FCC CFR47 PART 22H, 24E, 27L and 90S
CERTIFICATION TEST REPORT

FOR

CDMA BC0/1/10 (1xRTT, REV A); LTE B 25(1900)/B26/B41(2600). 1 TX ANT. USB MODEM

MODEL NUMBER: AC341U

FCC ID: PY3AC341U

REPORT NUMBER: 13U14931-1, REVISION D

ISSUE DATE: JUNE 18, 2013

Prepared for

NETGEAR INC
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CARLSBAD, CA 92008

Prepared by

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
---	4/17/13	Initial Issue	P. Kim
A	5/7/13	Update BW table with MHz instead of KHz	P. Kim
B	6/13/13	Retest ERP/EIRP to Average and add LTE band 26 and 41 band edge Mask. Remove 10MHz BW data in LTE 26 that falls under Part90S.	P.Kim
C	6/17/13	Updated Frequency range on Max power table for LTE26 1.4MHz.	P. Kim
D	6/18/13	Added additional BW for Lower Band edge at 824MHz.	P. Kim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: NETGEAR INC
2200 FARADAY AVE.
CARLSBAD, CA 92008

EUT DESCRIPTION: CDMA BC0/1/10 (1xRTT, REV A);
LTE B25(1900)/B26/B41(2600). 1 TX ANT. USB MODEM

MODEL: AC341U

SERIAL NUMBER: 302879HX2A

DATE TESTED: APRIL 1 – MAY 9 and JUNE 8-18, 2013

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

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

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

Approved & Released For UL CCS By:

PHILIP KIM
WiSE PROGRAM MANAGER
UL CCS

Tested By:

MONA HUA
EMC ENGINEER
UL CCS

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2. TEST METHODOLOGY

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

3. FACILITIES AND ACCREDITATION

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

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

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

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a CDMA BC0/1/10 (1xRTT, REV A), LTE B25 (1900)/B26/B41 (2600), 1 TX ANT. USB MODEM.

5.2. MAXIMUM OUTPUT POWER

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

(All power measurements for both radiated/conducted was based on integrated channel power measurement provided by test equipment)

Part 22/24/90					
Frequency Range (MHz)	Modulation	Conducted		ERP/EIRP	
		Average	mW	Average	mW
817.9-823.10	BC10, 1xRTT	24.16	260.6	21.40	138.0
817.9-823.10	BC10, EVDO	24.10	257.0	21.30	134.9
824.7 - 848.31	BC0, 1xRTT	24.02	252.3	20.90	123.0
824.7 - 848.31	BC0, EVDO	24.50	281.8	21.40	138.0
1851.25-1908.75	BC1, 1xRTT	22.28	169.0	22.86	193.2
1851.25-1908.75	BC1, EVDO A	22.20	166.0	22.56	180.3

Part 24 LTE Band 25 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		EIRP(Average)	
		dBm	mW	dBm	mW
1851.5 - 1913.5	QPSK RB1-0	22.90	195.0	22.34	171.4
1851.5 - 1913.5	16QAM, RB1-0	22.10	162.2	21.44	139.3

Part 24 LTE Band 25 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		EIRP(Average)	
		dBm	mW	dBm	mW
1852.5 - 1912.5	QPSK RB25-0	22.80	190.5	22.38	173.0
1852.5 - 1912.5	16QAM, RB25-0	22.10	162.2	21.38	137.4

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Part 24 LTE Band 25 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		EIRP(Average)	
		dBm	mW	dBm	mW
1855 - 1910	QPSK RB50-0	22.80	190.5	22.28	169.0
1855 - 1910	16QAM, RB50-0	22.00	158.5	21.38	137.4

Part 90/22 LTE Band 26 MODE (1.4 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		EIRP(Average)	
		dBm	mW	dBm	mW
817.7 - 848.3	QPSK RB15-0	24.00	251.2	20.10	102.3
817.7 - 848.3	16QAM, RB15-0	23.00	199.5	19.10	81.3

Part 90/22 LTE Band 26 MODE (3.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		EIRP(Average)	
		dBm	mW	dBm	mW
818.5 - 847.5	QPSK RB15-0	23.60	229.1	20.10	102.3
818.5 - 847.5	16QAM, RB15-0	22.20	166.0	19.10	81.3

Part 90/22 LTE Band 26 MODE (5.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Average)		EIRP(Average)	
		dBm	mW	dBm	mW
820.5 - 846.5	QPSK RB25-0	23.60	229.1	20.60	114.8
820.5 - 846.5	16QAM, RB25-0	22.20	166.0	19.40	87.1

Part 90 LTE Band 26 MODE (10.0 MHz BANDWIDTH)**					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
819 - 844	QPSK RB50-0	23.70	234.4	20.20	104.7
819 - 844	16QAM, RB50-0	23.00	199.5	19.30	85.1

****Note: This bandwidth is not for FCC consideration.**

Part 27 LTE Band 41 MODE (10.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
2501 - 2685	QPSK RB50-0	22.20	166.0	23.02	200.4
2501 - 2685	16QAM, RB50-0	21.50	141.3	22.12	162.9

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Part 27 LTE Band 41 MODE (15.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
2503.5 - 2682.5	QPSK RB75-0	22.00	158.5	23.68	233.3
2503.5 - 2682.5	16QAM, RB75-0	21.20	131.8	22.88	194.1

Part 27 LTE Band 41 MODE (20.0 MHz BANDWIDTH)					
Frequency range (MHz)	Modulation	Conducted(Peak)		EIRP(PEAK)	
		dBm	mW	dBm	mW
2506 - 2680	QPSK RB100-0	22.10	162.2	23.52	224.9
2506 - 2680	16QAM, RB100-0	21.30	134.9	22.52	178.6

5.3. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent 8960 Communication and CMW500 Test Set.

5.4. MAXIMUM ANTENNA GAIN

Please see table below:

LTE BANDS	Antenna Gain (dBi)
BC10, 817 – 824MHz	1.0
BC0, Cell 824 – 849MHz	1.0
BC1, PCS 1850 – 1910MHz	3.0
LTE Band 25, 1851.5 – 1913.5MHz	3.0
LTE Band 26, 817.7 – 847.5MHz	1.0
LTE Band 41, 2501 - 2685MHz	2.5

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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.

Worst-case modes below:

- For Cellular and PCS band: 1xRTT
- For Cellular and PCS band: CDMA2000 1xEV-DO Rev 0
- LTE BAND 25, 26 and 41

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 Y position for Band 25 and 26, and Z position for Band 41.

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5.6. DESCRIPTION OF TEST SETUP

RADIATED TESTS SUPPORT EQUIPMENT

I/O CABLES (RF Conducted Test)

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC Power	1	3-Prong	Un-Shielded	1.5m	N/A
2	RF In/out	1	Communication Test Set	Un-shielded	2m	N/A

I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC Power	1	3-Prong	Un-Shielded	1.5m	N/A
2	RF In/out	1	Communication Test Set	Un-shielded	2m	N/A

TEST SETUP

The EUT is connected to a laptop computer during the tests. Test software exercised the radio card.

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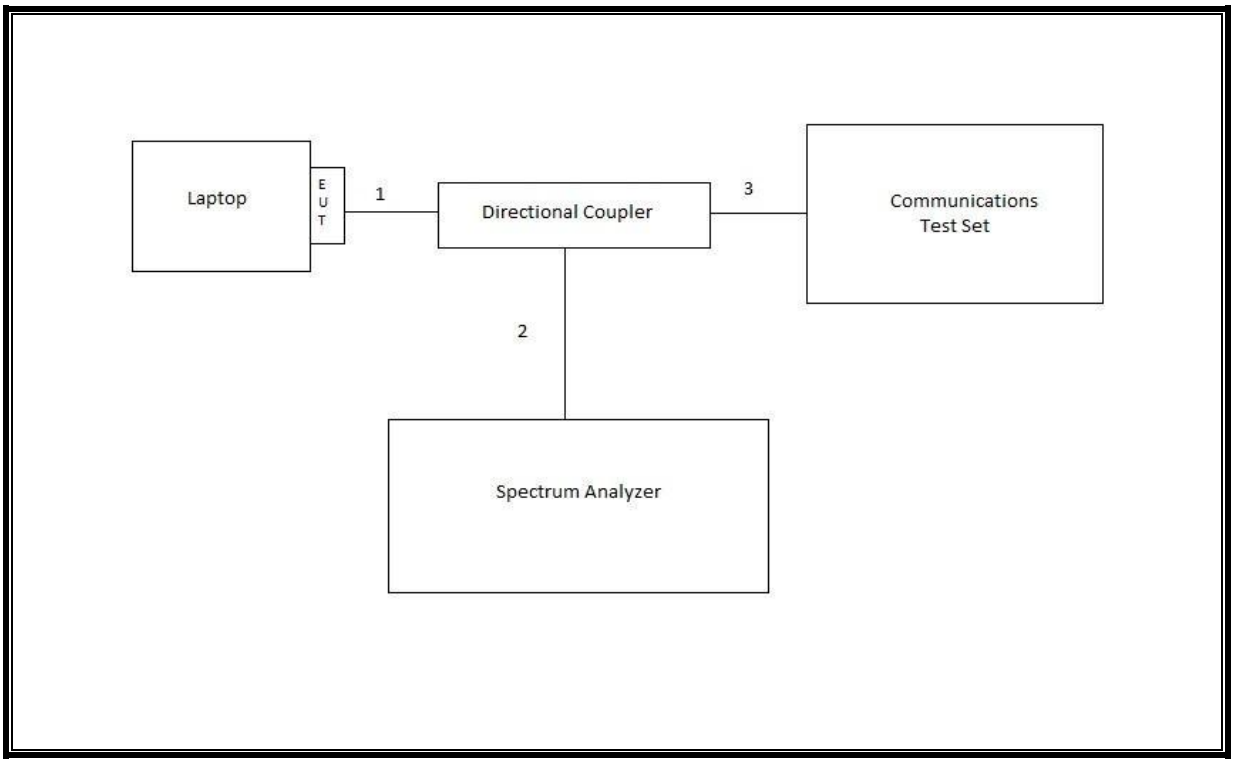
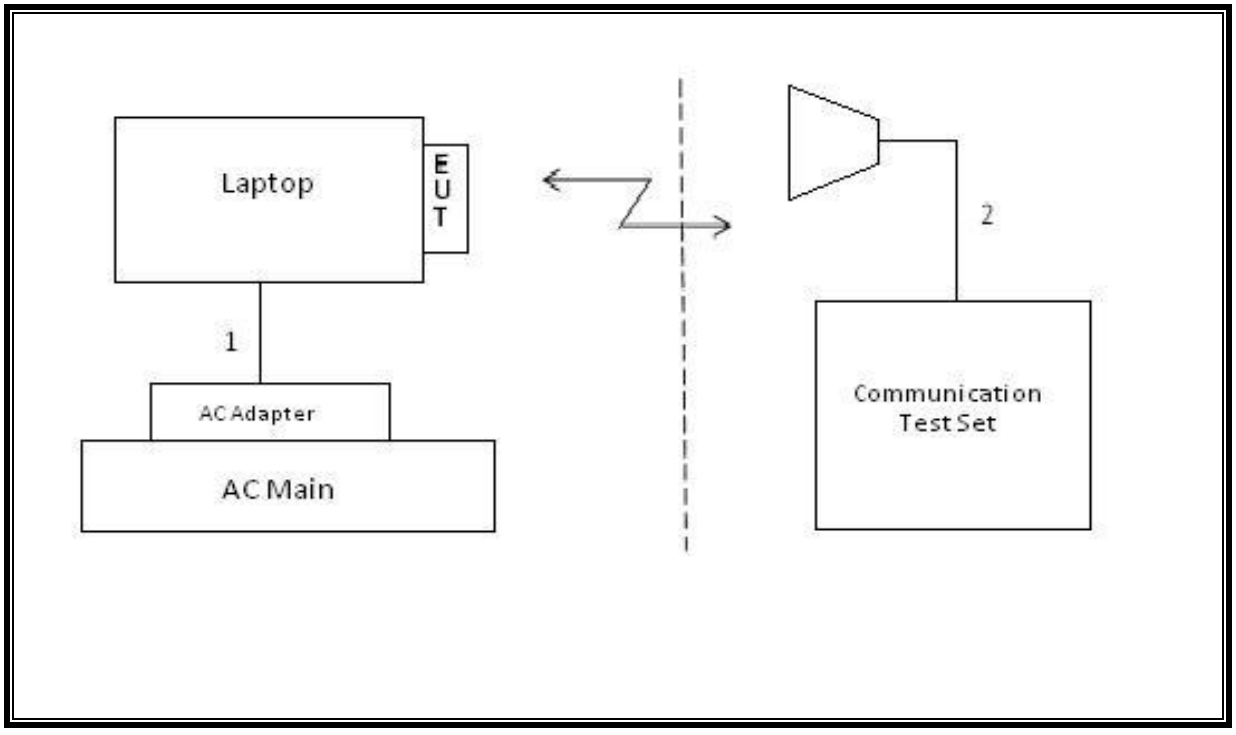
CONDUCTED SETUP DIAGRAM FOR TESTS



RADIATED SETUP DIAGRAM FOR TEST



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6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	None	2/22/14
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	8/19/13
Temperature / Humidity Chamber	WATLOW	SK-3102	None	CNR
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689`	CNR
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Directional Coupler	RF-Lambda	RFDC5M06G15	None	CNR
Vector signal generator, 6 GHz	Agilent / HP	E4438C	None	7/6/13
Antenna, Tuned Dipole 400~1000	ETS	3121C DB4	C00993	7/16/13
Antenna, Horn, 18 GHz	EMCO	3115	C00945	11/12/13
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	N/A	3/6/14
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/22/13
Communications Test Set	Agilent / HP	E5515C	C01086	6/20/13
Communication Test Set	R & S	CMW500	None	2/21/14
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	10/22/13
LISN, 30 MHz	FCC	50/250-25-2	C00626	1/14/14

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7. RF POWER OUTPUT VERIFICATION

7.1. 1xRTT

TEST PROCEDURE

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

Application	Rev, License
CDMA2000 Mobile Test	B.13.08, L

- Call Setup > Shift & Preset
- Cell Info > Cell Parameters > System ID (SID) > 18
  > Network ID (NID) > 65535
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > Please see following table or details
- FCH Service Option (SO) Setup > Please see following table or details
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps
  > R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Rvs Power Ctrl > Active bits
  - Rvs Power Ctrl > All Up bits (Maximum TxPout)

RESULT

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1xRTT, BC10

Radio Configuration (RC)	Service Option (SO)	Conducted Output Power (dBm)					
		Ch.476 / 817.9 MHz		Ch.526 / 819.15 MHz		Ch. 684 /823.1 MHz	
		Peak	Average	Peak	Average	Peak	Average
RC1	2 (Loopback)	28.10	23.92	28.01	23.86	27.65	24.11
	55 (Loopback)	28.07	23.92	27.97	23.89	27.50	24.06
RC2	9 (Loopback)	28.07	23.90	28.00	23.90	27.63	24.16
	55 (Loopback)	28.03	23.91	27.91	23.89	27.59	24.16
RC3	2 (Loopback)	27.84	23.90	27.72	23.88	27.34	24.16
	55 (Loopback)	27.85	23.88	27.69	23.87	27.32	24.02
	32 (+ F-SCH)	28.02	24.07	27.88	23.95	27.39	23.98
	32 (+ SCH)	27.99	24.01	27.89	24.03	27.25	24.08
RC4	2 (Loopback)	27.88	23.88	27.78	23.87	27.15	23.93
	55 (Loopback)	27.91	23.86	27.77	23.87	27.10	23.87
	32 (+ F-SCH)	27.91	23.93	27.85	23.94	27.35	24.09
	32 (+ SCH)	27.88	23.95	28.45	24.17	28.21	24.12
RC5	9 (Loopback)	27.89	23.87	27.68	23.88	27.08	23.77
	55 (Loopback)	27.90	23.88	27.75	23.89	27.14	23.81
RC11	2 (Loopback)	27.84	23.91	27.89	24.18	27.19	24.05
	75 (Loopback)	27.83	23.92	27.84	24.19	27.15	24.03
	32 (+ F-SCH)	27.91	23.97	27.83	24.01	27.36	24.10
	32 (+ SCH)	27.84	23.92	27.88	24.01	27.34	24.11

1xRTT, BC0, CELL BAND

Radio Configuration (RC)	Service Option (SO)	Conducted Output Power (dBm)					
		Ch.1013/824.7 MHz		Ch384/836.52 MHz		Ch.777/848.31 MHz	
		Peak	Average	Peak	Average	Peak	Average
RC1	2 (Loopback)	27.29	23.92	28.09	23.80	25.70	22.80
	55 (Loopback)	27.37	23.90	28.08	23.79	26.36	23.50
RC2	9 (Loopback)	27.26	23.90	28.06	23.79	26.10	23.50
	55 (Loopback)	27.32	23.90	28.12	23.79	25.40	23.30
RC3	2 (Loopback)	26.87	23.90	27.86	23.77	26.56	23.30
	55 (Loopback)	26.93	23.93	27.83	23.77	25.90	23.20
	32 (+ F-SCH)	26.99	23.91	27.84	23.76	25.60	23.10
	32 (+ SCH)	26.91	24.02	27.90	23.85	27.20	23.05
RC4	2 (Loopback)	26.86	23.89	27.91	23.76	25.90	23.20
	55 (Loopback)	26.88	23.90	27.87	23.75	25.47	23.20
	32 (+ F-SCH)	27.00	23.93	27.84	23.80	27.00	23.30
	32 (+ SCH)	27.90	23.90	28.01	23.81	26.90	23.20
RC5	9 (Loopback)	26.86	23.91	27.79	23.73	25.70	23.10
	55 (Loopback)	26.94	23.93	27.91	23.78	25.40	23.10
RC11	2 (Loopback)	26.87	23.94	27.86	23.78	25.70	23.00
	75 (Loopback)	26.83	23.93	27.91	23.80	25.10	22.90
	32 (+ F-SCH)	27.01	23.93	27.94	23.80	26.80	23.10
	32 (+ SCH)	27.09	23.95	28.02	23.83	27.00	23.10

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BC1, 1xRTT PCS BAND

Radio Configuration (RC)	Service Option (SO)	Conducted Output Power (dBm)					
		Ch. 25 / 1851.25 MHz		Ch. 600 / 1880 MHz		Ch. 1175 / 1908.75 MHz	
		Peak	Average	Peak	Average	Peak	Average
RC1	2 (Loopback)	26.67	22.25	26.93	22.14	27.16	21.97
	55 (Loopback)	26.61	22.21	26.89	22.15	26.96	21.96
RC2	9 (Loopback)	26.82	22.23	26.96	22.15	27.16	21.98
	55 (Loopback)	26.63	22.20	26.94	22.17	26.98	21.98
RC3	2 (Loopback)	26.29	22.19	26.60	22.15	26.63	21.95
	55 (Loopback)	26.47	22.19	26.69	22.16	26.60	21.96
	32 (+ F-SCH)	26.40	22.12	26.56	22.08	26.69	22.03
	32 (+ SCH)	26.29	22.13	26.61	22.11	26.72	22.01
RC4	2 (Loopback)	26.23	22.15	26.62	22.12	26.48	21.95
	55 (Loopback)	26.31	22.17	26.64	22.17	26.62	21.97
	32 (+ F-SCH)	26.27	22.16	26.64	22.15	26.76	21.98
	32 (+ SCH)	26.37	22.18	26.67	22.17	26.70	21.97
RC5	9 (Loopback)	26.31	22.15	26.62	22.12	26.51	21.98
	55 (Loopback)	26.31	22.16	26.63	22.13	26.72	22.02
RC11	2 (Loopback)	26.32	22.19	26.71	22.18	26.73	22.01
	75 (Loopback)	26.40	22.25	26.65	22.19	26.66	22.08
	32 (+F-SCH)	26.33	22.20	22.66	22.21	26.66	22.07
	32 (+SCH)	26.39	22.28	26.59	22.20	26.75	22.05

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7.2. CDMA2000 1xEV-DO Rel. 0

TEST PROCEDURE

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

Application	Rev, License
1xEV-DO Terminal Test	A.09.13

EVDO Release 0 - RTAP

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

EVDO Release 0 - FTAP

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

RESULTS

UL CCS FORM NO: CCSUP4031B
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EV-DO REV 0

BC10

FTAP Rate	RTAP Rate	Channel	f (MHz)	Conducted power (dBm)	
				Peak	Average
307.2 kbps (2 slot, QPSK)	153.6 kbps	476	817.90	28.28	23.90
		580	820.50	28.22	24.10
		684	823.10	28.01	24.10

BC0

FTAP Rate	RTAP Rate	Channel	f (MHz)	Conducted power (dBm)	
				Peak	Average
307.2 kbps (2 slot, QPSK)	153.6 kbps	1013	824.70	28.09	24.40
		384	836.52	28.68	24.50
		777	848.31	28.10	24.40

BC1

FTAP Rate	RTAP Rate	Channel	f (MHz)	Conducted power (dBm)	
				Peak	Average
307.2 kbps (2 slot, QPSK)	153.6 kbps	25	1851.25	26.81	22.20
		600	1880.00	27.19	22.10
		1175	1908.75	27.42	22.00

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7.3. RF POWER OUTPUT FOR CDMA2000 1xEV-DO Rev. A

TEST PROCEDURE

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

Application	Rev, License
1xEV-DO Terminal Test	A.09.13

EVDO Release A – RETAP
- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > RETAP
- R-Data Pkt Size > 4096
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2

> PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

EVDO Release A - FETAP
- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > FETAP
- F-Traffic Format > 4 (1024, 2,128) Canonical (307.2k, QPSK)
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2

> PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

RESULTS

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EV-DO Rev A

BC10

FETAP-Traffic Format	RETAP-Data Payload Size	Channel	f (MHz)	Conducted power (dBm)	
				Peak	Average
307.2k, QPSK/ ACK channel is transmitted at all the slots	4096	476	817.90	28.34	24.20
		580	820.50	28.39	24.20
		684	823.10	28.15	24.10

BC0

FETAP-Traffic Format	RETAP-Data Payload Size	Channel	f (MHz)	Conducted power (dBm)	
				Peak	Average
307.2k, QPSK/ ACK channel is transmitted at all the slots	4096	1013	824.70	28.03	23.90
		384	836.52	28.47	23.90
		777	848.31	28.05	24.30

BC1

FETAP-Traffic Format	RETAP-Data Payload Size	Channel	f (MHz)	Conducted power (dBm)	
				Peak	Average
307.2k, QPSK/ ACK channel is transmitted at all the slots	4096	25	1851.25	26.93	22.20
		600	1880.00	27.21	22.20
		1175	1908.75	27.56	22.00

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7.4. LTE BAND 25

Output power for LTE Band 25 (3 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
3	26055	1851.5	QPSK	1	0	0	22.9	27.2
				1	7	0	22.9	27.2
				1	14	0	22.8	27.4
				8	0	1	21.9	27.8
				8	4	1	21.9	27.6
				8	7	1	21.8	27.7
				15	0	1	21.8	28.1
			16QAM	1	0	1	22.1	27.1
				1	7	1	22.0	27.2
				1	14	1	22.0	27.5
				8	0	2	20.9	27.6
				8	4	2	20.9	27.6
				8	7	2	20.9	27.8
				15	0	2	20.9	28.1
	26365	1882.5	QPSK	1	0	0	22.8	27.7
				1	7	0	22.7	27.8
				1	14	0	22.8	27.9
				8	0	1	21.7	28.0
				8	4	1	21.7	28.1
				8	7	1	21.8	28.2
				15	0	1	21.7	28.3
			16QAM	1	0	1	21.9	27.5
				1	7	1	21.9	27.8
				1	14	1	22.0	27.9
				8	0	2	20.8	28.0
				8	4	2	20.8	28.1
				8	7	2	20.8	28.1
				15	0	2	20.8	28.2
	26675	1913.5	QPSK	1	0	0	22.3	27.8
				1	7	0	22.3	27.5
				1	14	0	22.4	27.3
				8	0	1	21.4	28.1
				8	4	1	21.4	28.0
				8	7	1	21.5	27.7
				15	0	1	21.5	27.9
			16QAM	1	0	1	20.8	27.9
				1	7	1	20.9	27.5
				1	14	1	20.9	27.3
				8	0	2	20.4	28.0
				8	4	2	20.4	28.0
				8	7	2	20.5	27.8
				15	0	2	20.4	27.8

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Output power for LTE Band 25 (5 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
5	26065	1852.5	QPSK	1	0	0	22.8	27.2
				1	12	0	22.7	27.4
				1	24	0	22.7	27.8
				12	0	1	21.8	27.6
				12	6	1	21.7	27.7
				12	11	1	21.7	27.8
				25	0	1	21.8	28.1
			16QAM	1	0	1	22.1	27.2
				1	12	1	22.0	27.4
				1	24	1	22.0	27.9
				12	0	2	20.9	27.4
				12	6	2	20.9	27.6
				12	11	2	20.8	27.8
				25	0	2	20.7	27.9
	26365	1882.5	QPSK	1	0	0	22.7	27.6
				1	12	0	22.8	27.8
				1	24	0	22.9	28.0
				12	0	1	21.7	28.0
				12	6	1	21.7	28.1
				12	11	1	21.7	28.1
				25	0	1	21.6	28.2
			16QAM	1	0	1	21.7	27.5
				1	12	1	21.8	28.0
				1	24	1	21.8	28.1
				12	0	2	20.7	28.0
				12	6	2	20.8	28.2
				12	11	2	20.8	28.1
				25	0	2	20.7	28.0
	26665	1912.5	QPSK	1	0	0	22.4	27.9
				1	12	0	22.4	27.7
				1	24	0	22.5	27.3
				12	0	1	21.4	28.1
				12	6	1	21.4	28.0
				12	11	1	21.4	27.9
				25	0	1	21.3	27.9
			16QAM	1	0	1	21.6	27.9
				1	12	1	21.6	27.8
				1	24	1	21.7	27.4
				12	0	2	20.5	28.1
				12	6	2	20.4	27.7
				12	11	2	20.4	27.9
				25	0	2	20.3	27.8

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Output power for LTE Band 25 (10 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
10	26090	1855.0	QPSK	1	0	0	22.8	27.3
				1	24	0	22.7	27.9
				1	49	0	22.6	28.3
				25	0	1	21.7	27.8
				25	12	1	21.6	28.1
				25	24	1	21.6	28.2
				50	0	1	21.6	28.3
			16QAM	1	0	1	21.5	27.2
				1	24	1	21.4	27.8
				1	49	1	21.2	28.0
				25	0	2	20.8	27.7
				25	12	2	20.7	28.0
				25	24	2	20.7	28.2
				50	0	2	20.6	28.2
	26365	1882.5	QPSK	1	0	0	22.7	27.5
				1	24	0	22.8	27.9
				1	49	0	22.8	28.4
				25	0	1	21.6	28.0
				25	12	1	21.6	28.3
				25	24	1	21.6	28.3
				50	0	1	21.6	28.3
			16QAM	1	0	1	21.9	27.3
				1	24	1	22.0	28.0
				1	49	1	22.0	28.3
				25	0	2	20.8	28.0
				25	12	2	20.8	28.2
				25	24	2	20.9	28.1
				50	0	2	20.6	28.2
	26640	1910.0	QPSK	1	0	0	22.6	27.8
				1	24	0	22.3	27.9
				1	49	0	22.4	27.4
				25	0	1	21.5	28.1
				25	12	1	21.3	28.0
				25	24	1	21.2	28.0
				50	0	1	21.3	28.1
			16QAM	1	0	1	21.3	27.8
				1	24	1	21.0	27.9
				1	49	1	21.0	27.3
				25	0	2	20.6	28.1
				25	12	2	20.4	28.1
				25	24	2	20.4	28.0
				50	0	2	20.4	28.1

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7.5. LTE BAND 26

Output power for LTE Band 26 (1.4 MHz)

Freq. (MHz)	UL Channel	Modulation	BW (MHz)	RB Size	RB Offset	Average (dBm)	Peak Power (dBm)
817.7	26727	QPSK	1.4	1	0	23.5	27.3
				1	2	23.6	28.0
				1	5	23.5	28.0
				3	0	23.5	28.4
				3	1	23.4	28.3
				3	2	23.5	28.4
				6	0	22.5	28.6
		16-QAM		1	0	22.3	28.0
				1	2	22.4	28.0
				1	5	22.4	27.9
				3	0	22.5	28.4
				3	1	22.4	28.3
				3	2	22.6	28.3
				6	0	21.6	28.4
831.5	26865	QPSK		1	0	24.0	28.3
				1	2	23.6	28.2
				1	5	23.6	28.3
				3	0	23.6	28.4
				3	1	23.7	28.6
				3	2	23.7	28.4
				6	0	22.7	29.0
		16-QAM		1	0	22.8	28.2
				1	2	22.6	28.1
				1	5	22.7	28.2
				3	0	22.6	28.6
				3	1	22.3	28.6
				3	2	23.0	28.6
				6	0	21.7	28.6
848.3	27033	QPSK		1	0	23.1	23.4
				1	2	20.4	22.8
				1	5	19.5	22.2
				3	0	20.8	23.7
				3	1	20.6	22.9
				3	2	20.4	22.7
				6	0	20.8	24.8
		16-QAM		1	0	20.9	23.8
				1	2	20.1	23.1
				1	5	19.2	22.4
				3	0	20.5	24.1
				3	1	20.3	23.4
				3	2	20.3	23.4
				6	0	20.3	24.4

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Output power for LTE Band 26 (3 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
3	26735	818.5	QPSK	1	0	0	23.4	27.8
				1	7	0	23.4	27.9
				1	14	0	23.6	27.9
				8	0	1	22.5	28.5
				8	4	1	22.5	28.4
				8	7	1	22.5	28.2
				15	0	1	22.5	28.7
			16QAM	1	0	1	22.2	28.1
				1	7	1	22.1	28.2
				1	14	1	22.1	28.3
				8	0	2	21.7	28.4
				8	4	2	21.6	28.1
				8	7	2	21.5	28.2
				15	0	2	21.6	28.1
	26865	831.5	QPSK	1	0	0	21.7	28.1
				1	7	0	21.9	28.2
				1	14	0	22.0	28.3
				8	0	1	20.7	28.1
				8	4	1	20.8	28.3
				8	7	1	20.8	28.3
				15	0	1	20.8	28.0
			16QAM	1	0	1	20.6	28.0
				1	7	1	20.7	28.1
				1	14	1	20.7	28.2
				8	0	2	19.6	28.1
				8	4	2	19.7	28.2
				8	7	2	19.8	28.2
				15	0	2	19.8	28.1
	27025	847.5	QPSK	1	0	0	21.9	26.5
				1	7	0	21.9	26.7
				1	14	0	21.9	25.5
				8	0	1	20.8	25.7
				8	4	1	20.8	25.6
				8	7	1	20.8	24.5
				15	0	1	20.8	26.1
			16QAM	1	0	1	21.3	25.2
				1	7	1	21.3	25.1
				1	14	1	21.3	25.1
				8	0	2	19.7	25.6
				8	4	2	19.7	24.9
				8	7	2	19.8	25.0
				15	0	2	19.8	26.0

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Output power for LTE Band 26 (5 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
5	26755	820.5	QPSK	1	0	0	23.4	27.8
				1	12	0	23.4	27.7
				1	24	0	23.6	27.8
				12	0	1	22.4	27.9
				12	6	1	22.5	28.0
				12	11	1	22.6	28.1
				25	0	1	22.5	28.6
			16QAM	1	0	1	22.1	27.8
				1	12	1	22.0	27.5
				1	24	1	22.2	27.6
				12	0	2	21.5	27.8
				12	6	2	21.5	28.1
				12	11	2	21.6	28.1
				25	0	2	21.5	28.9
	26865	831.5	QPSK	1	0	0	21.8	27.9
				1	12	0	22.0	28.1
				1	24	0	22.0	28.2
				12	0	1	20.7	28.1
				12	6	1	20.9	28.1
				12	11	1	20.9	28.2
				25	0	1	20.8	28.4
			16QAM	1	0	1	21.0	28.0
				1	12	1	21.2	28.2
				1	24	1	21.2	28.2
				12	0	2	19.6	28.0
				12	6	2	19.6	28.0
				12	11	2	19.7	28.1
				25	0	2	19.7	28.2
	27015	846.5	QPSK	1	0	0	22.0	27.5
				1	12	0	22.0	26.2
				1	24	0	22.0	24.9
				12	0	1	20.9	27.0
				12	6	1	20.8	25.9
				12	11	1	20.8	25.6
				25	0	1	20.6	27.0
			16QAM	1	0	1	20.4	27.6
				1	12	1	20.4	25.1
				1	24	1	20.4	26.8
				12	0	2	19.9	27.1
				12	6	2	19.9	26.0
				12	11	2	19.7	25.0
				25	0	2	19.7	27.0

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Output power for LTE Band 26 (10 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
10	26740	819.0	QPSK	1	0	0	23.5	28.0
				1	24	0	23.5	28.0
				1	49	0	23.7	27.8
				25	0	1	22.5	28.1
				25	12	1	22.5	28.0
				25	24	1	22.6	28.0
				50	0	1	22.5	28.0
			16QAM	1	0	1	22.7	28.0
				1	24	1	22.7	27.9
				1	49	1	22.9	27.8
				25	0	2	21.6	28.1
				25	12	2	21.5	27.9
				25	24	2	21.7	27.8
				50	0	2	21.5	28.0
	26865	831.5	QPSK	1	0	0	23.7	27.5
				1	24	0	23.6	28.2
				1	49	0	23.6	28.0
				25	0	1	22.7	27.8
				25	12	1	22.5	28.2
				25	24	1	22.5	28.3
				50	0	1	22.6	28.6
			16QAM	1	0	1	22.9	27.4
				1	24	1	22.8	28.1
				1	49	1	22.8	28.0
				25	0	2	21.6	27.8
				25	12	2	21.6	28.1
				25	24	2	21.6	28.3
				50	0	2	21.6	28.5
	26990	844.0	QPSK	1	0	0	23.4	27.8
				1	24	0	23.7	27.5
				1	49	0	23.7	22.6
				25	0	1	22.5	27.5
				25	12	1	22.6	27.2
				25	24	1	22.7	26.3
				50	0	1	22.5	27.6
			16QAM	1	0	1	22.6	27.7
				1	24	1	22.9	27.6
				1	49	1	23.0	23.0
				25	0	2	21.5	27.2
				25	12	2	21.7	27.1
				25	24	2	21.7	26.4
				50	0	2	21.5	27.6

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7.6. LTE BAND 41

Output power for LTE Band 41 (10 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
10	39700	2501.0	QPSK	1	0	0	22.1	27.6
				1	24	0	22.0	27.6
				1	49	0	22.2	27.5
				25	0	1	21.0	27.1
				25	12	1	20.9	27.1
				25	24	1	20.9	27.3
				50	0	1	20.8	27.1
			16QAM	1	0	1	21.4	27.5
				1	24	1	21.4	27.6
				1	49	1	21.5	27.0
				25	0	2	20.0	27.0
				25	12	2	19.9	27.3
				25	24	2	19.9	27.2
				50	0	2	19.7	27.4
	40620	2593.0	QPSK	1	0	0	21.8	27.7
				1	24	0	22.0	27.7
				1	49	0	22.0	27.6
				25	0	1	20.7	27.2
				25	12	1	20.9	27.3
				25	24	1	20.9	27.4
				50	0	1	20.8	27.5
			16QAM	1	0	1	20.8	27.7
				1	24	1	20.9	27.7
				1	49	1	20.9	27.8
				25	0	2	19.5	27.1
				25	12	2	19.6	27.4
				25	24	2	19.7	27.6
				50	0	2	19.7	27.5
	41540	2685.0	QPSK	1	0	0	21.9	27.9
				1	24	0	21.9	27.7
				1	49	0	22.0	27.7
				25	0	1	20.9	27.6
				25	12	1	20.9	27.5
				25	24	1	20.8	27.7
				50	0	1	20.8	27.6
			16QAM	1	0	1	20.9	27.9
				1	24	1	20.9	27.7
				1	49	1	20.9	27.7
				25	0	2	19.8	27.5
				25	12	2	19.8	27.5
				25	24	2	19.7	27.4
				50	0	2	19.7	27.5

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Output power for LTE Band 41 (15 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
15	39725	2503.5	QPSK	1	0	0	21.9	27.8
				1	37	0	21.9	27.7
				1	74	0	21.9	27.7
				36	0	1	20.7	27.5
				36	16	1	20.7	27.6
				36	35	1	20.7	27.6
				75	0	1	20.7	27.6
			16QAM	1	0	1	21.2	27.8
				1	37	1	21.2	27.7
				1	74	1	21.2	27.6
				36	0	2	19.9	27.6
				36	16	2	19.9	27.5
				36	35	2	19.9	27.7
				75	0	2	19.7	27.7
	40620	2593.0	QPSK	1	0	0	21.8	27.6
				1	37	0	22.0	27.4
				1	74	0	22.0	27.8
				36	0	1	20.7	27.5
				36	16	1	20.9	27.6
				36	35	1	20.9	27.4
				75	0	1	20.8	27.7
			16QAM	1	0	1	21.0	27.4
				1	37	1	21.2	27.0
				1	74	1	21.2	27.8
				36	0	2	19.6	27.3
				36	16	2	19.6	27.5
				36	35	2	19.7	27.4
				75	0	2	19.7	27.2
	41515	2682.5	QPSK	1	0	0	22.0	27.6
				1	37	0	22.0	27.7
				1	74	0	22.0	27.8
				36	0	1	20.9	27.5
				36	16	1	20.8	27.5
				36	35	1	20.8	27.6
				75	0	1	20.6	27.8
			16QAM	1	0	1	20.4	27.6
				1	37	1	20.4	27.7
				1	74	1	20.4	27.8
				36	0	2	19.9	27.5
				36	16	2	19.9	27.5
				36	35	2	19.7	27.6
				75	0	2	19.7	27.4

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Output power for LTE Band 41 (20 MHz)

BW (MHz)	Ch	Freq. (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Avg Pwr (dBm)	Peak Pwr (dBm)
20	39750	2506.0	QPSK	1	0	0	22.1	27.5
				1	49	0	22.0	27.3
				1	99	0	22.1	27.6
				50	0	1	21.0	26.8
				50	24	1	20.8	27.1
				50	49	1	20.8	27.0
				100	0	1	20.8	27.6
			16QAM	1	0	1	21.1	27.5
				1	49	1	21.0	27.3
				1	99	1	21.1	27.8
				50	0	2	19.8	27.8
				50	24	2	19.8	27.5
				50	49	2	19.8	27.3
				100	0	2	19.8	27.5
	40620	2593.0	QPSK	1	0	0	21.7	27.5
				1	49	0	21.9	27.1
				1	99	0	22.0	27.3
				50	0	1	20.7	27.2
				50	24	1	20.8	27.3
				50	49	1	20.8	27.2
				100	0	1	20.8	27.50
			16QAM	1	0	1	20.6	27.6
				1	49	1	20.7	27.1
				1	99	1	20.7	27.0
				50	0	2	19.6	27.1
				50	24	2	19.7	27.0
				50	49	2	19.8	27.1
				100	0	2	19.8	27
	41490	2680.0	QPSK	1	0	0	21.9	27.1
				1	49	0	21.9	27.3
				1	99	0	21.9	27.3
				50	0	1	20.8	27.2
				50	24	1	20.8	27.3
				50	49	1	20.8	27.5
				100	0	1	20.8	27.3
			16QAM	1	0	1	21.3	27.3
				1	49	1	21.3	27.5
				1	99	1	21.3	27.1
				50	0	2	19.7	27.3
				50	24	2	19.7	27.4
				50	49	2	19.8	27.4
				100	0	2	19.8	27.3

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8. CONDUCTED TEST RESULTS

8.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049 - For reporting purpose only

Part §90.209(b)(7) Economic Area (EA)-based licensees in frequencies 817–824/862–869 MHz (813.5–824/858.5–869 MHz in the counties listed in § 90.614(c)) **may exceed the standard channel spacing and authorized bandwidth listed in paragraph (b)(5) of this section [i.e. 25 kHz, 20 kHz, resp.]** in any National Public Safety Planning Advisory Committee Region when all 800 MHz public safety licensees in the Region have completed band reconfiguration consistent with this part.

