



**FCC CFR47 PART 22H, 24E, 27L, AND 90S  
CERTIFICATION TEST REPORT  
FOR  
QUAD-BAND RADIO WITH WLAN AND BT RADIO**

**Model: A1453 / A1533**

**FCC ID: BCG-E2642A**

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## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS .....</b>	<b>6</b>
<b>2. TEST METHODOLOGY .....</b>	<b>7</b>
<b>3. FACILITIES AND ACCREDITATION .....</b>	<b>7</b>
<b>4. CALIBRATION AND UNCERTAINTY .....</b>	<b>7</b>
4.1. MEASURING INSTRUMENT CALIBRATION .....	7
4.2. SAMPLE CALCULATION .....	7
4.3. MEASUREMENT UNCERTAINTY .....	7
<b>5. EQUIPMENT UNDER TEST .....</b>	<b>8</b>
5.1. DESCRIPTION OF EUT .....	8
5.2. MAXIMUM OUTPUT POWER.....	8
5.3. SOFTWARE AND FIRMWARE.....	16
5.4. MAXIMUM ANTENNA GAIN.....	17
5.5. WORST-CASE CONFIGURATION AND MODE.....	17
5.6. DESCRIPTION OF TEST SETUP.....	18
<b>6. TEST AND MEASUREMENT EQUIPMENT .....</b>	<b>20</b>
<b>7. RF POWER OUTPUT VERIFICATION .....</b>	<b>21</b>
7.1. LAT LTE BAND 2.....	21
7.2. UAT LTE BAND 2 .....	27
7.3. LAT LTE BAND 4.....	33
7.4. UAT LTE BAND 4 .....	39
7.5. LAT LTE BAND 5.....	45
7.6. UAT LTE BAND 5 .....	49
7.7. LAT LTE BAND 13.....	53
7.8. UAT LTE BAND 13 .....	55
7.9. LAT LTE BAND 17.....	57
7.10. UAT LTE BAND 17 .....	59
7.11. LAT LTE BAND 25.....	61
7.12. UAT LTE BAND 25 .....	67
7.13. LAT LTE BAND 26.....	73
7.14. UAT LTE BAND 26 .....	75
<b>8. CONDUCTED TEST RESULTS .....</b>	<b>77</b>

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8.1.	OCCUPIED BANDWIDTH .....	77
8.1.1.	LTE BAND 2 .....	88
8.1.2.	LTE BAND 4 .....	124
8.1.3.	LTE BAND 5 .....	160
8.1.4.	LTE BAND 13 .....	184
8.1.5.	LTE BAND 17 .....	192
8.1.6.	LTE BAND 25 .....	204
8.1.7.	LTE BAND 26 .....	240
8.2.	BAND EDGE and EMISSION MASK.....	248
8.2.1.	LTE BAND 2 .....	249
8.2.2.	LTE BAND 4 .....	297
8.2.3.	LTE BAND 5 .....	345
8.2.4.	LTE BAND 13 .....	377
8.2.5.	LTE BAND 17 .....	441
8.2.6.	LTE BAND 25 .....	457
8.2.7.	LTE BAND 26 .....	505
8.3.	OUT OF BAND EMISSIONS.....	517
8.3.1.	LTE BAND 2 .....	518
8.3.2.	LTE BAND 4 .....	542
8.3.3.	LTE BAND 5 .....	566
8.3.4.	LTE BAND 13 .....	582
8.3.5.	LTE BAND 17 .....	586
8.3.6.	LTE BAND 25 .....	594
8.3.7.	LTE BAND 26 .....	618
8.4.	FREQUENCY STABILITY.....	638
<b>9.</b>	<b>RADIATED TEST RESULTS.....</b>	<b>646</b>
9.1.	RADIATED POWER (ERP & EIRP) .....	646
9.1.1.	LAT LTE BAND 2.....	663
9.1.2.	LAT LTE BAND 4.....	675
9.1.3.	LAT LTE BAND 5.....	687
9.1.4.	LAT LTE BAND 13.....	695
9.1.5.	LAT LTE BAND 17.....	699
9.1.6.	LAT LTE BAND 25.....	703
9.1.7.	LAT LTE BAND 26.....	715
9.1.8.	UAT LTE BAND 2.....	718

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9.1.9.	UAT LTE BAND 4 .....	730
9.1.10.	UAT LTE BAND 5.....	742
9.1.11.	UAT LTE BAND 13.....	750
9.1.12.	UAT LTE BAND 17.....	754
9.1.13.	UAT LTE BAND 25.....	758
9.1.14.	UAT LTE BAND 26.....	770
9.2.	PEAK-TO-AVERAGE RATIO.....	773
9.2.1.	LTE BAND 5 .....	773
9.2.2.	LTE BAND 13 .....	774
9.2.3.	LTE BAND 17 .....	775
9.3.	FIELD STRENGTH OF SPURIOUS RADIATION.....	784
9.3.1.	LAT (PORT A) .....	785
9.3.2.	UAT (PORT B).....	843
9.5.	RECEIVER SPURIOUS EMISSIONS .....	898
<b>10.</b>	<b>SETUP PHOTOS .....</b>	<b>901</b>

# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** APPLE  
1 INFINITE LOOP  
CUPERTINO, CA 95014, U.S.A.

**EUT DESCRIPTION:** QUAD-BAND RADIO WITH WLAN AND BT RADIO

**MODEL:** A1453 / A1533

**SERIAL NUMBER:** C39KG02PFJ03

**DATE TESTED:** APRIL 22-25 and AUGUST 6, 2013

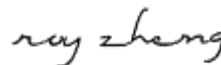
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC CFR47 PART 22H, 24E, 27L, and 90S	Pass

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

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

Approved & Released For  
UL Verification Services Inc. By:

Tested By:



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UL Verification Services Inc.

Roy Zheng  
WiSE Lab Technician  
UL Verification Services Inc.

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 2, Part 22, Part 24, Part 27, and Part 90.

## 3. FACILITIES AND ACCREDITATION

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

UL Verification Services 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:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

### 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, Model A1453/A1533 is a mobile phone with multimedia functions (music, application support, and video), cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA /CDMA /EVDO/LTE radio, IEEE 802.11a/b/g/n, Bluetooth and GPS radio. The rechargeable battery is not user accessible.

### 5.2. MAXIMUM OUTPUT POWER

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

#### LAT PORT LTE BAND 2

Part 24 LTE Band 2 MODE (1.4 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1850.7 - 1909.3	QPSK RB6-0	28.10	645.7	27.16	520.0
1850.7 - 1909.3	16QAM, RB6-0	27.82	605.3	26.98	498.9

Part 24 LTE Band 2 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1851.5 - 1908.5	QPSK RB15-0	28.20	660.7	27.36	544.5
1851.5 - 1908.5	16QAM, RB15-0	27.83	606.7	27.26	532.1

Part 24 LTE Band 2 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1852.5 - 1907.5	QPSK RB25-0	28.05	638.3	27.18	522.4
1851.5 - 1908.5	16QAM, RB25-0	28.10	645.7	26.70	467.7

Part 24 LTE Band 2 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1855 - 1905	QPSK RB50-0	28.00	631.0	26.96	496.6
1855 - 1905	16QAM, RB50-0	27.95	623.7	26.78	476.4

Part 24 LTE Band 2 MODE (15.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1857.5 - 1902.5	QPSK RB75-0	28.20	660.7	27.16	520.0
1857.5 - 1902.5	16QAM, RB75-0	27.98	628.1	26.66	463.4



Part 24 LTE Band 2 MODE (20.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1860 - 1900	QPSK RB100-0	28.30	676.1	27.26	532.1
1860 - 1900	16QAM, RB100-0	28.00	631.0	26.56	452.9

**LAT PORT LTE BAND 4**

Part 27 LTE Band 4 MODE (1.4 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1710.7 - 1754.3	QPSK RB6-0	28.04	636.8	26.07	404.6
1710.7 - 1754.3	16QAM, RB6-0	27.98	628.1	25.77	377.6

Part 27 LTE Band 4 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1711.5 - 1753.5	QPSK RB15-0	28.00	631.0	26.63	460.3
1711.5 - 1753.5	16QAM, RB15-0	27.80	602.6	26.13	410.2

Part 27 LTE Band 4 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1712.5 - 1752.5	QPSK RB25-0	27.40	549.5	26.33	429.5
1712.5 - 1752.5	16QAM, RB25-0	27.30	537.0	25.73	374.1

Part 27 LTE Band 4 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1715 - 1750	QPSK RB50-0	27.60	575.4	26.41	437.5
1715 - 1750	16QAM, RB50-0	27.43	553.4	25.81	381.1

Part 27 LTE Band 4 MODE (15.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1717.5 - 1747.50	QPSK RB75-0	27.69	587.5	26.53	449.8
1717.5 - 1747.50	16QAM RB75-0	27.63	579.4	26.03	400.9

Part 27 LTE Band 4 MODE (20.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1720 - 1745	QPSK RB100-0	27.70	588.8	26.53	449.8
1720 - 1745	16QAM, RB100-0	27.53	566.2	25.93	391.7

**LAT PORT LTE BAND 5**

Part 22 LTE Band 5 MODE (1.4 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
824.7 - 848.3	QPSK RB1-0	24.00	251.2	20.80	120.2
824.7 - 848.3	16QAM, RB1-0	23.56	227.0	19.80	95.5

Part 22 LTE Band 5 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
825.5 - 847.5	QPSK RB1-0	24.00	251.2	21.20	131.8
824.7 - 848.3	16QAM, RB1-0	23.63	230.7	19.50	89.1

Part 22 LTE Band 5 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
826.5 - 846.5	QPSK RB1-0	24.00	251.2	20.90	123.0
826.5 - 846.5	16QAM, RB1-0	23.36	216.8	19.80	95.5

Part 22 LTE Band 5 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
829 - 844	QPSK RB1-0	24.00	251.2	20.90	123.0
829 - 844	16QAM, RB1-0	23.41	219.3	19.80	95.5

**LAT PORT LTE BAND 13**

Part 27 LTE Band 13 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
779.5 - 784.5	QPSK RB1-0	24.00	251.2	18.00	63.1
779.5 - 784.5	16QAM, RB1-0	23.62	230.1	17.10	51.3

Part 27 LTE Band 13 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(AVERAGE)	
		dBm	mW	dBm	mW
782.00	QPSK RB1-0	24.00	251.2	18.40	69.2
782.00	16QAM, RB1-0	23.36	216.8	17.30	53.7

**LAT PORT LTE BAND 17**

Part 27 LTE Band 17 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
706.5 - 713.5	QPSK RB1-0	24.00	251.2	16.90	49.0
706.5 - 713.5	16QAM, RB1-0	23.37	217.3	16.70	46.8

Part 27 LTE Band 17 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
709 - 711	QPSK RB1-0	24.00	251.2	17.30	53.7
709 - 711	16QAM, RB1-0	23.15	206.5	16.70	46.8

**LAT PORT LTE BAND 25**

Part 24 LTE Band 25 MODE (1.4 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1850.7 - 1914.3	QPSK RB6-0	28.60	724.4	26.85	484.2
1850.7 - 1914.3	16QAM, RB6-0	28.40	691.8	26.35	431.5

Part 24 LTE Band 25 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1851.5 - 1913.5	QPSK RB15-0	28.40	691.8	26.75	473.2
1851.5 - 1913.5	16QAM, RB15-0	28.30	676.1	26.37	433.5

Part 24 LTE Band 25 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1852.5 - 1912.5	QPSK RB25-0	28.60	724.4	27.15	518.8
1852.5 - 1912.5	16QAM, RB25-0	28.50	707.9	26.45	441.6

Part 24 LTE Band 25 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1855 - 1910	QPSK RB50-0	28.60	724.4	28.25	668.3
1855 - 1910	16QAM, RB50-0	28.30	676.1	27.35	543.3

Part 24 LTE Band 25 MODE (15.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1857.5 - 1907.5	QPSK RB50-0	28.90	776.2	28.24	666.8
1857.5 - 1907.5	16QAM, RB50-0	28.60	724.4	27.24	529.7

Part 24 LTE Band 25 MODE (20.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1860 - 1905	QPSK RB100-0	28.90	776.2	28.04	636.8
1860 - 1905	16QAM, RB100-0	28.70	741.3	27.04	505.8

**LAT PORT LTE BAND 26**

Part 22 LTE Band 26 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
820.3-822.3	QPSK RB15-0	29.00	794.3	23.50	223.9
820.3-822.3	16QAM, RB15-0	28.83	763.8	22.50	177.8

Part 22 LTE Band 26 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
821.30	QPSK RB25-0	29.07	807.2	24.40	275.4
821.30	16QAM, RB25-0	28.96	787.0	23.40	218.8

**UAT PORT LTE BAND 2**

Part 24 LTE Band 2 MODE (1.4.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1850.7 - 1909.3	QPSK RB6-0	27.14	517.6	23.74	236.6
1850.7 - 1909.3	16QAM, RB6-0	27.12	515.2	22.84	192.3

Part 24 LTE Band 2 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1851.5 - 1908.5	QPSK RB15-0	27.12	515.2	23.94	247.7
1851.5 - 1908.5	16QAM, RB15-0	27.02	503.5	23.04	201.4

Part 24 LTE Band 2 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1852.5 - 1907.5	QPSK RB25-0	27.48	559.8	24.14	259.4
1851.5 - 1908.5	16QAM, RB25-0	27.16	520.0	22.34	171.4

Part 24 LTE Band 2 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1855 - 1905	QPSK RB50-0	27.27	533.3	24.24	265.5
1855 - 1905	16QAM, RB50-0	27.22	527.2	22.84	192.3

Part 24 LTE Band 2 MODE (15.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1857.5 - 1902.5	QPSK RB75-0	27.40	549.5	24.64	291.1
1857.5 - 1902.5	16QAM, RB75-0	27.05	507.0	23.74	236.6

Part 24 LTE Band 2 MODE (20.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1860 - 1900	QPSK RB100-0	27.29	535.8	24.74	297.9
1860 - 1900	16QAM, RB100-0	27.05	507.0	23.84	242.1

**UAT PORT LTE BAND 4**

Part 27 LTE Band 4 MODE (1.4 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1710.7 - 1754.3	QPSK RB6-0	26.47	443.6	22.67	184.9
1710.7 - 1754.3	16QAM, RB6-0	26.30	426.6	21.87	153.8

Part 27 LTE Band 4 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1711.5 - 1753.5	QPSK RB15-0	26.51	447.7	22.13	163.3
1711.5 - 1753.5	16QAM, RB15-0	26.23	419.8	21.43	139.0

Part 27 LTE Band 4 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1712.5 - 1752.5	QPSK RB25-0	26.59	456.0	22.67	184.9
1712.5 - 1752.5	16QAM, RB25-0	26.44	440.6	21.97	157.4

Part 27 LTE Band 4 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1715 - 1750	QPSK RB50-0	26.57	453.9	25.87	386.4
1715 - 1750	16QAM, RB50-0	26.40	436.5	24.97	314.1

Part 27 LTE Band 4 MODE (15.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1717.5 - 1747.50	QPSK RB75-0	26.84	483.1	23.97	249.5
1717.5 - 1747.50	16QAM RB75-0	26.64	461.3	23.07	202.8

Part 27 LTE Band 4 MODE (20.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(Peak)	
		dBm	mW	dBm	mW
1720 - 1745	QPSK RB100-0	26.79	477.5	23.97	249.5
1720 - 1745	16QAM, RB100-0	26.67	464.5	23.07	202.8

**UAT PORT LTE BAND 5**

Part 22 LTE Band 5 MODE (1.4 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
824.7 - 848.3	QPSK RB1-0	23.92	246.6	15.60	36.3
824.7 - 848.3	16QAM, RB1-0	23.32	214.8	14.70	29.5

Part 22 LTE Band 5 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
825.5 - 847.5	QPSK RB1-0	23.69	233.9	15.20	33.1
824.7 - 848.3	16QAM, RB1-0	23.16	207.0	14.40	27.5

Part 22 LTE Band 5 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
826.5 - 846.5	QPSK RB1-0	23.69	233.9	15.60	36.3
826.5 - 846.5	16QAM, RB1-0	23.20	208.9	14.70	29.5

Part 22 LTE Band 5 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
829 - 844	QPSK RB1-0	23.69	233.9	15.50	35.5
829 - 844	16QAM, RB1-0	23.12	205.1	14.70	29.5

**UAT PORT LTE BAND 13**

Part 27 LTE Band 13 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
779.5 - 784.5	QPSK RB1-0	23.70	234.4	15.30	33.9
779.5 - 784.5	16QAM, RB1-0	23.09	203.7	14.60	28.8

Part 27 LTE Band 13 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(AVERAGE)	
		dBm	mW	dBm	mW
782.00	QPSK RB1-0	23.70	234.4	15.10	32.4
782.00	16QAM, RB1-0	23.00	199.5	14.30	26.9

**UAT PORT LTE BAND 17**

Part 27 LTE Band 17 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
706.5 - 713.5	QPSK RB1-0	23.69	233.9	13.00	20.0
706.5 - 713.5	16QAM, RB1-0	23.30	213.8	12.30	17.0

Part 27 LTE Band 17 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		ERP(Average)	
		dBm	mW	dBm	mW
709 - 711	QPSK RB1-0	23.69	233.9	11.80	15.1
709 - 711	16QAM, RB1-0	23.09	203.7	11.30	13.5

**UAT PORT LTE BAND 25**

Part 24 LTE Band 25 MODE (1.4 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1850.7 - 1914.3	QPSK RB6-0	27.65	582.1	24.36	272.9
1850.7 - 1914.3	16QAM, RB6-0	27.50	562.3	23.46	221.8

Part 24 LTE Band 25 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1851.5 - 1913.5	QPSK RB15-0	27.70	588.8	23.94	247.7
1851.5 - 1913.5	16QAM, RB15-0	27.53	566.2	23.04	201.4

Part 24 LTE Band 25 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1852.5 - 1912.5	QPSK RB25-0	28.03	635.3	24.84	304.8
1852.5 - 1912.5	16QAM, RB25-0	27.80	602.6	23.94	247.7

Part 24 LTE Band 25 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1855 - 1910	QPSK RB50-0	28.04	636.8	25.04	319.2
1855 - 1910	16QAM, RB50-0	27.90	616.6	24.14	259.4

Part 24 LTE Band 25 MODE (15.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1857.5 - 1907.5	QPSK RB50-0	28.24	666.8	25.04	319.2
1857.5 - 1907.5	16QAM, RB50-0	28.04	636.8	24.14	259.4

Part 24 LTE Band 25 MODE (20.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
1860 - 1905	QPSK RB100-0	28.09	644.2	25.14	326.6
1860 - 1905	16QAM, RB100-0	28.00	631.0	24.24	265.5

**UAT PORT LTE BAND 26**

Part 22 LTE Band 26 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
820.3-822.3	QPSK RB15-0	28.77	753.4	18.18	65.8
820.3-822.3	16QAM, RB15-0	28.27	671.4	17.18	52.2

Part 22 LTE Band 26 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
821.30	QPSK RB25-0	28.63	729.5	19.23	83.8
821.30	16QAM, RB25-0	28.49	706.3	18.32	67.9

**5.3. SOFTWARE AND FIRMWARE**

The firmware installed in the EUT during testing was version 11A360, baseband 7.02\_16

The EUT is linked CMW500 Test Set.



## 5.4. MAXIMUM ANTENNA GAIN

Please see table below:

LTE BANDS	A31 LAT Antenna Gain (dBi)	A31 UAT Antenna Gain (dBi)
LTE Band 2, 1850-1910MHz	1.60	-1.70
LTE Band 4, 1710 – 1755MHz	1.20	-3.90
LTE Band 5, 824 – 849MHz	-1.00	-5.10
LTE Band 13, 777 -787MHz	-1.80	-5.80
LTE Band 17, 704 – 716MHz	-2.70	-6.80
LTE Band 25, 1850 – 1915MHz	1.60	-1.70
LTE Band 26, 814 – 849MHz	-1.00	-5.10

## 5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case channel for RF radiated emissions below 1GHz tests is channel with highest RF output power.

The worst-case scenario for all measurements is based on the investigation results.

The device has LTE Bands of 2, 4, 5, 13, 17, 25 and 26

For the device, all tests were performed as below,

\_Port A: Both conducted and radiated emissions measurement with all LTE bands.

\_Port B: All conducted emissions measurement and only ERP/EIRP radiated emissions on all LTE bands.

For the fundamental investigation of radiated emissions, the EUT is investigated for vertical and horizontal antenna orientations and X Y and Z orientation and the worst case was determined to be at X position on Cell band and X position on PCS Band.

## 5.6. DESCRIPTION OF TEST SETUP

### RADIATED TESTS SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Apple	A1385	D292066H2T2DHLHAC	DoC
DC Power Supply	Sorensen	XT 15-4	1319A02780	NA

### I/O CABLES ( RF Conducted Test)

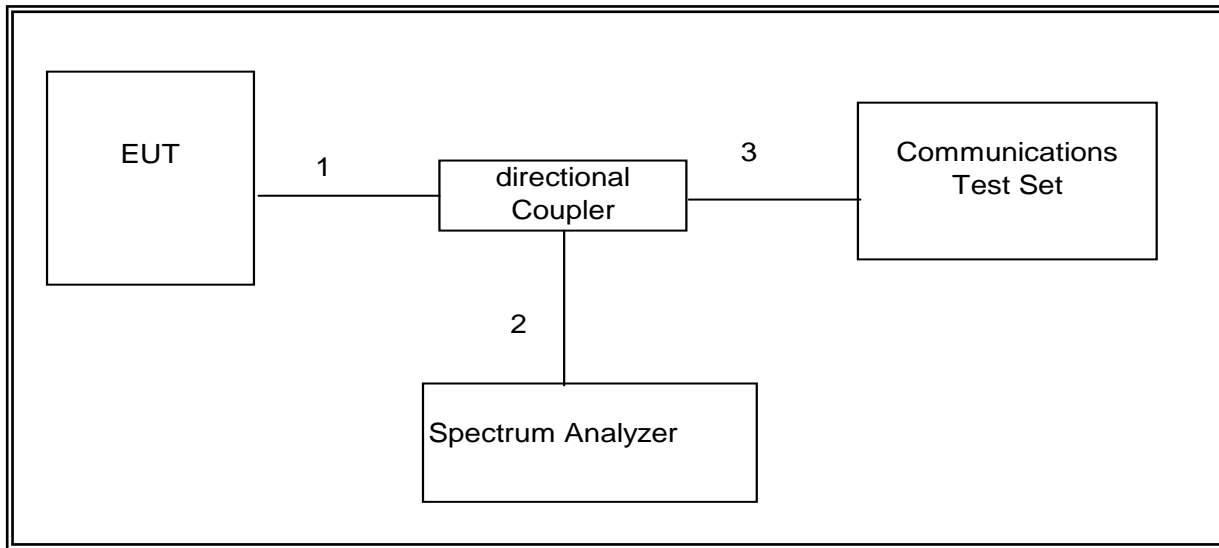
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	RFOut	1	Directional Coupler	Un-shielded	0.1m	NA
2	RF In/Out	1	Spectrum Analyzer	Un-shielded	None	NA
3	RF In/Out	1	Communications Test Set	Un-shielded	1.2m	NA

### I/O CABLES (RF Radiated Test)

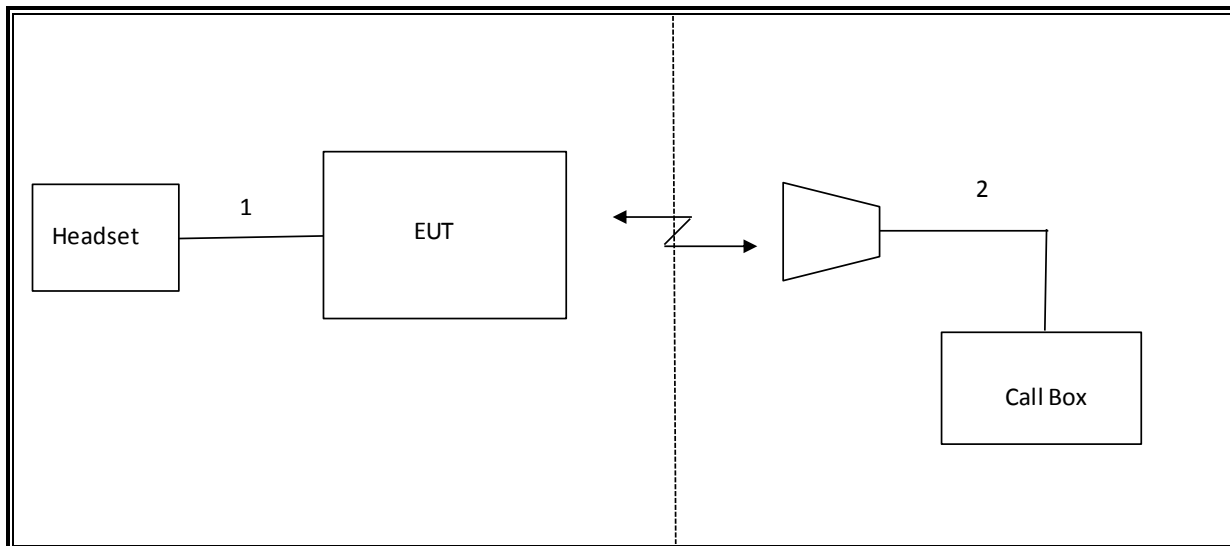
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	Jack	1	Earphone	Un-shielded	0.5m	NA
2	RF In/Out	1	Antenna	Un-shielded	5m	NA

**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, 44GHz	Agilent	N9030A	F00129	02/21/14
Directional Coupler	Krytar	1817	N02656	CNR
Communication Test Set	R & S	CMW500	F00014	02/21/14
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	C00930	01/09/14
Vector signal generator, 6 GHz	Agilent / HP	E4438C	F00037	07/06/14
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02686	CNR
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02688	CNR
Bilog, 30-1GHz	Sunol Science	A0222813-1	C01011	03/07/14
Peak Power Meter	Boonton	4541	C01189	06/20/14
Peak Power Sensor	Boonton	57006	C01202	05/29/14
Horn Antenna	ETS Lindgren	3117	F00131	2/19/2014
PreAmp 1-18GHz	Agilent/HP	8449B	C01063	3/18/2014
PreAmp 30-1000MHz	Sonama	310	981661	11/6/2013

## 7. RF POWER OUTPUT VERIFICATION

### 7.1. LAT LTE BAND 2

#### Output power for LTE Band 2 (1.4MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)	Average
1850.7	18607	QPSK	1.4	1	0	27.61	22.98
				1	2	27.63	22.95
				1	5	27.70	22.95
				3	0	27.78	22.92
				3	1	27.15	22.85
				3	2	27.21	23.00
		6		0	27.80	22.28	
		1		0	27.33	22.48	
		1		2	27.20	22.45	
		1		5	27.24	22.37	
		3		0	27.35	22.35	
		3		1	27.40	22.23	
		3		2	27.41	22.20	
		6		0	27.23	21.13	
1880.0	18900	QPSK	1	0	27.95	23.00	
			1	2	27.88	22.90	
			1	5	28.00	22.96	
			3	0	27.75	22.76	
			3	1	27.80	22.65	
			3	2	27.83	22.96	
		6	0	27.76	22.11		
		1	0	27.61	22.32		
		1	2	27.62	22.25		
		1	5	27.65	22.35		
		3	0	27.78	22.30		
		3	1	27.65	22.05		
		3	2	27.82	21.97		
		6	0	27.42	20.93		
1909.3	19193	QPSK	1	0	27.29	22.85	
			1	2	27.33	22.80	
			1	5	27.22	22.92	
			3	0	27.65	22.80	
			3	1	27.70	22.65	
			3	2	27.63	22.95	
		6	0	28.10	21.92		
		1	0	27.30	21.45		
		1	2	26.90	21.50		
		1	5	26.93	21.72		
		3	0	27.35	21.75		
		3	1	27.70	21.85		
		3	2	27.75	21.91		
		6	0	27.61	21.19		

**Output power for LTE Band 2 (3 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)	Average
1851.5	18615	QPSK	3.0	1	0	27.47	23.00
				1	7	27.35	22.85
				1	14	27.42	22.98
				8	0	27.40	22.05
				8	4	27.24	22.14
				8	7	27.55	22.40
		16-QAM		15	0	27.97	22.13
				1	0	27.31	22.37
				1	7	27.20	22.40
				1	14	27.35	22.41
				8	0	27.42	22.05
				8	4	27.58	21.16
				8	7	27.30	21.25
				15	0	27.45	21.19
				1880.0	18900	QPSK	1
1	7	28.10	22.90				
1	14	28.00	22.97				
8	0	27.90	22.95				
8	4	27.30	22.08				
8	7	27.35	22.45				
16-QAM	15	0	28.20			22.05	
	1	0	27.75			22.15	
	1	7	27.80			22.25	
	1	14	27.65			22.35	
	8	0	27.60			21.25	
	8	4	27.59			21.10	
	8	7	27.60			21.10	
	15	0	27.83			21.03	
	1908.5	19185	QPSK			1	0
1				7	27.65	22.92	
1				14	27.45	22.98	
8				0	27.50	22.05	
8				4	27.33	21.83	
8				7	27.35	22.00	
16-QAM			15	0	27.59	21.90	
			1	0	27.58	22.26	
			1	7	27.05	22.18	
			1	14	27.40	22.28	
			8	0	27.45	22.10	
			8	4	27.50	20.76	
			8	7	27.10	21.00	
			15	0	27.15	20.95	

**Output power for LTE Band 2 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)	Average
1852.5	18625	QPSK	5.0	1	0	27.44	23.00
				1	12	27.48	22.85
				1	24	27.60	22.98
				12	0	27.55	22.15
				12	6	27.33	22.23
				12	11	27.45	22.40
				25	0	27.90	22.18
		16-QAM		1	0	27.52	22.11
				1	12	27.50	22.18
				1	24	27.35	22.15
				12	0	27.15	21.45
				12	6	27.27	21.30
				12	11	27.65	21.05
				25	0	27.72	21.10
1880.0	18900	QPSK	1	0	27.48	22.96	
			1	12	27.50	22.90	
			1	24	27.31	22.95	
			12	0	27.30	22.65	
			12	6	27.49	22.08	
			12	11	28.00	22.00	
			25	0	28.05	22.03	
		16-QAM	1	0	27.62	22.00	
			1	12	27.55	22.30	
			1	24	27.90	22.03	
			12	0	27.80	21.15	
			12	6	27.30	21.03	
			12	11	27.50	21.25	
			25	0	28.10	21.06	
1907.5	19175	QPSK	1	0	27.36	22.98	
			1	12	27.45	22.85	
			1	24	27.12	22.95	
			12	0	27.30	22.90	
			12	6	27.34	21.88	
			12	11	27.75	22.00	
			25	0	27.80	21.88	
		16-QAM	1	0	27.89	22.28	
			1	12	27.80	22.05	
			1	24	27.72	22.18	
			12	0	27.70	22.10	
			12	6	27.27	21.00	
			12	11	27.50	21.00	
			25	0	27.62	20.87	

**Output power for LTE Band 2 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)	Average
1855	18650	QPSK	10	1	0	27.42	23.00
				1	24	27.52	22.85
				1	49	27.60	22.97
				25	0	27.70	22.80
				25	12	27.43	22.07
				25	24	27.50	22.40
				50	0	27.77	22.03
		16-QAM		1	0	27.34	22.17
				1	24	27.40	22.20
				1	49	27.36	22.16
				25	0	27.38	22.35
				25	12	27.46	21.16
				25	24	27.80	21.20
				50	0	27.83	21.05
1880.0	18900	QPSK	1	0	27.98	23.00	
			1	24	27.90	22.90	
			1	49	27.71	22.95	
			25	0	27.75	22.80	
			25	12	27.65	22.07	
			25	24	27.60	22.15	
			50	0	28.00	22.00	
		16-QAM	1	0	27.77	22.31	
			1	24	27.50	22.10	
			1	49	27.51	22.30	
			25	0	27.30	22.25	
			25	12	27.46	20.99	
			25	24	27.80	21.05	
			50	0	27.95	20.95	
1905	19150	QPSK	1	0	27.74	22.98	
			1	24	27.60	22.80	
			1	49	27.51	22.95	
			25	0	27.45	22.75	
			25	12	27.79	21.69	
			25	24	27.45	21.55	
			50	0	27.80	21.69	
		16-QAM	1	0	27.72	22.06	
			1	24	27.30	22.00	
			1	49	27.33	22.19	
			25	0	27.40	22.05	
			25	12	27.60	20.76	
			25	24	27.50	21.00	
			50	0	27.67	20.63	



**Output power for LTE Band 2 (15 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)	Average
1857.5	18675	QPSK	15	1	0	27.38	23.00
				1	37	27.45	22.90
				1	74	27.71	22.96
				36	0	27.75	22.05
				36	16	27.45	21.86
				36	35	28.00	22.00
				75	0	28.02	21.89
		16-QAM		1	0	27.33	22.22
				1	37	27.40	22.60
				1	74	27.44	22.06
				36	0	27.50	22.15
				36	16	27.66	21.00
				36	35	27.70	21.05
				75	0	27.83	20.94
1880.0	18900	QPSK	1	0	28.10	22.97	
			1	37	28.00	22.90	
			1	74	27.61	22.95	
			36	0	27.65	22.90	
			36	16	27.56	21.91	
			36	35	28.05	22.00	
			75	0	28.14	21.92	
		16-QAM	1	0	27.66	22.14	
			1	37	27.60	22.25	
			1	74	27.44	22.18	
			36	0	27.15	22.30	
			36	16	27.82	20.94	
			36	35	27.65	21.00	
			75	0	27.52	20.83	
1902.5	19125	QPSK	1	0	27.93	23.00	
			1	37	28.00	22.85	
			1	74	27.54	22.98	
			36	0	27.50	22.75	
			36	16	27.79	21.80	
			36	35	27.70	22.00	
			75	0	28.20	21.70	
		16-QAM	1	0	27.62	22.24	
			1	37	27.45	22.10	
			1	74	27.32	22.22	
			36	0	27.15	22.25	
			36	16	27.96	20.86	
			36	35	27.80	21.00	
			75	0	27.98	20.81	

**Output power for LTE Band 2 (20 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Max Peak Power (dBm)	Average
1860	18700	QPSK	20	1	0	27.05	23.00
				1	49	27.20	22.90
				1	99	27.67	23.00
				50	0	27.60	22.65
				50	24	27.78	22.32
				50	49	28.00	22.15
		100		0	28.20	22.14	
		16-QAM		1	0	26.92	22.20
				1	49	27.00	22.25
				1	99	27.57	22.14
				50	0	27.50	22.50
				50	24	27.63	21.34
				50	49	27.55	21.50
				100	0	28.00	21.10
1880.0	18900		QPSK	1	0	28.08	23.00
		1		49	28.10	22.95	
		1		99	28.01	23.00	
		50		0	27.80	22.30	
		50		24	27.88	21.90	
		50		49	28.15	22.00	
		100	0	28.30	22.12		
		16-QAM	1	0	27.60	22.15	
			1	49	27.65	22.15	
			1	99	27.68	22.20	
			50	0	27.70	22.20	
			50	24	27.86	21.16	
			50	49	27.80	21.40	
			100	0	28.00	21.18	
1900	19100		QPSK	1	0	27.90	22.98
		1		49	27.80	22.95	
		1		99	27.44	22.88	
		50		0	27.50	22.80	
		50		24	27.73	22.12	
		50		49	27.80	22.20	
		100	0	27.73	21.86		
		16-QAM	1	0	27.52	22.16	
			1	49	27.40	22.00	
			1	99	27.22	22.11	
			50	0	27.25	21.80	
			50	24	27.80	21.10	
			50	49	27.85	21.05	
			100	0	27.97	20.82	

## 7.2. UAT LTE BAND 2

### Output power for LTE Band 2 (1.4 MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1850.7	18607	QPSK	1.4	1	0	26.16	22.27
				1	2	26.18	22.37
				1	5	26.34	22.43
				3	0	26.75	22.18
				3	1	26.57	22.17
				3	2	26.62	22.26
		6		0	27.13	21.26	
		16-QAM		1	0	25.92	20.77
				1	2	25.95	20.82
				1	5	26.14	20.91
				3	0	26.55	21.14
				3	1	26.50	21.54
				3	2	26.48	21.61
				6	0	26.60	20.41
1880.0	18900		QPSK	1	0	27.11	22.47
		1		2	27.10	22.39	
		1		5	27.11	22.28	
		3		0	26.93	22.15	
		3		1	26.93	22.16	
		3		2	26.89	22.15	
		6	0	27.14	21.19		
		16-QAM	1	0	26.80	21.32	
			1	2	26.74	21.21	
			1	5	26.80	21.26	
			3	0	27.00	21.07	
			3	1	27.02	21.04	
			3	2	27.12	21.06	
			6	0	26.73	19.88	
1909.3	19193		QPSK	1	0	26.68	22.47
		1		2	26.56	22.40	
		1		5	26.45	22.29	
		3		0	26.57	22.27	
		3		1	26.45	22.27	
		3		2	26.37	22.23	
		6	0	26.98	21.26		
		16-QAM	1	0	26.52	21.45	
			1	2	26.42	21.39	
			1	5	26.28	21.27	
			3	0	26.73	21.12	
			3	1	26.59	21.10	
			3	2	26.56	21.05	
			6	0	26.85	21.09	

**Output power for LTE Band 2 (3 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1851.5	18615	QPSK	3.0	1	0	26.43	22.30
				1	7	26.61	22.46
				1	14	26.70	22.43
				8	0	26.37	21.23
				8	4	26.44	21.27
				8	7	26.61	21.42
				15	0	27.09	21.34
		16-QAM		1	0	26.20	21.41
				1	7	26.36	21.54
				1	14	26.42	21.51
				8	0	26.40	20.30
				8	4	26.39	20.38
				8	7	26.64	20.38
				15	0	26.73	20.50
				1880.0	18900	QPSK	1
1	7	27.12	22.24				
1	14	27.10	22.19				
8	0	26.61	21.18				
8	4	26.59	21.08				
8	7	26.82	21.21				
15	0	26.93	21.16				
16-QAM	1	0	26.81			21.40	
	1	7	26.74			21.29	
	1	14	26.81			21.30	
	8	0	27.00			20.12	
	8	4	27.02			20.06	
	8	7	26.99			20.14	
	15	0	26.70			20.12	
	1908.5	19185	QPSK			1	0
1				7	26.71	22.44	
1				14	26.47	22.18	
8				0	26.81	21.34	
8				4	26.64	21.30	
8				7	26.52	21.22	
15				0	27.00	21.41	
16-QAM			1	0	26.88	21.46	
			1	7	26.52	21.69	
			1	14	26.30	21.40	
			8	0	26.85	20.36	
			8	4	26.86	20.48	
			8	7	26.71	20.18	
			15	0	26.76	20.34	

**Output power for LTE Band 2 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1852.5	18625	QPSK	5.0	1	0	26.39	22.40
				1	12	26.57	22.46
				1	24	26.54	22.39
				12	0	26.39	21.23
				12	6	26.40	21.36
				12	11	26.16	21.42
		16-QAM		25	0	27.02	21.32
				1	0	26.33	21.14
				1	12	26.61	21.64
				1	24	26.61	21.49
				12	0	26.30	20.45
				12	6	26.30	20.50
				12	11	26.33	20.47
				25	0	26.91	20.43
1880.0	18900	QPSK	1	0	26.58	22.28	
			1	12	26.95	22.43	
			1	24	26.92	22.10	
			12	0	26.65	21.15	
			12	6	26.67	21.11	
			12	11	26.62	21.08	
		16-QAM	25	0	27.34	21.02	
			1	0	27.15	21.43	
			1	12	27.13	21.48	
			1	24	27.07	21.37	
			12	0	26.71	20.26	
			12	6	26.62	20.13	
			12	11	26.55	20.14	
			25	0	26.97	19.98	
1907.5	19175	QPSK	1	0	27.07	22.50	
			1	12	26.75	22.48	
			1	24	26.40	22.17	
			12	0	26.88	21.57	
			12	6	26.72	21.47	
			12	11	26.52	21.29	
		16-QAM	25	0	27.48	21.45	
			1	0	27.16	21.73	
			1	12	26.92	21.43	
			1	24	26.48	21.25	
			12	0	26.89	20.70	
			12	6	26.61	20.68	
			12	11	26.46	20.33	
			25	0	27.12	20.35	

**Output power for LTE Band 2 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1855.0	18650	QPSK	10.0	1	0	26.28	22.46
				1	24	26.54	22.48
				1	49	26.25	22.05
				25	0	26.39	21.14
				25	12	26.53	21.08
				25	24	26.57	21.09
				50	0	26.95	21.14
		16-QAM		1	0	26.04	21.12
				1	24	26.30	21.35
				1	49	26.07	21.15
				25	0	26.47	20.30
				25	12	26.27	20.20
				25	24	26.26	20.16
				50	0	26.80	20.04
1880.0	18900	QPSK	1	0	26.93	22.47	
			1	24	26.98	22.21	
			1	49	26.61	22.09	
			25	0	27.09	21.12	
			25	12	26.99	20.90	
			25	24	26.72	20.98	
			50	0	27.27	20.97	
		16-QAM	1	0	26.60	21.27	
			1	24	26.71	21.09	
			1	49	26.58	21.20	
			25	0	26.80	20.04	
			25	12	26.67	19.94	
			25	24	26.78	20.03	
			50	0	27.11	20.05	
1905.0	19150	QPSK	1	0	27.15	22.43	
			1	24	27.21	22.48	
			1	49	26.41	22.12	
			25	0	26.82	21.29	
			25	12	26.83	21.19	
			25	24	26.69	21.18	
			50	0	27.06	21.17	
		16-QAM	1	0	26.90	21.46	
			1	24	27.03	21.36	
			1	49	26.26	21.38	
			25	0	26.97	20.34	
			25	12	26.73	20.18	
			25	24	26.71	20.51	
			50	0	27.22	20.02	

**Output power for LTE Band 2 (15 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1857.5	18675	QPSK	15.0	1	0	26.46	22.44
				1	37	26.43	22.41
				1	74	26.15	21.95
				36	0	26.64	21.18
				36	16	26.43	21.07
				36	35	26.22	20.88
				75	0	27.18	21.00
		16-QAM		1	0	26.14	21.28
				1	37	26.21	21.40
				1	74	25.89	21.01
				36	0	26.73	20.20
				36	16	26.53	20.16
				36	35	26.23	19.97
				75	0	26.75	20.03
1880.0	18900	QPSK	1	0	26.89	22.41	
			1	37	27.02	22.44	
			1	74	26.73	22.06	
			36	0	26.90	20.99	
			36	16	26.85	20.90	
			36	35	26.84	20.95	
			75	0	27.40	20.96	
		16-QAM	1	0	26.45	21.11	
			1	37	26.69	21.25	
			1	74	26.45	21.17	
			36	0	26.94	20.06	
			36	16	26.92	19.84	
			36	35	26.93	19.87	
			75	0	27.00	19.97	
1902.5	19125	QPSK	1	0	26.81	22.28	
			1	37	27.27	22.50	
			1	74	26.48	22.31	
			36	0	26.82	21.05	
			36	16	27.05	21.27	
			36	35	27.03	21.35	
			75	0	27.28	21.18	
		16-QAM	1	0	26.52	21.20	
			1	37	26.96	21.32	
			1	74	26.27	21.35	
			36	0	26.78	20.23	
			36	16	26.98	20.40	
			36	35	27.01	20.40	
			75	0	27.05	20.26	

**Output power for LTE Band 2 (20 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1860.0	18700	QPSK	20.0	1	0	26.45	22.44
				1	49	26.47	22.18
				1	99	26.54	22.01
				50	0	26.67	21.12
				50	24	26.39	20.99
				50	49	26.43	20.90
				100	0	27.04	21.01
		16-QAM		1	0	26.35	21.53
				1	49	26.16	21.14
				1	99	26.13	21.05
				50	0	26.64	20.19
				50	24	26.36	20.08
				50	49	26.28	20.01
				100	0	26.90	20.04
1880.0	18900	QPSK	1	0	26.68	22.24	
			1	49	27.10	22.47	
			1	99	26.72	22.39	
			50	0	26.91	21.00	
			50	24	26.87	21.11	
			50	49	27.09	20.95	
			100	0	27.29	21.03	
		16-QAM	1	0	26.40	21.12	
			1	49	26.81	21.31	
			1	99	26.45	21.00	
			50	0	26.86	20.06	
			50	24	26.88	20.18	
			50	49	26.86	19.93	
			100	0	26.90	20.02	
1900.0	19100	QPSK	1	0	26.50	22.21	
			1	49	26.93	22.46	
			1	99	26.55	22.37	
			50	0	26.57	20.84	
			50	24	26.82	21.16	
			50	49	26.97	21.32	
			100	0	27.17	20.96	
		16-QAM	1	0	26.32	21.09	
			1	49	26.67	21.32	
			1	99	26.28	21.40	
			50	0	26.57	19.94	
			50	24	26.65	20.18	
			50	49	26.86	20.40	
			100	0	27.05	20.11	



### 7.3. LAT LTE BAND 4

#### Output power for LTE Band 4 (1.4MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1710.7	19957	QPSK	1.4	1	0	27.25	23.00
				1	2	27.21	22.80
				1	5	27.34	23.00
				3	0	27.11	22.70
				3	1	27.57	22.65
				3	2	27.22	22.90
				6	0	27.88	22.40
		16-QAM		1	0	27.46	22.20
				1	2	27.41	22.25
				1	5	27.47	22.30
				3	0	27.38	22.10
				3	1	27.63	22.50
				3	2	27.44	22.30
				6	0	27.60	21.20
1732.5	20175	QPSK	1	0	27.10	23.00	
			1	2	27.57	22.95	
			1	5	27.60	23.00	
			3	0	27.56	22.80	
			3	1	27.88	22.95	
			3	2	27.71	23.00	
			6	0	27.80	22.36	
		16-QAM	1	0	27.59	22.30	
			1	2	27.52	22.20	
			1	5	27.56	22.20	
			3	0	27.53	22.25	
			3	1	27.79	22.15	
			3	2	27.61	22.27	
			6	0	27.98	21.16	
1754.3	20393	QPSK	1	0	27.02	23.00	
			1	2	27.15	22.90	
			1	5	28.01	23.00	
			3	0	27.25	22.70	
			3	1	27.59	22.50	
			3	2	27.27	23.00	
			6	0	28.04	22.13	
		16-QAM	1	0	28.01	22.30	
			1	2	27.34	22.40	
			1	5	27.43	22.24	
			3	0	27.36	22.45	
			3	1	27.71	22.00	
			3	2	27.50	21.99	
			6	0	27.74	21.19	

**Output power for LTE Band 4 (3 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1711.5	19965	QPSK	3.0	1	0	27.30	23.00
				1	7	27.42	22.80
				1	14	27.48	23.00
				8	0	27.52	22.70
				8	4	27.75	22.45
				8	7	27.60	22.50
				15	0	27.67	22.23
		16-QAM		1	0	27.40	22.38
				1	7	27.44	22.10
				1	14	27.58	22.01
				8	0	27.37	22.05
				8	4	27.40	21.06
				8	7	27.56	21.70
				15	0	27.74	21.18
1732.5	20175	QPSK	1	0	27.58	23.00	
			1	7	27.43	23.00	
			1	14	27.46	22.95	
			8	0	27.48	22.50	
			8	4	27.56	22.27	
			8	7	27.63	22.35	
			15	0	28.00	22.21	
		16-QAM	1	0	27.89	22.49	
			1	7	27.66	22.10	
			1	14	27.55	22.05	
			8	0	27.57	22.00	
			8	4	27.82	21.15	
			8	7	27.64	21.17	
			15	0	27.80	21.26	
1753.5	20385	QPSK	1	0	27.14	23.00	
			1	7	27.15	22.70	
			1	14	27.16	23.00	
			8	0	27.37	22.80	
			8	4	27.99	22.00	
			8	7	27.65	21.80	
			15	0	28.00	22.00	
		16-QAM	1	0	27.65	22.18	
			1	7	27.54	22.00	
			1	14	27.56	22.07	
			8	0	27.70	22.15	
			8	4	27.51	21.00	
			8	7	27.75	21.35	
			15	0	27.78	21.08	

**Output power for LTE Band 4 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1712.5	19975	QPSK	5.0	1	0	27.30	23.00
				1	12	27.05	22.85
				1	24	27.03	23.00
				12	0	27.10	22.95
				12	6	27.20	22.12
				12	11	27.05	22.20
				25	0	27.40	21.96
		16-QAM		1	0	27.90	22.13
				1	12	27.00	22.10
				1	24	27.40	22.00
				12	0	27.45	21.70
				12	6	27.70	21.25
				12	11	27.80	21.35
				25	0	27.10	20.86
1732.5	20175	QPSK	1	0	27.36	23.00	
			1	12	27.15	22.90	
			1	24	27.17	23.00	
			12	0	27.05	22.70	
			12	6	27.00	22.34	
			12	11	27.20	22.40	
			25	0	27.20	22.00	
		16-QAM	1	0	27.20	22.22	
			1	12	27.35	22.05	
			1	24	27.20	22.12	
			12	0	27.15	22.10	
			12	6	27.00	21.30	
			12	11	27.80	21.50	
			25	0	27.30	21.15	
1752.5	20375	QPSK	1	0	27.07	23.00	
			1	12	27.00	23.00	
			1	24	27.03	23.00	
			12	0	26.80	22.80	
			12	6	26.75	22.02	
			12	11	26.85	22.25	
			25	0	27.30	21.92	
		16-QAM	1	0	27.08	22.21	
			1	12	27.05	22.15	
			1	24	26.60	22.02	
			12	0	26.70	22.15	
			12	6	26.66	21.13	
			12	11	26.70	21.18	
			25	0	27.16	20.96	

**Output power for LTE Band 4 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1715.0	20000	QPSK	10.0	1	0	27.00	23.00
				1	24	27.05	22.80
				1	49	27.25	23.00
				25	0	27.05	22.40
				25	12	27.60	22.03
				25	24	27.08	22.05
				50	0	27.27	21.92
		16-QAM		1	0	27.02	22.33
				1	24	27.00	22.25
				1	49	27.03	22.30
				25	0	27.00	22.00
				25	12	27.30	21.09
				25	24	27.15	21.30
				50	0	27.20	20.82
1732.5	20175	QPSK	1	0	27.38	23.00	
			1	24	27.35	22.95	
			1	49	27.20	23.00	
			25	0	27.05	22.70	
			25	12	27.17	22.07	
			25	24	27.00	22.35	
			50	0	27.60	22.00	
		16-QAM	1	0	27.43	22.31	
			1	24	27.10	22.20	
			1	49	27.00	22.25	
			25	0	27.05	21.45	
			25	12	27.40	21.19	
			25	24	26.90	21.25	
			50	0	27.07	21.12	
1750.0	20350	QPSK	1	0	27.00	23.00	
			1	24	27.00	22.95	
			1	49	27.06	23.00	
			25	0	26.70	22.55	
			25	12	27.00	21.93	
			25	24	26.90	22.15	
			50	0	27.00	21.94	
		16-QAM	1	0	26.84	22.22	
			1	24	26.70	22.20	
			1	49	26.87	22.26	
			25	0	26.75	21.10	
			25	12	26.82	20.99	
			25	24	27.05	21.25	
			50	0	27.15	20.96	

**Output power for LTE Band 4 (15 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1717.5	20025	QPSK	15.0	1	0	27.37	23.00
				1	37	27.35	22.90
				1	74	27.14	23.00
				36	0	27.15	22.75
				36	16	27.37	22.06
				36	35	27.50	22.20
				75	0	27.69	22.00
		16-QAM		1	0	27.43	22.25
				1	37	27.40	22.20
				1	74	26.91	22.26
				36	0	27.00	22.15
				36	16	27.27	21.12
				36	35	27.00	21.50
				75	0	27.22	21.07
1732.5	20175	QPSK	1	0	27.00	23.00	
			1	37	27.05	22.90	
			1	74	27.68	23.00	
			36	0	27.35	22.50	
			36	16	27.56	21.96	
			36	35	27.40	22.30	
			75	0	27.58	21.86	
		16-QAM	1	0	26.89	22.10	
			1	37	27.00	22.10	
			1	74	27.13	22.25	
			36	0	27.05	22.05	
			36	16	27.63	21.08	
			36	35	26.90	21.25	
			75	0	27.40	20.90	
1747.5	20325	QPSK	1	0	27.10	23.00	
			1	37	27.12	22.95	
			1	74	26.82	23.00	
			36	0	27.00	22.50	
			36	16	26.95	22.10	
			36	35	27.90	22.35	
			75	0	27.19	22.05	
		16-QAM	1	0	26.98	22.20	
			1	37	26.00	22.10	
			1	74	26.87	22.14	
			36	0	26.90	22.00	
			36	16	27.23	21.05	
			36	35	26.75	21.75	
			75	0	27.00	20.98	

**Output power for LTE Band 4 (20 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1720.0	20050	QPSK	20.0	1	0	27.00	23.00
				1	49	27.05	22.90
				1	99	27.24	23.00
				50	0	27.15	22.57
				50	24	27.60	21.92
				50	49	27.05	22.15
				100	0	27.60	22.05
		16-QAM		1	0	27.05	22.48
				1	49	27.15	22.50
				1	99	27.16	22.22
				50	0	27.40	22.00
				50	24	27.52	21.02
				50	49	27.30	21.20
				100	0	27.20	21.00
1732.5	20175	QPSK	1	0	27.70	23.00	
			1	49	27.50	23.00	
			1	99	27.00	23.00	
			50	0	27.05	22.80	
			50	24	27.26	22.10	
			50	49	27.10	22.50	
			100	0	27.54	22.05	
		16-QAM	1	0	27.50	22.12	
			1	49	26.90	22.10	
			1	99	26.85	22.15	
			50	0	27.00	21.55	
			50	24	27.26	21.17	
			50	49	27.12	21.30	
			100	0	27.53	21.00	
1745.0	20300	QPSK	1	0	27.19	23.00	
			1	49	27.05	22.90	
			1	99	27.00	23.00	
			50	0	26.80	22.70	
			50	24	26.96	22.05	
			50	49	26.80	22.25	
			100	0	27.00	22.00	
		16-QAM	1	0	27.04	22.11	
			1	49	26.85	22.05	
			1	99	26.92	22.06	
			50	0	26.70	21.60	
			50	24	26.80	21.07	
			50	49	26.55	21.25	
			100	0	27.10	20.92	

### 7.4. UAT LTE BAND 4

**Output power for LTE Band 4 (1.4 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1710.7	19957	QPSK	1.4	1	0	26.08	22.50
				1	2	26.00	22.47
				1	5	26.05	22.40
				3	0	26.03	22.42
				3	1	26.02	22.43
				3	2	26.04	22.39
				6	0	26.47	21.42
		16-QAM		1	0	25.91	21.62
				1	2	25.89	21.60
				1	5	25.92	21.59
				3	0	26.15	21.34
				3	1	26.04	21.32
				3	2	26.13	21.25
				6	0	26.30	20.38
1732.5	20175	QPSK	1	0	26.02	22.50	
			1	2	26.07	22.49	
			1	5	26.08	22.49	
			3	0	26.09	22.56	
			3	1	26.03	22.44	
			3	2	26.00	22.45	
			6	0	26.31	21.53	
		16-QAM	1	0	25.77	21.71	
			1	2	25.74	21.69	
			1	5	25.70	21.70	
			3	0	25.04	21.54	
			3	1	25.84	21.51	
			3	2	25.95	21.55	
			6	0	26.08	20.38	
1754.3	20393	QPSK	1	0	25.90	22.50	
			1	2	25.91	22.46	
			1	5	25.94	22.44	
			3	0	25.96	22.49	
			3	1	25.87	22.46	
			3	2	25.83	22.45	
			6	0	26.46	21.66	
		16-QAM	1	0	25.85	21.72	
			1	2	25.89	21.75	
			1	5	25.82	21.66	
			3	0	26.12	21.61	
			3	1	26.02	21.51	
			3	2	26.09	21.52	
			6	0	26.20	21.06	

**Output power for LTE Band 4 (3 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1711.5	19965	QPSK	3.0	1	0	26.03	22.50
				1	7	26.10	22.50
				1	14	26.20	22.48
				8	0	26.13	21.37
				8	4	26.13	21.31
				8	7	26.09	21.44
		15		0	26.21	21.34	
		16-QAM		1	0	25.92	21.67
				1	7	25.92	21.57
				1	14	26.00	21.53
				8	0	26.03	20.32
				8	4	26.21	20.50
				8	7	26.18	20.51
				15	0	26.12	20.49
				1732.5	20175	QPSK	1
1	7		26.04				22.50
1	14	26.08	22.50				
8	0	26.02	21.57				
8	4	26.03	21.48				
8	7	26.07	21.50				
15	0	26.51	21.46				
16-QAM	1	0	25.72			21.64	
	1	7	25.71			21.68	
	1	14	25.67			21.74	
	8	0	26.00			20.58	
	8	4	25.81			20.49	
	8	7	25.92			20.56	
	15	0	25.85			20.55	
	1753.5	20385	QPSK			1	0
				1	7	26.04	22.47
1				14	26.03	22.43	
8				0	26.13	21.55	
8				4	26.01	21.54	
8				7	26.12	21.60	
15			0	26.43	21.52		
16-QAM			1	0	25.86	21.65	
			1	7	25.85	21.82	
			1	14	25.97	21.74	
			8	0	26.18	20.67	
			8	4	26.20	20.64	
			8	7	26.20	20.71	
			15	0	26.23	20.72	



**Output power for LTE Band 4 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1712.5	19975	QPSK	5.0	1	0	26.01	22.48
				1	12	26.02	22.42
				1	24	26.02	22.43
				12	0	25.92	21.35
				12	6	25.95	21.26
				12	11	26.98	21.33
				25	0	26.54	21.17
		16-QAM		1	0	26.09	21.37
				1	12	26.21	21.66
				1	24	26.06	21.51
				12	0	25.96	20.51
				12	6	25.92	20.54
				12	11	26.05	20.51
				25	0	26.40	20.38
1732.5	20175	QPSK	1	0	26.02	22.46	
			1	12	26.07	22.50	
			1	24	26.00	22.48	
			12	0	25.72	21.47	
			12	6	25.67	21.54	
			12	11	25.69	22.59	
			25	0	26.59	21.43	
		16-QAM	1	0	26.04	21.53	
			1	12	25.91	21.78	
			1	24	25.85	21.83	
			12	0	25.71	20.52	
			12	6	25.65	20.61	
			12	11	25.71	20.66	
			25	0	26.44	20.50	
1752.5	20375	QPSK	1	0	26.03	22.47	
			1	12	26.08	22.50	
			1	24	26.01	22.49	
			12	0	26.01	21.82	
			12	6	25.92	21.63	
			12	11	25.86	21.49	
			25	0	26.57	21.47	
		16-QAM	1	0	26.03	21.33	
			1	12	26.01	21.60	
			1	24	26.06	21.58	
			12	0	25.98	20.52	
			12	6	25.93	20.79	
			12	11	25.85	20.68	
			25	0	26.40	20.57	

**Output power for LTE Band 4 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1715.0	20000	QPSK	10.0	1	0	26.05	22.47
				1	24	26.00	22.50
				1	49	26.02	22.48
				25	0	26.35	21.23
				25	12	26.30	21.31
				25	24	26.22	21.26
				50	0	26.42	21.28
		16-QAM		1	0	25.89	21.46
				1	24	26.00	21.75
				1	49	25.92	21.59
				25	0	26.13	20.35
				25	12	26.13	20.34
				25	24	26.11	20.47
				50	0	26.40	20.33
1732.5	20175	QPSK	1	0	25.99	22.38	
			1	24	25.84	22.50	
			1	49	25.72	22.26	
			25	0	25.12	21.42	
			25	12	25.73	21.45	
			25	24	25.91	21.45	
			50	0	26.31	21.41	
		16-QAM	1	0	25.86	21.64	
			1	24	25.76	21.70	
			1	49	25.67	21.44	
			25	0	25.88	20.47	
			25	12	25.73	20.54	
			25	24	25.81	20.55	
			50	0	26.20	20.44	
1750.0	20350	QPSK	1	0	26.04	22.36	
			1	24	26.02	22.50	
			1	49	26.01	22.46	
			25	0	25.87	21.13	
			25	12	25.88	21.25	
			25	24	26.17	21.62	
			50	0	26.57	21.27	
		16-QAM	1	0	25.71	21.54	
			1	24	25.85	21.65	
			1	49	25.84	21.56	
			25	0	25.91	20.36	
			25	12	25.92	20.45	
			25	24	26.07	20.70	
			50	0	26.31	20.24	

**Output power for LTE Band 4 (15 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1717.5	20025	QPSK	15.0	1	0	26.08	22.47
				1	37	26.06	22.50
				1	74	26.04	22.48
				36	0	26.26	21.28
				36	16	26.25	21.41
				36	35	26.12	21.23
				75	0	26.84	21.30
		16-QAM		1	0	25.92	21.65
				1	37	25.92	21.71
				1	74	25.91	21.68
				36	0	26.41	20.48
				36	16	26.42	20.51
				36	35	26.34	20.41
				75	0	26.64	20.37
1732.5	20175	QPSK	1	0	26.02	22.48	
			1	37	25.85	22.50	
			1	74	25.72	22.36	
			36	0	26.02	21.42	
			36	16	25.93	21.44	
			36	35	25.83	21.29	
			75	0	26.52	21.34	
		16-QAM	1	0	25.86	21.58	
			1	37	25.72	21.54	
			1	74	25.61	21.45	
			36	0	25.94	20.41	
			36	16	26.00	20.54	
			36	35	26.95	20.38	
			75	0	26.11	20.33	
1747.5	20325	QPSK	1	0	25.79	22.49	
			1	37	25.90	22.40	
			1	74	25.93	22.50	
			36	0	25.93	21.26	
			36	16	26.88	21.17	
			36	35	26.03	21.29	
			75	0	26.64	21.29	
		16-QAM	1	0	26.62	21.52	
			1	37	25.77	21.55	
			1	74	25.81	22.36	
			36	0	26.12	20.27	
			36	16	26.01	20.24	
			36	35	26.10	20.37	
			75	0	26.27	20.34	

**Output power for LTE Band 4 (20 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1720.0	20050	QPSK	20.0	1	0	26.09	22.49
				1	49	26.16	22.50
				1	99	25.88	22.43
				50	0	26.20	21.30
				50	24	26.30	21.34
				50	49	26.07	21.30
				100	0	26.79	21.26
		16-QAM		1	0	25.98	21.46
				1	49	26.01	22.39
				1	99	26.72	21.50
				50	0	26.33	20.49
				50	24	26.18	20.44
				50	49	26.09	20.39
				100	0	26.67	20.33
1732.5	20175	QPSK	1	0	26.11	22.47	
			1	49	25.82	22.49	
			1	99	26.01	22.21	
			50	0	26.08	21.36	
			50	24	25.96	21.37	
			50	49	25.93	21.33	
			100	0	26.63	21.36	
		16-QAM	1	0	25.97	21.60	
			1	49	25.77	21.68	
			1	99	26.06	21.51	
			50	0	26.17	20.47	
			50	24	25.88	20.47	
			50	49	25.79	20.33	
			100	0	26.40	20.41	
1745.0	20300	QPSK	1	0	26.08	22.46	
			1	49	26.00	22.34	
			1	99	26.05	22.50	
			50	0	26.04	21.25	
			50	24	26.08	21.23	
			50	49	26.00	21.30	
			100	0	26.60	21.27	
		16-QAM	1	0	26.70	21.62	
			1	49	26.21	21.43	
			1	99	25.83	21.56	
			50	0	25.88	20.15	
			50	24	25.78	20.24	
			50	49	26.05	20.29	
			100	0	26.38	20.33	

### 7.5. LAT LTE BAND 5

**Output power for LTE Band 5 (1.4MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)			
824.7	20407	QPSK	1.4	1	0	29.51	24.00			
				1	2	29.35	23.70			
				1	5	29.38	23.98			
				3	0	29.05	23.60			
				3	1	29.00	23.35			
				3	2	29.10	23.97			
		16-QAM		6	0	29.40	23.37			
				1	0	29.21	23.56			
				1	2	29.05	23.45			
				1	5	29.15	23.51			
				3	0	28.90	22.90			
				3	1	29.00	23.00			
				3	2	29.46	23.29			
				6	0	29.00	22.30			
				836.5	20525	QPSK	1	0	28.85	24.00
							1	2	29.05	23.90
1	5	28.84	23.96							
3	0	28.90	23.70							
3	1	28.70	23.75							
3	2	28.80	23.95							
16-QAM	6	0	29.60			23.39				
	1	0	28.70			22.91				
	1	2	28.50			22.75				
	1	5	28.72			22.96				
	3	0	28.70			22.80				
	3	1	28.60			22.86				
	3	2	29.47			23.54				
	6	0	29.01			22.59				
	848.3	20643	QPSK			1	0	28.97	24.00	
						1	2	28.63	24.00	
1				5	28.56	23.98				
3				0	28.50	23.80				
3				1	28.45	23.60				
3				2	28.60	23.25				
16-QAM			6	0	28.99	23.28				
			1	0	28.80	23.46				
			1	2	28.65	23.40				
			1	5	28.57	23.32				
			3	0	28.50	23.05				
			3	1	28.05	22.90				
			3	2	28.95	23.17				
			6	0	28.74	22.13				

**Output power for LTE Band 5 (3 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
825.5	20415	QPSK	3.0	1	0	29.49	24.00
				1	7	29.35	23.90
				1	14	29.39	24.00
				8	0	29.00	23.60
				8	4	28.89	23.32
				8	7	29.00	23.45
		15		0	29.00	23.25	
		16-QAM		1	0	29.23	23.22
				1	7	29.05	23.20
				1	14	29.16	23.23
				8	0	29.00	22.60
				8	4	28.99	22.27
				8	7	28.90	22.50
				15	0	28.64	22.43
				836.5	20525	QPSK	1
1	7		29.20				24.00
1	14	29.24	23.97				
8	0	29.00	23.50				
8	4	29.15	23.37				
8	7	29.30	23.40				
15	0	29.34	23.36				
16-QAM	1	0	29.03			23.17	
	1	7	28.90			23.15	
	1	14	29.17			23.23	
	8	0	29.00			23.20	
	8	4	29.10			22.16	
	8	7	28.90			22.40	
	15	0	28.72			22.46	
	847.5	20635	QPSK			1	0
				1	7	29.05	23.95
1				14	28.61	23.98	
8				0	28.90	23.50	
8				4	28.70	23.30	
8				7	28.50	23.05	
15			0	29.01	23.24		
16-QAM			1	0	29.26	23.25	
			1	7	28.50	23.30	
			1	14	28.60	23.20	
			8	0	28.65	23.35	
			8	4	28.67	23.22	
			8	7	28.80	23.25	
			15	0	28.90	23.20	

**Output power for LTE Band 5 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak (dBm)	Average (dBm)
826.5	20425	QPSK	5.0	1	0	29.35	24.00
				1	12	29.20	23.95
				1	24	29.10	24.00
				12	0	29.00	23.60
				12	6	29.33	23.33
				12	11	29.05	23.50
		16-QAM		25	0	29.51	23.25
				1	0	28.77	23.36
				1	12	28.50	23.32
				1	24	28.55	23.18
				12	0	28.60	23.20
				12	6	28.96	22.39
				12	11	29.05	22.45
				25	0	29.57	22.26
836.5	20525	QPSK	5.0	1	0	28.88	24.00
				1	12	29.00	24.00
				1	24	29.08	24.00
				12	0	29.10	23.54
				12	6	28.77	23.37
				12	11	28.70	23.10
		16-QAM		25	0	29.58	23.36
				1	0	29.20	23.15
				1	12	29.15	23.00
				1	24	29.45	23.12
				12	0	29.30	23.35
				12	6	28.80	22.47
				12	11	28.80	22.50
				25	0	29.42	22.40
846.5	20625	QPSK	5.0	1	0	29.10	24.00
				1	12	29.05	23.95
				1	24	28.43	23.98
				12	0	28.40	23.60
				12	6	28.74	23.31
				12	11	28.60	23.55
		16-QAM		25	0	29.14	23.20
				1	0	29.44	23.20
				1	12	28.90	23.25
				1	24	28.80	23.17
				12	0	28.60	22.80
				12	6	28.80	22.35
				12	11	28.70	22.50
				25	0	29.13	22.30

**Output power for LTE Band 5 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
829.0	20450	QPSK	10.0	1	0	28.56	23.97
				1	24	28.60	23.95
				1	49	28.44	23.85
				25	0	28.40	23.60
				25	12	28.54	22.82
				25	24	28.40	23.00
				50	0	28.77	22.75
		16-QAM		1	0	28.70	22.80
				1	24	28.60	22.70
				1	49	28.54	22.53
				25	0	28.45	22.55
				25	12	28.77	21.84
				25	24	28.40	22.00
				50	0	28.77	21.84
836.5	20525	QPSK	1	0	29.01	24.00	
			1	24	28.80	23.90	
			1	49	29.06	24.00	
			25	0	28.80	23.30	
			25	12	29.10	23.17	
			25	24	28.70	23.10	
			50	0	29.00	23.05	
		16-QAM	1	0	28.82	23.10	
			1	24	28.75	23.05	
			1	49	28.94	23.11	
			25	0	28.60	22.40	
			25	12	28.90	22.20	
			25	24	28.70	22.25	
			50	0	28.99	22.04	
844.0	20600	QPSK	1	0	28.75	24.00	
			1	24	28.80	23.90	
			1	49	28.03	23.69	
			25	0	28.00	23.50	
			25	12	28.59	22.91	
			25	24	28.50	22.70	
			50	0	28.95	22.79	
		16-QAM	1	0	28.84	23.02	
			1	24	28.45	23.00	
			1	49	28.14	22.33	
			25	0	28.00	22.40	
			25	12	29.01	21.94	
			25	24	28.80	22.05	
			50	0	28.91	21.80	



### 7.6. UAT LTE BAND 5

**Output power for LTE Band 5 (1.4 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
824.7	20407	QPSK	1.4	1	0	29.10	23.69
				1	2	29.12	23.68
				1	5	29.00	23.66
				3	0	28.87	23.69
				3	1	28.41	23.68
				3	2	28.57	23.68
		16-QAM		6	0	29.21	23.06
				1	0	28.77	22.03
				1	2	28.70	22.00
				1	5	28.75	21.80
				3	0	29.31	21.90
				3	1	29.09	22.00
				3	2	29.16	22.12
				6	0	28.90	21.75
836.5	20525	QPSK	1	0	28.18	23.65	
			1	2	28.16	23.67	
			1	5	28.18	23.69	
			3	0	28.92	23.64	
			3	1	28.74	23.92	
			3	2	28.56	23.84	
		16-QAM	6	0	29.28	22.81	
			1	0	28.07	22.25	
			1	2	28.06	22.15	
			1	5	28.14	22.05	
			3	0	28.92	21.90	
			3	1	28.86	22.89	
			3	2	28.76	22.02	
			6	0	28.57	22.01	
848.3	20643	QPSK	1	0	28.30	23.64	
			1	2	28.19	23.67	
			1	5	27.98	23.69	
			3	0	28.11	23.90	
			3	1	27.94	23.88	
			3	2	27.80	23.87	
		16-QAM	6	0	28.50	22.89	
			1	0	28.11	22.18	
			1	2	28.10	22.20	
			1	5	27.89	22.07	
			3	0	28.40	22.03	
			3	1	28.23	22.00	
			3	2	28.17	22.05	
			6	0	28.32	21.77	

**Output power for LTE Band 5 (3 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
825.5	20415	QPSK	3.0	1	0	29.22	23.67
				1	7	28.87	23.68
				1	14	28.96	23.69
				8	0	28.57	23.01
				8	4	28.51	22.89
				8	7	28.41	23.00
		15		0	29.33	22.89	
		16-QAM		1	0	28.89	22.68
				1	7	28.56	22.62
				1	14	28.60	22.57
				8	0	29.09	21.81
				8	4	29.02	21.99
				8	7	28.93	21.96
				15	0	28.63	21.92
				836.5	20525	QPSK	1
1	7		28.55				23.67
1	14	28.67	23.65				
8	0	28.23	22.89				
8	4	28.37	22.79				
8	7	28.40	22.98				
15	0	29.06	22.53				
16-QAM	1	0	28.25			22.49	
	1	7	28.25			22.48	
	1	14	28.40			22.69	
	8	0	28.61			21.94	
	8	4	28.62			21.91	
	8	7	28.70			21.77	
	15	0	28.54			21.93	
	847.5	20635	QPSK			1	0
				1	7	28.29	23.66
1				14	27.96	23.69	
8				0	28.31	22.73	
8				4	28.16	22.77	
8				7	28.14	22.88	
15			0	28.33	22.72		
16-QAM			1	0	28.38	22.63	
			1	7	28.13	22.53	
			1	14	27.83	22.70	
			8	0	28.56	21.67	
			8	4	28.39	21.90	
			8	7	28.33	21.95	
			15	0	28.30	21.90	

**Output power for LTE Band 5 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak (dBm)	Average (dBm)
826.5	20425	QPSK	5.0	1	0	28.47	23.68
				1	12	28.70	23.65
				1	24	28.50	23.66
				12	0	28.54	22.88
				12	6	28.43	22.92
				12	11	28.45	22.93
				25	0	29.11	22.79
		16-QAM		1	0	29.35	22.70
				1	12	29.10	22.60
				1	24	28.86	22.65
				12	0	28.44	21.93
				12	6	28.29	22.01
				12	11	28.44	22.03
				25	0	28.80	21.88
				836.5	20525	QPSK	1
1	12	28.48	23.65				
1	24	28.70	23.68				
12	0	28.18	22.88				
12	6	28.16	22.88				
12	11	28.25	22.79				
25	0	29.00	22.90				
16-QAM	1	0	28.21			22.79	
	1	12	28.68			22.73	
	1	24	28.63			22.70	
	12	0	28.11			21.96	
	12	6	28.20			22.03	
	12	11	28.36			21.96	
	25	0	28.68			21.91	
	846.5	20625	QPSK			1	0
1				12	28.40	23.65	
1				24	28.20	23.69	
12				0	28.18	22.65	
12				6	28.15	22.76	
12				11	27.87	22.88	
25				0	28.81	22.61	
16-QAM			1	0	28.60	22.70	
			1	12	28.73	22.51	
			1	24	28.26	22.93	
			12	0	28.32	21.81	
			12	6	28.26	21.92	
			12	11	28.01	22.03	
			25	0	28.56	21.73	

**Output power for LTE Band 5 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
829.0	20450	QPSK	10.0	1	0	29.10	23.69
				1	24	28.64	23.65
				1	49	28.35	23.68
				25	0	28.59	22.81
				25	12	28.44	22.83
				25	24	28.25	22.72
				50	0	28.67	22.71
		16-QAM		1	0	28.83	22.71
				1	24	28.25	22.64
				1	49	28.06	22.64
				25	0	28.76	21.99
				25	12	28.48	21.82
				25	24	28.33	21.76
				50	0	28.76	21.78
836.5	20525	QPSK	1	0	28.40	23.66	
			1	24	28.52	23.69	
			1	49	28.66	23.68	
			25	0	28.63	22.80	
			25	12	28.71	22.85	
			25	24	28.80	22.70	
			50	0	28.74	22.72	
		16-QAM	1	0	28.26	22.60	
			1	24	28.31	22.62	
			1	49	28.61	22.65	
			25	0	28.29	21.87	
			25	12	28.47	21.91	
			25	24	28.67	21.79	
			50	0	28.76	21.79	
844.0	20600	QPSK	1	0	28.90	23.69	
			1	24	28.88	23.64	
			1	49	28.13	23.65	
			25	0	28.63	22.74	
			25	12	28.50	22.64	
			25	24	28.56	22.59	
			50	0	28.68	22.60	
		16-QAM	1	0	28.61	22.66	
			1	24	28.55	22.60	
			1	49	28.05	22.72	
			25	0	28.64	21.80	
			25	12	28.62	21.72	
			25	24	28.48	21.67	
			50	0	28.81	21.71	

### 7.7. LAT LTE BAND 13

**Output power for LTE Band 13 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak (dBm)	Average (dBm)
779.5	23207	QPSK	5.0	1	0	27.52	23.98
				1	12	28.50	23.80
				1	24	28.77	24.00
				12	0	28.00	23.56
				12	6	28.18	23.31
				12	11	28.10	23.30
				25	0	28.61	23.18
		16-QAM		1	0	27.30	23.62
				1	12	27.50	23.50
				1	24	28.30	23.51
				12	0	27.80	23.45
				12	6	27.95	22.31
				12	11	28.45	22.50
				25	0	28.70	22.20
				782.0	23230	QPSK	1
1	12	28.05	23.90				
1	24	28.44	24.00				
12	0	28.40	23.56				
12	6	28.74	23.17				
12	11	28.50	23.20				
25	0	28.94	23.14				
16-QAM	1	0	28.31			23.34	
	1	12	28.20			23.25	
	1	24	28.97			23.23	
	12	0	28.60			23.00	
	12	6	28.35			22.32	
	12	11	28.45			22.35	
	25	0	29.00			22.23	
	784.5	23255	QPSK			1	0
1				12	28.60	24.00	
1				24	28.26	23.97	
12				0	28.00	23.50	
12				6	28.24	23.17	
12				11	28.05	23.20	
25				0	28.85	23.12	
16-QAM			1	0	29.01	23.26	
			1	12	28.90	23.00	
			1	24	28.57	23.29	
			12	0	28.50	23.35	
			12	6	28.35	22.23	
			12	11	28.20	22.30	
			25	0	29.01	22.19	

**Output power for LTE Band 13 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
782.0	23230	QPSK	10	1	0	28.54	24.00
				1	24	28.56	24.00
				1	49	28.49	23.98
				25	0	28.30	23.60
				25	12	28.45	22.93
				25	24	28.20	23.00
				50	0	28.62	22.92
		16-QAM		1	0	27.35	23.36
				1	24	27.50	23.05
				1	49	28.32	23.17
				25	0	28.10	22.80
				25	12	28.40	22.03
				25	24	28.45	22.10
				50	0	28.51	21.98

### 7.8. UAT LTE BAND 13

**Output power for LTE Band 13 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak (dBm)	Average (dBm)
779.5	23207	QPSK	5.0	1	0	26.63	23.68
				1	12	27.52	23.65
				1	24	28.41	23.70
				12	0	26.84	22.61
				12	6	27.22	22.62
				12	11	27.71	22.68
				25	0	28.16	22.54
		16-QAM		1	0	26.51	22.55
				1	12	27.63	22.87
				1	24	28.77	22.57
				12	0	26.78	21.66
				12	6	27.15	21.71
				12	11	27.67	21.57
				25	0	27.88	21.48
782.0	23230	QPSK	1	0	27.72	23.70	
			1	12	28.38	23.67	
			1	24	28.41	23.70	
			12	0	27.91	22.67	
			12	6	27.92	22.51	
			12	11	28.11	22.75	
			25	0	28.86	22.53	
		16-QAM	1	0	27.53	22.46	
			1	12	28.79	22.87	
			1	24	28.84	23.09	
			12	0	27.85	21.75	
			12	6	27.75	21.70	
			12	11	28.00	21.72	
			25	0	28.37	21.60	
784.5	23255	QPSK	1	0	27.93	23.69	
			1	12	28.32	23.70	
			1	24	27.37	23.70	
			12	0	28.08	22.70	
			12	6	27.87	22.68	
			12	11	27.82	22.69	
			25	0	28.73	22.74	
		16-QAM	1	0	28.22	22.54	
			1	12	28.67	23.08	
			1	24	28.07	23.09	
			12	0	28.00	21.89	
			12	6	27.98	21.85	
			12	11	27.87	21.84	
			25	0	28.45	21.75	

**Output power for LTE Band 13 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
782.0	23230	QPSK	10	1	0	26.70	23.70
				1	24	28.69	23.70
				1	49	28.04	23.70
				25	0	27.77	22.46
				25	12	27.91	22.48
				25	24	28.40	22.64
		16-QAM		50	0	28.41	22.51
				1	0	26.56	22.82
				1	24	28.24	22.69
				1	49	27.84	23.00
				25	0	27.60	21.53
				25	12	27.92	21.55
				25	24	28.40	21.75
				50	0	28.53	21.44



### 7.9. LAT LTE BAND 17

**Output power for LTE Band 17 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak (dBm)	Average (dBm)
706.5	23755	QPSK	5.0	1	0	28.29	24.00
				1	12	28.35	24.00
				1	24	28.57	24.00
				12	0	28.50	23.45
				12	6	28.27	23.14
				12	11	28.00	23.45
				25	0	29.05	23.20
		16-QAM		1	0	28.50	23.37
				1	12	28.45	23.30
				1	24	28.95	23.34
				12	0	28.20	23.10
				12	6	28.25	22.21
				12	11	28.70	22.30
				25	0	29.00	22.22
710.0	23790	QPSK	1	0	28.46	23.98	
			1	12	28.50	23.90	
			1	24	28.30	23.95	
			12	0	28.20	23.60	
			12	6	28.68	23.17	
			12	11	28.60	23.25	
			25	0	28.98	23.10	
		16-QAM	1	0	28.97	23.34	
			1	12	28.70	23.50	
			1	24	28.77	23.34	
			12	0	28.50	22.50	
			12	6	28.26	22.28	
			12	11	28.20	22.45	
			25	0	28.96	22.15	
713.5	23825	QPSK	1	0	28.29	24.00	
			1	12	28.35	24.00	
			1	24	28.21	23.97	
			12	0	28.10	23.60	
			12	6	28.52	23.25	
			12	11	28.50	23.30	
			25	0	28.92	23.15	
		16-QAM	1	0	28.17	23.15	
			1	12	28.25	23.05	
			1	24	28.15	22.92	
			12	0	28.20	22.80	
			12	6	28.39	22.21	
			12	11	28.90	22.25	
			25	0	29.09	22.18	

**Output power for LTE Band 17 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
709.0	23780	QPSK	10.0	1	0	28.61	23.95
				1	24	28.45	23.90
				1	49	27.68	23.90
				25	0	27.75	23.15
				25	12	28.54	23.02
				25	24	28.30	23.00
		16-QAM		50	0	28.50	22.93
				1	0	28.22	23.13
				1	24	28.25	22.80
				1	49	28.40	22.64
				25	0	28.30	22.70
				25	12	28.87	22.00
				25	24	28.80	22.20
				50	0	28.80	21.88
				710.0	23790	QPSK	1
1	24	28.70	24.00				
1	49	28.55	24.00				
25	0	28.40	23.05				
25	12	28.60	22.97				
25	24	28.30	22.80				
16-QAM	50	0	28.93			22.97	
	1	0	28.10			23.13	
	1	24	28.00			23.00	
	1	49	28.05			22.58	
	25	0	28.45			22.70	
	25	12	28.83			22.06	
	25	24	28.50			22.45	
	50	0	28.73			22.02	
	711.0	23800	QPSK			1	0
1				24	28.30	23.95	
1				49	28.05	23.33	
25				0	28.00	23.15	
25				12	28.58	23.03	
25				24	28.05	23.10	
16-QAM			50	0	28.74	23.00	
			1	0	28.46	23.15	
			1	24	28.48	22.90	
			1	49	28.27	23.41	
			25	0	28.40	22.85	
			25	12	28.47	22.11	
			25	24	28.50	22.50	
			50	0	28.73	22.01	

### 7.10. UAT LTE BAND 17

**Output power for LTE Band 17 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak (dBm)	Average (dBm)
706.5	23755	QPSK	5.0	1	0	27.76	23.68
				1	12	28.49	23.69
				1	24	28.40	23.68
				12	0	28.00	22.79
				12	6	28.13	22.62
				12	11	28.19	22.90
				25	0	28.83	22.65
		16-QAM		1	0	28.01	23.05
				1	12	28.78	23.03
				1	24	28.21	22.71
				12	0	28.01	21.90
				12	6	27.94	21.72
				12	11	28.03	21.73
				25	0	28.91	21.70
710.0	23790	QPSK	1	0	27.90	23.66	
			1	12	28.14	23.68	
			1	24	27.81	23.69	
			12	0	28.05	22.73	
			12	6	27.85	22.74	
			12	11	27.78	22.73	
			25	0	28.61	22.63	
		16-QAM	1	0	28.86	22.99	
			1	12	28.50	23.00	
			1	24	28.11	23.09	
			12	0	28.00	21.90	
			12	6	27.82	21.83	
			12	11	27.60	21.88	
			25	0	28.44	21.72	
713.5	23825	QPSK	1	0	27.93	23.69	
			1	12	27.70	23.67	
			1	24	27.53	23.69	
			12	0	27.73	22.72	
			12	6	27.58	22.79	
			12	11	27.60	22.85	
			25	0	28.57	22.76	
		16-QAM	1	0	28.20	22.98	
			1	12	27.98	23.06	
			1	24	27.89	23.30	
			12	0	27.70	21.70	
			12	6	27.65	21.95	
			12	11	27.63	22.01	
			25	0	28.26	21.82	

**Output power for LTE Band 17 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
709.0	23780	QPSK	10.0	1	0	28.02	23.67
				1	24	28.50	23.69
				1	49	27.73	23.66
				25	0	28.58	22.60
				25	12	28.40	22.68
				25	24	28.12	22.79
				50	0	28.63	22.59
		16-QAM		1	0	27.81	22.93
				1	24	28.16	22.85
				1	49	27.70	22.97
				25	0	28.35	21.67
				25	12	27.98	21.73
				25	24	28.06	21.76
				50	0	28.59	21.49
710.0	23790	QPSK	1	0	28.51	23.63	
			1	24	28.30	23.68	
			1	49	27.75	23.69	
			25	0	28.20	22.65	
			25	12	27.88	22.61	
			25	24	27.92	22.56	
			50	0	28.44	22.60	
		16-QAM	1	0	28.20	22.92	
			1	24	28.05	22.96	
			1	49	27.75	22.94	
			25	0	28.41	21.74	
			25	12	28.05	21.68	
			25	24	27.92	21.72	
			50	0	28.40	21.73	
711.0	23800	QPSK	1	0	28.31	23.65	
			1	24	28.06	23.67	
			1	49	27.66	23.68	
			25	0	28.06	22.69	
			25	12	28.18	22.68	
			25	24	27.76	22.71	
			50	0	28.27	22.64	
		16-QAM	1	0	28.25	22.75	
			1	24	27.80	22.93	
			1	49	27.70	23.09	
			25	0	28.37	21.79	
			25	12	27.95	21.78	
			25	24	27.94	21.79	
			50	0	28.48	21.61	

**7.11. LAT LTE BAND 25**

**Output power for LTE Band 25 (1.4MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1850.7	26047	QPSK	1.4	1	0	27.20	23.00
				1	2	27.30	22.90
				1	5	27.60	23.00
				3	0	27.50	22.60
				3	1	27.30	22.45
				3	2	27.20	22.60
		6		0	28.50	22.55	
		16-QAM		1	0	27.80	22.20
				1	2	27.90	22.35
				1	5	27.80	22.00
				3	0	27.60	21.90
				3	1	27.80	21.80
				3	2	28.00	21.70
				6	0	28.30	20.85
				1882.5	26365	QPSK	1
1	2		27.85				22.90
1	5	27.90	23.00				
3	0	28.00	22.70				
3	1	27.90	22.56				
3	2	28.00	22.80				
6	0	28.60	22.65				
16-QAM	1	0	28.30			22.12	
	1	2	28.25			22.25	
	1	5	28.40			22.10	
	3	0	28.05			22.00	
	3	1	28.30			21.80	
	3	2	28.50			21.65	
	6	0	28.40			20.85	
	1914.3	26683	QPSK			1	0
				1	2	27.50	23.00
1				5	27.20	23.00	
3				0	27.30	22.55	
3				1	27.45	22.45	
3				2	27.50	22.40	
6			0	28.20	22.35		
16-QAM			1	0	27.20	22.10	
			1	2	27.30	22.00	
			1	5	27.00	22.00	
			3	0	27.10	21.90	
			3	1	27.35	21.80	
			3	2	27.40	21.90	
			6	0	28.10	20.80	

**Output power for LTE Band 25 (3.0MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1851.5	26055	QPSK	3.0	1	0	27.10	23.00
				1	7	27.25	22.90
				1	14	27.10	23.00
				8	0	27.50	22.90
				8	4	28.00	22.70
				8	7	27.80	22.65
				15	0	28.40	22.30
		16-QAM		1	0	27.60	22.15
				1	7	27.65	22.05
				1	14	27.70	22.05
				8	0	27.80	22.05
				8	4	28.10	22.00
				8	7	28.00	21.90
				15	0	28.30	20.90
1882.5	26365	QPSK	1	0	27.60	23.00	
			1	7	27.80	23.00	
			1	14	27.70	23.00	
			8	0	27.50	22.70	
			8	4	28.00	23.00	
			8	7	27.90	22.60	
			15	0	28.40	22.65	
		16-QAM	1	0	28.20	22.10	
			1	7	28.40	22.05	
			1	14	28.20	22.05	
			8	0	28.15	22.00	
			8	4	28.30	21.90	
			8	7	28.20	21.45	
			15	0	28.30	20.85	
1913.5	26675	QPSK	1	0	27.50	23.00	
			1	7	27.60	23.00	
			1	14	27.10	23.00	
			8	0	27.25	22.60	
			8	4	27.00	22.50	
			8	7	27.50	22.25	
			15	0	28.10	22.40	
		16-QAM	1	0	27.60	22.05	
			1	7	27.60	22.00	
			1	14	26.90	22.00	
			8	0	27.25	21.90	
			8	4	27.80	21.50	
			8	7	27.90	21.40	
			15	0	28.00	20.70	

**Output power for LTE Band 25 (5.0MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1852.5	26065	QPSK	5.0	1	0	27.10	23.00
				1	12	27.30	23.00
				1	24	27.10	23.00
				12	0	27.05	22.60
				12	6	27.80	22.90
				12	11	28.05	22.60
				25	0	28.60	22.50
		16-QAM		1	0	27.80	22.20
				1	12	28.05	22.10
				1	24	27.80	22.05
				12	0	27.90	22.00
				12	6	27.80	22.00
				12	11	28.40	21.80
				25	0	28.50	20.90
1882.5	26365	QPSK	5.0	1	0	27.50	23.00
				1	12	27.60	22.98
				1	24	27.70	23.00
				12	0	27.50	22.50
				12	6	27.80	22.80
				12	11	28.10	22.10
				25	0	28.40	22.20
		16-QAM		1	0	28.10	22.10
				1	12	28.20	22.00
				1	24	28.00	22.00
				12	0	28.25	21.80
				12	6	28.20	21.90
				12	11	28.40	21.70
				25	0	28.50	20.80
1912.5	26665	QPSK	5.0	1	0	27.20	23.00
				1	12	27.45	23.00
				1	24	26.10	22.95
				12	0	27.30	22.47
				12	6	27.20	22.45
				12	11	27.50	22.25
				25	0	28.10	22.40
		16-QAM		1	0	28.00	22.05
				1	12	27.90	22.00
				1	24	27.45	22.00
				12	0	27.60	21.70
				12	6	27.90	21.70
				12	11	28.35	21.50
				25	0	28.00	20.85

**Output power for LTE Band 25 (10.0MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1855.0	26090	QPSK	10.0	1	0	27.20	23.00
				1	24	27.40	23.00
				1	49	27.00	23.00
				25	0	27.20	22.50
				25	12	28.00	22.90
				25	24	28.20	22.20
				50	0	28.60	22.60
		16-QAM		1	0	27.70	22.10
				1	24	27.90	22.05
				1	49	27.70	22.05
				25	0	27.80	22.00
				25	12	27.80	22.00
				25	24	28.00	21.80
				50	0	28.30	20.95
1882.5	26365	QPSK	1	0	27.80	23.00	
			1	24	27.90	22.90	
			1	49	27.80	23.00	
			25	0	28.00	22.50	
			25	12	28.10	22.95	
			25	24	28.05	22.20	
			50	0	28.30	22.25	
		16-QAM	1	0	27.90	22.05	
			1	24	27.80	22.00	
			1	49	27.90	22.02	
			25	0	27.85	21.95	
			25	12	28.00	21.90	
			25	24	28.05	21.70	
			50	0	28.10	20.80	
1910.0	26640	QPSK	1	0	27.60	22.90	
			1	24	27.80	22.95	
			1	49	27.40	23.00	
			25	0	27.50	22.60	
			25	12	28.10	22.80	
			25	24	28.20	22.45	
			50	0	28.15	22.30	
		16-QAM	1	0	27.90	22.10	
			1	24	27.80	22.00	
			1	49	27.70	22.00	
			25	0	27.50	21.75	
			25	12	27.60	21.70	
			25	24	27.80	21.60	
			50	0	28.10	20.80	



**Output power for LTE Band 25 (15.0MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1857.5	26115	QPSK	15.0	1	0	27.10	23.00
				1	37	27.40	23.00
				1	74	27.30	22.97
				36	0	27.70	22.60
				36	16	27.80	22.70
				36	35	28.40	22.50
				75	0	28.60	22.80
		16-QAM		1	0	27.70	22.05
				1	37	28.00	22.00
				1	74	27.90	21.90
				36	0	28.05	21.70
				36	16	27.90	21.70
				36	35	28.00	21.45
				75	0	28.20	20.90
1882.5	26365	QPSK	1	0	27.80	23.00	
			1	37	27.85	23.00	
			1	74	27.80	22.95	
			36	0	27.70	22.90	
			36	16	28.00	22.60	
			36	35	28.50	22.25	
			75	0	28.80	22.45	
		16-QAM	1	0	28.30	22.20	
			1	37	28.05	22.05	
			1	74	28.40	22.05	
			36	0	28.25	22.00	
			36	16	28.50	22.00	
			36	35	28.50	21.75	
			75	0	28.60	20.80	
1907.5	26615	QPSK	1	0	27.70	22.97	
			1	37	27.80	23.00	
			1	74	27.60	23.00	
			36	0	27.70	22.45	
			36	16	28.00	22.50	
			36	35	28.60	22.25	
			75	0	28.90	22.20	
		16-QAM	1	0	28.40	22.05	
			1	37	28.50	22.00	
			1	74	27.70	22.00	
			36	0	27.80	21.65	
			36	16	28.20	21.60	
			36	35	28.30	21.20	
			75	0	28.40	20.90	

**Output power for LTE Band 25 (20.0MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1860.0	26140	QPSK	20.0	1	0	27.30	23.00
				1	49	27.50	22.98
				1	99	27.70	22.95
				50	0	28.00	22.65
				50	24	27.90	22.70
				50	49	28.10	22.40
				100	0	28.90	22.35
		16-QAM		1	0	27.90	22.10
				1	49	28.00	22.05
				1	99	28.40	22.02
				50	0	28.15	21.90
				50	24	27.80	21.80
				50	49	28.20	21.50
				100	0	28.40	20.95
1882.5	26365	QPSK	1	0	27.50	23.00	
			1	49	27.60	22.96	
			1	99	27.80	22.97	
			50	0	28.00	22.90	
			50	24	28.10	22.70	
			50	49	28.50	22.45	
			100	0	28.90	22.35	
		16-QAM	1	0	28.30	22.10	
			1	49	28.00	22.05	
			1	99	28.50	22.00	
			50	0	28.05	21.70	
			50	24	28.40	21.75	
			50	49	28.55	21.45	
			100	0	28.70	21.05	
1905.0	26590	QPSK	1	0	27.90	23.00	
			1	49	28.00	23.00	
			1	99	27.40	23.02	
			50	0	28.00	22.90	
			50	24	28.20	22.50	
			50	49	28.50	22.35	
			100	0	28.90	22.40	
		16-QAM	1	0	28.00	22.10	
			1	49	28.00	22.00	
			1	99	27.30	22.05	
			50	0	27.70	22.00	
			50	24	28.10	21.35	
			50	49	28.20	21.30	
			100	0	28.60	21.00	

**7.12. UAT LTE BAND 25**

**Output power for LTE Band 25 (1.4 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)			
1850.7	26047	QPSK	1.4	1	0	27.32	23.19			
				1	2	27.38	23.25			
				1	5	27.46	23.23			
				3	0	27.32	23.13			
				3	1	27.30	23.10			
				3	2	27.24	23.14			
		6		0	27.64	22.16				
		16-QAM		1	0	27.03	22.34			
				1	2	27.13	22.35			
				1	5	27.20	22.21			
				3	0	27.38	22.14			
				3	1	27.26	22.15			
				3	2	27.26	21.93			
				6	0	27.30	20.94			
				1882.5	26365	QPSK	1	0	27.61	23.25
							1	2	27.52	23.17
1	5		27.60				23.25			
3	0	27.33	23.14							
3	1	27.22	23.19							
3	2	27.20	23.20							
6	0	27.65	22.15							
16-QAM	1	0	27.55			21.64				
	1	2	27.45			21.79				
	1	5	27.55			21.93				
	3	0	27.24			22.52				
	3	1	27.10			22.45				
	3	2	27.08			22.44				
	6	0	27.50			21.28				
	1914.3	26683	QPSK			1	0	27.17	23.22	
						1	2	27.10	22.63	
				1	5	27.13	21.91			
3				0	27.08	22.11				
3				1	26.80	22.08				
3				2	26.98	22.05				
6			0	27.52	21.07					
16-QAM			1	0	26.70	22.28				
			1	2	26.67	22.31				
			1	5	26.66	22.12				
			3	0	27.05	22.28				
			3	1	26.94	21.90				
			3	2	26.92	22.09				
			6	0	26.58	20.88				

**Output power for LTE Band 25 (3 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1851.5	26055	QPSK	3.0	1	0	27.33	23.25
				1	7	27.46	23.25
				1	14	27.60	23.21
				8	0	27.20	22.12
				8	4	27.21	22.07
				8	7	27.28	22.04
				15	0	27.56	22.02
		16-QAM		1	0	27.09	22.29
				1	7	27.25	22.40
				1	14	27.29	22.33
				8	0	27.35	21.04
				8	4	27.37	21.06
				8	7	27.50	21.07
				15	0	27.30	21.15
1882.5	26365	QPSK	1	0	27.07	23.25	
			1	7	27.03	23.24	
			1	14	27.02	23.12	
			8	0	27.30	22.21	
			8	4	27.50	22.12	
			8	7	27.61	22.11	
			15	0	27.70	22.09	
		16-QAM	1	0	27.42	22.44	
			1	7	27.28	22.27	
			1	14	27.36	22.27	
			8	0	27.79	21.06	
			8	4	27.49	21.02	
			8	7	27.29	21.16	
			15	0	27.53	21.16	
1913.5	26675	QPSK	1	0	27.13	23.10	
			1	7	27.00	22.40	
			1	14	26.82	21.85	
			8	0	27.05	21.53	
			8	4	26.71	21.26	
			8	7	26.70	21.06	
			15	0	27.40	21.31	
		16-QAM	1	0	26.93	22.00	
			1	7	26.99	22.42	
			1	14	26.53	21.06	
			8	0	27.07	20.71	
			8	4	27.02	20.31	
			8	7	27.01	20.06	
			15	0	26.85	20.38	

**Output power for LTE Band 25 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1852.5	26065	QPSK	5.0	1	0	27.23	23.25
				1	12	27.41	23.23
				1	24	27.44	23.11
				12	0	27.21	21.94
				12	6	27.17	21.97
				12	11	27.22	22.13
				25	0	27.95	22.04
		16-QAM		1	0	27.23	22.38
				1	12	27.48	22.45
				1	24	27.28	22.05
				12	0	27.07	20.94
				12	6	27.01	21.02
				12	11	27.19	21.14
				25	0	27.66	21.03
1882.5	26365	QPSK	1	0	27.98	23.24	
			1	12	27.84	23.24	
			1	24	27.39	23.00	
			12	0	27.65	22.26	
			12	6	27.60	22.13	
			12	11	27.60	22.12	
			25	0	28.03	22.13	
		16-QAM	1	0	27.64	22.16	
			1	12	27.69	22.46	
			1	24	27.59	21.96	
			12	0	27.60	21.29	
			12	6	27.56	21.16	
			12	11	27.53	21.23	
			25	0	27.80	21.01	
1912.5	26665	QPSK	1	0	27.31	23.25	
			1	12	26.97	22.85	
			1	24	26.65	21.92	
			12	0	27.12	22.06	
			12	6	26.87	21.67	
			12	11	26.60	21.37	
			25	0	27.70	21.59	
		16-QAM	1	0	27.33	22.67	
			1	12	27.13	22.00	
			1	24	26.99	21.26	
			12	0	27.04	21.30	
			12	6	26.74	20.74	
			12	11	26.67	20.43	
			25	0	27.52	20.74	

**Output power for LTE Band 25 (10 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1855.0	26090	QPSK	10.0	1	0	27.39	23.25
				1	24	27.54	23.25
				1	49	27.26	23.00
				25	0	27.35	22.06
				25	12	27.32	21.99
				25	24	27.30	21.94
				50	0	27.91	21.93
		16-QAM		1	0	27.07	22.24
				1	24	27.30	22.32
				1	49	27.01	21.98
				25	0	27.41	21.11
				25	12	27.25	21.14
				25	24	27.29	21.11
				50	0	27.69	21.00
1882.5	26365	QPSK	1	0	27.65	23.25	
			1	24	27.62	23.24	
			1	49	27.79	23.01	
			25	0	27.80	22.16	
			25	12	27.41	22.12	
			25	24	27.60	21.92	
			50	0	28.04	22.11	
		16-QAM	1	0	27.77	22.30	
			1	24	27.68	22.32	
			1	49	27.37	22.04	
			25	0	27.58	21.22	
			25	12	27.68	21.11	
			25	24	27.66	20.96	
			50	0	27.79	21.09	
1910.0	26640	QPSK	1	0	28.00	23.25	
			1	24	27.41	23.24	
			1	49	26.77	21.96	
			25	0	27.82	22.63	
			25	12	27.58	22.34	
			25	24	27.25	21.70	
			50	0	28.01	22.08	
		16-QAM	1	0	27.90	22.35	
			1	24	27.30	22.33	
			1	49	26.52	21.14	
			25	0	27.94	21.69	
			25	12	27.35	21.39	
			25	24	26.92	20.71	
			50	0	27.90	21.04	

**Output power for LTE Band 25 (15 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1857.5	26115	QPSK	15.0	1	0	27.34	23.23
				1	37	27.37	23.20
				1	74	27.20	23.01
				36	0	27.59	22.04
				36	16	27.33	21.94
				36	35	27.24	21.84
				75	0	28.07	21.84
		16-QAM		1	0	27.10	22.14
				1	37	27.07	22.06
				1	74	26.93	22.14
				36	0	27.61	21.09
				36	16	27.52	21.07
				36	35	27.35	20.91
				75	0	27.56	20.98
1882.5	26365	QPSK	15.0	1	0	27.74	23.25
				1	37	27.71	23.23
				1	74	27.70	22.75
				36	0	27.97	22.13
				36	16	27.84	22.05
				36	35	27.81	21.88
				75	0	28.04	21.93
		16-QAM		1	0	27.64	22.21
				1	37	27.73	22.33
				1	74	27.31	21.98
				36	0	27.67	21.18
				36	16	27.64	21.11
				36	35	27.70	20.92
				75	0	27.83	20.95
1907.5	26615	QPSK	15.0	1	0	27.90	23.25
				1	37	27.78	23.24
				1	74	26.78	22.06
				36	0	28.07	22.33
				36	16	27.91	22.51
				36	35	27.41	22.15
				75	0	28.24	22.26
		16-QAM		1	0	27.43	22.13
				1	37	27.55	22.32
				1	74	26.42	21.12
				36	0	27.64	21.38
				36	16	27.70	21.65
				36	35	27.35	21.26
				75	0	28.04	21.27

**Output power for LTE Band 25 (20 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
1860.0	26140	QPSK	20.0	1	0	27.45	23.25
				1	49	27.35	23.19
				1	99	27.46	23.23
				50	0	27.59	21.90
				50	24	27.23	21.84
				50	49	27.41	21.85
				100	0	28.09	21.90
		16-QAM		1	0	27.12	22.19
				1	49	27.04	22.04
				1	99	27.24	22.13
				50	0	27.40	21.07
				50	24	27.25	21.03
				50	49	27.27	20.94
				100	0	27.94	21.02
1882.5	26365	QPSK	1	0	27.84	23.25	
			1	49	28.01	23.22	
			1	99	27.51	22.73	
			50	0	27.91	22.21	
			50	24	27.92	22.07	
			50	49	27.52	21.76	
			100	0	28.02	21.98	
		16-QAM	1	0	27.54	22.29	
			1	49	27.71	22.28	
			1	99	27.17	21.77	
			50	0	27.75	21.08	
			50	24	27.78	21.02	
			50	49	27.64	20.79	
			100	0	27.99	20.89	
1905.0	26590	QPSK	1	0	27.50	23.23	
			1	49	28.04	23.25	
			1	99	26.73	22.07	
			50	0	27.83	21.88	
			50	24	28.01	22.38	
			50	49	27.63	22.21	
			100	0	28.04	21.97	
		16-QAM	1	0	27.16	22.25	
			1	49	27.85	22.30	
			1	99	26.42	21.85	
			50	0	27.67	21.82	
			50	24	27.78	21.42	
			50	49	27.56	21.25	
			100	0	28.00	21.08	



**7.13. LAT LTE BAND 26**

**Output power for LTE Band 26 (3.0 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
820.3	26753	QPSK	3.0	1	0	28.19	23.87
				1	7	28.43	23.94
				1	14	28.62	24.00
				8	0	28.23	22.77
				8	4	28.22	22.97
				8	7	28.38	22.82
		15		0	29.00	22.94	
		16-QAM		1	0	27.99	23.00
				1	7	28.29	23.22
				1	14	28.42	23.14
				8	0	28.34	21.84
				8	4	28.52	21.88
				8	7	28.57	21.98
				15	0	28.32	22.02
				821.3	26763	QPSK	1
1	7		28.77				23.85
1	14	28.81	23.90				
8	0	28.34	22.76				
8	4	28.31	22.75				
8	7	28.35	22.81				
15	0	28.83	22.69				
16-QAM	1	0	28.60			23.10	
	1	7	28.50			23.05	
	1	14	28.52			23.05	
	8	0	28.83			21.82	
	8	4	28.76			21.83	
	8	7	28.73			21.89	
	15	0	28.33			21.86	
	822.3	26773	QPSK			1	0
				1	7	28.54	24.00
1				14	27.86	23.87	
8				0	28.24	22.86	
8				4	28.23	23.09	
8				7	28.30	22.80	
15			0	29.00	22.73		
16-QAM			1	0	28.52	23.04	
			1	7	28.31	23.03	
			1	14	27.80	22.92	
			8	0	28.66	21.74	
			8	4	28.45	21.84	
			8	7	28.32	21.92	
			15	0	28.80	21.84	

**Output power for LTE Band 26 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
821.3	26763	QPSK	5.0	1	0	28.10	23.84
				1	12	28.49	24.00
				1	24	28.70	23.99
				12	0	27.91	22.73
				12	6	28.35	22.82
				12	11	28.38	22.85
				25	0	29.07	22.75
		16-QAM		1	0	28.30	23.10
				1	12	28.78	23.26
				1	24	28.96	23.23
				12	0	28.07	22.05
				12	6	28.25	22.06
				12	11	28.25	21.97
				25	0	28.77	21.95

