CERTIFICATION TEST REPORT

Report Number. : 16U23814-E11V4

Applicant	:	APPLE, INC. 1 INFINITE LOOP CUPERTINO, CA 95014, U.S.A.
Model	:	A1823
FCC ID	:	BCGA1823
EUT Description	:	TABLET DEVICE
Test Standard(s)	:	FCC CFR47 PART 22H, 24E, 27 AND 90S

Date Of Issue:
February 10, 2017

Prepared by:
UL Verification Services Inc.
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Revision History

NVLAP LAB CODE 200065-0

Rev.	Issue Date	Revisions	Revised By
V1	01/30/2017	Initial Review	Mengistu Mekuria
V2	02/03/2017	Updated band 4 power and plot's caption for all bandedge high channel	Tina Chu
V3	02/06/2017	Retest on PAPR plots	Ellen Chu
V4	02/10/2017	Revised report to address TCB's questions	Tina Chu

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: TABLET DEVICE

MODEL: A1823

SERIAL NUMBER: F9FSJ008HNCC

DATE TESTED: SEPTEMBER 21, 2016 – FEBRUARY 01, 2017

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC CFR47 PART 22H, 24E, 27 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 Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.26:2015, TIA-603-D, FCC CFR 47 Part 2, FCC KDB 971168 D01 v02r02, 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 and 47266 Benicia Street, Fremont, California, USA. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A (IC:2324B-1)	☐ Chamber D (IC:2324B-4)
☐ Chamber B (IC:2324B-2)	☐ Chamber E (IC:2324B-5)
☐ Chamber C (IC:2324B-3)	☒ Chamber F (IC:2324B-6)
	☒ Chamber G (IC:2324B-7)
	☒ Chamber H (IC:2324B-8)

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

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

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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
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.45 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.24 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 tablet with multimedia functions (music, application support, and video), Cellular GSM/GPRS/EGPRS/CDMA2000 1xRTT/1x Advanced/EVDO Rev.A/WCDMA /HSPA+/DC-HSDPA/LTE FDD & TDD/TD-SCDMA radio, IEEE 802.11a/b/g/n/ac radio, and Bluetooth 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:

OUTPUT POWER FOR LTE BAND 2

Part 24 / RSS 133 LTE Band 2				
Bandwidth (MHz)	Frequency Range	Modulation	EIRP (Average)	
			dBm	mW
1.4	1850 - 1910	QPSK	26.8	478.6
		16QAM	26.0	398.1
3		QPSK	26.9	489.8
		16QAM	25.8	380.2
5		QPSK	26.7	467.7
		16QAM	25.9	389.0
10		QPSK	26.8	478.6
		16QAM	25.9	389.0
15		QPSK	26.8	478.6
		16QAM	26.0	398.1
20		QPSK	26.8	478.6
		16QAM	25.9	389.0

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OUTPUT POWER FOR LTE BAND 4

Part 27 / RSS 139 LTE Band 4				
Bandwidth (MHz)	Frequency Range	Modulation	EIRP(Average)	
			dBm	mW
1.4	1710 - 1755	QPSK	25.3	338.8
		16QAM	24.3	269.2
3		QPSK	25.4	346.7
		16QAM	24.4	275.4
5		QPSK	25.5	354.8
		16QAM	24.5	281.8
10		QPSK	25.4	346.7
		16QAM	24.5	281.8
15		QPSK	25.5	354.8
		16QAM	24.5	281.8
20		QPSK	25.5	354.8
		16QAM	24.5	281.8

OUTPUT POWER FOR LTE BAND 5 AND BAND 26 (FCC)

Part 22 /RSS 132 LTE Band 5 and Band 26				
Bandwidth (MHz)	Frequency Range	Modulation	ERP (Average)	
			dBm	mW
1.4	824 - 849	QPSK	22.6	181.97
		16QAM	22.0	158.49
3		QPSK	22.6	181.97
		16QAM	22.0	158.49
5		QPSK	22.6	181.97
		16QAM	22.2	165.96
10		QPSK	22.5	177.83
		16QAM	22.0	158.49

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OUTPUT POWER FOR LTE BAND 7

Part 27 / RSS199 LTE Band 7				
Bandwidth (MHz)	Frequency Range	Modulation	EIRP (Average)	
			dBm	mW
5	2500 - 2570	QPSK	25.2	331.1
		16QAM	24.8	302.0
10		QPSK	25.2	331.1
		16QAM	24.6	288.4
15		QPSK	25.0	316.2
		16QAM	24.4	275.4
20		QPSK	25.0	316.2
		16QAM	24.2	263.0

OUTPUT POWER FOR LTE BAND 12

Part 27 /RSS 130 LTE Band 12				
Bandwidth (MHz)	Frequency Range	Modulation	ERP (Average)	
			dBm	dBm
1.4	699-716	QPSK	21.4	138.04
		16QAM	20.7	117.49
3		QPSK	21.3	134.90
		16QAM	20.5	112.20
5		QPSK	21.3	134.90
		16QAM	20.4	109.65
10		QPSK	21.3	134.90
		16QAM	20.5	112.20

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OUTPUT POWER FOR LTE BAND 13

Part 27 /RSS 130 LTE Band 13				
Bandwidth (MHz)	Frequency Range	Modulation	ERP (Average)	
			dBm	mW
5	777 - 787	QPSK	22.1	162.18
		16QAM	21.1	128.82
10		QPSK	22.1	162.18
		16QAM	21.2	131.83

OUTPUT POWER FOR LTE BAND 17

Part 27 /RSS 130 LTE Band 17				
Bandwidth (MHz)	Frequency Range	Modulation	ERP (Average)	
			dBm	mW
5	704-716	QPSK	21.4	138.0
		16QAM	20.4	109.6
10		QPSK	21.4	138.0
		16QAM	20.5	112.2

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OUTPUT POWER FOR LTE BAND 25

Part 24 / RSS 133 LTE Band 25				
Bandwidth (MHz)	Frequency Range	Modulation	EIRP (Average)	
			dBm	mW
1.4	1850 - 1915	QPSK	26.8	478.6
		16QAM	25.9	389.0
3		QPSK	26.9	489.8
		16QAM	25.9	389.0
5		QPSK	26.9	489.8
		16QAM	25.9	389.0
10		QPSK	26.8	478.6
		16QAM	25.9	389.0
15		QPSK	26.8	478.6
		16QAM	26.0	398.1
20		QPSK	26.9	489.8
		16QAM	25.9	389.0

OUTPUT POWER FOR LTE BAND 26

Part 90 LTE Band 26				
Bandwidth (MHz)	Frequency Range	Modulation	ERP (Average)	
			dBm	mW
1.4	814-824	QPSK	22.4	173.78
		16QAM	21.5	141.25
3		QPSK	22.4	173.78
		16QAM	21.2	131.83
5		QPSK	22.3	169.82
		16QAM	21.2	131.83
10		QPSK	22.5	177.83
		16QAM	21.2	131.83

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OUTPUT POWER FOR LTE BAND 41

Part 27 LTE Band 41				
Bandwidth (MHz)	Frequency Range	Modulation	EIRP (Average)	
			dBm	mW
5	2496-2690	QPSK	24.2	263.0
		16QAM	23.3	213.8
10		QPSK	24.2	263.0
		16QAM	23.3	213.8
15		QPSK	24.2	263.0
		16QAM	23.4	218.8
20		QPSK	24.2	263.0
		16QAM	23.3	213.8

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5.3. SOFTWARE AND FIRMWARE

The EUT software installed during testing was 14E232 and baseband firmware 5.48.00.