TEST PROCEDURE

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

MODES TESTED

- CDMA BC10, BC0, BC1
- LTE Band 25
- LTE Band 26
- LTE Band 41

RESULTS

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Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
BC10	1xRTT	476	817.90	1.2701	1.406
		580	820.50	1.2760	1.381
		684	823.10	1.2636	1.390
BC10	EVDO	476	817.90	1.2899	1.383
		580	820.50	1.2886	1.388
		684	823.1	1.2817	1.558

Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
BC0, Cellular	1xRTT	1013	824.70	1.2824	1.419
		384	836.52	1.2663	1.396
		777	848.31	1.2958	1.919
	CDMA2000 1xEV-DO (Rev. A)	1013	824.70	1.3034	1.828
		384	836.52	1.3063	1.405
		777	848.31	1.2717	1.379

Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
BC1, PCS	1xRTT	25	1851.25	1.2719	1.383
		600	1880.0	1.2815	1.400
		1175	1908.75	1.2746	1.404
	CDMA2000 1xEV-DO (Rev. A)	25	1851.25	1.2766	1.405
		600	1880.0	1.2594	1.401
		1175	1908.75	1.2989	1.383

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Band	Mode	RB/RB SIZE	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 25	3.0 MHz BAND QPSK	8/4	1851.5	1.4514	2.006
		15/0		2.6544	3.006
	3.0 MHz BAND 16QAM	8/4		1.4298	1.711
		15/0		2.6622	2.842
	3.0 MHz BAND QPSK	8/4	1882.5	1.4430	1.691
		15/0		2.6886	2.786
	3.0 MHz BAND 16QAM	8/4		1.4494	1.824
		15/0		2.6785	2.821
	3.0 MHz BAND QPSK	8/4	1913.5	1.4317	1.680
		15/0		2.6687	2.818
	3.0 MHz BAND 16QAM	8/4		1.4165	1.842
		15/0		2.6596	2.818
	5 MHz BAND QPSK	12/6	1852.5	2.1480	2.322
		25/0		4.4653	4.669
	5 MHz BAND 16QAM	12/6		2.1537	2.351
		25/0		4.4425	4.761
	5 MHz BAND QPSK	12/6	1882.5	2.1505	2.731
		25/0		4.4621	4.742
	5 MHz BAND 16QAM	12/6		2.1445	2.435
		25/0		4.4521	4.703
	5 MHz BAND QPSK	12/6	1912.5	2.1735	2.512
		25/0		4.5151	4.768
	5 MHz BAND 16QAM	12/6		2.1787	2.321
		25/0		4.4798	4.683
	10 MHz BAND QPSK	25/12	1855	4.4811	5.025
		50/0		8.9485	9.291
	10 MHz BAND 16QAM	25/12		4.4692	5.024
		50/0		8.7411	9.296
	10 MHz BAND QPSK	25/12	1882.5	4.4661	5.053
		50/0		9.0162	9.403
	10 MHz BAND 16QAM	25/12		4.4505	5.554
		50/0		8.8479	9.297
	10 MHz BAND QPSK	25/12	1910	4.5166	5.050
		50/0		8.9452	9.546
	10 MHz BAND 16QAM	25/12		4.5695	5.085
		50/0		8.8592	9.486

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Band	Mode	RB/RB SIZE	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 26	1.4 MHz BAND QPSK	3/2	817.7	0.57998	0.9354
		6/0		1.0984	1.287
	1.4 MHz BAND 16QAM	3/2		0.57938	0.9355
		6/0		1.0964	1.298
	1.4 MHz BAND QPSK	3/2	831.5	0.567238	0.83856
		6/0		1.2051	1.398
	1.4 MHz BAND 16QAM	3/2		0.550587	0.77357
		6/0		1.2015	1.500
	1.4 MHz BAND QPSK	3/2	848.3	592.1513	1.428
		6/0		1.2715	2.185
	1.4 MHz BAND 16QAM	3/2		635.2352	1.203
		6/0		1.2851	2.438
	3.0 MHz BAND QPSK	8/4	818.5	1.4495	1.919
		15/0		2.6924	2.917
	3.0 MHz BAND 16QAM	8/4		1.4429	1.940
		15/0		2.6889	3.002
	3.0 MHz BAND QPSK	8/4	831.5	1.4273	1.662
		15/0		2.6792	2.828
	3.0 MHz BAND 16QAM	8/4		1.4265	1.653
		15/0		2.6773	2.879
	3.0 MHz BAND QPSK	8/4	847.5	1.4663	2.660
		15/0		2.6741	3.264
	3.0 MHz BAND 16QAM	8/4		1.4577	2.771
		15/0		2.6978	3.809
	5 MHz BAND QPSK	12/6	820.5	2.1734	2.880
		25/0		4.5018	4.849
	5 MHz BAND 16QAM	12/6		2.1949	3.127
		25/0		4.4612	5.013
	5 MHz BAND QPSK	12/6	831.5	2.1422	2.892
		25/0		4.4799	4.726
	5 MHz BAND 16QAM	12/6		2.1272	2.630
		25/0		4.4684	4.774
	5 MHz BAND QPSK	12/6	846.5	2.1628	2.400
		25/0		4.4483	4.819
	5 MHz BAND 16QAM	12/6		2.1337	2.507
		25/0		4.4548	4.722
	10 MHz BAND QPSK*	25/12	819	4.4216	5.517
		50/0		8.9830	9.414
	10 MHz BAND 16QAM*	25/12		4.4440	5.264
		50/0		8.7273	9.340
	10 MHz BAND QPSK*	25/12	831.5	4.4621	4.877
		50/0		8.9655	9.560
	10 MHz BAND 16QAM*	25/12		4.3982	5.023
		50/0		8.9157	9.532
	10 MHz BAND QPSK*	25/12	844.0	4.4724	5.259
		50/0		8.8922	9.295
	10 MHz BAND 16QAM*	25/12		4.4405	5.507
		50/0		8.8923	9.300

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***Note: This section is not for FCC consideration.**

Band	Mode	RB/RB SIZE	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 41	10 MHz BAND QPSK	25/12	2501	4.5014	5.184
		50/0		8.8901	9.356
	10 MHz BAND 16QAM	25/12		4.4988	6.137
		50/0		8.9198	9.705
	10 MHz BAND QPSK	25/12	2593	4.4977	5.685
		50/0		8.9382	9.426
	10 MHz BAND 16QAM	25/12		4.5006	5.870
		50/0		8.9691	9.338
	10 MHz BAND QPSK	25/12	2685	4.5109	5.527
		50/0		8.8087	9.300
	10 MHz BAND 16QAM	25/12		4.4808	5.382
		50/0		8.9212	9.319
	15 MHz BAND QPSK	36/18	2503.5	6.4571	7.393
		75/0		13.3303	14.668
	15 MHz BAND 16QAM	36/18		6.4641	7.393
		75/0		13.2036	14.651
	15 MHz BAND QPSK	36/18	2593	6.5091	7.329
		75/0		13.4448	14.091
	15 MHz BAND 16QAM	36/18		6.5050	7.329
		75/0		13.4444	14.344
	15 MHz BAND QPSK	36/18	2682.5	6.4698	7.743
		75/0		13.3592	14.610
	15 MHz BAND 16QAM	36/18		6.4804	7.748
		75/0		13.3578	14.610
	20 MHz BAND QPSK	50/19	2506	9.0224	9.707
		100/0		17.8650	18.783
	20 MHz BAND 16QAM	50/19		8.9894	10.584
		100/0		17.8691	18.708
	20 MHz BAND QPSK	50/19	2593	8.9568	9.596
		100/0		17.8457	18.826
	20 MHz BAND 16QAM	50/19		8.9330	9.689
		100/0		17.9344	18.849
	20 MHz BAND QPSK	50/19	2680	8.9449	9.631
		100/0		18.0006	18.917
	20 MHz BAND 16QAM	50/19		8.9586	9.486
		100/0		17.9240	18.831

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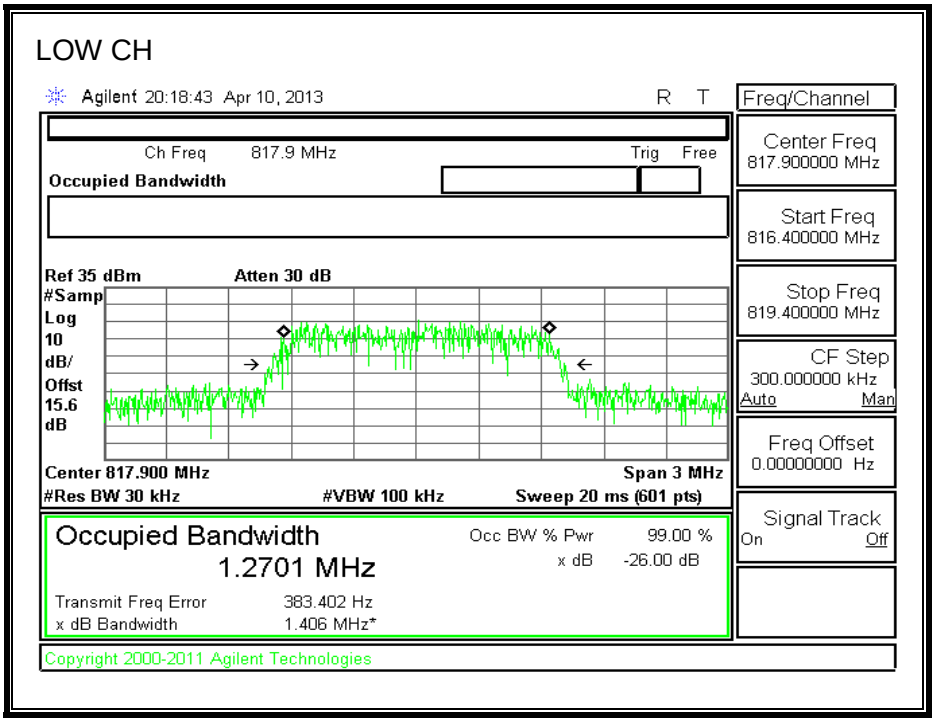
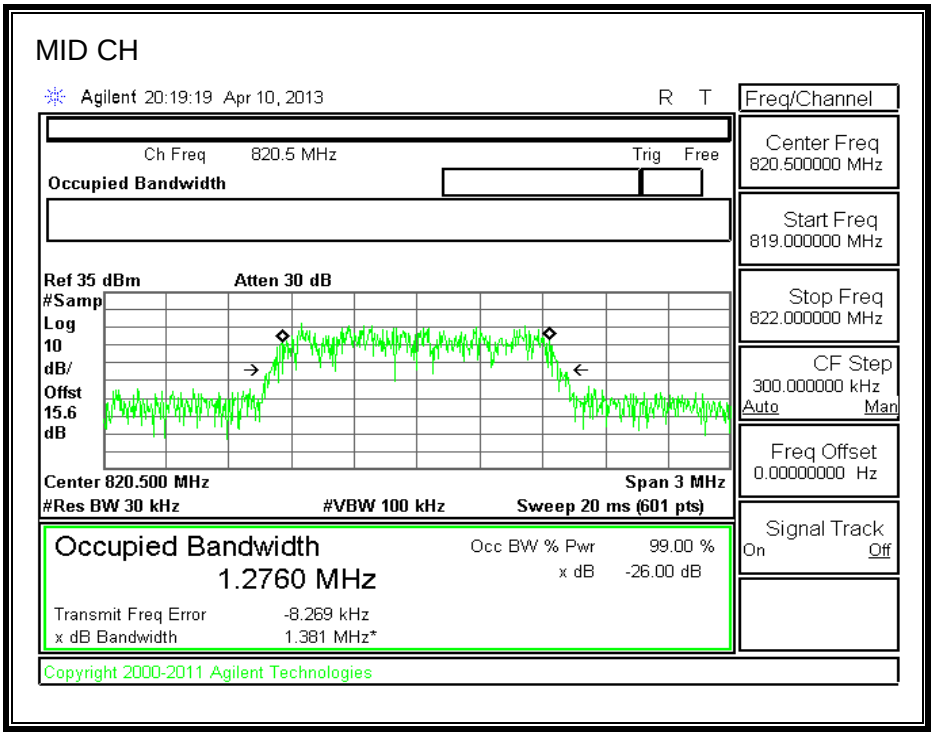
8.1.1. CDMA2000, BC10

1xRTT, 99% and 26dB Bandwidth

LOW CH



MID CH



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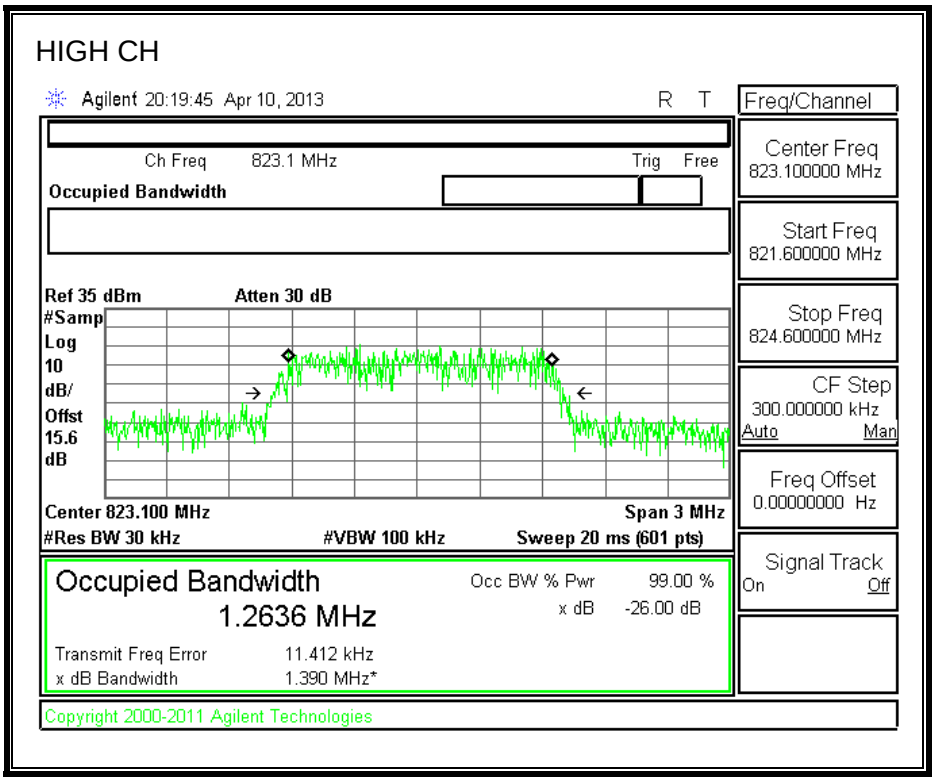

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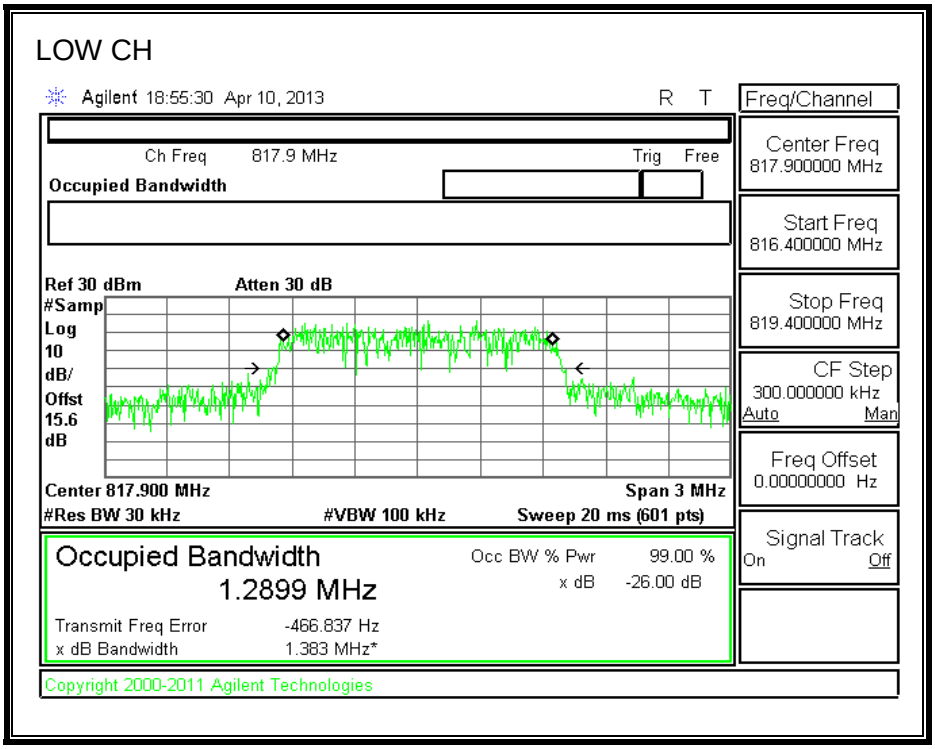
EVDO REV A

LOW CH



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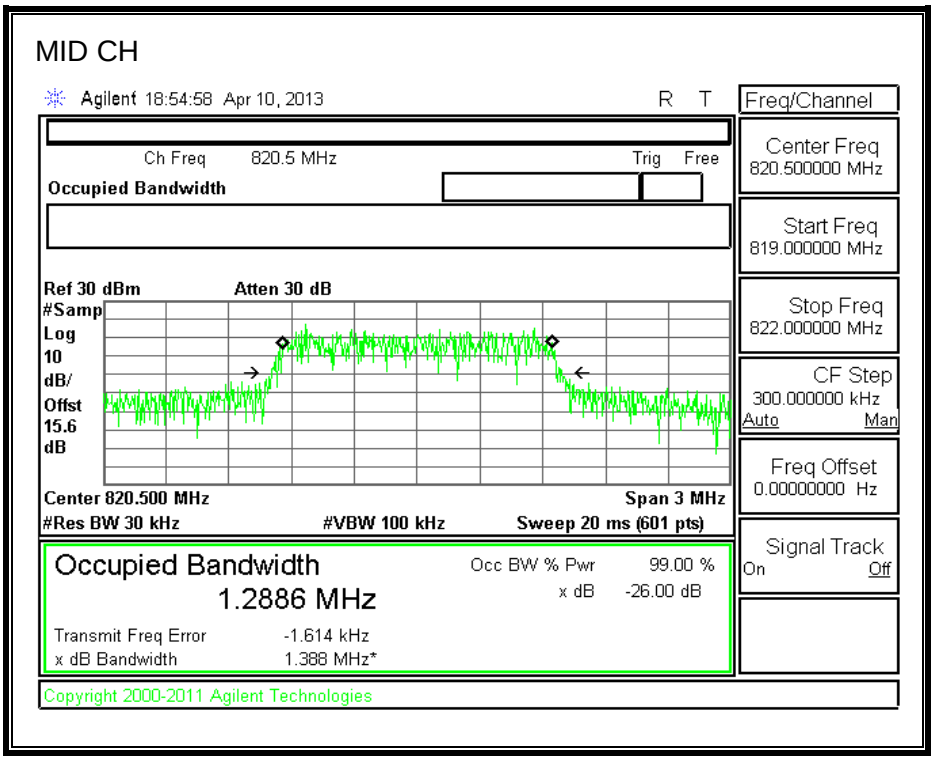

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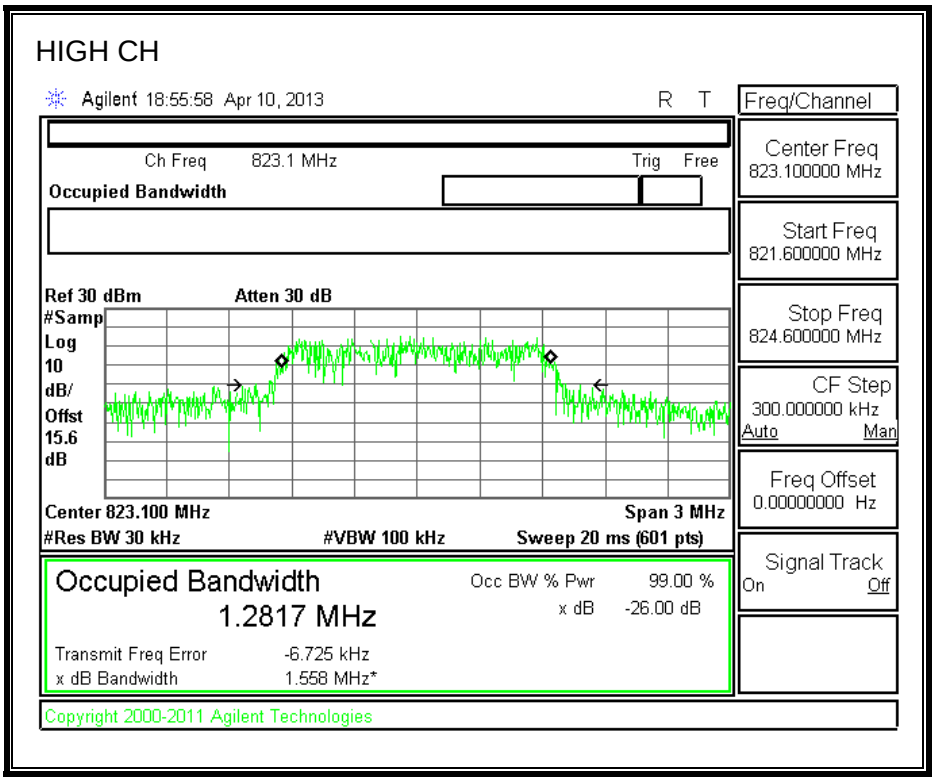

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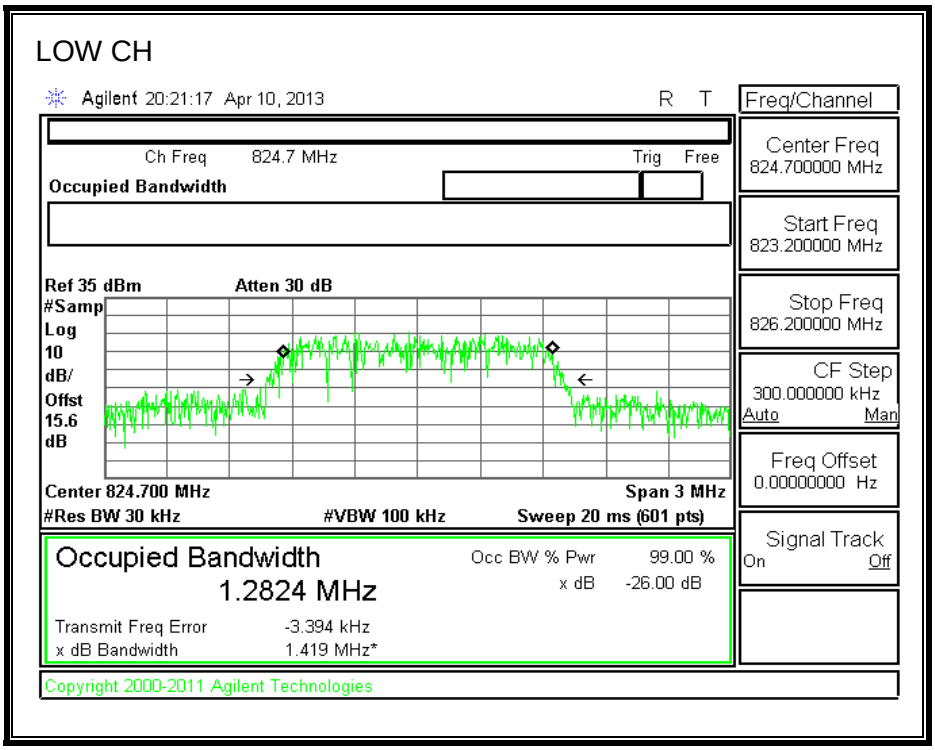
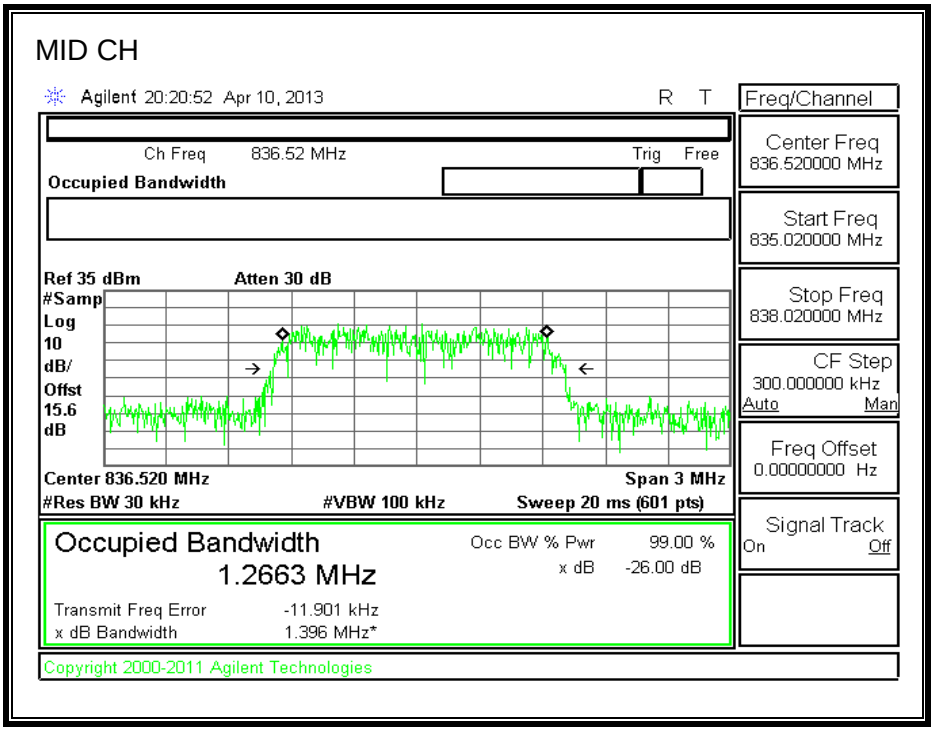
8.1.2. CDMA2000, BC0

1xRTT

LOW CH



MID CH



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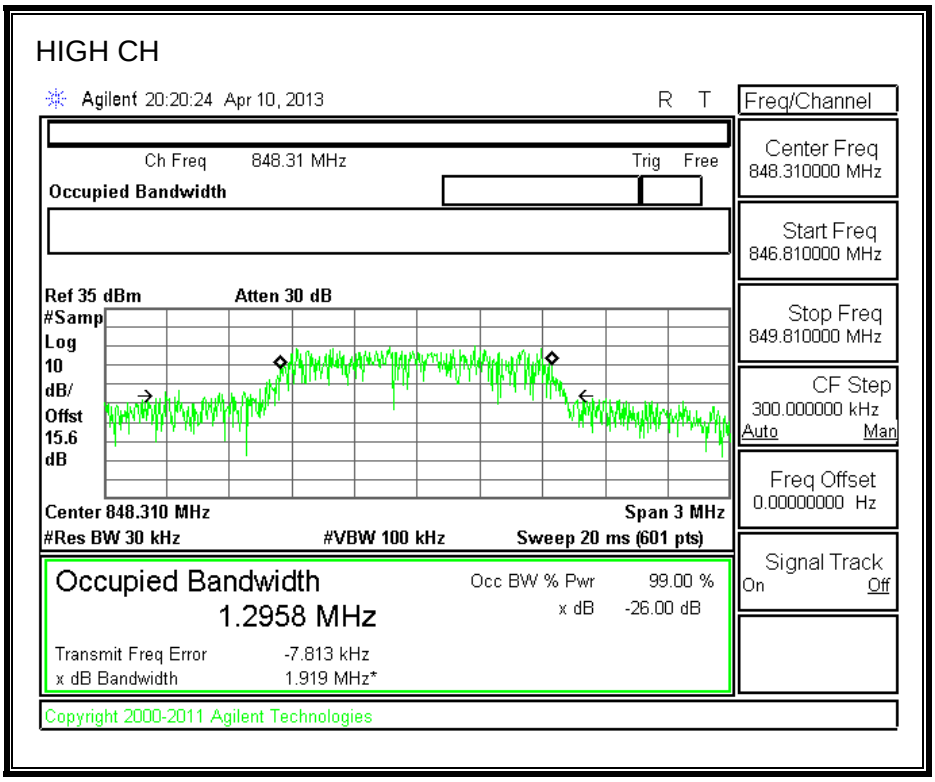

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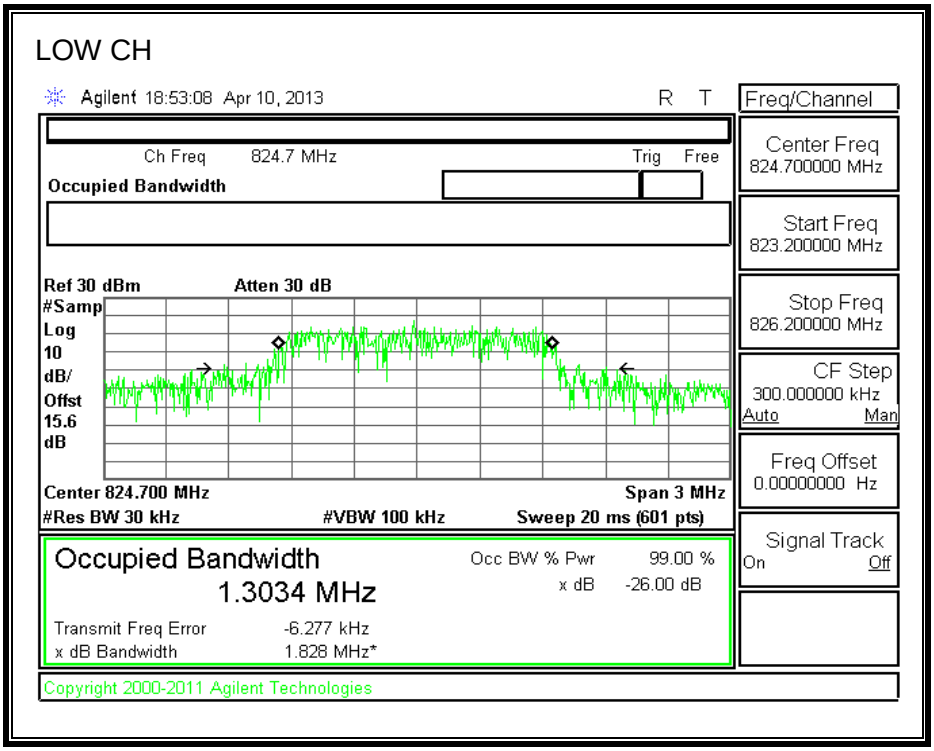
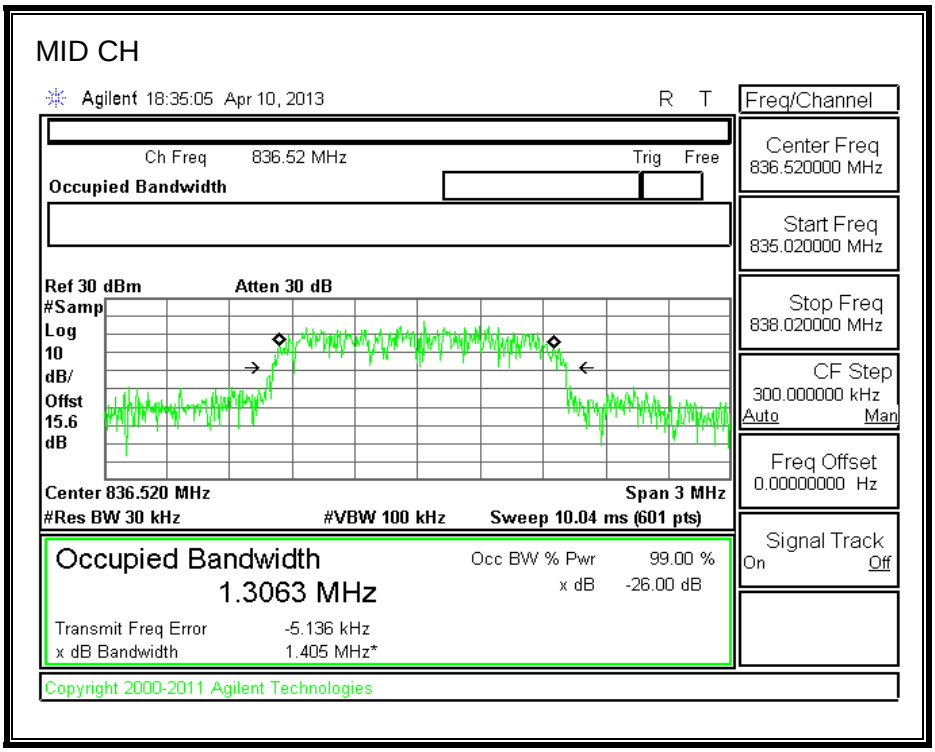
1xEV-DO Rev. A

LOW CH



MID CH



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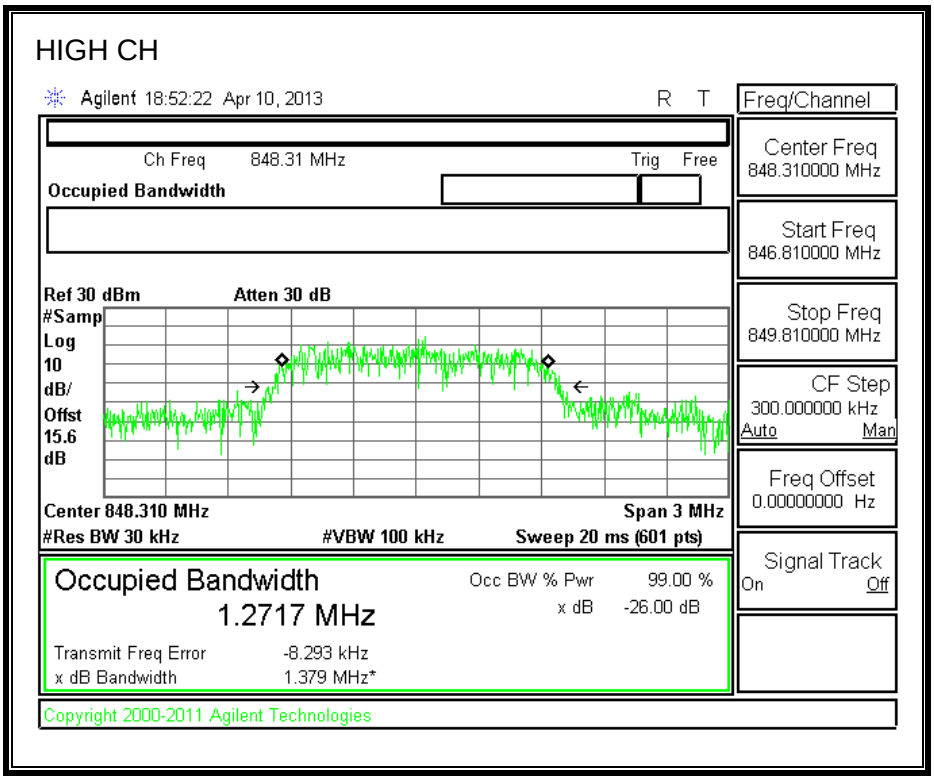
HIGH CH



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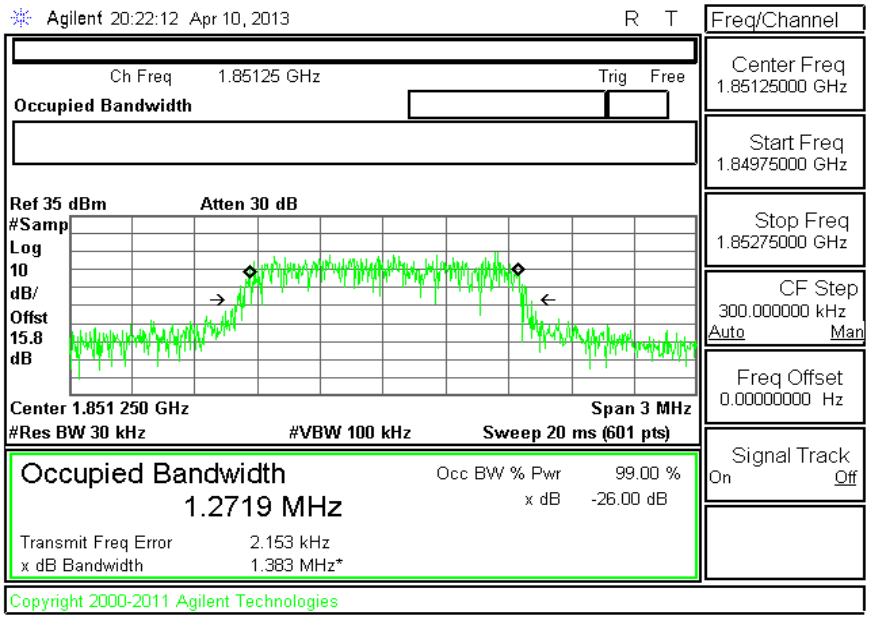
8.1.3. CDMA2000, BC1

1xRTT Mode

LOW CH



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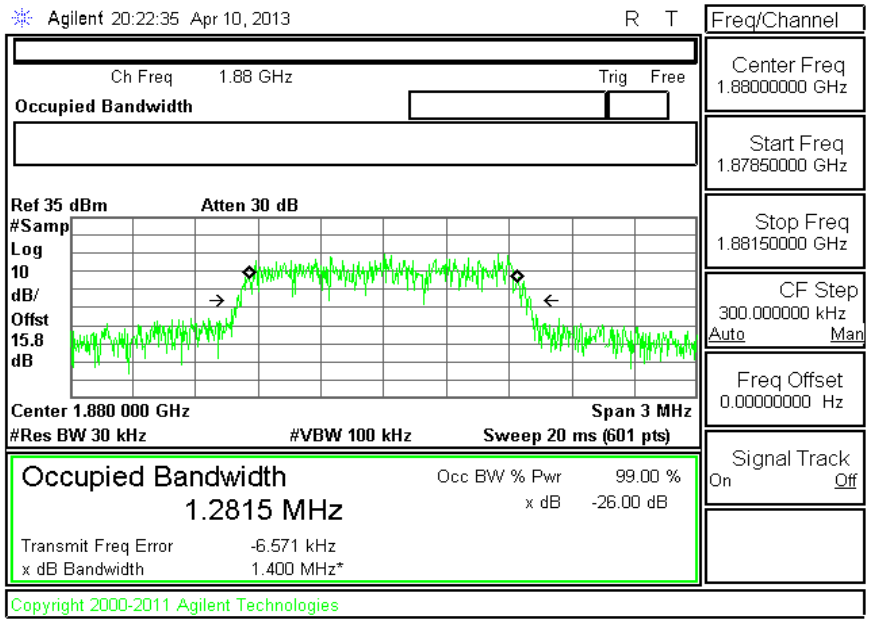

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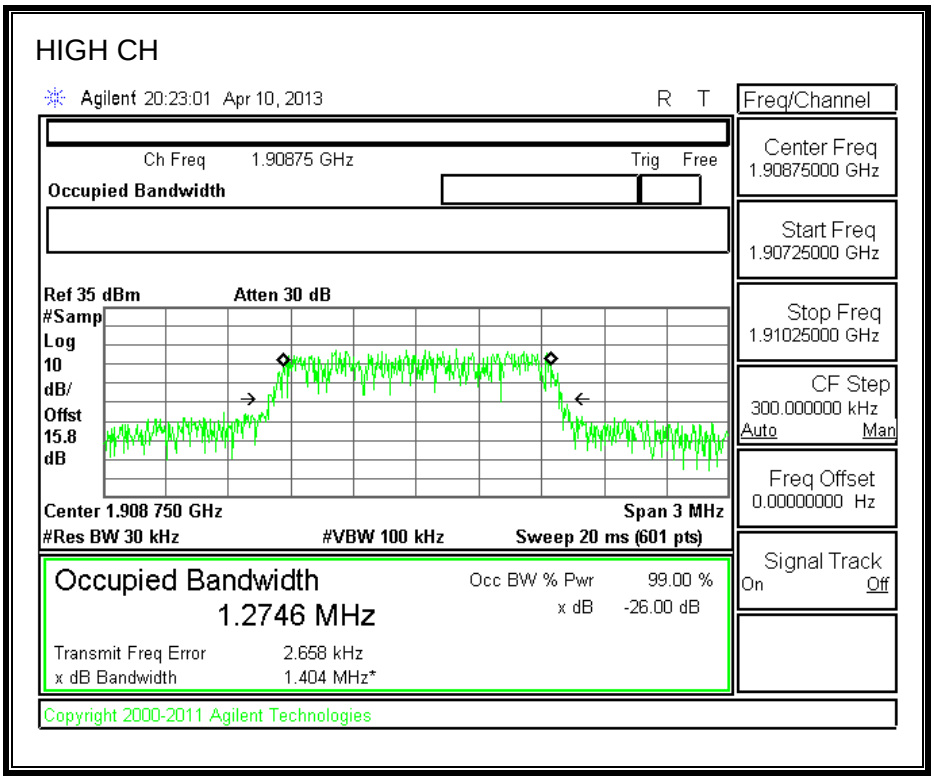
HIGH CH



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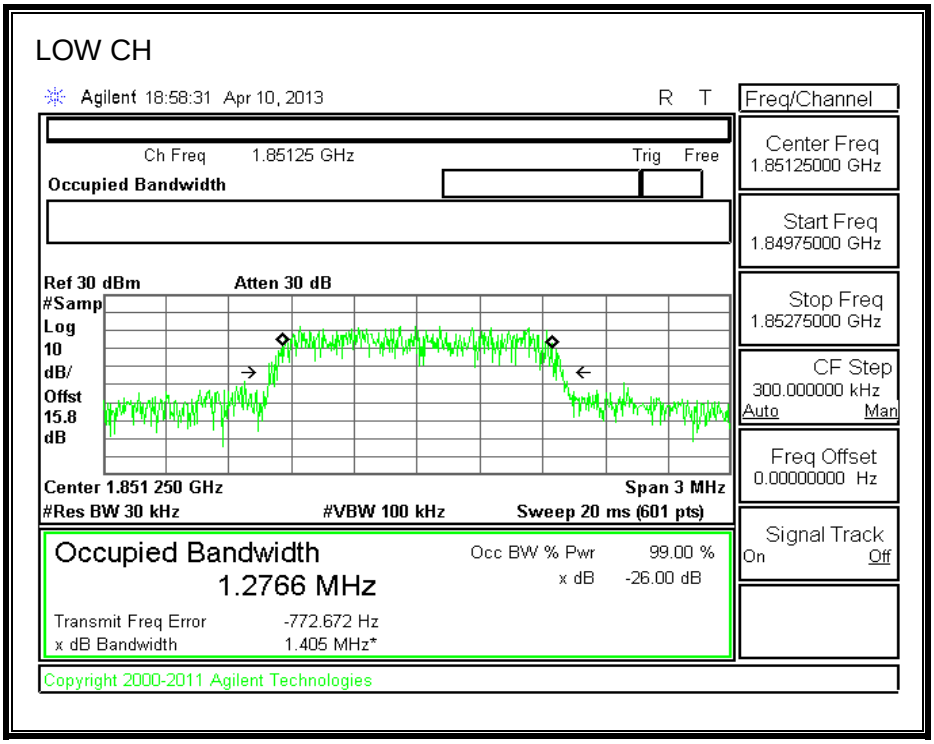
EV-DO Rev. A Mode

LOW CH



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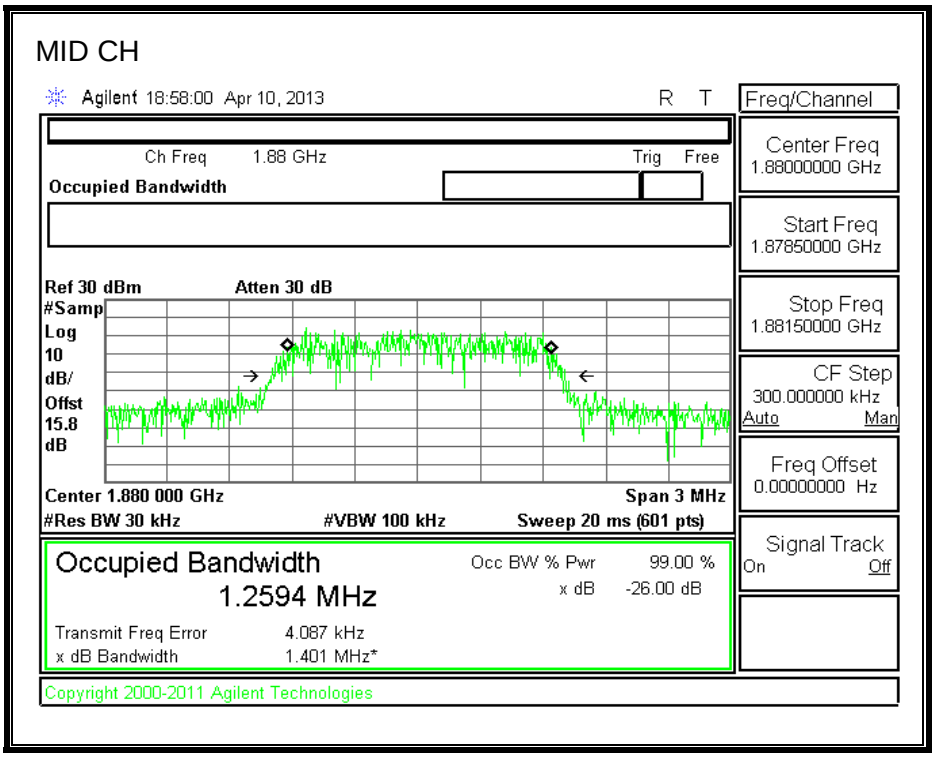

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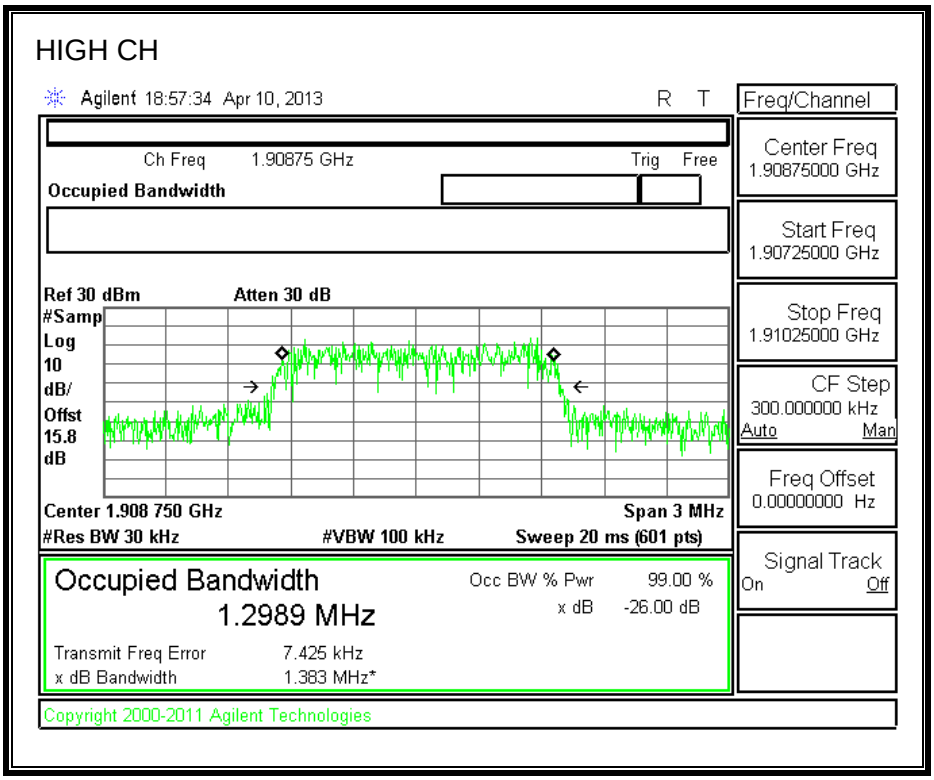
HIGH CH