**7.14. UAT LTE BAND 26**

**Output power for LTE Band 26 (3.0 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
820.3	26753	QPSK	3.0	1	0	27.70	23.66
				1	7	27.99	23.69
				1	14	28.20	23.70
				8	0	27.96	22.73
				8	4	27.91	22.87
				8	7	27.93	22.71
		15		0	28.33	22.75	
		16-QAM		1	0	27.52	22.90
				1	7	27.85	23.06
				1	14	28.06	23.17
				8	0	27.87	21.79
				8	4	28.07	21.78
				8	7	28.26	21.79
				15	0	28.10	21.85
821.3	26763		QPSK	1	0	28.46	23.57
		1		7	28.29	23.58	
		1		14	28.32	23.65	
		8		0	27.99	22.45	
		8		4	27.92	22.53	
		8		7	27.99	22.50	
		15	0	28.77	22.47		
		16-QAM	1	0	28.12	22.69	
			1	7	28.01	22.73	
			1	14	28.05	22.81	
			8	0	28.25	21.51	
			8	4	28.17	21.52	
			8	7	28.27	21.53	
			15	0	28.12	21.53	
822.3	26773		QPSK	1	0	28.38	23.65
		1		7	28.04	23.52	
		1		14	27.51	23.30	
		8		0	27.92	22.40	
		8		4	27.73	22.44	
		8		7	27.78	22.44	
		15	0	28.17	22.42		
		16-QAM	1	0	28.11	22.59	
			1	7	27.80	22.60	
			1	14	27.43	22.77	
			8	0	28.24	21.46	
			8	4	28.07	21.45	
			8	7	28.06	21.46	
			15	0	28.01	21.54	

**Output power for LTE Band 26 (5 MHz)**

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Peak Power (dBm)	Average (dBm)
821.3	26763	QPSK	5.0	1	0	27.63	23.68
				1	12	28.08	23.70
				1	24	28.47	23.65
				12	0	27.86	22.76
				12	6	27.95	22.75
				12	11	27.83	22.74
				25	0	28.63	22.65
		16-QAM		1	0	27.82	22.96
				1	12	28.34	23.03
				1	24	28.50	23.02
				12	0	27.67	21.80
				12	6	27.72	21.79
				12	11	28.04	21.87
				25	0	28.49	21.65

## 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

- LTE Band 2
- LTE Band 4
- LTE band 5
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26

**RESULTS**

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	551.8479	770.198
		6/0		1082.8	1157.0
	1.4 MHz BAND QPSK	3/2	1880.0	549.17	626.32
		6/0		1083.1	1220.0
	1.4 MHz BAND QPSK	3/2	1909.3	548.33	794.97
		6/0		1084.5	1258.0
	1.4 MHz BAND 16QAM	3/2	1850.7	574.54	792.29
		6/0		1072.7	1260.0
	1.4 MHz BAND 16QAM	3/2	1880.0	567.14	769.73
		6/0		1072.1	1219.0
	1.4 MHz BAND 16QAM	3/2	1909.3	547.9836	1045.0
		6/0		1075.9	1195.0
	3.0 MHz BAND QPSK	8/4	1851.5	1459.8	1629.0
		15/0		2713.1	2923.0
	3.0 MHz BAND QPSK	8/4	1880.0	1446.2	1841.0
		15/0		2713.8	2895.0
	3.0 MHz BAND QPSK	8/4	1908.5	1434.6	2004.0
		15/0		2744.9	2918.0
	3.0 MHz BAND 16QAM	8/4	1851.5	1451.0	1756.0
		15/0		2714.2	2897.0
	3.0 MHz BAND 16QAM	8/4	1880.0	1452.0	2002.0
		15/0		2711.9	2918.0
	3.0 MHz BAND 16QAM	8/4	1908.5	1455.1	1792.0
		15/0		2702.0	2956.0
	5.0 MHz BAND QPSK	12/6	1852.5	2152.5	2.863
		25/0		4.441.5	5.020
	5.0 MHz BAND QPSK	12/6	1880.0	2132.8	2632.0
		25/0		4449.7	4789.0
5.0 MHz BAND QPSK	12/6	1907.5	2124.2	2505.0	
	25/0		4486.1	4770.0	
5.0 MHz BAND 16QAM	12/6	1852.5	2137.6	2880.0	
	25/0		4482.4	4762.0	
5.0 MHz BAND 16QAM	12/6	1880.0	2164.0	2269.0	
	25/0		4483.6	4670.0	
5.0 MHz BAND 16QAM	12/6	1907.5	2134.9	2739.0	
	25/0		4419.9	4704.0	

Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
LTE BAND 2	10 MHz BAND QPSK	25/12	1855	4386.4	5266.0
		50/0		8847.8	9568.0
	10 MHz BAND QPSK	25/12	1880.0	4472.6	6255.0
		50/0		8919.2	9458.0
	10 MHz BAND QPSK	25/12	1905	4443.7	5512.0
		50/0		8893.3	9428.0
	10 MHz BAND 16QAM	25/12	1855	4480.0	5042.0
		50/0		9063.2	9292.0
	10 MHz BAND 16QAM	25/12	1880.0	4458.5	4862.0
		50/0		8732.9	9323.0
	10 MHz BAND 16QAM	25/12	1905	4444.3	5017.0
		50/0		8897.4	9536.0
	15 MHz BAND QPSK	36/18	1857.5	6485.1	7280.0
		75/0		13373.8	13922.0
	15 MHz BAND QPSK	36/18	1880	6524.2	7548.0
		75/0		13427.5	13791.0
	15 MHz BAND QPSK	36/18	1902.5	6525.1	7555.0
		75/0		13312.0	14049.0
	15 MHz BAND 16QAM	36/18	1857.5	6413.8	8029.0
		75/0		13329.9	14153.0
	15 MHz BAND 16QAM	36/18	1880	6505.6	6874.0
		75/0		13351.8	13888.0
	15 MHz BAND 16QAM	36/18	1902.5	6477.3	7038.0
		75/0		13296.5	14054.0
	20 MHz BAND QPSK	50/19	1860	8967.0	9356.0
		100/0		17855.9	18601.0
	20 MHz BAND QPSK	50/19	1880	8925.8	10035.0
		100/0		17799.3	18693.0
20 MHz BAND QPSK	50/19	1900	8841.9	9500.0	
	100/0		17879.0	18672.0	
20 MHz BAND 16QAM	50/19	1860	8824.8	9627.0	
	100/0		17831.5	18719.0	
20 MHz BAND 16QAM	50/19	1880	8933.2	9313.0	
	100/0		17804.4	18770.0	
20 MHz BAND QPSK	50/19	1900	8830.6	9436.0	
	100/0		17670.1	18585.0	

**RESULTS**

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	560.8295	818.803
		6/0		1077.8	1215.0
	1.4 MHz BAND QPSK	3/2	1732.5	556.9110	763.689
		6/0		1073.6	1216.0
	1.4 MHz BAND QPSK	3/2	1754.3	566.1824	821.485
		6/0		1084.5	1288.0
	1.4 MHz BAND 16QAM	3/2	1710.7	565.8582	773.418
		6/0		1084.4	1249.0
	1.4 MHz BAND 16QAM	3/2	1732.5	560.2947	914.029
		6/0		1086.1	1222.0
	1.4 MHz BAND 16QAM	3/2	1754.3	565.7793	753.455
		6/0		1083.2	1139.0
	3.0 MHz BAND QPSK	8/4	1711.5	1444.3	1444.3
		15/0		2676.2	2914
	3.0 MHz BAND QPSK	8/4	1732.5	1451.1	1744.0
		15/0		2690.4	2809.0
	3.0 MHz BAND QPSK	8/4	1753.5	1430.6	2006.0
		15/0		2686.6	2778.0
	3.0 MHz BAND 16QAM	8/4	1711.5	1441.2	1779.0
		15/0		2678.6	2895.0
	3.0 MHz BAND 16QAM	8/4	1732.5	1443.7	1897.0
		15/0		2659.9	2859.0
	3.0 MHz BAND 16QAM	8/4	1753.5	1432.5	1768.0
		15/0		2699.0	2903.0
	5.0 MHz BAND QPSK	12/6	1712.5	2161.7	2416.0
		25/0		4463.5	4668.0
	5.0 MHz BAND QPSK	12/6	1732.5	2155.6	2385.0
		25/0		4516.3	4674.0
	5.0 MHz BAND QPSK	12/6	1752.5	2132.6	2429.0
		25/0		4461.5	4798.0
5.0 MHz BAND 16QAM	12/6	1712.5	2155.0	2617.0	
	25/0		4475.6	4806.0	
5.0 MHz BAND 16QAM	12/6	1732.5	2151.1	2524.0	
	25/0		4414.1	4668.0	
5.0 MHz BAND 16QAM	12/6	1752.5	2156.0	2322.0	
	25/0		4463.8	4775.0	



Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
LTE BAND 4	10 MHz BAND QPSK	25/12	1715	4440.7	4595.0
		50/0		8907.4	9333.0
	10 MHz BAND QPSK	25/12	1732.5	4465.2	4663.0
		50/0		8911.1	9342.0
	10 MHz BAND QPSK	25/12	1750	4473.8	4694.0
		50/0		8944.1	9354.0
	10 MHz BAND 16QAM	25/12	1715	4476.3	4700.0
		50/0		8912.8	9329.0
	10 MHz BAND 16QAM	25/12	1732.5	4448.5	4697.0
		50/0		8985.2	9309.0
	10 MHz BAND 16QAM	25/12	1750	4391.7	4685.0
		50/0		8901.6	9313.0
	15 MHz BAND QPSK	36/18	1717.5	6517.4	6867.0
		75/0		13483.4	14410.0
	15 MHz BAND QPSK	36/18	1732.5	6449.0	6837.0
		75/0		13527.5	14430.0
	15 MHz BAND QPSK	36/18	1747.5	6406.7	6771.0
		75/0		13450.7	14397.0
	15 MHz BAND 16QAM	36/18	1857.5	6409.5	6839.0
		75/0		13562.1	14452.0
	15 MHz BAND 16QAM	36/18	1880	6459.5	6859.0
		75/0		13506.9	14218.0
	15 MHz BAND 16QAM	36/18	1902.5	6419.3	6878.0
		75/0		13404.9	14359.0
	20 MHz BAND QPSK	50/19	1720	8950.7	9326.0
		100/0		18013.3	18926.0
	20 MHz BAND QPSK	50/19	1732.5	8896.4	9306.0
		100/0		17985.3	18819.0
20 MHz BAND QPSK	50/19	1745	8828.0	9356.0	
	100/0		17796.4	18963.0	
20 MHz BAND 16QAM	50/19	1720	8818.6	9288.0	
	100/0		17985.8	18880.0	
20 MHz BAND 16QAM	50/19	1732.5	8811.5	9302.0	
	100/0		17910.6	18941.0	
20 MHz BAND QPSK	50/19	1745	8929.5	9354.0	
	100/0		17935.7	18857.0	

Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
LTE BAND 5	1.4 MHz BAND QPSK	3/2	824.7	547.2614	745.125
		6/0		1079.8	1205.0
	1.4 MHz BAND QPSK	3/2	836.5	556.2035	855.872
		6/0		1074.6	1206.0
	1.4 MHz BAND QPSK	3/2	848.3	548.7243	755.088
		6/0		1065.6	1154.0
	1.4 MHz BAND 16QAM	3/2	824.7	545.6007	755.019
		6/0		1064.2	1215.0
	1.4 MHz BAND 16QAM	3/2	836.5	542.4241	746.151
		6/0		1076.2	1205.0
	1.4 MHz BAND 16QAM	3/2	848.3	547.2263	696.244
		6/0		1073.9	1153.0
	3.0 MHz BAND QPSK	8/4	825.5	1457.2	1881.0
		15/0		2665.6	2886.0
	3.0 MHz BAND QPSK	8/4	836.5	1445.2	1655.0
		15/0		2684.8	2804.0
	3.0 MHz BAND QPSK	8/4	847.5	1449.6	1668.0
		15/0		2679.7	2830.0
	3.0 MHz BAND 16QAM	8/4	825.5	1433.8	1719.0
		15/0		2681.0	2820.0
	3.0 MHz BAND 16QAM	8/4	836.5	1446.5	1666.0
		15/0		2658.5	2901.0
	3.0 MHz BAND 16QAM	8/4	847.5	1476.6	1792.0
		15/0		2669.8	2884.0
	5.0 MHz BAND QPSK	12/6	821.5	2147.5	2614.0
		25/0		4476.0	4676.0
	5.0 MHz BAND QPSK	12/6	836.5	2150.4	2768.0
		25/0		4446.2	4826.0
	5.0 MHz BAND QPSK	12/6	846.5	2169.1	2513.0
		25/0		4486.7	4674.0
	5.0 MHz BAND 16QAM	12/6	821.5	2160.9	2504.0
		25/0		4447.3	4789.0
5.0 MHz BAND 16QAM	12/6	836.5	2137.0	2647.0	
	25/0		4489.2	4694.0	
5.0 MHz BAND 16QAM	12/6	846.5	2160.2	2453.0	
	25/0		4436.9	4775.0	
10 MHz BAND QPSK	25/12	829	4509.4	5122.0	
	50/0		8896.2	9419.0	
10 MHz BAND QPSK	25/12	836.5	4410.7	4608.0	
	50/0		8871.3	9319.0	
10 MHz BAND QPSK	25/12	844	4465.5	4694.0	
	50/0		8921.5	9379.0	
10 MHz BAND 16QAM	25/12	829	4495.9	5236.0	
	50/0		8886.3	9351.0	
10 MHz BAND 16QAM	25/12	836.5	4442.7	5563.0	
	50/0		8966.7	9372.0	
10 MHz BAND 16QAM	25/12	844	4504.2	5019.0	
	50/0		8928.8	9397.0	

LTE BAND 13

Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
LTE BAND 13	5.0 MHz BAND QPSK	12/6	779.5	2148.2	2233.0
		25/0		4440.4	4689.0
	5.0 MHz BAND QPSK	12/6	782	2162.9	2631.0
		25/0		4481.4	4651.0
	5.0 MHz BAND QPSK	12/6	784.5	2143.5	2303.0
		25/0		4513.7	4677.0
	5.0 MHz BAND 16QAM	12/6	779.5	2147.2	2401.0
		25/0		4458.4	4674.0
	5.0 MHz BAND 16QAM	12/6	782	2139.1	2399.0
		25/0		4478.6	4808.0
	5.0 MHz BAND 16QAM	12/6	784.5	2144.70	2632.0
		25/0		4497.2	4806.0
	10 MHz BAND QPSK	25/12	782	4463.7	5036.0
		50/0		8985.0	9413.0
10 MHz BAND 16QAM	25/12	782	4494.9	5014.0	
	50/0		8947.1	9301.0	

**LTE BAND 17**

Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
	5.0 MHz BAND QPSK	12/6	706.5	2166.3	2260.0
		25/0		4465.5	4680.0
	5.0 MHz BAND QPSK	12/6	710	2145.3	2529.0
		25/0		4466.3	4684.0
	5.0 MHz BAND QPSK	12/6	713.5	2164.6	2334.0
		25/0		4438.9	4648.0
	5.0 MHz BAND 16QAM	12/6	706.5	2152.8	2429.0
		25/0		4456.5	4703.0
	5.0 MHz BAND 16QAM	12/6	710	2154.8	2483.0
		25/0		4440.5	4672.0
	5.0 MHz BAND 16QAM	12/6	713.5	2158.7	2264.0
		25/0		4463.4	4685.0
	10 MHz BAND QPSK	25/12	709	4522.4	4662.0
		50/0		8958.1	9340.0
	10 MHz BAND QPSK	25/12	710	4434.4	4683.0
		50/0		8866.7	9359.0
	10 MHz BAND QPSK	25/12	711	4439.8	4685.0
		50/0		8871.6	9303.0
	10 MHz BAND 16QAM	25/12	709	4454.7	4678.0
		50/0		8887.4	9321.0
	10 MHz BAND 16QAM	25/12	710	4481.5	4675.0
		50/0		8926.5	9331.0
	10 MHz BAND 16QAM	25/12	711	4438.1	4720.0
		50/0		8909.8	9320.0

**LTE BAND 25**

Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
LTE BAND 25	1.4 MHz BAND QPSK	3/2	1850.7	564.7188	827.059
		6/0		1209.8	1389.0
	1.4 MHz BAND QPSK	3/2	1882.5	558.3119	818.708
		6/0		1203.4	1438.0
	1.4 MHz BAND QPSK	3/2	1914.3	566.1580	757.762
		6/0		1188.6	1420.0
	1.4 MHz BAND 16QAM	3/2	1850.7	550.1221	838.469
		6/0		1210.0	1429.0
	1.4 MHz BAND 16QAM	3/2	1882.5	566.2827	773.606
		6/0		1180.0	1404.0
	1.4 MHz BAND 16QAM	3/2	1914.3	561.1868	798.145
		6/0		1202.4	1430.0
	3.0 MHz BAND QPSK	8/4	1851.5	1454.0	1884.0
		15/0		2719.4	3027.0
	3.0 MHz BAND QPSK	8/4	1882.5	1459.9	1644.0
		15/0		2712.8	3008.0
	3.0 MHz BAND QPSK	8/4	1913.5	1461.6	1852.0
		15/0		2701.4	3006.0
	3.0 MHz BAND 16QAM	8/4	1851.5	1427.5	1774.0
		15/0		2705.3	2906.0
	3.0 MHz BAND 16QAM	8/4	1882.5	1453.2	1654.0
		15/0		2716.1	2926.0
	3.0 MHz BAND 16QAM	8/4	1913.5	1452.0	1584.0
		15/0		2714.0	3022.0
	5.0 MHz BAND QPSK	12/6	1982.5	2153.5	2507.0
		25/0		4451.3	4715.0
	5.0 MHz BAND QPSK	12/6	1882.5	2162.2	2631.0
		25/0		4461.5	4720.0
5.0 MHz BAND QPSK	12/6	1912.5	2160.0	2649.0	
	25/0		4481.0	4805.0	
5.0 MHz BAND 16QAM	12/6	1982.5	2168.5	2630.0	
	25/0		4480.8	4728.0	
5.0 MHz BAND 16QAM	12/6	1882.5	2168.3	2739.0	
	25/0		4512.1	4699.0	
5.0 MHz BAND 16QAM	12/6	1912.5	2157.1	2519.0	
	25/0		4498.2	4691.0	

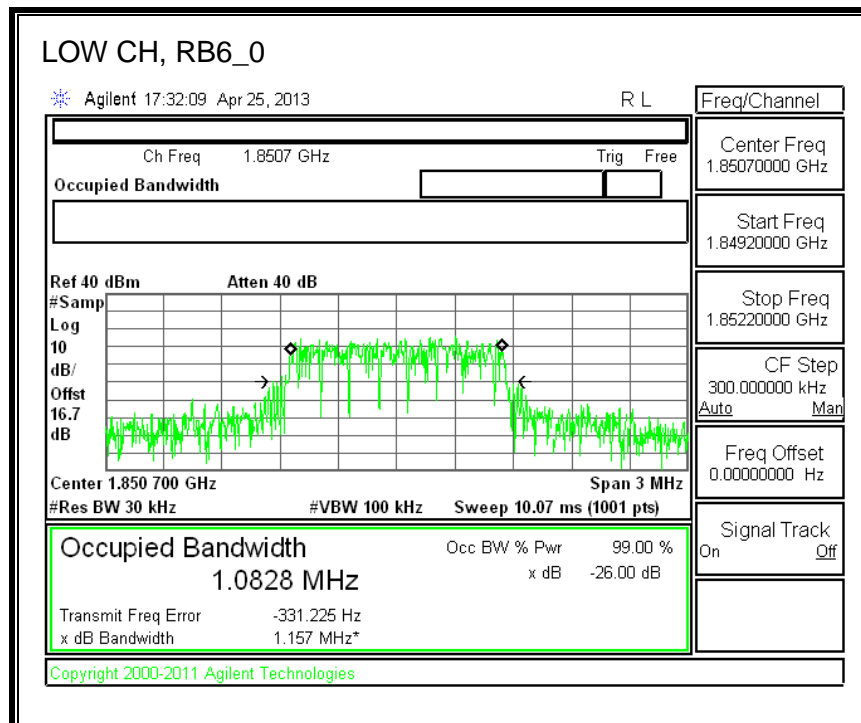
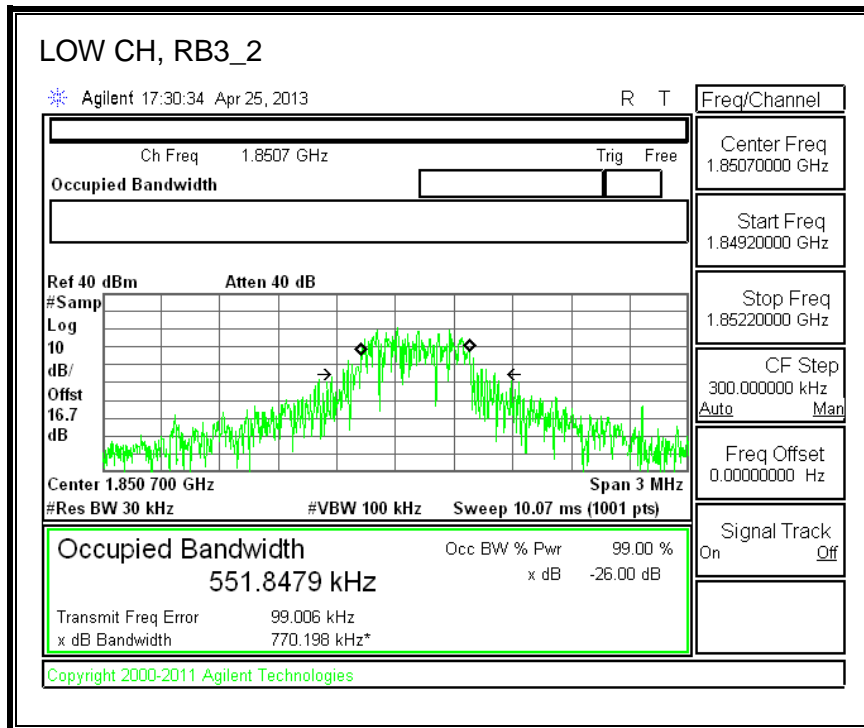
Band	Mode	RB/RB SIZE	f (MHz)	99% BW (kHz)	-26dB BW (kHz)
LTE BAND 25	10 MHz BAND QPSK	25/12	1855	4452.9	5258.0
		50/0		8936.3	9581.0
	10 MHz BAND QPSK	25/12	1882.5	4455.7	4803.0
		50/0		8917.2	9375.0
	10 MHz BAND QPSK	25/12	1910	4437.4	5266.0
		50/0		8944.4	9335.0
	10 MHz BAND 16QAM	25/12	1855	4482.0	4673.0
		50/0		8920.9	9404.0
	10 MHz BAND 16QAM	25/12	1882.5	4439.3	5298.0
		50/0		8950.5	9526.0
	10 MHz BAND 16QAM	25/12	1910	4490.4	6506.0
		50/0		8887.8	9266.0
	15 MHz BAND QPSK	36/18	1857.5	6470.1	7122.0
		75/0		13356.9	13766.0
	15 MHz BAND QPSK	36/18	1882.5	6470.4	7529.0
		75/0		13440.0	13933.0
	15 MHz BAND QPSK	36/18	1907.5	6462.4	7308.0
		75/0		13387.0	14071.0
	15 MHz BAND 16QAM	36/18	1857.5	6495.5	6827.0
		75/0		13330.9	14039.0
	15 MHz BAND 16QAM	36/18	1882.5	6497.2	7541.0
		75/0		13329.9	13915.0
	15 MHz BAND 16QAM	36/18	1907.5	6418.6	6771.0
		75/0		13336.8	13881.0
	20 MHz BAND QPSK	50/19	1860	8839.3	9374.0
		100/0		17809.0	18645.0
	20 MHz BAND QPSK	50/19	1882.5	8878.8	9331.0
		100/0		17915.9	18710.0
20 MHz BAND QPSK	50/19	1905	8969.7	9282.0	
	100/0		17939.9	18582.0	
20 MHz BAND 16QAM	50/19	1860	8921.2	9306.0	
	100/0		17786.5	18761.0	
20 MHz BAND 16QAM	50/19	1882.5	8930.7	9328.0	
	100/0		17988.1	18762.0	
20 MHz BAND QPSK	50/19	1905	8926.3	10512.0	
	100/0		18083.8	18763.0	

**LTE BAND 26**

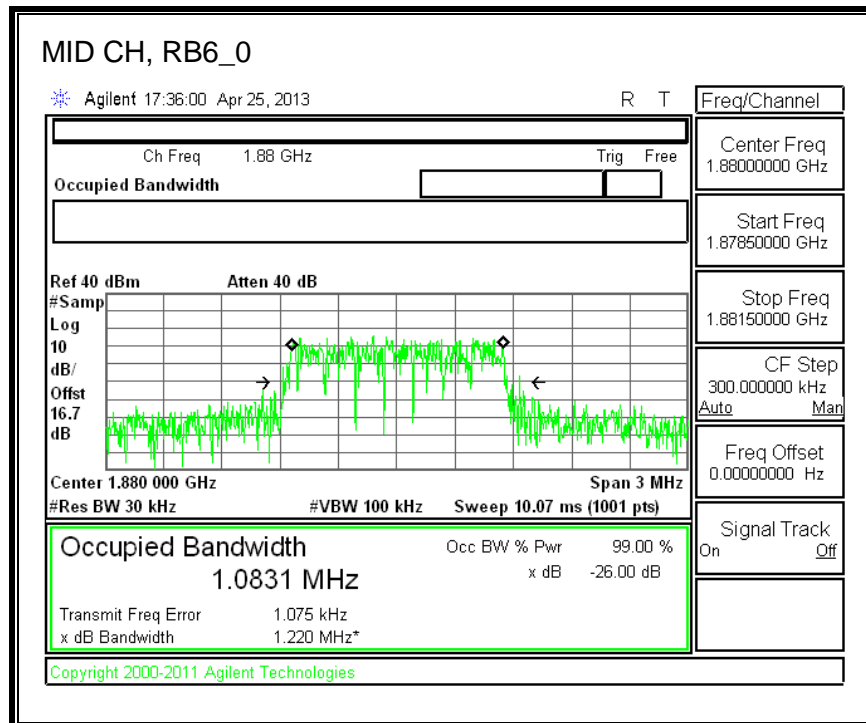
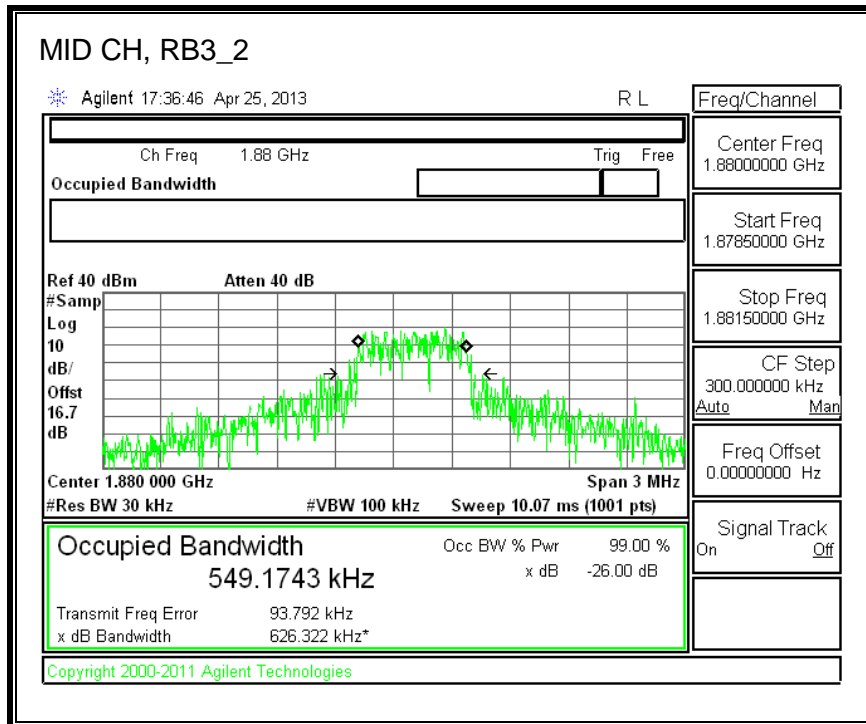
Band	Mode	RB/RB SIZE	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 26	3.0 MHz BAND QPSK	8/4	820.3	1.4364	1.727
		15/0		2.6915	2.810
	3.0 MHz BAND QPSK	8/4	821.3	1.4293	1.803
		15/0		2.6930	2.982
	3.0 MHz BAND QPSK	8/4	822.3	1.4396	1.801
		15/0		2.6870	2.865
	3.0 MHz BAND 16QAM	8/4	820.3	1.4524	1.842
		15/0		2.6771	2.861
	3.0 MHz BAND 16QAM	8/4	821.3	1.4520	1.717
		15/0		2.6737	2.932
	3.0 MHz BAND 16QAM	8/4	822.3	1.4543	1.813
		15/0		2.6711	2.948
	5.0 MHz BAND QPSK	12/6	821.3	2.1636	2.595
		25/0		4.4858	4.651
5.0 MHz BAND 16QAM	12/6	821.3	2.1352	2.505	
	25/0		4.4596	4.864	

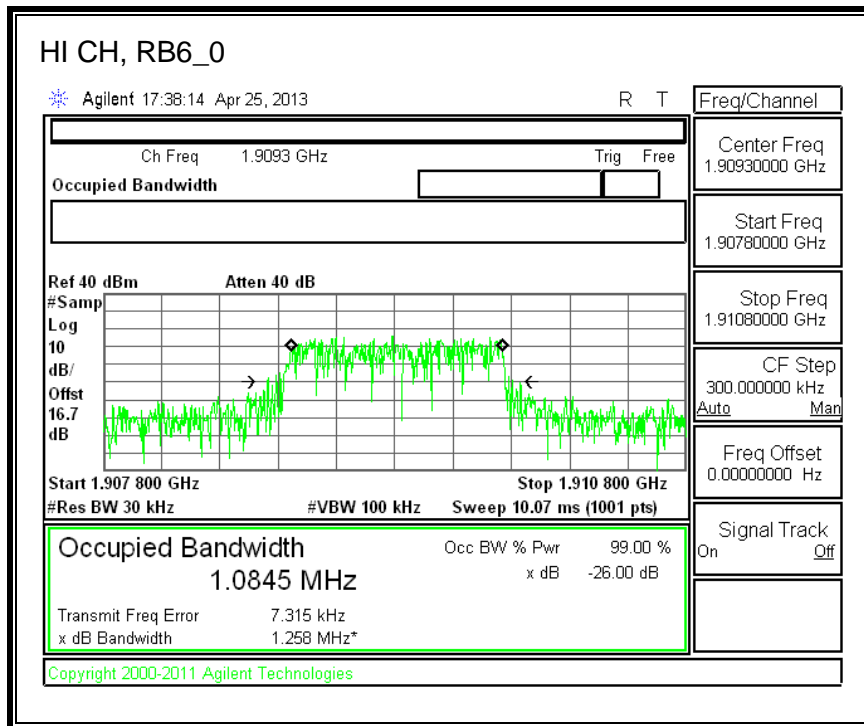
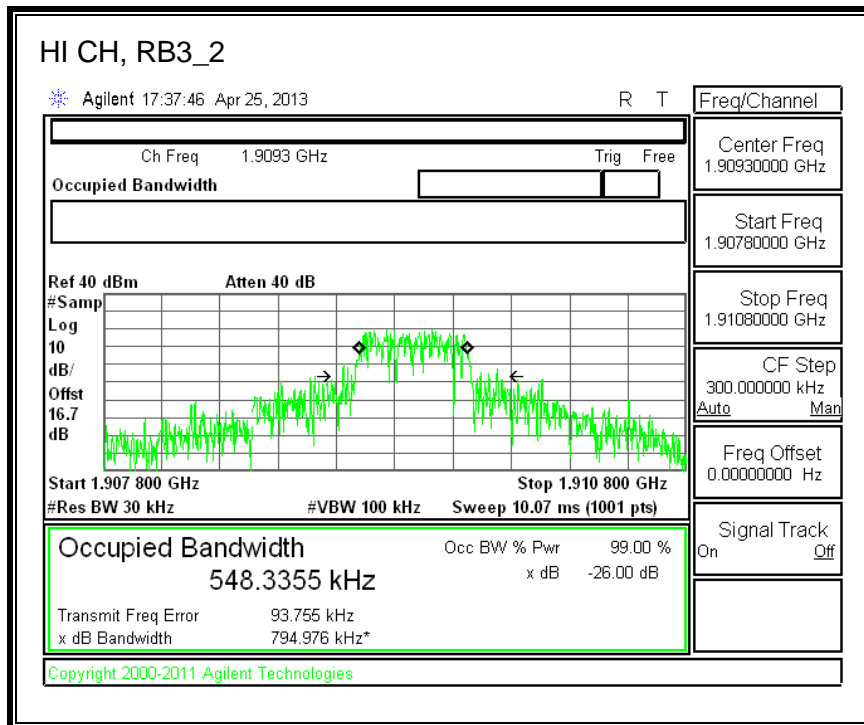
### 8.1.1. LTE BAND 2

#### 1.4MHz (QPSK)



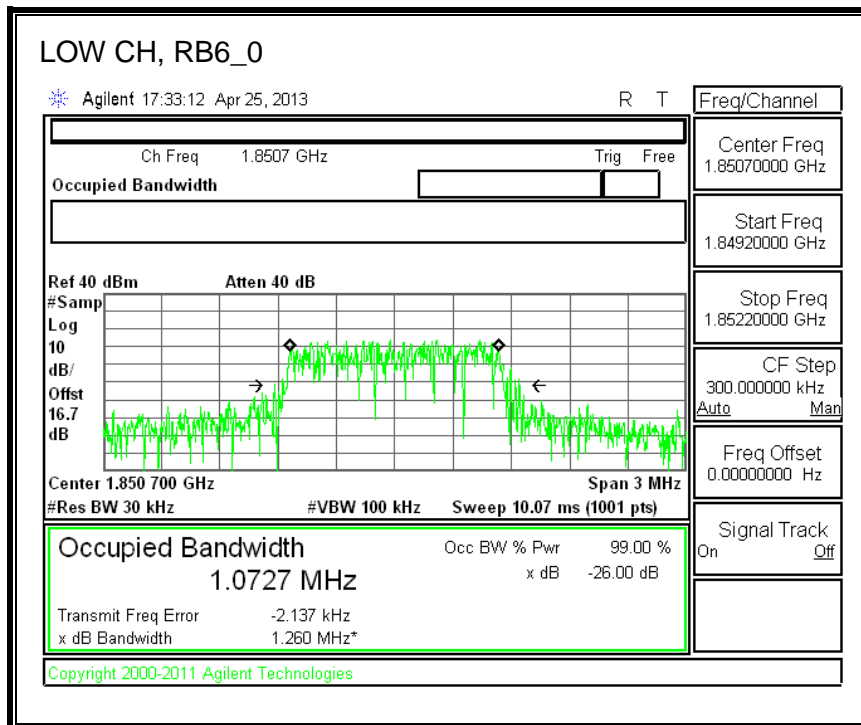
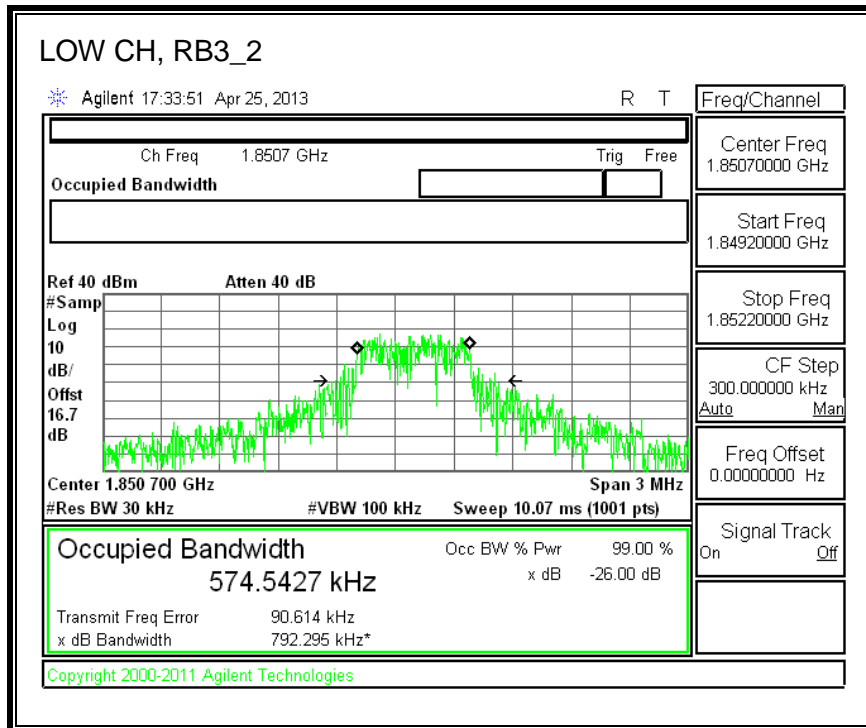


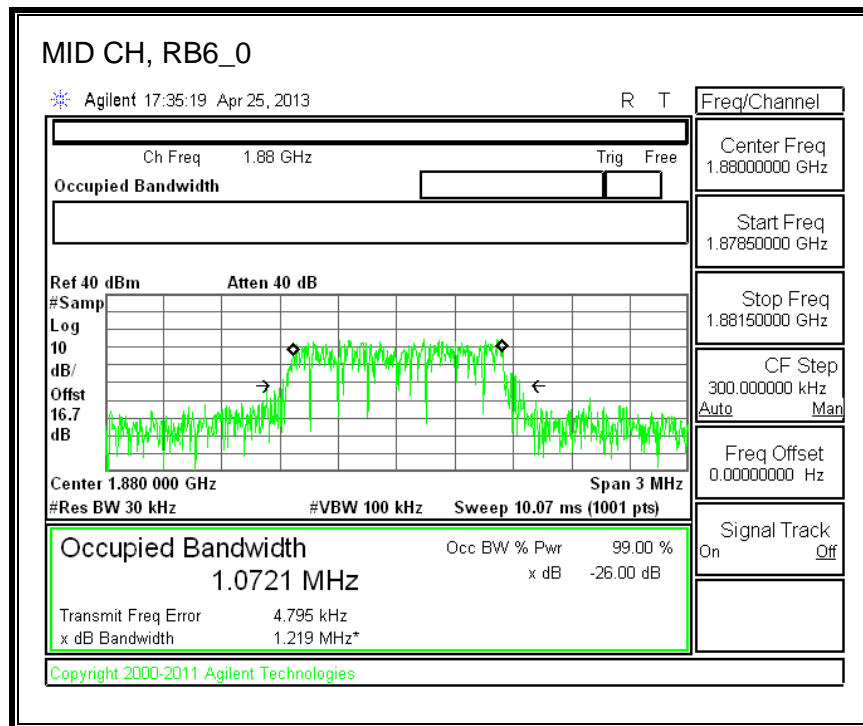
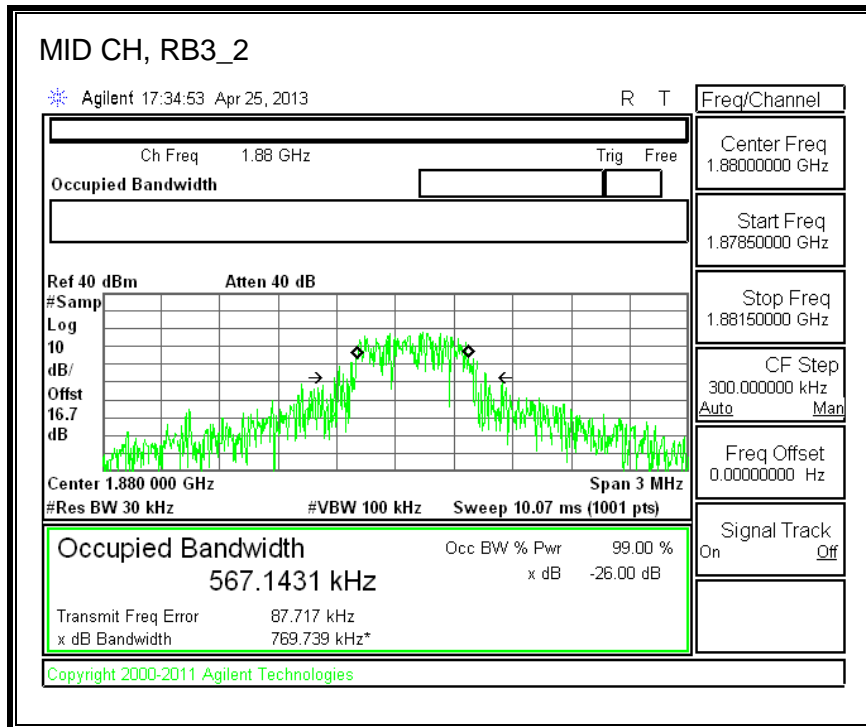


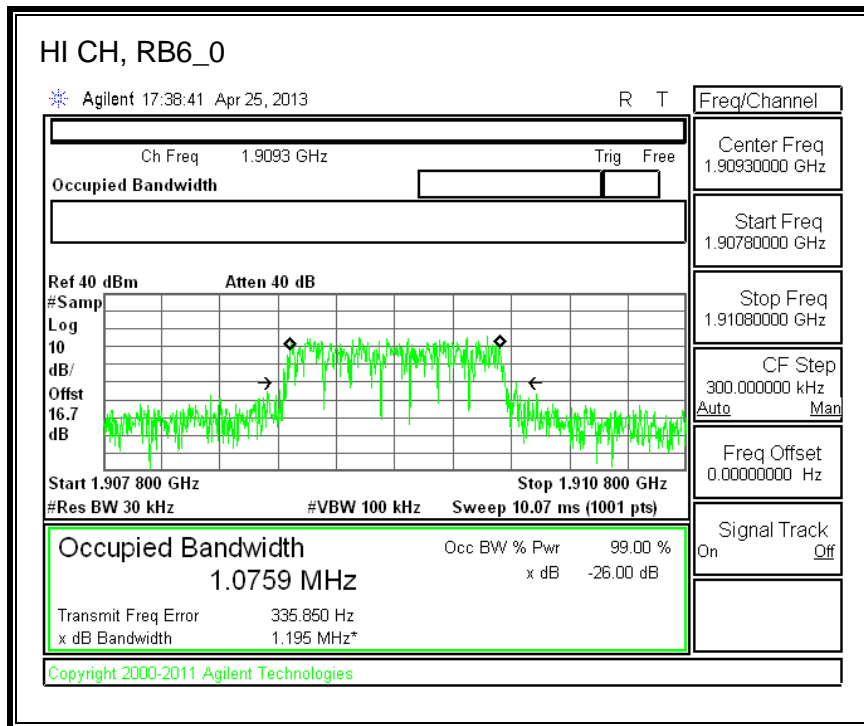
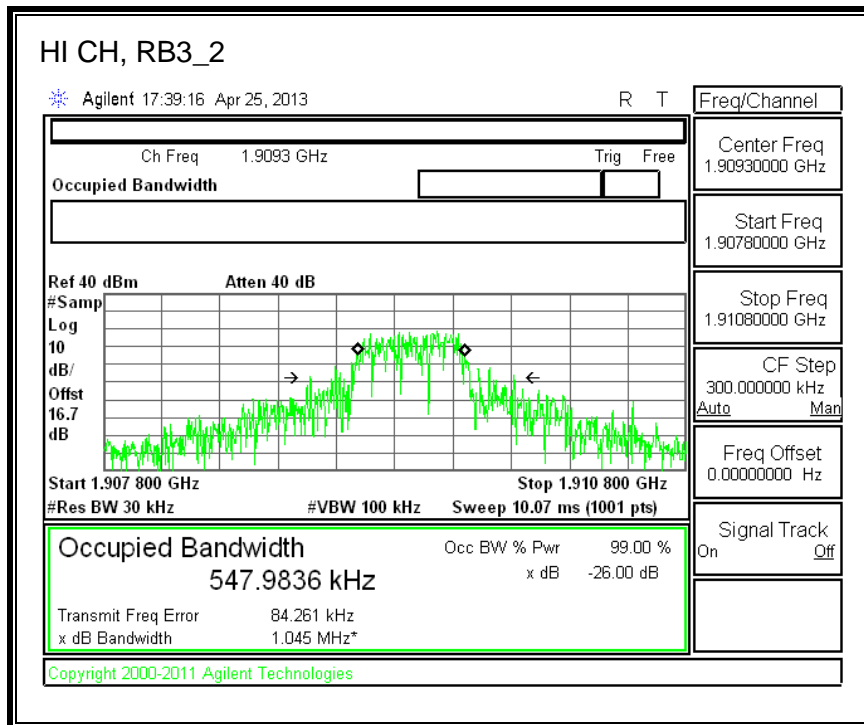


**Band 2 (1.4 MHz BAND WIDTH)**

**LTE 16QAM**

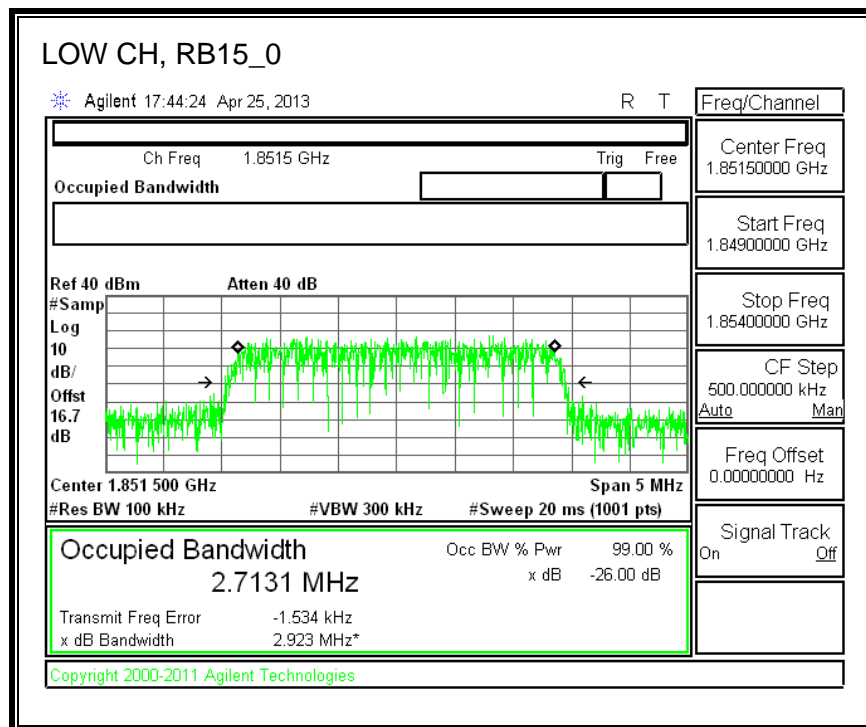
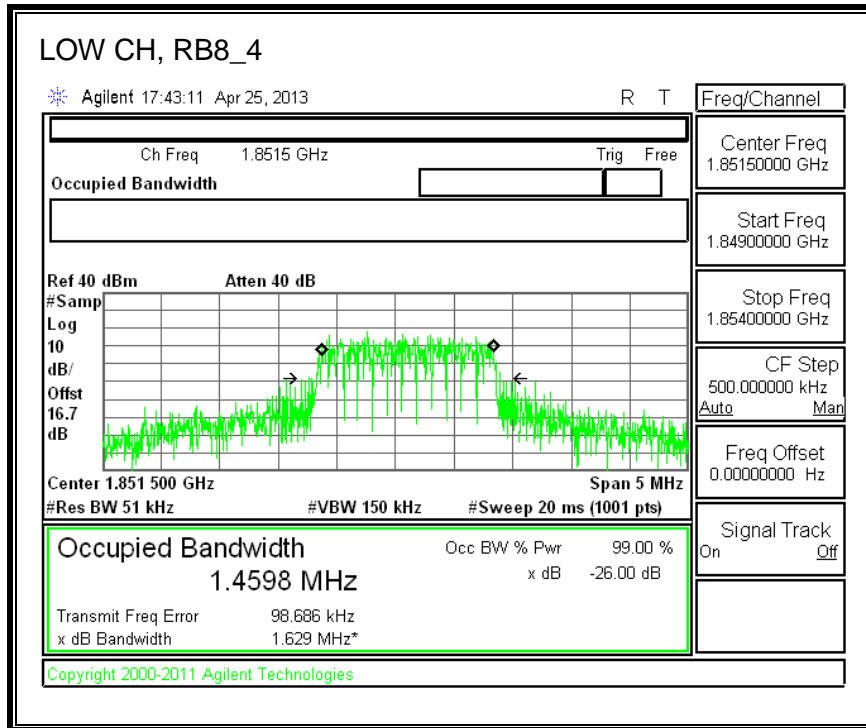


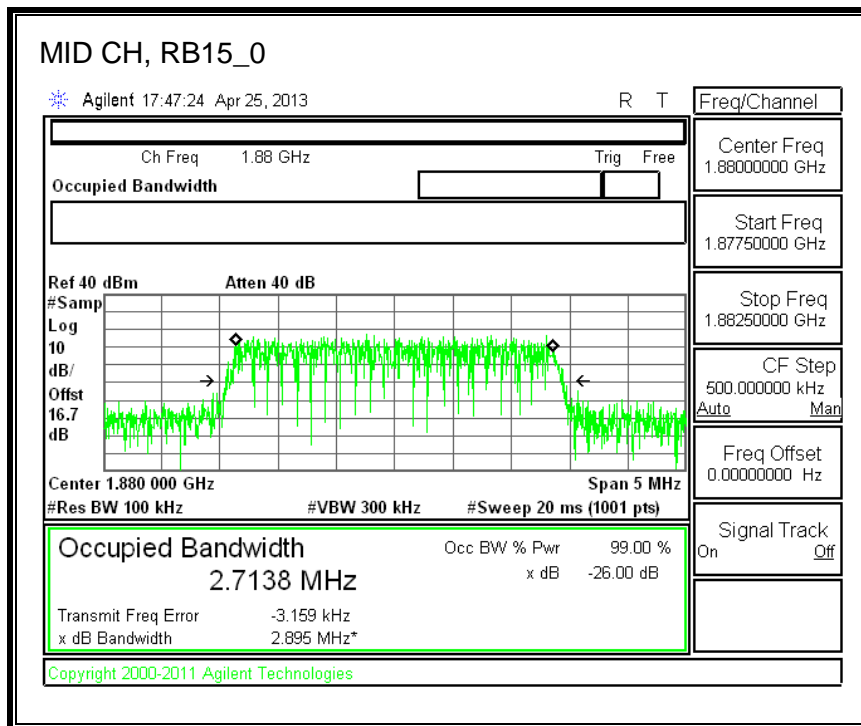
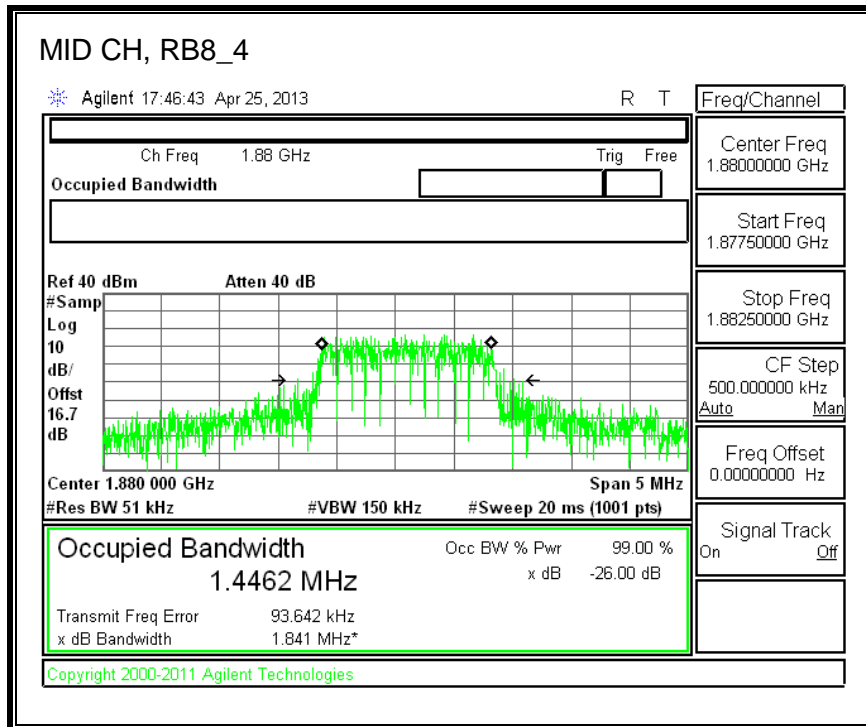


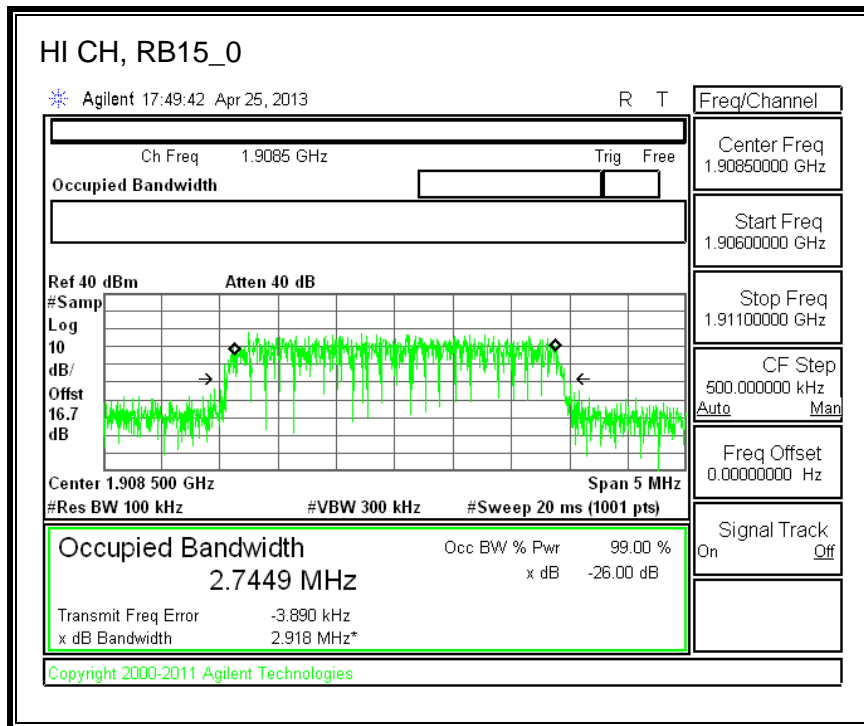
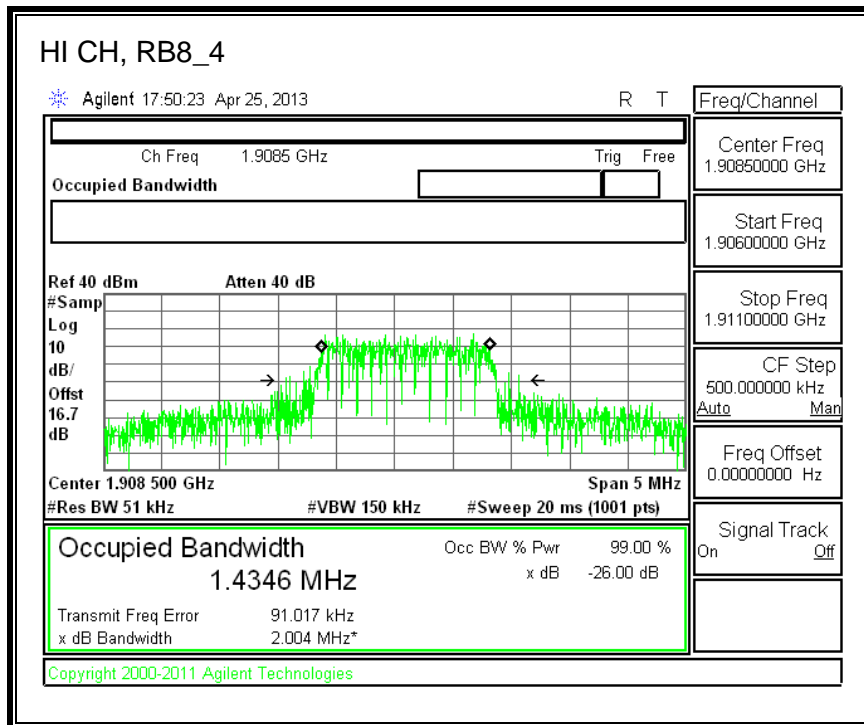


**Band 2 (3.0 MHz BAND WIDTH)**

**LTE QPSK**



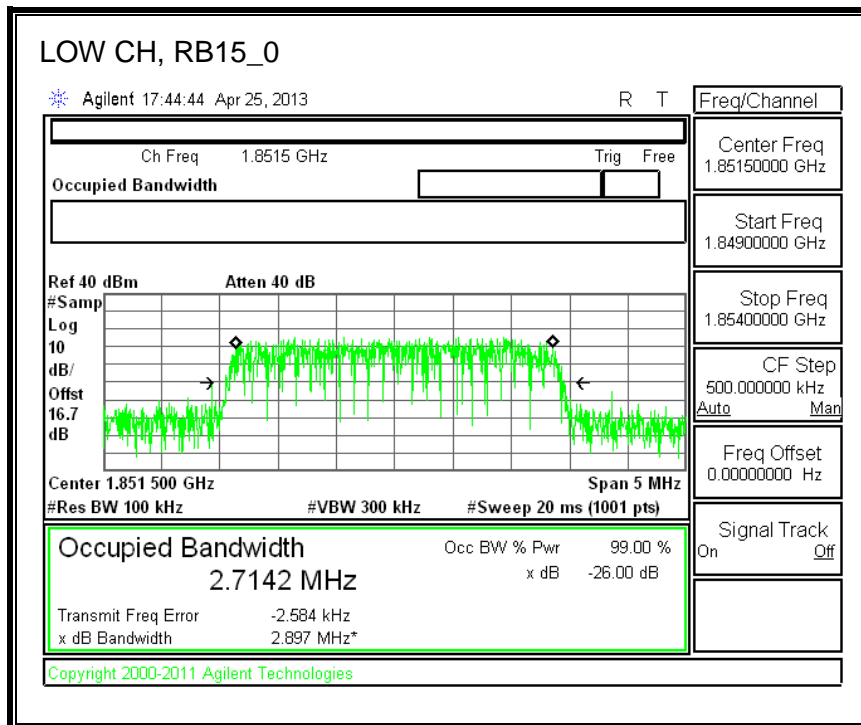
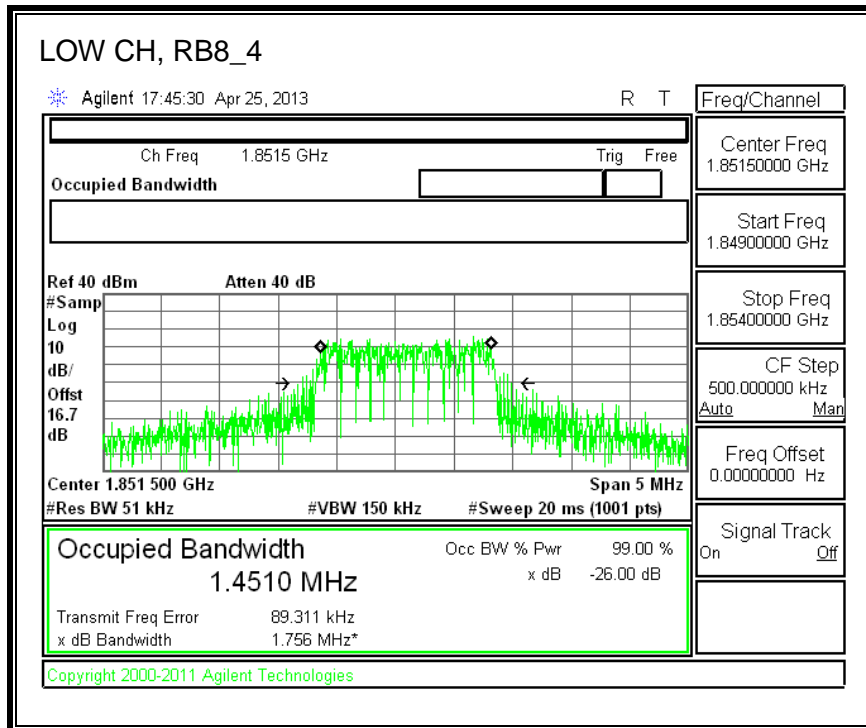


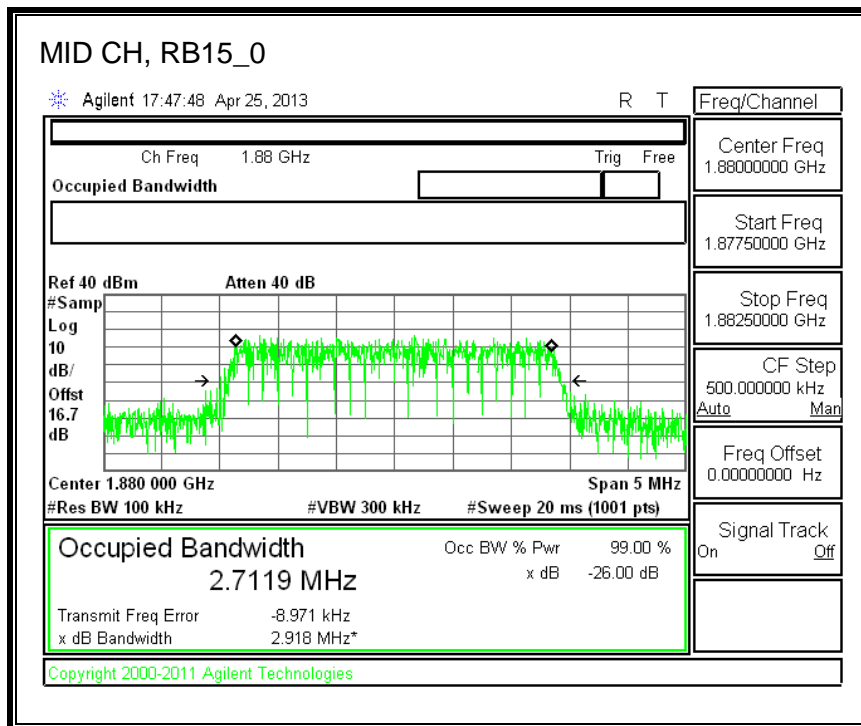
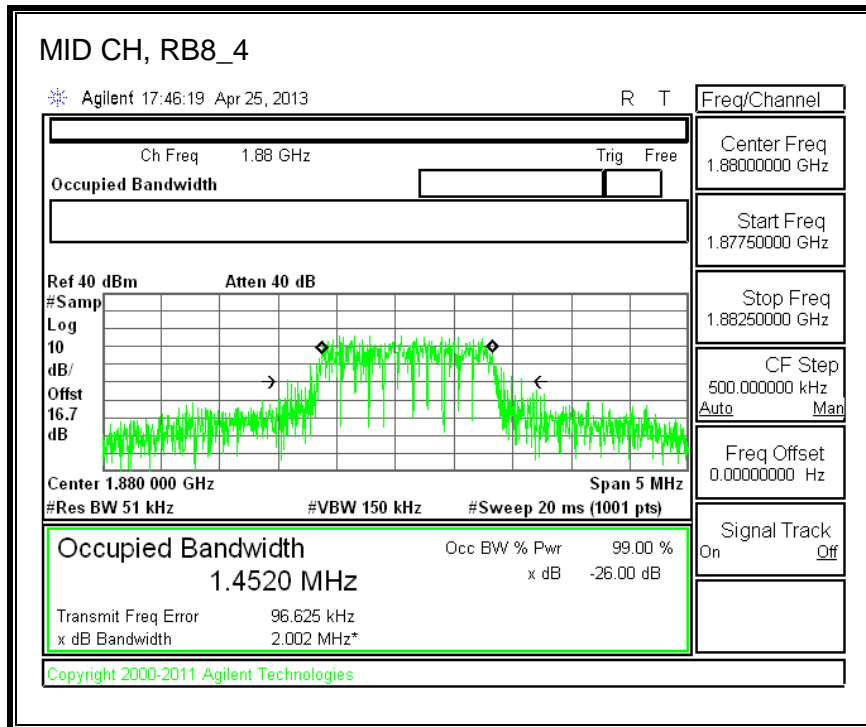


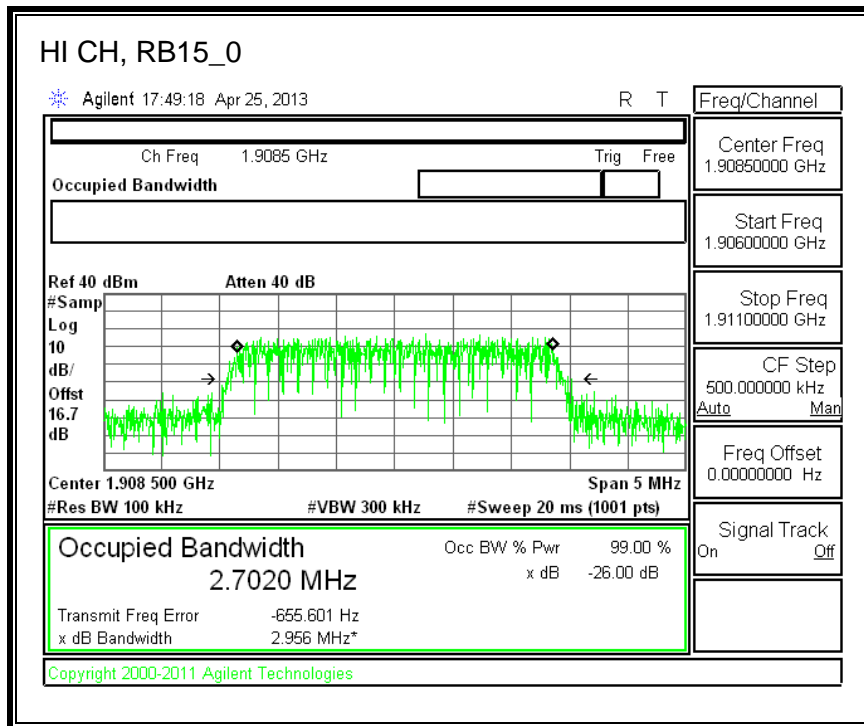
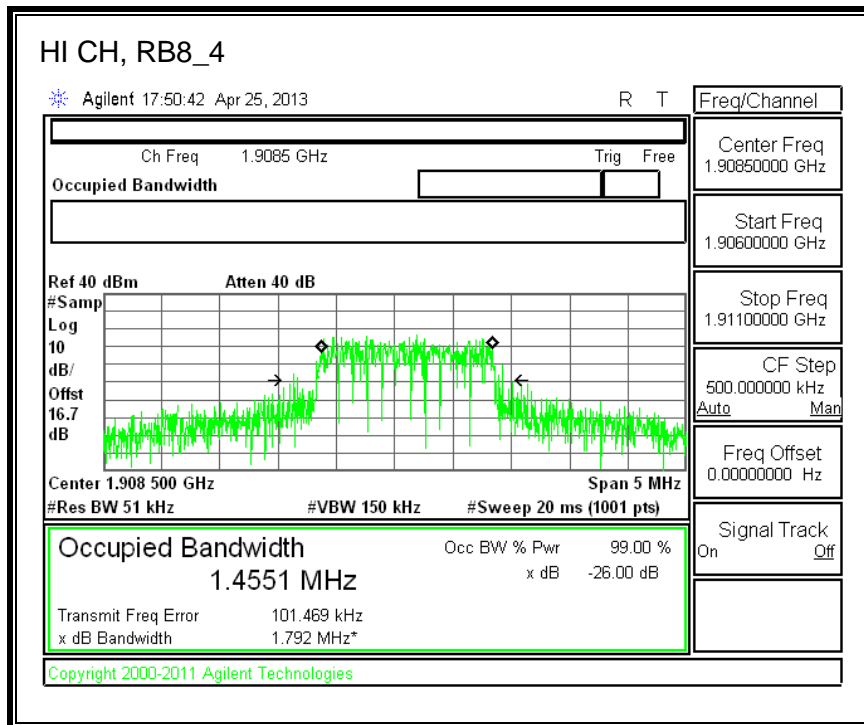


**Band 2 (3.0 MHz BAND WIDTH)**

**LTE 16QAM**

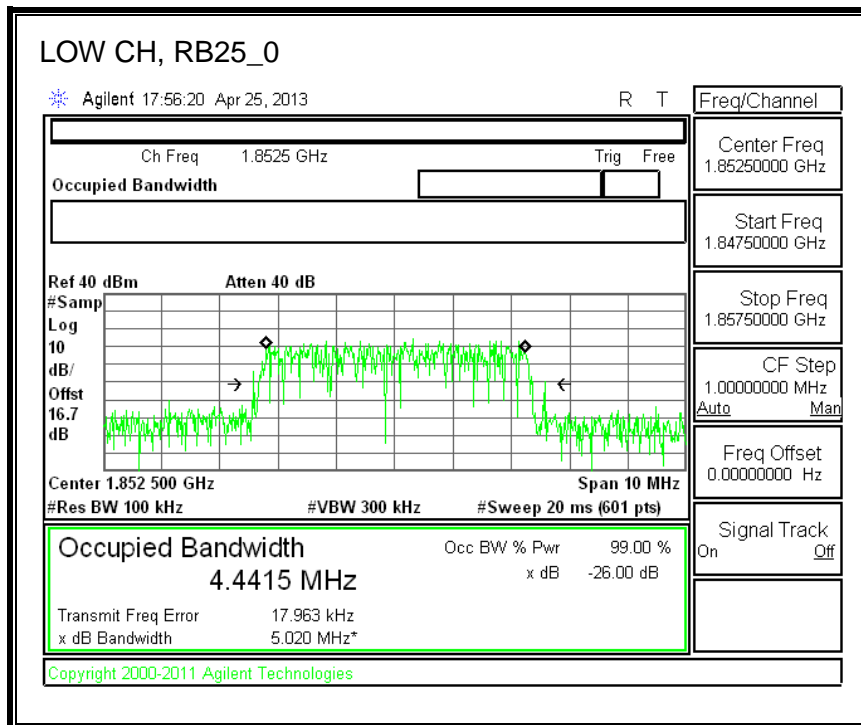
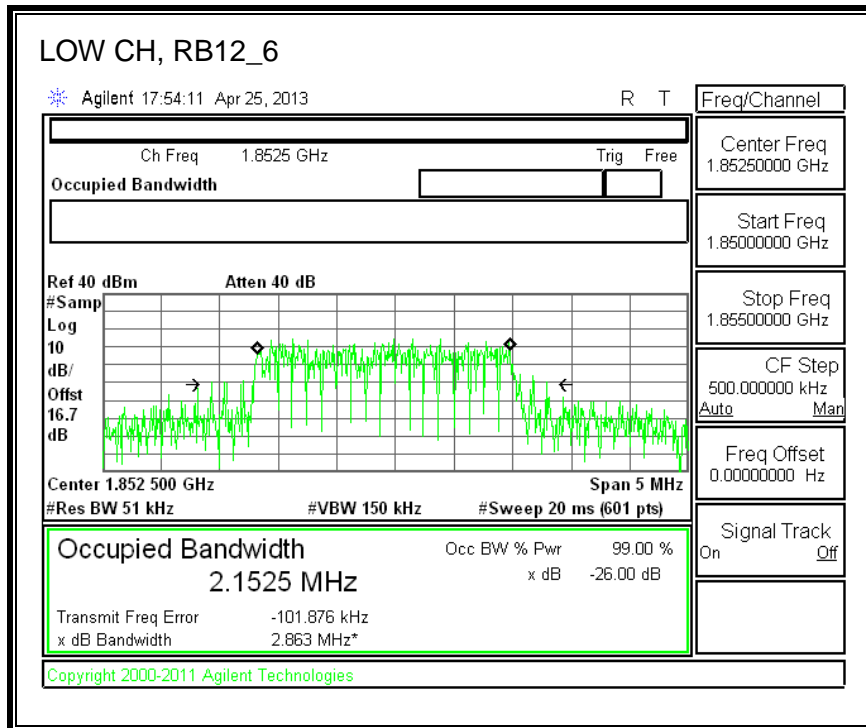


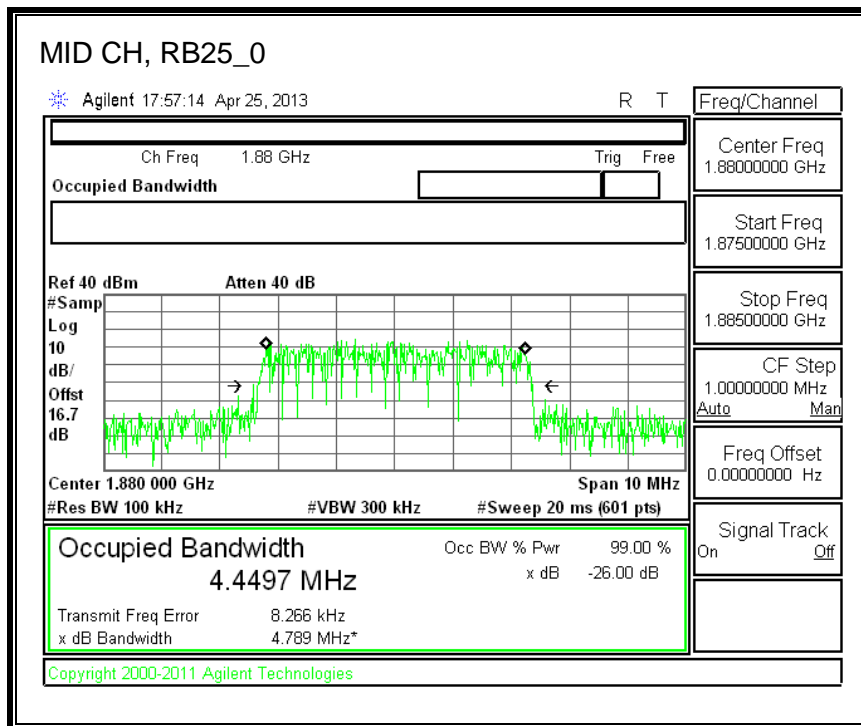
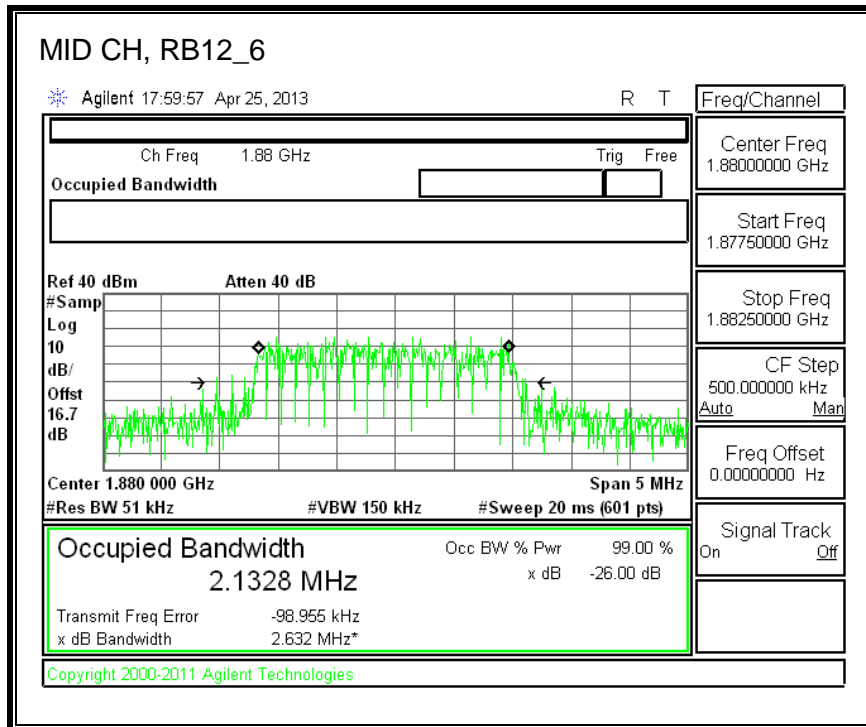


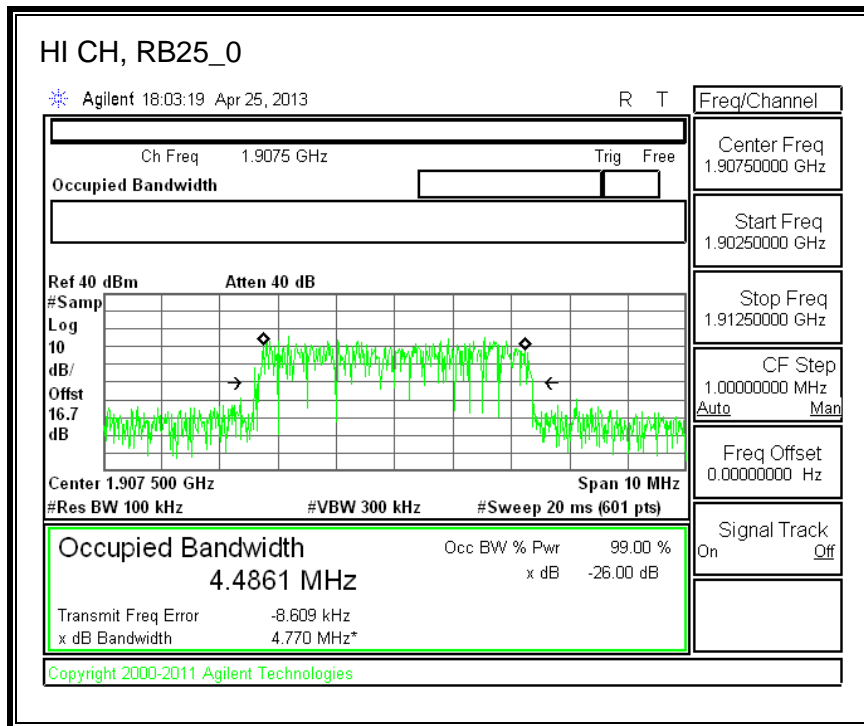
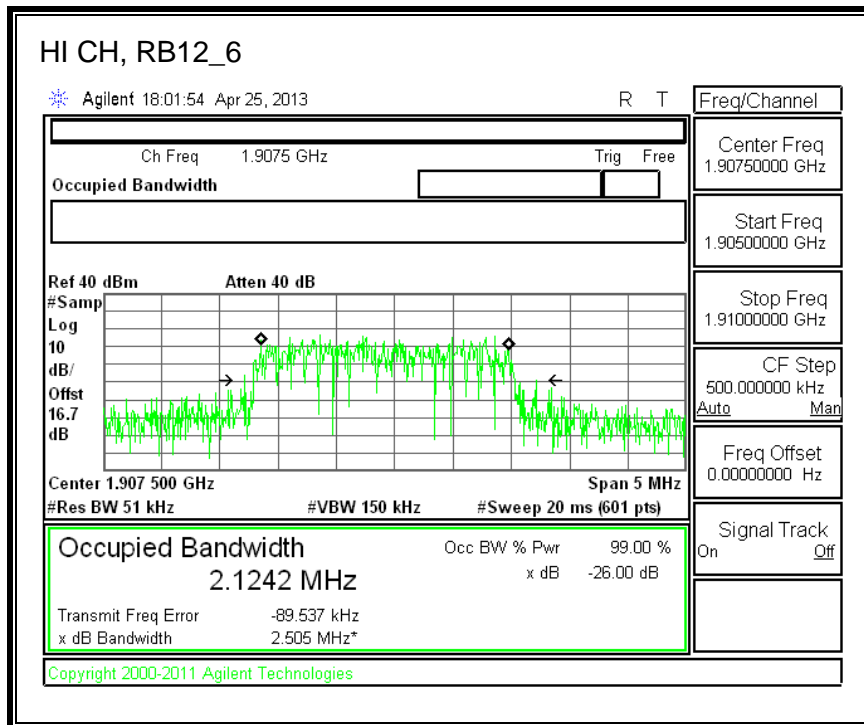


**Band 2 (5.0 MHz BAND WIDTH)**

**LTE QPSK**

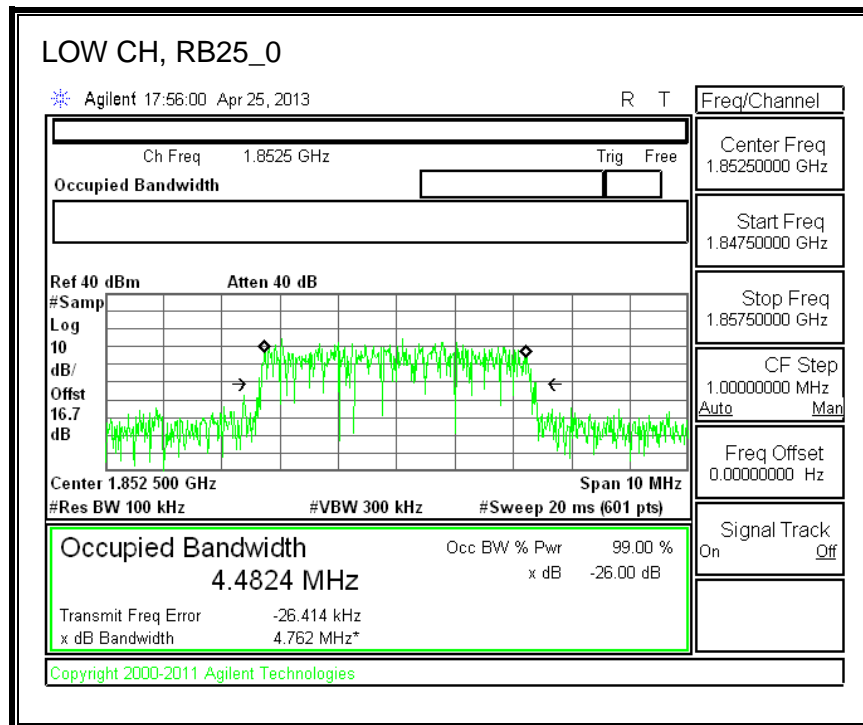
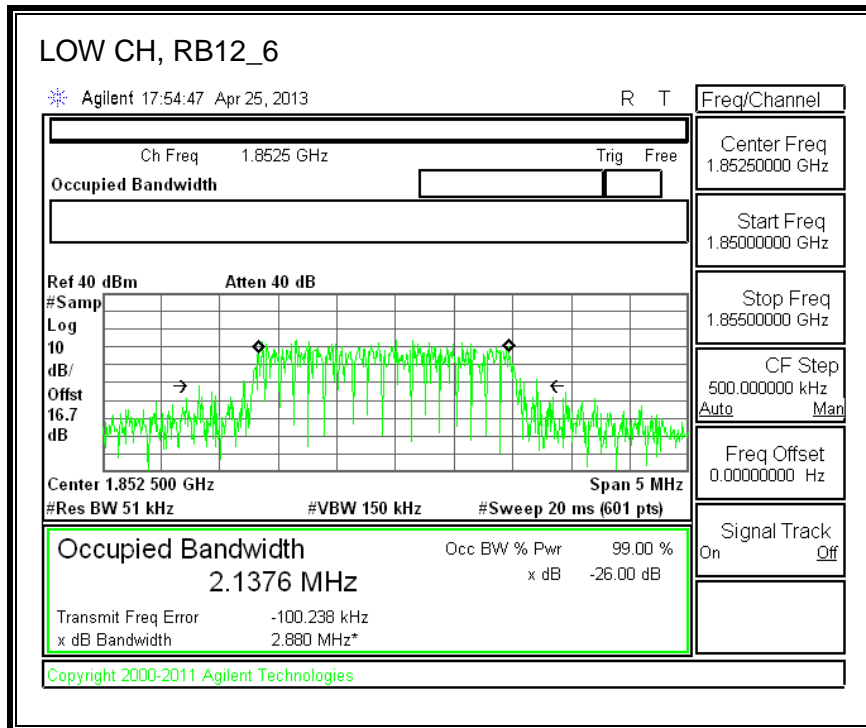


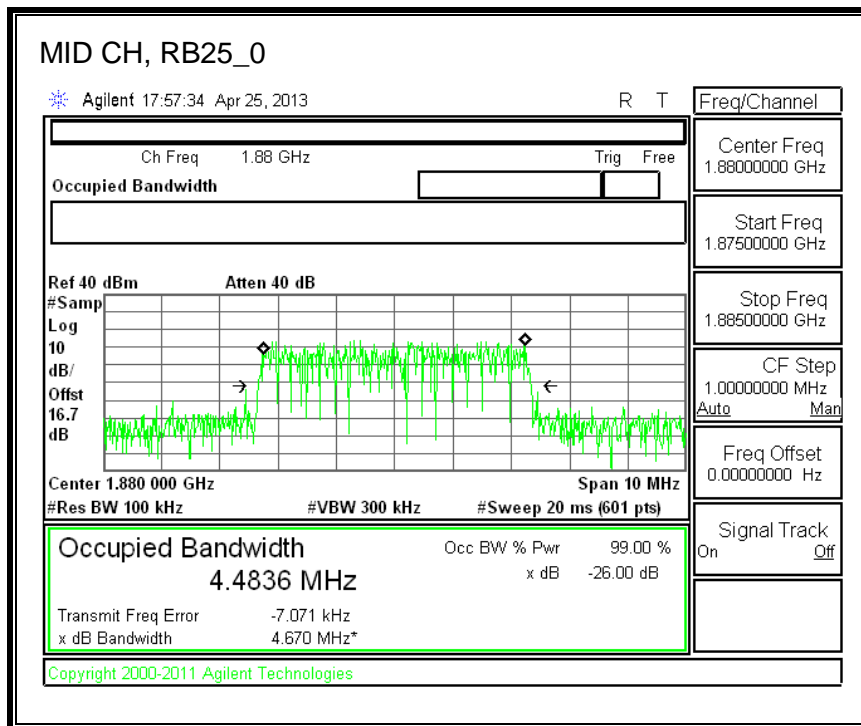
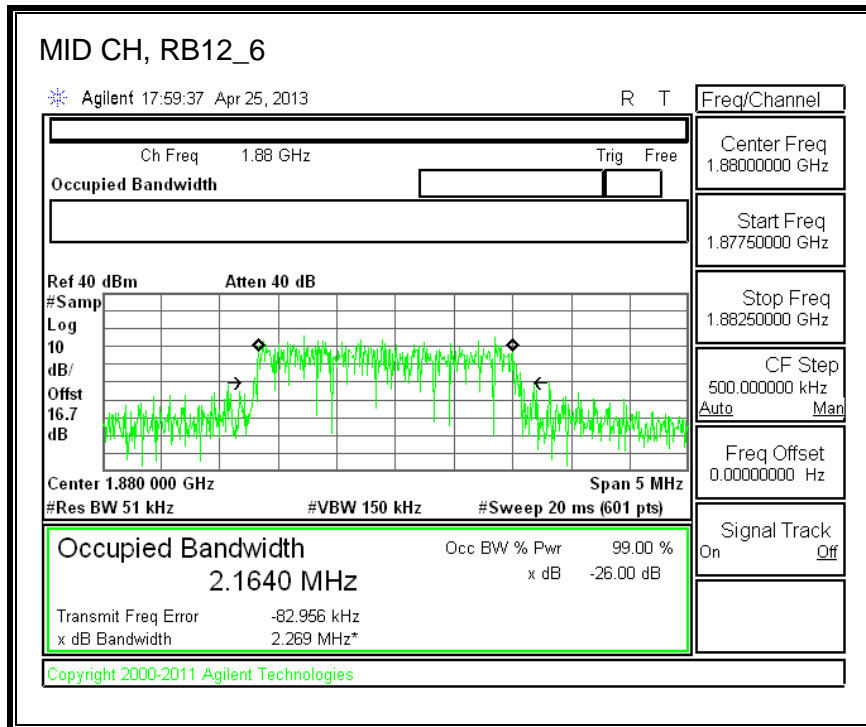




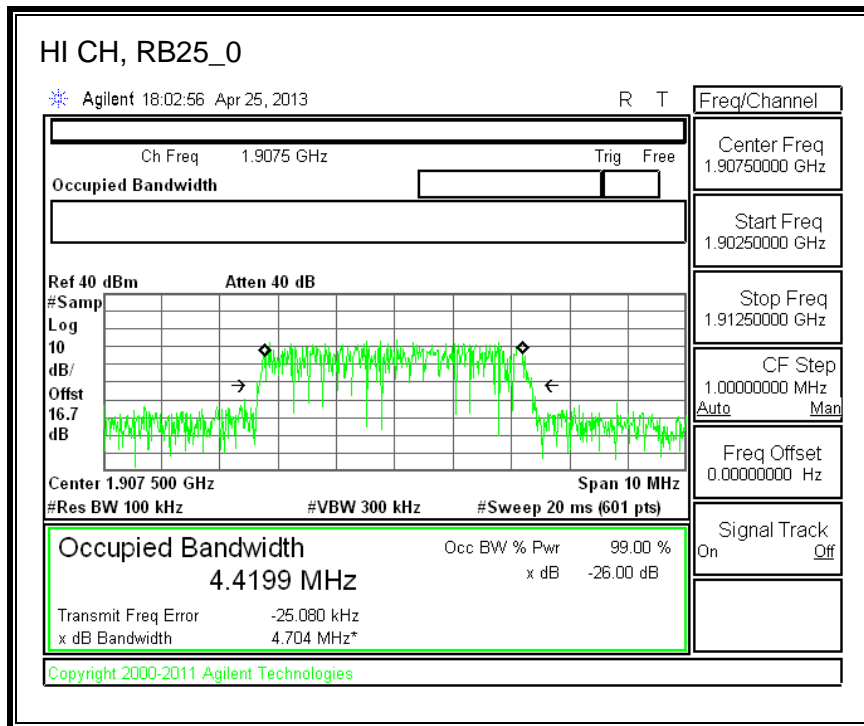
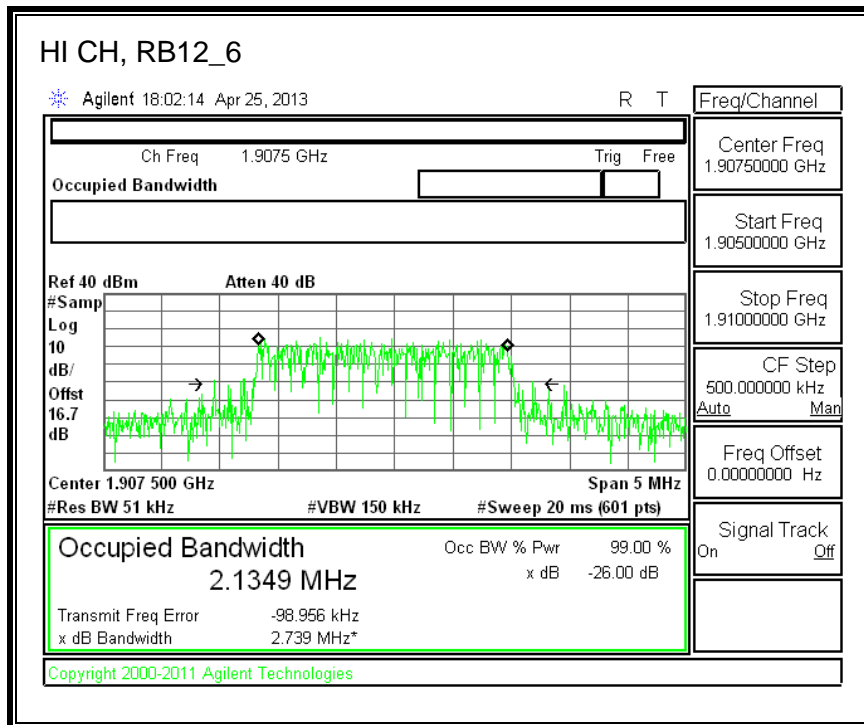
**Band 2 (5 MHz BAND WIDTH)**

**LTE 16QAM**



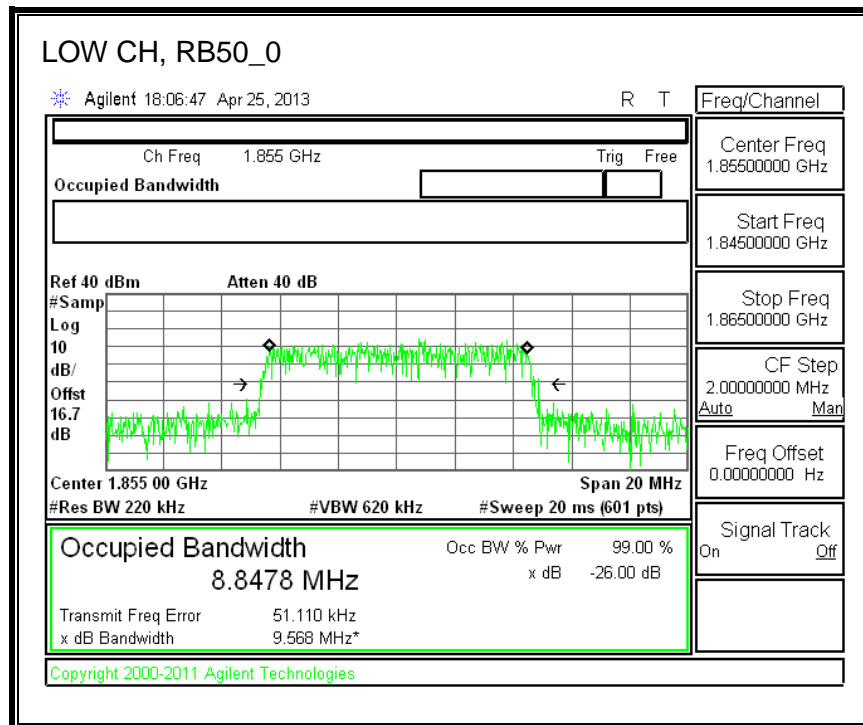
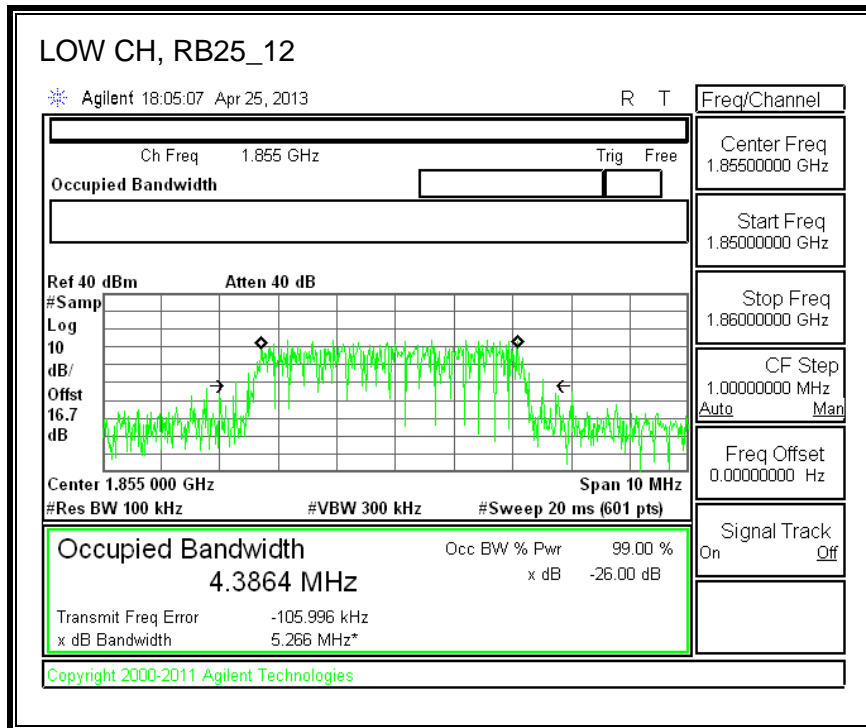


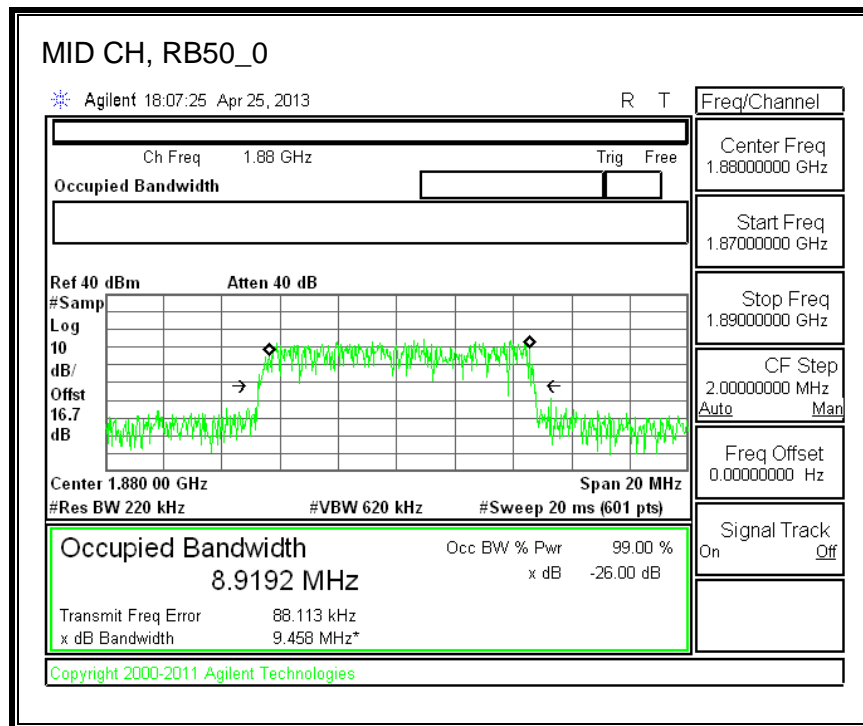
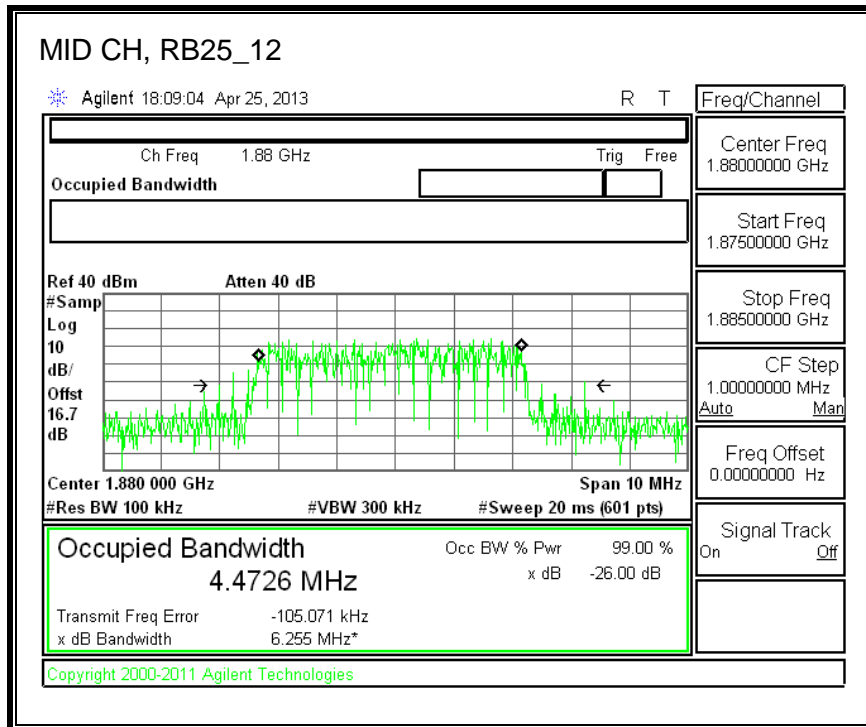


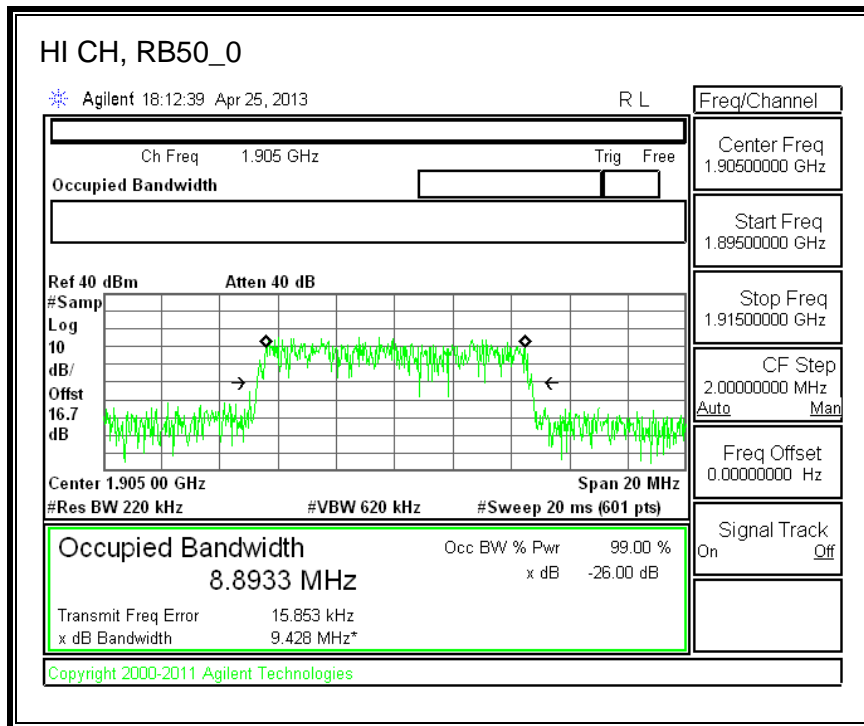
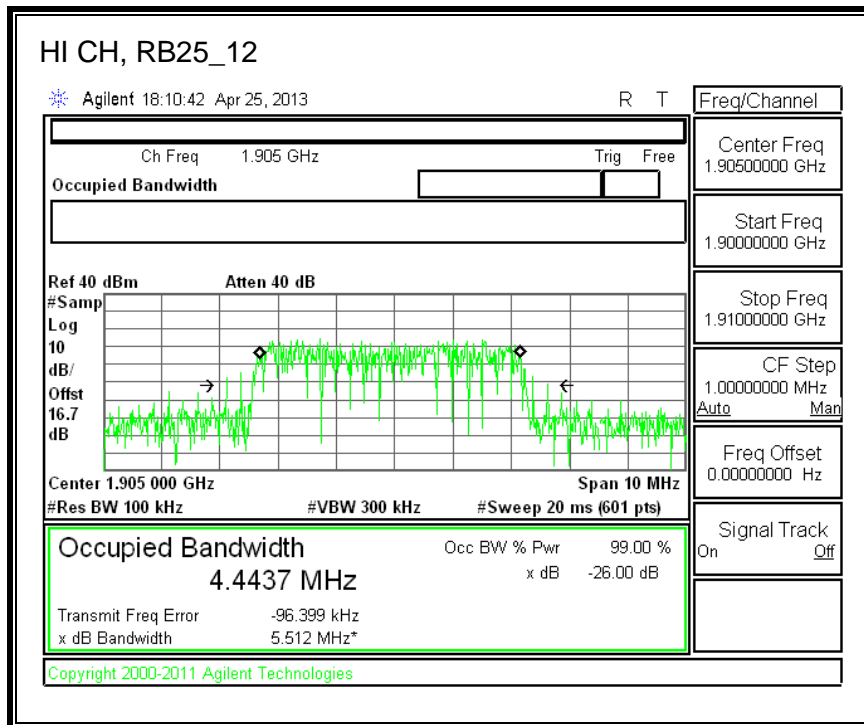


**Band 2 (10.0 MHz BAND WIDTH)**

**LTE QPSK**

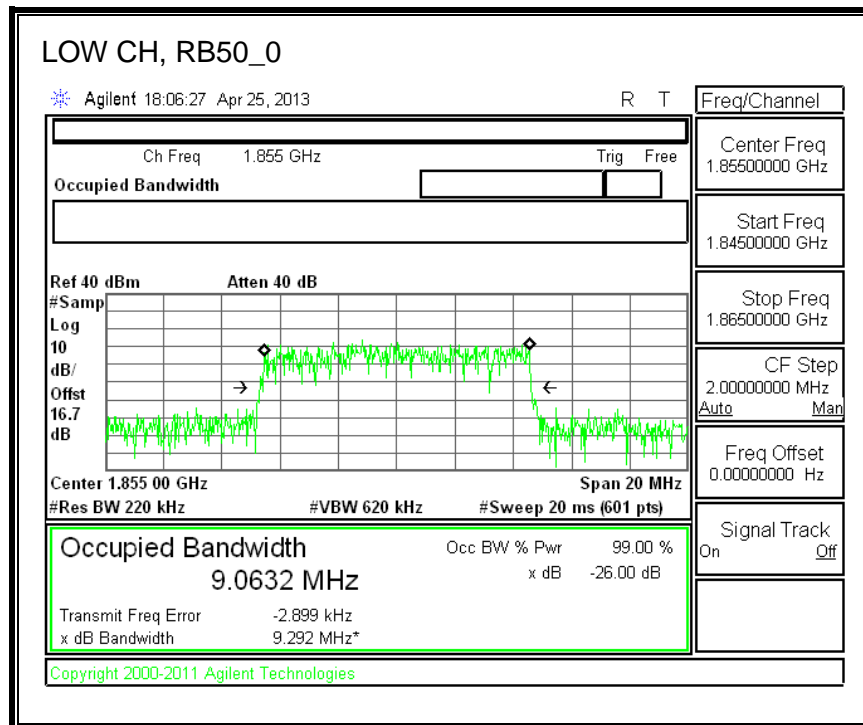
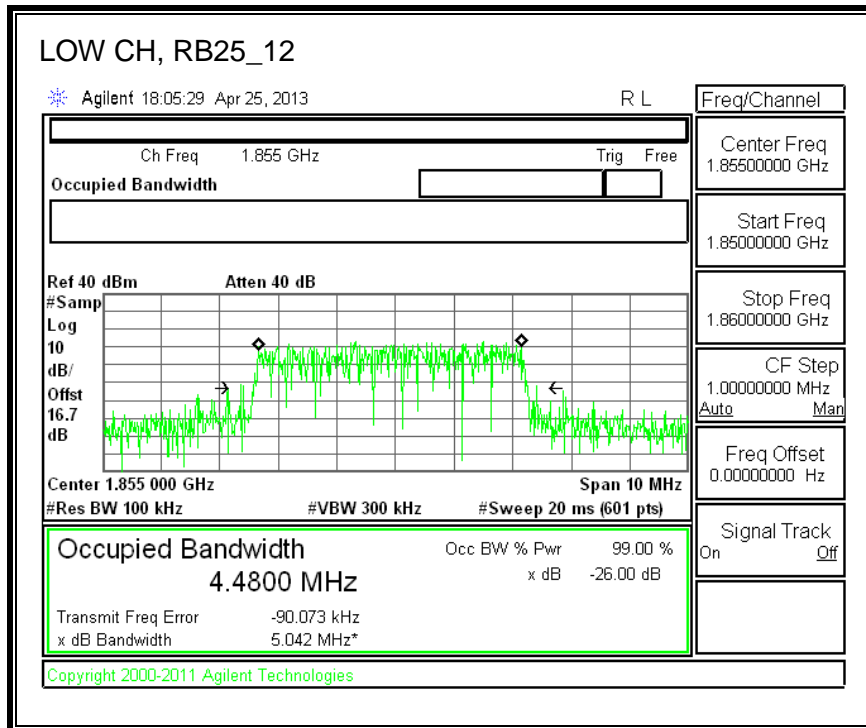


