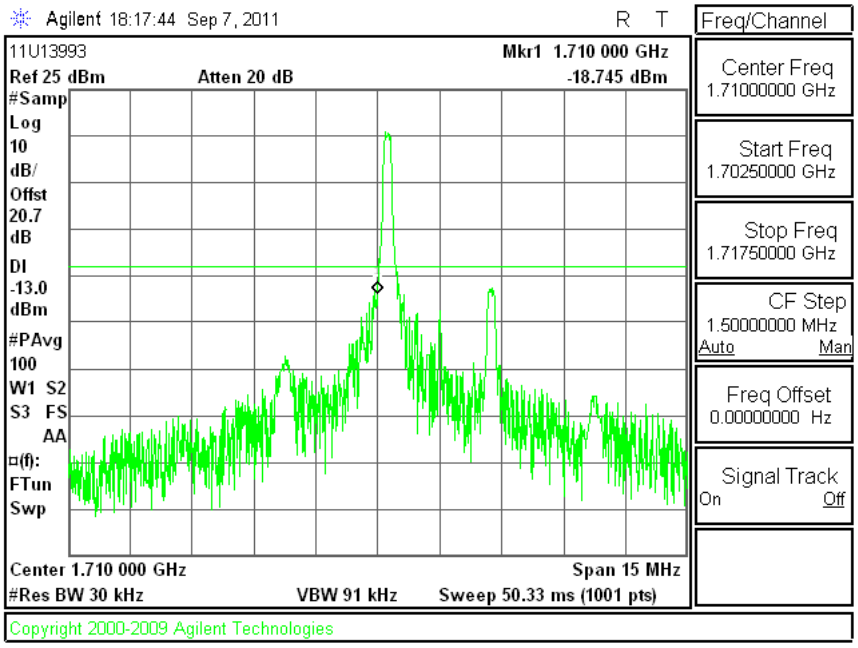


HIGH CH, RB15_0

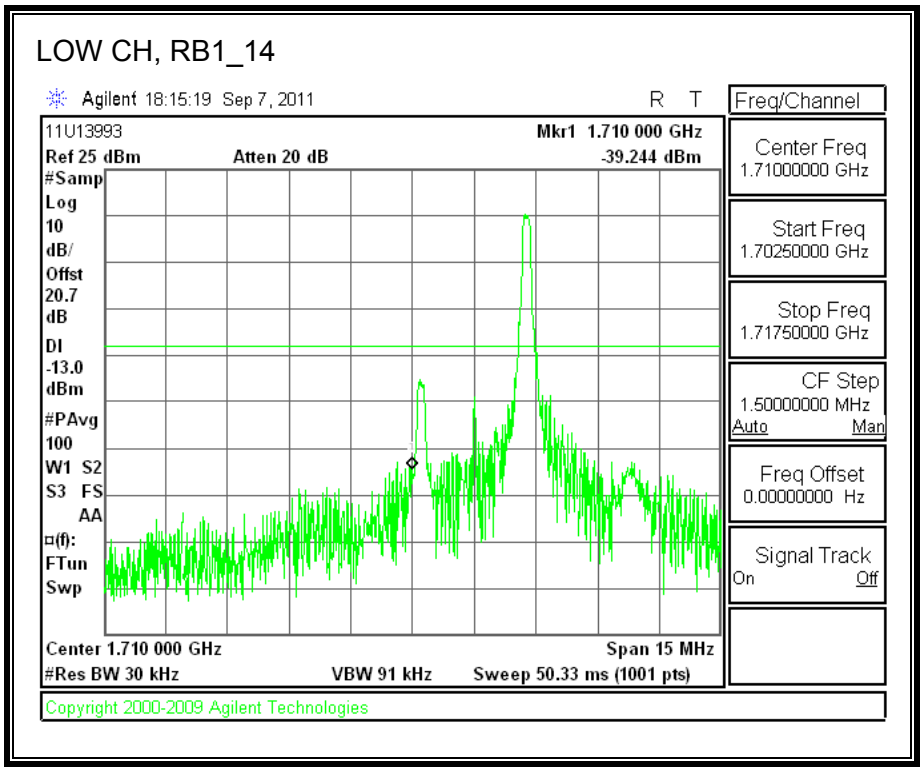


16QAM

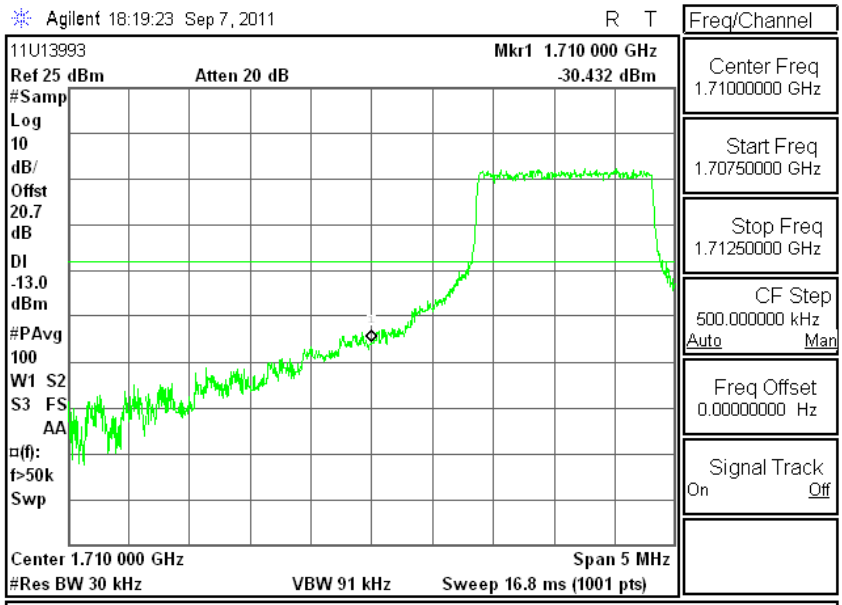
LOW CH, RB1_0



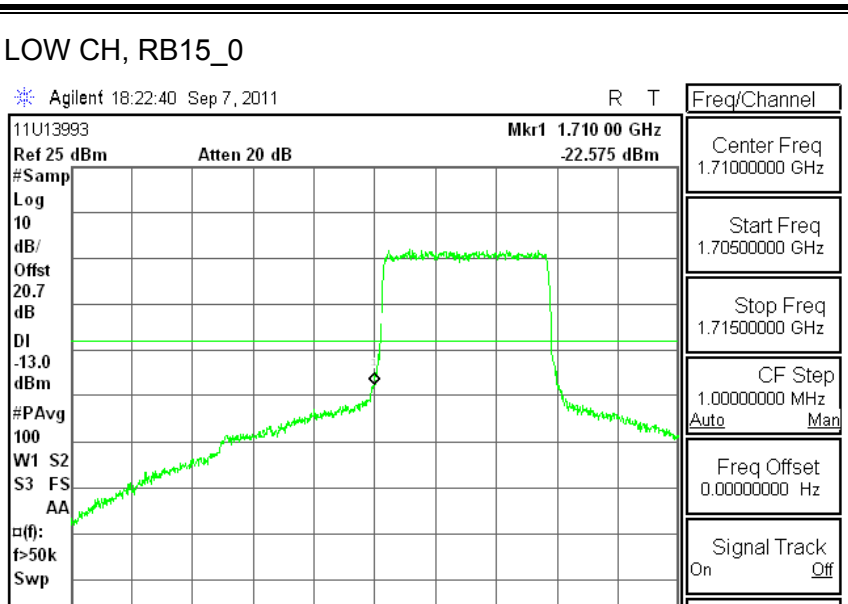
LOW CH, RB1_14



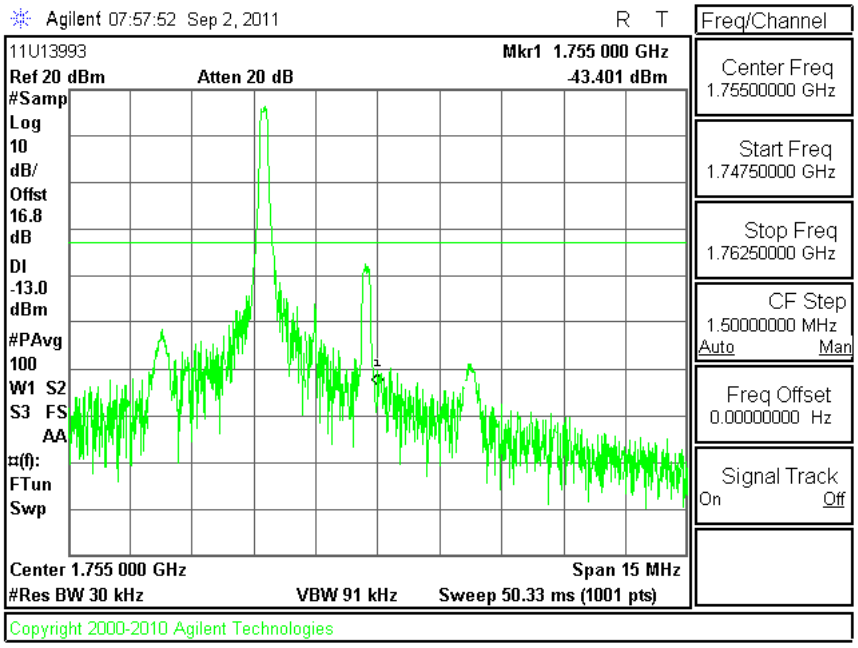
LOW CH, RB8_4



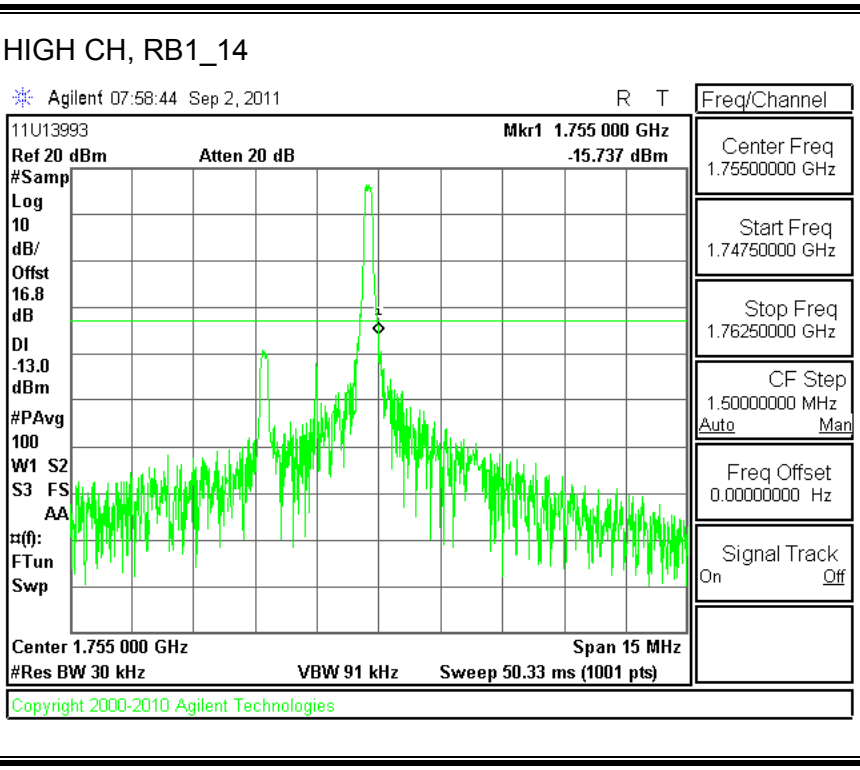
LOW CH, RB15_0



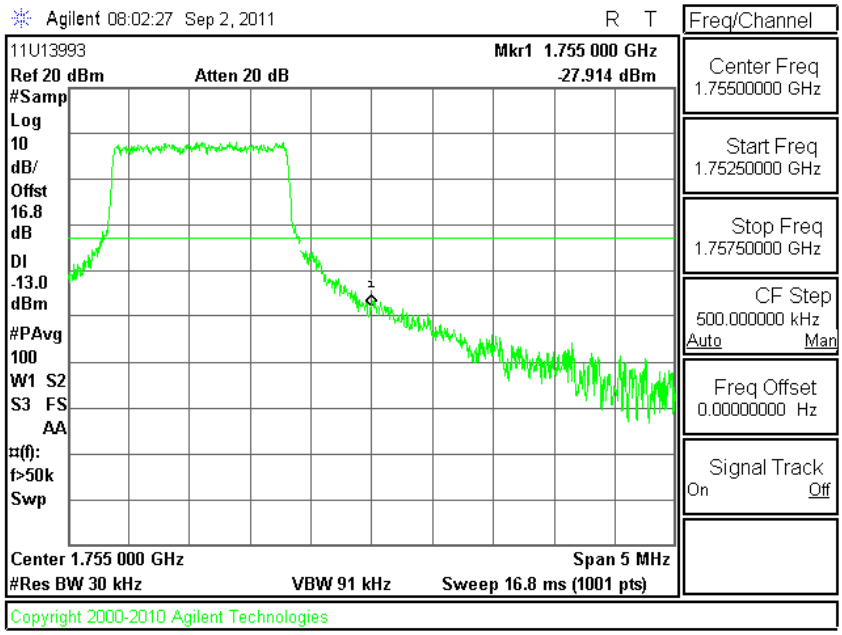
HIGH CH, RB1_0



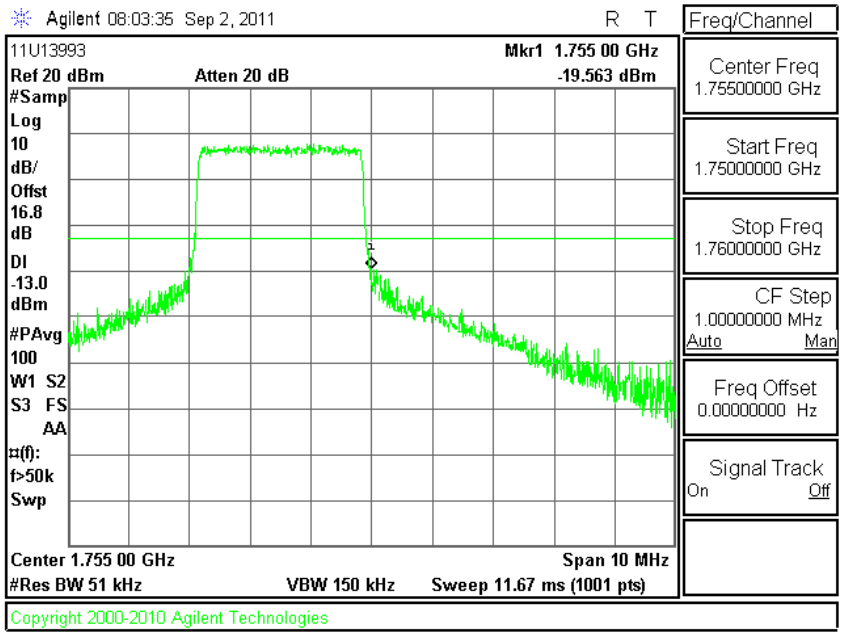
HIGH CH, RB1_14



HIGH CH, RB8_4



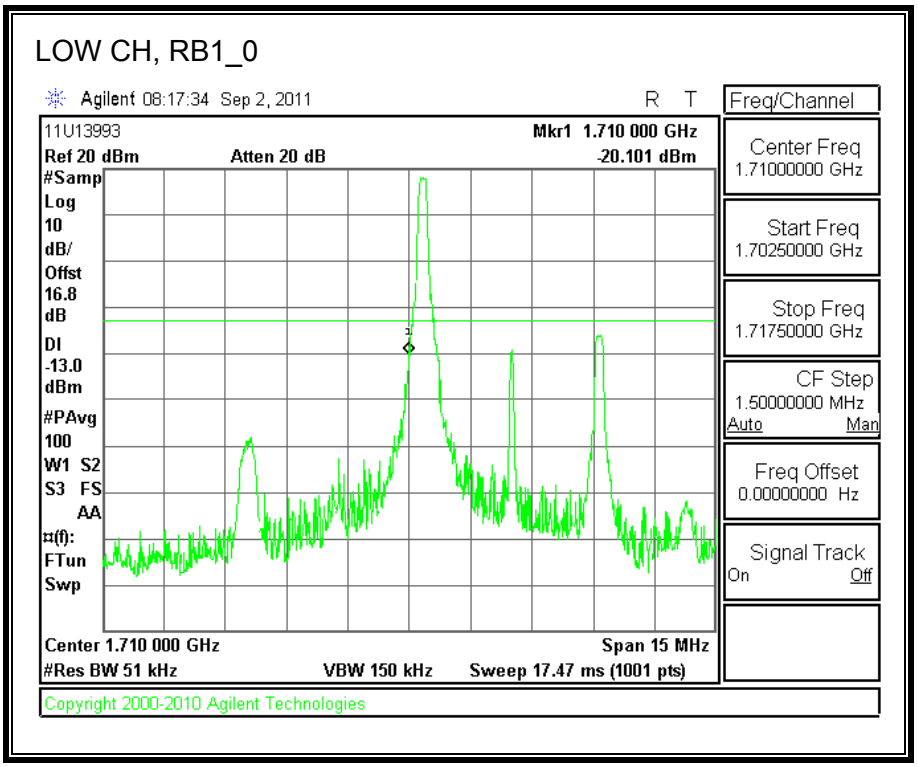
HIGH CH, RB15_0



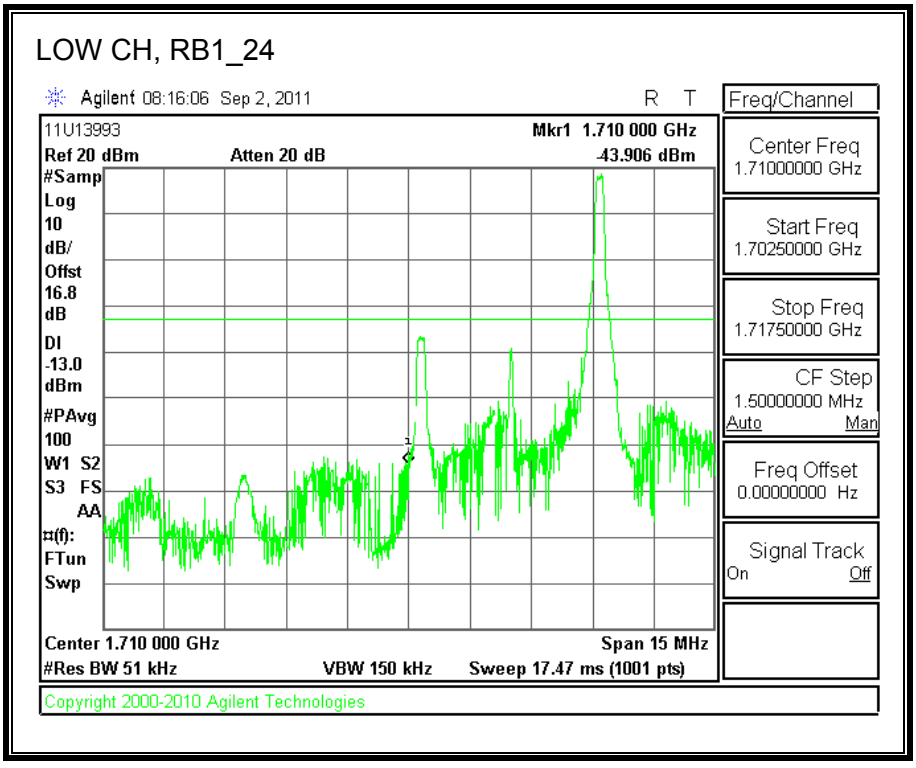
LTE, Band 4 (5.0MHz BAND WIDTH)

QPSK

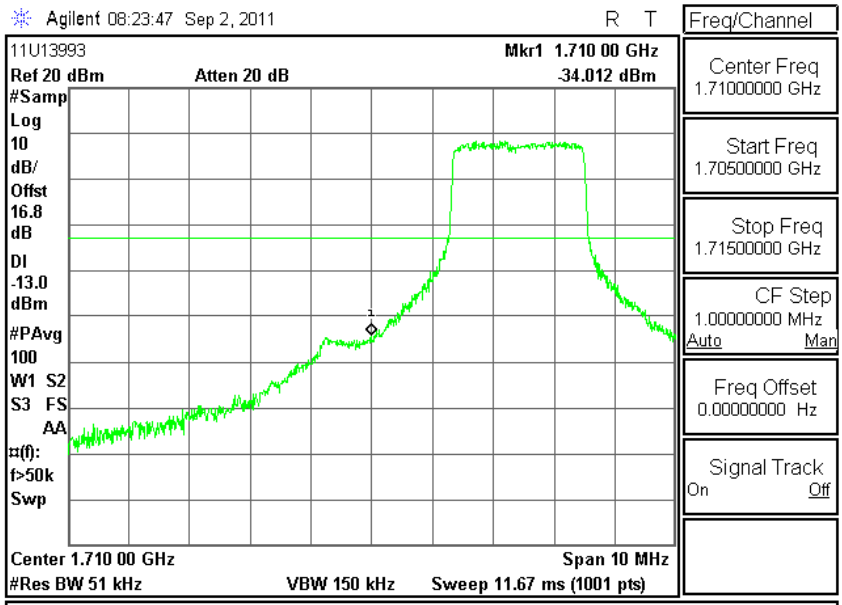
LOW CH, RB1_0



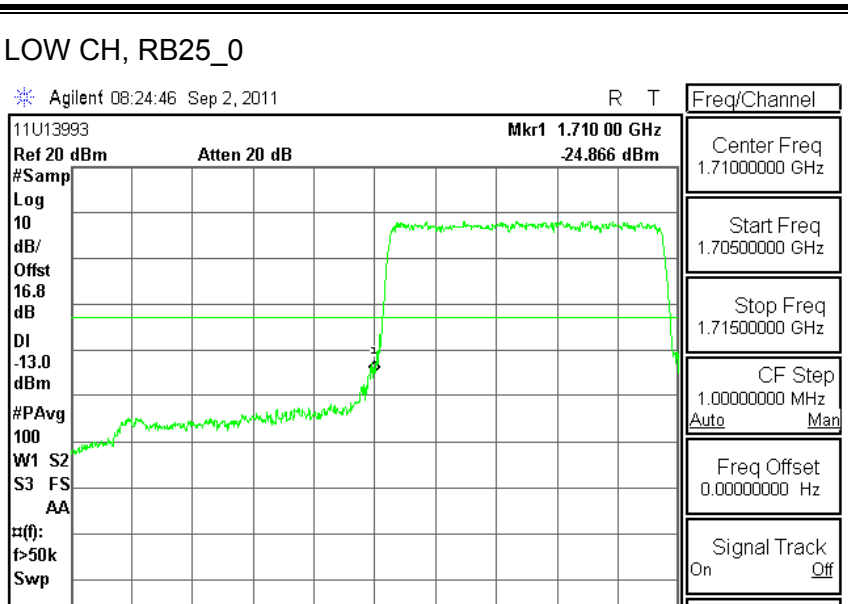
LOW CH, RB1_24



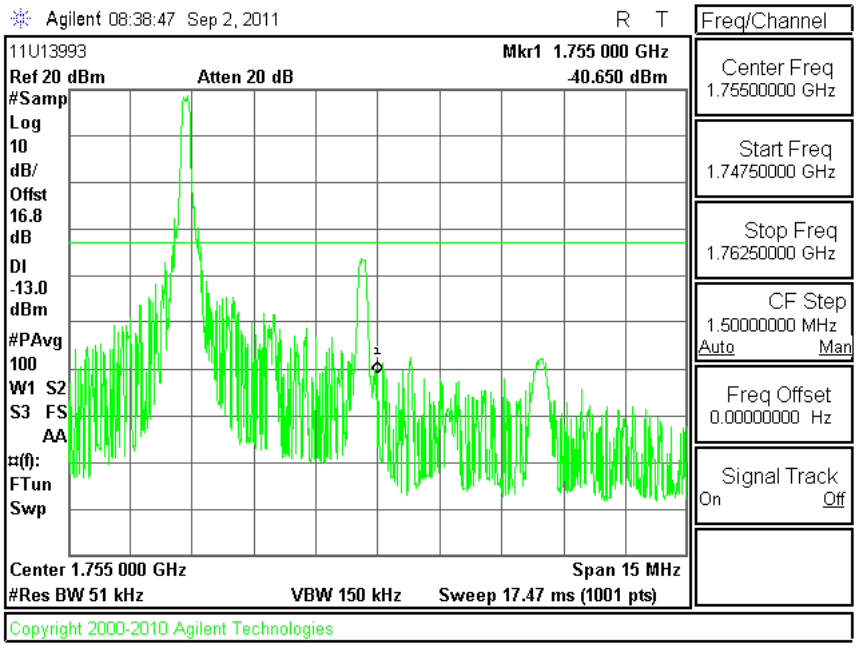
LOW CH, RB12_6



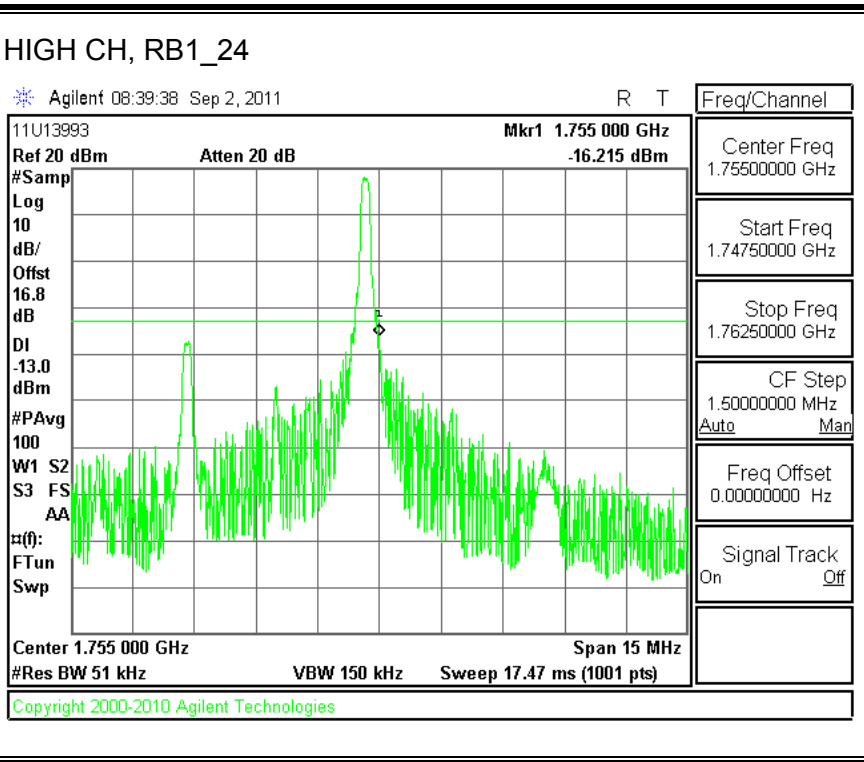
LOW CH, RB25_0



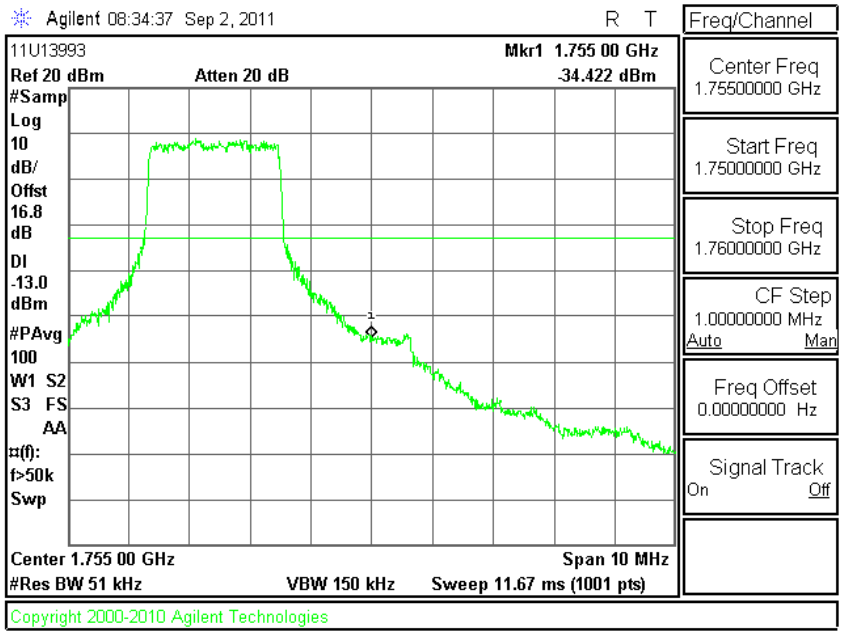
HIGH CH, RB1_0



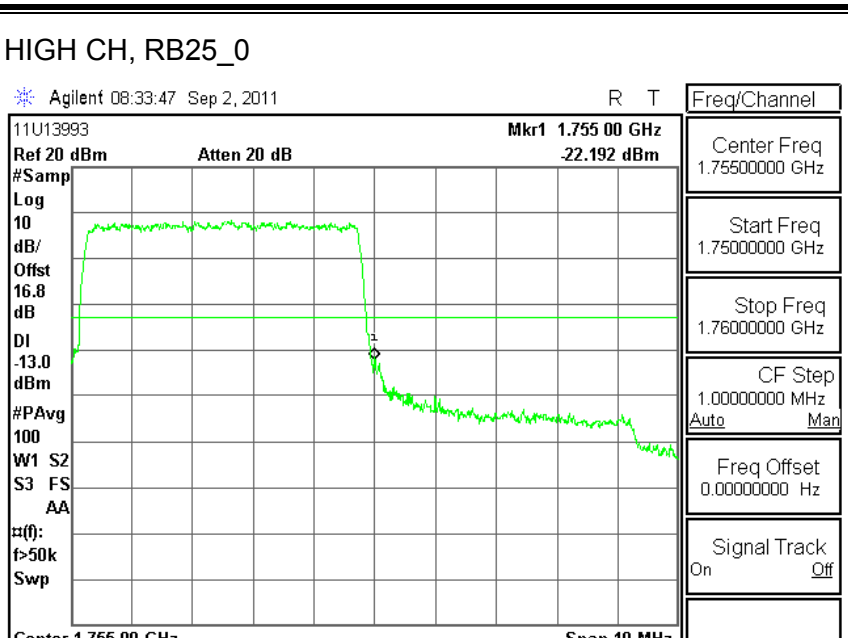
HIGH CH, RB1_24



HIGH CH, RB12_6

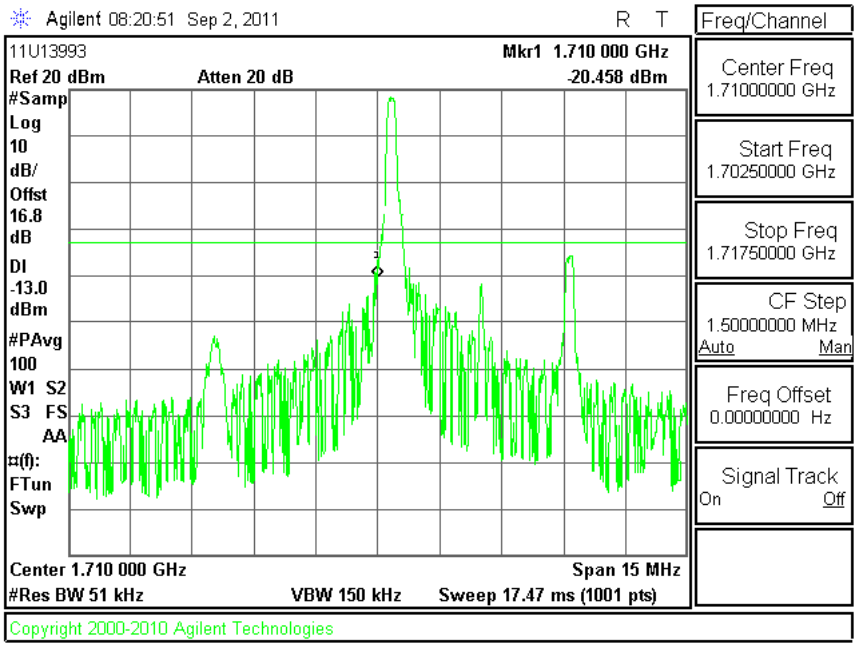


HIGH CH, RB25_0

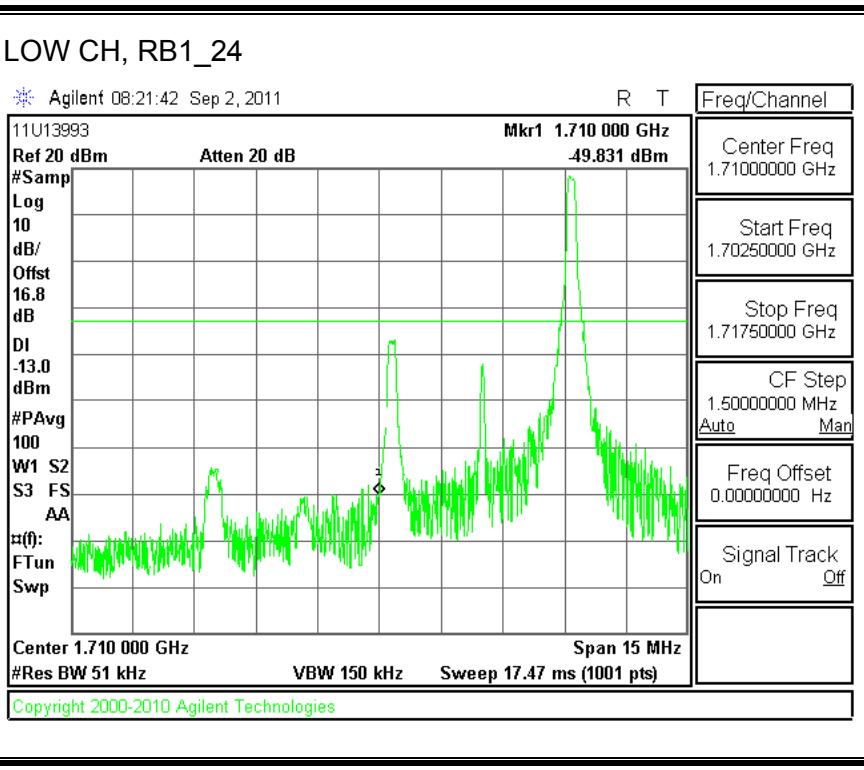


16QAM

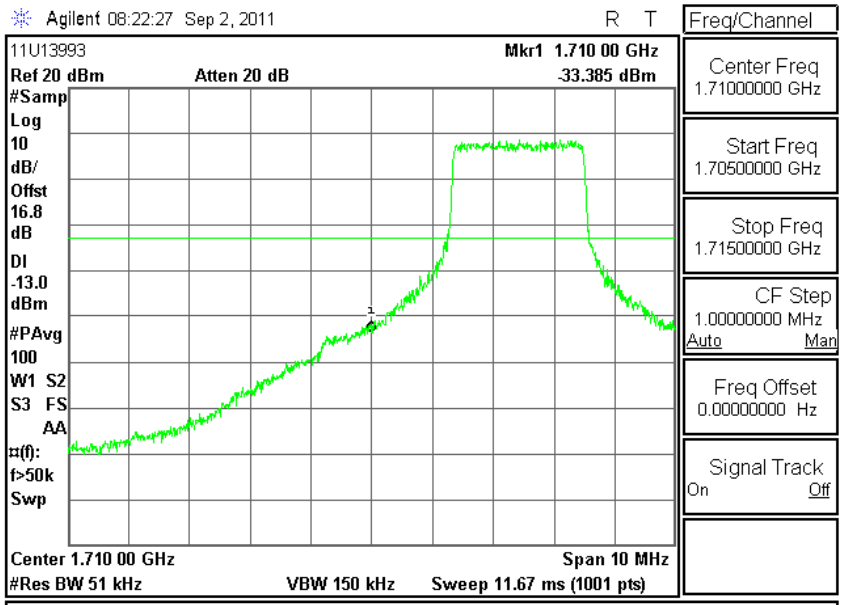
LOW CH, RB1_0



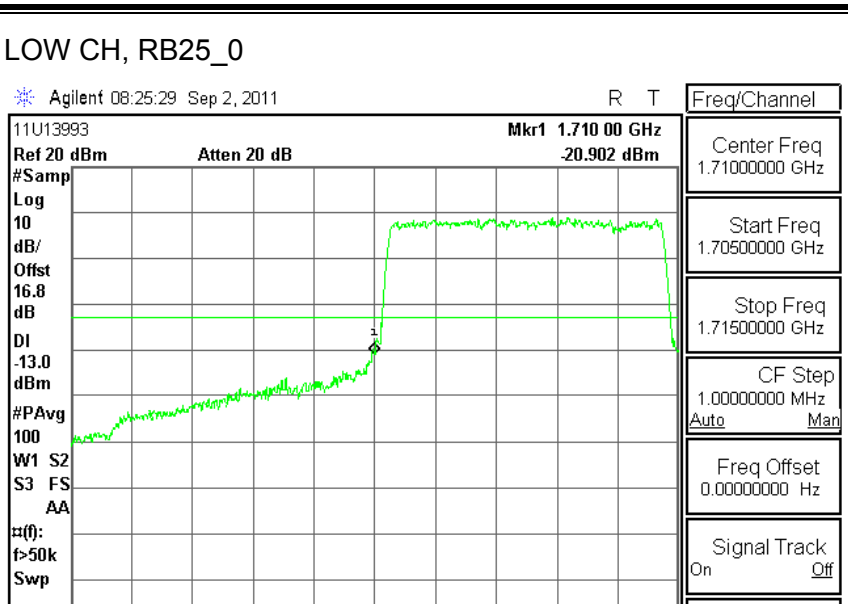
LOW CH, RB1_24



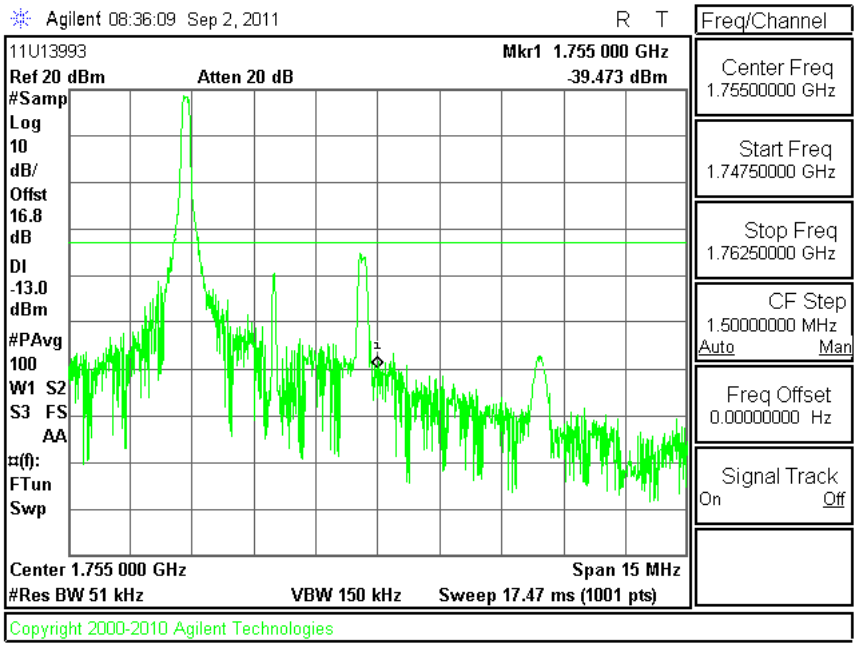
LOW CH, RB12_6



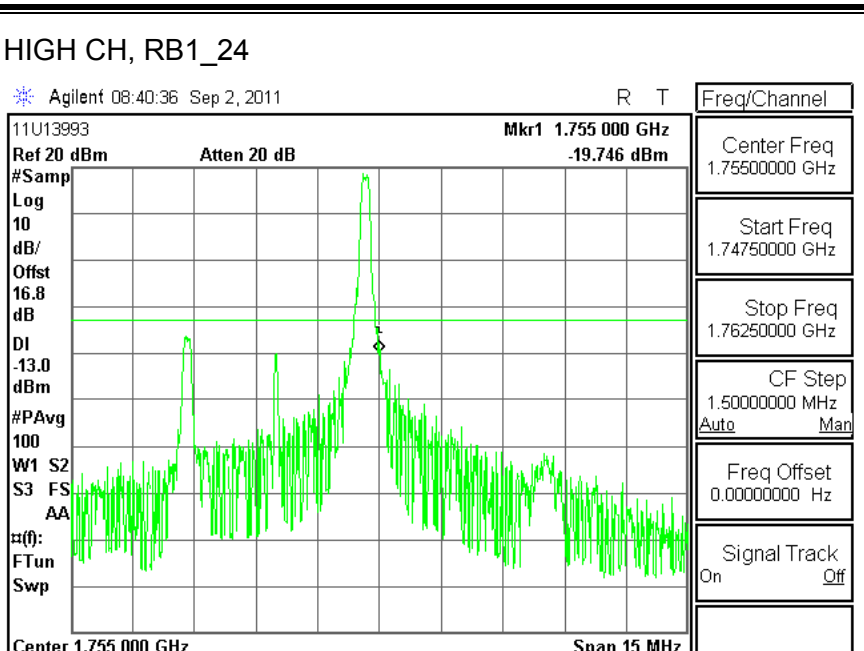
LOW CH, RB25_0



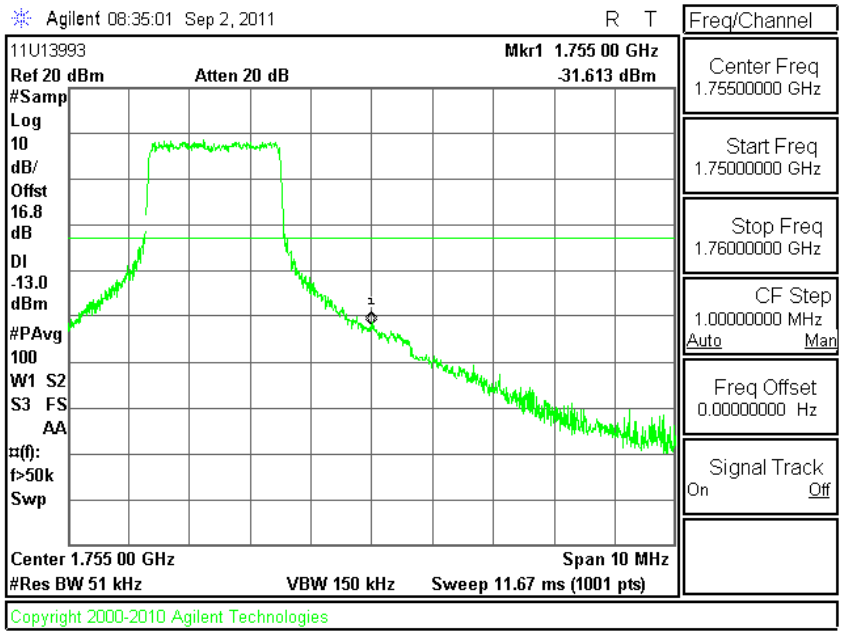
HIGH CH, RB1_0



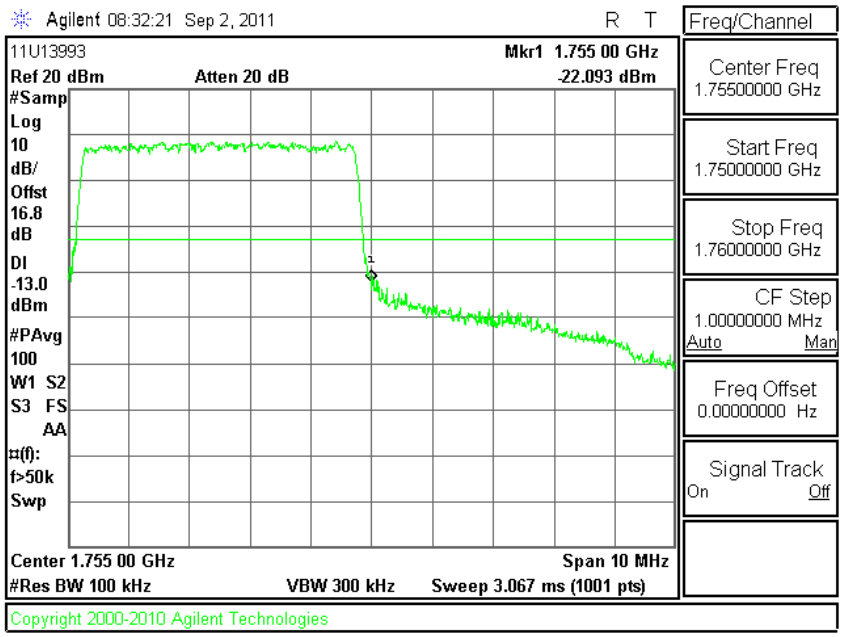
HIGH CH, RB1_24



HIGH CH, RB12_6



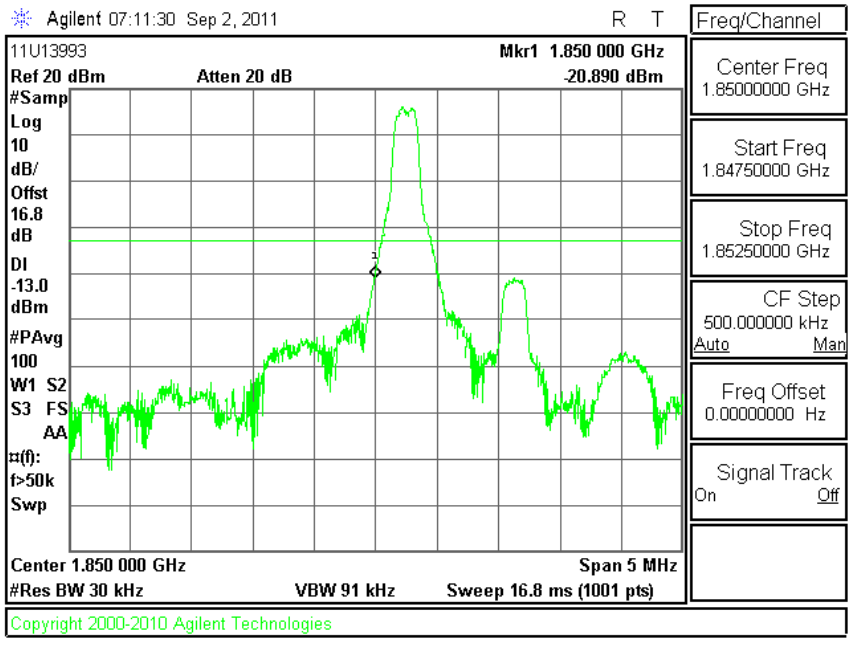
HIGH CH, RB25_0



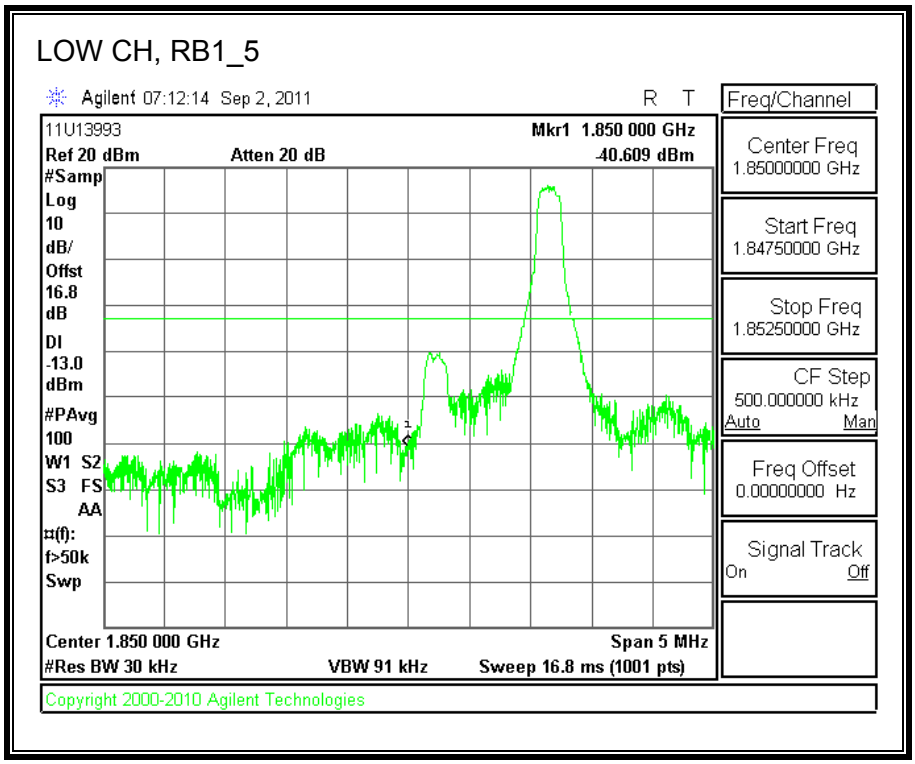
LTE, Band 2 (1.4MHz BAND WIDTH)