5.4. MAXIMUM ANTENNA GAIN

Please see table below:

LTE BANDS	Antenna Gain (dBi)
LTE Band 2, 1850 – 1910 MHz	2.35
LTE Band 4, 1710 – 1755 MHz	1.00
LTE Band 5, 824 – 849 MHz	0.43
LTE Band 7, 2500 – 2570 MHz	1.20
LTE Band 12, 699 – 716 MHz	-1.44
LTE Band 13, 777 – 787 MHz	-0.74
LTE Band 17, 704 – 716 MHz	-1.44
LTE Band 25, 1850 – 1915 MHz	2.35
LTE Band 26, 814 – 824 MHz	0.20
LTE Band 41, 2496 – 2690 MHz	1.71

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5.5. WORST-CASE CONFIGURATION AND MODE

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

The device has LTE Bands of:
Band 2, Band 4, Band 5, Band 7, Band 12, Band 13, Band 17, Band 25, Band 26, and Band 41.

LTE Band 26 (824-849MHz) is covered by LTE Band 5 because of the same frequency range, output power, and supported bandwidths.

The RB Size was selected to measure for peak or average ERP and EIRP, which was based on the conducted power verification baseline data.

The fundamental of the EUT was investigated in three orthogonal orientations X/Y/Z, it was determined that X (Flatbed) orientation was worst-case orientation for all bands without AC/DC adapter and headset.

For simultaneous transmission of multiple channels from the same antenna in the 2.4GHz, 5GHz and Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

Conducted investigation was done from 10 MHz to 30 MHz; no emission was found.

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5.6. DESCRIPTION OF TEST SETUP

TESTS SUPPORT EQUIPMENT

Support Equipment List			
Description	**Manufacturer**	**Model**	**Serial Number**
Laptop AC Adapter	Dell	FA90PE1-00	N/A
Laptop	Dell	Latitude 3540	N/A
DC power supply	Sorensen	XT-20-3	N/A

I/O CABLES (RF CONDUCTED TEST)

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	US 115V	Un-shielded	2m	N/A
2	DC	1	DC	Un-shielded	1.4m	N/A
3	RF In/Out	1	EUT	Un-shielded	0.4m	N/A
4	RF In/Out	1	Barrel	N/A	N/A	N/A
5	RF In/Out	1	Communication Test Set	Un-shielded	1m	N/A

I/O CABLES (RF RADIATED TEST)

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	RF In/Out	1	Antenna	Un-shielded	5m	NA

TEST SETUP

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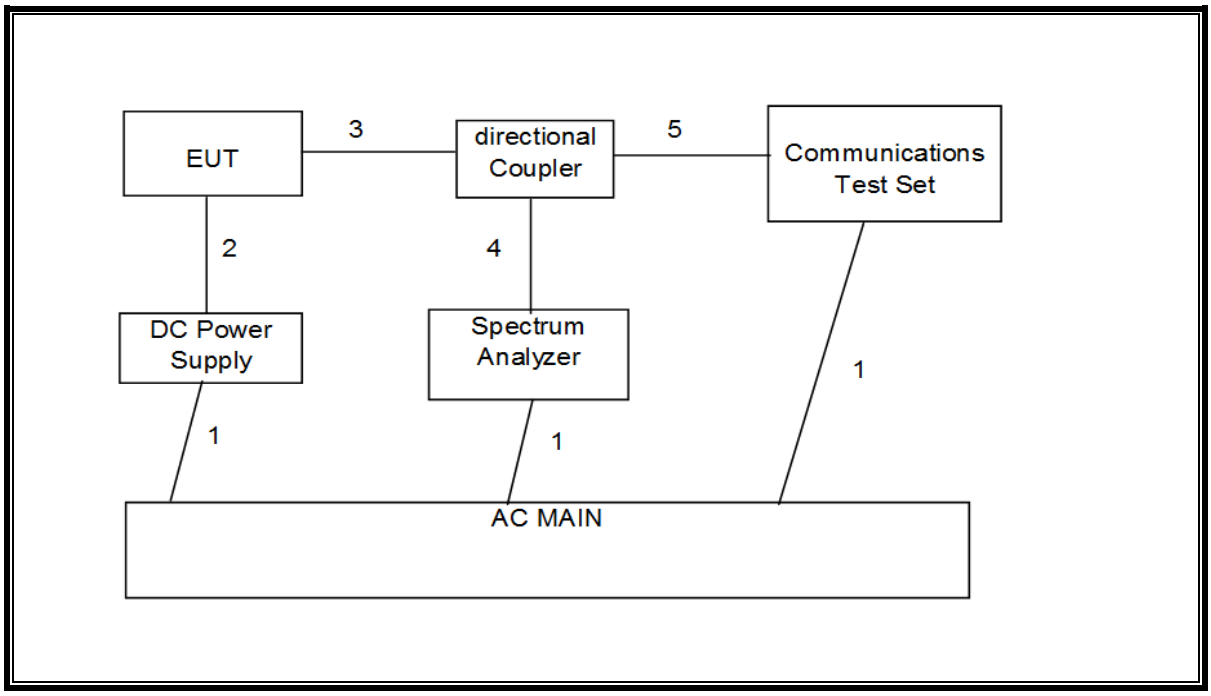
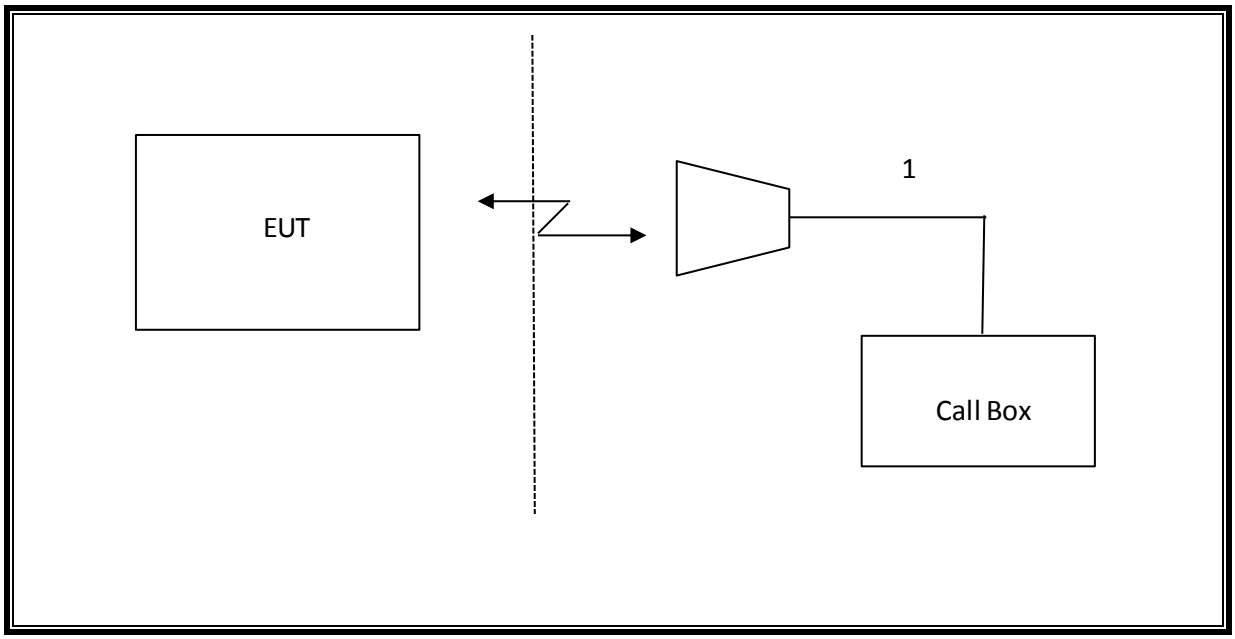
SETUP DIAGRAM FOR TESTS