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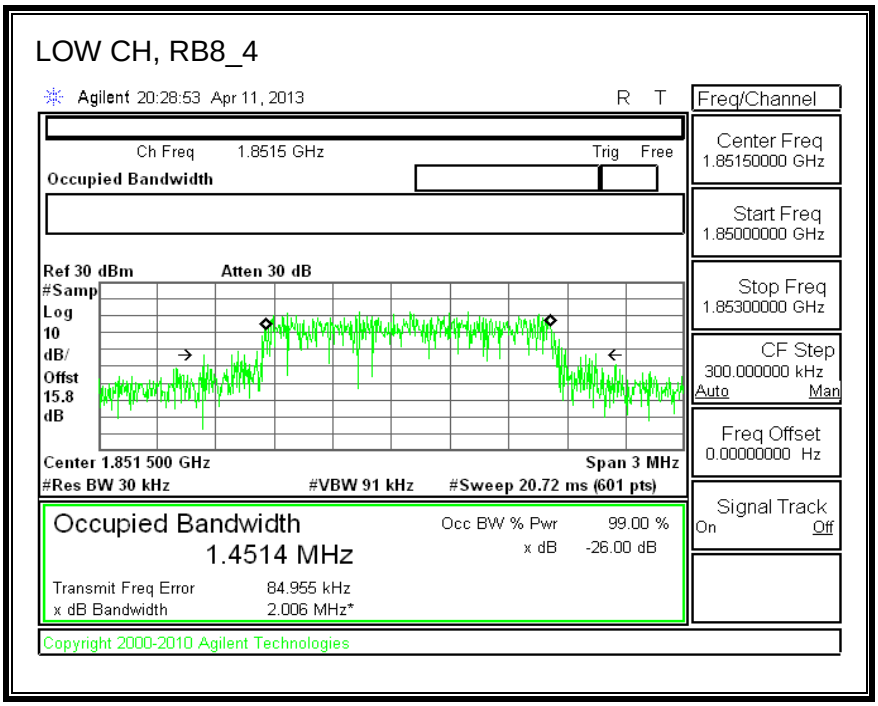
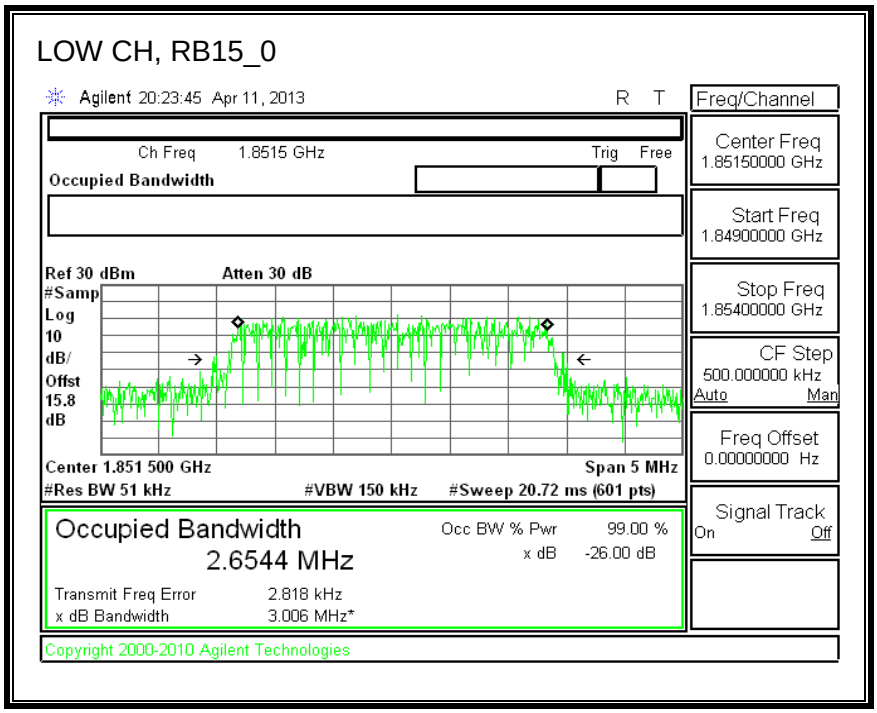
8.1.4. LTE BAND 25

Band 25 (3 MHz BAND WIDTH)

LTE QPSK





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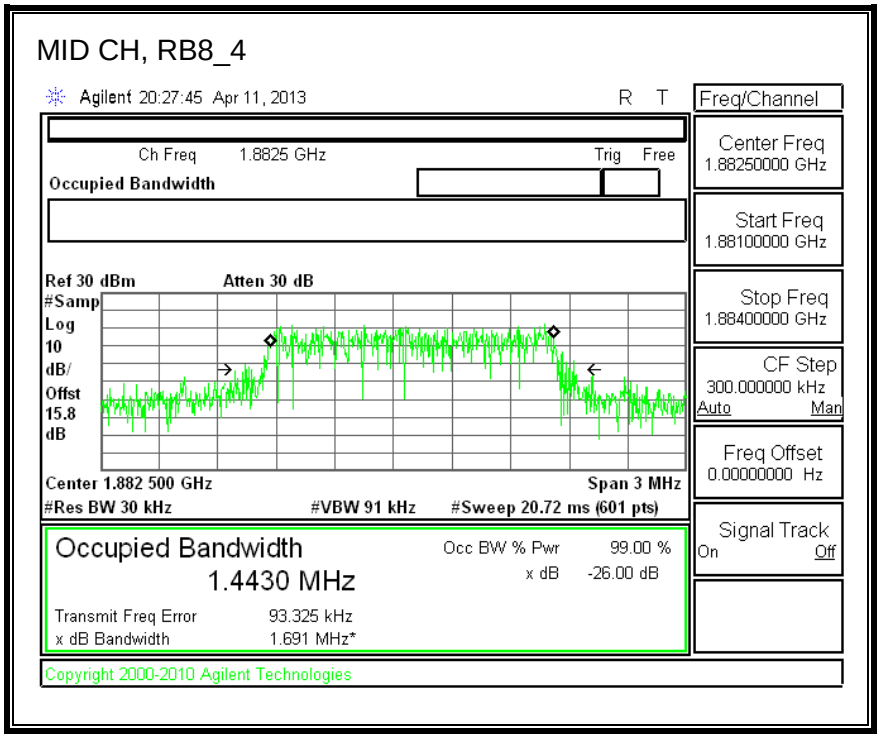
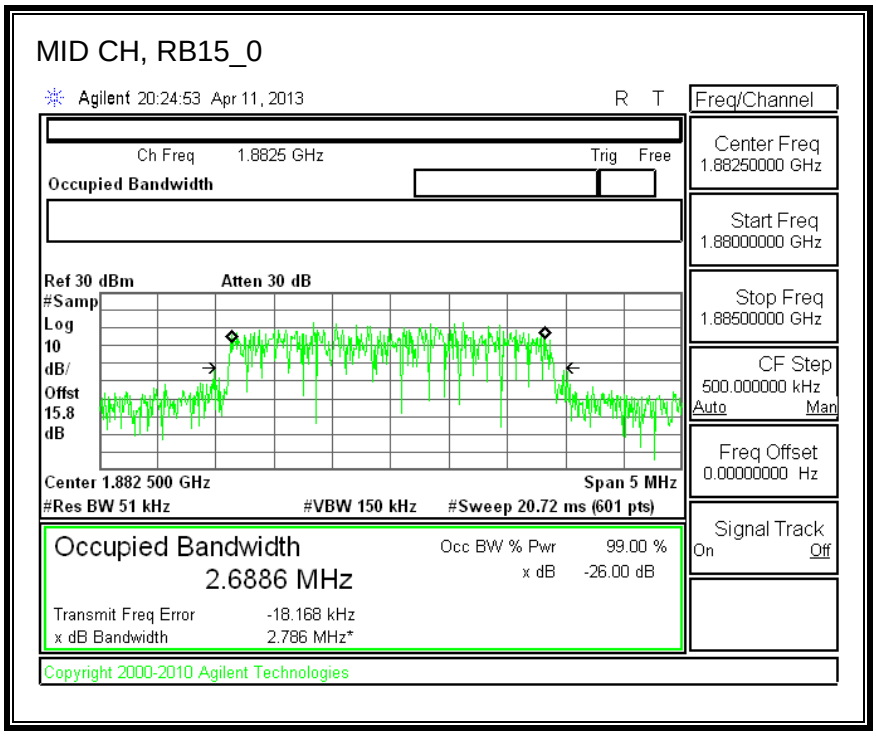
MID CH, RB8_4



MID CH, RB15_0



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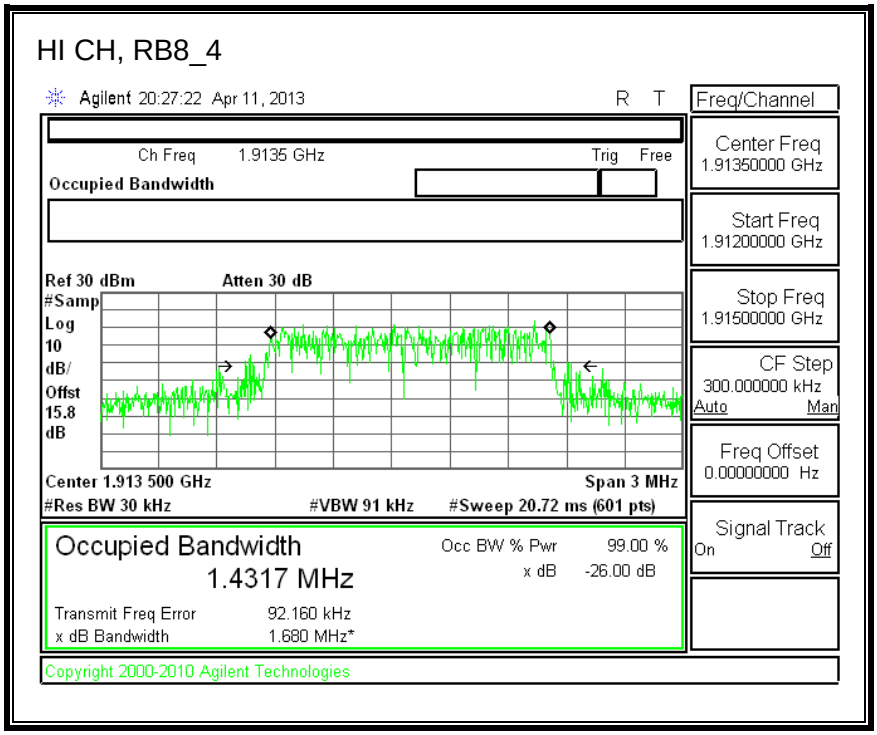
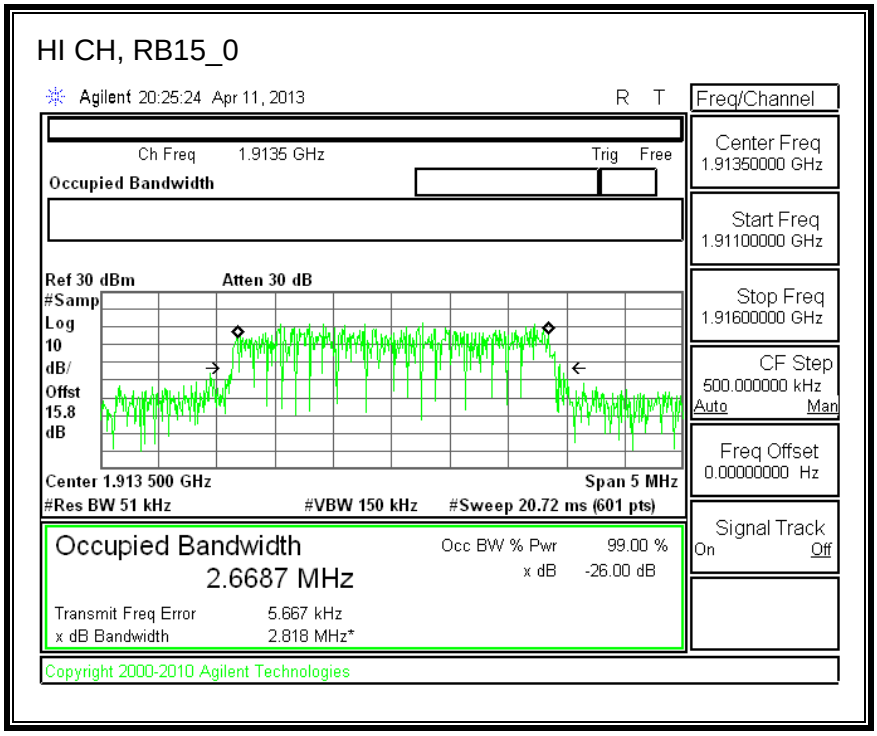
HI CH, RB8_4



HI CH, RB15_0



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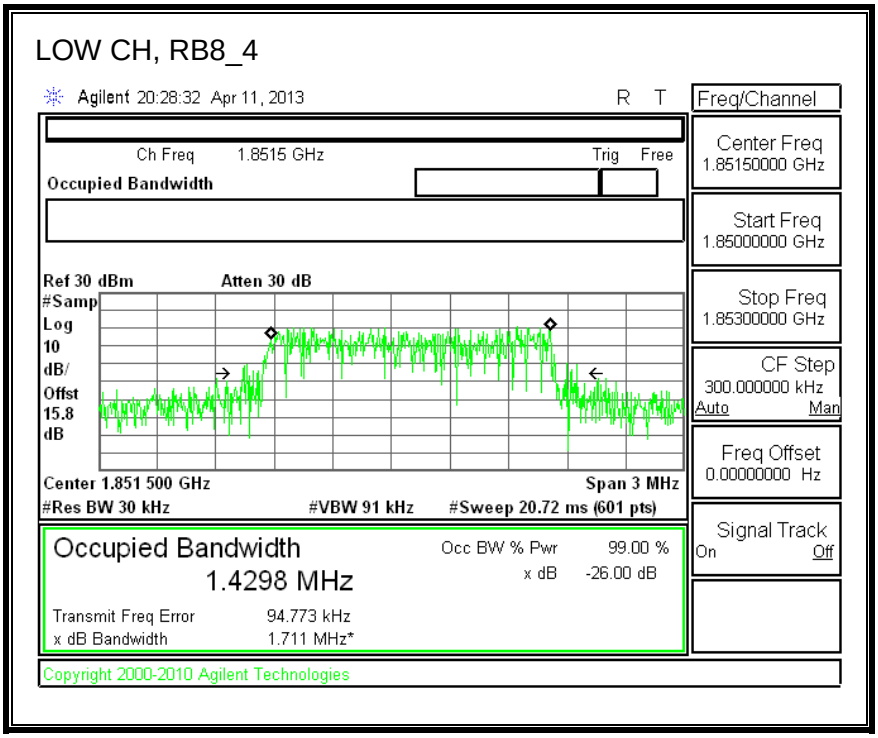
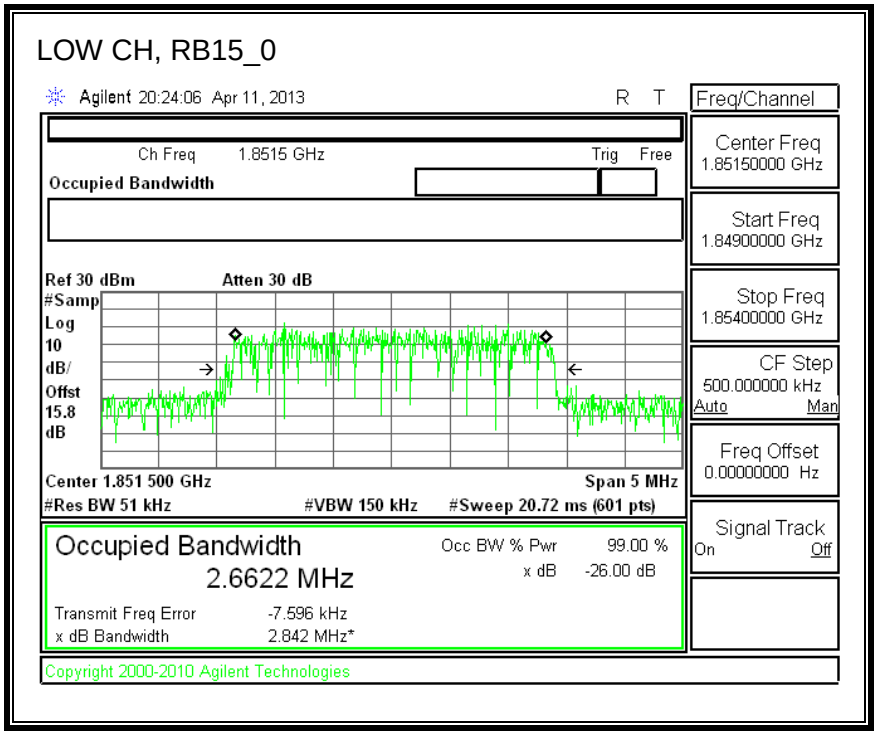
Band 25 (3 MHz BAND WIDTH)

LTE 16QAM





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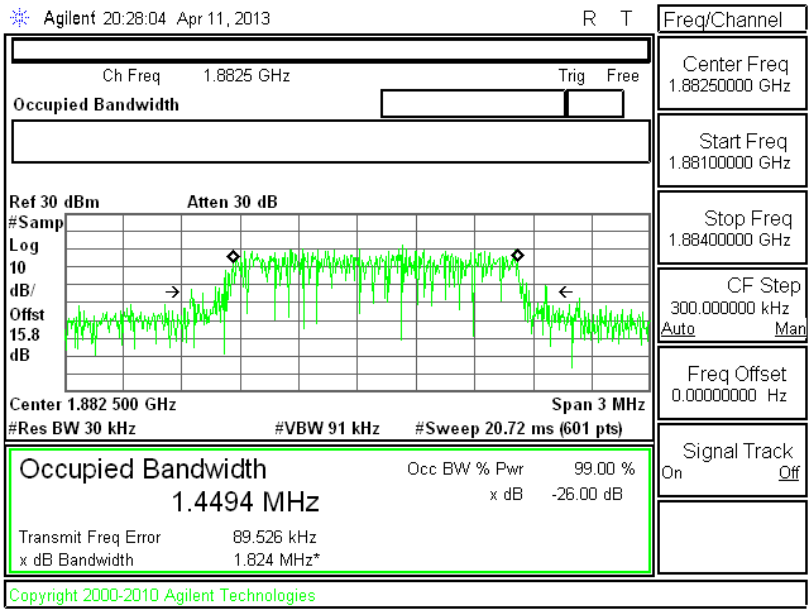
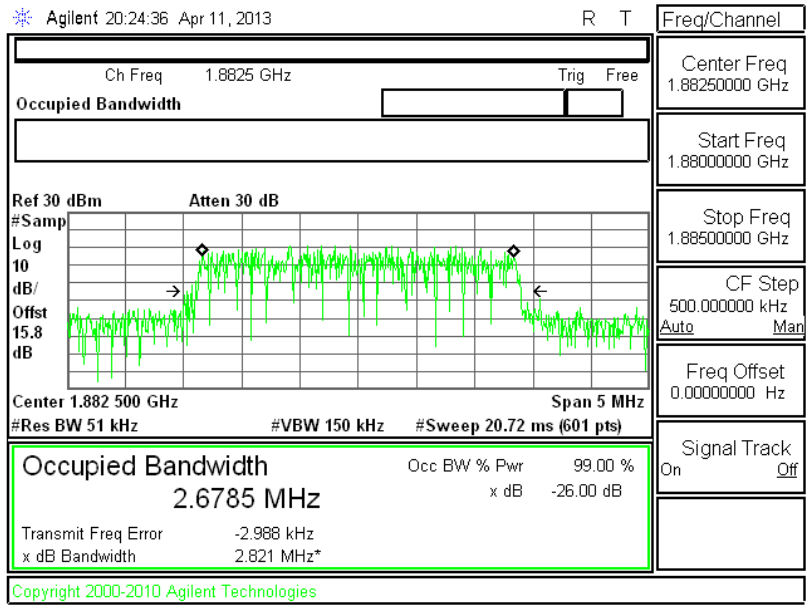
MID CH, RB8_4



MID CH, RB15_0



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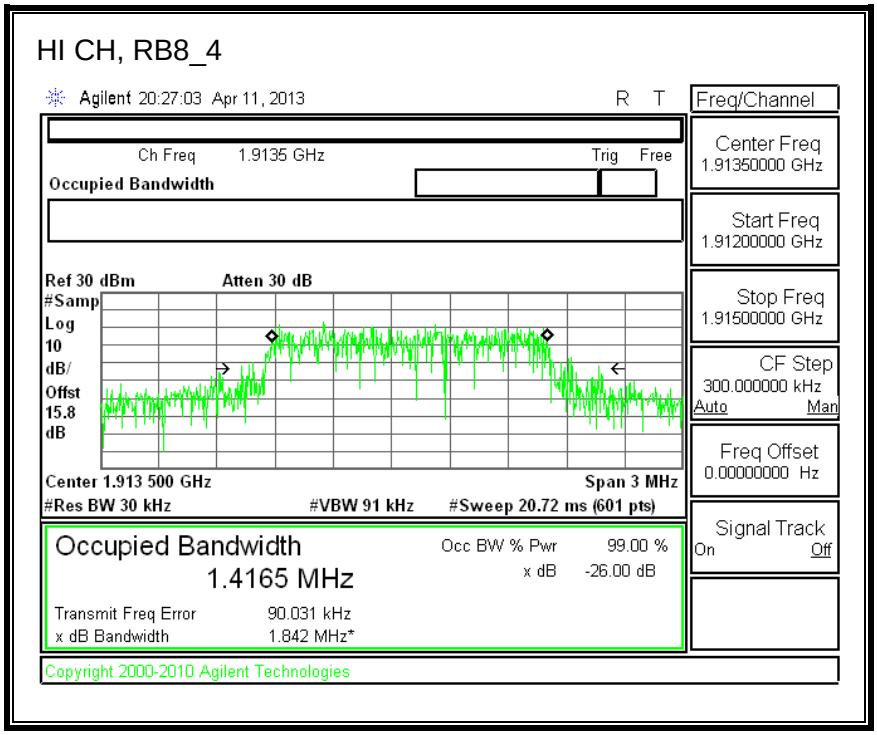
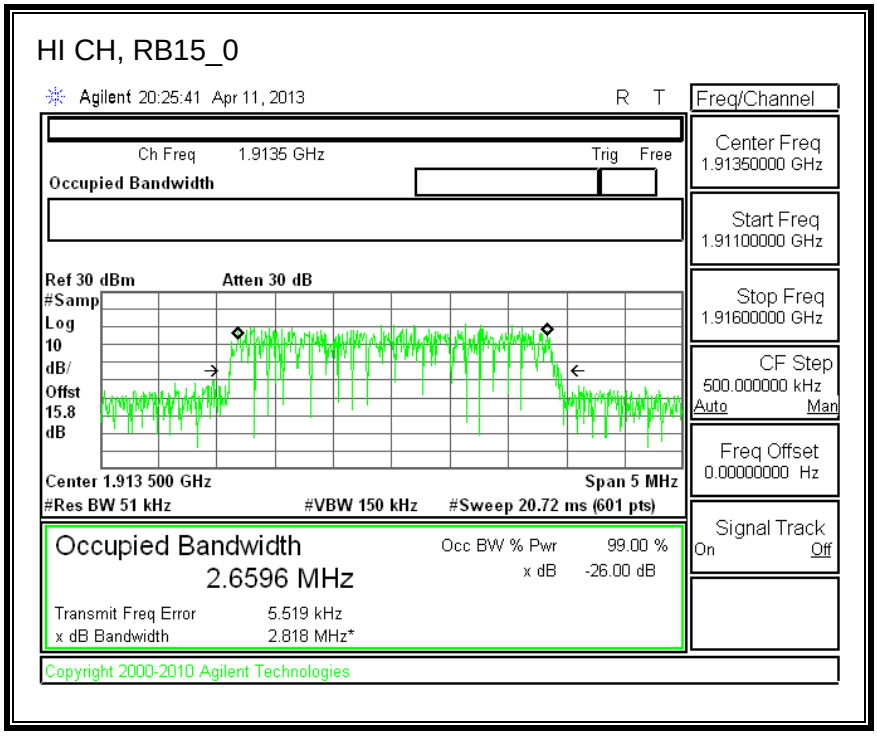
HI CH, RB8_4



HI CH, RB15_0



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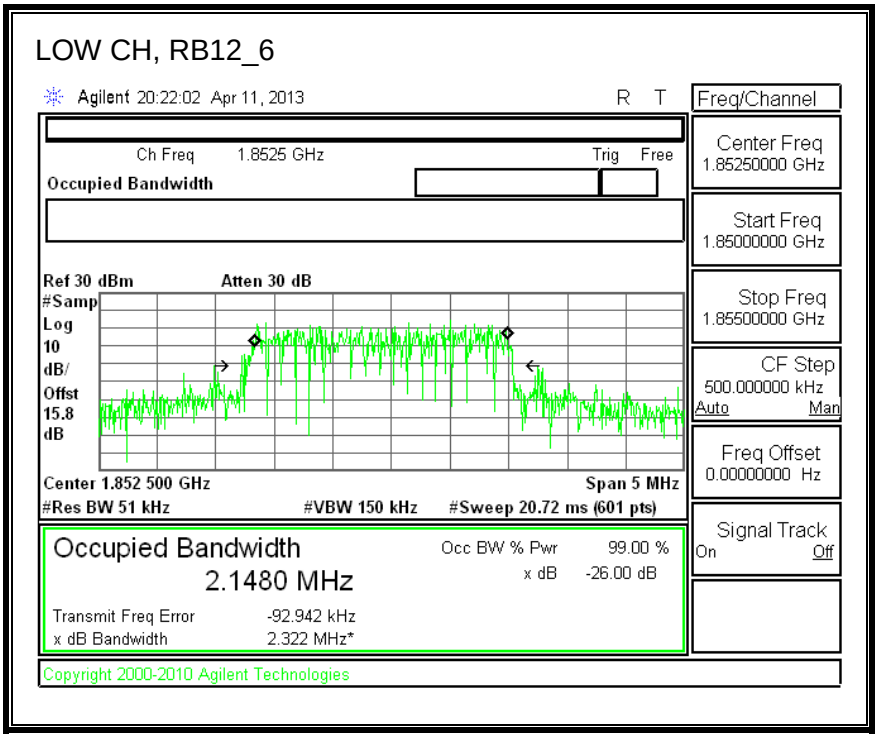
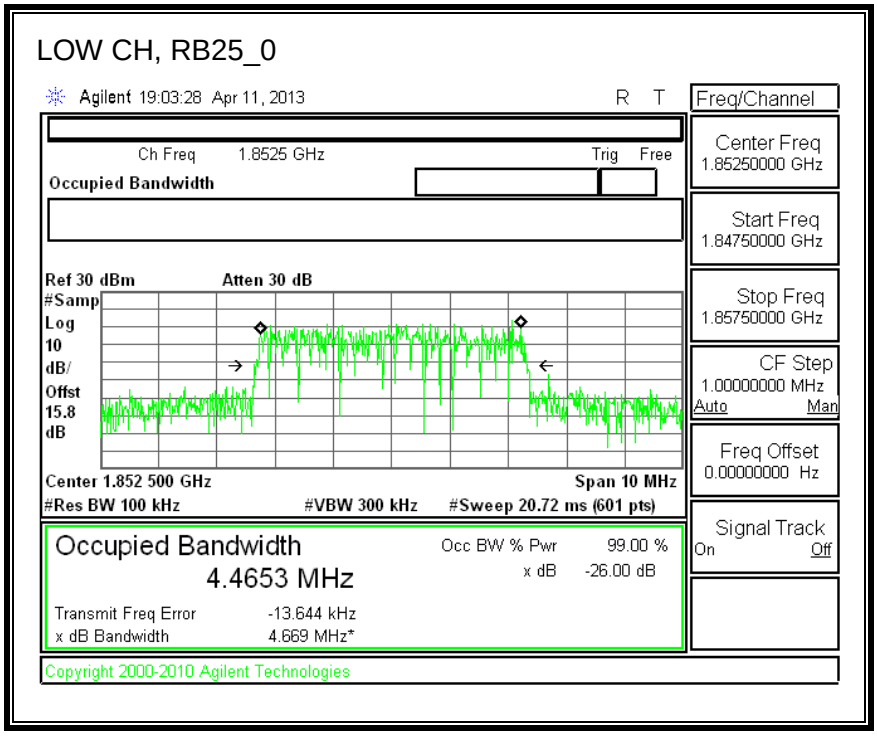
Band 25 (5 MHz BAND WIDTH)

LTE QPSK





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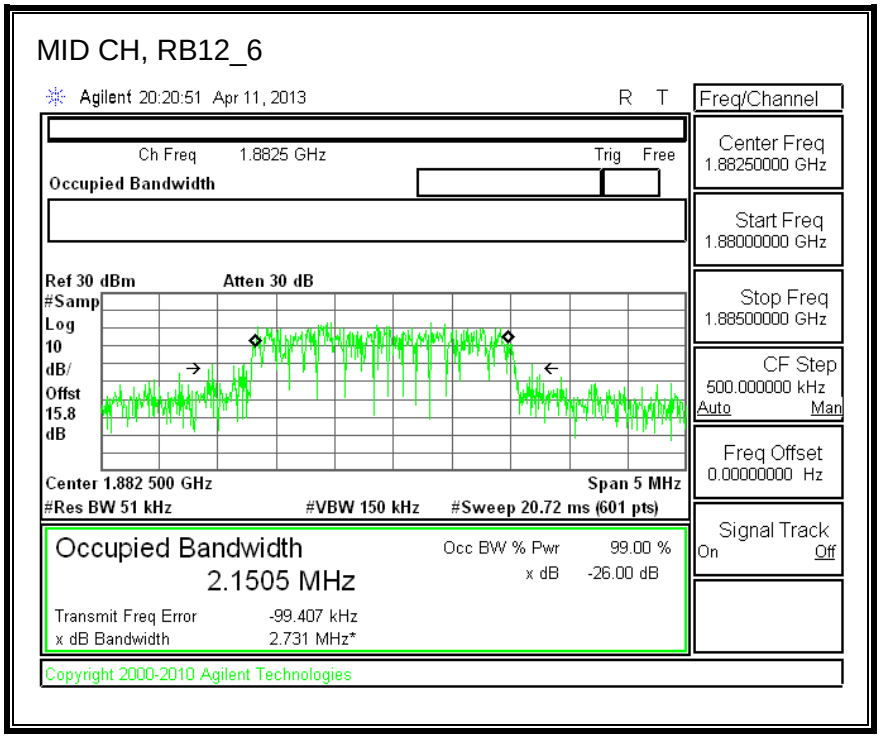
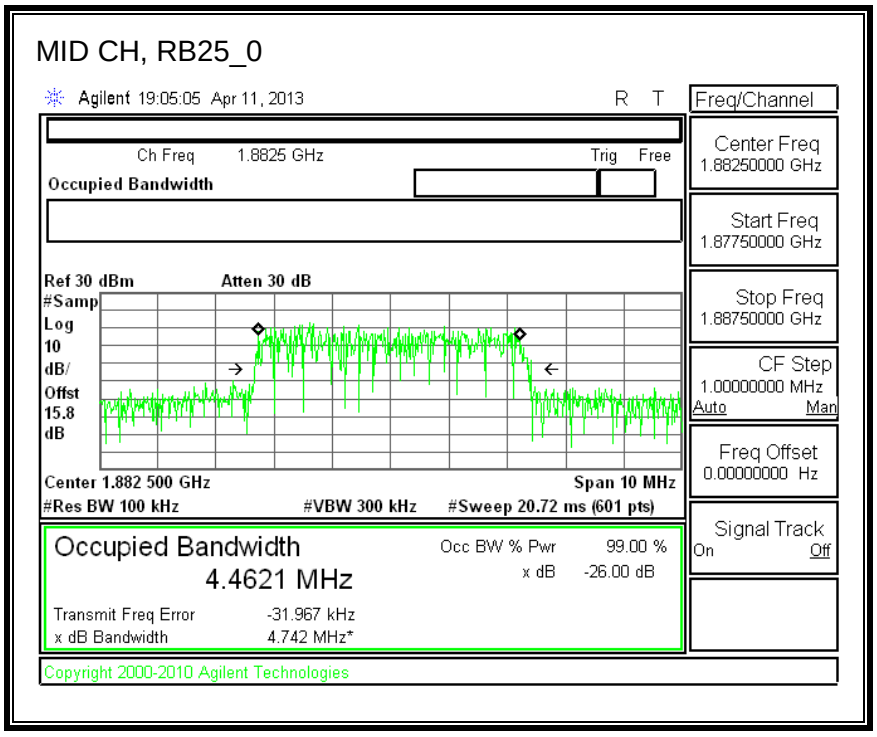
MID CH, RB12_6



MID CH, RB25_0



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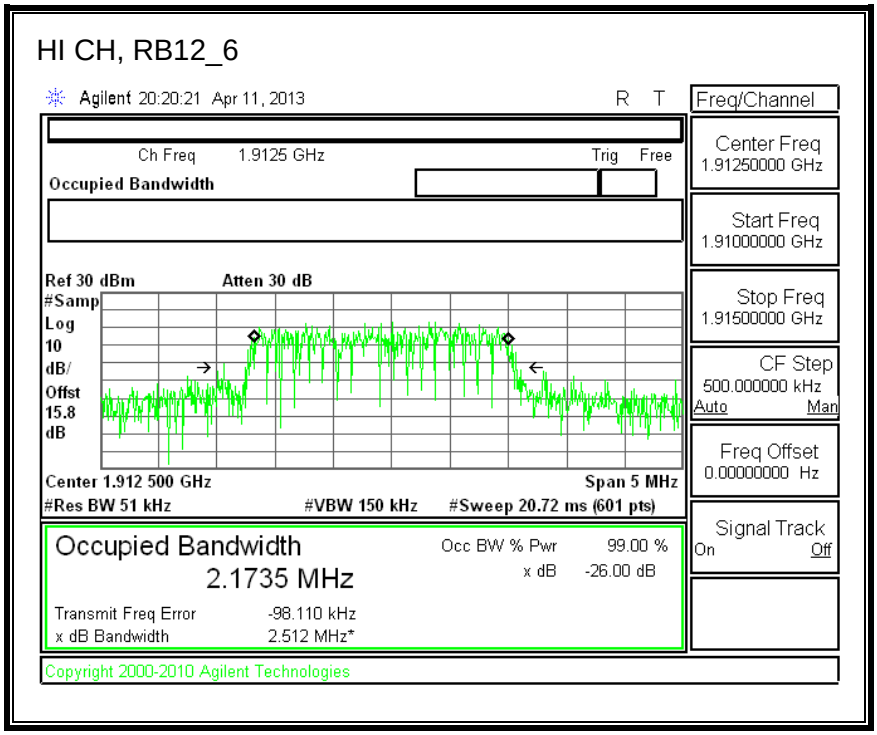
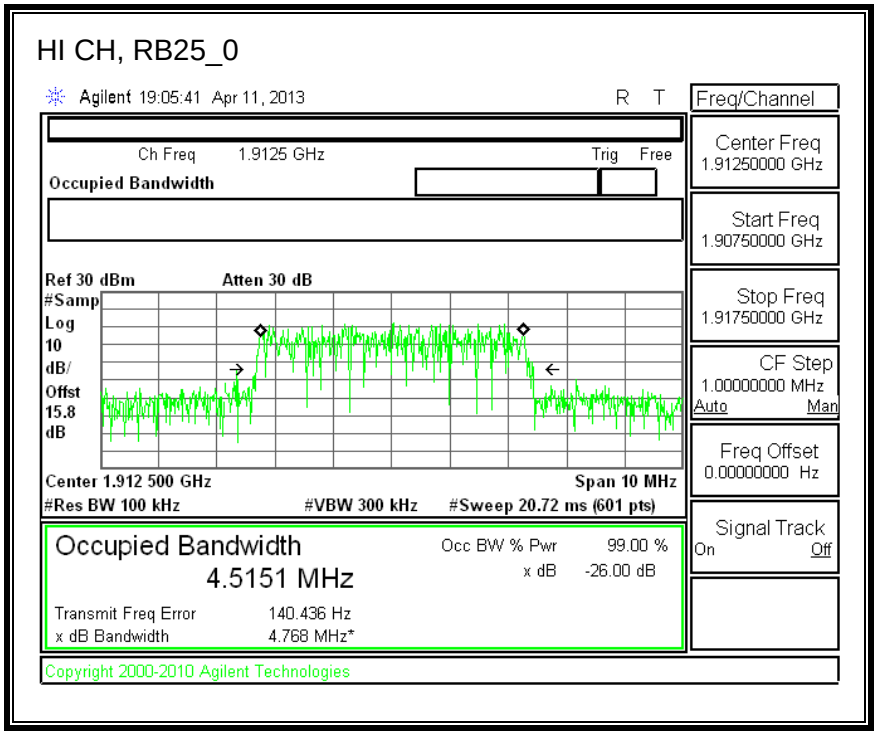
HI CH, RB12_6



HI CH, RB25_0



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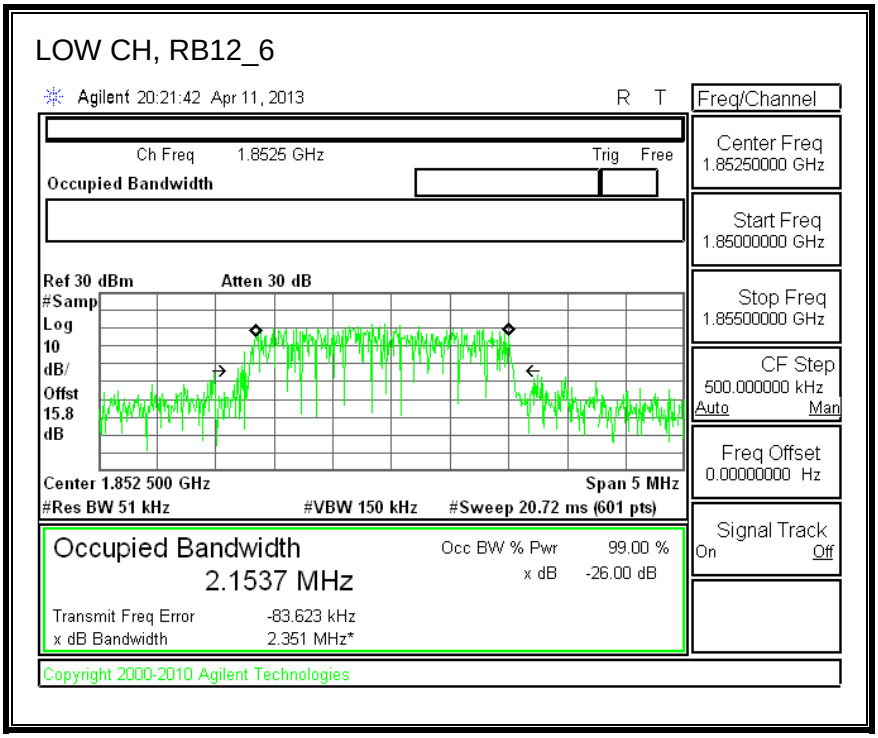
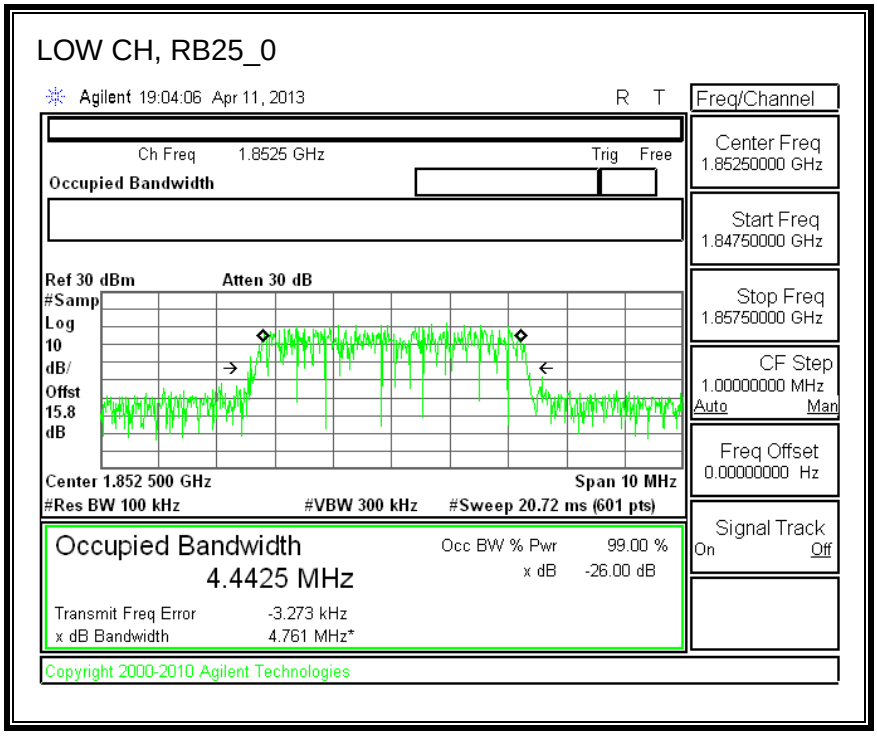
Band 25 (5 MHz BAND WIDTH)

LTE 16QAM





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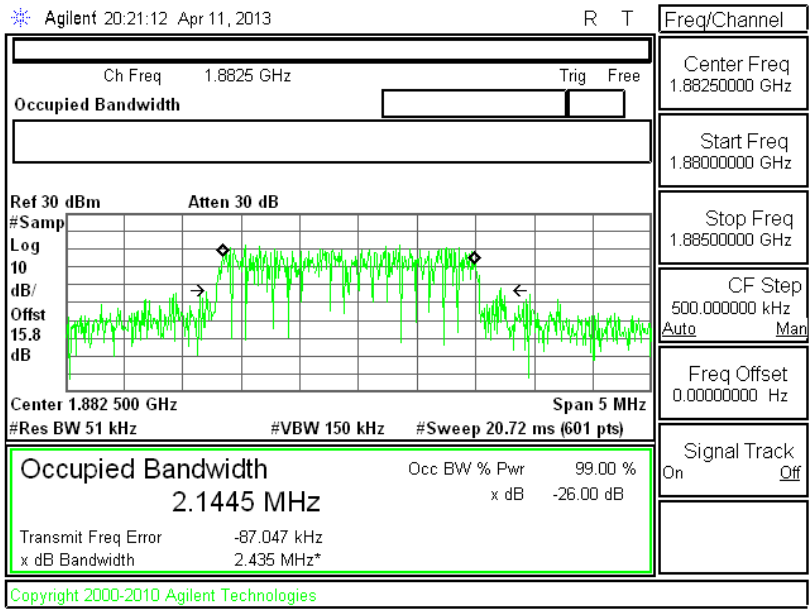
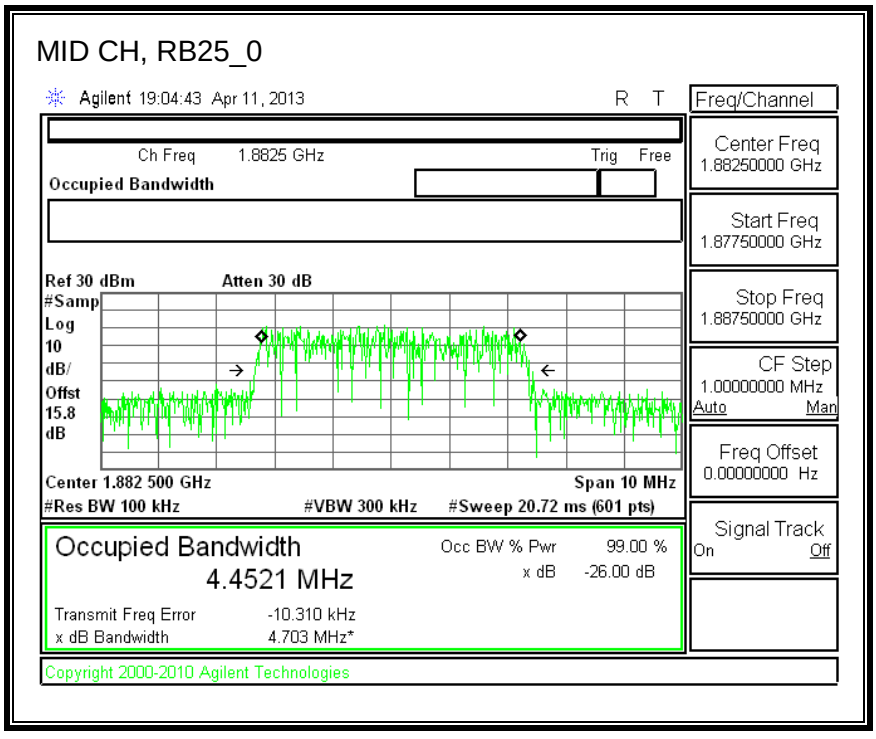
MID CH, RB12_6