QPSK

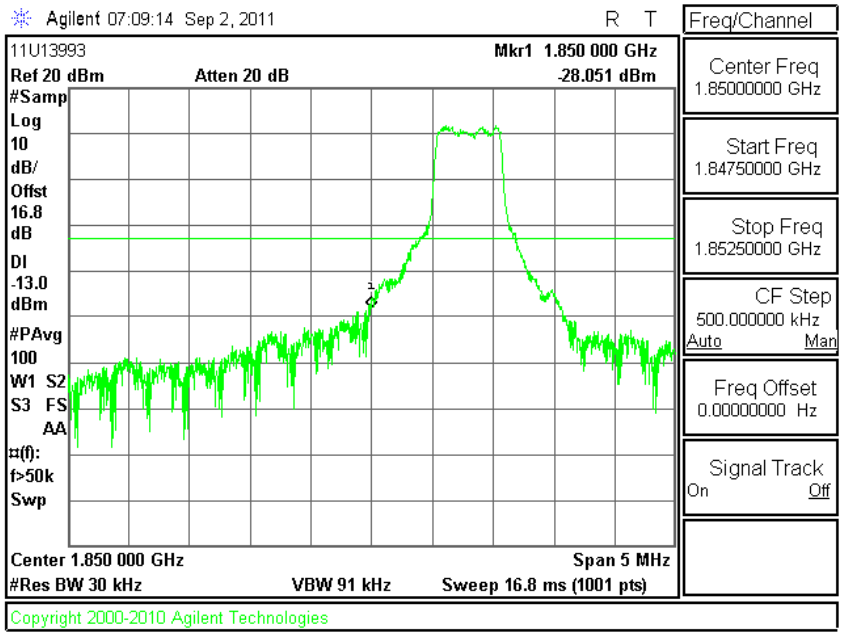
LOW CH, RB1_0



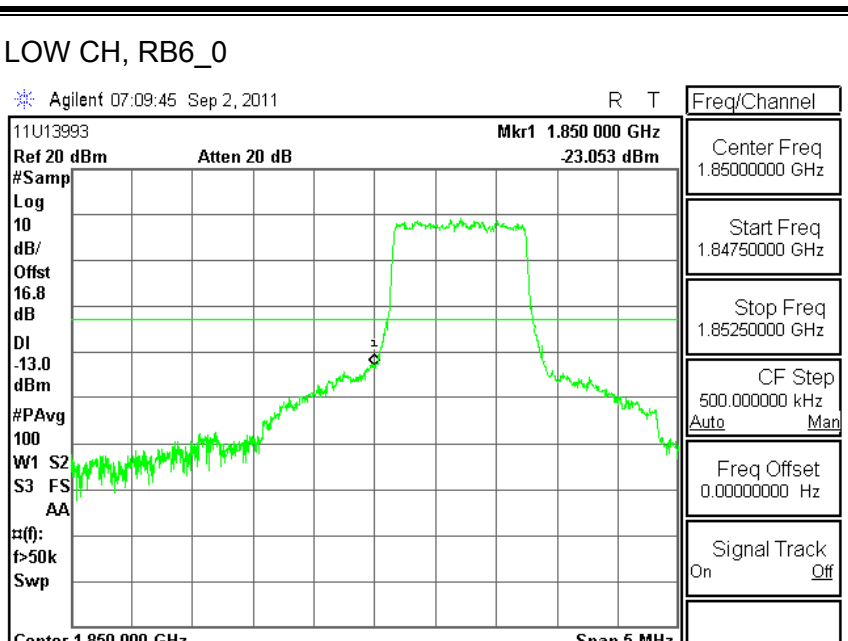
LOW CH, RB1_5



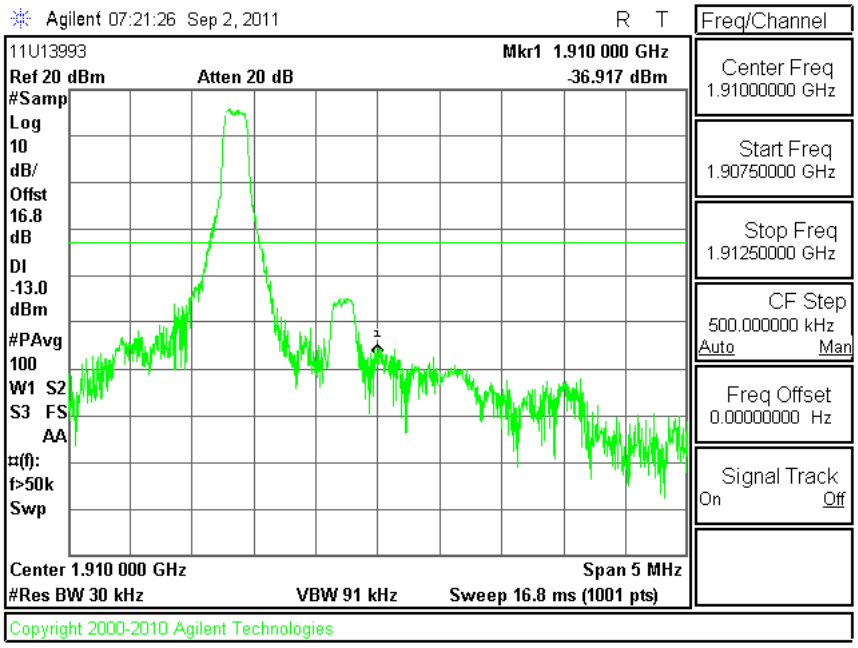
LOW CH, RB3_2



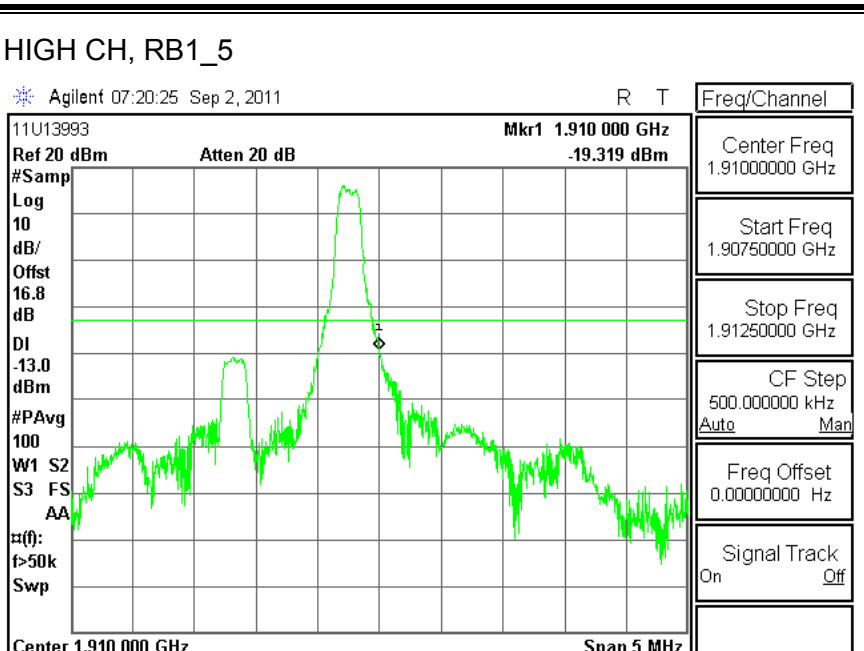
LOW CH, RB6_0



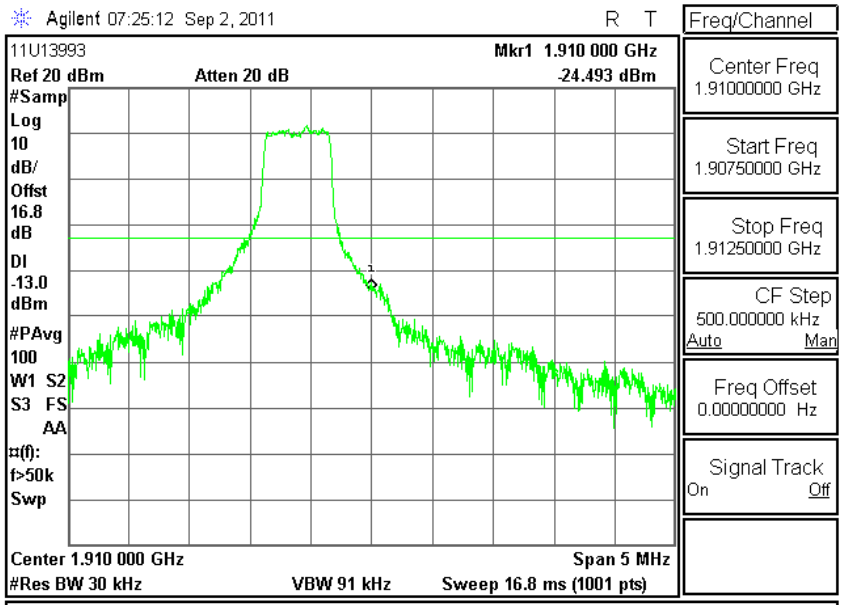
HIGH CH, RB1_0



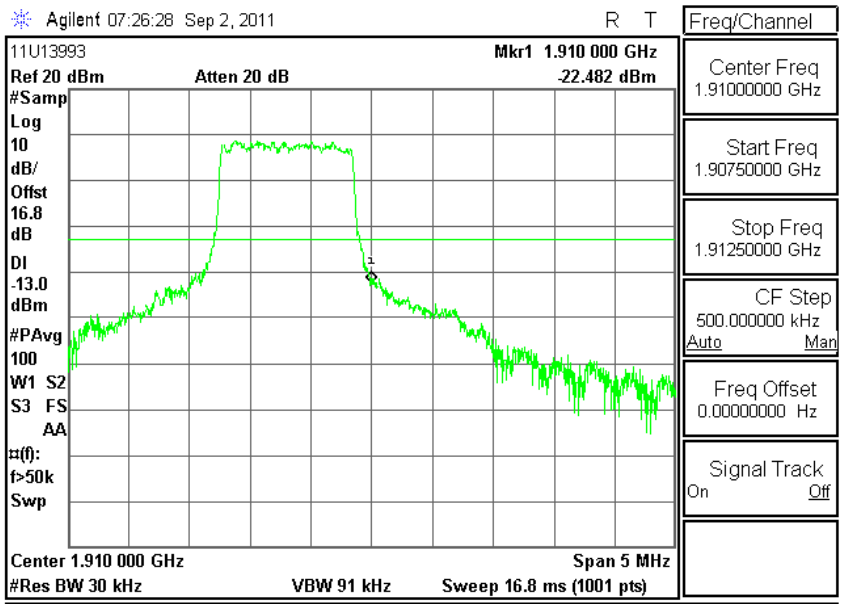
HIGH CH, RB1_5



HIGH CH, RB3_2

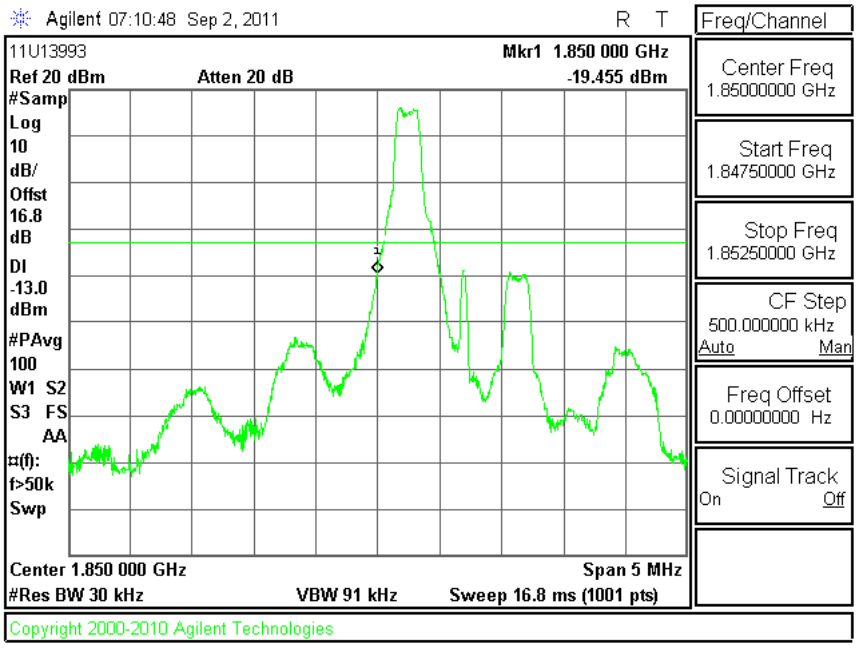


HIGH CH, RB6_0

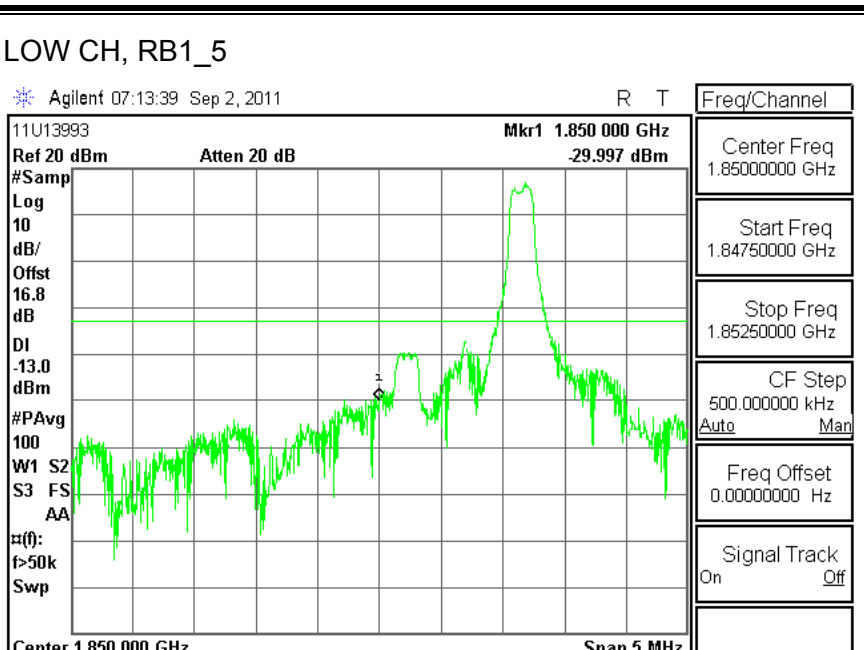


16QAM

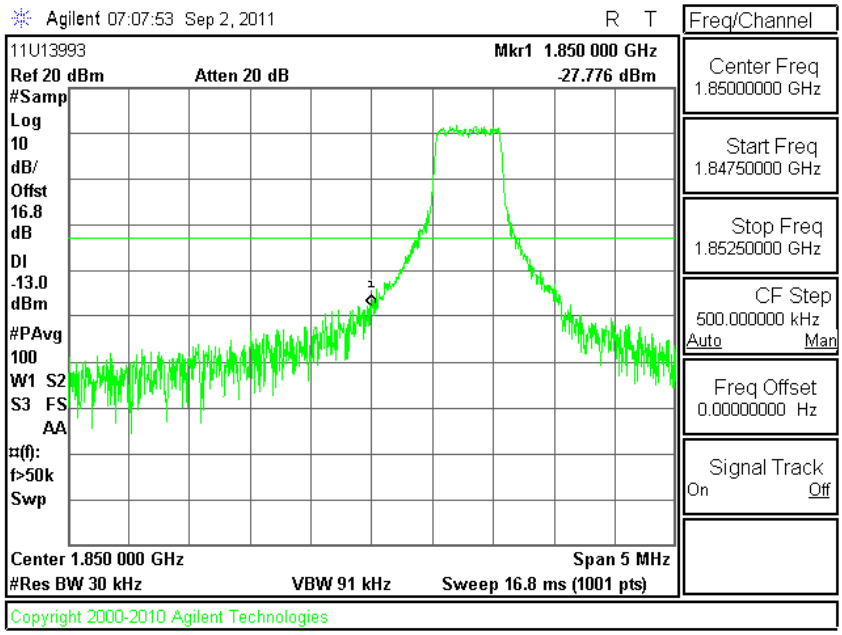
LOW CH, RB1_0



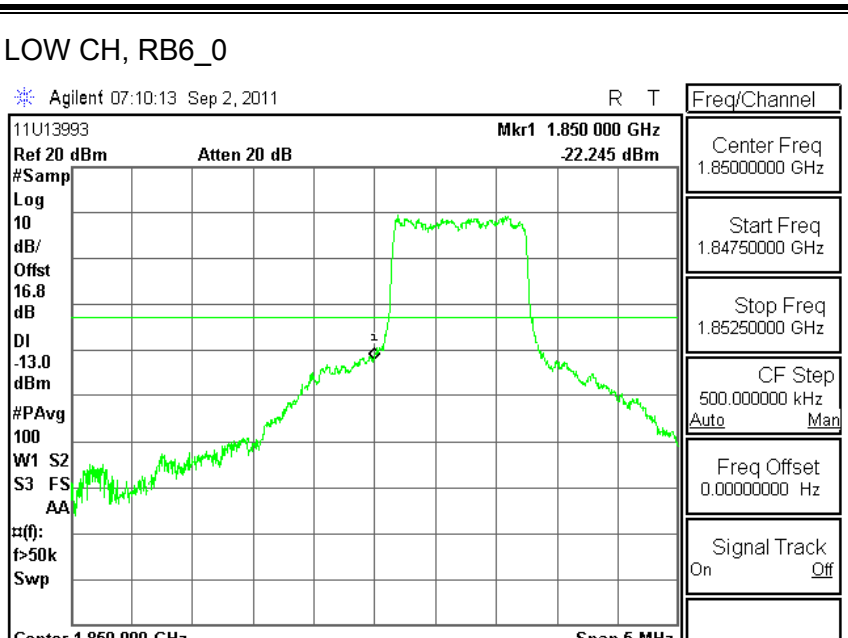
LOW CH, RB1_5



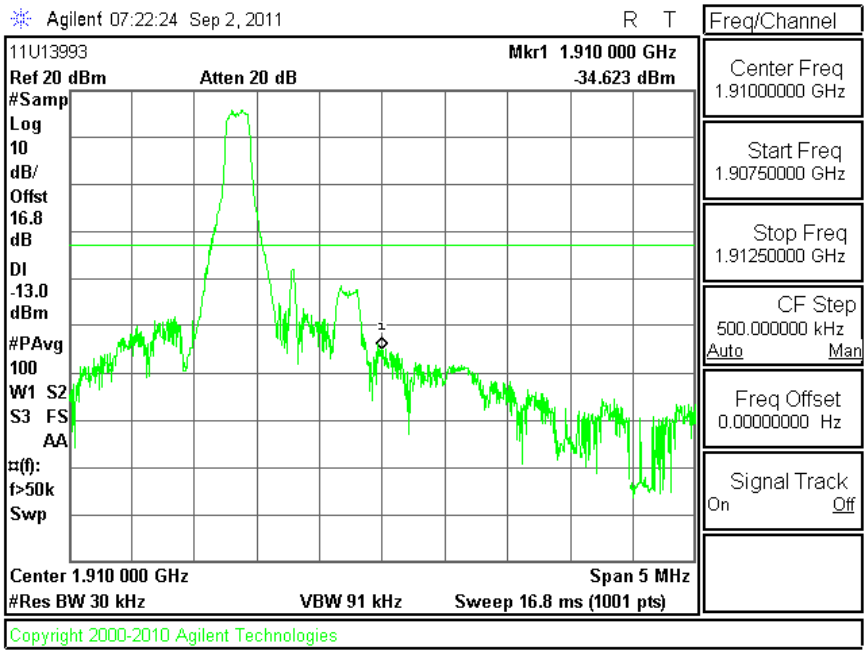
LOW CH, RB3_2



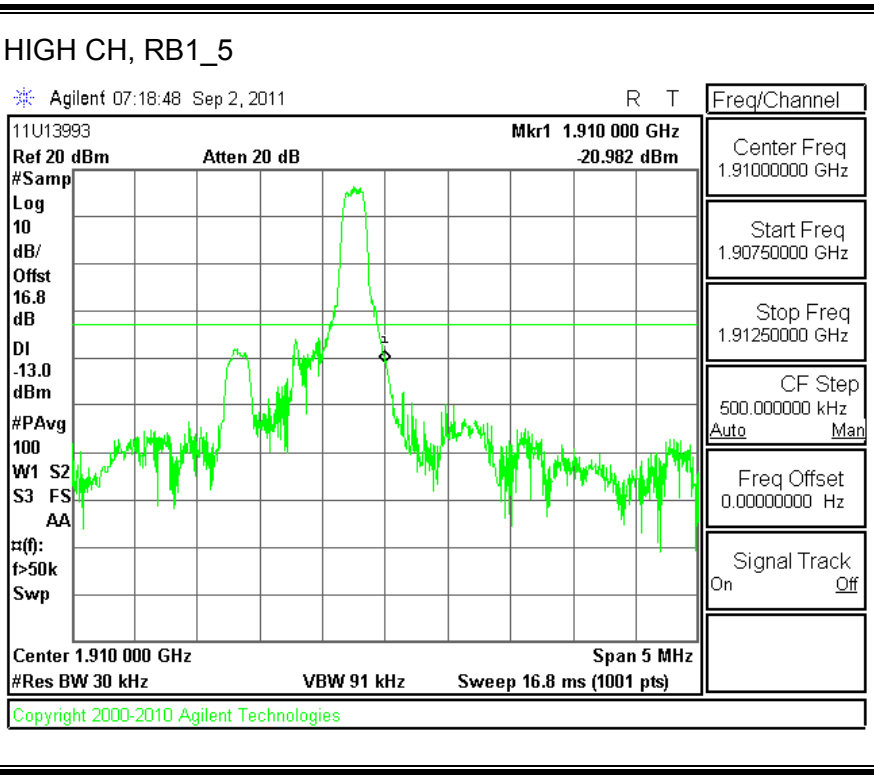
LOW CH, RB6_0



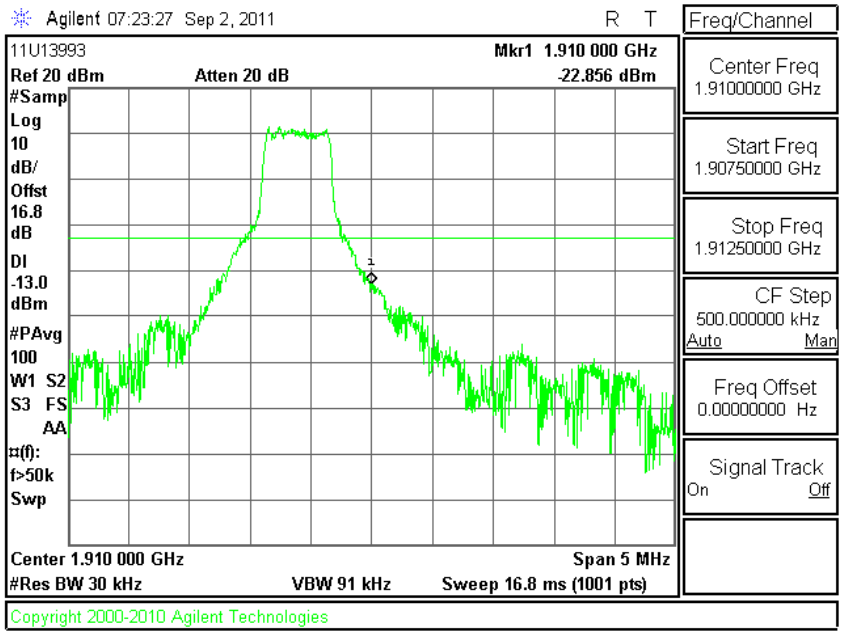
HIGH CH, RB1_0



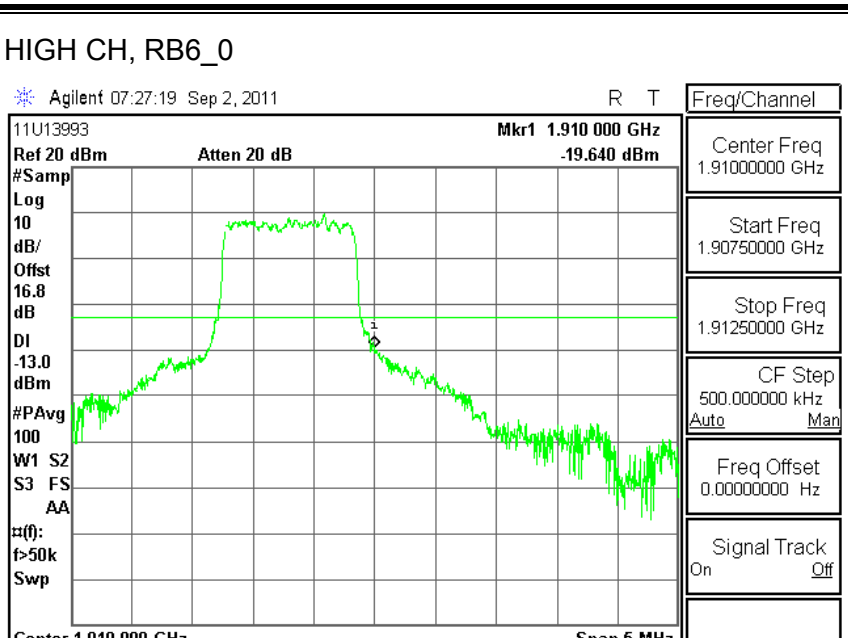
HIGH CH, RB1_5



HIGH CH, RB3_2



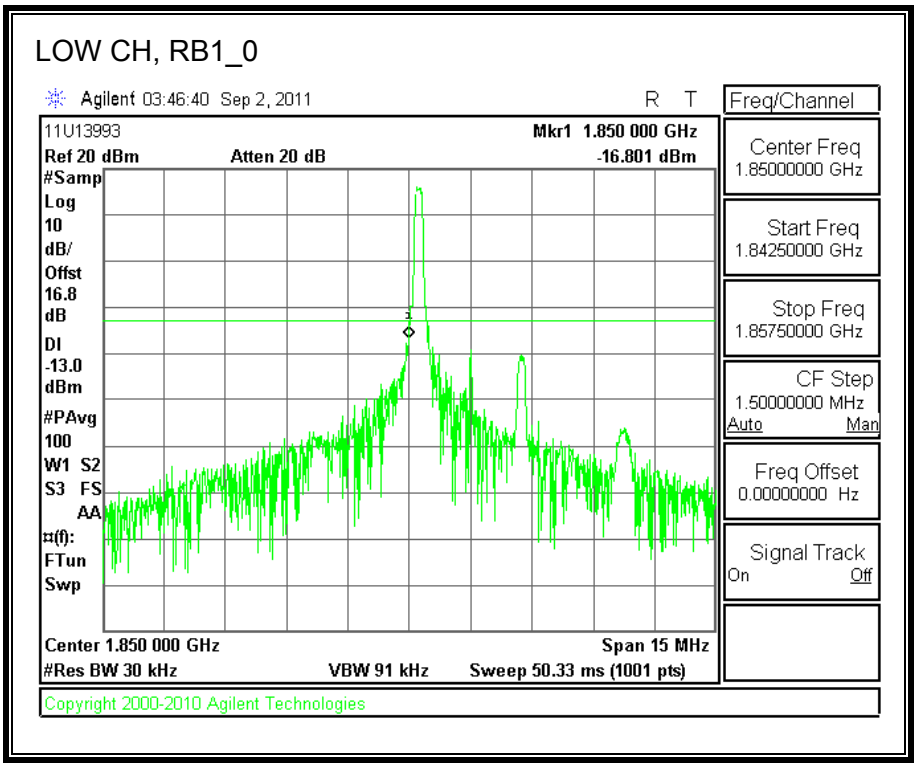
HIGH CH, RB6_0



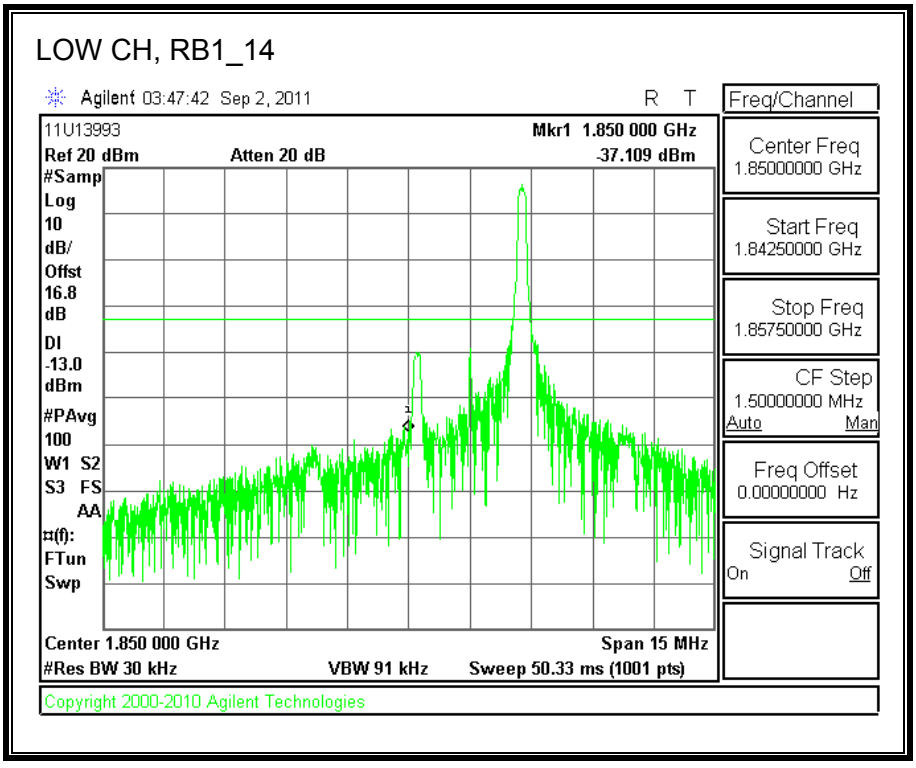
LTE, Band 2 (3.0MHz BAND WIDTH)

QPSK

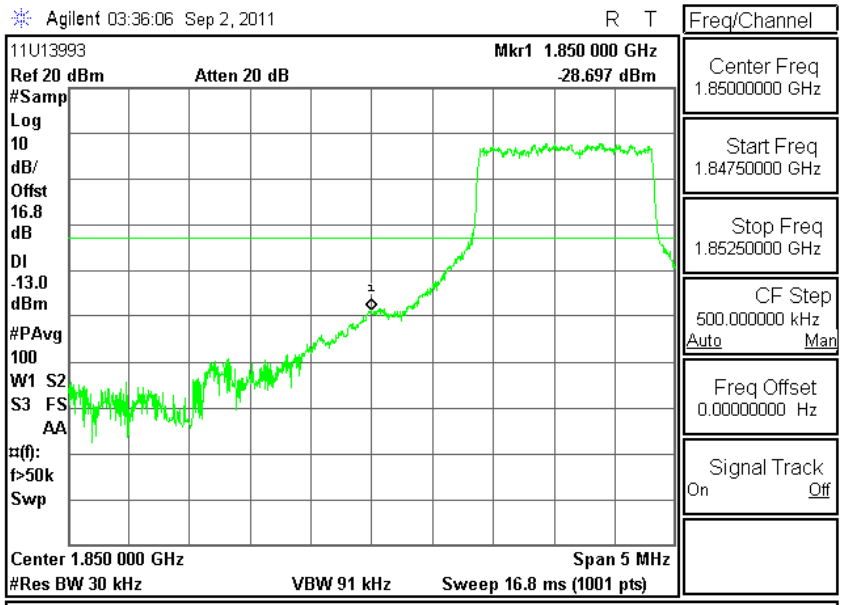
LOW CH, RB1_0



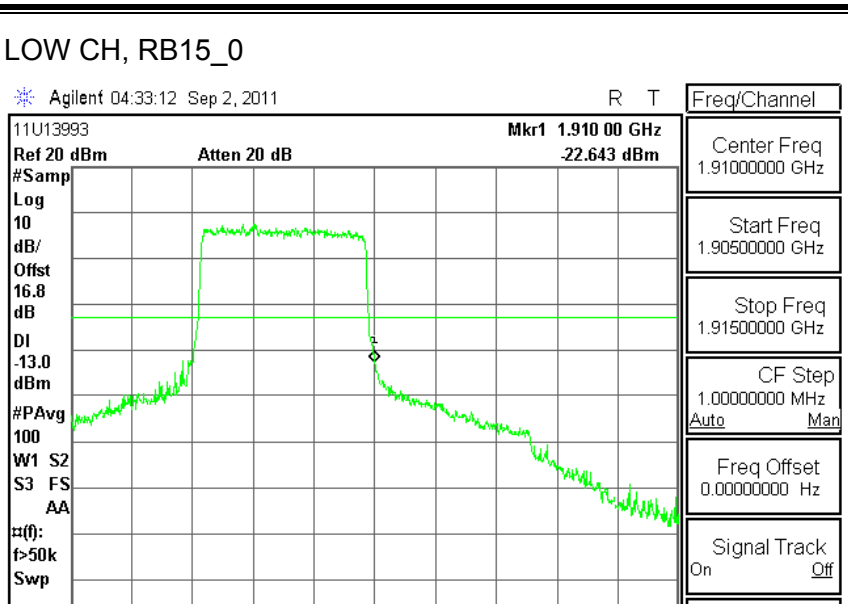
LOW CH, RB1_14



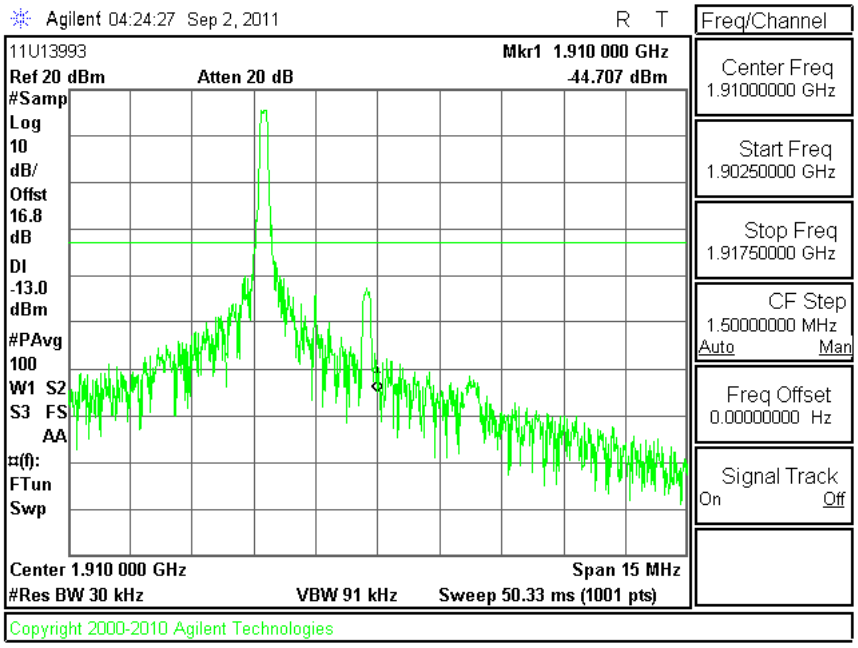
LOW CH, RB8_4



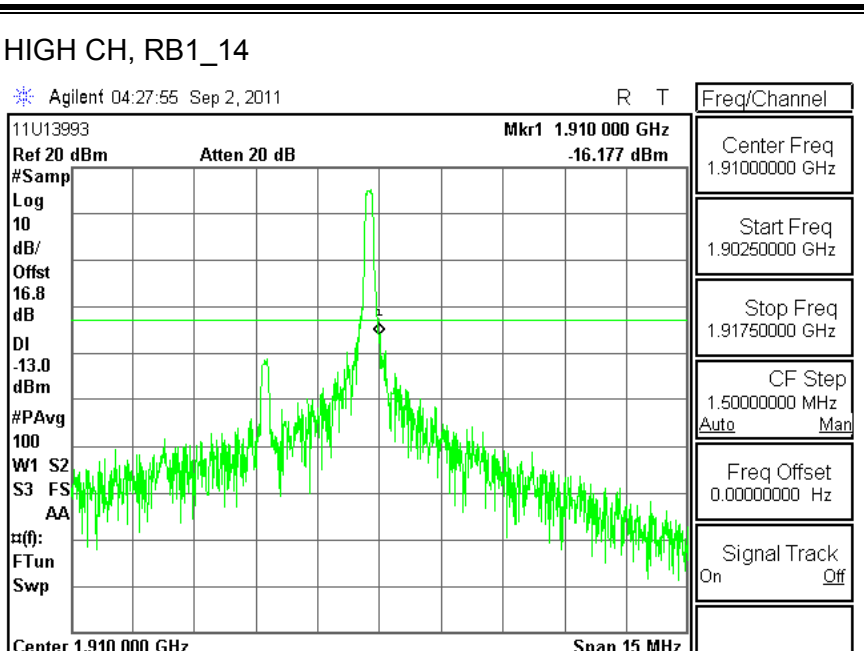
LOW CH, RB15_0



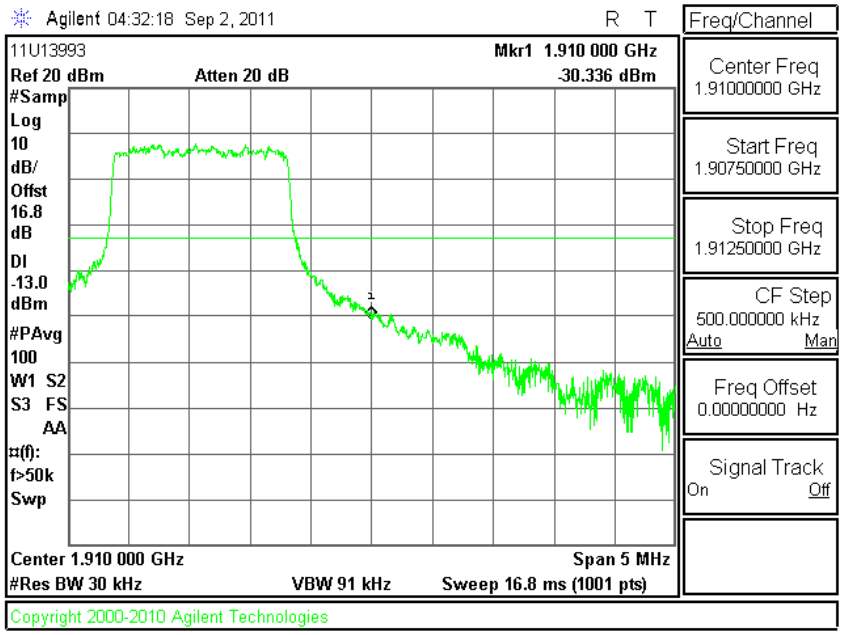
HIGH CH, RB1_0



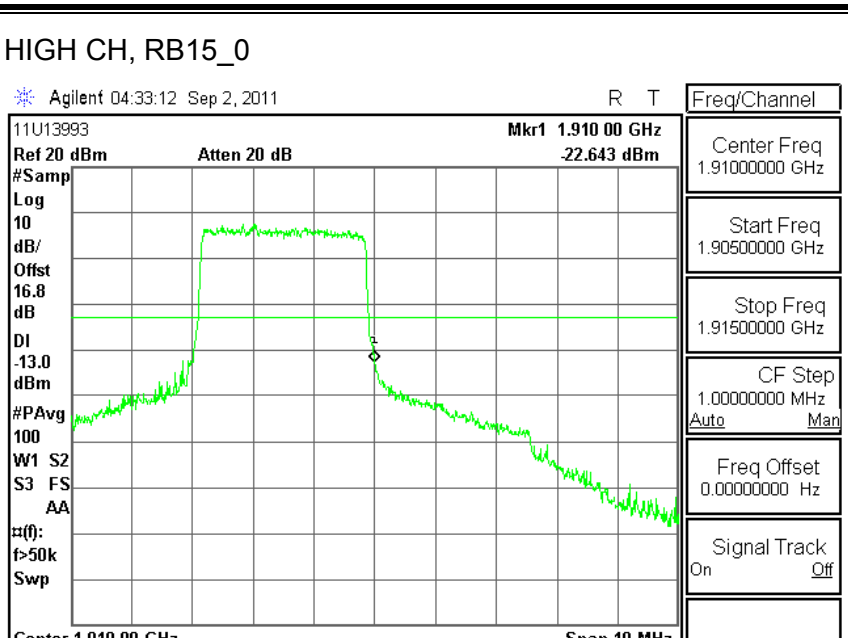
HIGH CH, RB1_14



HIGH CH, RB8_4

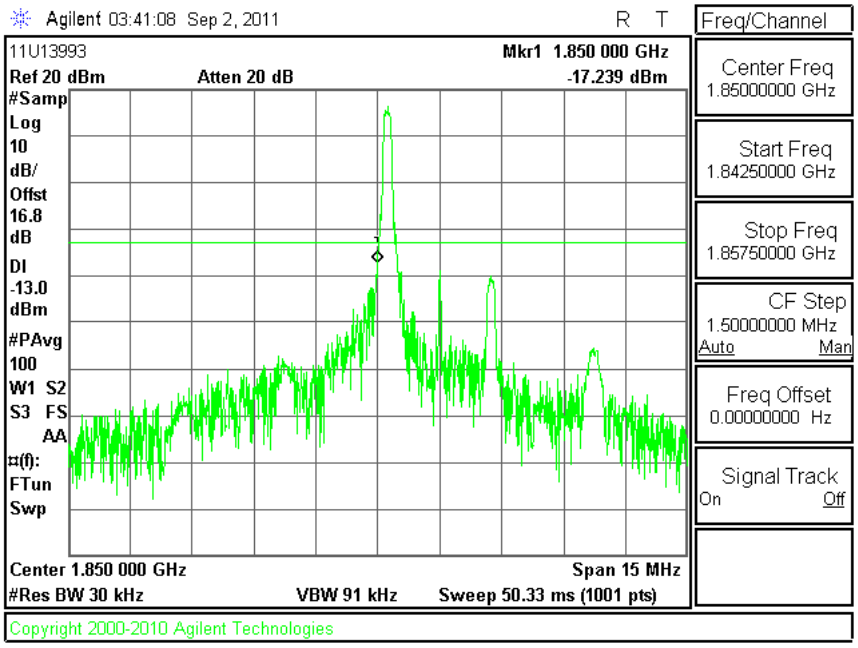


HIGH CH, RB15_0

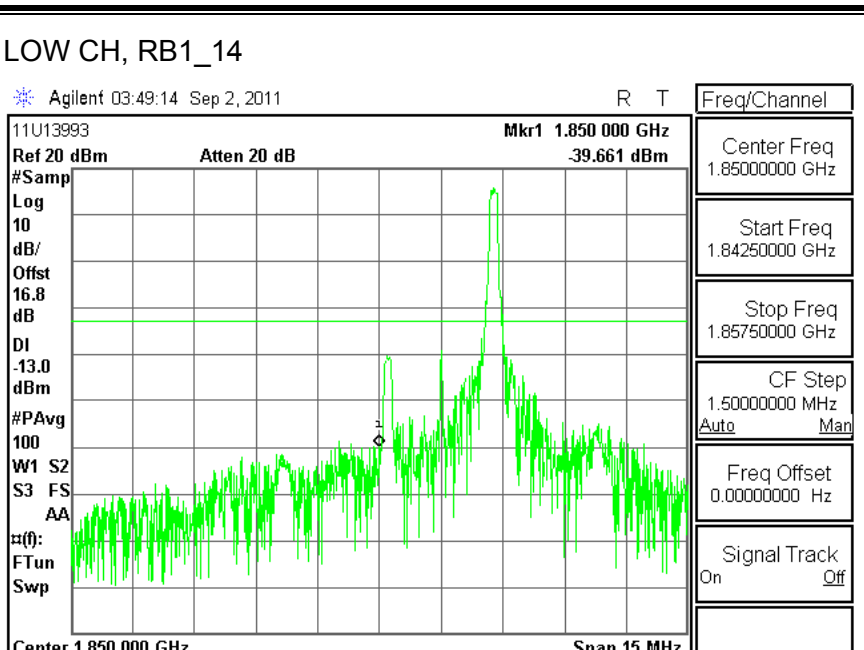


16QAM

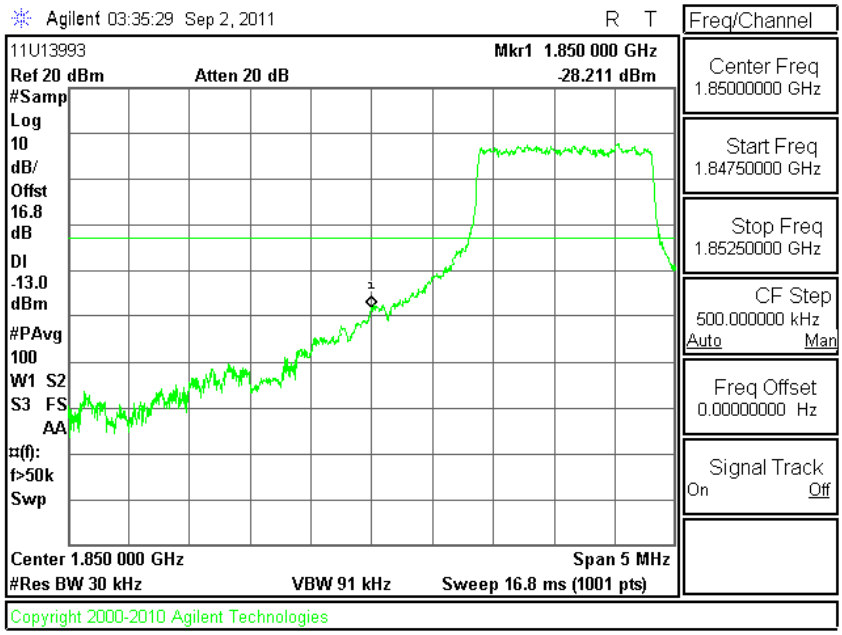
LOW CH, RB1_0



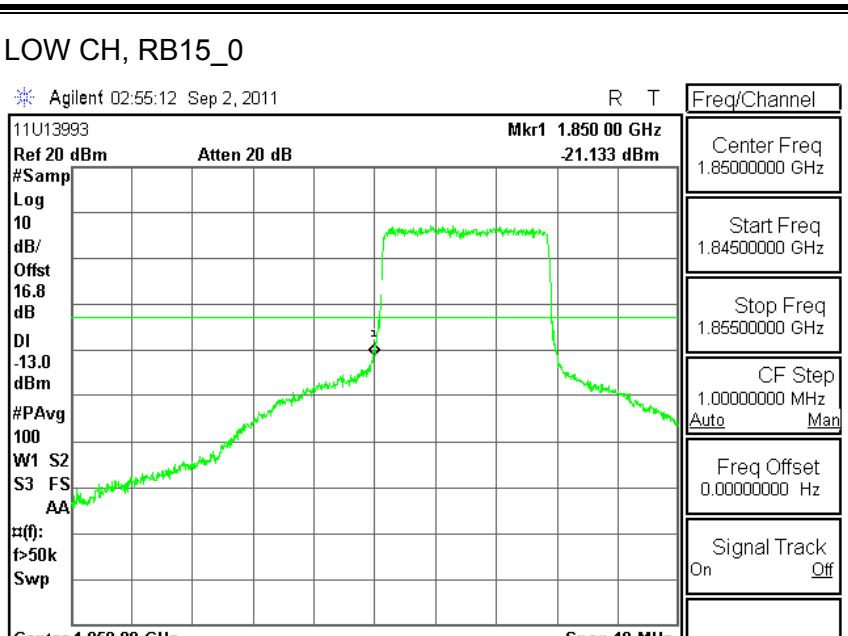
LOW CH, RB1_14



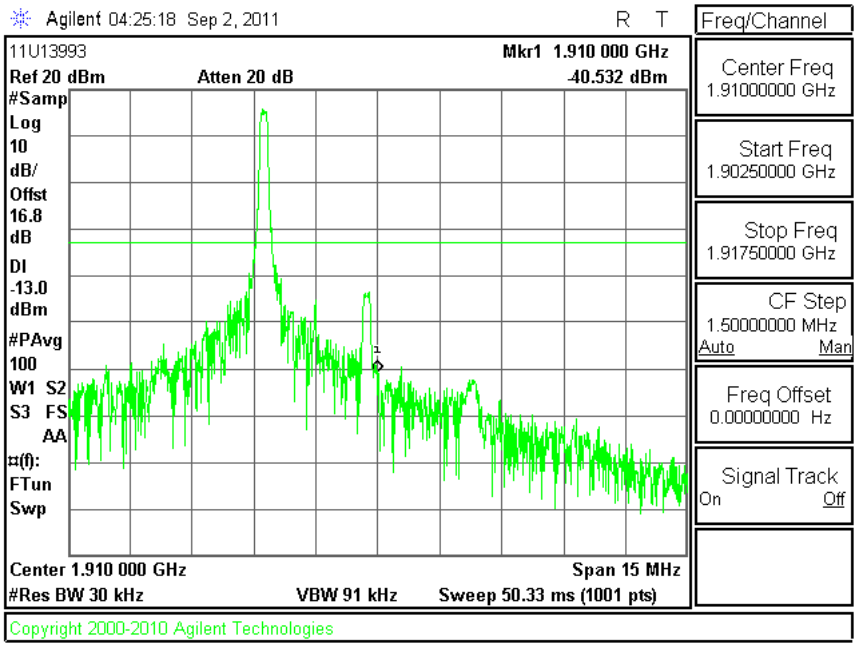
LOW CH, RB8_4



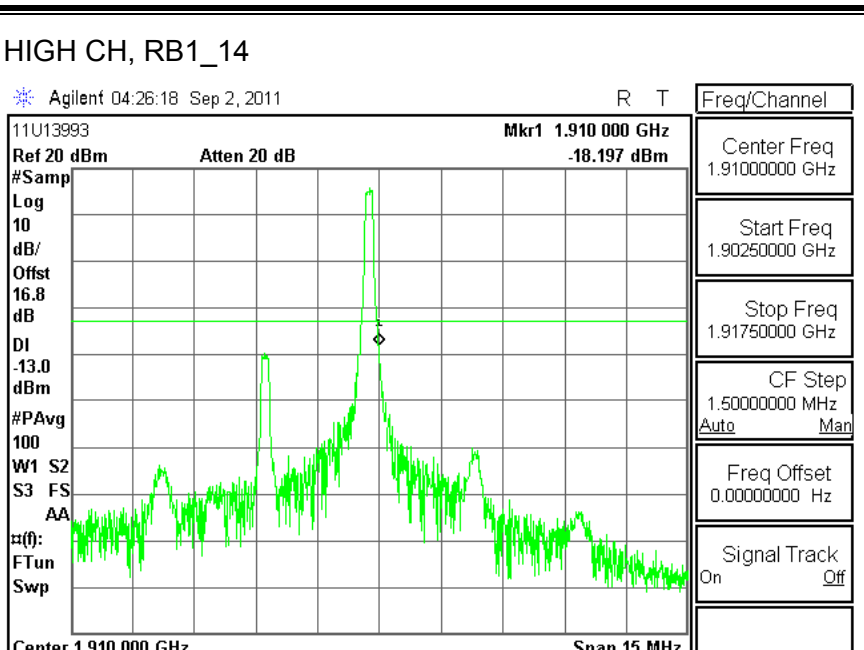
LOW CH, RB15_0



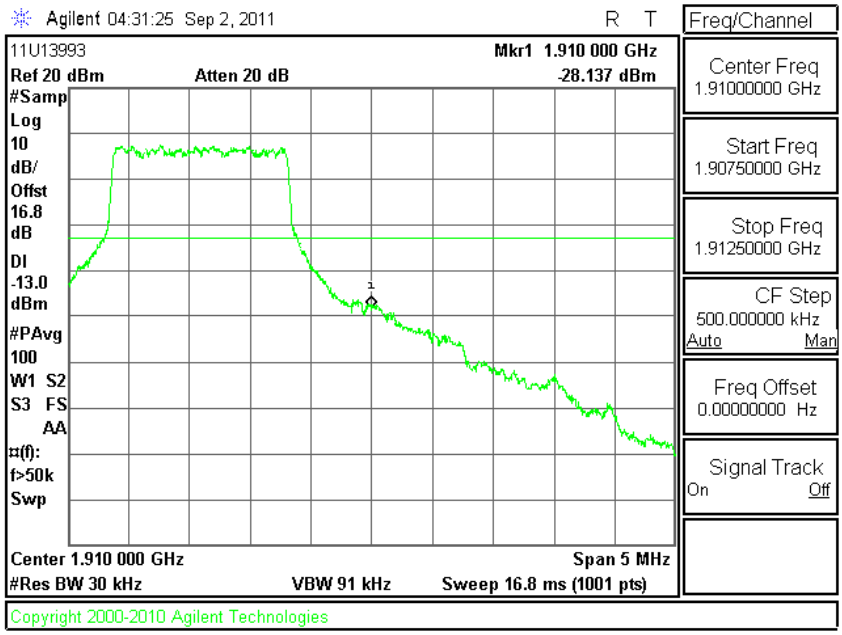
HIGH CH, RB1_0



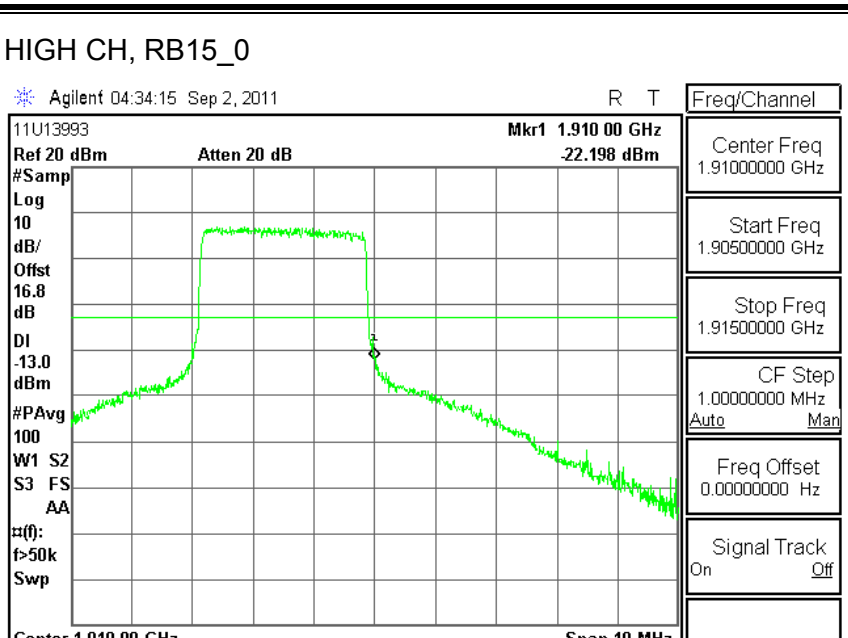
HIGH CH, RB1_14



HIGH CH, RB8_4



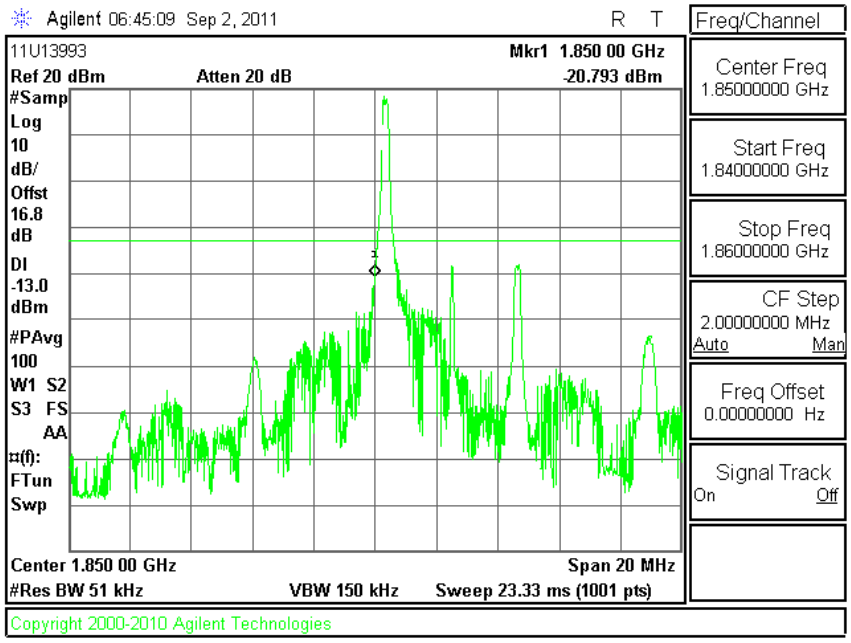
HIGH CH, RB15_0



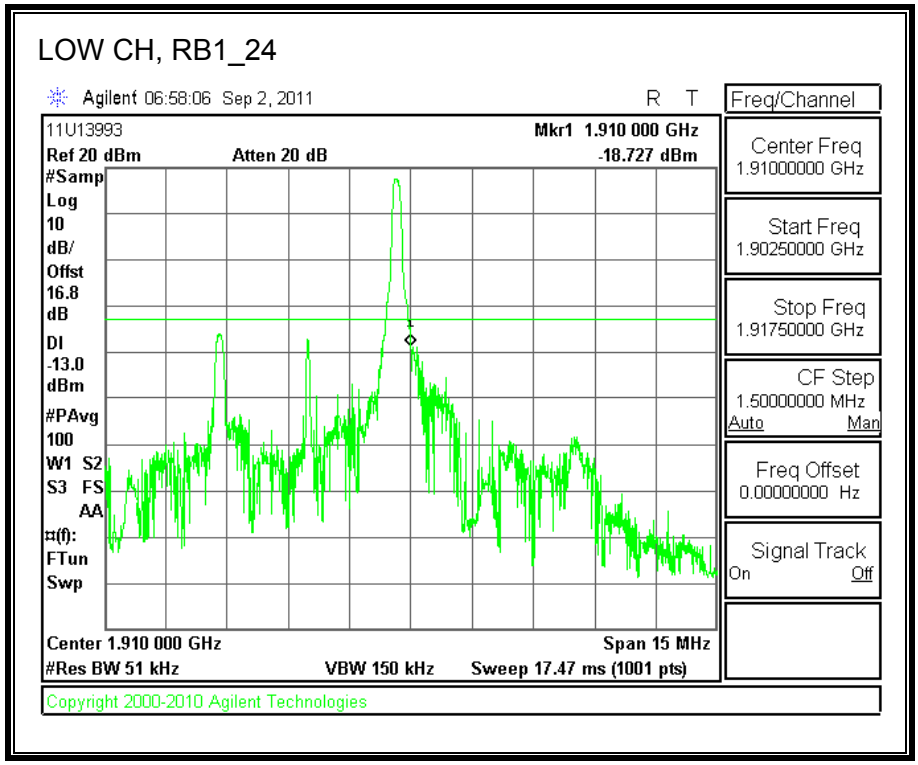
LTE, Band 2 (5.0MHz BAND WIDTH)