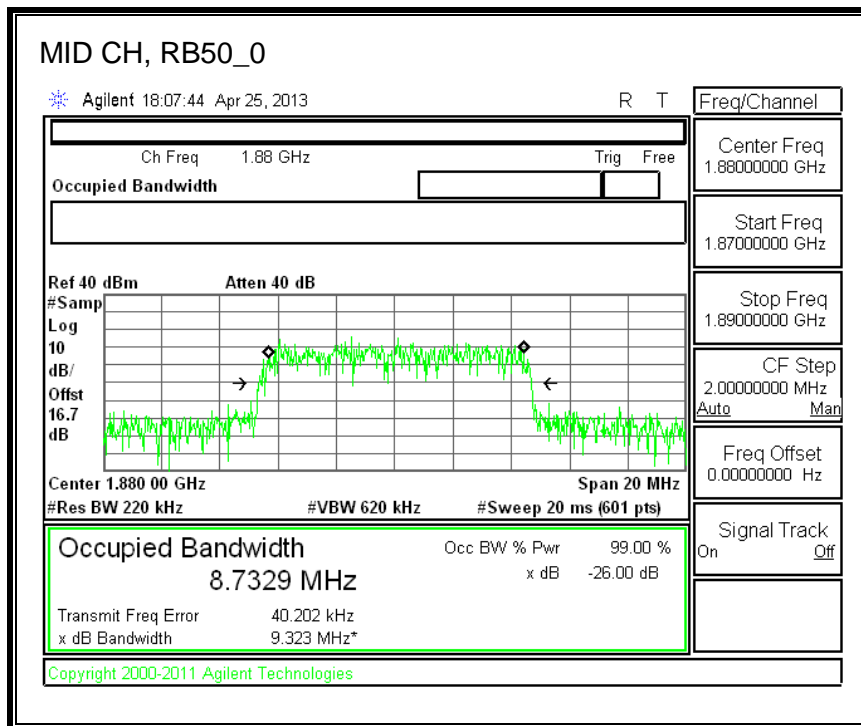
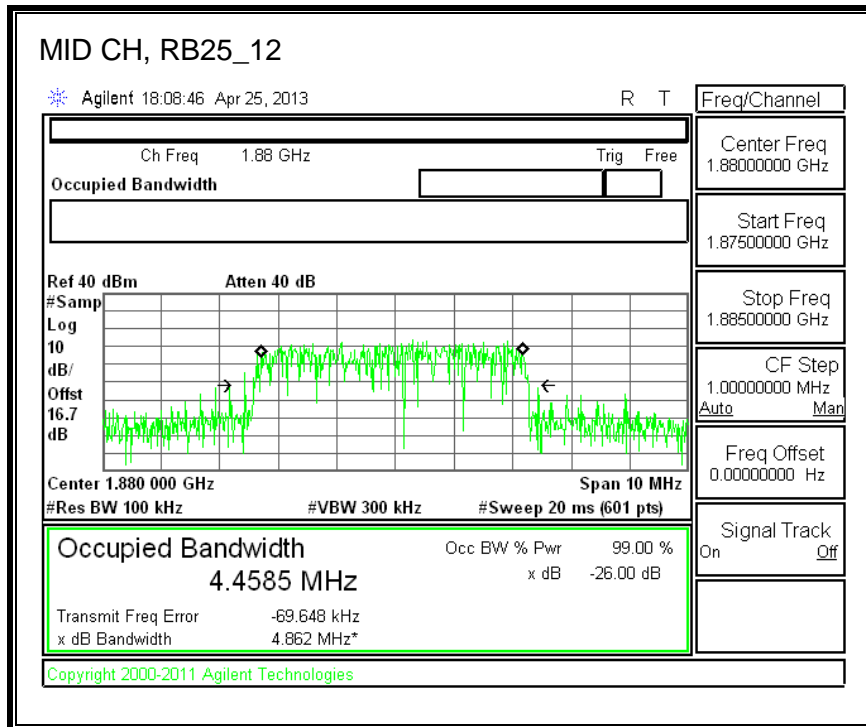


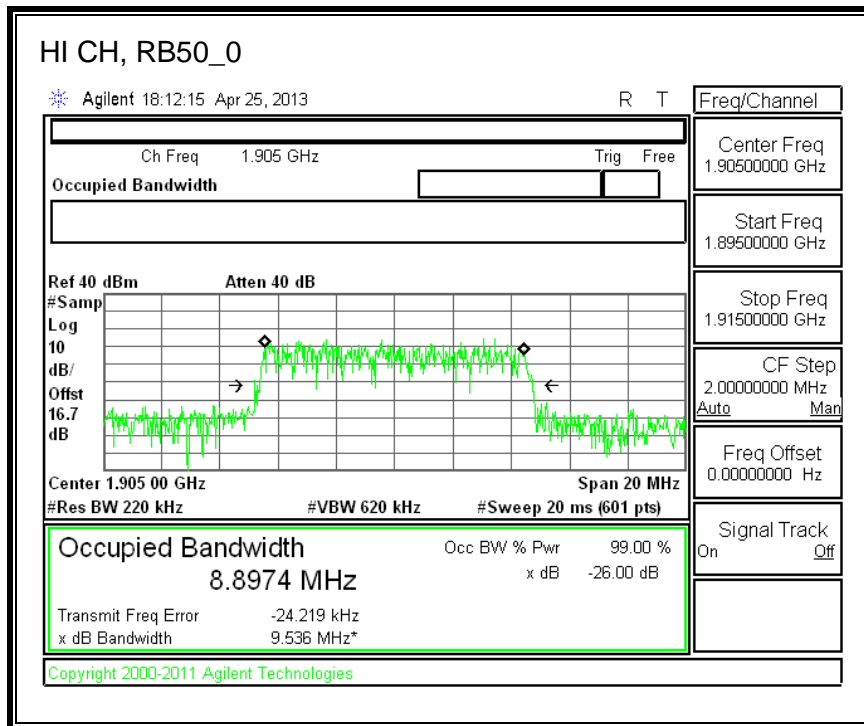
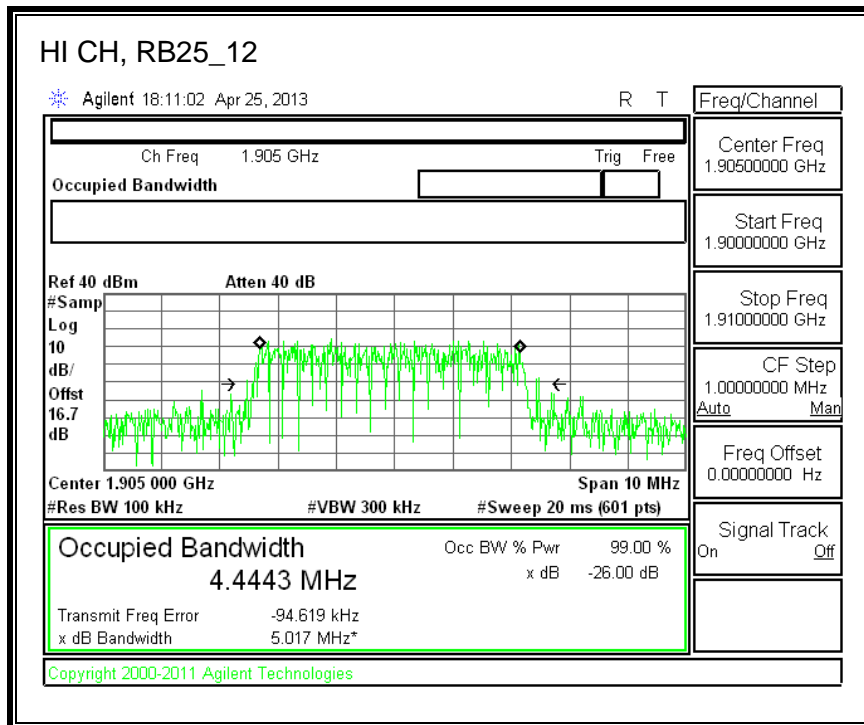


**Band 2 (10 MHz BAND WIDTH)**

**LTE 16QAM**

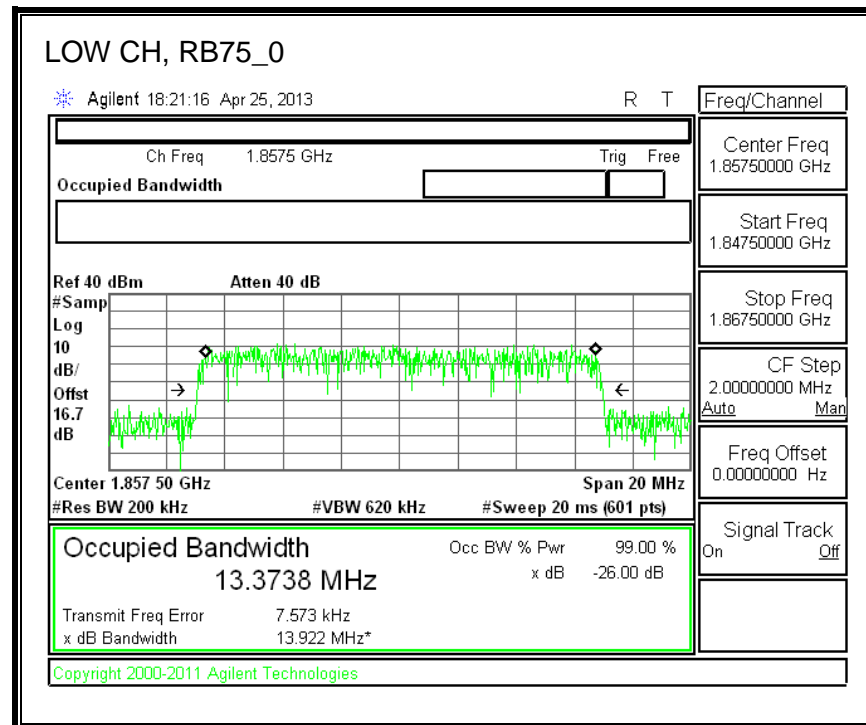
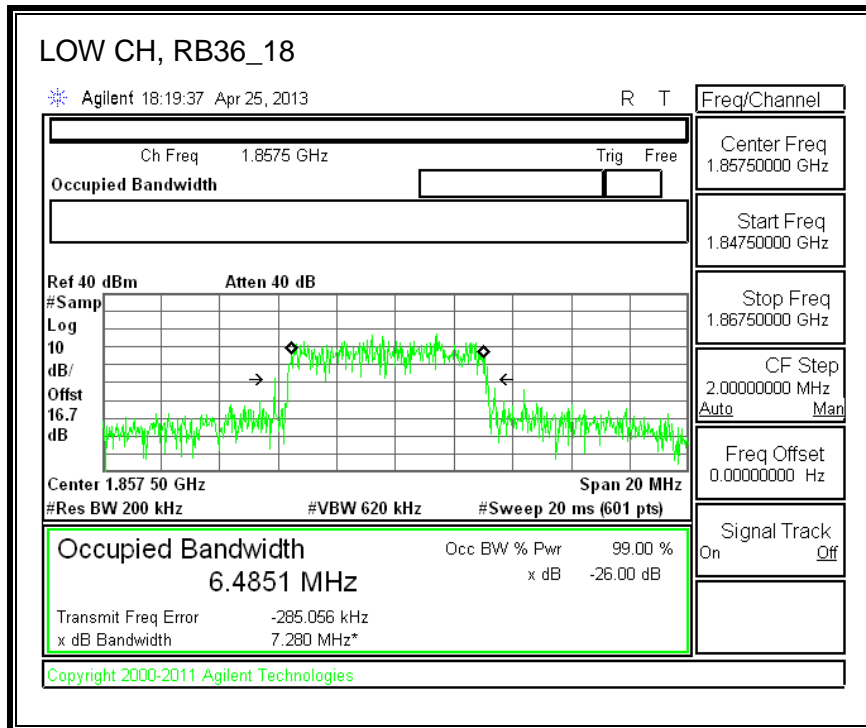




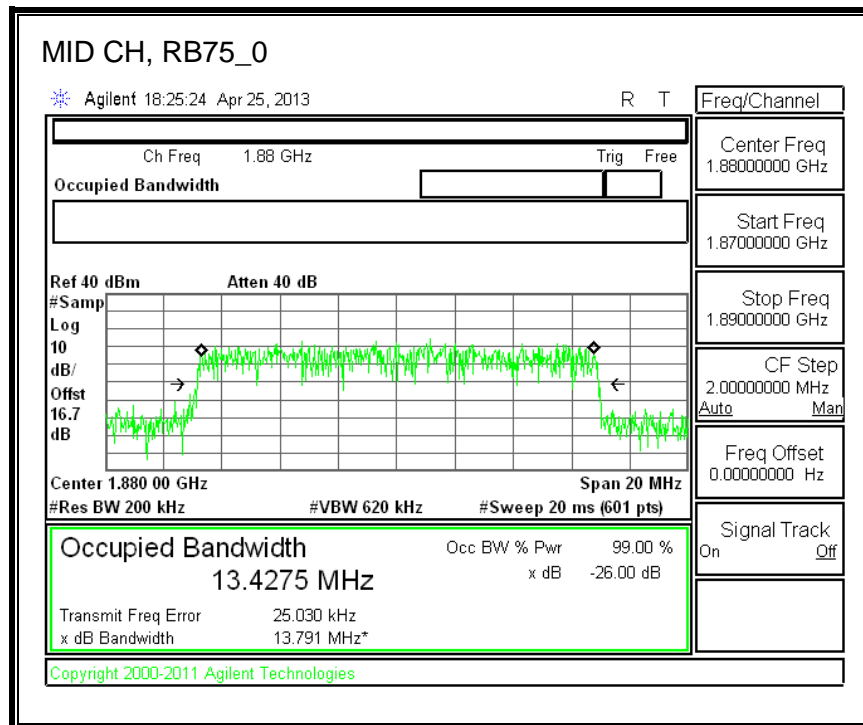
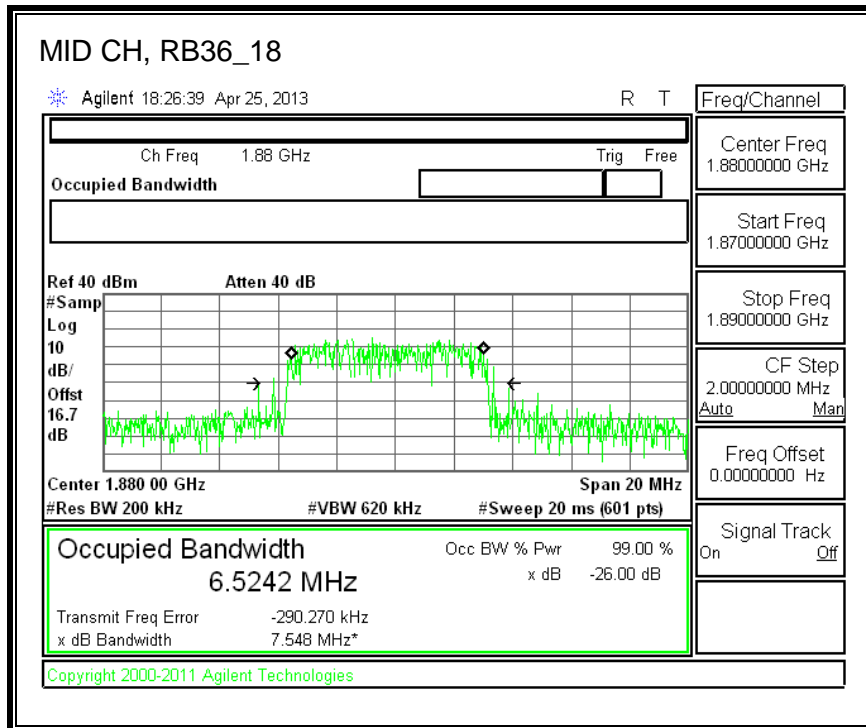


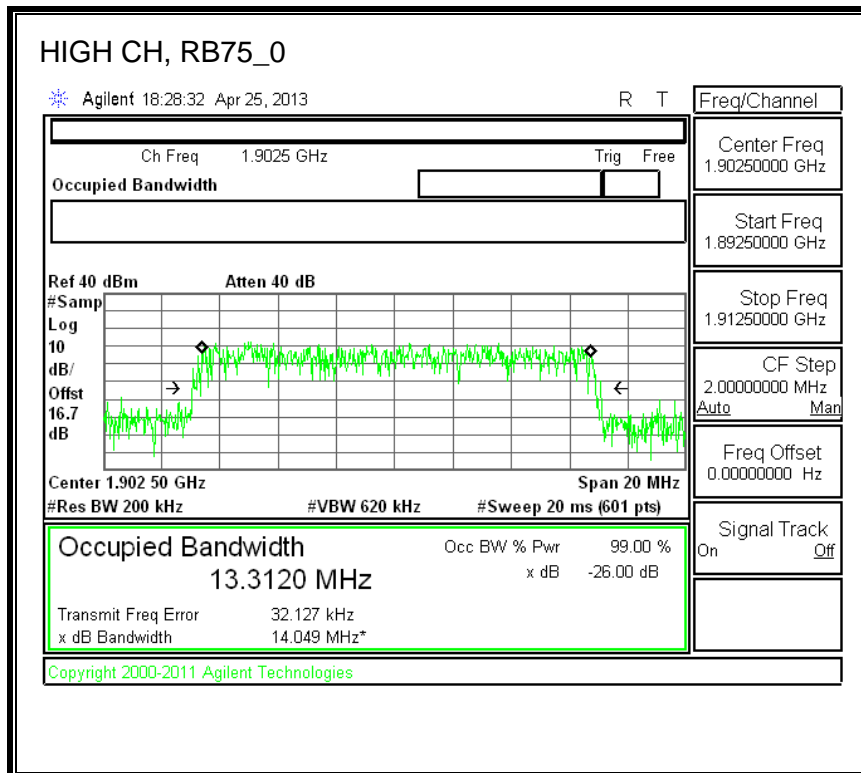
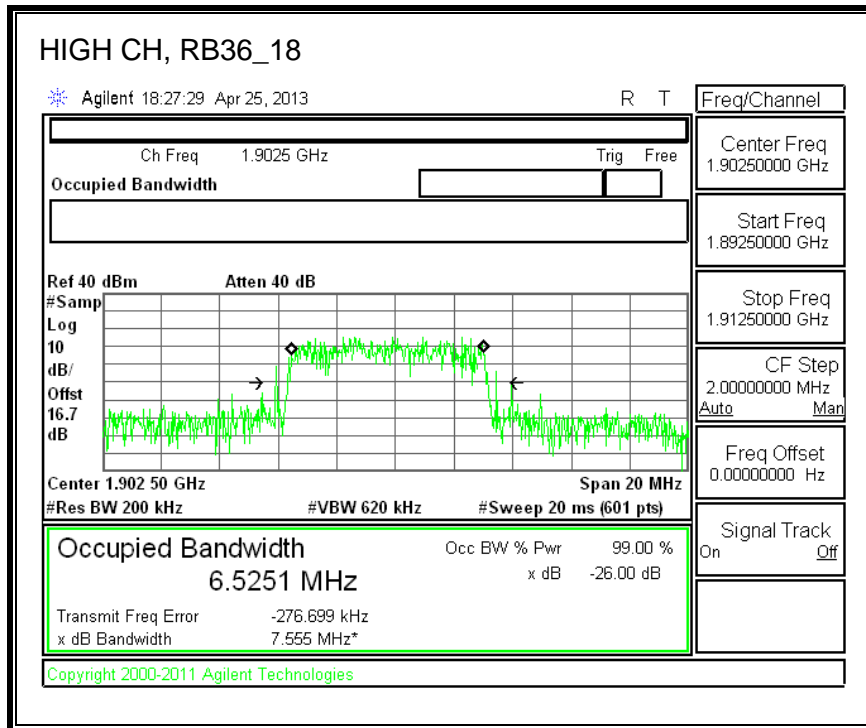
**Band 2 (15.0 MHz BAND WIDTH)**

**LTE QPSK**



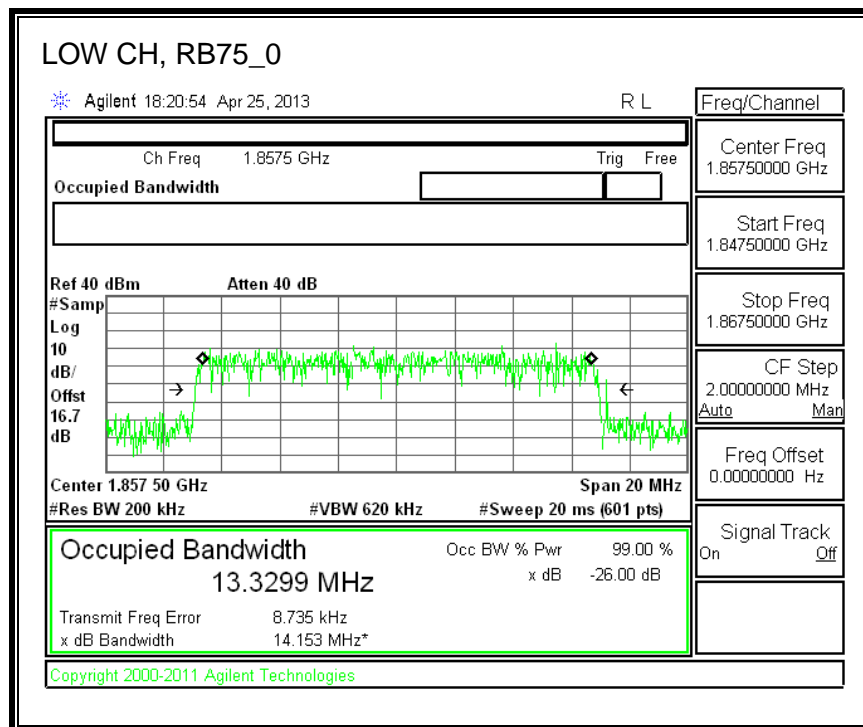
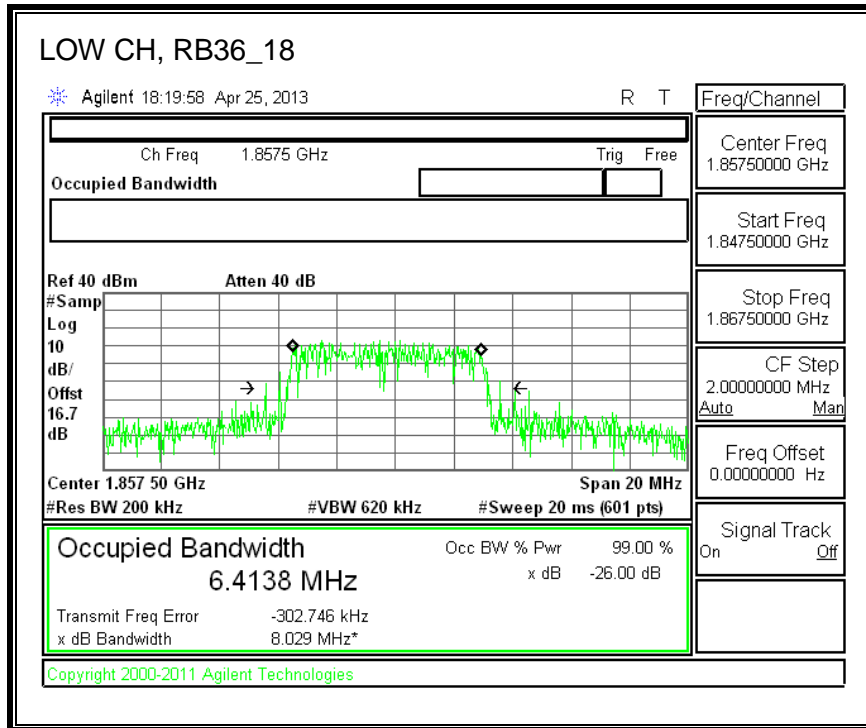


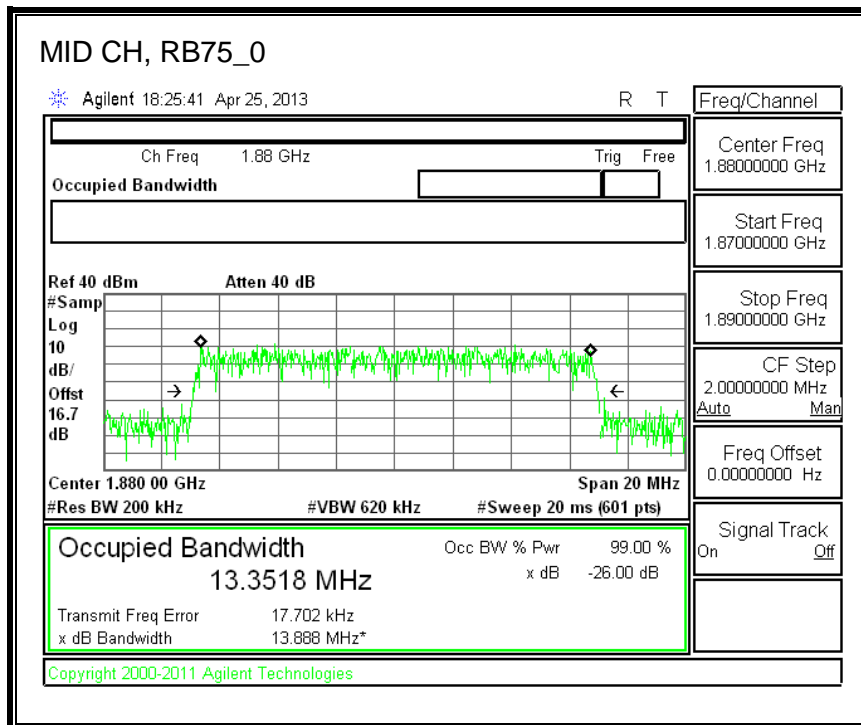
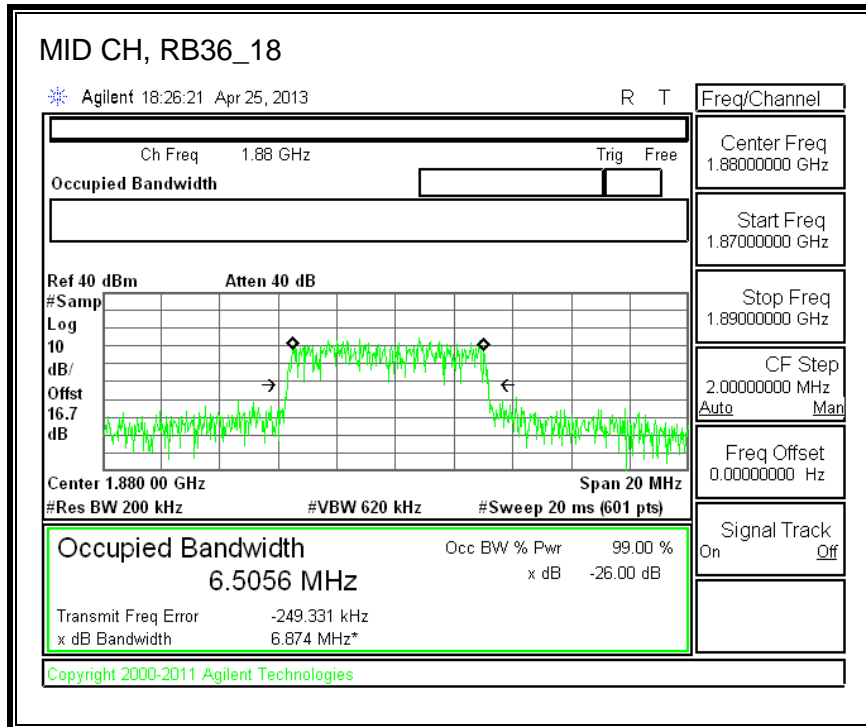


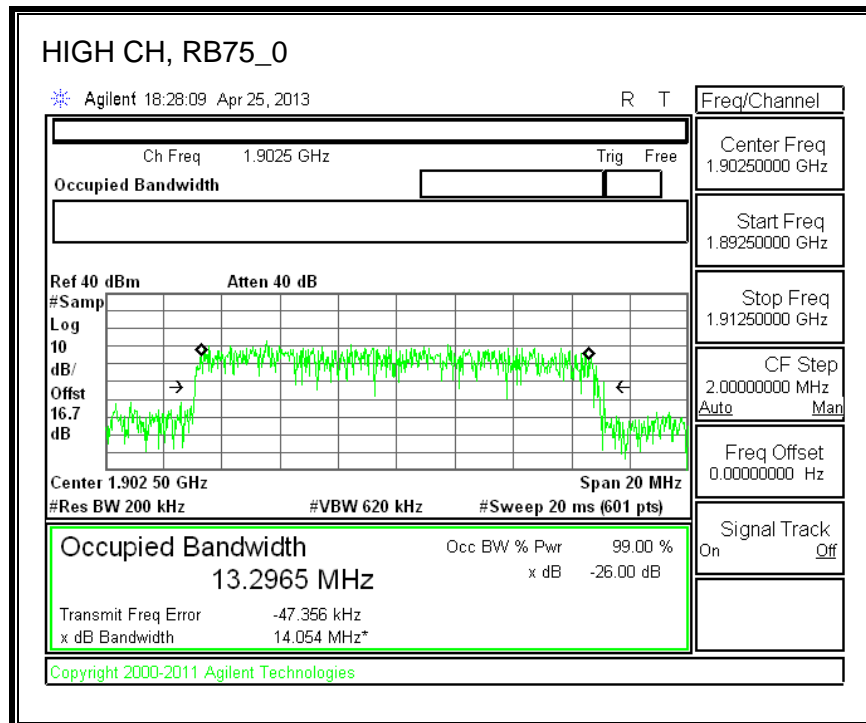
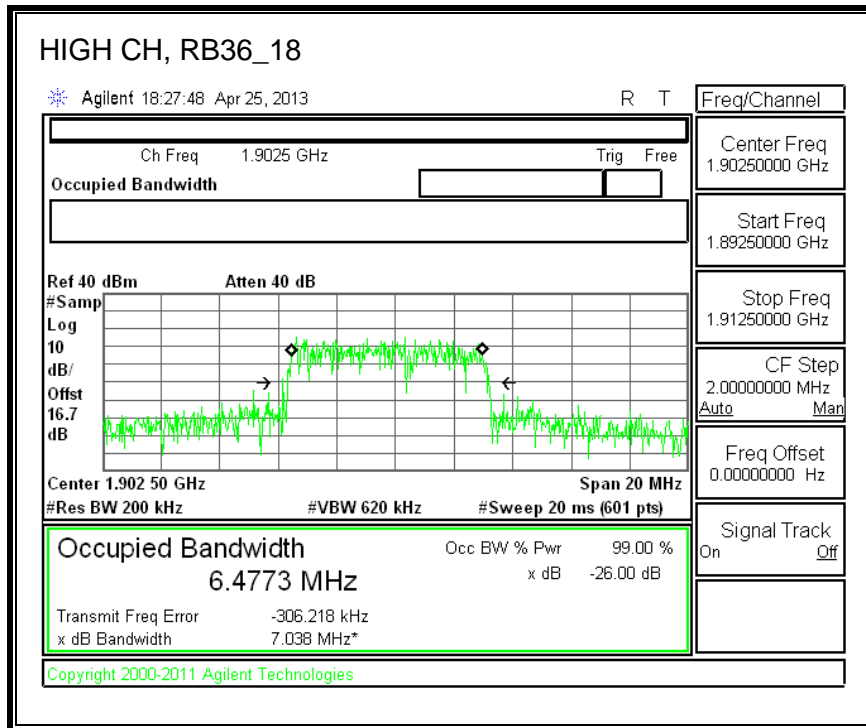


**Band 2 (15.0 MHz BAND WIDTH)**

**LTE 16QAM**

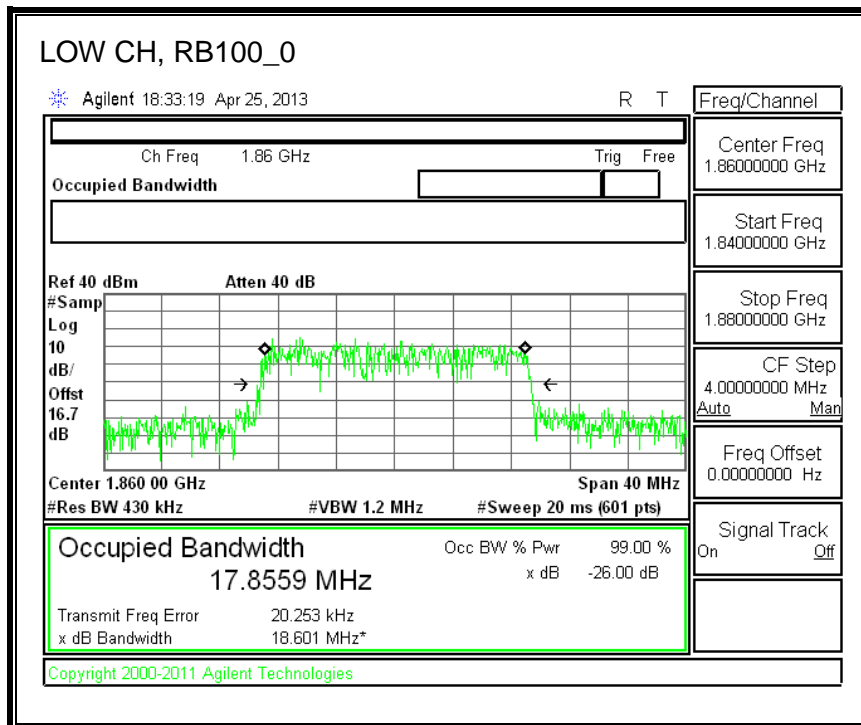
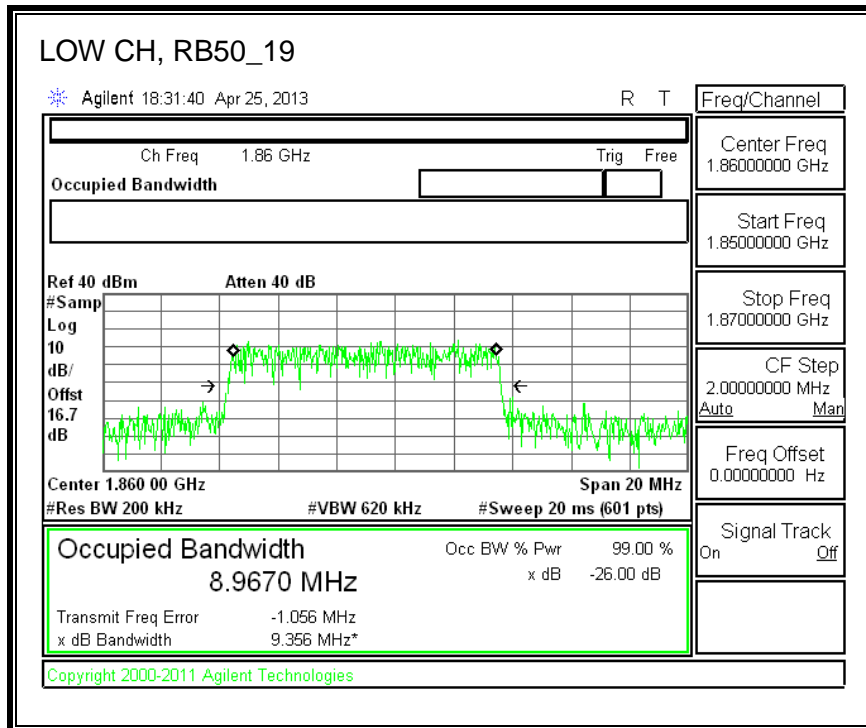


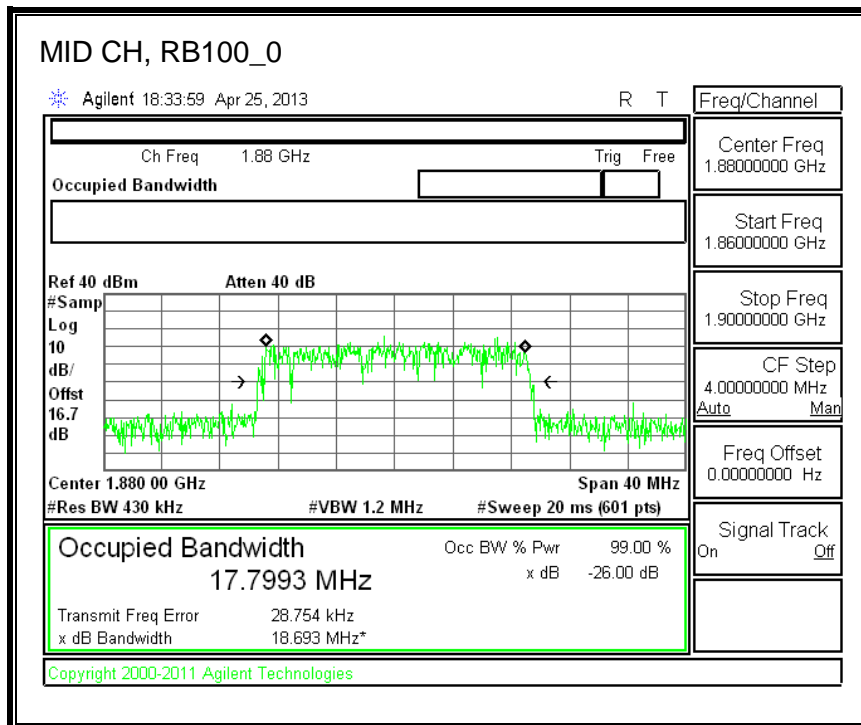
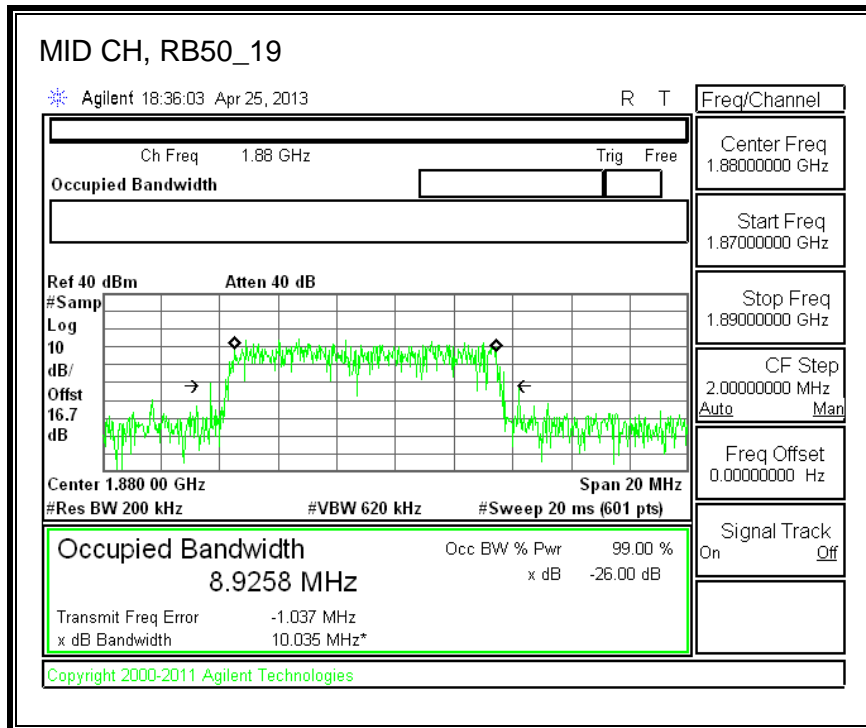


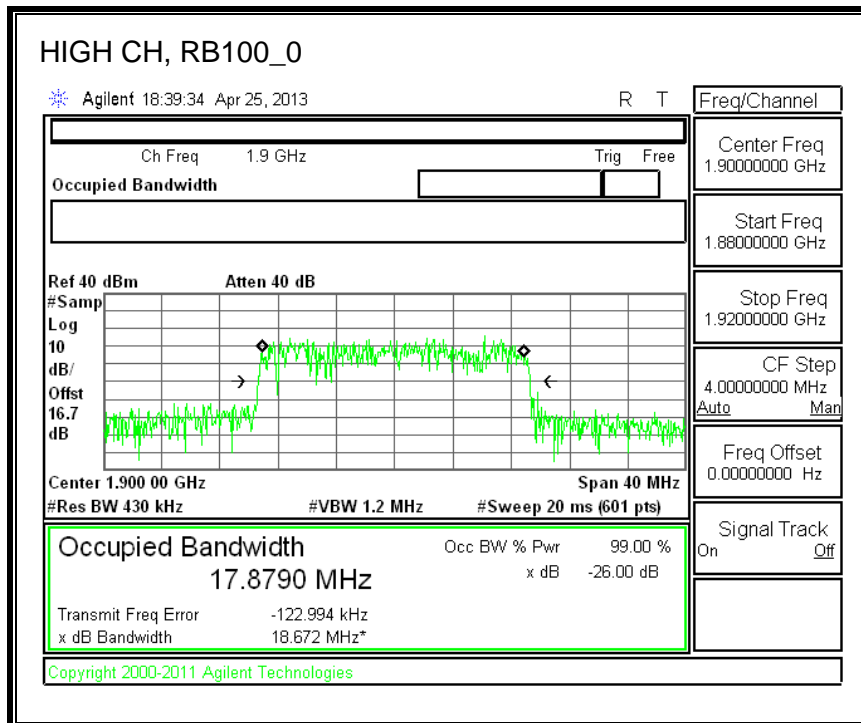
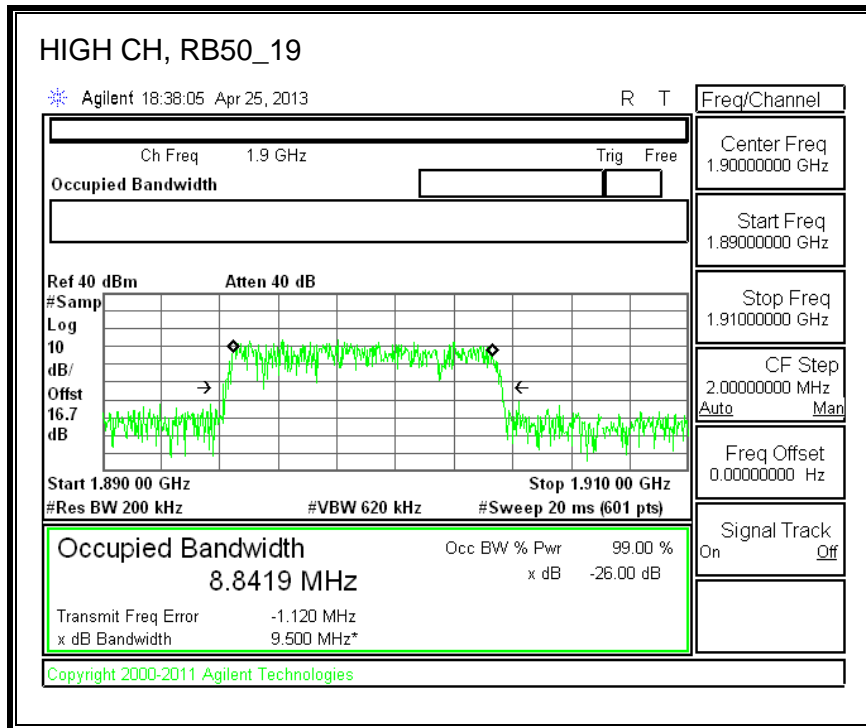


**Band 2 (20.0 MHz BAND WIDTH)**

**LTE QPSK**



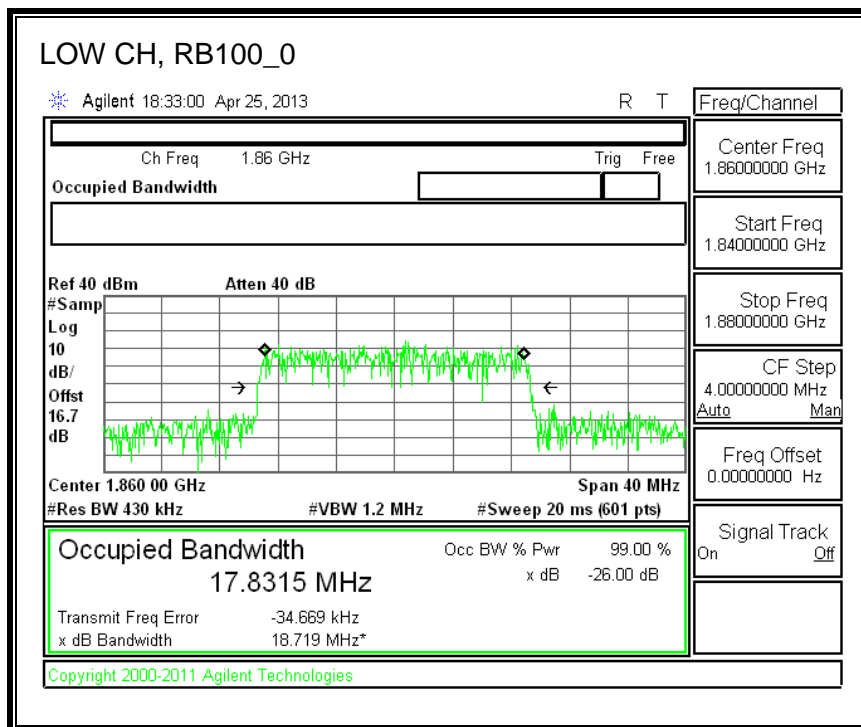
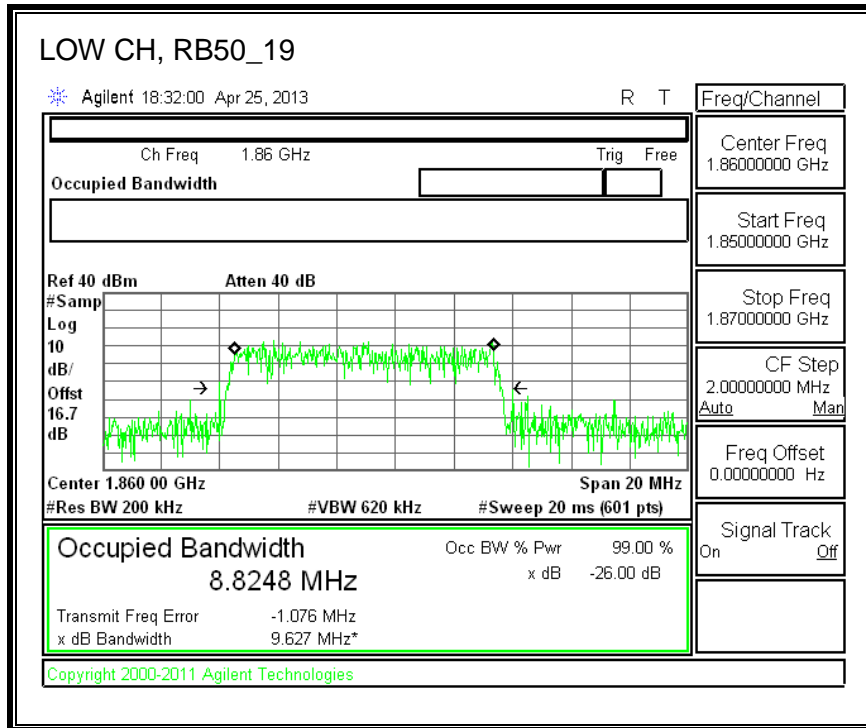


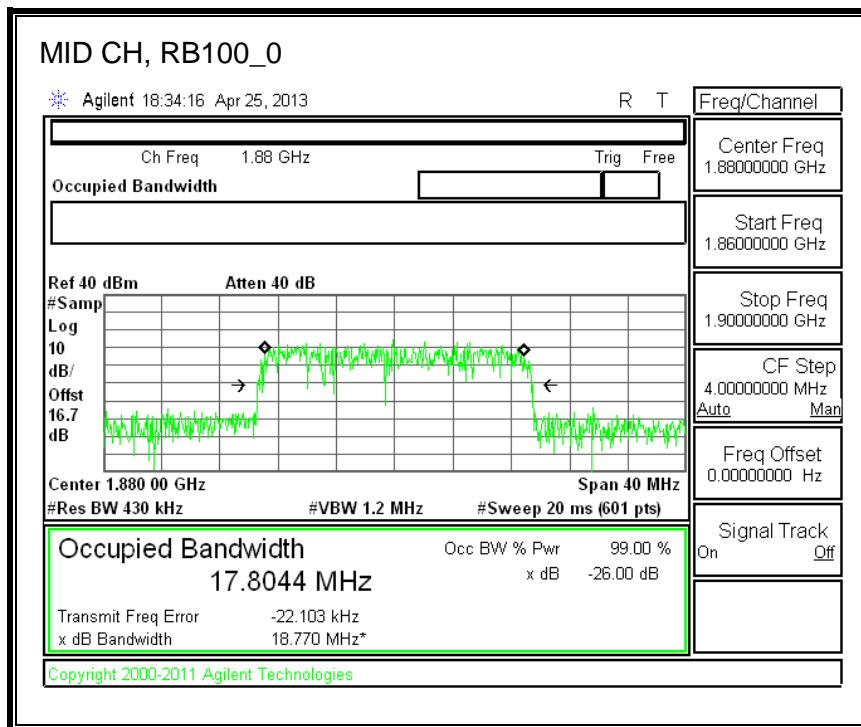
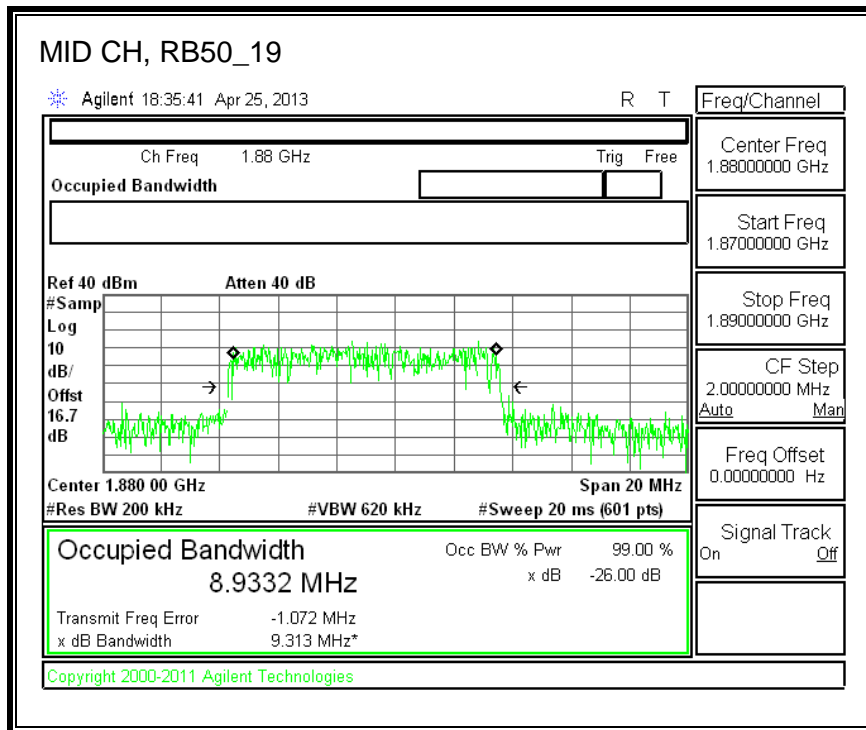


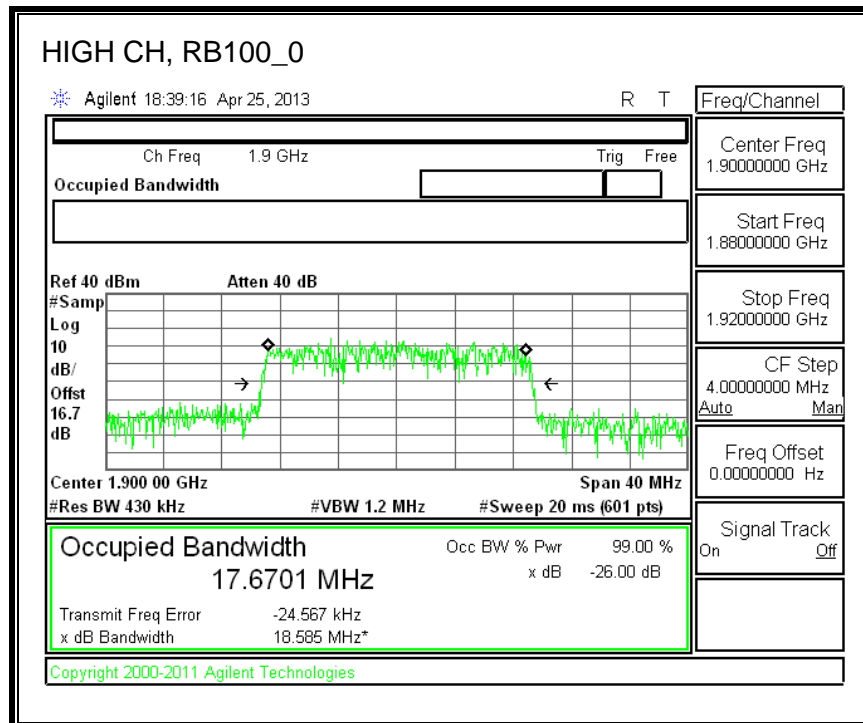
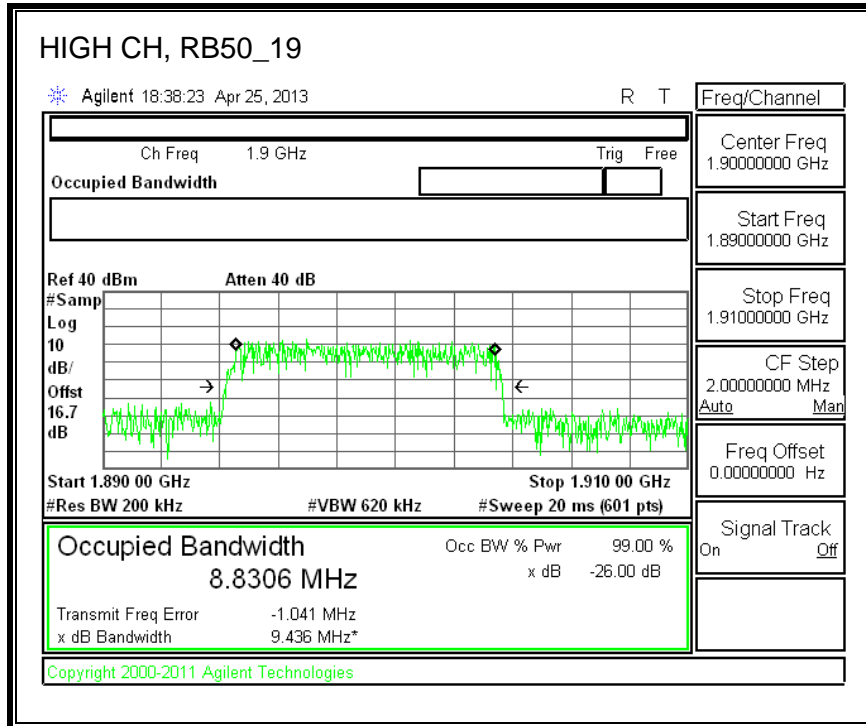


**Band 2 (20.0 MHz BAND WIDTH)**

**LTE 16QAM**

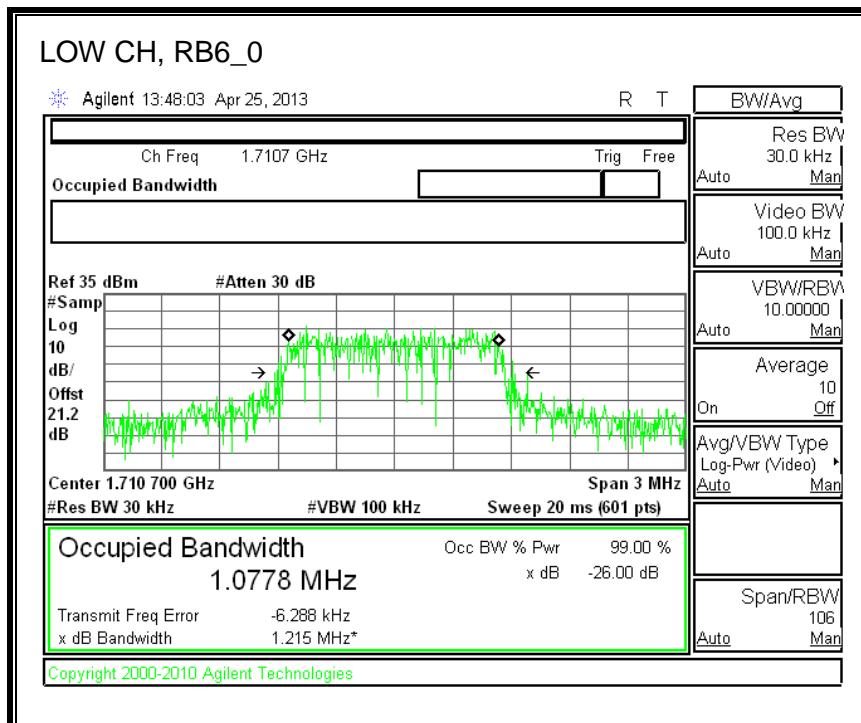
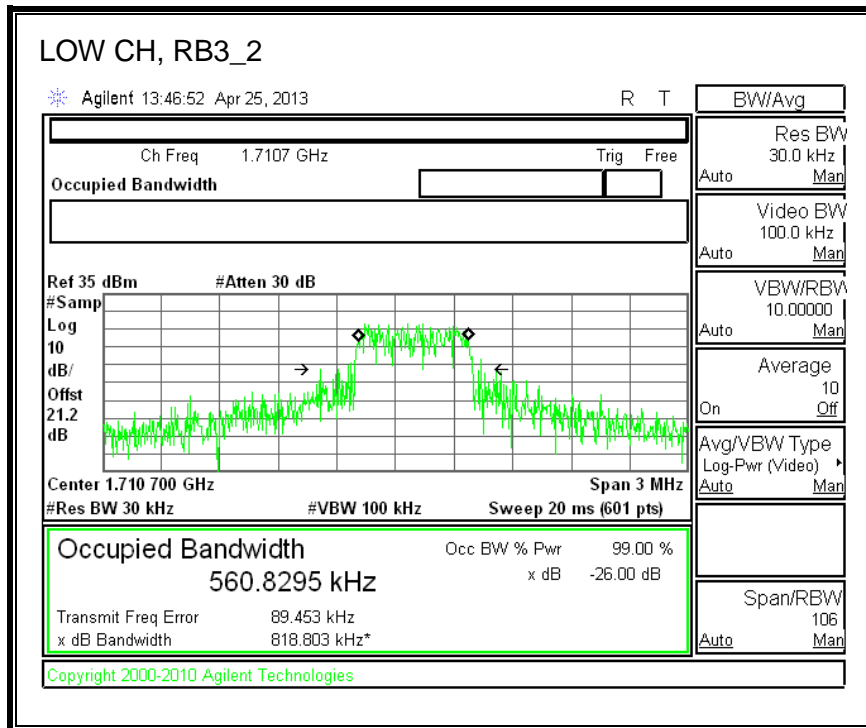


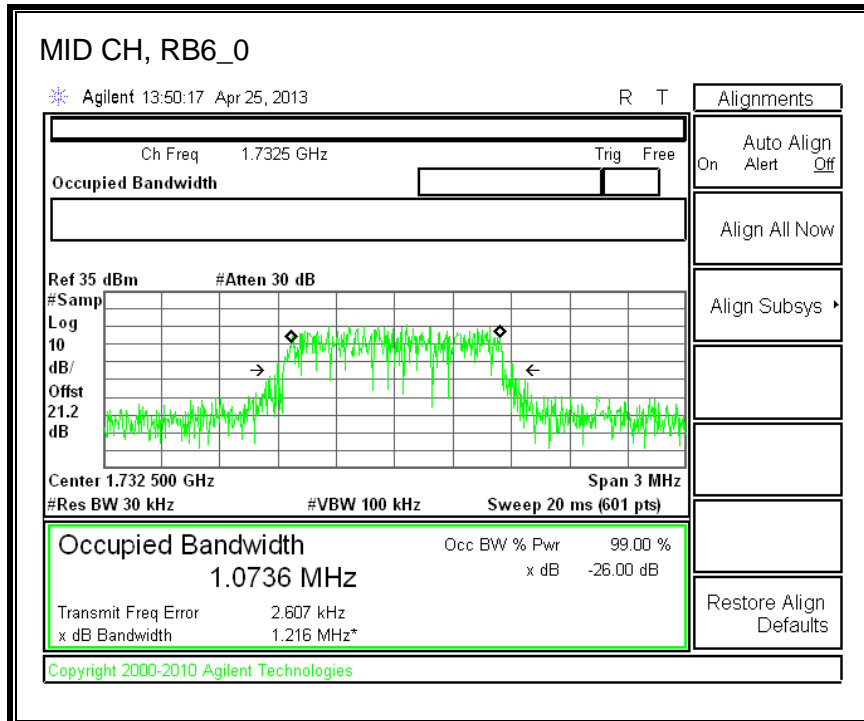
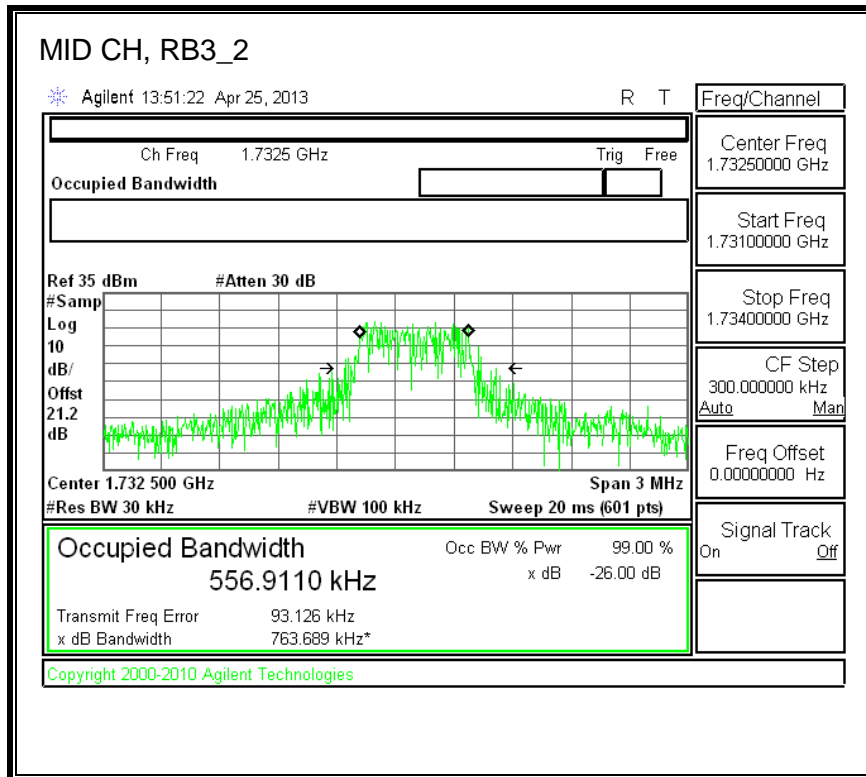


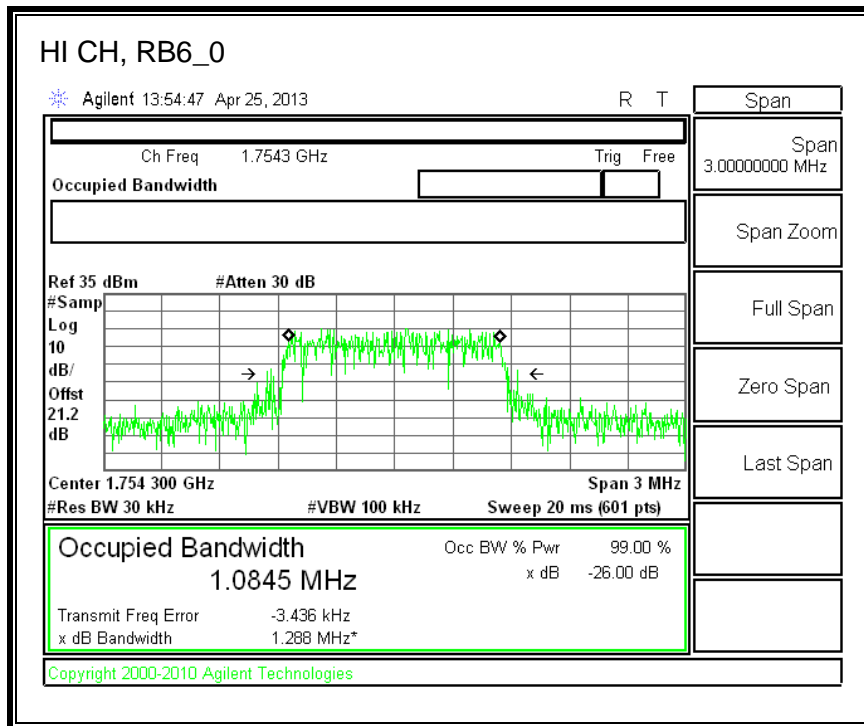
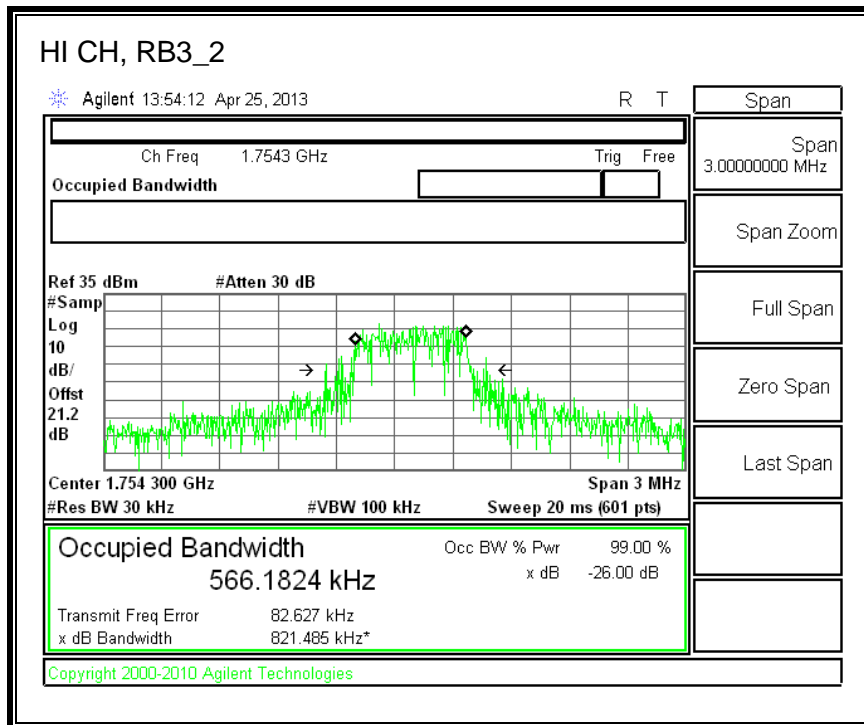


### 8.1.2. LTE BAND 4

#### 1.4MHz (QPSK)

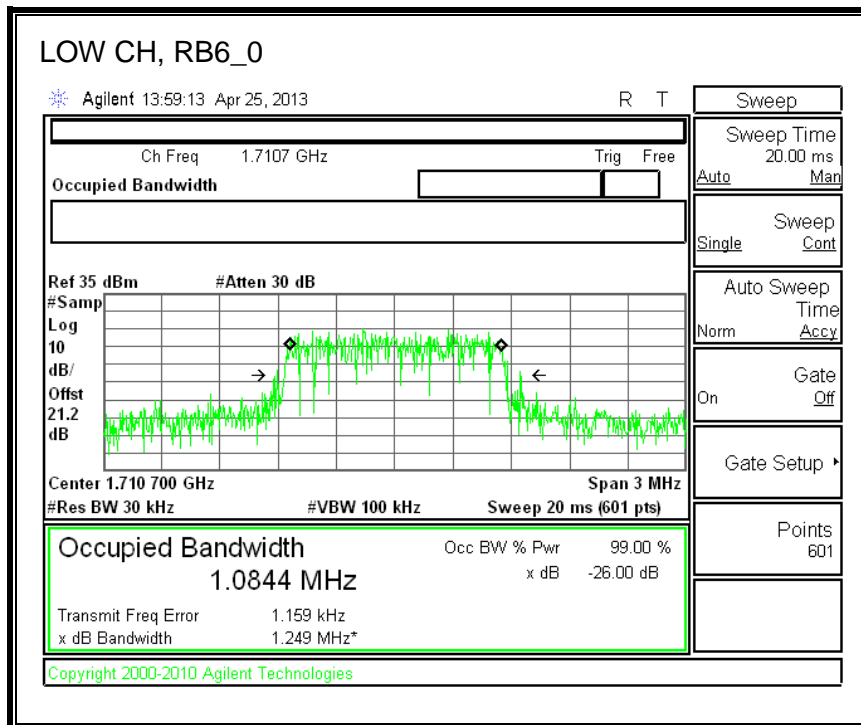
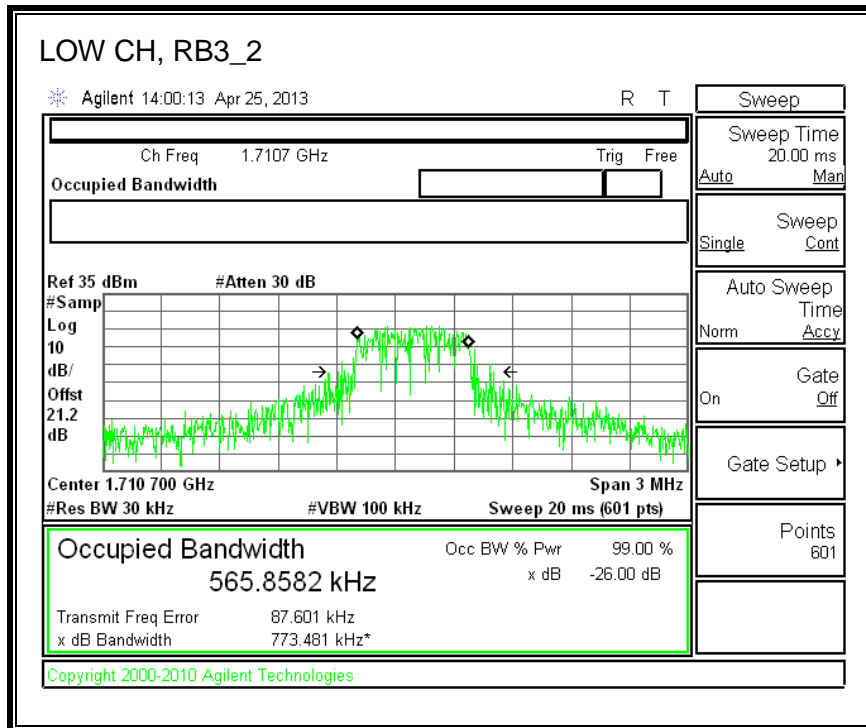


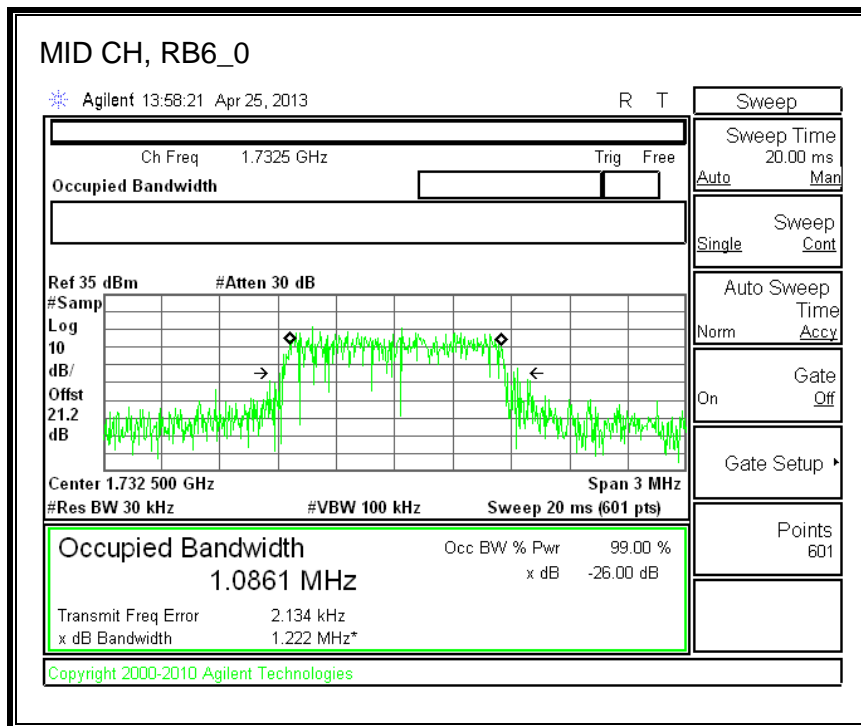
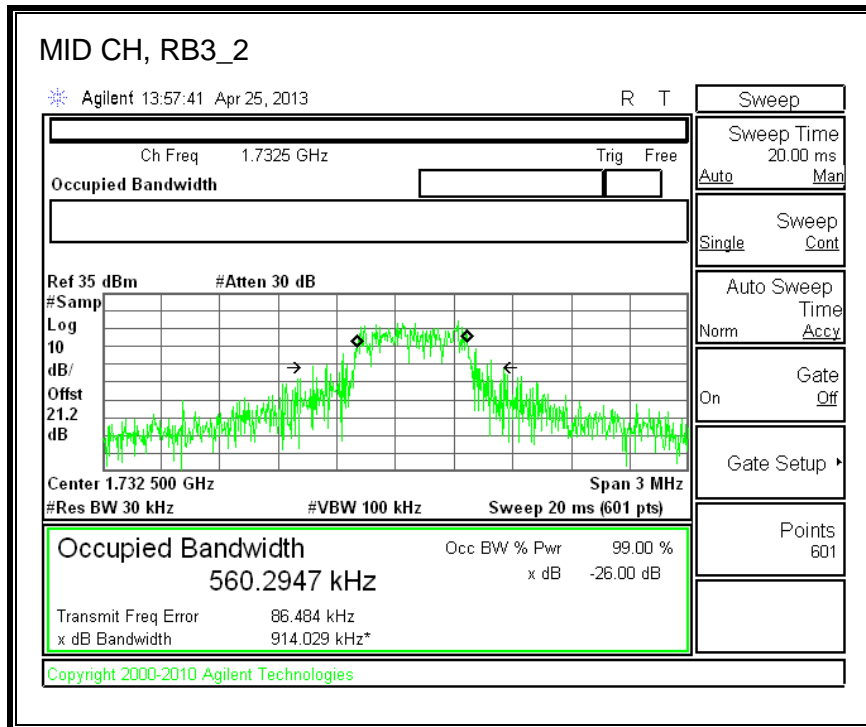




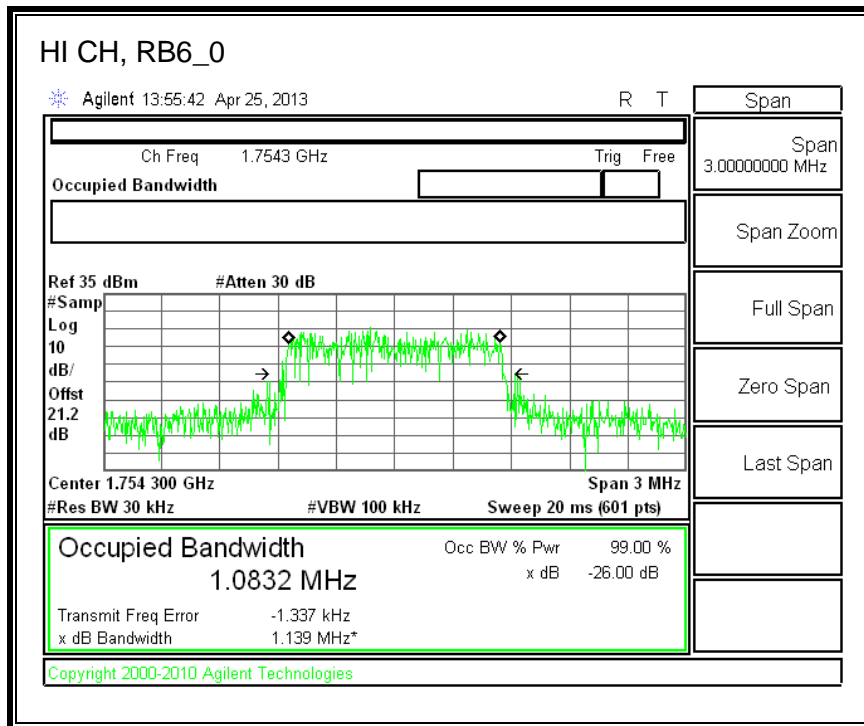
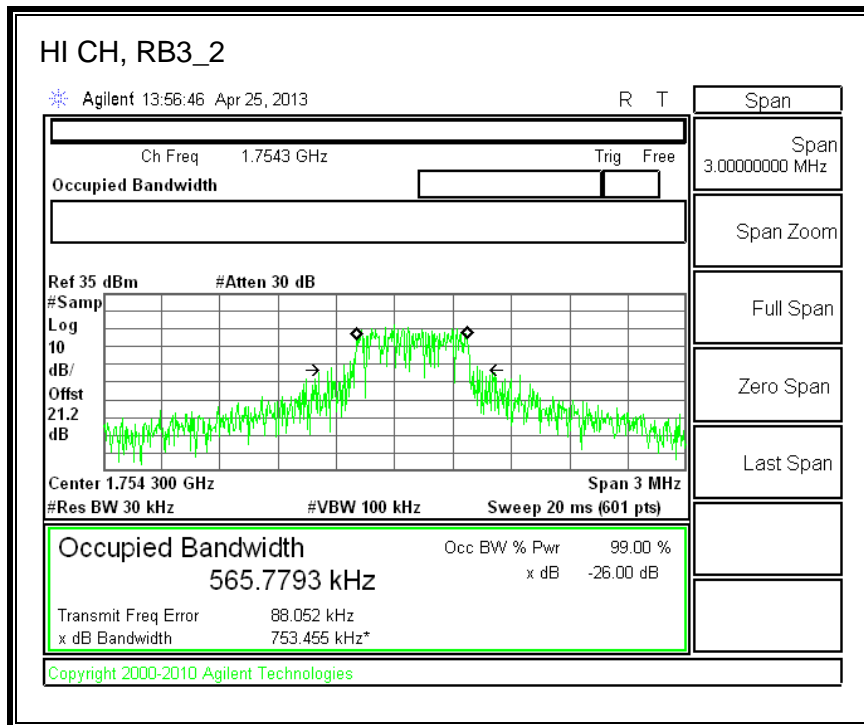
**Band 4 (1.4 MHz BAND WIDTH)**

**LTE 16QAM**



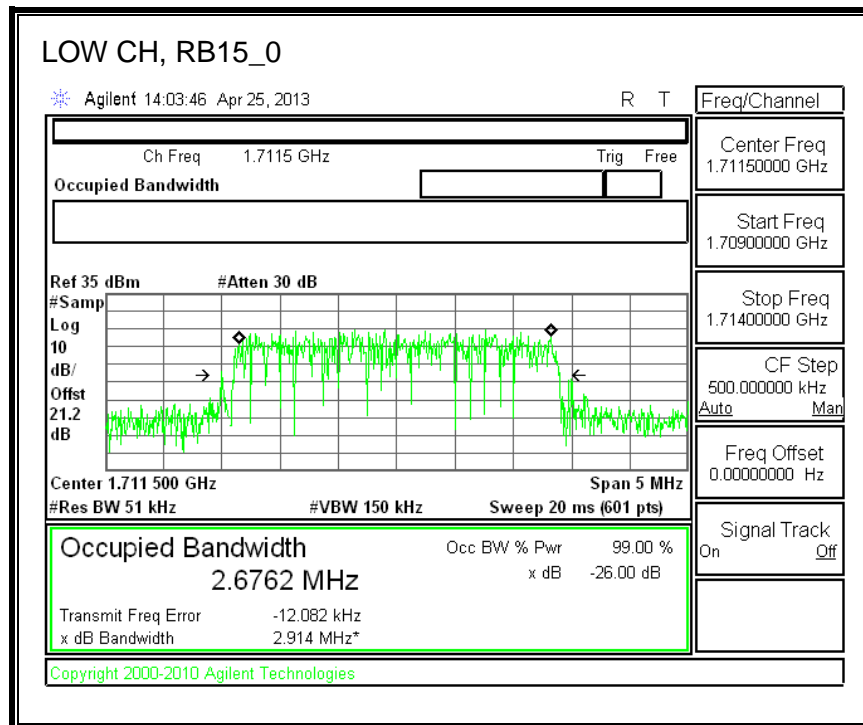
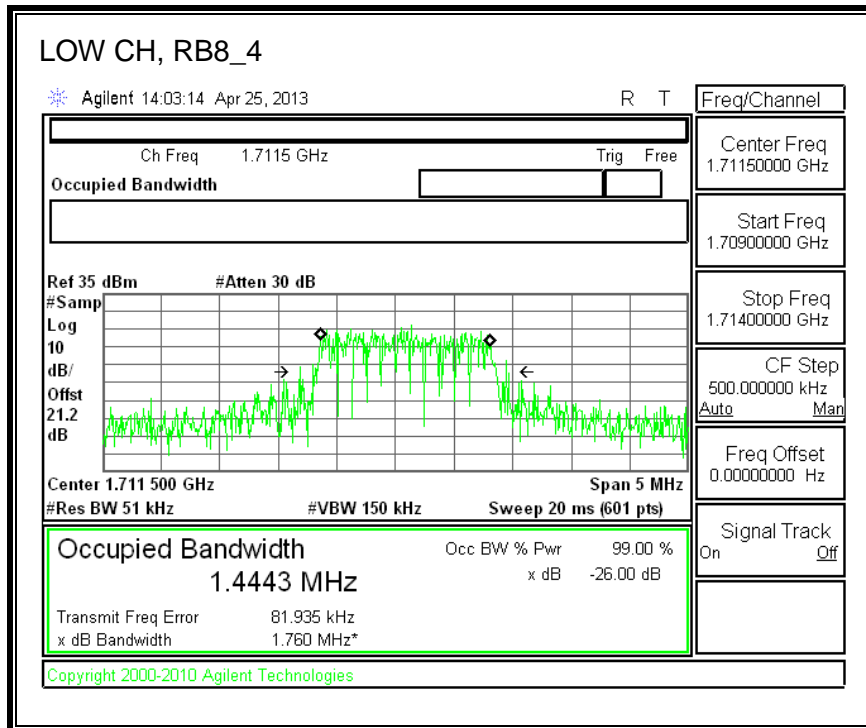


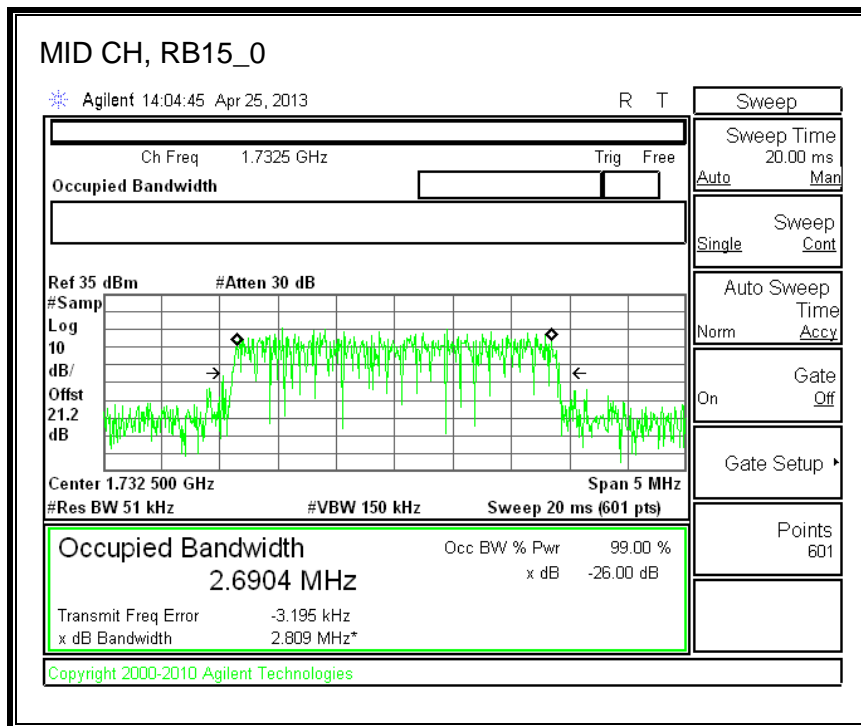
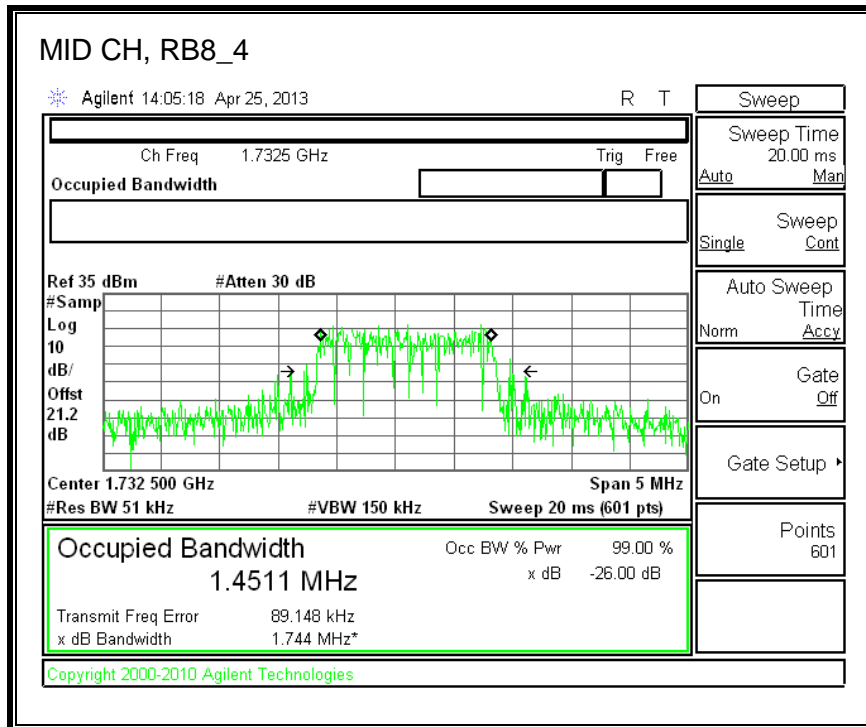


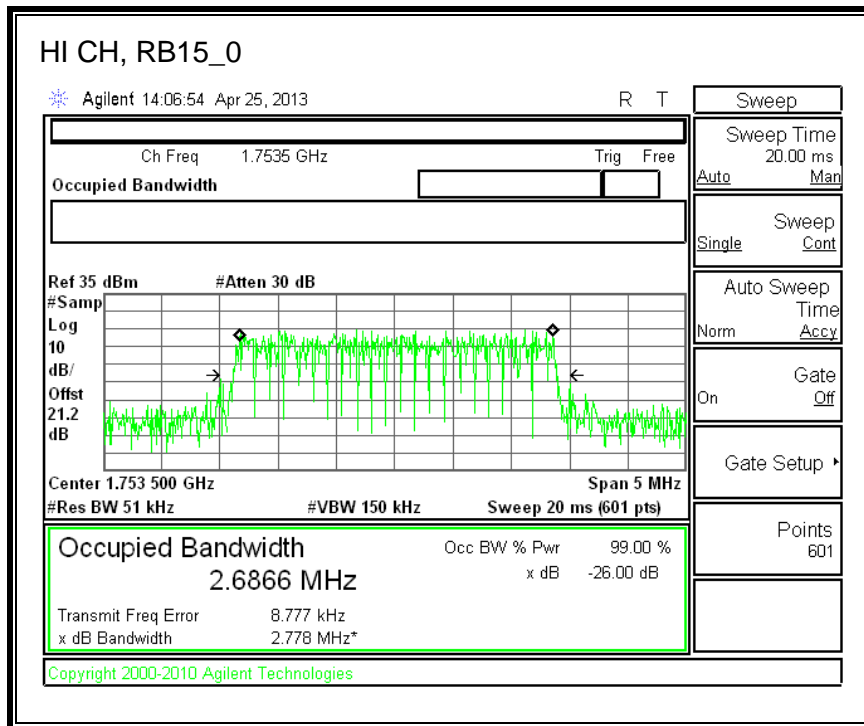
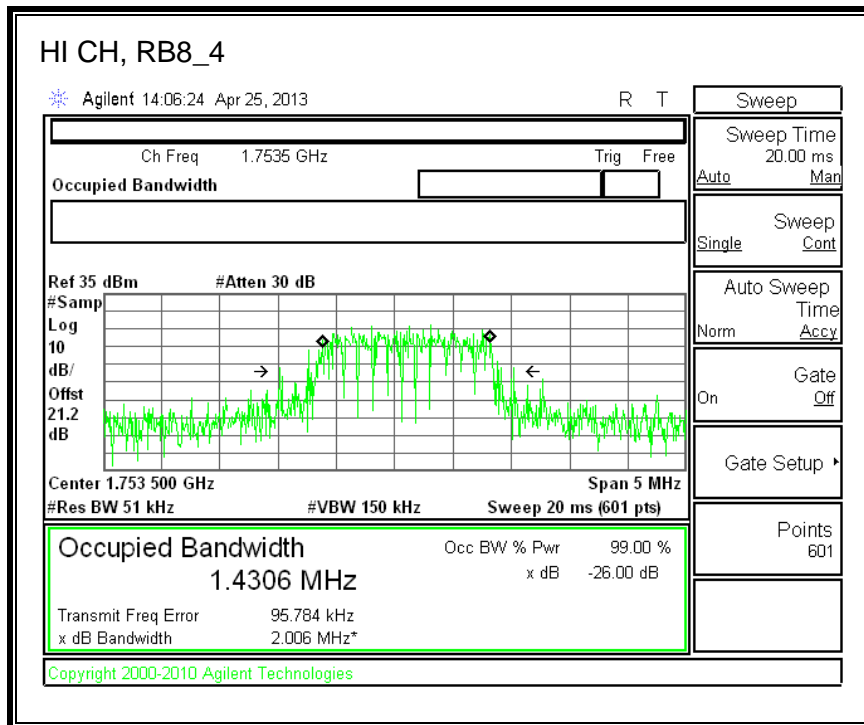


**Band 4 (3.0 MHz BAND WIDTH)**

**LTE QPSK**

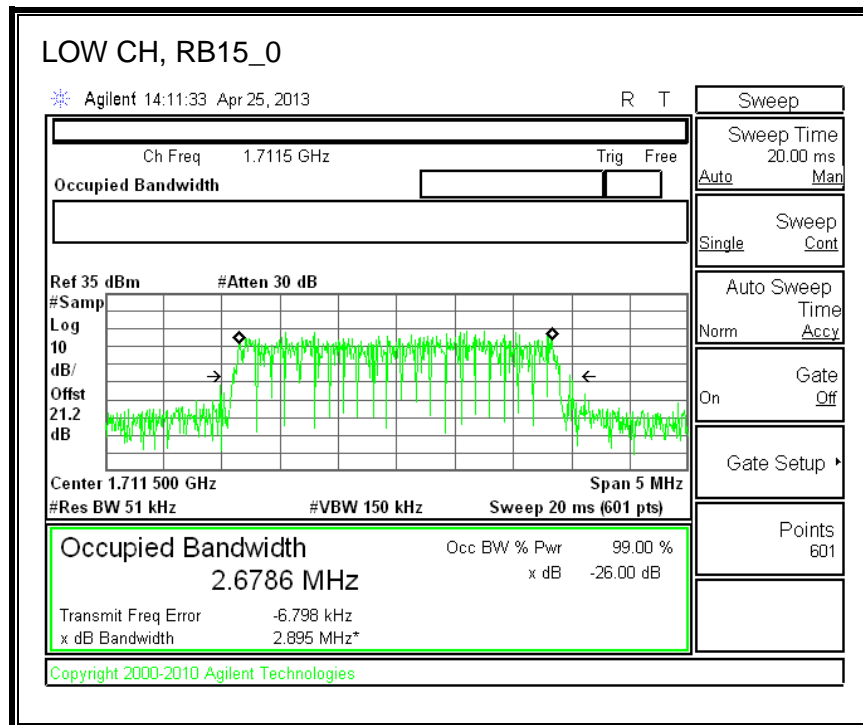
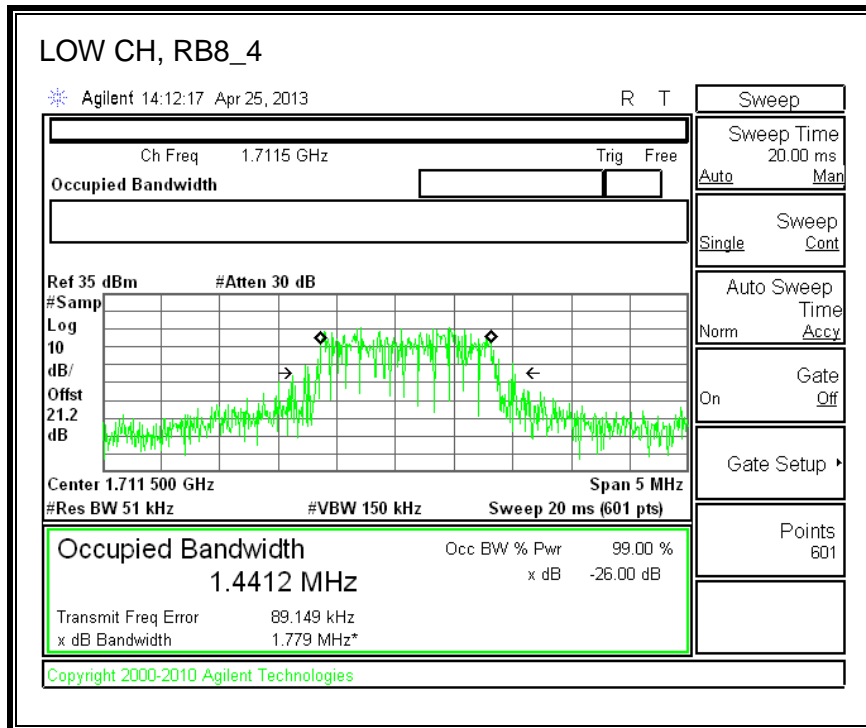


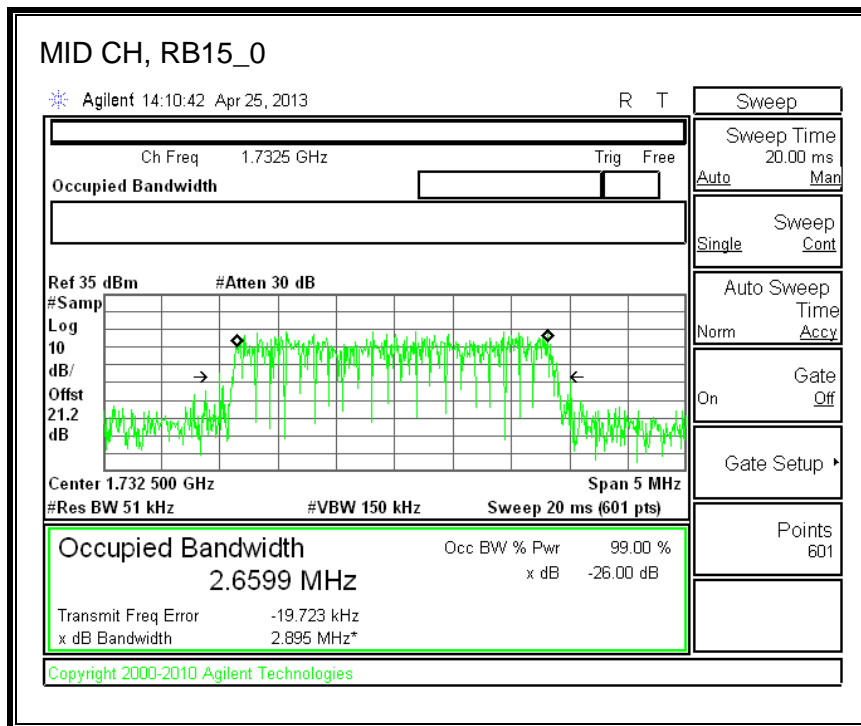
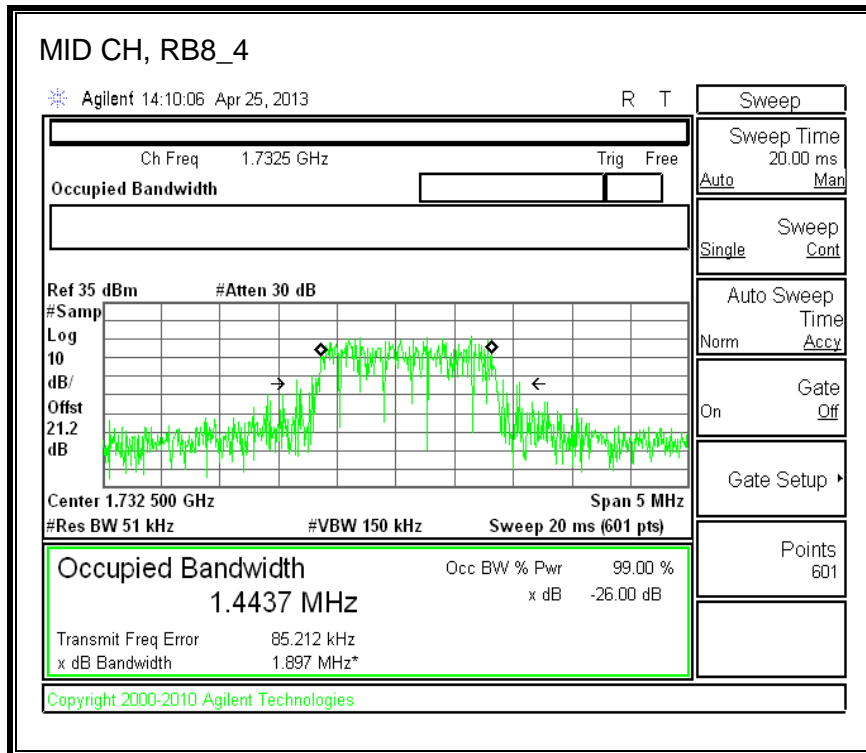


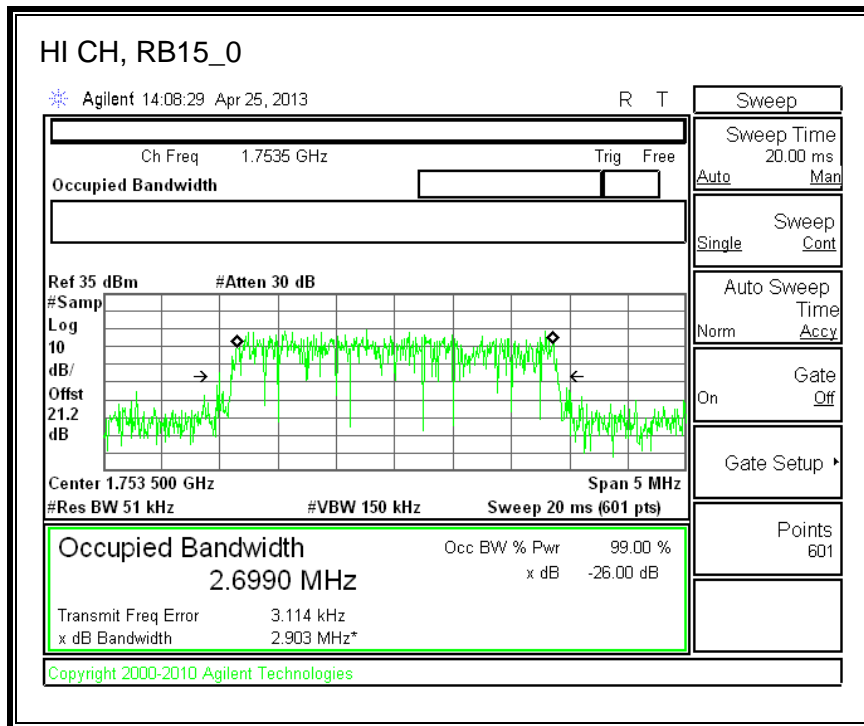
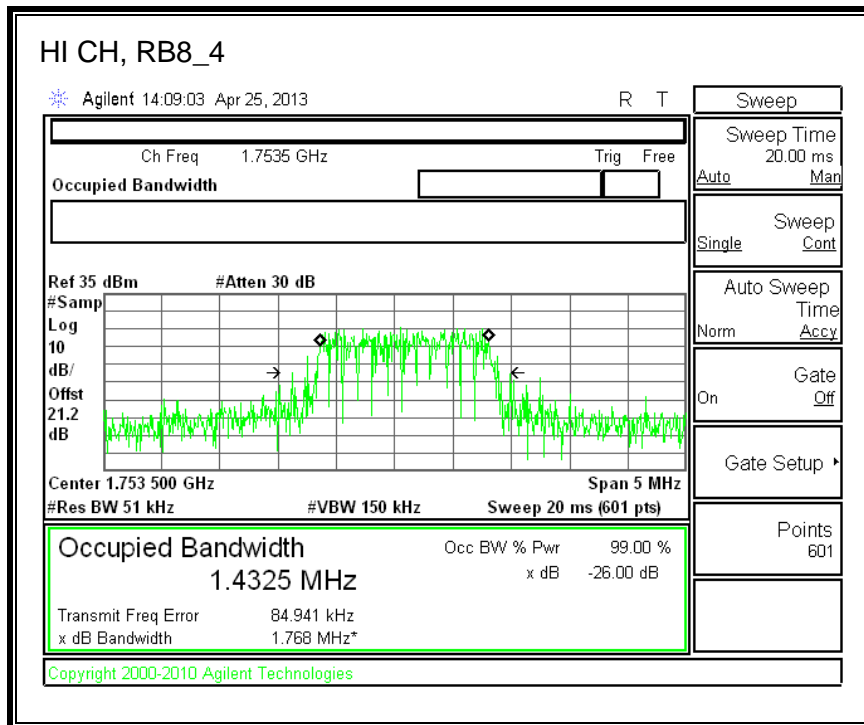


**Band 4 (3.0 MHz BAND WIDTH)**

**LTE 16QAM**

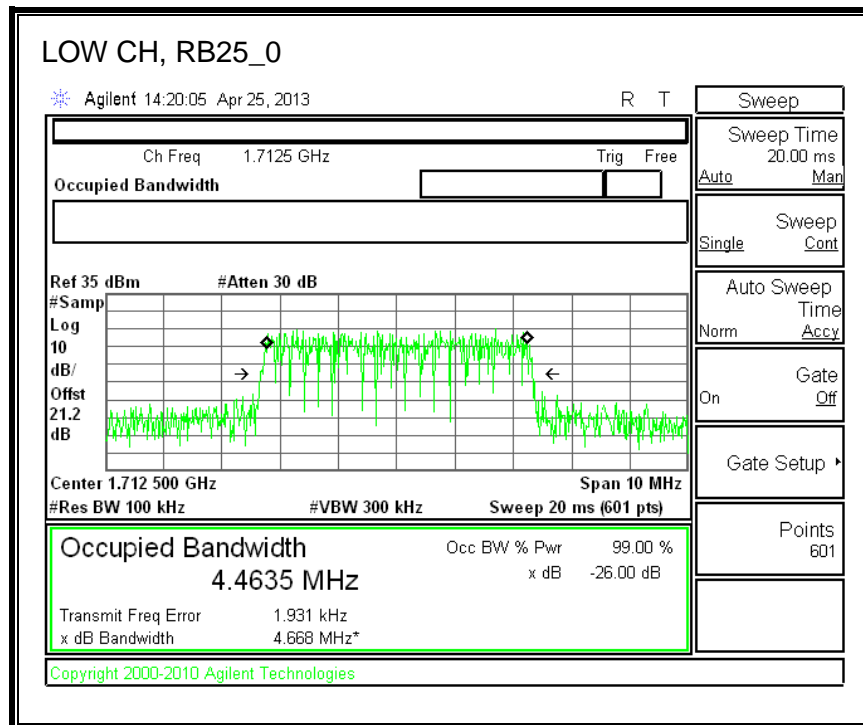
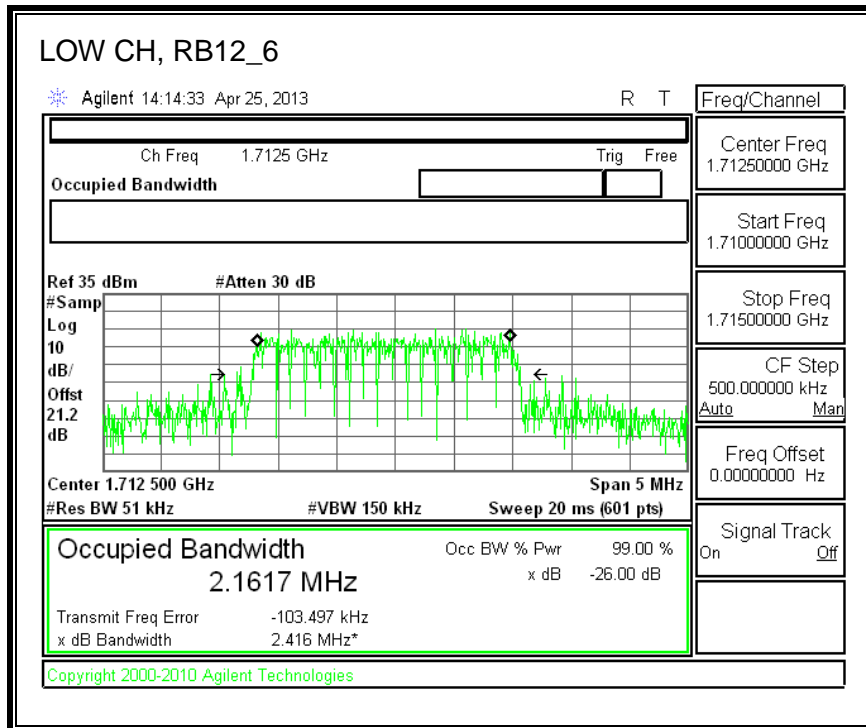