MID CH, RB25_0



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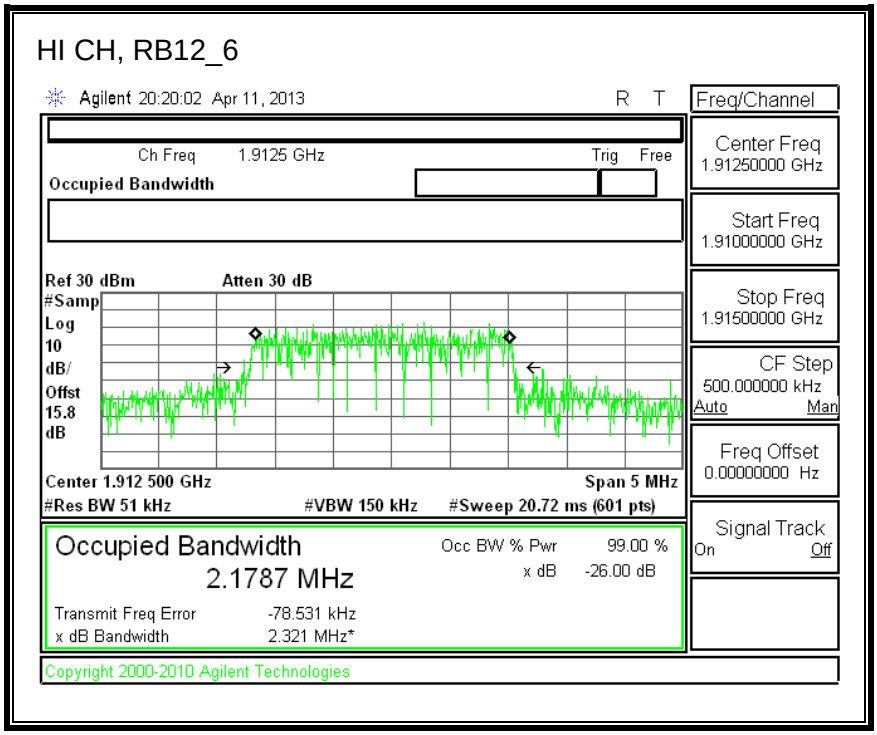
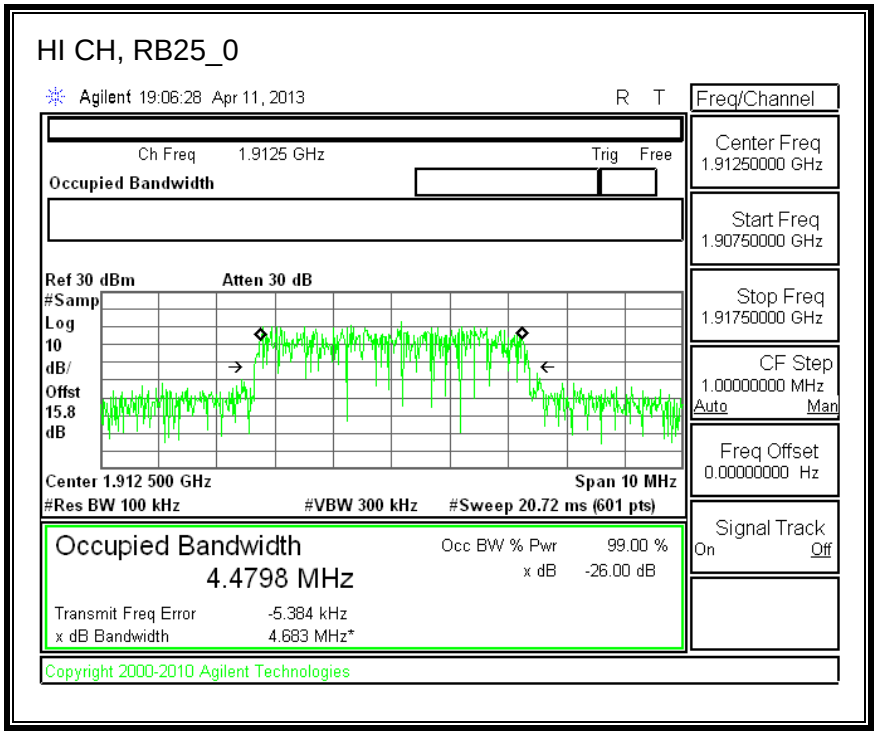
HI CH, RB12_6



HI CH, RB25_0



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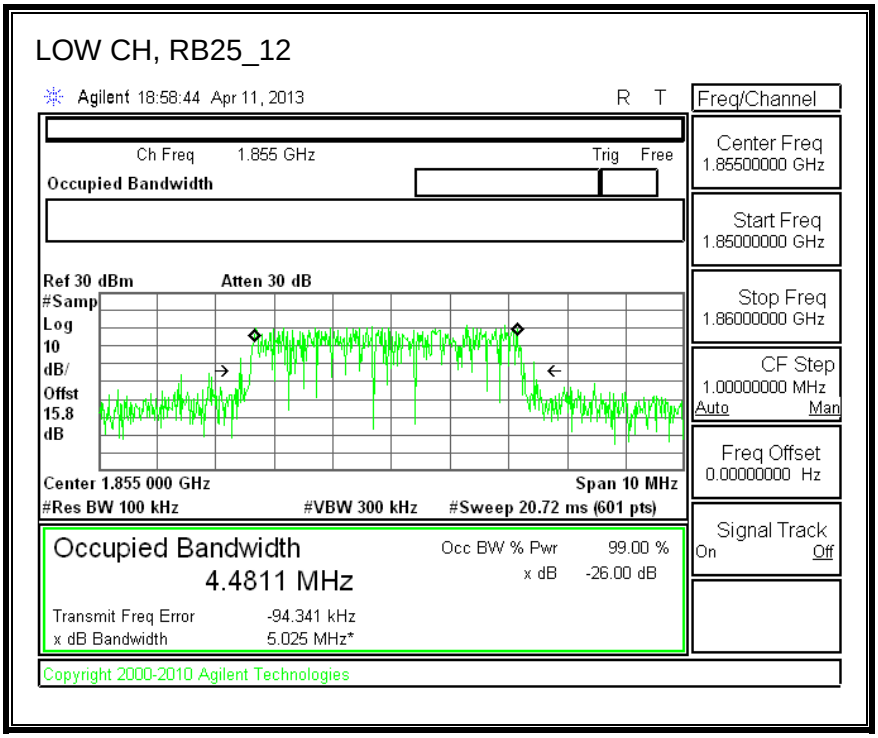
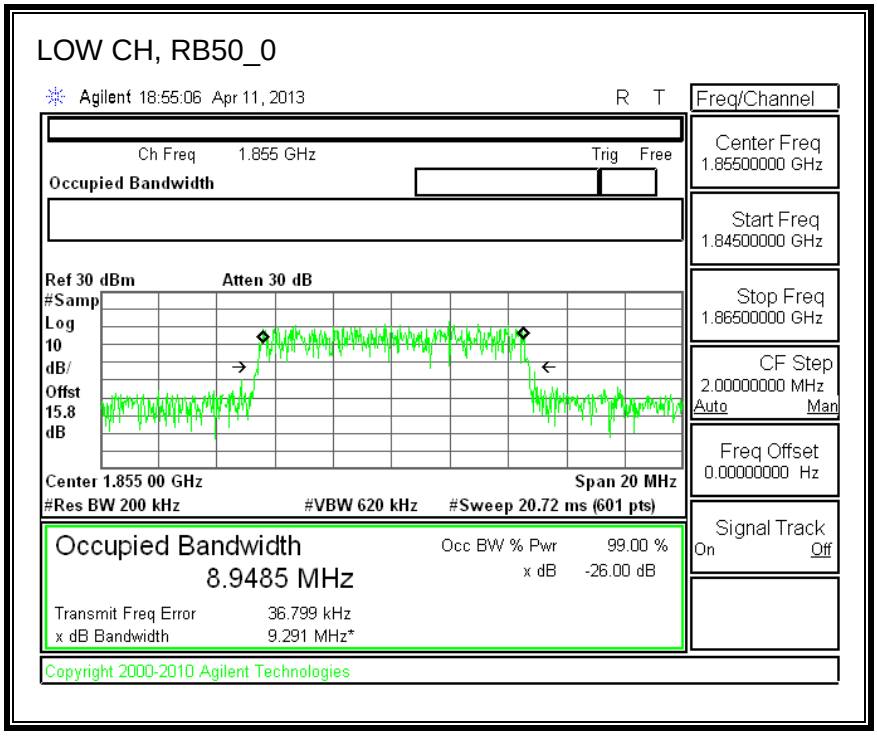
Band 25 (10 MHz BANDWIDTH)

LTE QPSK





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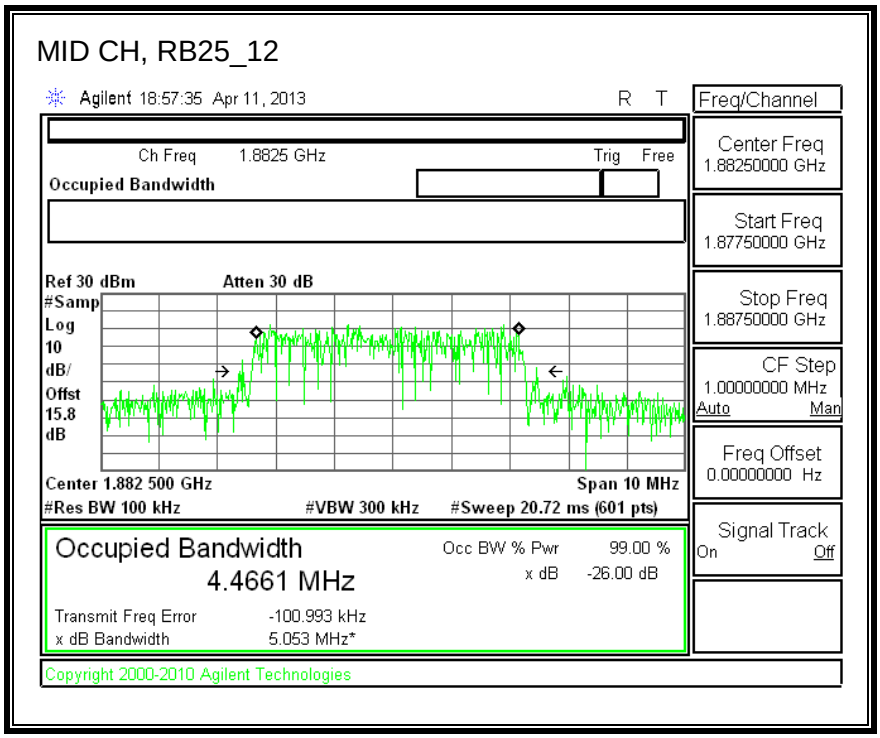
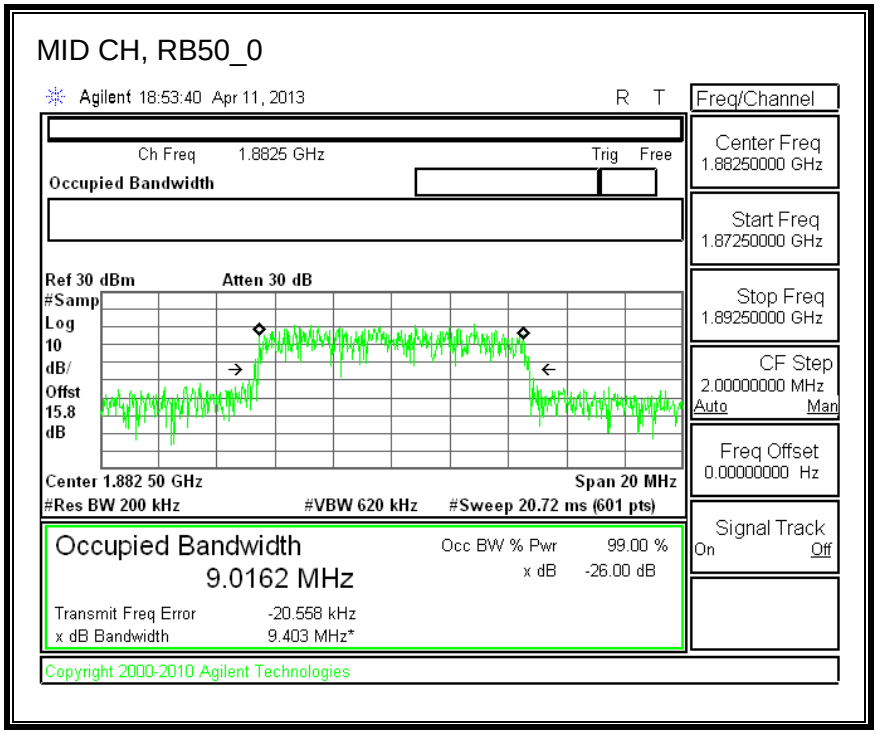
MID CH, RB25_12

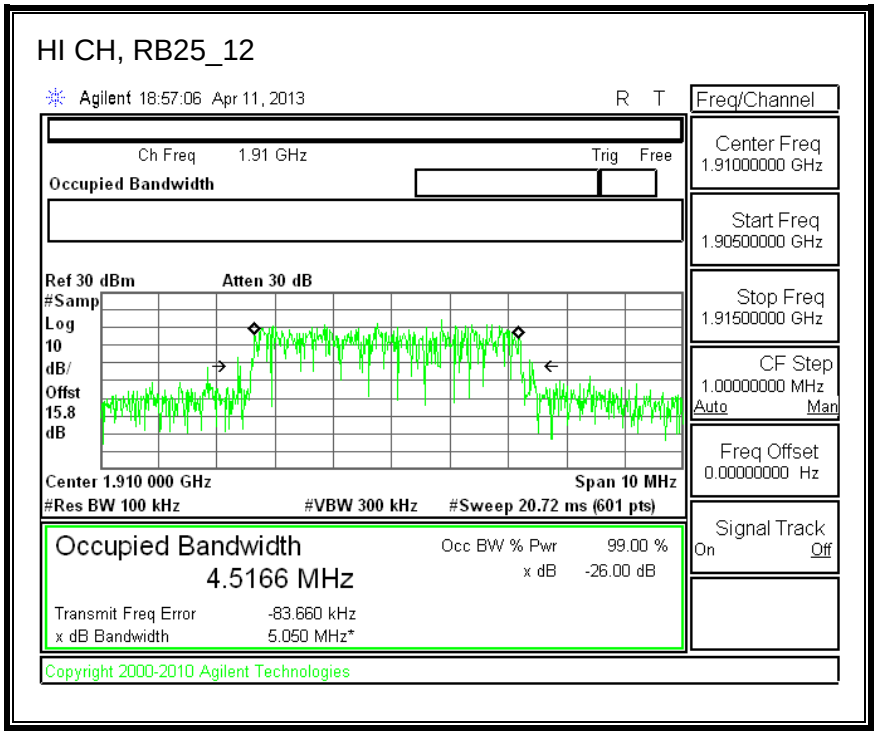


MID CH, RB50_0

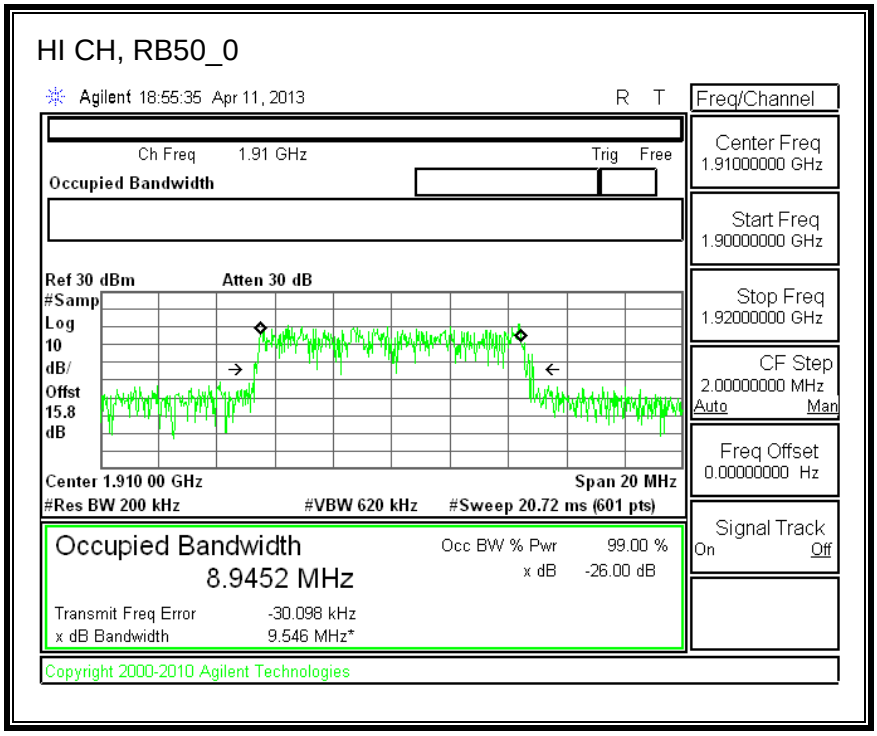


This report shall not be reproduced except in full, without the written approval of UL.CCS.

HI CH, RB25_12



HI CH, RB50_0



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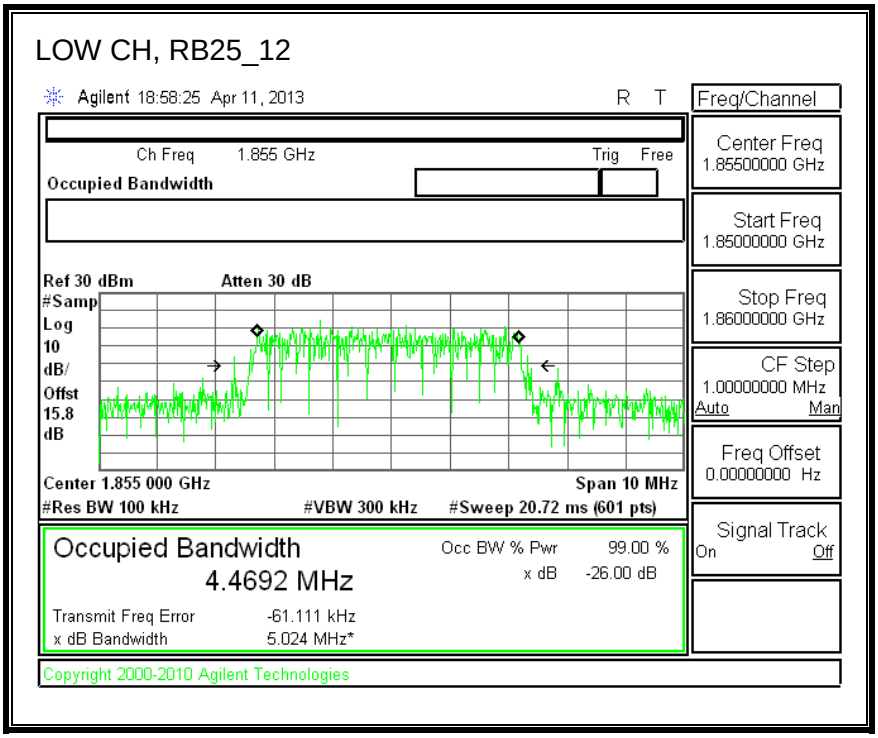
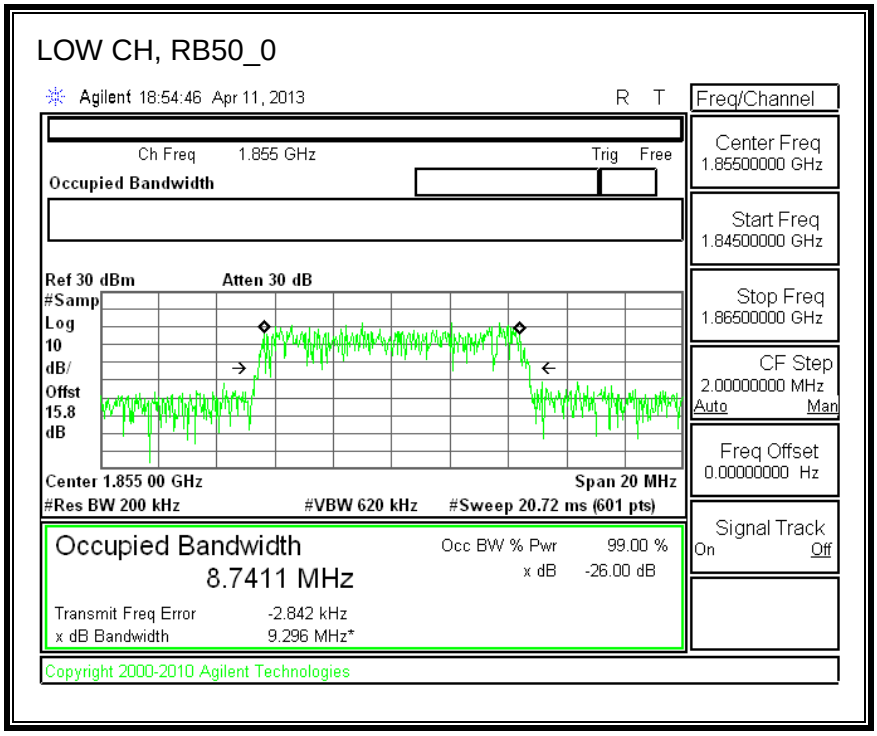
Band 25 (10 MHz BAND WIDTH)

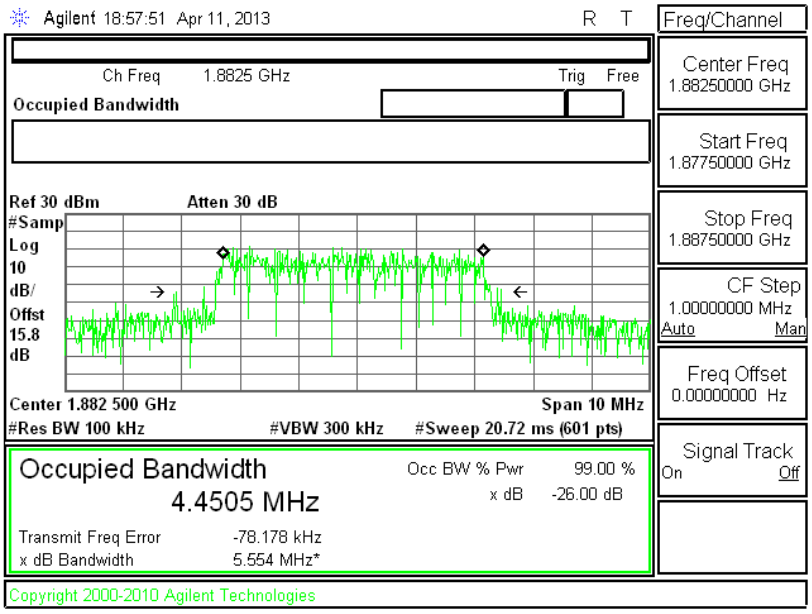
LTE 16QAM



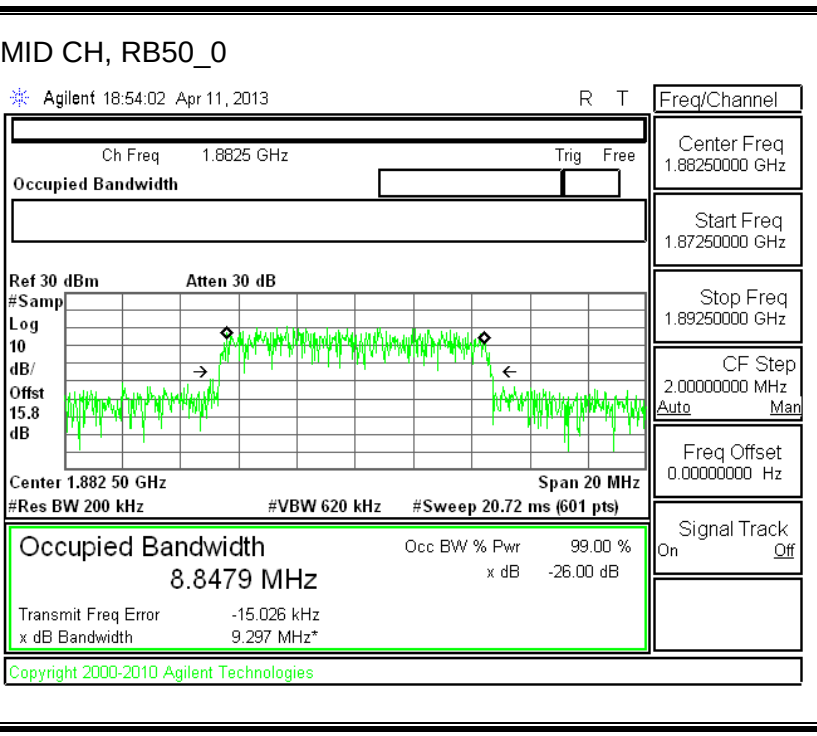


This report shall not be reproduced except in full, without the written approval of UL.CCS.

MID CH, RB25_12



MID CH, RB50_0



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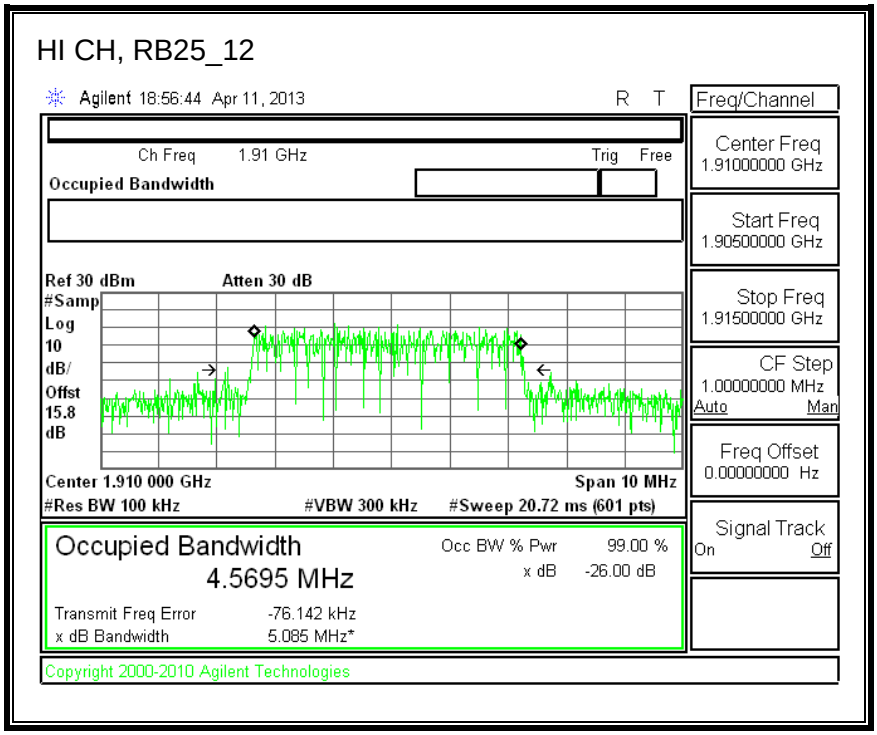
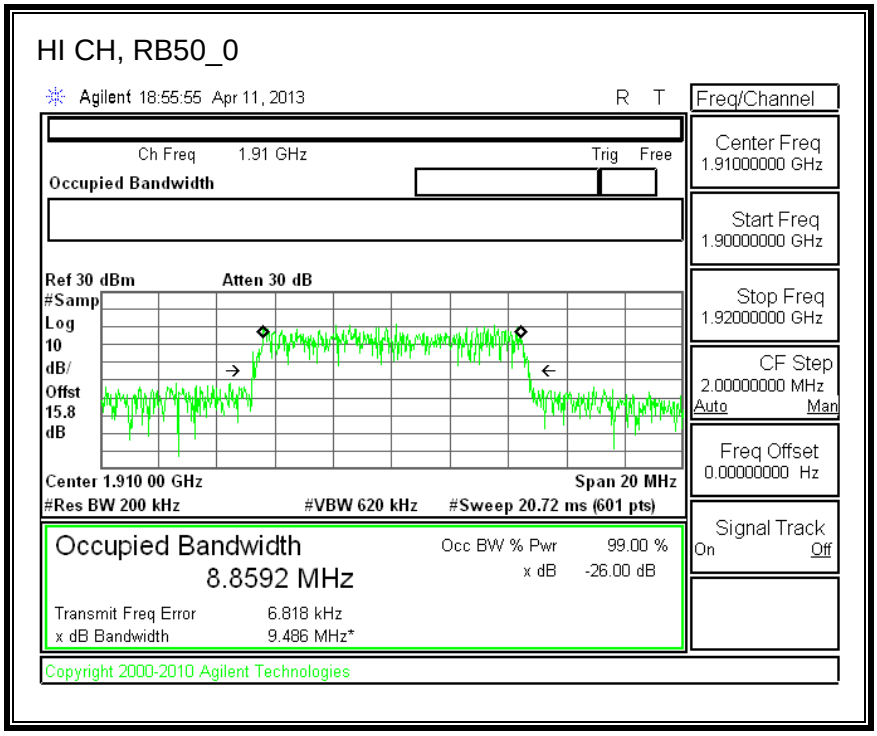
HI CH, RB25_12



HI CH, RB50_0



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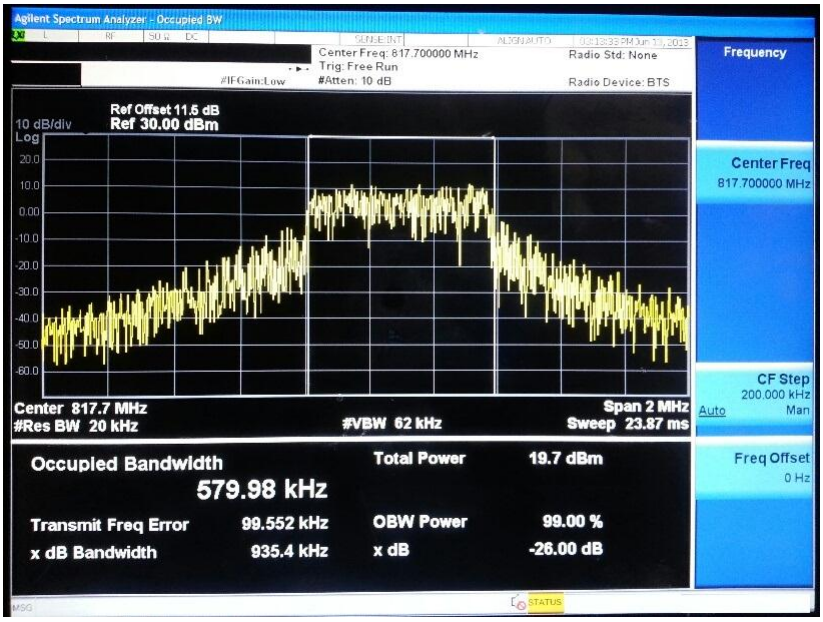
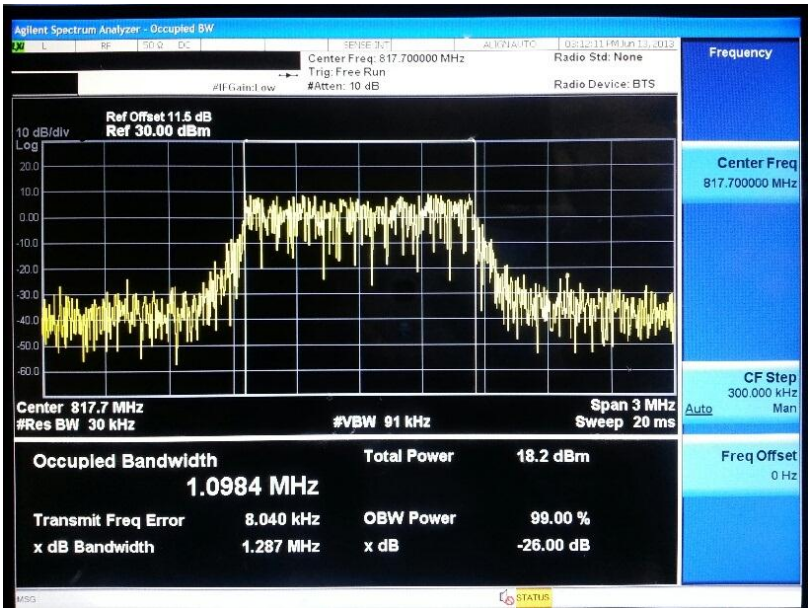
8.1.5. LTE BAND 26

Band 26 (1.4 MHz BAND WIDTH)

LOW CH, RB3_2



LOW CH, RB6_0



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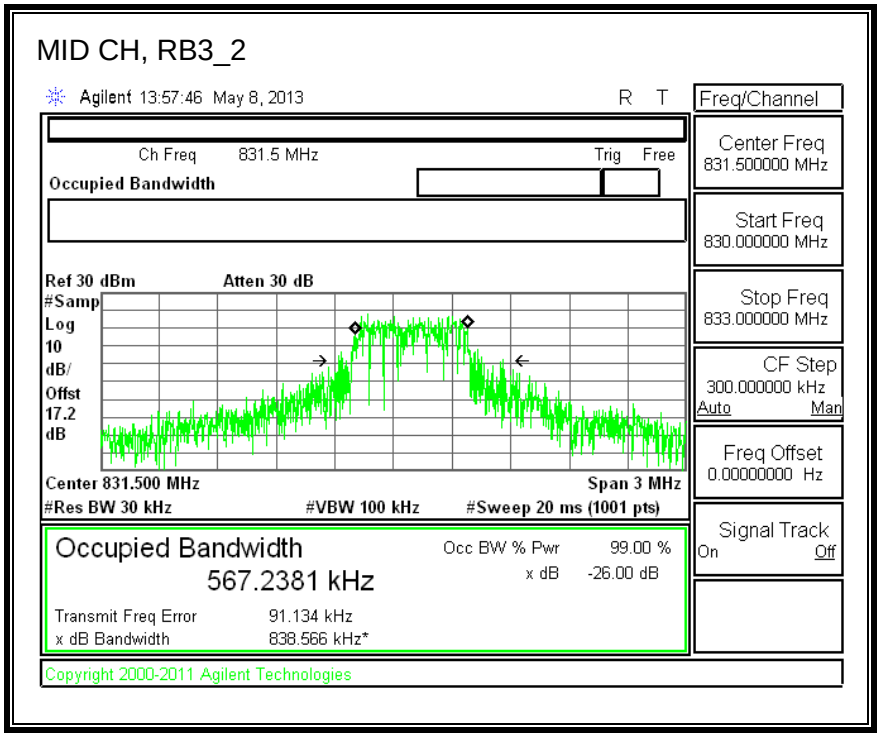
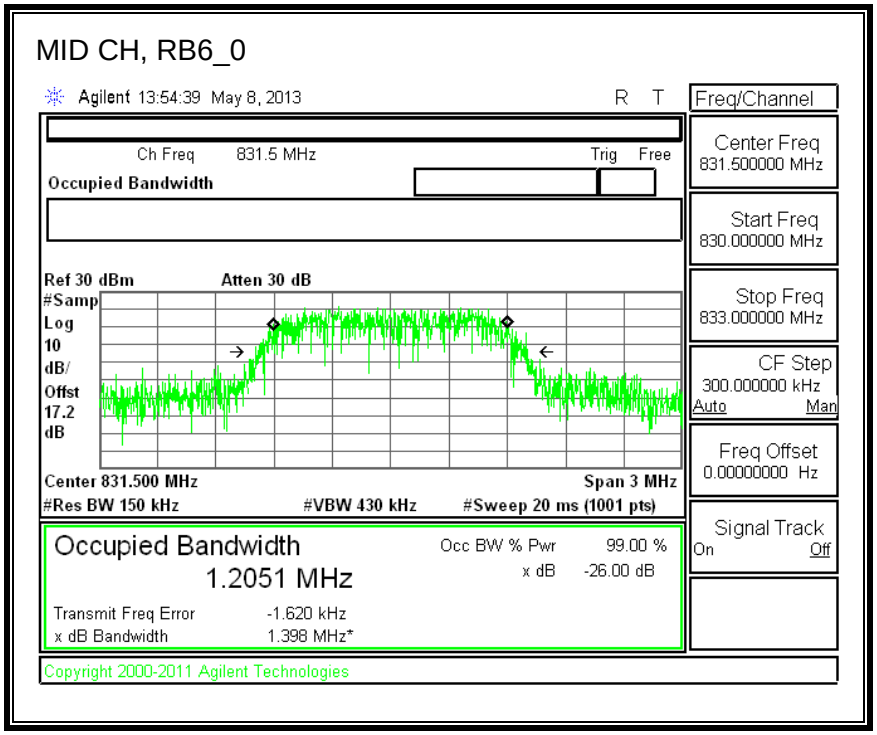
LTE QPSK

MID CH, RB3_2

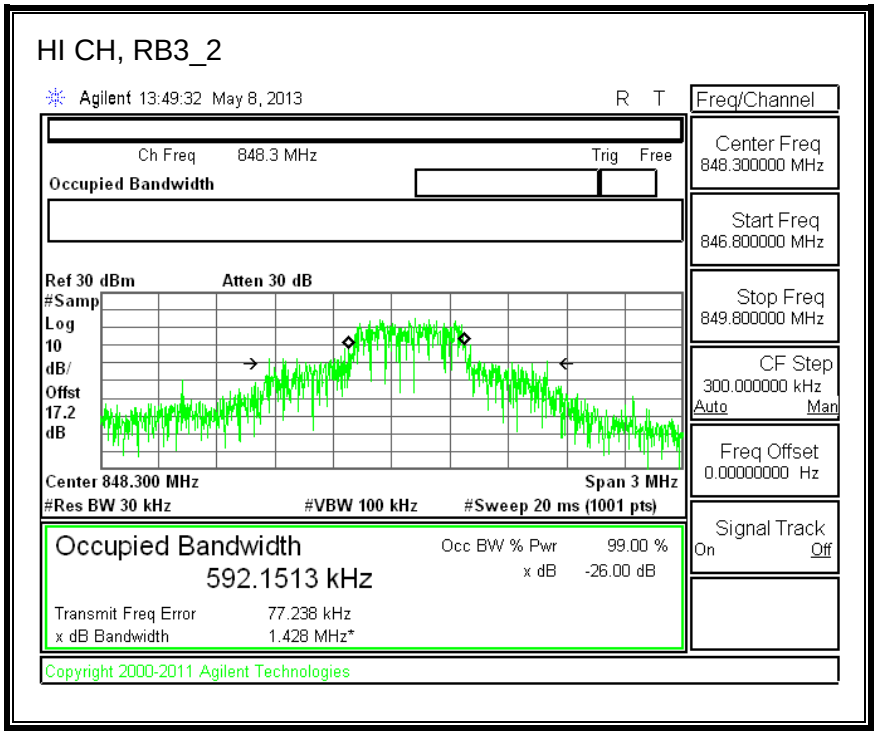


MID CH, RB6_0

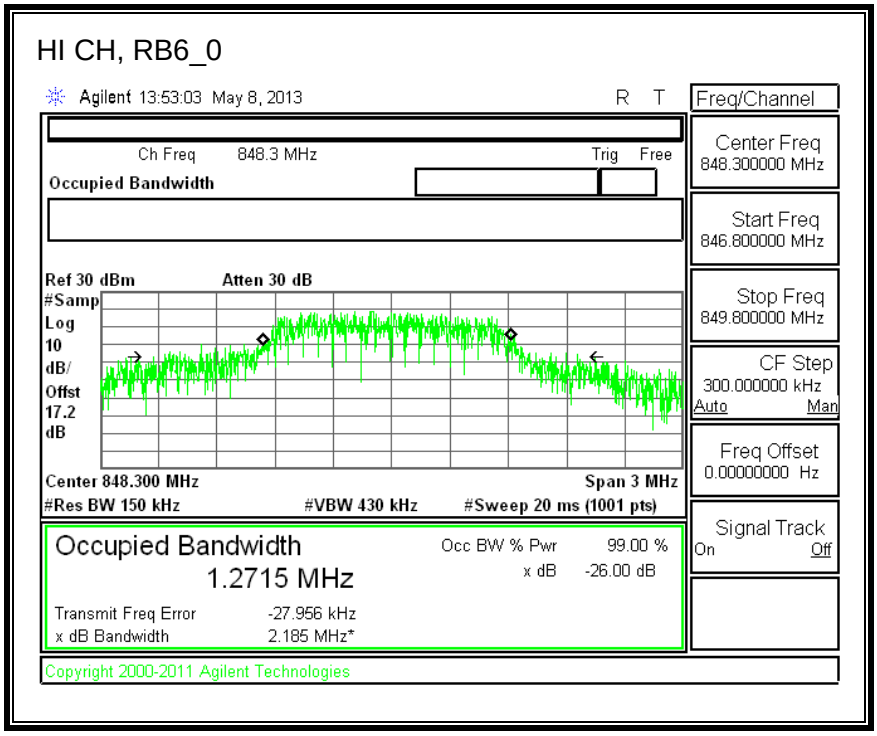


This report shall not be reproduced except in full, without the written approval of UL.CCS.