QPSK

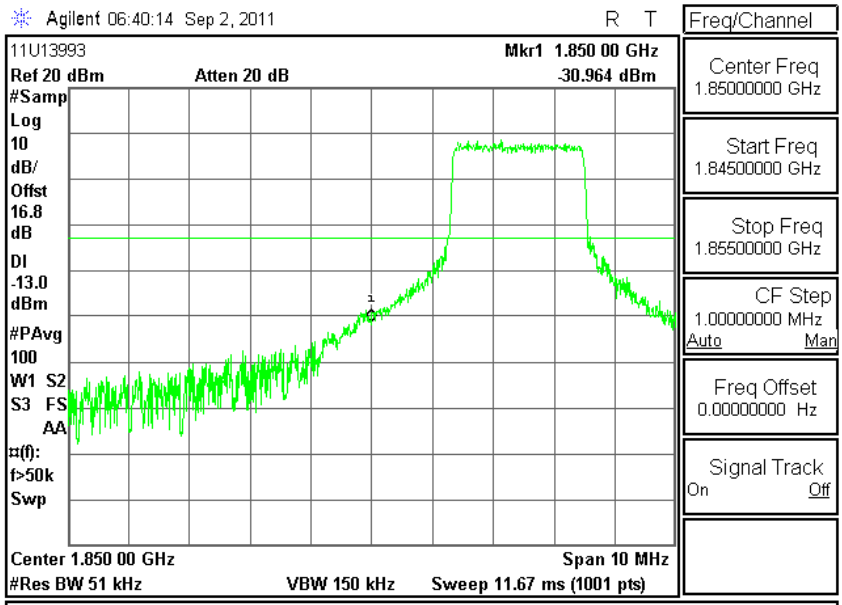
LOW CH, RB1_0



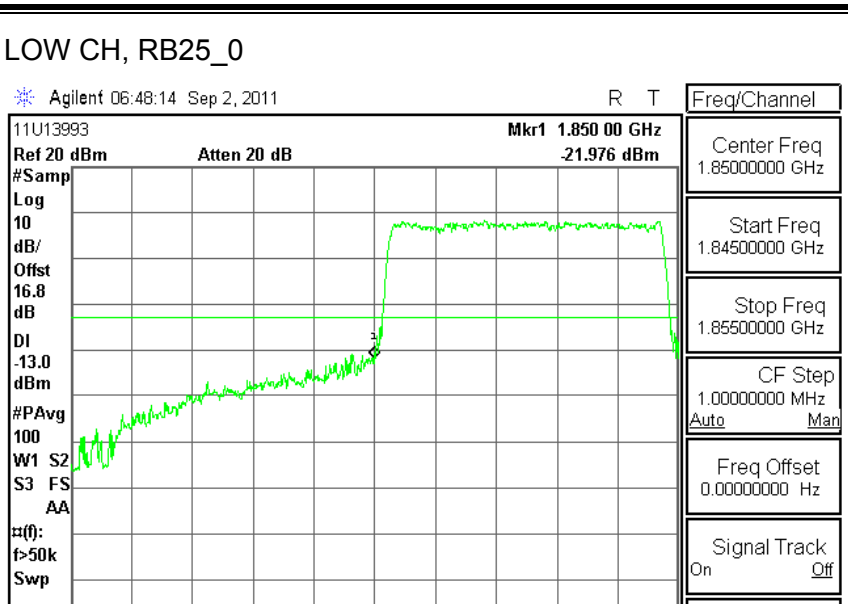
LOW CH, RB1_24



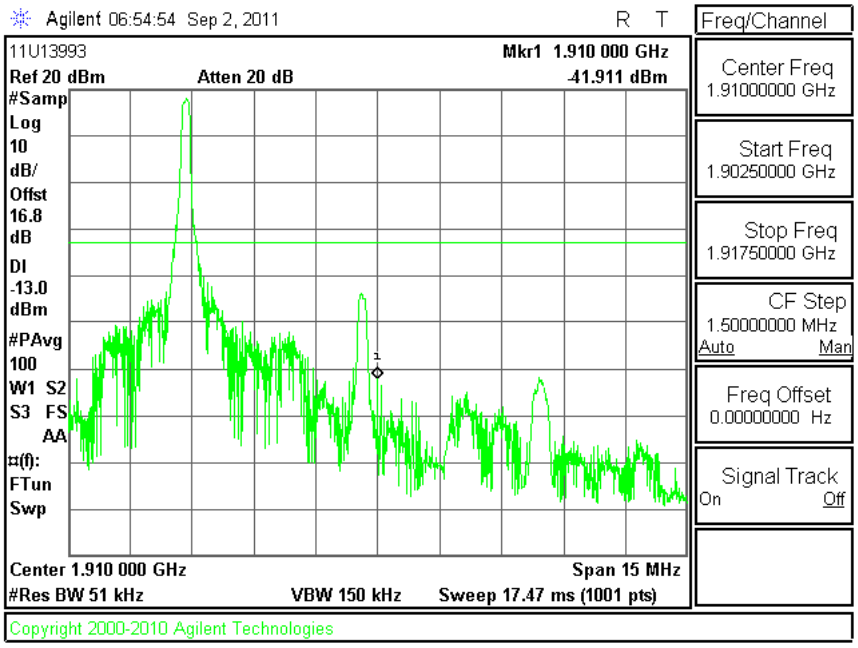
LOW CH, RB12_6



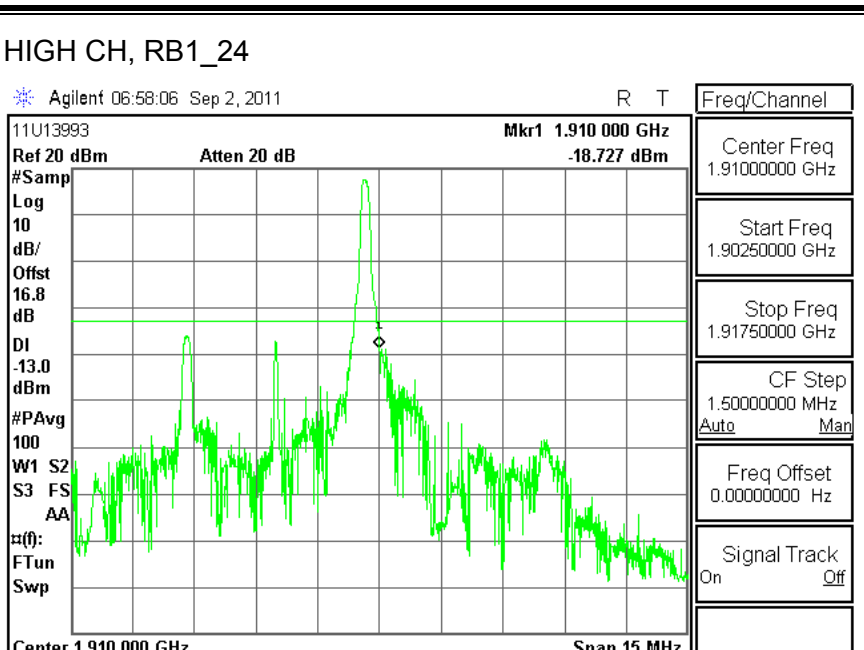
LOW CH, RB25_0



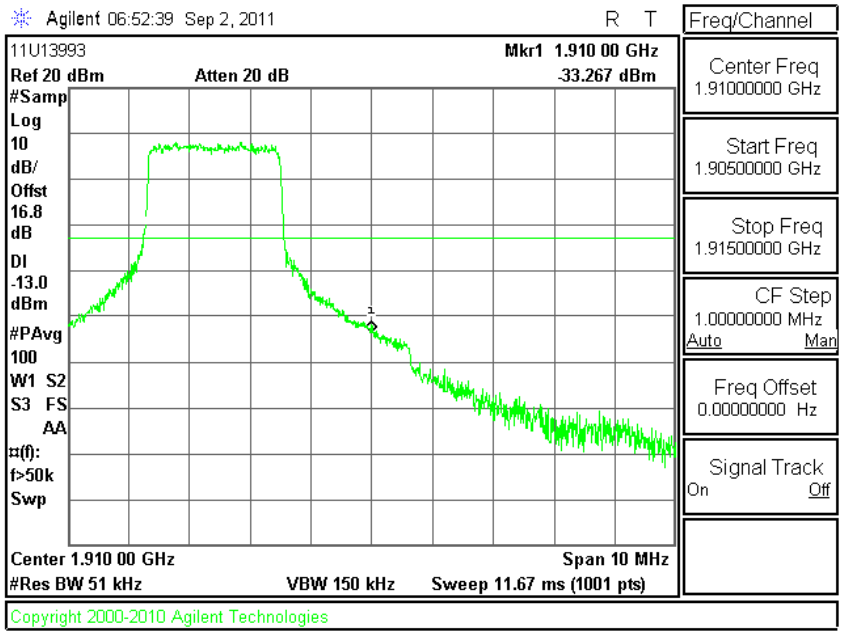
HIGH CH, RB1_0



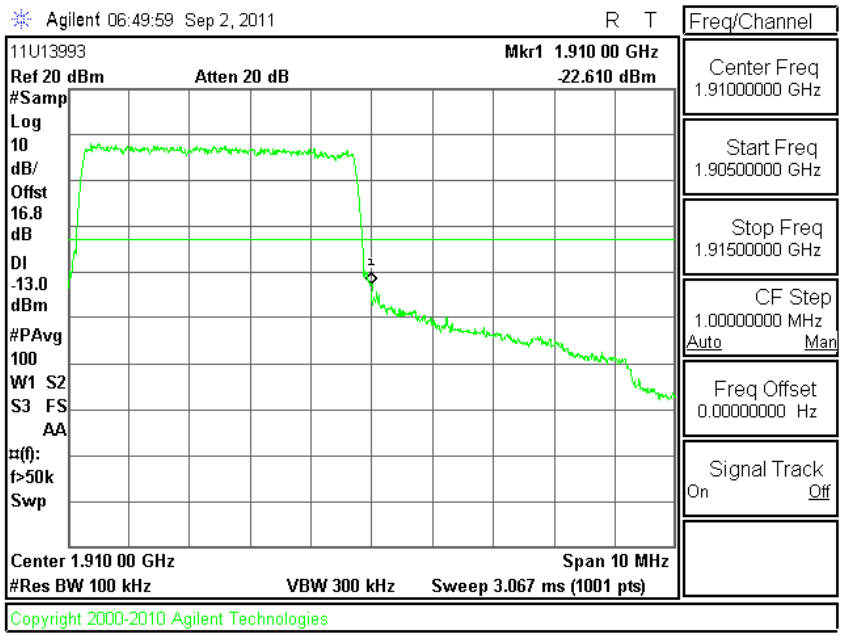
HIGH CH, RB1_24



HIGH CH, RB12_6

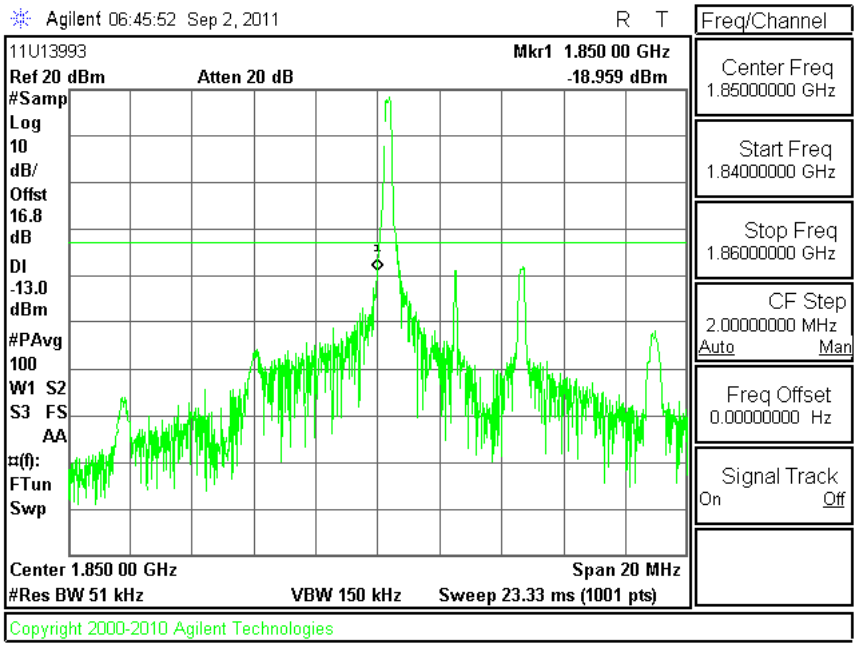


HIGH CH, RB25_0

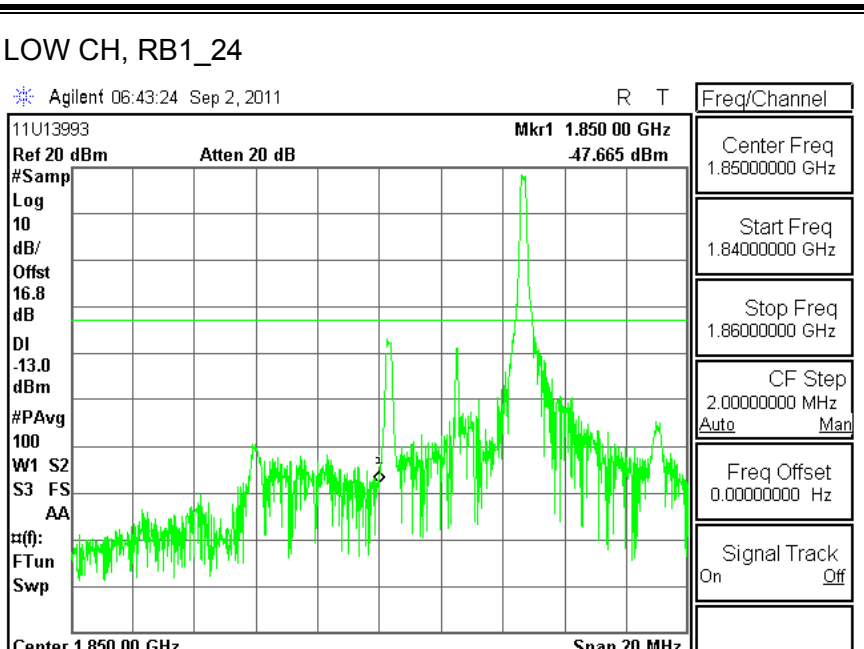


16QAM

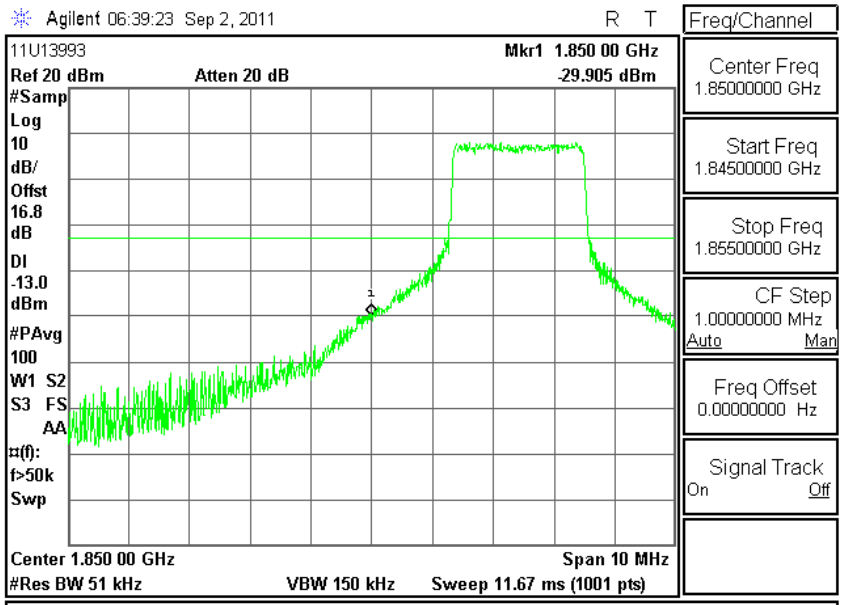
LOW CH, RB1_0



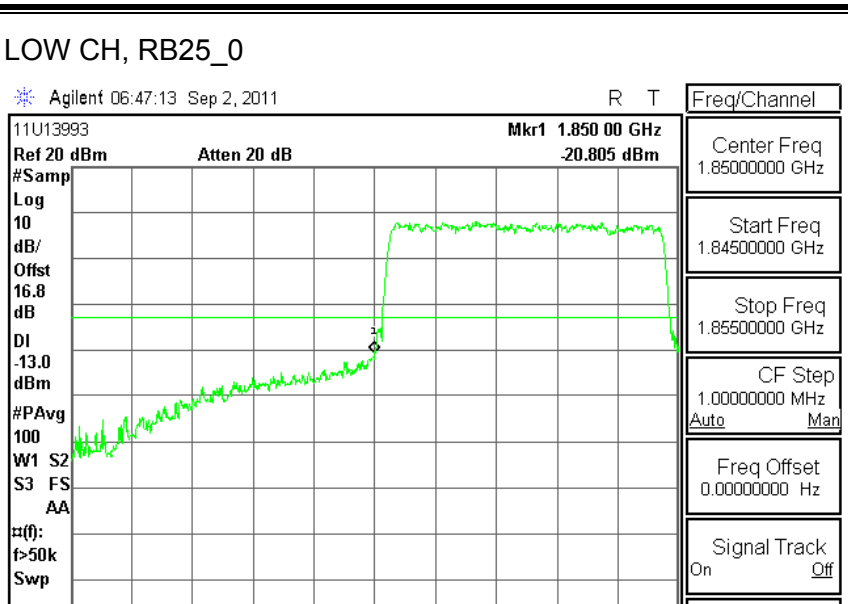
LOW CH, RB1_24



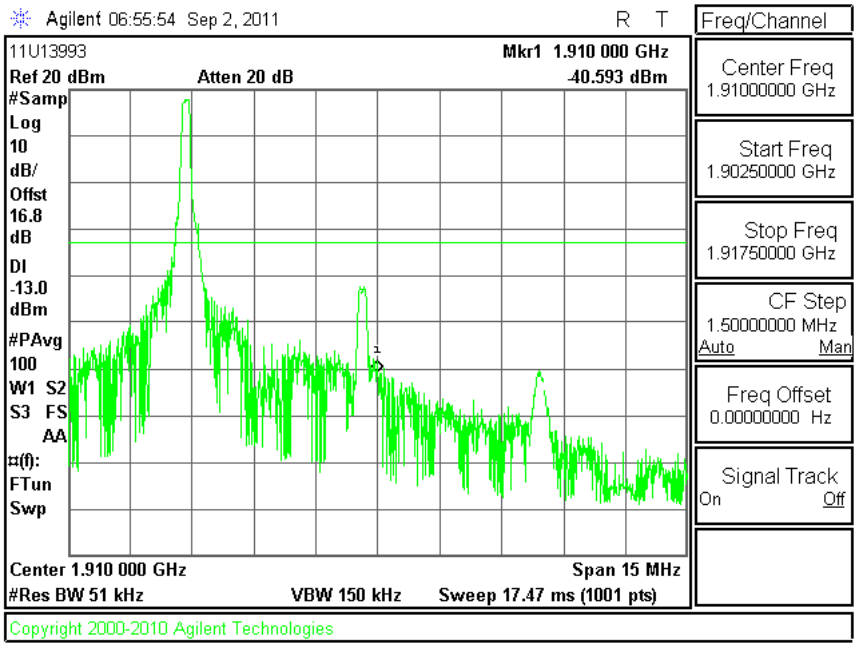
LOW CH, RB12_6



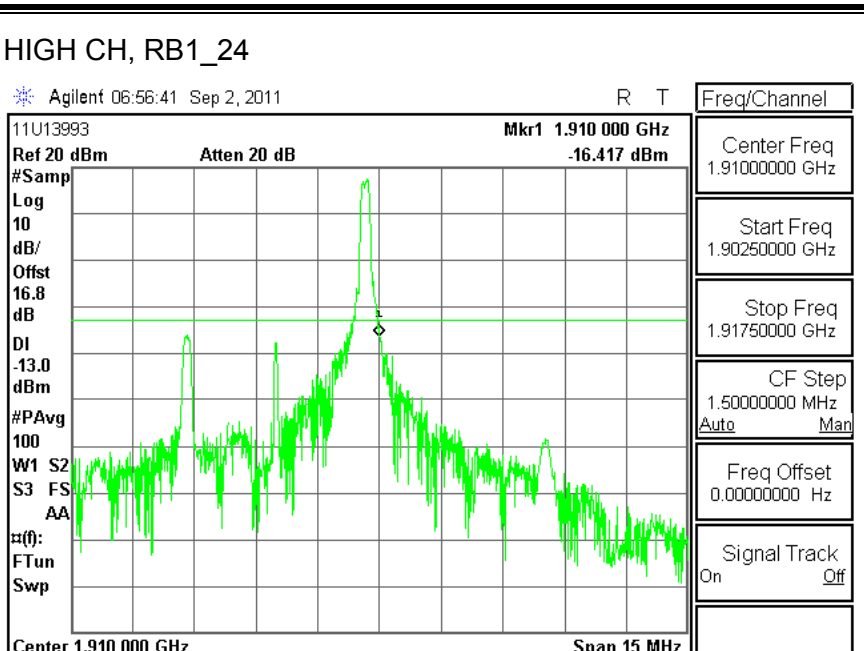
LOW CH, RB25_0



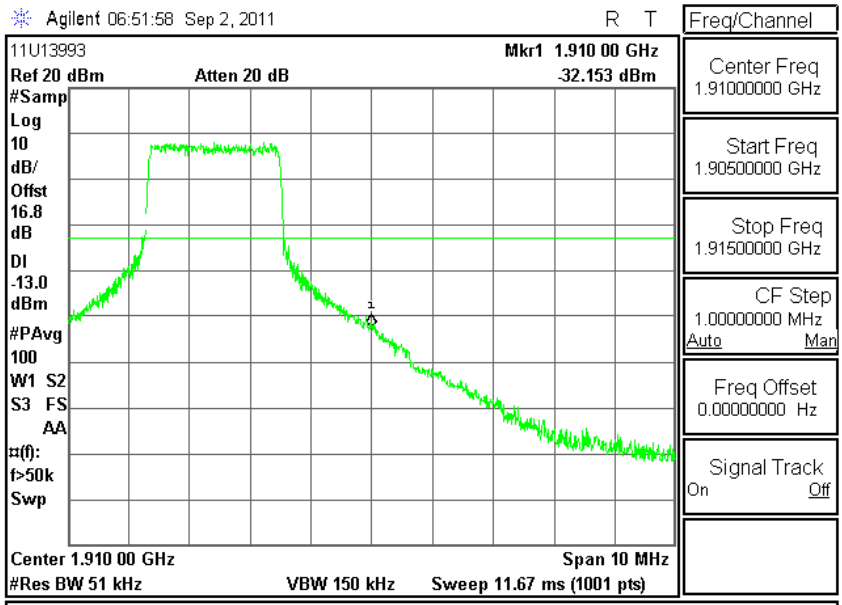
HIGH CH, RB1_0



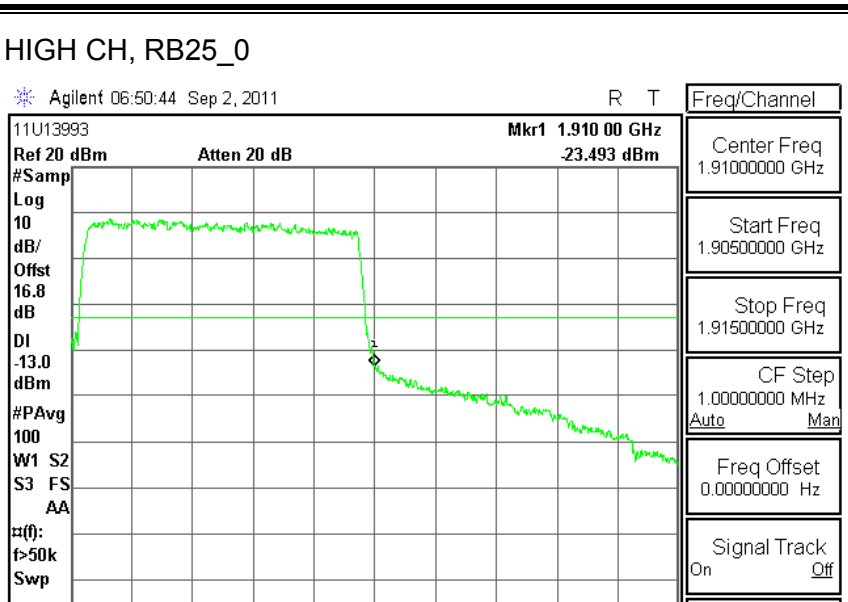
HIGH CH, RB1_24



HIGH CH, RB12_6



HIGH CH, RB25_0



8.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §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

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

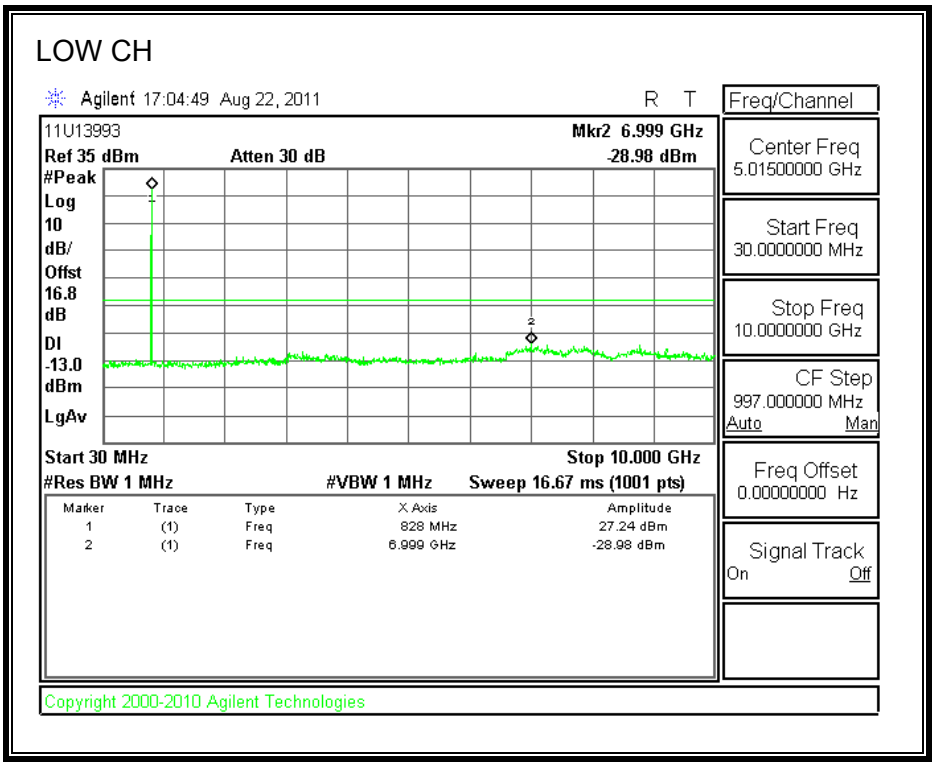
MODES TESTED

- CDMA 2000 1xRTT
- CDMA 2000 EVDO REV. A
- LTE Band 2 and 4

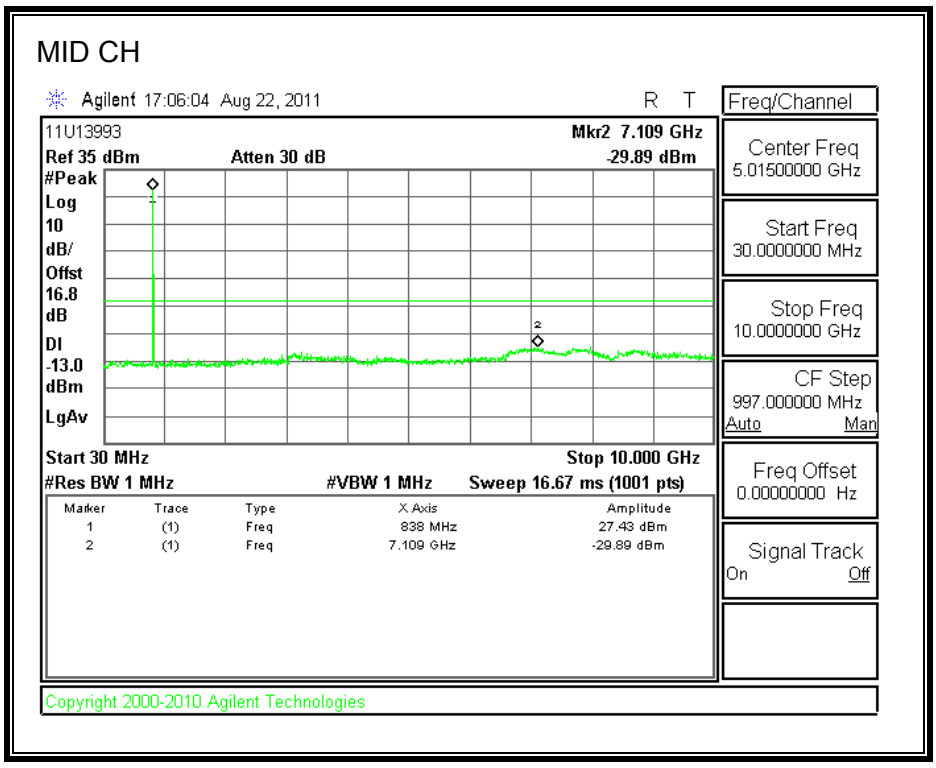
RESULTS

1xRTT 850 BAND

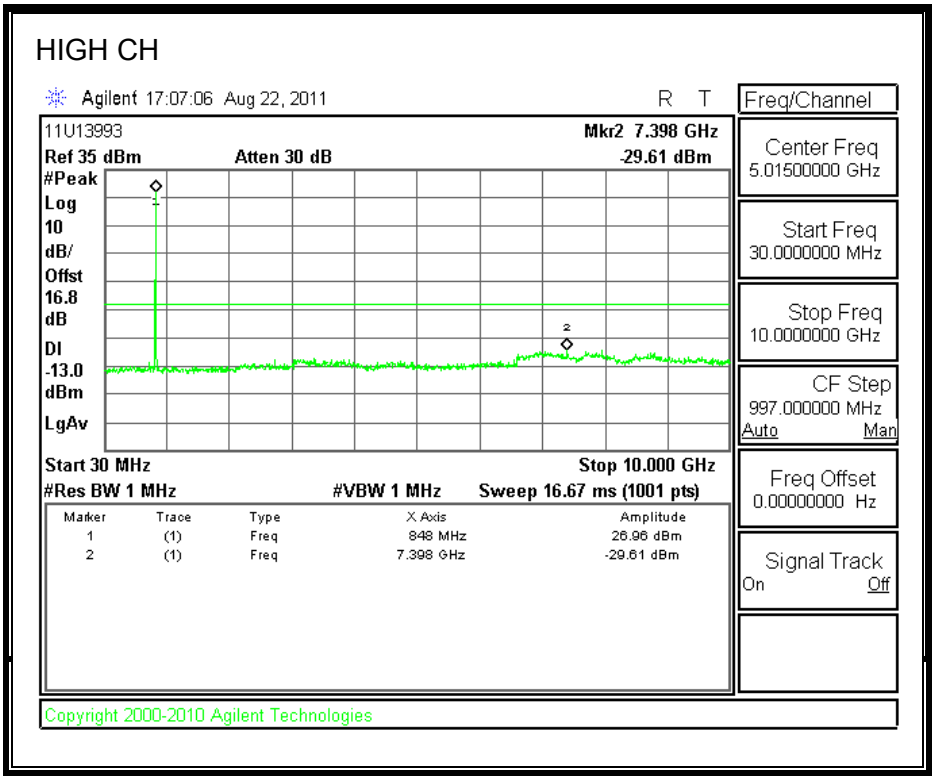
LOW CH



MID CH

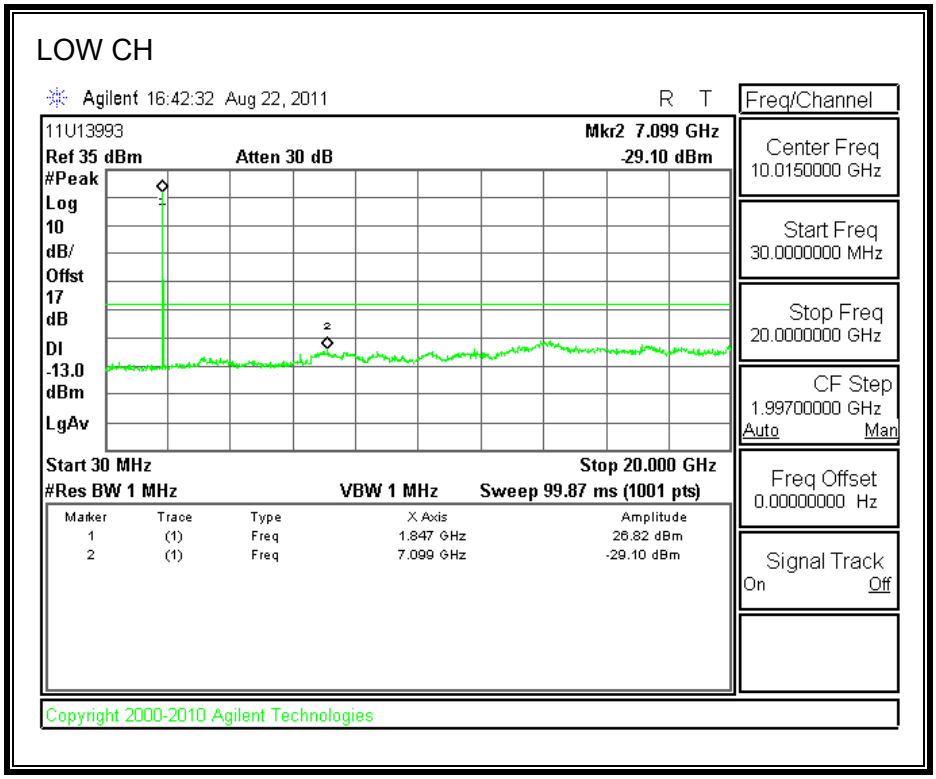


HIGH CH

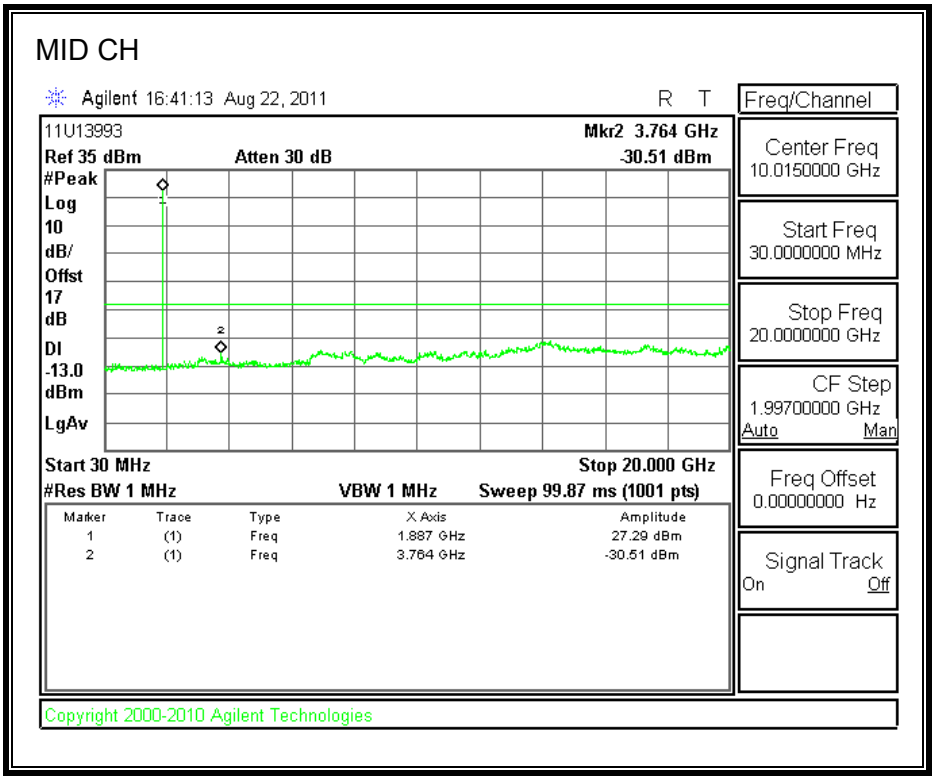


1xRTT 1900 BAND

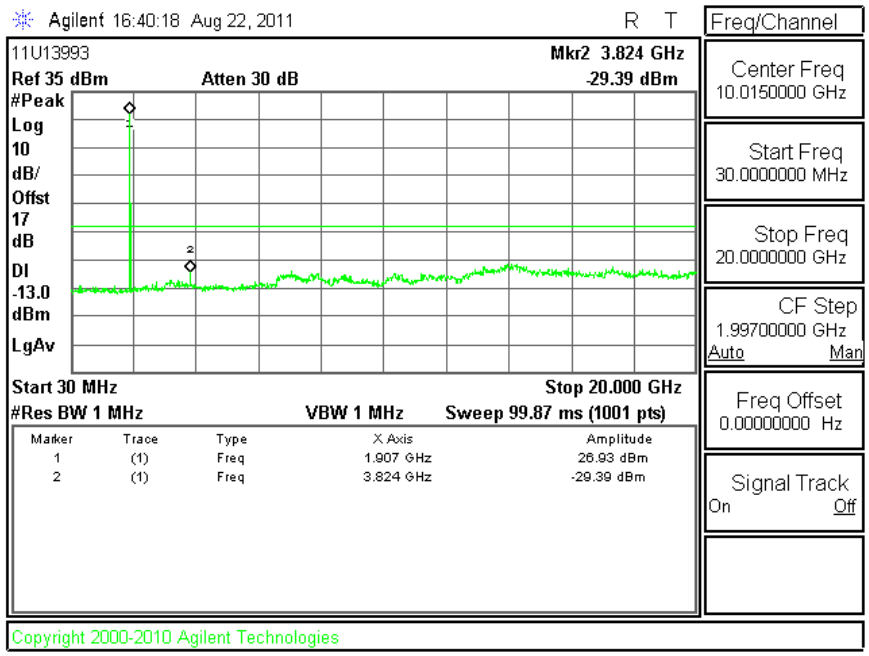
LOW CH



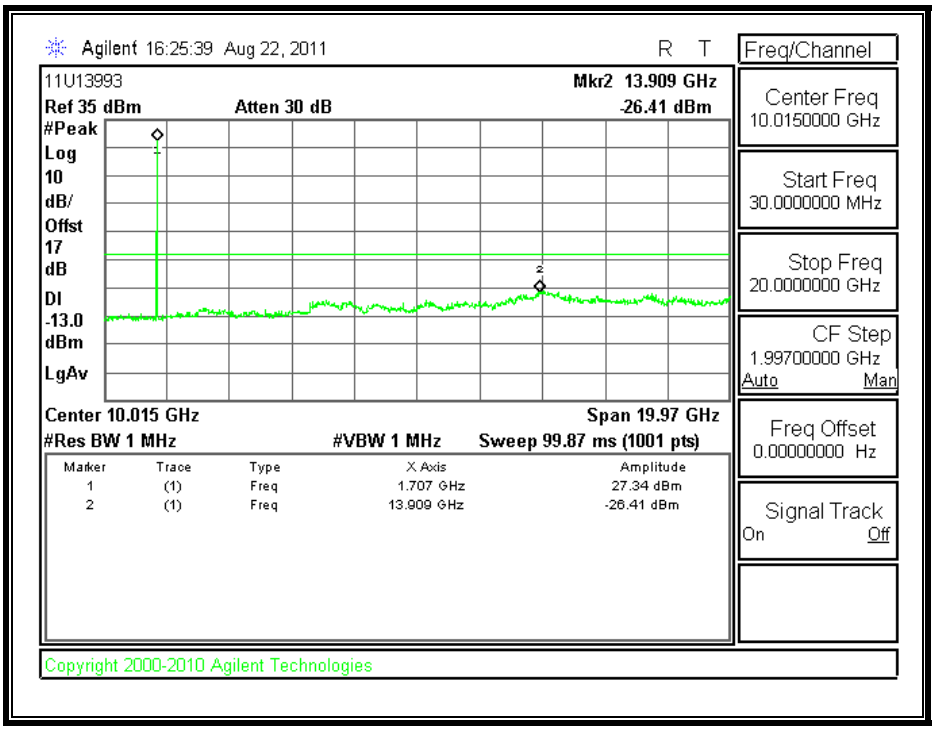
MID CH

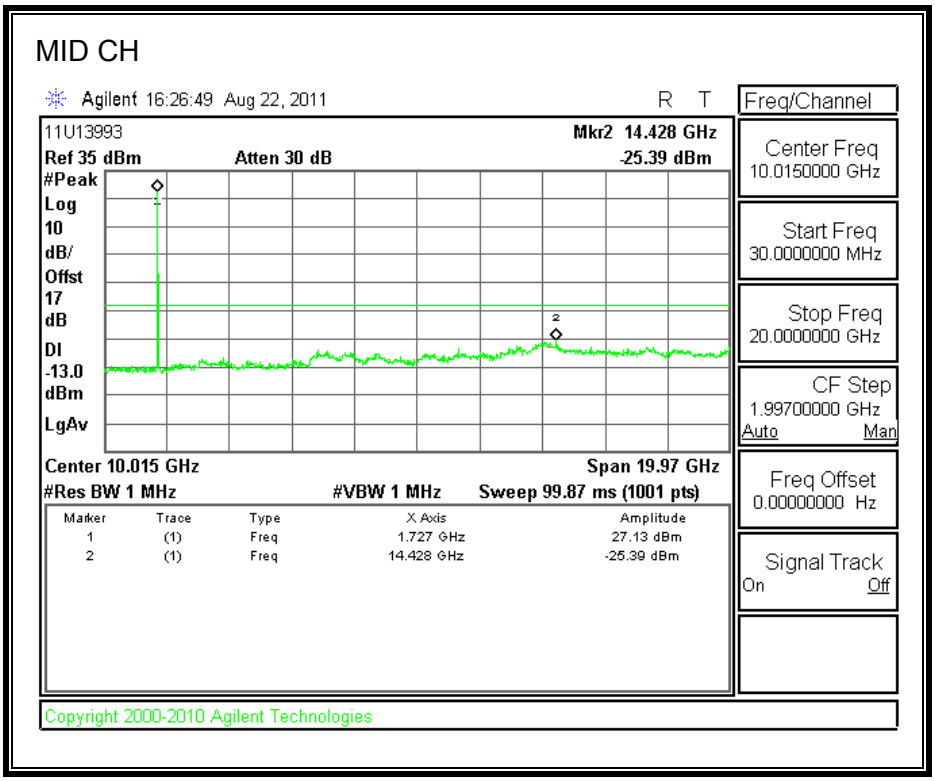


HIGH
CH

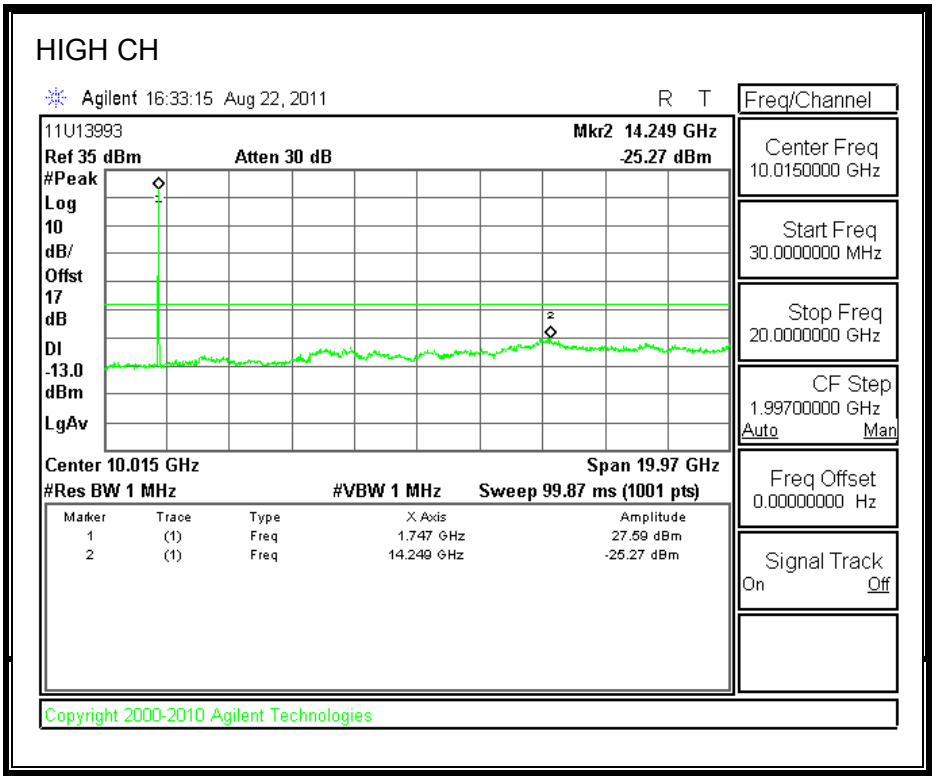


1xRTT 1700 BAND

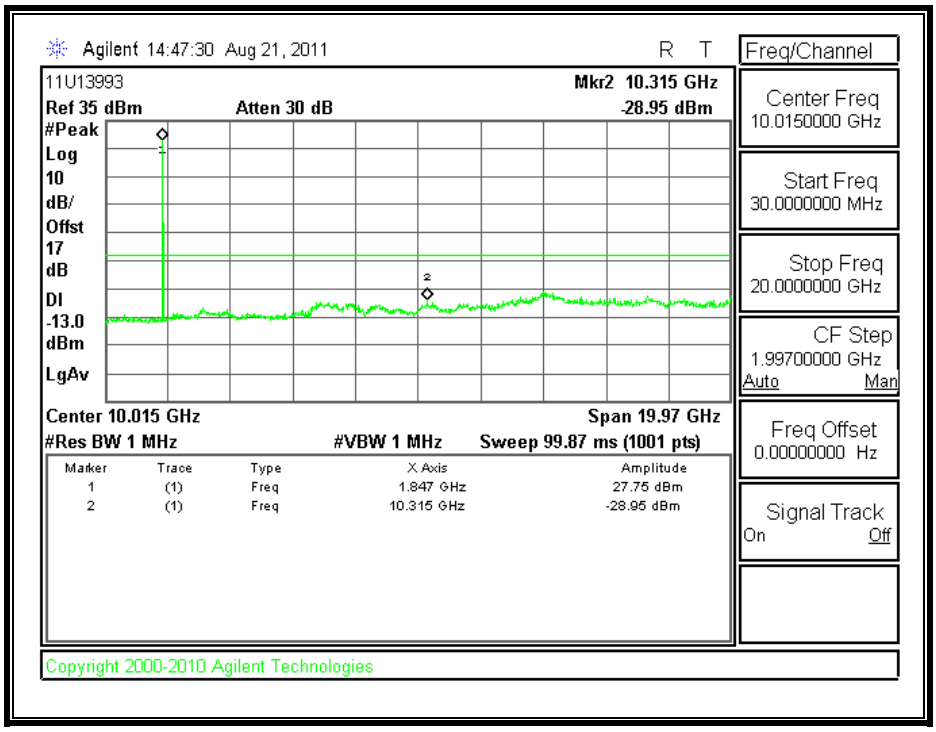


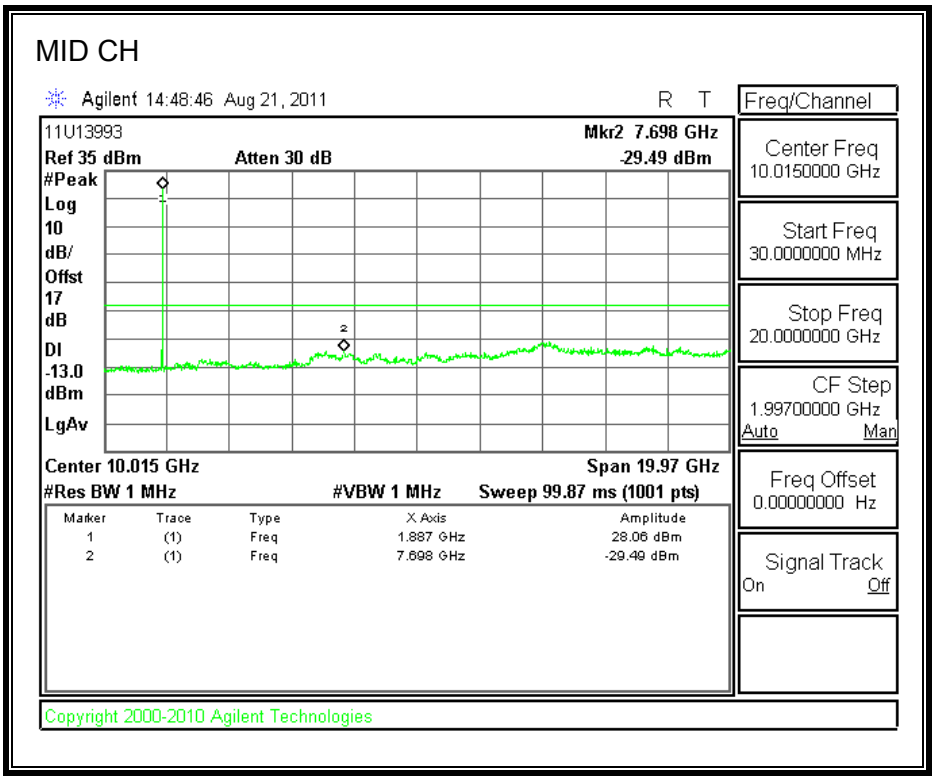


HIGH CH

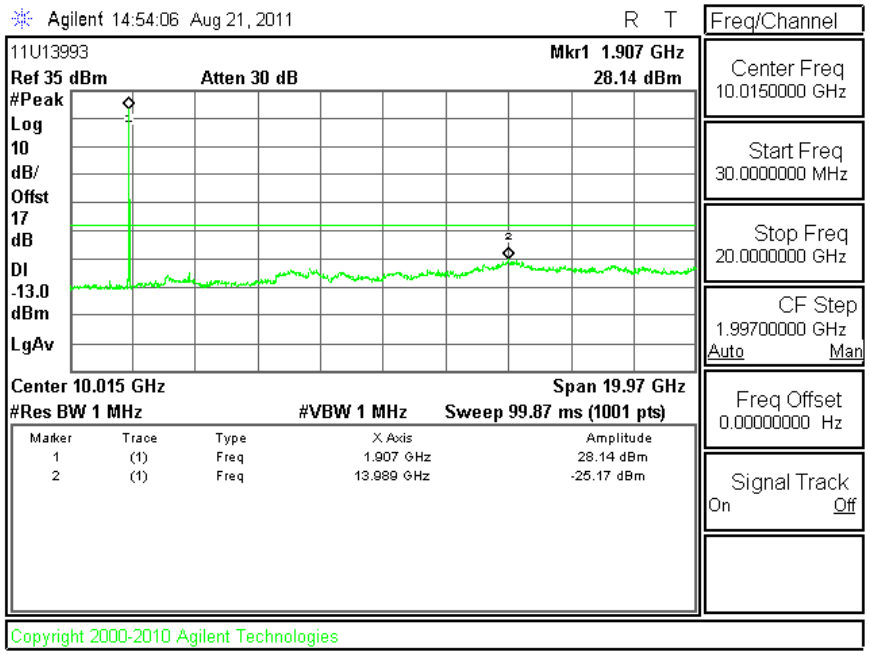


EVDO REV A.1900 BAND

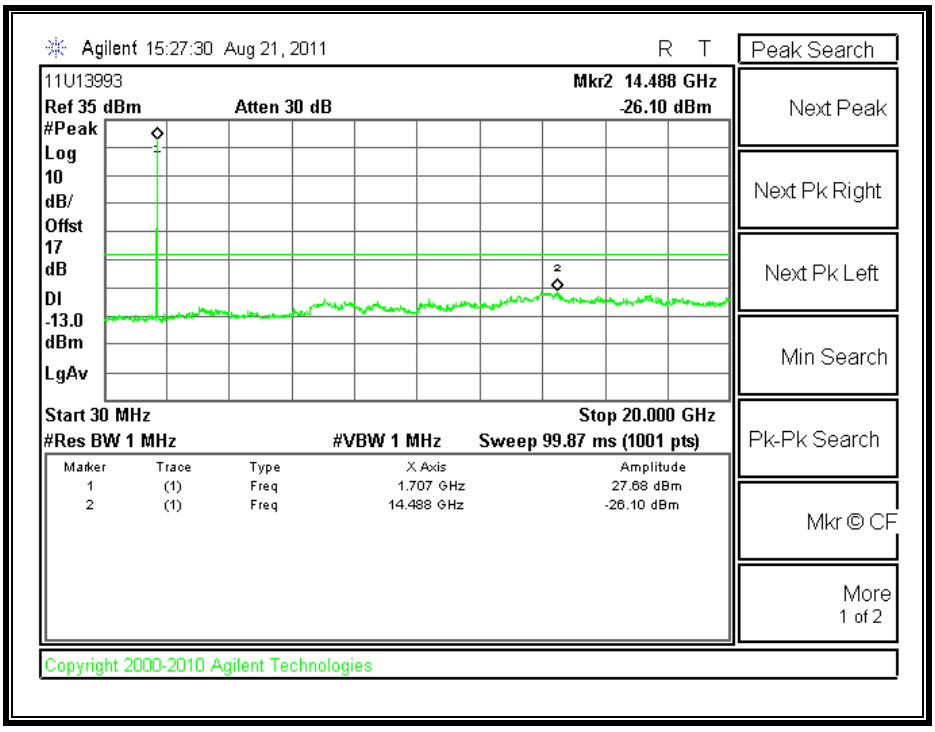


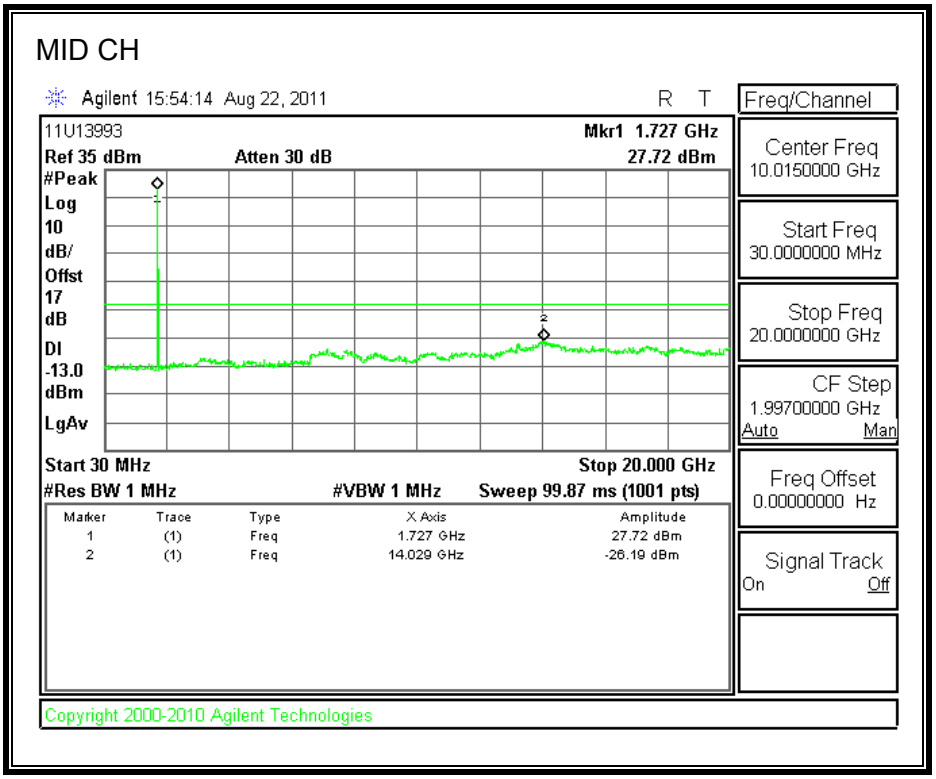


HIGH CH

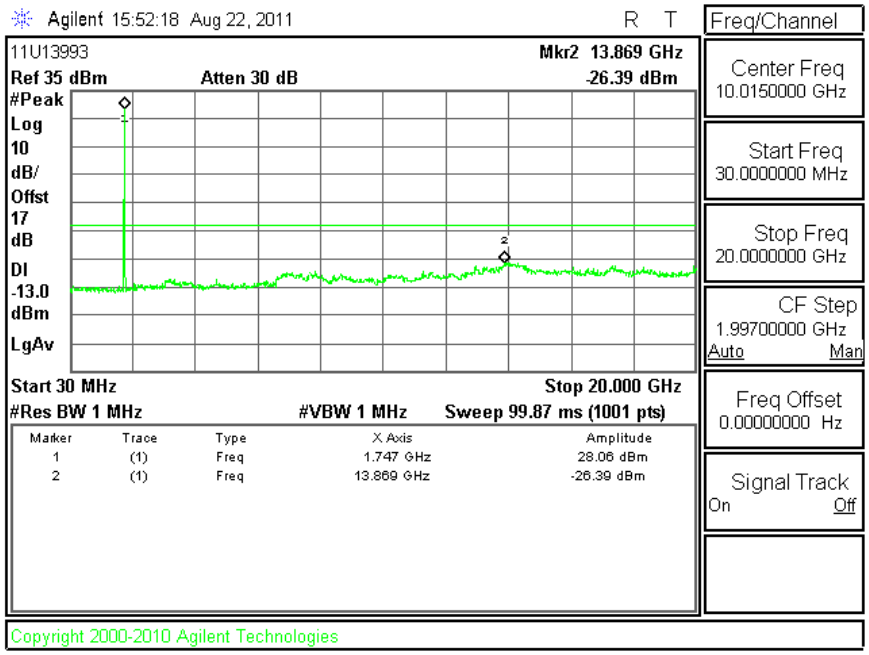


EVDO REV A.1700 BAND



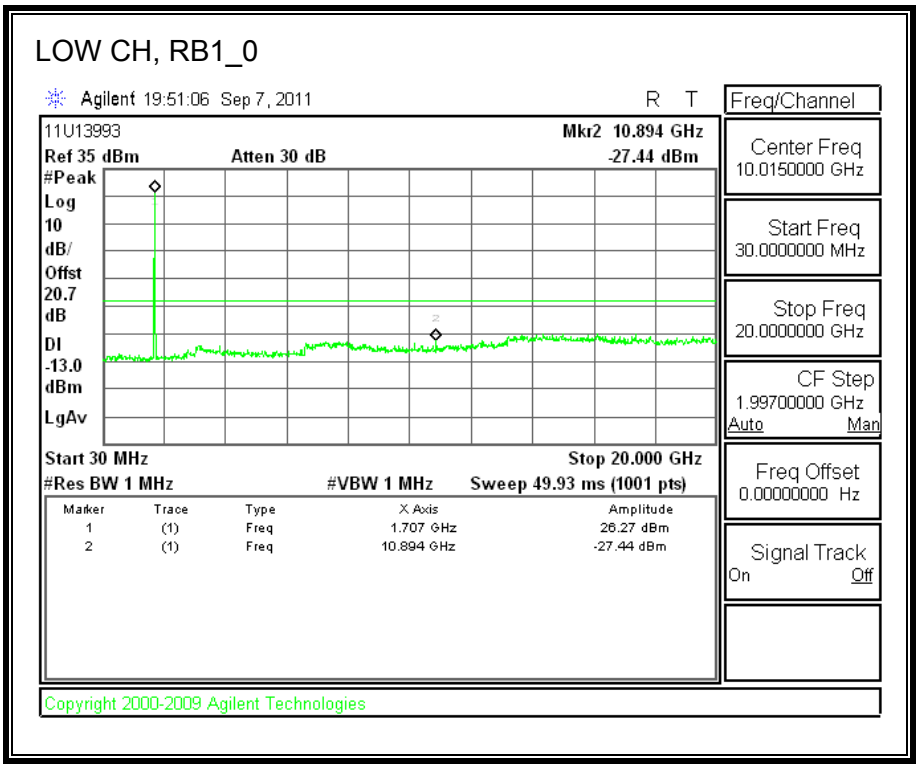


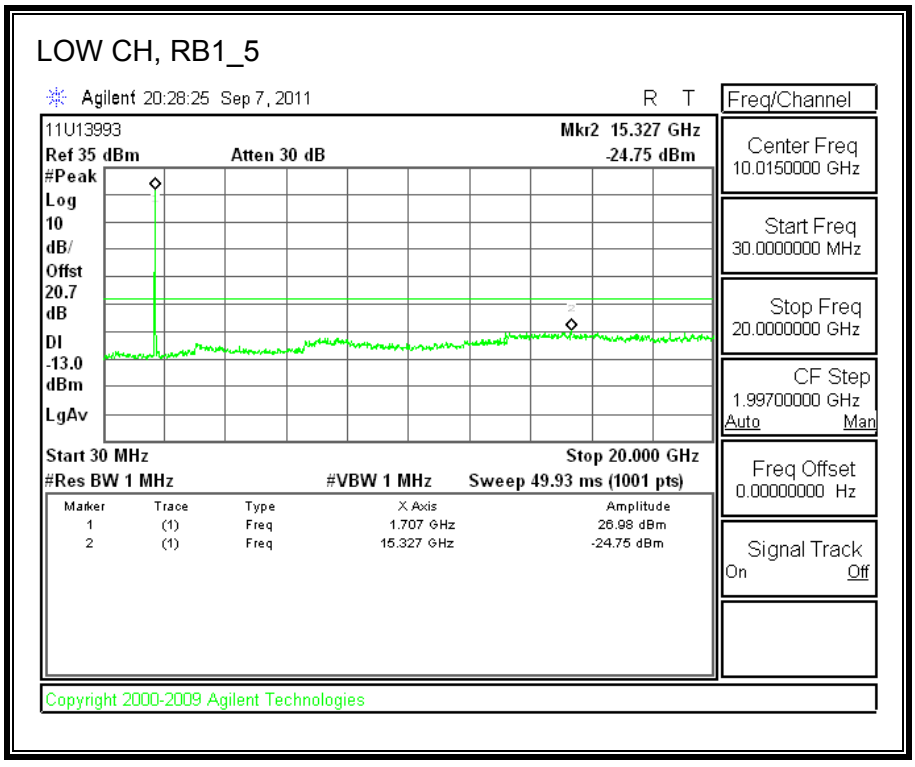
HIGH CH



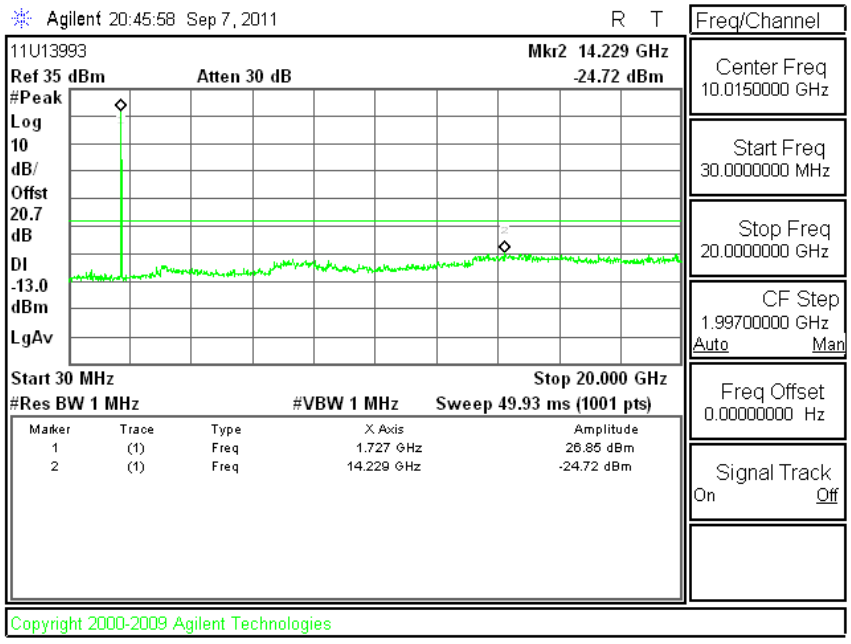
LTE, Band 4 (1.4MHz BAND WIDTH)