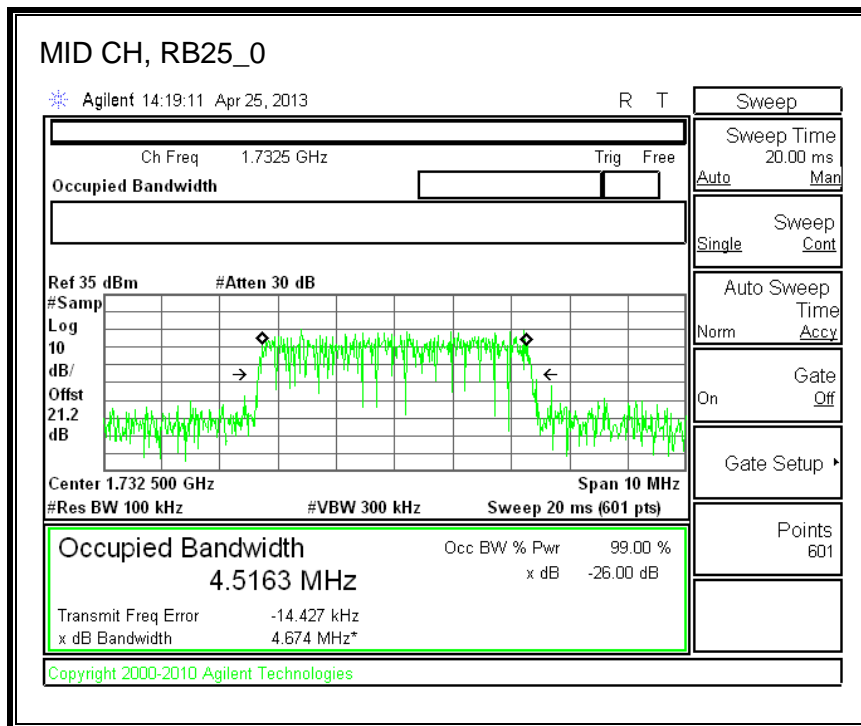
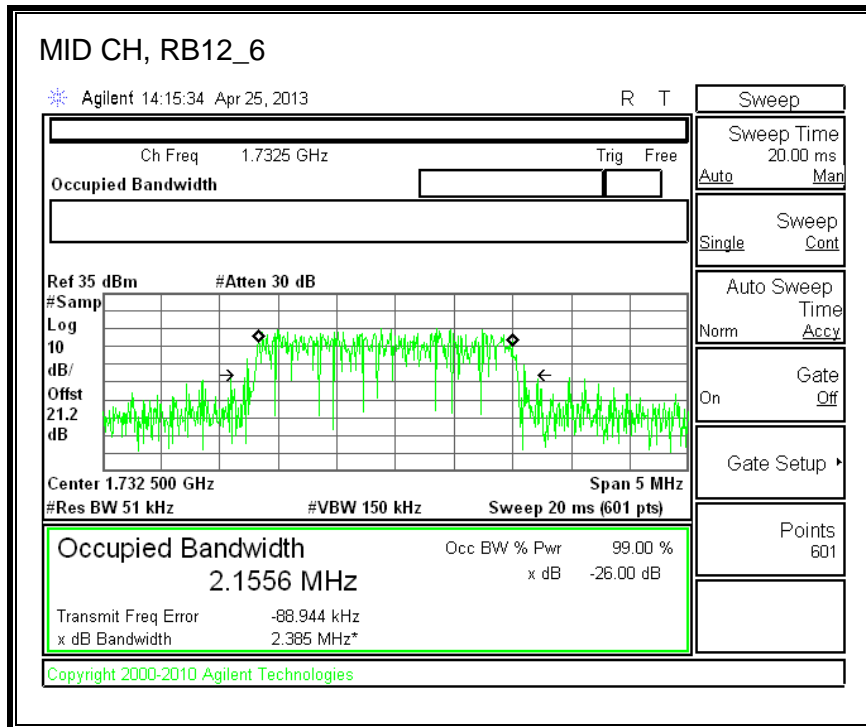


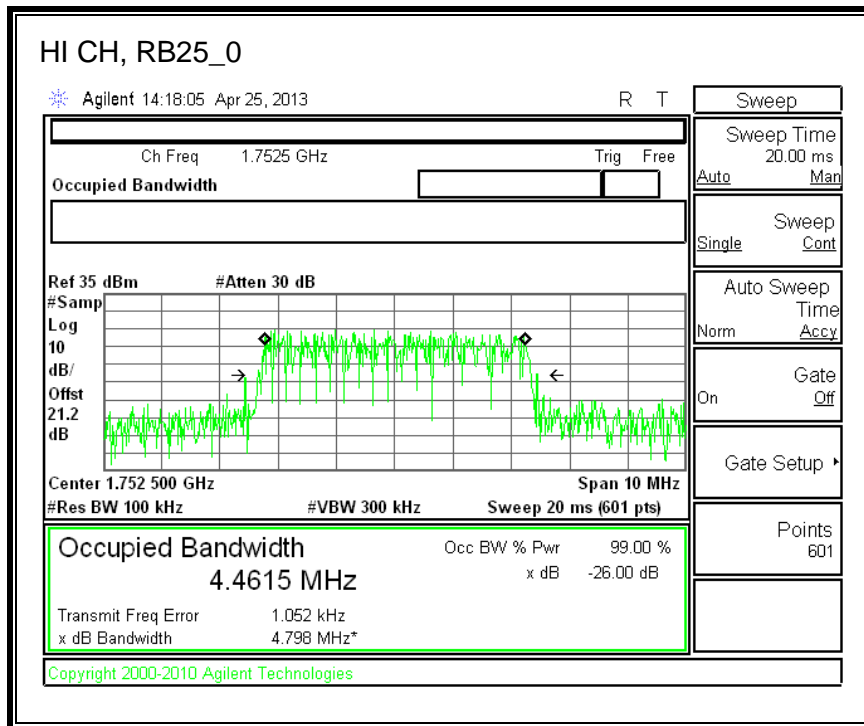
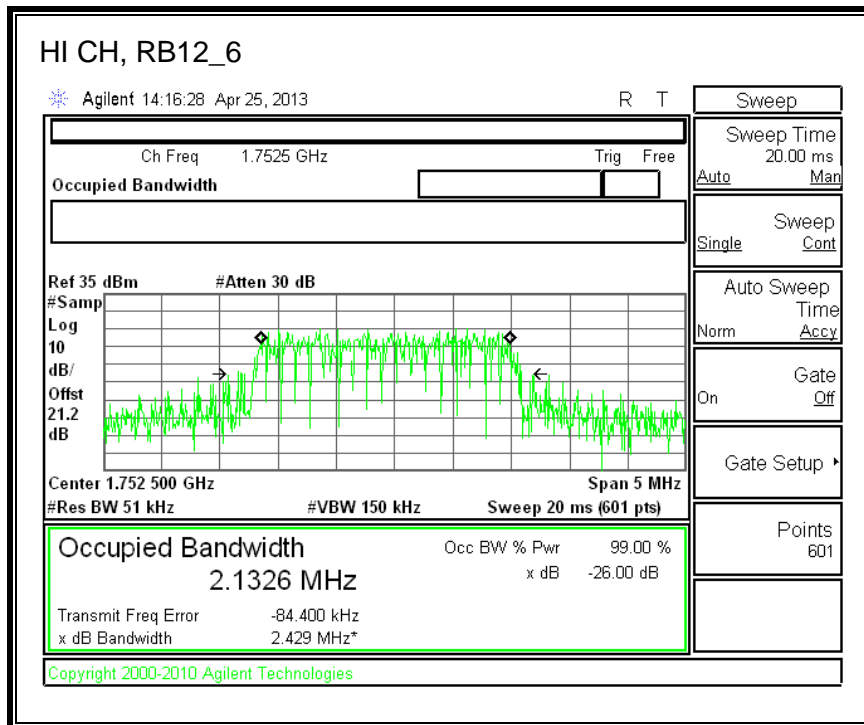
**Band 4 (5.0 MHz BAND WIDTH)**

**LTE QPSK**



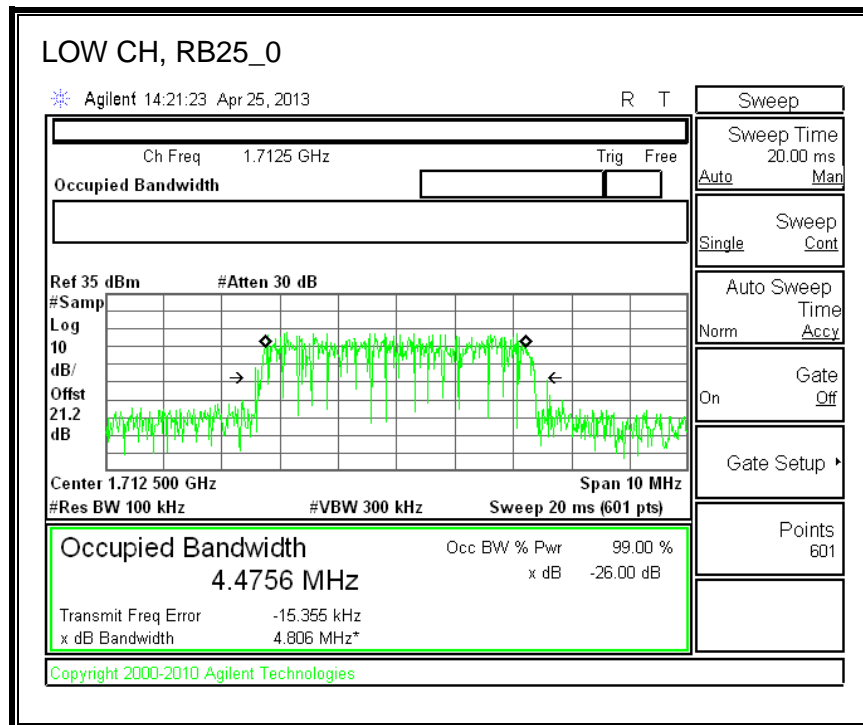
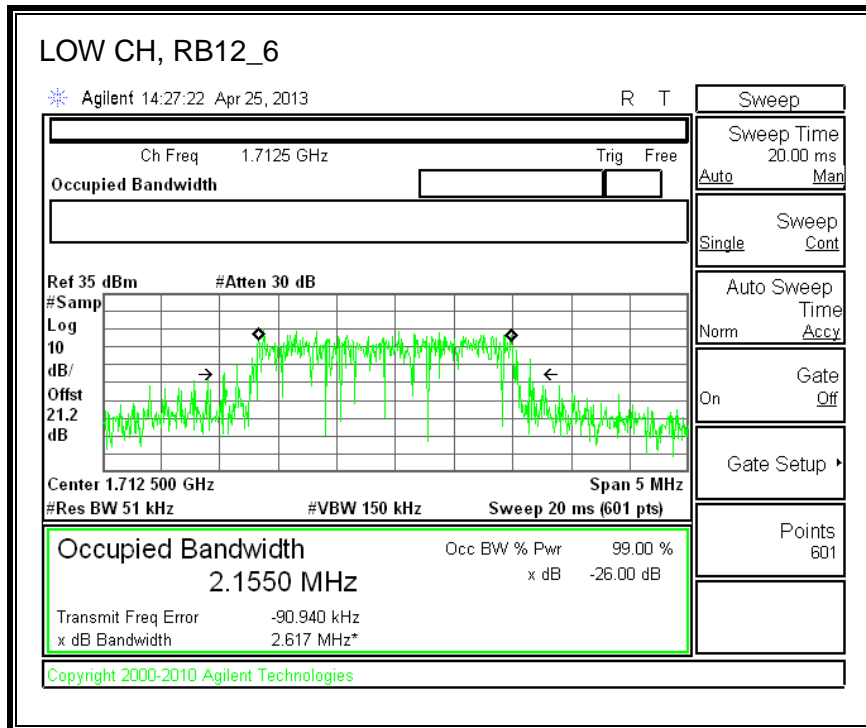


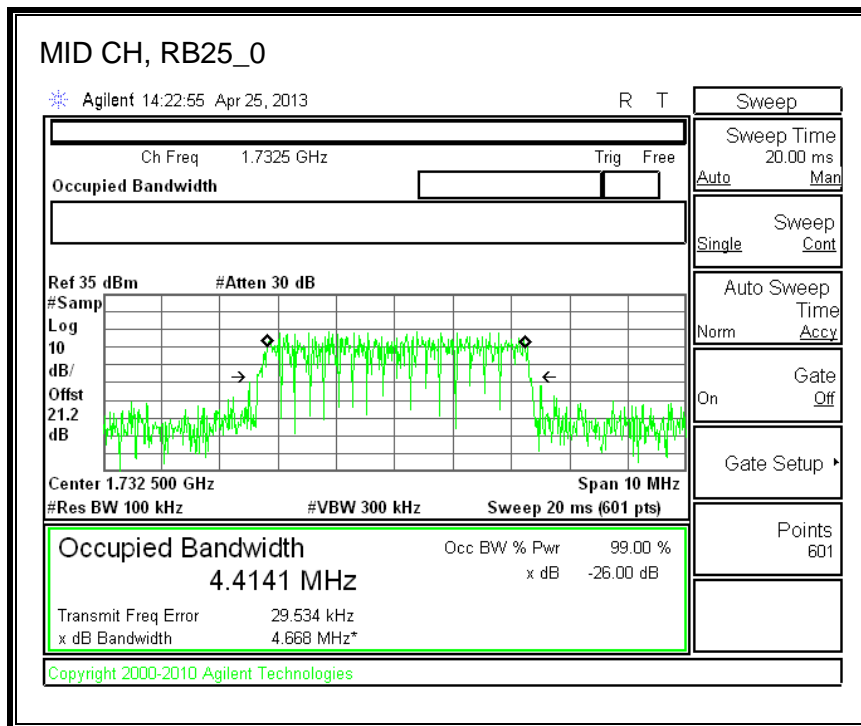
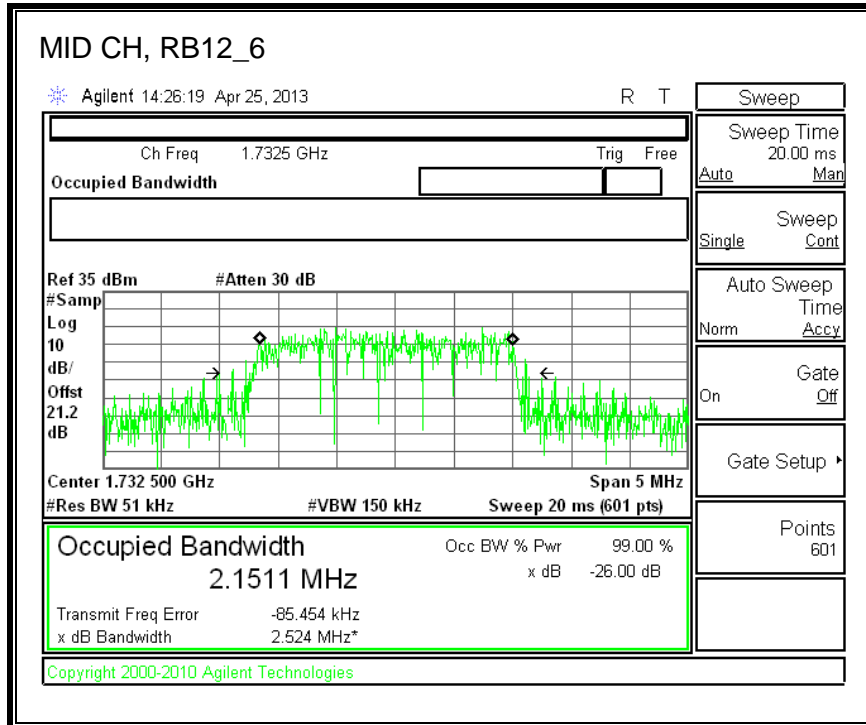


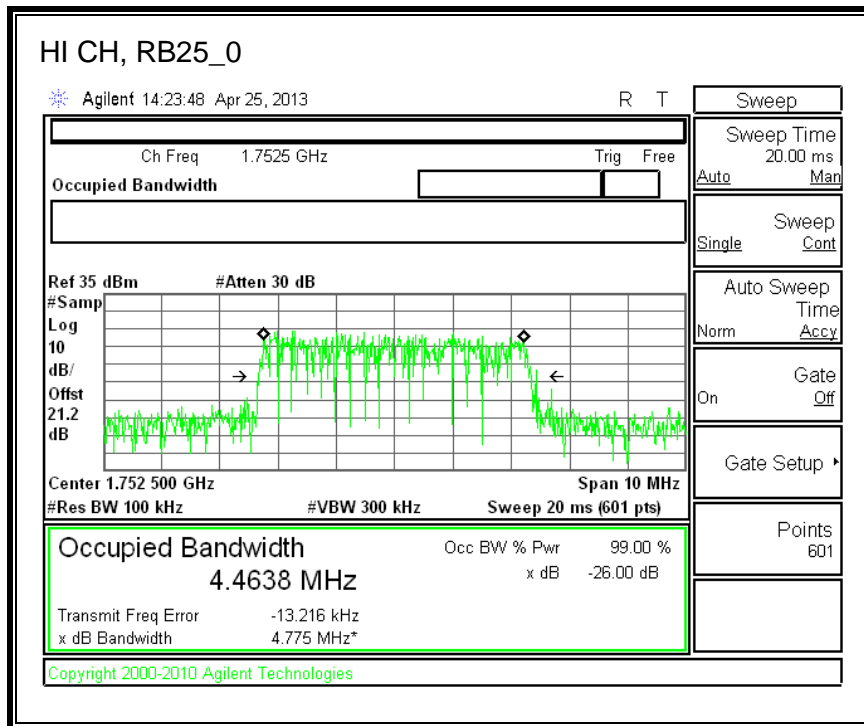
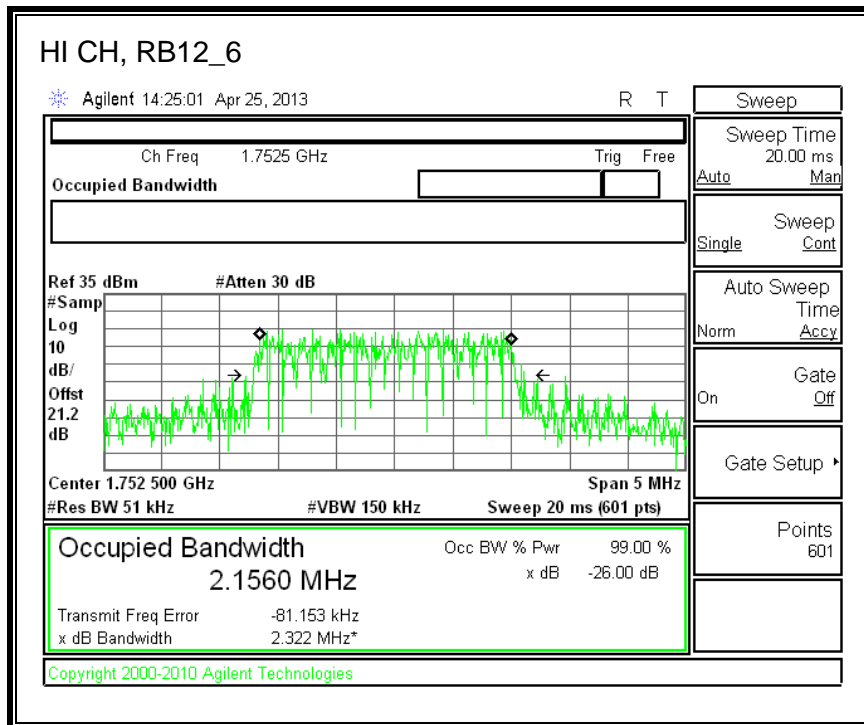


**Band 4 (5 MHz BAND WIDTH)**

**LTE 16QAM**

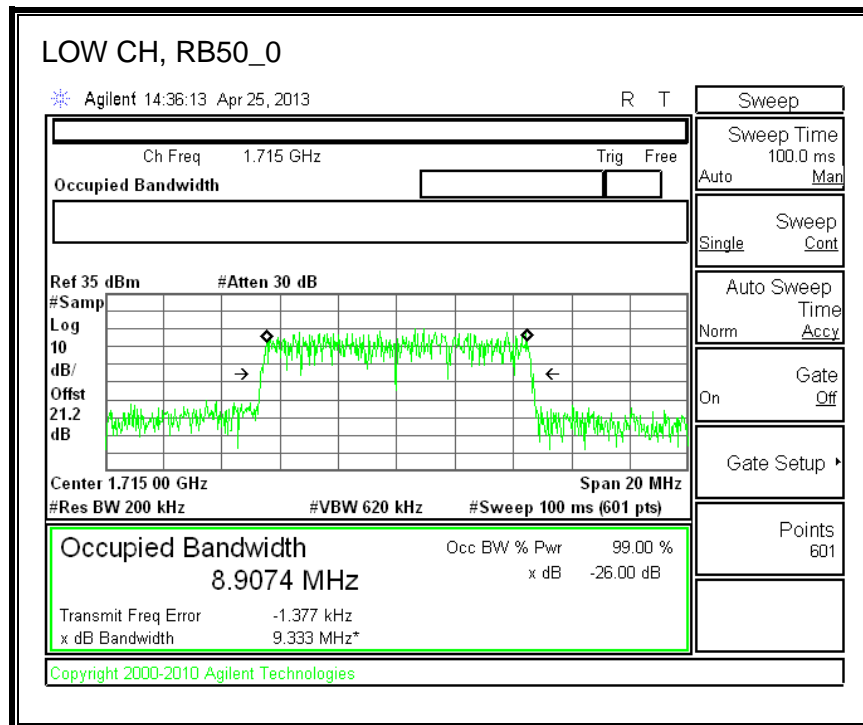
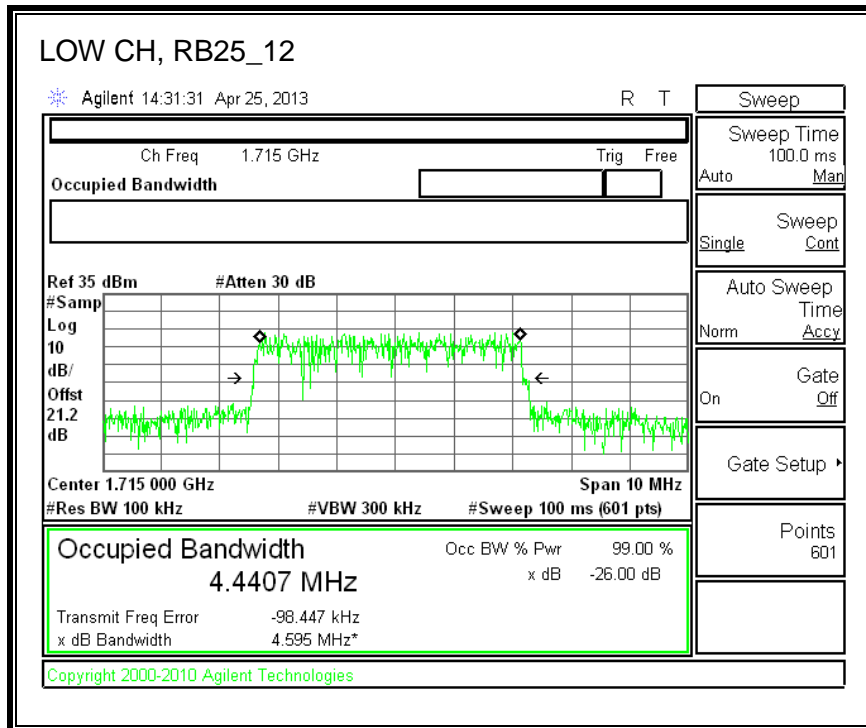


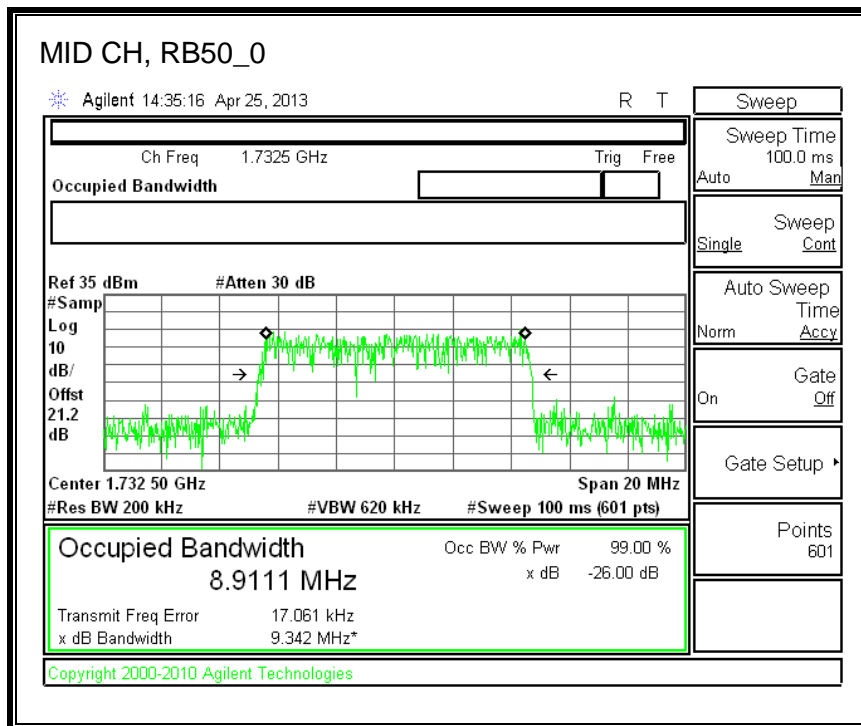
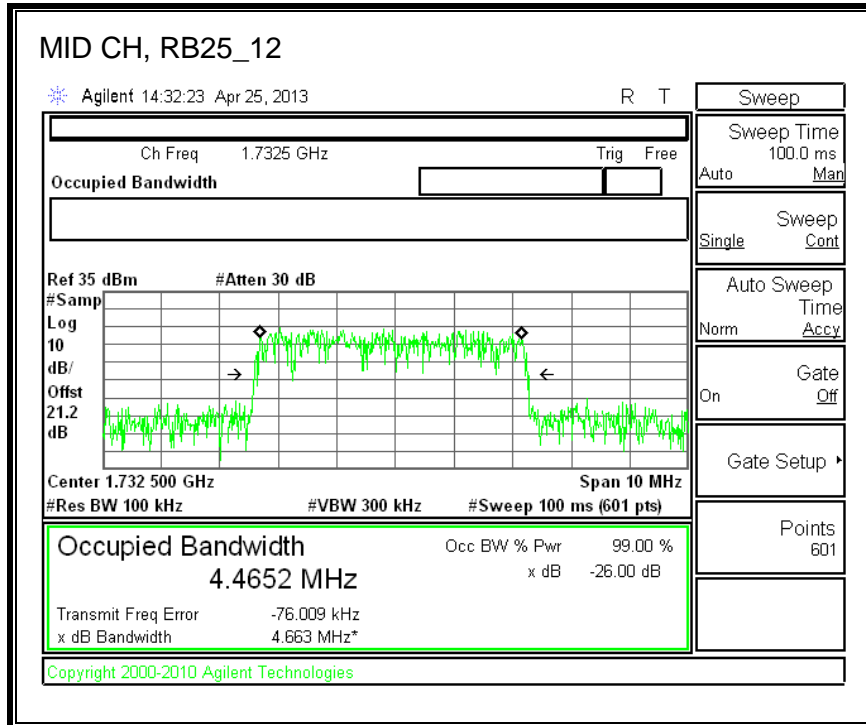


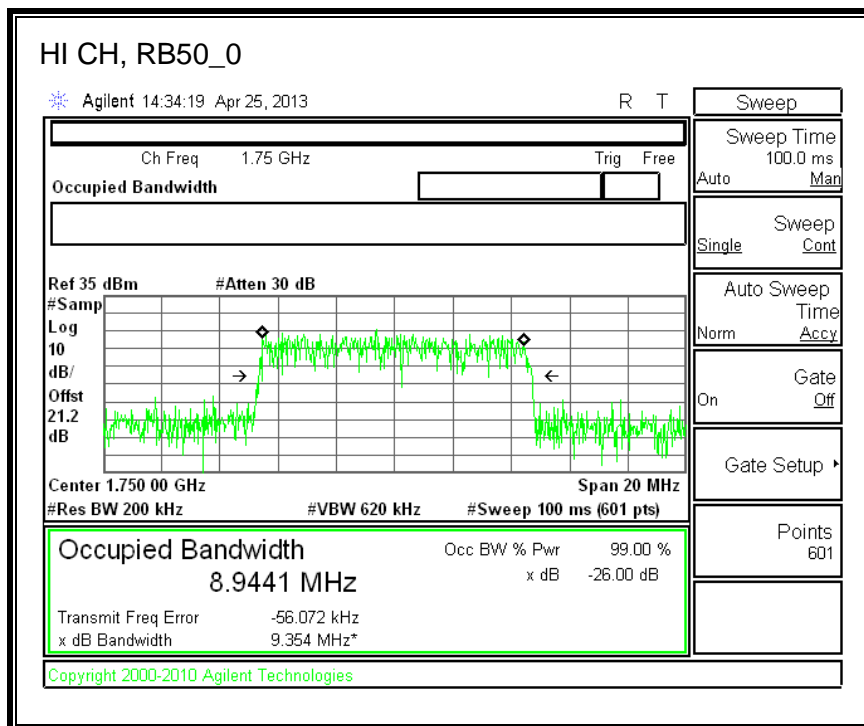
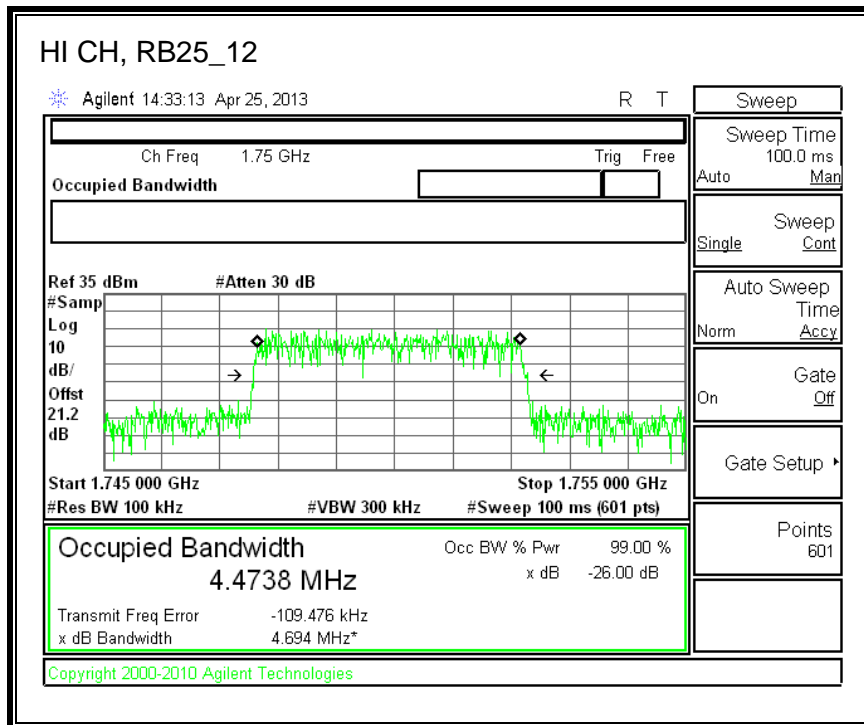


**Band 4 (10.0 MHz BAND WIDTH)**

**LTE QPSK**



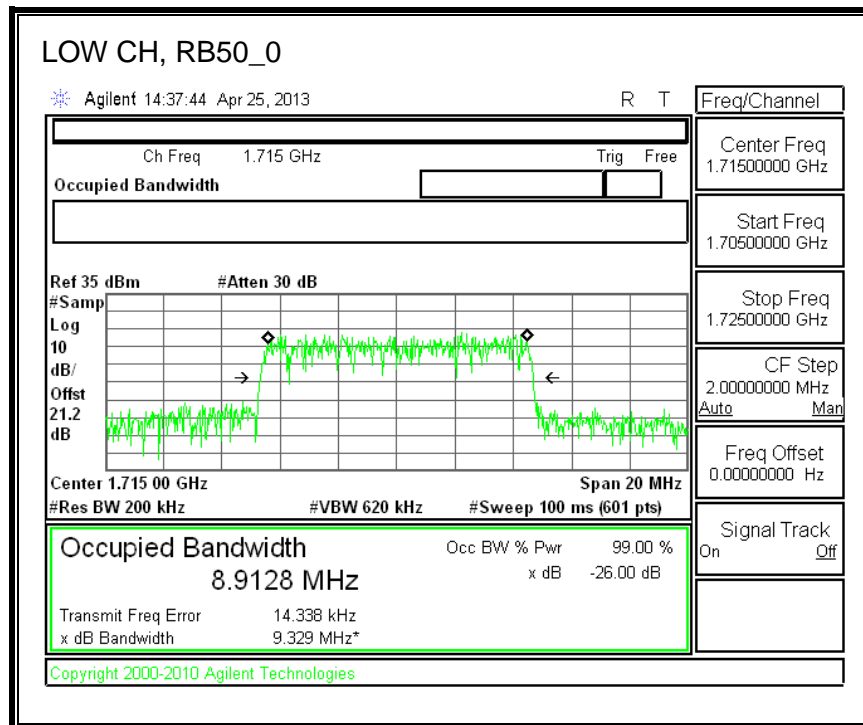
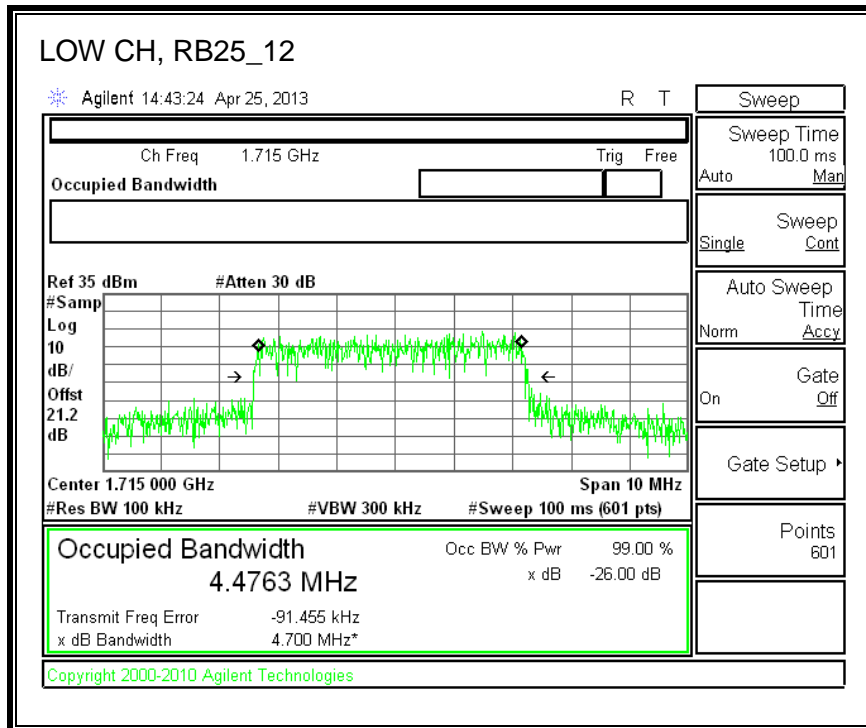


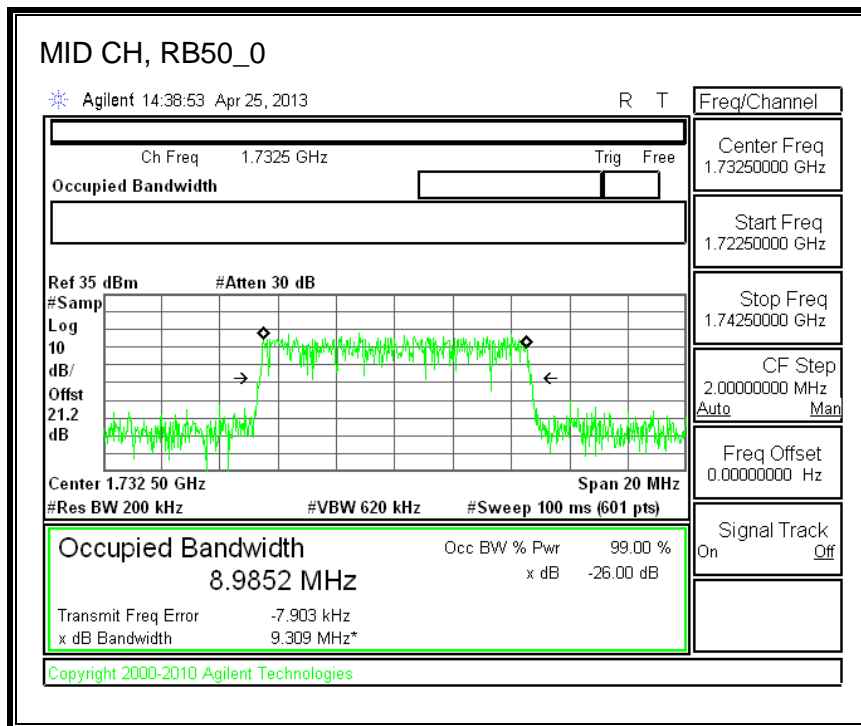
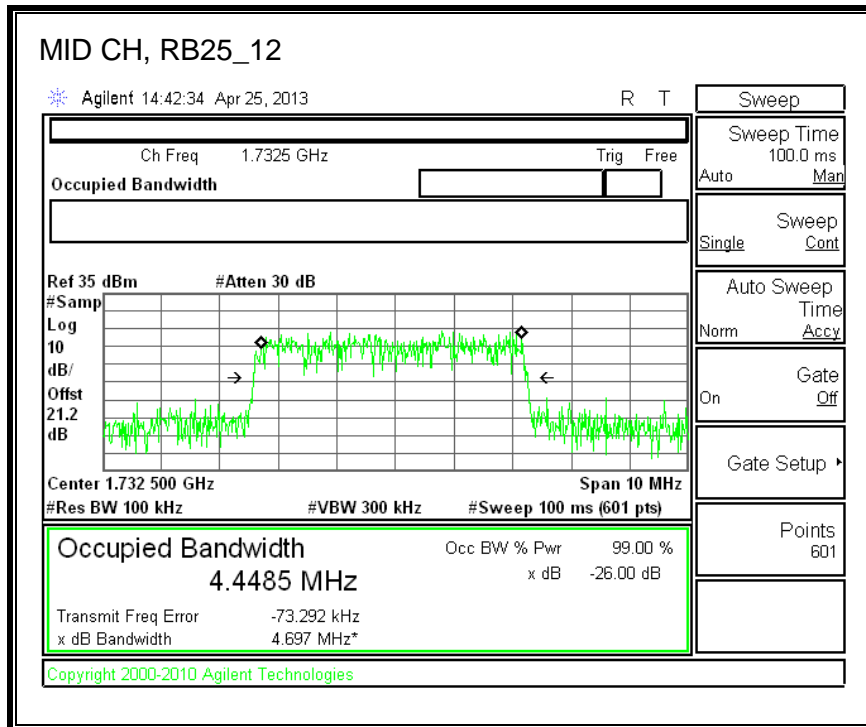


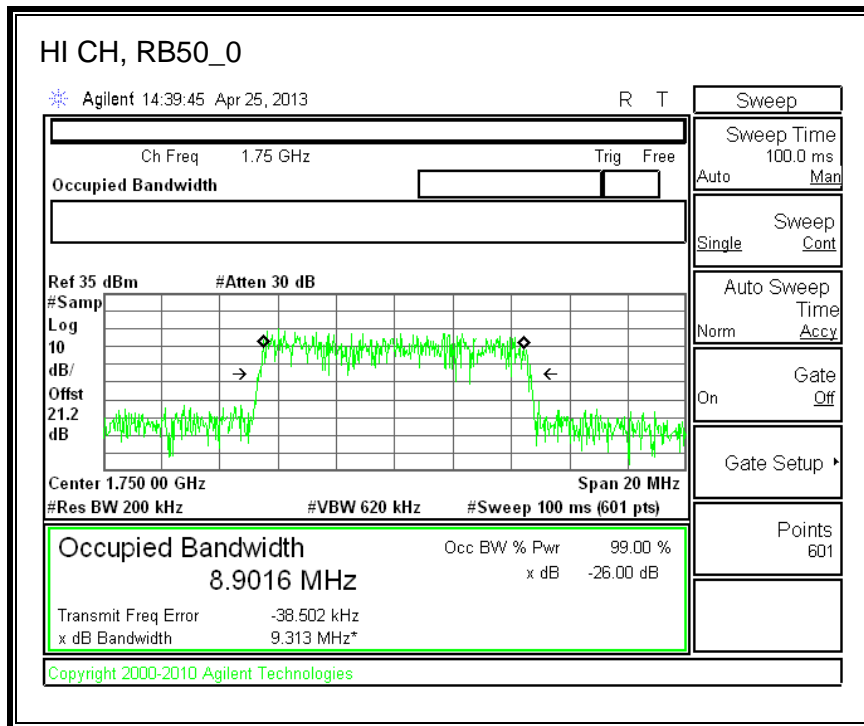
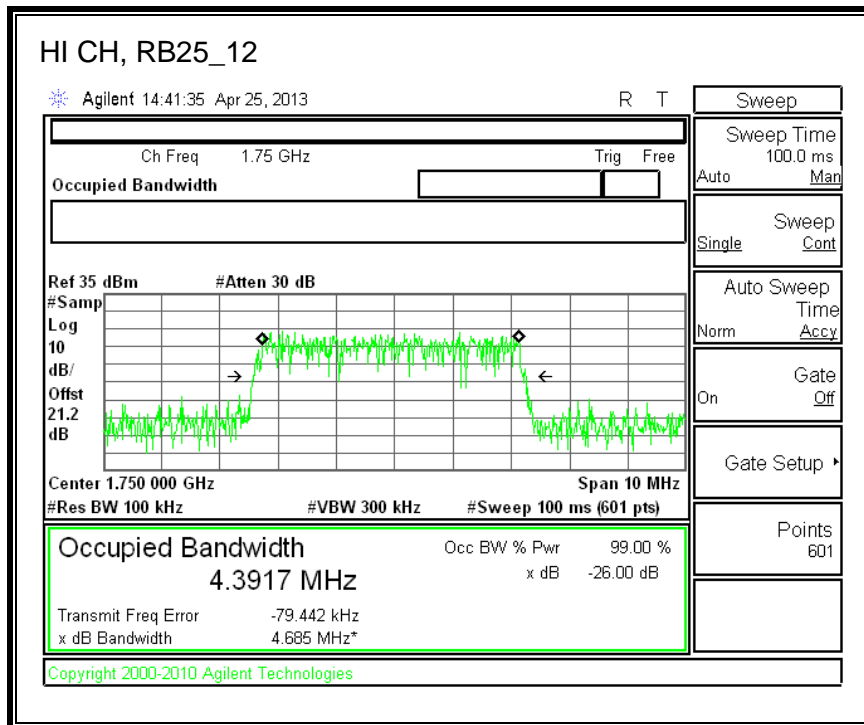


**Band 4 (10 MHz BAND WIDTH)**

**LTE 16QAM**

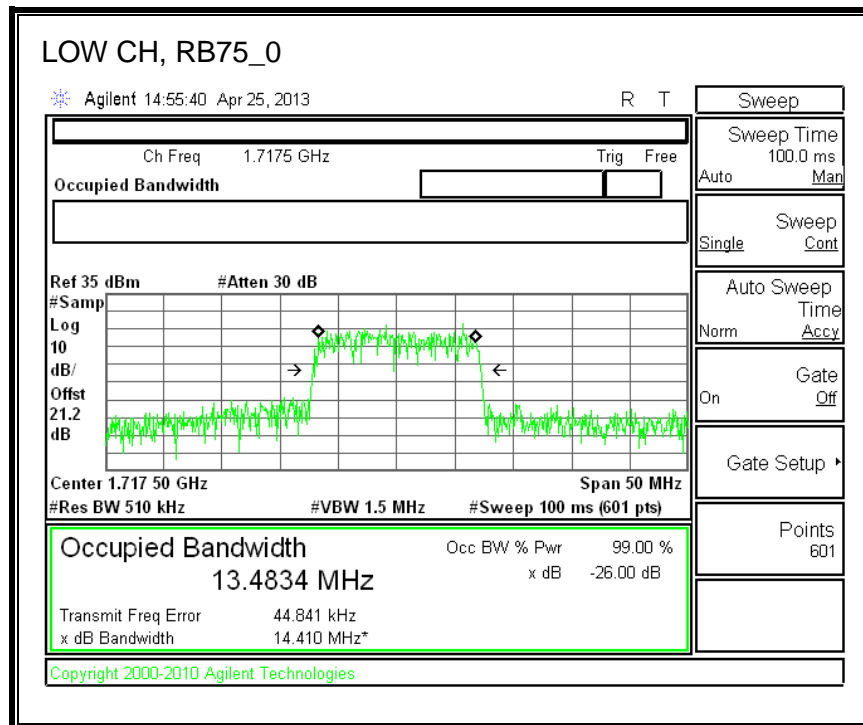
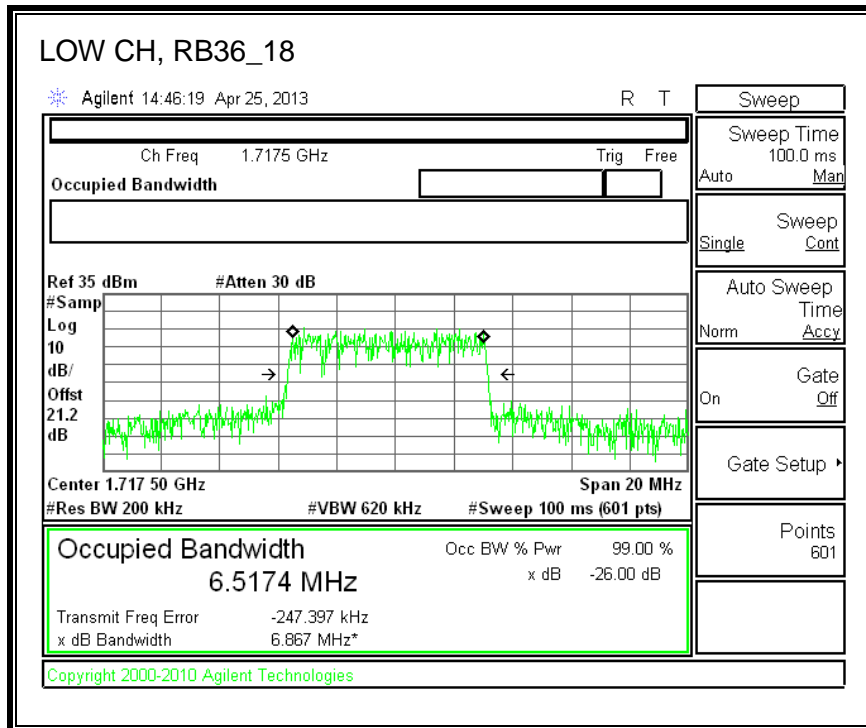


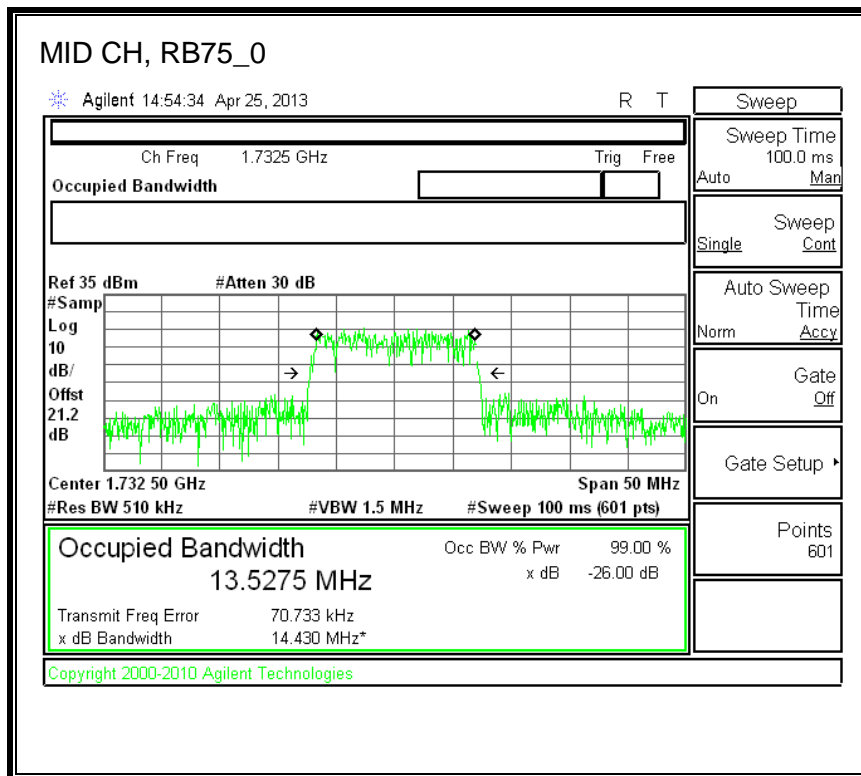
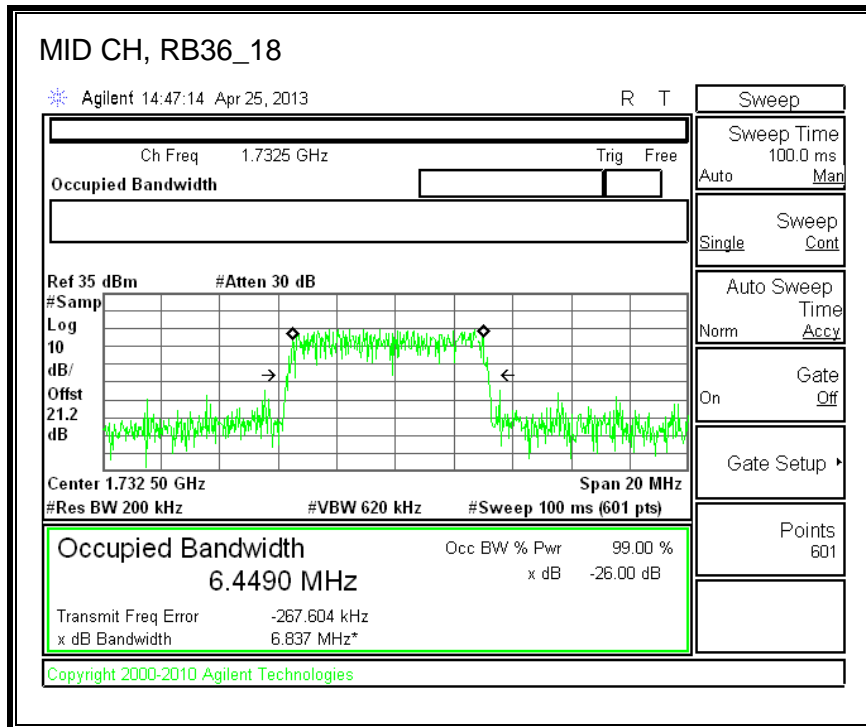


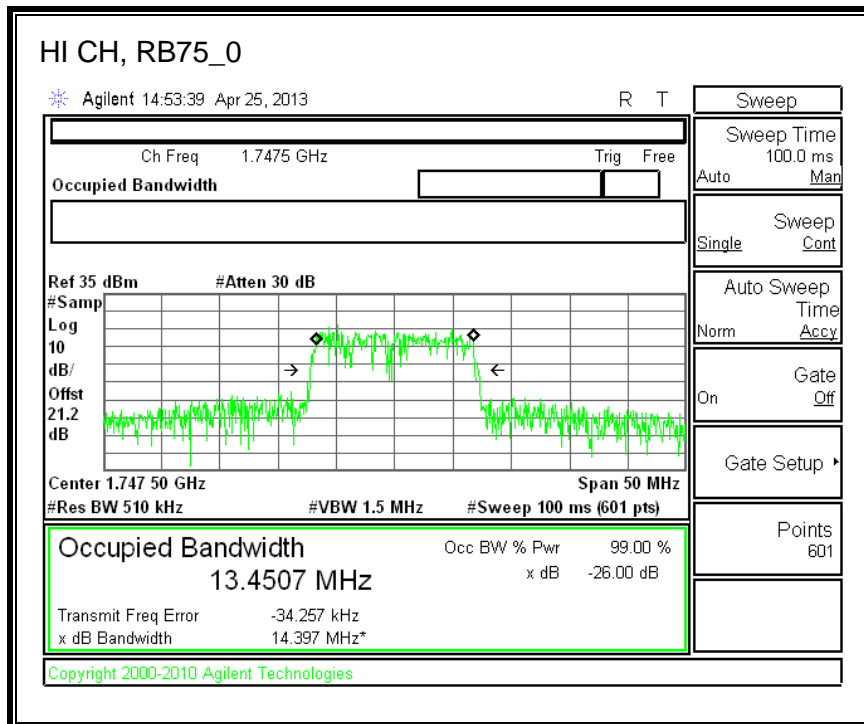
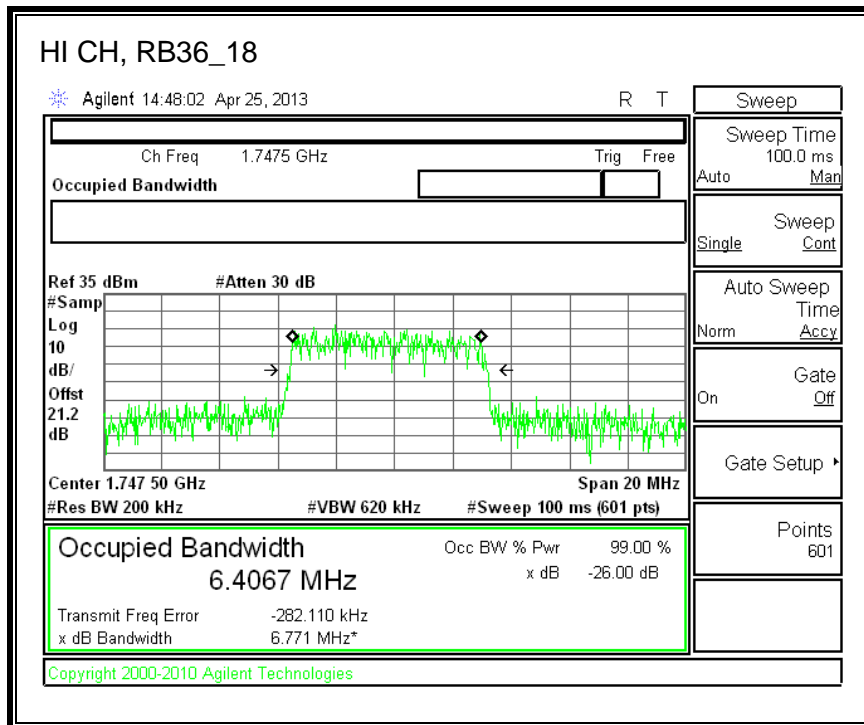


**Band 4 (15.0 MHz BAND WIDTH)**

**LTE QPSK**

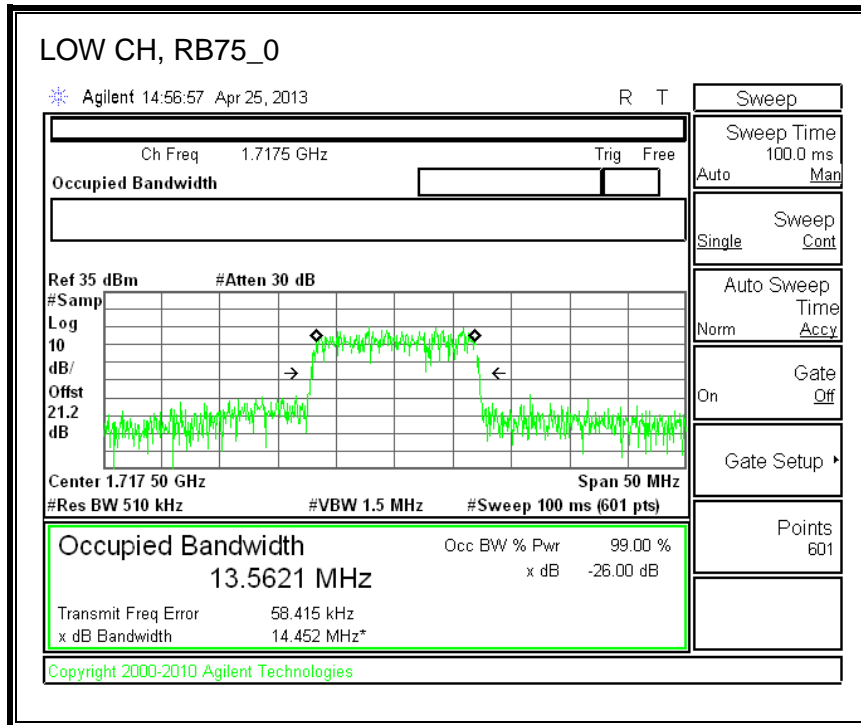
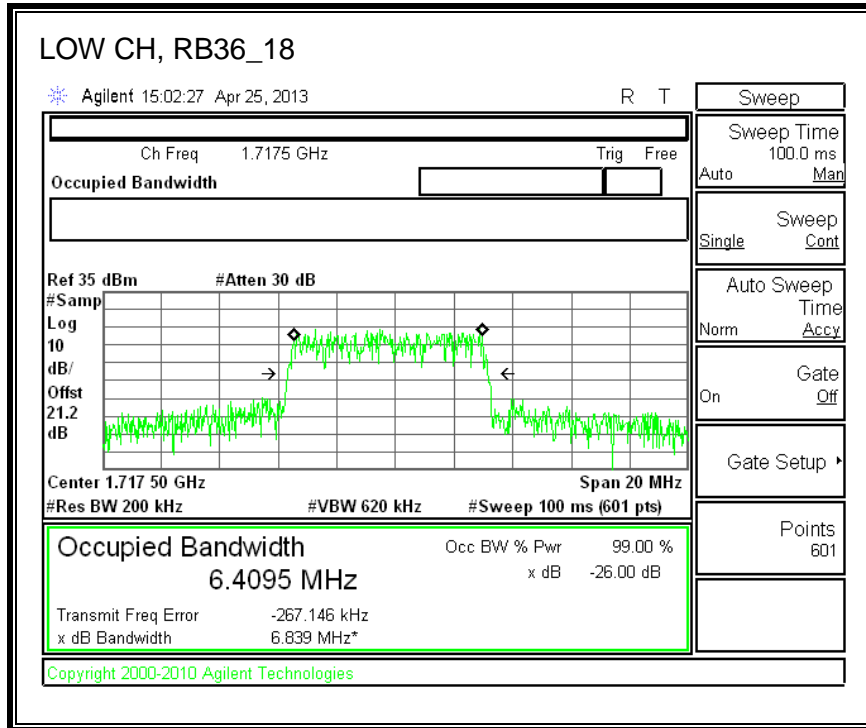


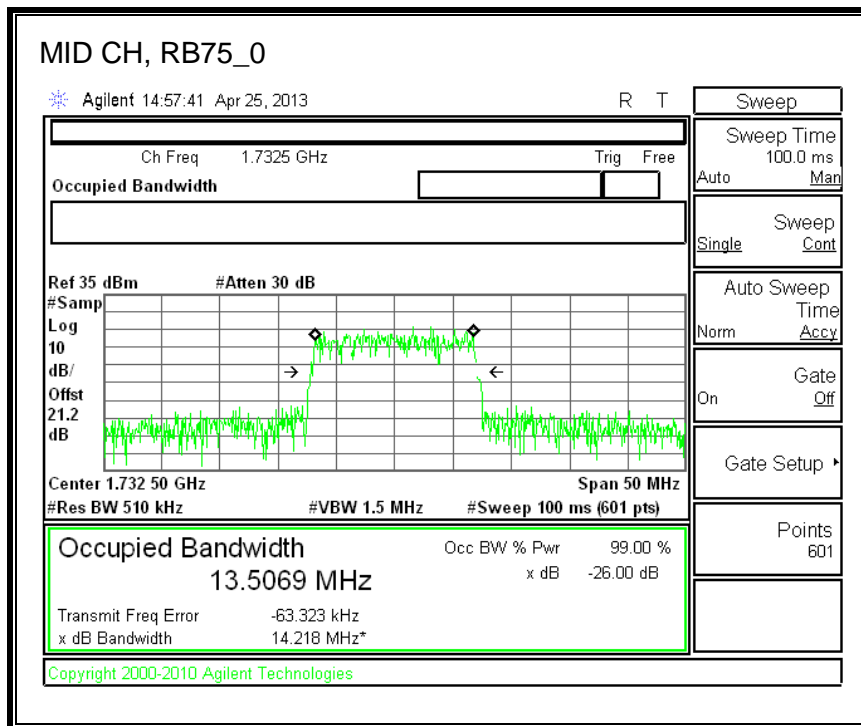
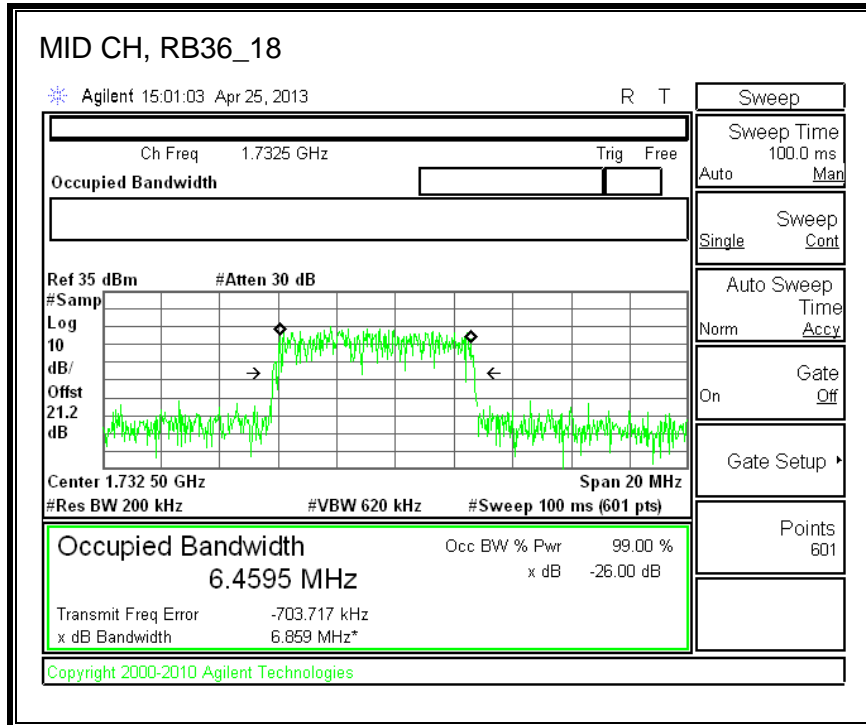




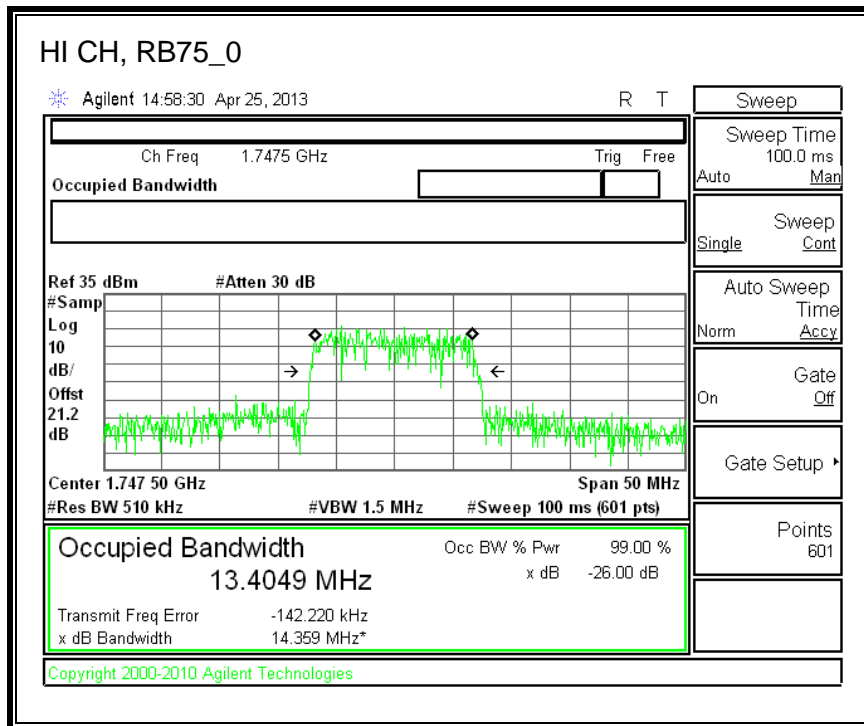
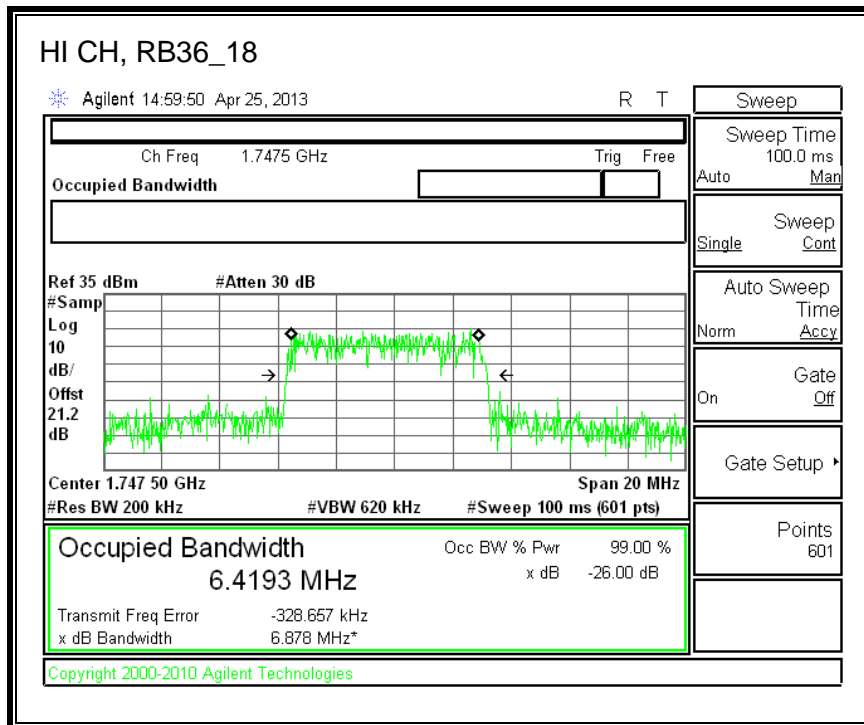
**Band 4 (15 MHz BAND WIDTH)**

**LTE 16QAM**



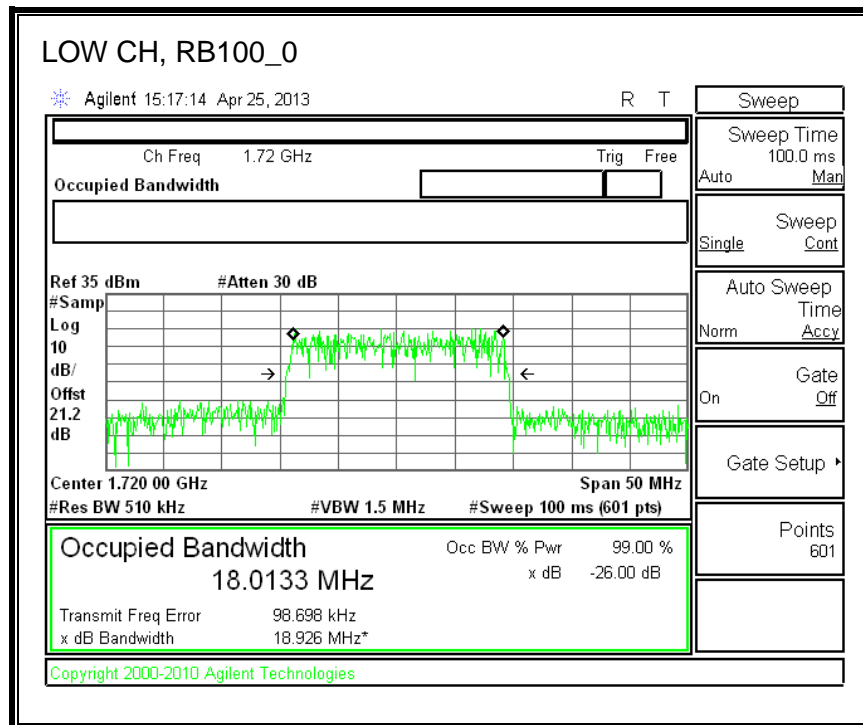
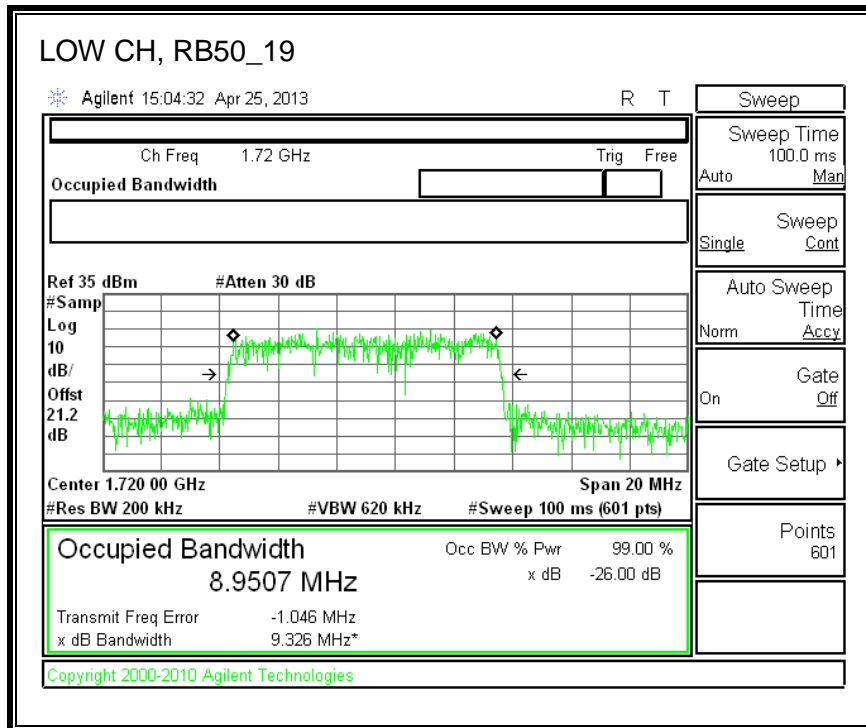


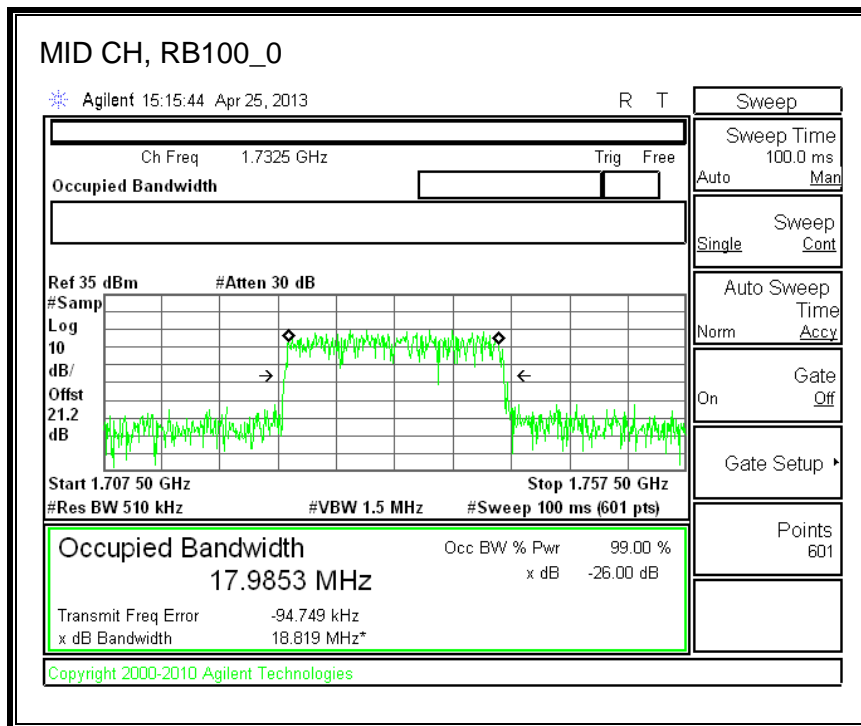
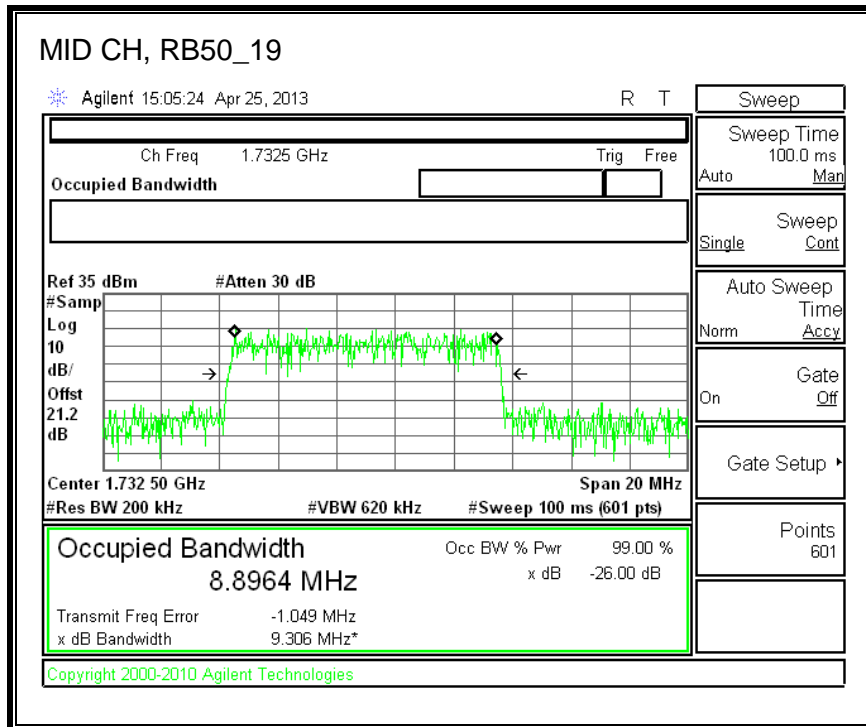


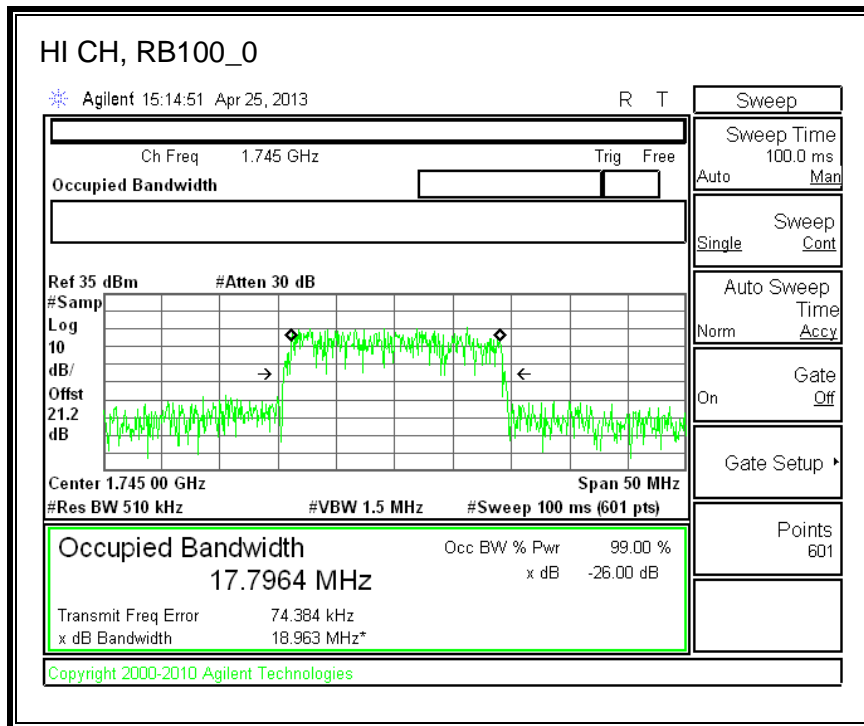
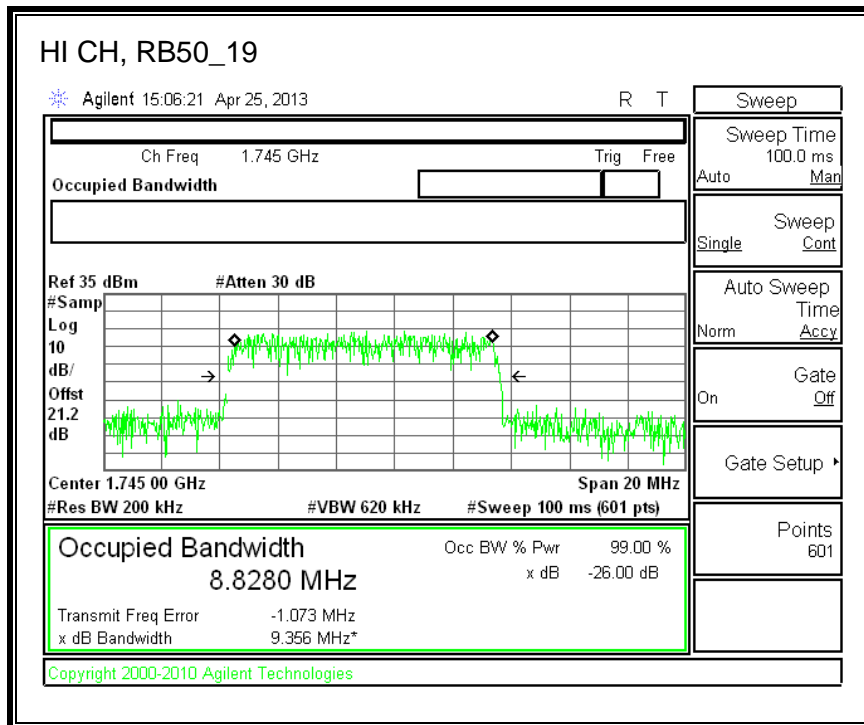


**Band 4 (20.0 MHz BAND WIDTH)**

**LTE QPSK**

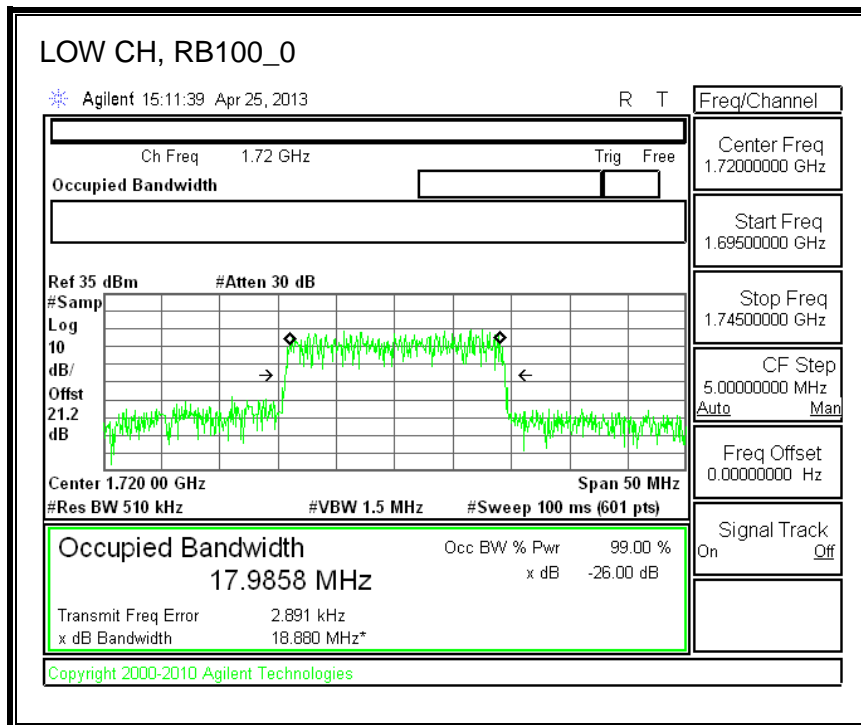
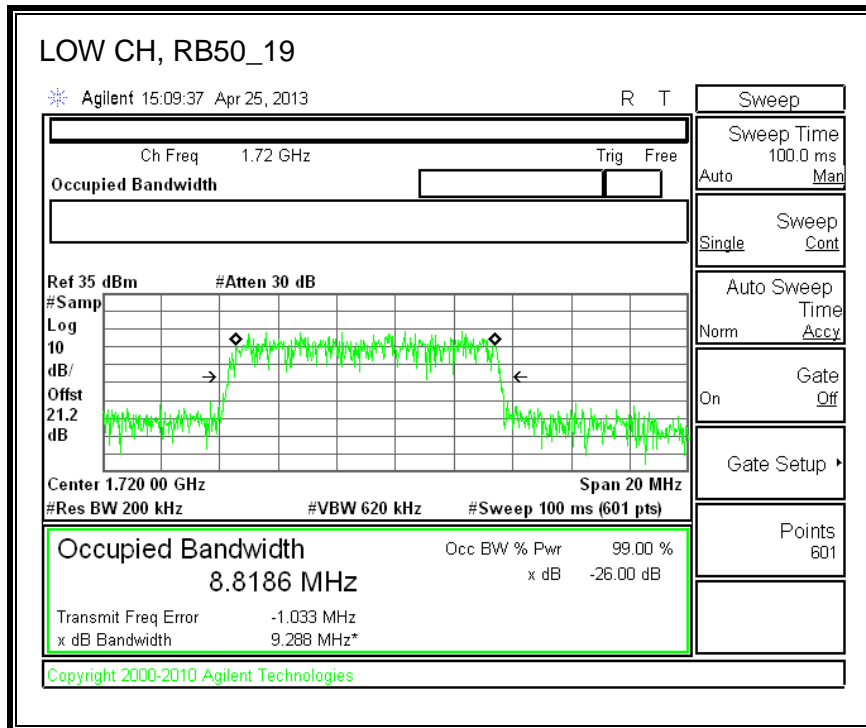


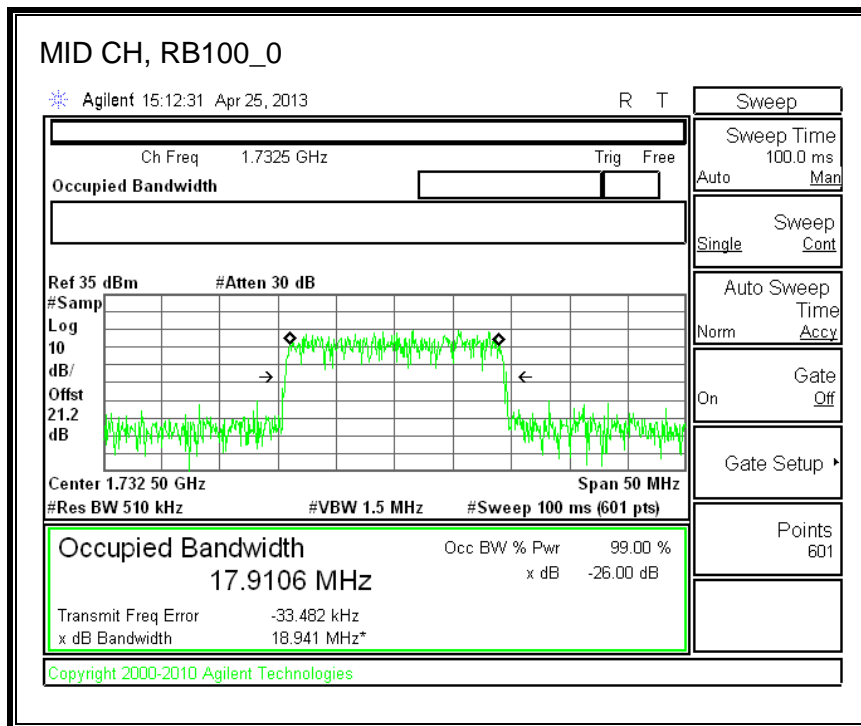
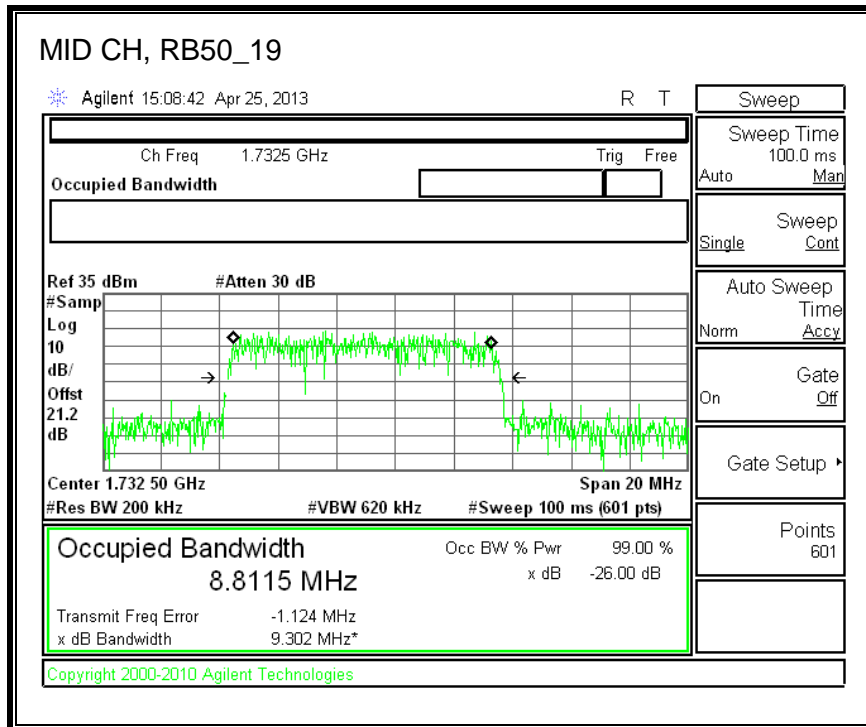


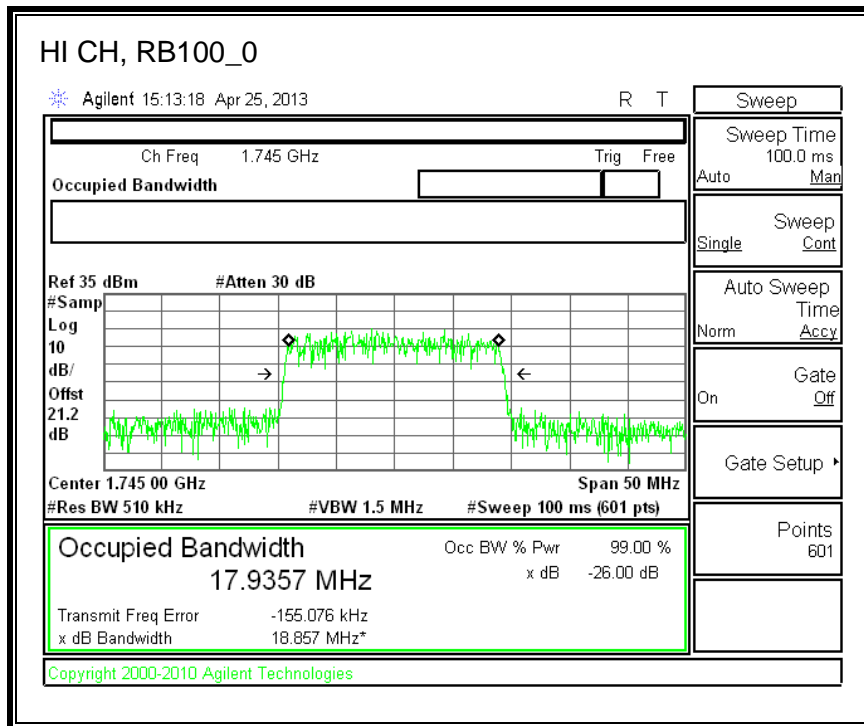
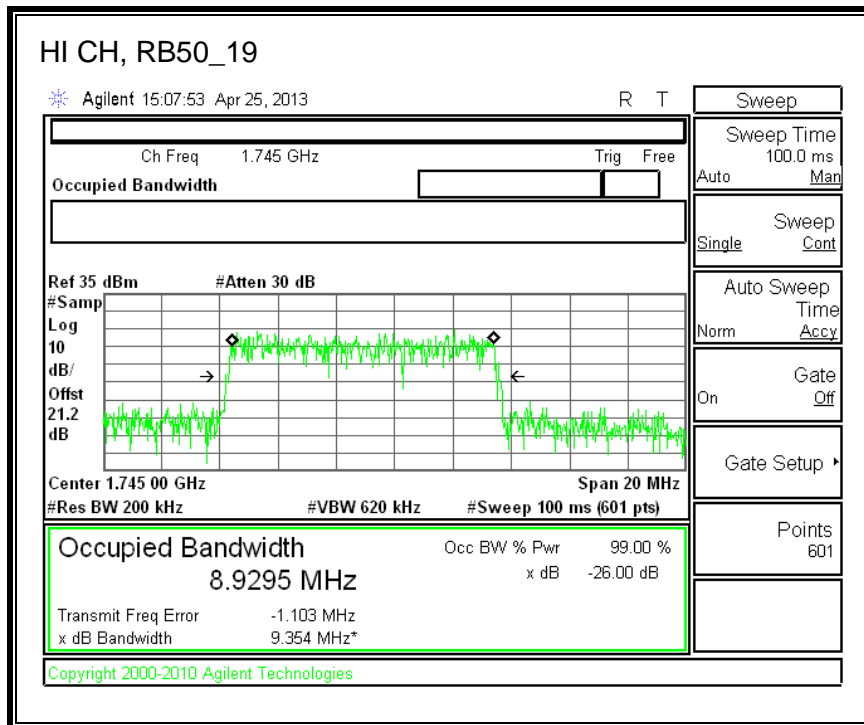


**Band 4 (20 MHz BAND WIDTH)**

**LTE 16QAM**

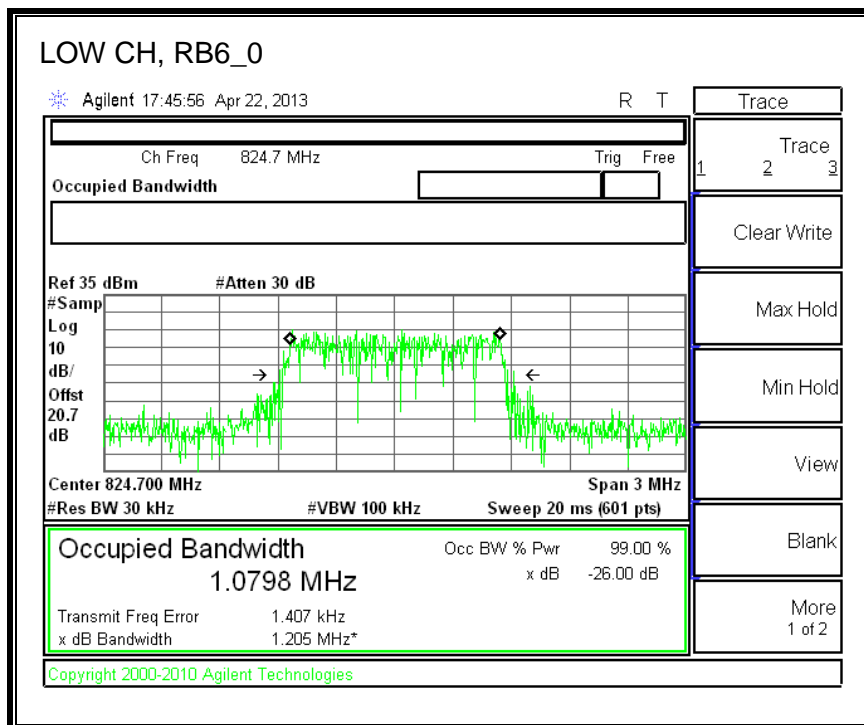
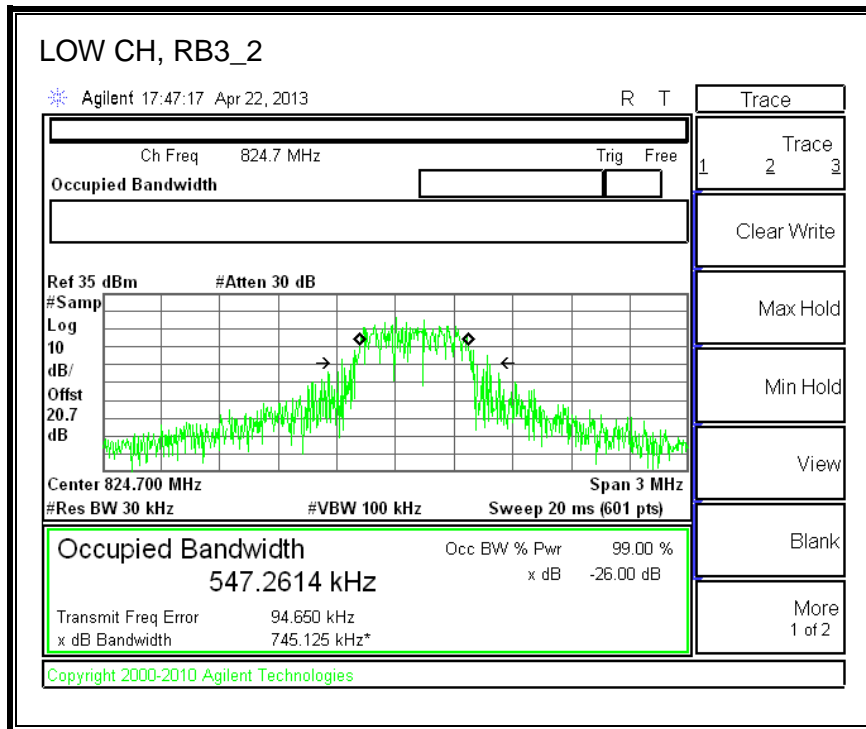




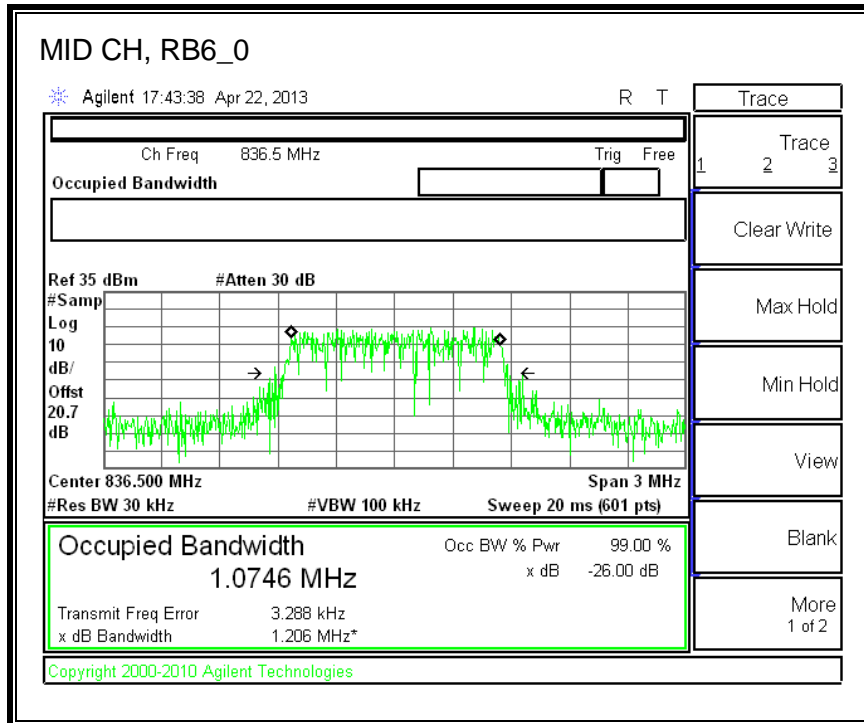
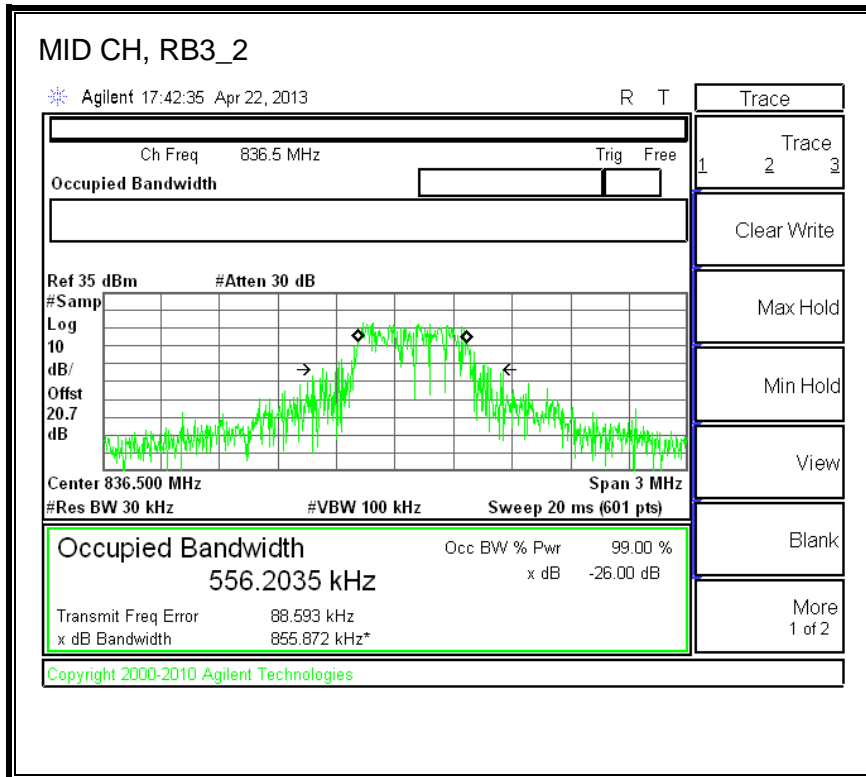


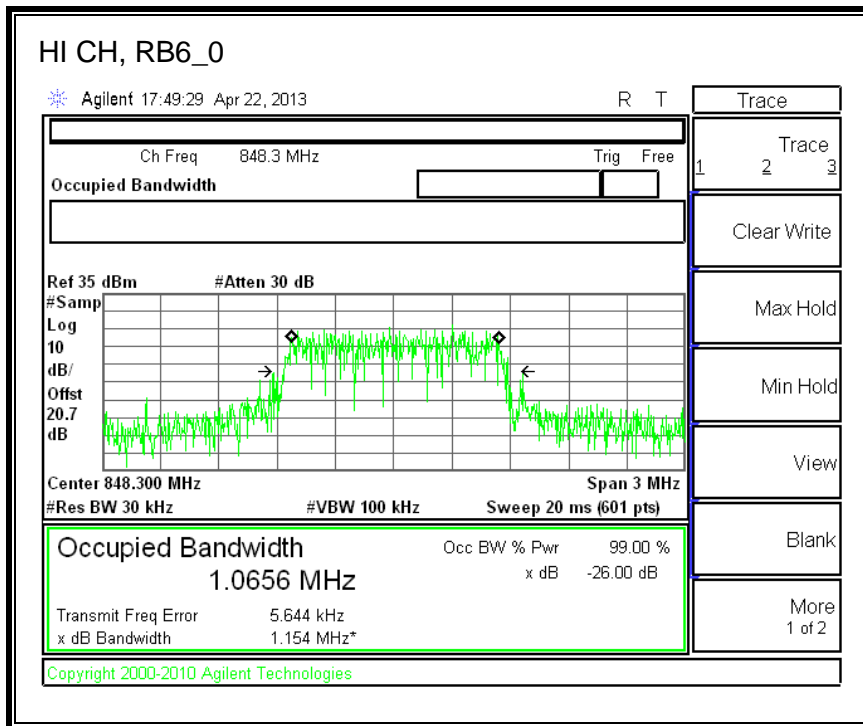
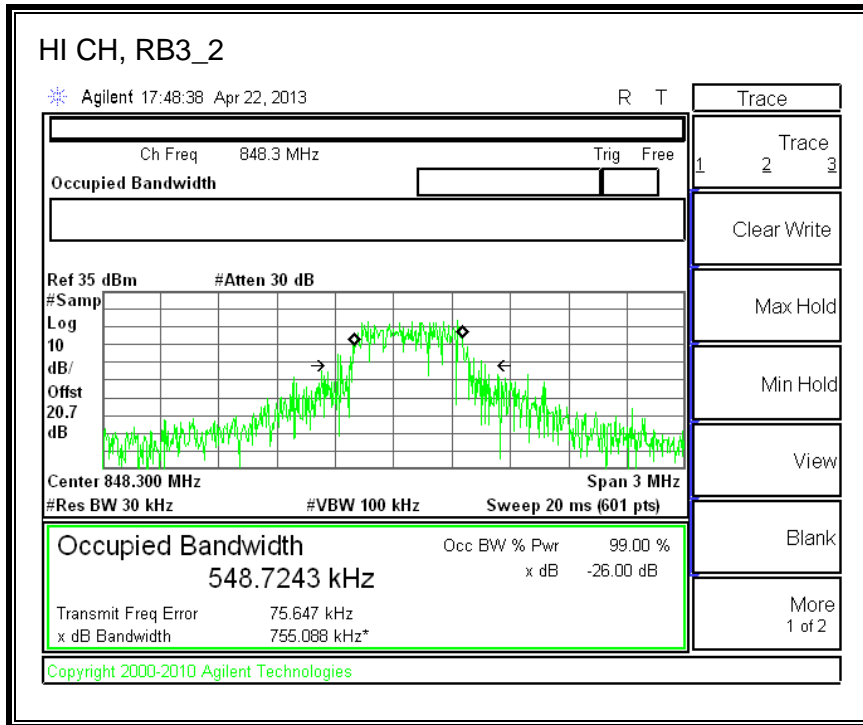
**8.1.3. LTE BAND 5**

**1.4MHz ( QPSK)**



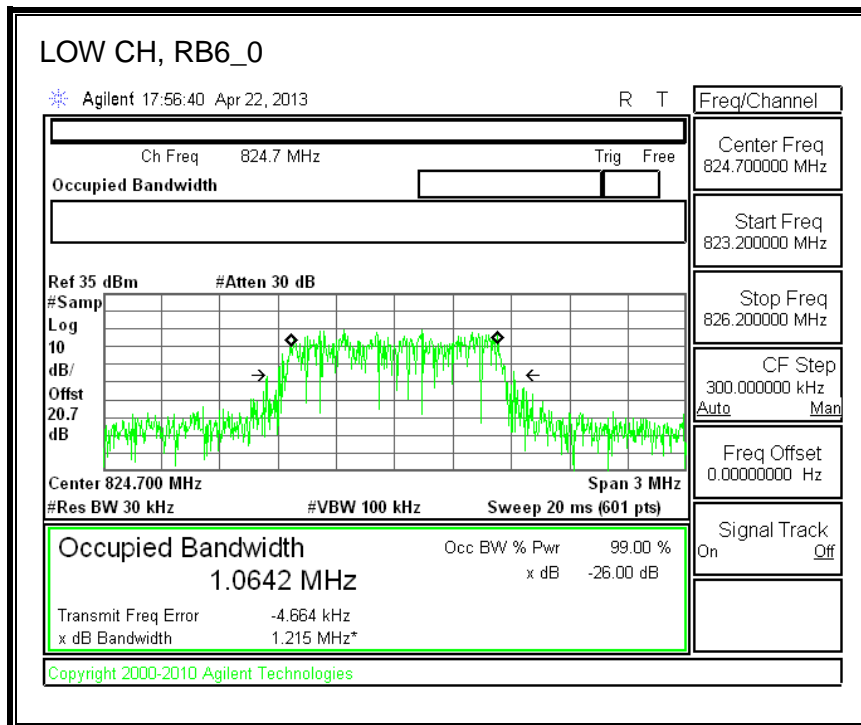
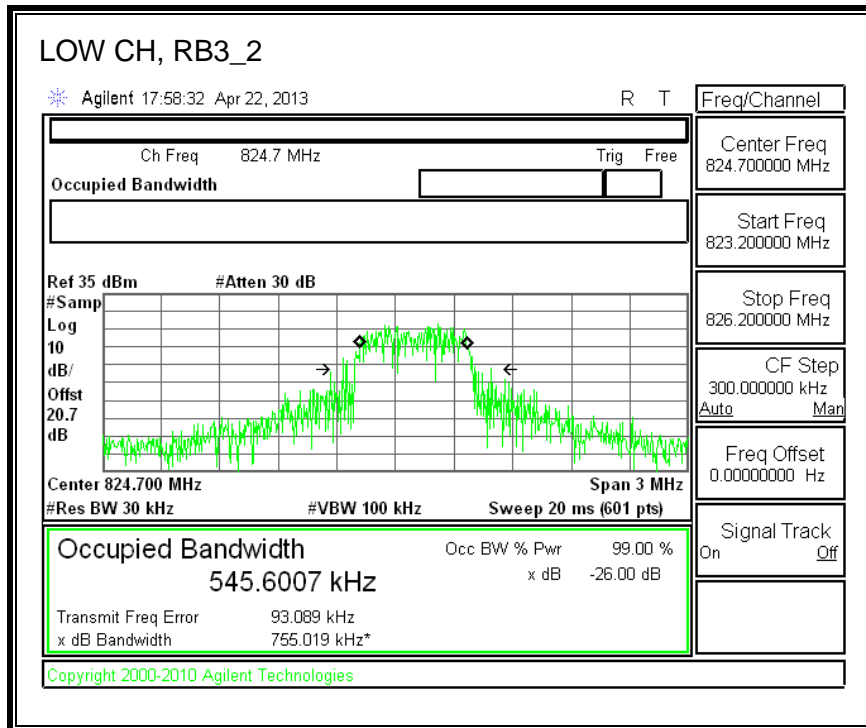


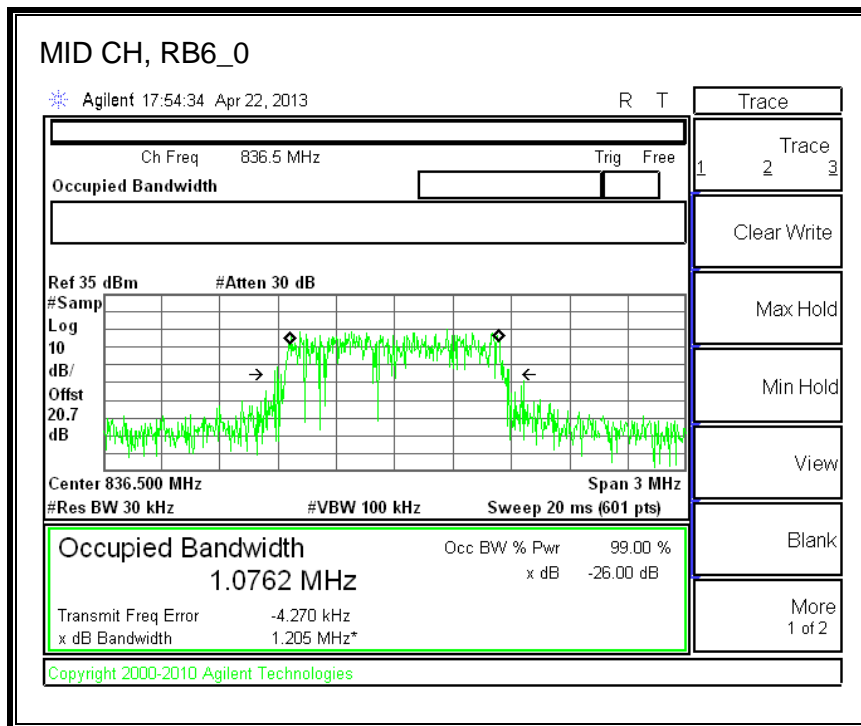
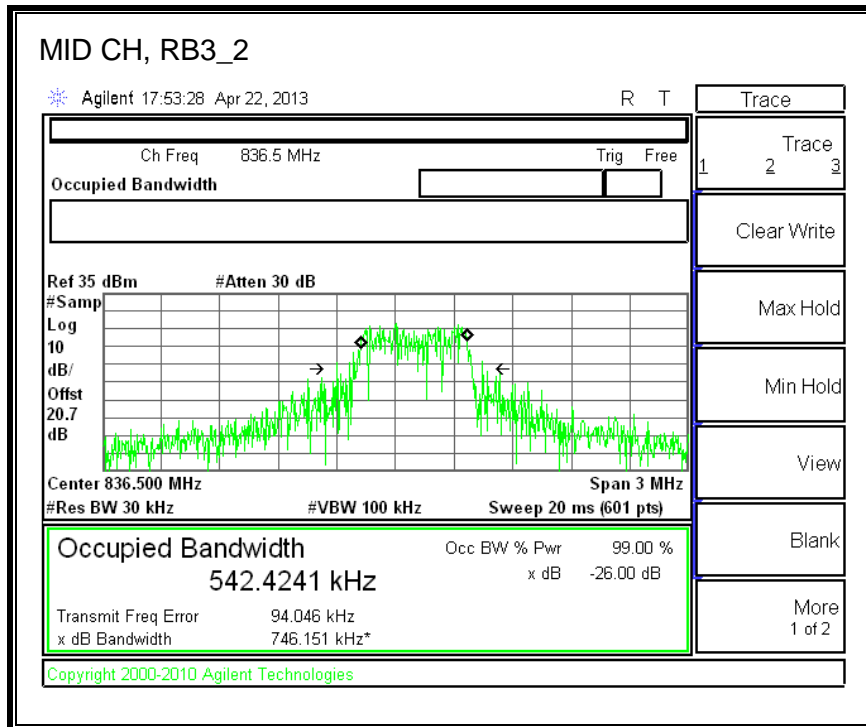