HI CH, RB3_2



HI CH, RB6_0



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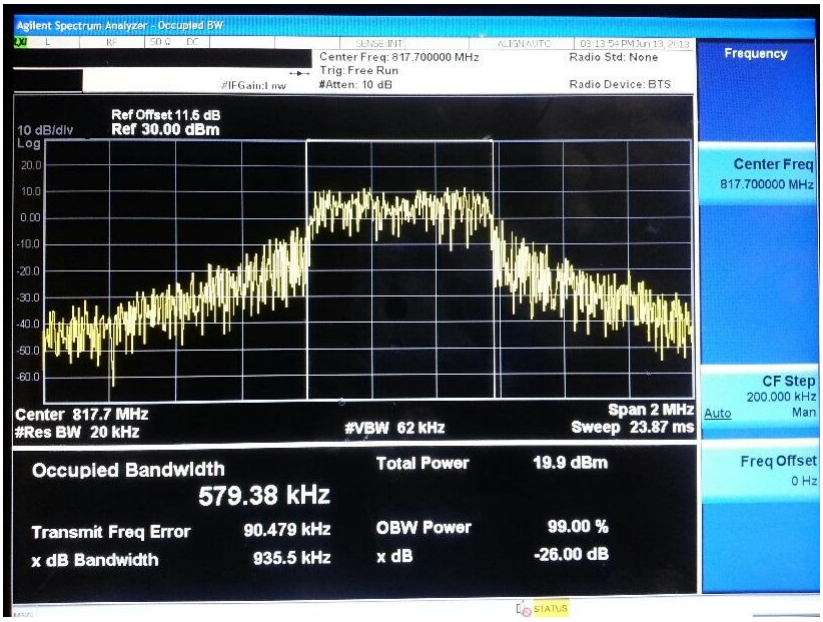
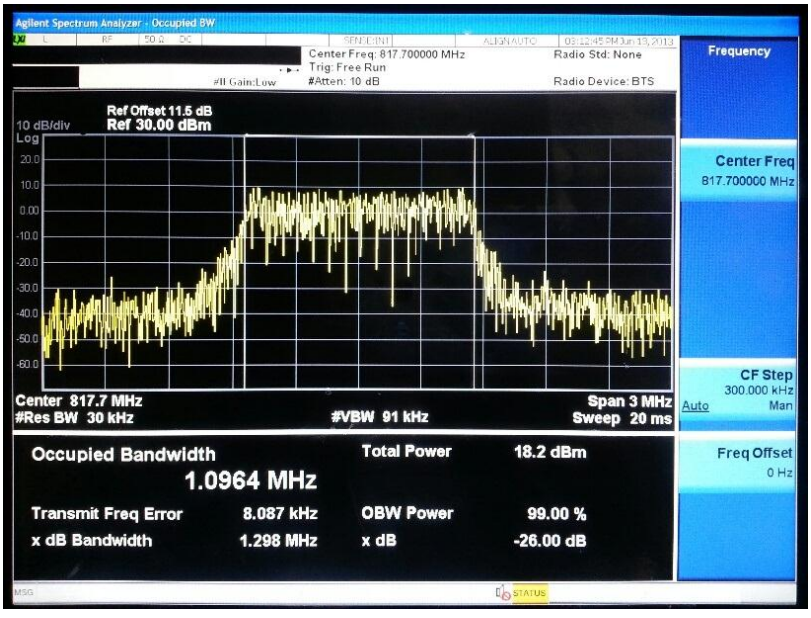
Band 26 (1.4 MHz BAND WIDTH)

LTE 16QAM

LOW CH, RB3_2



LOW CH, RB6_0



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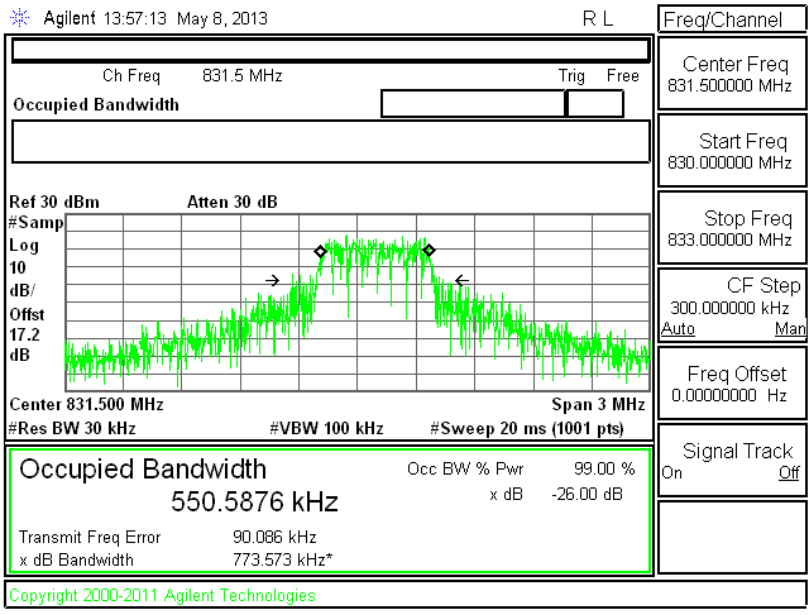
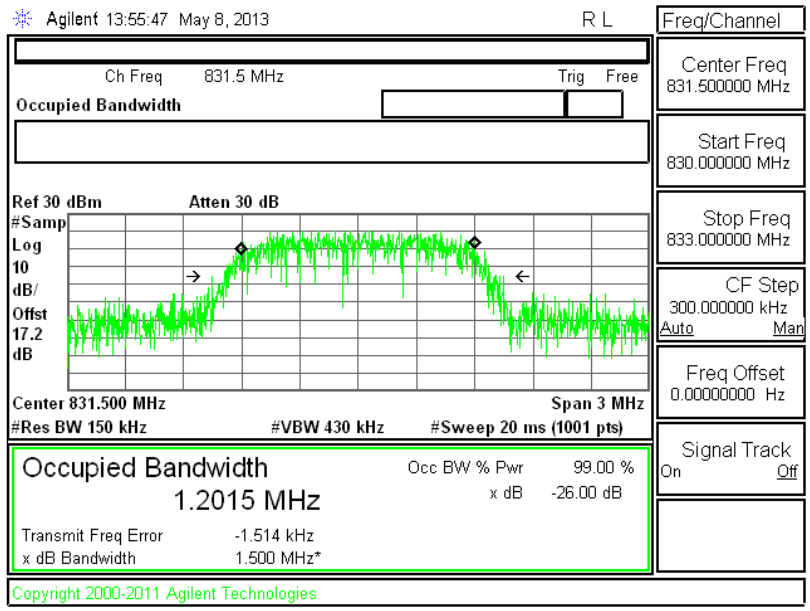
MID CH, RB3_2



MID CH, RB6_0



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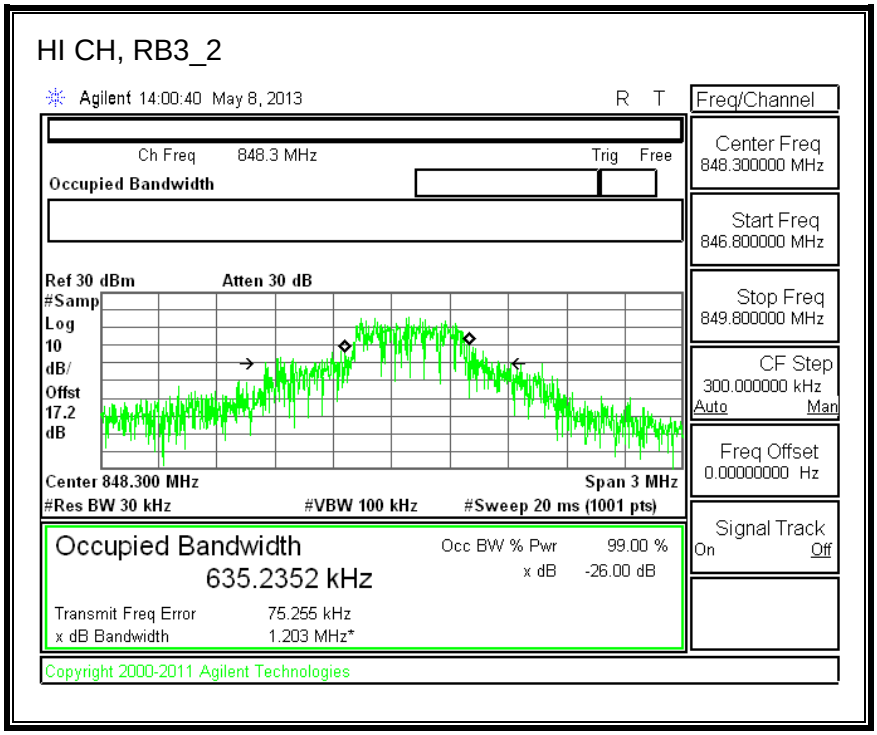
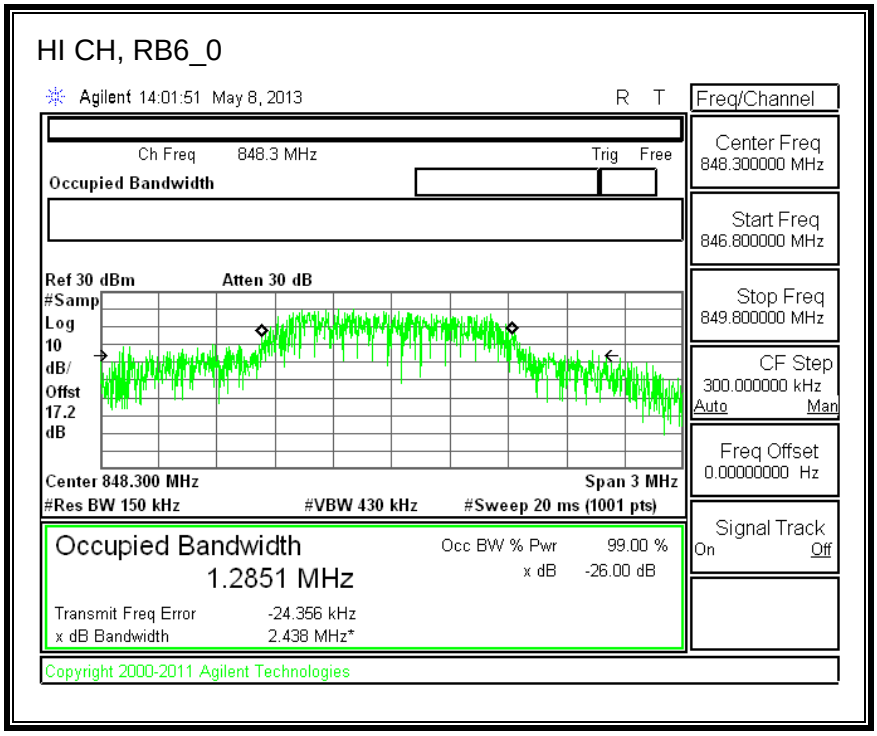
HI CH, RB3_2



HI CH, RB6_0



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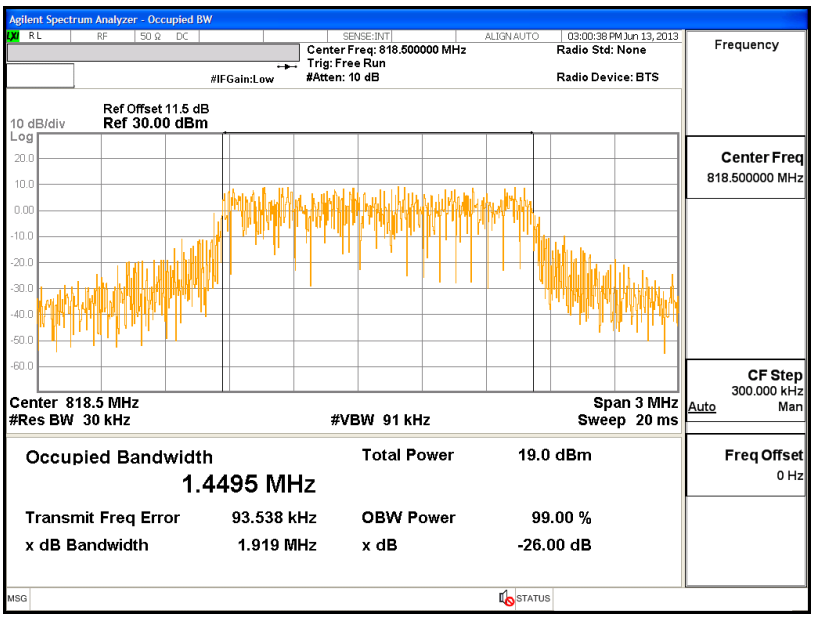
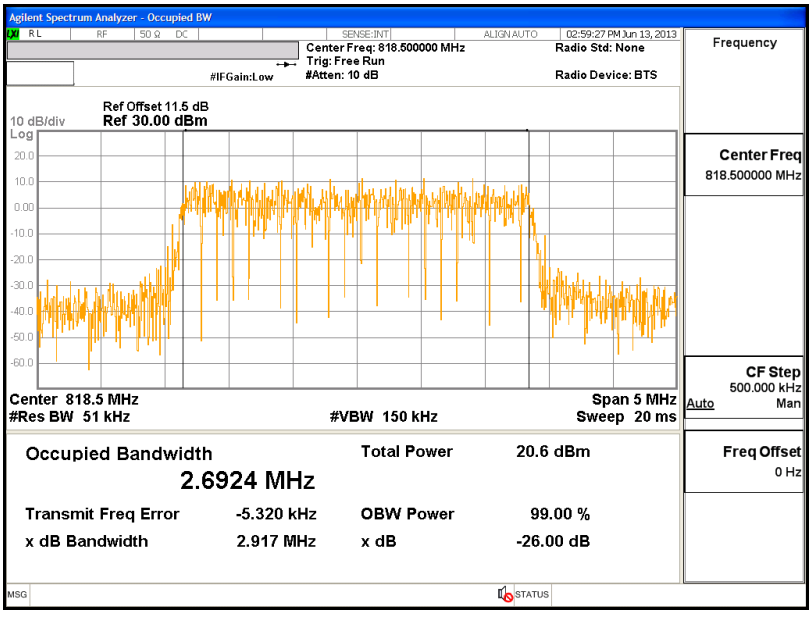
Band 26 (3 MHz BAND WIDTH)

LTE QPSK

LOW CH, RB8_4



LOW CH, RB15_0



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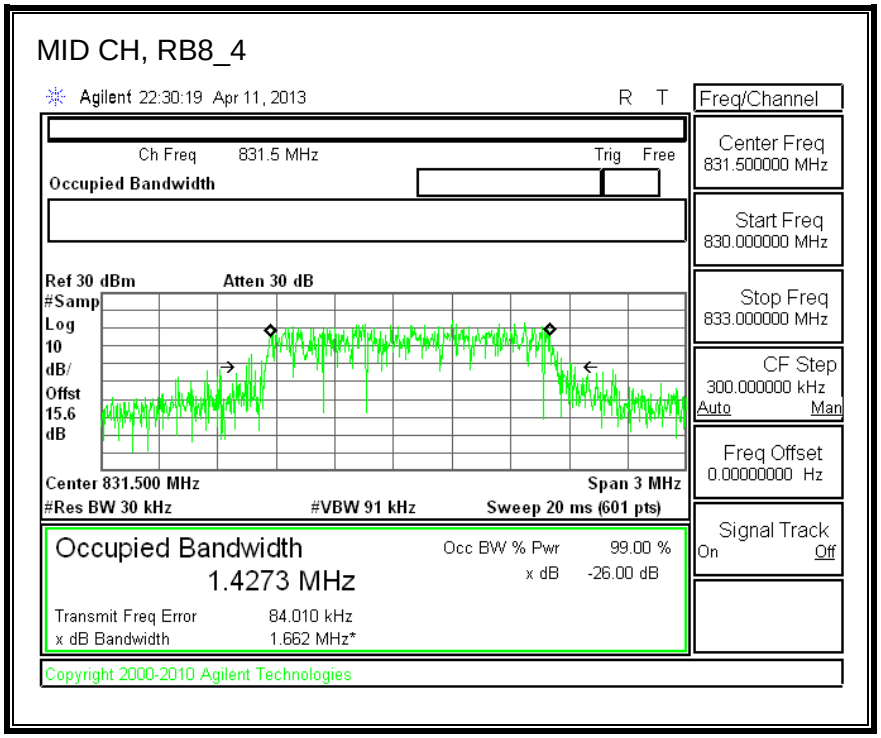
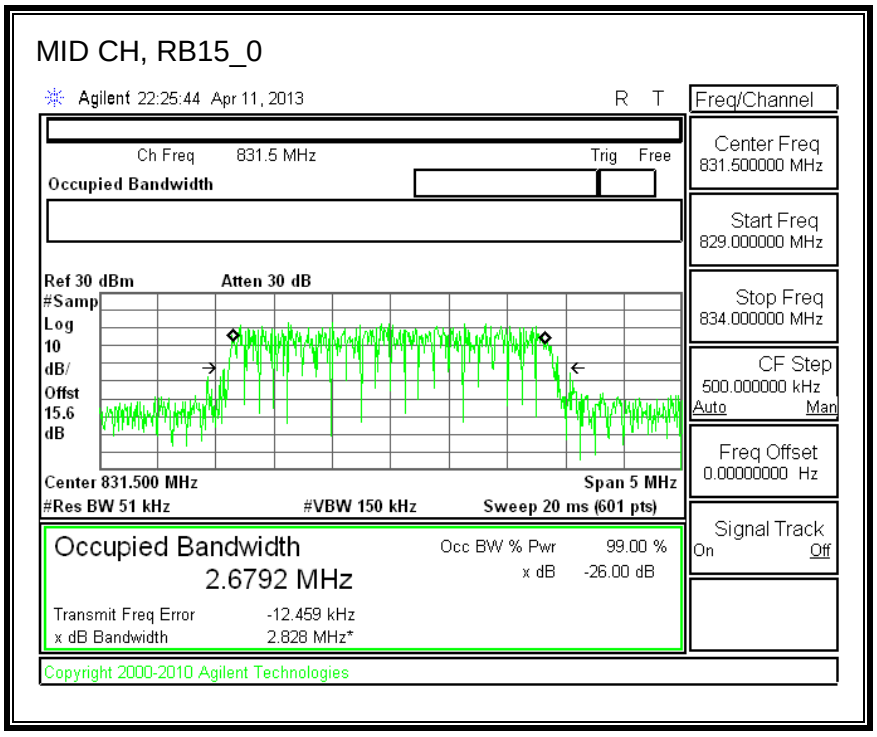
MID CH, RB8_4



MID CH, RB15_0



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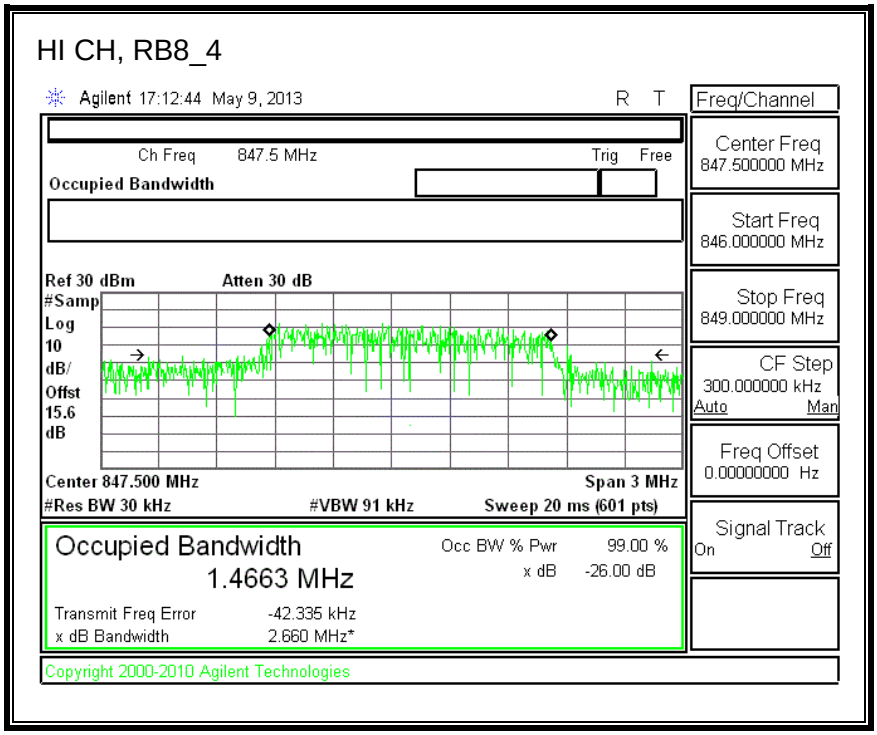
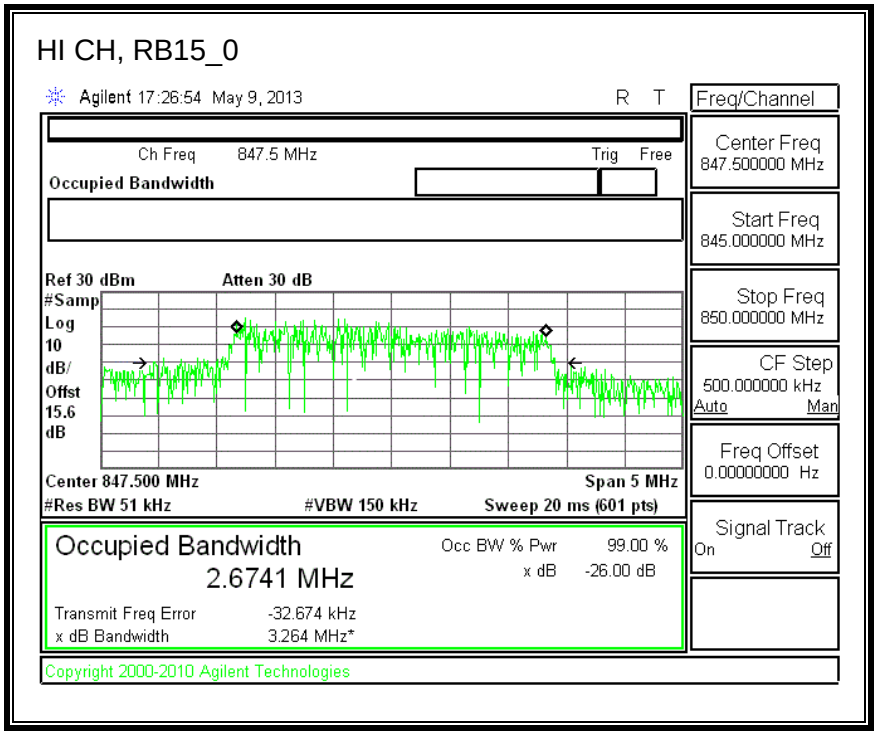
HI CH, RB8_4



HI CH, RB15_0



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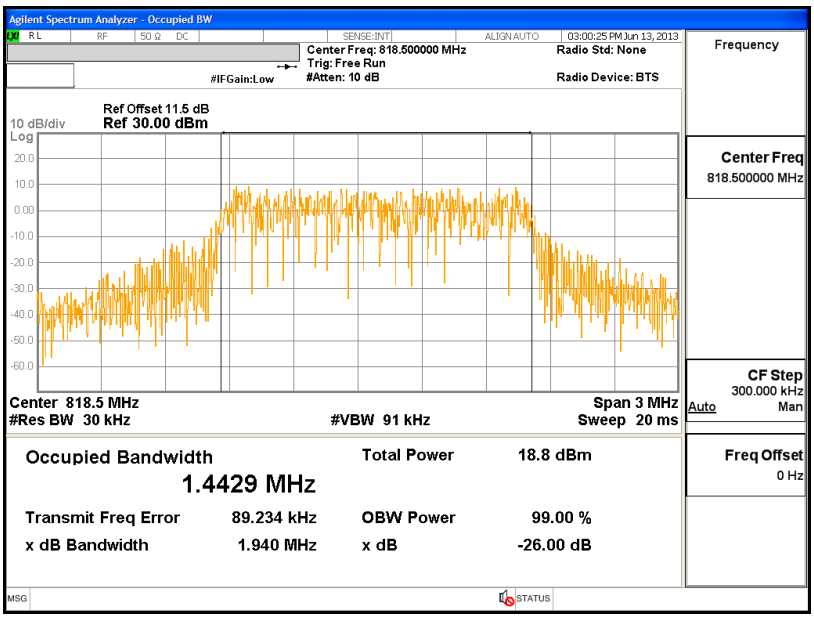
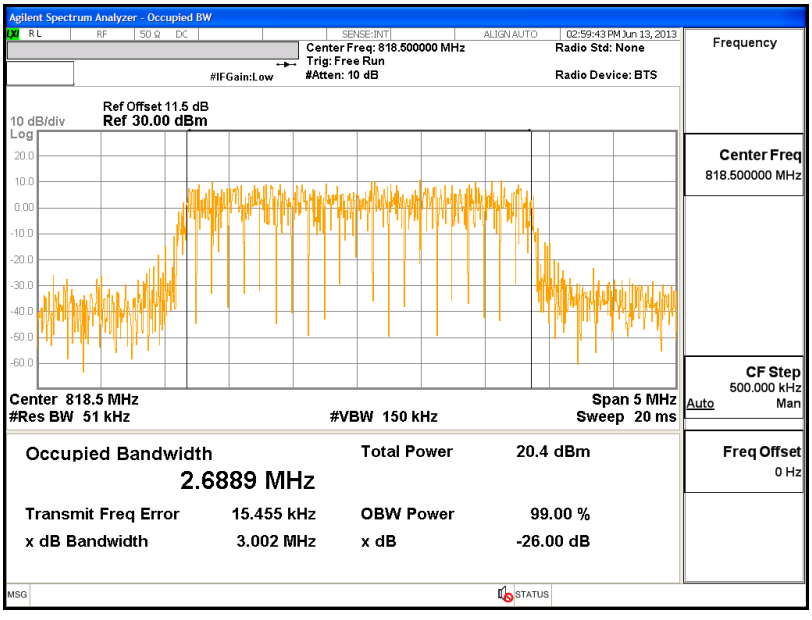
Band 26 (3 MHz BAND WIDTH)

LTE 16QAM

LOW CH, RB8_4



LOW CH, RB15_0



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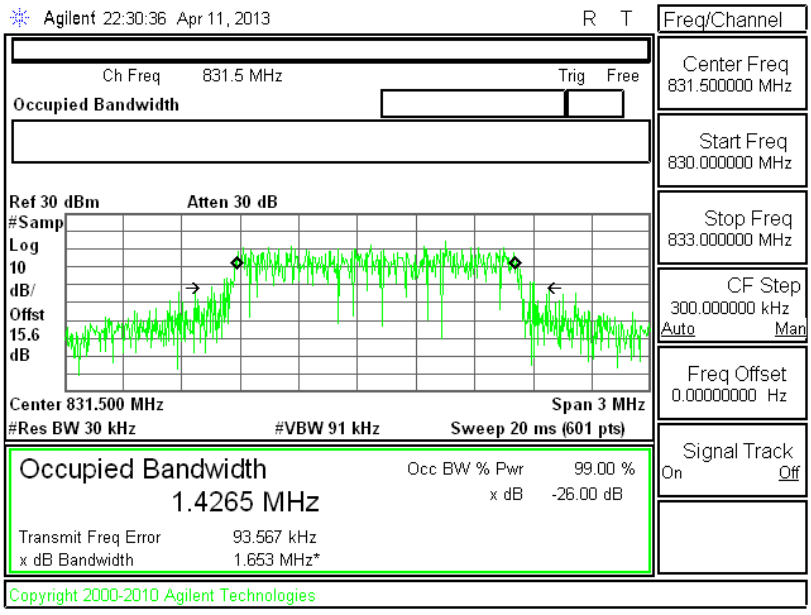
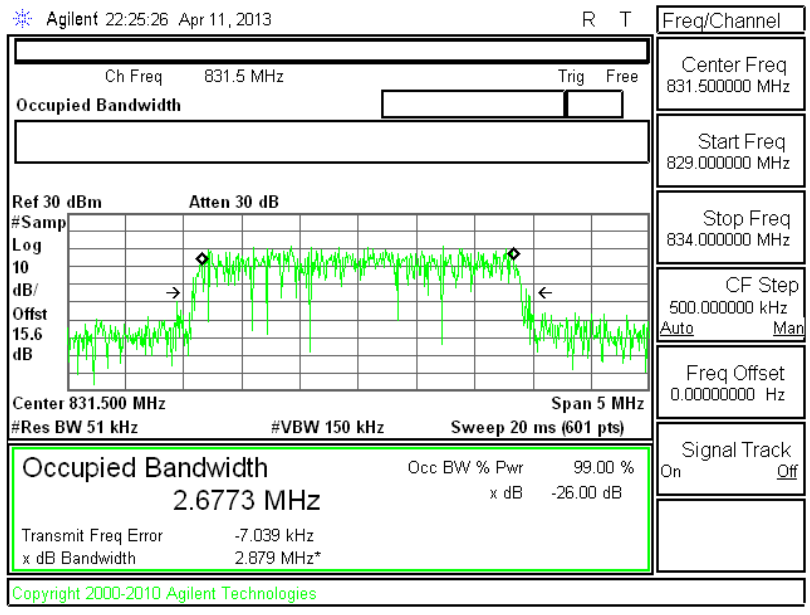
MID CH, RB8_4



MID CH, RB15_0



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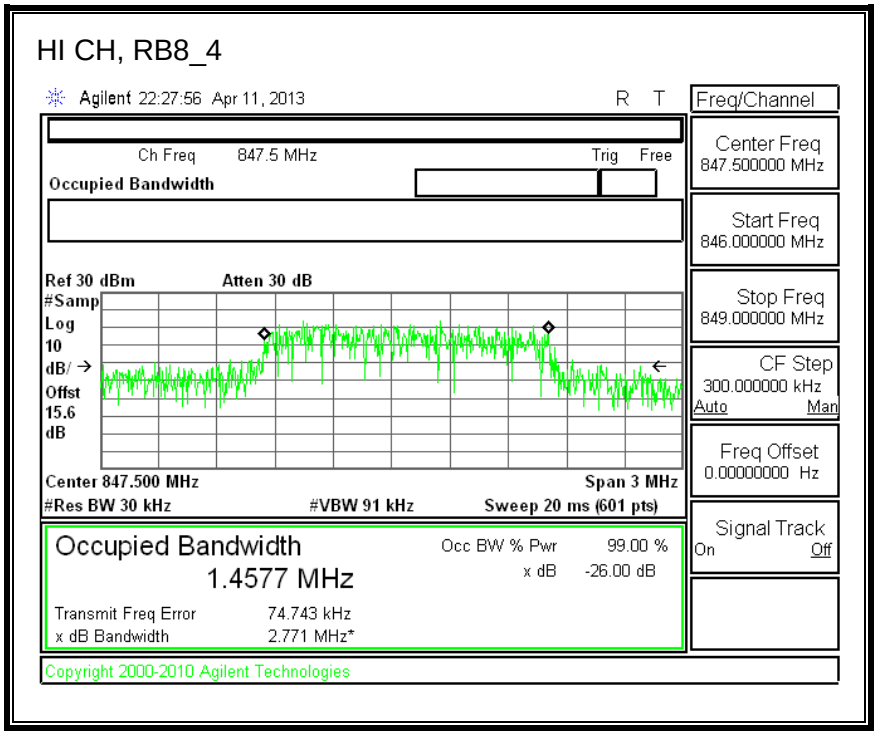
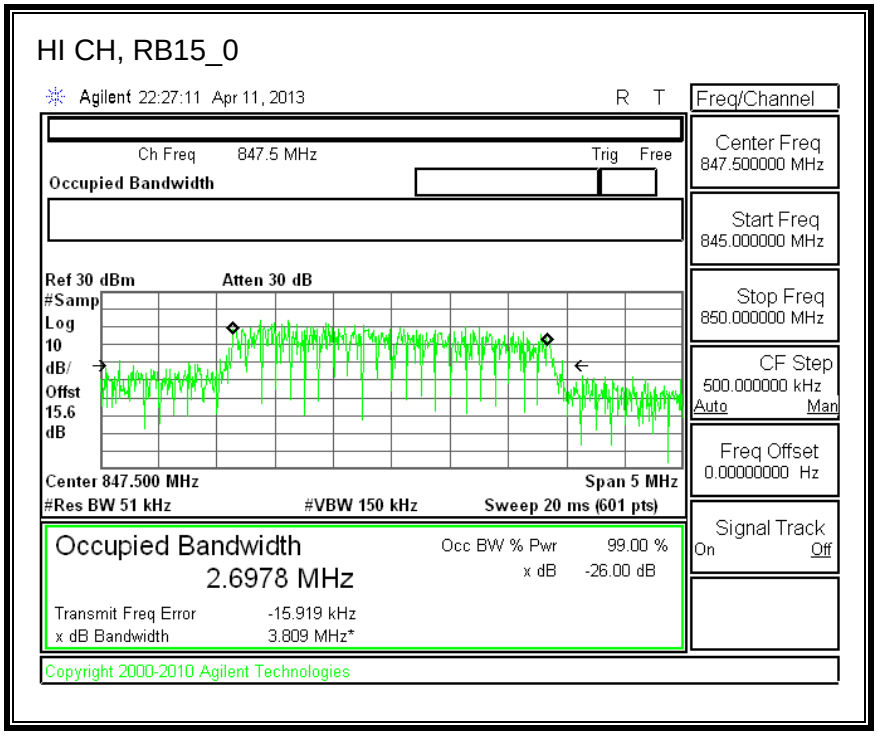
HI CH, RB8_4



HI CH, RB15_0



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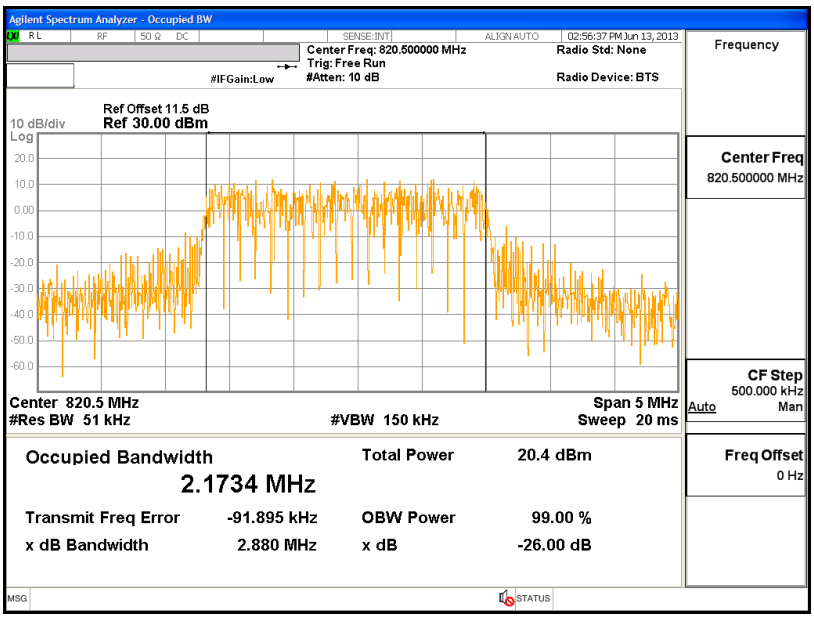
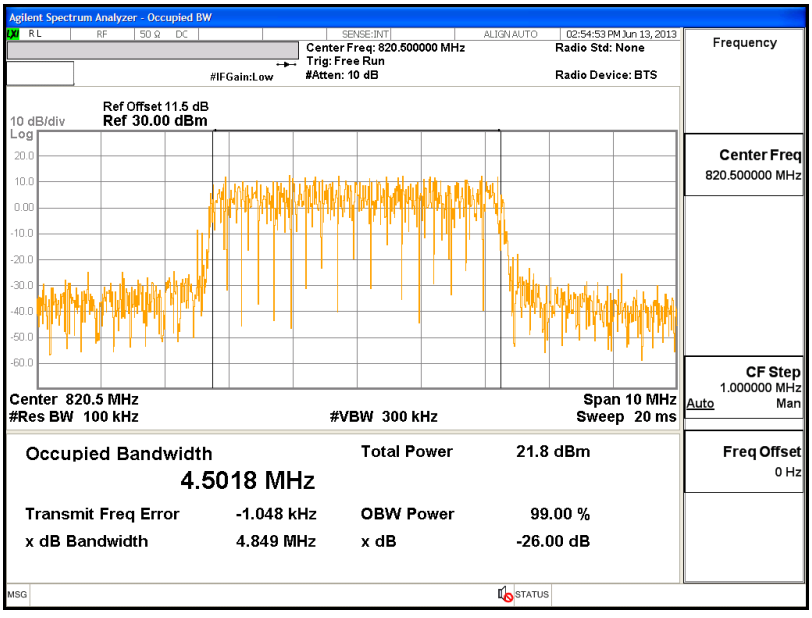
Band 26 (5 MHz BANDWIDTH)

LTE QPSK

LOW CH, RB12_6



LOW CH, RB25_0



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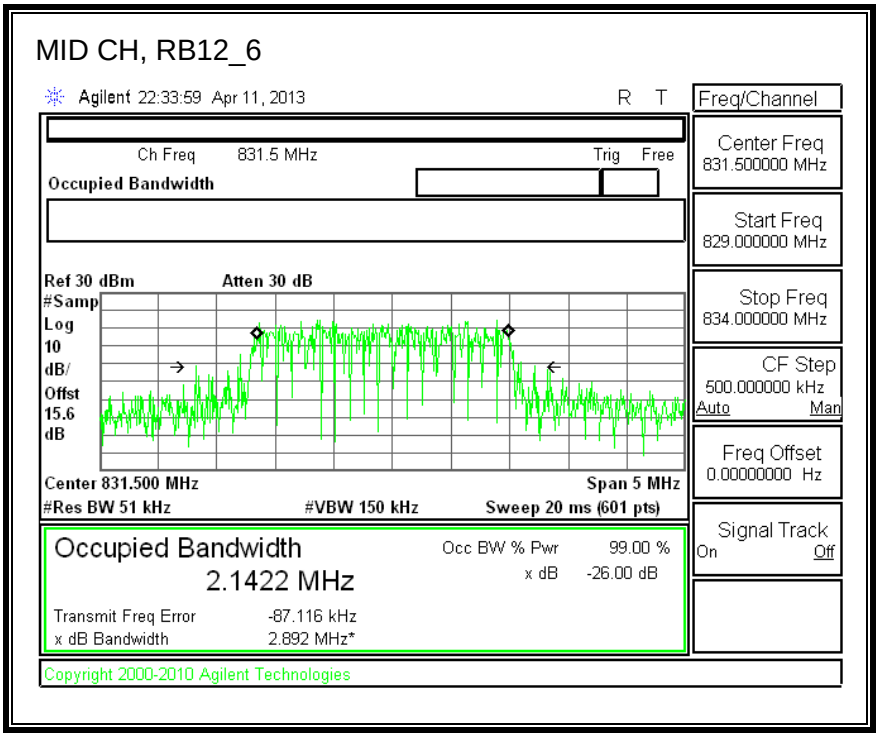
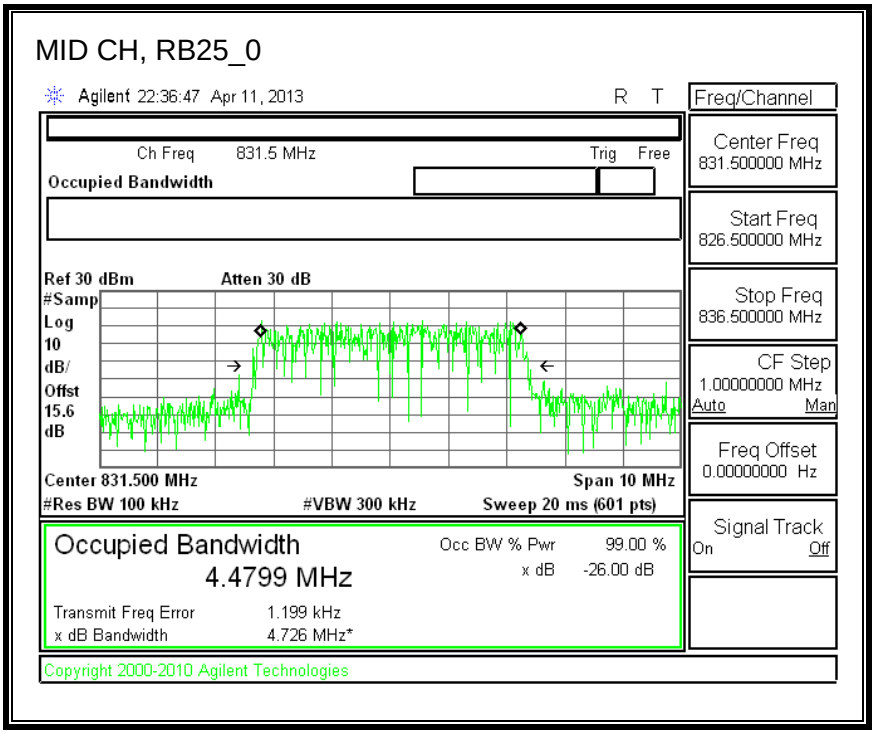
MID CH, RB12_6



MID CH, RB25_0



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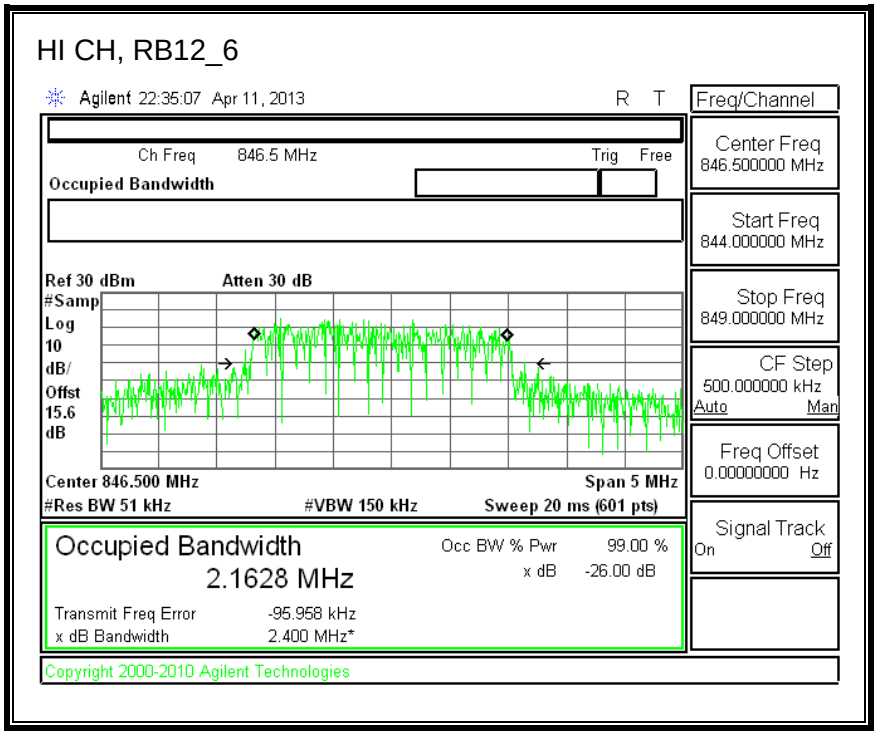
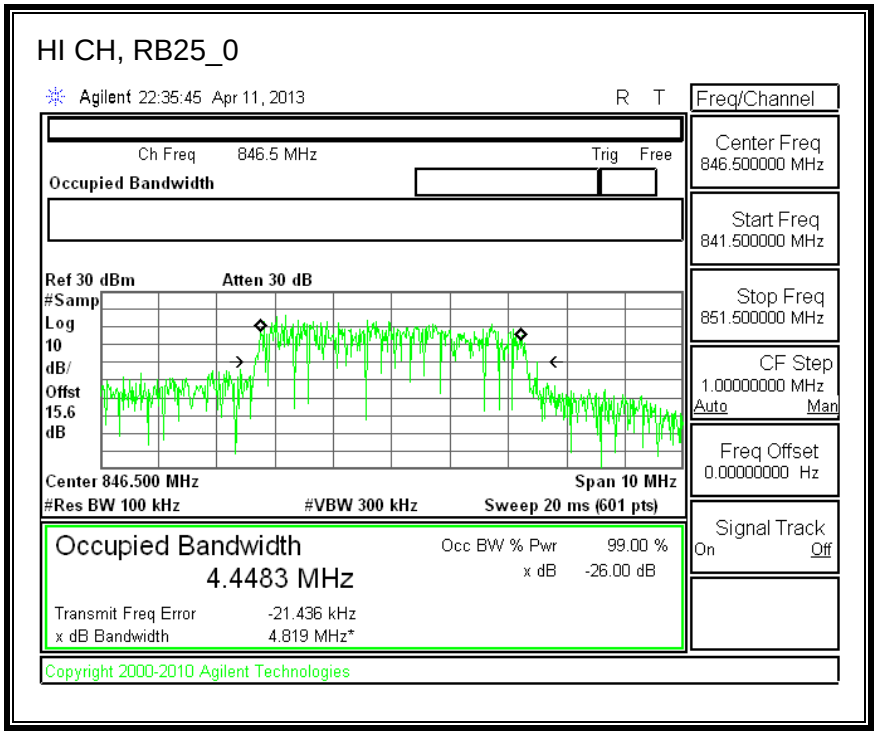
HI CH, RB12_6