QPSK

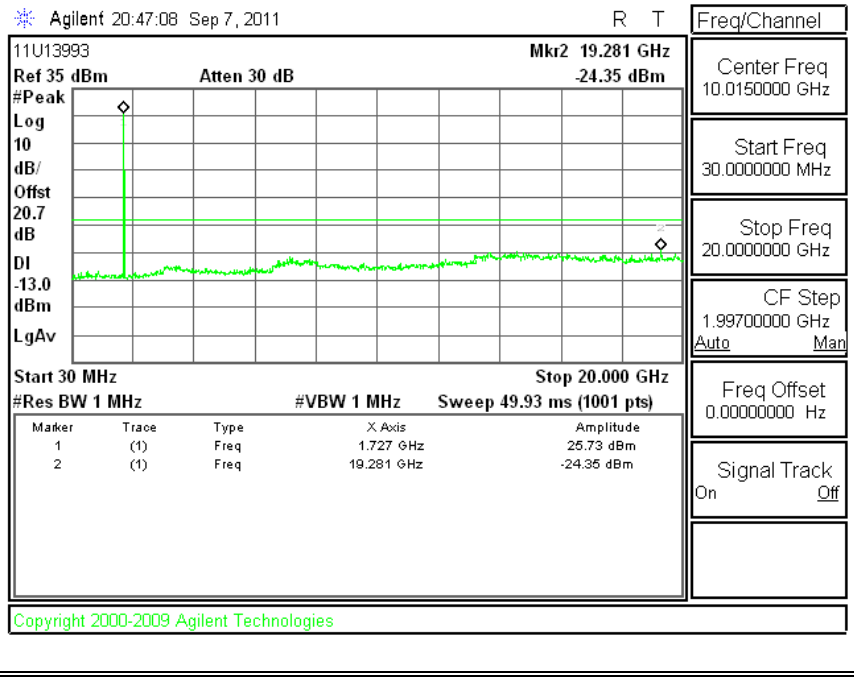




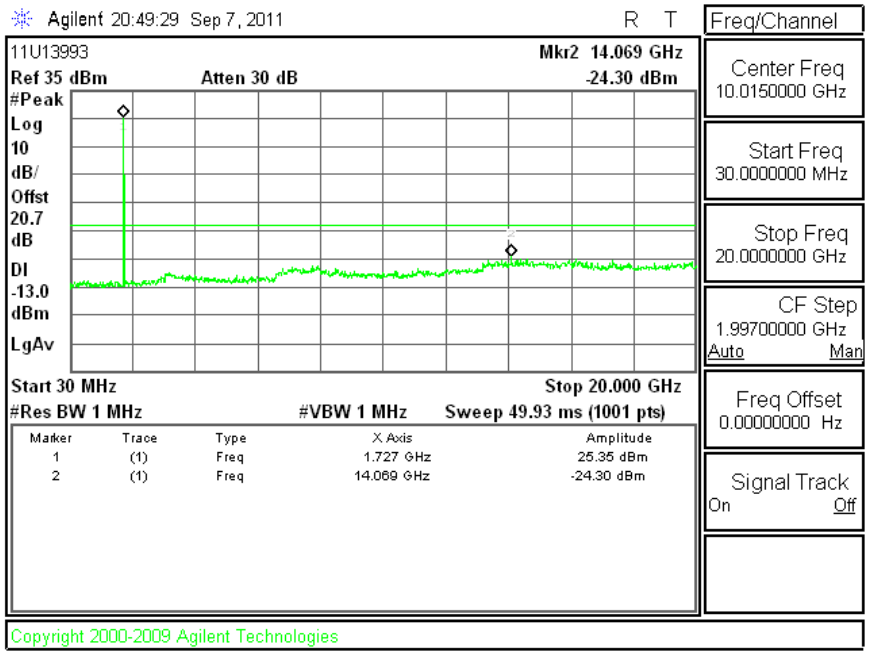
MID CH, RB1_0



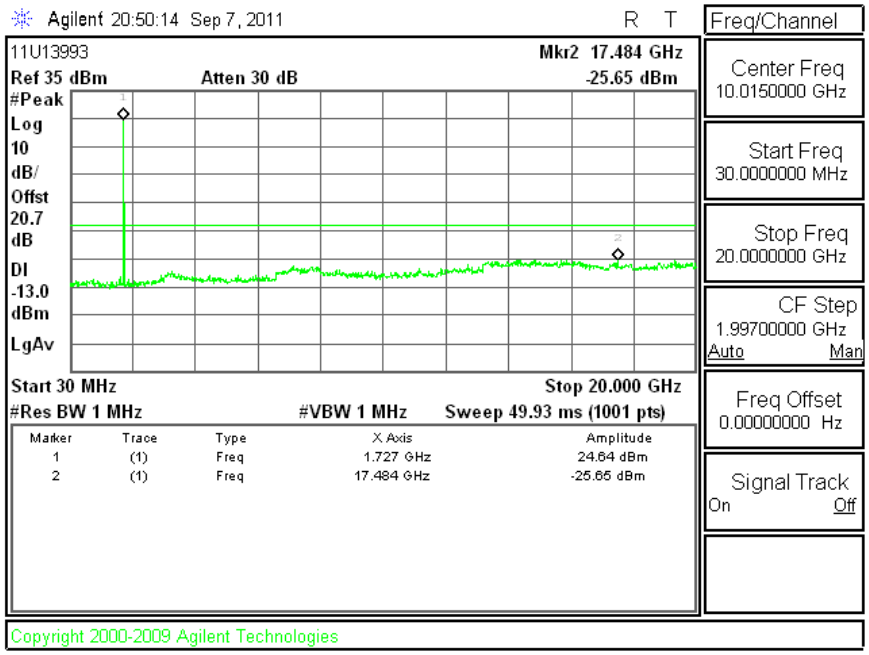
MID CH, RB1_5



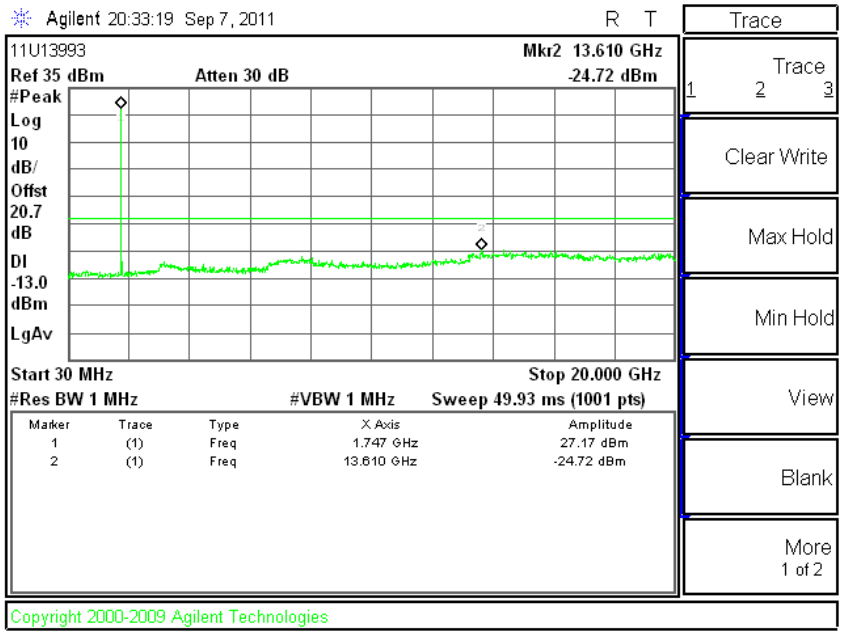
MID CH, RB3_2



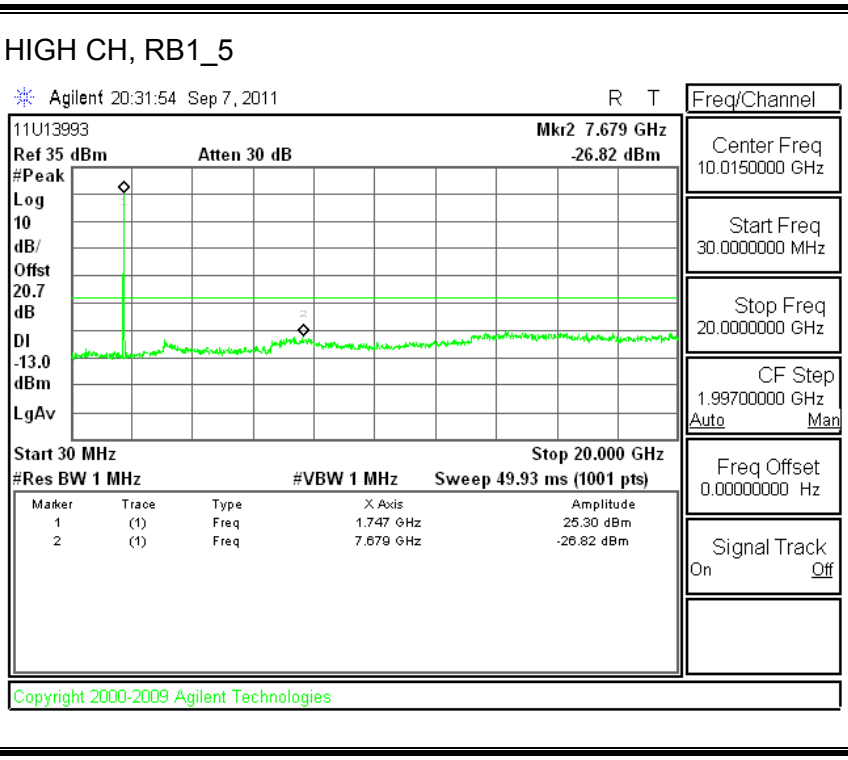
MID CH, RB6_0



HIGH CH, RB1_0

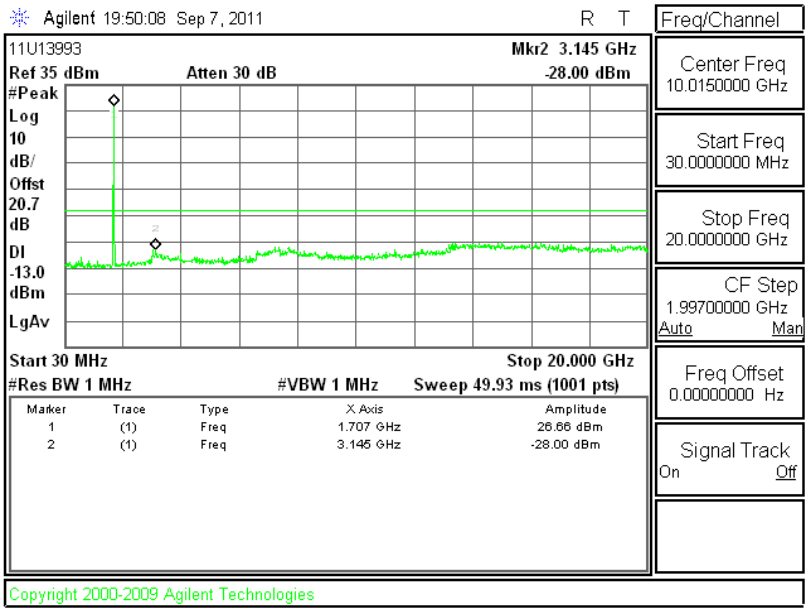


HIGH CH, RB1_5

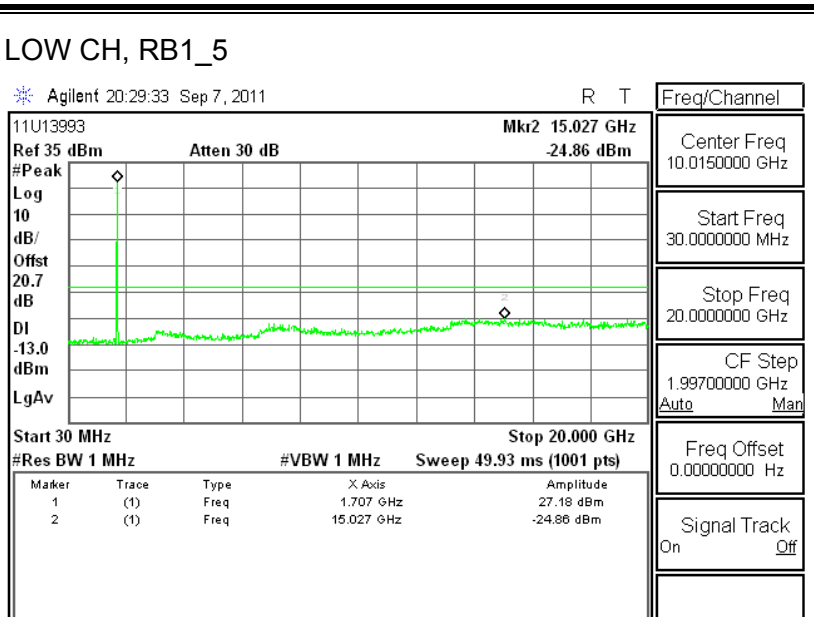


16QAM

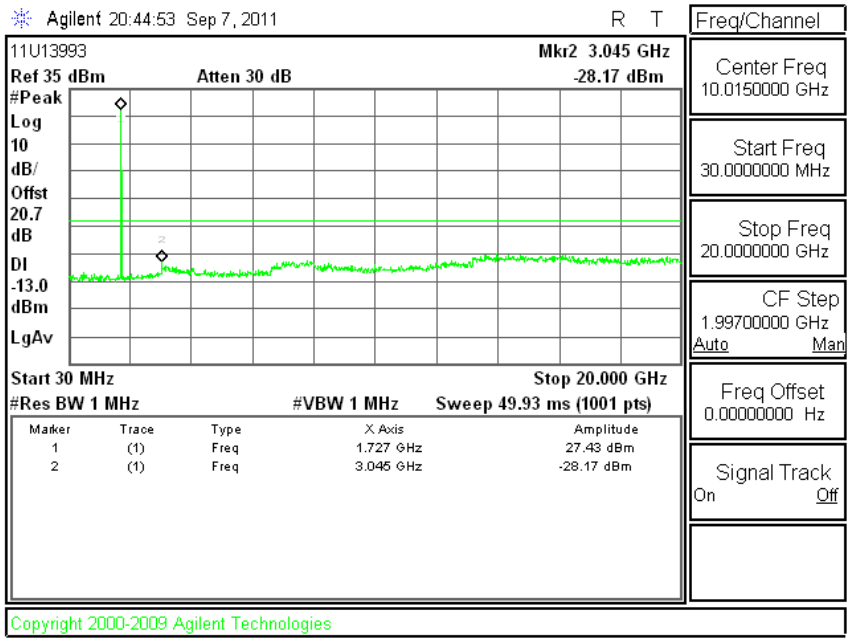
LOW CH, RB1_0



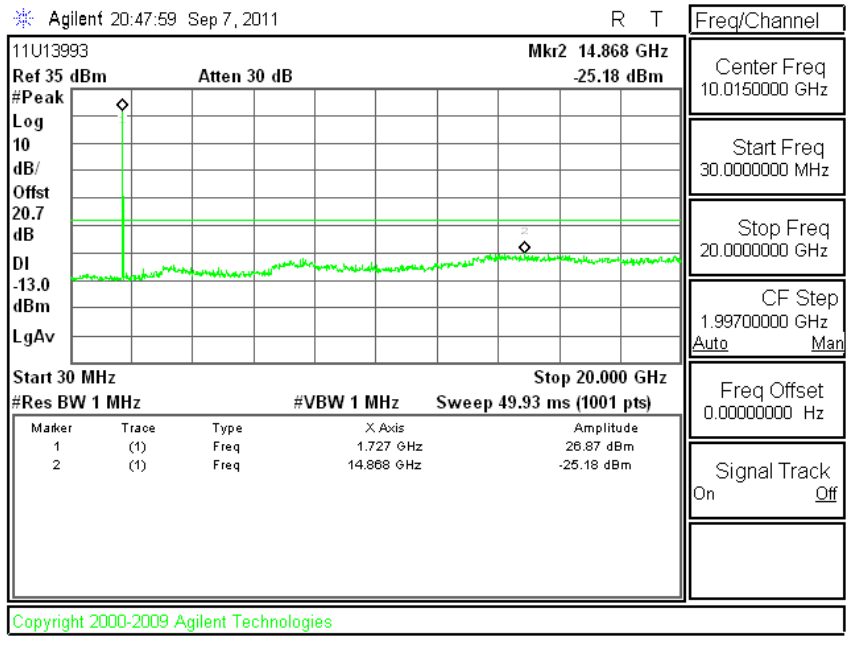
LOW CH, RB1_5



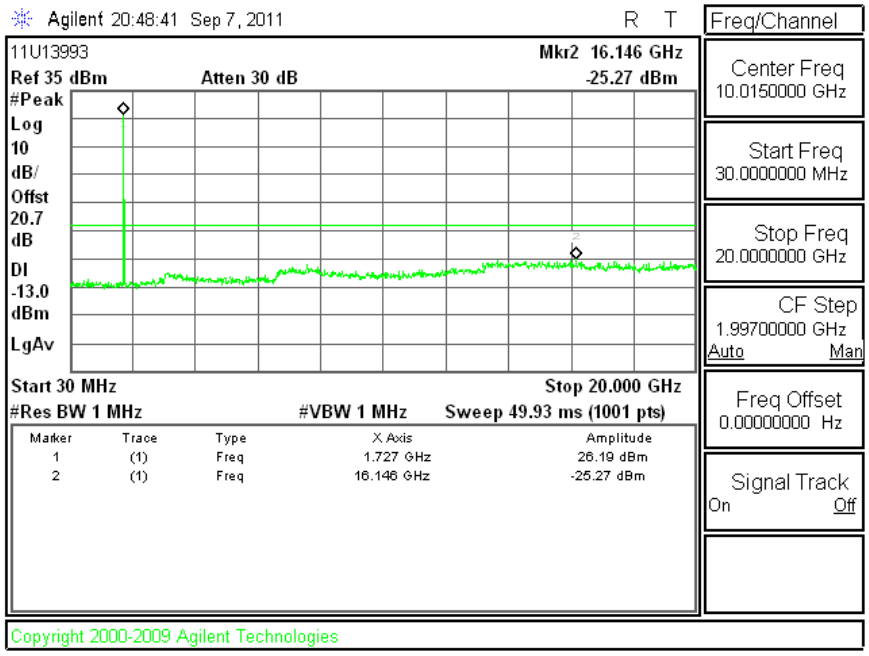
MID CH, RB1_0



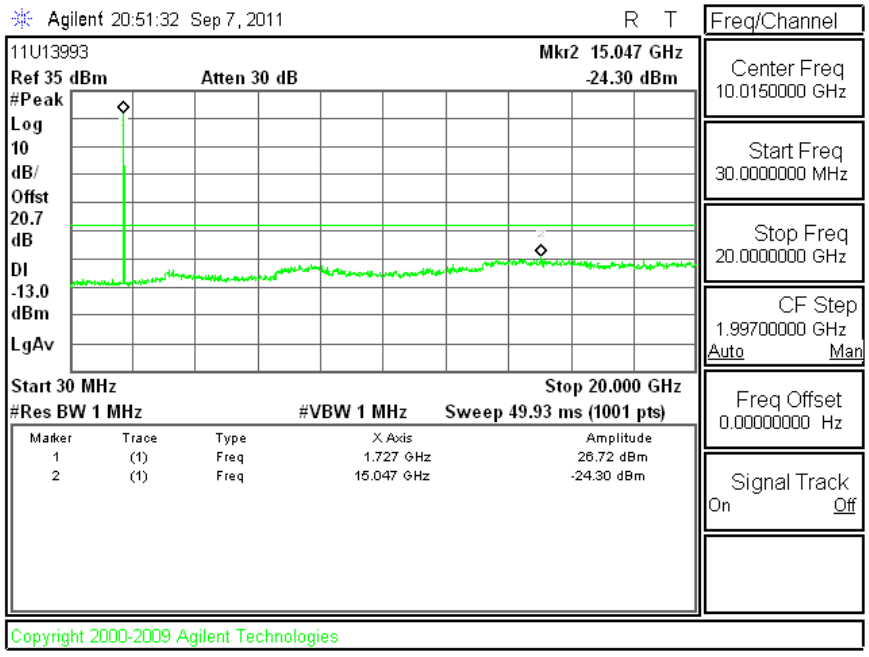
MID CH, RB1_5



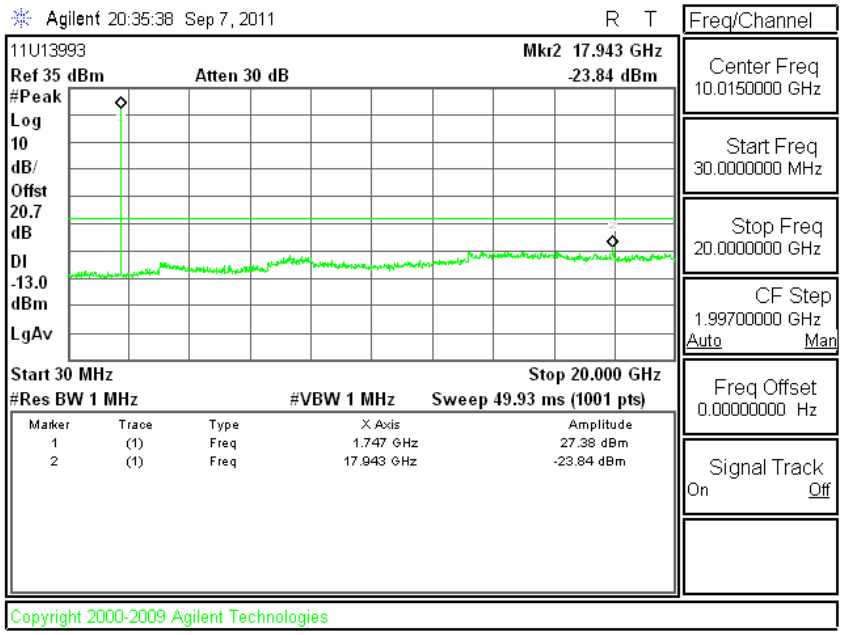
MID CH, RB3_2



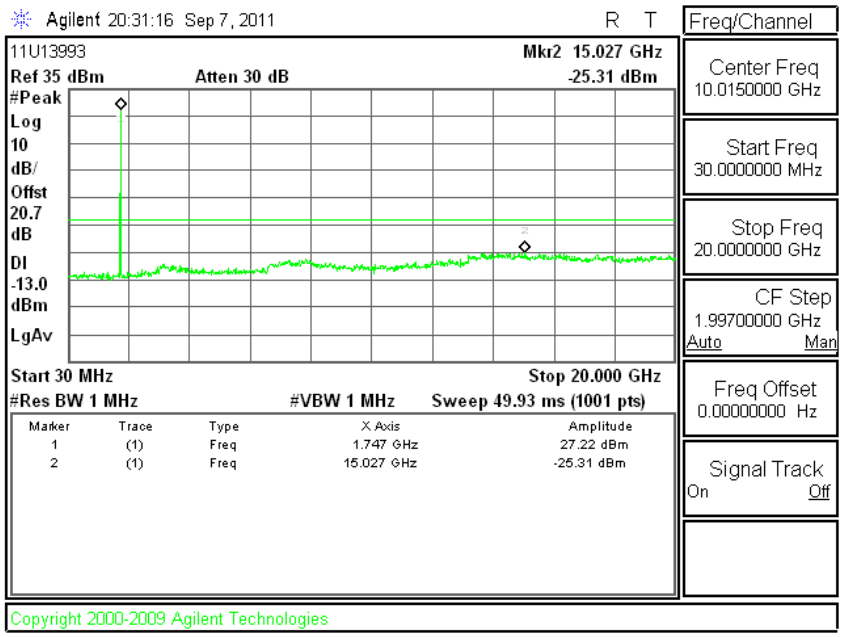
MID CH, RB6_0



HIGH CH, RB1_0

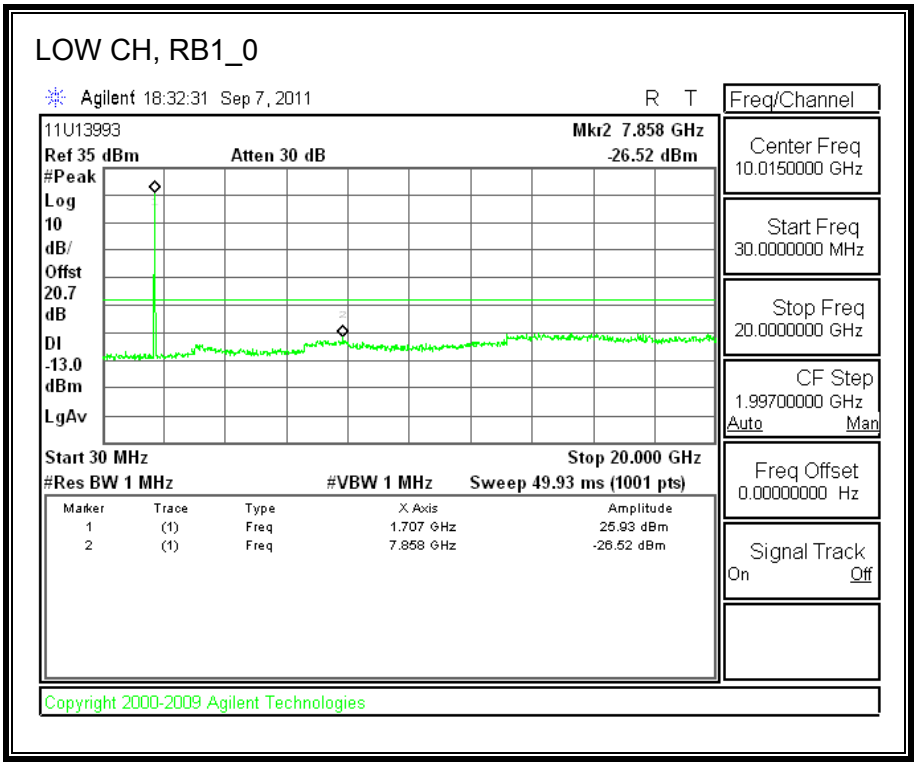


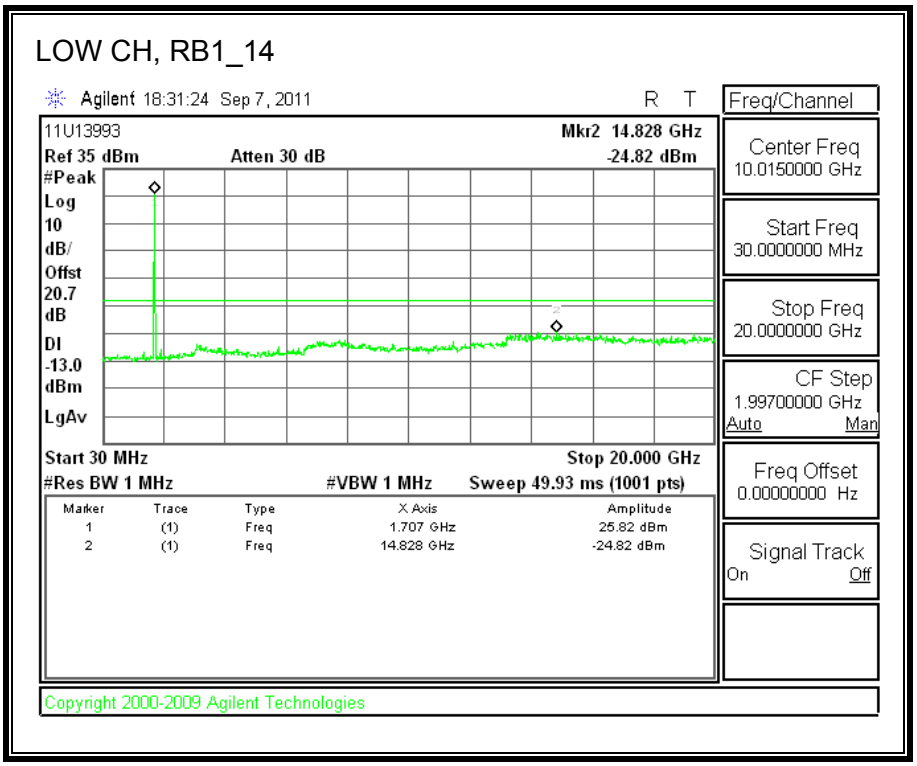
HIGH CH, RB1_5



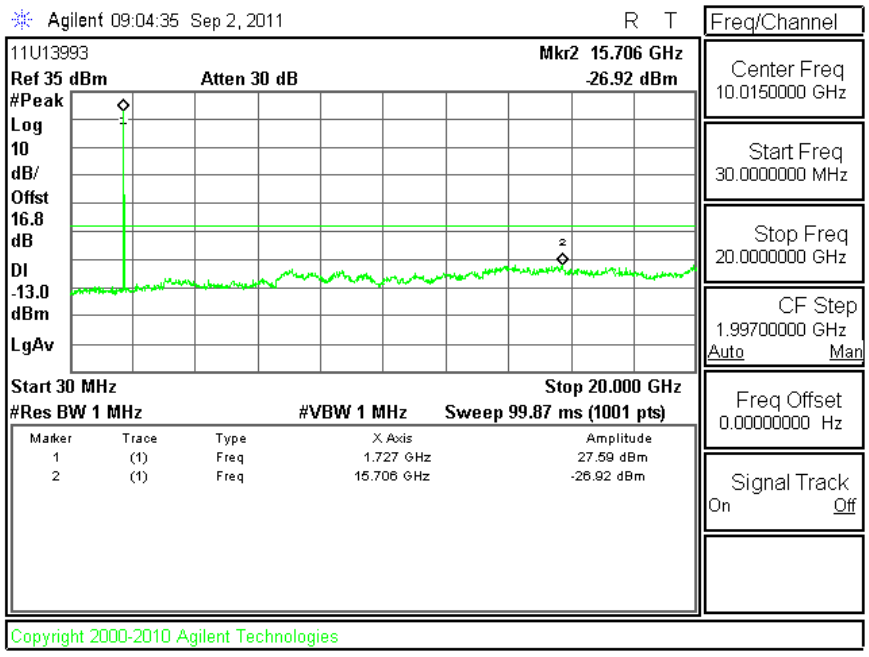
LTE, Band 4 (3.0MHz BAND WIDTH)