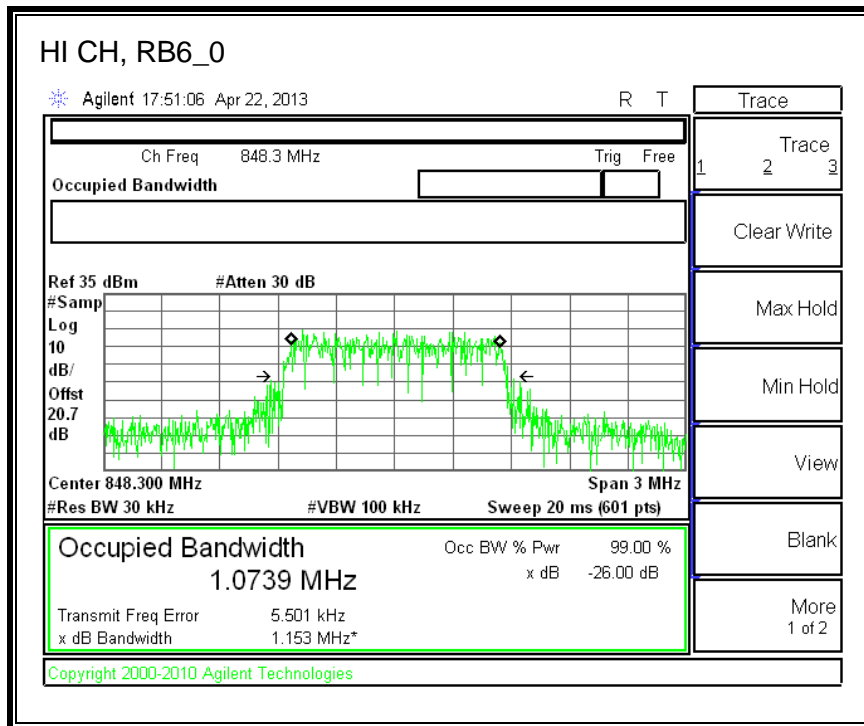
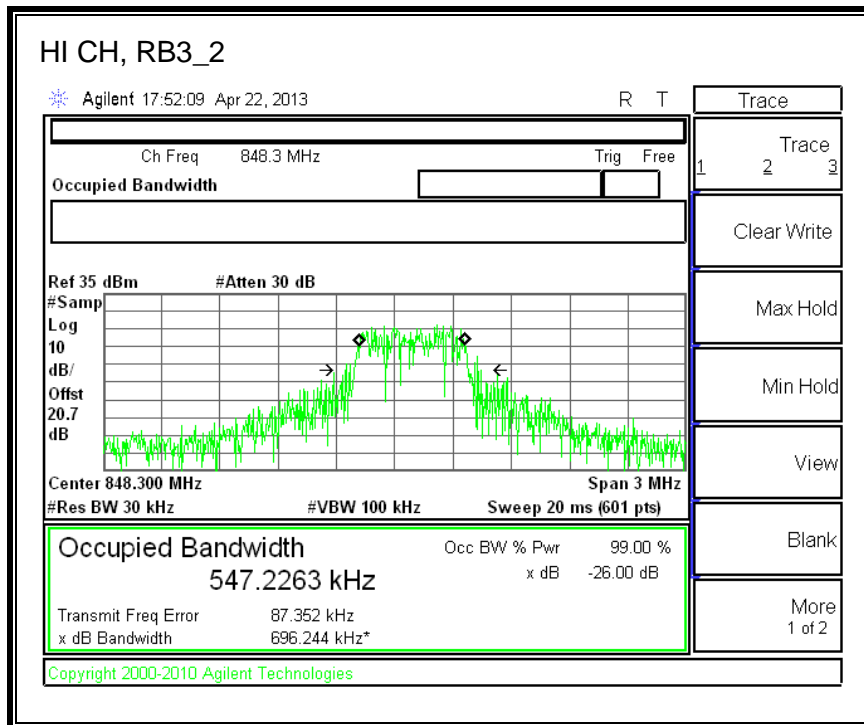


**Band 5 (1.4 MHz BAND WIDTH)**

**LTE 16QAM**

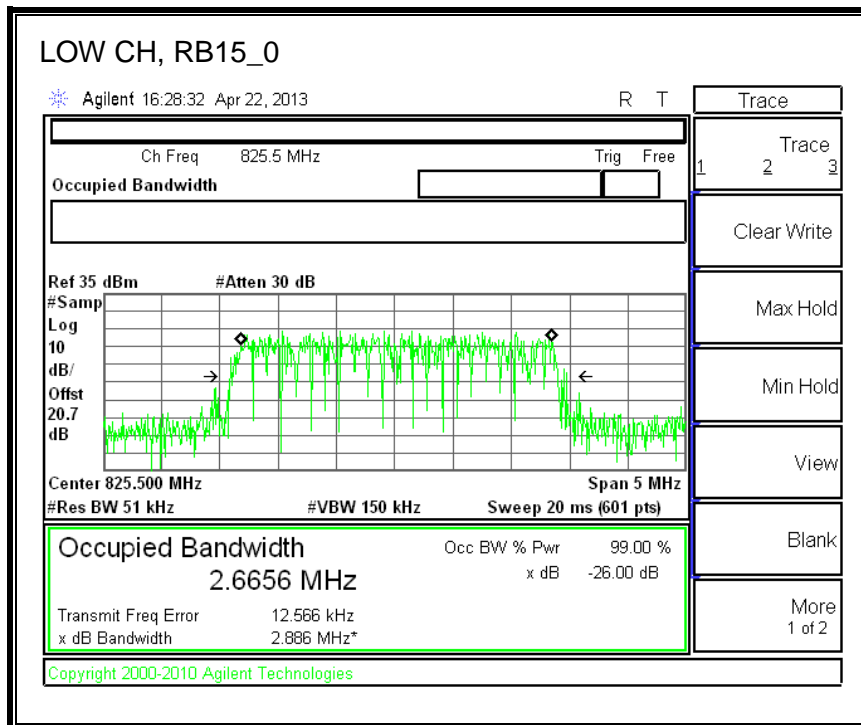
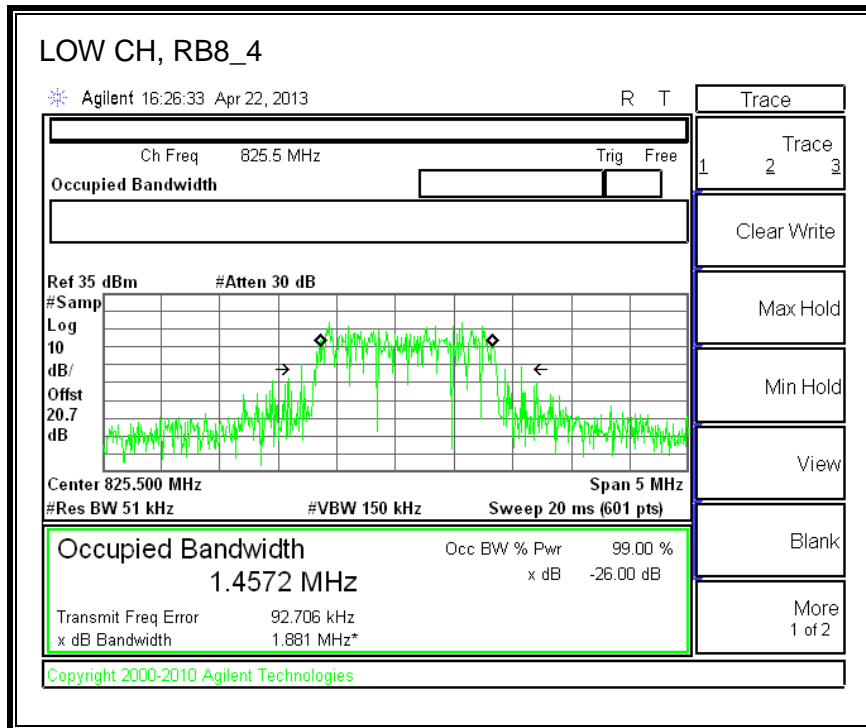


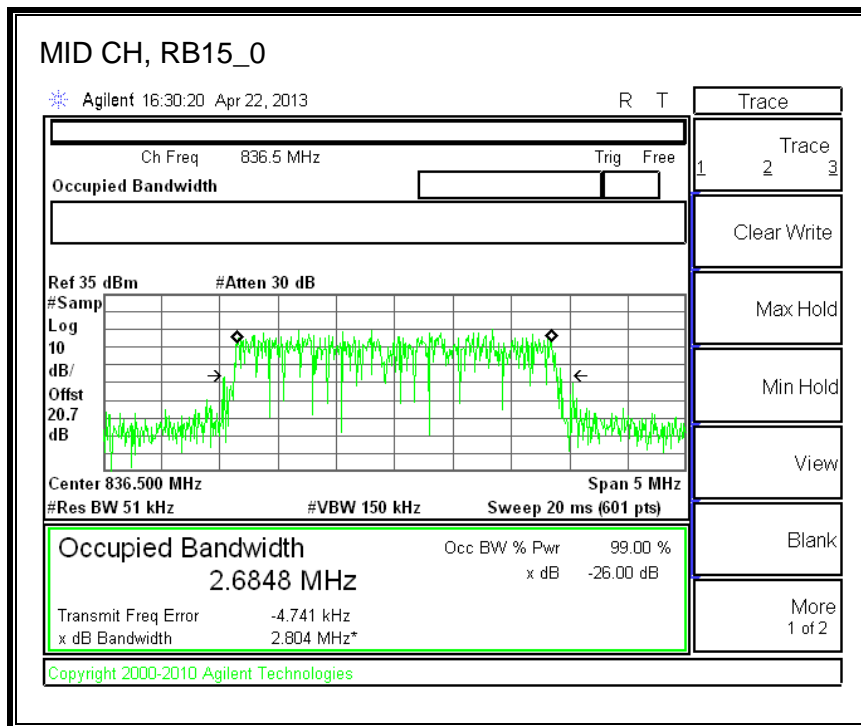
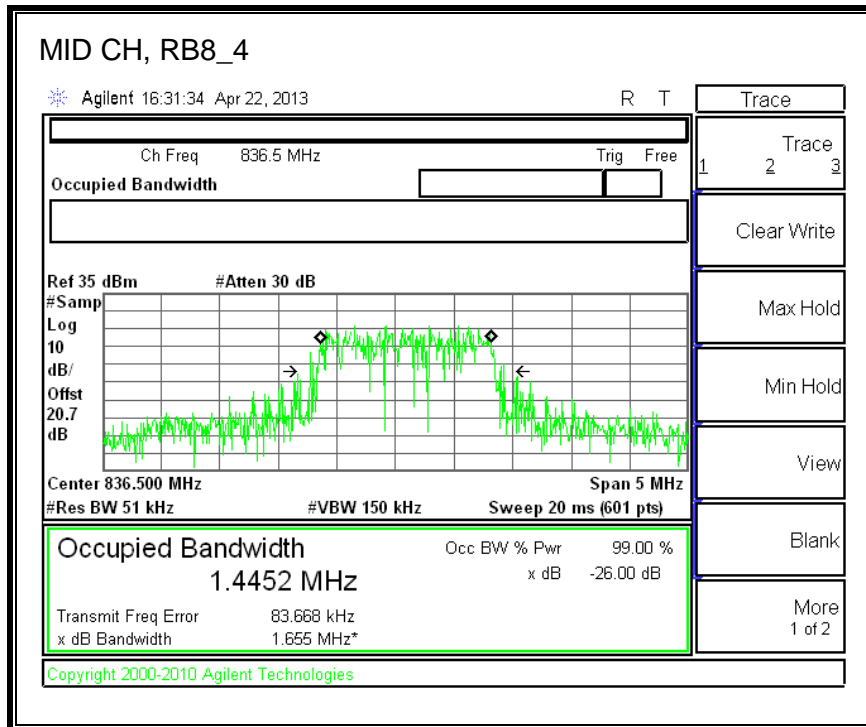


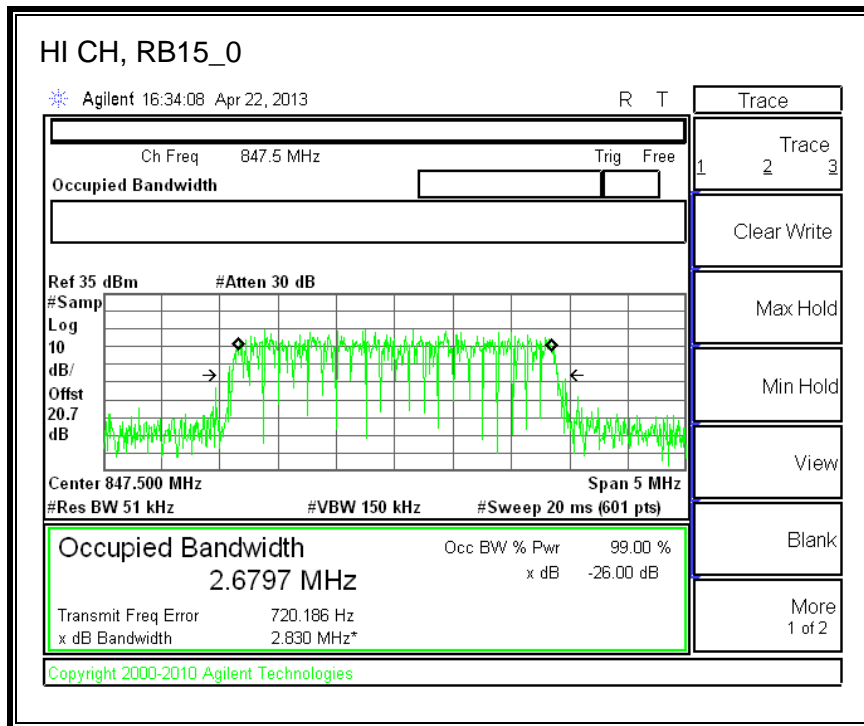
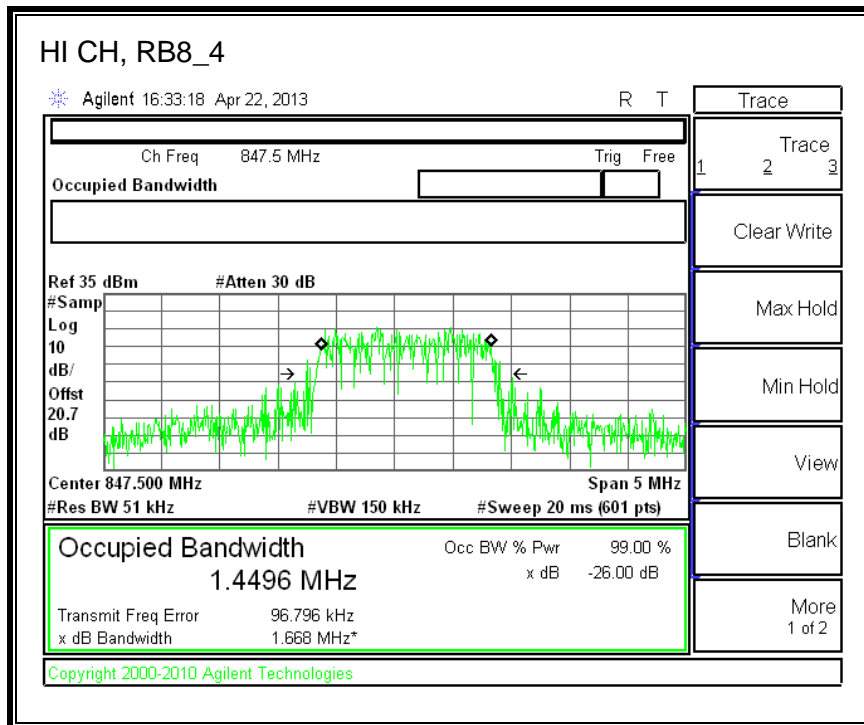


**Band 5 (3.0 MHz BAND WIDTH)**

**LTE QPSK**



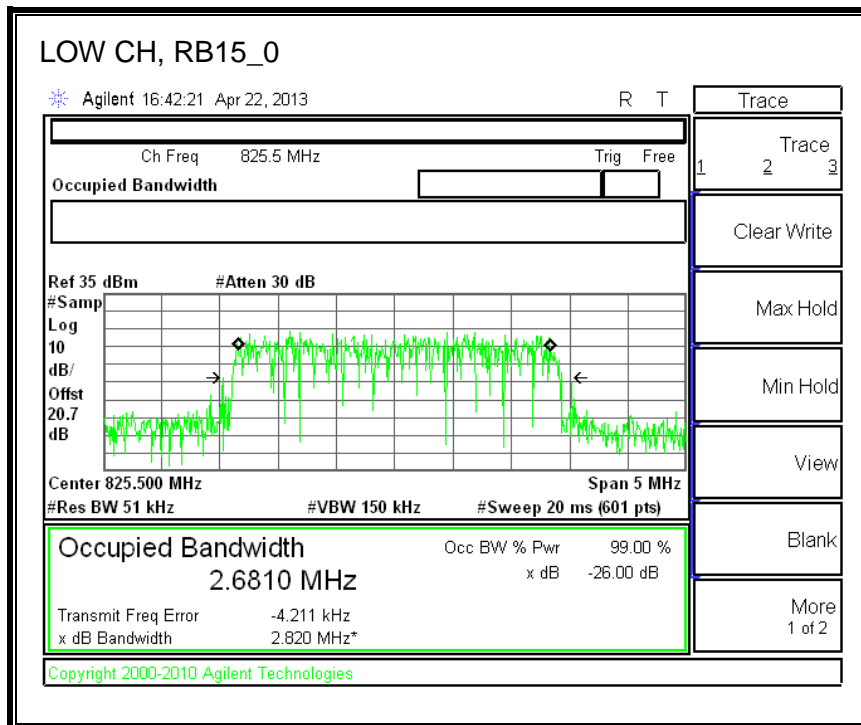
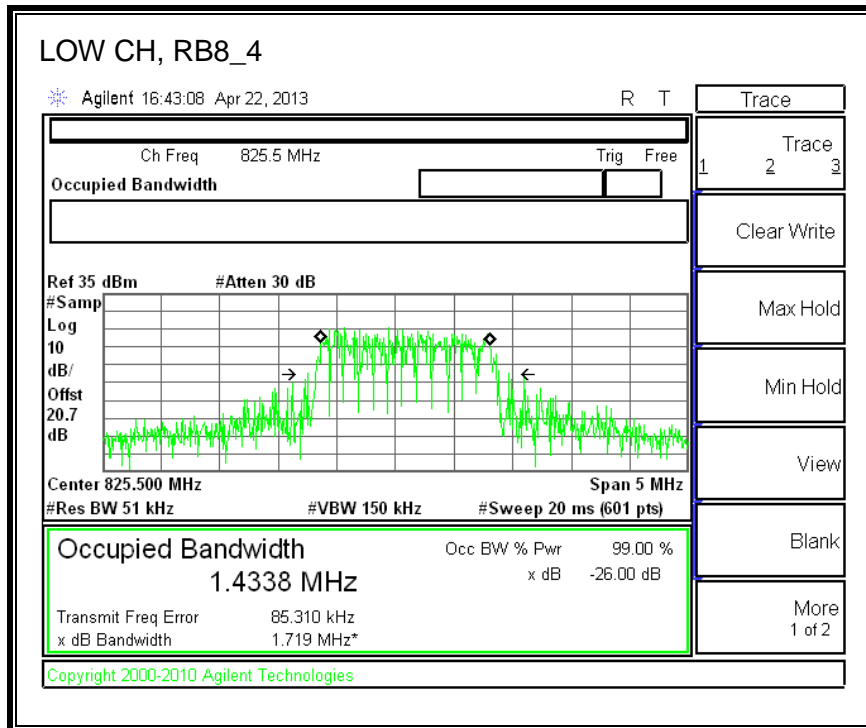


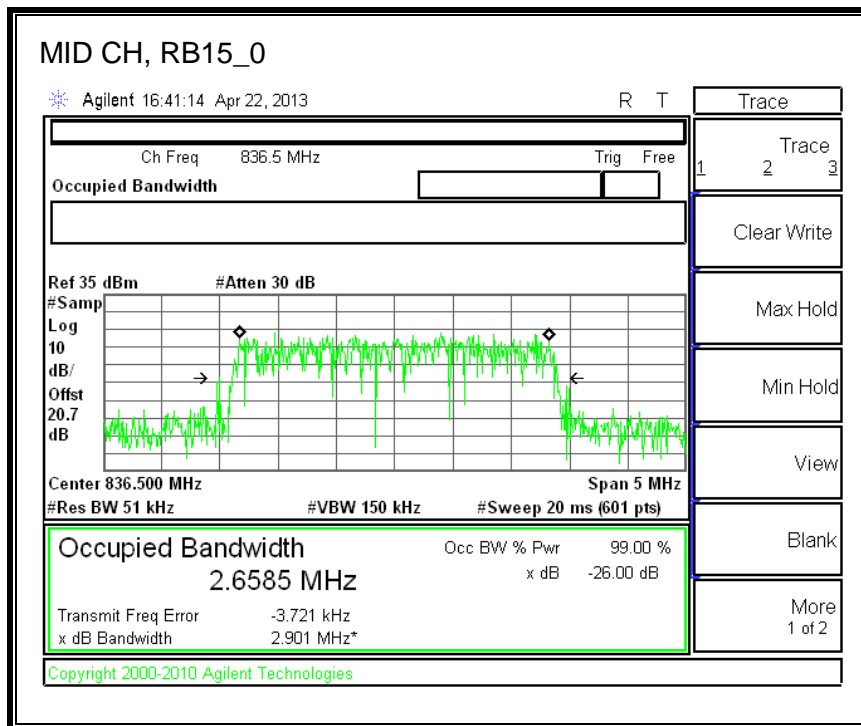
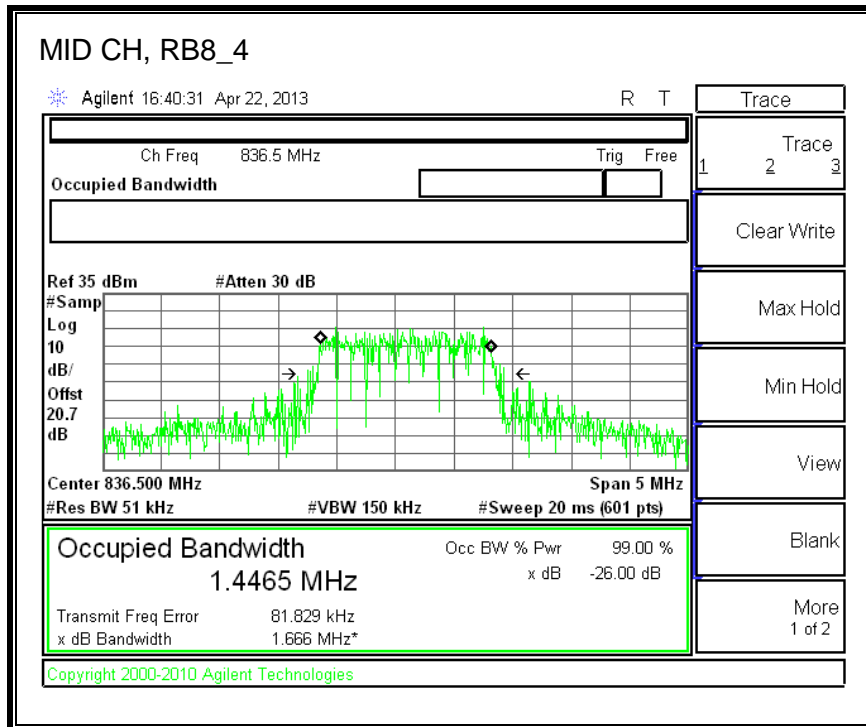


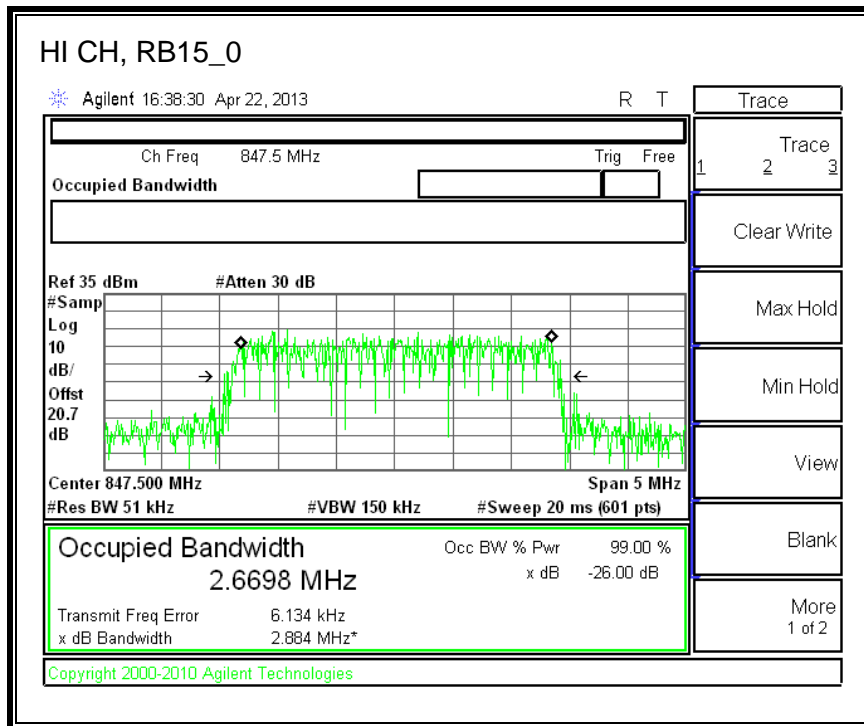
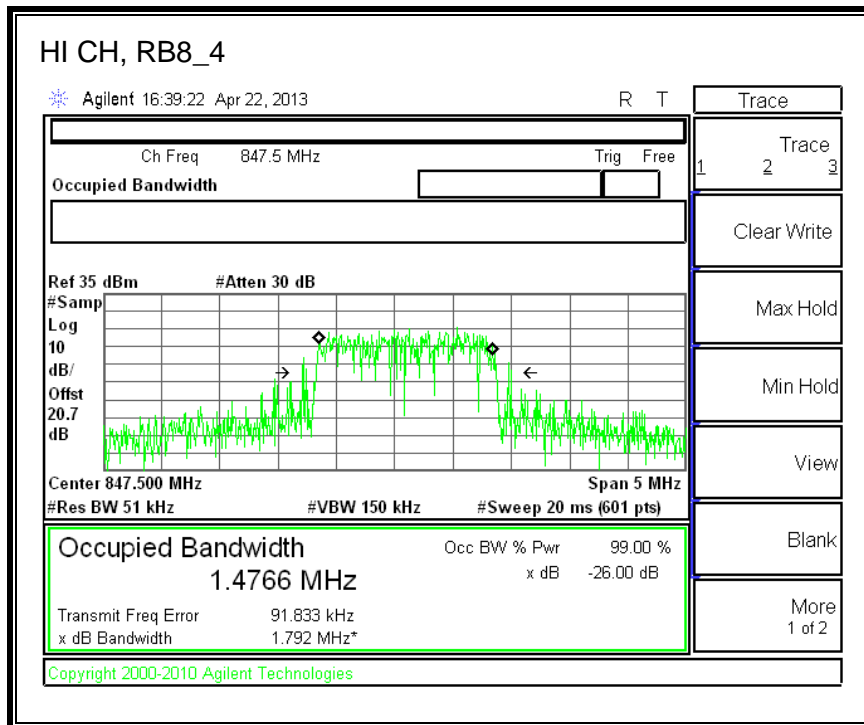


**Band 5 (3.0 MHz BAND WIDTH)**

**LTE 16QAM**

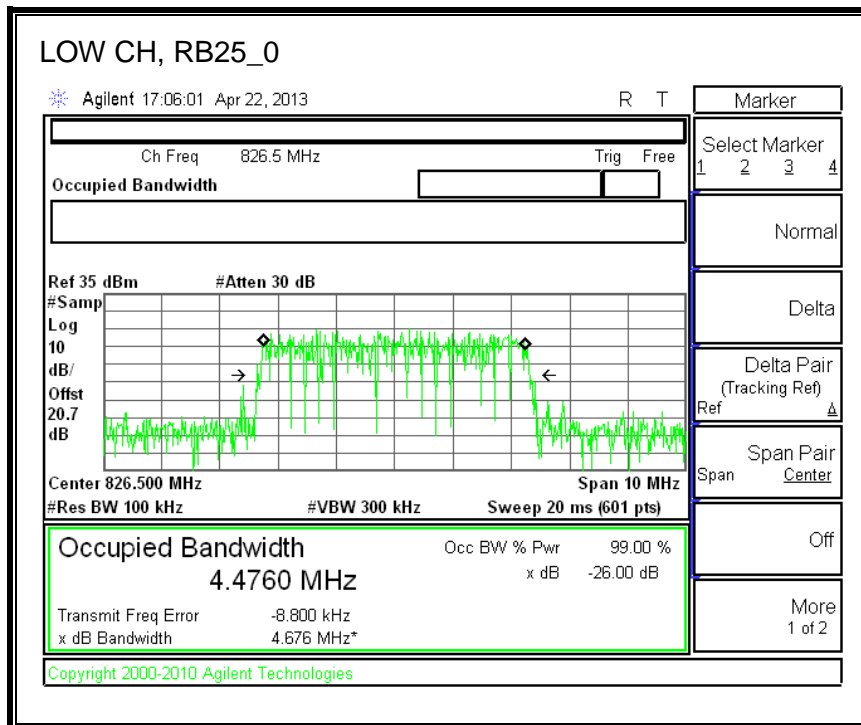
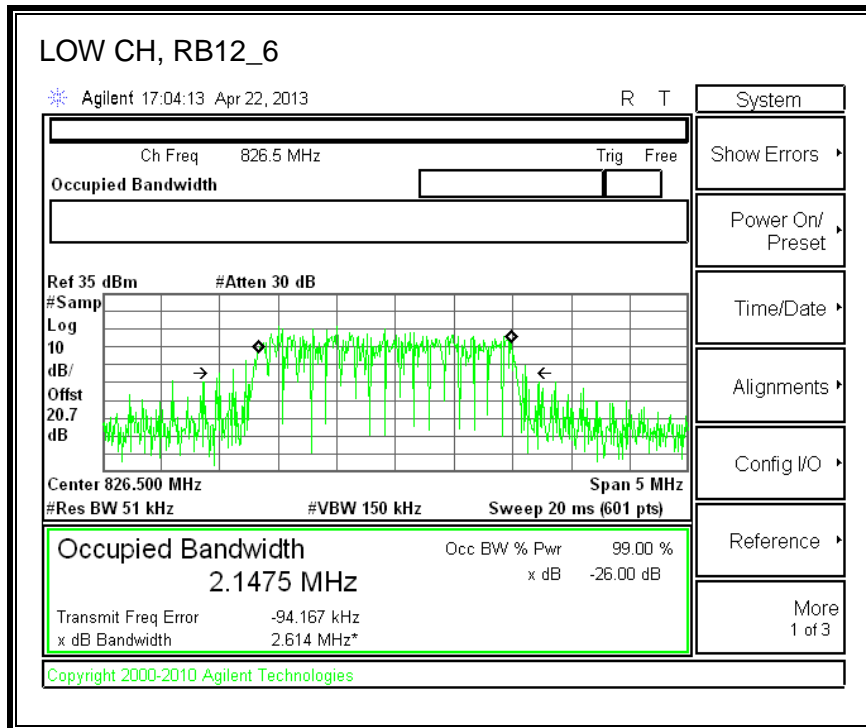


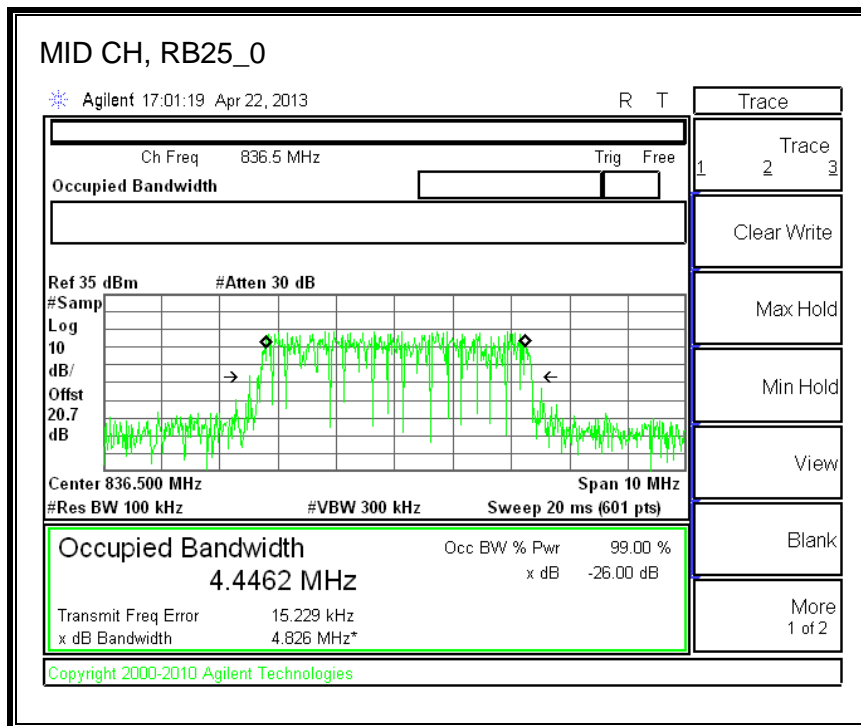
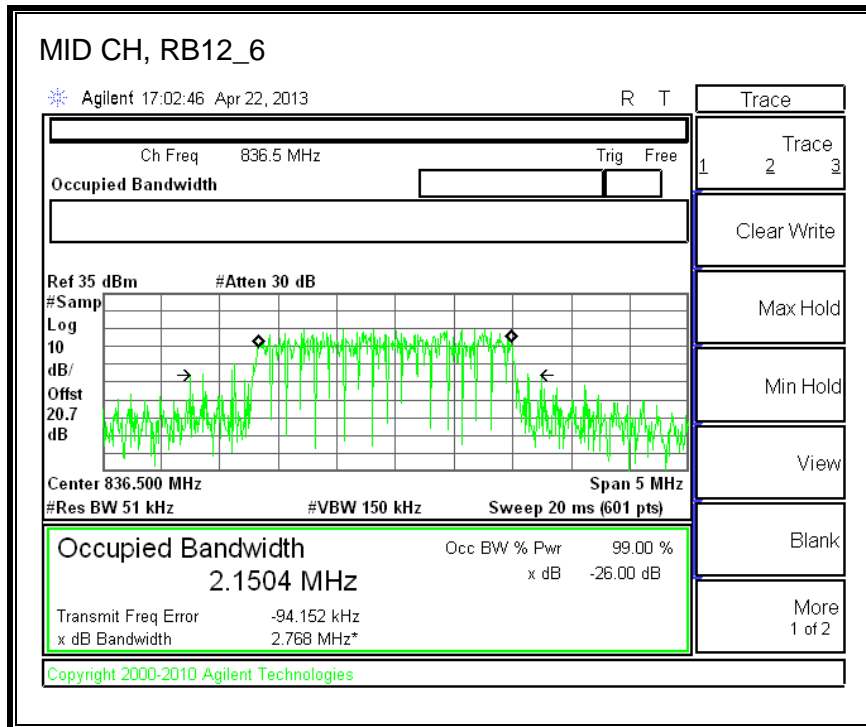


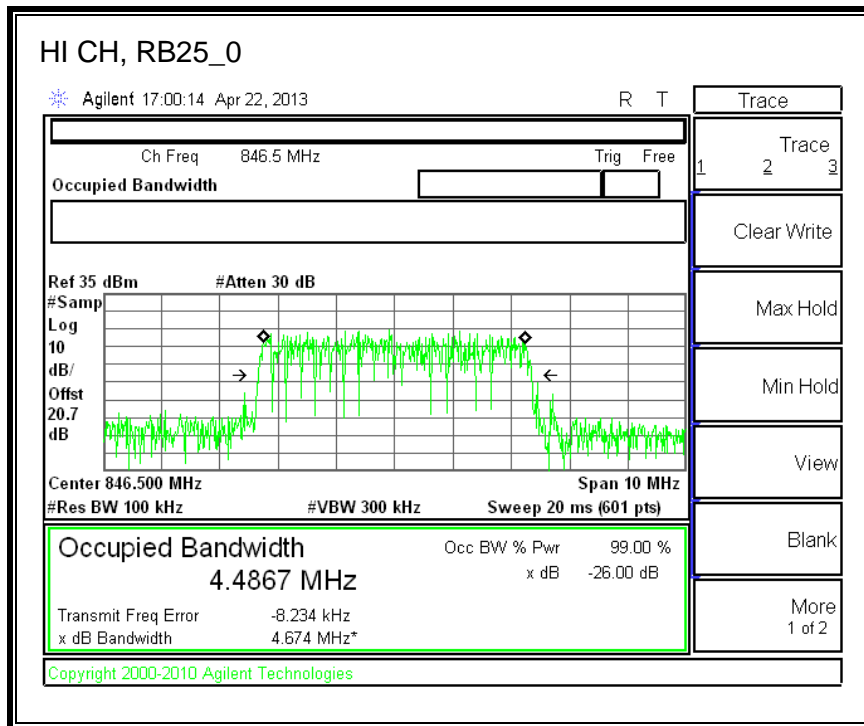
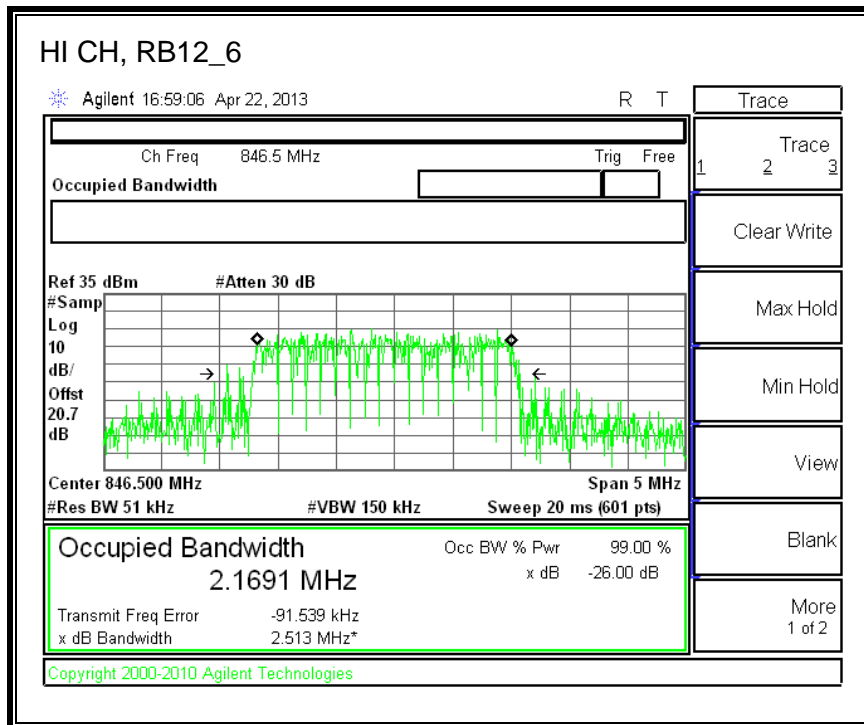


**Band 5 (5.0 MHz BAND WIDTH)**

**LTE QPSK**

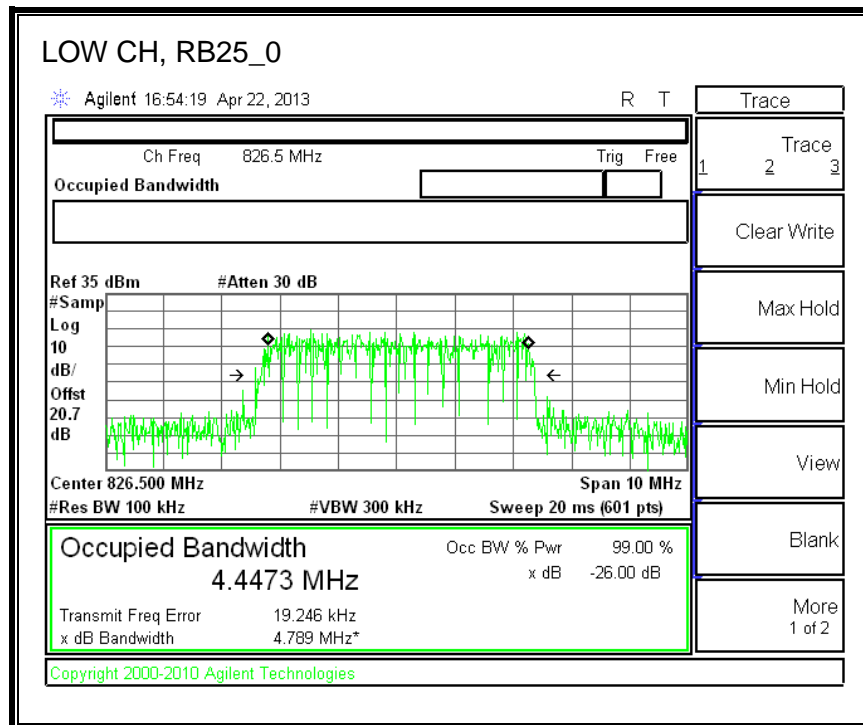
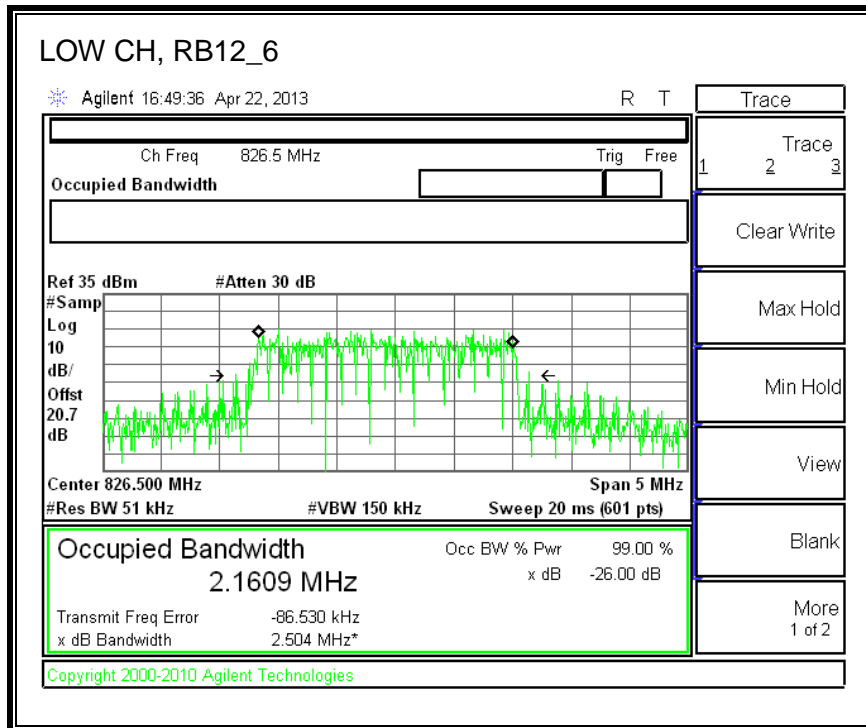


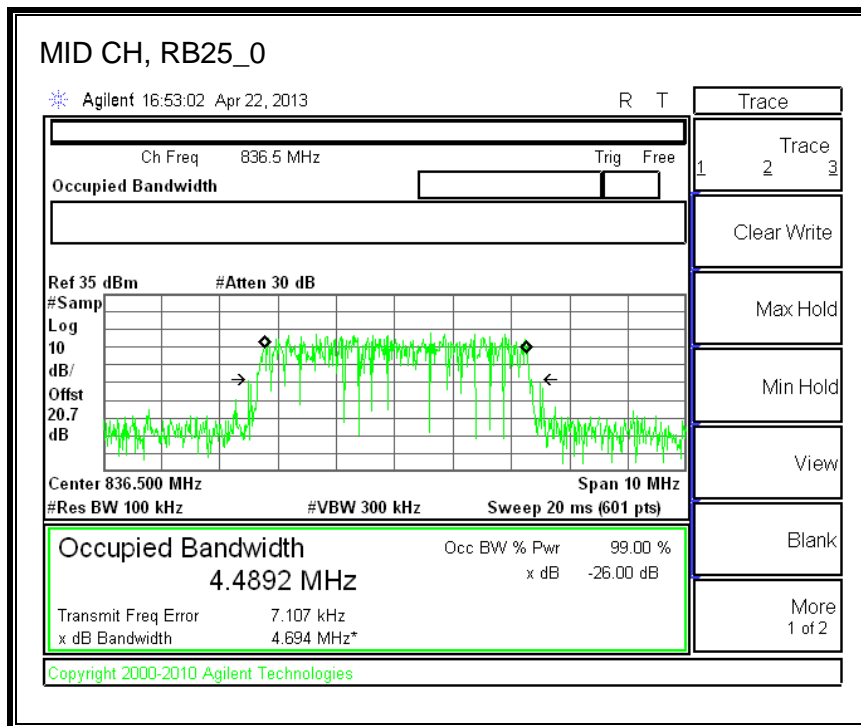
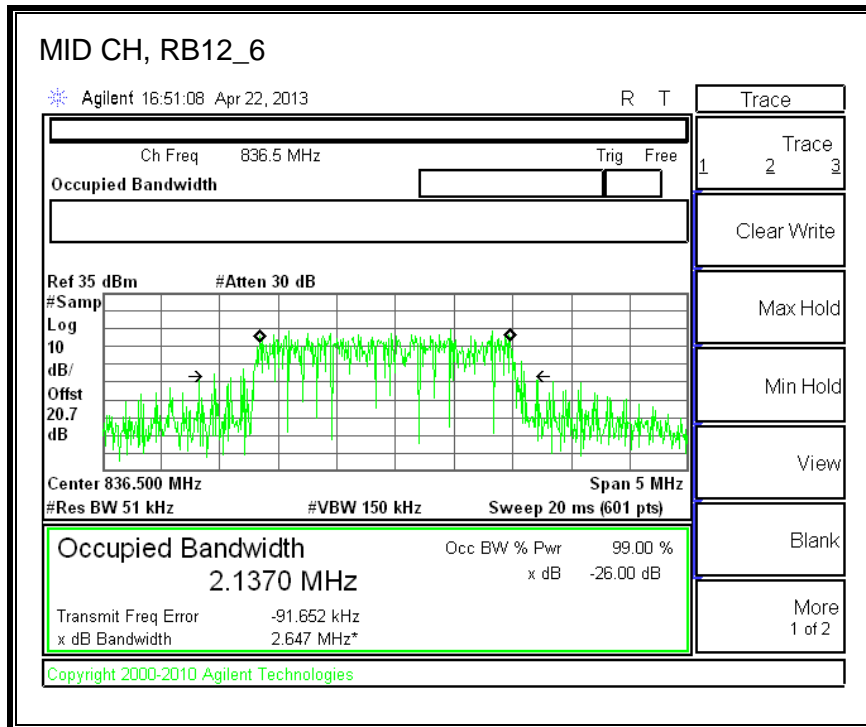




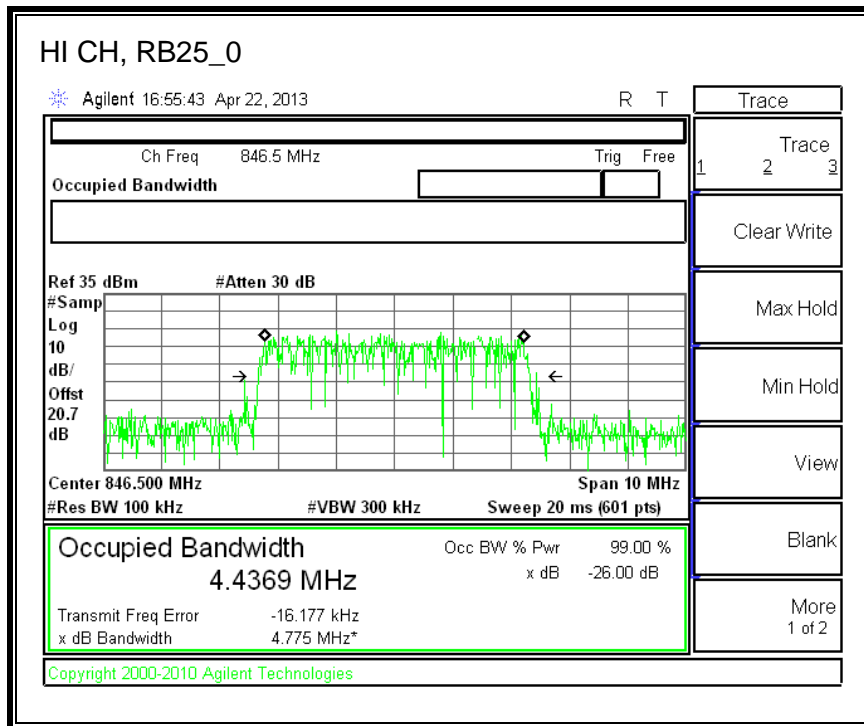
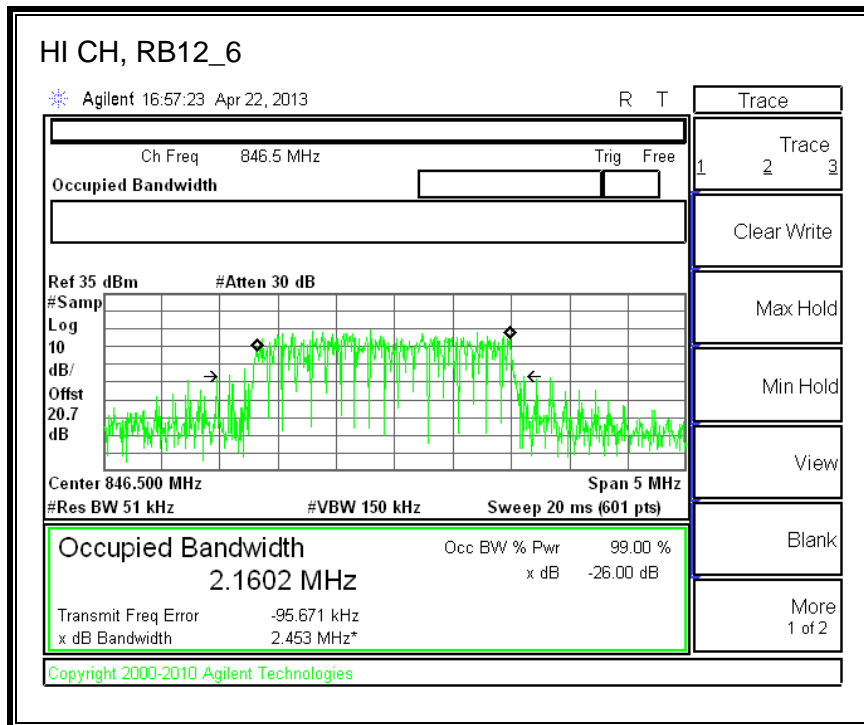
**Band 5 (5 MHz BAND WIDTH)**

**LTE 16QAM**



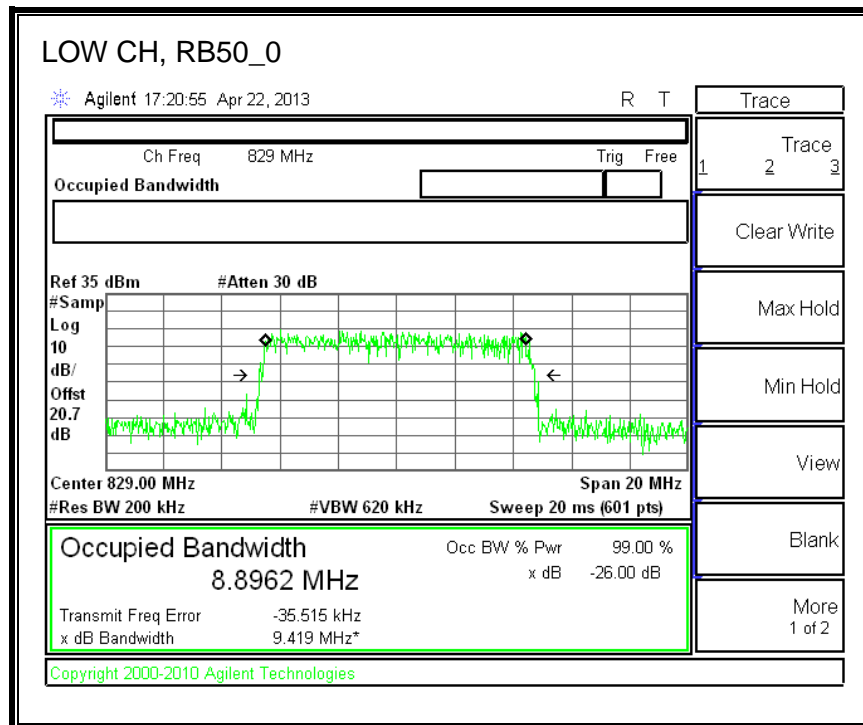
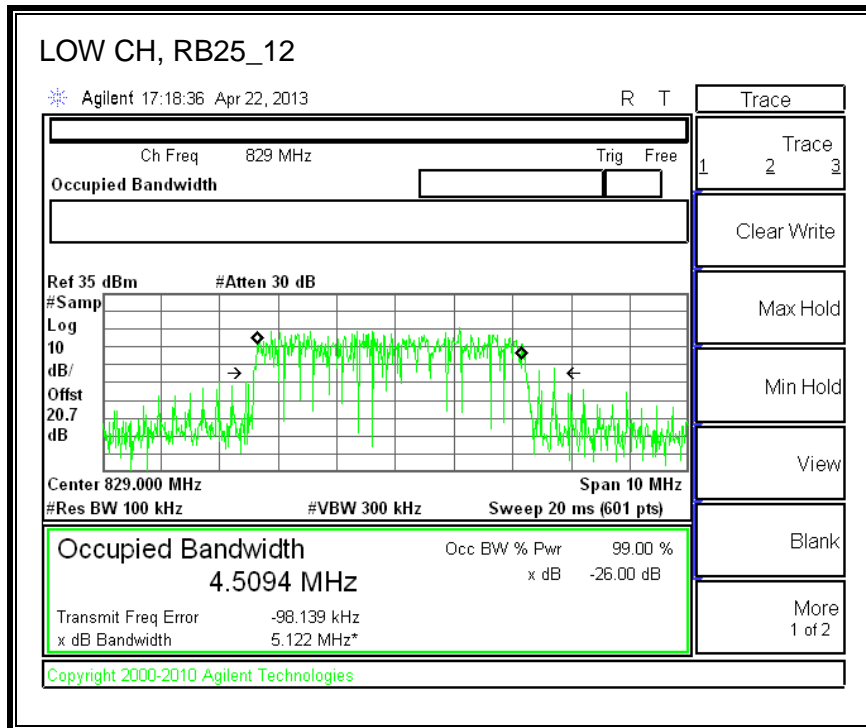


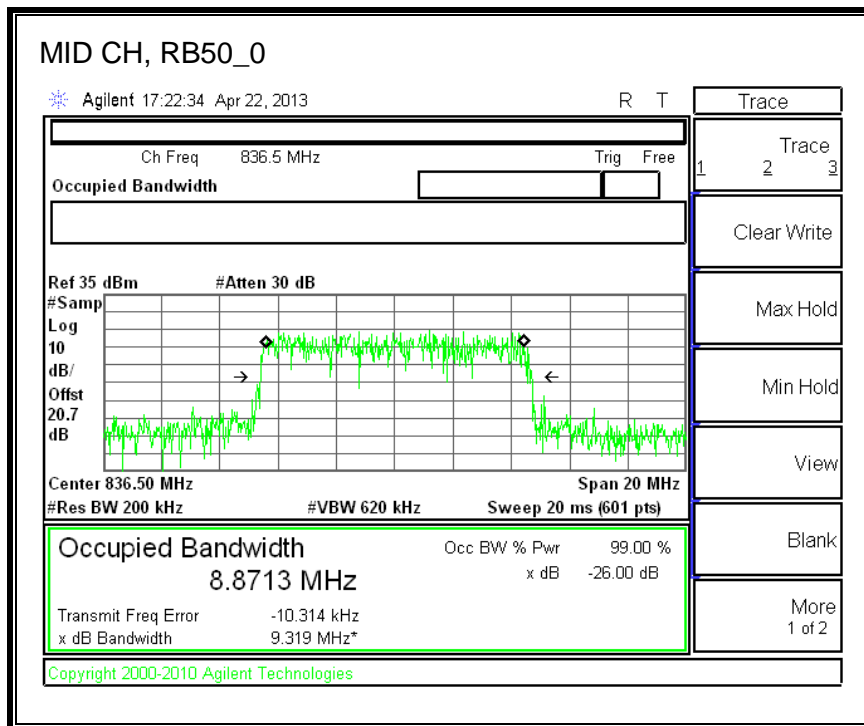
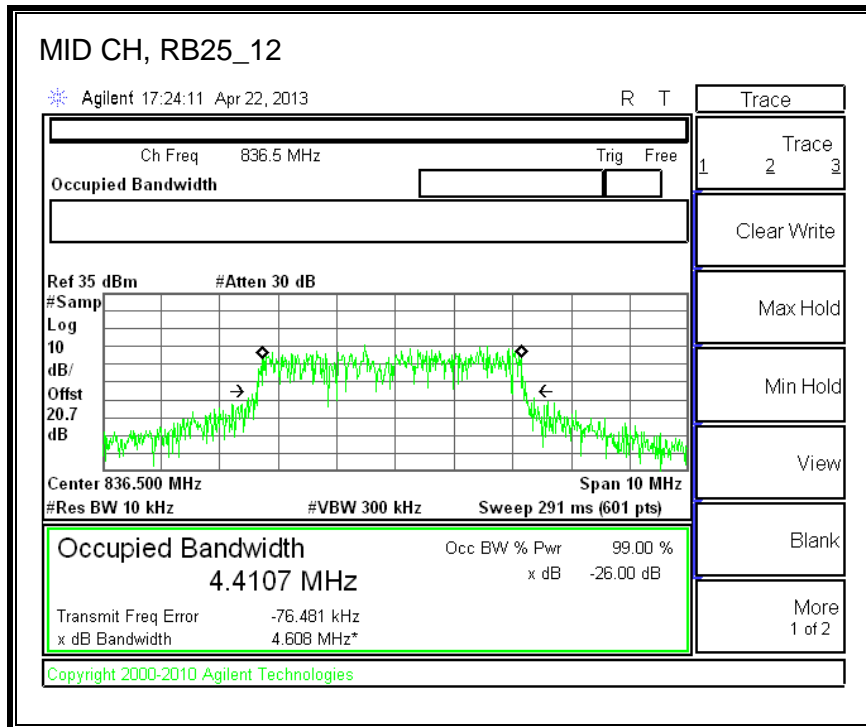


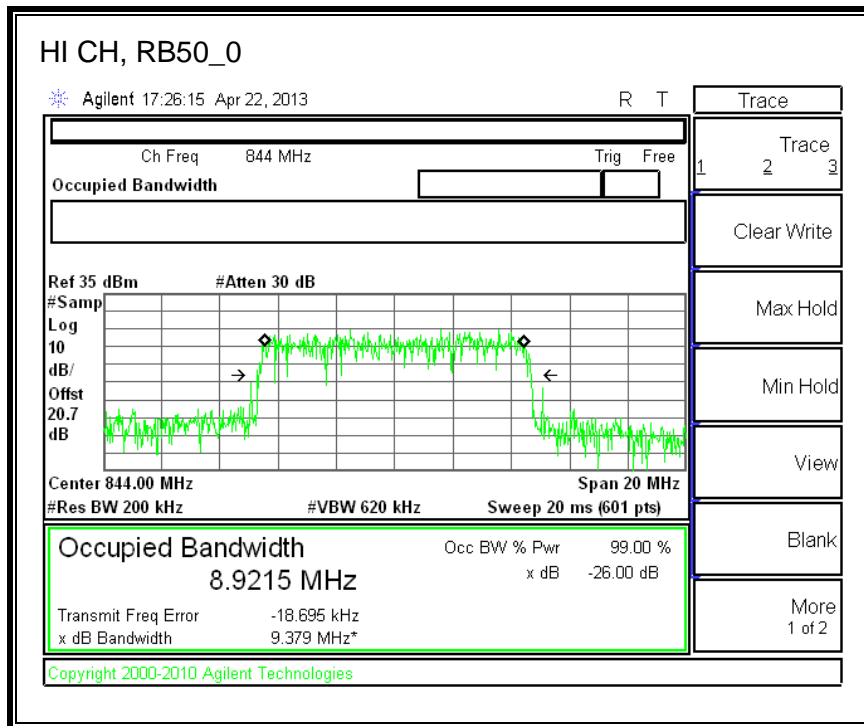
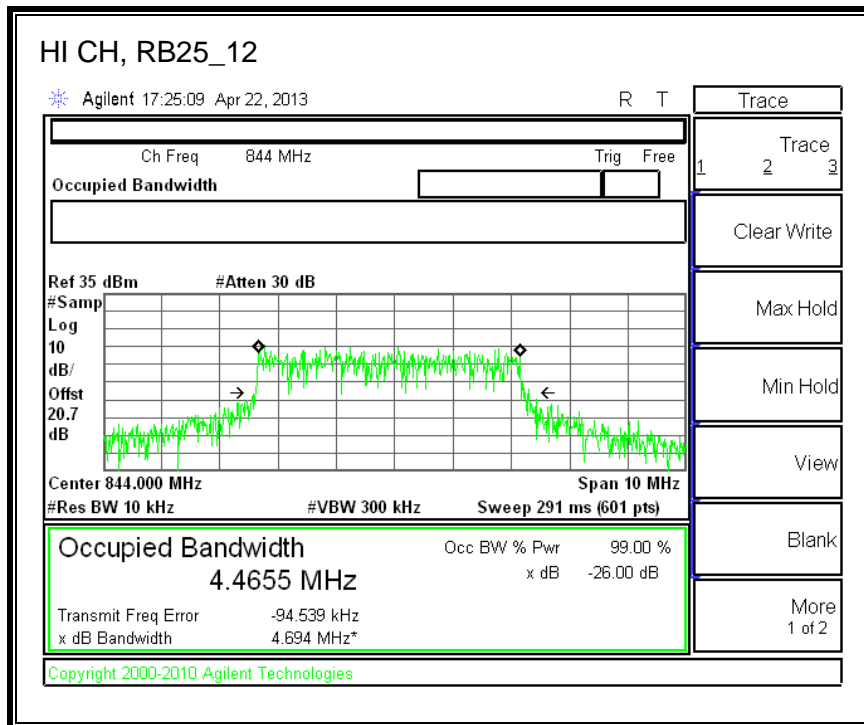


**Band 5 (10.0 MHz BAND WIDTH)**

**LTE QPSK**

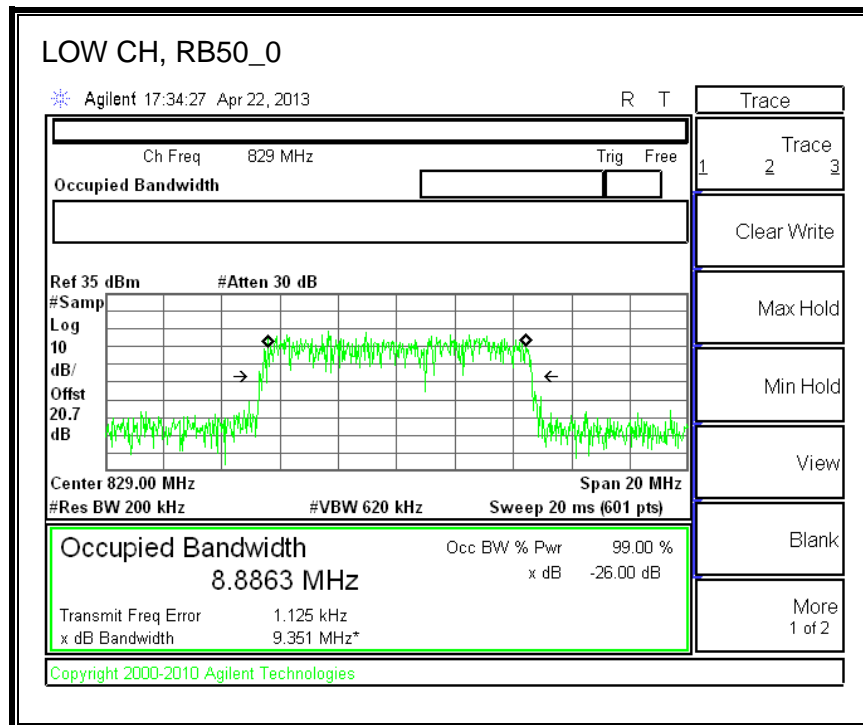
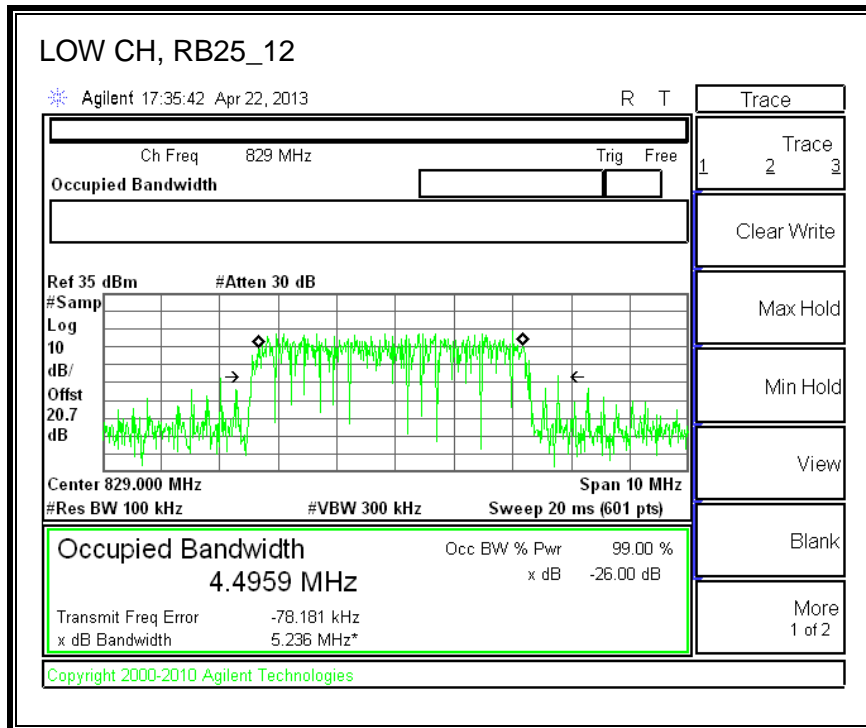


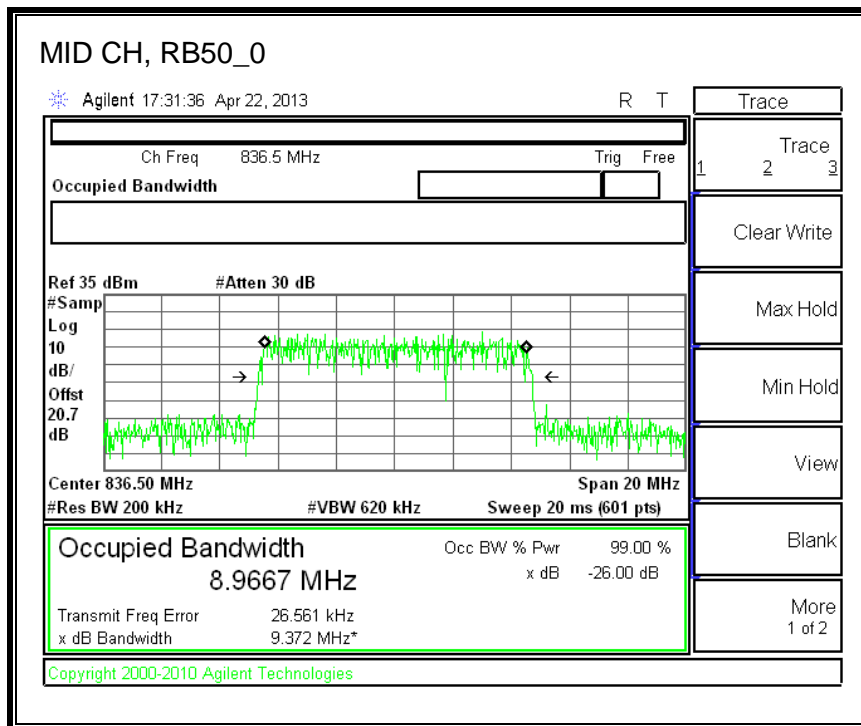
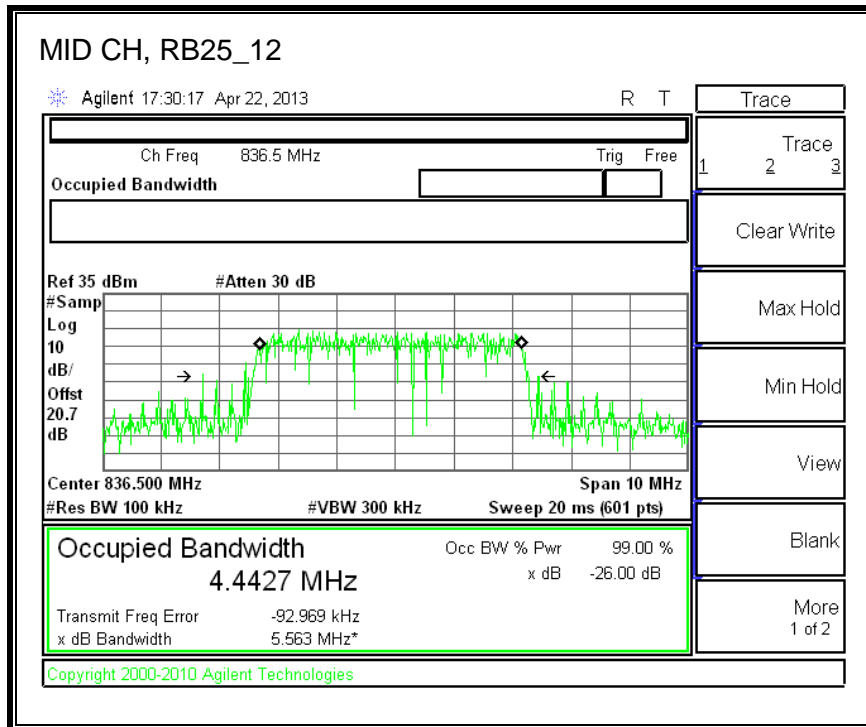


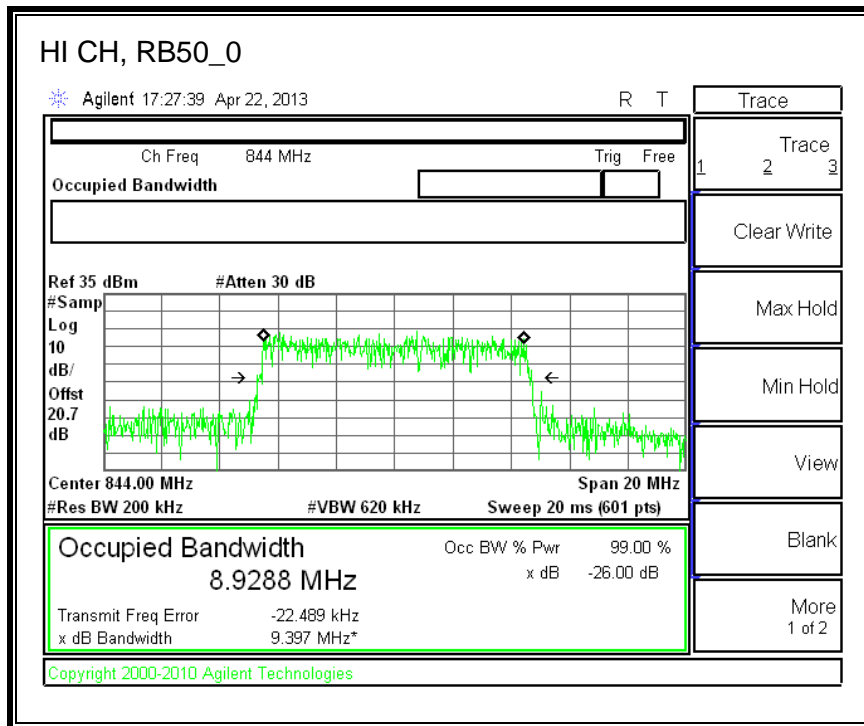
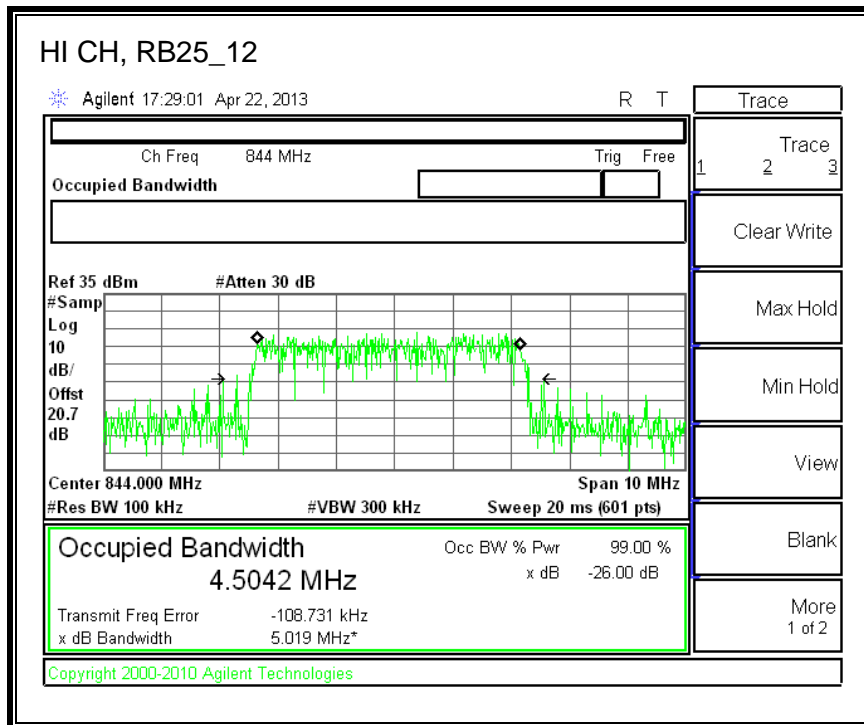


**Band 5 (10 MHz BAND WIDTH)**

**LTE 16QAM**

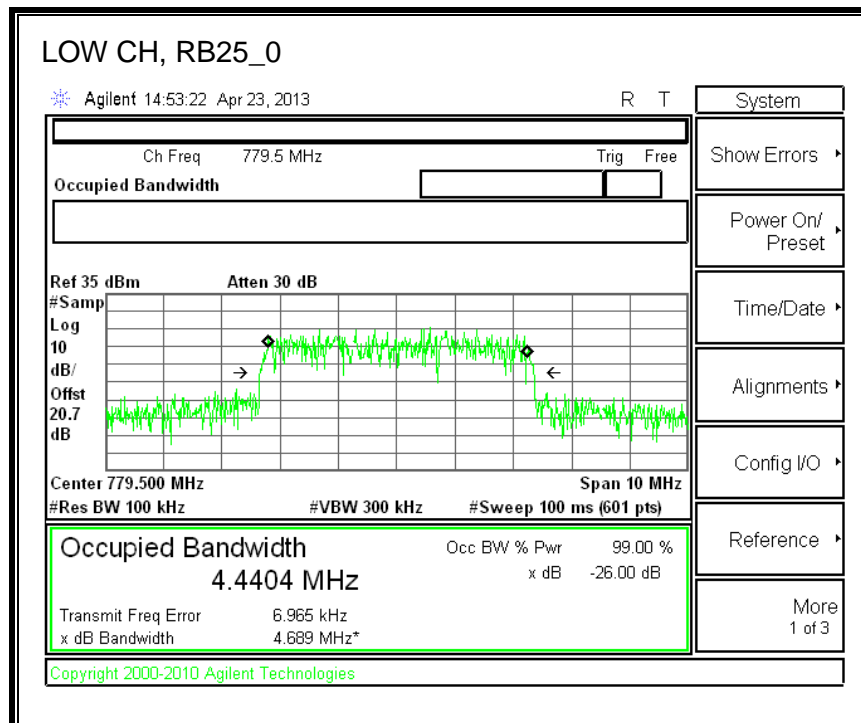
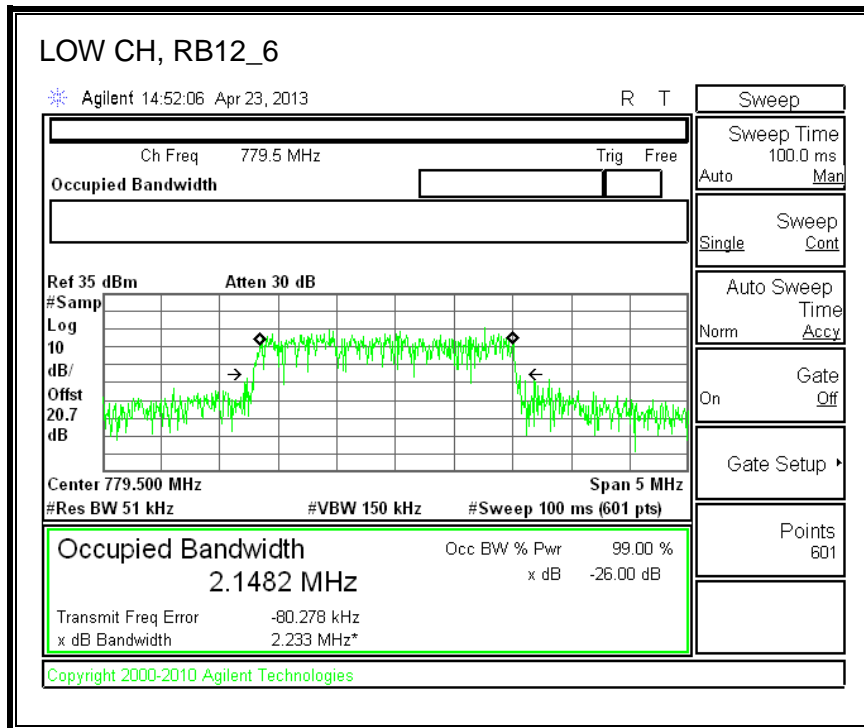




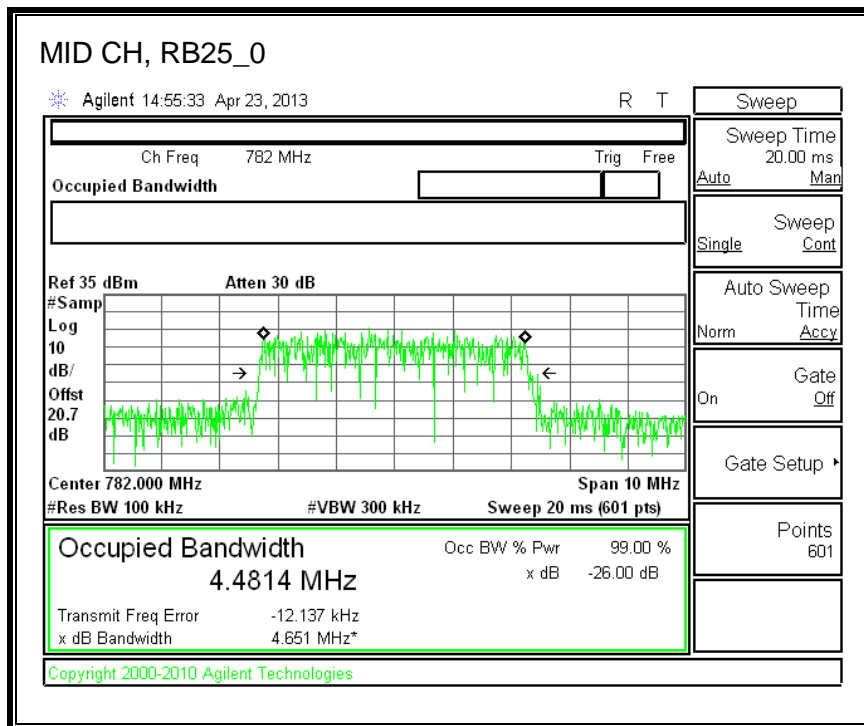
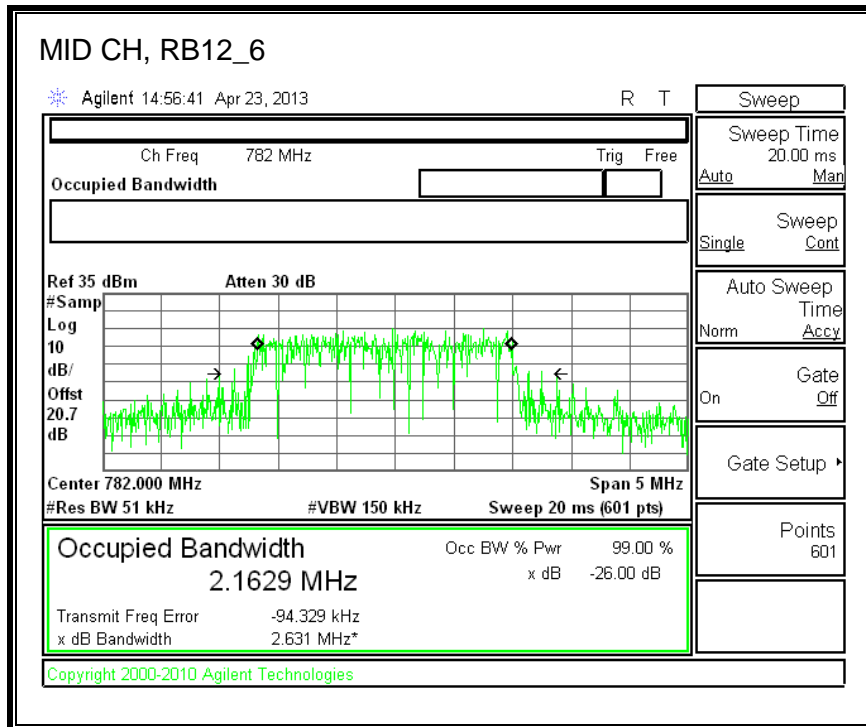


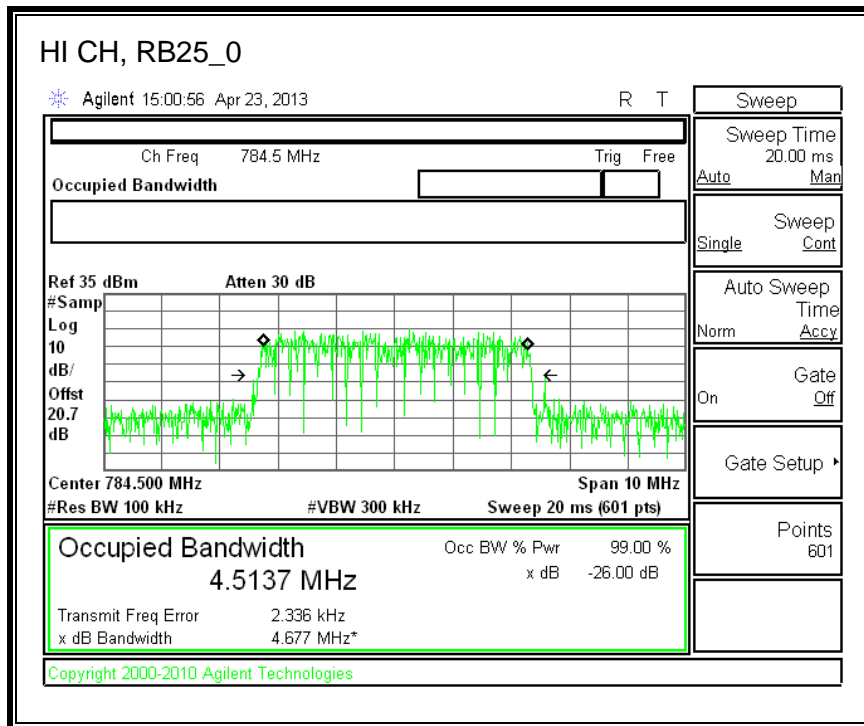
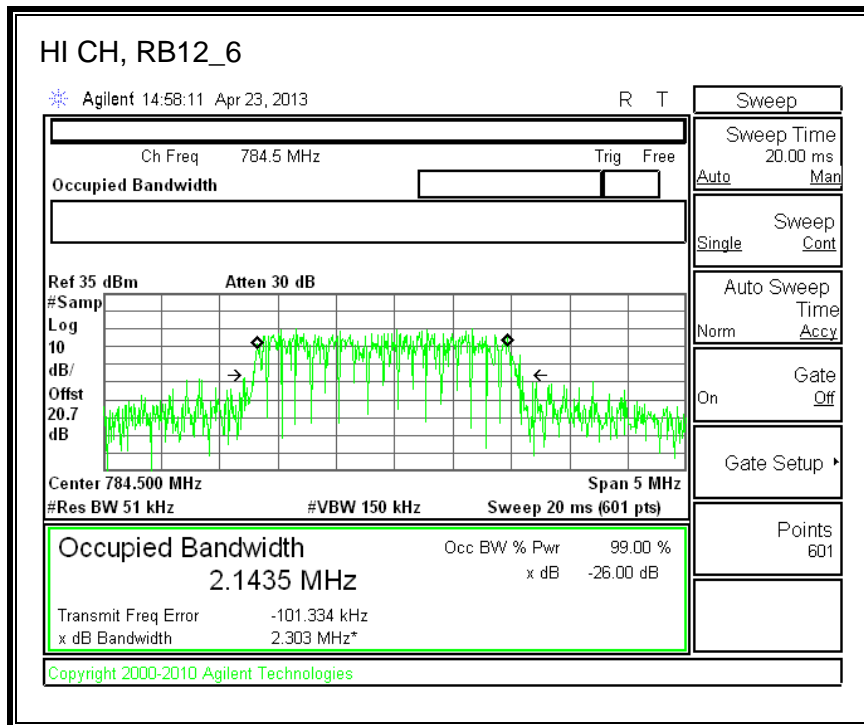
### 8.1.4. LTE BAND 13

#### 5MHz (QPSK)

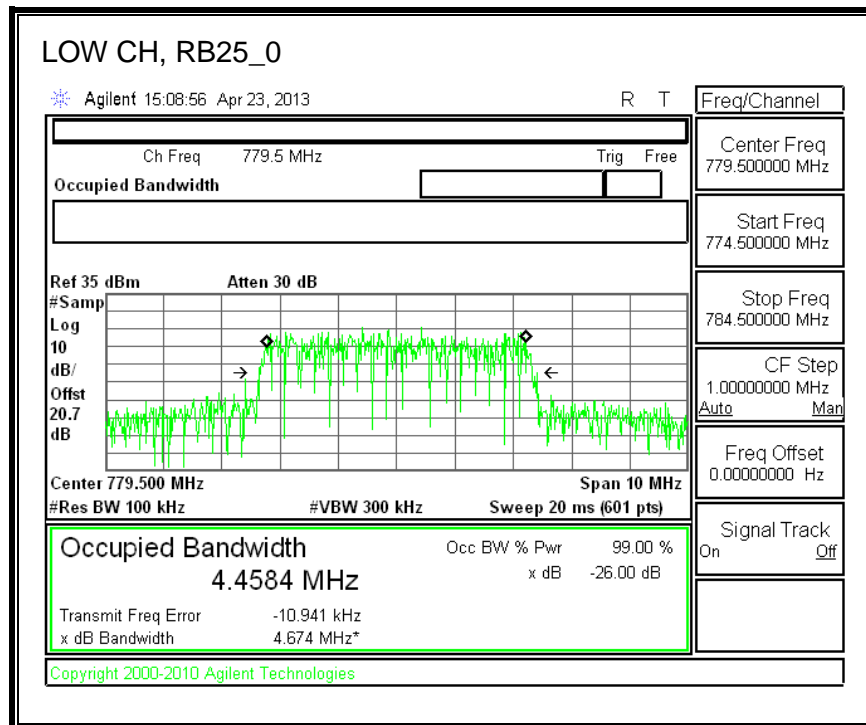
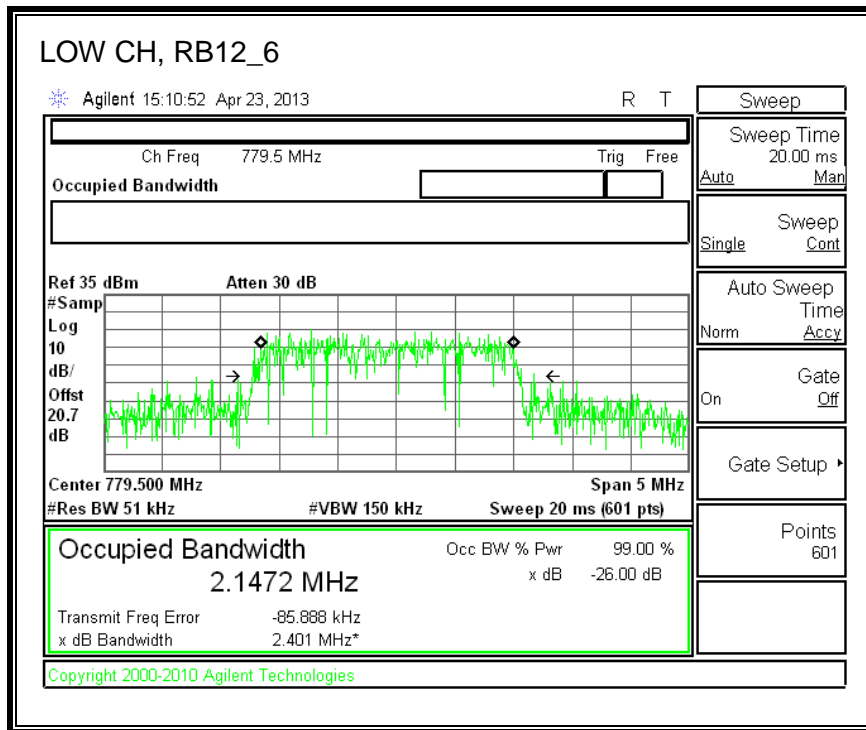


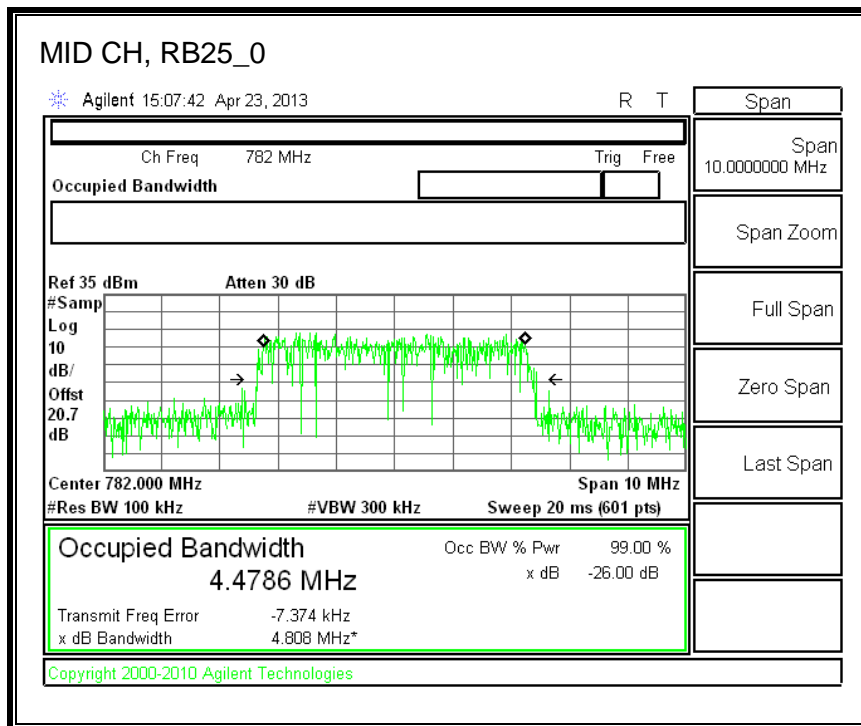
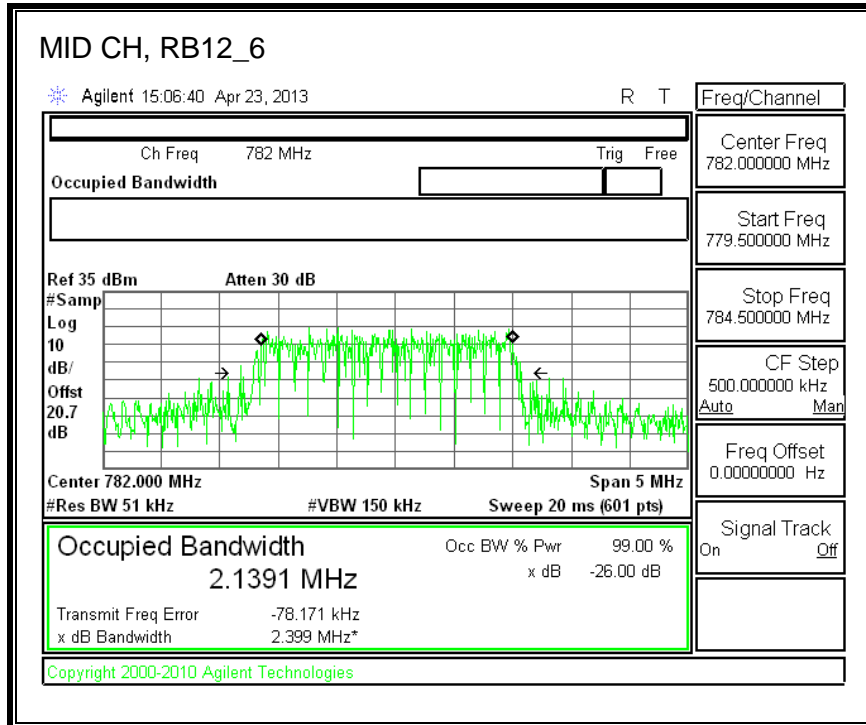


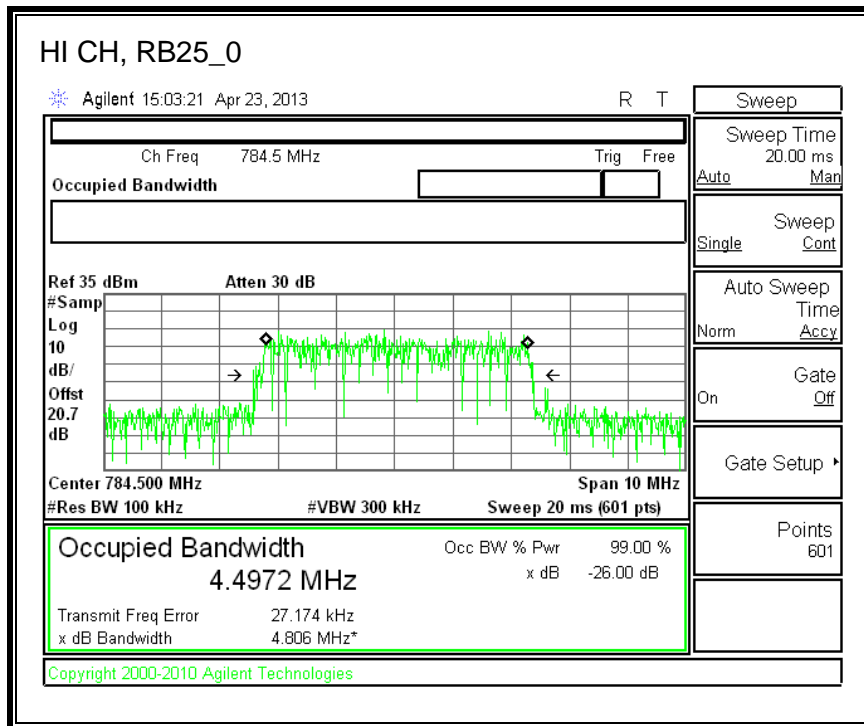
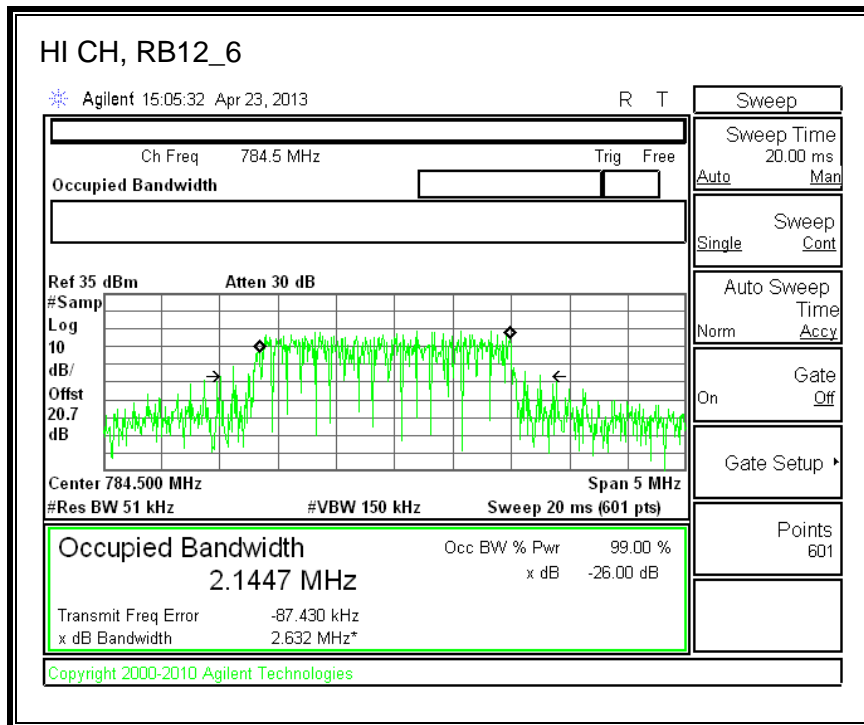




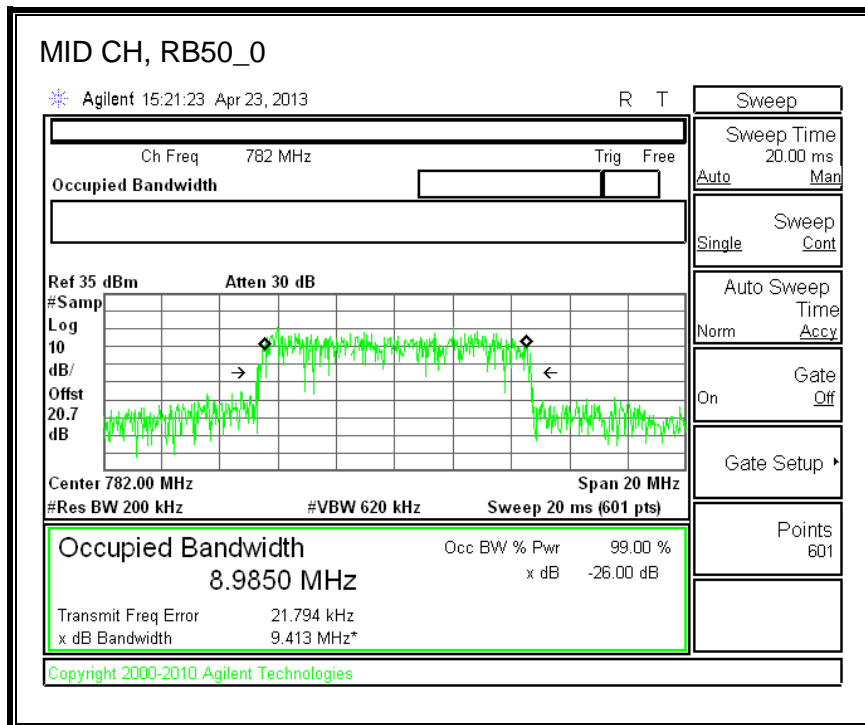
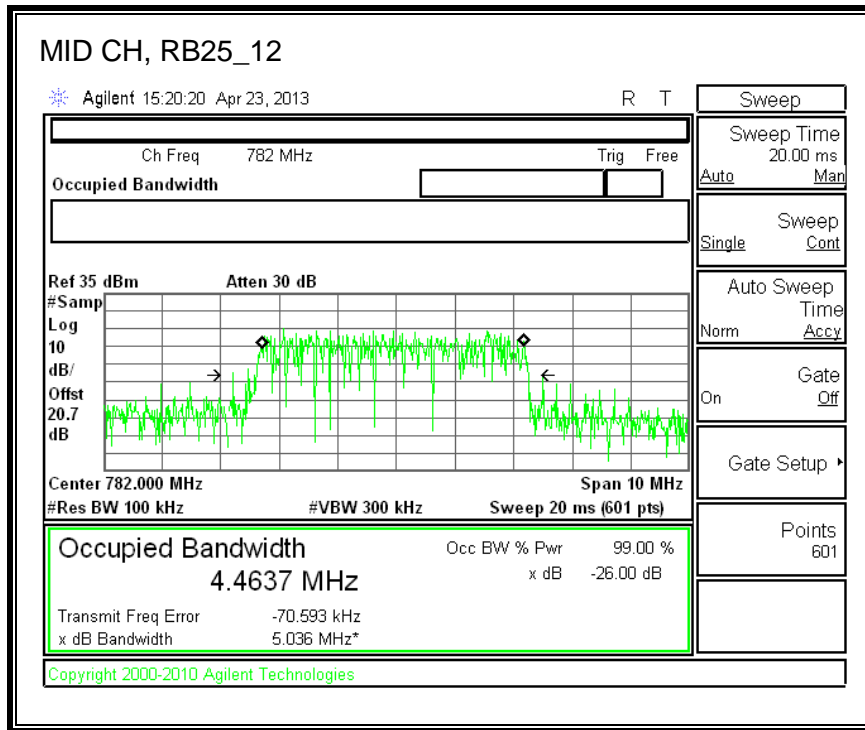
**5MHz (16QAM)**



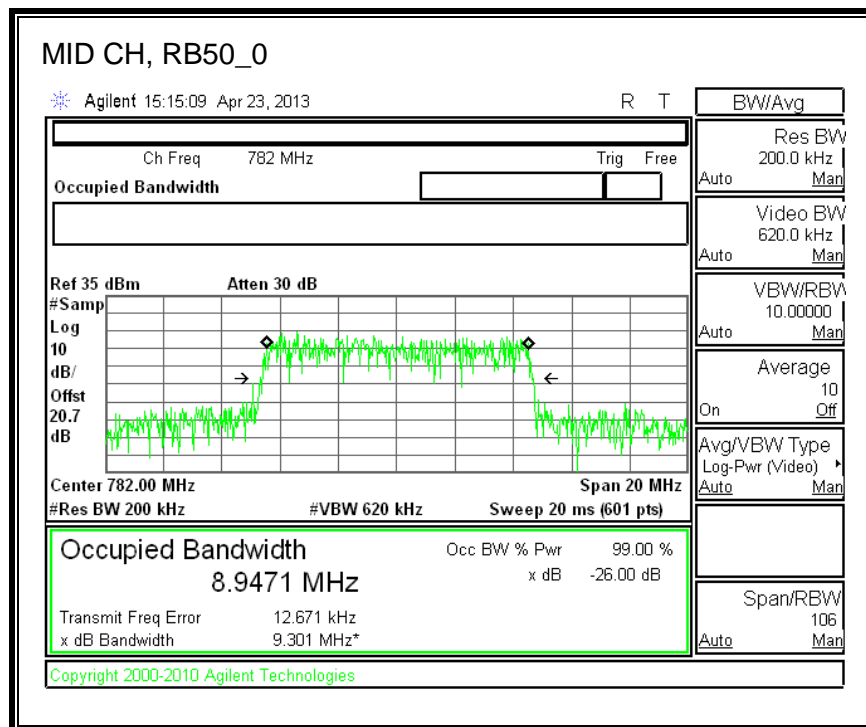
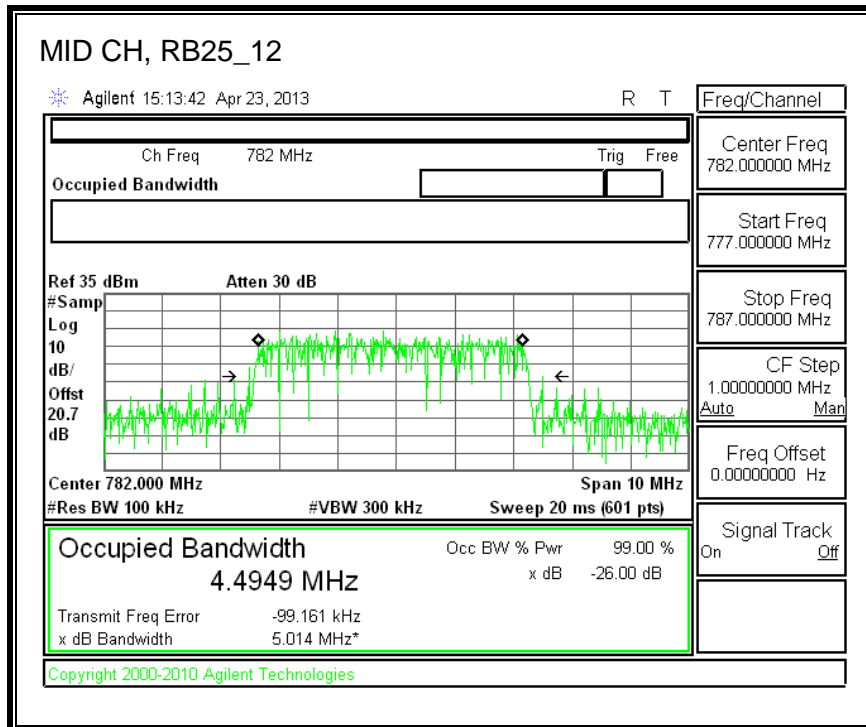