CONDUCTED SETUP



RADIATED SETUP



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6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T120	4/5/2017
*Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T122	1/29/2017
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T742	11/29/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T173	6/17/2017
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T341	10/25/2017
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T862	4/18/2017
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T899	5/26/2017
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T491	5/31/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T834	6/17/2017
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A-544	T1210	6/30/2017
Amplifier, 1 to 18GHz, 35dB	Amplical	AMP1G18-35	T1569	9/15/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T835	6/18/2017
*Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T906	2/03/2017
Directional Coupler	KRYTAR	152610	T1536	4/11/2017
Directional Coupler	KRYTAR	152610	T1537	4/11/2017
Power Meter, P-series single channel	Keysight	N1912A	T1245	5/03/2017
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight	N1921A	T1226	5/18/2017
*Filter, HPF 3.0GHz	MICROTRONICS	HPM17543	T487	1/26/2017
Filter, HPF 1.2GHz	Micro-Tronics	WHKX1.2/15G-6ST	T1182	5/31/2017
Filter, HPF, 4.0GHz	Micro-Tronics	HPM13351	T1239	6/24/2017
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4446A	T123	10/20/2017
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T1466	3/09/2017
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T959	7/09/2017
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T971	8/05/2017
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T1154	3/12/2017
Wideband Communication Test Set, Call Box	Rohde & Schwarz	CMW500	T260	7/20/2017
Antenna, Horn 1-18GHz	Emco	3115	T59	11/18/2017

NOTE: *testing is completed before equipment calibration expiration date.

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7. TRANSMITTER OUTPUT POWER (CONDUCTED AND ERP/EIRP)

CONDUCTED OUTPUT POWER MEASUREMENT PROCEDURE

All LTE bands conducted power peak and average are obtained from the CMW500 telecommunication test set.

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".3

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-
Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.					

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

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ERP/EIRP LIMIT

FCC: §2.1046, §22.913, §24.232, §27.50 and §90.635

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

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

27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.

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

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

§90.635 Limitations on power and antenna height.

(a) The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.

(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

Table—Equivalent Power and Antenna Heights for Base Stations in the 851–869 MHz and 935–940 MHz Bands Which Have a Requirement for a 32 km (20 mi) Service Area Radius

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Antenna height (ATT) meters (feet)	Effective radiated power (watts)[1 2 4]
Above 1,372 (4,500)	65
Above 1,220 (4,000) to 1,372 (4,500)	70
Above 1,067 (3,500) to 1,220 (4,000)	75
Above 915 (3,000) to 1,067 (3,500)	100
Above 763 (2,500) to 915 (3,000)	140
Above 610 (2,000) to 763 (2,500)	200
Above 458 (1,500) to 610 (2,000)	350
Above 305 (1,000) to 458 (1,500)	600
Up to 305 (1,000)	[3]1,000

[1]Power is given in terms of effective radiated power (ERP).

[2]Applicants in the Los Angeles, CA, area who demonstrate a need to serve both the downtown and fringe areas will be permitted to utilize an ERP of 1 kw at the following mountaintop sites: Santiago Park, Sierra Peak, Mount Lukens, and Mount Wilson.

[3]Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw (ERP).

[4]Licensees in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

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TEST PROCEDURE

ANSI C63.26:2015/ TIA / EIA 603-D Clause 2.2.17
KDB 971168 Section 5.6

ERP/EIRP = PMeas + GT − LC

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);
PMeas = measured transmitter output power or PSD, in dBm or dBW;
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

MODES TESTED

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41

RESULTS

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7.2. LTE BAND 2

ID:	43575	Date:	11/9/16

OUTPUT POWER FOR LTE BAND 2 (1.4MHz)

Antenna gain (dBi)	2.35

Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	18607	1850.7	QPSK	1	0	24.5	26.8	33.0	-6.2
				1	2	24.4	26.8	33.0	-6.2
				1	5	24.4	26.7	33.0	-6.3
				3	0	**24.5**	**26.8**	33.0	-6.2
				3	1	24.5	26.8	33.0	-6.2
				3	2	24.5	26.8	33.0	-6.2
				6	0	23.5	25.9	33.0	-7.2
			16QAM	1	0	**23.6**	**26.0**	33.0	-7.0
				1	2	23.6	26.0	33.0	-7.1
				1	5	23.6	25.9	33.0	-7.1
				3	0	23.4	25.8	33.0	-7.2
				3	1	23.4	25.7	33.0	-7.3
				3	2	23.4	25.8	33.0	-7.2
				6	0	22.5	24.9	33.0	-8.2
1.4	18900	1880.0	QPSK	1	0	24.5	26.8	33.0	-6.2
				1	2	24.5	26.8	33.0	-6.2
				1	5	24.5	26.8	33.0	-6.2
				3	0	24.4	26.8	33.0	-6.2
				3	1	24.4	26.8	33.0	-6.2
				3	2	24.4	26.7	33.0	-6.3
				6	0	23.5	25.8	33.0	-7.2
			16QAM	1	0	23.4	25.8	33.0	-7.2
				1	2	23.5	25.8	33.0	-7.2
				1	5	23.5	25.8	33.0	-7.2
				3	0	23.5	25.8	33.0	-7.2
				3	1	23.4	25.8	33.0	-7.2
				3	2	23.5	25.8	33.0	-7.2
				6	0	22.4	24.7	33.0	-8.3
1.4	19193	1909.3	QPSK	1	0	24.3	26.7	33.0	-6.4
				1	2	24.3	26.7	33.0	-6.4
				1	5	24.3	26.7	33.0	-6.4
				3	0	24.4	26.7	33.0	-6.3
				3	1	24.3	26.7	33.0	-6.3
				3	2	24.3	26.6	33.0	-6.4
				6	0	23.3	25.7	33.0	-7.3
			16QAM	1	0	23.4	24.2	33.0	-8.9
				1	2	23.4	24.2	33.0	-8.9
				1	5	23.4	24.2	33.0	-8.8
				3	0	23.3	24.1	33.0	-8.9
				3	1	23.3	24.1	33.0	-8.9
				3	2	23.3	24.1	33.0	-8.9
				6	0	22.4	23.2	33.0	-9.8