QPSK

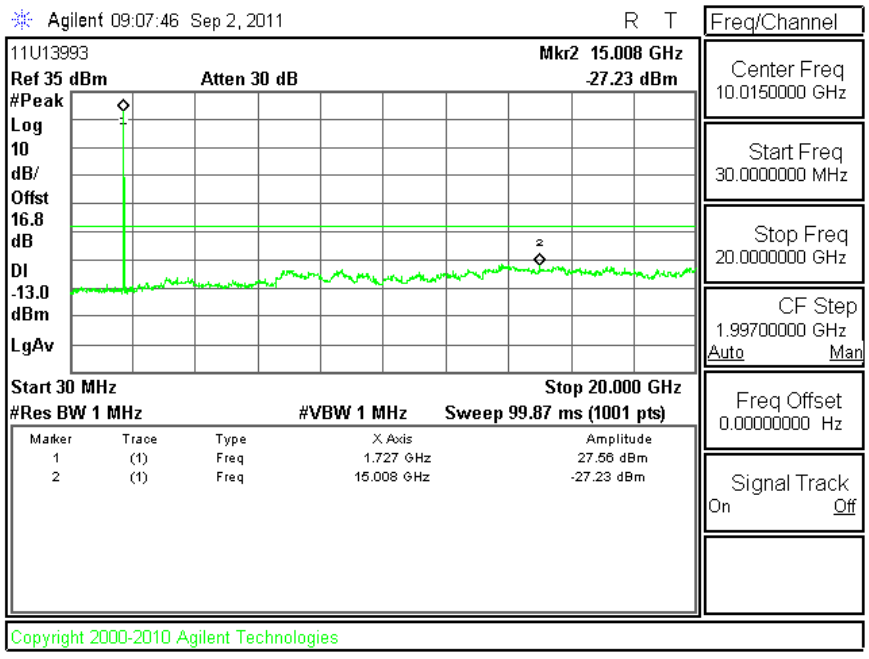




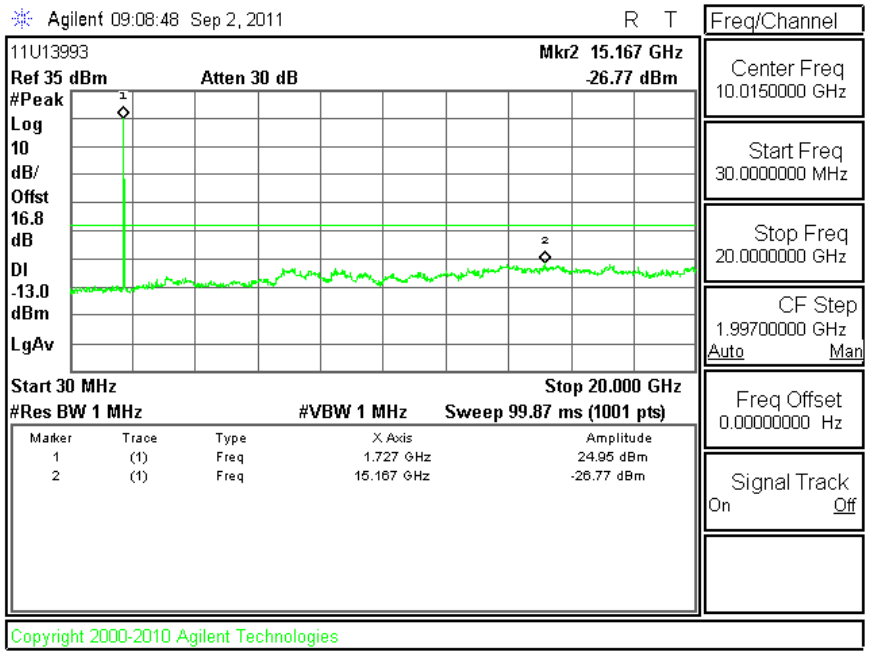
MID CH, RB1_0



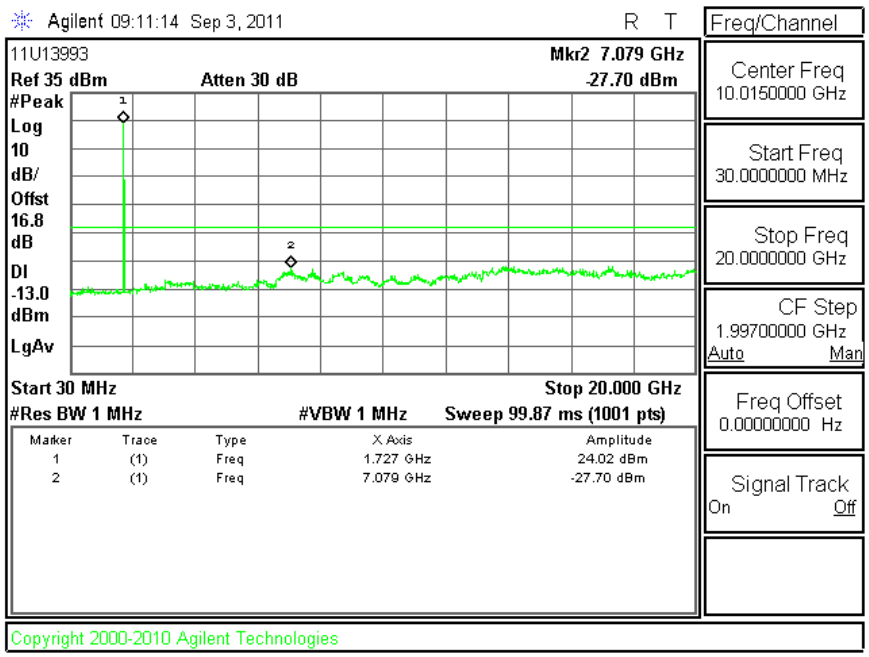
MID CH, RB1_14



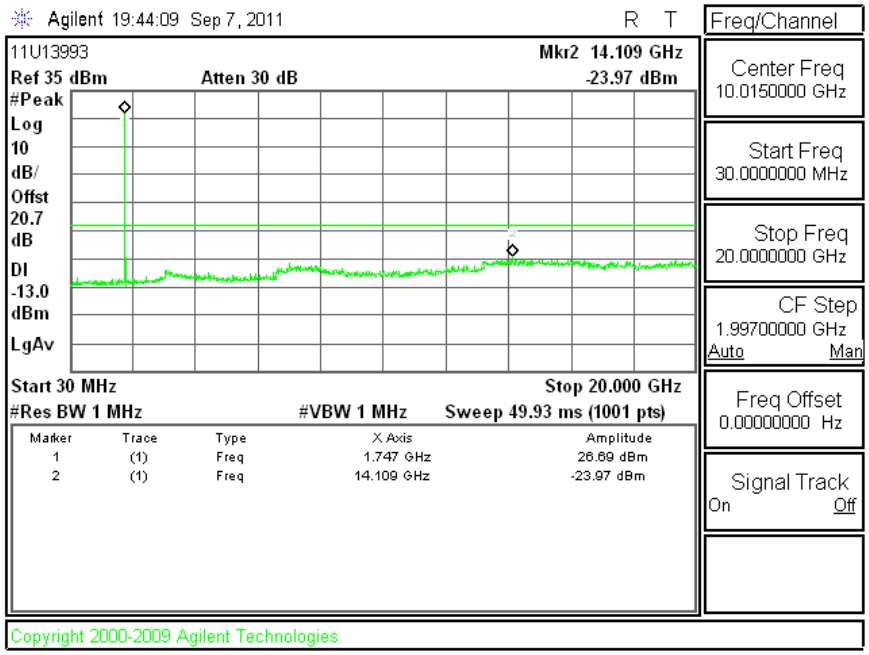
MID CH, RB8_4



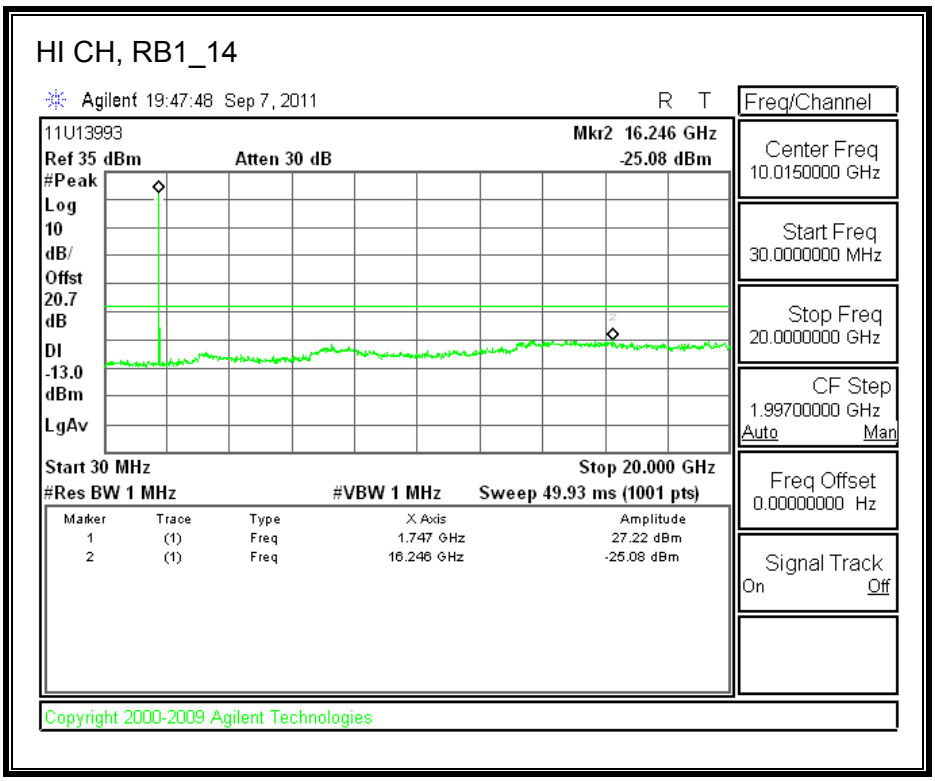
MID CH, RB15_0



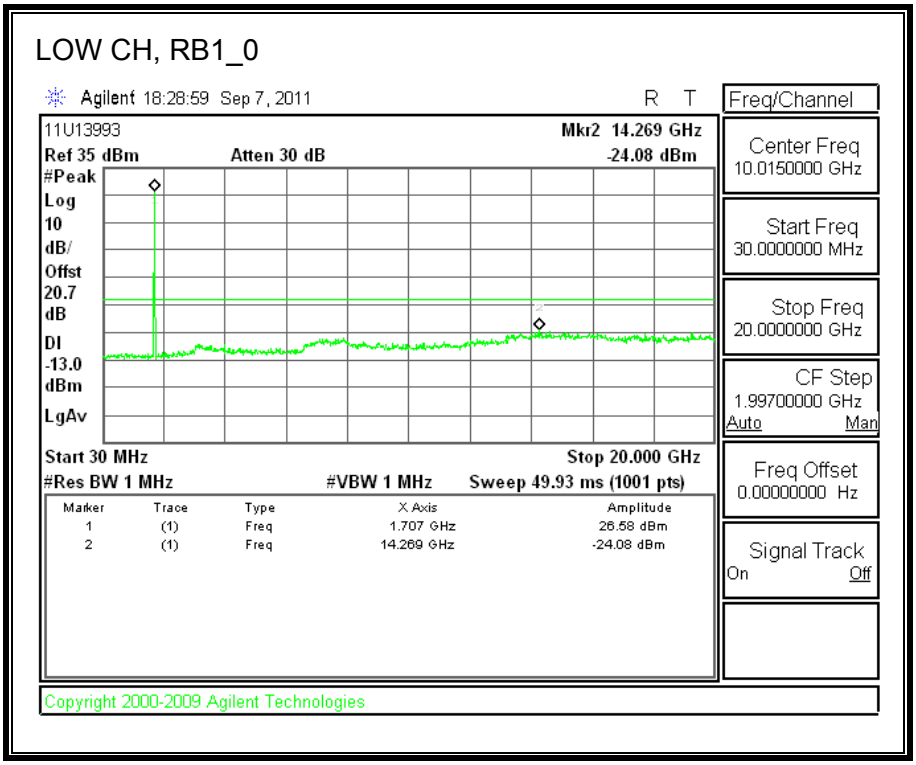
HI CH, RB1_0



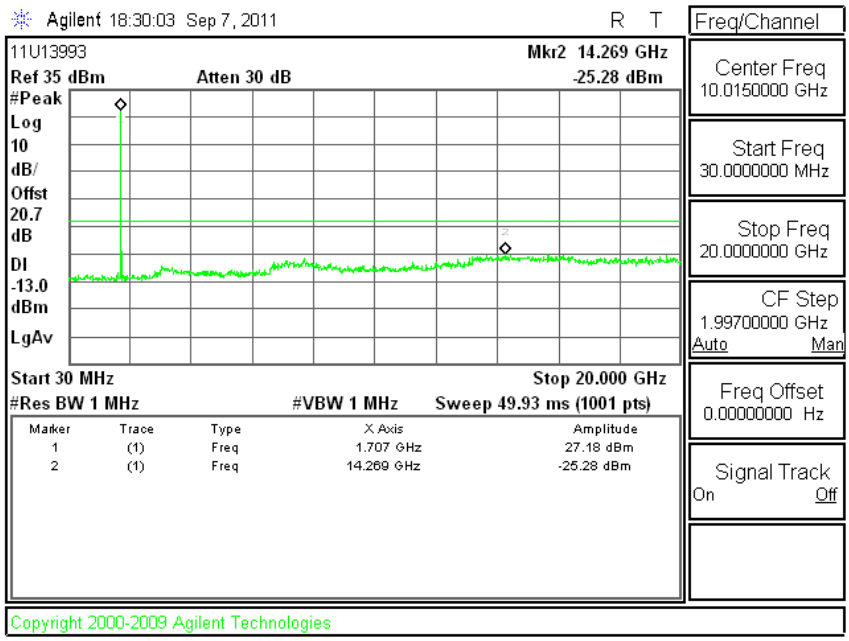
HI CH, RB1_14



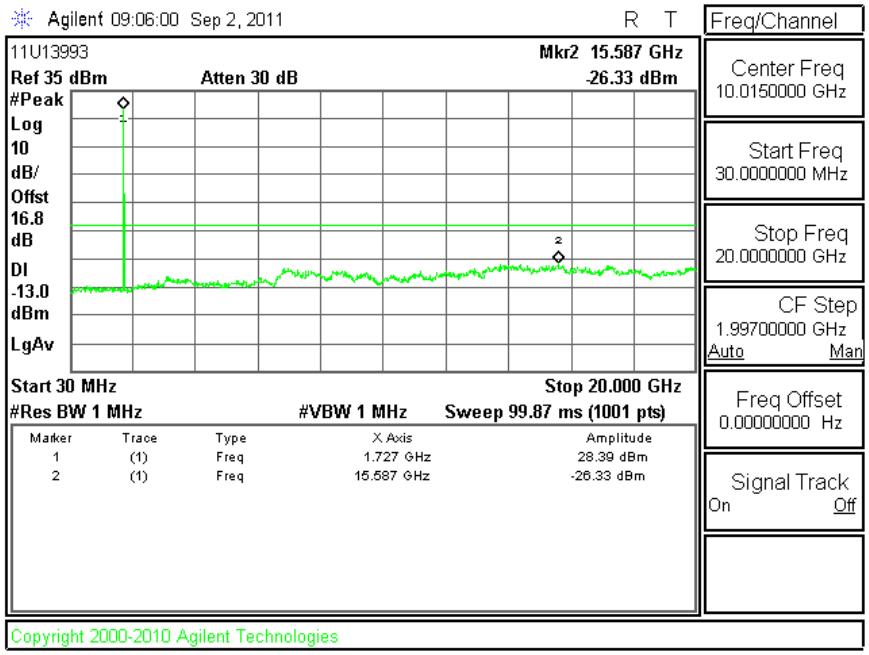
16QAM



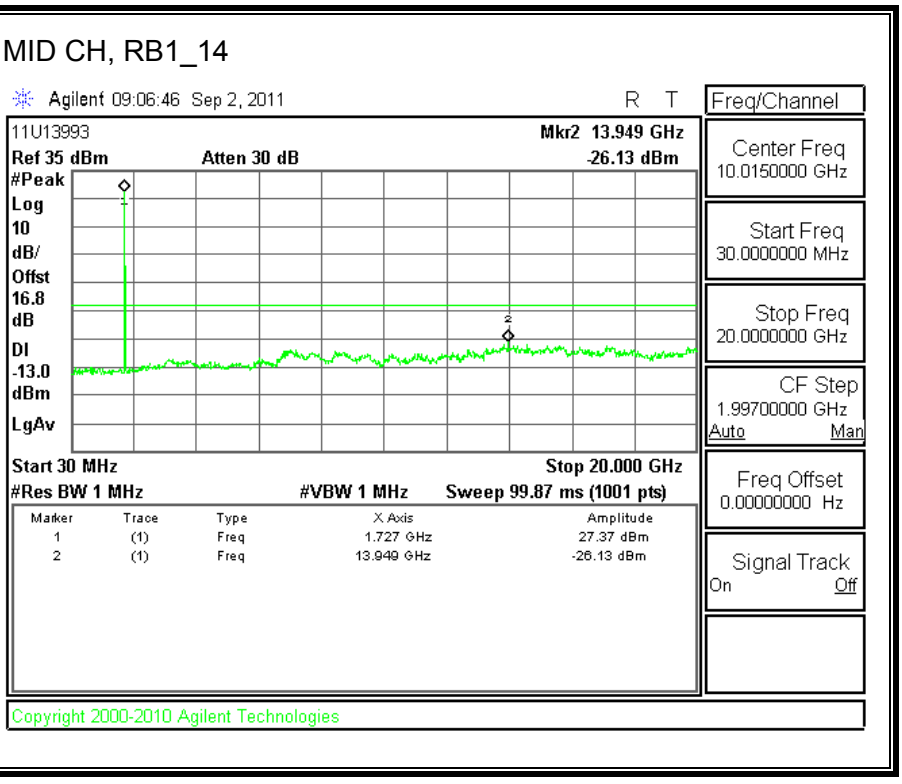
LOW CH, RB1_14



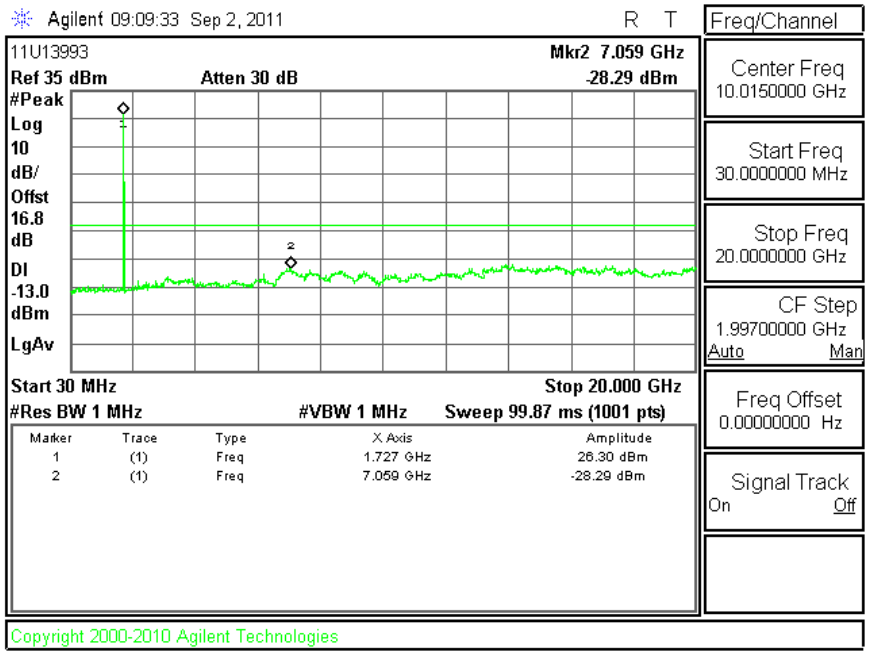
MID CH, RB1_0



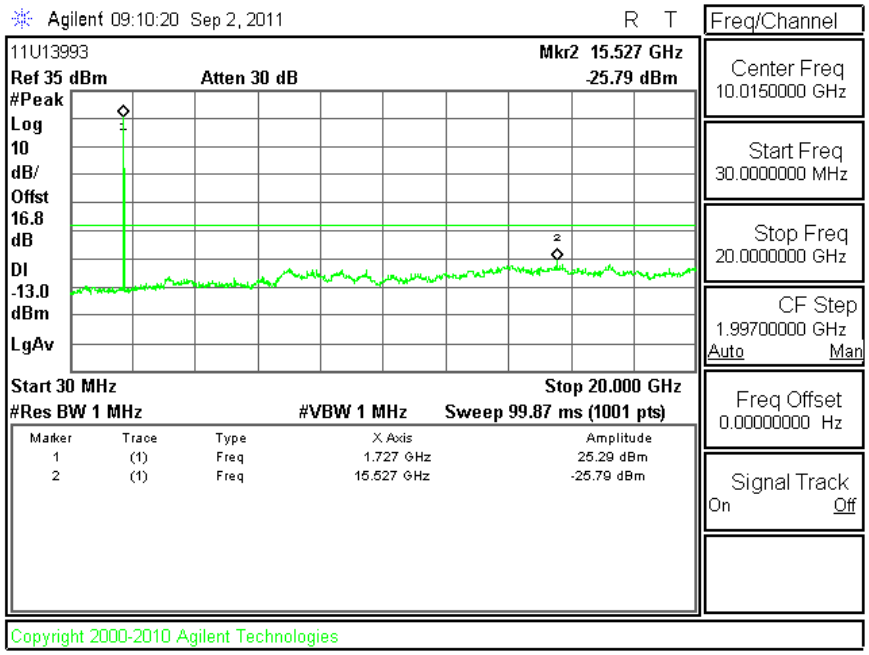
MID CH, RB1_14



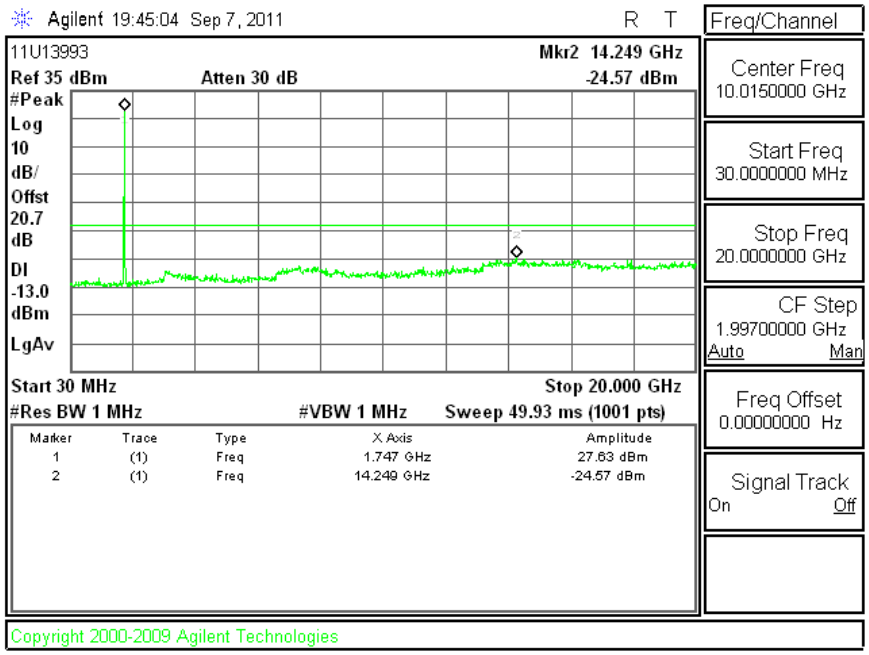
MID CH, RB8_4



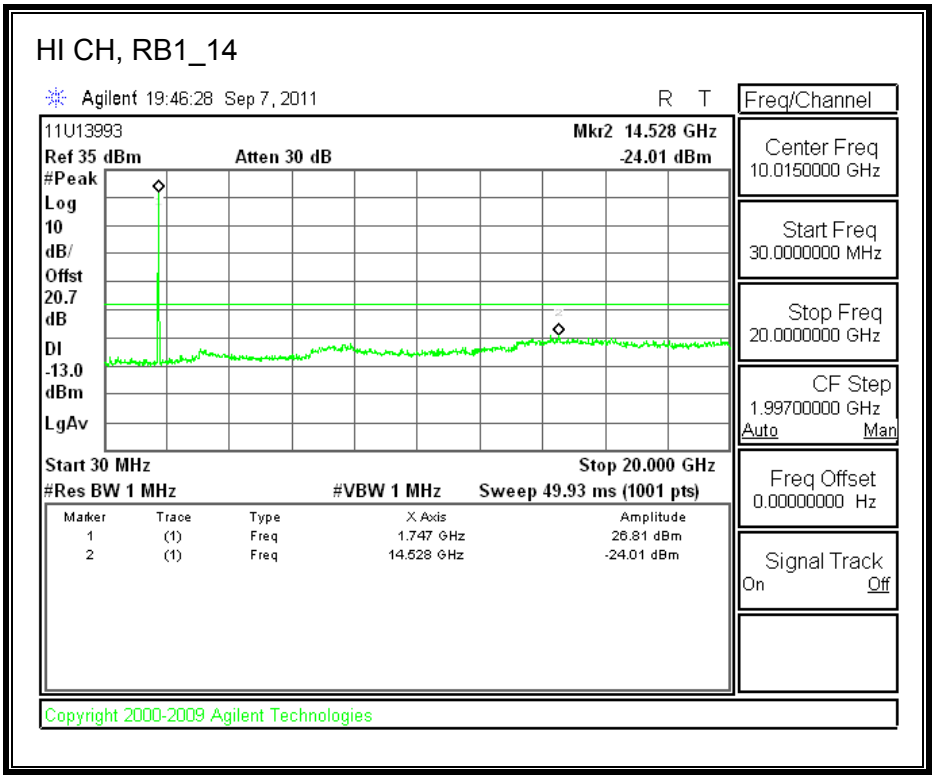
MID CH, RB15_0



HI CH, RB1_0

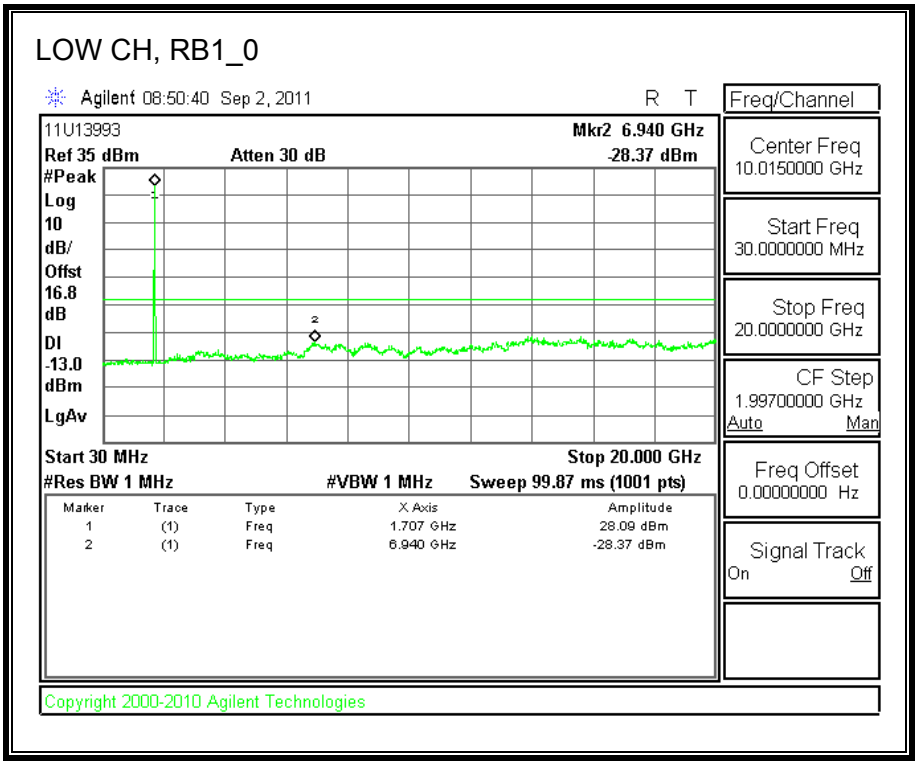


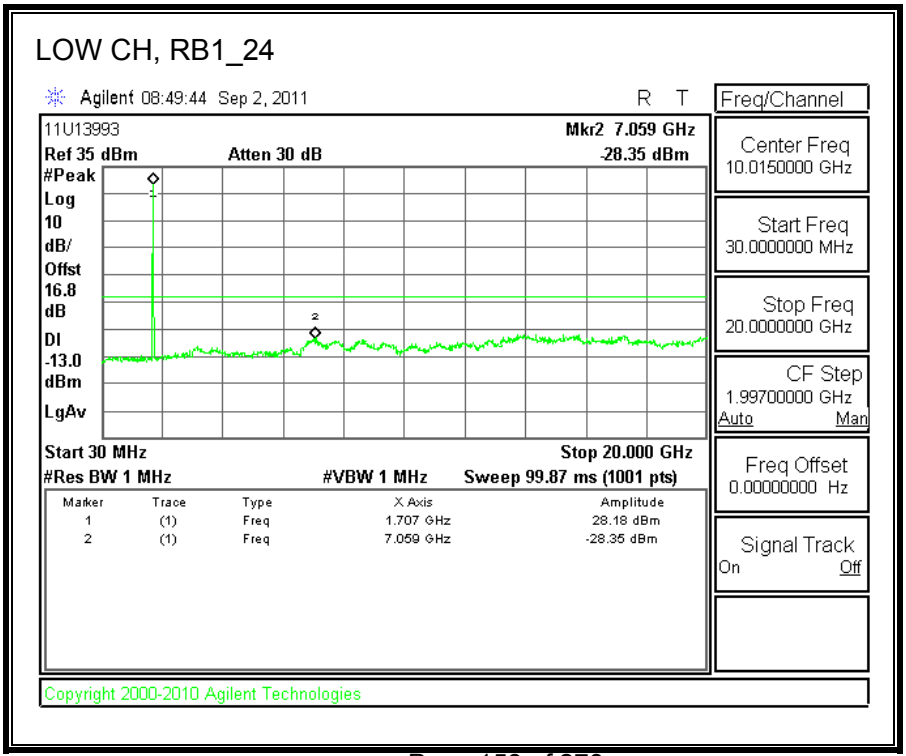
HI CH, RB1_14



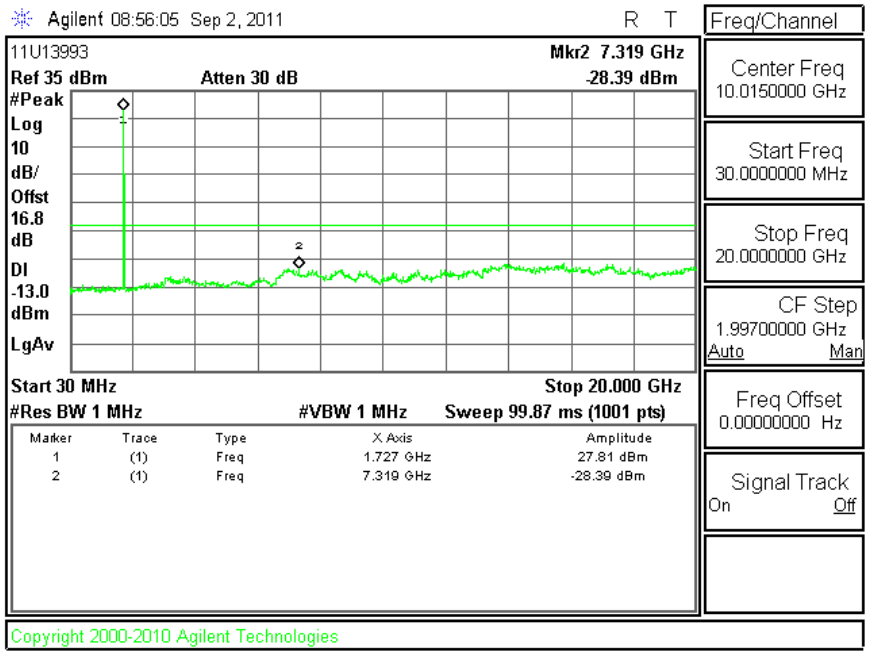
LTE, Band 4 (5.0MHz BAND WIDTH)

QPSK

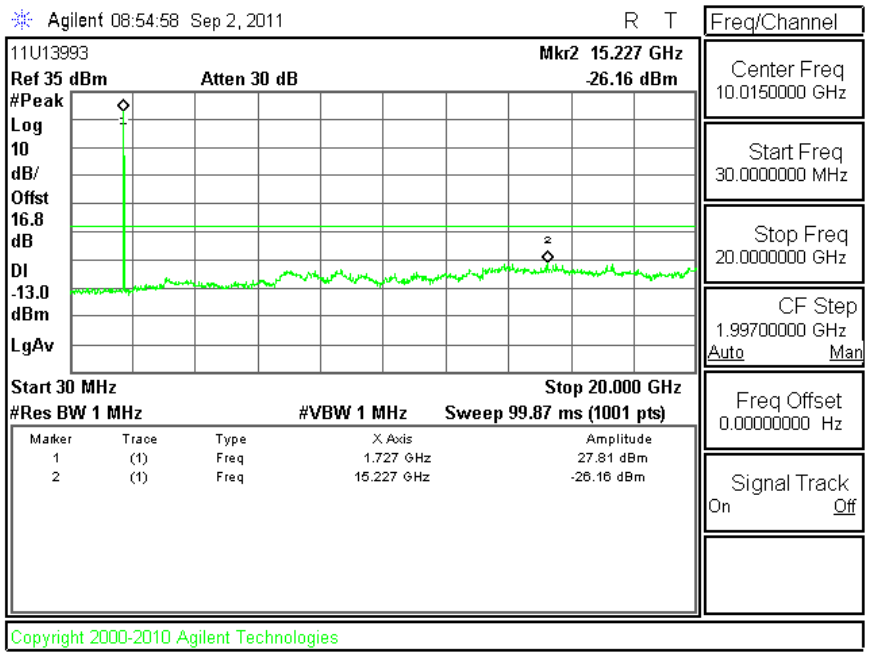




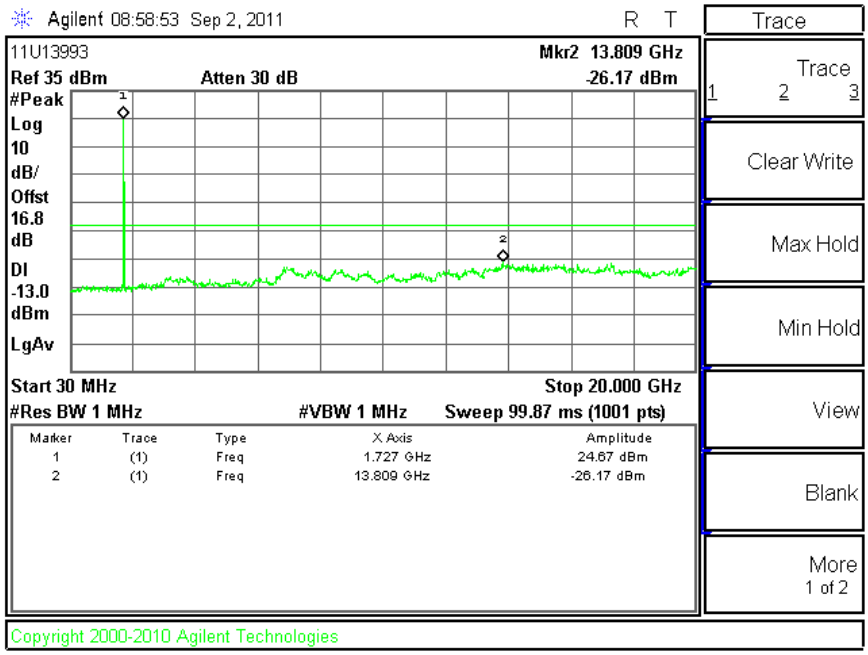
MID CH, RB1_0



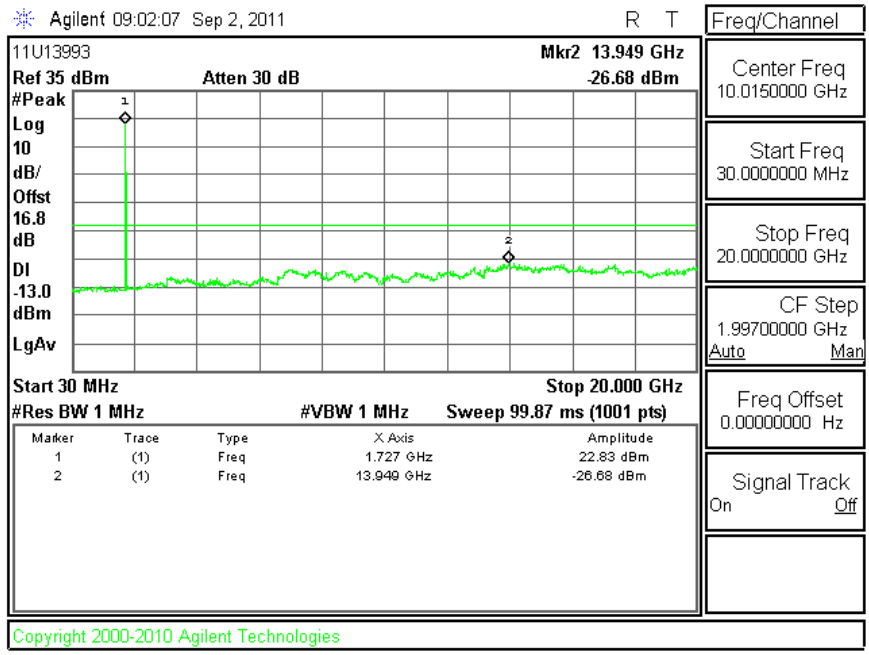
MID CH, RB1_24



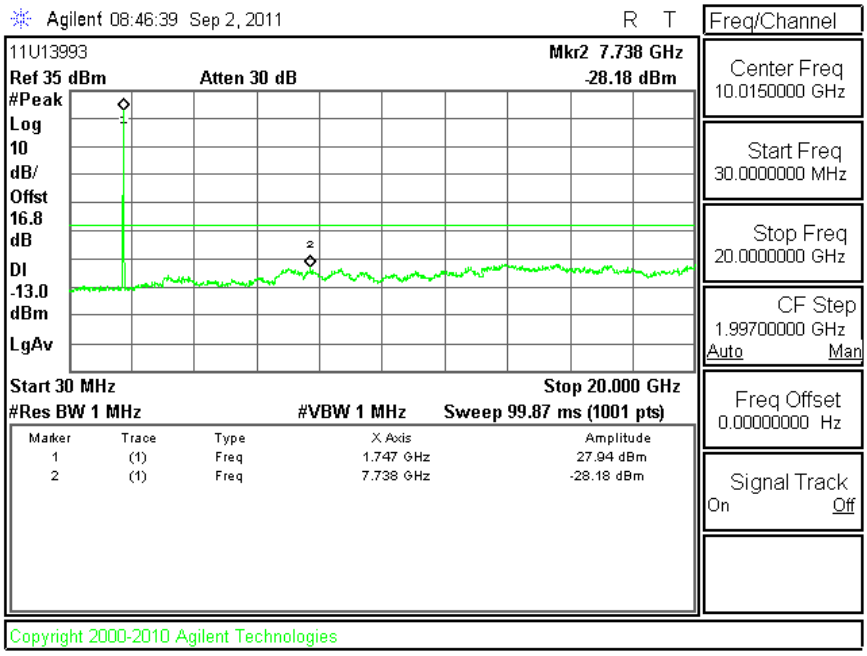
MID CH, RB12_6



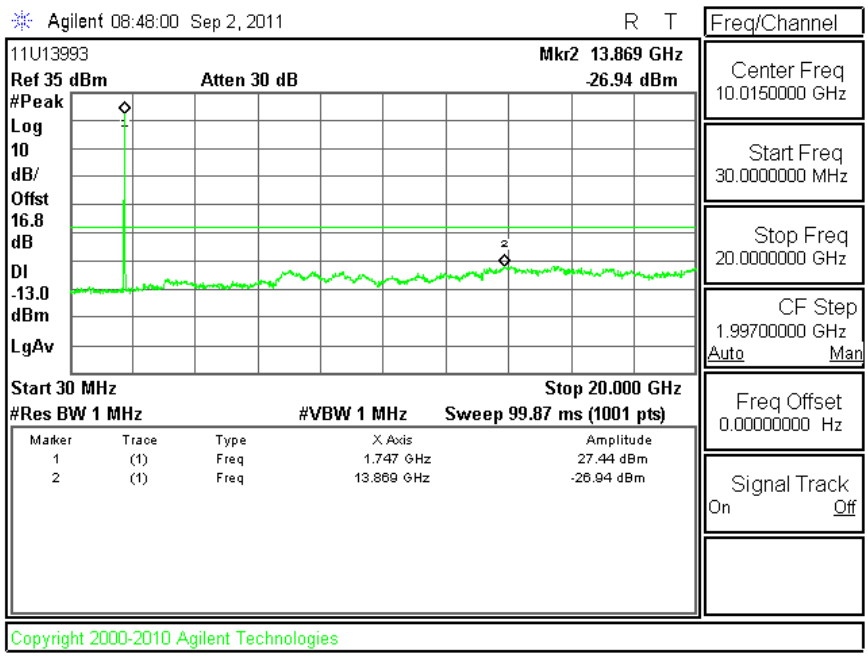
MID CH, RB25_0



HI CH, RB1_0

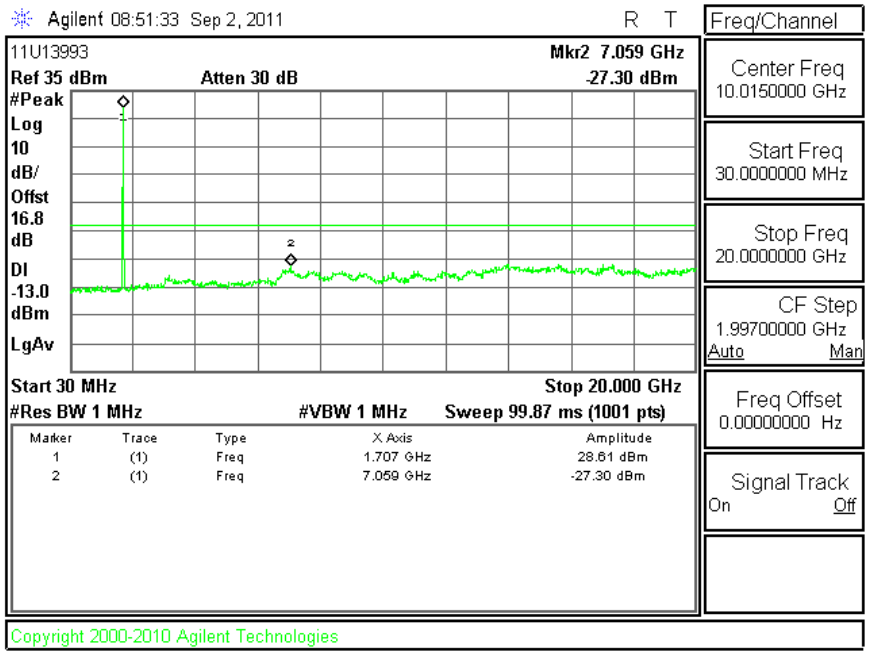


HI CH, RB1_24

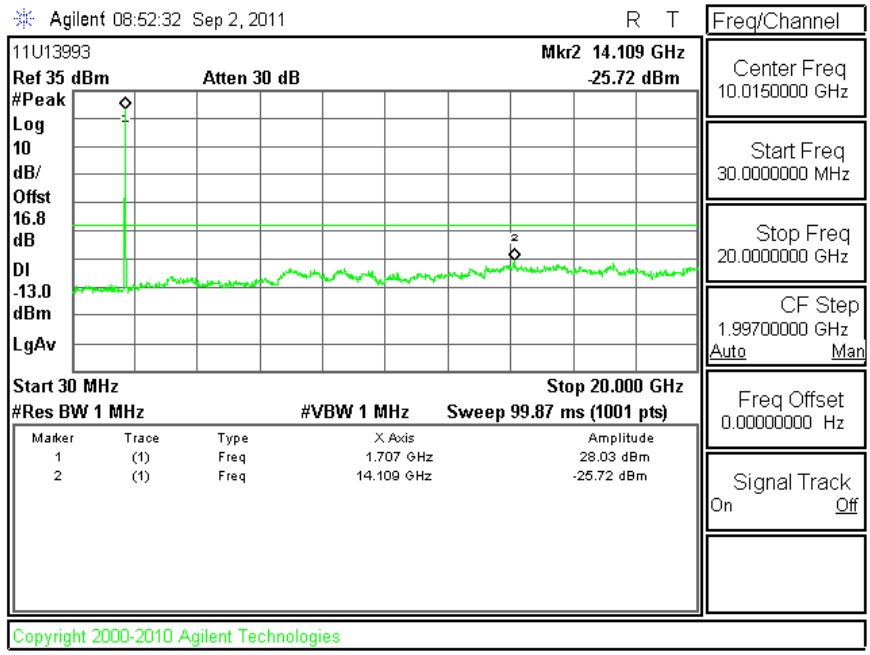


16QAM

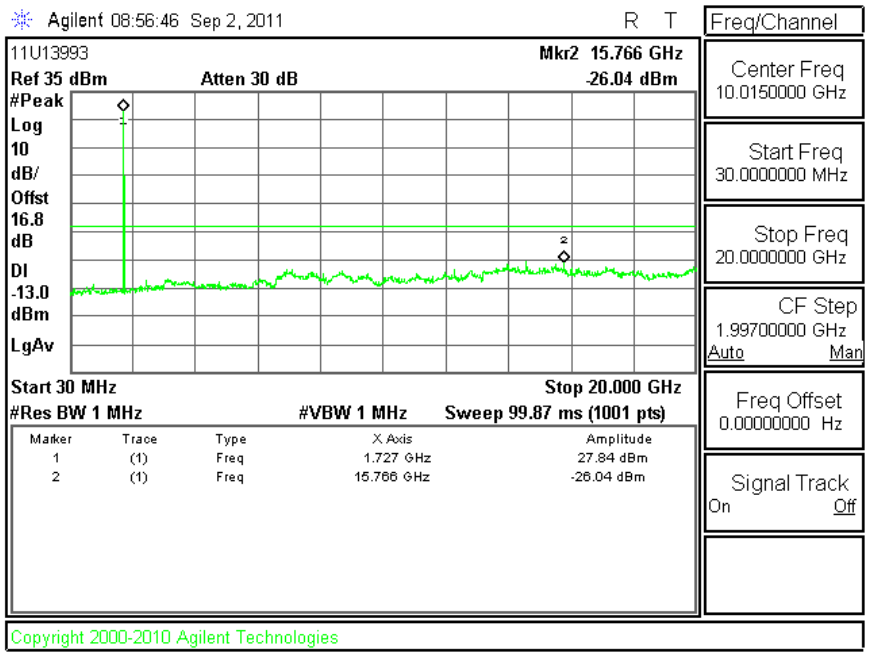
LOW CH, RB1_0



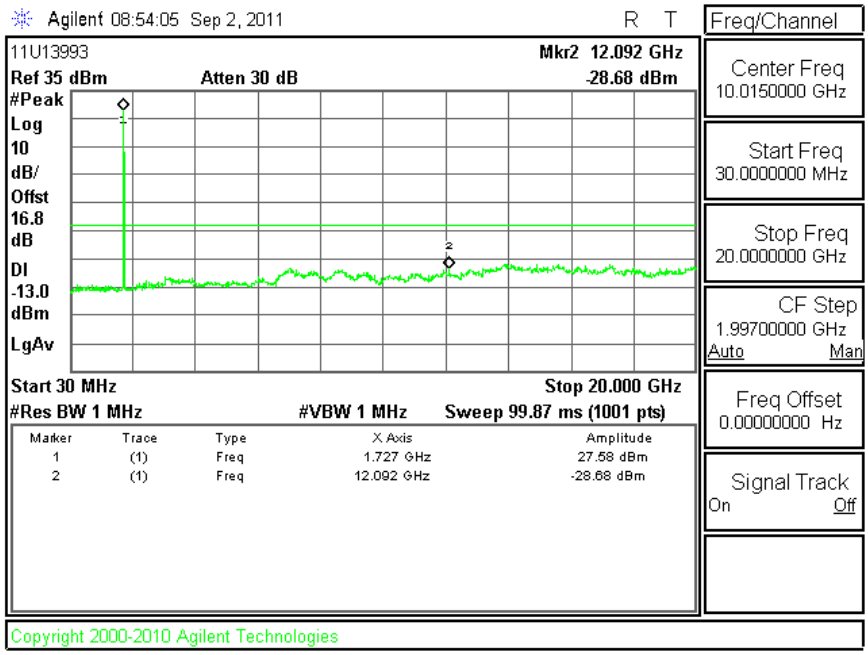
LOW CH, RB1_24



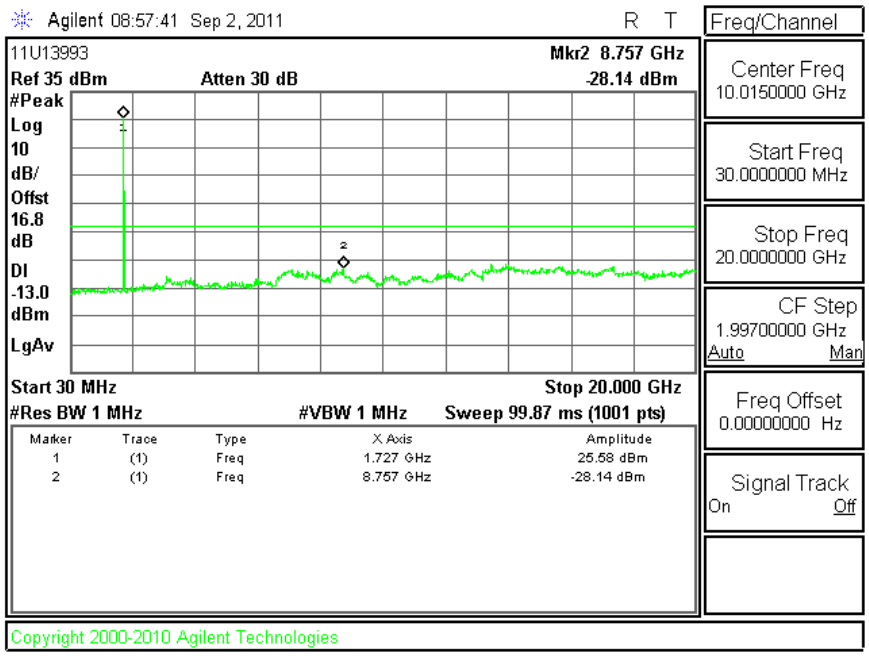
MID CH, RB1_0



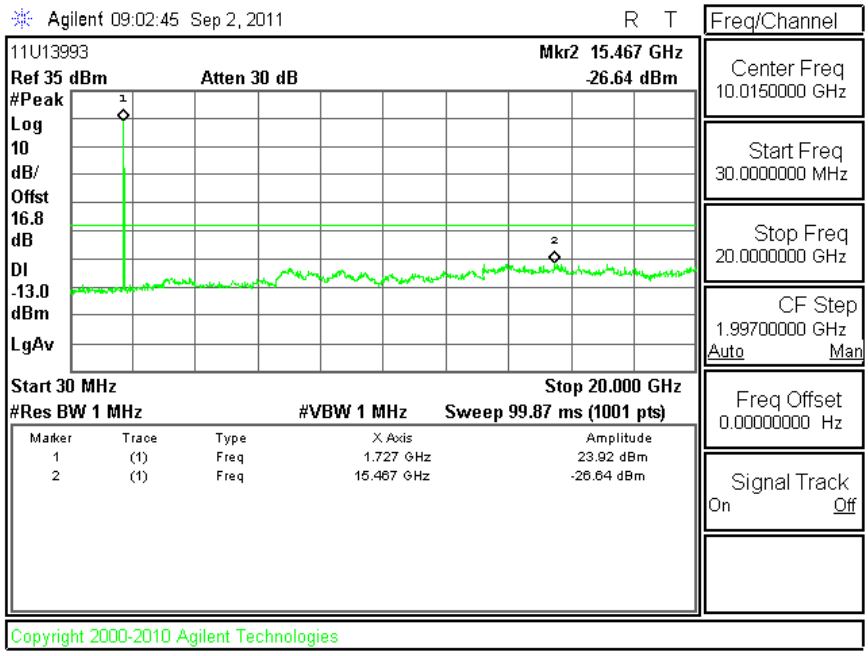
MID CH, RB1_24



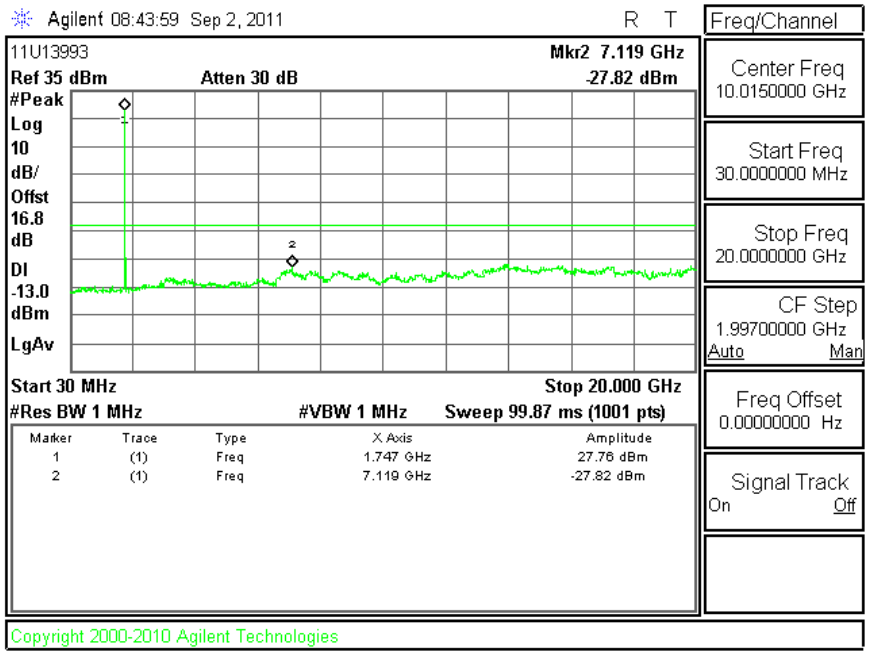
MID CH, RB12_6



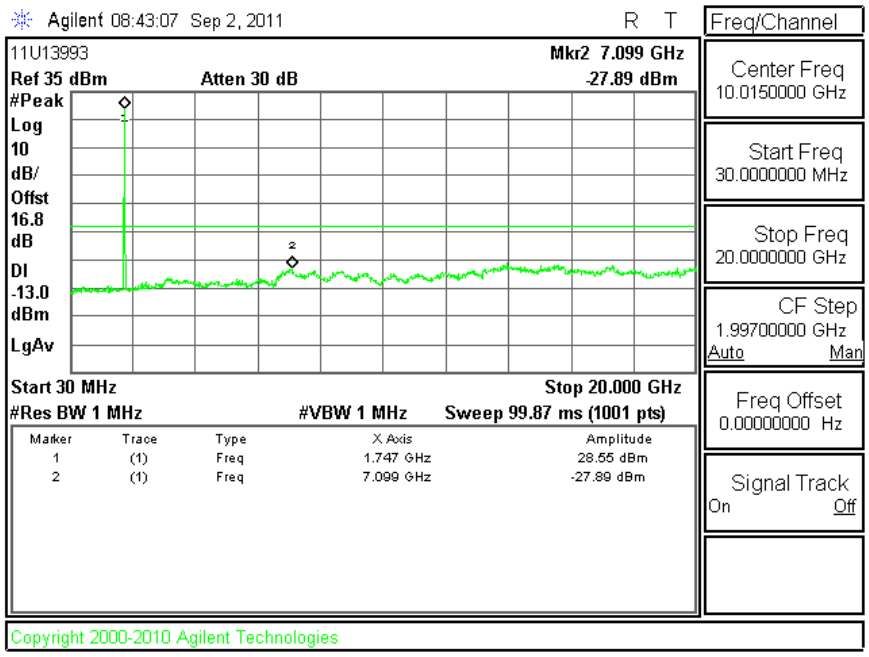
MID CH, RB25_0



HI CH, RB1_0

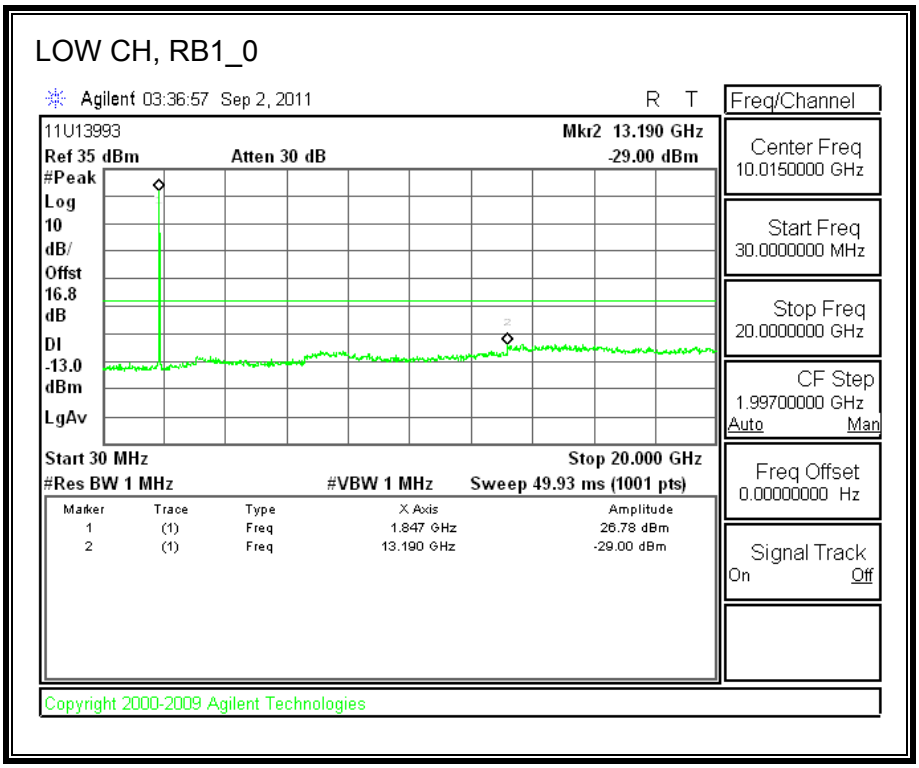


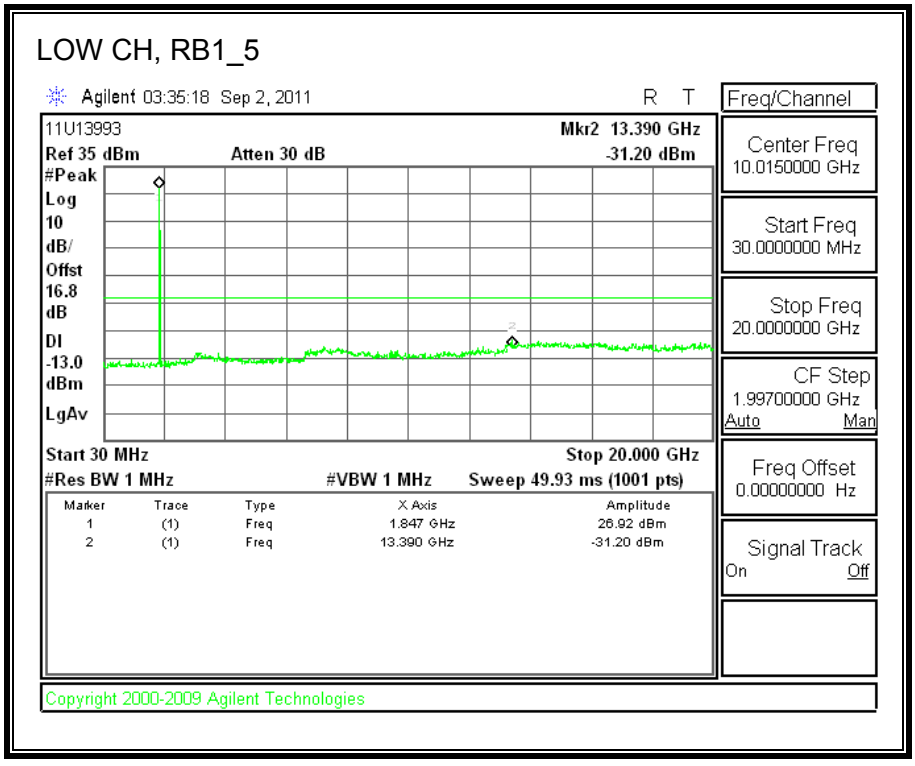
HI CH, RB1_24



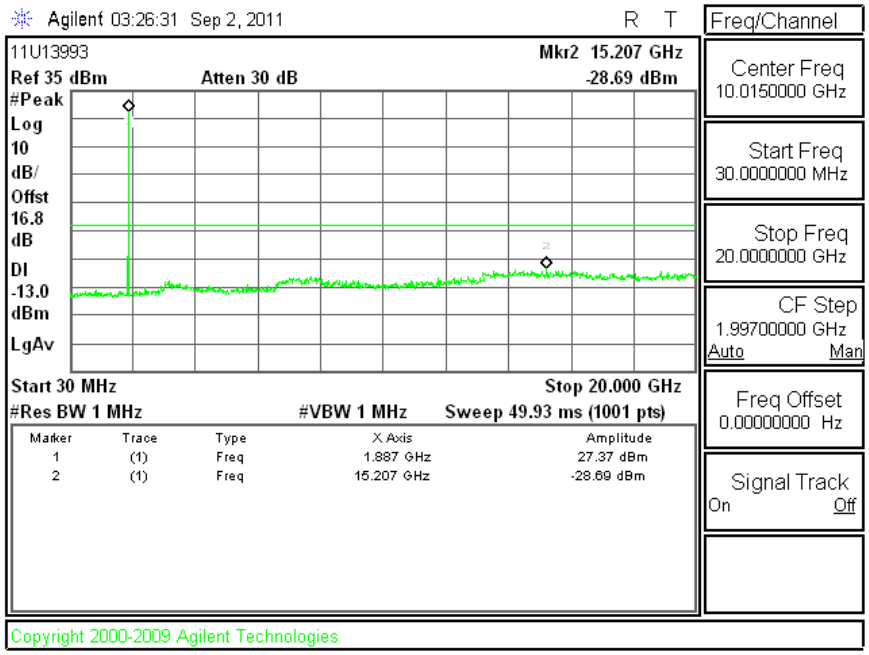
LTE, Band 2 (1.4MHz BAND WIDTH)

QPSK

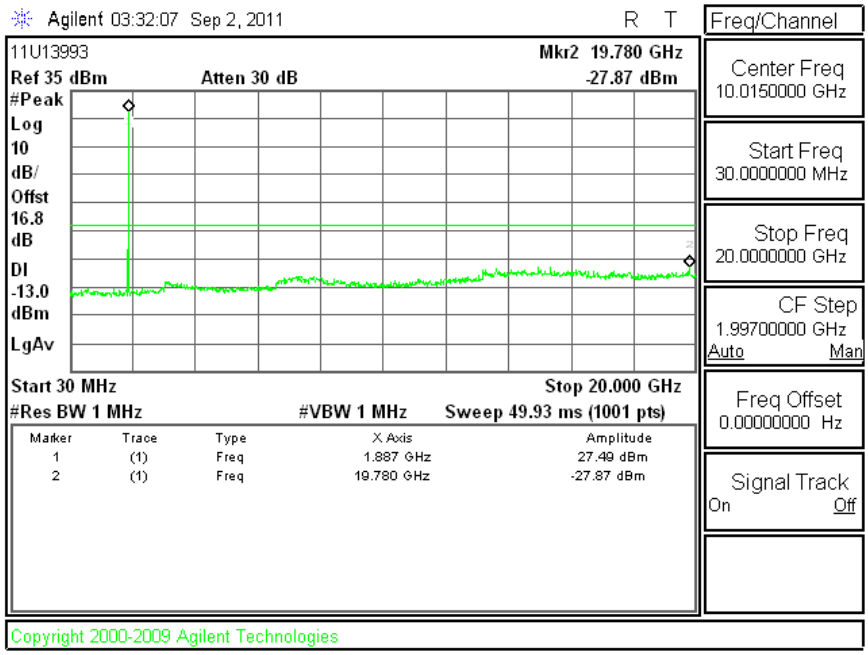




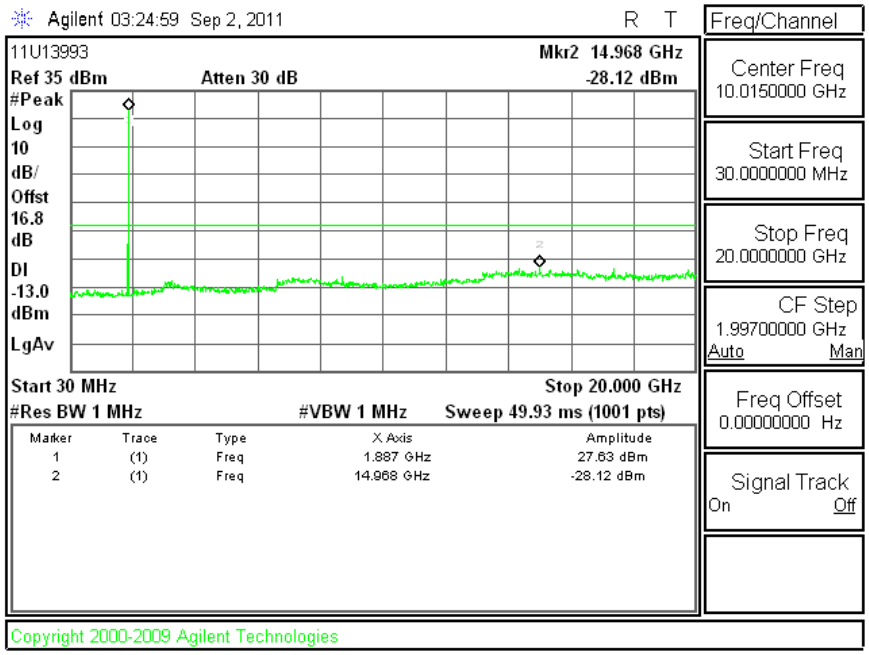
MID CH, RB1_0



MID CH, RB1_5



MID CH, RB3_2



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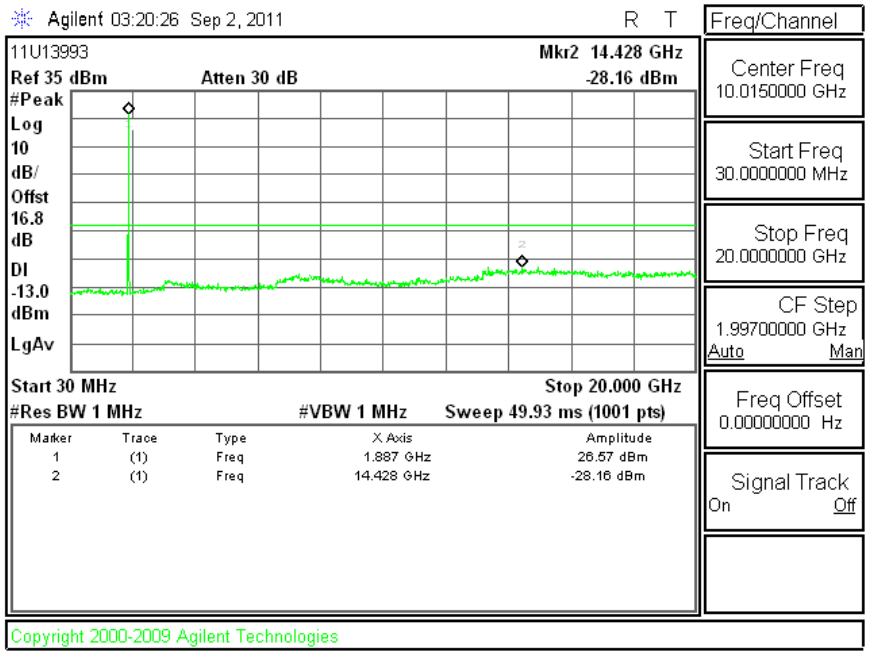
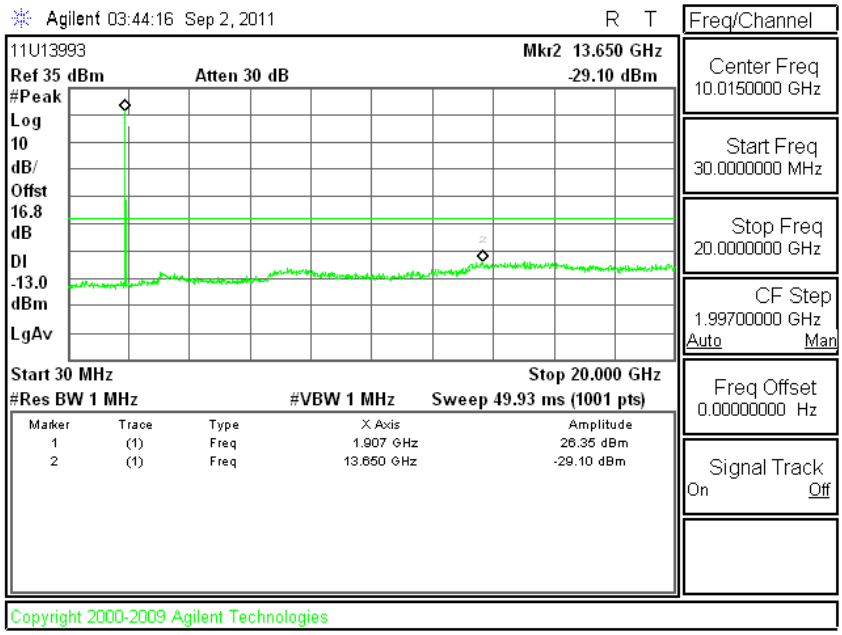


HIGH CH, RB1_0



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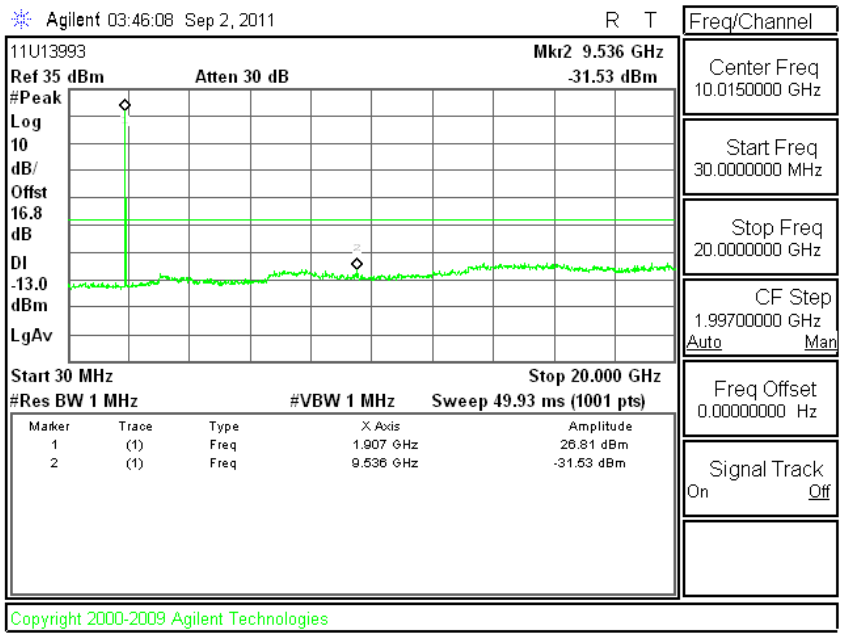
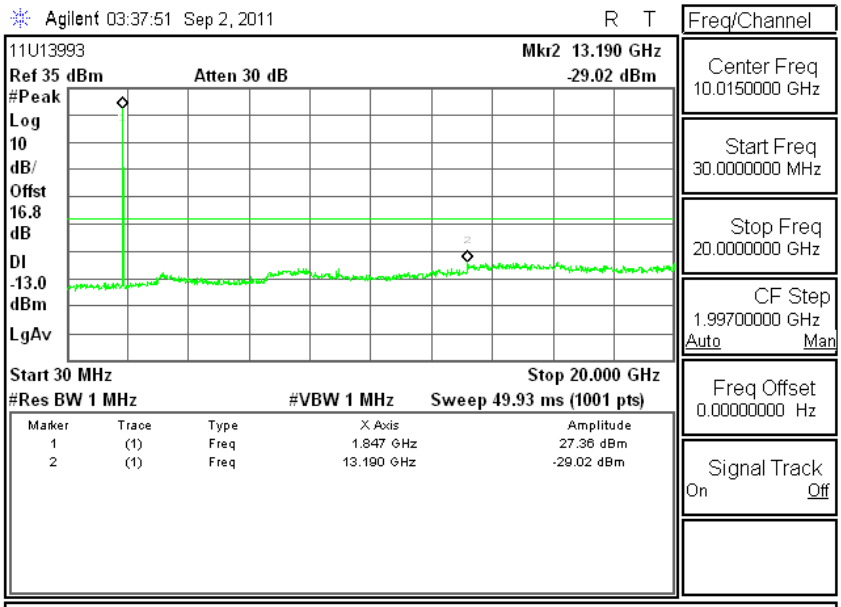
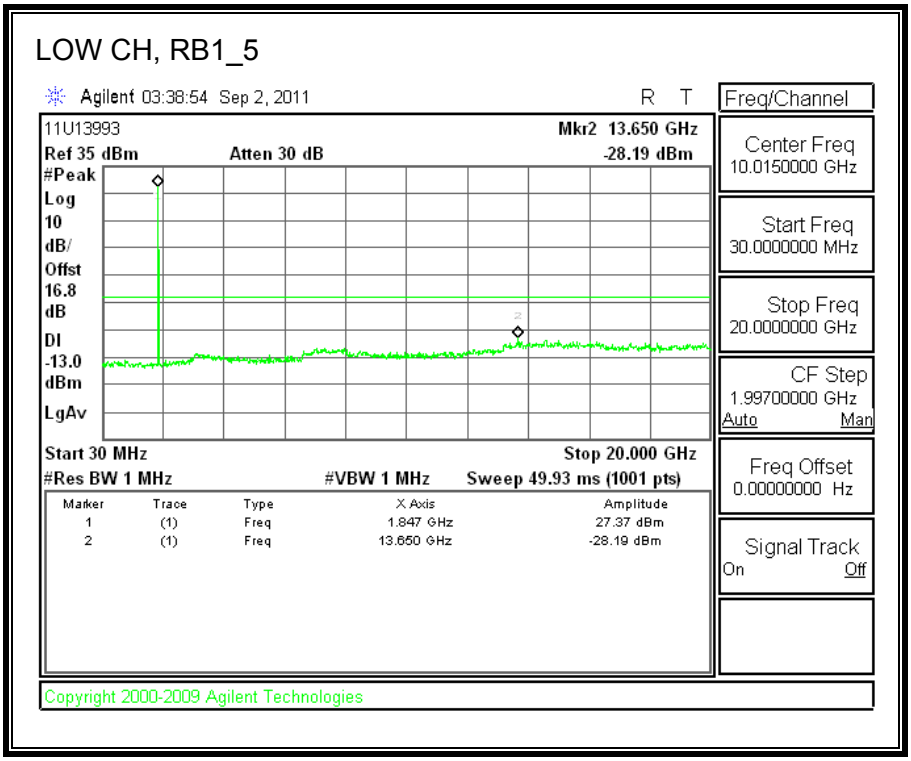


16QAM

LOW CH, RB1_0



LOW CH, RB1_5



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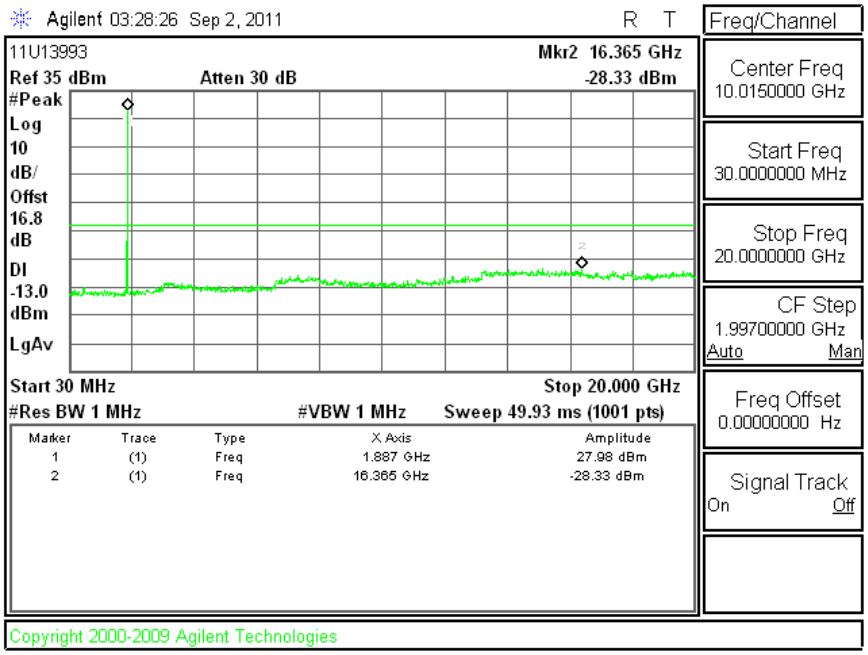