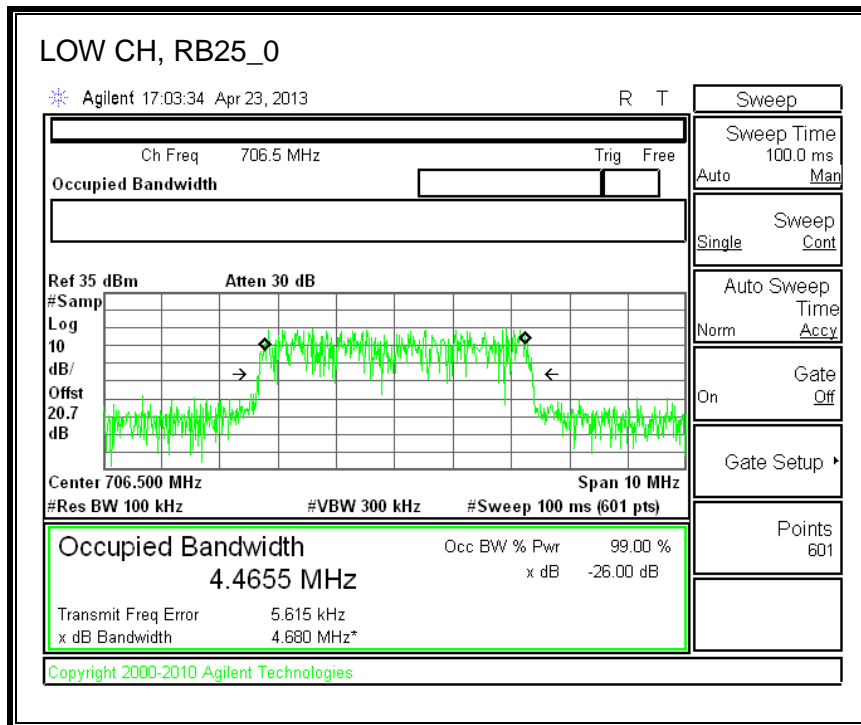
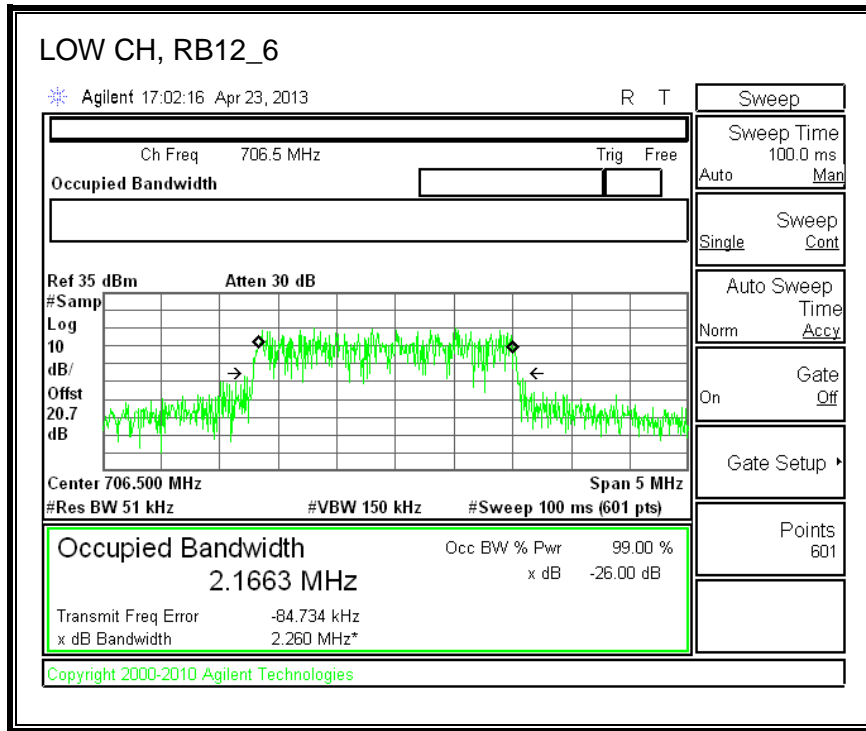
**10.0 MHz (QPSK)**



**10 MHz (16QAM)**

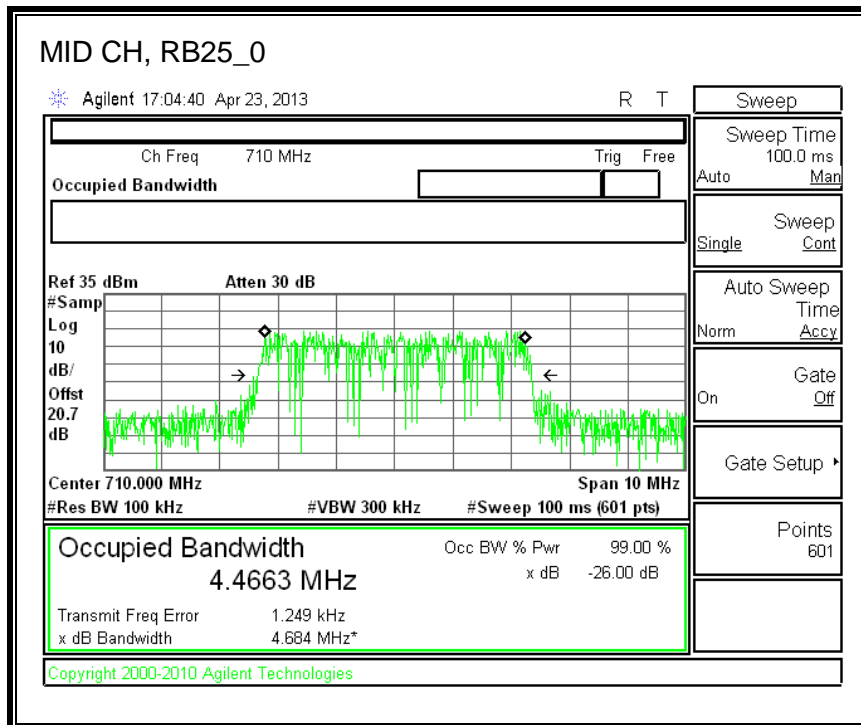
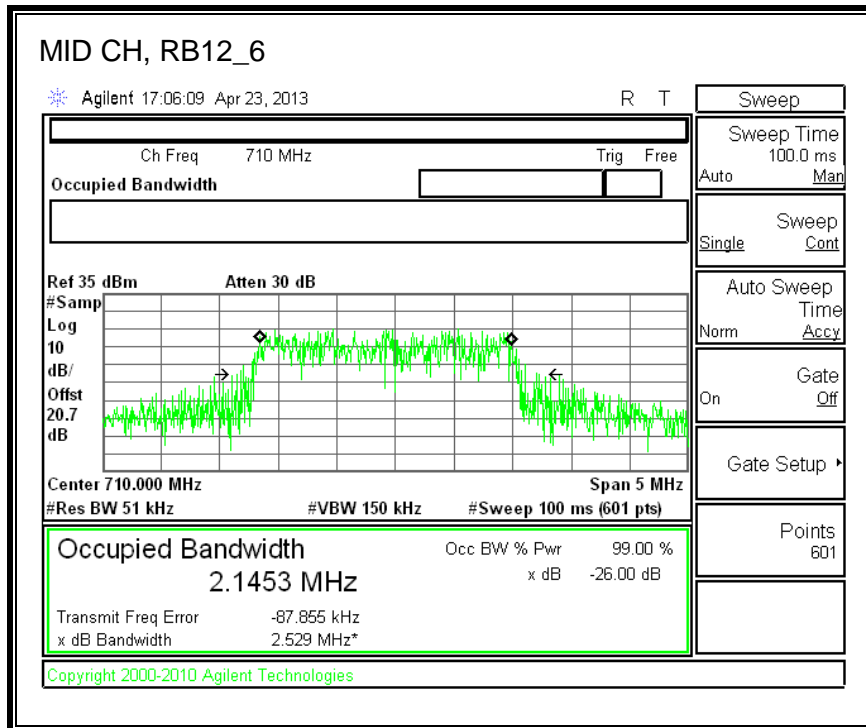


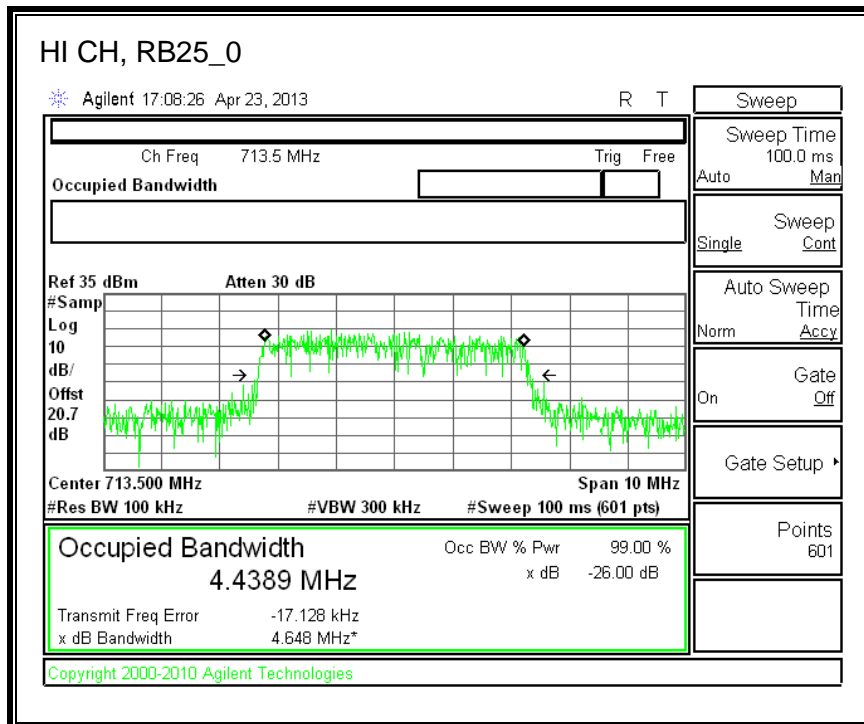
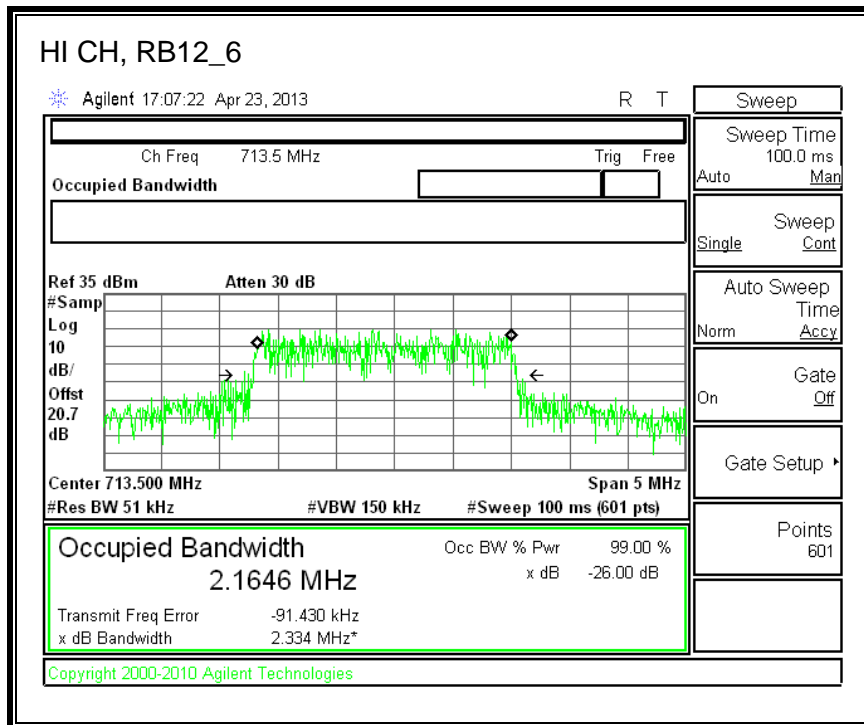
8.1.5. LTE BAND 17



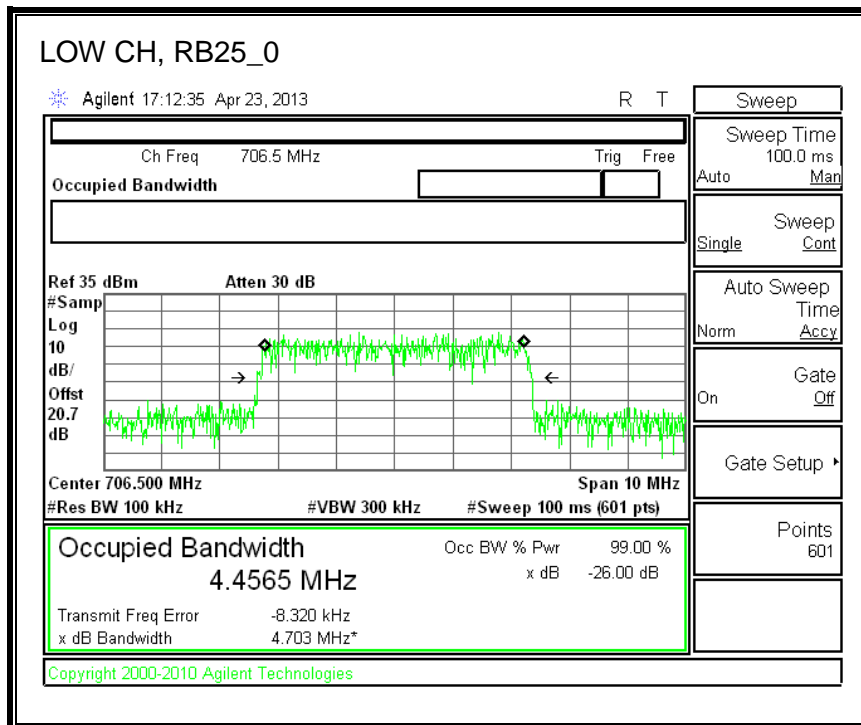
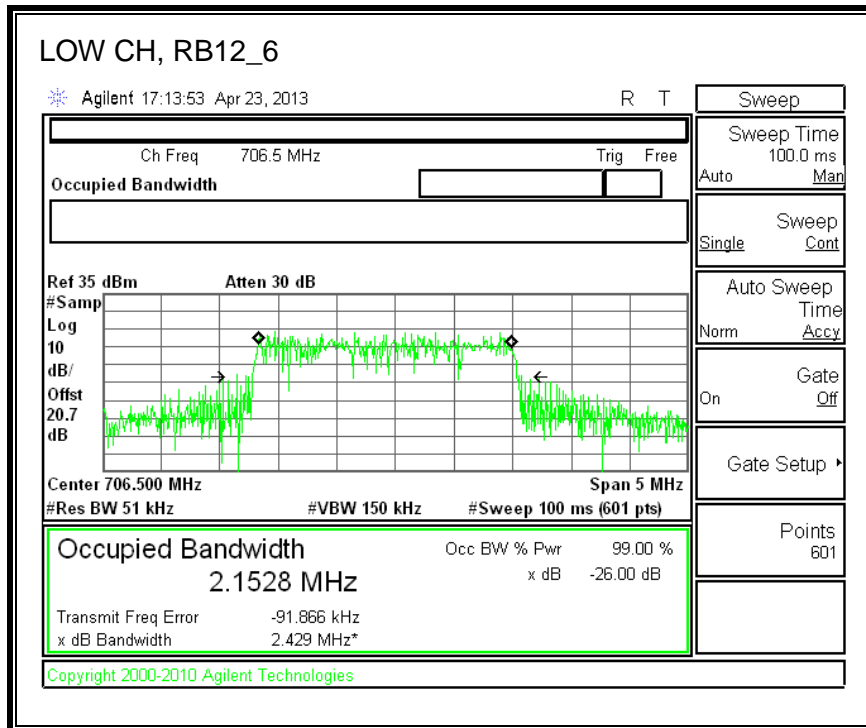


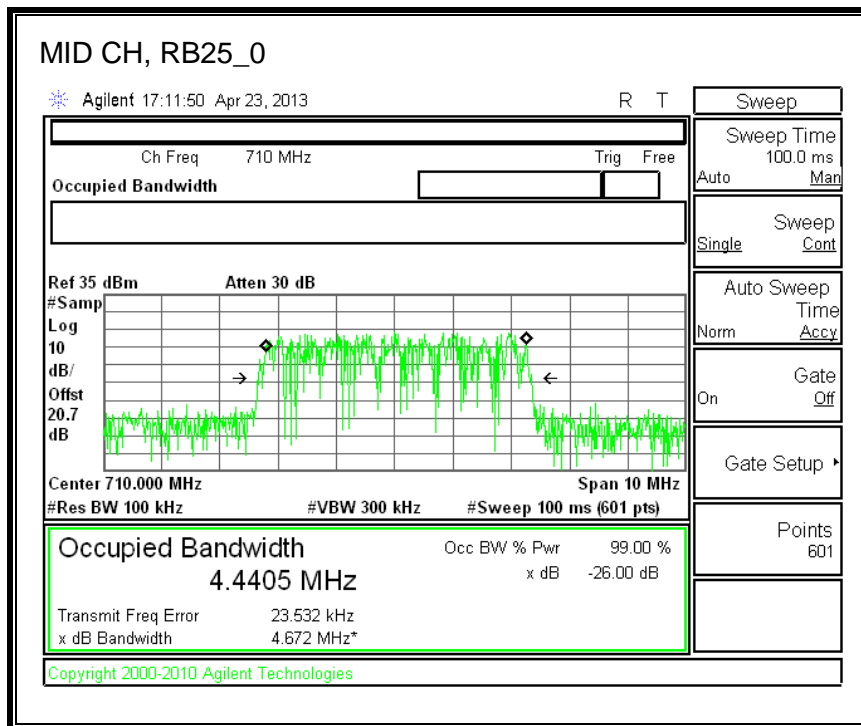
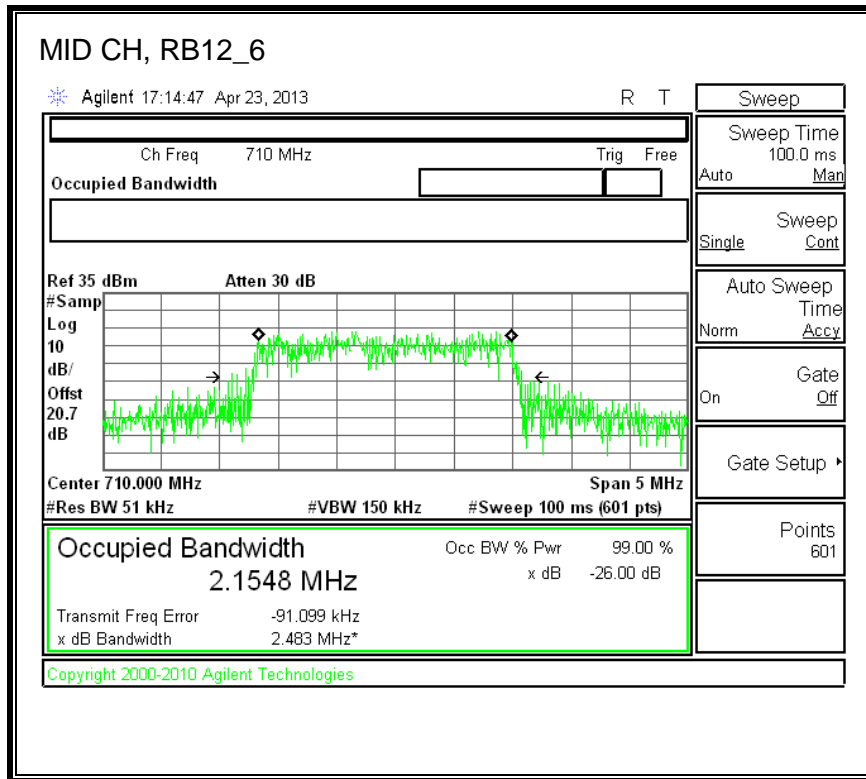
**5MHz (QPSK)**

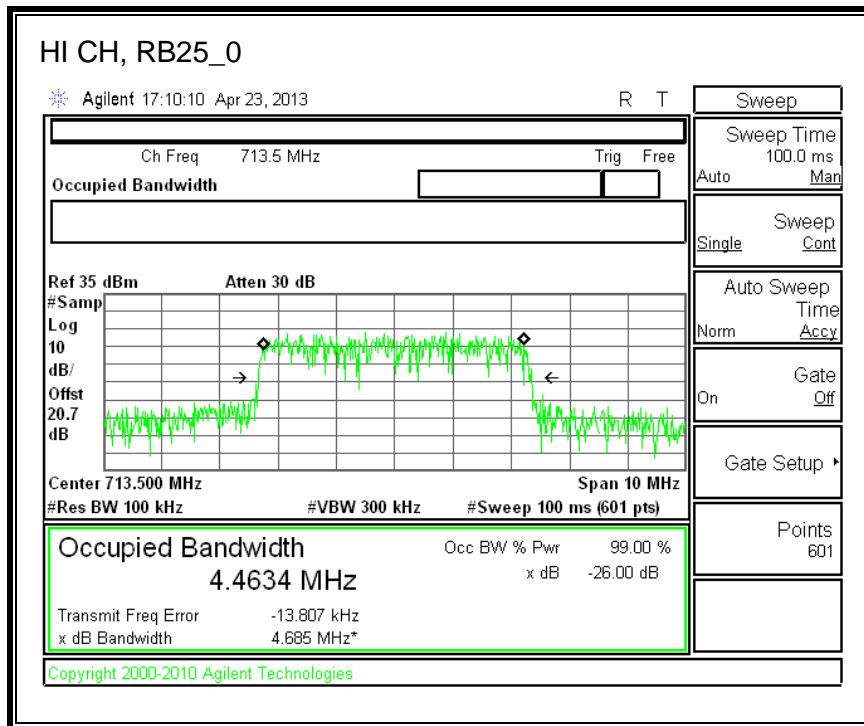
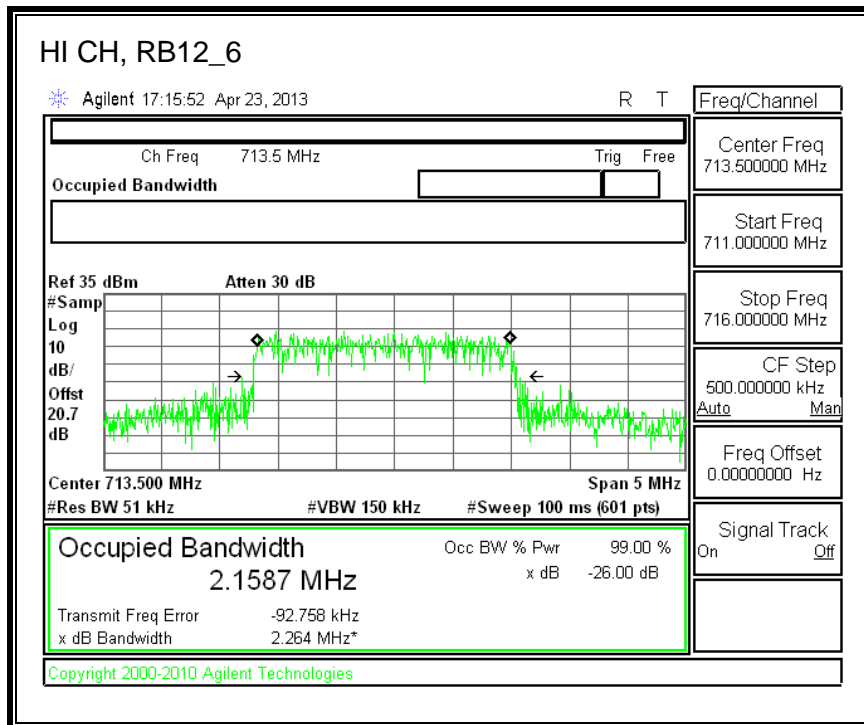




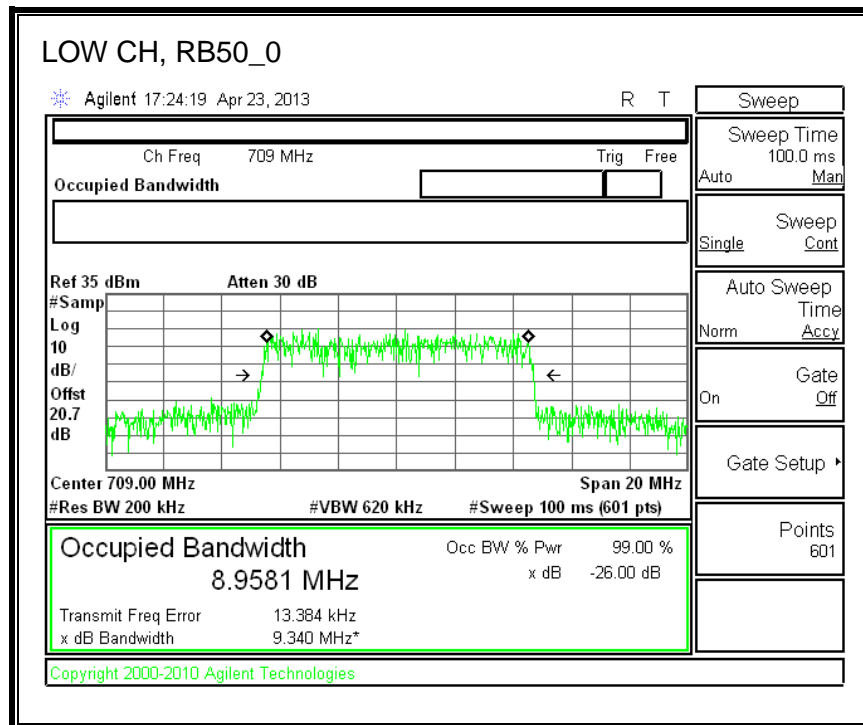
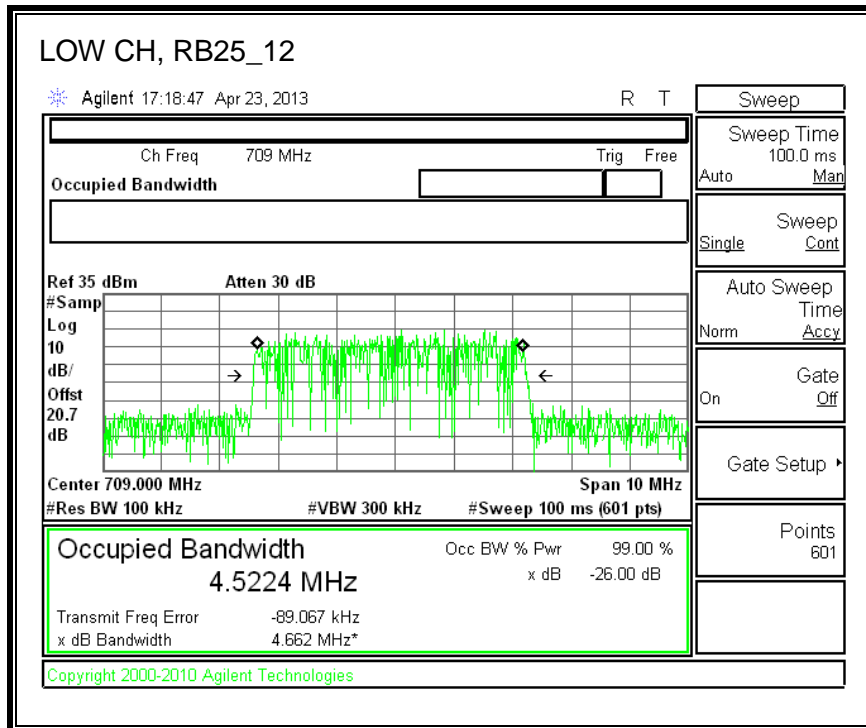
**5MHz (16QAM)**

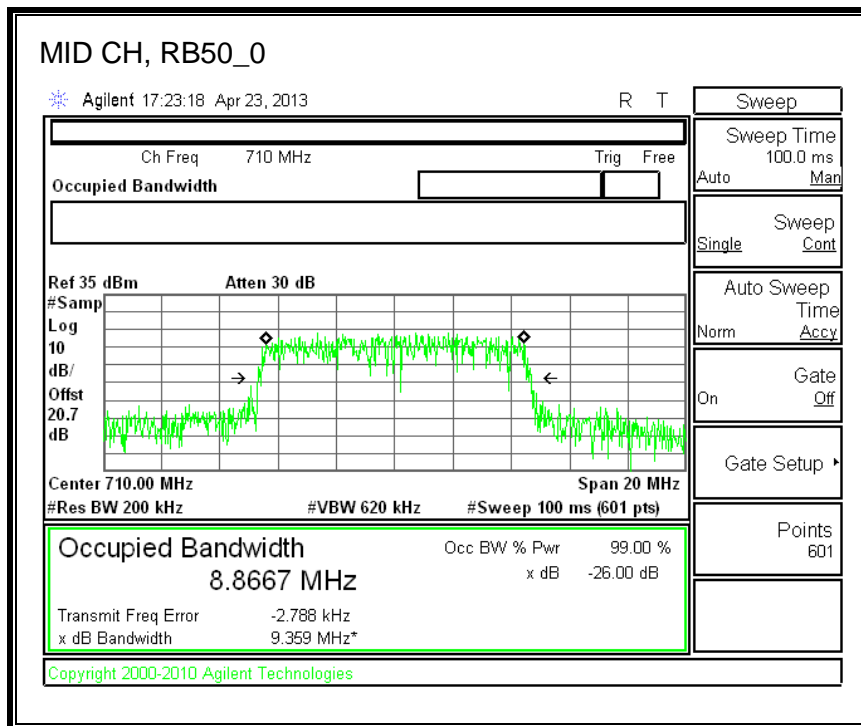
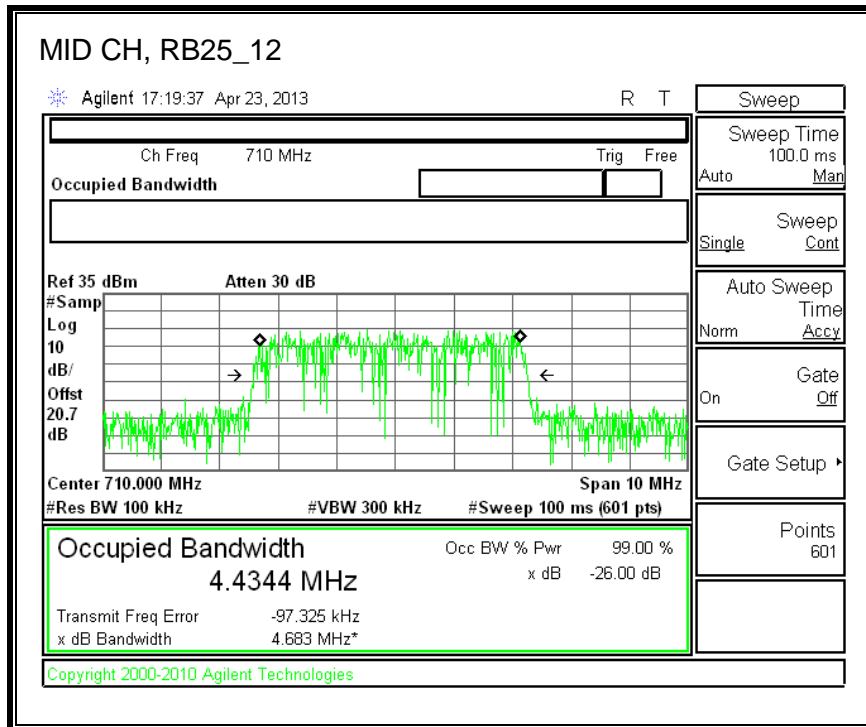


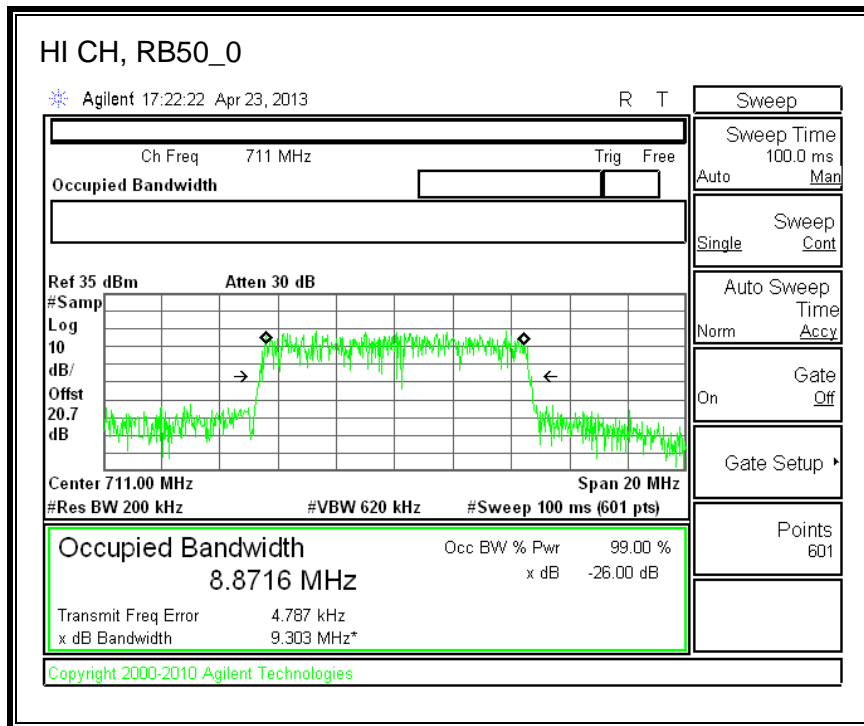
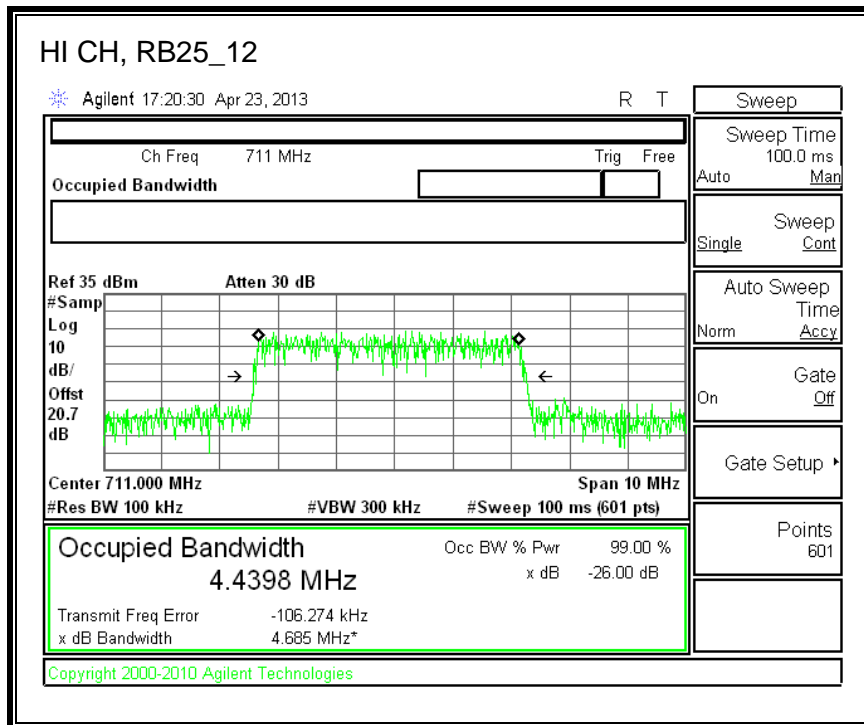




**10.0 MHz (QPSK)**

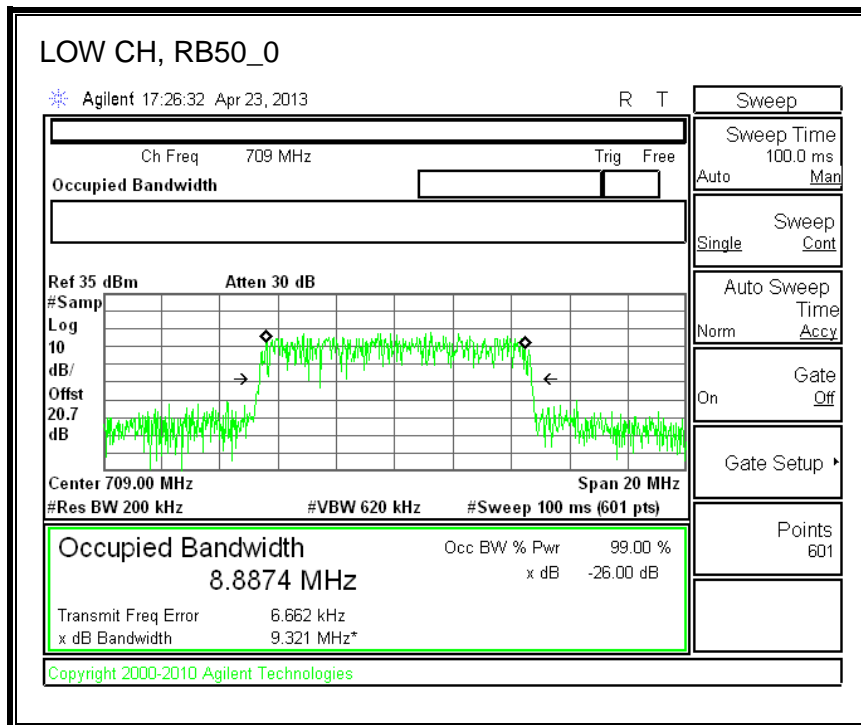
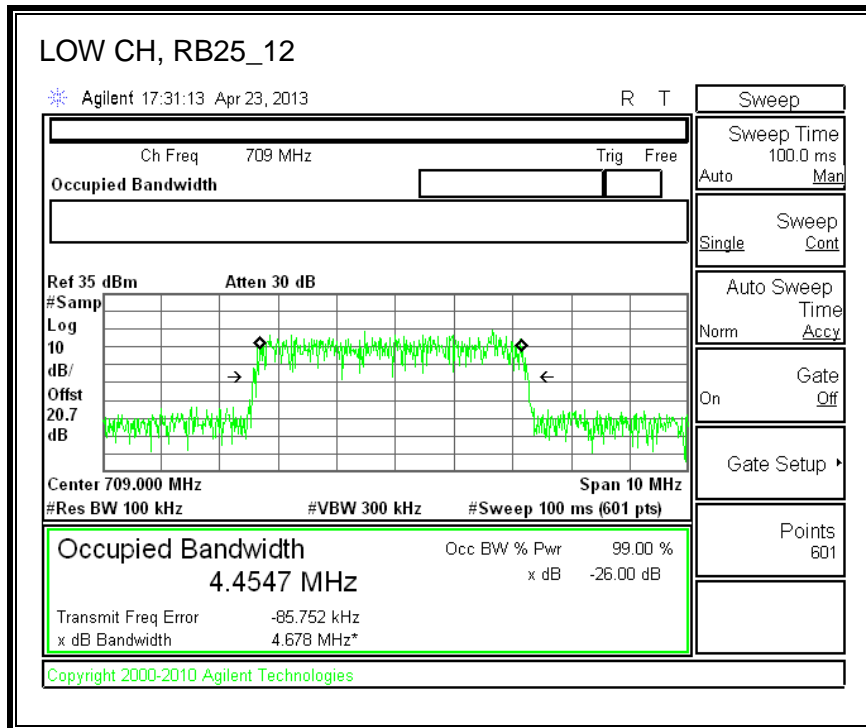


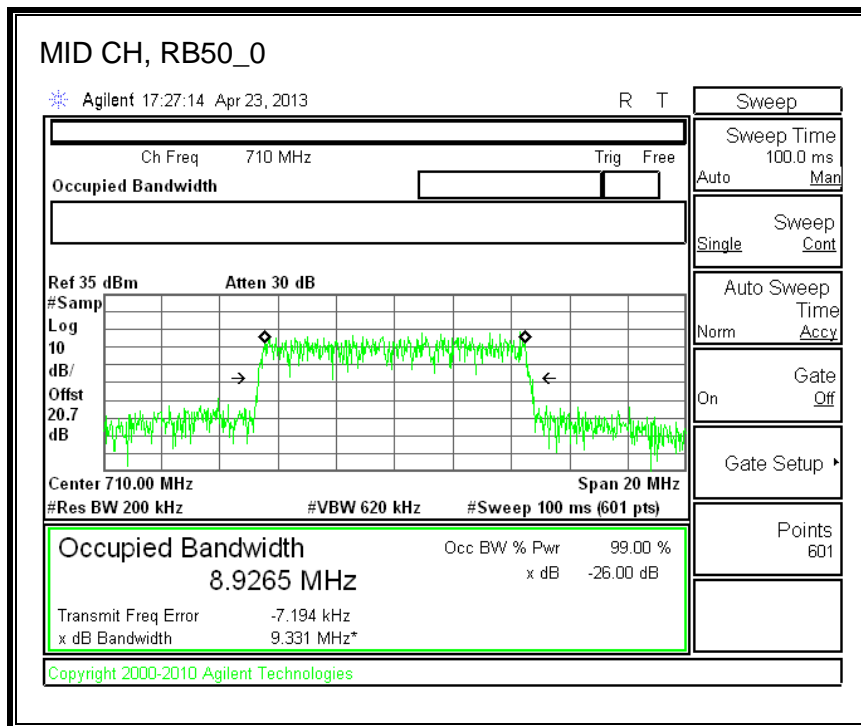
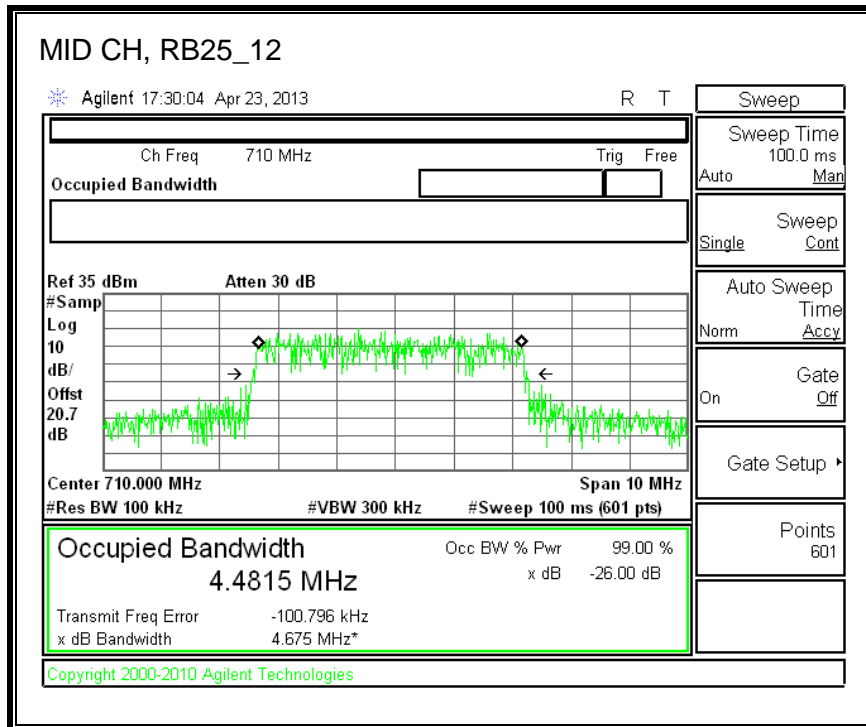


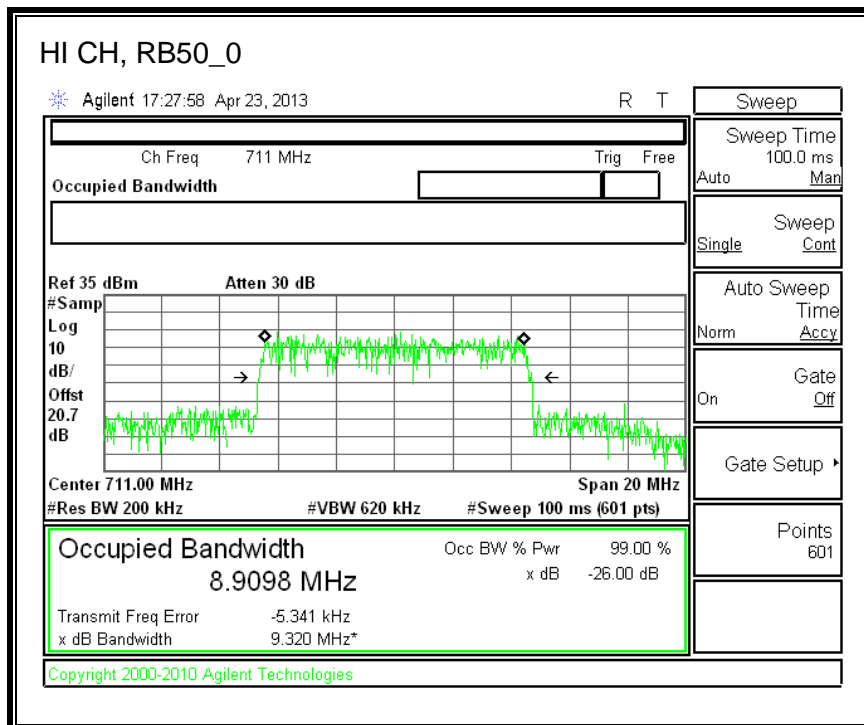
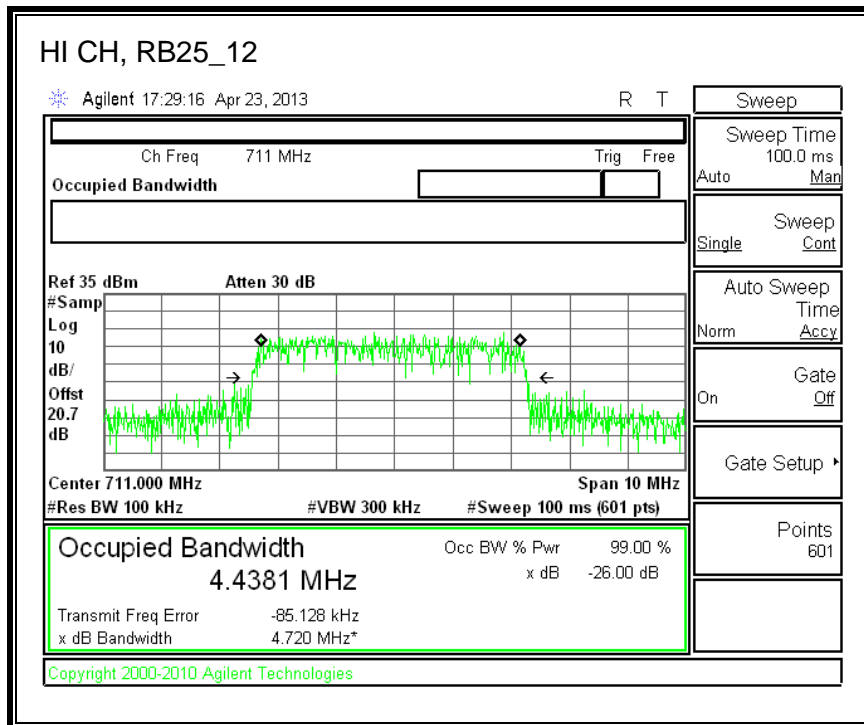




**10MHz (16QAM)**

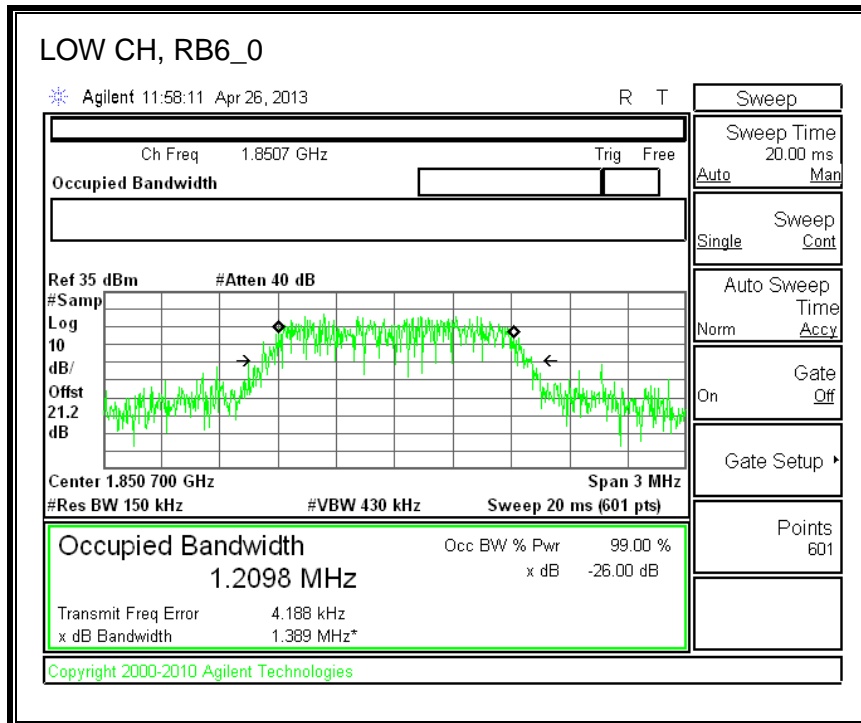
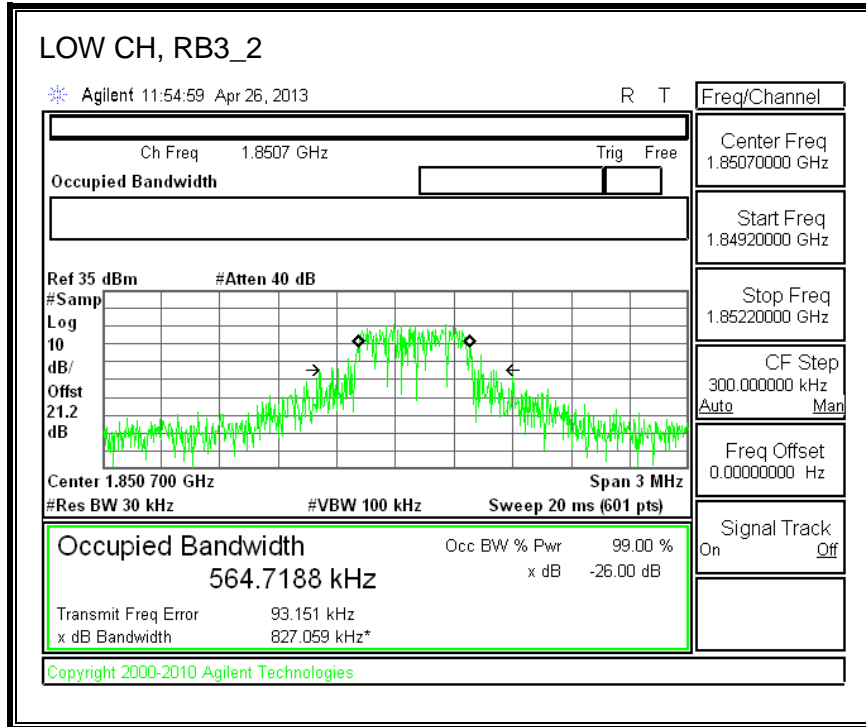


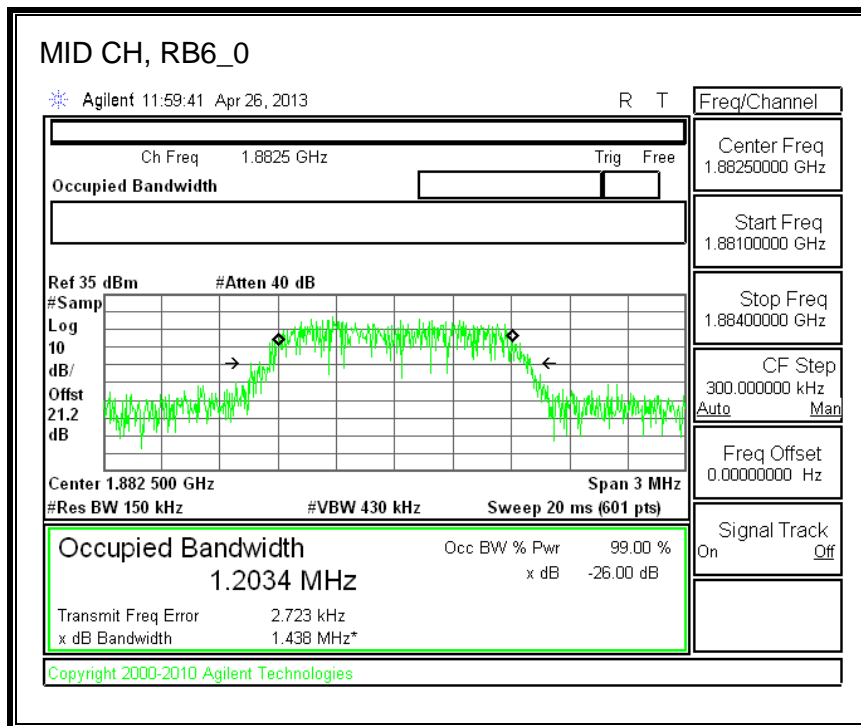
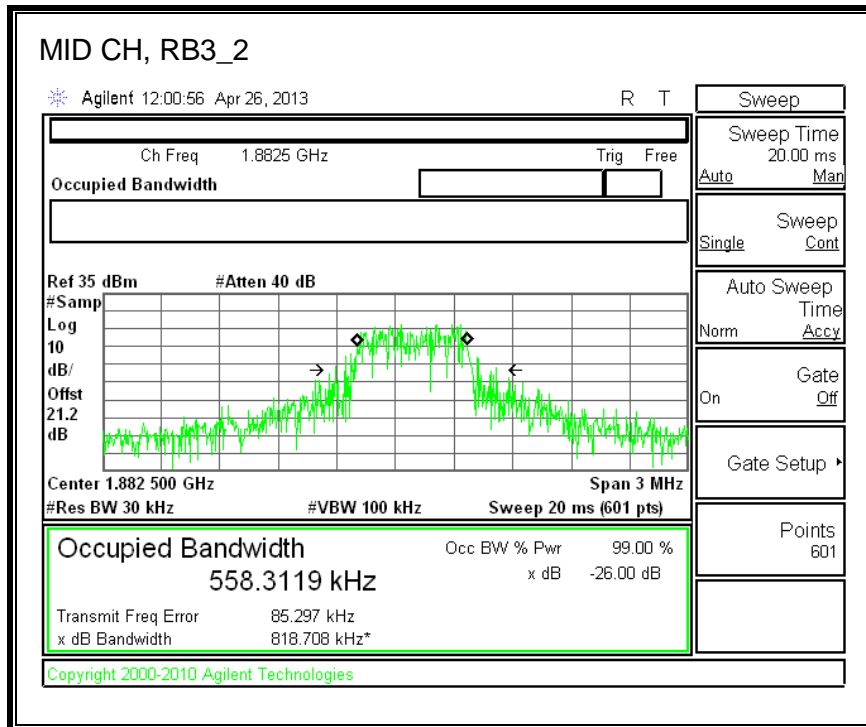


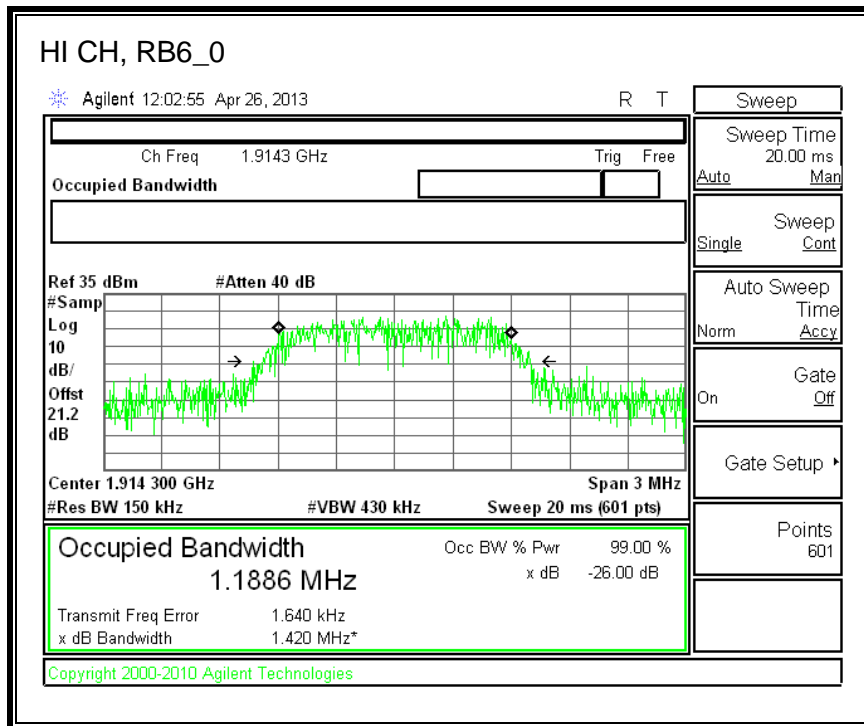
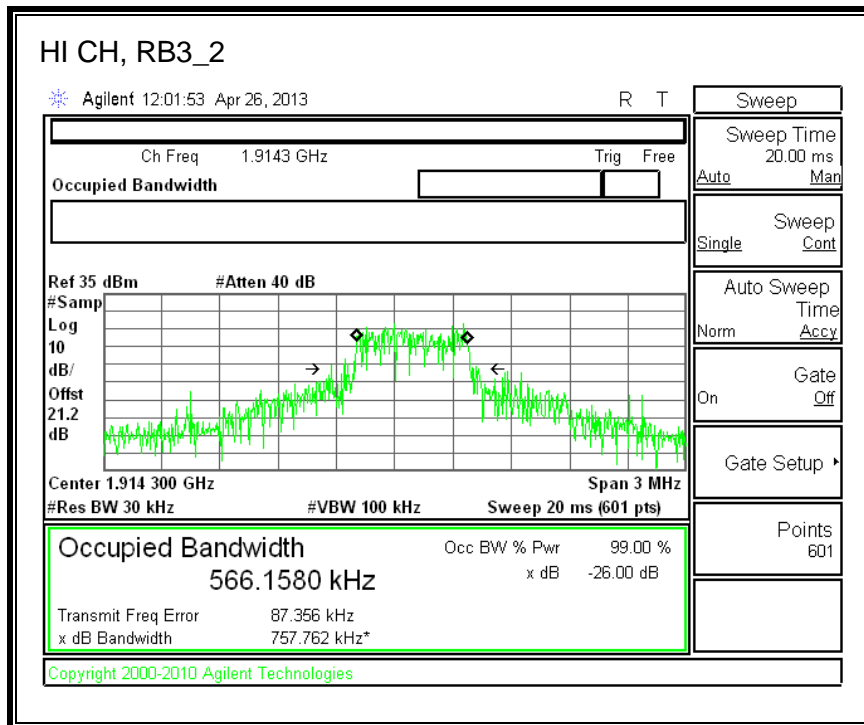


### 8.1.6. LTE BAND 25

#### 1.4MHz (QPSK)

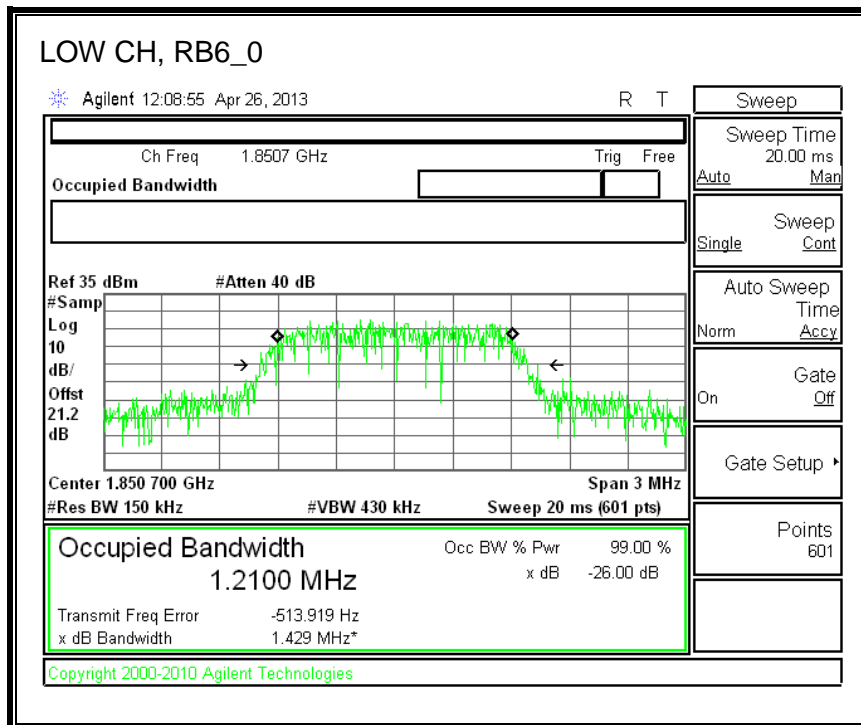
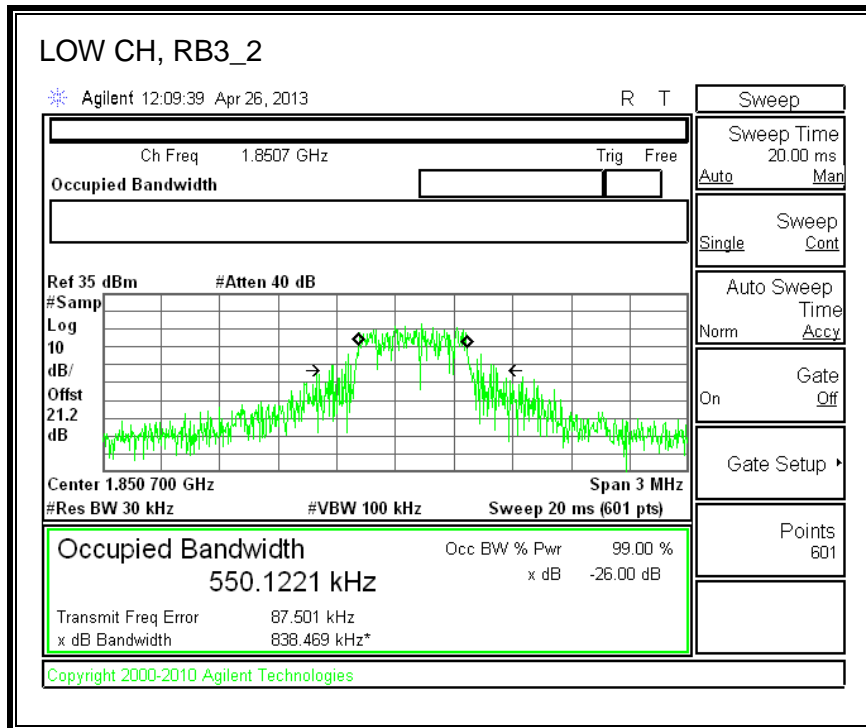


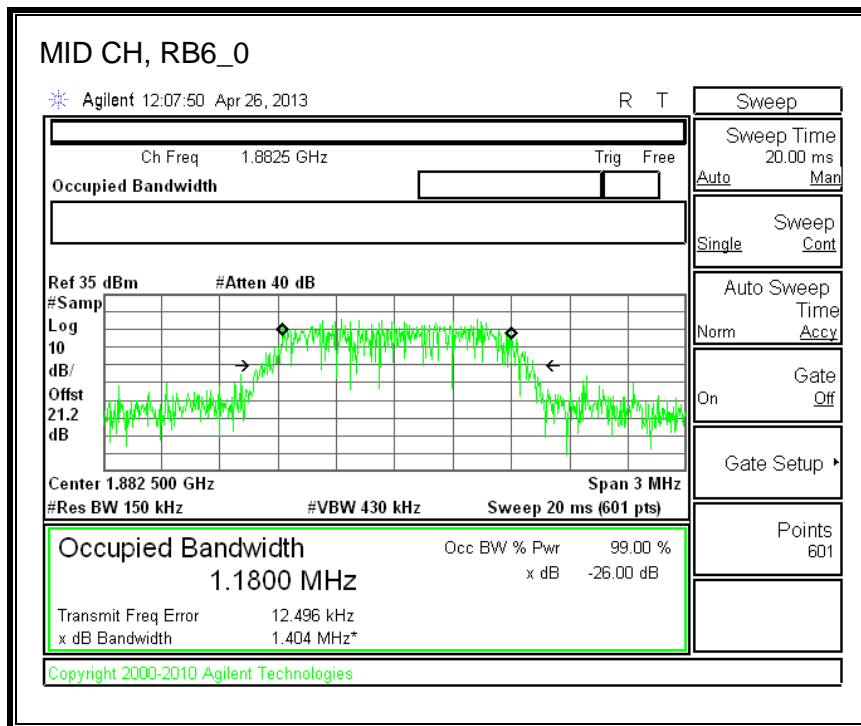
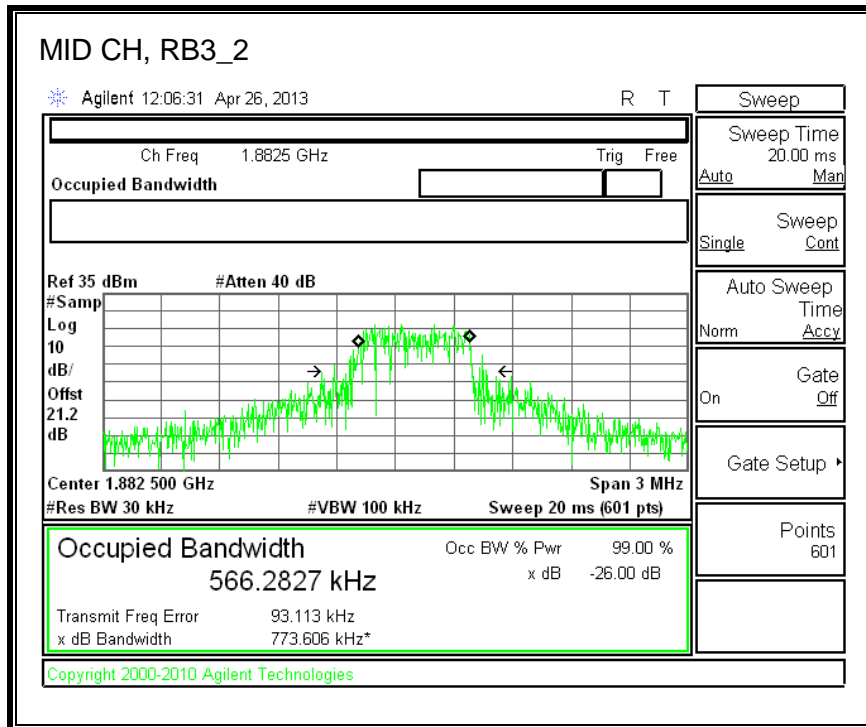




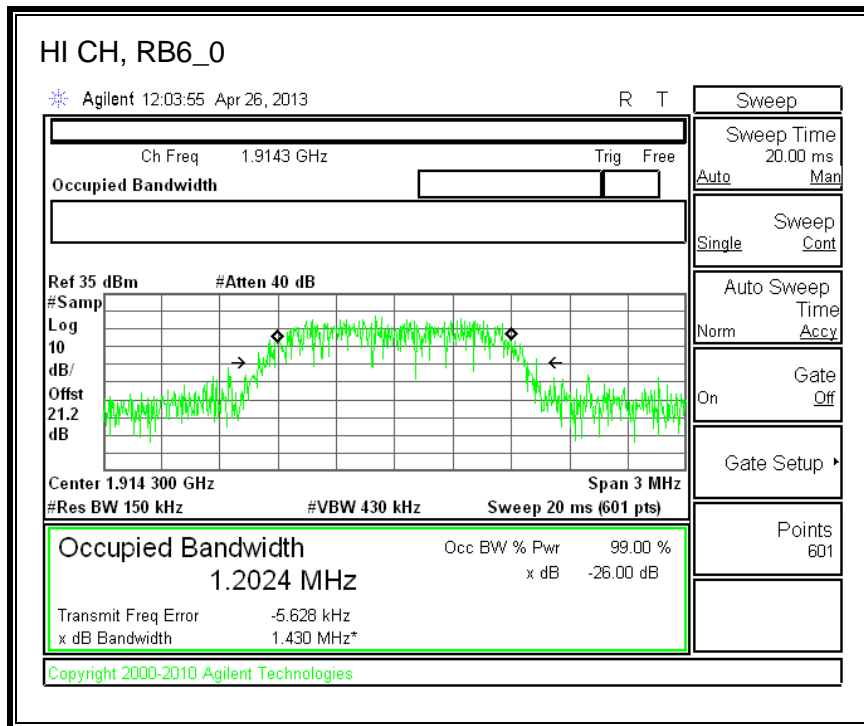
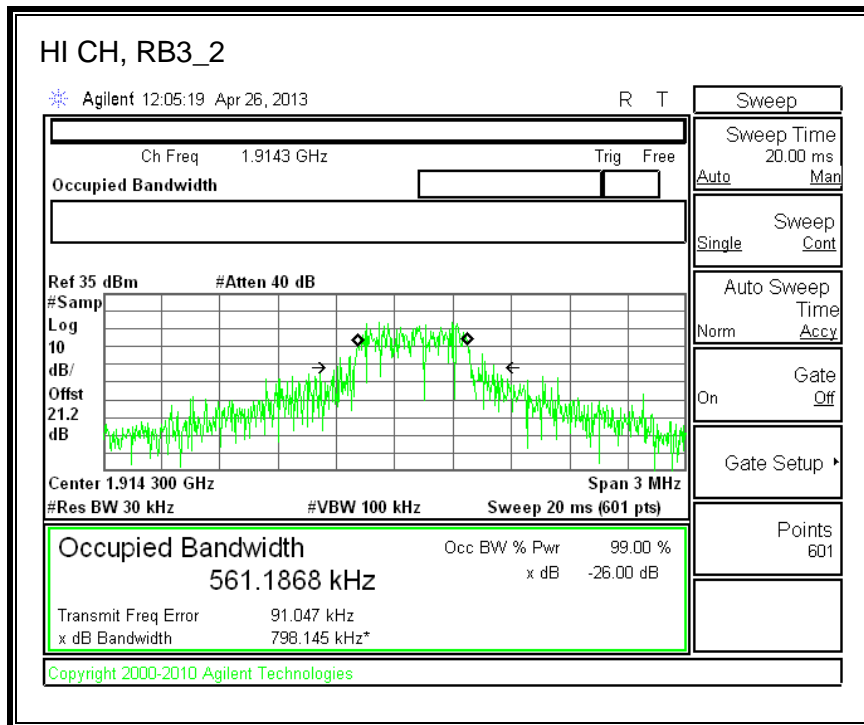
**Band 25 (1.4 MHz BAND WIDTH)**

**LTE 16QAM**



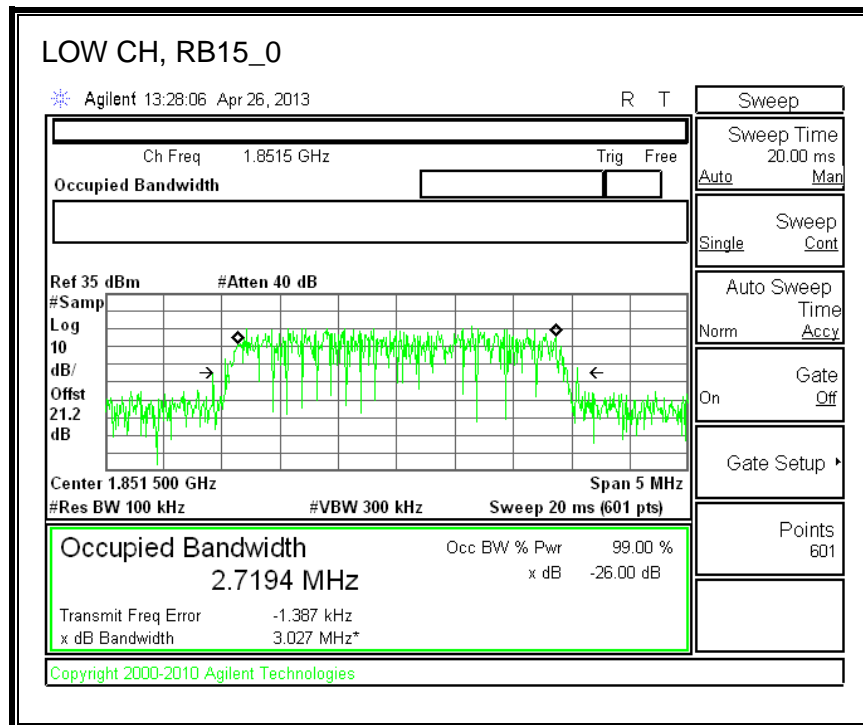
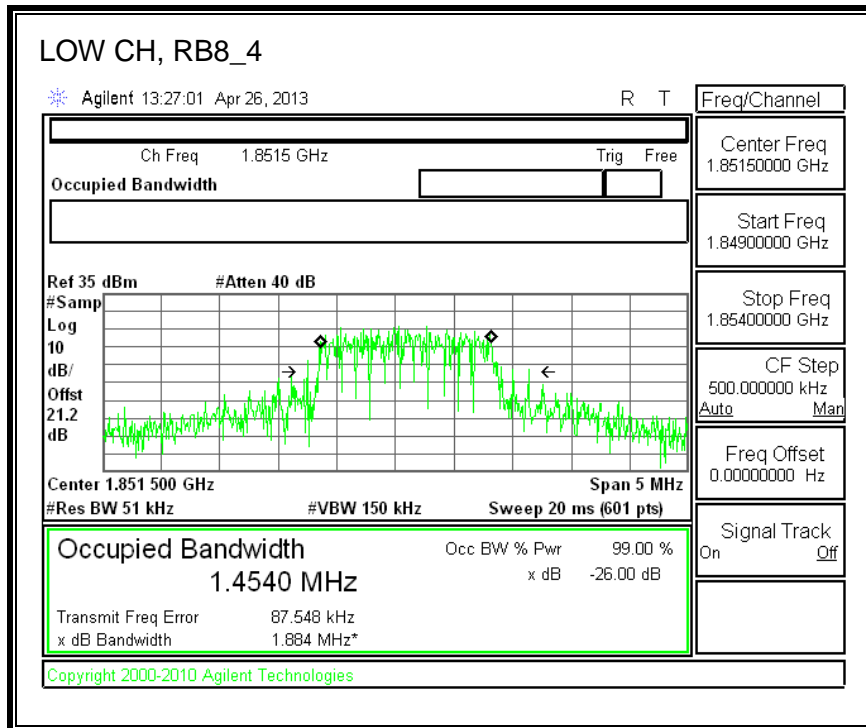


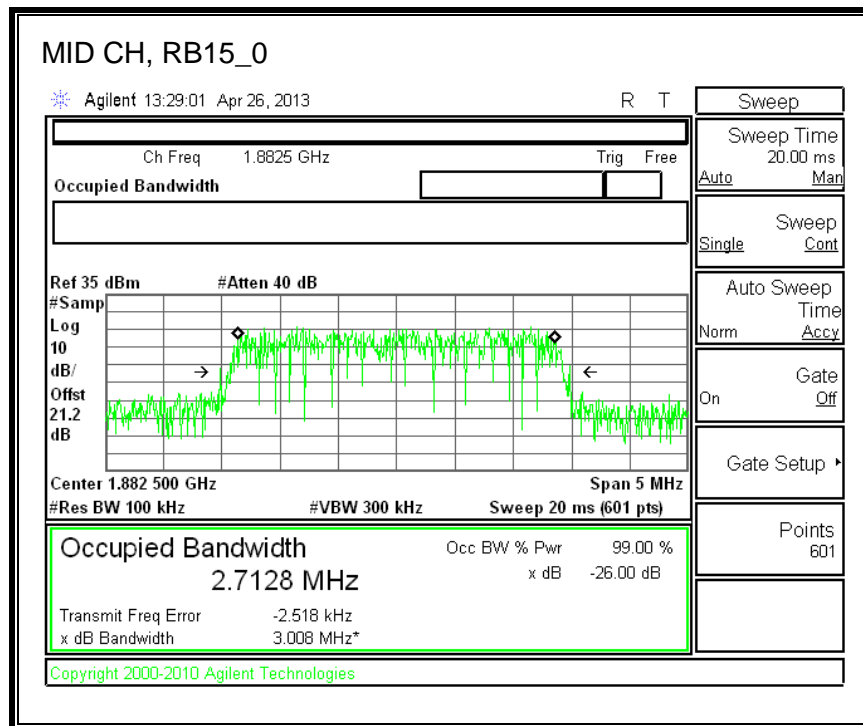
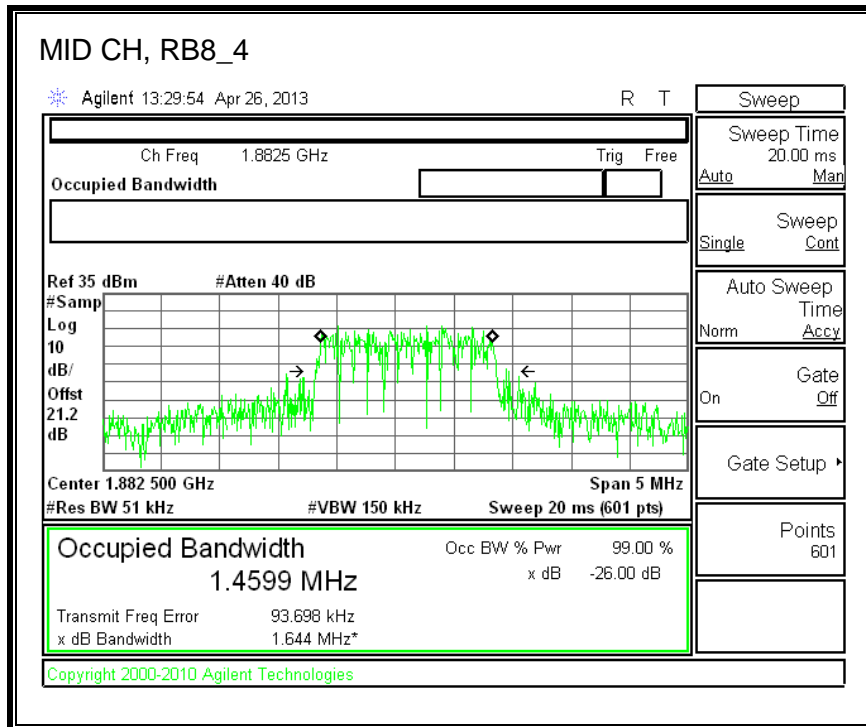


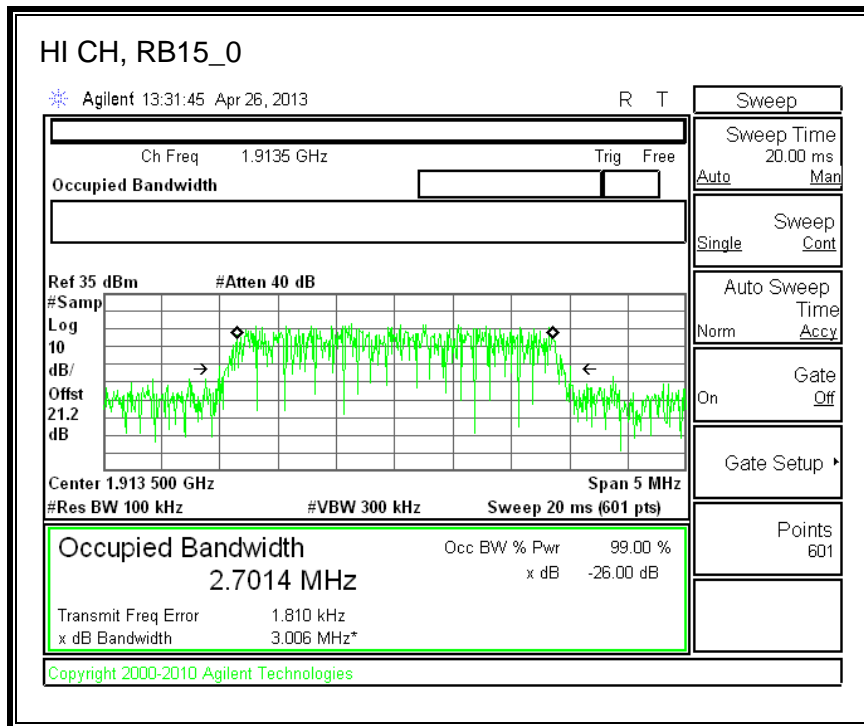
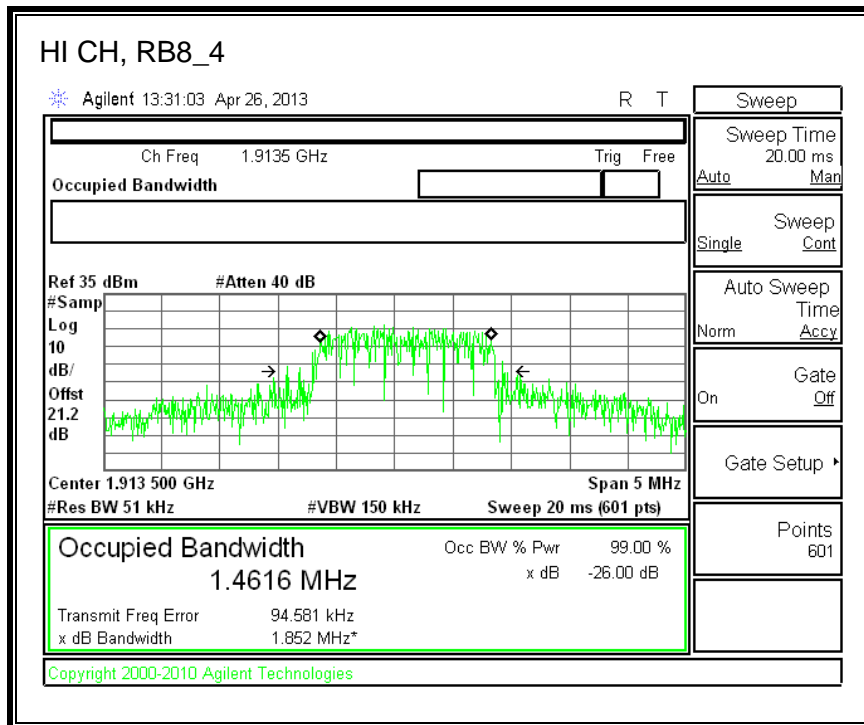


**Band 25 (3.0 MHz BAND WIDTH)**

**LTE QPSK**

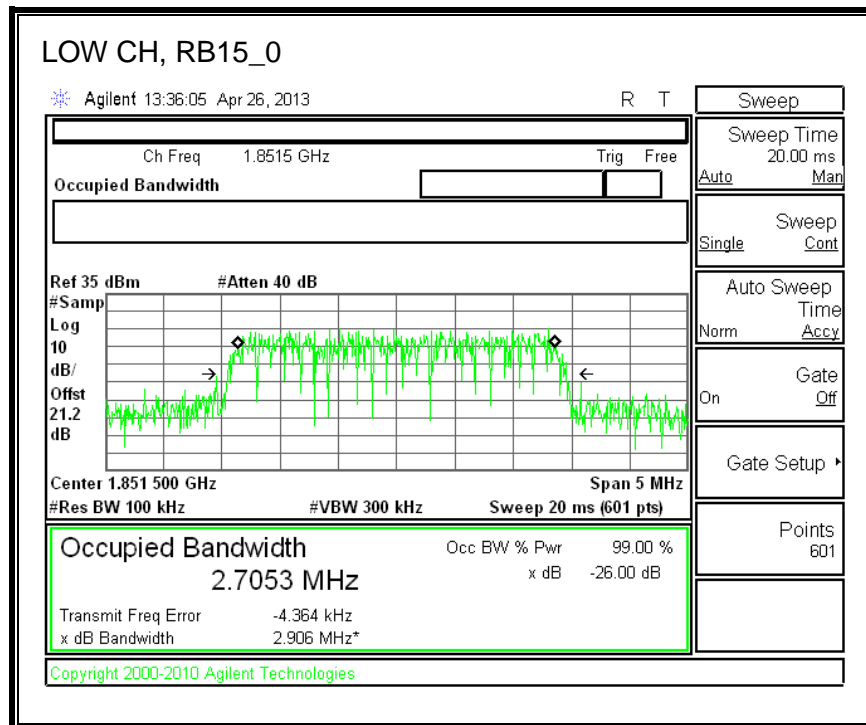
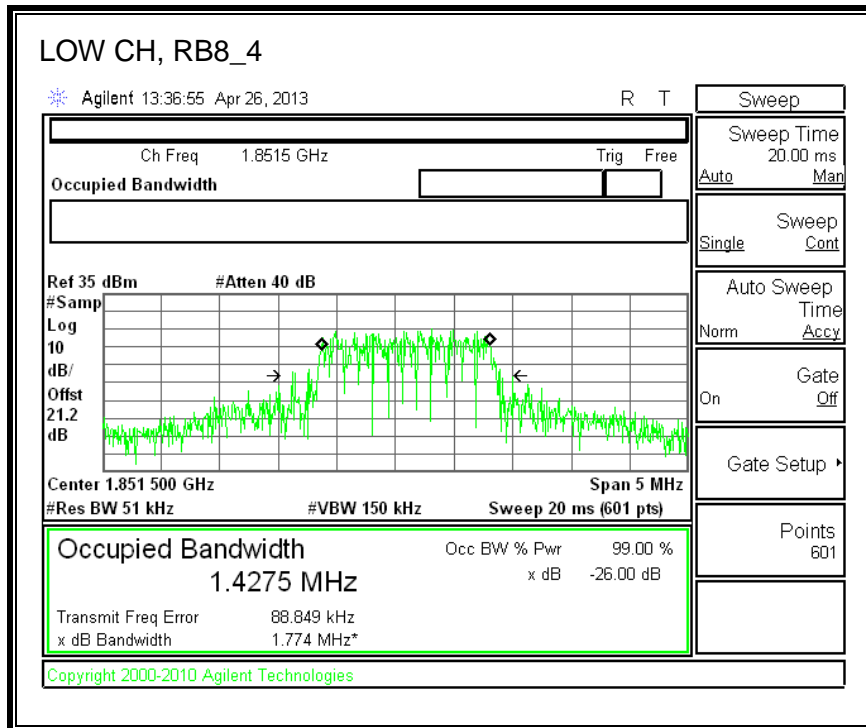


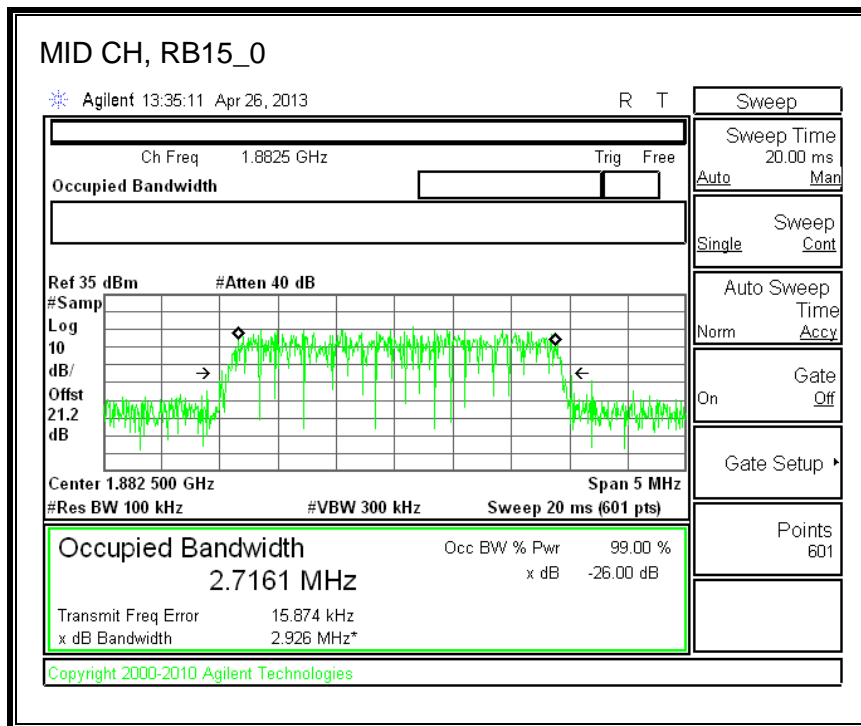
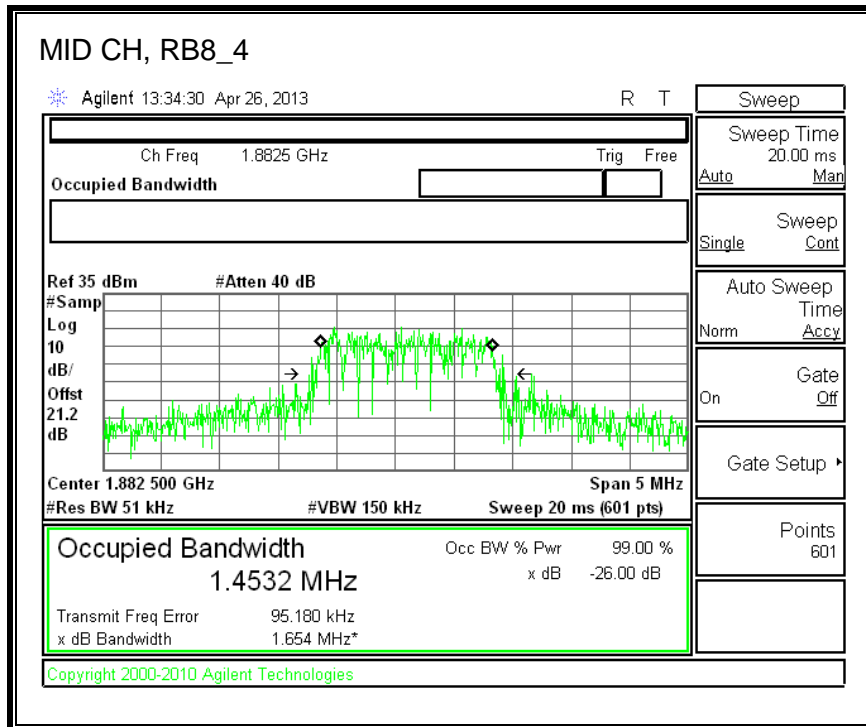


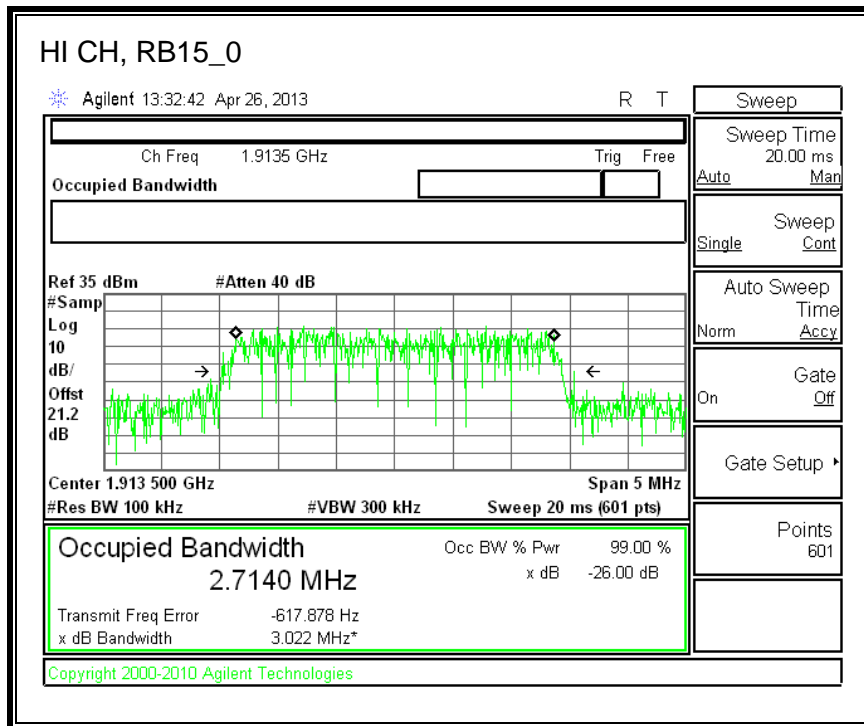
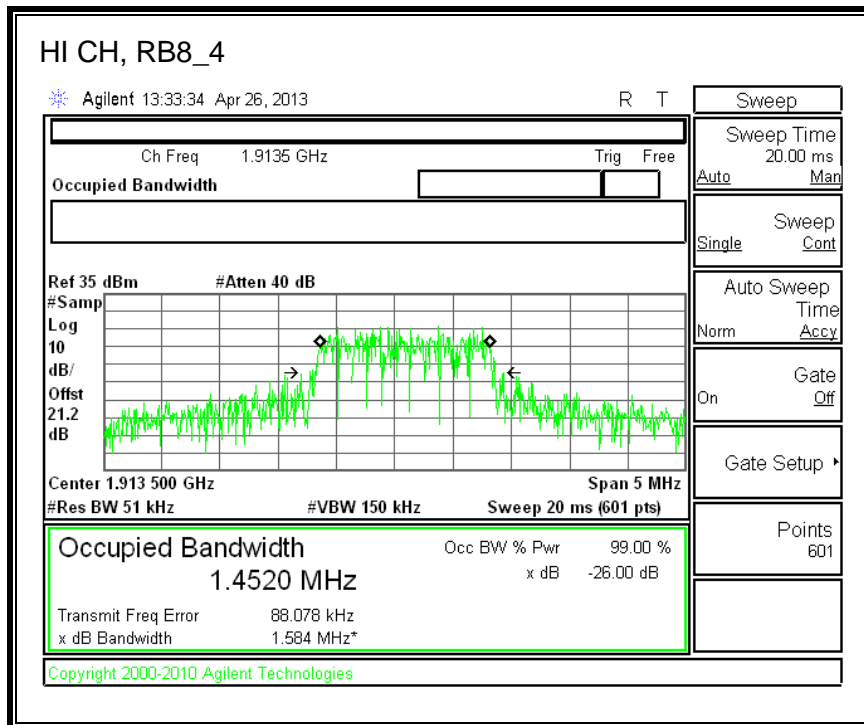


**Band 25 (3.0 MHz BAND WIDTH)**

**LTE 16QAM**

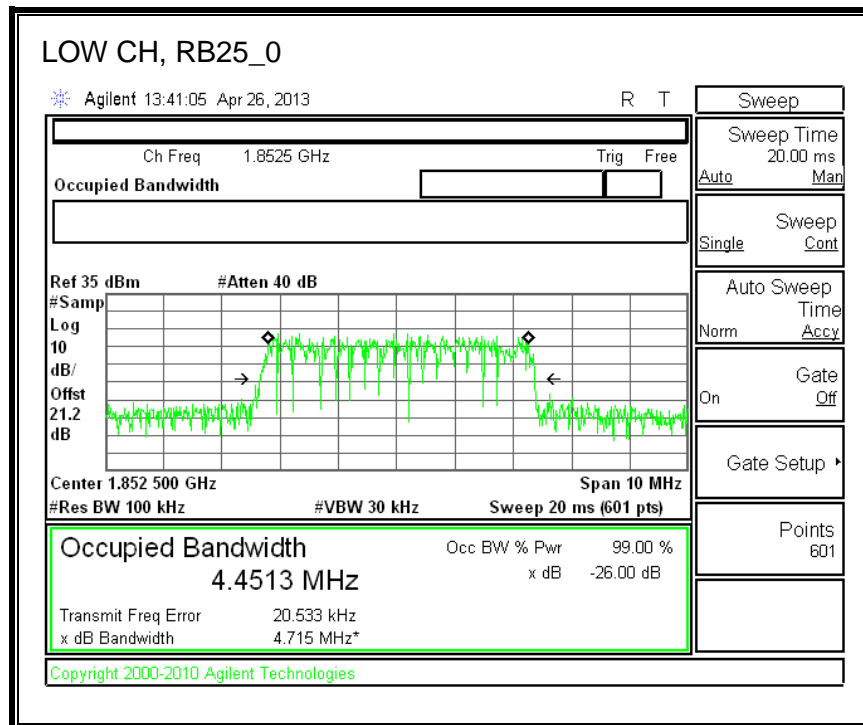
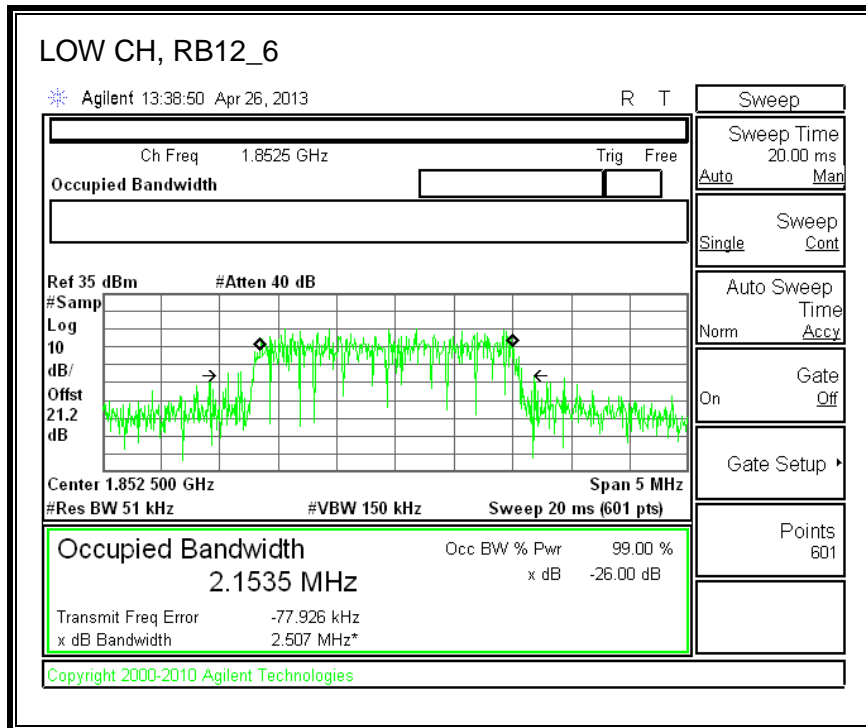




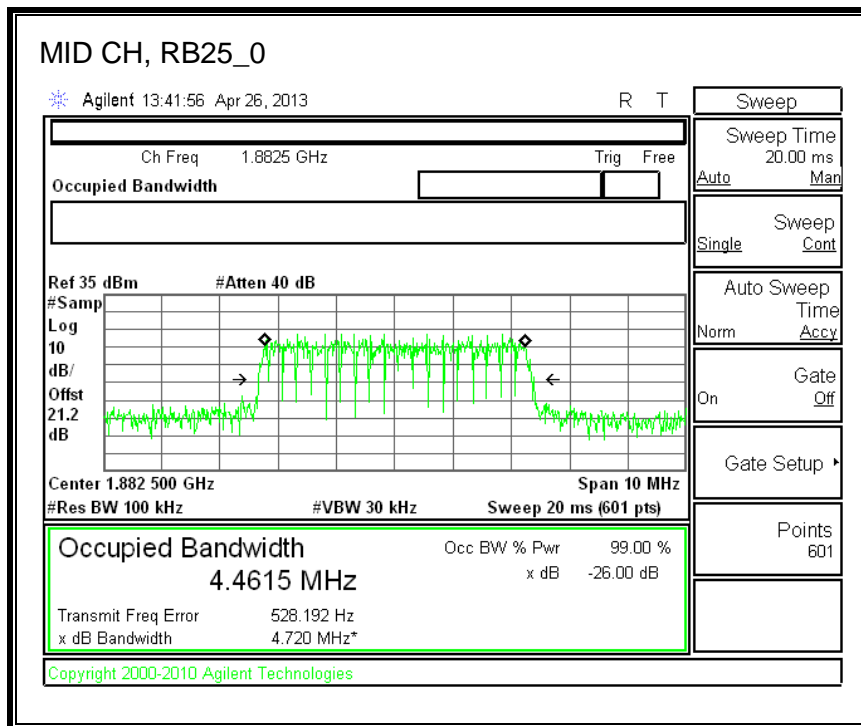
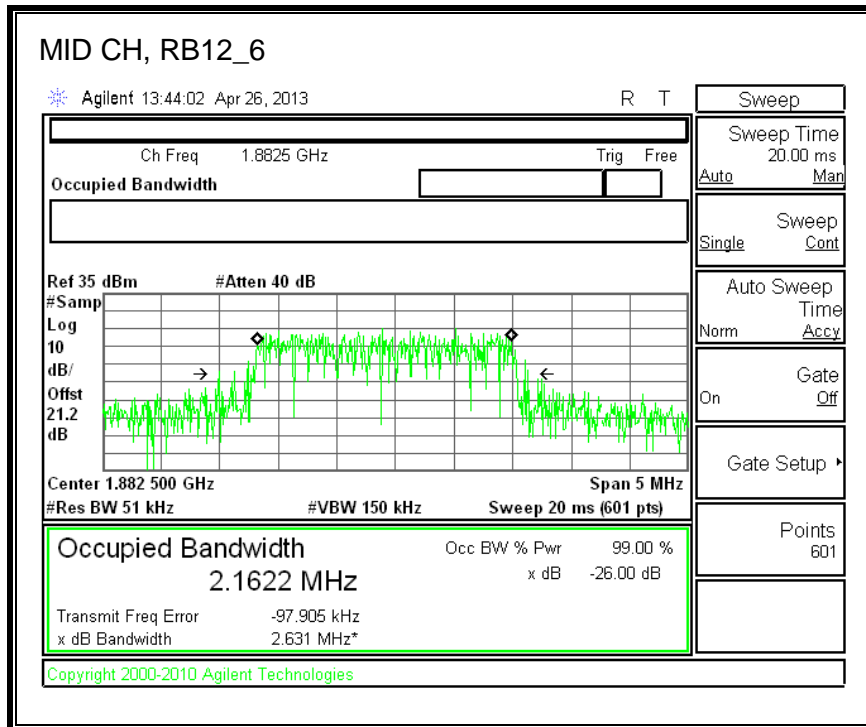


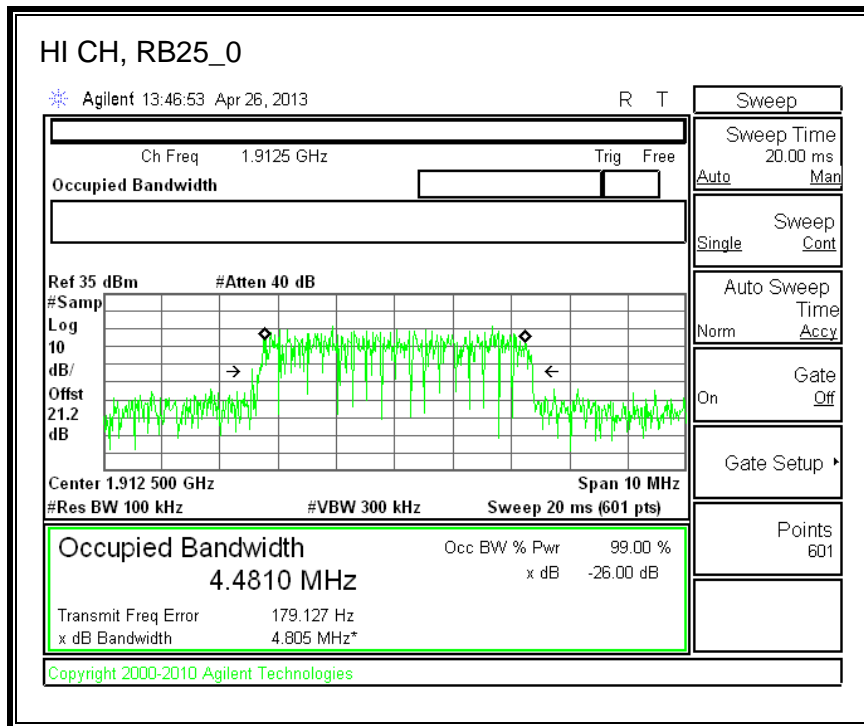
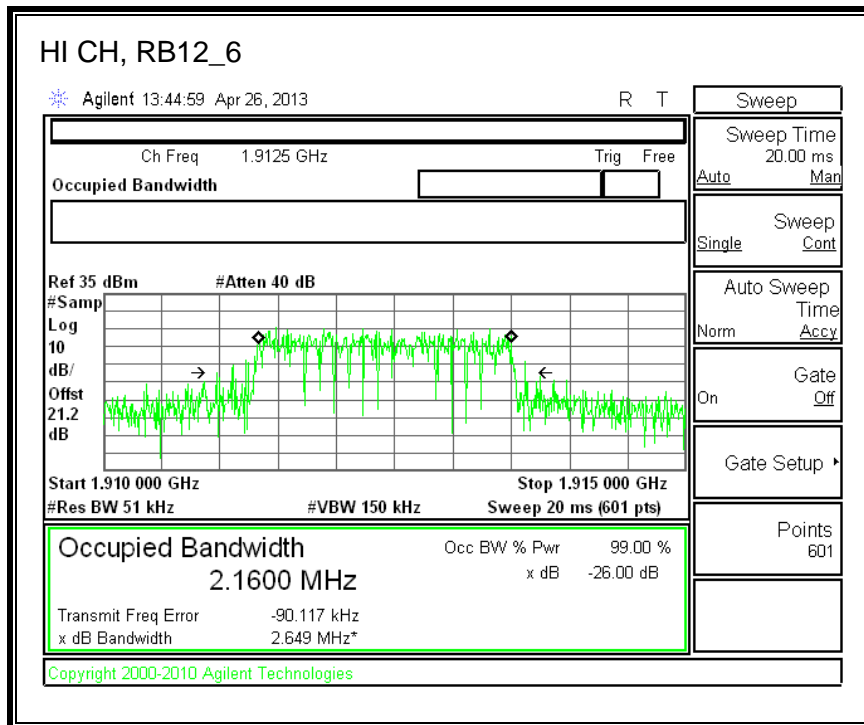
**Band 25 (5.0 MHz BAND WIDTH)**

**LTE QPSK**



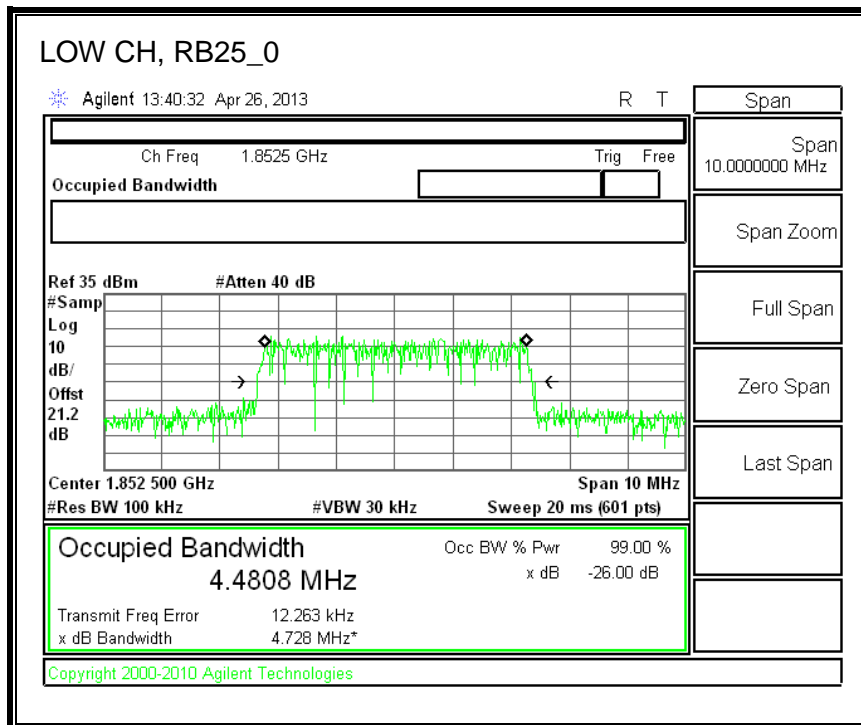
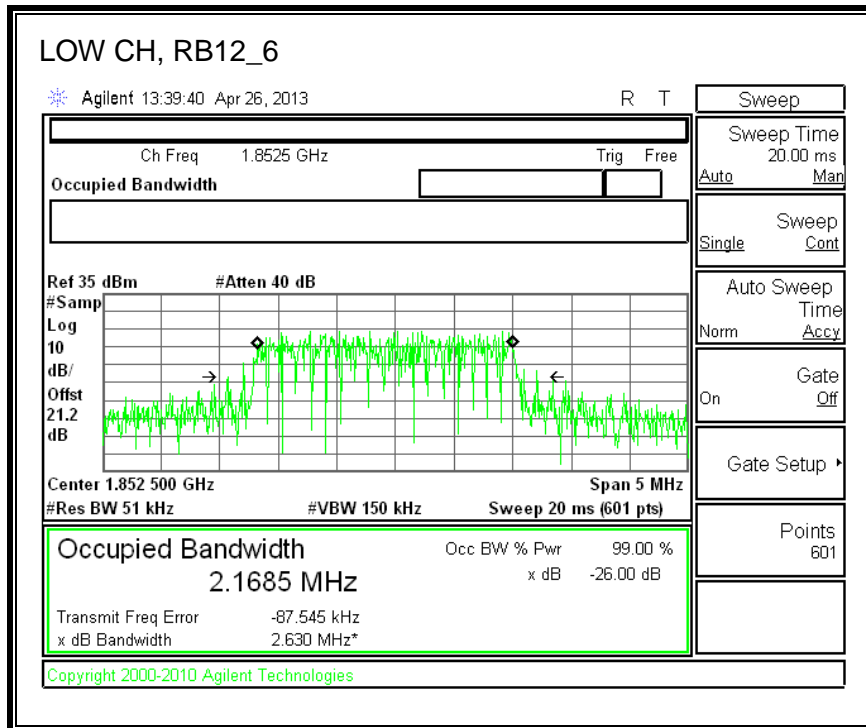