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OUTPUT POWER FOR LTE BAND 2 (3.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3.0	18615	1851.5	QPSK	1	0	**24.5**	**26.9**	33.0	-6.2
				1	7	24.5	26.8	33.0	-6.2
				1	14	24.5	26.8	33.0	-6.2
				8	0	23.5	25.8	33.0	-7.2
				8	4	23.4	25.8	33.0	-7.3
				8	7	23.4	25.8	33.0	-7.2
				15	0	23.5	25.8	33.0	-7.2
			16QAM	1	0	**23.5**	**25.8**	33.0	-7.2
				1	7	23.4	25.8	33.0	-7.3
				1	14	23.4	25.8	33.0	-7.3
				8	0	22.4	24.8	33.0	-8.2
				8	4	22.4	24.8	33.0	-8.2
				8	7	22.4	24.8	33.0	-8.3
				15	0	22.5	24.9	33.0	-8.2
3.0	18900	1880.0	QPSK	1	0	24.4	26.8	33.0	-6.3
				1	7	24.4	26.7	33.0	-6.3
				1	14	23.4	25.8	33.0	-7.3
				8	0	23.4	25.8	33.0	-7.2
				8	4	23.4	25.7	33.0	-7.3
				8	7	24.4	26.8	33.0	-6.3
				15	0	23.4	25.8	33.0	-7.2
			16QAM	1	0	23.4	25.7	33.0	-7.3
				1	7	23.4	25.8	33.0	-7.2
				1	14	23.4	25.8	33.0	-7.2
				8	0	22.5	24.8	33.0	-8.2
				8	4	22.4	24.8	33.0	-8.2
				8	7	22.5	24.8	33.0	-8.2
				15	0	22.4	24.8	33.0	-8.3
3.0	19185	1908.5	QPSK	1	0	24.4	26.8	33.0	-6.2
				1	7	24.4	26.7	33.0	-6.3
				1	14	24.4	26.8	33.0	-6.3
				8	0	23.3	25.7	33.0	-7.3
				8	4	23.3	25.6	33.0	-7.4
				8	7	23.3	25.7	33.0	-7.4
				15	0	23.3	25.7	33.0	-7.4
			16QAM	1	0	23.4	25.8	33.0	-7.2
				1	7	23.4	25.7	33.0	-7.3
				1	14	**23.5**	**25.8**	33.0	-7.2
				8	0	22.3	24.7	33.0	-8.4
				8	4	22.3	24.6	33.0	-8.4
				8	7	22.3	24.7	33.0	-8.4
				15	0	22.3	24.7	33.0	-8.4

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OUTPUT POWER FOR LTE BAND 2 (5.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	18625	1852.5	QPSK	1	0	24.3	26.7	33.0	-6.3
				1	12	24.3	26.6	33.0	-6.4
				1	24	24.3	26.7	33.0	-6.3
				12	0	23.5	25.8	33.0	-7.2
				12	6	23.4	25.7	33.0	-7.3
				12	11	23.4	25.8	33.0	-7.3
				25	0	23.4	25.7	33.0	-7.3
			16QAM	1	0	**23.5**	**25.9**	33.0	-7.2
				1	12	23.5	25.8	33.0	-7.2
				1	24	23.4	25.8	33.0	-7.2
				12	0	22.5	24.8	33.0	-8.2
				12	6	22.5	24.8	33.0	-8.2
				12	11	22.5	24.8	33.0	-8.2
				25	0	22.5	24.9	33.0	-8.1
5.0	18900	1880.0	QPSK	1	0	**24.4**	**26.7**	33.0	-6.3
				1	12	24.2	26.6	33.0	-6.4
				1	24	24.3	26.7	33.0	-6.3
				12	0	23.4	25.8	33.0	-7.3
				12	6	23.4	25.8	33.0	-7.2
				12	11	23.4	25.7	33.0	-7.3
				25	0	23.4	25.7	33.0	-7.3
			16QAM	1	0	23.4	25.8	33.0	-7.2
				1	12	23.3	25.7	33.0	-7.3
				1	24	23.4	25.8	33.0	-7.3
				12	0	22.4	24.7	33.0	-8.3
				12	6	22.4	24.7	33.0	-8.3
				12	11	22.3	24.6	33.0	-8.4
				25	0	22.5	24.8	33.0	-8.2
5.0	19175	1907.5	QPSK	1	0	24.3	26.6	33.0	-6.4
				1	12	24.3	26.6	33.0	-6.4
				1	24	24.3	26.7	33.0	-6.4
				12	0	23.3	25.6	33.0	-7.4
				12	6	23.3	25.6	33.0	-7.4
				12	11	23.3	25.7	33.0	-7.3
				25	0	23.2	25.6	33.0	-7.4
			16QAM	1	0	23.1	25.5	33.0	-7.5
				1	12	23.2	25.5	33.0	-7.5
				1	24	23.2	25.5	33.0	-7.5
				12	0	22.3	24.6	33.0	-8.4
				12	6	22.3	24.7	33.0	-8.4
				12	11	22.3	24.6	33.0	-8.4
				25	0	22.4	24.7	33.0	-8.3

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OUTPUT POWER FOR LTE BAND 2 (10.0 MHz)