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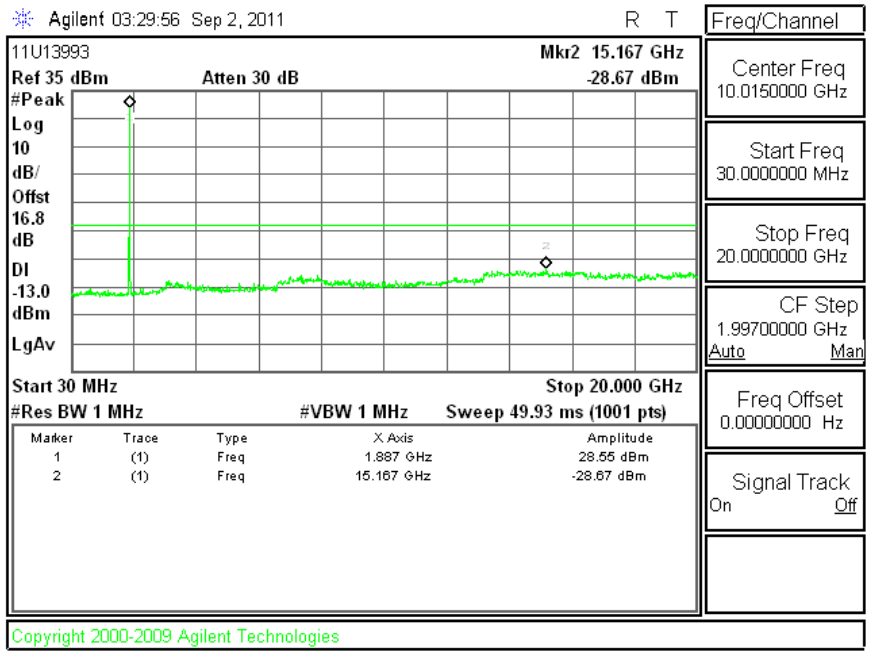
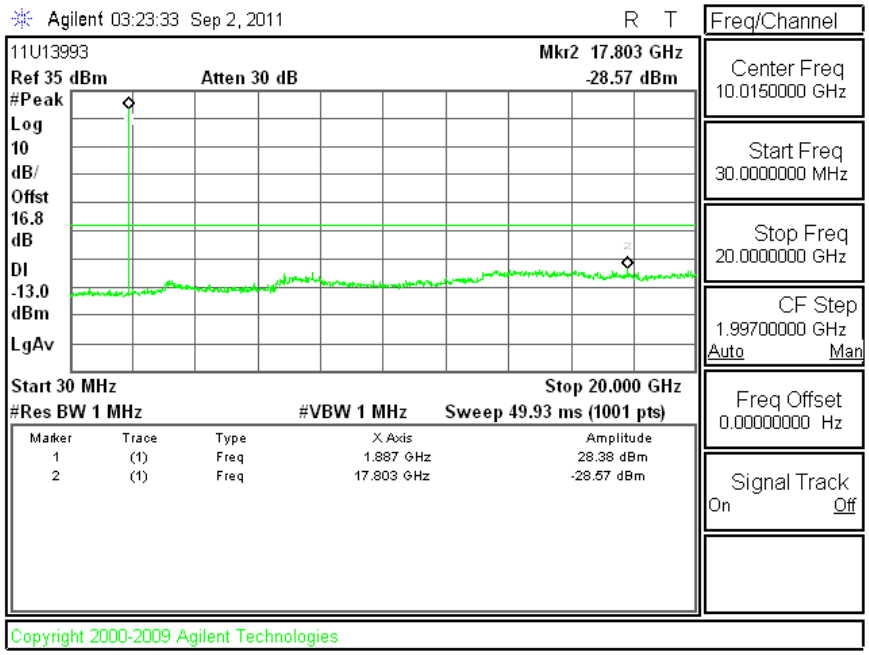
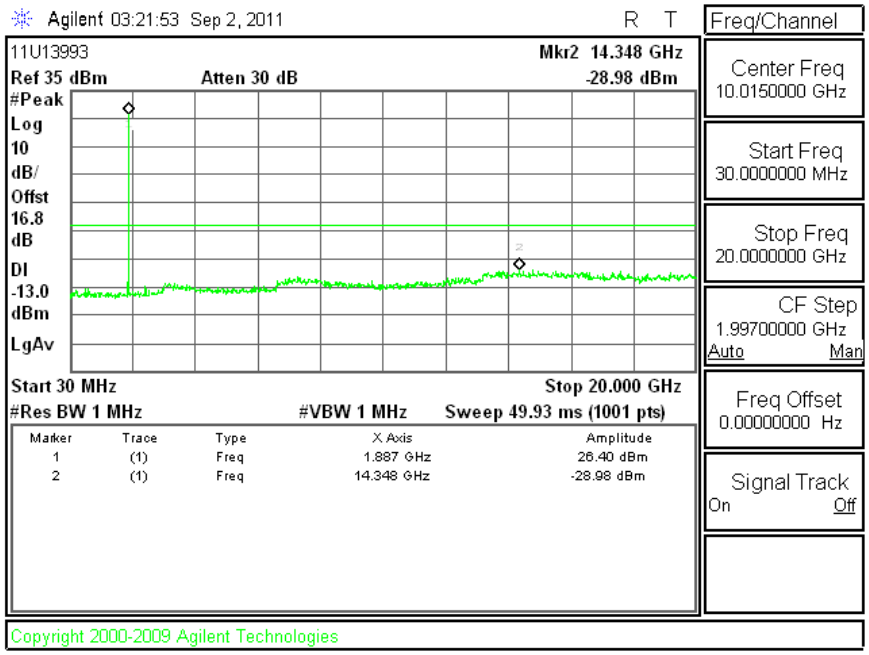


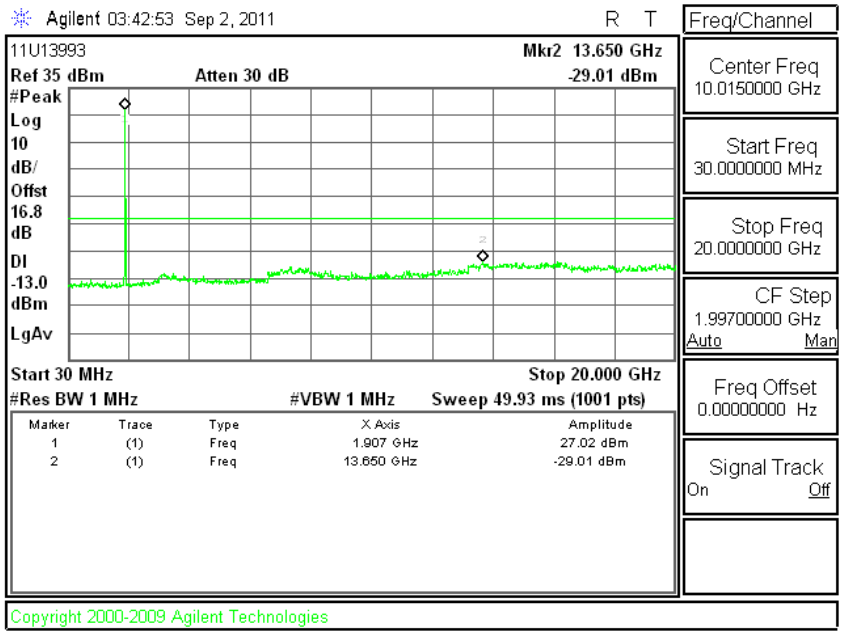
MID CH, RB3_2



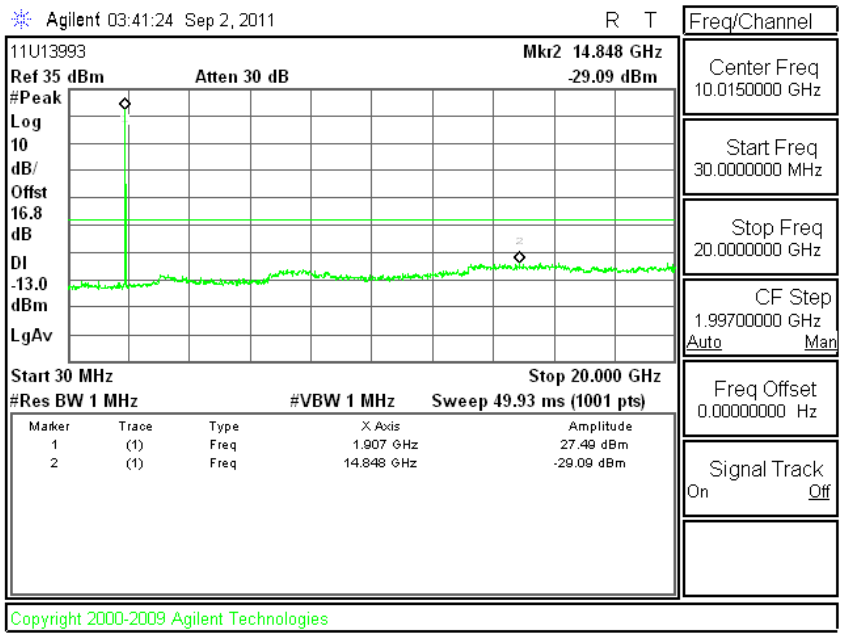
MID CH, RB6_0



HIGH CH, RB1_0

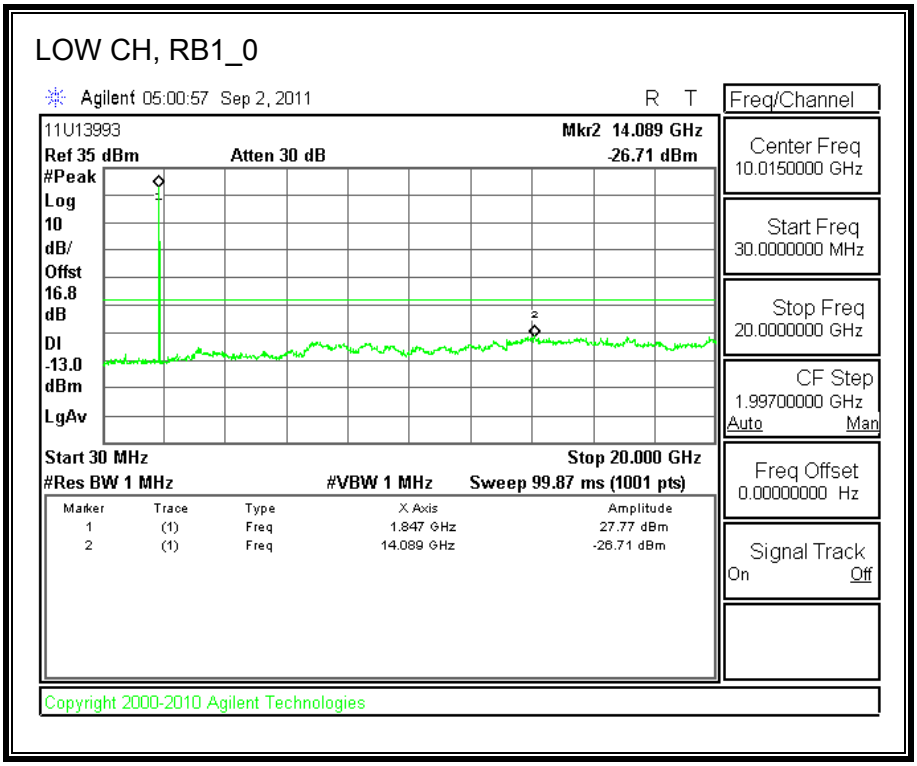


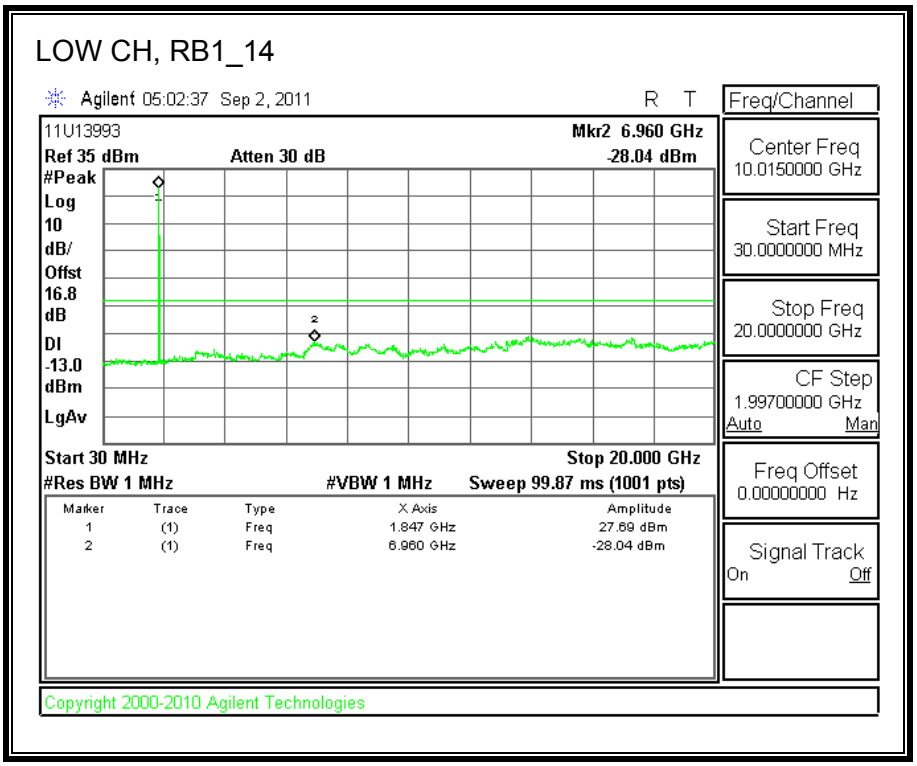
HIGH CH, RB1_5



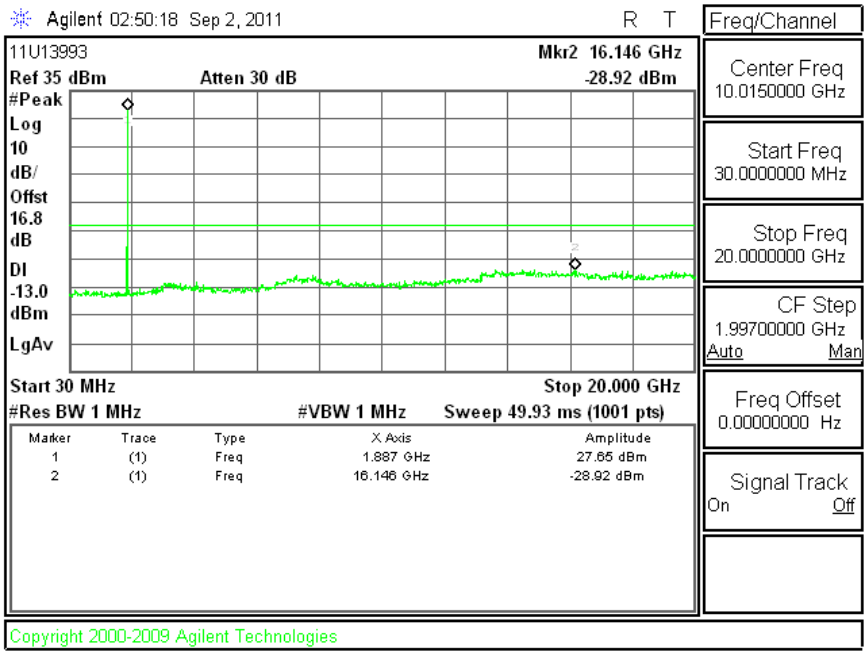
LTE, Band 2 (3.0MHz BAND WIDTH)

QPSK

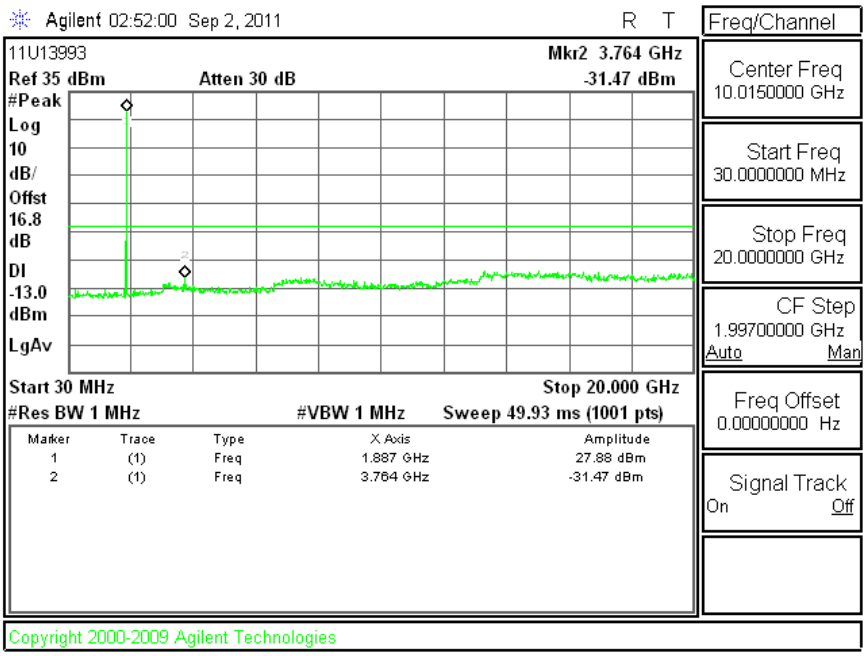




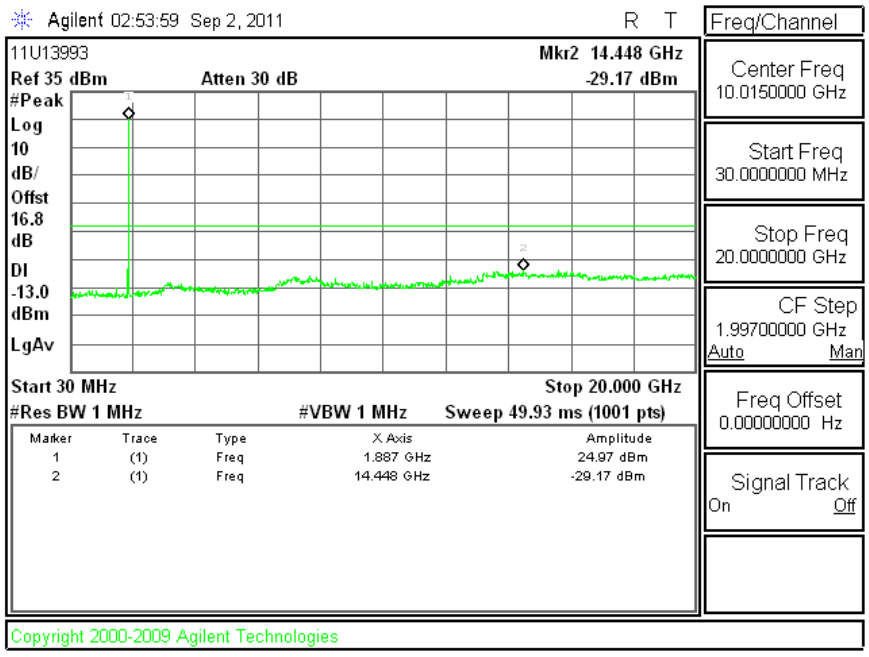
MID CH, RB1_0



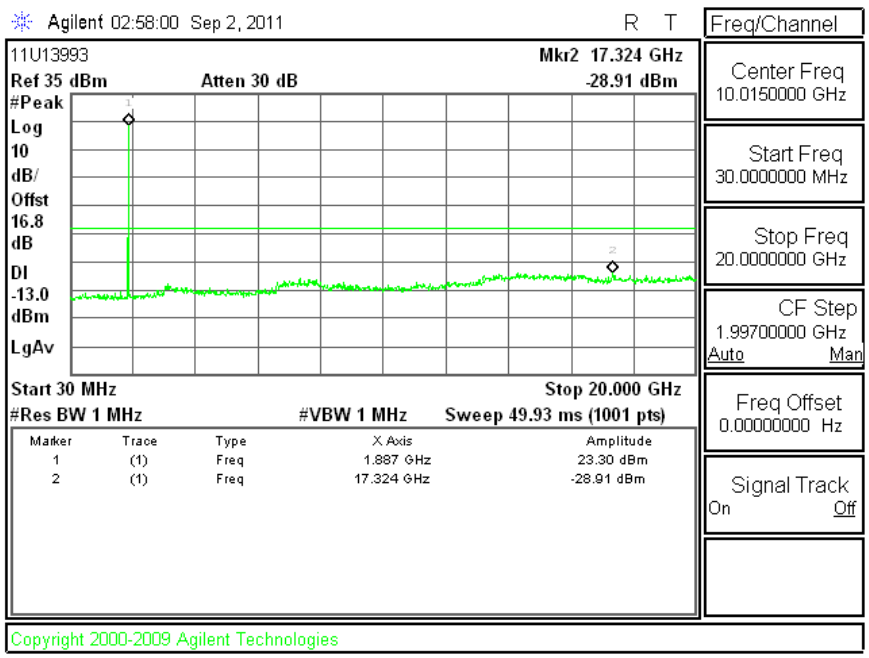
MID CH, RB1_14



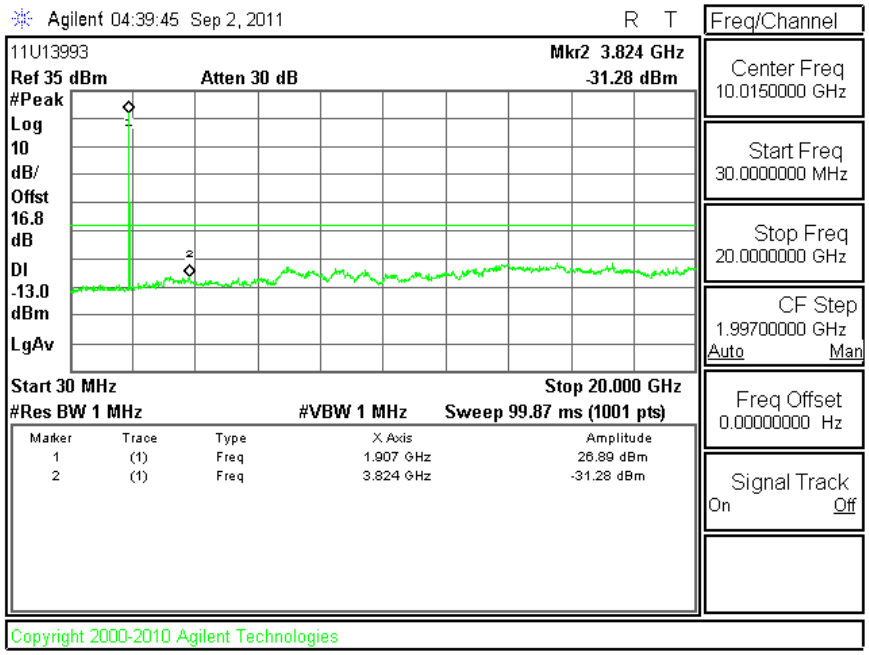
MID CH, RB8_4



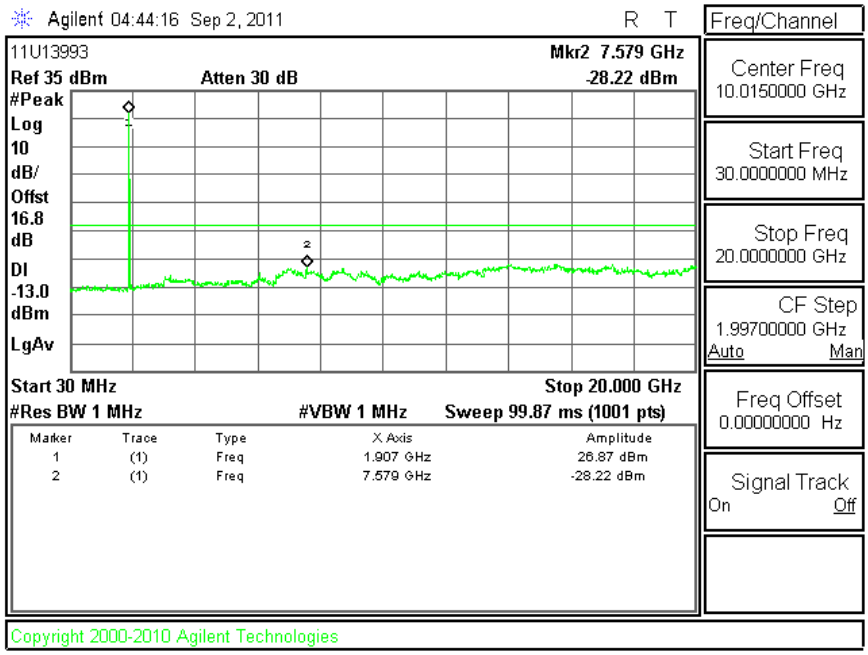
MID CH, RB15_0



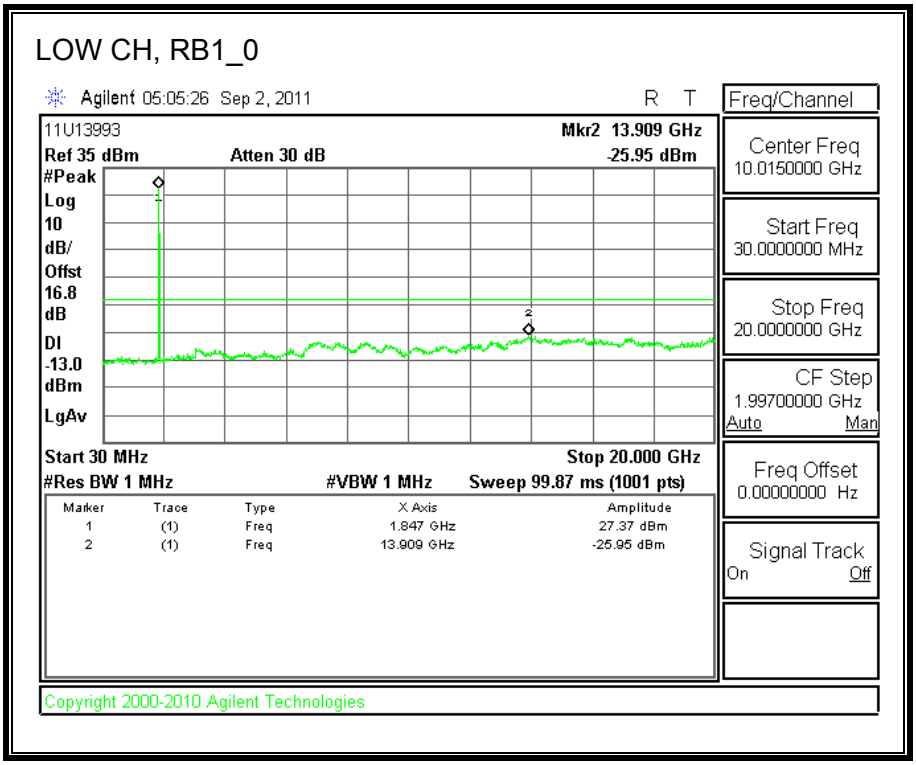
HI CH, RB1_0



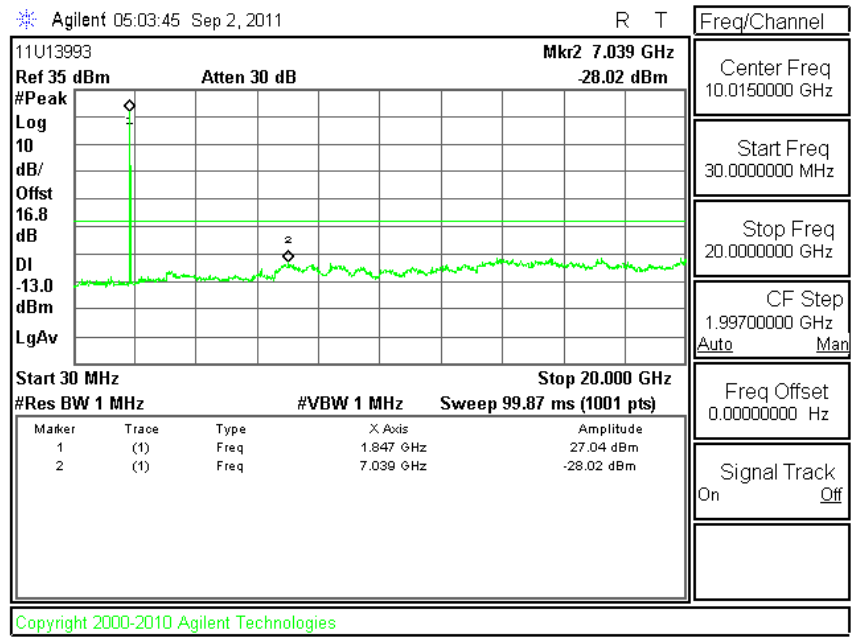
HI CH, RB1_14



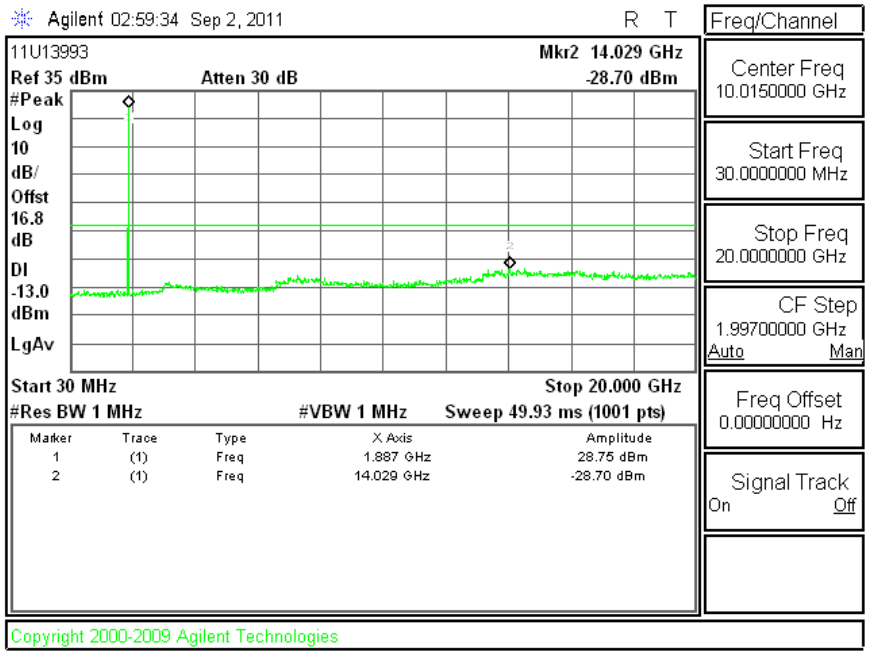
16QAM



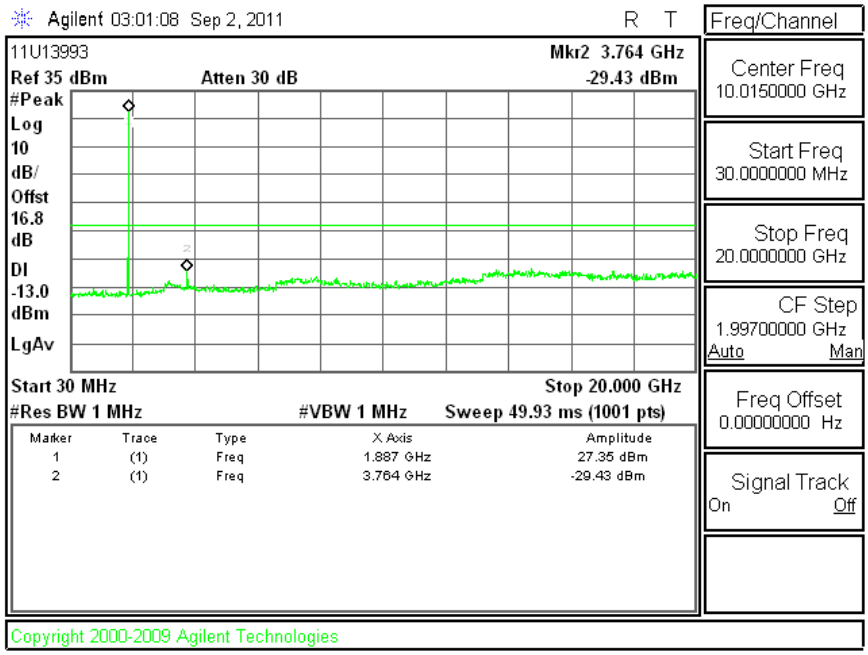
LOW CH, RB1_14



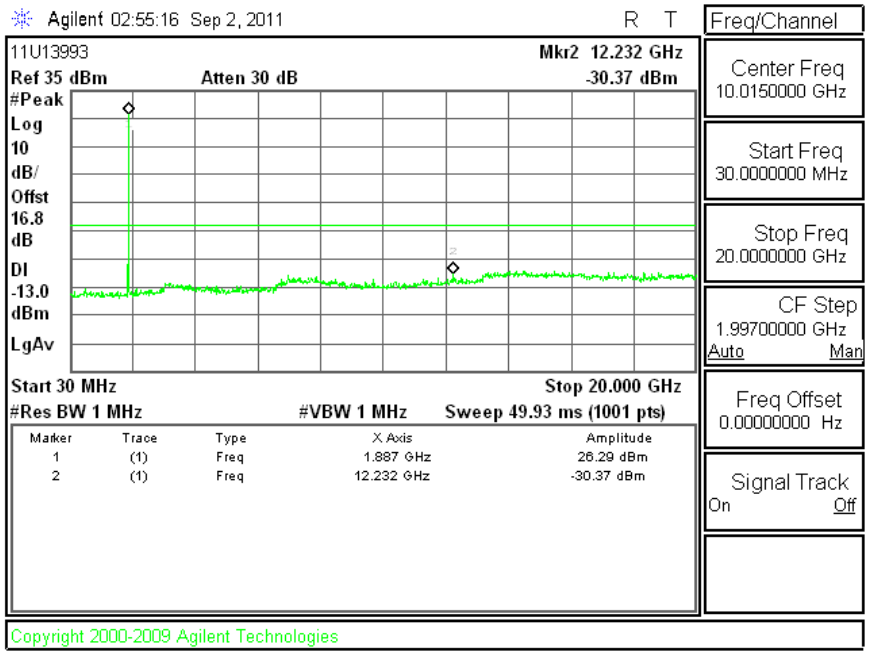
MID CH, RB1_0



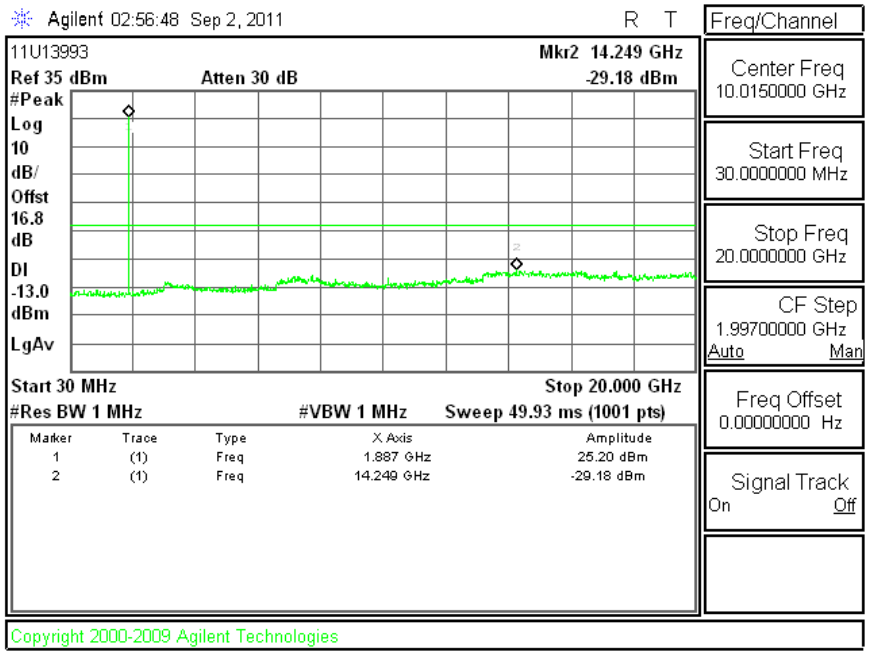
MID CH, RB1_14



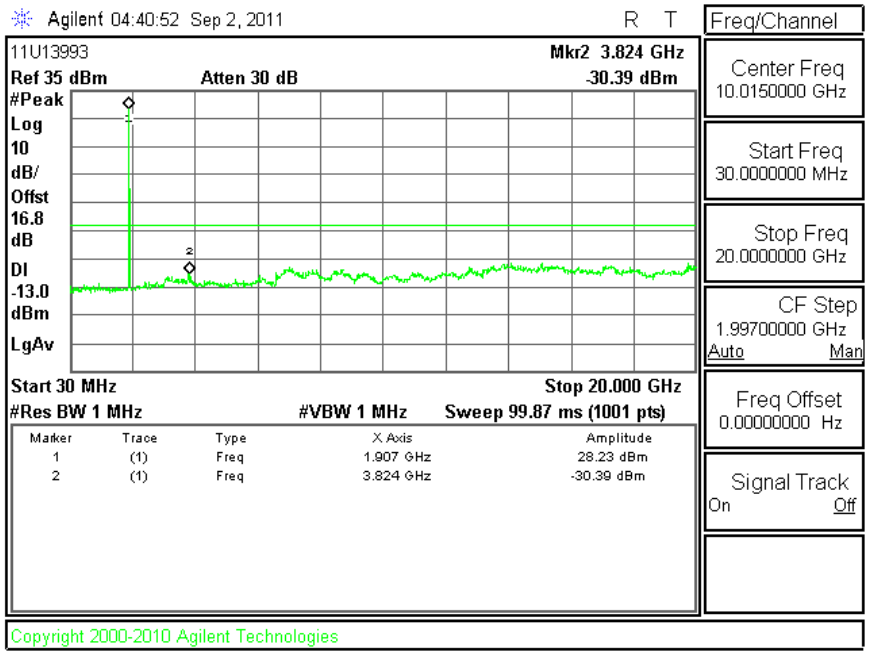
MID CH, RB8_4



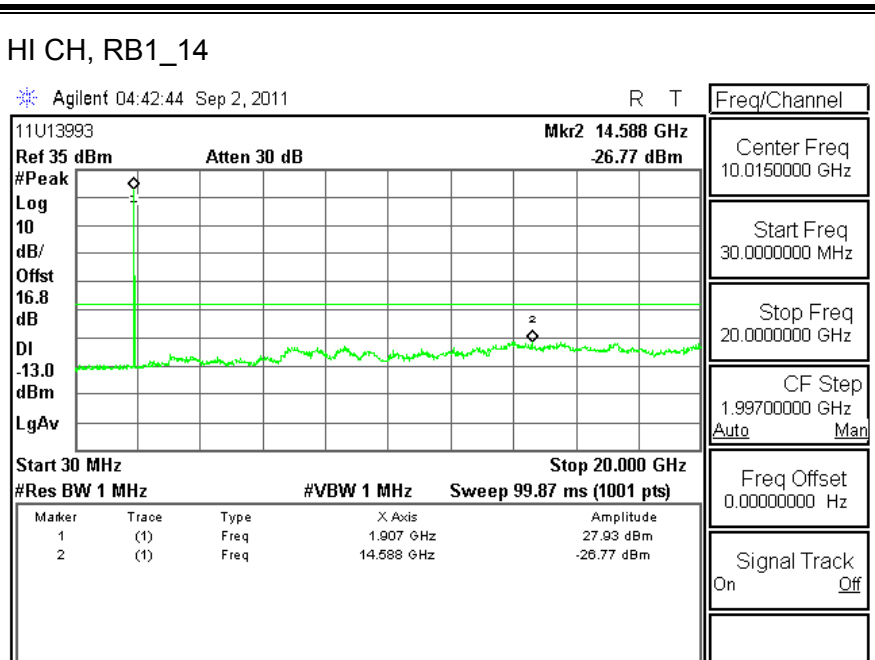
MID CH, RB15_0



HI CH, RB1_0

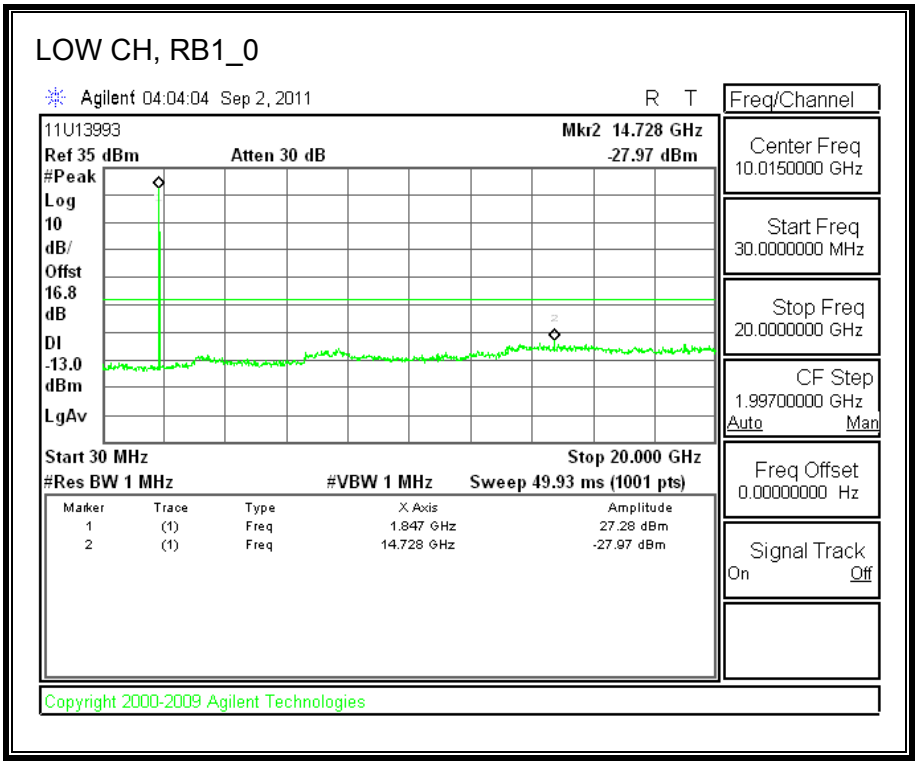


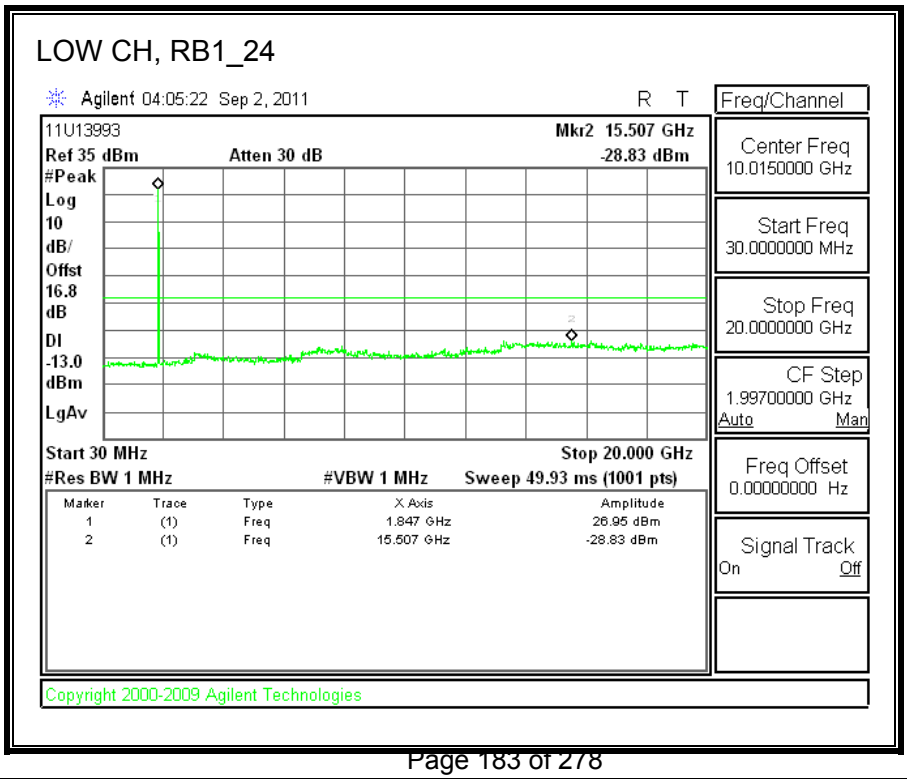
HI CH, RB1_14



LTE, Band 2 (5.0MHz BAND WIDTH)

QPSK





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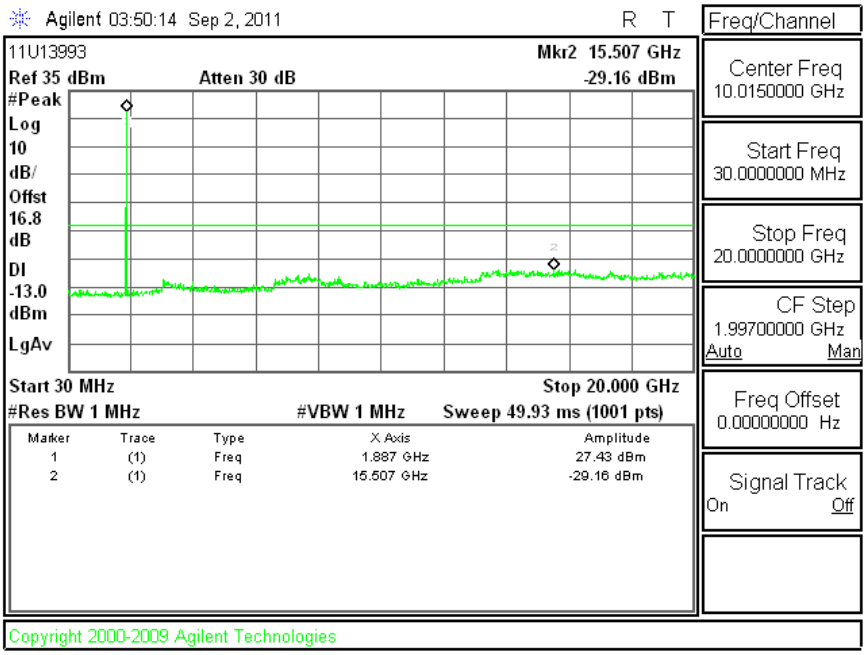
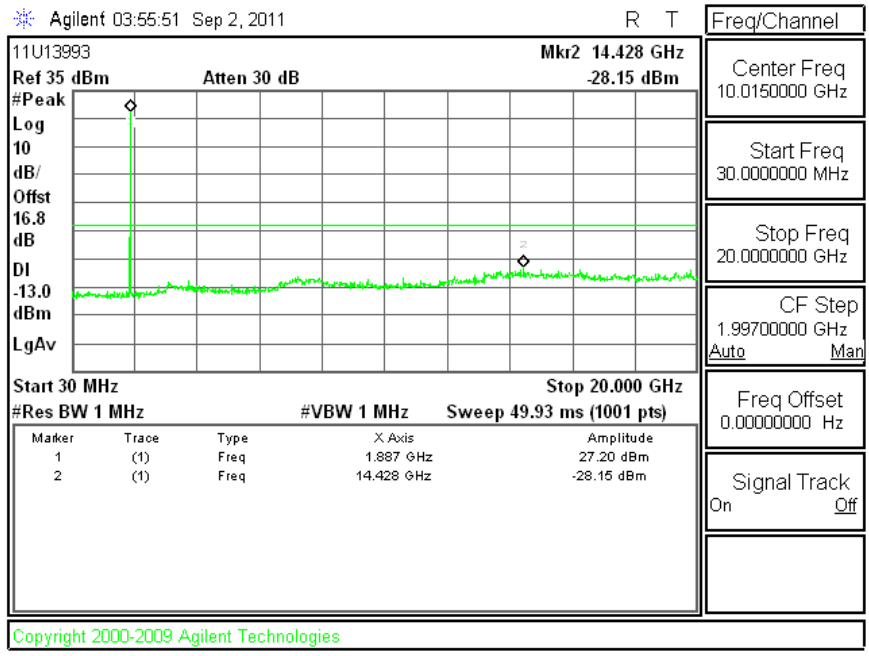
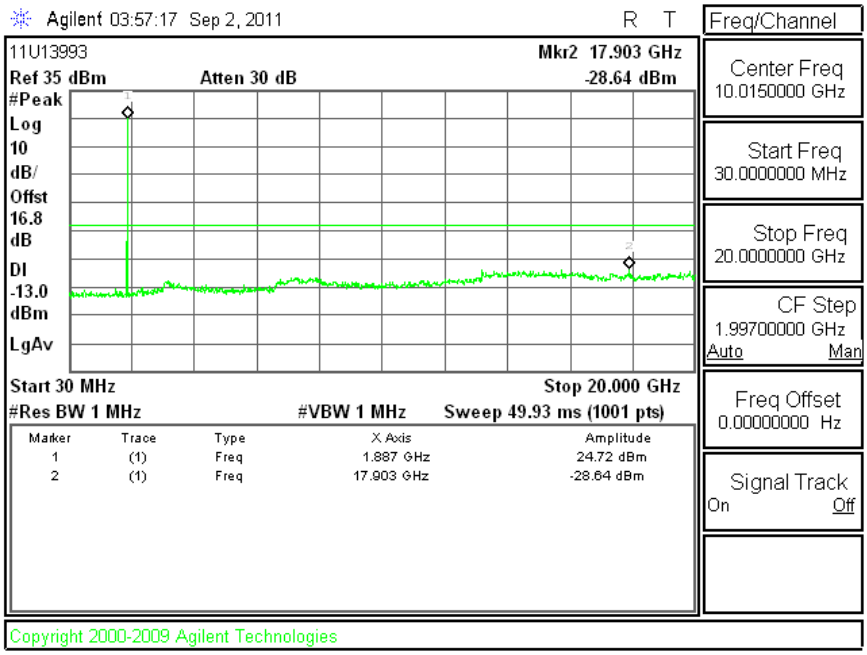


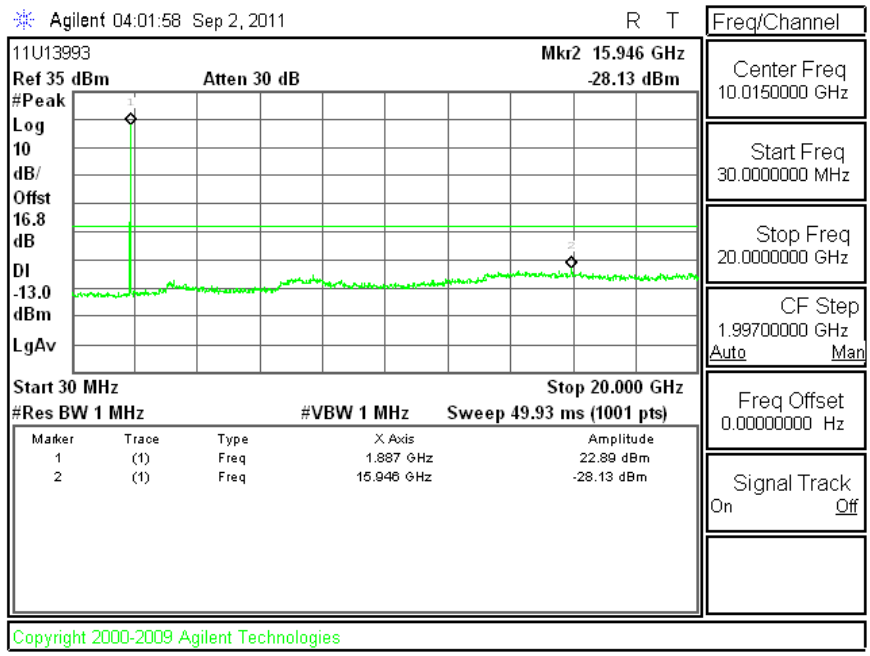
MID CH, RB1_24



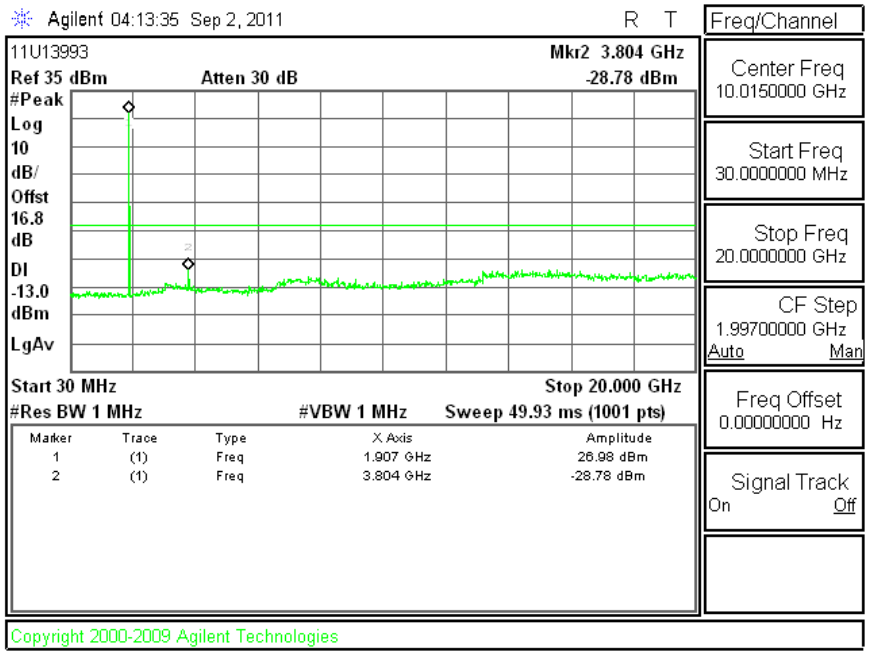
MID CH, RB12_6



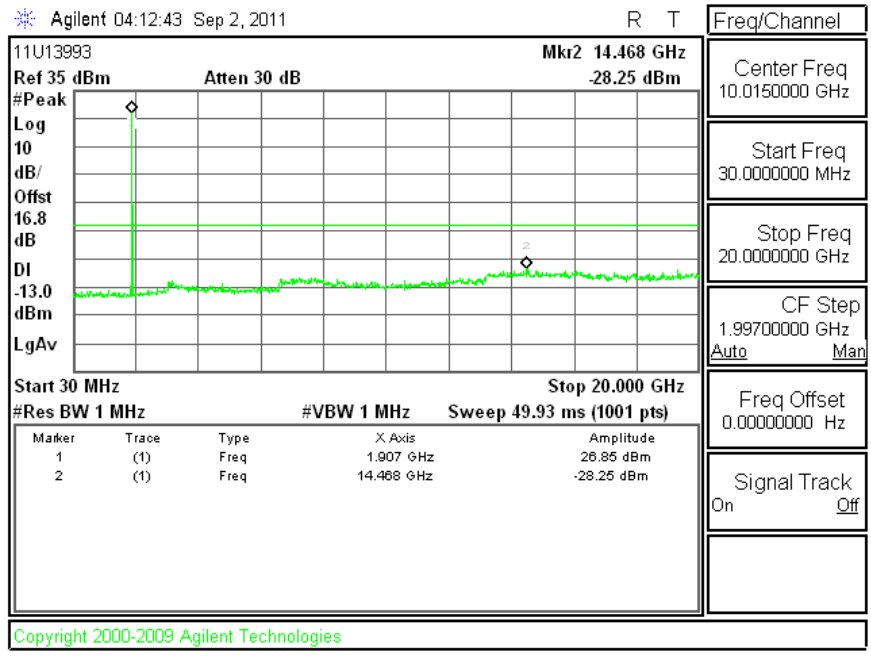
MID CH, RB25_0



HI CH, RB1_0

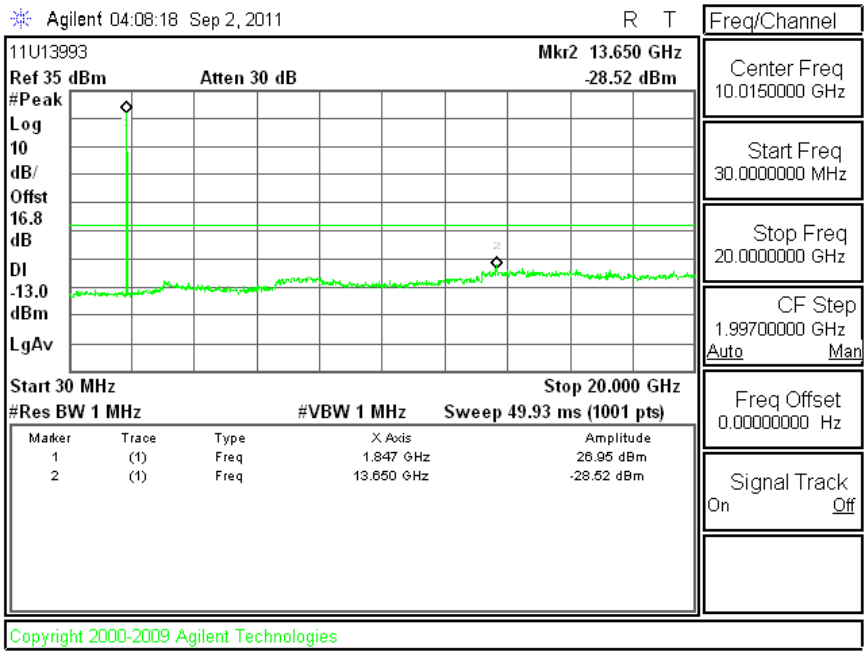


HI CH, RB1_24

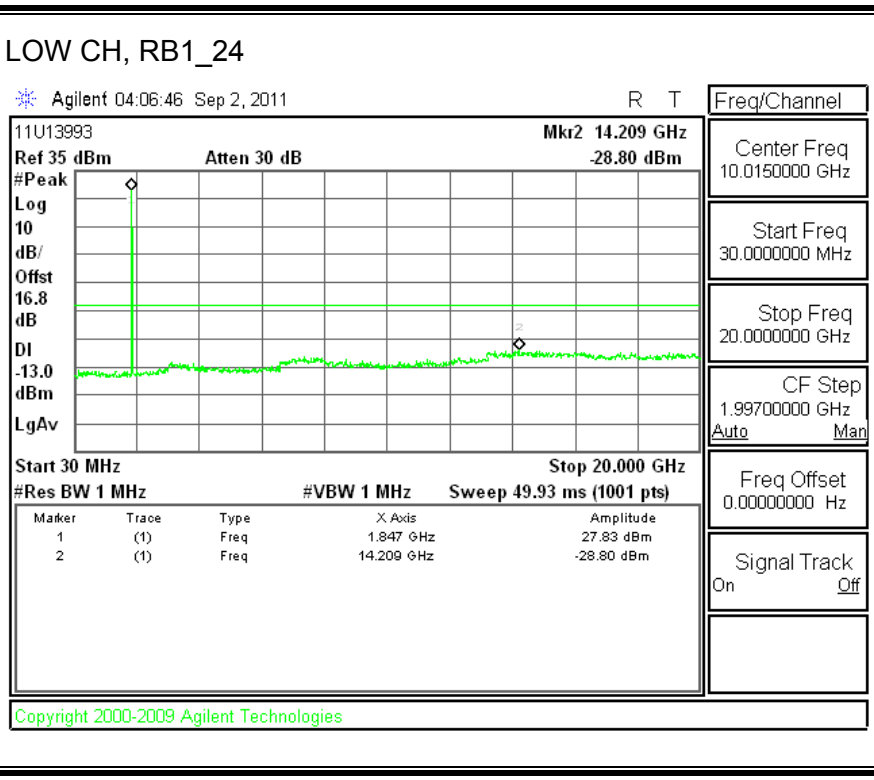


16QAM

LOW CH, RB1_0



LOW CH, RB1_24



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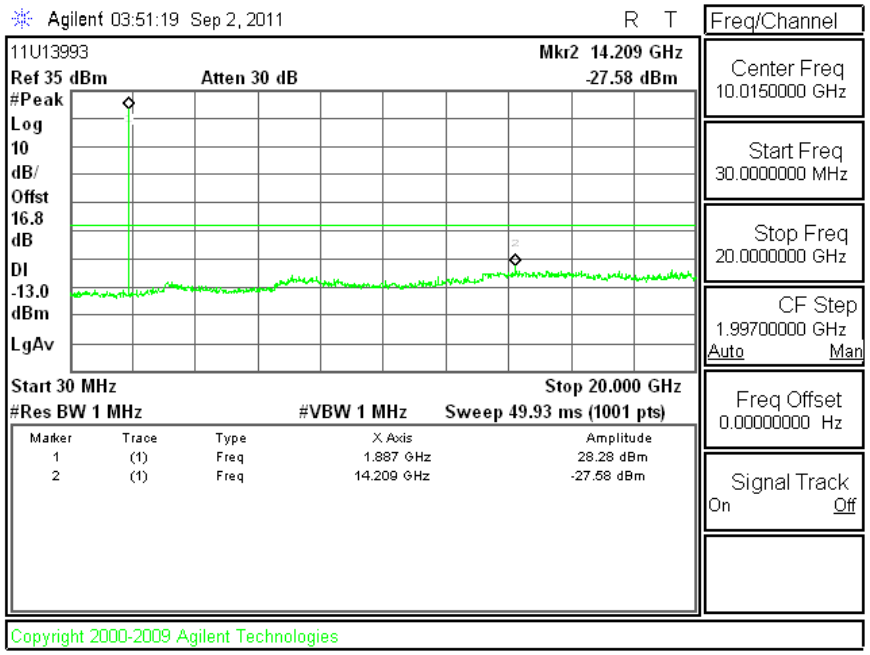