HI CH, RB25_0



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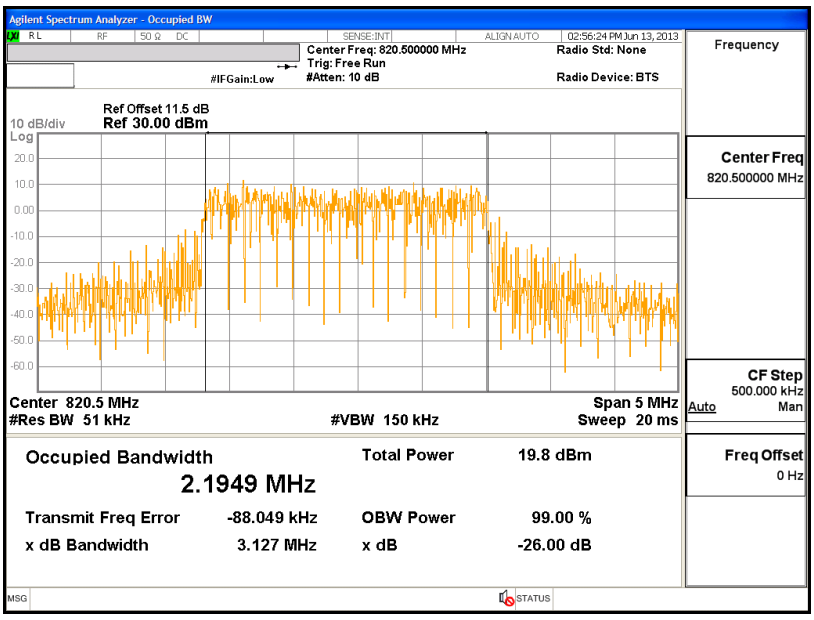
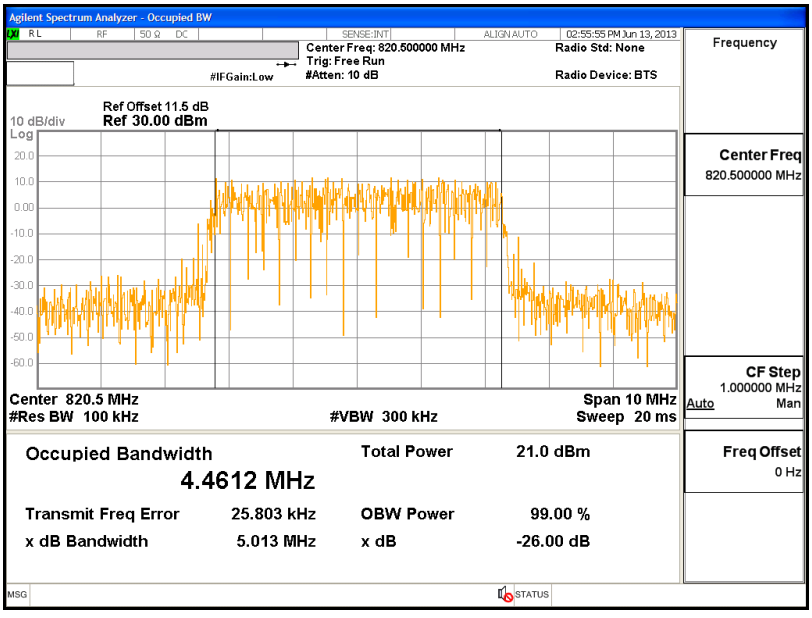
Band 26 (5 MHz BANDWIDTH)

LTE 16QAM

LOW CH, RB12_6



LOW CH, RB25_0



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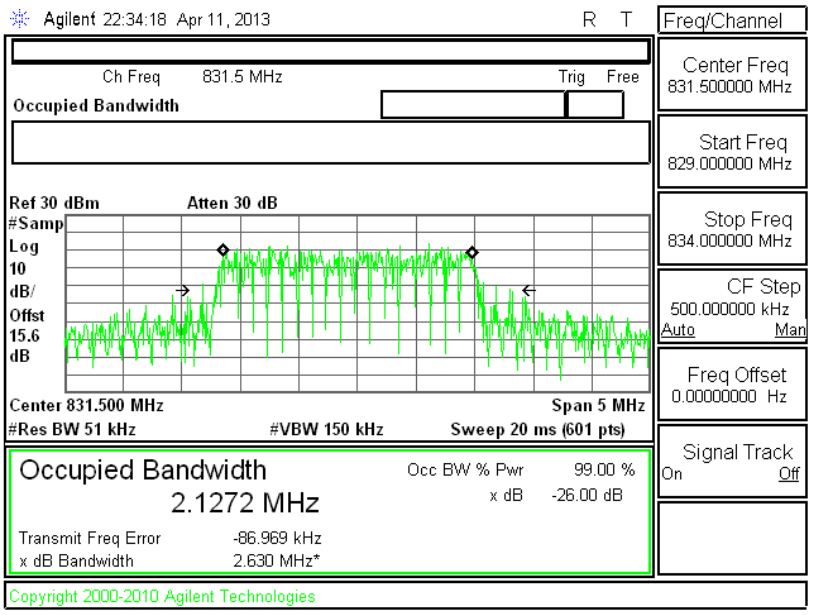
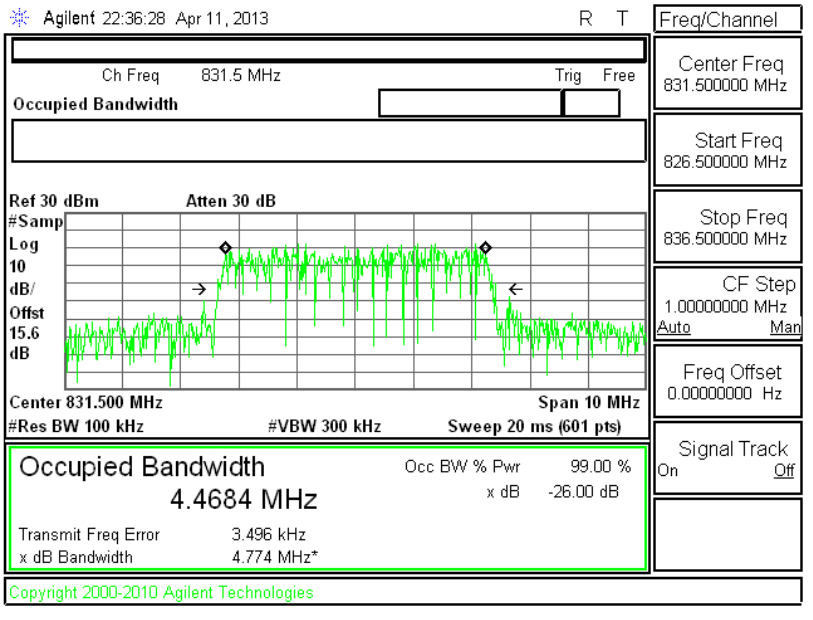
MID CH, RB12_6



MID CH, RB25_0



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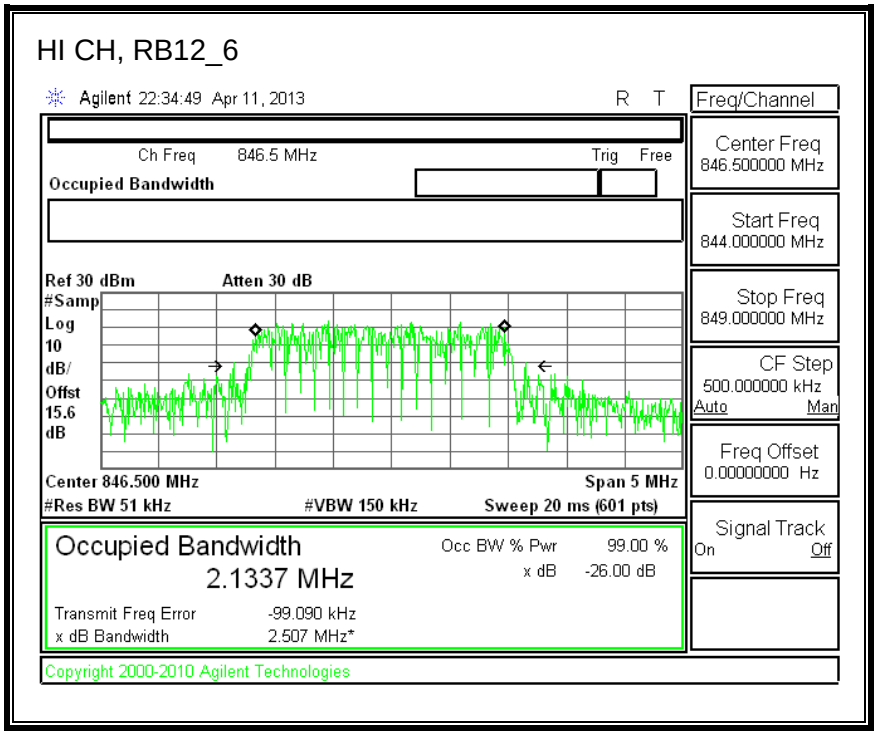
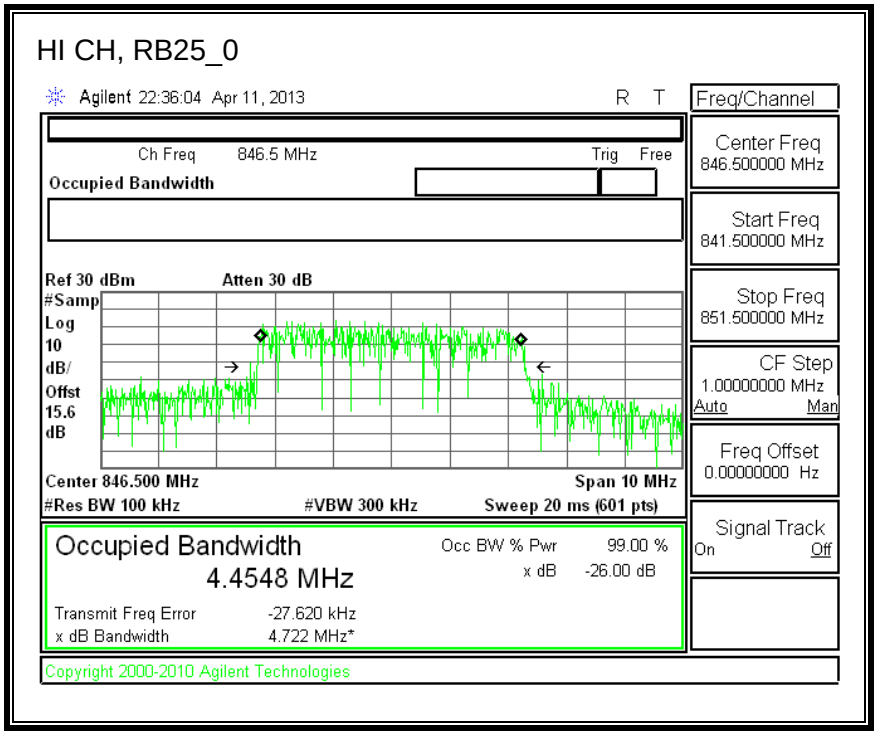
HI CH, RB12_6



HI CH, RB25_0



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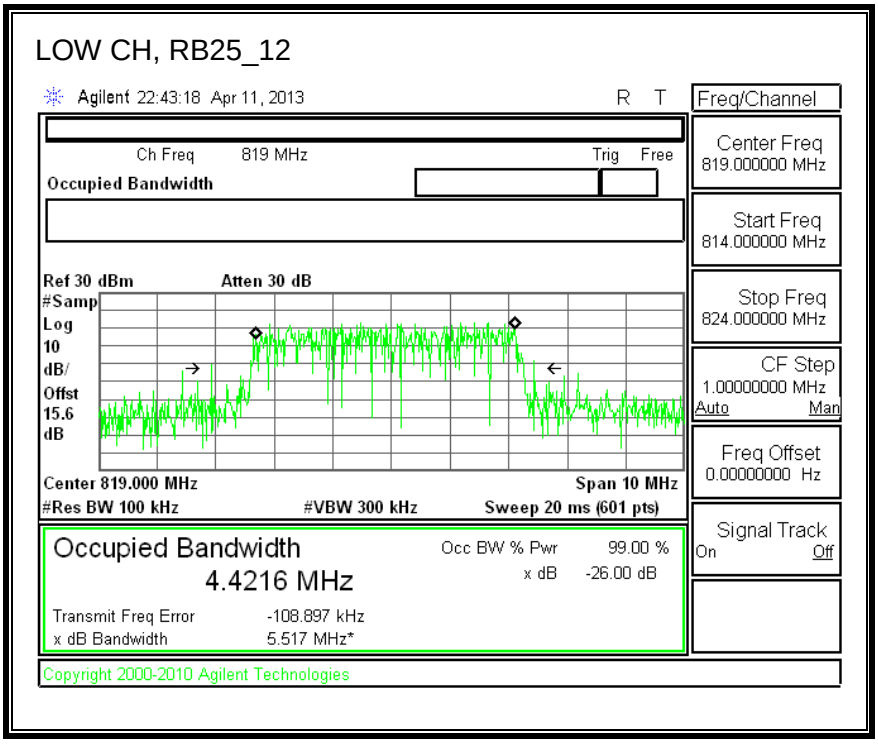
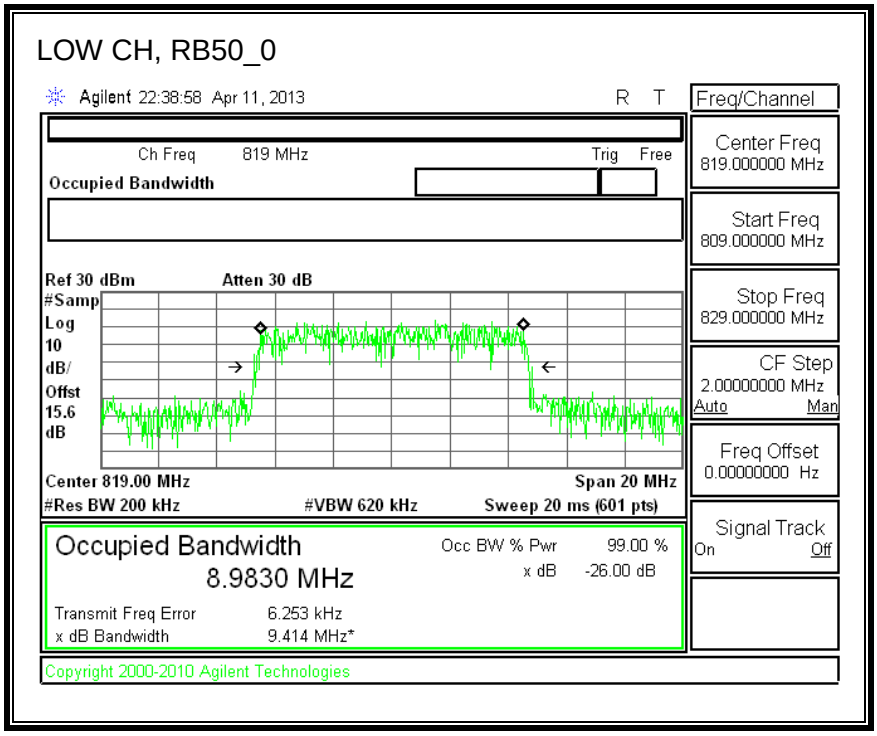
Band 26 (10 MHz BANDWIDTH)

LTE QPSK





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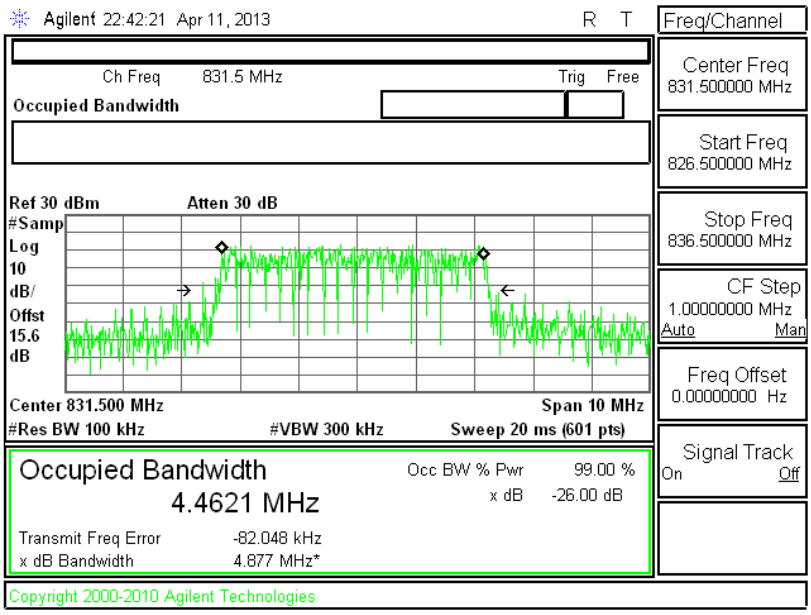
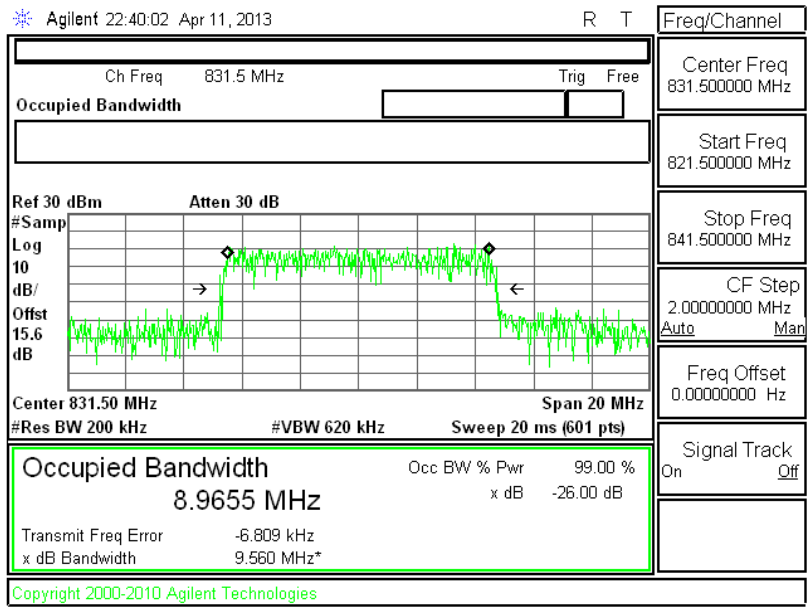
MID CH, RB25_12

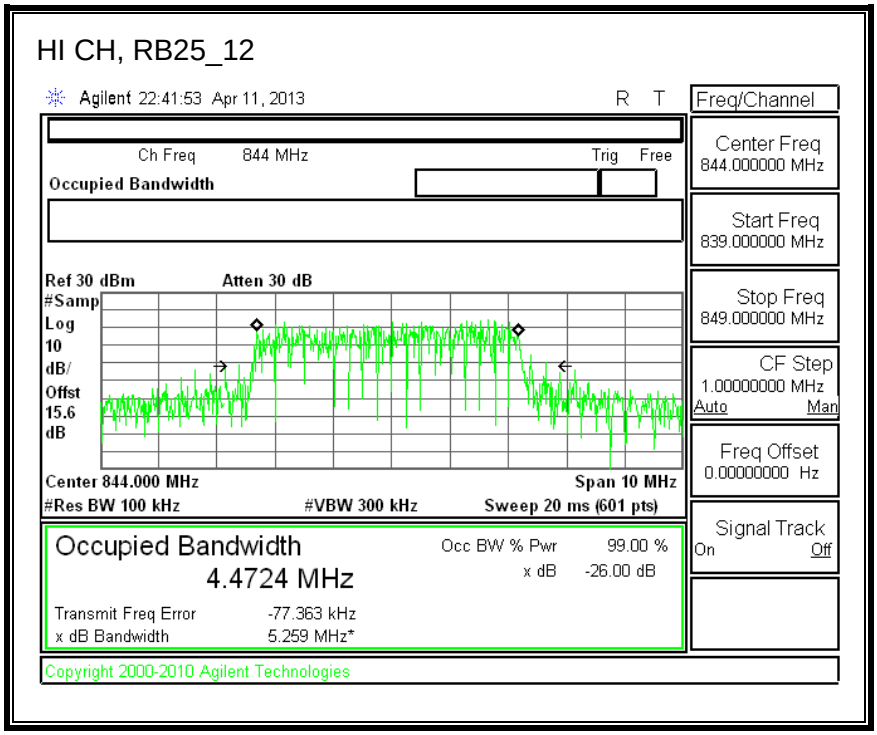


MID CH, RB50_0

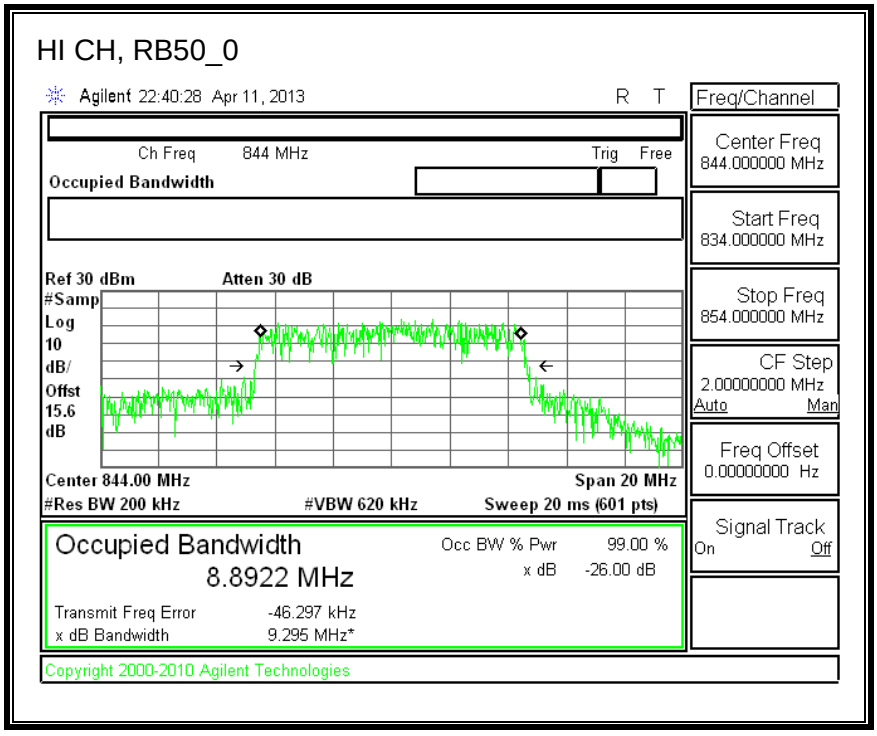


This report shall not be reproduced except in full, without the written approval of UL.CCS.

HI CH, RB25_12



HI CH, RB50_0



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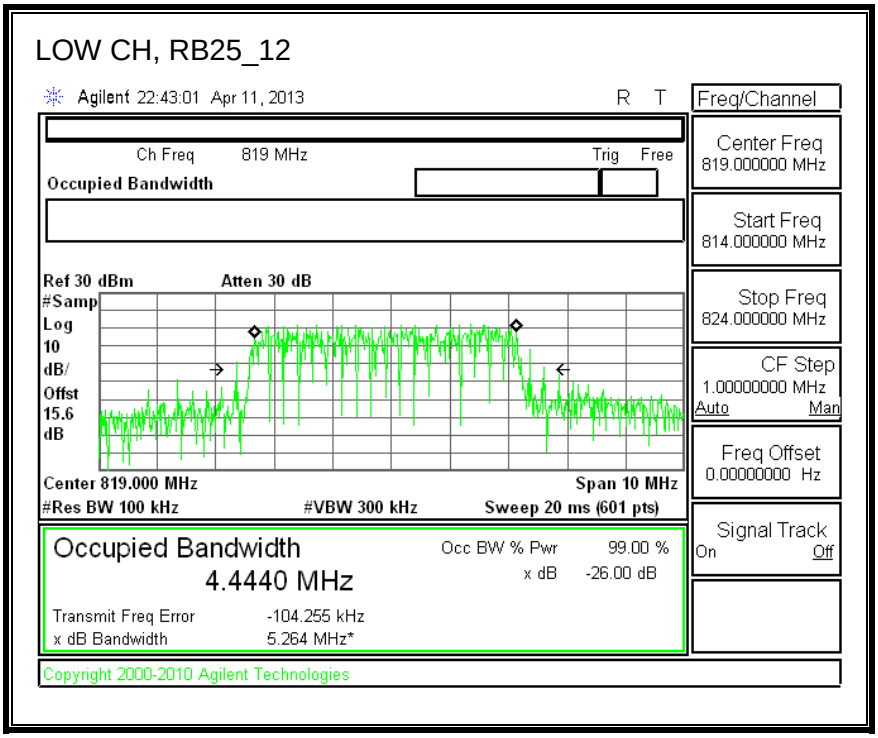
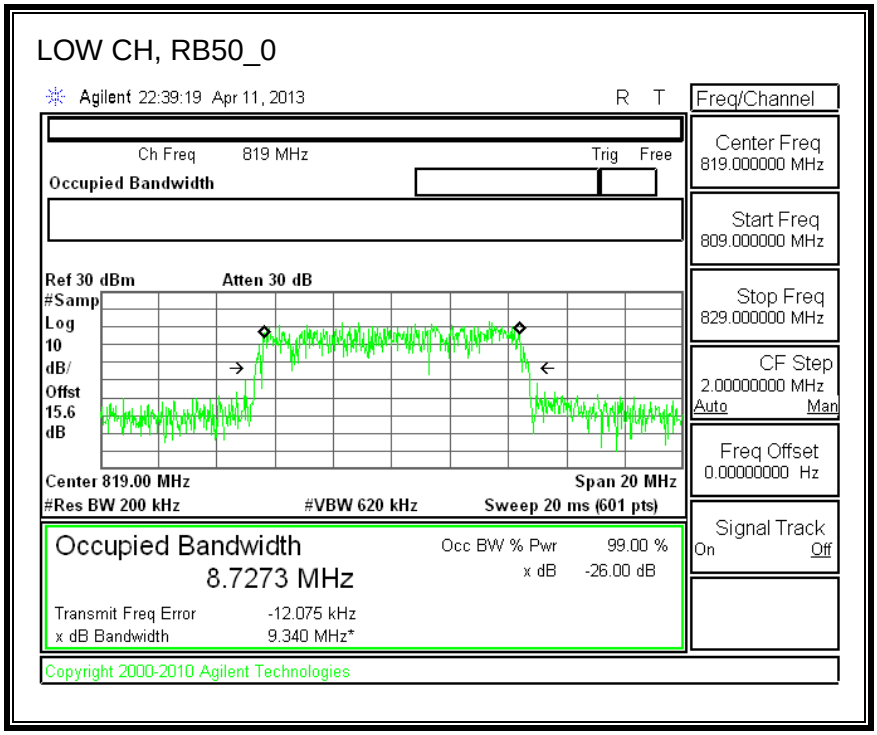
Band 26 (10 MHz BANDWIDTH)

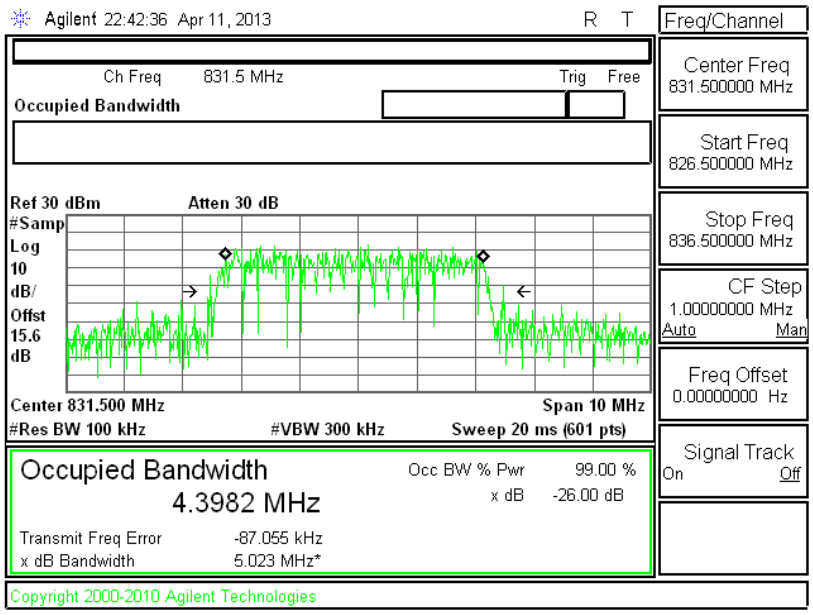
LTE 16QAM



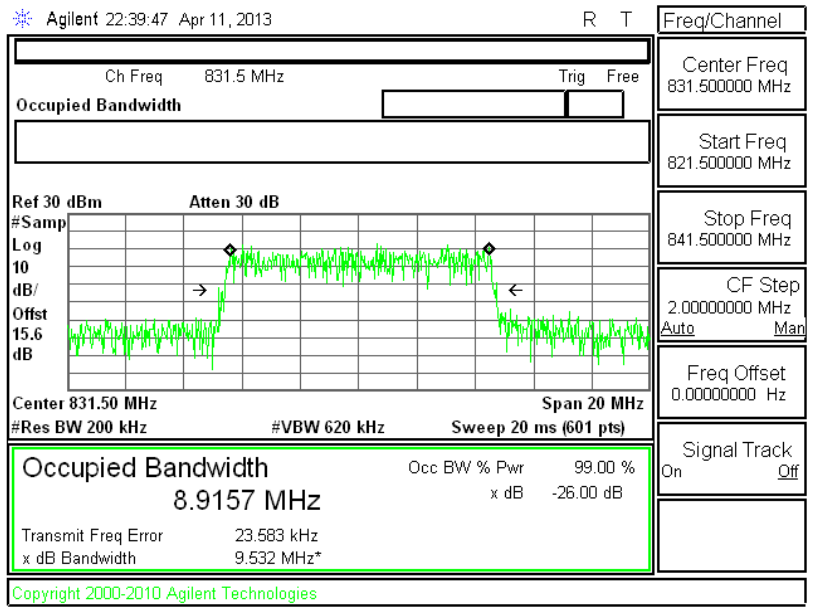


This report shall not be reproduced except in full, without the written approval of UL.CCS.

MID CH, RB25_12



MID CH, RB50_0



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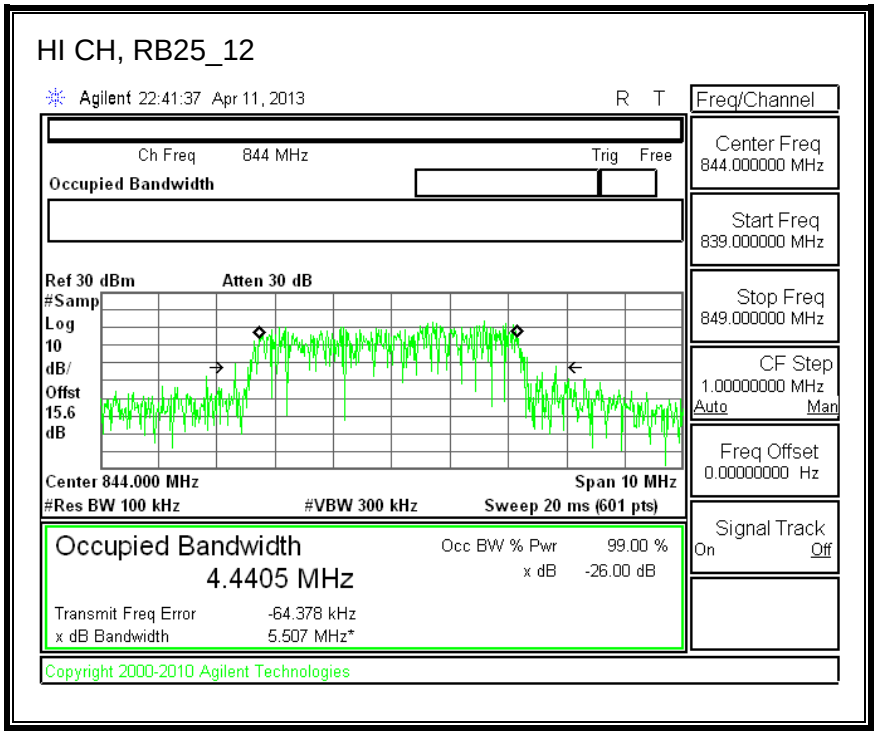
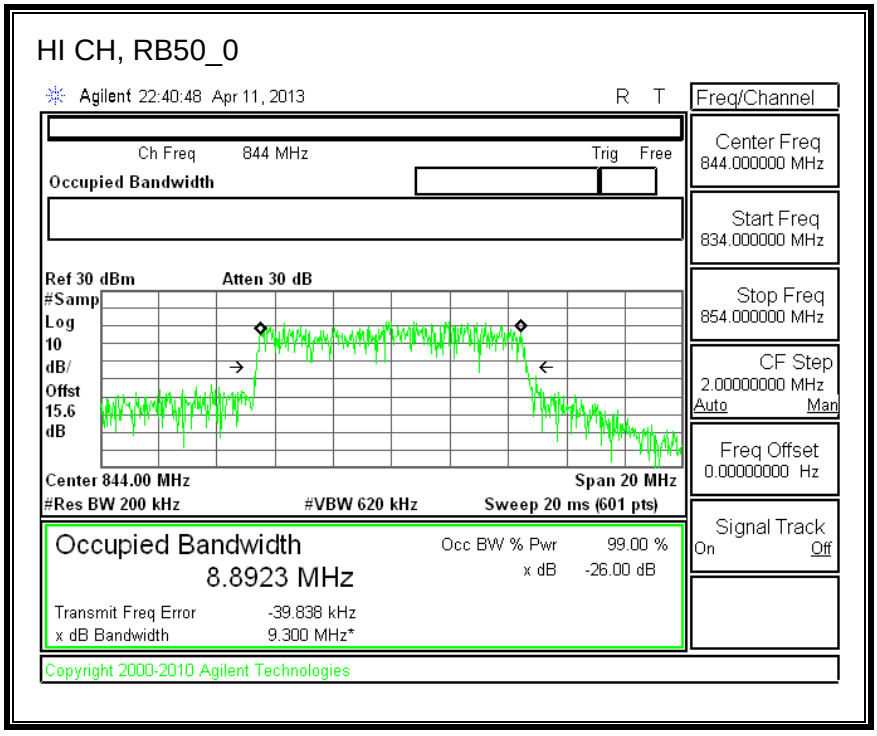
HI CH, RB25_12



HI CH, RB50_0



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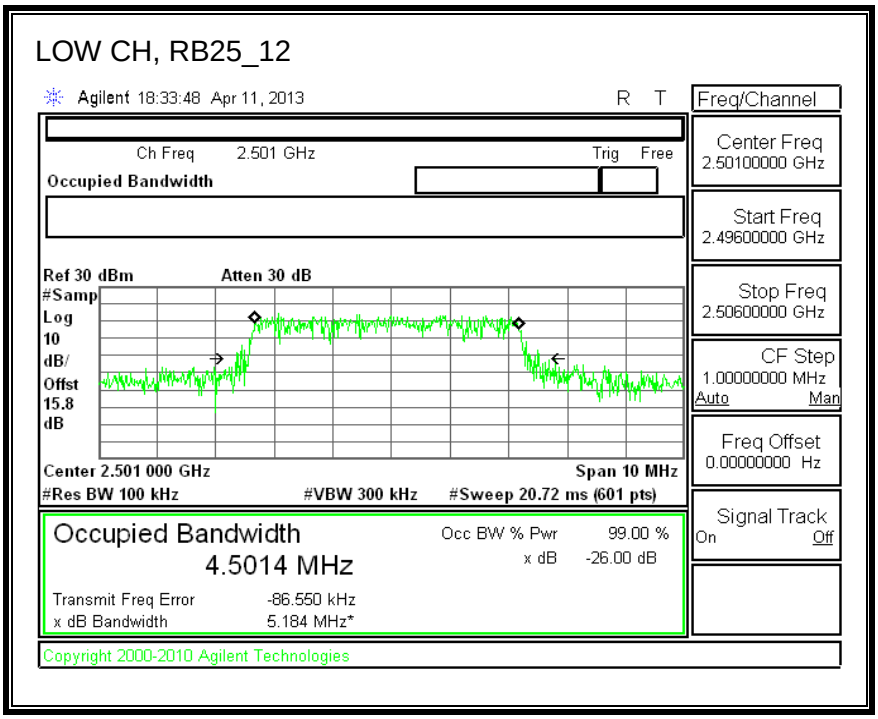
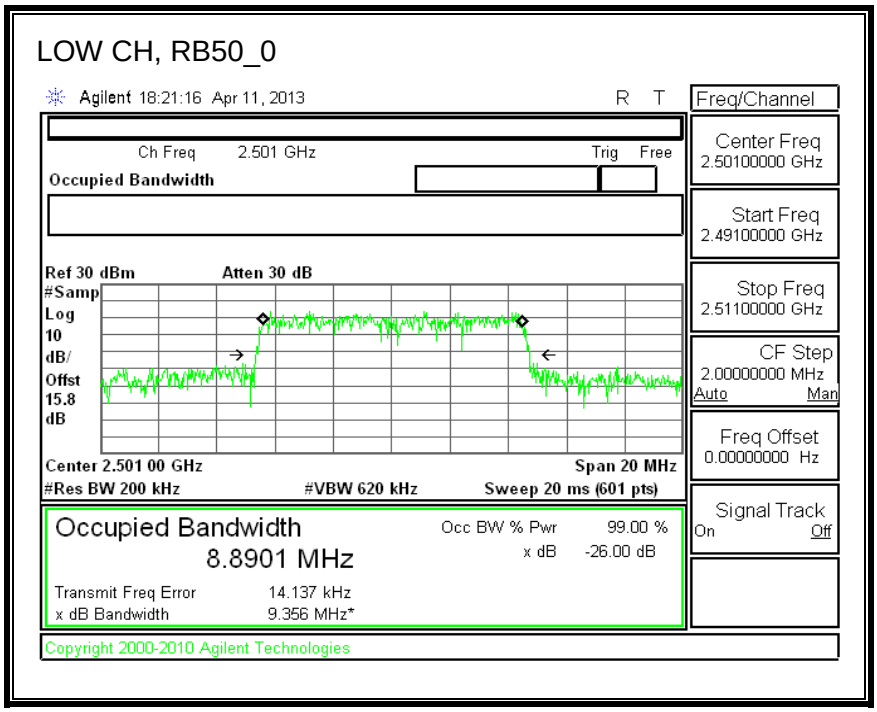
8.1.6. LTE BAND 41

Band 41 (10 MHz BANDWIDTH)

LTE QPSK





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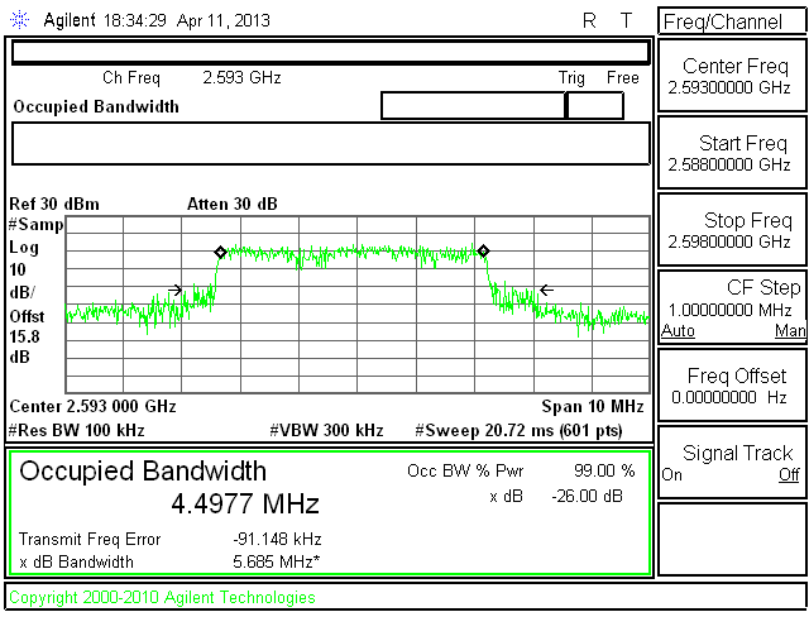
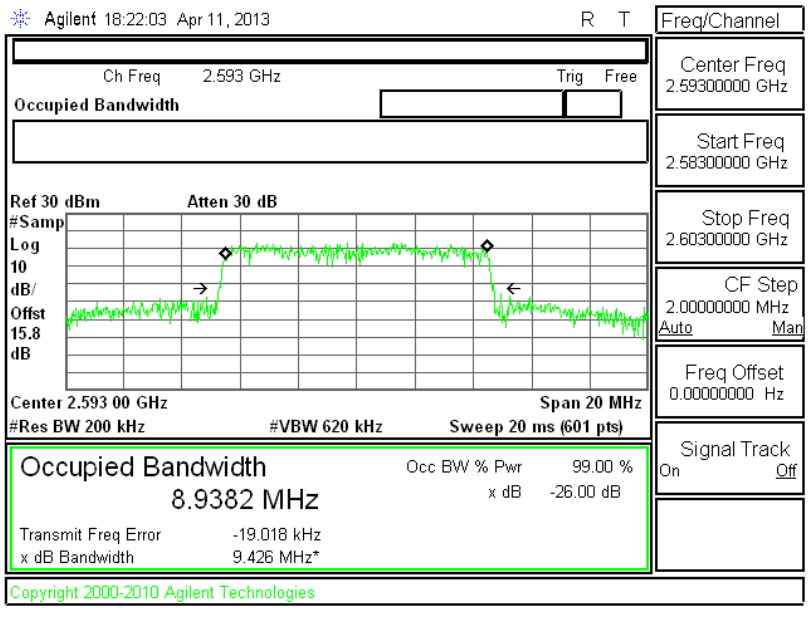
MID CH, RB25_12



MID CH, RB50_0



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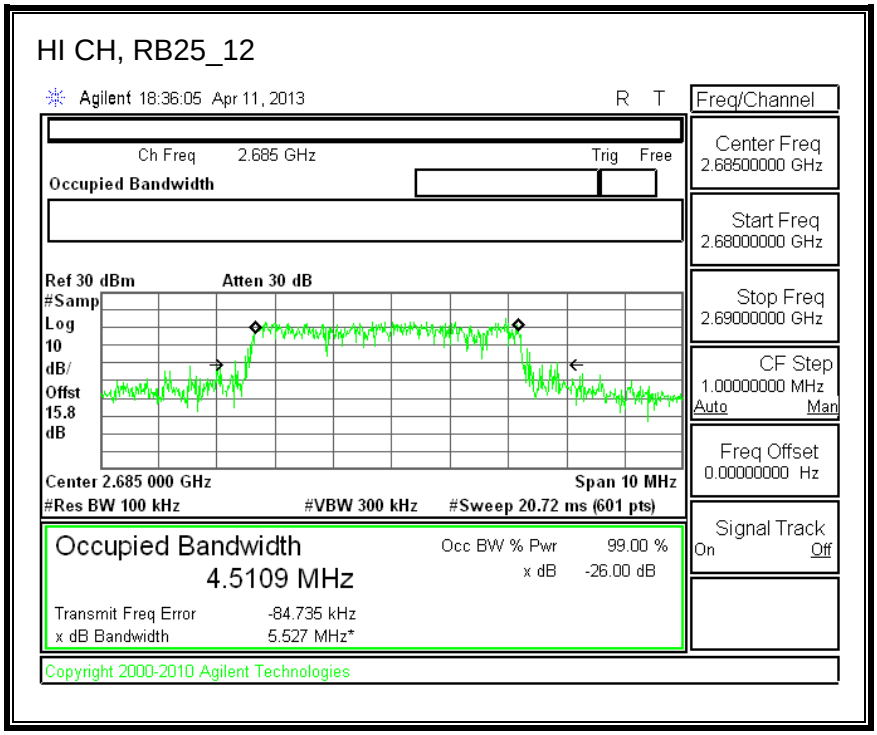
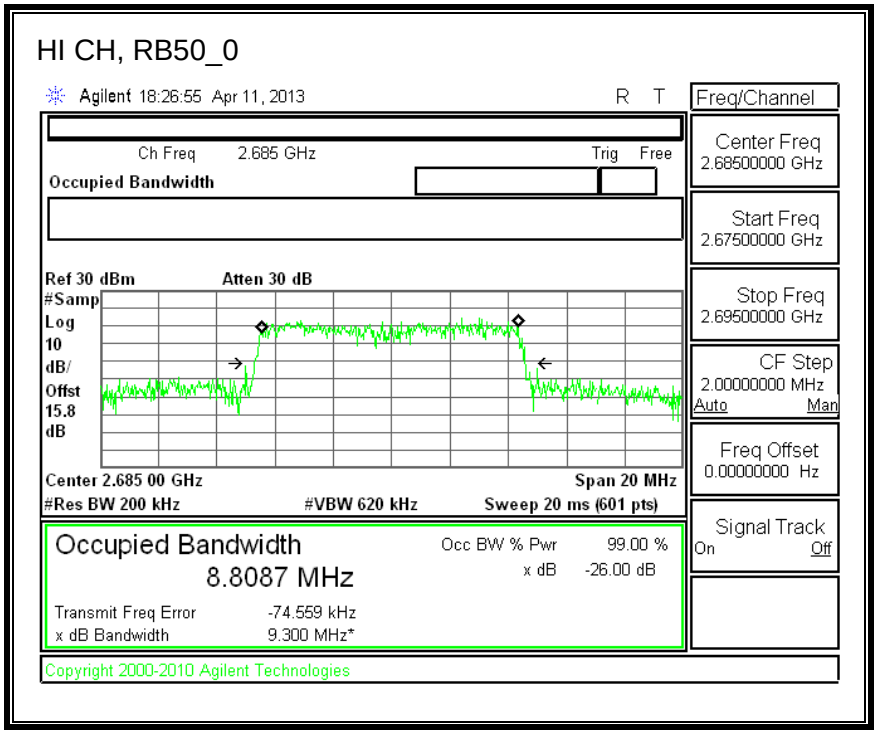
HI CH, RB25_12