Antenna Gain (dBi)		2.35							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	18650	1855.0	QPSK	1	0	**24.5**	**26.8**	33.0	-6.2
				1	24	24.4	26.7	33.0	-6.3
				1	49	24.4	26.8	33.0	-6.3
				25	0	23.4	25.8	33.0	-7.3
				25	12	23.3	25.7	33.0	-7.3
				25	24	23.4	25.7	33.0	-7.3
				50	0	23.5	25.8	33.0	-7.2
			16QAM	1	0	23.5	25.8	33.0	-7.2
				1	24	23.4	25.8	33.0	-7.2
				1	49	23.4	25.8	33.0	-7.3
				25	0	22.5	24.8	33.0	-8.2
				25	12	22.5	24.9	33.0	-8.1
				25	24	22.5	24.8	33.0	-8.2
				50	0	22.5	24.9	33.0	-8.1
10.0	18900	1880.0	QPSK	1	0	24.4	26.8	33.0	-6.3
				1	24	24.4	26.7	33.0	-6.3
				1	49	24.3	26.7	33.0	-6.3
				25	0	23.4	25.7	33.0	-7.3
				25	12	23.4	25.8	33.0	-7.3
				25	24	23.3	25.7	33.0	-7.3
				50	0	23.4	25.8	33.0	-7.2
			16QAM	1	0	23.5	25.8	33.0	-7.2
				1	24	23.4	25.8	33.0	-7.3
				1	49	23.4	25.8	33.0	-7.2
				25	0	22.4	24.8	33.0	-8.3
				25	12	22.4	24.7	33.0	-8.3
				25	24	22.4	24.7	33.0	-8.3
				50	0	22.4	24.8	33.0	-8.3
10.0	19150	1905.0	QPSK	1	0	24.4	26.7	33.0	-6.3
				1	24	24.4	26.7	33.0	-6.3
				1	49	24.4	26.7	33.0	-6.3
				25	0	23.2	25.5	33.0	-7.5
				25	12	23.3	25.6	33.0	-7.4
				25	24	23.3	25.7	33.0	-7.4
				50	0	23.4	25.7	33.0	-7.3
			16QAM	1	0	23.4	25.8	33.0	-7.2
				1	24	23.4	25.8	33.0	-7.2
				1	49	**23.5**	**25.9**	33.0	-7.2
				25	0	22.2	24.6	33.0	-8.5
				25	12	22.3	24.7	33.0	-8.3
				25	24	22.3	24.6	33.0	-8.4
				50	0	22.4	24.7	33.0	-8.3

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OUTPUT POWER FOR LTE BAND 2 (15.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	18675	1857.5	QPSK	1	0	24.4	26.8	33.0	-6.2
				1	37	24.4	26.7	33.0	-6.3
				1	74	**24.5**	**26.8**	33.0	-6.2
				36	0	23.5	25.8	33.0	-7.2
				36	16	23.4	25.8	33.0	-7.2
				36	35	23.5	25.8	33.0	-7.2
				75	0	23.5	25.8	33.0	-7.2
			16-QAM	1	0	**23.7**	**26.0**	33.0	-7.0
				1	37	23.6	25.9	33.0	-7.1
				1	74	**23.7**	**26.0**	33.0	-7.0
				36	0	22.4	24.8	33.0	-8.2
				36	16	22.4	24.8	33.0	-8.2
				36	35	22.4	24.8	33.0	-8.3
				75	0	22.6	25.0	33.0	-8.1
15.0	18900	1880.0	QPSK	1	0	24.4	26.7	33.0	-6.3
				1	37	24.4	26.7	33.0	-6.3
				1	74	24.4	26.7	33.0	-6.3
				36	0	23.5	25.9	33.0	-7.2
				36	16	23.5	25.8	33.0	-7.2
				36	35	23.3	25.7	33.0	-7.3
				75	0	23.6	26.0	33.0	-7.0
			16-QAM	1	0	23.4	25.8	33.0	-7.2
				1	37	23.5	25.8	33.0	-7.2
				1	74	23.4	25.8	33.0	-7.3
				36	0	22.6	24.9	33.0	-8.1
				36	16	22.4	24.8	33.0	-8.3
				36	35	22.4	24.7	33.0	-8.3
				75	0	22.6	25.0	33.0	-8.0
15.0	19125	1902.5	QPSK	1	0	24.4	26.8	33.0	-6.2
				1	37	24.4	26.7	33.0	-6.3
				1	74	24.4	26.8	33.0	-6.3
				36	0	23.4	25.7	33.0	-7.3
				36	16	23.2	25.6	33.0	-7.4
				36	35	23.3	25.7	33.0	-7.4
				75	0	23.7	26.0	33.0	-7.0
			16-QAM	1	0	23.5	25.9	33.0	-7.2
				1	37	23.4	25.8	33.0	-7.2
				1	74	23.5	25.8	33.0	-7.2
				36	0	22.3	24.6	33.0	-8.4
				36	16	22.2	24.5	33.0	-8.5
				36	35	22.3	24.6	33.0	-8.4
				75	0	21.4	23.8	33.0	-9.3

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OUTPUT POWER FOR LTE BAND 2 (20.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	18700	1860.0	QPSK	1	0	24.4	26.7	33.0	-6.3
				1	49	24.3	26.7	33.0	-6.4
				1	99	24.4	26.7	33.0	-6.3
				50	0	23.5	25.8	33.0	-7.2
				50	24	23.4	25.8	33.0	-7.3
				50	49	23.5	25.8	33.0	-7.2
				100	0	23.5	25.8	33.0	-7.2
			16-QAM	1	0	**23.6**	**25.9**	33.0	-7.1
				1	49	23.4	25.8	33.0	-7.3
				1	99	23.5	25.9	33.0	-7.1
				50	0	22.5	24.9	33.0	-8.1
				50	24	22.5	24.8	33.0	-8.2
				50	49	22.5	24.9	33.0	-8.2
				100	0	22.6	24.9	33.0	-8.1
20.0	18900	1880.0	QPSK	1	0	**24.5**	**26.8**	33.0	-6.2
				1	49	24.4	26.8	33.0	-6.3
				1	99	24.4	26.8	33.0	-6.3
				50	0	23.5	25.8	33.0	-7.2
				50	24	23.4	25.8	33.0	-7.3
				50	49	23.4	25.8	33.0	-7.3
				100	0	23.5	25.8	33.0	-7.2
			16-QAM	1	0	23.3	25.7	33.0	-7.3
				1	49	23.3	25.6	33.0	-7.4
				1	99	23.3	25.6	33.0	-7.4
				50	0	22.5	24.9	33.0	-8.2
				50	24	22.5	24.8	33.0	-8.2
				50	49	22.4	24.8	33.0	-8.2
				100	0	22.5	24.9	33.0	-8.1
20.0	19100	1900.0	QPSK	1	0	24.2	26.5	33.0	-6.5
				1	49	24.2	26.5	33.0	-6.5
				1	99	24.2	26.6	33.0	-6.5
				50	0	23.4	25.7	33.0	-7.3
				50	24	23.4	25.7	33.0	-7.3
				50	49	23.3	25.6	33.0	-7.4
				100	0	23.3	25.7	33.0	-7.3
			16-QAM	1	0	23.3	25.6	33.0	-7.4
				1	49	23.2	25.5	33.0	-7.5
				1	99	23.2	25.6	33.0	-7.4
				50	0	22.4	24.8	33.0	-8.3
				50	24	22.3	24.7	33.0	-8.4
				50	49	22.3	24.7	33.0	-8.4
				100	0	22.4	24.7	33.0	-8.3

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7.3. LTE BAND 4

ID:	29439	Date:	2/1/17

OUTPUT POWER FOR LTE BAND 4 (1.4MHz)