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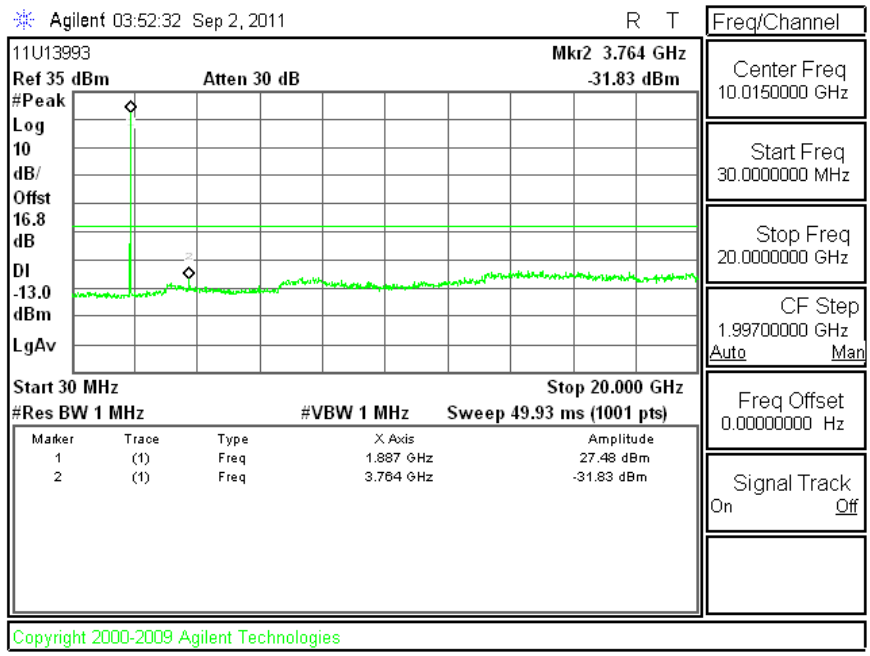

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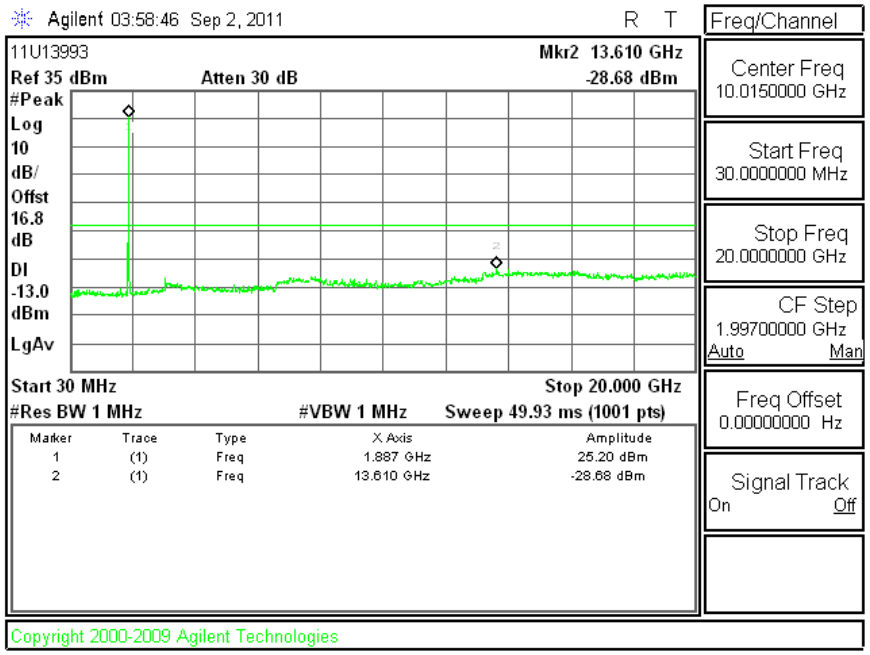
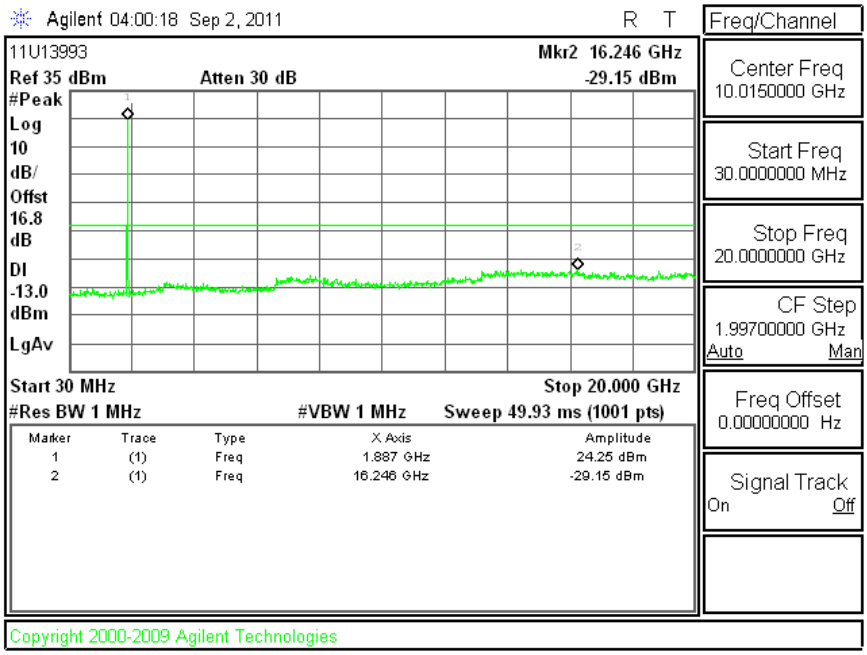
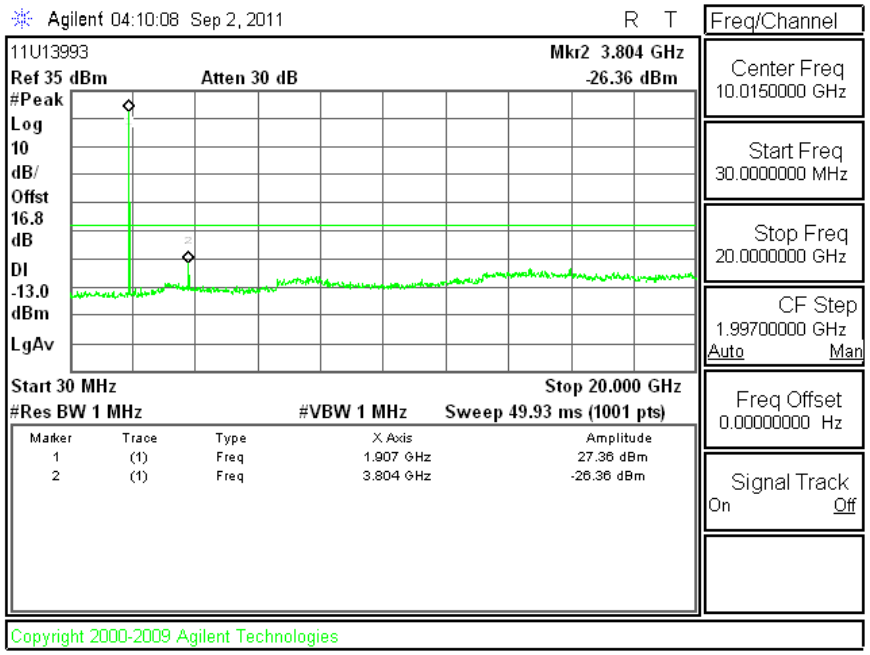


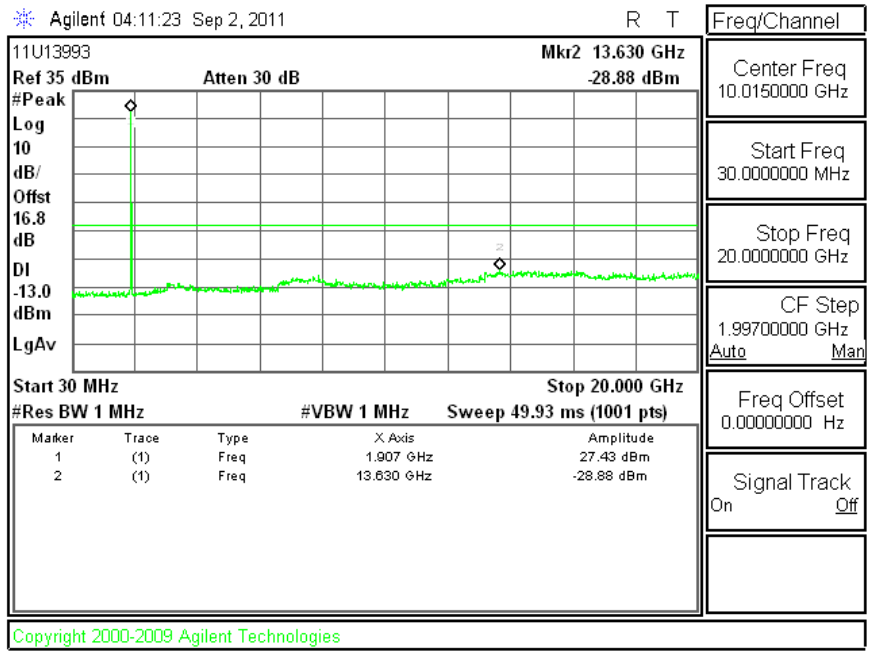
MID CH, RB25_0



HI CH, RB1_0



HI CH, RB1_24



8.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.

LIMITS

§22.355 & RSS-132 4.3 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

RSS-133 6.3 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

TEST PROCEDURE

Use Agilent 8960 and CMW 500 with Frequency Error measurement capability.

- Temp. = −30° to +50°C
- Voltage = 4.2Vdc (85% - 115%)

Frequency Stability vs Temperature:
The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

Frequency Stability vs Voltage:
The peak frequency error is recorded (worst-case).

MODES TESTED

- CDMA 2000 1xRTT
- CDMA 2000 EVDO REV. A
- LTE Band 2 and 4

RESULTS

See the following pages.

CELL, 1xRTT MODULATION – MID CHANNEL

Reference Frequency: Cellular Mid Channel 836.5199981MHz @ 20°C Limit: to stay +- 2.5 ppm = 2091.300 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	836.5200028	-0.006	2.5
4.20	40	836.5200015	-0.004	2.5
4.20	30	836.5199997	-0.002	2.5
4.20	***20***	***836.5199981***	***0***	2.5
4.20	10	836.5199977	0.001	2.5
4.20	0	836.5199972	0.001	2.5
4.20	-10	836.5199972	0.001	2.5
4.20	-20	836.5199973	0.001	2.5
4.20	-30	836.5199973	0.001	2.5
Reference Frequency: Cellular Mid Channel 836.5199981MHz @ 20°C Limit: to stay +- 2.5 ppm = 2091.300 Hz				
Power Supply (Vdc)	**Environment Temperature (°C)**	**Frequency Deviation Measureed with Time Elapse**		
		(MHz)	**Delta (ppm)**	**Limit (ppm)**
100%	***20***	***836.5199981***	***0***	***2.5***
85%	20	836.5199977	*0.000*	2.5
115%	20	836.5199983	*0.000*	2.5

PCS, 1xRTT MODULATION – MID CHANNEL

Reference Frequency: PCS Mid Channel 1879.99999674MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	1879.9999955	0.001	2.5
4.20	40	1879.9999958	0.001	2.5
4.20	30	1879.9999961	0.000	2.5
4.20	***20***	***1879.9999967***	***0***	***2.5***
4.20	10	1880.0000015	-0.003	2.5
4.20	0	1880.0000046	-0.004	2.5
4.20	-10	1880.0000047	-0.004	2.5
4.20	-20	1880.0000050	-0.004	2.5
4.20	-30	1880.0000053	-0.005	2.5

Reference Frequency: PCS Mid Channel 1879.99999674MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
100%	***20***	***1879.9999967***	***0***	***2.5***
85%	20	1879.9999970	*0.000*	2.5
115%	20	1879.9999974	*0.000*	2.5

AWS, 1xRTT – MID CHANNEL

Reference Frequency: Cellular Mid Channel 1732.49999665MHz @ 20°C Limit: to stay +- 2.5 ppm = 4331.250 Hz				
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	1732.5000043	-0.004	2.5
4.20	40	1732.5000016	-0.003	2.5
4.20	30	1732.4999984	-0.001	2.5
4.20	***20***	***1732.4999967***	***0***	2.5
4.20	10	1732.4999967	0.000	2.5
4.20	0	1732.4999969	0.000	2.5
4.20	-10	1732.4999965	0.000	2.5
4.20	-20	1732.4999963	0.000	2.5
4.20	-30	1732.4999962	0.000	2.5

Reference Frequency: Cellular Mid Channel 1732.99999665MHz @ 20°C Limit: to stay +- 2.5 ppm = 4331.250 Hz				
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
100%	***20***	***1732.4999966***	***0***	***2.5***
85%	20	1732.4999968	*0.000*	2.5
115%	20	1732.4999969	*0.000*	2.5

PCS, EVDO REV. A– MID CHANNEL

Reference Frequency: PCS Mid Channel 1879.9999989MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4700.000 Hz				
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (ºC)	(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	1879.9999951	0.002	2.5
4.20	40	1879.9999958	0.002	2.5
4.20	30	1879.9999963	0.001	2.5
4.20	***20***	***1879.9999989***	***0***	***2.5***
4.20	10	1880.0000024	-0.002	2.5
4.20	0	1880.0000024	-0.002	2.5
4.20	-10	1880.0000024	-0.002	2.5
4.20	-20	1880.0000023	-0.002	2.5
4.20	-30	1880.0000023	-0.002	2.5

Reference Frequency: PCS Mid Channel 1879.9999989MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4700.000 Hz				
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (ºC)	(MHz)	Delta (ppm)	Limit (ppm)
100%	***20***	***1879.9999989***	***0***	***2.5***
85%	20	1879.9999983	0.000	2.5
115%	20	1879.9999988	0.000	2.5

AWS, EVDO REV. A.- MID CHANNEL

Reference Frequency: PCS Mid Channel 173200007MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	1732.500027	0.025	2.5
4.20	40	1732.500022	0.028	2.5
4.20	30	1732.500033	0.021	2.5
4.20	***20***	***1732.500070***	***0***	***2.5***
4.20	10	1732.500062	0.005	2.5
4.20	0	1732.500002	0.039	2.5
4.20	-10	1732.500010	0.035	2.5
4.20	-20	1732.500008	0.036	2.5
4.20	-30	1732.500100	-0.017	2.5

Reference Frequency: PCS Mid Channel 1880.00007MHz @ 20ºC Limit: within the authorized block or +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vac)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
100%	***20***	***1732.500070***	***0***	***2.5***
85%	20	1732.500057	*0.008*	2.5
115%	20	1732.500088	*-0.010*	2.5

QPSK-LTE BAND 4 – 1732.5 MHz

Reference Frequency: LTE Band 1732.5000445MHz @ 20°C Limit: to stay +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	1732.5000277	0.010	2.5
4.20	40	1732.5000285	0.009	2.5
4.20	30	1732.5000362	0.005	2.5
4.20	***20***	***1732.5000445***	***0***	2.5
4.20	10	1732.5000403	0.002	2.5
4.20	0	1732.5000353	0.005	2.5
4.20	-10	1732.5000314	0.008	2.5
4.20	-20	1732.5000234	0.012	2.5
4.20	-30	1732.5000235	0.012	2.5

Reference Frequency: Cellular Mid Channel 1732.5000445MHz @ 20°C Limit: to stay +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
100%	***20***	***1732.5000445***	***0***	***2.5***
85%	20	1732.4999725	*0.042*	2.5
115%	20	1732.5000235	*0.012*	2.5

16QAM-LTE BAND 4 – 1732.5 MHz

Reference Frequency: LTE Band 1732.50008646MHz @ 20°C Limit: to stay +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	1732.50011637	-0.017	2.5
4.20	40	1732.50009451	-0.005	2.5
4.20	30	1732.50009123	-0.003	2.5
4.20	***20***	***1732.50008646***	***0***	2.5
4.20	10	1732.50008562	0.000	2.5
4.20	0	1732.50008342	0.002	2.5
4.20	-10	1732.50008134	0.003	2.5
4.20	-20	1732.50007972	0.004	2.5
4.20	-30	1732.50008460	0.001	2.5

Reference Frequency: Cellular Mid Channel 1732.50008646MHz @ 20°C Limit: to stay +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
100%	***20***	***1732.50008646***	***0***	***2.5***
85%	20	1732.49992571	*0.093*	2.5
115%	20	1732.50009871	*-0.007*	2.5

QPSK-LTE BAND 2 – 1880.0 MHz

Reference Frequency: LTE Band 1880.00001991MHz @ 20°C Limit: to stay +- 2.5 ppm = 4700.000 Hz				
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	1880.0000227	-0.001	2.5
4.20	40	1880.0000217	-0.001	2.5
4.20	30	1880.0000207	0.000	2.5
4.20	***20***	***1880.0000199***	***0***	2.5
4.20	10	1879.9999923	0.015	2.5
4.20	0	1879.9999798	0.021	2.5
4.20	-10	1879.9999786	0.022	2.5
4.20	-20	1879.9999781	0.022	2.5
4.20	-30	1879.9999805	0.021	2.5

Reference Frequency: Cellular Mid Channel 1880.00001991MHz @ 20°C Limit: to stay +- 2.5 ppm = 4700.000 Hz				
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
100%	***20***	***1880.0000199***	***0***	***2.5***
85%	20	1879.9999800	*0.021*	2.5
115%	20	1880.0000238	*-0.002*	2.5

16QAM-LTE BAND 2– 1880.0 MHz

Reference Frequency: LTE Band 1880.00007044MHz @ 20°C Limit: to stay +- 2.5 ppm = 4700.000 Hz				
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
4.20	50	1880.00009185	-0.011	2.5
4.20	40	1880.00008762	-0.009	2.5
4.20	30	1880.00008167	-0.006	2.5
4.20	***20***	***1880.00007044***	***0***	2.5
4.20	10	1880.00008821	-0.009	2.5
4.20	0	1880.00009194	-0.011	2.5
4.20	-10	1880.00009246	-0.012	2.5
4.20	-20	1880.00008946	-0.010	2.5
4.20	-30	1880.00010185	-0.017	2.5

Reference Frequency: Cellular Mid Channel 1880.00007044MHz @ 20°C Limit: to stay +- 2.5 ppm = 4700.000 Hz				
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
100%	***20***	***1880.00007044***	***0***	***2.5***
85%	20	1879.99985081	*0.117*	2.5
115%	20	1880.00007602	*-0.003*	2.5

9. RADIATED TEST RESULTS

9.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232

LIMITS

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50 (c)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.

27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17

MODES TESTED

- CDMA 2000 1xRTT
- CDMA 2000 EVDO REV. A
- LTE Band 2 and 4

RESULTS

CELLULAR BAND (ERP)

Mode	Channel	f (MHz)	ERP	
			dBm	mW
1xRTT	1013	824.70	**25.79**	379.31
	384	836.60	25.09	322.85
	777	848.31	24.39	274.79

PCS BAND (EIRP)

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
1xRTT	25	1851.25	27.27	533.33
	600	1880.00	**28.56**	717.79
	1175	1908.75	27.50	562.34
EVDO REV. A	25	1851.25	25.79	379.31
	600	1880.00	26.68	465.59
	1175	1908.75	**27.47**	558.47

AWS BAND (EIRP)

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
1xRTT	25	1711.25	26.98	498.88
	450	1732.50	**27.46**	557.19
	875	1753.75	27.31	538.27
EVDO REV. A	25	1711.25	23.89	244.91
	460	1732.50	**25.76**	376.70
	895	1753.75	24.19	262.42

ERP LTE Band 4 (1.4MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	1710.70	24.07	255.27
		1732.50	**26.76**	474.24
		1754.30	24.58	287.08
	1/5	1710.70	24.15	260.02
		1732.50	**26.47**	443.61
		1754.30	24.41	276.06
	3/2	1710.70	24.36	272.90
		1732.50	**26.53**	449.78
		1754.30	24.42	276.69
	6/0	1710.70	24.37	273.53
		1732.50	**26.60**	457.09
		1754.30	24.60	288.40

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
1.4 MHZ BAND 16QAM	1/0	1710.70	24.57	286.42
		1732.50	**26.83**	481.95
		1754.30	24.87	306.90
	1/5	1710.70	24.60	288.40
		1732.50	**26.70**	467.74
		1754.30	24.84	304.79
	3/2	1710.70	24.57	286.42
		1732.50	**26.71**	468.81
		1754.30	24.67	293.09
	6/0	1710.70	24.90	309.03
		1732.50	**26.82**	480.84
		1754.30	24.97	314.05

ERP LTE Band 4 (3.0MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	1711.50	23.57	227.51
		1732.50	**25.65**	367.28
		1753.50	24.56	285.76
	1/14	1711.50	23.49	223.36
		1732.50	**25.80**	380.19
		1753.50	24.35	272.27
	8/4	1711.50	23.62	230.14
		1732.50	**25.84**	383.71
		1753.50	24.60	288.40
	15/0	1711.50	22.95	197.24
		1732.50	**25.49**	354.00
		1753.50	23.98	250.03

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
3.0 MHZ BAND 16QAM	1/0	1711.50	23.88	244.34
		1732.50	**26.01**	399.02
		1753.50	25.09	322.85
	1/14	1711.50	23.93	247.17
		1732.50	**26.14**	411.15
		1753.50	24.83	304.09
	8/4	1711.50	24.05	254.10
		1732.50	**26.14**	411.15
		1753.50	25.06	320.63
	15/0	1711.50	23.61	229.61
		1732.50	**25.74**	374.97
		1753.50	24.58	287.08

EIRP LTE Band 4 (5MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	1712.50	23.22	209.89
		1732.50	**25.23**	333.43
		1752.50	24.78	300.61
	1/24	1712.50	22.88	194.09
		1732.50	**25.78**	378.44
		1752.50	24.26	266.69
	12/6	1712.50	22.93	196.34
		1732.50	**25.42**	348.34
		1752.50	24.49	281.19
	25/0	1712.50	21.90	154.88
		1732.50	**24.12**	258.23
		1752.50	22.38	172.98

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
5.0 MHZ BAND 16QAM	1/0	1712.50	23.39	218.27
		1732.50	**25.50**	354.81
		1752.50	25.17	328.85
	1/24	1712.50	23.20	208.93
		1732.50	**25.91**	389.94
		1752.50	24.61	289.07
	12/6	1712.50	23.25	211.35
		1732.50	**25.70**	371.54
		1752.50	23.91	246.04
	25/0	1712.50	23.07	202.77
		1732.50	**24.50**	281.84
		1752.50	24.04	253.51

ERP LTE Band 2 (1.4MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	1850.70	26.26	422.67
		1880.00	**28.45**	699.84
		1909.30	27.67	584.79
	1/5	1850.70	26.15	412.10
		1880.00	**28.18**	657.66
		1909.30	27.49	561.05
	3/2	1850.70	26.11	408.32
		1880.00	**28.25**	668.34
		1909.30	27.53	566.24
	6/0	1850.70	26.47	443.61
		1880.00	**28.35**	683.91
		1909.30	27.75	595.66

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
1.4 MHZ BAND 16QAM	1/0	1850.70	26.62	459.20
		1880.00	**28.78**	755.09
		1909.30	28.13	650.13
	1/5	1850.70	26.62	459.20
		1880.00	**28.62**	727.78
		1909.30	27.78	599.79
	3/2	1850.70	26.50	446.68
		1880.00	**28.74**	748.17
		1909.30	27.85	609.54
	6/0	1850.70	26.67	464.52
		1880.00	**28.84**	765.60
		1909.30	27.98	628.06

ERP LTE Band 2 (3.0MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	1851.50	27.03	504.66
		1880.00	**27.89**	615.18
		1908.50	27.10	512.86
	1/14	1851.50	26.95	495.45
		1880.00	**27.75**	595.66
		1908.50	26.59	456.04
	8/4	1851.50	27.08	510.50
		1880.00	**27.85**	609.54
		1908.50	26.84	483.06
	15/0	1851.50	26.67	464.52
		1880.00	**27.35**	543.25
		1908.50	26.30	426.58

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
3.0 MHZ BAND 16QAM	1/0	1851.50	27.49	561.05
		1880.00	**28.47**	703.07
		1908.50	27.72	591.56
	1/14	1851.50	27.16	520.00
		1880.00	**28.12**	648.63
		1908.50	27.17	521.19
	8/4	1851.50	27.37	545.76
		1880.00	**28.30**	676.08
		1908.50	27.26	532.11
	15/0	1851.50	26.98	498.88
		1880.00	**27.97**	626.61
		1908.50	26.71	468.81

EIRP LTE Band 2 (5MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	1852.50	25.16	328.10
		1880.00	**28.04**	636.80
		1907.50	26.35	431.52
	1/24	1852.50	24.84	304.79
		1880.00	**27.60**	575.44
		1907.50	25.73	374.11
	12/6	1852.50	24.94	311.89
		1880.00	**27.37**	545.76
		1907.50	26.20	416.87
	25/0	1852.50	24.28	267.92
		1880.00	**25.57**	360.58
		1907.50	24.99	315.50

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
5.0 MHZ BAND 16QAM	1/0	1852.50	25.27	336.51
		1880.00	**28.36**	685.49
		1907.50	26.69	466.66
	1/24	1852.50	25.03	318.42
		1880.00	**27.96**	625.17
		1907.50	25.83	382.82
	12/6	1852.50	25.13	325.84
		1880.00	**27.93**	620.87
		1907.50	26.32	428.55
	25/0	1852.50	24.97	314.05
		1880.00	**26.95**	495.45
		1907.50	25.53	357.27

ERP 1xRTT 850 BAND

High Frequency Substitution Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/17/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, CELL BAND CDMA MODE

Test Equipment:
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
824.70	26.29	V	0.5	0.0	25.79	38.5	-12.7	
824.70	12.45	H	0.5	0.0	11.95	38.5	-26.5	
836.52	25.59	V	0.5	0.0	25.09	38.5	-13.4	
836.52	13.41	H	0.5	0.0	12.91	38.5	-25.5	
848.31	24.89	V	0.5	0.0	24.39	38.5	-14.1	
848.31	13.86	H	0.5	0.0	13.36	38.5	-25.1	

Rev. 3.17.11

EIRP 1xRTT 1900 BAND

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/17/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, PCS BAND CDMA 1xRTT MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	12.4	V	0.85	8.01	19.58	33.0	-13.4	
1.851	20.1	H	0.85	8.01	27.27	33.0	-5.7	
1.880	13.0	V	0.85	8.13	20.24	33.0	-12.8	
1.880	21.3	H	0.85	8.13	28.56	33.0	-4.4	
1.909	12.0	V	0.85	8.13	19.30	33.0	-13.7	
1.909	20.2	H	0.85	8.13	27.50	33.0	-5.5	

Rev. 3.17.11

EIRP 1xRTT 1700 BAND

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/17/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, AWS BAND CDMA MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T73 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	11.1	V	0.85	8.01	18.21	33.0	-14.8	
1.711	19.8	H	0.85	8.01	26.98	33.0	-6.0	
1.733	10.7	V	0.85	8.07	17.93	33.0	-15.1	
1.733	20.2	H	0.85	8.07	27.46	33.0	-5.5	
1.754	10.7	V	0.85	8.13	18.02	33.0	-15.0	
1.754	20.0	H	0.85	8.13	27.31	33.0	-5.7	

Rev. 1.24.7

EIRP EVDO REV A 1900 BAND

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/17/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, PCS BAND EVDO REV. A MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	11.6	V	0.85	8.01	18.80	33.0	-14.2	
1.851	18.6	H	0.85	8.01	25.79	33.0	-7.2	
1.880	12.5	V	0.85	8.13	19.81	33.0	-13.2	
1.880	19.4	H	0.85	8.13	26.68	33.0	-6.3	
1.909	12.5	V	0.85	8.13	19.79	33.0	-13.2	
1.909	20.2	H	0.85	8.13	27.47	33.0	-5.5	

Rev. 3.17.11

EIRP EVDO REV A 1700 BAND

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/17/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, AWS BAND EVDO REV. A MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T73 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	8.8	V	0.85	8.01	15.94	33.0	-17.1	
1.711	16.7	H	0.85	8.01	23.89	33.0	-9.1	
1.733	9.9	V	0.85	8.07	17.08	33.0	-15.9	
1.733	18.5	H	0.85	8.07	25.76	33.0	-7.2	
1.754	10.8	V	0.85	8.13	18.08	33.0	-14.9	
1.754	16.9	H	0.85	8.13	24.19	33.0	-8.8	

Rev. 1.24.7

ERP LTE QPSK Band 4 (1.4MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_1.4 MHz BW_QPSK_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	10.5	V	0.67	8.01	17.83	30.0	-12.2	
1.711	16.7	H	0.67	8.01	24.07	30.0	-5.9	
1.733	11.6	V	0.67	8.07	19.00	30.0	-11.0	
1.733	19.4	H	0.67	8.07	26.76	30.0	-3.2	
1.754	10.9	V	0.67	8.13	18.38	30.0	-11.6	
1.754	17.1	H	0.67	8.13	24.58	30.0	-5.4	

Rev. 1.24.7

RB1-5

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_1.4 MHz BW_QPSK_RB#1_5 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	10.5	V	0.67	8.01	17.81	30.0	-12.2	
1.711	16.8	H	0.67	8.01	24.15	30.0	-5.9	
1.733	11.8	V	0.67	8.07	19.17	30.0	-10.8	
1.733	19.1	H	0.67	8.07	26.47	30.0	-3.5	
1.754	10.9	V	0.67	8.13	18.35	30.0	-11.7	
1.754	17.0	H	0.67	8.13	24.41	30.0	-5.6	

Rev. 1.24.7

RB3-2

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_1.4 MHz BW_QPSK_RB#3_2 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	10.7	V	0.67	8.01	18.08	30.0	-11.9	
1.711	17.0	H	0.67	8.01	24.36	30.0	-5.6	
1.733	11.7	V	0.67	8.07	19.14	30.0	-10.9	
1.733	19.1	H	0.67	8.07	26.53	30.0	-3.5	
1.754	11.1	V	0.67	8.13	18.57	30.0	-11.4	
1.754	17.0	H	0.67	8.13	24.42	30.0	-5.6	

Rev. 1.24.7

RB6-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_1.4 MHz BW_QPSK_RB#6_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	10.8	V	0.67	8.01	18.15	30.0	-11.9	
1.711	17.0	H	0.67	8.01	24.37	30.0	-5.6	
1.733	11.8	V	0.67	8.07	19.17	30.0	-10.8	
1.733	19.2	H	0.67	8.07	26.60	30.0	-3.4	
1.754	11.2	V	0.67	8.13	18.66	30.0	-11.3	
1.754	17.1	H	0.67	8.13	24.60	30.0	-5.4	

Rev. 1.24.7

ERP LTE 16QAM Band 4 (1.4MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_1.4 MHz BW_16QAM_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	11.2	V	0.67	8.01	18.53	30.0	-11.5	
1.711	17.2	H	0.67	8.01	24.57	30.0	-5.4	
1.733	11.9	V	0.67	8.07	19.32	30.0	-10.7	
1.733	19.4	H	0.67	8.07	26.83	30.0	-3.2	
1.754	11.4	V	0.67	8.13	18.90	30.0	-11.1	
1.754	17.4	H	0.67	8.13	24.87	30.0	-5.1	

Rev. 1.24.7

RB1-5

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_1.4 MHz BW_16QAM_RB#1_5 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	11.1	V	0.67	8.01	18.39	30.0	-11.6	
1.711	17.3	H	0.67	8.01	24.60	30.0	-5.4	
1.733	12.1	V	0.67	8.07	19.47	30.0	-10.5	
1.733	19.3	H	0.67	8.07	26.70	30.0	-3.3	
1.754	11.4	V	0.67	8.13	18.85	30.0	-11.2	
1.754	17.4	H	0.67	8.13	24.84	30.0	-5.2	

Rev. 1.24.7

RB3-2

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_1.4 MHz BW_16QAM_RB#3_2 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	10.9	V	0.67	8.01	18.23	30.0	-11.8	
1.711	17.2	H	0.67	8.01	24.57	30.0	-5.4	
1.733	11.9	V	0.67	8.07	19.29	30.0	-10.7	
1.733	19.3	H	0.67	8.07	26.71	30.0	-3.3	
1.754	11.3	V	0.67	8.13	18.78	30.0	-11.2	
1.754	17.2	H	0.67	8.13	24.67	30.0	-5.3	

Rev. 1.24.7

RB6-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_1.4 MHz BW_16QAM_RB#6_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.711	11.1	V	0.67	8.01	18.46	30.0	-11.5	
1.711	17.6	H	0.67	8.01	24.90	30.0	-5.1	
1.733	12.0	V	0.67	8.07	19.38	30.0	-10.6	
1.733	19.4	H	0.67	8.07	26.82	30.0	-3.2	
1.754	11.7	V	0.67	8.13	19.18	30.0	-10.8	
1.754	17.5	H	0.67	8.13	24.97	30.0	-5.0	

Rev. 1.24.7

ERP LTE QPSK Band 4 (3.0MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_3 MHz BW_QPSK_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.712	9.8	V	0.67	8.01	17.09	30.0	-12.9	
1.712	16.2	H	0.67	8.01	23.57	30.0	-6.4	
1.733	12.1	V	0.67	8.07	19.46	30.0	-10.5	
1.733	18.3	H	0.67	8.07	25.65	30.0	-4.4	
1.754	12.1	V	0.67	8.13	19.54	30.0	-10.5	
1.754	17.1	H	0.67	8.13	24.56	30.0	-5.4	

Rev. 1.24.7

RB1-14

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_3 MHz BW_QPSK_RB#1_14 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.712	9.8	V	0.67	8.01	17.12	30.0	-12.9	
1.712	16.2	H	0.67	8.01	23.49	30.0	-6.5	
1.733	12.6	V	0.67	8.07	20.01	30.0	-10.0	
1.733	18.4	H	0.67	8.07	25.80	30.0	-4.2	
1.754	11.9	V	0.67	8.13	19.36	30.0	-10.6	
1.754	16.9	H	0.67	8.13	24.35	30.0	-5.7	

Rev. 1.24.7

RB8-4

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_3 MHz BW_QPSK_RB#8_4 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.712	10.0	V	0.67	8.01	17.35	30.0	-12.7	
1.712	16.3	H	0.67	8.01	23.62	30.0	-6.4	
1.733	12.3	V	0.67	8.07	19.69	30.0	-10.3	
1.733	18.4	H	0.67	8.07	25.84	30.0	-4.2	
1.754	11.9	V	0.67	8.13	19.38	30.0	-10.6	
1.754	17.1	H	0.67	8.13	24.60	30.0	-5.4	

Rev. 1.24.7

RB15-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_3 MHz BW_QPSK_RB#15_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.712	9.4	V	0.67	8.01	16.78	30.0	-13.2	
1.712	15.6	H	0.67	8.01	22.95	30.0	-7.1	
1.733	11.8	V	0.67	8.07	19.16	30.0	-10.8	
1.733	18.1	H	0.67	8.07	25.49	30.0	-4.5	
1.754	11.4	V	0.67	8.13	18.81	30.0	-11.2	
1.754	16.5	H	0.67	8.13	23.98	30.0	-6.0	

Rev. 1.24.7

ERP LTE 16QAM Band 4 (3.0MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_3 MHz BW_16QAM_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.712	10.2	V	0.67	8.01	17.51	30.0	-12.5	
1.712	16.5	H	0.67	8.01	23.88	30.0	-6.1	
1.733	12.4	V	0.67	8.07	19.76	30.0	-10.2	
1.733	18.6	H	0.67	8.07	26.01	30.0	-4.0	
1.754	12.6	V	0.67	8.13	20.04	30.0	-10.0	
1.754	17.6	H	0.67	8.13	25.09	30.0	-4.9	

Rev. 1.24.7

RB1-14

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_3 MHz BW_16QAM_RB#1_14 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.712	10.2	V	0.67	8.01	17.56	30.0	-12.4	
1.712	16.6	H	0.67	8.01	23.93	30.0	-6.1	
1.733	12.9	V	0.67	8.07	20.28	30.0	-9.7	
1.733	18.7	H	0.67	8.07	26.14	30.0	-3.9	
1.754	12.4	V	0.67	8.13	19.90	30.0	-10.1	
1.754	17.4	H	0.67	8.13	24.83	30.0	-5.2	

Rev. 1.24.7

RB8-4

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_3 MHz BW_16QAM_RB#8_4 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.712	10.3	V	0.67	8.01	17.66	30.0	-12.3	
1.712	16.7	H	0.67	8.01	24.05	30.0	-6.0	
1.733	12.6	V	0.67	8.07	19.98	30.0	-10.0	
1.733	18.7	H	0.67	8.07	26.14	30.0	-3.9	
1.754	12.5	V	0.67	8.13	19.93	30.0	-10.1	
1.754	17.6	H	0.67	8.13	25.06	30.0	-4.9	

Rev. 1.24.7

RB15-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/06/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_3 MHz BW_16QAM_RB#15_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.712	10.0	V	0.67	8.01	17.34	30.0	-12.7	
1.712	16.3	H	0.67	8.01	23.61	30.0	-6.4	
1.733	12.3	V	0.67	8.07	19.67	30.0	-10.3	
1.733	18.3	H	0.67	8.07	25.74	30.0	-4.3	
1.754	12.0	V	0.67	8.13	19.50	30.0	-10.5	
1.754	17.1	H	0.67	8.13	24.58	30.0	-5.4	

Rev. 1.24.7

ERP LTE QPSK Band 4 (5.0MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_5 MHz BW_QPSK_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.713	10.2	V	0.67	8.01	17.58	30.0	-12.4	
1.713	15.9	H	0.67	8.01	23.22	30.0	-6.8	
1.733	11.9	V	0.67	8.07	19.26	30.0	-10.7	
1.733	17.8	H	0.67	8.07	25.23	30.0	-4.8	
1.753	10.9	V	0.67	8.13	18.34	30.0	-11.7	
1.753	17.3	H	0.67	8.13	24.78	30.0	-5.2	

Rev. 1.24.7

RB1-24

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_5 MHz BW_QPSK_RB#1_24 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.713	9.9	V	0.67	8.01	17.27	30.0	-12.7	
1.713	15.5	H	0.67	8.01	22.88	30.0	-7.1	
1.733	12.4	V	0.67	8.07	19.83	30.0	-10.2	
1.733	18.4	H	0.67	8.07	25.78	30.0	-4.2	
1.753	10.4	V	0.67	8.13	17.84	30.0	-12.2	
1.753	16.8	H	0.67	8.13	24.26	30.0	-5.7	

Rev. 1.24.7

RB12-6

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_5 MHz BW_QPSK_RB#12_6 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.713	9.8	V	0.67	8.01	17.11	30.0	-12.9	
1.713	15.6	H	0.67	8.01	22.93	30.0	-7.1	
1.733	11.9	V	0.67	8.07	19.30	30.0	-10.7	
1.733	18.0	H	0.67	8.07	25.42	30.0	-4.6	
1.753	10.2	V	0.67	8.13	17.70	30.0	-12.3	
1.753	17.0	H	0.67	8.13	24.49	30.0	-5.5	

Rev. 1.24.7

RB25-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_5 MHz BW_QPSK_RB#25_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.713	7.6	V	0.67	8.01	14.89	30.0	-15.1	
1.713	14.6	H	0.67	8.01	21.90	30.0	-8.1	
1.733	10.5	V	0.67	8.07	17.93	30.0	-12.1	
1.733	16.7	H	0.67	8.07	24.12	30.0	-5.9	
1.753	8.2	V	0.67	8.13	15.64	30.0	-14.4	
1.753	14.9	H	0.67	8.13	22.38	30.0	-7.6	

Rev. 1.24.7

ERP LTE 16QAM Band 4 (5.0MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_5 MHz BW_16QAM_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.713	10.3	V	0.67	8.01	17.64	30.0	-12.4	
1.713	16.1	H	0.67	8.01	23.39	30.0	-6.6	
1.733	12.1	V	0.67	8.07	19.49	30.0	-10.5	
1.733	18.1	H	0.67	8.07	25.50	30.0	-4.5	
1.753	11.1	V	0.67	8.13	18.58	30.0	-11.4	
1.753	17.7	H	0.67	8.13	25.17	30.0	-4.8	

Rev. 1.24.7

RB1-24

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_5 MHz BW_16QAM_RB#1_24 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.713	10.3	V	0.67	8.01	17.66	30.0	-12.3	
1.713	15.9	H	0.67	8.01	23.20	30.0	-6.8	
1.733	12.6	V	0.67	8.07	19.97	30.0	-10.0	
1.733	18.5	H	0.67	8.07	25.91	30.0	-4.1	
1.753	10.8	V	0.67	8.13	18.26	30.0	-11.7	
1.753	17.2	H	0.67	8.13	24.61	30.0	-5.4	

Rev. 1.24.7

RB12-6

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_5 MHz BW_16QAM_RB#12_6 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.713	10.2	V	0.67	8.01	17.53	30.0	-12.5	
1.713	15.9	H	0.67	8.01	23.25	30.0	-6.8	
1.733	12.3	V	0.67	8.07	19.69	30.0	-10.3	
1.733	18.3	H	0.67	8.07	25.70	30.0	-4.3	
1.753	10.8	V	0.67	8.13	18.29	30.0	-11.7	
1.753	16.5	H	0.67	8.13	23.91	30.0	-6.1	

Rev. 1.24.7

RB25-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 4_5 MHz BW_16QAM_RB#25_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (244640002) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.713	8.9	V	0.67	8.01	16.20	30.0	-13.8	
1.713	15.7	H	0.67	8.01	23.07	30.0	-6.9	
1.733	11.2	V	0.67	8.07	18.55	30.0	-11.5	
1.733	17.1	H	0.67	8.07	24.50	30.0	-5.5	
1.753	9.6	V	0.67	8.13	17.07	30.0	-12.9	
1.753	16.6	H	0.67	8.13	24.04	30.0	-6.0	

Rev. 1.24.7

ERP LTE QPSK Band 2 (1.4MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_1.4 MHz BW_QPSK_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	12.8	V	0.85	8.01	19.94	33.0	-13.1	
1.851	19.1	H	0.85	8.01	26.26	33.0	-6.7	
1.880	13.6	V	0.85	8.13	20.90	33.0	-12.1	
1.880	21.2	H	0.85	8.13	28.45	33.0	-4.6	
1.909	12.7	V	0.85	8.13	19.94	33.0	-13.1	
1.909	20.4	H	0.85	8.13	27.67	33.0	-5.3	

Rev. 3.17.11

RB1-5

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_1.4 MHz BW_QPSK_RB#1_5 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	12.5	V	0.85	8.01	19.66	33.0	-13.3	
1.851	19.0	H	0.85	8.01	26.15	33.0	-6.9	
1.880	13.0	V	0.85	8.13	20.28	33.0	-12.7	
1.880	20.9	H	0.85	8.13	28.18	33.0	-4.8	
1.909	12.2	V	0.85	8.13	19.43	33.0	-13.6	
1.909	20.2	H	0.85	8.13	27.49	33.0	-5.5	

Rev. 3.17.11

RB3-2

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_1.4 MHz BW_QPSK_RB#3_2 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	12.6	V	0.85	8.01	19.76	33.0	-13.2	
1.851	19.0	H	0.85	8.01	26.11	33.0	-6.9	
1.880	13.1	V	0.85	8.13	20.38	33.0	-12.6	
1.880	21.0	H	0.85	8.13	28.25	33.0	-4.8	
1.909	12.2	V	0.85	8.13	19.49	33.0	-13.5	
1.909	20.3	H	0.85	8.13	27.53	33.0	-5.5	

Rev. 3.17.11

RB6-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_1.4 MHz BW_QPSK_RB#6_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	12.9	V	0.85	8.01	20.06	33.0	-12.9	
1.851	19.3	H	0.85	8.01	26.47	33.0	-6.5	
1.880	13.5	V	0.85	8.13	20.78	33.0	-12.2	
1.880	21.1	H	0.85	8.13	28.35	33.0	-4.7	
1.909	12.6	V	0.85	8.13	19.90	33.0	-13.1	
1.909	20.5	H	0.85	8.13	27.75	33.0	-5.3	

Rev. 3.17.11

ERP LTE 16QAM Band 2 (1.4MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_1.4 MHz BW_16QAM_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	13.0	V	0.85	8.01	20.16	33.0	-12.8	
1.851	19.5	H	0.85	8.01	26.62	33.0	-6.4	
1.880	13.5	V	0.85	8.13	20.78	33.0	-12.2	
1.880	21.5	H	0.85	8.13	28.78	33.0	-4.2	
1.909	12.8	V	0.85	8.13	20.04	33.0	-13.0	
1.909	20.9	H	0.85	8.13	28.13	33.0	-4.9	

Rev. 3.17.11

RB1-5

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_1.4 MHz BW_16QAM_RB#1_5 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	12.5	V	0.85	8.01	19.66	33.0	-13.3	
1.851	19.5	H	0.85	8.01	26.62	33.0	-6.4	
1.880	13.2	V	0.85	8.13	20.48	33.0	-12.5	
1.880	21.3	H	0.85	8.13	28.62	33.0	-4.4	
1.909	12.4	V	0.85	8.13	19.69	33.0	-13.3	
1.909	20.5	H	0.85	8.13	27.78	33.0	-5.2	

Rev. 3.17.11

RB3-2

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_1.4 MHz BW_16QAM_RB#3_2 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	12.4	V	0.85	8.01	19.56	33.0	-13.4	
1.851	19.3	H	0.85	8.01	26.50	33.0	-6.5	
1.880	13.3	V	0.85	8.13	20.58	33.0	-12.4	
1.880	21.5	H	0.85	8.13	28.74	33.0	-4.3	
1.909	12.4	V	0.85	8.13	19.66	33.0	-13.3	
1.909	20.6	H	0.85	8.13	27.85	33.0	-5.2	

Rev. 3.17.11

RB6-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_1.4 MHz BW_16QAM_RB#6_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.851	12.7	V	0.85	8.01	19.86	33.0	-13.1	
1.851	19.5	H	0.85	8.01	26.67	33.0	-6.3	
1.880	13.4	V	0.85	8.13	20.68	33.0	-12.3	
1.880	21.6	H	0.85	8.13	28.84	33.0	-4.2	
1.909	12.5	V	0.85	8.13	19.81	33.0	-13.2	
1.909	20.7	H	0.85	8.13	27.98	33.0	-5.0	

Rev. 3.17.11

ERP LTE QPSK Band 2 (3.0MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_3 MHz BW_QPSK_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	16.0	V	0.85	8.01	23.13	33.0	-9.9	
1.852	19.9	H	0.85	8.01	27.03	33.0	-6.0	
1.880	16.4	V	0.85	8.13	23.67	33.0	-9.3	
1.880	20.6	H	0.85	8.13	27.89	33.0	-5.1	
1.909	15.5	V	0.85	8.13	22.79	33.0	-10.2	
1.909	19.8	H	0.85	8.13	27.10	33.0	-5.9	

Rev. 3.17.11

RB1-14

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_3 MHz BW_QPSK_RB#1_14 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	15.4	V	0.85	8.01	22.56	33.0	-10.4	
1.852	19.8	H	0.85	8.01	26.95	33.0	-6.1	
1.880	15.8	V	0.85	8.13	23.08	33.0	-9.9	
1.880	20.5	H	0.85	8.13	27.75	33.0	-5.3	
1.909	14.9	V	0.85	8.13	22.15	33.0	-10.9	
1.909	19.3	H	0.85	8.13	26.59	33.0	-6.4	

Rev. 3.17.11

RB8-4

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_3 MHz BW_QPSK_RB#8_4 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	15.9	V	0.85	8.01	23.06	33.0	-9.9	
1.852	19.9	H	0.85	8.01	27.08	33.0	-5.9	
1.880	16.1	V	0.85	8.13	23.38	33.0	-9.6	
1.880	20.6	H	0.85	8.13	27.85	33.0	-5.2	
1.909	15.3	V	0.85	8.13	22.60	33.0	-10.4	
1.909	19.6	H	0.85	8.13	26.84	33.0	-6.2	

Rev. 3.17.11

RB15-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_3 MHz BW_QPSK_RB#15_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	15.4	V	0.85	8.01	22.56	33.0	-10.4	
1.852	19.5	H	0.85	8.01	26.67	33.0	-6.3	
1.880	15.7	V	0.85	8.13	22.98	33.0	-10.0	
1.880	20.1	H	0.85	8.13	27.35	33.0	-5.7	
1.909	14.8	V	0.85	8.13	22.10	33.0	-10.9	
1.909	19.0	H	0.85	8.13	26.30	33.0	-6.7	

Rev. 3.17.11

ERP LTE 16QAM Band 2 (3.0MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_3 MHz BW_16QAM_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	16.6	V	0.85	8.01	23.76	33.0	-9.2	
1.852	20.3	H	0.85	8.01	27.49	33.0	-5.5	
1.880	17.0	V	0.85	8.13	24.28	33.0	-8.7	
1.880	21.2	H	0.85	8.13	28.47	33.0	-4.5	
1.909	16.1	V	0.85	8.13	23.39	33.0	-9.6	
1.909	20.4	H	0.85	8.13	27.72	33.0	-5.3	

Rev. 3.17.11

RB1-14

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_3 MHz BW_16QAM_RB#1_14 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	15.9	V	0.85	8.01	23.06	33.0	-9.9	
1.852	20.0	H	0.85	8.01	27.16	33.0	-5.8	
1.880	16.1	V	0.85	8.13	23.38	33.0	-9.6	
1.880	20.8	H	0.85	8.13	28.12	33.0	-4.9	
1.909	15.3	V	0.85	8.13	22.54	33.0	-10.5	
1.909	19.9	H	0.85	8.13	27.17	33.0	-5.8	

Rev. 3.17.11

RB8-4

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_3 MHz BW_16QAM_RB#8_4 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	16.2	V	0.85	8.01	23.36	33.0	-9.6	
1.852	20.2	H	0.85	8.01	27.37	33.0	-5.6	
1.880	16.6	V	0.85	8.13	23.88	33.0	-9.1	
1.880	21.0	H	0.85	8.13	28.30	33.0	-4.7	
1.909	15.7	V	0.85	8.13	23.01	33.0	-10.0	
1.909	20.0	H	0.85	8.13	27.26	33.0	-5.7	

Rev. 3.17.11

RB15-0

Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_3 MHz BW_16QAM_RB#15_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.852	15.8	V	0.85	8.01	22.96	33.0	-10.0	
1.852	19.8	H	0.85	8.01	26.98	33.0	-6.0	
1.880	16.2	V	0.85	8.13	23.48	33.0	-9.5	
1.880	20.7	H	0.85	8.13	27.97	33.0	-5.0	
1.909	15.3	V	0.85	8.13	22.61	33.0	-10.4	
1.909	19.4	H	0.85	8.13	26.71	33.0	-6.3	

Rev. 3.17.11

ERP LTE QPSK Band 2 (5.0MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_5 MHz BW_QPSK_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.853	16.1	V	0.85	8.01	23.24	33.0	-9.8	
1.853	18.0	H	0.85	8.01	25.16	33.0	-7.8	
1.880	16.0	V	0.85	8.13	23.26	33.0	-9.7	
1.880	20.8	H	0.85	8.13	28.04	33.0	-5.0	
1.908	15.6	V	0.85	8.13	22.85	33.0	-10.2	
1.908	19.1	H	0.85	8.13	26.35	33.0	-6.7	

Rev. 3.17.11

RB1-24

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_5 MHz BW_QPSK_RB#1_24 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.853	15.5	V	0.85	8.01	22.65	33.0	-10.4	
1.853	17.7	H	0.85	8.01	24.84	33.0	-8.2	
1.880	16.0	V	0.85	8.13	23.28	33.0	-9.7	
1.880	20.3	H	0.85	8.13	27.60	33.0	-5.4	
1.908	15.6	V	0.85	8.13	22.88	33.0	-10.1	
1.908	18.5	H	0.85	8.13	25.73	33.0	-7.3	

Rev. 3.17.11

RB12-6

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_5 MHz BW_QPSK_RB#12_6 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.853	15.7	V	0.85	8.01	22.81	33.0	-10.2	
1.853	17.8	H	0.85	8.01	24.94	33.0	-8.1	
1.880	16.1	V	0.85	8.13	23.38	33.0	-9.6	
1.880	20.1	H	0.85	8.13	27.37	33.0	-5.6	
1.908	15.9	V	0.85	8.13	23.18	33.0	-9.8	
1.908	18.9	H	0.85	8.13	26.20	33.0	-6.8	

Rev. 3.17.11

RB25-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_5 MHz BW_QPSK_RB#25_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.853	13.9	V	0.85	8.01	21.10	33.0	-11.9	
1.853	17.1	H	0.85	8.01	24.28	33.0	-8.7	
1.880	14.8	V	0.85	8.13	22.08	33.0	-10.9	
1.880	18.3	H	0.85	8.13	25.57	33.0	-7.4	
1.908	14.2	V	0.85	8.13	21.48	33.0	-11.5	
1.908	17.7	H	0.85	8.13	24.99	33.0	-8.0	

Rev. 3.17.11

ERP LTE 16QAM Band 2 (5.0MHz BAND WIDTH)

RB1-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_5 MHz BW_16QAM_RB#1_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.853	16.2	V	0.85	8.01	23.33	33.0	-9.7	
1.853	18.1	H	0.85	8.01	25.27	33.0	-7.7	
1.880	16.3	V	0.85	8.13	23.58	33.0	-9.4	
1.880	21.1	H	0.85	8.13	28.36	33.0	-4.6	
1.908	15.8	V	0.85	8.13	23.08	33.0	-9.9	
1.908	19.4	H	0.85	8.13	26.69	33.0	-6.3	

Rev. 3.17.11

RB1-24

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_5 MHz BW_16QAM_RB#1_24 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.853	15.5	V	0.85	8.01	22.67	33.0	-10.3	
1.853	17.9	H	0.85	8.01	25.03	33.0	-8.0	
1.880	15.9	V	0.85	8.13	23.18	33.0	-9.8	
1.880	20.7	H	0.85	8.13	27.96	33.0	-5.0	
1.908	15.5	V	0.85	8.13	22.78	33.0	-10.2	
1.908	18.6	H	0.85	8.13	25.83	33.0	-7.2	

Rev. 3.17.11

RB12-6

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_5 MHz BW_16QAM_RB#12_6 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.853	15.8	V	0.85	8.01	22.98	33.0	-10.0	
1.853	18.0	H	0.85	8.01	25.13	33.0	-7.9	
1.880	16.3	V	0.85	8.13	23.58	33.0	-9.4	
1.880	20.7	H	0.85	8.13	27.93	33.0	-5.1	
1.908	15.9	V	0.85	8.13	23.18	33.0	-9.8	
1.908	19.0	H	0.85	8.13	26.32	33.0	-6.7	

Rev. 3.17.11

RB25-0

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/07/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, LTE BAND 2_5 MHz BW_QPSK_RB#25_0 MODE

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T60 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.853	14.5	V	0.85	8.01	21.69	33.0	-11.3	
1.853	17.8	H	0.85	8.01	24.97	33.0	-8.0	
1.880	15.7	V	0.85	8.13	22.98	33.0	-10.0	
1.880	19.7	H	0.85	8.13	26.95	33.0	-6.1	
1.908	15.5	V	0.85	8.13	22.78	33.0	-10.2	
1.908	18.3	H	0.85	8.13	25.53	33.0	-7.5	

Rev. 3.17.11

9.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, & §27.53

LIMIT

§22.917 (e) and §24.238 (a): Out of band emissions. 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.