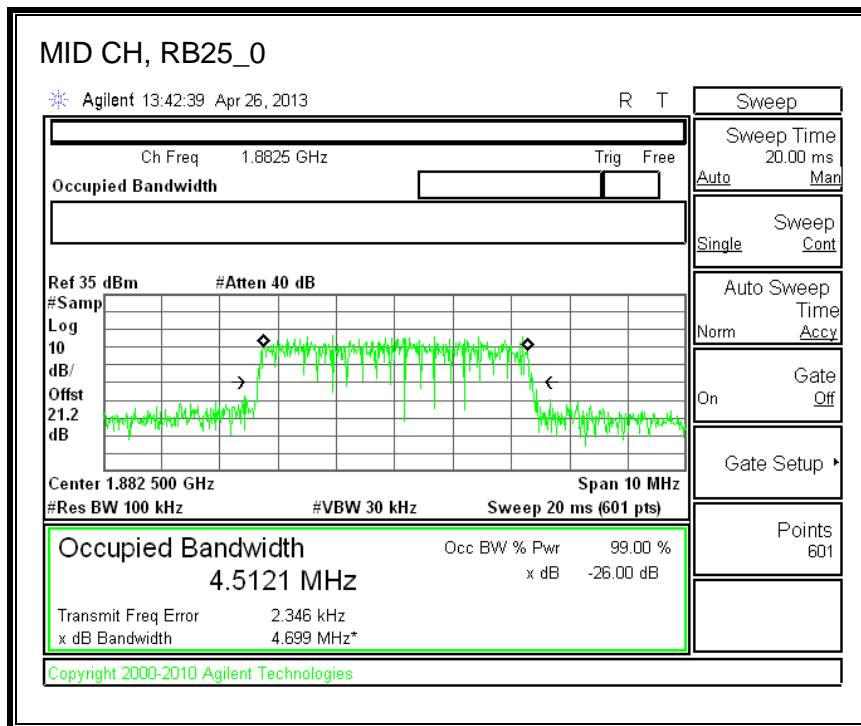
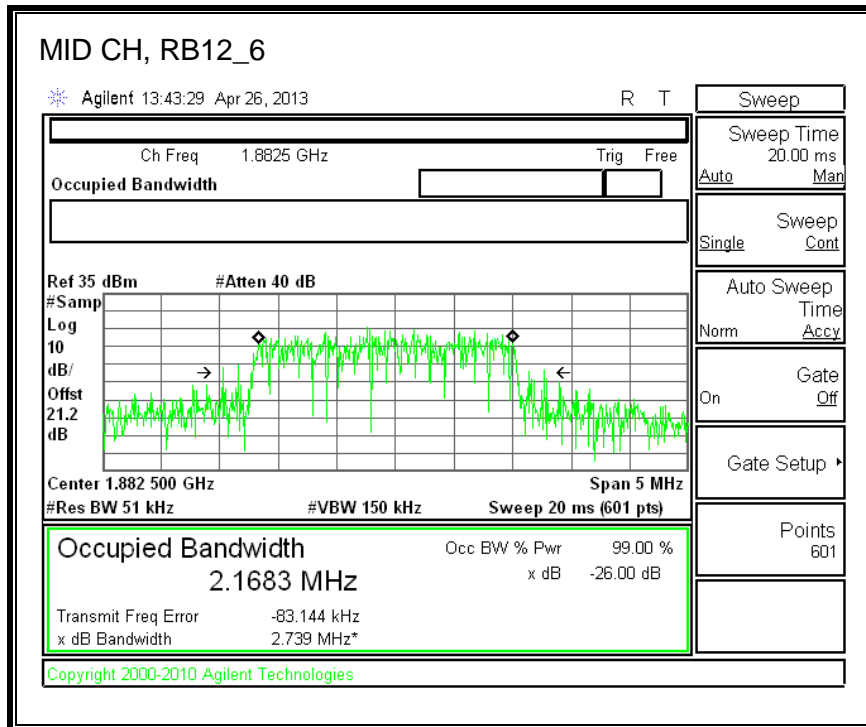


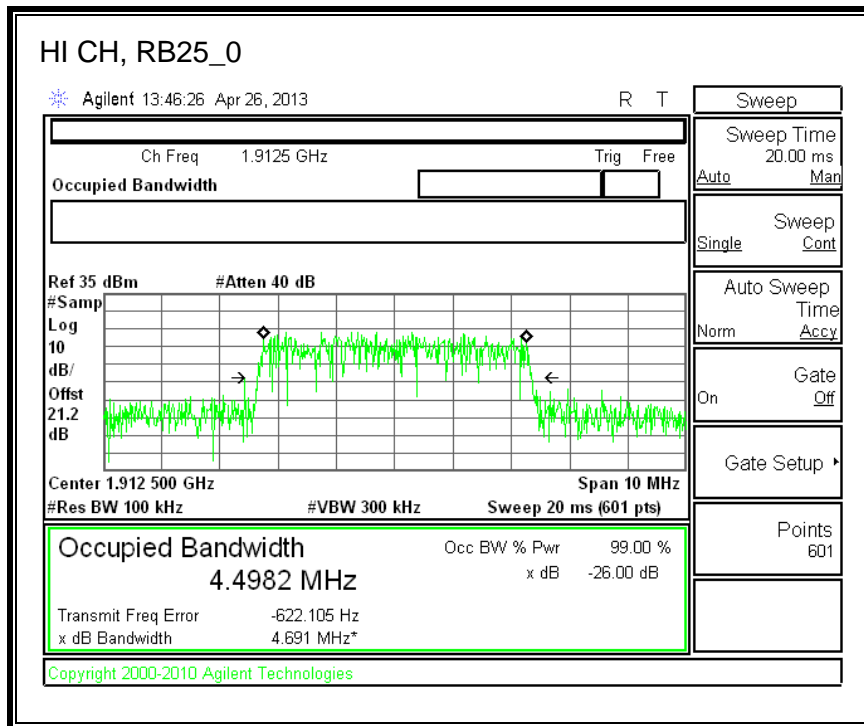
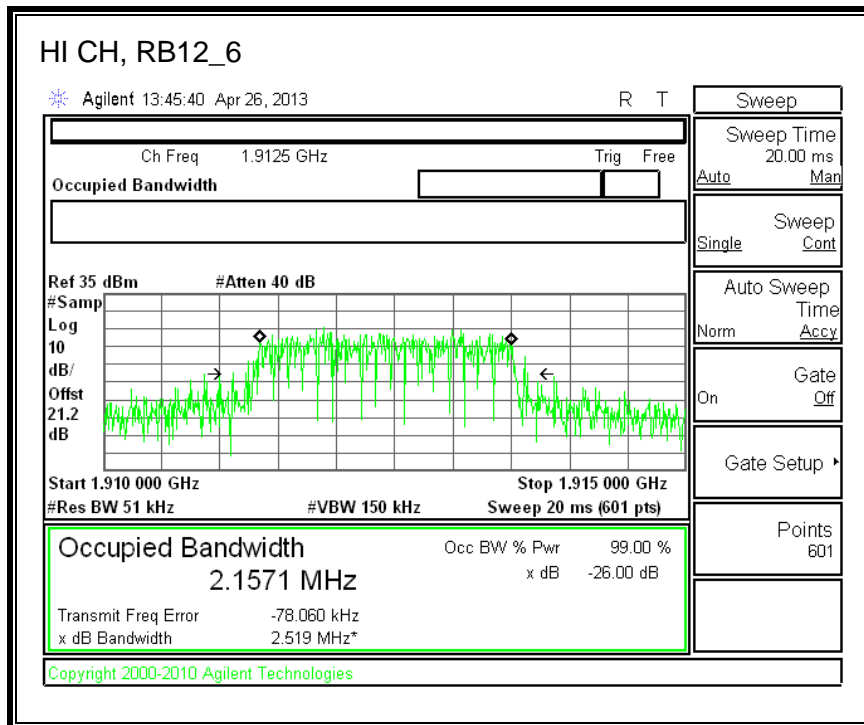


**Band 25 (5 MHz BAND WIDTH)**

**LTE 16QAM**

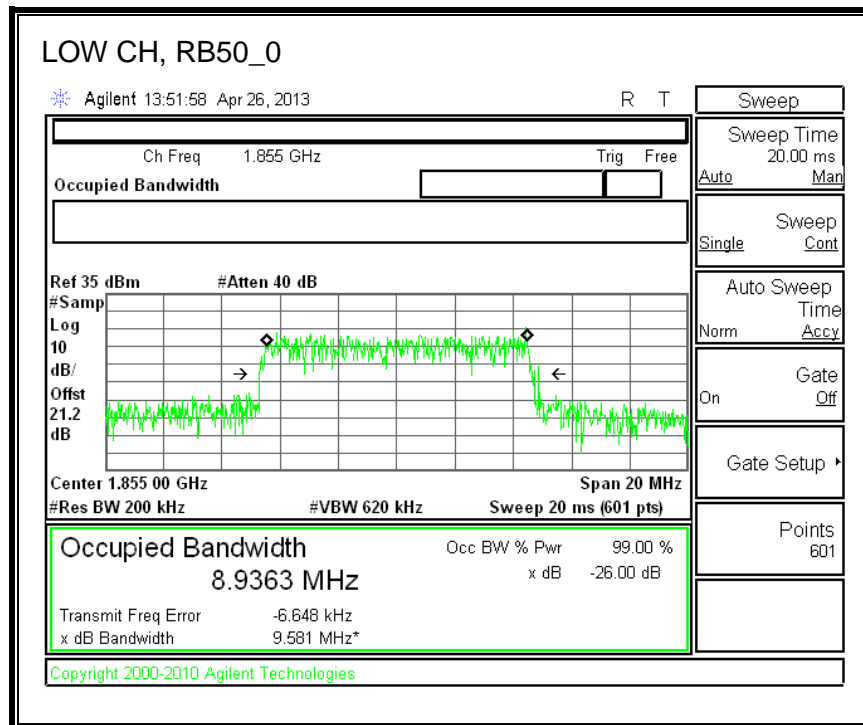
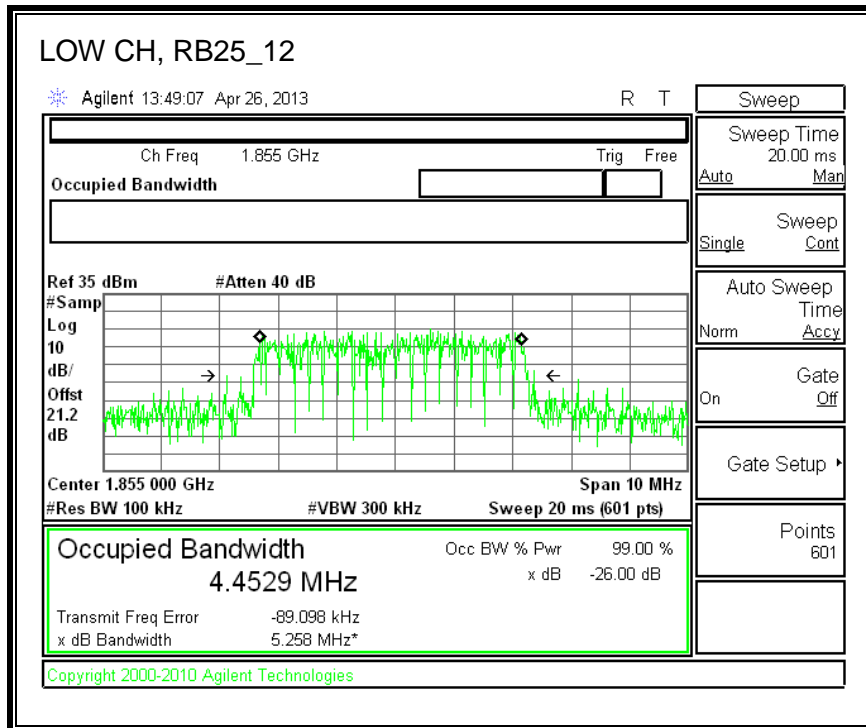


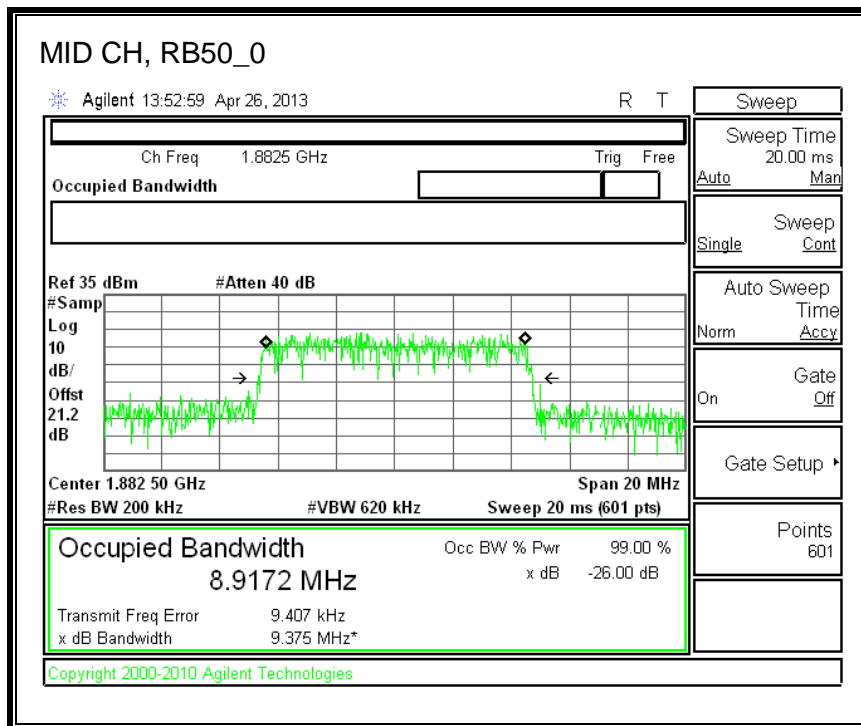
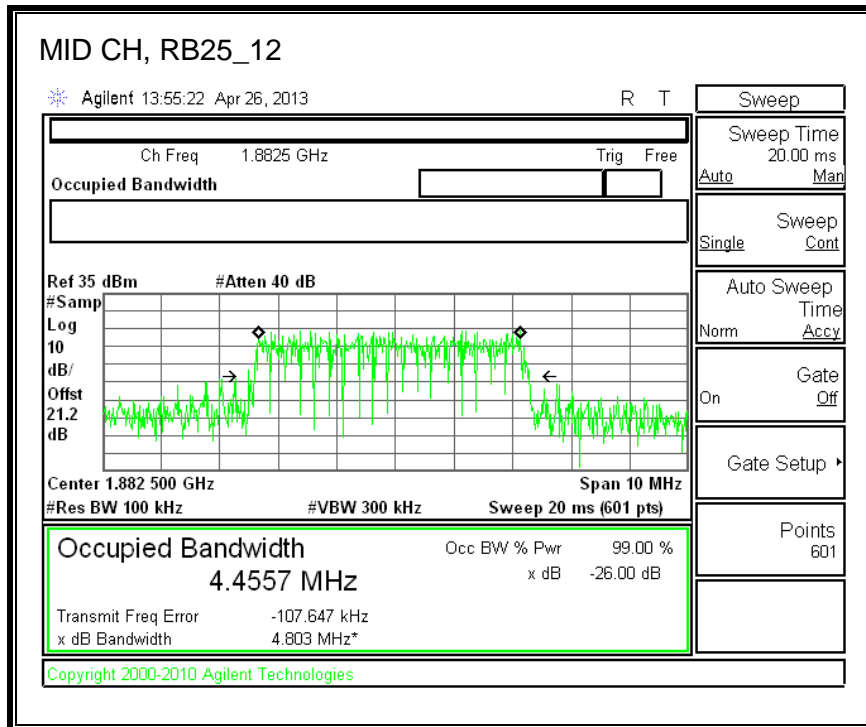


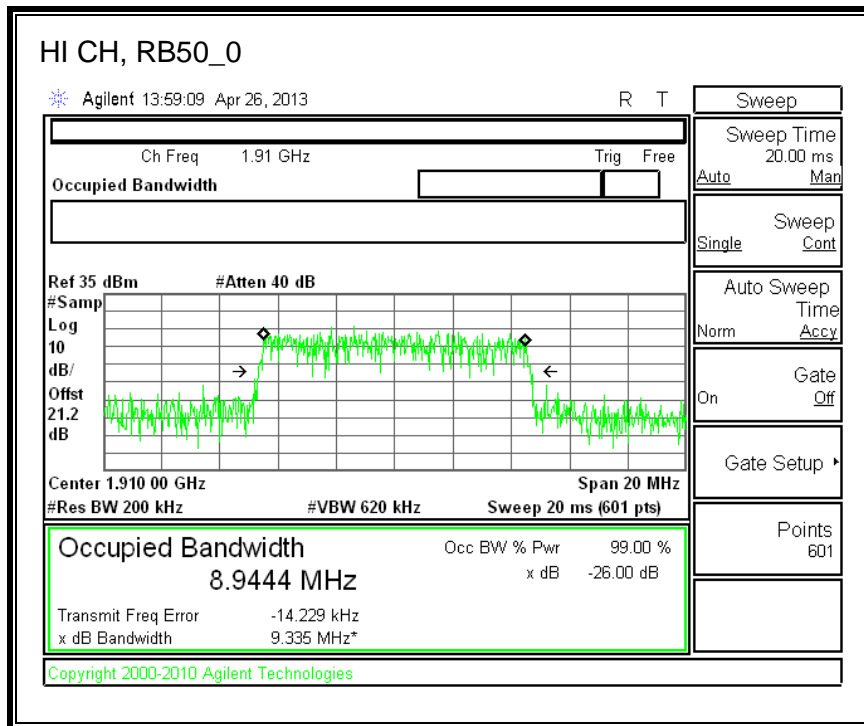
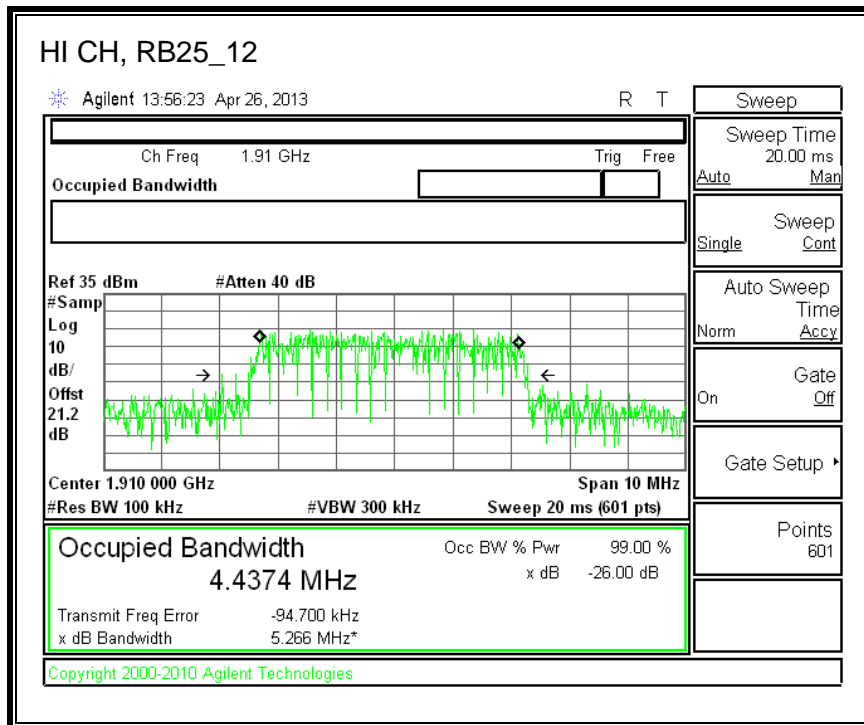


**Band 25 (10.0 MHz BAND WIDTH)**

**LTE QPSK**



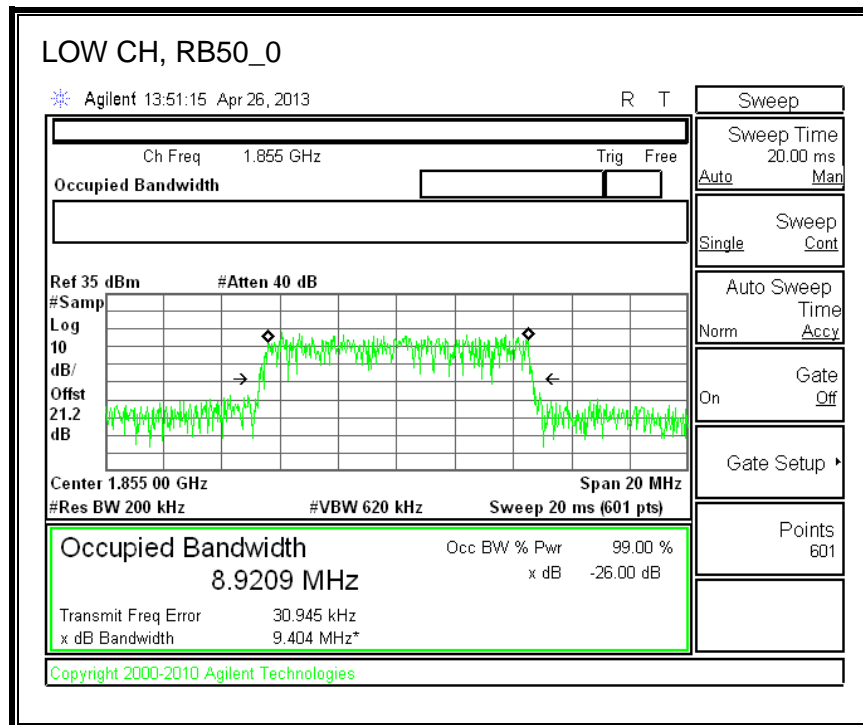
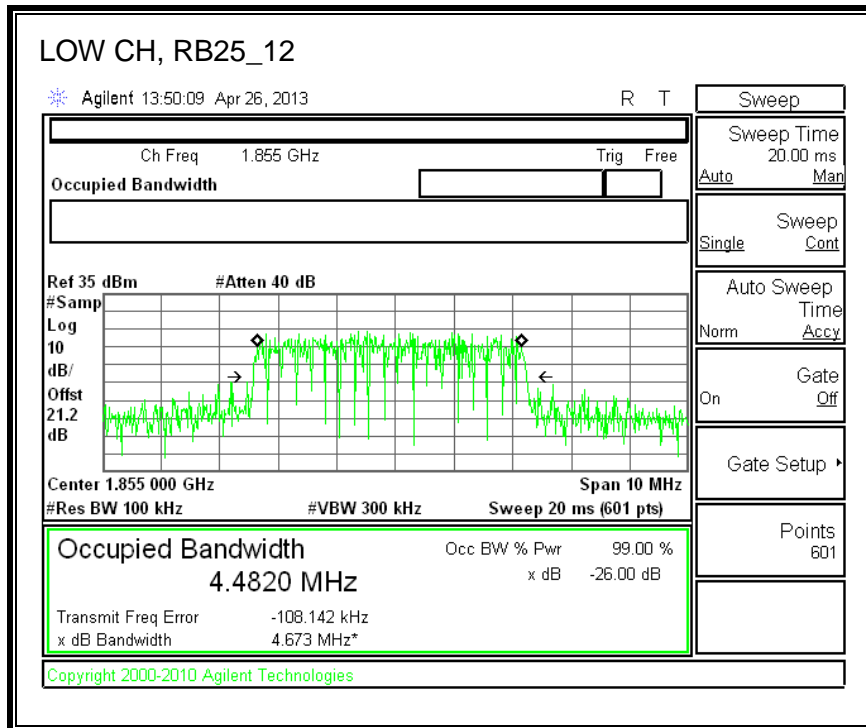


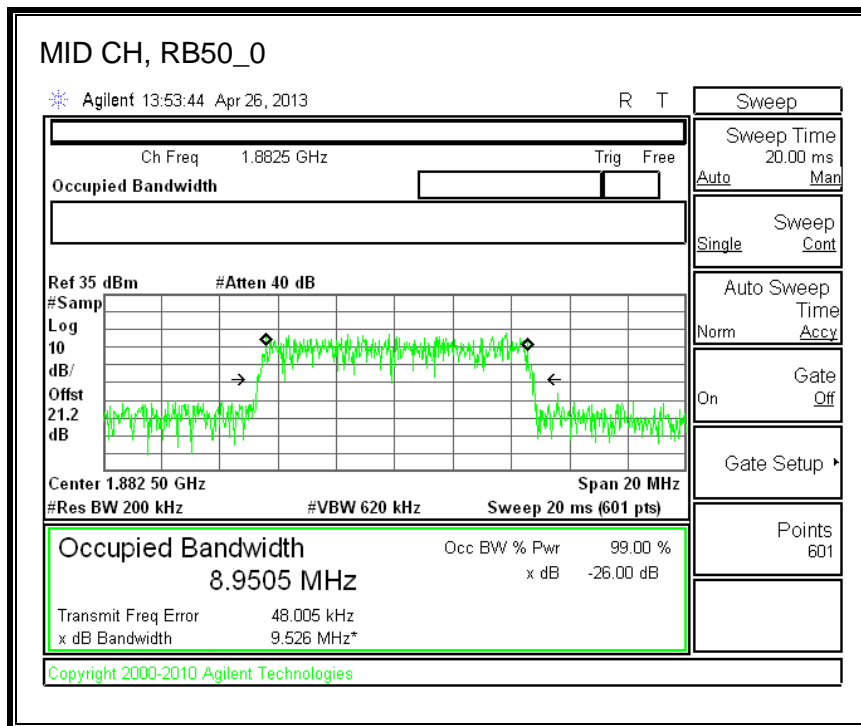
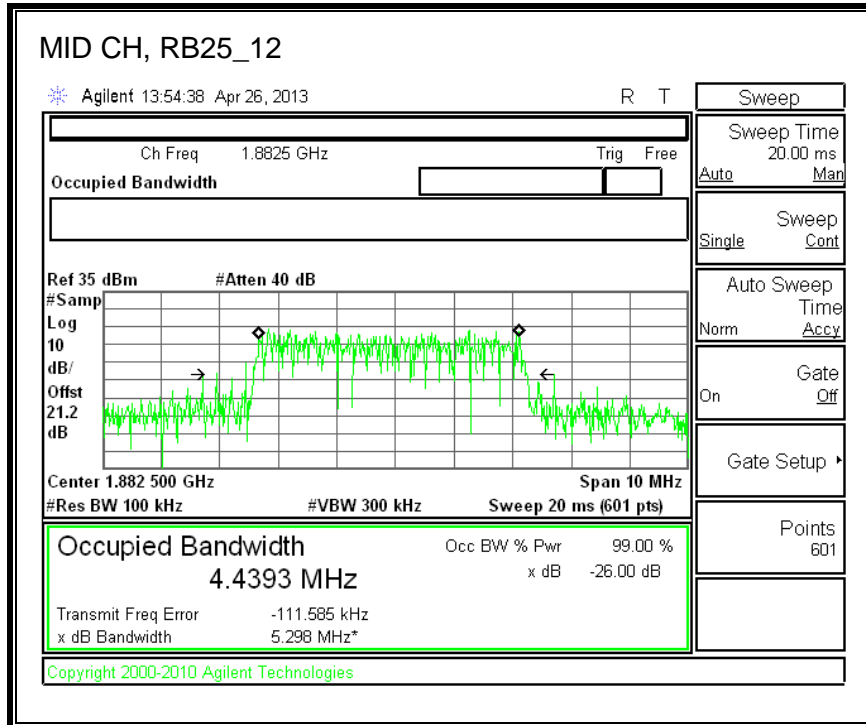


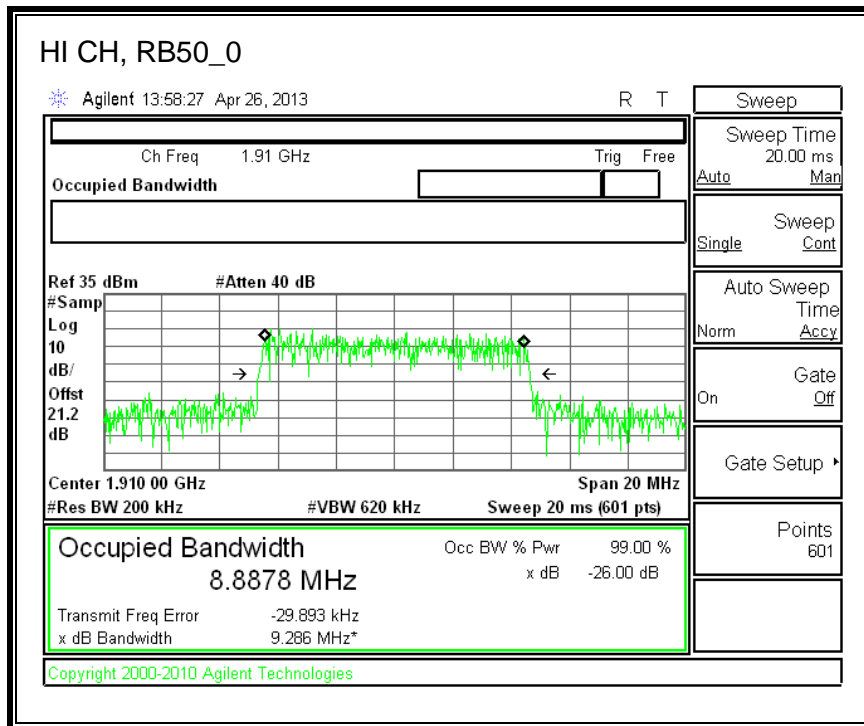
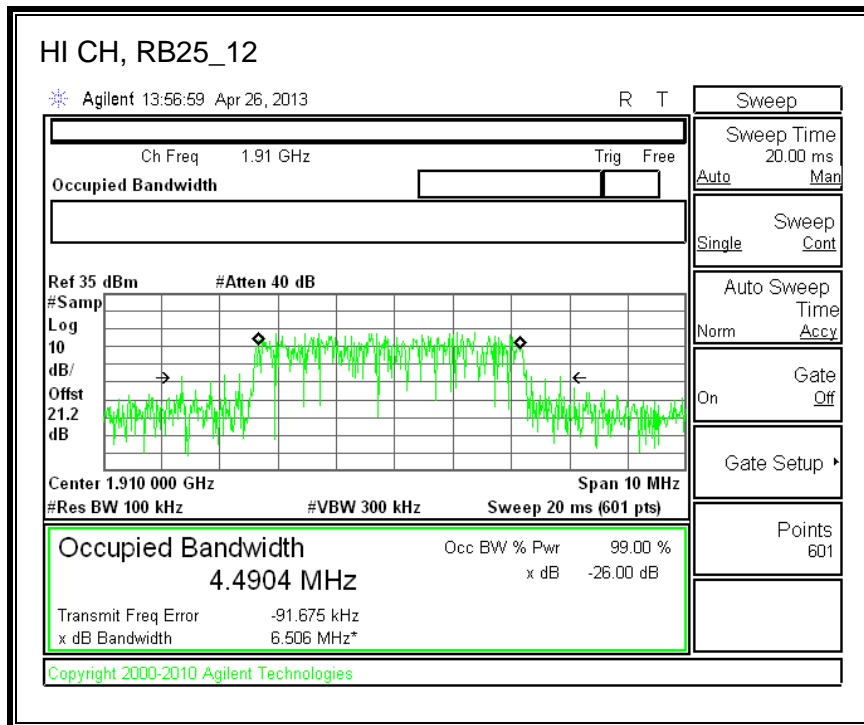


**Band 25 (10 MHz BAND WIDTH)**

**LTE 16QAM**

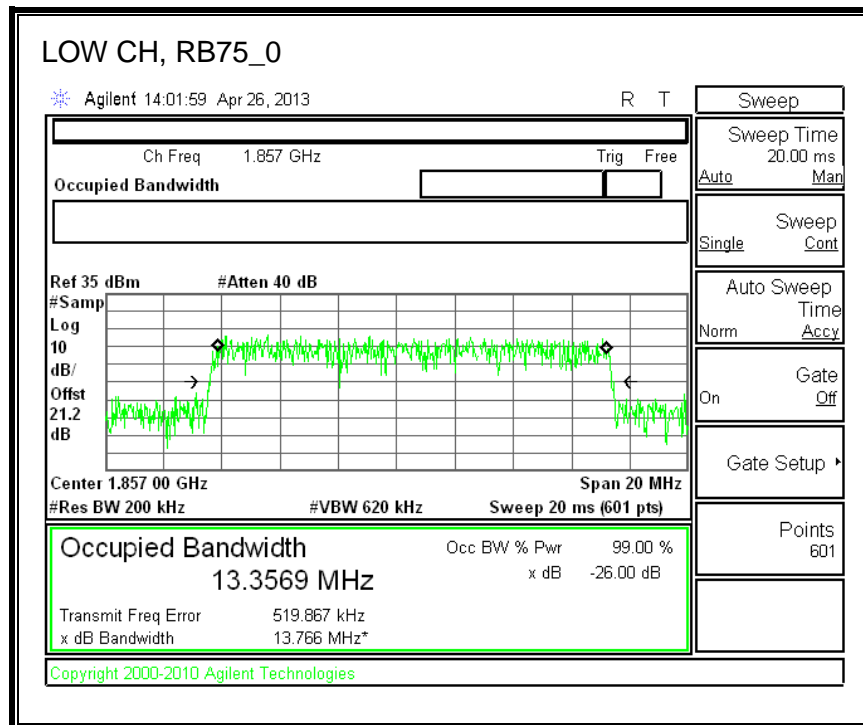
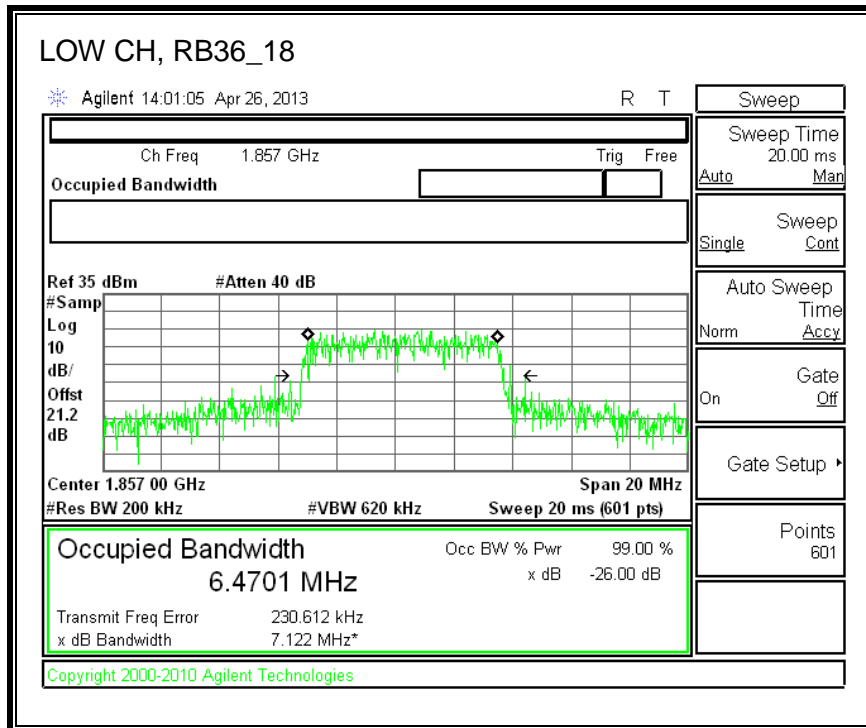


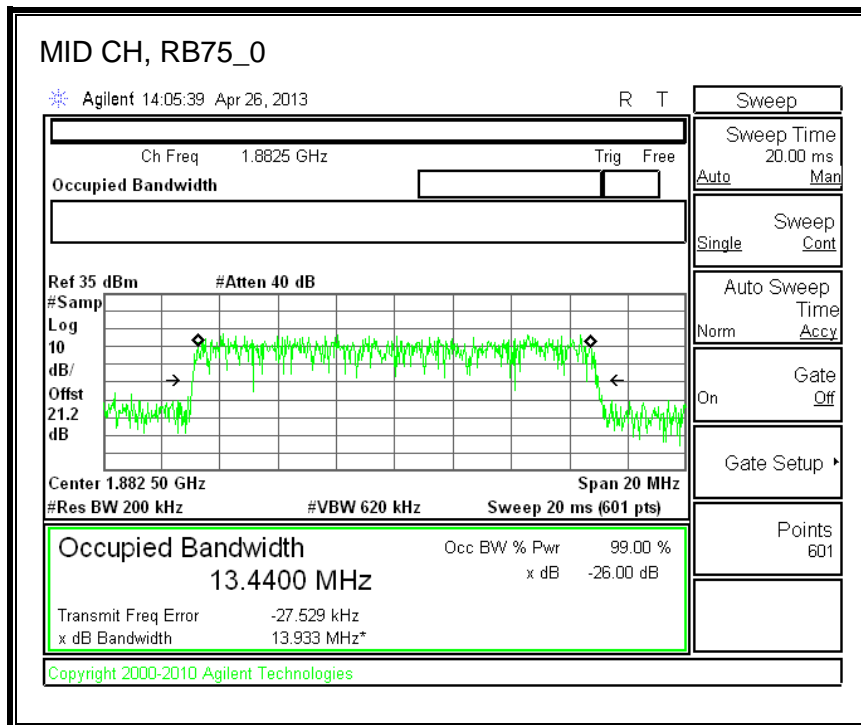
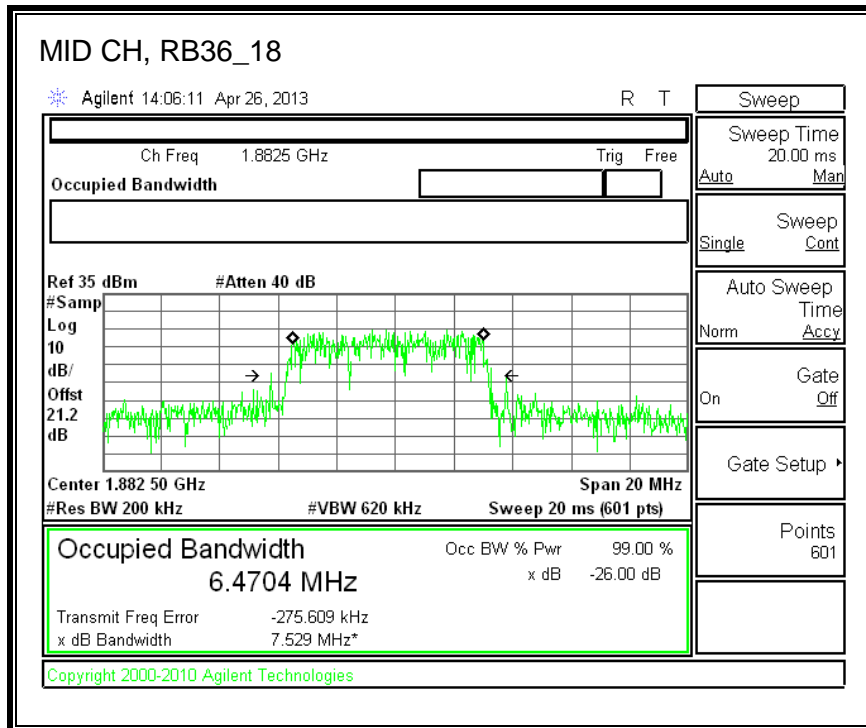


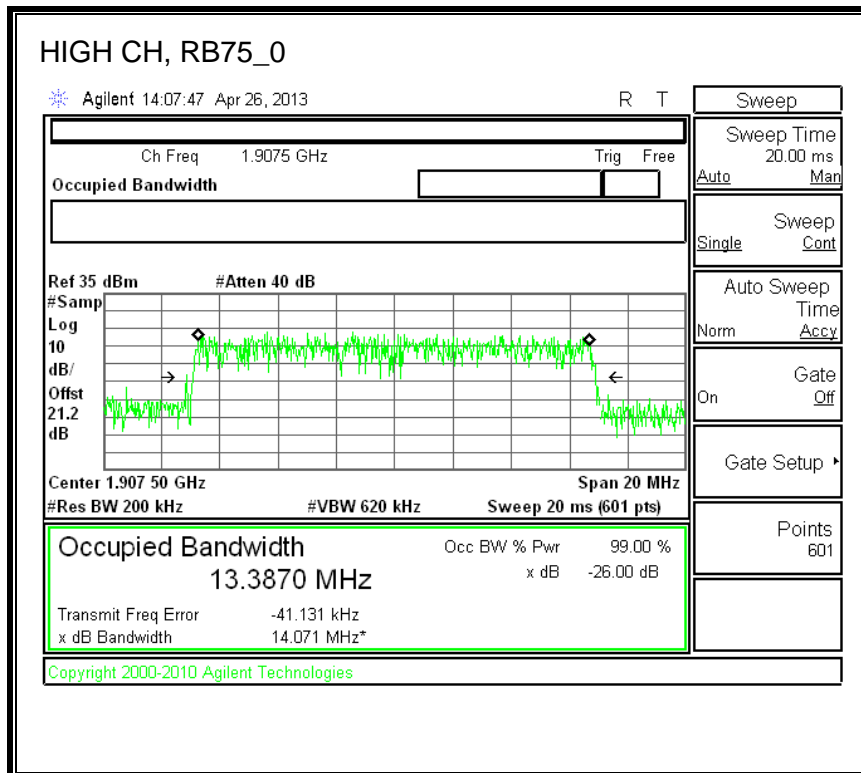
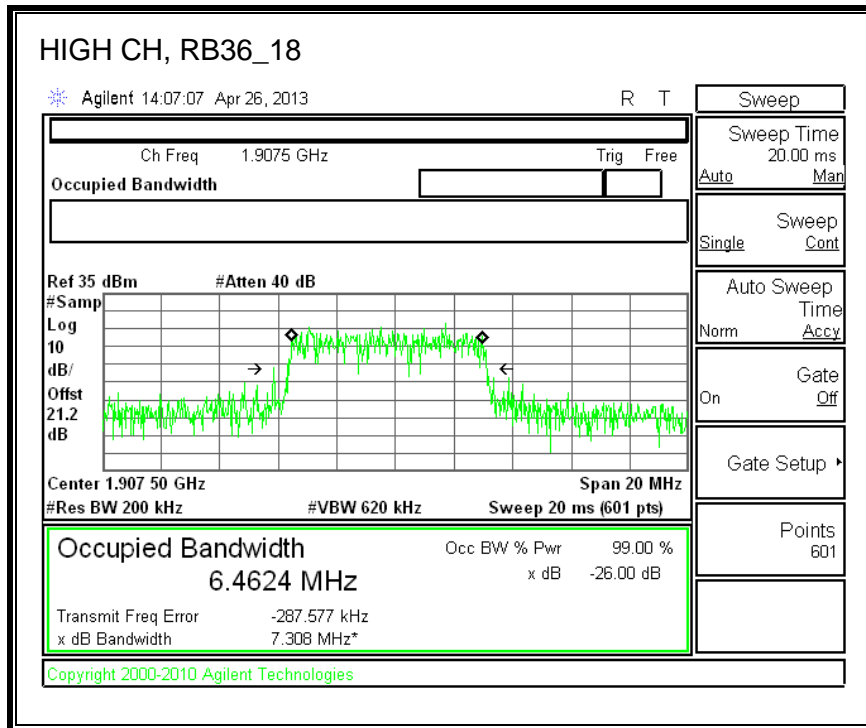


**Band 25 (15.0 MHz BAND WIDTH)**

**LTE QPSK**

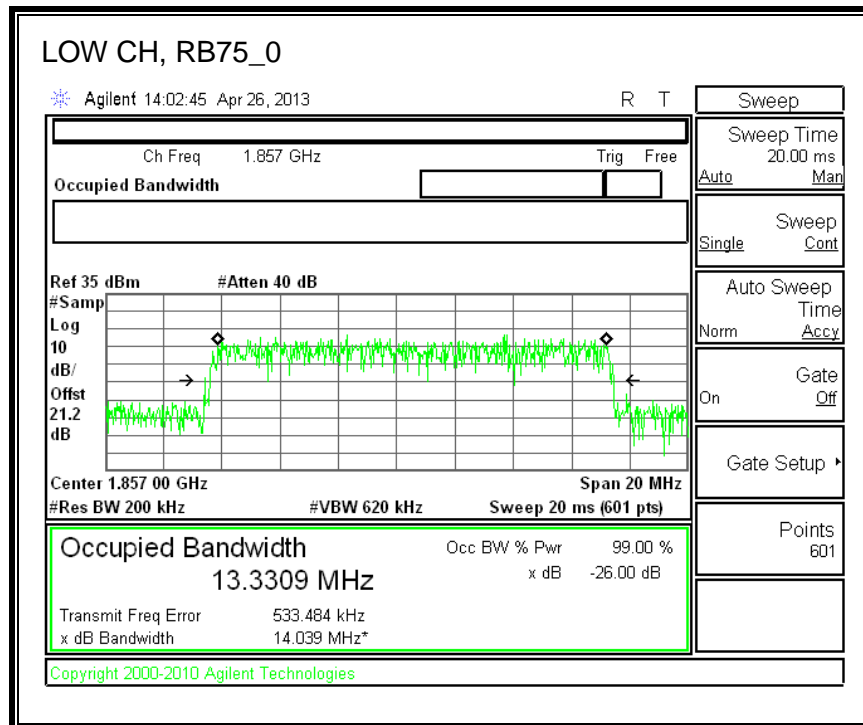
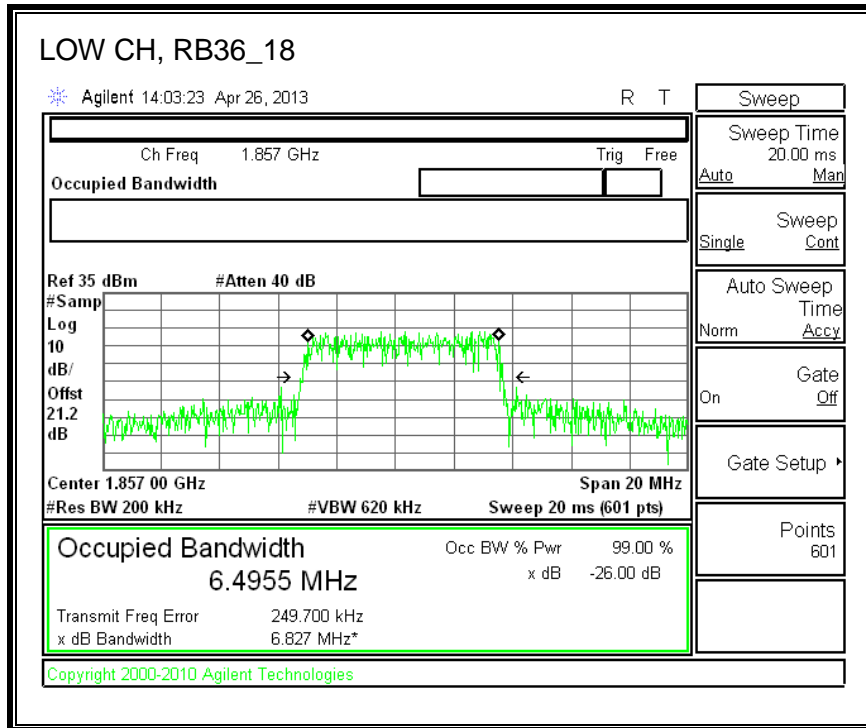


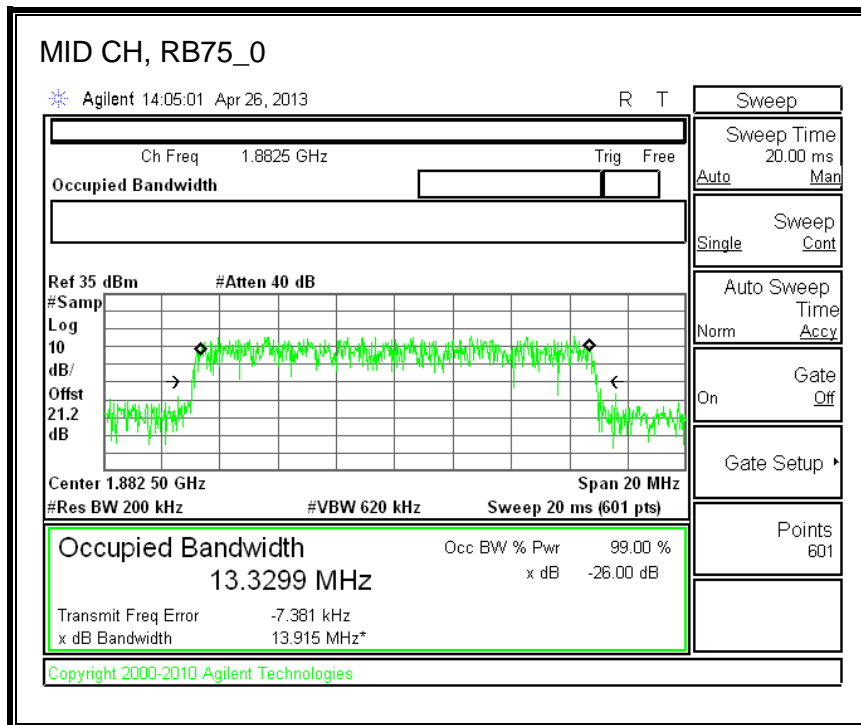
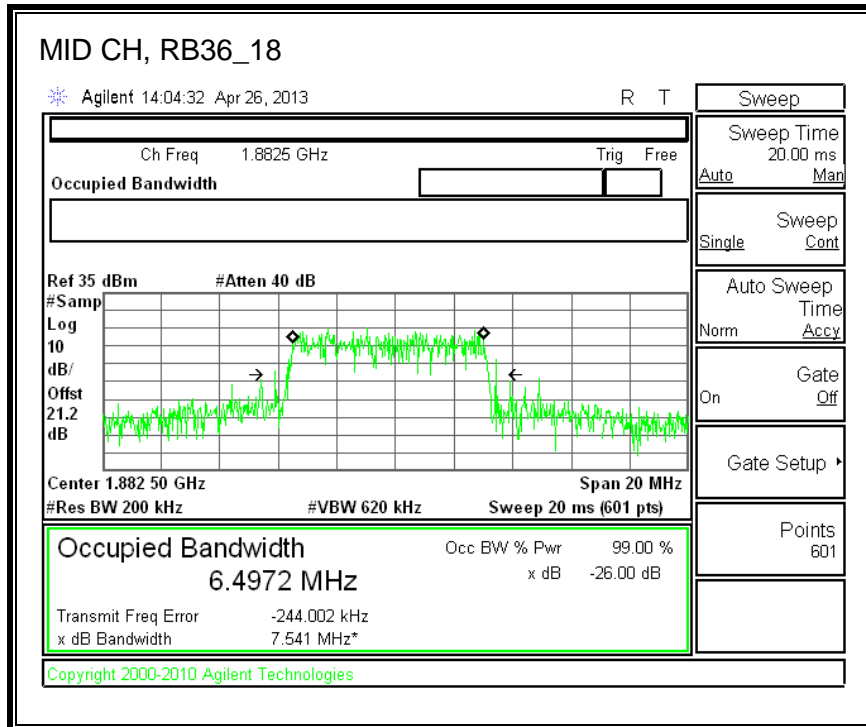




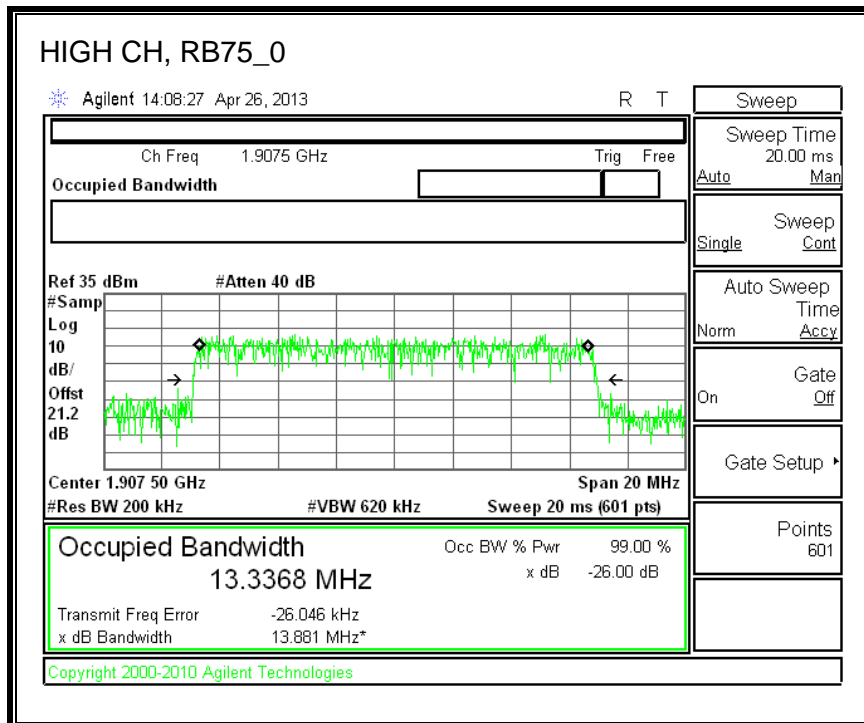
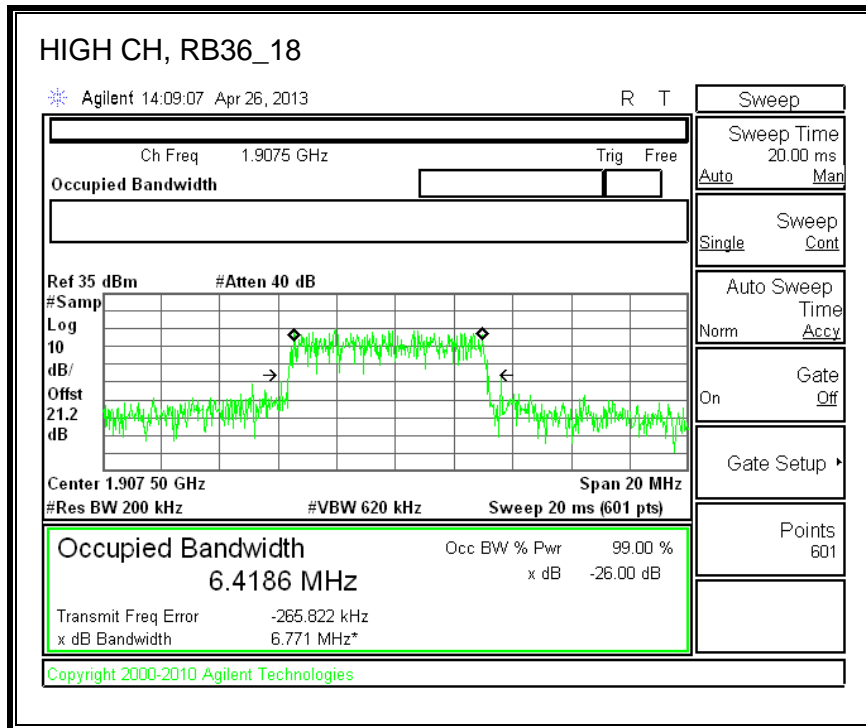
**Band 25 (15.0 MHz BAND WIDTH)**

**LTE 16QAM**



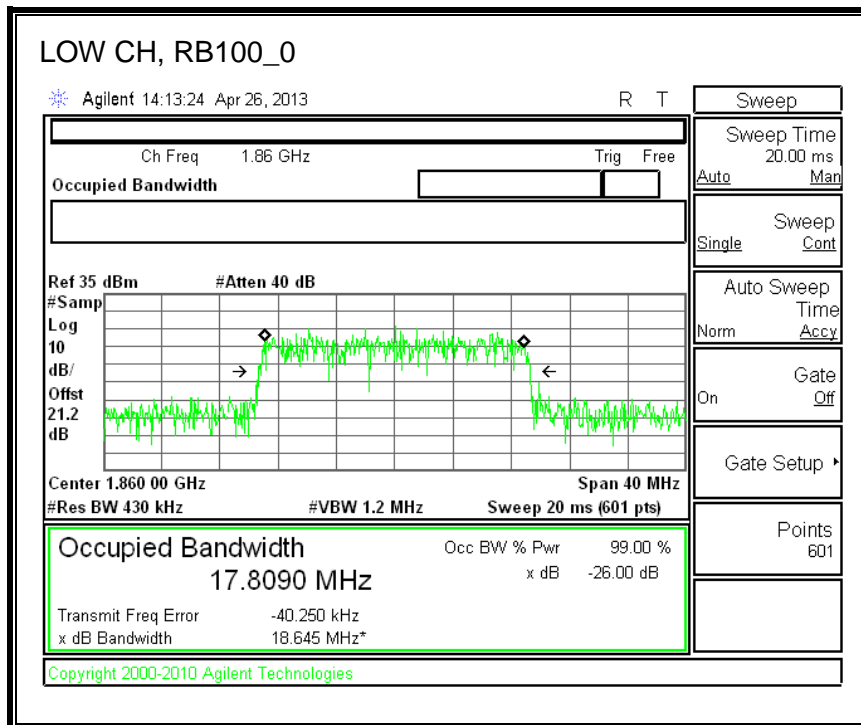
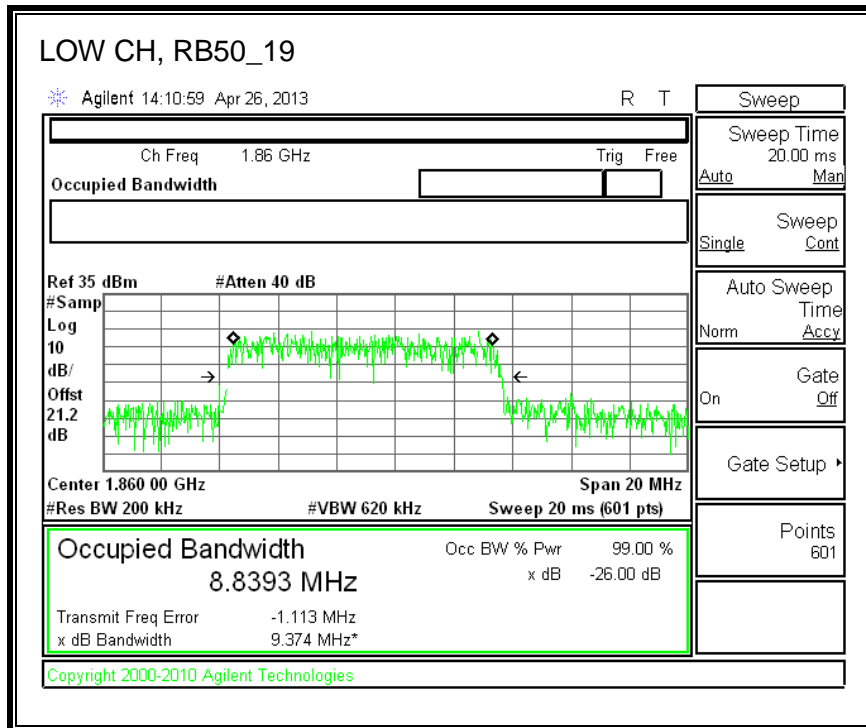


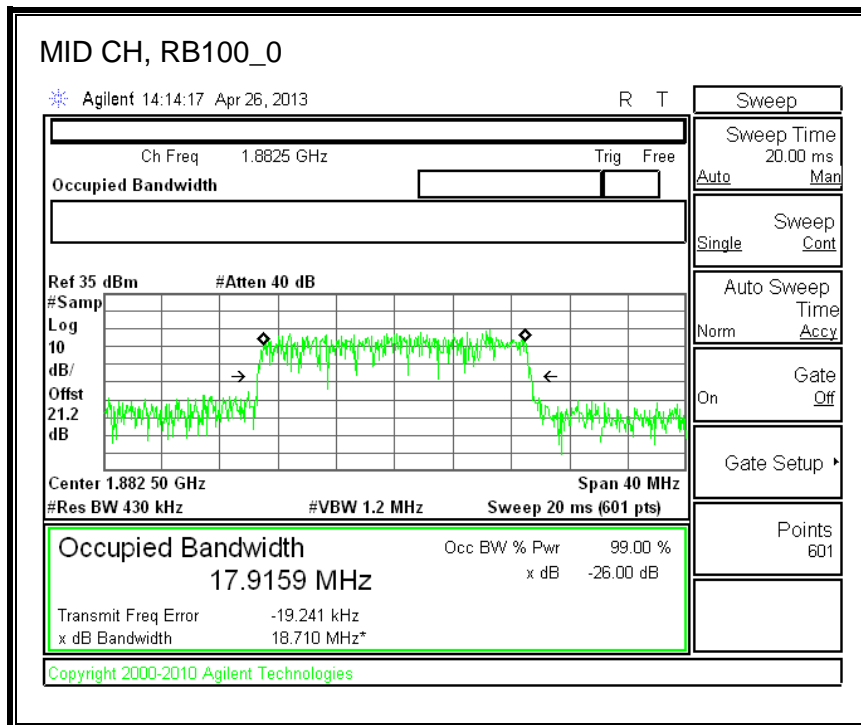
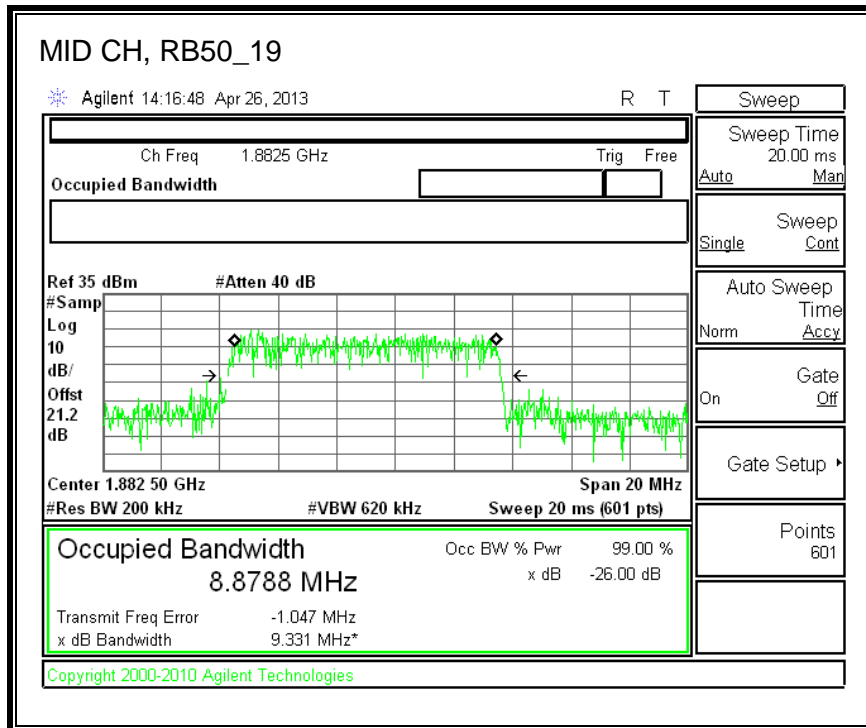


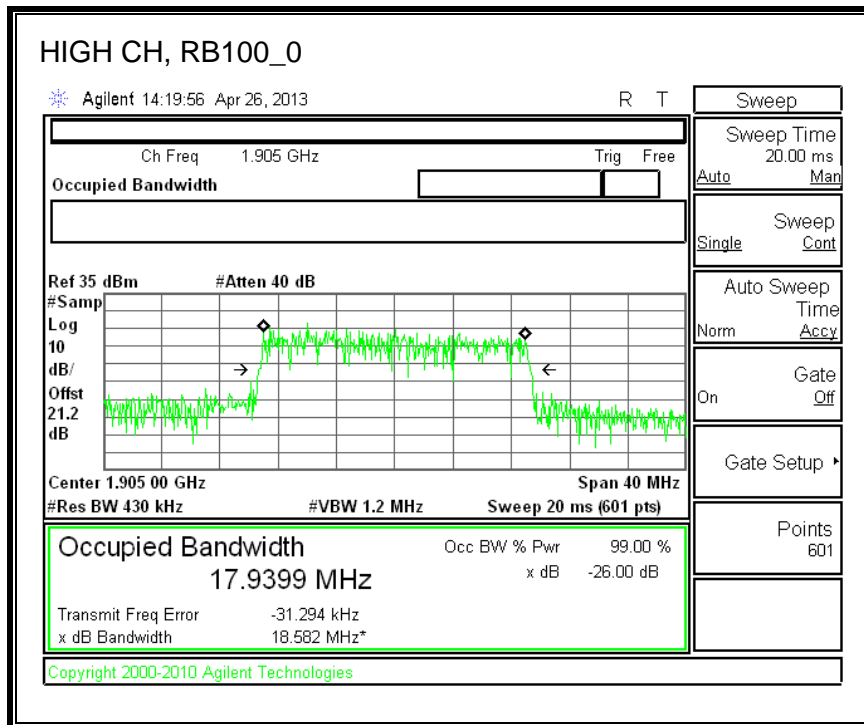
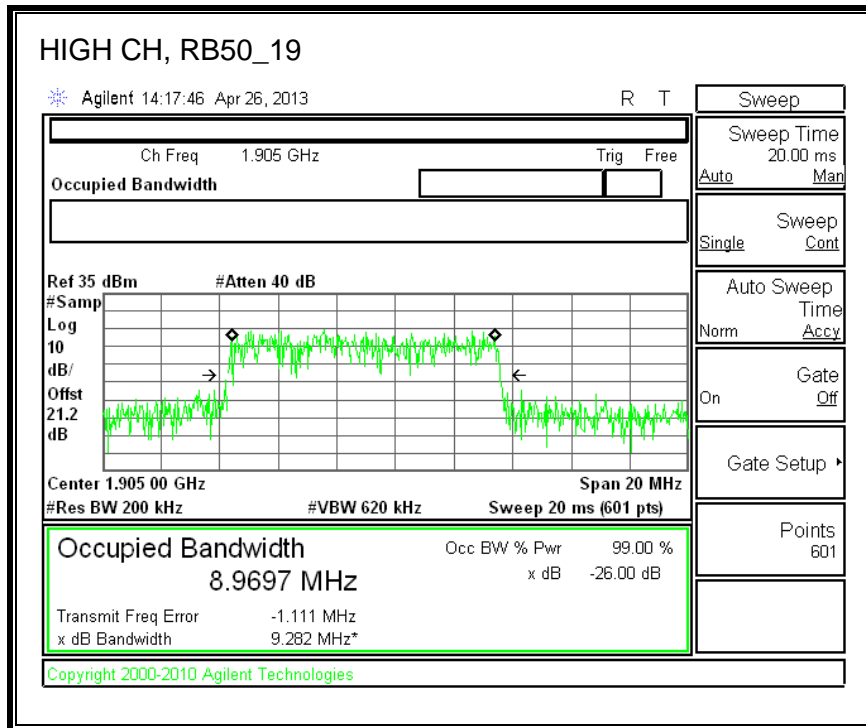


**Band 25 (20.0 MHz BAND WIDTH)**

**LTE QPSK**

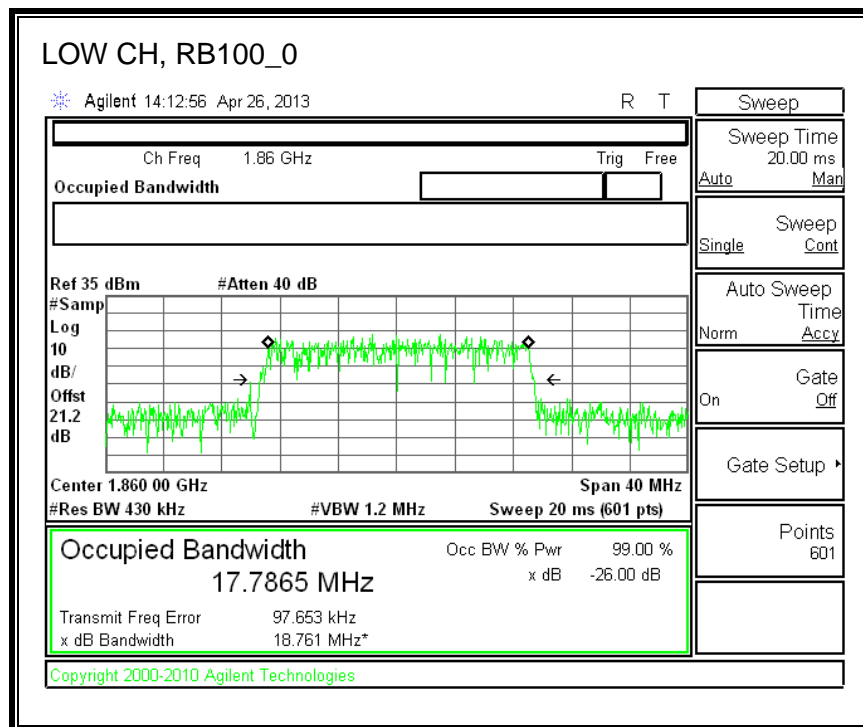
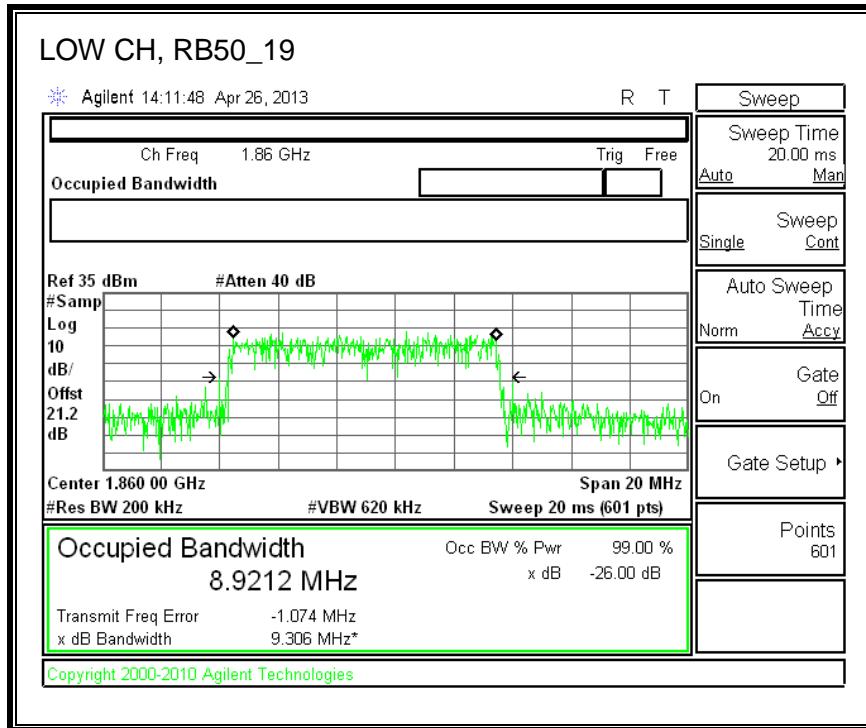


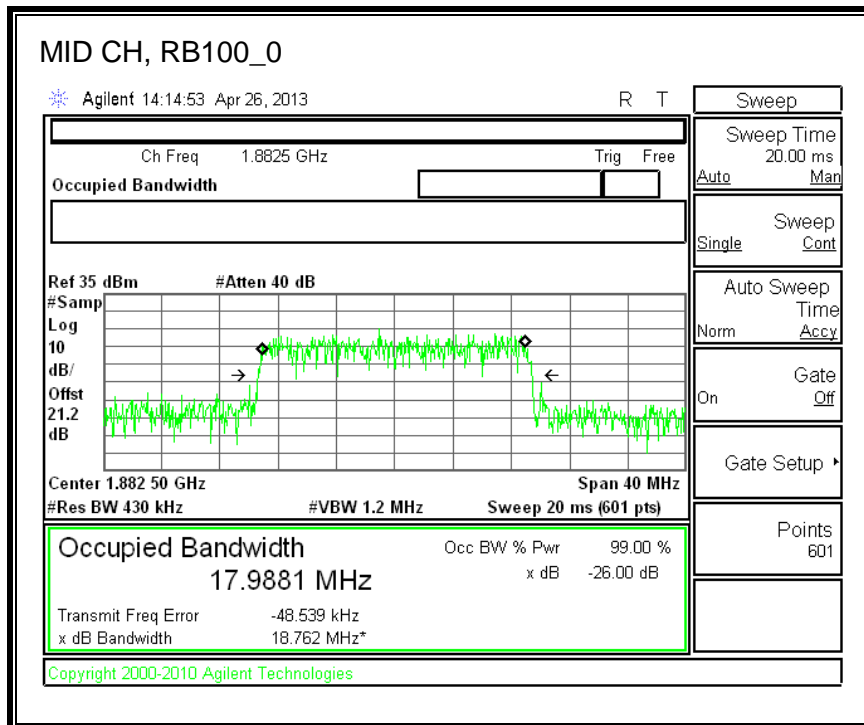
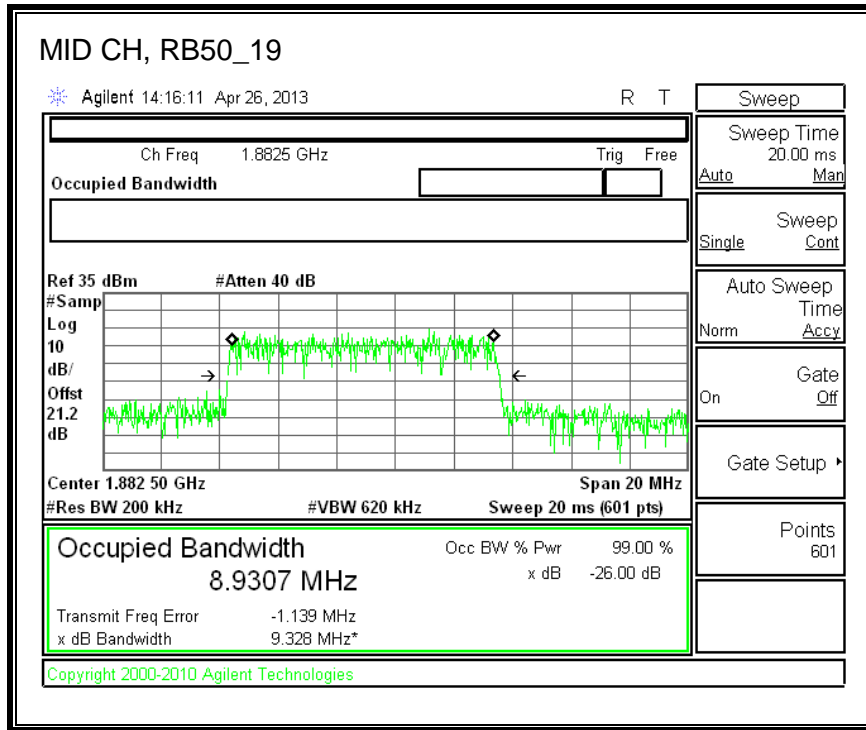


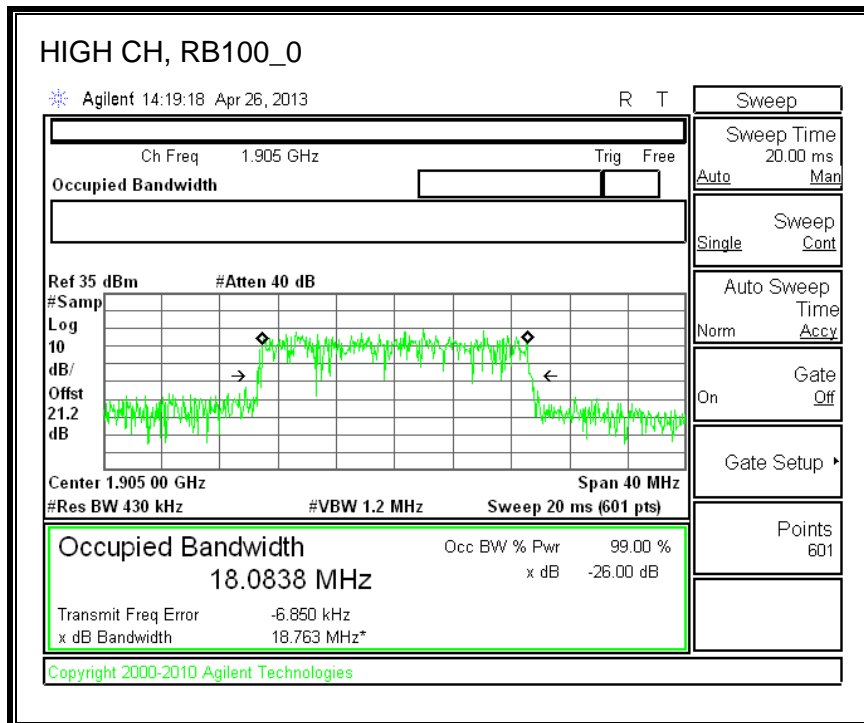
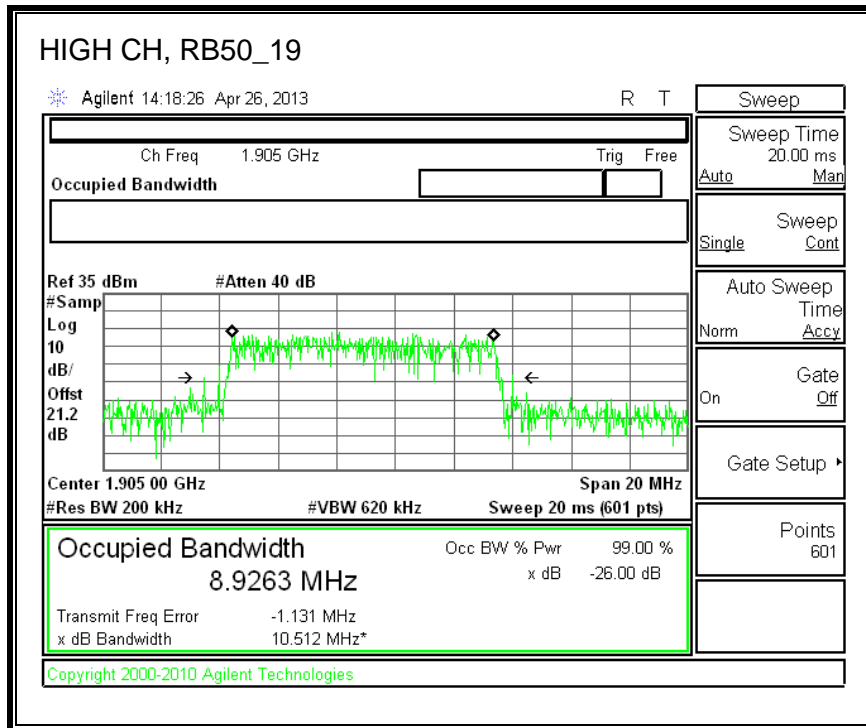


**Band 25 (20.0 MHz BAND WIDTH)**

**LTE 16QAM**

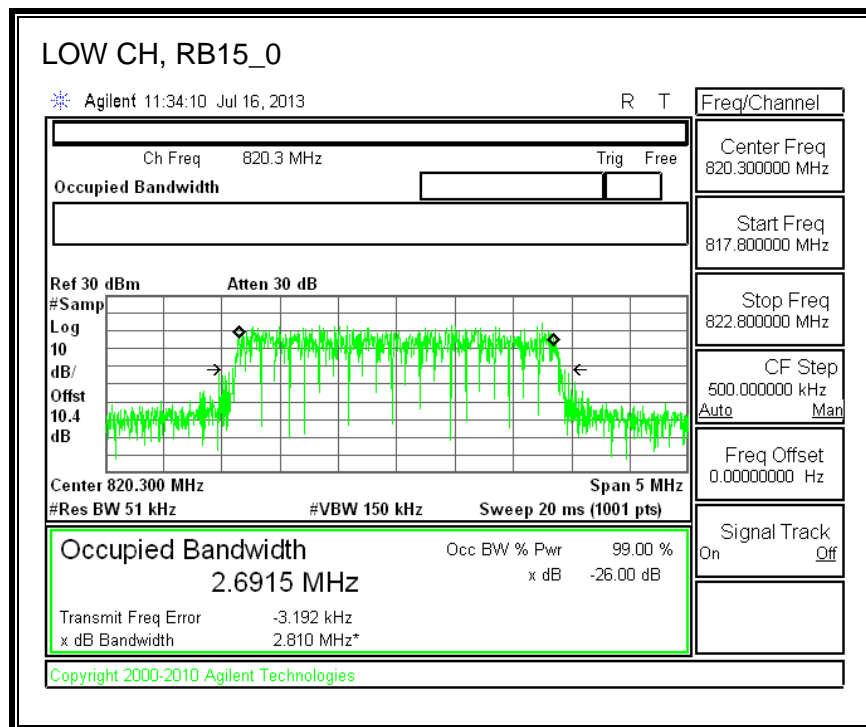
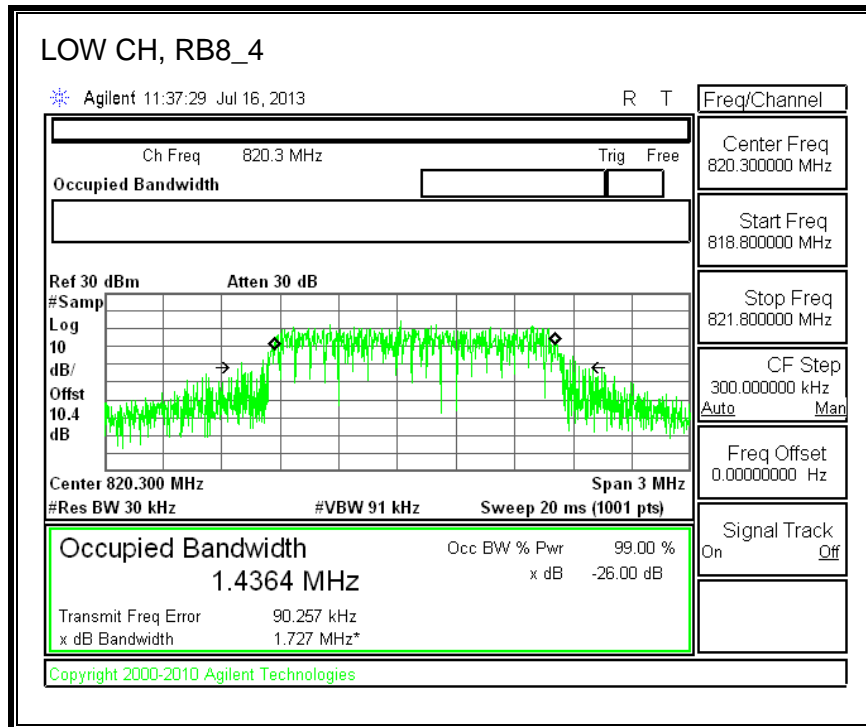




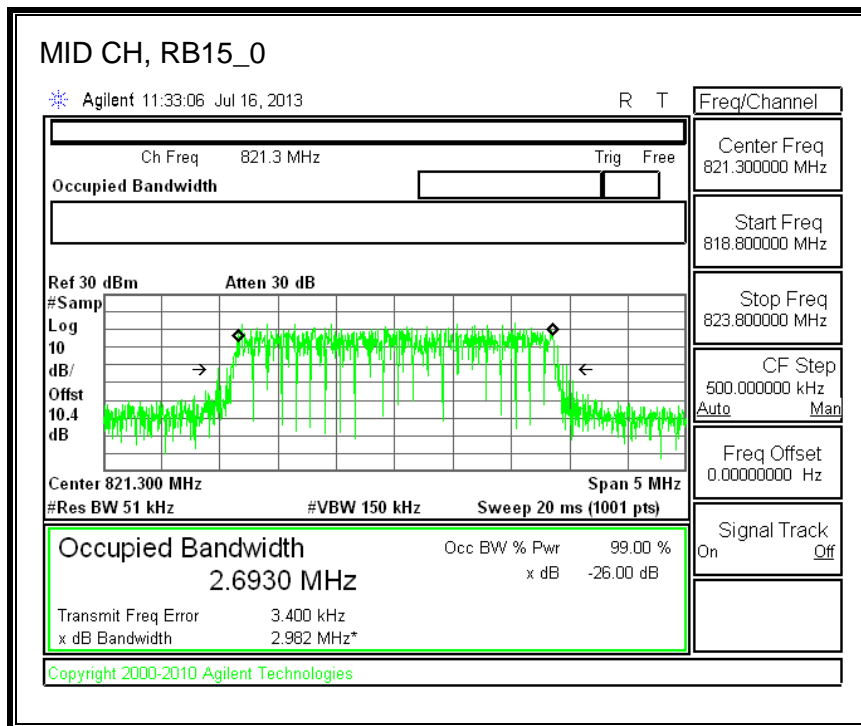
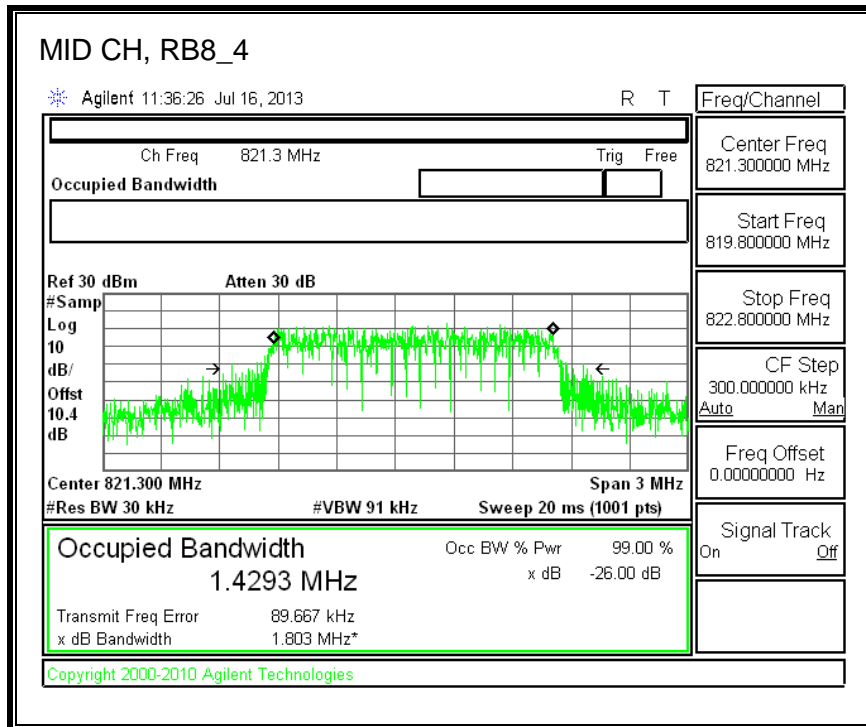


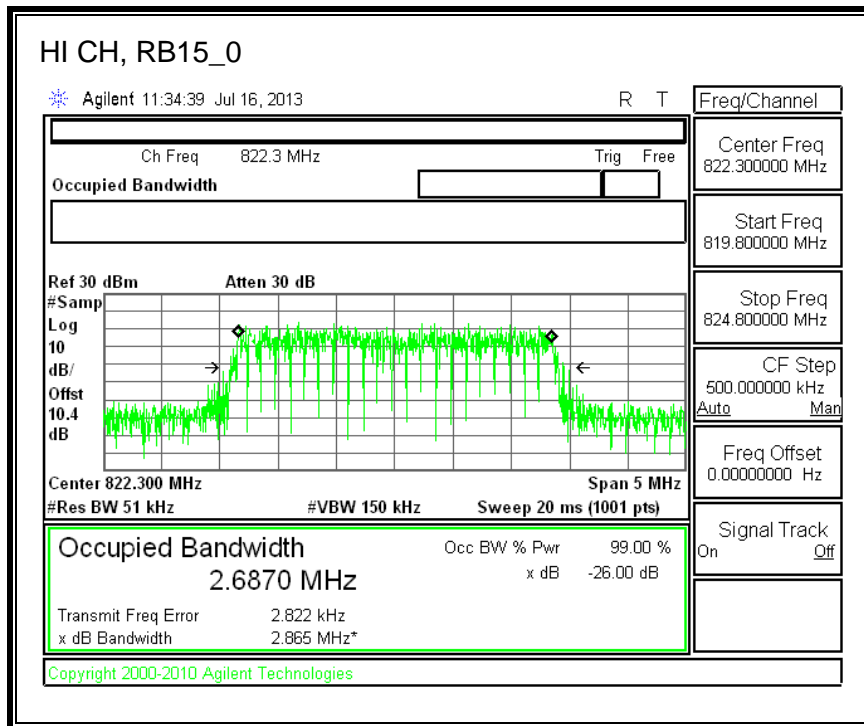
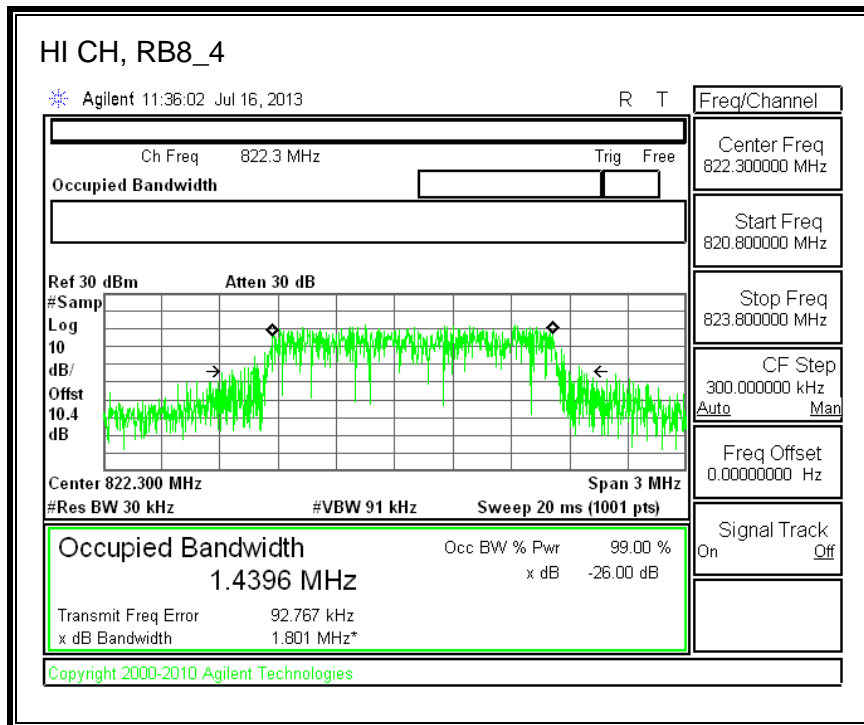
### 8.1.7. LTE BAND 26

#### Band 26 QPSK (3.0 MHz BAND WIDTH)

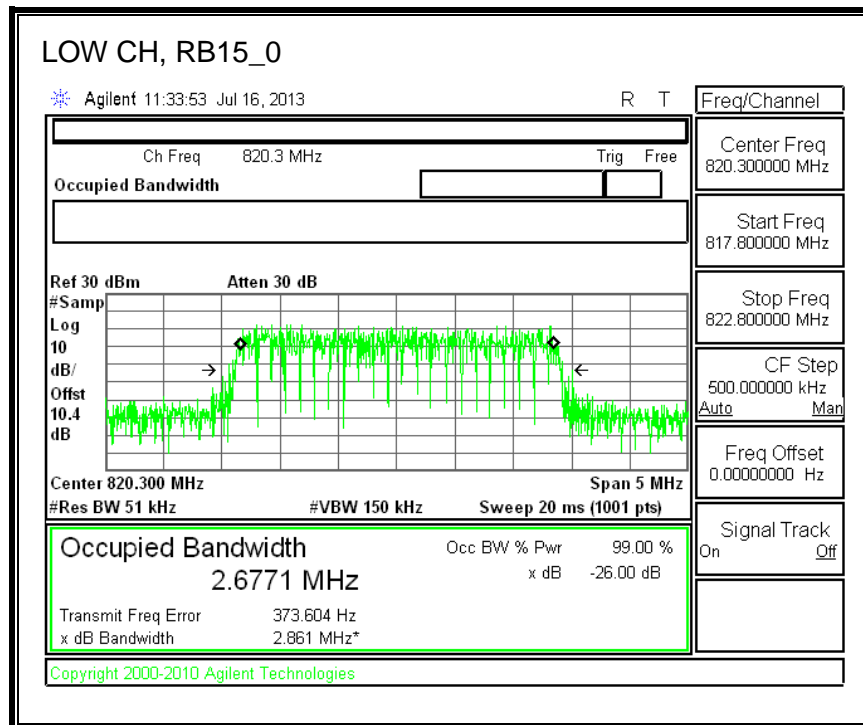
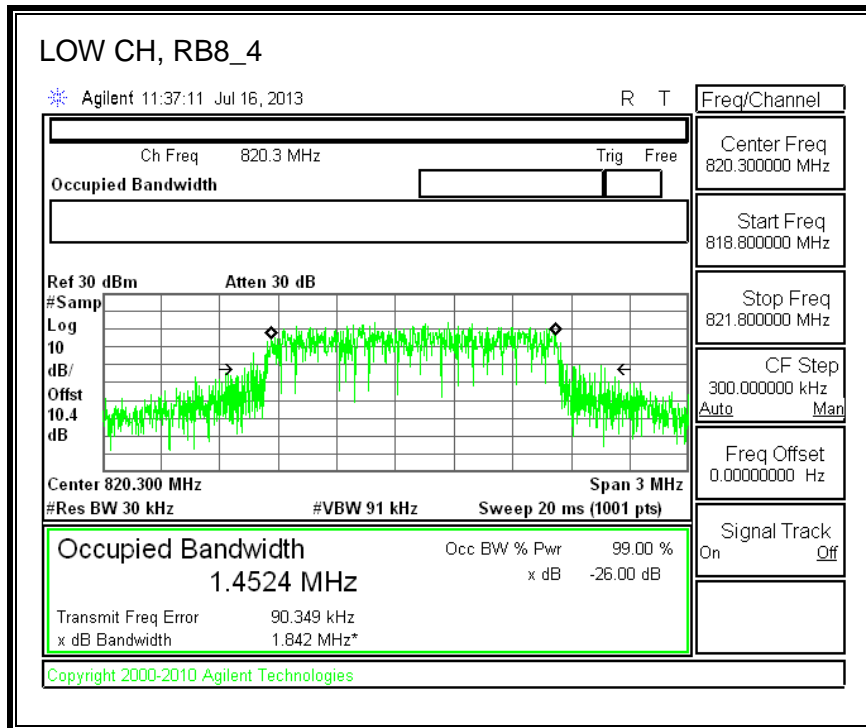


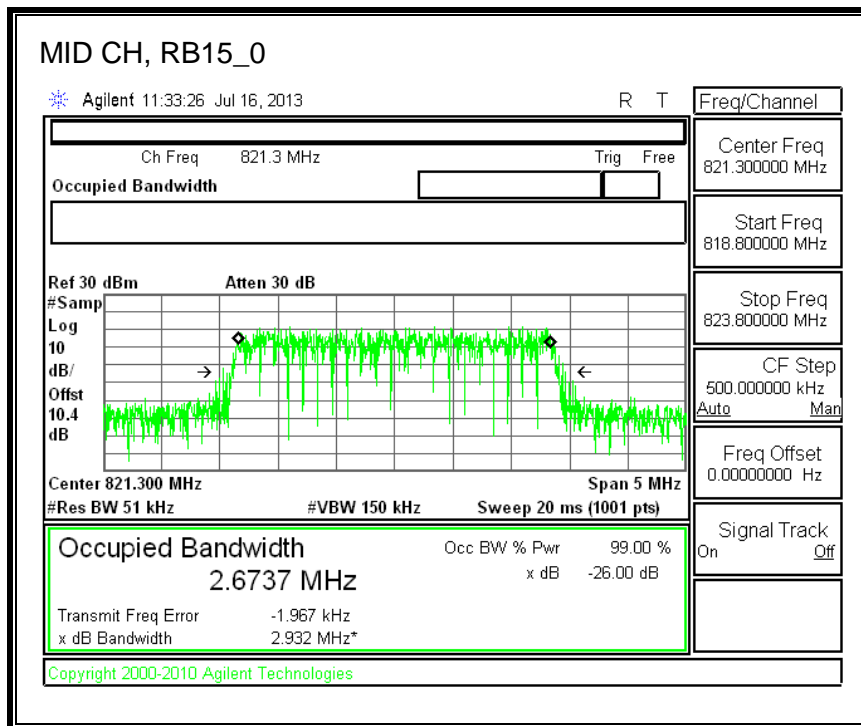
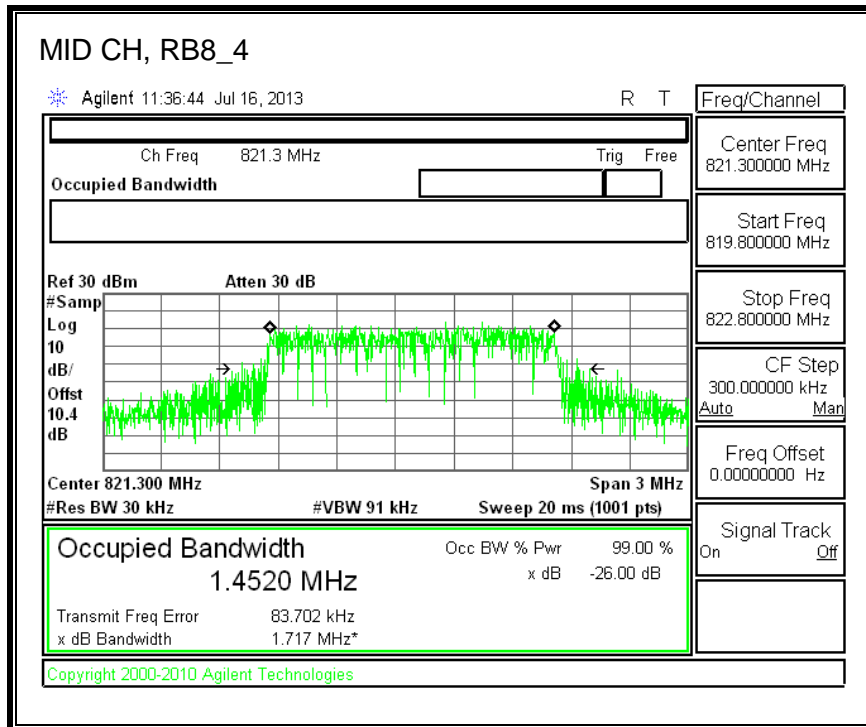


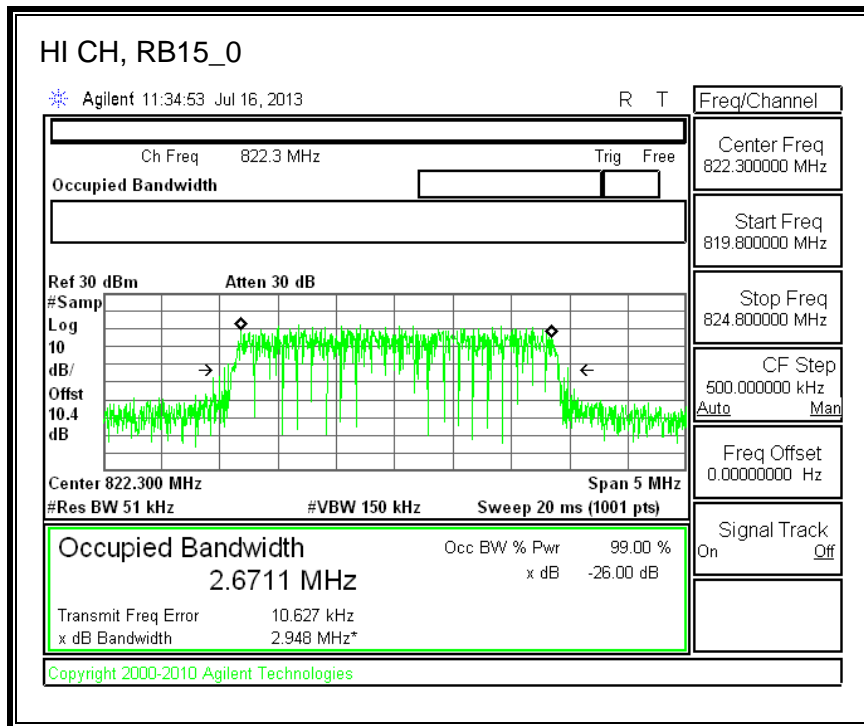
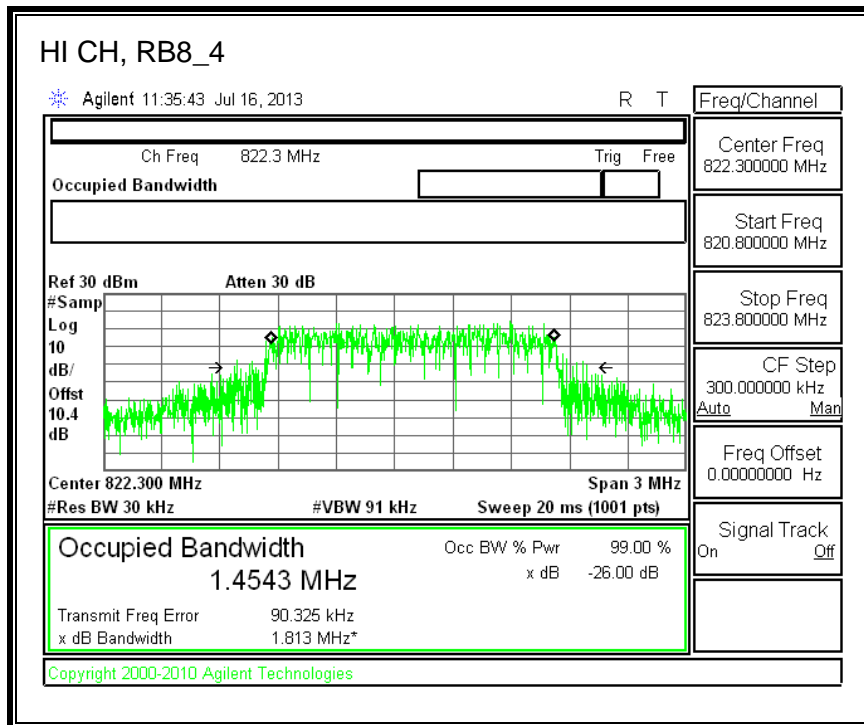




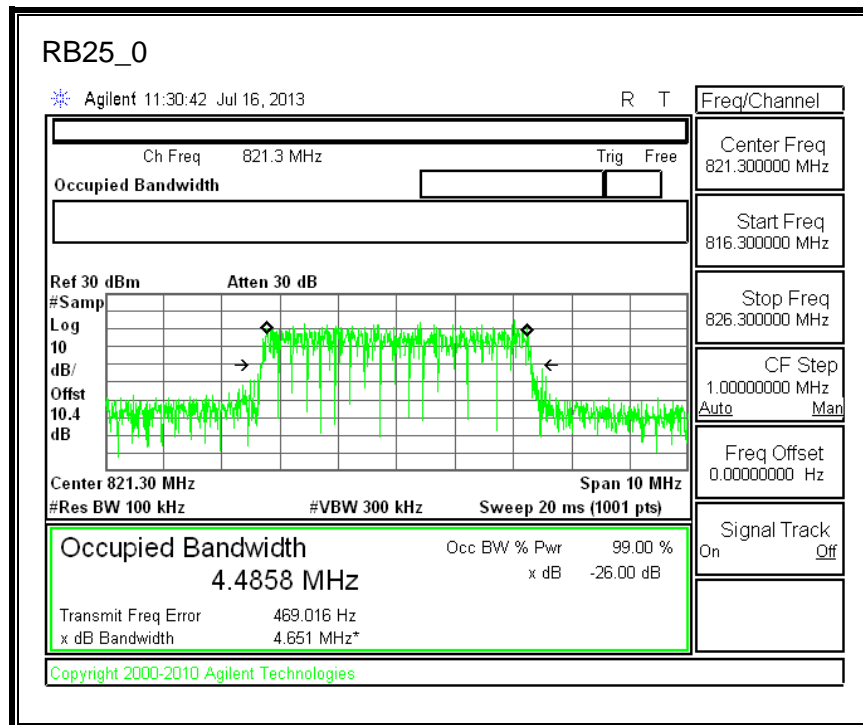
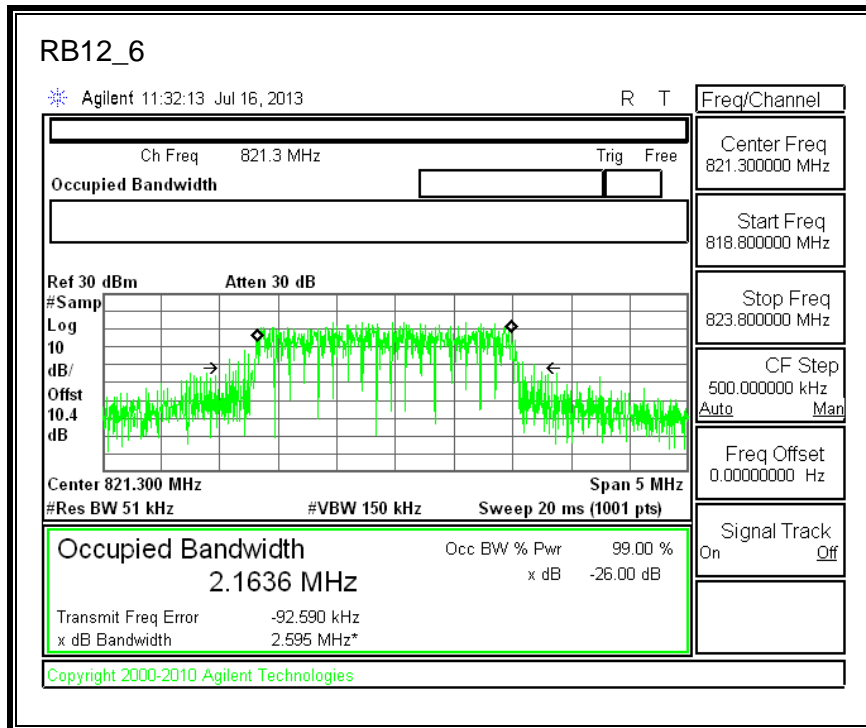
**Band 26 16QAM (3.0 MHz BAND WIDTH)**



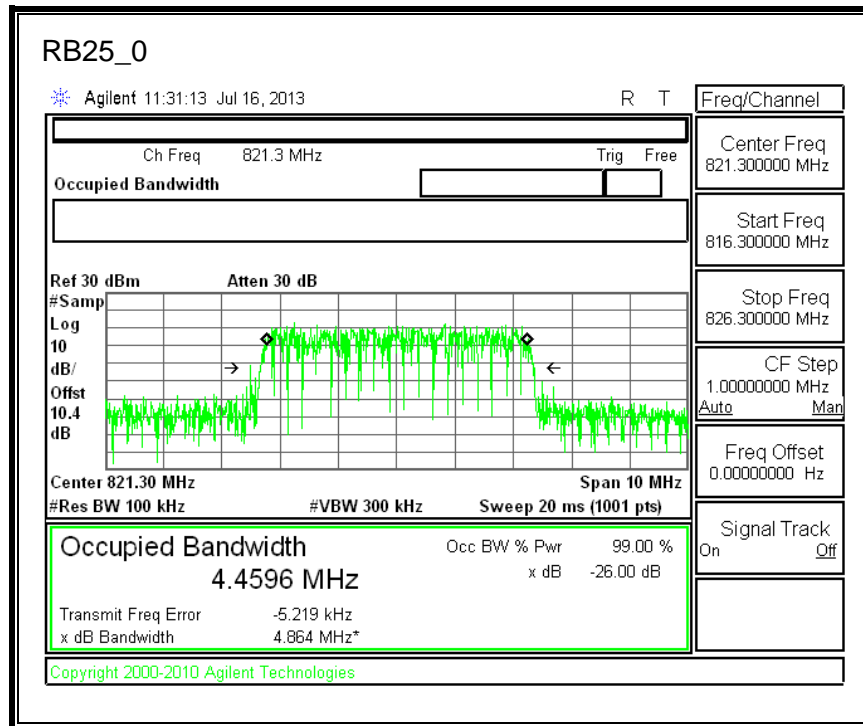
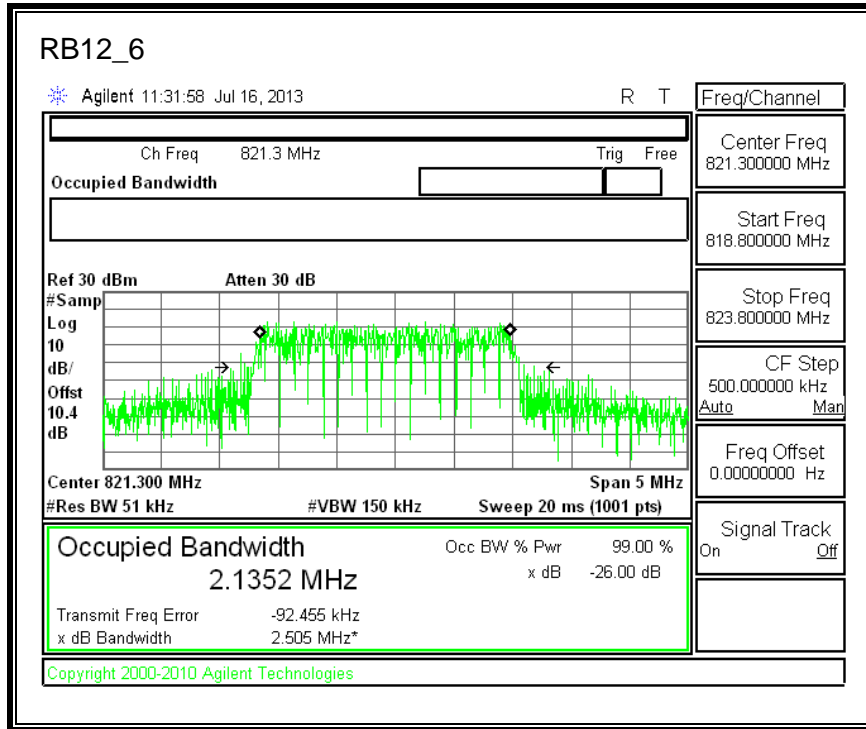




**Band 26 QPSK (5.0 MHz BAND WIDTH)**



**Band 26 16QAM (5 MHz BAND WIDTH)**



## **8.2. BAND EDGE and EMISSION MASK**

### **RULE PART(S) for Band Edge**

- FCC: §22.359, §24.238, §27.53
- 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 CMW500Test 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 (704, 716, 824, 849, 1710 and 1755, 1850 and 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.
- (m)(4) For mobile digital stations, the attenuation factor shall be not less than  $43 + 10 \log (P)$  dB at the channel edge and  $55 + 10 \log (P)$  dB at 5.5 megahertz from the channel edges. (Channel edges are defined under §27.5 (i) Frequency assignment for the BRS/EBS band)
- (m)(6) Measurement procedure. 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.