Antenna Gain (dBi)		1.00							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	19957	1710.7	QPSK	1	0	24.1	25.1	30.0	-4.9
				1	2	24.1	25.1	30.0	-4.9
				1	5	24.2	25.2	30.0	-4.9
				3	0	24.1	25.1	30.0	-4.9
				3	1	24.1	25.1	30.0	-5.0
				3	2	24.1	25.1	30.0	-4.9
				6	0	23.2	24.2	30.0	-5.9
			16QAM	1	0	23.1	24.1	30.0	-5.9
				1	2	23.0	24.0	30.0	-6.0
				1	5	23.1	24.1	30.0	-5.9
				3	0	23.0	24.0	30.0	-6.0
				3	1	23.1	24.1	30.0	-5.9
				3	2	23.0	24.0	30.0	-6.0
				6	0	22.0	23.0	30.0	-7.0
1.4	20175	1732.5	QPSK	1	0	24.2	25.2	30.0	-4.8
				1	2	24.2	25.2	30.0	-4.8
				1	5	24.2	25.2	30.0	-4.8
				3	0	24.2	25.2	30.0	-4.8
				3	1	**24.3**	**25.3**	30.0	-4.7
				3	2	24.3	25.3	30.0	-4.8
				6	0	23.3	24.3	30.0	-5.7
			16QAM	1	0	23.0	24.0	30.0	-6.0
				1	2	23.0	24.0	30.0	-6.0
				1	5	23.1	24.1	30.0	-6.0
				3	0	23.2	24.2	30.0	-5.9
				3	1	23.0	24.0	30.0	-6.0
				3	2	23.0	24.0	30.0	-6.0
				6	0	22.3	23.3	30.0	-6.7
1.4	20393	1754.3	QPSK	1	0	24.2	25.2	30.0	-4.8
				1	2	24.2	25.2	30.0	-4.8
				1	5	24.2	25.2	30.0	-4.8
				3	0	24.2	25.2	30.0	-4.8
				3	1	24.2	25.2	30.0	-4.8
				3	2	24.2	25.2	30.0	-4.8
				6	0	23.2	24.2	30.0	-5.8
			16QAM	1	0	23.1	24.1	30.0	-5.9
				1	2	23.1	24.1	30.0	-5.9
				1	5	23.1	24.1	30.0	-5.9
				3	0	23.2	24.2	30.0	-5.8
				3	1	23.2	24.2	30.0	-5.8
				3	2	**23.3**	**24.3**	30.0	-5.7
				6	0	22.4	23.4	30.0	-6.6

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OUTPUT POWER FOR LTE BAND 4 (3.0 MHz)

Antenna Gain (dBi)		1.00							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3.0	19965	1711.5	QPSK	1	0	24.1	25.1	30.0	-4.9
				1	7	24.1	25.1	30.0	-4.9
				1	14	24.1	25.1	30.0	-4.9
				8	0	23.1	24.1	30.0	-5.9
				8	4	23.1	24.1	30.0	-6.0
				8	7	23.0	24.0	30.0	-6.0
				8	0	23.1	24.1	30.0	-5.9
			16QAM	8	0	23.1	24.1	30.0	-5.9
				8	7	23.1	24.1	30.0	-6.0
				8	14	23.0	24.0	30.0	-6.0
				8	0	22.1	23.1	30.0	-6.9
				8	4	22.6	23.6	30.0	-6.4
				8	7	22.6	23.6	30.0	-6.4
				8	0	22.3	23.3	30.0	-6.8
3.0	20175	1732.5	QPSK	8	0	24.3	25.3	30.0	-4.7
				8	7	24.3	25.3	30.0	-4.8
				8	14	24.3	25.3	30.0	-4.7
				8	0	23.2	24.2	30.0	-5.8
				8	4	23.3	24.3	30.0	-5.8
				8	7	23.3	24.3	30.0	-5.7
				8	0	23.3	24.3	30.0	-5.7
			16QAM	8	0	23.3	24.3	30.0	-5.8
				8	7	23.4	24.4	30.0	-5.6
				8	14	23.3	24.3	30.0	-5.7
				8	0	22.4	23.4	30.0	-6.7
				8	4	22.1	23.1	30.0	-6.9
				8	7	22.2	23.2	30.0	-6.8
				8	0	22.3	23.3	30.0	-6.7
3.0	20385	1753.5	QPSK	8	0	**24.4**	**25.4**	30.0	-4.6
				8	7	24.3	25.3	30.0	-4.7
				8	14	24.4	25.4	30.0	-4.7
				8	0	23.3	24.3	30.0	-5.7
				8	4	23.2	24.2	30.0	-5.8
				8	7	23.3	24.3	30.0	-5.7
				8	0	23.2	24.2	30.0	-5.8
			16QAM	8	0	23.3	24.3	30.0	-5.8
				8	7	**23.4**	**24.4**	30.0	-5.6
				8	14	23.2	24.2	30.0	-5.8
				8	0	22.3	23.3	30.0	-6.7
				8	4	22.1	23.1	30.0	-6.9
				8	7	22.2	23.2	30.0	-6.8
				8	0	22.2	23.2	30.0	-6.8

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OUTPUT POWER FOR LTE BAND 4 (5.0 MHz)

Antenna Gain (dBi)		1.00							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	19975	1712.5	QPSK	1	0	24.2	25.2	30.0	-4.8
				1	12	24.2	25.2	30.0	-4.8
				1	24	24.3	25.3	30.0	-4.7
				12	0	23.4	24.4	30.0	-5.6
				12	6	23.3	24.3	30.0	-5.7
				12	11	23.4	24.4	30.0	-5.7
				25	0	23.3	24.3	30.0	-5.7
			16QAM	1	0	23.4	24.4	30.0	-5.6
				1	12	23.4	24.4	30.0	-5.6
				1	24	23.4	24.4	30.0	-5.6
				12	0	22.4	23.4	30.0	-6.6
				12	6	22.4	23.4	30.0	-6.6
				12	11	22.4	23.4	30.0	-6.6
				25	0	22.4	23.4	30.0	-6.6
5.0	20175	1732.5	QPSK	1	0	24.5	25.5	30.0	-4.5
				1	12	24.5	25.5	30.0	-4.5
				1	24	**24.5**	**25.5**	30.0	-4.5
				12	0	23.6	24.6	30.0	-5.5
				12	6	23.5	24.5	30.0	-5.5
				12	11	23.5	24.5	30.0	-5.5
				25	0	23.5	24.5	30.0	-5.5
			16QAM	1	0	23.4	24.4	30.0	-5.7
				1	12	23.3	24.3	30.0	-5.7
				1	24	23.4	24.4	30.0	-5.6
				12	0	22.5	23.5	30.0	-6.5
				12	6	22.5	23.5	30.0	-6.5
				12	11	22.5	23.5	30.0	-6.5
				25	0	22.6	23.6	30.0	-6.4
5.0	20375	1752.5	QPSK	1	0	24.4	25.4	30.0	-4.6
				1	12	24.4	25.4	30.0	-4.6
				1	24	24.4	25.4	30.0	-4.7
				12	0	23.5	24.5	30.0	-5.5
				12	6	23.5	24.5	30.0	-5.5
				12	11	23.6	24.6	30.0	-5.4
				25	0	23.5	24.5	30.0	-5.5
			16QAM	1	0	23.5	24.5	30.0	-5.6
				1	12	**23.5**	**24.5**	30.0	-5.5
				1	24	23.4	24.4	30.0	-5.6
				12	0	22.5	23.5	30.0	-6.5
				12	6	22.5	23.5	30.0	-6.5
				12	11	22.5	23.5	30.0	-6.5
				25	0	22.5	23.5	30.0	-6.5