§27.53 (g) For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB.

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

MODES TESTED

- CDMA 2000 1xRTT
- CDMA 2000 EVDO REV. A
- LTE Band 2 and 4

RESULTS

ERP 1XRTT 850 BAND

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/19/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, CELL BAND 1xRTT MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	FCC Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (824.7MHz)									
1.649	-7.6	V	3.0	35.5	1.0	-42.1	-13.0	-29.1	
3.299	-13.6	V	3.0	35.5	1.0	-48.2	-13.0	-35.2	
1.649	-12.0	H	3.0	35.5	1.0	-46.6	-13.0	-33.6	
3.299	-18.5	H	3.0	35.5	1.0	-53.0	-13.0	-40.0	
Mid Channel (836.52MHz)									
1.673	-5.7	V	3.0	35.5	1.0	-40.3	-13.0	-27.3	
3.526	-12.1	V	3.0	35.4	1.0	-46.5	-13.0	-33.5	
1.673	-9.0	H	3.0	35.5	1.0	-43.5	-13.0	-30.5	
3.346	-17.5	H	3.0	35.5	1.0	-52.0	-13.0	-39.0	
High Channel (848.31MHz)									
1.697	-6.4	V	3.0	35.5	1.0	-40.9	-13.0	-27.9	
3.393	-13.4	V	3.0	35.5	1.0	-47.9	-13.0	-34.9	
1.697	-6.7	H	3.0	35.5	1.0	-41.3	-13.0	-28.3	
3.393	-18.0	H	3.0	35.5	1.0	-52.5	-13.0	-39.5	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

EIRP 1xRTT 1900 BAND

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/19/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, PCS BAND 1xRTT MODE

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25MHz									
3.702	-5.5	V	3.0	35.4	1.0	-39.9	-13.0	-26.9	
5.554	-18.2	V	3.0	34.7	1.0	-51.9	-13.0	-38.9	
3.702	-9.3	V	3.0	35.4	1.0	-43.7	-13.0	-30.7	
5.554	-20.6	V	3.0	34.7	1.0	-54.3	-13.0	-41.3	
Mid Ch, 1880MHz									
3.760	-10.3	V	3.0	35.3	1.0	-44.6	-13.0	-31.6	
5.640	-18.8	V	3.0	34.7	1.0	-52.5	-13.0	-39.5	
7.520	-14.7	V	3.0	34.9	1.0	-48.7	-13.0	-35.7	
3.760	-11.7	H	3.0	35.3	1.0	-46.1	-13.0	-33.1	
5.640	-18.7	H	3.0	34.7	1.0	-52.4	-13.0	-39.4	
7.520	-15.2	H	3.0	34.9	1.0	-49.1	-13.0	-36.1	
High Ch, 1908.75MHz									
3.818	-2.4	V	3.0	35.3	1.0	-36.7	-13.0	-23.7	
5.726	-18.9	V	3.0	34.7	1.0	-52.6	-13.0	-39.6	
7.635	-15.3	V	3.0	34.9	1.0	-49.2	-13.0	-36.2	
3.818	-5.1	H	3.0	35.3	1.0	-39.4	-13.0	-26.4	
5.726	-17.8	H	3.0	34.7	1.0	-51.5	-13.0	-38.5	
7.635	-15.9	H	3.0	34.9	1.0	-49.9	-13.0	-36.9	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

EIRP 1xRTT 1700 BAND

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/21/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, AWS BAND 1xRTT MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.25MHz									
3.423	-7.5	V	3.0	35.5	1.0	-42.0	-13.0	-29.0	
5.134	-15.6	V	3.0	35.3	1.0	-49.9	-13.0	-36.9	
3.423	-13.8	H	3.0	35.5	1.0	-48.3	-13.0	-35.3	
5.134	-18.0	H	3.0	35.3	1.0	-52.3	-13.0	-39.3	
6.845	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
Mid Ch, 1732.5MHz									
3.465	-9.4	V	3.0	35.5	1.0	-43.8	-13.0	-30.8	
5.198	-17.4	V	3.0	35.3	1.0	-51.8	-13.0	-38.8	
3.465	-15.3	H	3.0	35.5	1.0	-49.8	-13.0	-36.8	
5.198	-16.8	H	3.0	35.3	1.0	-51.2	-13.0	-38.2	
6.930	-12.0	H	3.0	35.7	1.0	-46.7	-13.0	-33.7	
High Ch, 1753.75MHz									
3.508	-10.9	V	3.0	35.4	1.0	-45.3	-13.0	-32.3	
5.261	-16.0	V	3.0	35.3	1.0	-50.3	-13.0	-37.3	
3.508	-14.7	H	3.0	35.4	1.0	-49.1	-13.0	-36.1	
5.261	-17.3	H	3.0	35.3	1.0	-51.7	-13.0	-38.7	
7.015	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

EIRP EVDO REV. A. 1900 BAND

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/21/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, PCS BAND EVDO REV. A MODE

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25MHz									
3.702	-5.5	V	3.0	35.4	1.0	-39.8	-13.0	-26.8	
5.554	-10.3	V	3.0	34.7	1.0	-44.1	-13.0	-31.1	
7.405	-5.3	V	3.0	34.9	1.0	-39.2	-13.0	-26.2	
9.257	3.4	V	3.0	35.2	1.0	-30.8	-13.0	-17.8	
11.108	-10.4	V	3.0	34.8	1.0	-44.2	-13.0	-31.2	
3.702	-6.9	V	3.0	35.4	1.0	-41.3	-13.0	-28.3	
5.554	-12.1	V	3.0	34.7	1.0	-45.8	-13.0	-32.8	
7.405	-5.0	H	3.0	34.9	1.0	-38.9	-13.0	-25.9	
9.257	2.6	H	3.0	35.2	1.0	-31.6	-13.0	-18.6	
11.108	-12.7	H	3.0	34.8	1.0	-46.5	-13.0	-33.5	
Mid Ch, 1880MHz									
3.760	-6.9	V	3.0	35.3	1.0	-41.3	-13.0	-28.3	
5.640	-12.4	V	3.0	34.7	1.0	-46.1	-13.0	-33.1	
7.520	-2.9	V	3.0	34.9	1.0	-36.8	-13.0	-23.8	
9.400	6.8	V	3.0	35.3	1.0	-27.4	-13.0	-14.4	
11.280	-7.8	V	3.0	34.7	1.0	-41.5	-13.0	-28.5	
3.760	-7.1	H	3.0	35.3	1.0	-41.4	-13.0	-28.4	
5.640	-11.8	H	3.0	34.7	1.0	-45.5	-13.0	-32.5	
7.520	-1.3	H	3.0	34.9	1.0	-35.2	-13.0	-22.2	
9.400	3.7	H	3.0	35.3	1.0	-30.6	-13.0	-17.6	
11.280	-10.0	H	3.0	34.7	1.0	-43.8	-13.0	-30.8	
High Ch, 1908.75MHz									
3.818	-2.2	V	3.0	35.3	1.0	-36.5	-13.0	-23.5	
5.726	-8.0	V	3.0	34.7	1.0	-41.7	-13.0	-28.7	
7.635	-1.7	V	3.0	34.9	1.0	-35.6	-13.0	-22.6	
9.544	5.3	V	3.0	35.3	1.0	-29.0	-13.0	-16.0	
11.453	-12.6	V	3.0	34.6	1.0	-46.2	-13.0	-33.2	
3.818	-4.8	H	3.0	35.3	1.0	-39.1	-13.0	-26.1	
5.726	-7.7	H	3.0	34.7	1.0	-41.5	-13.0	-28.5	
7.635	-2.9	H	3.0	34.9	1.0	-36.9	-13.0	-23.9	
9.544	1.9	H	3.0	35.3	1.0	-32.4	-13.0	-19.4	
11.453	-12.2	H	3.0	34.6	1.0	-45.8	-13.0	-32.8	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

EIRP EVDO REV. A. 1700 BAND

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 08/21/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT ALONE
Mode: TX, AWS BAND EVDO REV. A MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.25MHz									
3.423	-0.2	V	3.0	35.5	1.0	-34.7	-13.0	-21.7	
5.134	-13.0	V	3.0	35.3	1.0	-47.3	-13.0	-34.3	
6.845	-4.7	V	3.0	35.7	1.0	-39.4	-13.0	-26.4	
8.556	-7.0	V	3.0	35.6	1.0	-41.6	-13.0	-28.6	
3.423	-3.5	H	3.0	35.5	1.0	-38.0	-13.0	-25.0	
5.134	-12.8	H	3.0	35.3	1.0	-47.1	-13.0	-34.1	
6.845	-9.8	H	3.0	35.7	1.0	-44.5	-13.0	-31.5	
8.556	-11.3	V	3.0	35.6	1.0	-45.9	-13.0	-32.9	
Mid Ch, 1732.5MHz									
3.465	-1.8	V	3.0	35.5	1.0	-36.2	-13.0	-23.2	
5.198	-11.2	V	3.0	35.3	1.0	-45.5	-13.0	-32.5	
6.930	-6.3	V	3.0	35.7	1.0	-41.0	-13.0	-28.0	
8.663	-8.8	V	3.0	35.6	1.0	-43.4	-13.0	-30.4	
3.465	-4.4	H	3.0	35.5	1.0	-38.9	-13.0	-25.9	
5.198	-13.1	H	3.0	35.3	1.0	-47.5	-13.0	-34.5	
6.930	-10.2	H	3.0	35.7	1.0	-44.9	-13.0	-31.9	
8.663	-11.8	H	3.0	35.6	1.0	-46.4	-13.0	-33.4	
High Ch, 1753.75MHz									
3.508	-3.3	V	3.0	35.4	1.0	-37.7	-13.0	-24.7	
5.261	-9.5	V	3.0	35.3	1.0	-43.9	-13.0	-30.9	
7.015	-5.8	V	3.0	35.7	1.0	-40.5	-13.0	-27.5	
8.769	-8.1	V	3.0	35.6	1.0	-42.7	-13.0	-29.7	
3.508	-6.7	H	3.0	35.4	1.0	-41.1	-13.0	-28.1	
5.261	-13.1	H	3.0	35.3	1.0	-47.4	-13.0	-34.4	
7.015	-10.9	H	3.0	35.7	1.0	-45.7	-13.0	-32.7	
8.769	-11.7	H	3.0	35.6	1.0	-46.3	-13.0	-33.3	
10.522		H	3.0	35.2	1.0	-34.2	-13.0	-21.2	
12.276		H	3.0	34.2	1.0	-33.2	-13.0	-20.2	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE QPSK Band 4 (1.4 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 4_1.4 MHz BW_ QPSK MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.70MHz									
3.421	11.9	V	3.0	35.5	1.0	-22.6	-13.0	-9.6	
5.132	-1.9	V	3.0	35.3	1.0	-36.2	-13.0	-23.2	
6.843	6.3	V	3.0	35.7	1.0	-28.4	-13.0	-15.4	
8.554	0.3	V	3.0	35.6	1.0	-34.3	-13.0	-21.3	
10.264	-8.3	V	3.0	35.3	1.0	-42.6	-13.0	-29.6	
11.975	-3.9	V	3.0	34.2	1.0	-37.2	-13.0	-24.2	
3.421	17.2	H	3.0	35.5	1.0	-17.3	-13.0	-4.3	
5.132	-1.5	H	3.0	35.3	1.0	-35.9	-13.0	-22.9	
6.843	3.7	H	3.0	35.7	1.0	-31.0	-13.0	-18.0	
8.554	0.9	H	3.0	35.6	1.0	-33.8	-13.0	-20.8	
10.264	-10.9	H	3.0	35.3	1.0	-45.2	-13.0	-32.2	
11.975	-9.2	H	3.0	34.2	1.0	-42.4	-13.0	-29.4	
Mid Ch, 1732.50MHz									
3.465	1.9	V	3.0	35.5	1.0	-32.6	-13.0	-19.6	
5.198	-4.6	V	3.0	35.3	1.0	-39.0	-13.0	-26.0	
6.930	7.8	V	3.0	35.7	1.0	-26.9	-13.0	-13.9	
8.663	4.1	V	3.0	35.6	1.0	-30.5	-13.0	-17.5	
10.395	-6.3	V	3.0	35.3	1.0	-40.5	-13.0	-27.5	
12.128	-5.1	V	3.0	34.2	1.0	-38.3	-13.0	-25.3	
3.465	5.1	H	3.0	35.5	1.0	-29.4	-13.0	-16.4	
5.198	-4.8	H	3.0	35.3	1.0	-39.1	-13.0	-26.1	
6.930	7.0	H	3.0	35.7	1.0	-27.8	-13.0	-14.8	
8.663	2.8	H	3.0	35.6	1.0	-31.8	-13.0	-18.8	
10.395	-8.1	H	3.0	35.3	1.0	-42.3	-13.0	-29.3	
12.128	-10.2	H	3.0	34.2	1.0	-43.4	-13.0	-30.4	
High Ch, 1754.30MHz									
3.509	6.0	V	3.0	35.4	1.0	-28.4	-13.0	-15.4	
5.263	0.6	V	3.0	35.3	1.0	-33.7	-13.0	-20.7	
7.017	2.3	V	3.0	35.7	1.0	-32.4	-13.0	-19.4	
8.772	2.7	V	3.0	35.6	1.0	-31.9	-13.0	-18.9	
10.526	-8.5	V	3.0	35.2	1.0	-42.7	-13.0	-29.7	
12.280	-4.6	V	3.0	34.2	1.0	-37.8	-13.0	-24.8	
3.509	9.5	H	3.0	35.4	1.0	-24.9	-13.0	-11.9	
5.263	2.1	H	3.0	35.3	1.0	-32.3	-13.0	-19.3	
7.017	6.7	H	3.0	35.7	1.0	-28.0	-13.0	-15.0	
8.772	2.8	H	3.0	35.6	1.0	-31.8	-13.0	-18.8	
10.526	-6.9	H	3.0	35.2	1.0	-41.1	-13.0	-28.1	
12.280	-9.1	H	3.0	34.2	1.0	-42.3	-13.0	-29.3	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE 16QAM Band 4 (1.4 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 4_1.4 MHz BW_ 16QAM MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.70MHz									
3.421	6.8	V	3.0	35.5	1.0	-27.6	-13.0	-14.6	
5.132	-1.2	V	3.0	35.3	1.0	-35.5	-13.0	-22.5	
6.843	5.3	V	3.0	35.7	1.0	-29.4	-13.0	-16.4	
8.554	-1.3	V	3.0	35.6	1.0	-35.9	-13.0	-22.9	
10.264	-6.6	V	3.0	35.3	1.0	-40.9	-13.0	-27.9	
11.975	-2.6	V	3.0	34.2	1.0	-35.9	-13.0	-22.9	
3.421	15.1	H	3.0	35.5	1.0	-19.4	-13.0	-6.4	
5.132	-1.8	H	3.0	35.3	1.0	-36.1	-13.0	-23.1	
6.843	3.9	H	3.0	35.7	1.0	-30.8	-13.0	-17.8	
8.554	-0.8	H	3.0	35.6	1.0	-35.4	-13.0	-22.4	
10.264	-9.8	H	3.0	35.3	1.0	-44.1	-13.0	-31.1	
11.975	-9.0	H	3.0	34.2	1.0	-42.2	-13.0	-29.2	
Mid Ch, 1732.50MHz									
3.465	-1.2	V	3.0	35.5	1.0	-35.6	-13.0	-22.6	
5.198	1.3	V	3.0	35.3	1.0	-33.0	-13.0	-20.0	
6.930	8.7	V	3.0	35.7	1.0	-26.0	-13.0	-13.0	
8.663	1.7	V	3.0	35.6	1.0	-32.9	-13.0	-19.9	
10.395	-7.6	V	3.0	35.3	1.0	-41.9	-13.0	-28.9	
12.128	-5.8	V	3.0	34.2	1.0	-39.0	-13.0	-26.0	
3.465	8.4	H	3.0	35.5	1.0	-26.1	-13.0	-13.1	
5.198	3.2	H	3.0	35.3	1.0	-31.1	-13.0	-18.1	
6.930	9.4	H	3.0	35.7	1.0	-25.3	-13.0	-12.3	
8.663	2.4	H	3.0	35.6	1.0	-32.2	-13.0	-19.2	
10.395	-10.3	H	3.0	35.3	1.0	-44.6	-13.0	-31.6	
12.128	-10.5	H	3.0	34.2	1.0	-43.7	-13.0	-30.7	
High Ch, 1754.30MHz									
3.509	5.1	V	3.0	35.4	1.0	-29.4	-13.0	-16.4	
5.263	0.8	V	3.0	35.3	1.0	-33.5	-13.0	-20.5	
7.017	1.1	V	3.0	35.7	1.0	-33.6	-13.0	-20.6	
8.772	1.3	V	3.0	35.6	1.0	-33.3	-13.0	-20.3	
10.526	-6.4	V	3.0	35.2	1.0	-40.6	-13.0	-27.6	
12.280	-6.0	V	3.0	34.2	1.0	-39.1	-13.0	-26.1	
3.509	8.9	H	3.0	35.4	1.0	-25.5	-13.0	-12.5	
5.263	1.5	H	3.0	35.3	1.0	-32.9	-13.0	-19.9	
7.017	4.2	H	3.0	35.7	1.0	-30.5	-13.0	-17.5	
8.772	0.4	H	3.0	35.6	1.0	-34.2	-13.0	-21.2	
10.526	-11.4	H	3.0	35.2	1.0	-45.6	-13.0	-32.6	
12.280	-9.8	H	3.0	34.2	1.0	-43.0	-13.0	-30.0	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE QPSK Band 4 (3.0 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 4_3 MHz BW_ QPSK MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.70MHz									
3.421	1.4	V	3.0	35.5	1.0	-33.1	-13.0	-20.1	
5.132	1.6	V	3.0	35.3	1.0	-32.8	-13.0	-19.8	
6.843	-3.8	V	3.0	35.7	1.0	-38.5	-13.0	-25.5	
8.554	-10.4	V	3.0	35.6	1.0	-45.0	-13.0	-32.0	
10.264	-6.7	V	3.0	35.3	1.0	-41.0	-13.0	-28.0	
11.975	30.9	V	3.0	34.2	1.0	-2.4	-13.0	10.6	
3.421	-6.7	H	3.0	35.5	1.0	-41.2	-13.0	-28.2	
5.132	0.4	H	3.0	35.3	1.0	-33.9	-13.0	-20.9	
6.843	-1.4	H	3.0	35.7	1.0	-36.1	-13.0	-23.1	
8.554	-12.9	H	3.0	35.6	1.0	-47.5	-13.0	-34.5	
10.264	-8.8	H	3.0	35.3	1.0	-43.2	-13.0	-30.2	
11.975		H	3.0	34.2	1.0	-33.2	-13.0	-20.2	
Mid Ch, 1732.50MHz									
3.465	-1.4	V	3.0	35.5	1.0	-35.9	-13.0	-22.9	
5.198	3.1	V	3.0	35.3	1.0	-31.2	-13.0	-18.2	
6.930	-0.1	V	3.0	35.7	1.0	-34.8	-13.0	-21.8	
8.663	-8.5	V	3.0	35.6	1.0	-43.1	-13.0	-30.1	
10.395	-7.9	V	3.0	35.3	1.0	-42.1	-13.0	-29.1	
12.128	18.7	V	3.0	34.2	1.0	-14.5	-13.0	-1.5	
3.465	-10.0	H	3.0	35.5	1.0	-44.5	-13.0	-31.5	
5.198	3.7	H	3.0	35.3	1.0	-30.6	-13.0	-17.6	
6.930	0.6	H	3.0	35.7	1.0	-34.1	-13.0	-21.1	
8.663	-10.0	H	3.0	35.6	1.0	-44.7	-13.0	-31.7	
10.395	-10.1	H	3.0	35.3	1.0	-44.3	-13.0	-31.3	
12.128		H	3.0	34.2	1.0	-33.2	-13.0	-20.2	
High Ch, 1754.30MHz									
3.509	3.9	V	3.0	35.4	1.0	-30.6	-13.0	-17.6	
5.263	-2.4	V	3.0	35.3	1.0	-36.7	-13.0	-23.7	
7.017	-1.5	V	3.0	35.7	1.0	-36.3	-13.0	-23.3	
8.772	-10.7	V	3.0	35.6	1.0	-45.3	-13.0	-32.3	
10.526	-7.4	V	3.0	35.2	1.0	-41.6	-13.0	-28.6	
12.280	23.2	V	3.0	34.2	1.0	-10.0	-13.0	3.0	
3.509	-3.1	H	3.0	35.4	1.0	-37.6	-13.0	-24.6	
5.263	3.4	H	3.0	35.3	1.0	-30.9	-13.0	-17.9	
7.017	0.6	H	3.0	35.7	1.0	-34.2	-13.0	-21.2	
8.772	-8.7	H	3.0	35.6	1.0	-43.3	-13.0	-30.3	
10.526	-9.1	H	3.0	35.2	1.0	-43.3	-13.0	-30.3	
12.280		H	3.0	34.2	1.0	-33.2	-13.0	-20.2	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE 16QAM Band 4 (3.0 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/09/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 4_3 MHz BW_ 16QAM MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.70MHz									
3.421	11.1	V	3.0	35.5	1.0	-23.4	-13.0	-10.4	
5.132	0.6	V	3.0	35.3	1.0	-33.7	-13.0	-20.7	
6.843	3.8	V	3.0	35.7	1.0	-30.9	-13.0	-17.9	
8.554	2.2	V	3.0	35.6	1.0	-32.4	-13.0	-19.4	
10.264	-3.9	V	3.0	35.3	1.0	-38.2	-13.0	-25.2	
11.975	-0.3	V	3.0	34.2	1.0	-33.6	-13.0	-20.6	
3.421	13.4	H	3.0	35.5	1.0	-21.1	-13.0	-8.1	
5.132	-0.3	H	3.0	35.3	1.0	-34.6	-13.0	-21.6	
6.843	5.5	H	3.0	35.7	1.0	-29.2	-13.0	-16.2	
8.554	3.1	H	3.0	35.6	1.0	-31.6	-13.0	-18.6	
10.264	-8.9	H	3.0	35.3	1.0	-43.3	-13.0	-30.3	
11.975	-7.2	H	3.0	34.2	1.0	-40.4	-13.0	-27.4	
Mid Ch, 1732.50MHz									
3.465	3.1	V	3.0	35.5	1.0	-31.4	-13.0	-18.4	
5.198	3.1	V	3.0	35.3	1.0	-31.3	-13.0	-18.3	
6.930	7.1	V	3.0	35.7	1.0	-27.6	-13.0	-14.6	
8.663	5.2	V	3.0	35.6	1.0	-29.4	-13.0	-16.4	
10.395	-4.9	V	3.0	35.3	1.0	-39.2	-13.0	-26.2	
12.128	-3.5	V	3.0	34.2	1.0	-36.7	-13.0	-23.7	
3.465	6.6	H	3.0	35.5	1.0	-27.8	-13.0	-14.8	
5.198	4.7	H	3.0	35.3	1.0	-29.6	-13.0	-16.6	
6.930	11.0	H	3.0	35.7	1.0	-23.7	-13.0	-10.7	
8.663	6.2	H	3.0	35.6	1.0	-28.4	-13.0	-15.4	
10.395	-9.5	H	3.0	35.3	1.0	-43.7	-13.0	-30.7	
12.128	-8.6	H	3.0	34.2	1.0	-41.8	-13.0	-28.8	
High Ch, 1754.30MHz									
3.509	9.3	V	3.0	35.4	1.0	-25.1	-13.0	-12.1	
5.263	2.6	V	3.0	35.3	1.0	-31.8	-13.0	-18.8	
7.017	-0.4	V	3.0	35.7	1.0	-35.1	-13.0	-22.1	
8.772	4.8	V	3.0	35.6	1.0	-29.8	-13.0	-16.8	
10.526	-3.7	V	3.0	35.2	1.0	-37.9	-13.0	-24.9	
12.280	-3.7	V	3.0	34.2	1.0	-36.8	-13.0	-23.8	
3.509	7.2	H	3.0	35.4	1.0	-27.3	-13.0	-14.3	
5.263	3.0	H	3.0	35.3	1.0	-31.4	-13.0	-18.4	
7.017	5.8	H	3.0	35.7	1.0	-28.9	-13.0	-15.9	
8.772	4.2	H	3.0	35.6	1.0	-30.4	-13.0	-17.4	
10.526	-10.6	H	3.0	35.2	1.0	-44.8	-13.0	-31.8	
12.280	-8.0	H	3.0	34.2	1.0	-41.2	-13.0	-28.2	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE QPSK Band 4 (5.0 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/09/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 4_5 MHz BW_ QPSK MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.50MHz									
3.425	1.3	V	3.0	35.5	1.0	-33.1	-13.0	-20.1	
5.138	-3.1	V	3.0	35.3	1.0	-37.4	-13.0	-24.4	
6.850	5.2	V	3.0	35.7	1.0	-29.5	-13.0	-16.5	
8.563	1.6	V	3.0	35.6	1.0	-33.1	-13.0	-20.1	
10.275	-7.2	V	3.0	35.3	1.0	-41.6	-13.0	-28.6	
11.988	-2.6	V	3.0	34.2	1.0	-35.8	-13.0	-22.8	
3.425	6.9	H	3.0	35.5	1.0	-27.6	-13.0	-14.6	
5.138	-0.2	H	3.0	35.3	1.0	-34.5	-13.0	-21.5	
6.850	9.1	H	3.0	35.7	1.0	-25.6	-13.0	-12.6	
8.563	5.1	H	3.0	35.6	1.0	-29.6	-13.0	-16.6	
10.275	-8.4	H	3.0	35.3	1.0	-42.7	-13.0	-29.7	
11.988	-7.4	H	3.0	34.2	1.0	-40.6	-13.0	-27.6	
Mid Ch, 1732.50MHz									
3.465	5.0	V	3.0	35.5	1.0	-29.5	-13.0	-16.5	
5.198	3.1	V	3.0	35.3	1.0	-31.2	-13.0	-18.2	
6.930	7.9	V	3.0	35.7	1.0	-26.8	-13.0	-13.8	
8.663	3.3	V	3.0	35.6	1.0	-31.3	-13.0	-18.3	
10.395	-7.8	V	3.0	35.3	1.0	-42.1	-13.0	-29.1	
12.128	-5.7	V	3.0	34.2	1.0	-38.9	-13.0	-25.9	
3.465	10.7	H	3.0	35.5	1.0	-23.8	-13.0	-10.8	
5.198	1.6	H	3.0	35.3	1.0	-32.7	-13.0	-19.7	
6.930	8.5	H	3.0	35.7	1.0	-26.2	-13.0	-13.2	
8.663	4.0	H	3.0	35.6	1.0	-30.6	-13.0	-17.6	
10.395	-9.2	H	3.0	35.3	1.0	-43.5	-13.0	-30.5	
12.128	-7.9	H	3.0	34.2	1.0	-41.1	-13.0	-28.1	
High Ch, 1752.50MHz									
3.505	-1.1	V	3.0	35.4	1.0	-35.6	-13.0	-22.6	
5.258	1.2	V	3.0	35.3	1.0	-33.1	-13.0	-20.1	
7.010	8.7	V	3.0	35.7	1.0	-26.1	-13.0	-13.1	
8.763	4.7	V	3.0	35.6	1.0	-29.9	-13.0	-16.9	
10.515	-6.4	V	3.0	35.2	1.0	-40.6	-13.0	-27.6	
12.268	-4.8	V	3.0	34.2	1.0	-38.0	-13.0	-25.0	
3.505	-0.7	H	3.0	35.4	1.0	-35.1	-13.0	-22.1	
5.258	2.5	H	3.0	35.3	1.0	-31.9	-13.0	-18.9	
7.010	10.7	H	3.0	35.7	1.0	-24.0	-13.0	-11.0	
8.763	7.7	H	3.0	35.6	1.0	-26.9	-13.0	-13.9	
10.515	-8.7	H	3.0	35.2	1.0	-42.9	-13.0	-29.9	
12.268	-8.8	H	3.0	34.2	1.0	-42.0	-13.0	-29.0	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE 16QAM Band 4 (5.0 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/09/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 4_5 MHz BW_ 16QAM MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.50MHz									
3.425	13.5	V	3.0	35.5	1.0	-21.0	-13.0	-8.0	
5.138	4.1	V	3.0	35.3	1.0	-30.2	-13.0	-17.2	
6.850	11.3	V	3.0	35.7	1.0	-23.4	-13.0	-10.4	
8.563	7.9	V	3.0	35.6	1.0	-26.7	-13.0	-13.7	
10.275	-8.8	V	3.0	35.3	1.0	-43.2	-13.0	-30.2	
11.988	-5.8	V	3.0	34.2	1.0	-39.0	-13.0	-26.0	
3.425	10.6	H	3.0	35.5	1.0	-23.9	-13.0	-10.9	
5.138	2.1	H	3.0	35.3	1.0	-32.3	-13.0	-19.3	
6.850	13.5	H	3.0	35.7	1.0	-21.2	-13.0	-8.2	
8.563	6.8	H	3.0	35.6	1.0	-27.8	-13.0	-14.8	
10.275	-7.3	H	3.0	35.3	1.0	-41.7	-13.0	-28.7	
11.988	-7.1	H	3.0	34.2	1.0	-40.3	-13.0	-27.3	
Mid Ch, 1732.50MHz									
3.465	-3.8	V	3.0	35.5	1.0	-38.3	-13.0	-25.3	
5.198	0.4	V	3.0	35.3	1.0	-33.9	-13.0	-20.9	
6.930	6.7	V	3.0	35.7	1.0	-28.0	-13.0	-15.0	
8.663	6.6	V	3.0	35.6	1.0	-28.0	-13.0	-15.0	
10.395	-8.3	V	3.0	35.3	1.0	-42.5	-13.0	-29.5	
12.128	-6.3	V	3.0	34.2	1.0	-39.5	-13.0	-26.5	
3.465	0.2	H	3.0	35.5	1.0	-34.2	-13.0	-21.2	
5.198	1.8	H	3.0	35.3	1.0	-32.5	-13.0	-19.5	
6.930	9.4	H	3.0	35.7	1.0	-25.3	-13.0	-12.3	
8.663	7.7	H	3.0	35.6	1.0	-26.9	-13.0	-13.9	
10.395	-7.9	H	3.0	35.3	1.0	-42.2	-13.0	-29.2	
12.128	-8.0	H	3.0	34.2	1.0	-41.1	-13.0	-28.1	
High Ch, 1752.50MHz									
3.505	7.8	V	3.0	35.4	1.0	-26.6	-13.0	-13.6	
5.258	1.7	V	3.0	35.3	1.0	-32.6	-13.0	-19.6	
7.010	8.4	V	3.0	35.7	1.0	-26.4	-13.0	-13.4	
8.763	5.1	V	3.0	35.6	1.0	-29.5	-13.0	-16.5	
10.515	-6.8	V	3.0	35.2	1.0	-41.0	-13.0	-28.0	
12.268	-6.4	V	3.0	34.2	1.0	-39.6	-13.0	-26.6	
3.505	3.5	H	3.0	35.4	1.0	-30.9	-13.0	-17.9	
5.258	4.5	H	3.0	35.3	1.0	-29.9	-13.0	-16.9	
7.010	11.0	H	3.0	35.7	1.0	-23.7	-13.0	-10.7	
8.763	6.5	H	3.0	35.6	1.0	-28.1	-13.0	-15.1	
10.515	-8.9	H	3.0	35.2	1.0	-43.1	-13.0	-30.1	
12.268	-8.9	H	3.0	34.2	1.0	-42.1	-13.0	-29.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE QPSK Band 2 (1.4 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 2_1.4 MHz BW_ QPSK MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.70MHz									
3.701	6.3	V	3.0	35.4	1.0	-28.0	-13.0	-15.0	
5.552	7.1	V	3.0	35.4	1.0	-27.3	-13.0	-14.3	
7.403	4.7	V	3.0	35.7	1.0	-30.0	-13.0	-17.0	
9.254	-0.5	V	3.0	35.6	1.0	-35.1	-13.0	-22.1	
11.104	-1.9	V	3.0	34.8	1.0	-35.7	-13.0	-22.7	
12.955	-4.1	V	3.0	34.0	1.0	-37.1	-13.0	-24.1	
3.701	14.4	H	3.0	35.4	1.0	-20.0	-13.0	-7.0	
5.552	3.9	H	3.0	35.4	1.0	-30.5	-13.0	-17.5	
7.403	0.2	H	3.0	35.7	1.0	-34.5	-13.0	-21.5	
9.254	0.9	H	3.0	35.6	1.0	-33.7	-13.0	-20.7	
11.104	-4.9	H	3.0	34.8	1.0	-38.7	-13.0	-25.7	
12.955	-9.1	H	3.0	34.0	1.0	-42.1	-13.0	-29.1	
Mid Ch, 1880.00MHz									
3.760	0.4	V	3.0	35.3	1.0	-33.9	-13.0	-20.9	
5.640	1.8	V	3.0	35.4	1.0	-32.6	-13.0	-19.6	
7.520	4.7	V	3.0	35.7	1.0	-30.0	-13.0	-17.0	
9.400	12.8	V	3.0	35.6	1.0	-21.7	-13.0	-8.7	
11.280	-0.1	V	3.0	34.7	1.0	-33.8	-13.0	-20.8	
13.160	-6.9	V	3.0	34.0	1.0	-39.9	-13.0	-26.9	
3.760	3.3	H	3.0	35.3	1.0	-31.1	-13.0	-18.1	
5.640	0.6	H	3.0	35.4	1.0	-33.8	-13.0	-20.8	
7.520	4.1	H	3.0	35.7	1.0	-30.6	-13.0	-17.6	
9.400	10.3	H	3.0	35.6	1.0	-24.3	-13.0	-11.3	
11.280	-4.3	H	3.0	34.7	1.0	-38.0	-13.0	-25.0	
13.160	-8.5	H	3.0	34.0	1.0	-41.5	-13.0	-28.5	
High Ch, 1909.30MHz									
3.819	3.8	V	3.0	35.3	1.0	-30.5	-13.0	-17.5	
5.728	5.5	V	3.0	35.4	1.0	-28.9	-13.0	-15.9	
7.637	-0.4	V	3.0	35.7	1.0	-35.1	-13.0	-22.1	
9.547	5.0	V	3.0	35.6	1.0	-29.5	-13.0	-16.5	
11.456	-4.2	V	3.0	34.6	1.0	-37.8	-13.0	-24.8	
13.365	-7.4	V	3.0	33.9	1.0	-40.4	-13.0	-27.4	
3.819	2.4	H	3.0	35.3	1.0	-31.9	-13.0	-18.9	
5.728	-0.2	H	3.0	35.4	1.0	-34.6	-13.0	-21.6	
7.637	3.9	H	3.0	35.7	1.0	-30.8	-13.0	-17.8	
9.547	2.2	H	3.0	35.6	1.0	-32.4	-13.0	-19.4	
11.456	-8.7	H	3.0	34.6	1.0	-42.2	-13.0	-29.2	
13.365	-7.5	H	3.0	33.9	1.0	-40.4	-13.0	-27.4	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE 16QAM Band 2 (1.4 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 2_1.4 MHz BW_16QAM MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.70MHz									
3.701	8.0	V	3.0	35.4	1.0	-26.4	-13.0	-13.4	
5.552	3.2	V	3.0	35.4	1.0	-31.3	-13.0	-18.3	
7.403	2.6	V	3.0	35.7	1.0	-32.1	-13.0	-19.1	
9.254	-1.2	V	3.0	35.6	1.0	-35.8	-13.0	-22.8	
11.104	-3.9	V	3.0	34.8	1.0	-37.7	-13.0	-24.7	
12.955	-5.9	V	3.0	34.0	1.0	-38.9	-13.0	-25.9	
3.701	11.2	H	3.0	35.4	1.0	-23.1	-13.0	-10.1	
5.552	2.7	H	3.0	35.4	1.0	-31.7	-13.0	-18.7	
7.403	-0.9	H	3.0	35.7	1.0	-35.6	-13.0	-22.6	
9.254	-1.6	H	3.0	35.6	1.0	-36.1	-13.0	-23.1	
11.104	-7.9	H	3.0	34.8	1.0	-41.7	-13.0	-28.7	
12.955	-11.3	H	3.0	34.0	1.0	-44.3	-13.0	-31.3	
Mid Ch, 1880.00MHz									
3.760	-0.2	V	3.0	35.3	1.0	-34.5	-13.0	-21.5	
5.640	-0.5	V	3.0	35.4	1.0	-35.0	-13.0	-22.0	
7.520	2.1	V	3.0	35.7	1.0	-32.6	-13.0	-19.6	
9.400	8.5	V	3.0	35.6	1.0	-26.1	-13.0	-13.1	
11.280	-3.8	V	3.0	34.7	1.0	-37.5	-13.0	-24.5	
13.160	-8.1	V	3.0	34.0	1.0	-41.1	-13.0	-28.1	
3.760	3.0	H	3.0	35.3	1.0	-31.4	-13.0	-18.4	
5.640	-1.6	H	3.0	35.4	1.0	-36.0	-13.0	-23.0	
7.520	2.3	H	3.0	35.7	1.0	-32.4	-13.0	-19.4	
9.400	5.4	H	3.0	35.6	1.0	-29.2	-13.0	-16.2	
11.280	-7.7	H	3.0	34.7	1.0	-41.4	-13.0	-28.4	
13.160	-12.6	H	3.0	34.0	1.0	-45.6	-13.0	-32.6	
High Ch, 1909.30MHz									
3.819	0.9	V	3.0	35.3	1.0	-33.4	-13.0	-20.4	
5.728	1.3	V	3.0	35.4	1.0	-33.2	-13.0	-20.2	
7.637	1.1	V	3.0	35.7	1.0	-33.6	-13.0	-20.6	
9.547	3.0	V	3.0	35.6	1.0	-31.5	-13.0	-18.5	
11.456	0.3	V	3.0	34.6	1.0	-33.3	-13.0	-20.3	
13.365	-5.5	V	3.0	33.9	1.0	-38.4	-13.0	-25.4	
3.819	1.2	H	3.0	35.3	1.0	-33.1	-13.0	-20.1	
5.728	3.2	H	3.0	35.4	1.0	-31.3	-13.0	-18.3	
7.637	0.0	H	3.0	35.7	1.0	-34.7	-13.0	-21.7	
9.547	3.7	H	3.0	35.6	1.0	-30.9	-13.0	-17.9	
11.456	-2.4	H	3.0	34.6	1.0	-36.0	-13.0	-23.0	
13.365	-8.8	H	3.0	33.9	1.0	-41.7	-13.0	-28.7	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE QPSK Band 2 (3.0 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 2_3 MHz BW_ QPSK MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.50MHz									
3.703	2.0	V	3.0	35.4	1.0	-32.4	-13.0	-19.4	
5.555	-0.1	V	3.0	35.4	1.0	-34.5	-13.0	-21.5	
7.406	0.2	V	3.0	35.7	1.0	-34.5	-13.0	-21.5	
9.258	-4.8	V	3.0	35.6	1.0	-39.4	-13.0	-26.4	
11.109	-5.9	V	3.0	34.8	1.0	-39.7	-13.0	-26.7	
12.961	-9.8	V	3.0	34.0	1.0	-42.8	-13.0	-29.8	
3.703	4.7	V	3.0	35.4	1.0	-29.7	-13.0	-16.7	
5.555	1.0	H	3.0	35.4	1.0	-33.4	-13.0	-20.4	
7.406	-4.8	H	3.0	35.7	1.0	-39.5	-13.0	-26.5	
9.258	-0.4	H	3.0	35.6	1.0	-35.0	-13.0	-22.0	
11.109	-11.5	H	3.0	34.8	1.0	-45.3	-13.0	-32.3	
12.961	-11.5	H	3.0	34.0	1.0	-44.5	-13.0	-31.5	
Mid Ch, 1880.00MHz									
3.760	-2.2	V	3.0	35.3	1.0	-36.6	-13.0	-23.6	
5.640	1.2	V	3.0	35.4	1.0	-33.2	-13.0	-20.2	
7.520	-2.8	V	3.0	35.7	1.0	-37.5	-13.0	-24.5	
9.400	0.3	V	3.0	35.6	1.0	-34.3	-13.0	-21.3	
11.280	-8.6	V	3.0	34.7	1.0	-42.3	-13.0	-29.3	
13.160	-9.2	V	3.0	34.0	1.0	-42.2	-13.0	-29.2	
3.760	-1.0	H	3.0	35.3	1.0	-35.3	-13.0	-22.3	
5.640	-3.5	H	3.0	35.4	1.0	-38.0	-13.0	-25.0	
7.520	-1.1	H	3.0	35.7	1.0	-35.8	-13.0	-22.8	
9.400	-2.4	H	3.0	35.6	1.0	-37.0	-13.0	-24.0	
11.280	-11.2	H	3.0	34.7	1.0	-44.9	-13.0	-31.9	
13.160	-13.3	H	3.0	34.0	1.0	-46.2	-13.0	-33.2	
High Ch, 1908.50MHz									
3.817	1.9	V	3.0	35.3	1.0	-32.4	-13.0	-19.4	
5.726	0.9	V	3.0	35.4	1.0	-33.6	-13.0	-20.6	
7.634	-2.4	V	3.0	35.7	1.0	-37.1	-13.0	-24.1	
9.543	3.2	V	3.0	35.6	1.0	-31.3	-13.0	-18.3	
11.451	-5.7	V	3.0	34.6	1.0	-39.3	-13.0	-26.3	
13.360	-10.7	V	3.0	33.9	1.0	-43.6	-13.0	-30.6	
3.817	-4.9	V	3.0	35.3	1.0	-39.2	-13.0	-26.2	
5.726	-0.6	H	3.0	35.4	1.0	-35.0	-13.0	-22.0	
7.634	1.4	H	3.0	35.7	1.0	-33.3	-13.0	-20.3	
9.543	3.4	H	3.0	35.6	1.0	-31.2	-13.0	-18.2	
11.451	-12.7	H	3.0	34.6	1.0	-46.3	-13.0	-33.3	
13.360	-7.5	H	3.0	33.9	1.0	-40.4	-13.0	-27.4	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE 16QAM Band 2 (3.0 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 2_3 MHz BW_ 16QAM MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.50MHz									
3.703	1.6	V	3.0	35.4	1.0	-32.8	-13.0	-19.8	
5.555	2.4	V	3.0	35.4	1.0	-32.0	-13.0	-19.0	
7.406	0.8	V	3.0	35.7	1.0	-33.9	-13.0	-20.9	
9.258	-3.9	V	3.0	35.6	1.0	-38.4	-13.0	-25.4	
11.109	-2.4	V	3.0	34.8	1.0	-36.2	-13.0	-23.2	
12.961	-6.3	V	3.0	34.0	1.0	-39.3	-13.0	-26.3	
3.703	5.8	V	3.0	35.4	1.0	-28.6	-13.0	-15.6	
5.555	2.0	H	3.0	35.4	1.0	-32.4	-13.0	-19.4	
7.406	-1.4	H	3.0	35.7	1.0	-36.1	-13.0	-23.1	
9.258	-0.6	H	3.0	35.6	1.0	-35.2	-13.0	-22.2	
11.109	-8.3	H	3.0	34.8	1.0	-42.1	-13.0	-29.1	
12.961	-8.9	H	3.0	34.0	1.0	-41.9	-13.0	-28.9	
Mid Ch, 1880.00MHz									
3.760	2.7	V	3.0	35.3	1.0	-31.6	-13.0	-18.6	
5.640	3.4	V	3.0	35.4	1.0	-31.0	-13.0	-18.0	
7.520	2.2	V	3.0	35.7	1.0	-32.5	-13.0	-19.5	
9.400	7.1	V	3.0	35.6	1.0	-27.4	-13.0	-14.4	
11.280	-2.3	V	3.0	34.7	1.0	-36.0	-13.0	-23.0	
13.160	-8.1	V	3.0	34.0	1.0	-41.0	-13.0	-28.0	
3.760	3.9	H	3.0	35.3	1.0	-30.5	-13.0	-17.5	
5.640	-1.1	H	3.0	35.4	1.0	-35.5	-13.0	-22.5	
7.520	4.1	H	3.0	35.7	1.0	-30.6	-13.0	-17.6	
9.400	2.9	H	3.0	35.6	1.0	-31.7	-13.0	-18.7	
11.280	-6.9	H	3.0	34.7	1.0	-40.6	-13.0	-27.6	
13.160	-11.4	H	3.0	34.0	1.0	-44.4	-13.0	-31.4	
High Ch, 1908.50MHz									
3.817	1.5	V	3.0	35.3	1.0	-32.8	-13.0	-19.8	
5.726	3.3	V	3.0	35.4	1.0	-31.1	-13.0	-18.1	
7.634	-1.9	V	3.0	35.7	1.0	-36.6	-13.0	-23.6	
9.543	4.2	V	3.0	35.6	1.0	-30.4	-13.0	-17.4	
11.451	-2.2	V	3.0	34.6	1.0	-35.8	-13.0	-22.8	
13.360	-7.2	V	3.0	33.9	1.0	-40.1	-13.0	-27.1	
3.817	-3.5	H	3.0	35.3	1.0	-37.8	-13.0	-24.8	
5.726	0.4	H	3.0	35.4	1.0	-34.0	-13.0	-21.0	
7.634	4.8	H	3.0	35.7	1.0	-29.9	-13.0	-16.9	
9.543	3.1	H	3.0	35.6	1.0	-31.5	-13.0	-18.5	
11.451	-9.6	H	3.0	34.6	1.0	-43.1	-13.0	-30.1	
13.360	-4.8	H	3.0	33.9	1.0	-37.8	-13.0	-24.8	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE QPSK Band 2 (5.0 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 2_5 MHz BW_ QPSK MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.50MHz									
3.705	7.8	V	3.0	35.4	1.0	-26.6	-13.0	-13.6	
5.558	1.8	V	3.0	35.4	1.0	-32.6	-13.0	-19.6	
7.410	1.3	V	3.0	35.7	1.0	-33.4	-13.0	-20.4	
9.263	-5.4	V	3.0	35.6	1.0	-40.0	-13.0	-27.0	
11.115	-8.2	V	3.0	34.8	1.0	-41.9	-13.0	-28.9	
12.968	-3.6	V	3.0	34.0	1.0	-36.6	-13.0	-23.6	
3.705	15.9	H	3.0	35.4	1.0	-18.5	-13.0	-5.5	
5.558	0.0	H	3.0	35.4	1.0	-34.4	-13.0	-21.4	
7.410	-0.7	H	3.0	35.7	1.0	-35.4	-13.0	-22.4	
9.263	-4.4	H	3.0	35.6	1.0	-39.0	-13.0	-26.0	
11.115	-10.2	H	3.0	34.8	1.0	-44.0	-13.0	-31.0	
12.968	-11.2	H	3.0	34.0	1.0	-44.2	-13.0	-31.2	
Mid Ch, 1880.00MHz									
3.760	1.9	V	3.0	35.3	1.0	-32.4	-13.0	-19.4	
5.640	-3.4	V	3.0	35.4	1.0	-37.8	-13.0	-24.8	
7.520	1.3	V	3.0	35.7	1.0	-33.4	-13.0	-20.4	
9.400	8.0	V	3.0	35.6	1.0	-26.6	-13.0	-13.6	
11.280	-6.4	V	3.0	34.7	1.0	-40.1	-13.0	-27.1	
13.160	-6.5	V	3.0	34.0	1.0	-39.5	-13.0	-26.5	
3.760	4.7	H	3.0	35.3	1.0	-29.7	-13.0	-16.7	
5.640	-3.2	H	3.0	35.4	1.0	-37.6	-13.0	-24.6	
7.520	3.2	H	3.0	35.7	1.0	-31.5	-13.0	-18.5	
9.400	4.9	H	3.0	35.6	1.0	-29.6	-13.0	-16.6	
11.280	-9.6	H	3.0	34.7	1.0	-43.3	-13.0	-30.3	
13.160	-10.7	H	3.0	34.0	1.0	-43.7	-13.0	-30.7	
High Ch, 1907.50MHz									
3.815	5.2	V	3.0	35.3	1.0	-29.1	-13.0	-16.1	
5.723	0.2	V	3.0	35.4	1.0	-34.2	-13.0	-21.2	
7.630	-3.9	V	3.0	35.7	1.0	-38.6	-13.0	-25.6	
9.538	0.1	V	3.0	35.6	1.0	-34.4	-13.0	-21.4	
11.445	-10.5	V	3.0	34.6	1.0	-44.1	-13.0	-31.1	
13.353	-7.0	V	3.0	33.9	1.0	-39.9	-13.0	-26.9	
3.815	3.8	H	3.0	35.3	1.0	-30.5	-13.0	-17.5	
5.723	-4.1	H	3.0	35.4	1.0	-38.5	-13.0	-25.5	
7.630	3.1	H	3.0	35.7	1.0	-31.6	-13.0	-18.6	
9.538	-3.2	H	3.0	35.6	1.0	-37.8	-13.0	-24.8	
11.445	-14.0	H	3.0	34.6	1.0	-47.6	-13.0	-34.6	
13.353	-9.7	H	3.0	33.9	1.0	-42.7	-13.0	-29.7	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

ERIP LTE 16QAM Band 2 (5.0 MHz BAND WIDTH)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG ELECTRONICS INC
Project #: 11U13993
Date: 09/08/11
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH HEADSET AND AN AC ADAPTER
Mode: BAND 2_5 MHz BW_ 16QAM MODE

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.50MHz									
3.705	3.4	V	3.0	35.4	1.0	-30.9	-13.0	-17.9	
5.558	-1.8	V	3.0	35.4	1.0	-36.2	-13.0	-23.2	
7.410	-1.4	V	3.0	35.7	1.0	-36.1	-13.0	-23.1	
9.263	1.5	V	3.0	35.6	1.0	-33.1	-13.0	-20.1	
11.115	-5.6	V	3.0	34.8	1.0	-39.4	-13.0	-26.4	
12.968	-5.5	V	3.0	34.0	1.0	-38.5	-13.0	-25.5	
3.705	2.4	H	3.0	35.4	1.0	-32.0	-13.0	-19.0	
5.558	-1.6	H	3.0	35.4	1.0	-36.0	-13.0	-23.0	
7.410	-3.7	H	3.0	35.7	1.0	-38.4	-13.0	-25.4	
9.263	-1.3	H	3.0	35.6	1.0	-35.9	-13.0	-22.9	
11.115	-5.1	H	3.0	34.8	1.0	-38.9	-13.0	-25.9	
12.968	-9.9	H	3.0	34.0	1.0	-42.9	-13.0	-29.9	
Mid Ch, 1880.00MHz									
3.760	-4.9	V	3.0	35.3	1.0	-39.2	-13.0	-26.2	
5.640	-5.5	V	3.0	35.4	1.0	-39.9	-13.0	-26.9	
7.520	-1.9	V	3.0	35.7	1.0	-36.6	-13.0	-23.6	
9.400	11.2	V	3.0	35.6	1.0	-23.4	-13.0	-10.4	
11.280	-5.5	V	3.0	34.7	1.0	-39.2	-13.0	-26.2	
13.160	-7.7	V	3.0	34.0	1.0	-40.6	-13.0	-27.6	
3.760	-5.9	H	3.0	35.3	1.0	-40.3	-13.0	-27.3	
5.640	-6.0	H	3.0	35.4	1.0	-40.4	-13.0	-27.4	
7.520	-0.5	H	3.0	35.7	1.0	-35.2	-13.0	-22.2	
9.400	5.6	H	3.0	35.6	1.0	-28.9	-13.0	-15.9	
11.280	-4.8	H	3.0	34.7	1.0	-38.5	-13.0	-25.5	
13.160	-11.3	H	3.0	34.0	1.0	-44.3	-13.0	-31.3	
High Ch, 1907.50MHz									
3.815	-3.7	V	3.0	35.3	1.0	-38.0	-13.0	-25.0	
5.723	-3.7	V	3.0	35.4	1.0	-38.1	-13.0	-25.1	
7.630	-3.0	V	3.0	35.7	1.0	-37.7	-13.0	-24.7	
9.538	5.7	V	3.0	35.6	1.0	-28.8	-13.0	-15.8	
11.445	-1.4	V	3.0	34.6	1.0	-34.9	-13.0	-21.9	
13.353	-5.1	V	3.0	33.9	1.0	-38.0	-13.0	-25.0	
3.815	-7.7	H	3.0	35.3	1.0	-42.0	-13.0	-29.0	
5.723	-1.1	H	3.0	35.4	1.0	-35.6	-13.0	-22.6	
7.630	-2.8	H	3.0	35.7	1.0	-37.5	-13.0	-24.5	
9.538	3.9	H	3.0	35.6	1.0	-30.7	-13.0	-17.7	
11.445	0.4	H	3.0	34.6	1.0	-33.1	-13.0	-20.1	
13.353	-7.5	H	3.0	33.9	1.0	-40.4	-13.0	-27.4	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.