HI CH, RB50_0



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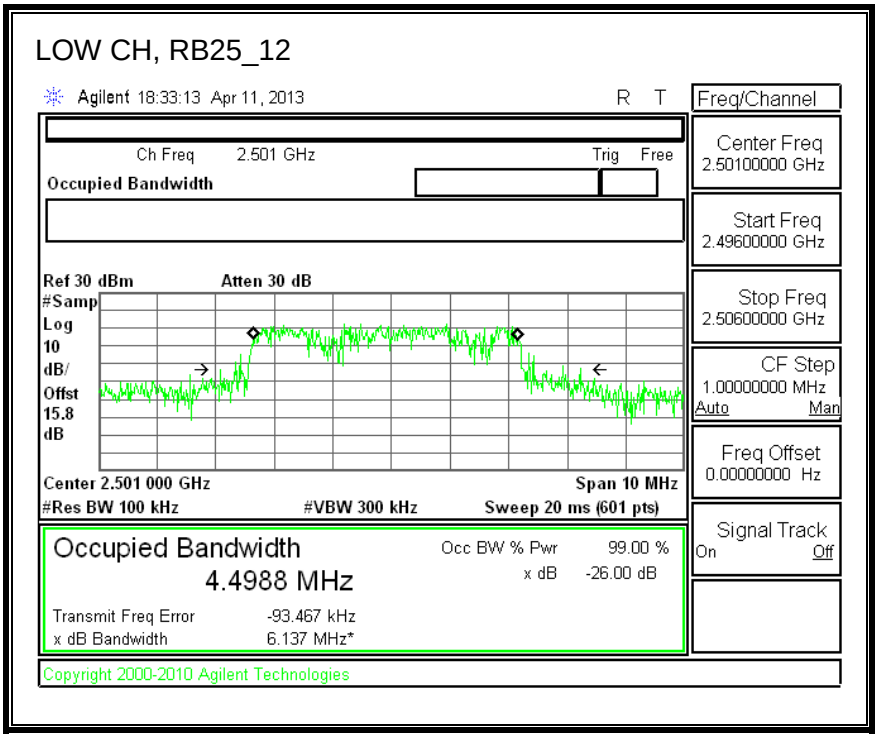
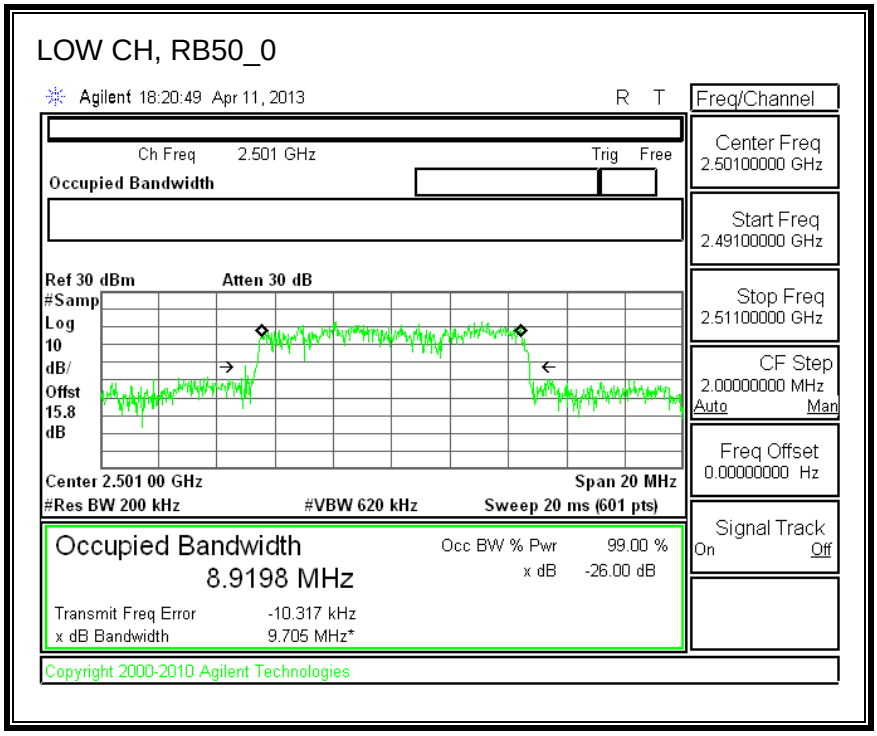
Band 41 (10 MHz BANDWIDTH)

LTE 16QAM





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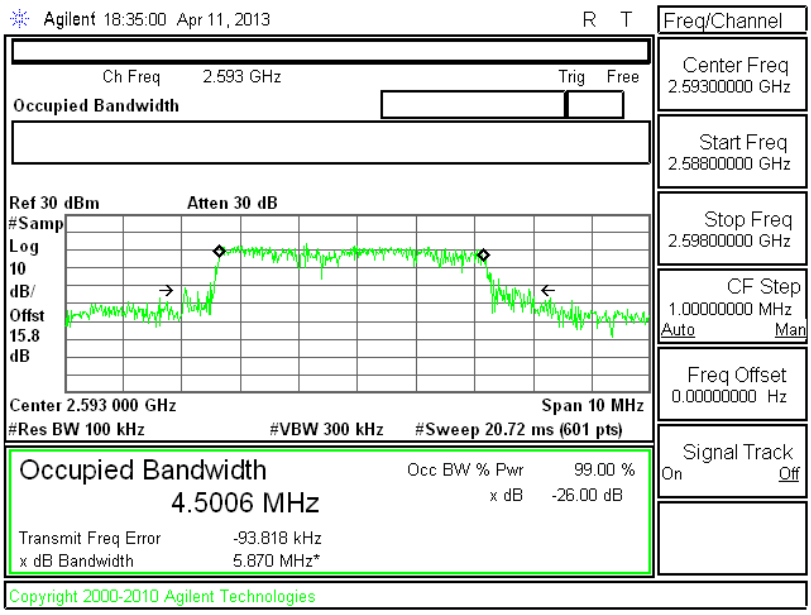
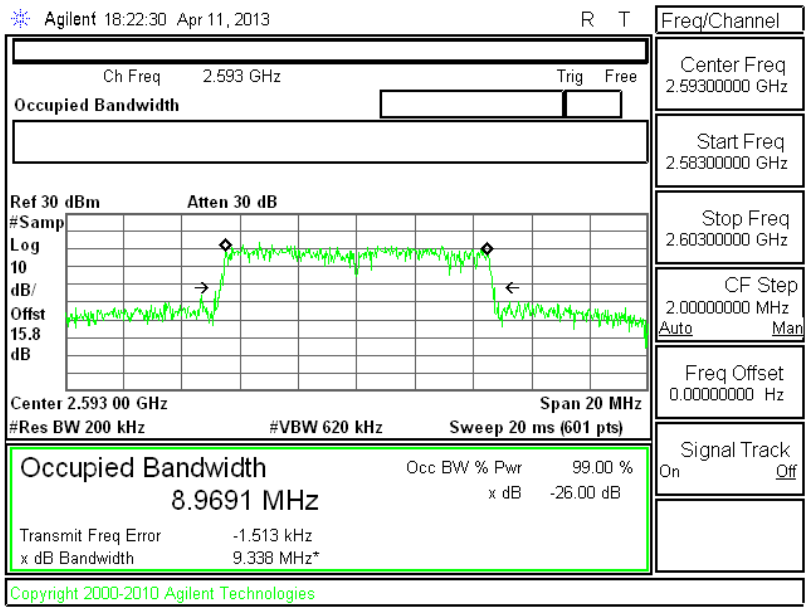
MID CH, RB25_12



MID CH, RB50_0



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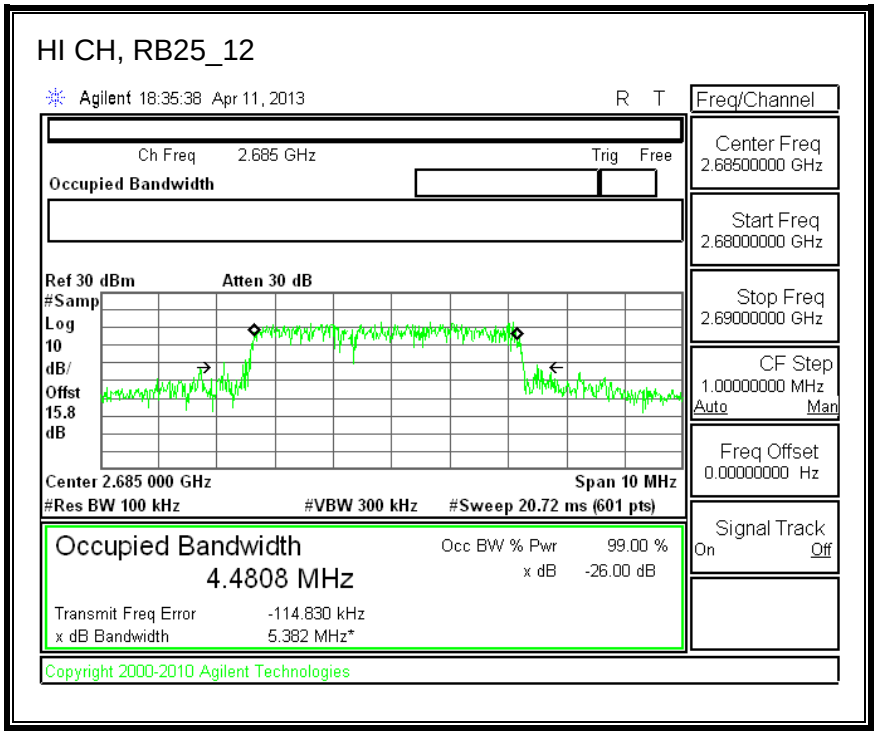
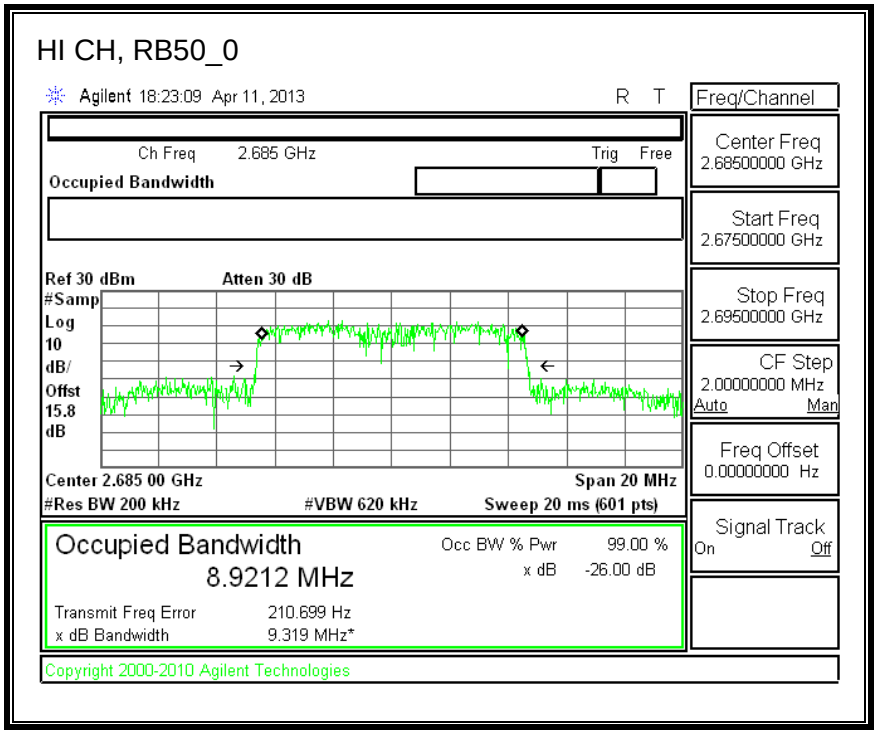
HI CH, RB25_12



HI CH, RB50_0



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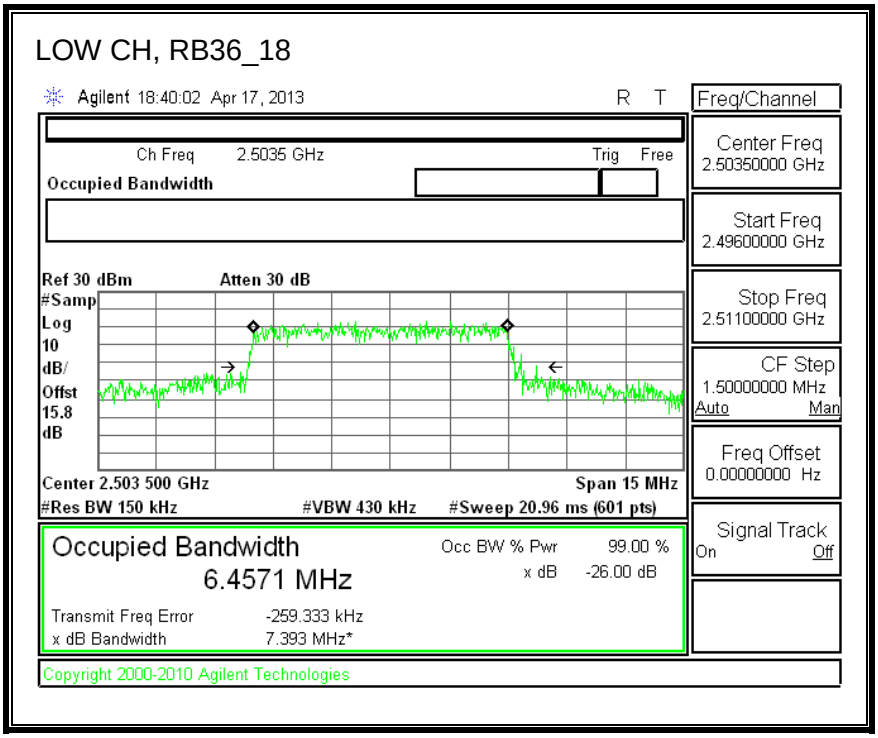
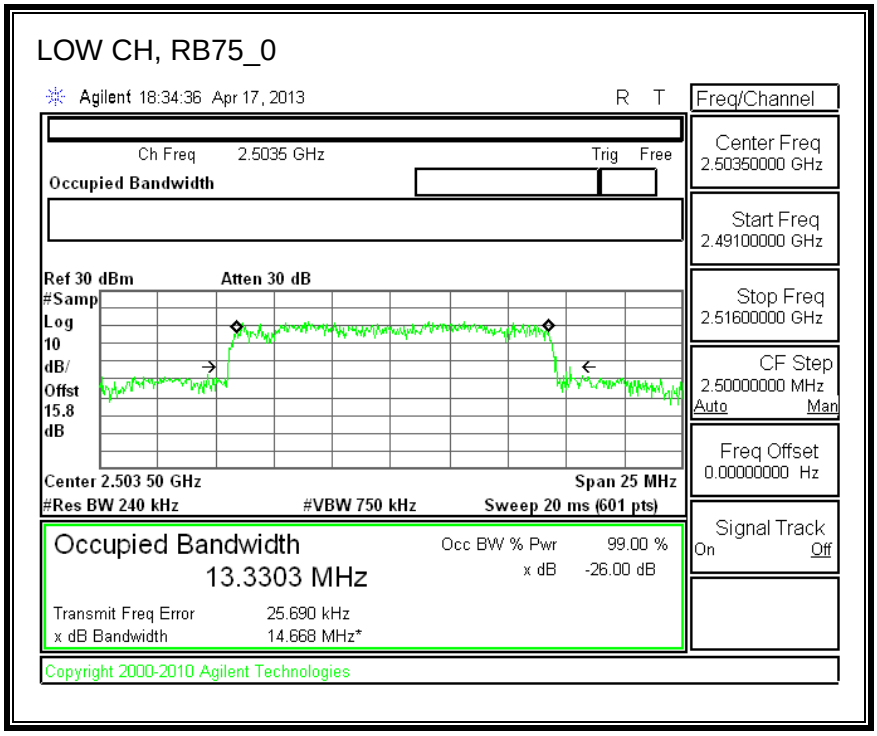
Band 41 (15.0 MHz BANDWIDTH)

LTE QPSK





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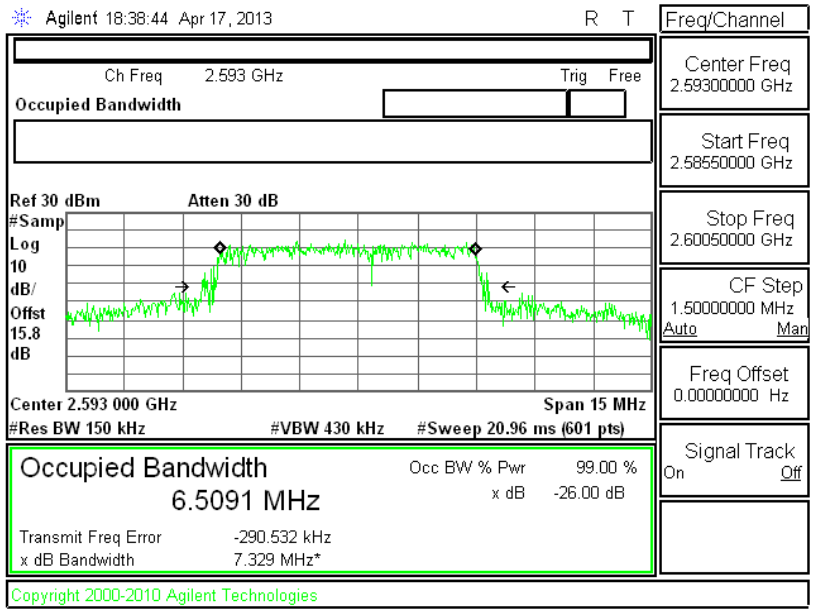
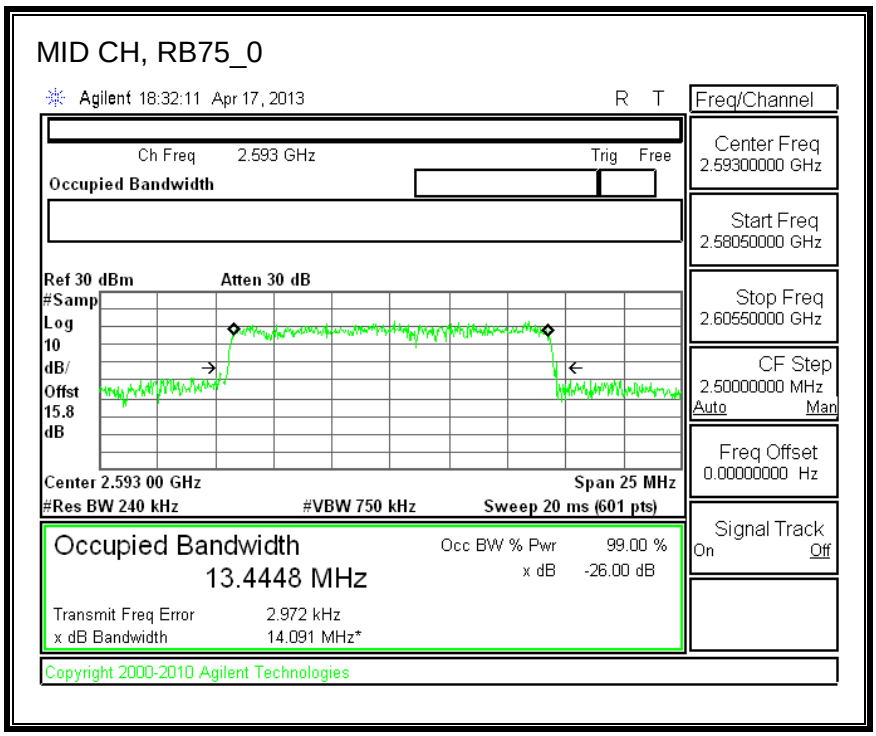
MID CH, RB36_18



MID CH, RB75_0



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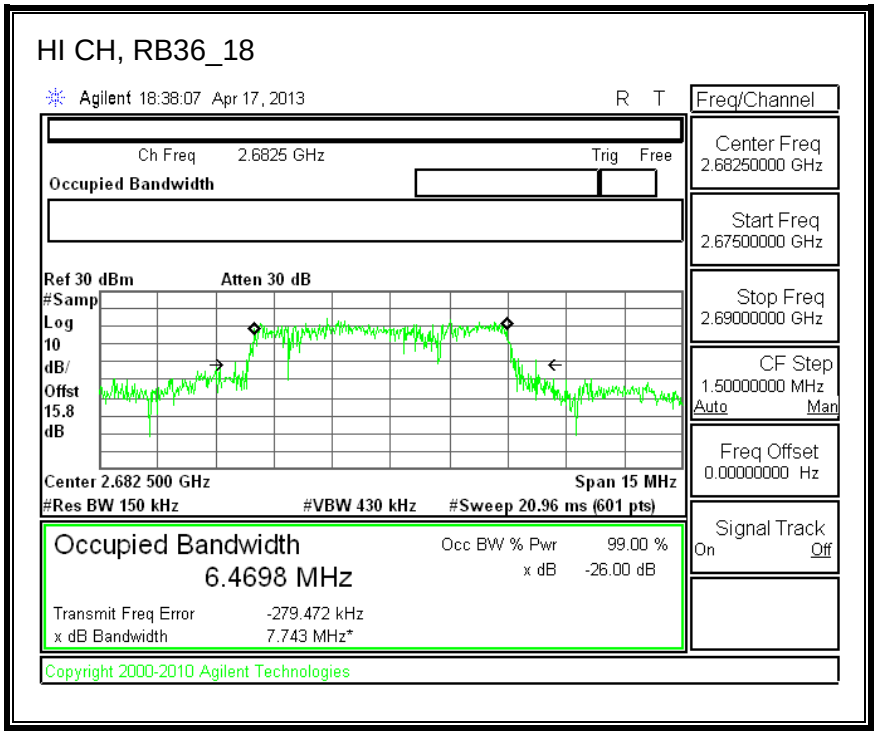
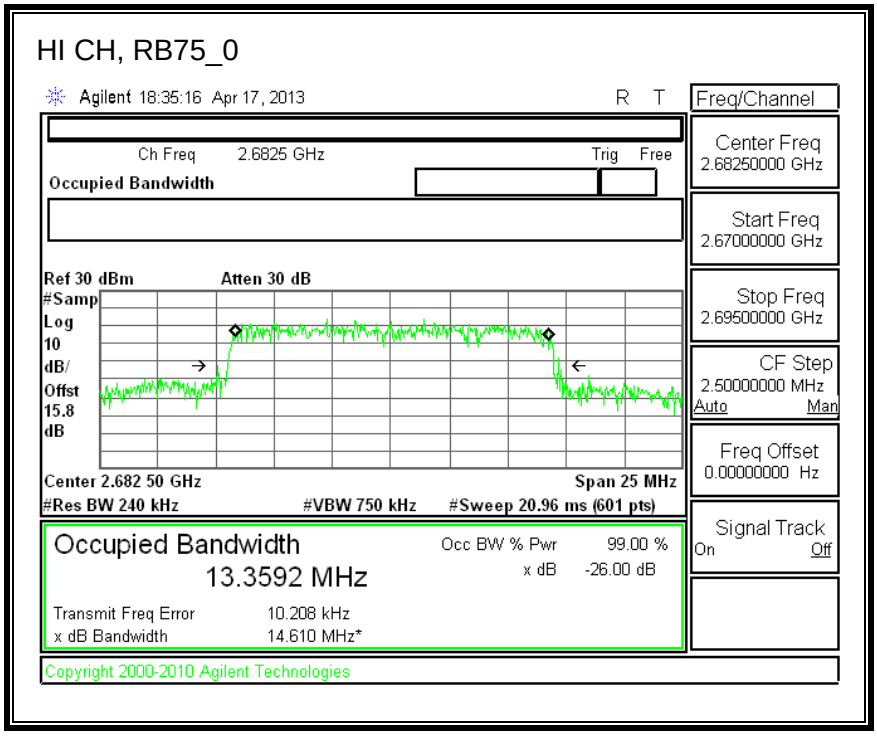
HI CH, RB36_18



HI CH, RB75_0



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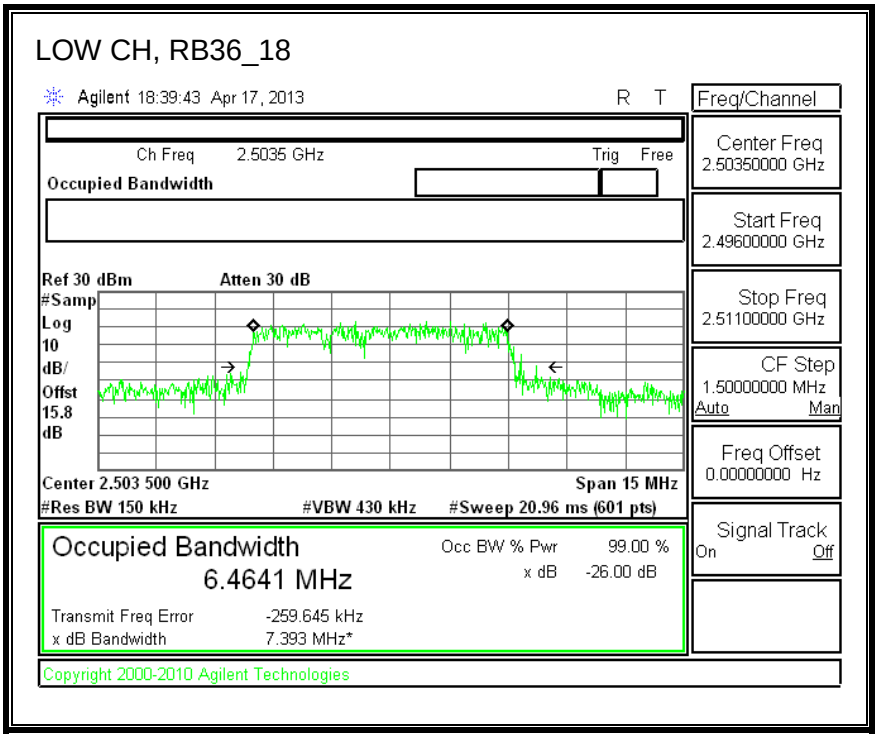
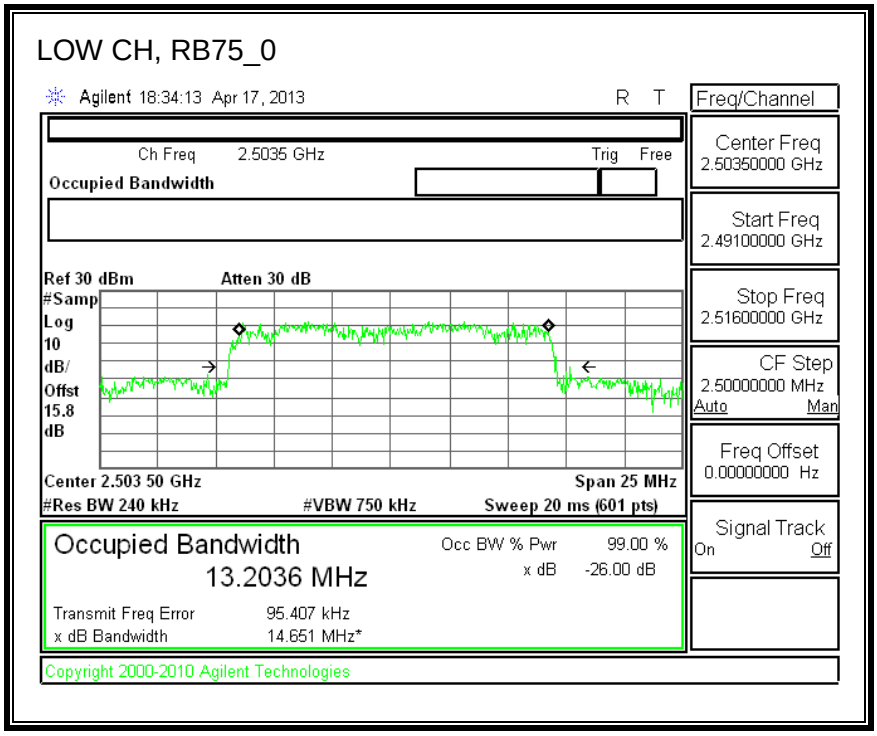
Band 41 (15 MHz BANDWIDTH)

LTE 16QAM





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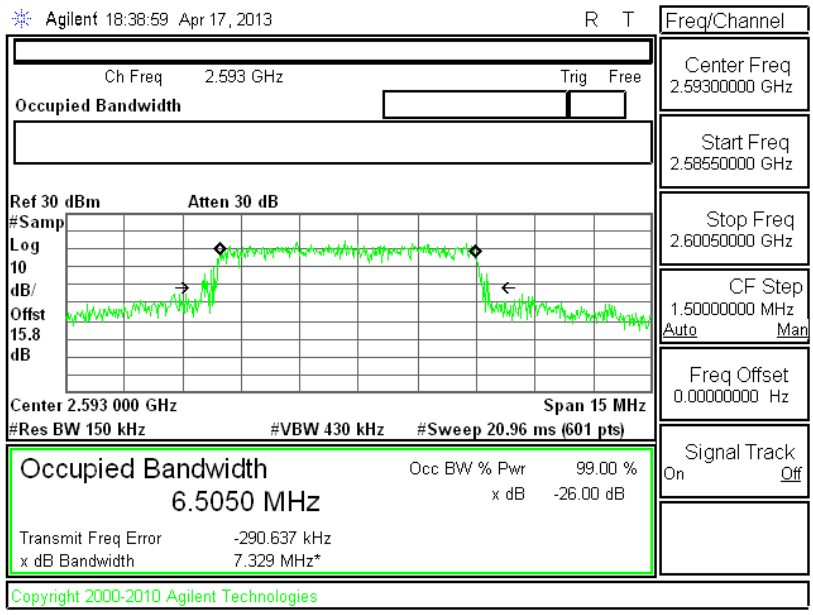
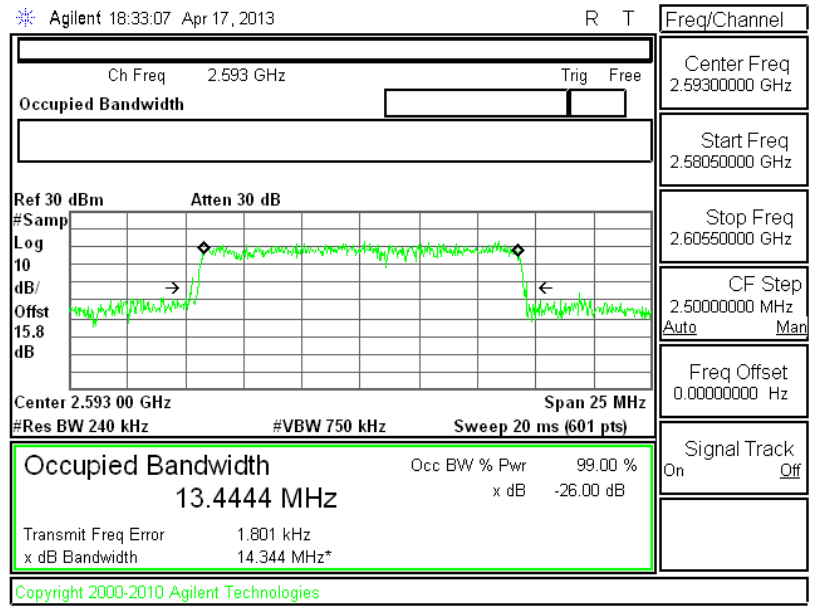
MID CH, RB36_18



MID CH, RB75_0



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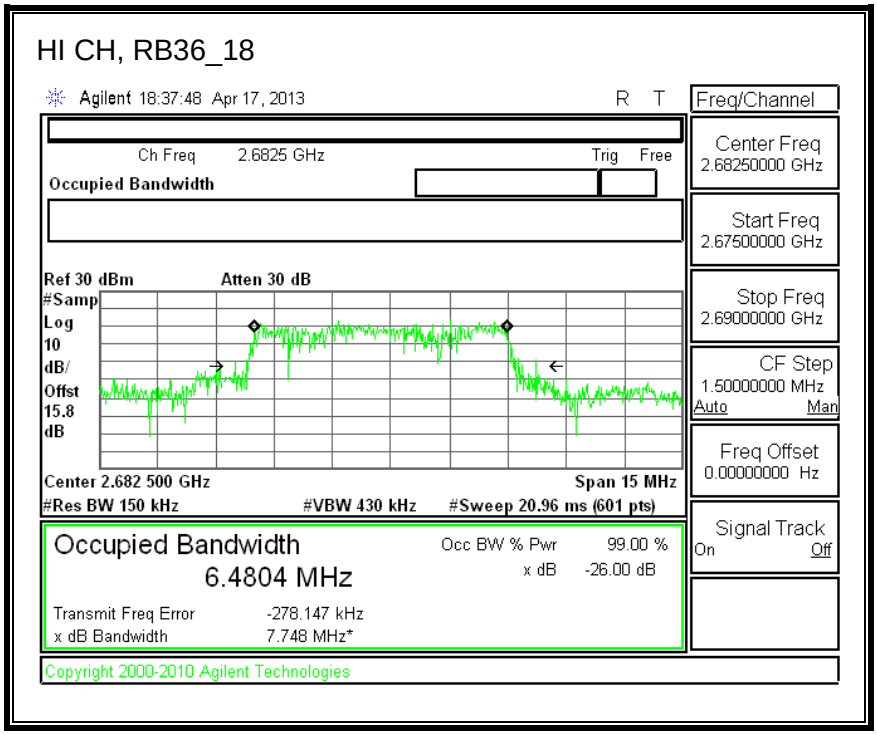
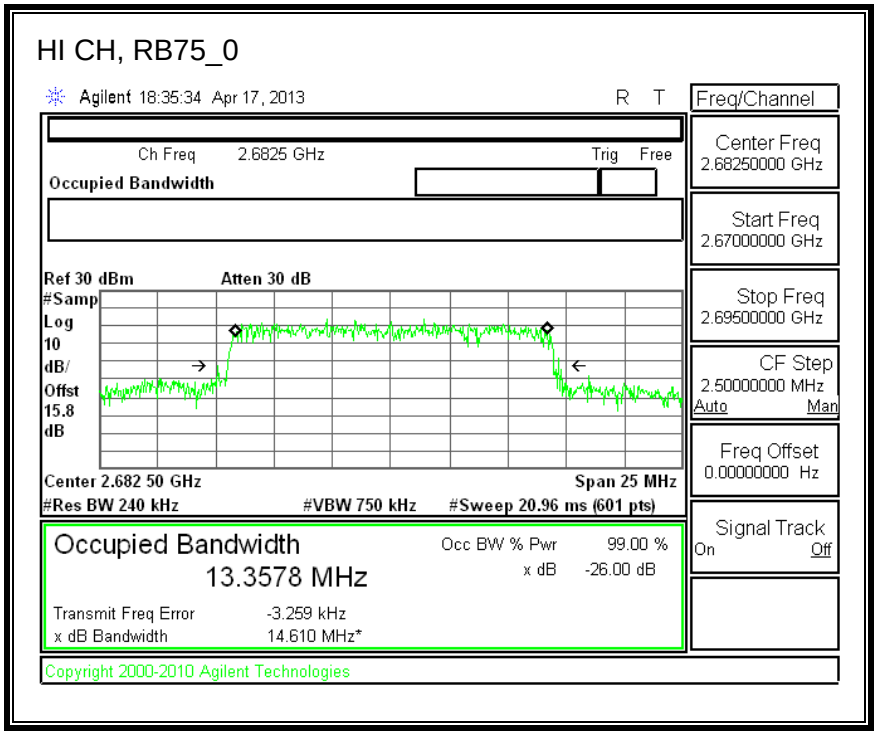
HI CH, RB36_18



HI CH, RB75_0



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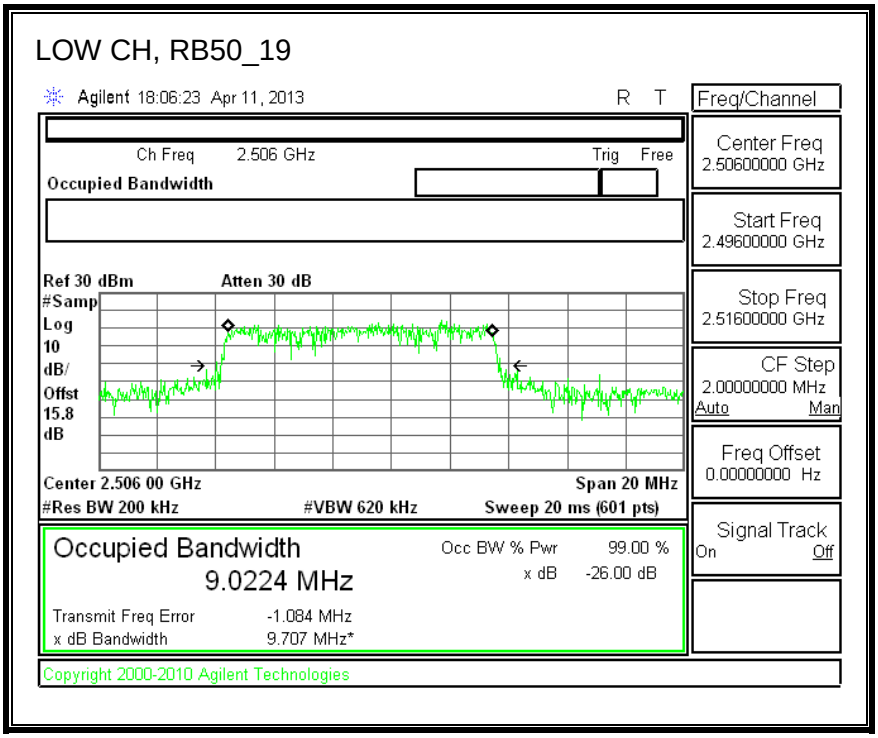
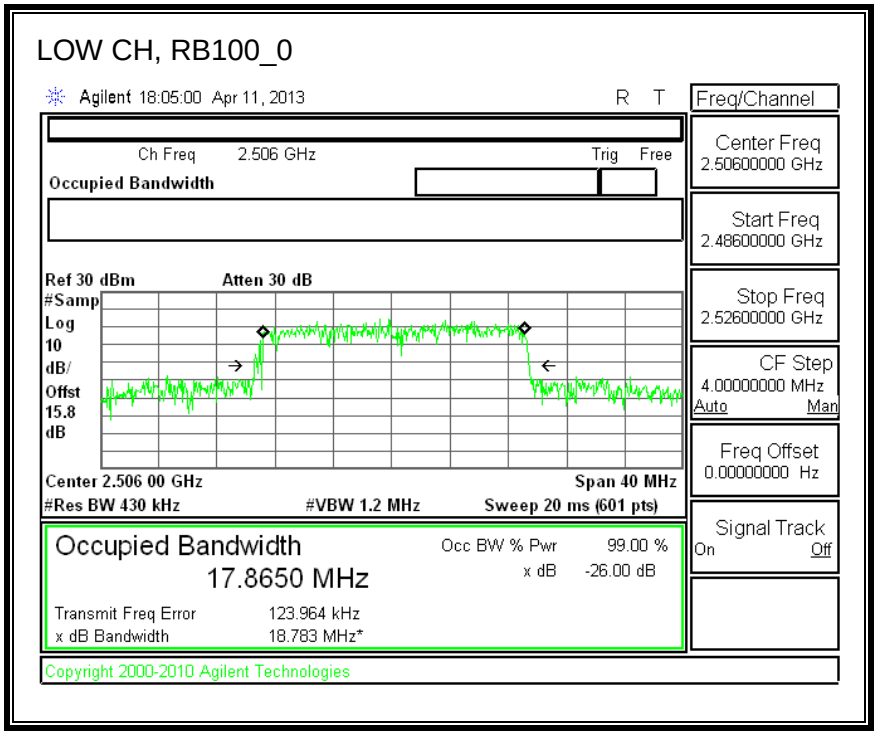
Band 41 (20.0 MHz BANDWIDTH)

LTE QPSK





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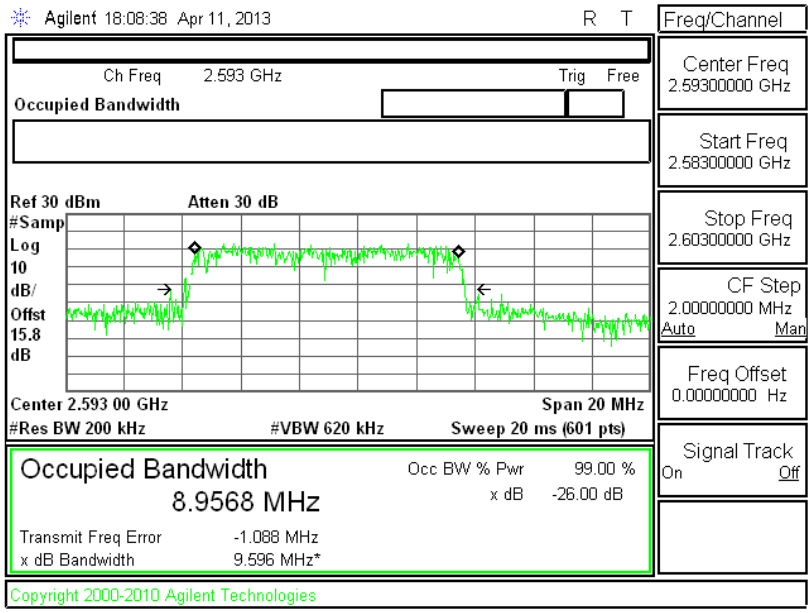
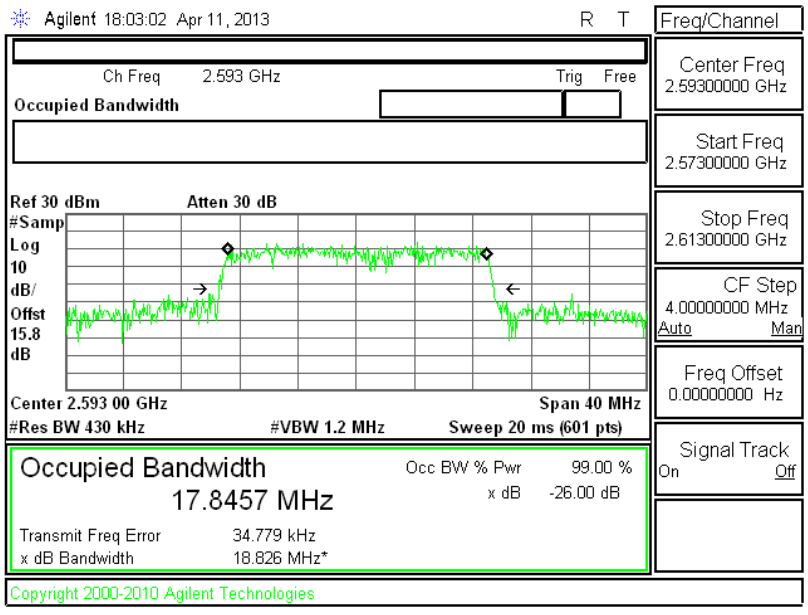
MID CH, RB50_19