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OUTPUT POWER FOR LTE BAND 4 (10.0 MHz)

Antenna Gain (dBi)	1.00								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	20000	1715.0	QPSK	1	0	24.2	25.2	30.0	-4.8
				1	24	24.2	25.2	30.0	-4.8
				1	49	24.3	25.3	30.0	-4.8
				25	0	23.1	24.1	30.0	-5.9
				25	12	23.1	24.1	30.0	-5.9
				25	24	23.2	24.2	30.0	-5.8
				50	0	23.2	24.2	30.0	-5.8
			16QAM	1	0	23.2	24.2	30.0	-5.8
				1	24	23.2	24.2	30.0	-5.8
				1	49	23.3	24.3	30.0	-5.7
				25	0	22.3	23.3	30.0	-6.8
				25	12	22.2	23.2	30.0	-6.8
				25	24	22.3	23.3	30.0	-6.7
				50	0	22.3	23.3	30.0	-6.8
10.0	20175	1732.5	QPSK	1	0	24.3	25.3	30.0	-4.7
				1	24	24.3	25.3	30.0	-4.8
				1	49	24.3	25.3	30.0	-4.7
				25	0	23.3	24.3	30.0	-5.7
				25	12	23.3	24.3	30.0	-5.7
				25	24	23.3	24.3	30.0	-5.7
				50	0	23.4	24.4	30.0	-5.7
			16QAM	1	0	23.4	24.4	30.0	-5.6
				1	24	23.3	24.3	30.0	-5.7
				1	49	23.4	24.4	30.0	-5.6
				25	0	22.4	23.4	30.0	-6.6
				25	12	22.3	23.3	30.0	-6.7
				25	24	22.3	23.3	30.0	-6.7
				50	0	22.4	23.4	30.0	-6.6
10.0	20350	1750.0	QPSK	1	0	**24.4**	**25.4**	30.0	-4.6
				1	24	24.4	25.4	30.0	-4.6
				1	49	24.4	25.4	30.0	-4.7
				25	0	23.4	24.4	30.0	-5.7
				25	12	23.3	24.3	30.0	-5.7
				25	24	23.3	24.3	30.0	-5.7
				50	0	23.3	24.3	30.0	-5.7
			16QAM	1	0	**23.5**	**24.5**	30.0	-5.6
				1	24	23.4	24.4	30.0	-5.6
				1	49	23.4	24.4	30.0	-5.6
				25	0	22.3	23.3	30.0	-6.7
				25	12	22.3	23.3	30.0	-6.7
				25	24	22.3	23.3	30.0	-6.7
				50	0	22.3	23.3	30.0	-6.8

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OUTPUT POWER FOR LTE BAND 4 (15.0 MHz)

Antenna Gain (dBi)	1.00								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	20025	1717.5	QPSK	1	0	24.2	25.2	30.0	-4.8
				1	37	24.2	25.2	30.0	-4.8
				1	74	24.3	25.3	30.0	-4.7
				36	0	23.3	24.3	30.0	-5.7
				36	16	23.3	24.3	30.0	-5.7
				36	35	23.3	24.3	30.0	-5.7
				75	0	23.4	24.4	30.0	-5.6
			16-QAM	1	0	23.4	24.4	30.0	-5.6
				1	37	**23.5**	**24.5**	30.0	-5.5
				1	74	**23.5**	**24.5**	30.0	-5.5
				36	0	22.3	23.3	30.0	-6.7
				36	16	22.3	23.3	30.0	-6.7
				36	35	22.3	23.3	30.0	-6.7
				75	0	22.5	23.5	30.0	-6.5
15.0	20175	1732.5	QPSK	1	0	24.3	25.3	30.0	-4.7
				1	37	24.3	25.3	30.0	-4.7
				1	74	24.3	25.3	30.0	-4.7
				36	0	23.4	24.4	30.0	-5.6
				36	16	23.4	24.4	30.0	-5.6
				36	35	23.4	24.4	30.0	-5.6
				75	0	23.5	24.5	30.0	-5.5
			16-QAM	1	0	**23.5**	**24.5**	30.0	-5.5
				1	37	23.4	24.4	30.0	-5.6
				1	74	23.4	24.4	30.0	-5.6
				36	0	22.5	23.5	30.0	-6.5
				36	16	22.4	23.4	30.0	-6.6
				36	35	22.4	23.4	30.0	-6.6
				75	0	22.5	23.5	30.0	-6.5
15.0	20325	1747.5	QPSK	1	0	24.4	25.4	30.0	-4.6
				1	37	**24.5**	**25.5**	30.0	-4.5
				1	74	24.4	25.4	30.0	-4.6
				36	0	23.3	24.3	30.0	-5.7
				36	16	23.4	24.4	30.0	-5.6
				36	35	23.5	24.5	30.0	-5.5
				75	0	23.5	24.5	30.0	-5.5
			16-QAM	1	0	**23.5**	**24.5**	30.0	-5.5
				1	37	**23.5**	**24.5**	30.0	-5.5
				1	74	**23.5**	**24.5**	30.0	-5.5
				36	0	22.3	23.3	30.0	-6.7
				36	16	22.4	23.4	30.0	-6.6
				36	35	22.4	23.4	30.0	-6.6
				75	0	22.5	23.5	30.0	-6.5

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OUTPUT POWER FOR LTE BAND 4 (20.0 MHz)