### **RULE PART(S) for Emission Mask**

- FCC: §90.210, and §90.691
- (a)(1)For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log_{10}(f/6.1)$  decibels or  $50 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
- (a)(2)For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. {NOTE: Use 100 kHz reference bandwidth.}

### **MODES TESTED**

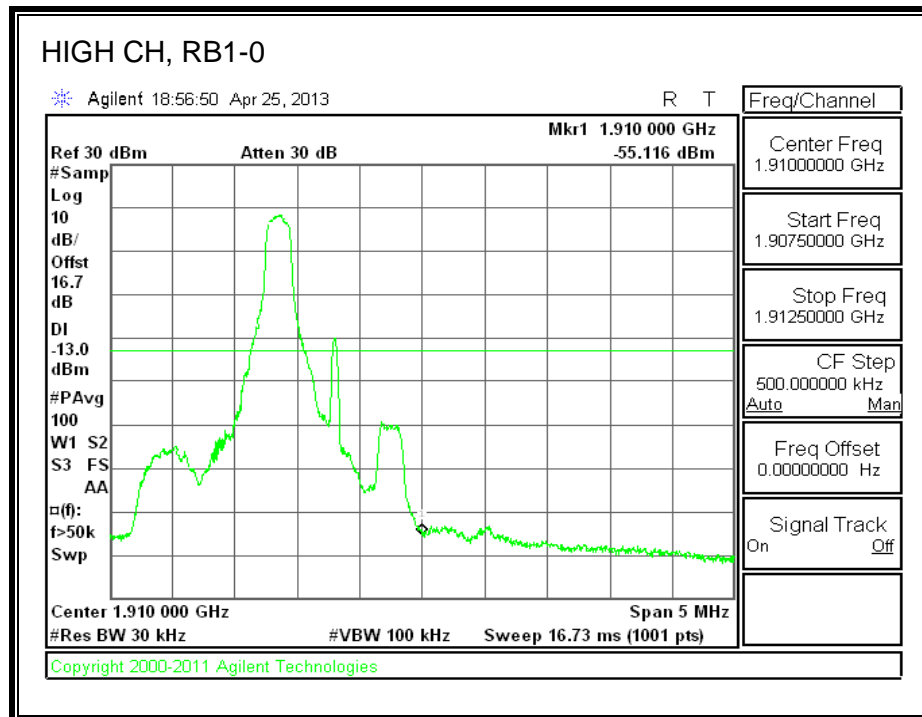
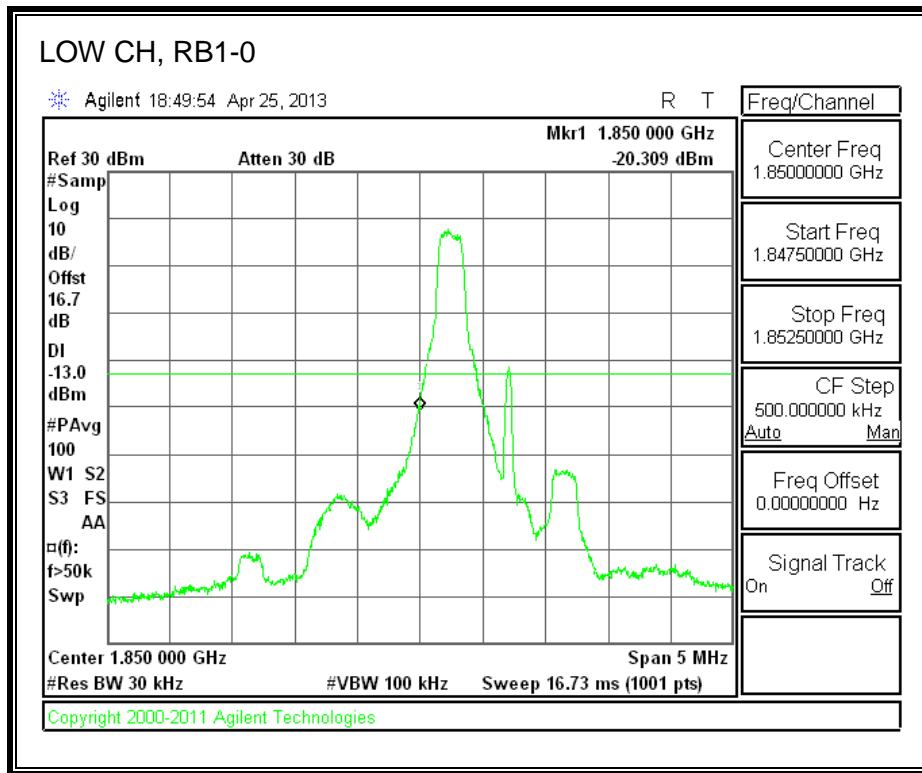
- Band 2
- Band 4
- Band 5
- Band 13
- Band 17
- Band 25
- Band 26

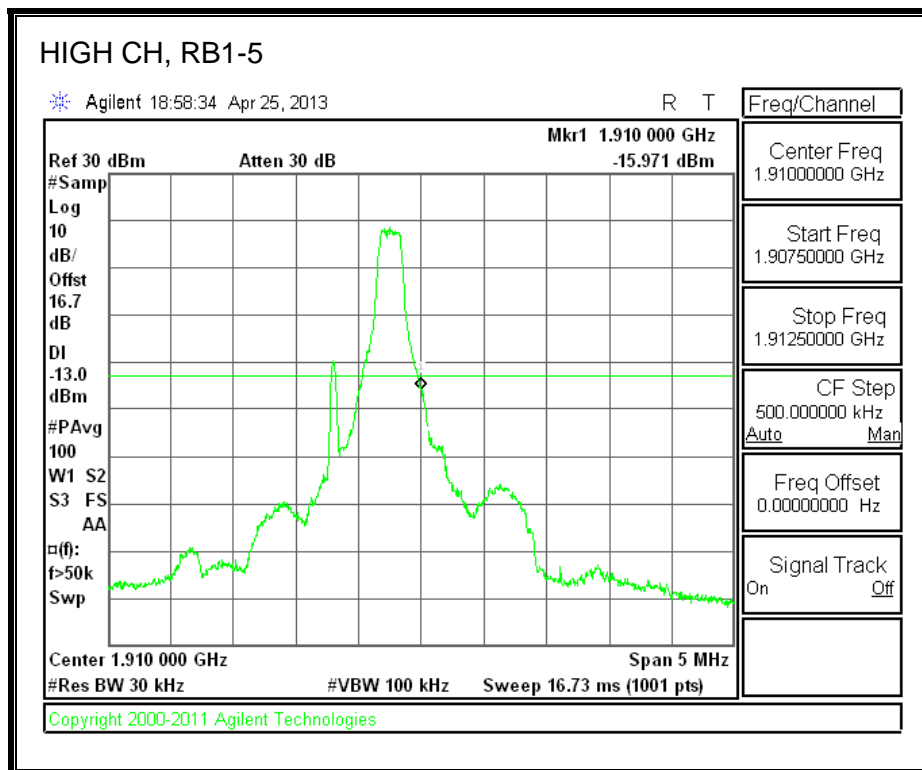
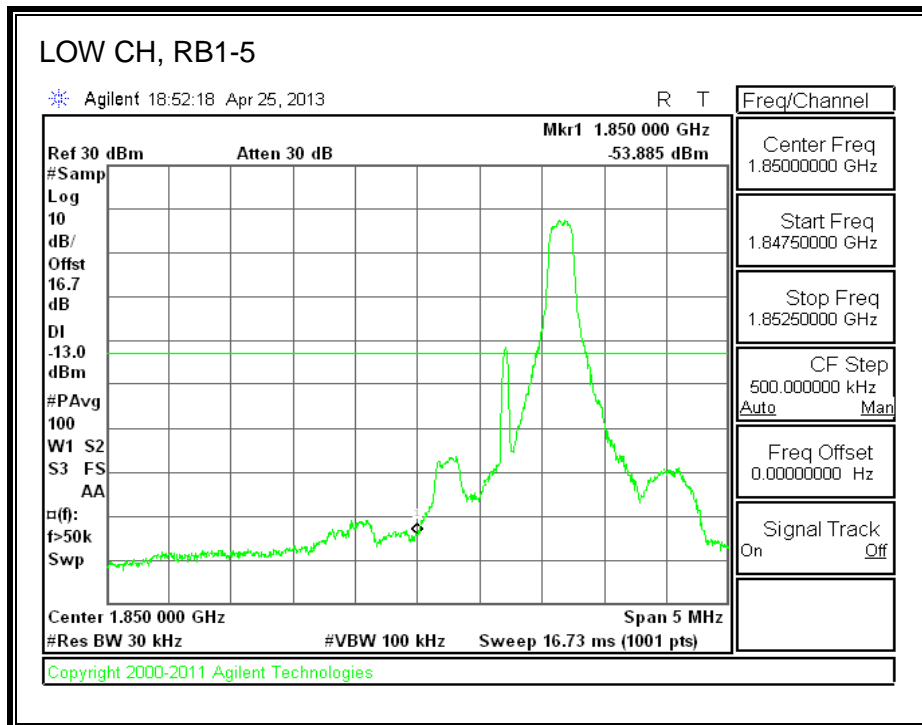
### **RESULTS**

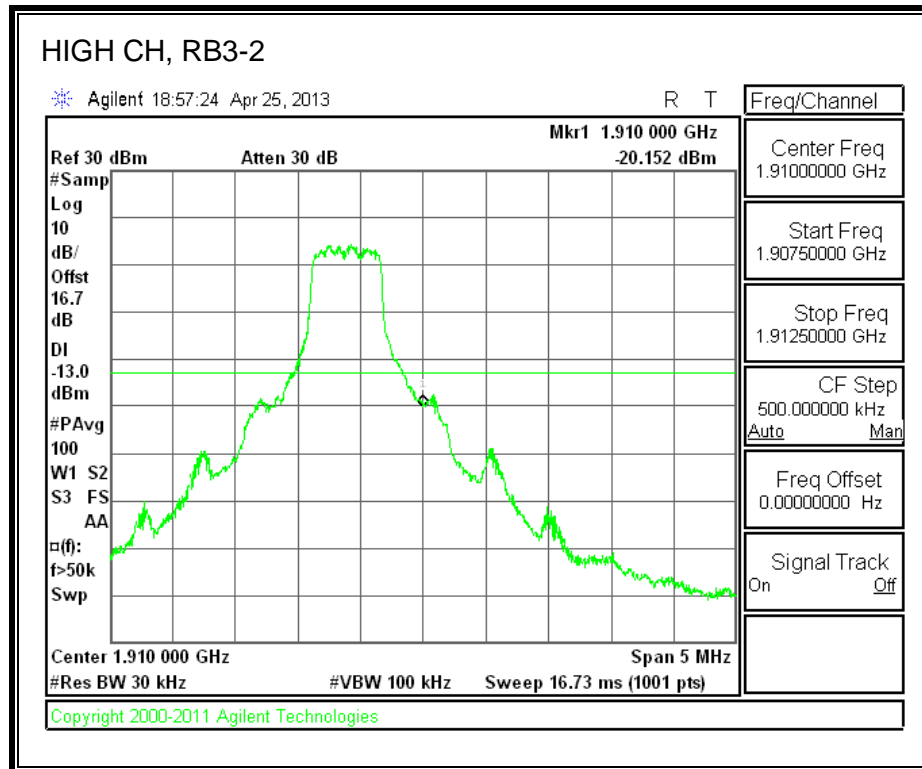
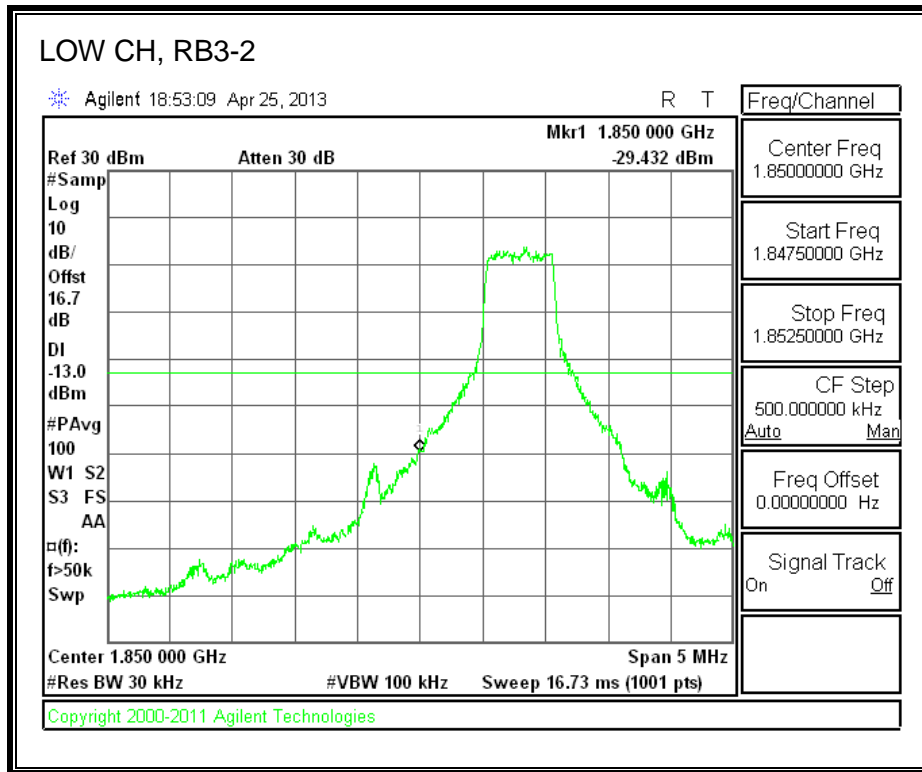


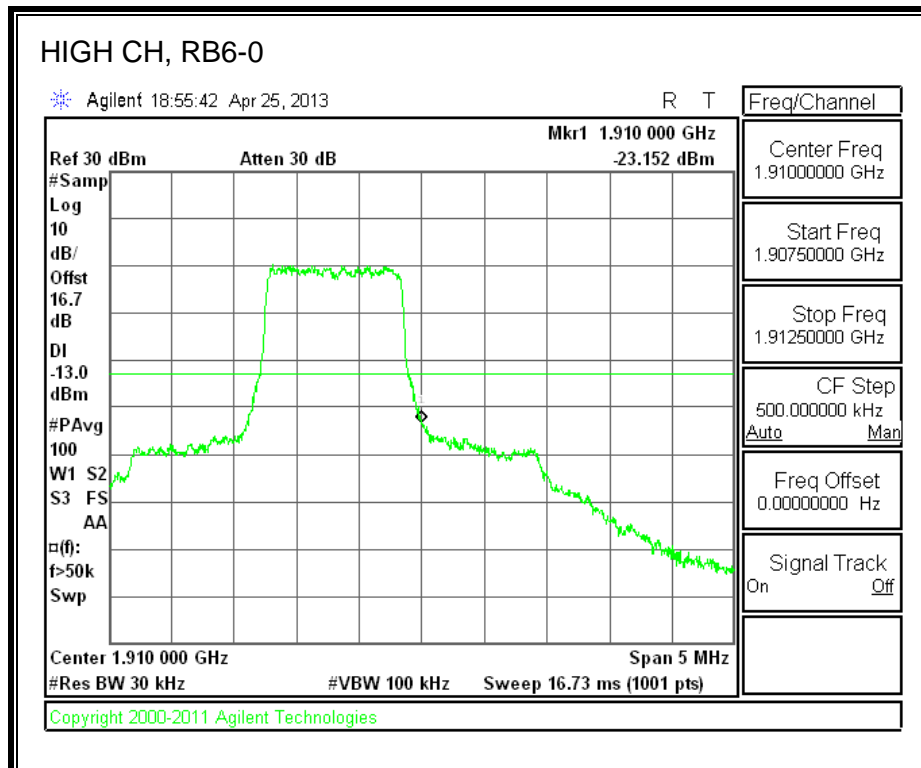
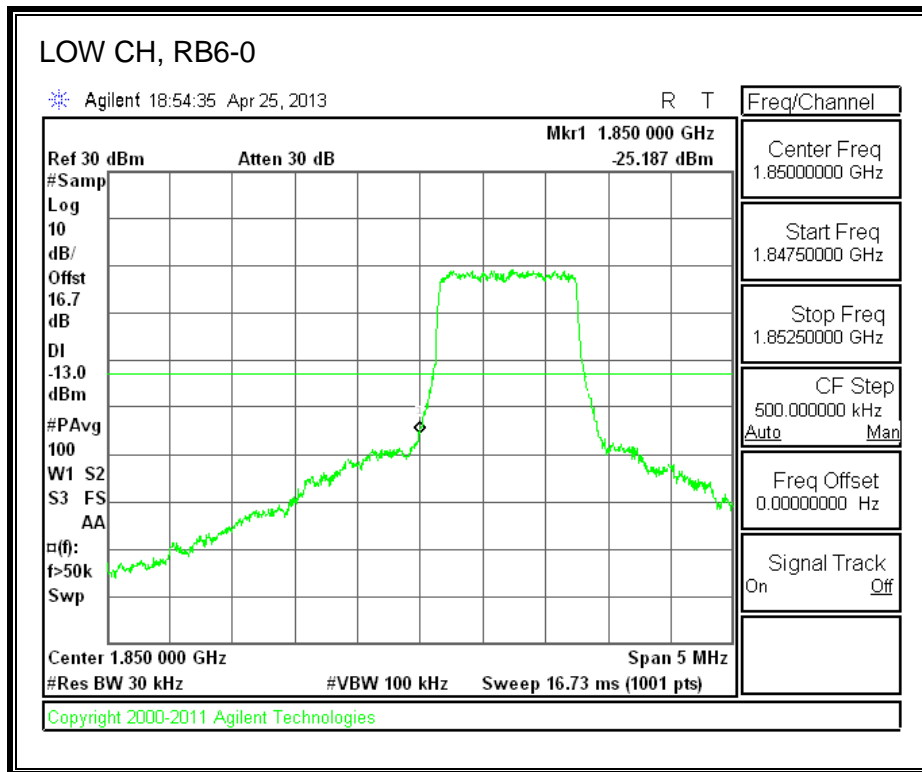
### 8.2.1. LTE BAND 2

#### LTE QPSK Band 2 (1.4 MHz BAND WIDTH)

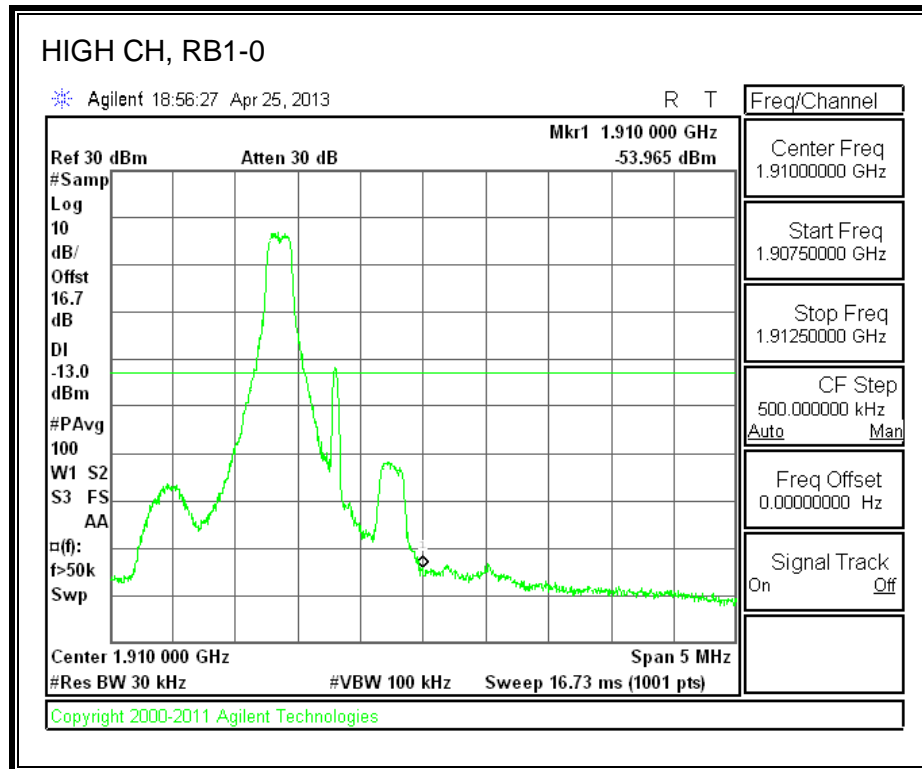
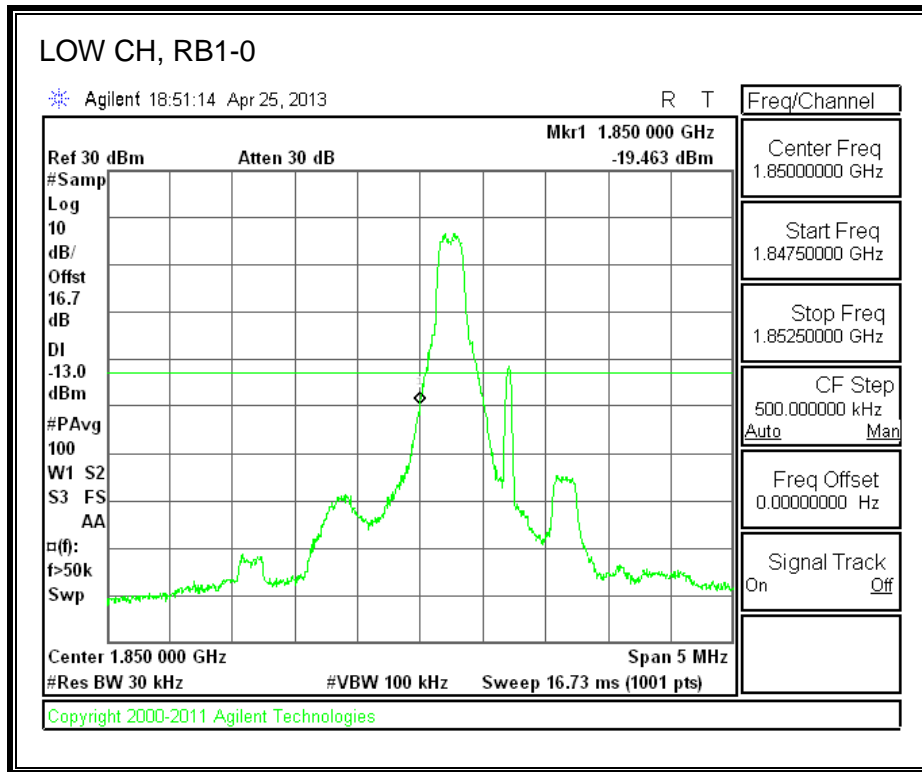


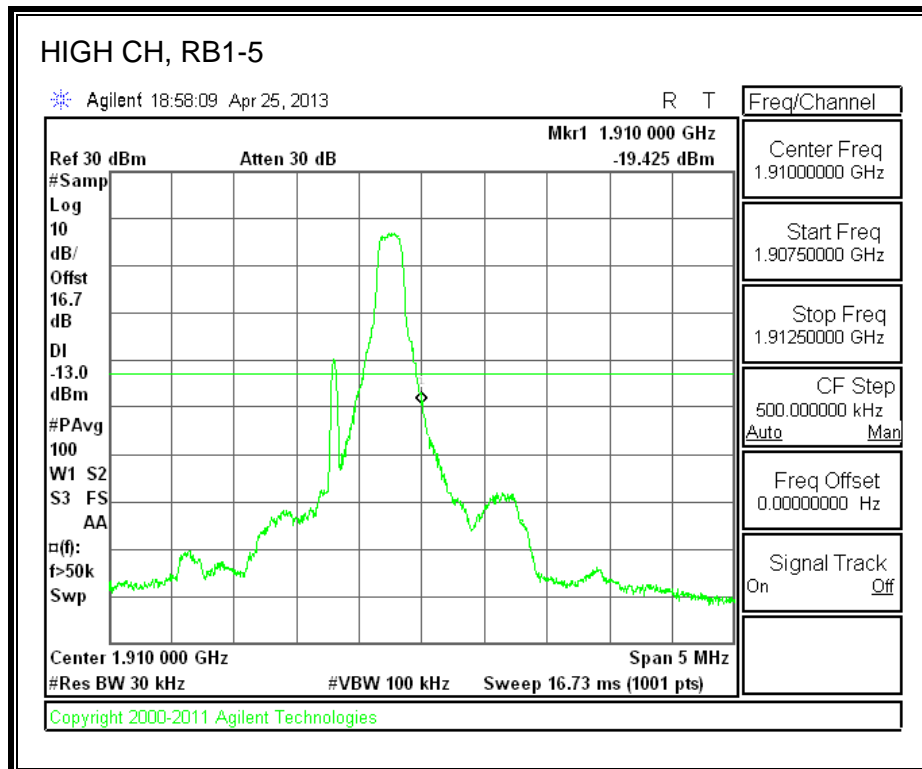
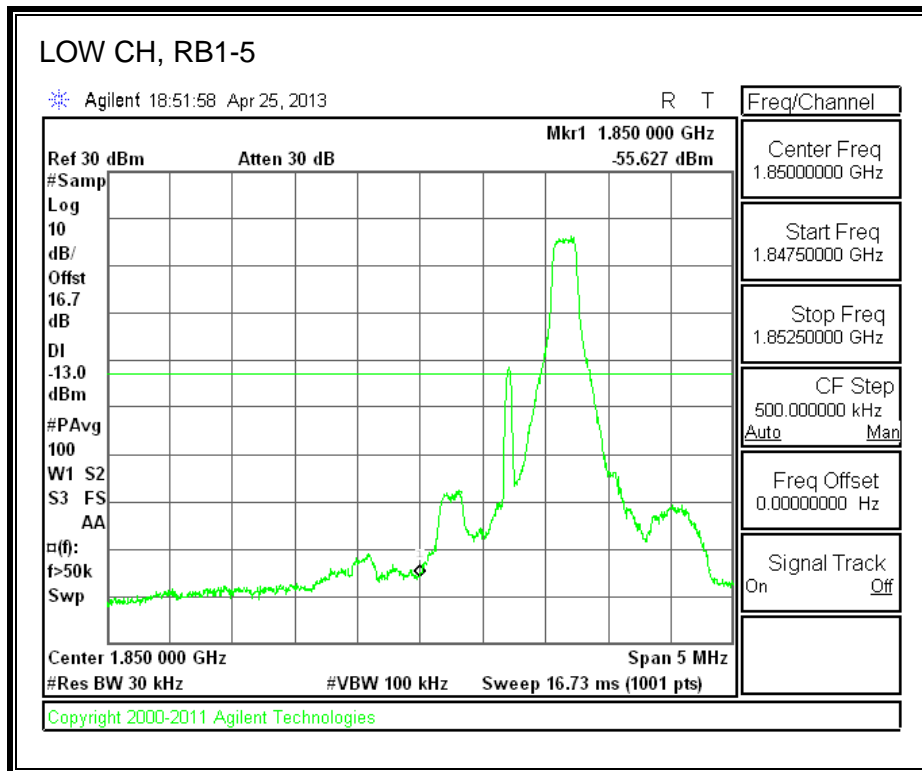


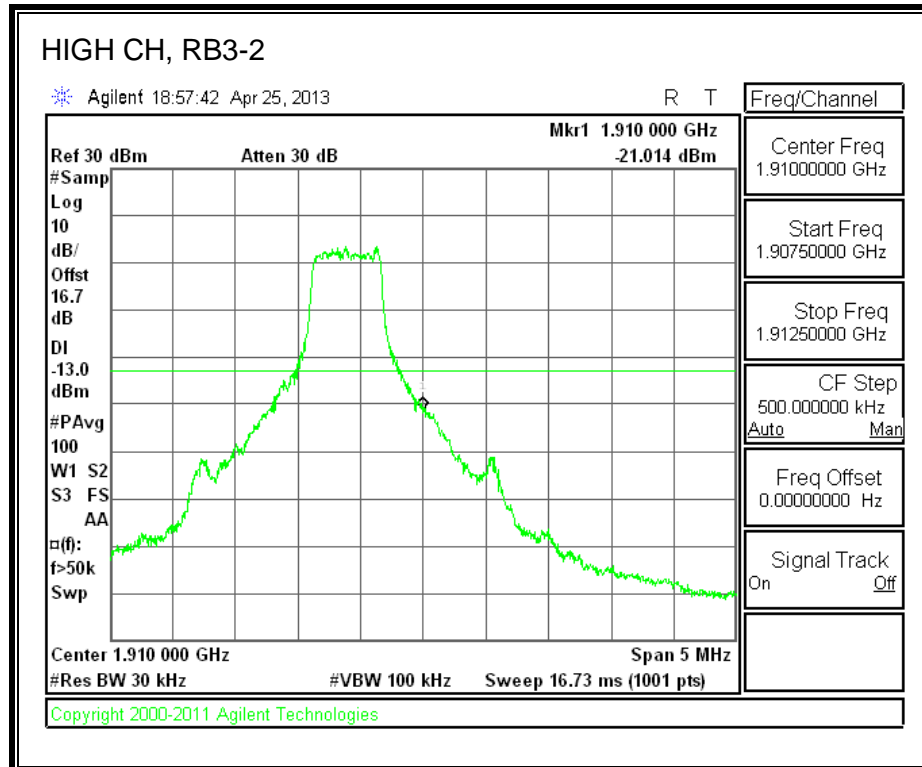
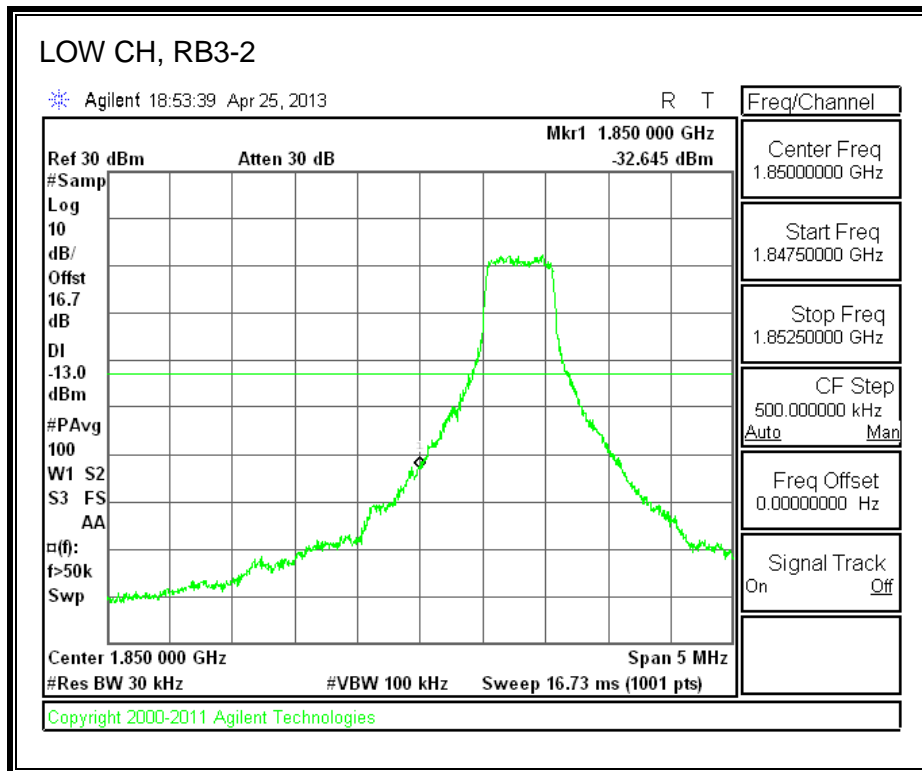


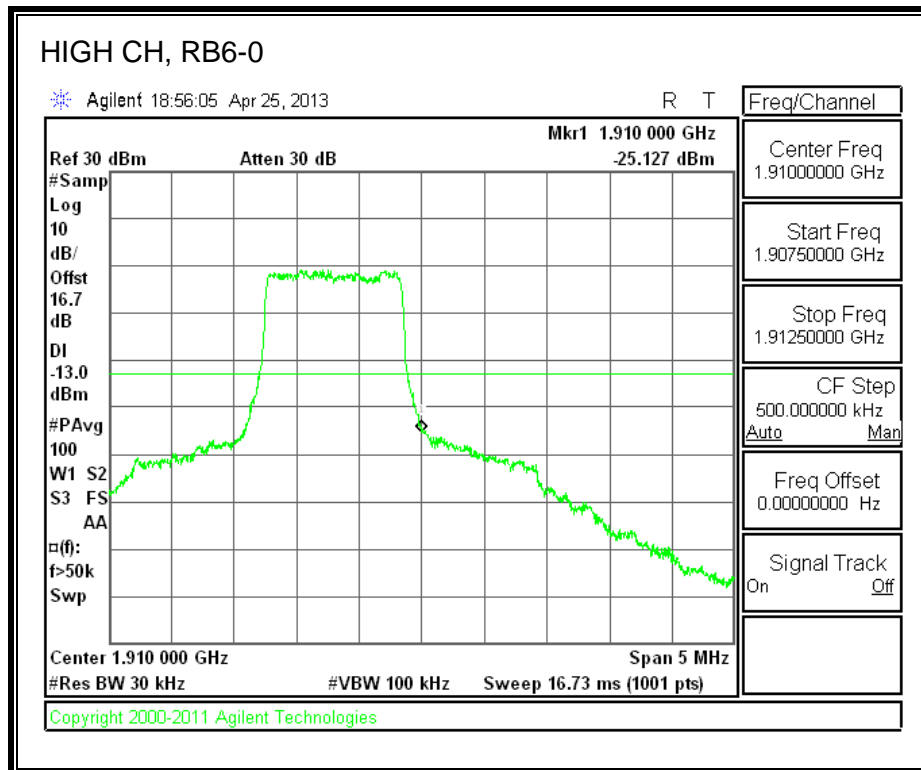
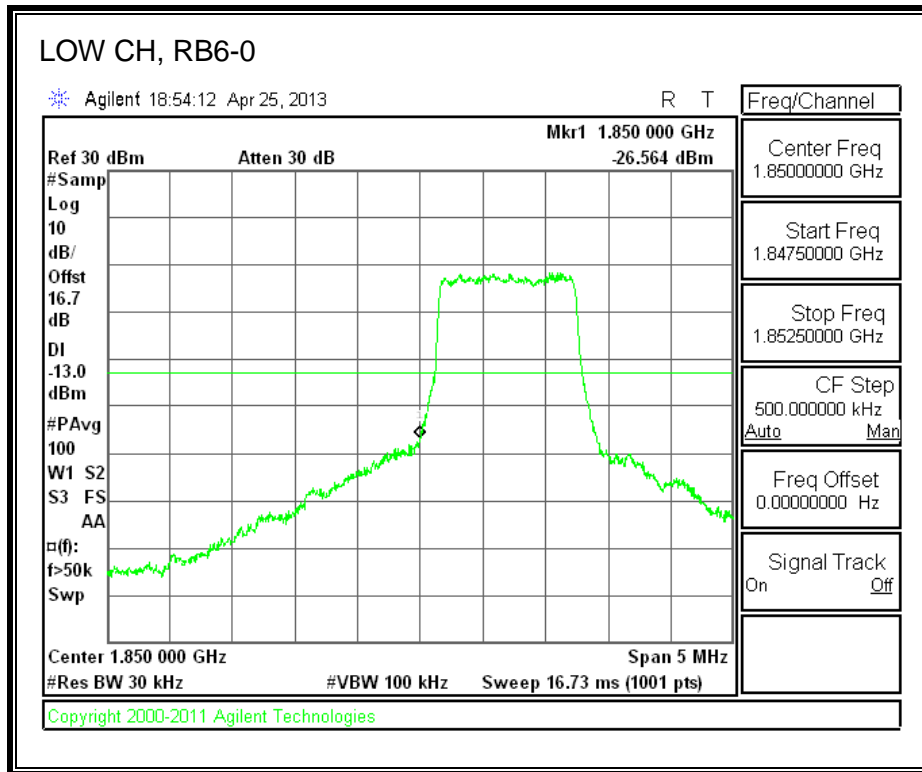


**LTE 16QAM Band 2 (1.4 MHz BAND WIDTH)**



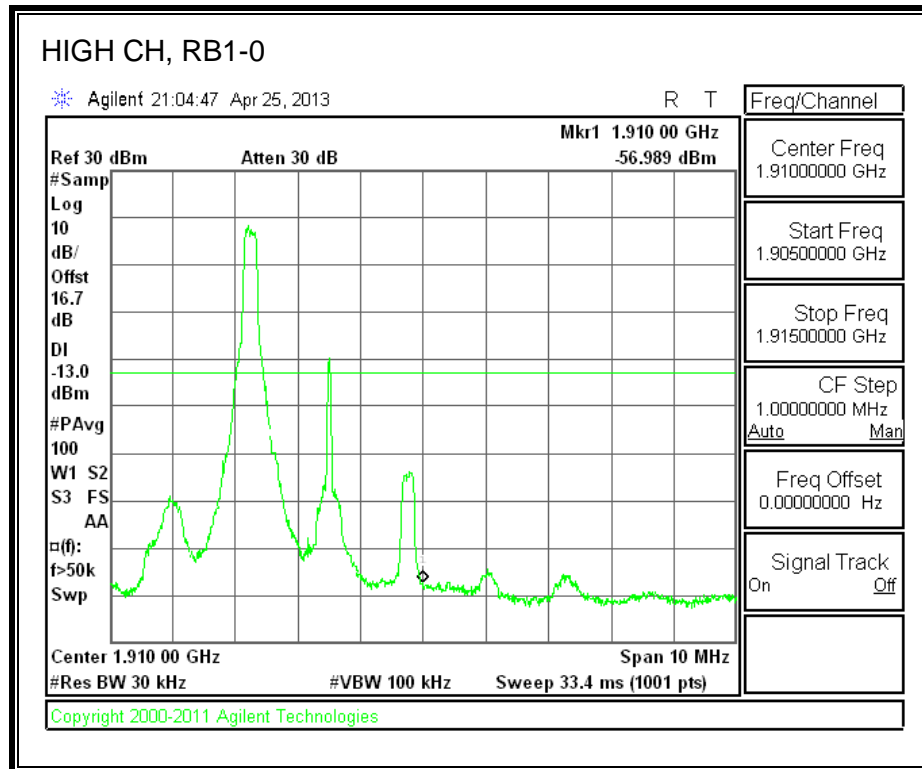
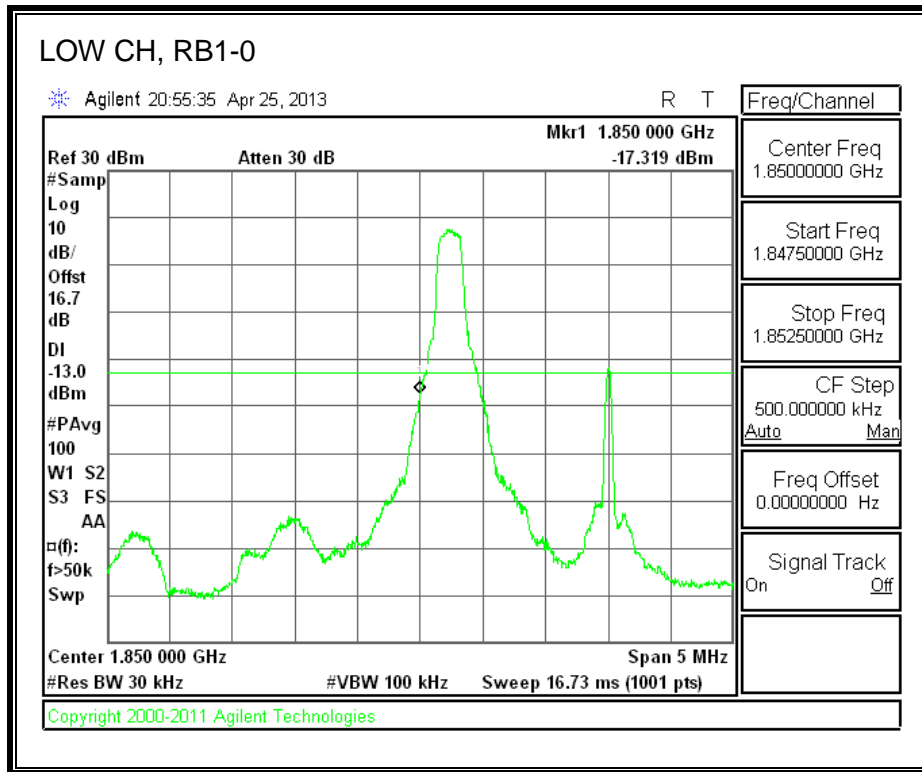


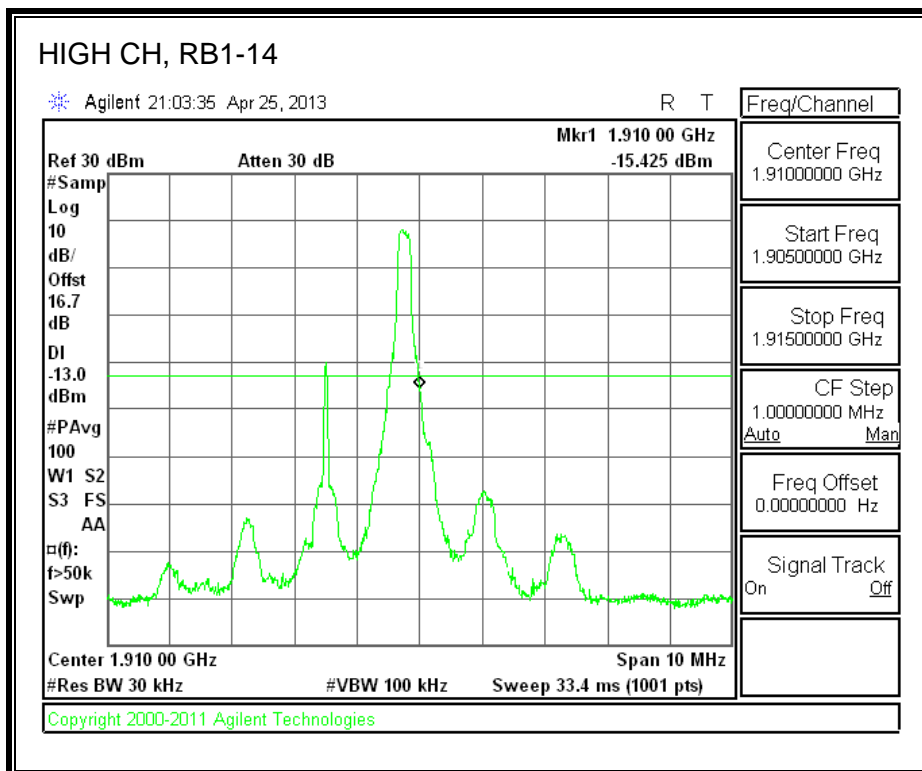
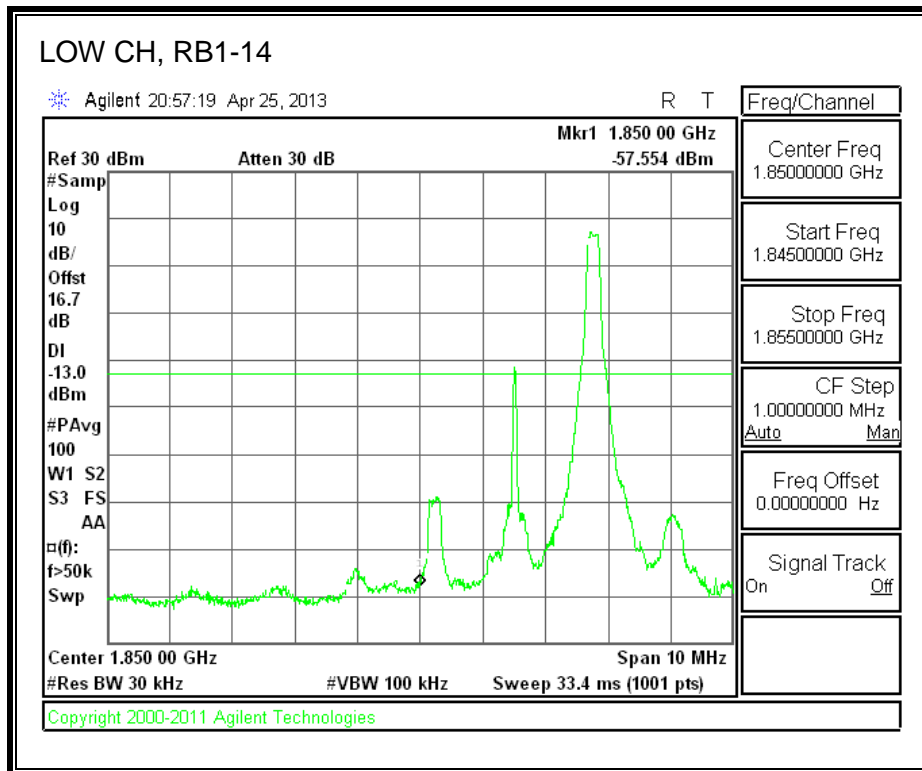


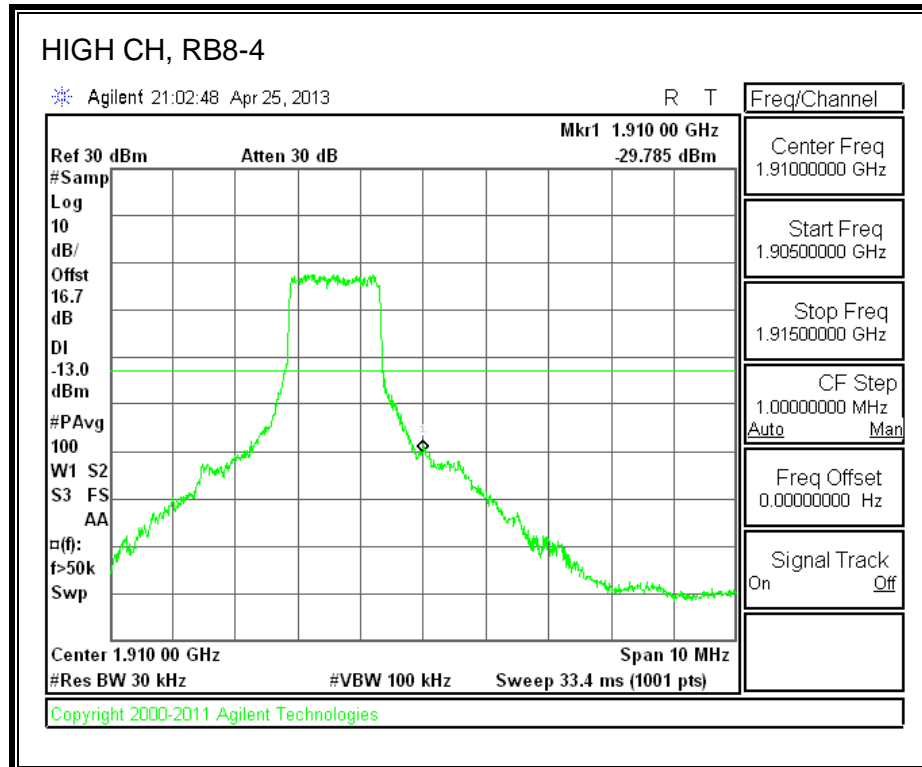
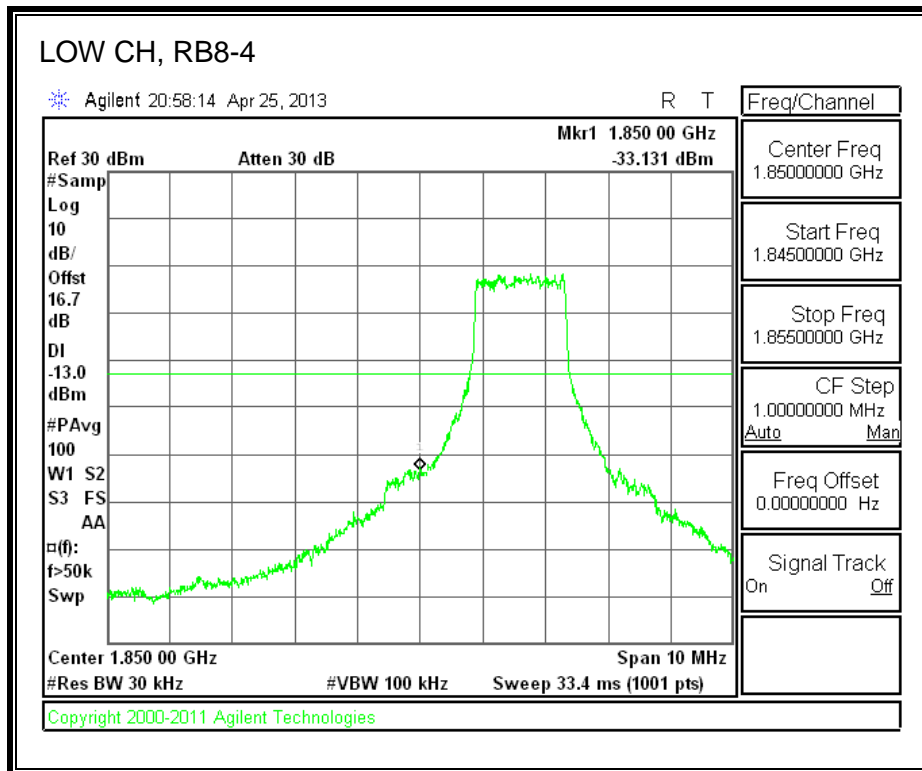


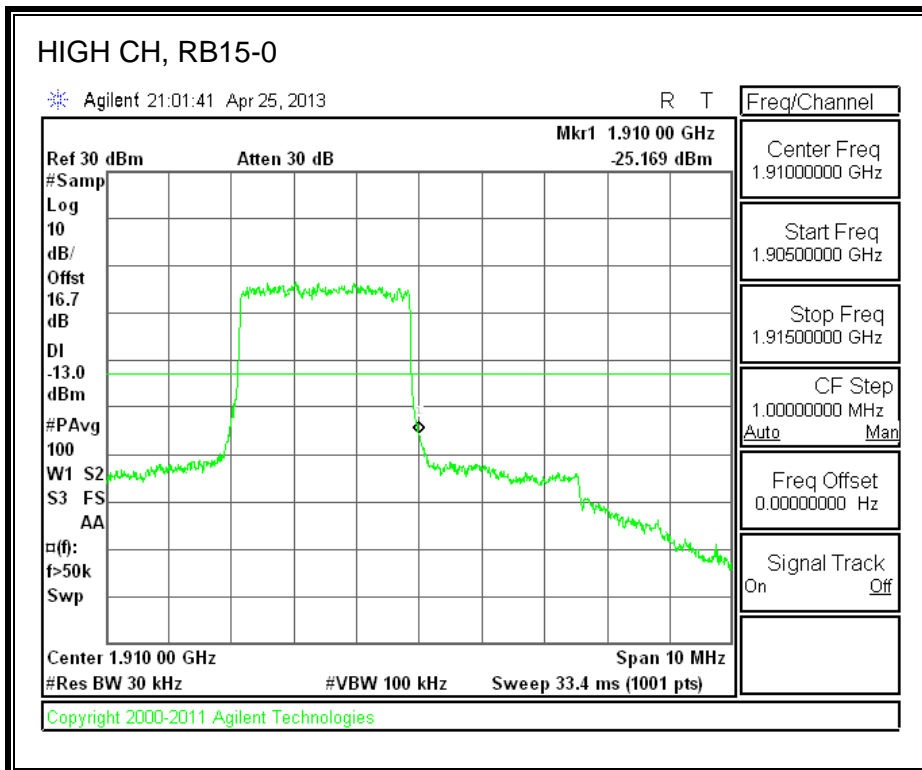
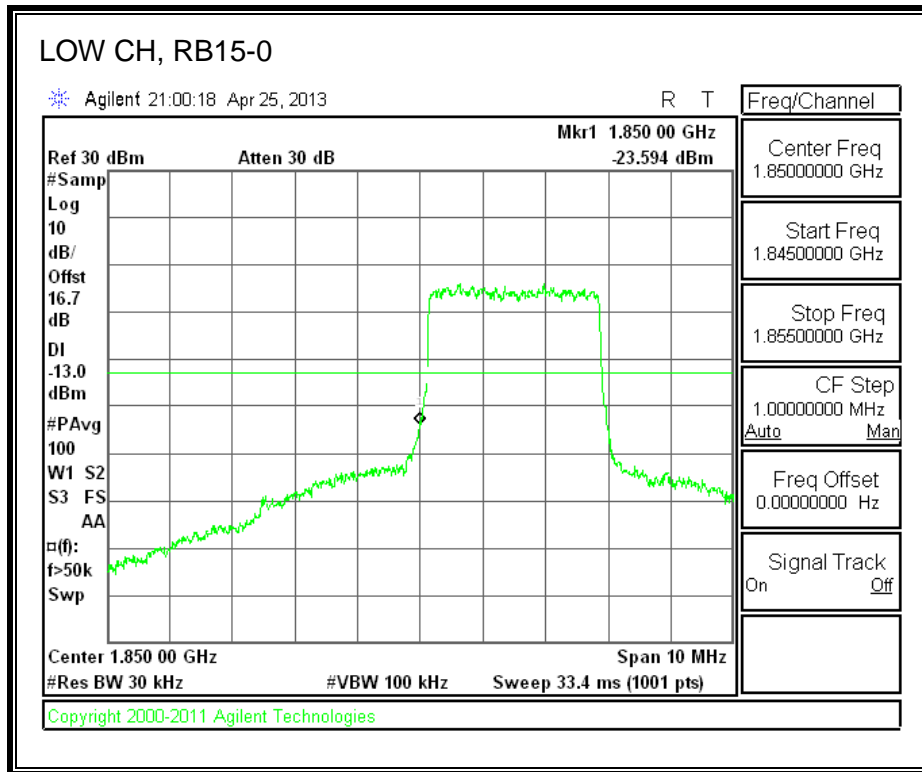


**LTE QPSK Band 2 (3.0 MHz BAND WIDTH)**

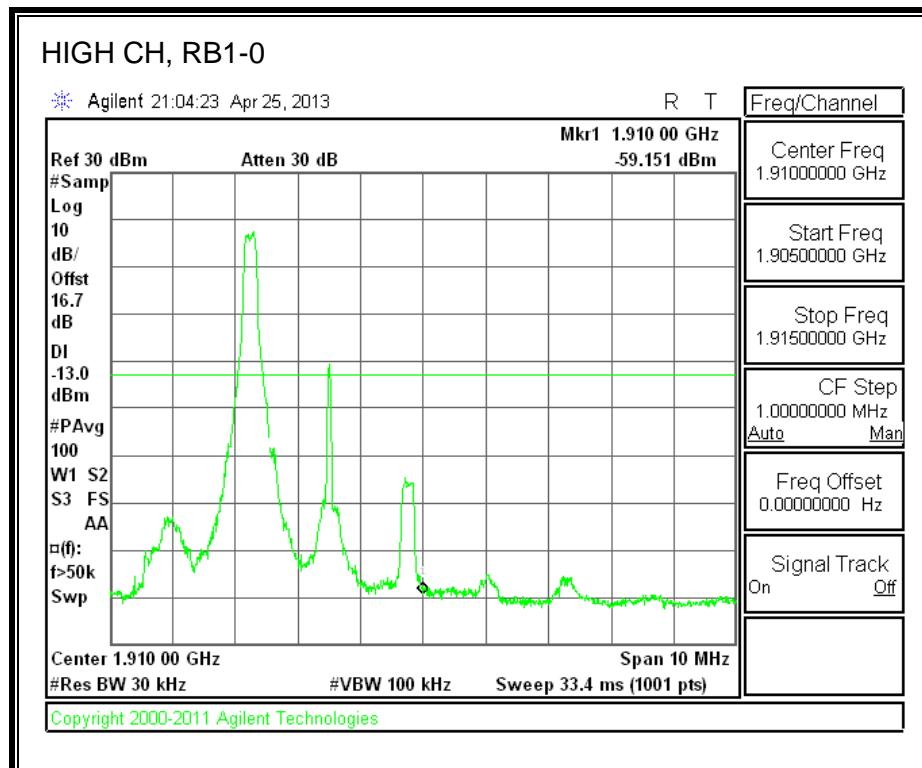
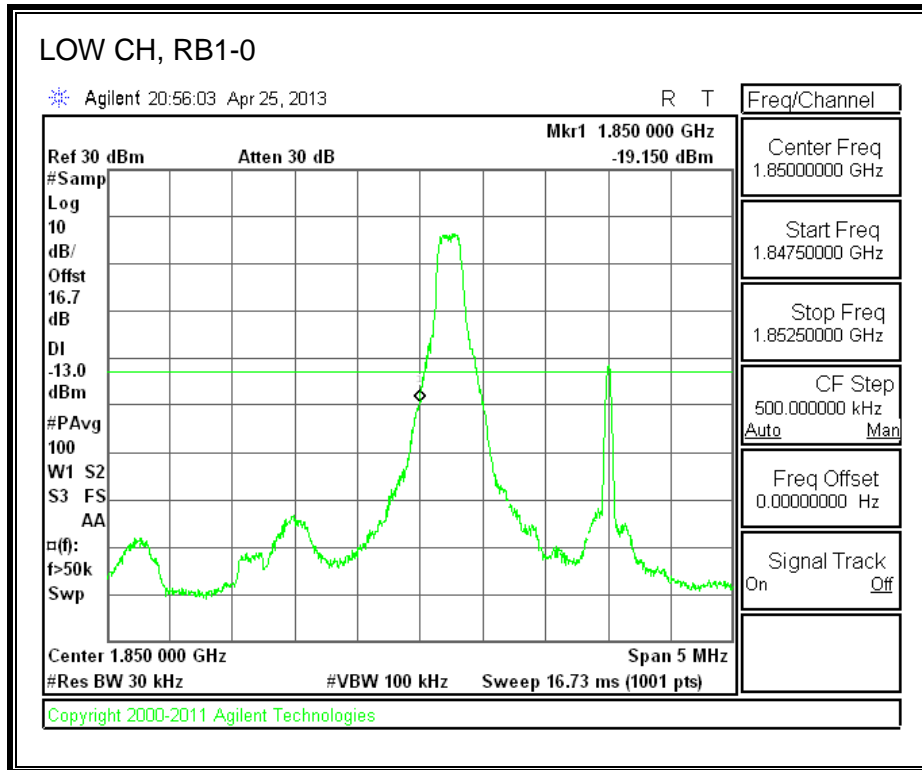


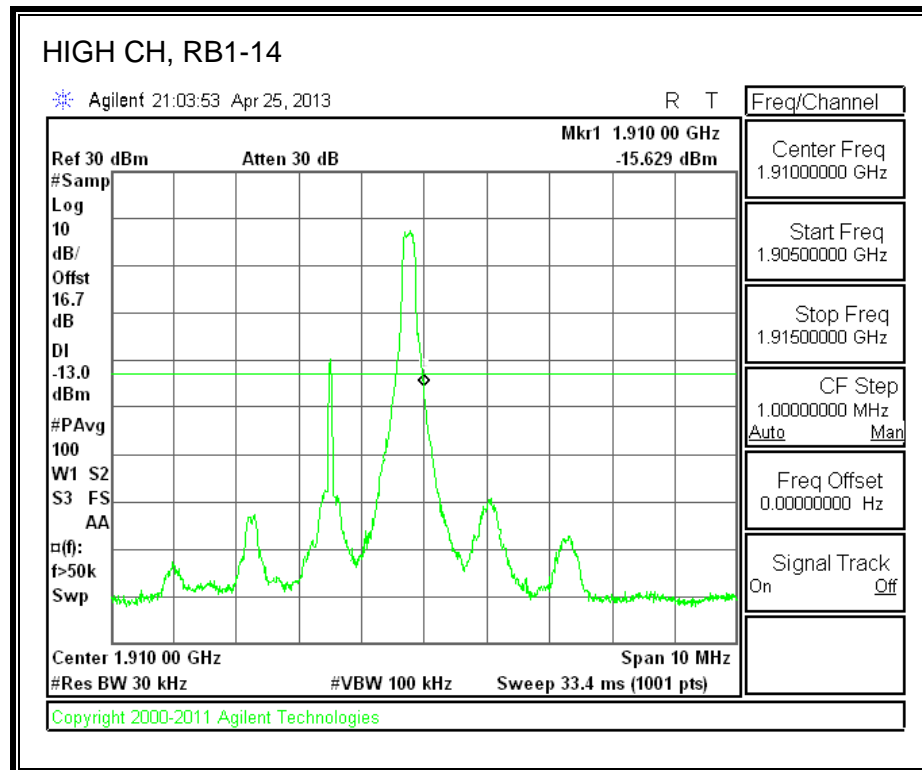
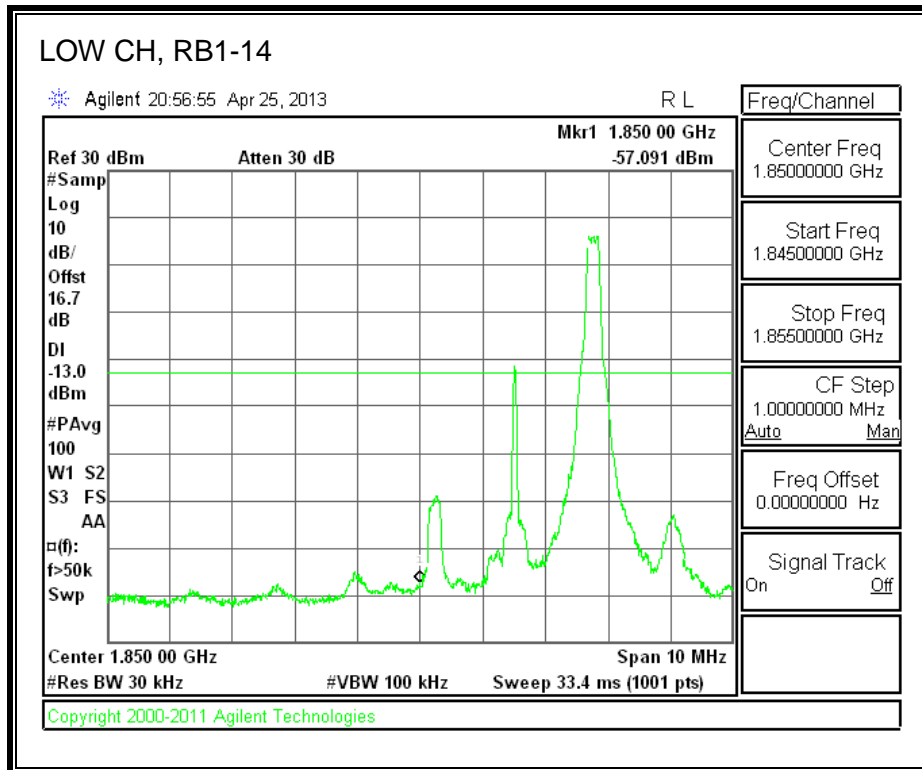


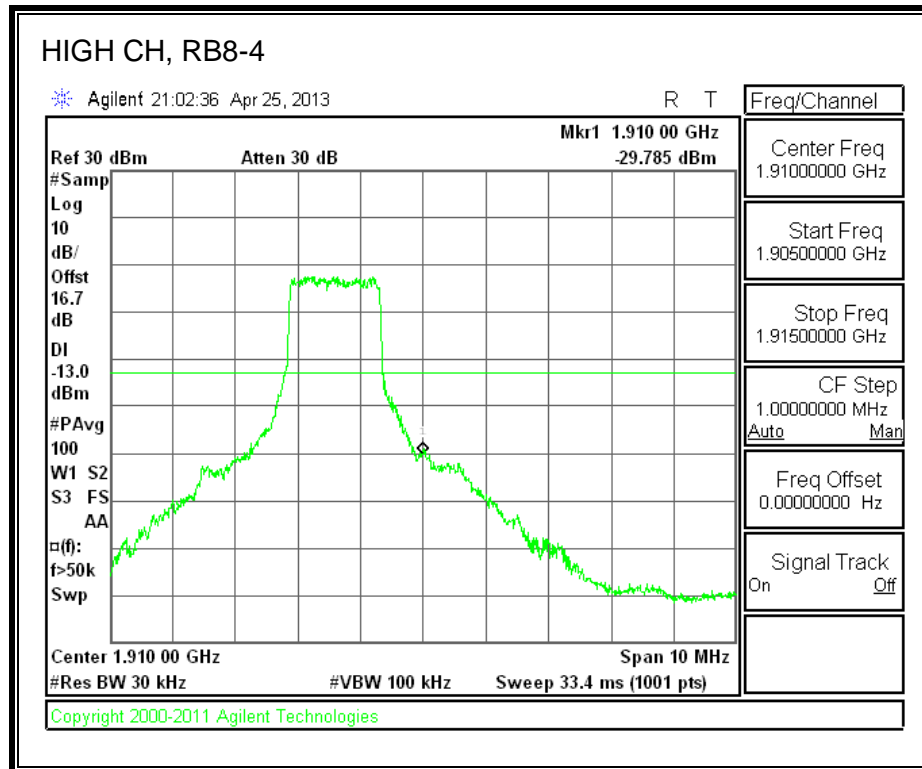
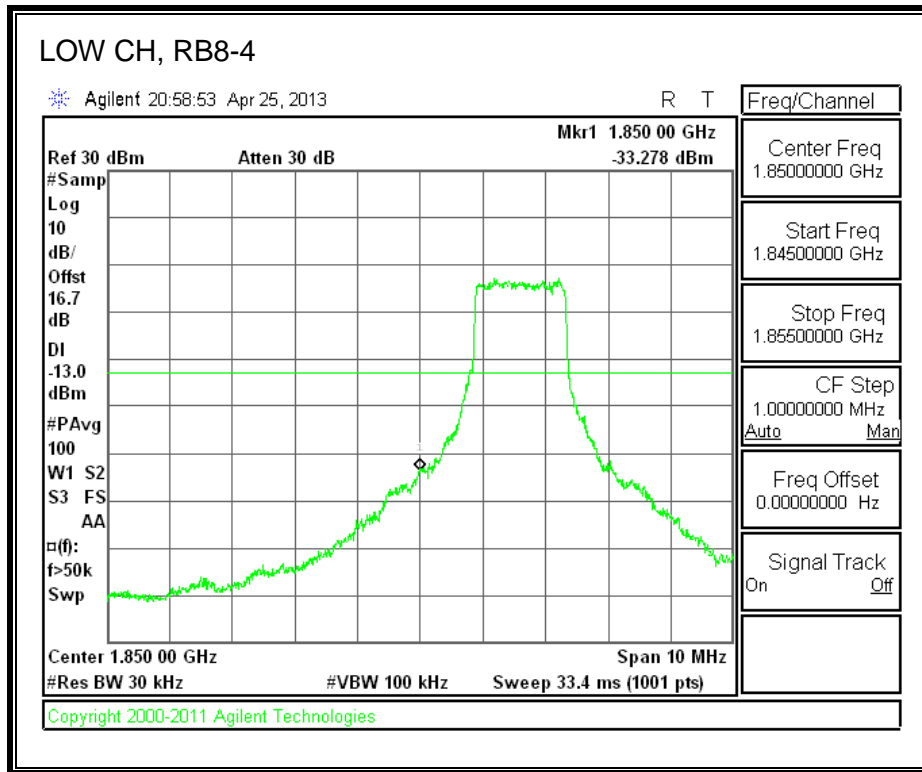


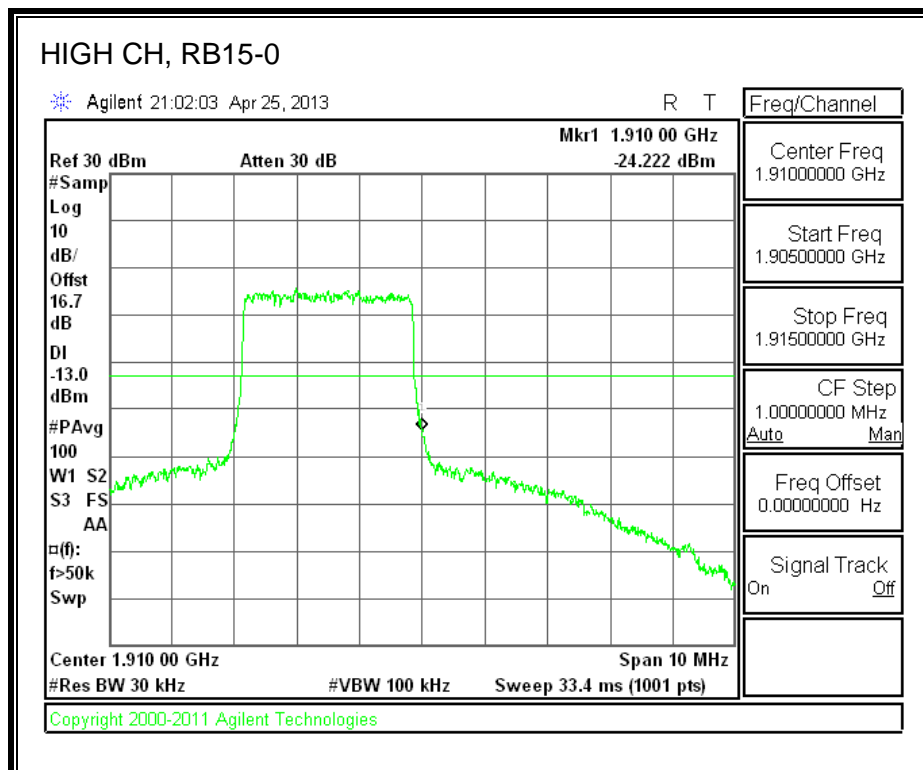
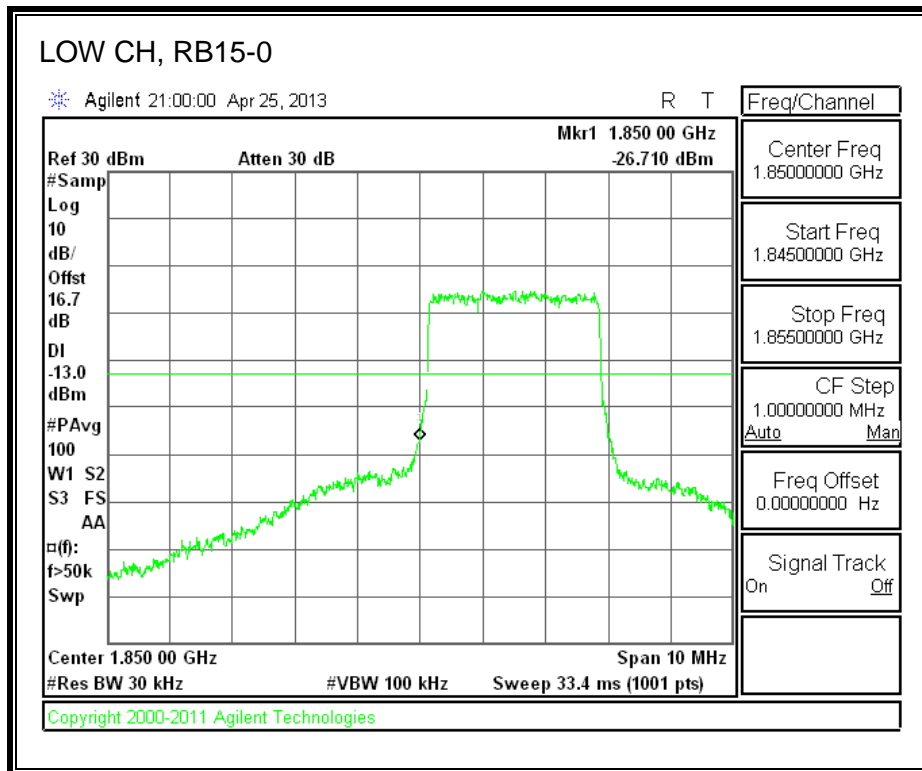


**LTE 16QAM Band 2 (3.0 MHz BAND WIDTH)**



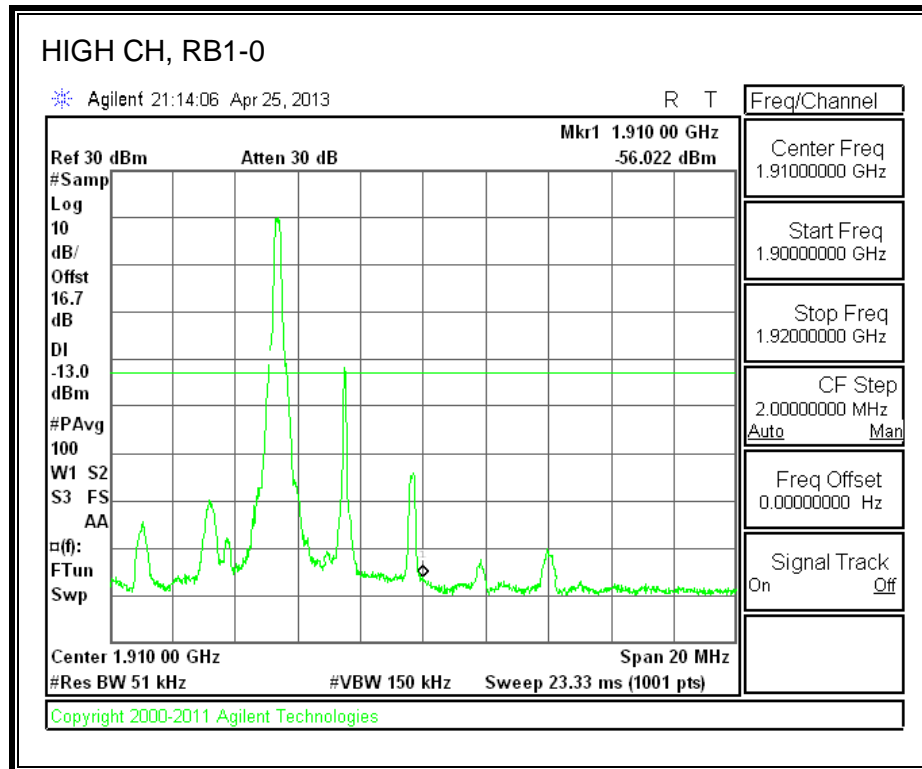
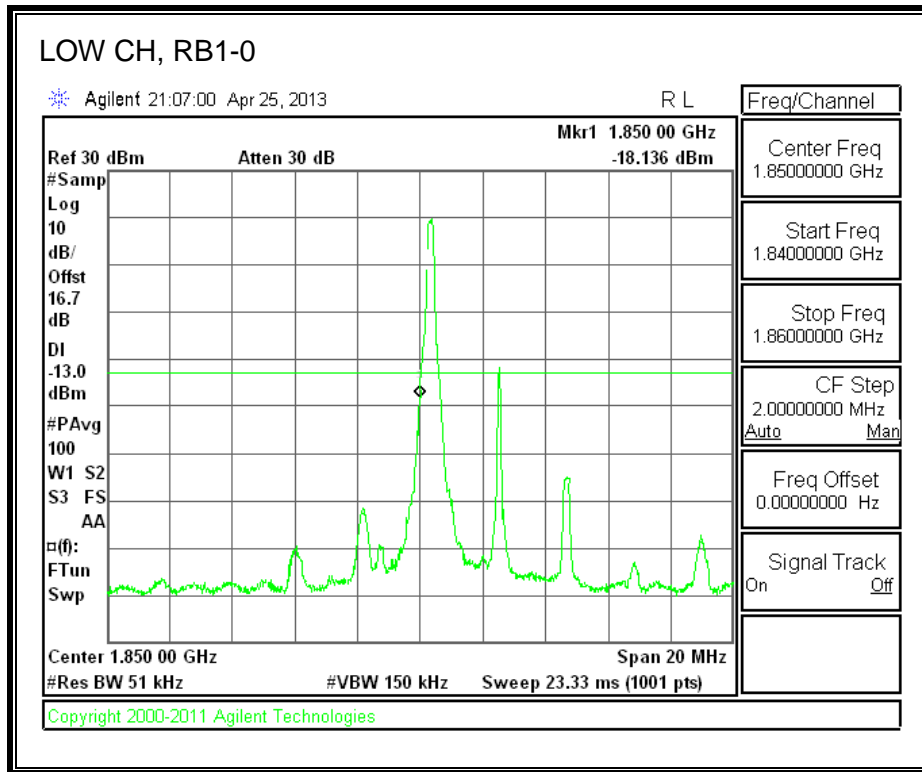


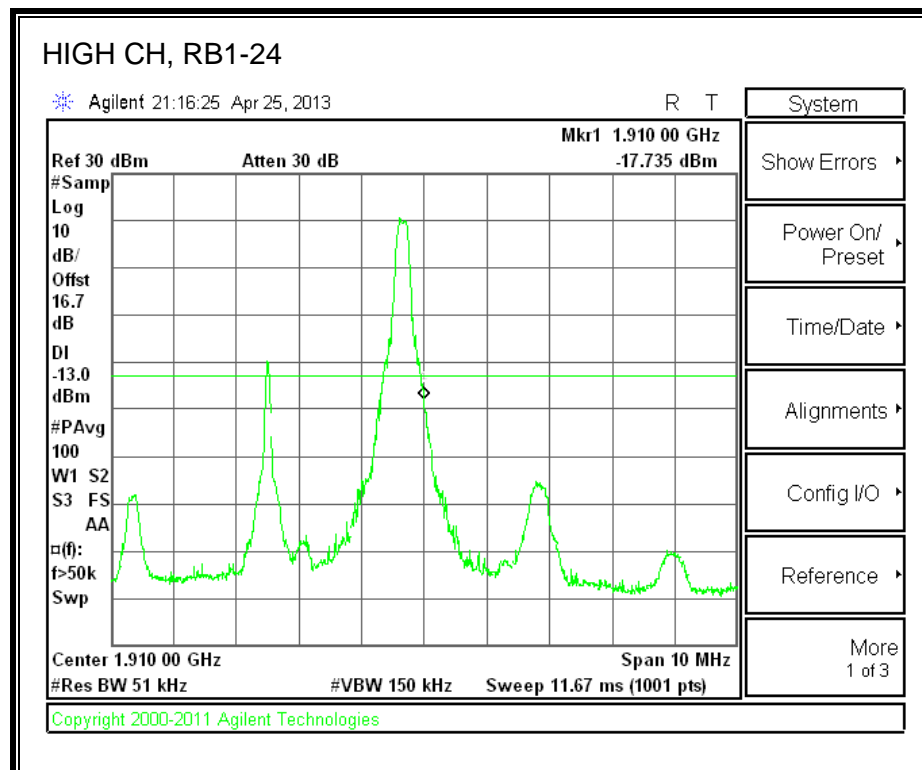
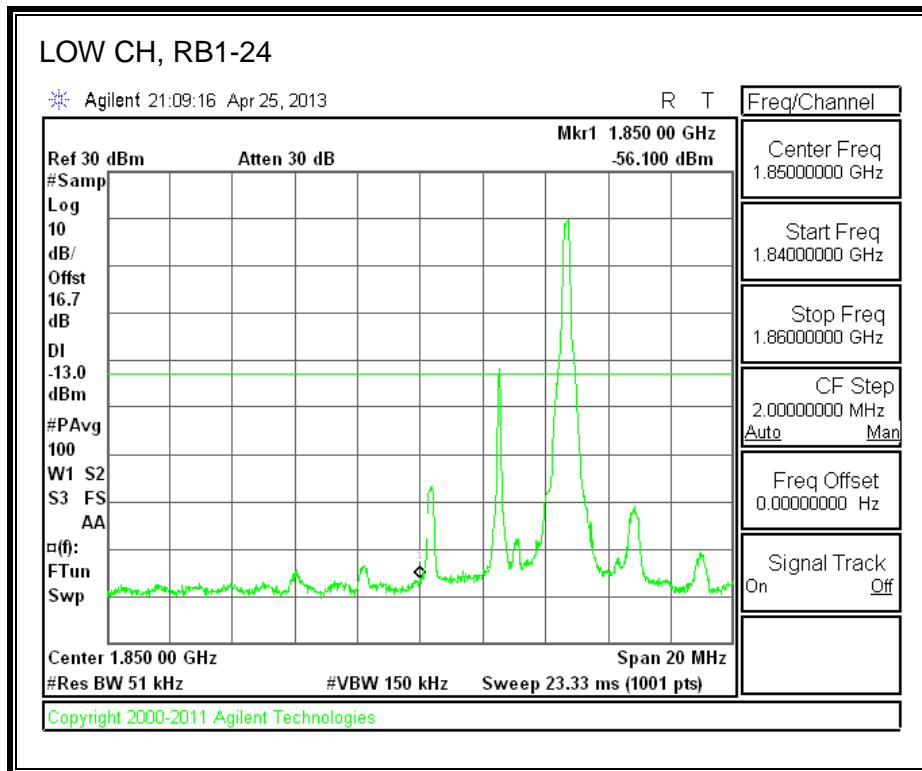


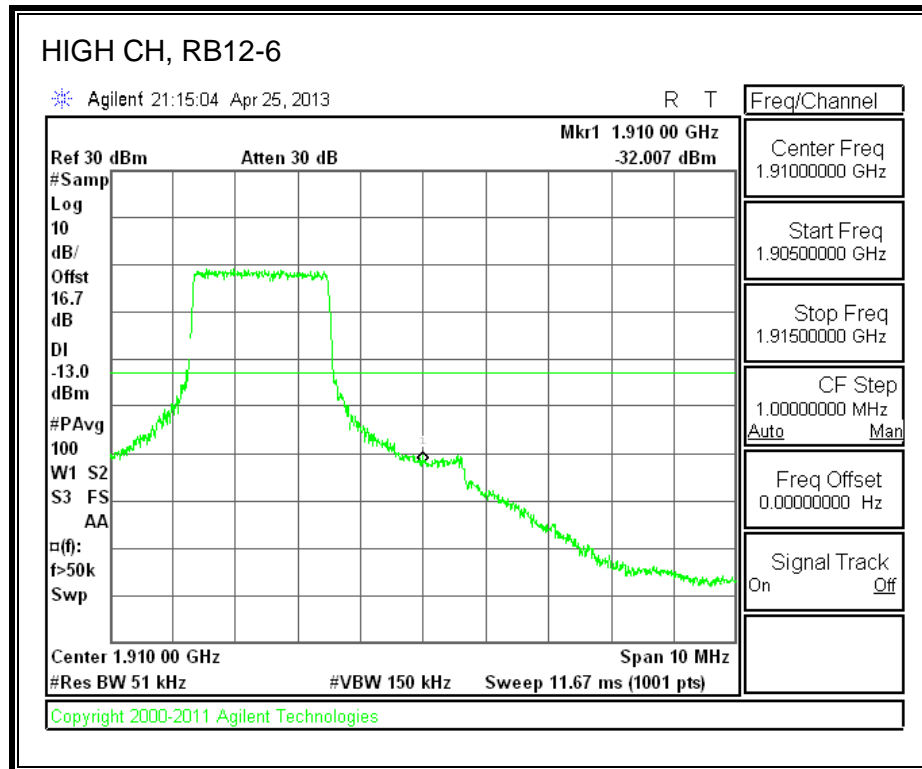
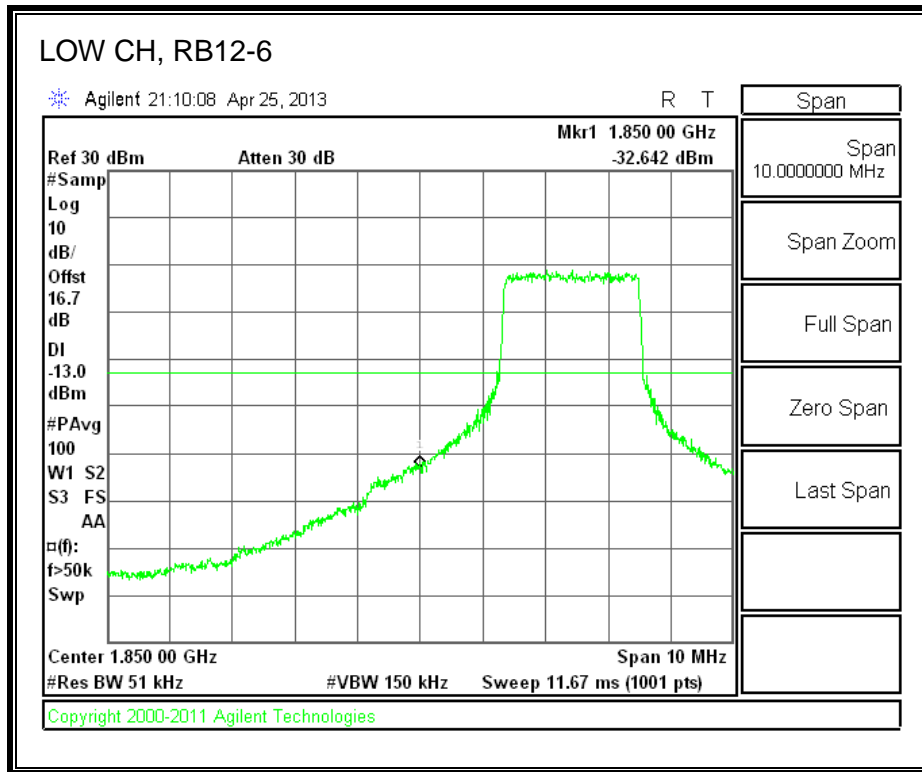


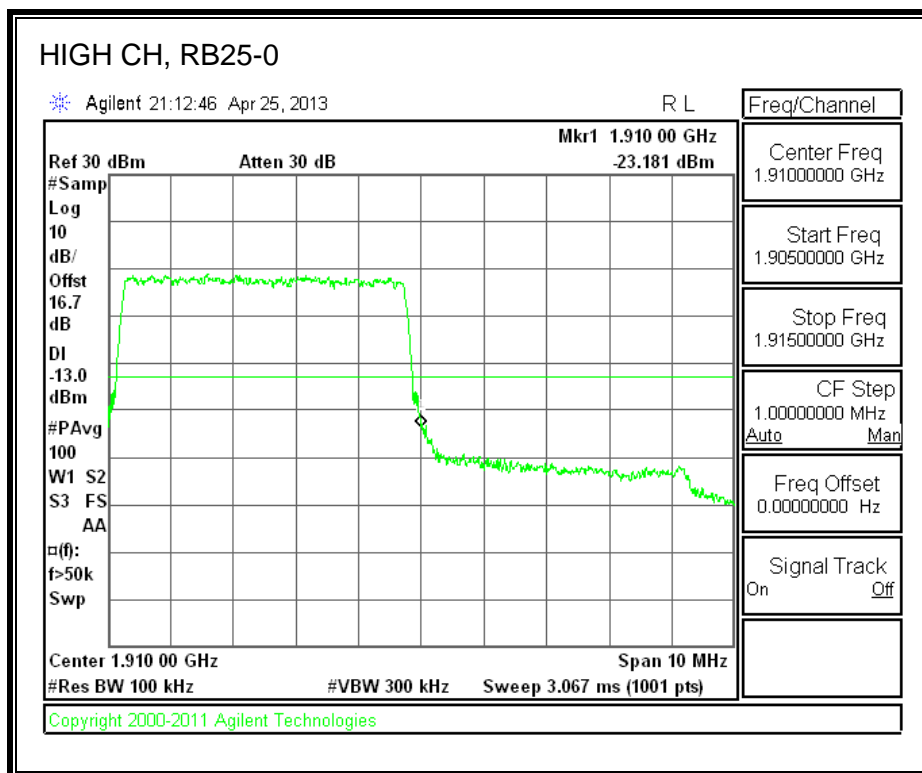
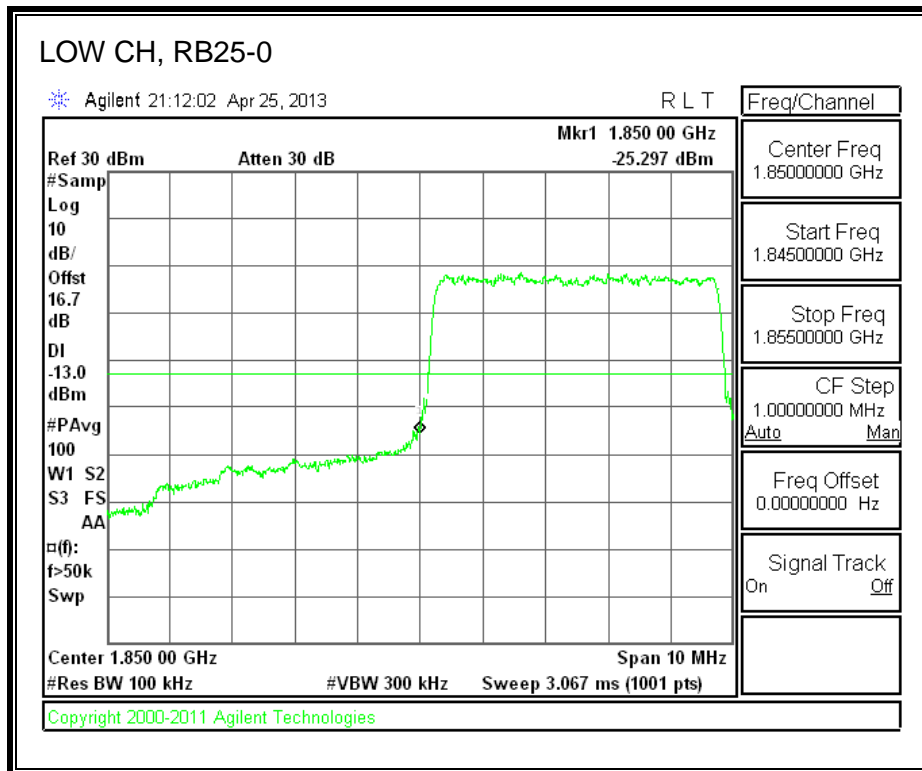


**LTE QPSK Band 2 (5.0 MHz BAND WIDTH)**

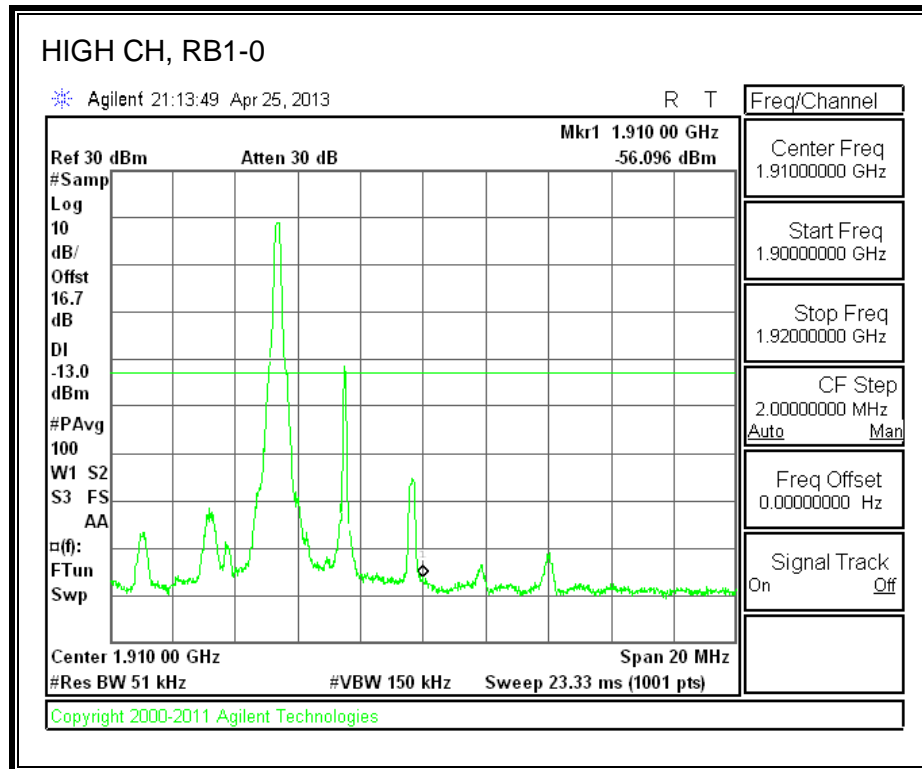
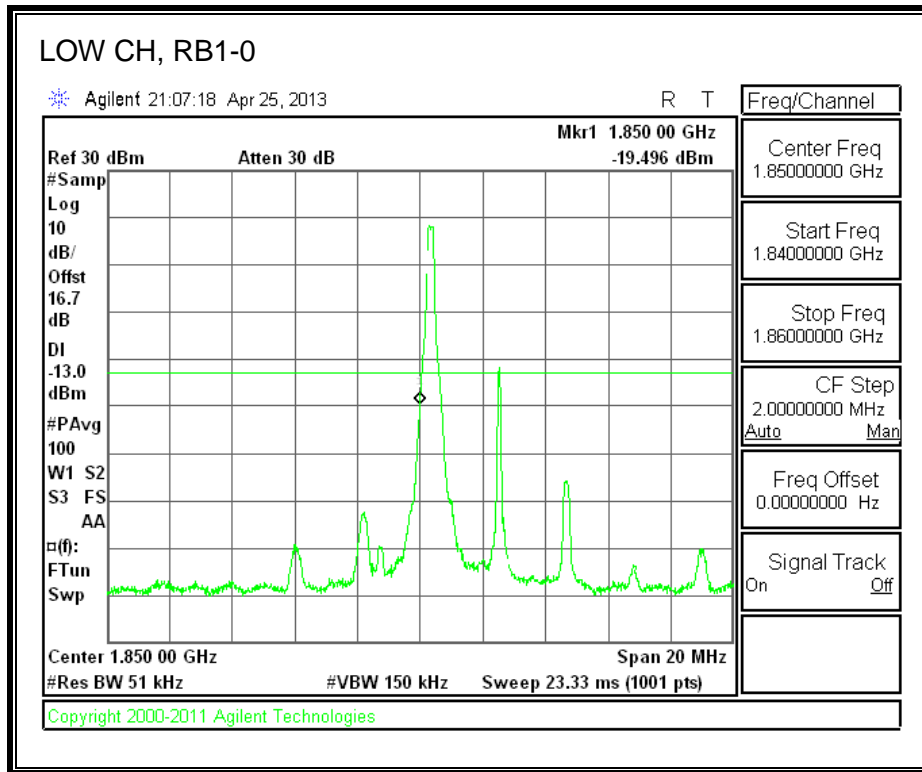


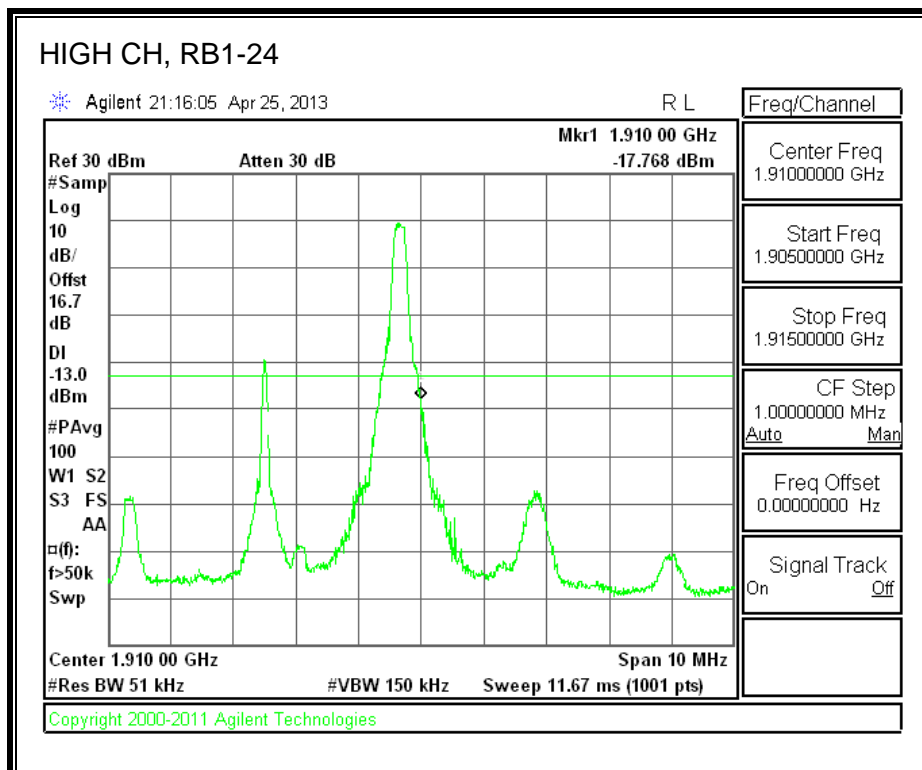
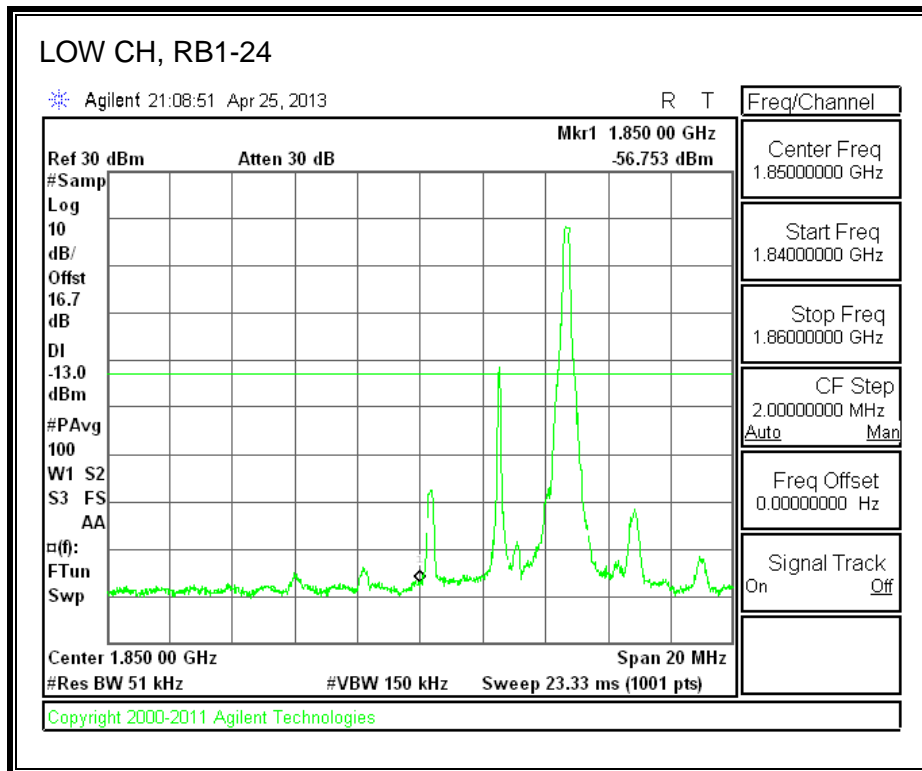




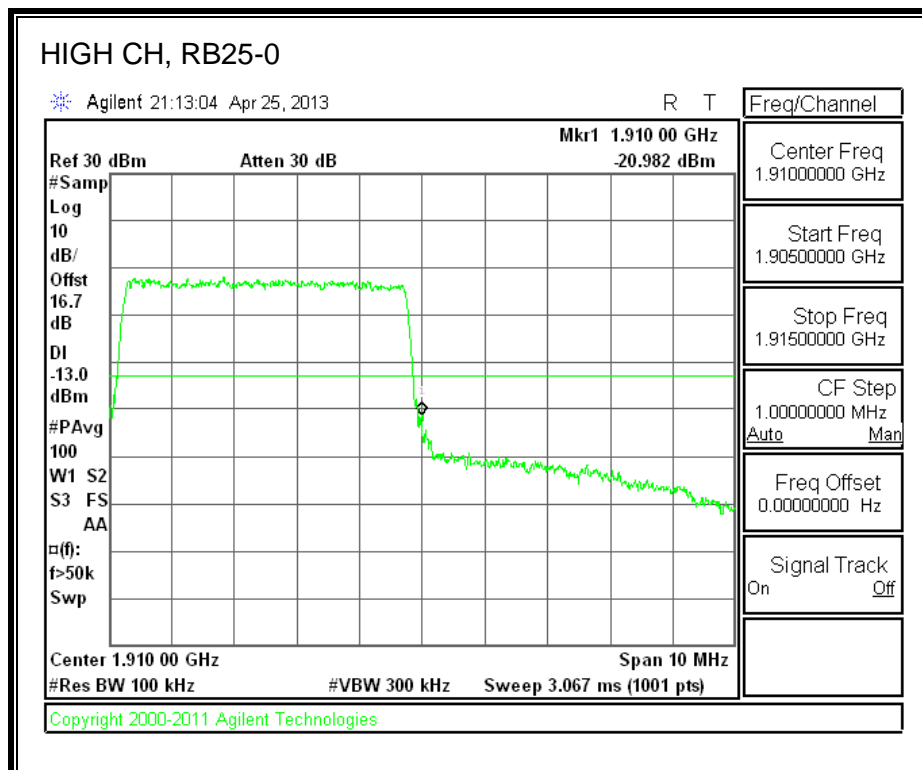
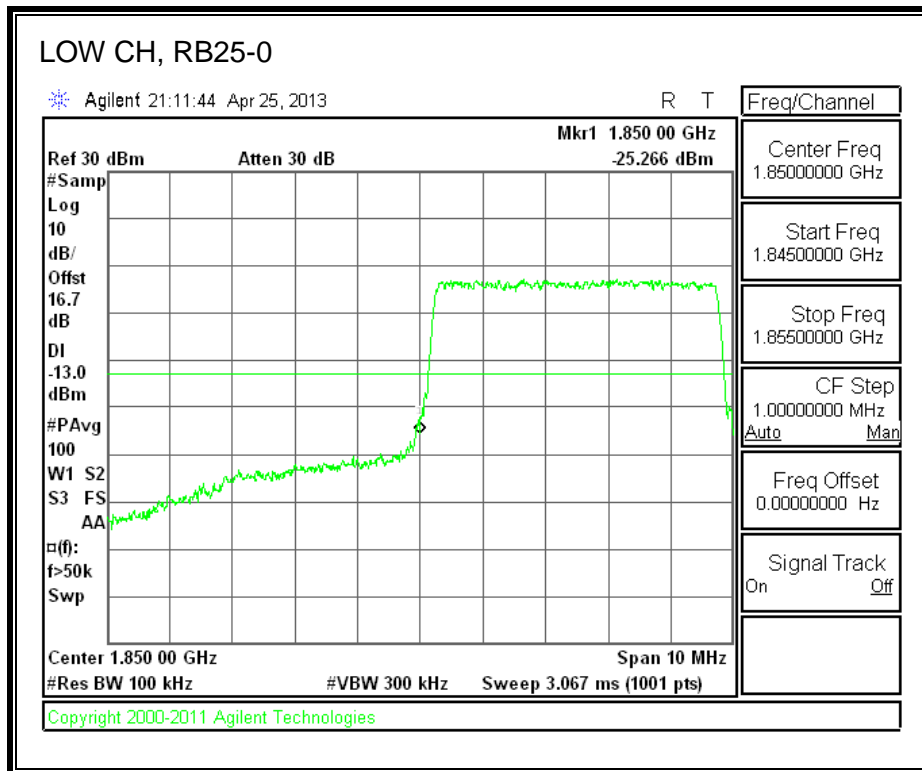


**LTE 16QAM Band 2 (5.0 MHz BAND WIDTH)**











**LTE QPSK Band 2 (10.0 MHz BAND WIDTH)**