MID CH, RB100_0



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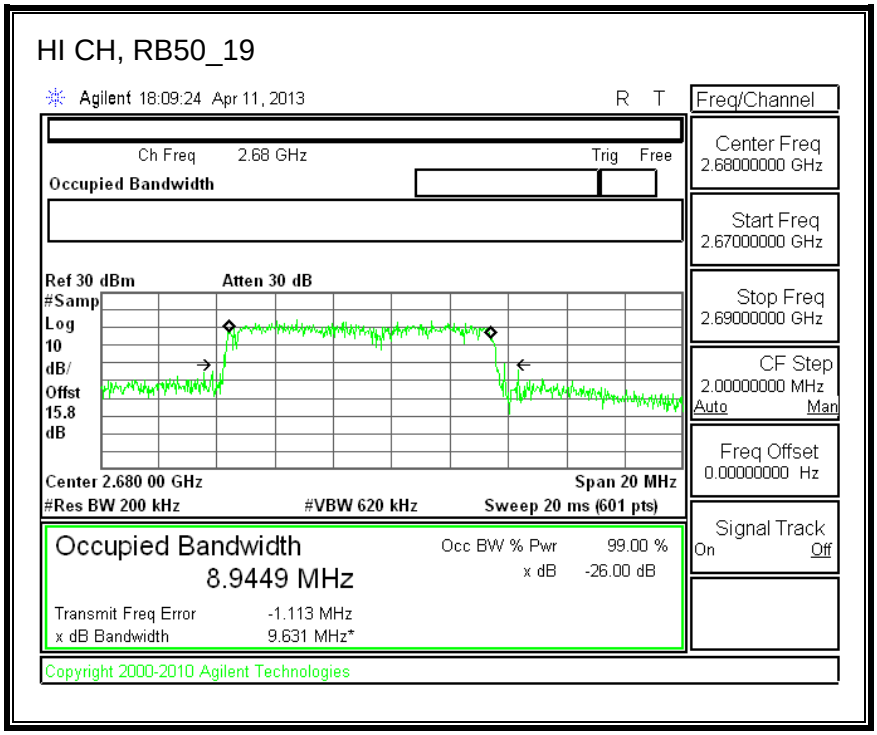
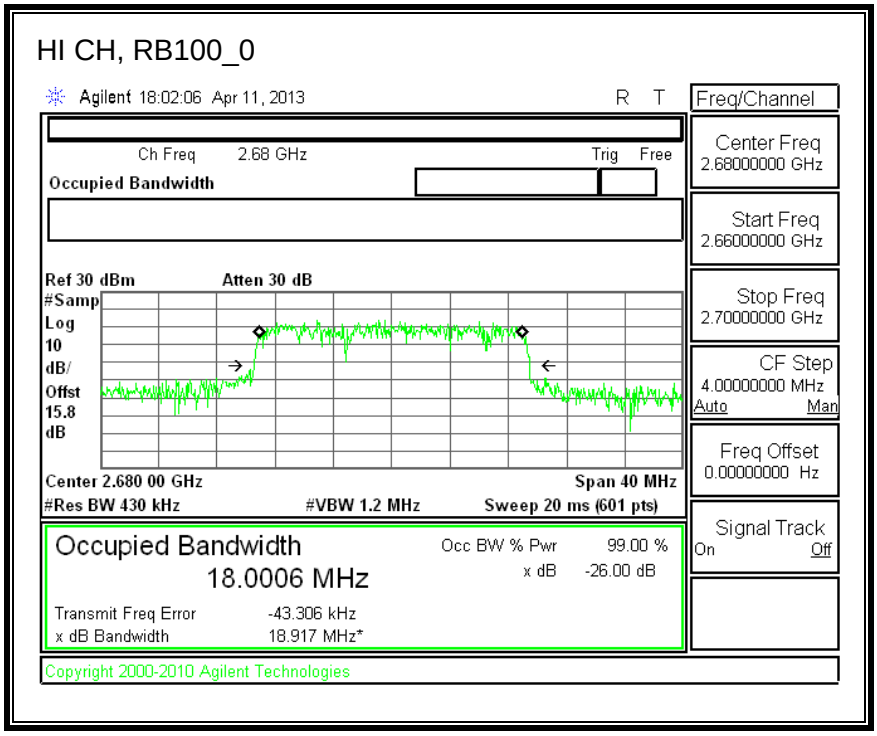
HI CH, RB50_19



HI CH, RB100_0



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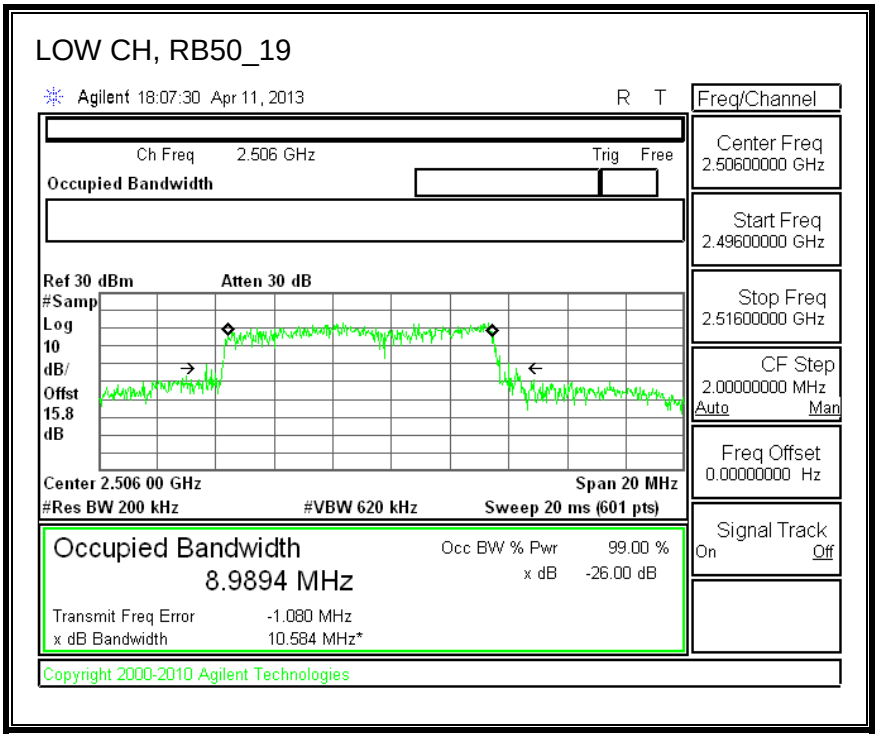
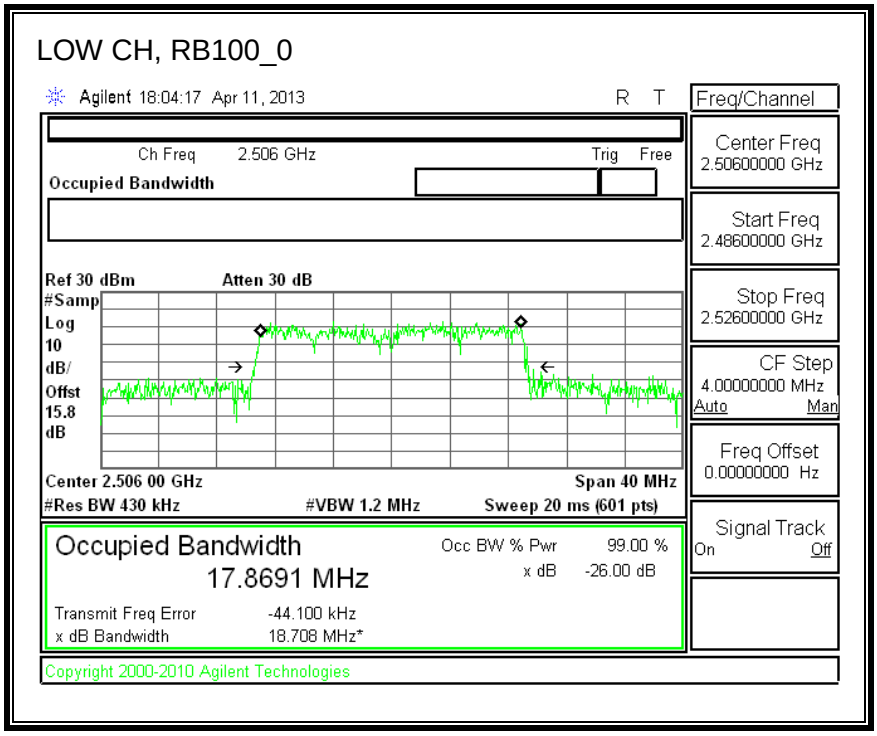
Band 41 (20 MHz BANDWIDTH)

LTE 16QAM





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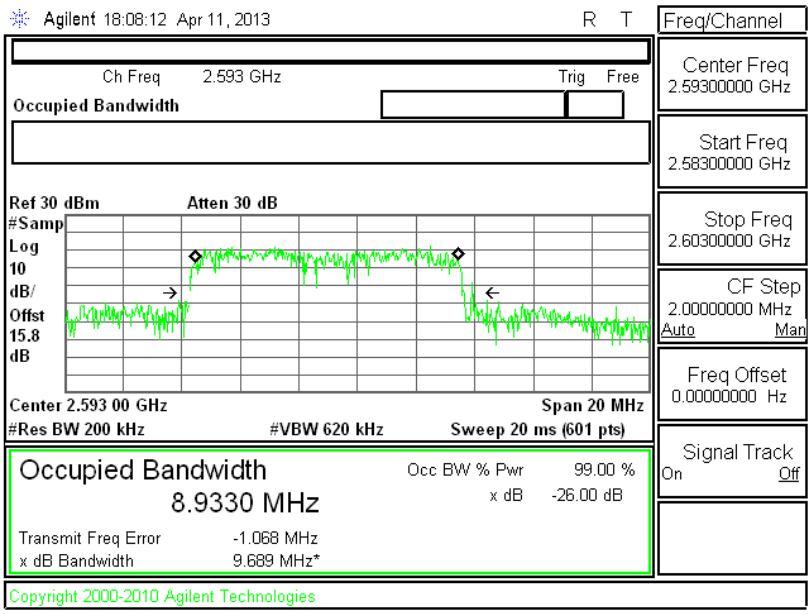
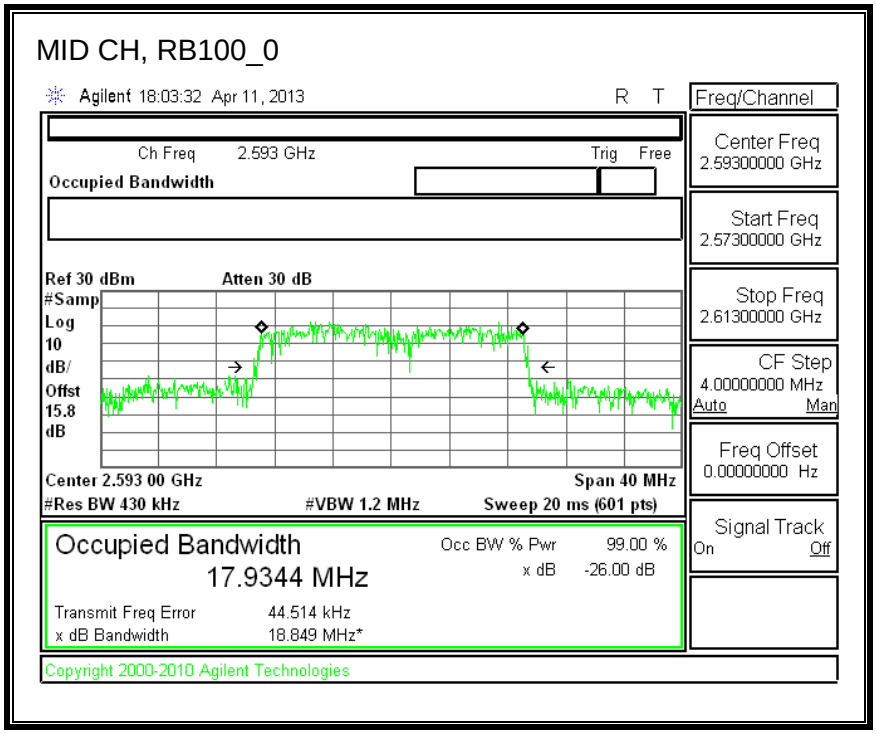
MID CH, RB50_19



MID CH, RB100_0



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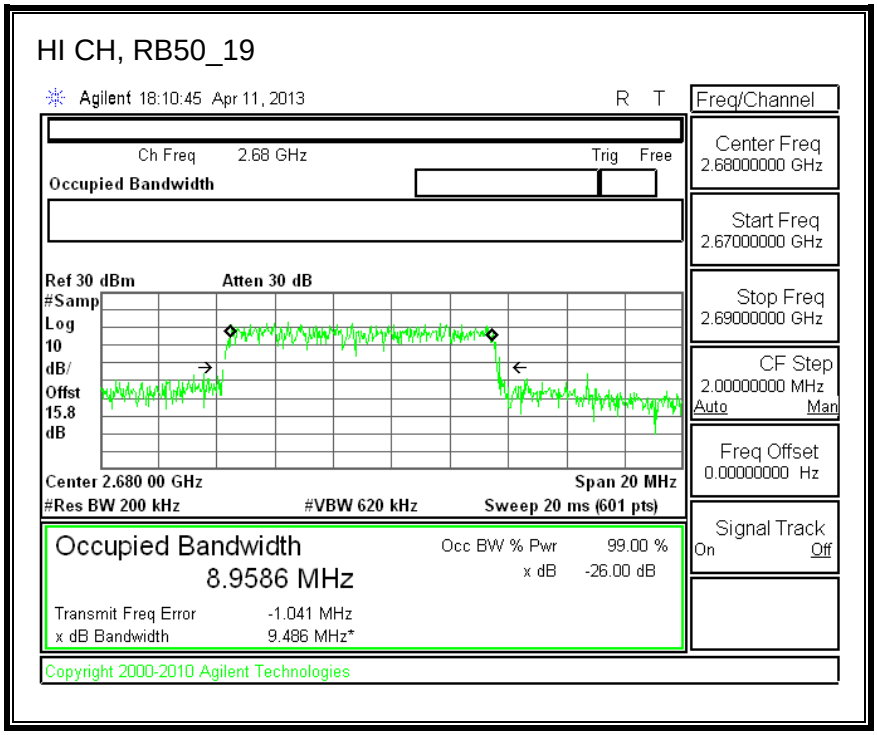
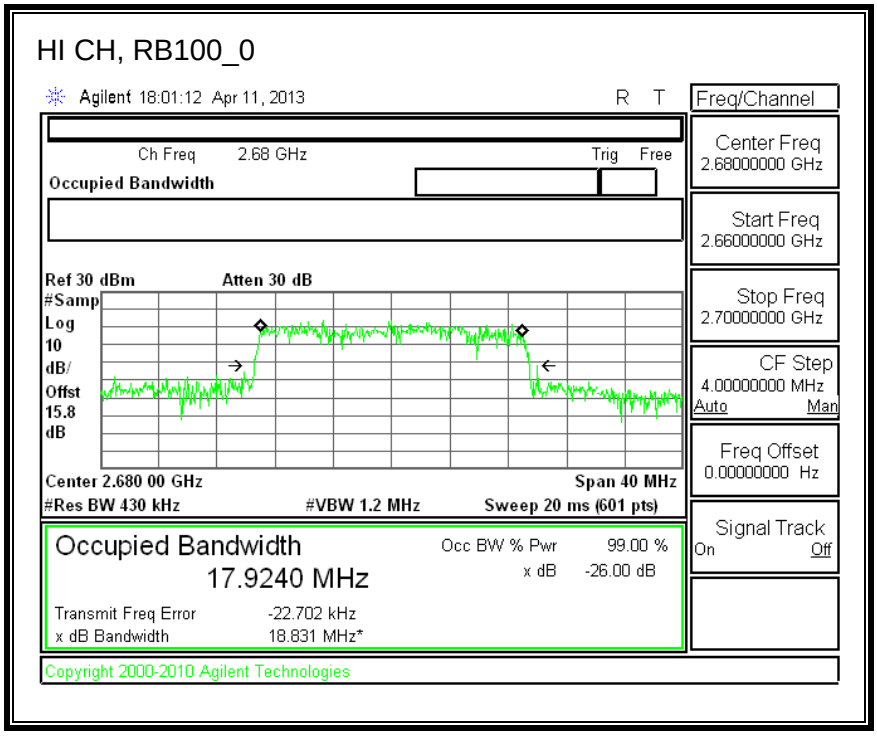
HI CH, RB50_19



HI CH, RB100_0



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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 and1755, 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.
- Band edge compliance with Part 27 is demonstrated by two plots for each measurement. The first uses a measurement bandwidth >= 1% of the emission bandwidth to show compliance at the channel edge with the -13dBm limit (required attenuation of -43log(P)). The second plots under **LTE BAND 41EMISSION MASK** uses a measurement bandwidth of 1MHz to show compliance with the -13dBm limit 1MHz or more from the channel edge and -25dBm limit for signals 5.5MHz and more form the channel edge.

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 Log10(f/6.1) decibels or 50 + 10 Log10(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 + 10Log10(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

- CDMA2000, BC10, BC0, BC1
- LTE Band 25
- LTE Band 26
- LTE Band 41

RESULTS

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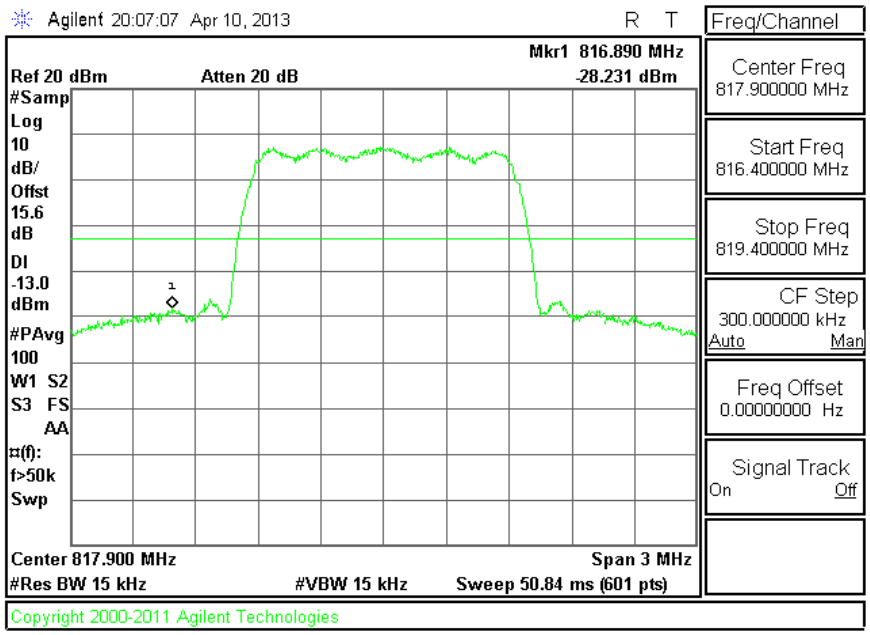
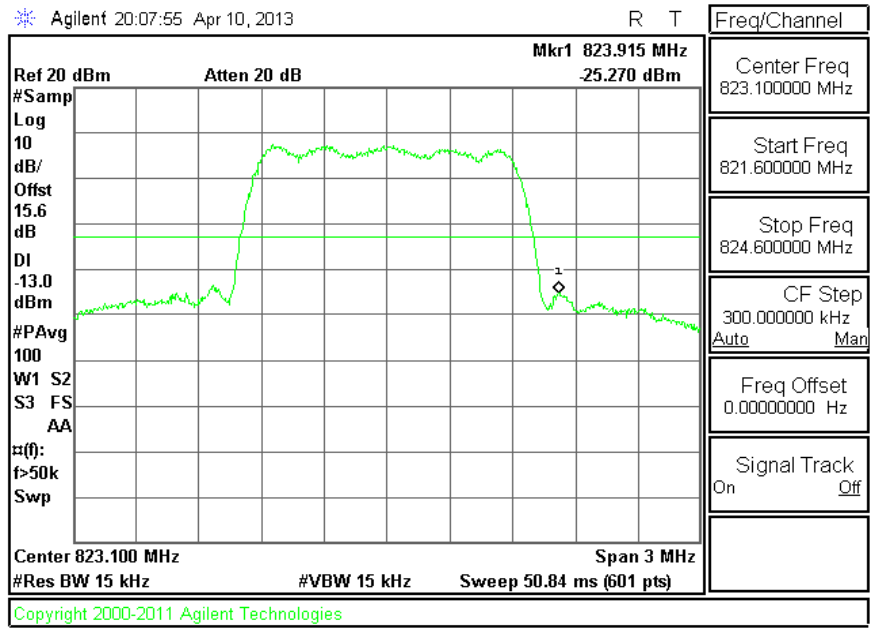
8.2.1. CDMA, BC10

1xRTT

LOW CH



HIGH CH



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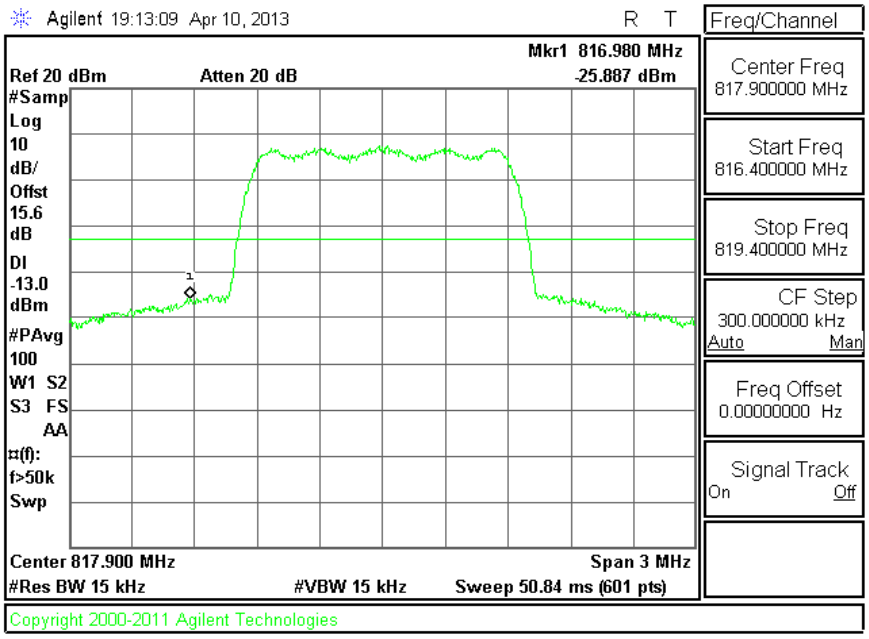
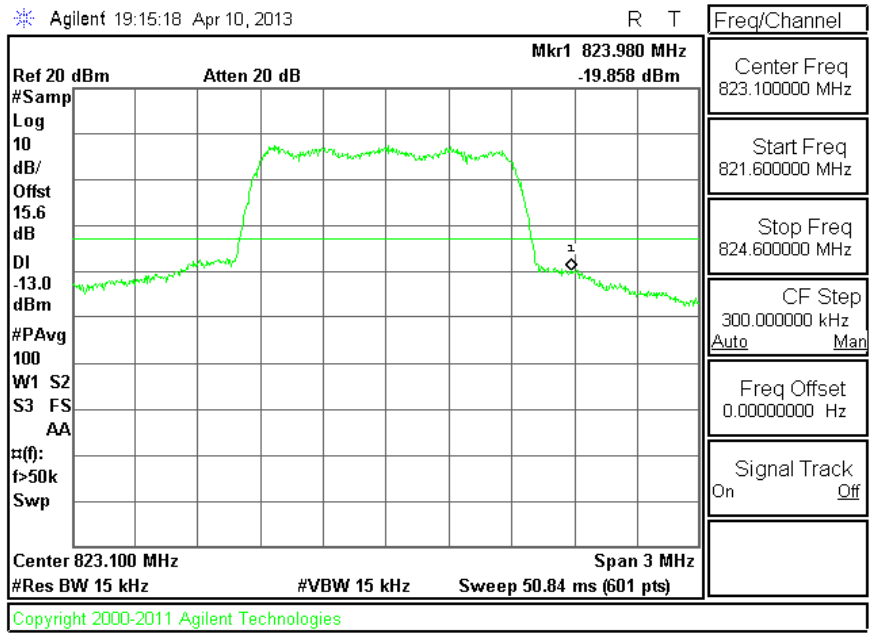
EVDO

LOW CH



HIGH CH



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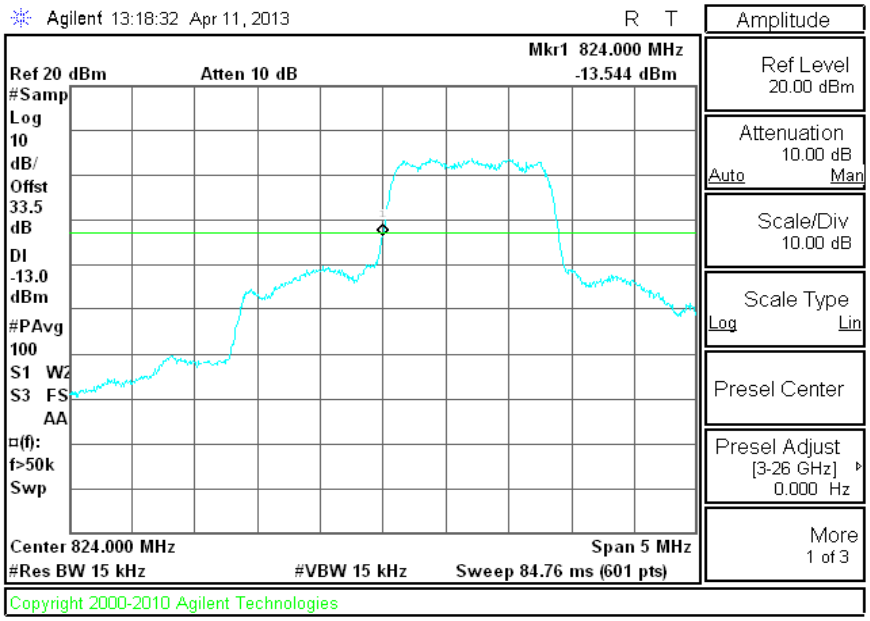
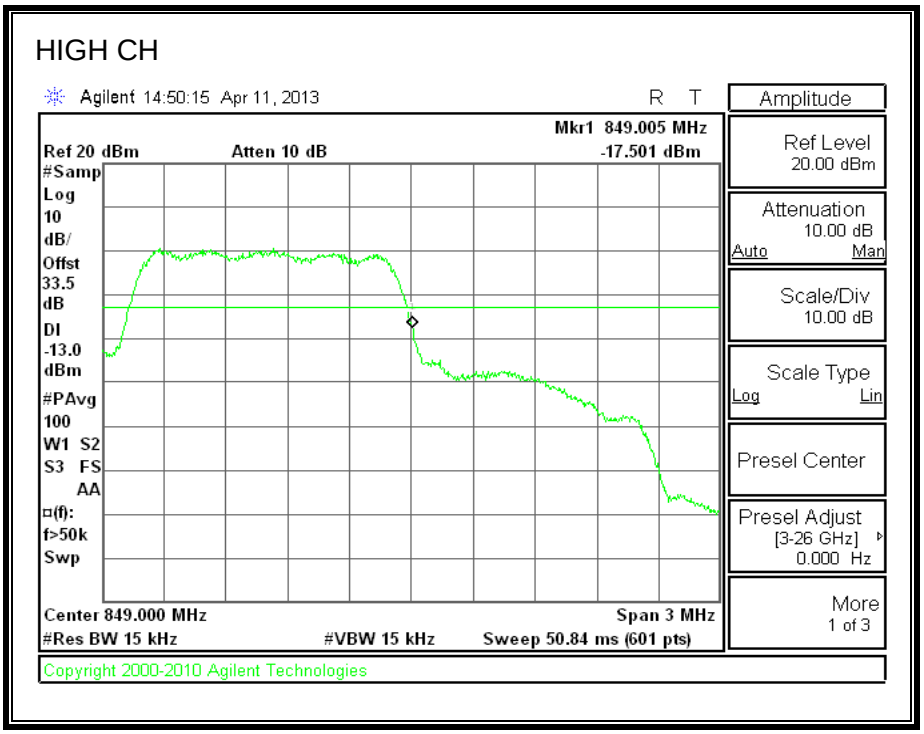
8.2.2. CDMA, BC0

CDMA2000 1xRTT mode (Cellular Band)

LOW CH



HIGH CH



*Note: This particular test has made using radiated method with real substitution.

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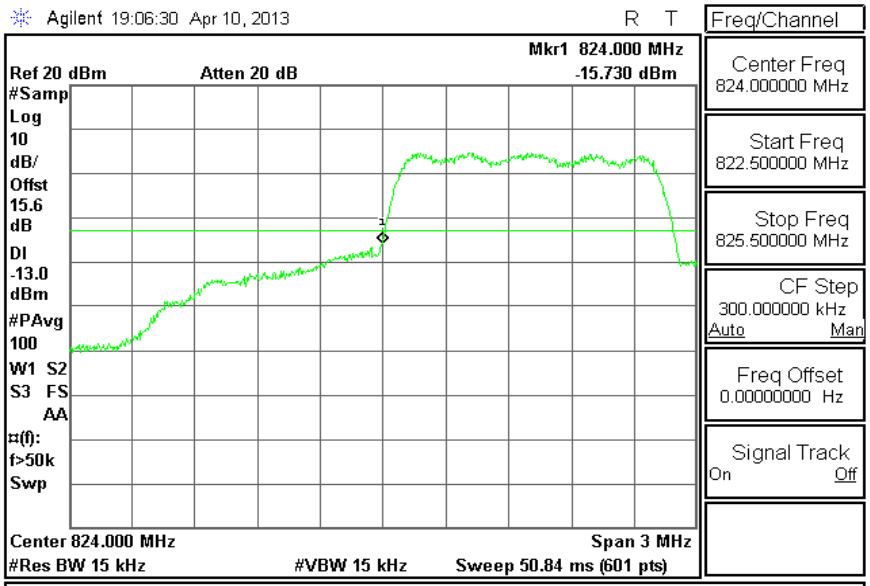
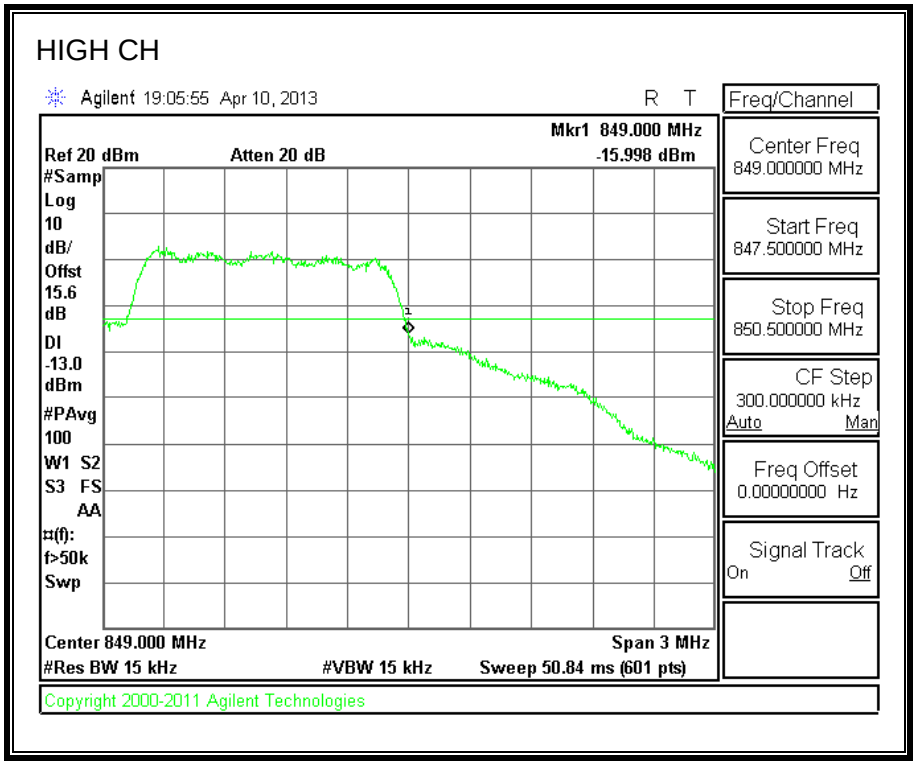
CDMA2000 EVDO Rev A mode (Cellular Band)

LOW CH



HIGH CH



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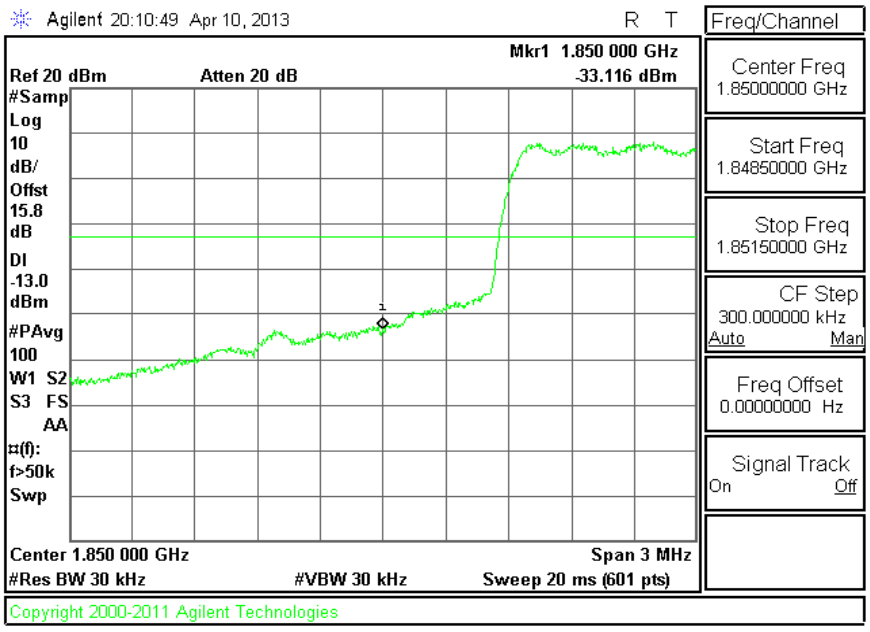
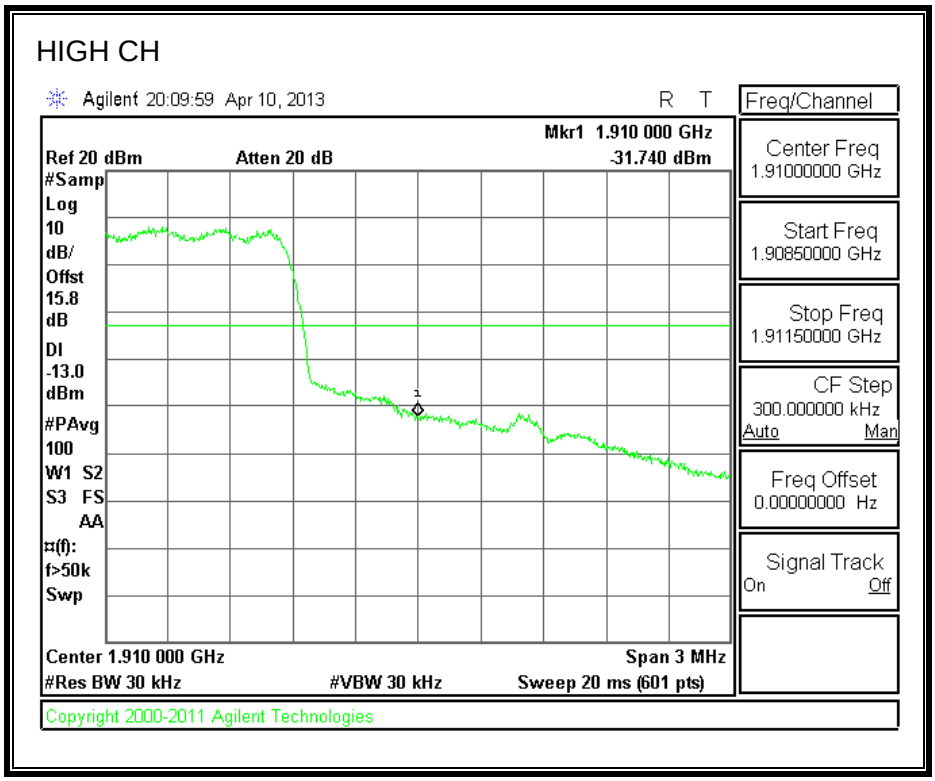
8.2.3. CDMA, BC1

1xRTT mode (PCS Band)

LOW CH



HIGH CH



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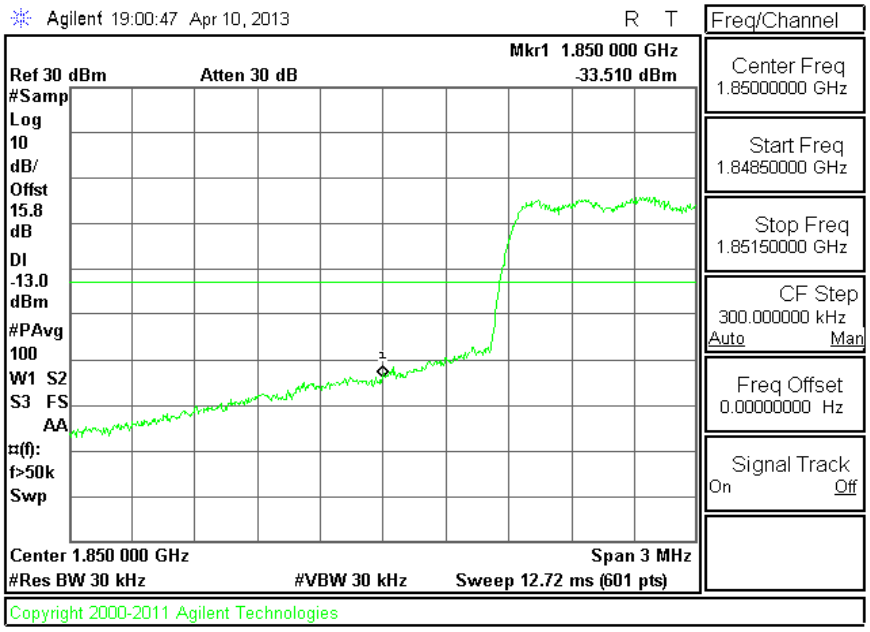
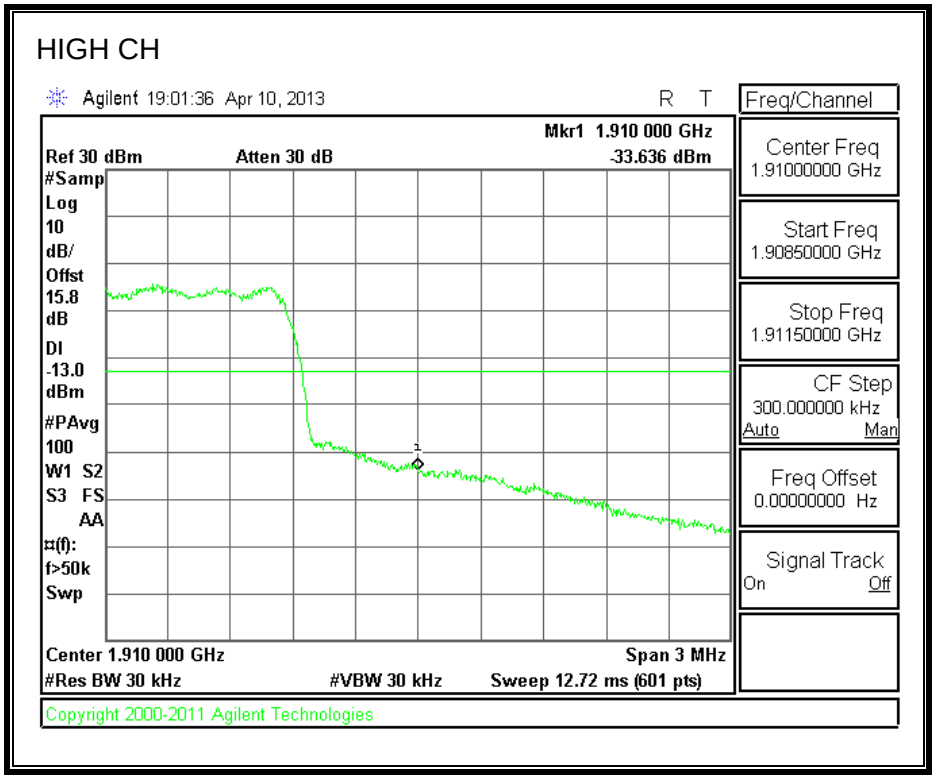
EVDO Rev A mode (PCS Band)

LOW CH



HIGH CH



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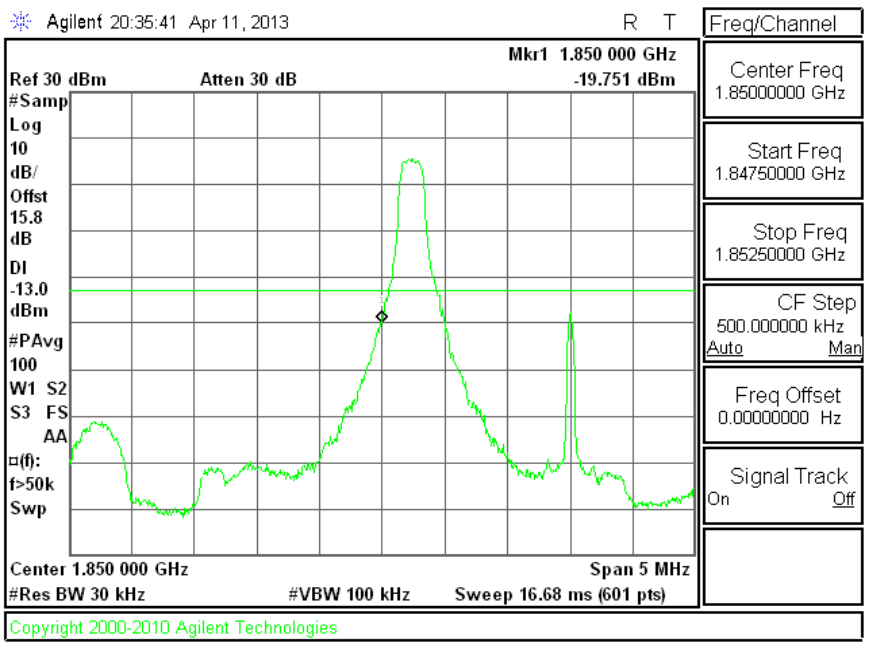
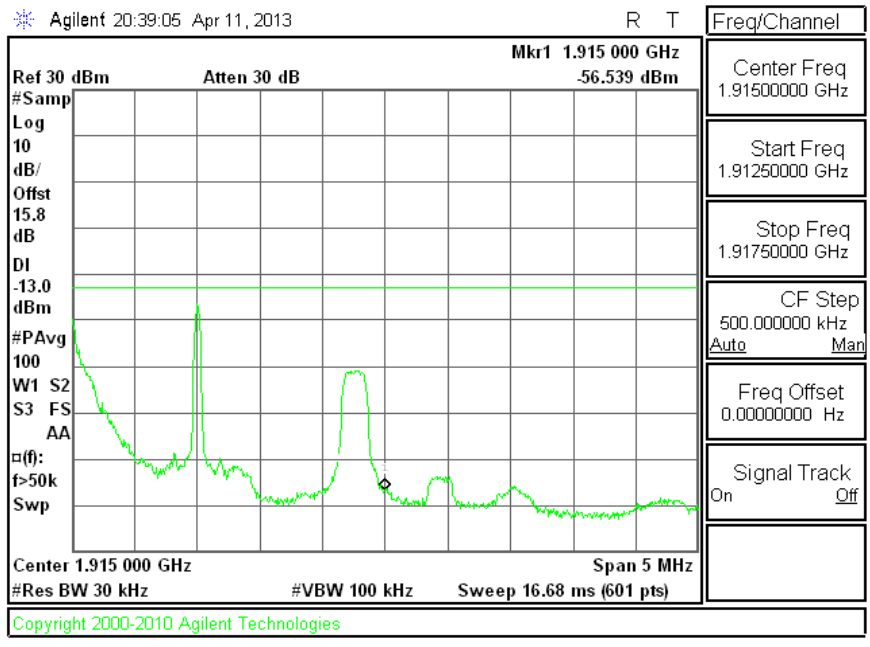
8.2.4. LTE BAND 25

LTE QPSK Band 25 (3 MHz BANDWIDTH)

LOW CH, RB1-0



HIGH CH, RB1-0



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