Antenna Gain (dBi)	1.00								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	20050	1720.0	QPSK	1	0	24.3	25.3	30.0	-4.7
				1	49	24.3	25.3	30.0	-4.7
				1	99	24.4	25.4	30.0	-4.6
				50	0	23.4	24.4	30.0	-5.6
				50	24	23.4	24.4	30.0	-5.6
				50	49	23.5	24.5	30.0	-5.5
				100	0	23.4	24.4	30.0	-5.6
			16-QAM	1	0	23.4	24.4	30.0	-5.6
				1	49	23.4	24.4	30.0	-5.6
				1	99	**23.5**	**24.5**	30.0	-5.5
				50	0	22.4	23.4	30.0	-6.6
				50	24	22.5	23.5	30.0	-6.5
				50	49	22.5	23.5	30.0	-6.5
				100	0	22.5	23.5	30.0	-6.5
20.0	20175	1732.5	QPSK	1	0	**24.5**	**25.5**	30.0	-4.5
				1	49	**24.5**	**25.5**	30.0	-4.5
				1	99	**24.5**	**25.5**	30.0	-4.5
				50	0	23.6	24.6	30.0	-5.4
				50	24	23.5	24.5	30.0	-5.5
				50	49	23.5	24.5	30.0	-5.5
				100	0	23.5	24.5	30.0	-5.5
			16-QAM	1	0	23.4	24.4	30.0	-5.6
				1	49	23.3	24.3	30.0	-5.7
				1	99	23.3	24.3	30.0	-5.7
				50	0	22.6	23.6	30.0	-6.4
				50	24	22.5	23.5	30.0	-6.5
				50	49	22.6	23.6	30.0	-6.4
				100	0	22.6	23.6	30.0	-6.4
20.0	20300	1745.0	QPSK	1	0	24.4	25.4	30.0	-4.6
				1	49	24.4	25.4	30.0	-4.6
				1	99	24.4	25.4	30.0	-4.6
				50	0	23.5	24.5	30.0	-5.5
				50	24	23.5	24.5	30.0	-5.5
				50	49	23.5	24.5	30.0	-5.5
				100	0	23.5	24.5	30.0	-5.5
			16-QAM	1	0	**23.5**	**24.5**	30.0	-5.5
				1	49	**23.5**	**24.5**	30.0	-5.5
				1	99	23.4	24.4	30.0	-5.6
				50	0	22.5	23.5	30.0	-6.5
				50	24	22.5	23.5	30.0	-6.5
				50	49	22.6	23.6	30.0	-6.4
				100	0	22.5	23.5	30.0	-6.5

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7.4. LTE BAND 5

ID:	39005	Date:	11/9/16

OUTPUT POWER FOR LTE BAND 5 (1.4MHz)

Antenna Gain (dBi)		0.43							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
1.4	20407	824.7	QPSK	1	0	24.2	22.5	38.45	-16.0
				1	2	24.2	22.5	38.45	-16.0
				1	5	24.2	22.4	38.45	-16.0
				3	0	24.2	22.5	38.45	-16.0
				3	1	24.2	22.5	38.45	-16.0
				3	2	24.2	22.5	38.45	-16.0
				6	0	23.2	21.5	38.45	-16.9
			16QAM	1	0	23.4	21.7	38.45	-16.8
				1	2	23.5	21.8	38.45	-16.7
				1	5	23.5	21.7	38.45	-16.7
				3	0	23.3	21.6	38.45	-16.8
				3	1	23.4	21.7	38.45	-16.8
				3	2	23.3	21.6	38.45	-16.9
				6	0	22.3	20.5	38.45	-17.9
1.4	20525	836.5	QPSK	1	0	24.3	22.5	38.45	-15.9
				1	2	24.2	22.4	38.45	-16.0
				1	5	24.2	22.5	38.45	-16.0
				3	0	24.2	22.5	38.45	-16.0
				3	1	24.2	22.5	38.45	-16.0
				3	2	24.2	22.5	38.45	-16.0
				6	0	23.2	21.5	38.45	-17.0
			16QAM	1	0	23.4	21.7	38.45	-16.8
				1	2	23.4	21.6	38.45	-16.8
				1	5	23.4	21.7	38.45	-16.8
				3	0	23.2	21.5	38.45	-17.0
				3	1	23.2	21.5	38.45	-17.0
				3	2	23.2	21.5	38.45	-17.0
				6	0	22.2	20.5	38.45	-17.9
1.4	20643	848.3	QPSK	1	0	24.3	22.6	38.45	-15.9
				1	2	24.3	22.6	38.45	-15.9
				1	5	**24.3**	**22.6**	38.45	-15.9
				3	0	24.3	22.5	38.45	-15.9
				3	1	24.2	22.5	38.45	-15.9
				3	2	24.2	22.5	38.45	-16.0
				6	0	23.2	21.5	38.45	-17.0
			16QAM	1	0	23.6	21.9	38.45	-16.6
				1	2	**23.7**	**22.0**	38.45	-16.5
				1	5	23.6	21.9	38.45	-16.5
				3	0	23.5	21.8	38.45	-16.7
				3	1	23.6	21.9	38.45	-16.6
				3	2	23.6	21.9	38.45	-16.6
				6	0	22.2	20.5	38.45	-17.9

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OUTPUT POWER FOR LTE BAND 5 (3.0 MHz)

Antenna Gain (dBi)		0.43							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
3.0	20415	825.5	QPSK	1	0	24.2	22.5	38.45	-15.9
				1	7	24.2	22.5	38.45	-16.0
				1	14	24.2	22.5	38.45	-16.0
				8	0	23.2	21.5	38.45	-17.0
				8	4	23.5	21.8	38.45	-16.7
				8	7	23.6	21.9	38.45	-16.6
				15	0	23.5	21.7	38.45	-16.7
			16QAM	1	0	23.5	21.8	38.45	-16.7
				1	7	**23.7**	**22.0**	38.45	-16.4
				1	14	23.7	22.0	38.45	-16.5
				8	0	22.2	20.4	38.45	-18.0
				8	4	22.6	20.9	38.45	-17.6
				8	7	22.6	20.9	38.45	-17.5
				15	0	22.5	20.8	38.45	-17.7
3.0	20525	836.5	QPSK	1	0	**24.3**	**22.6**	38.45	-15.8
				1	7	24.3	22.6	38.45	-15.9
				1	14	24.3	22.6	38.45	-15.9
				8	0	23.2	21.5	38.45	-17.0
				8	4	23.2	21.5	38.45	-17.0
				8	7	23.2	21.5	38.45	-16.9
				15	0	23.2	21.5	38.45	-17.0
			16QAM	1	0	23.4	21.7	38.45	-16.8
				1	7	23.3	21.6	38.45	-16.9
				1	14	23.4	21.6	38.45	-16.8
				8	0	22.2	20.5	38.45	-18.0
				8	4	22.2	20.5	38.45	-18.0
				8	7	22.2	20.5	38.45	-17.9
				15	0	22.3	20.5	38.45	-17.9
3.0	20635	847.5	QPSK	1	0	24.2	22.4	38.45	-16.0
				1	7	24.2	22.5	38.45	-16.0
				1	14	24.3	22.5	38.45	-15.9
				8	0	23.3	21.6	38.45	-16.9
				8	4	23.4	21.7	38.45	-16.8
				8	7	23.5	21.8	38.45	-16.7
				15	0	23.3	21.6	38.45	-16.8
			16QAM	1	0	23.4	21.7	38.45	-16.8
				1	7	23.6	21.9	38.45	-16.6
				1	14	23.7	21.9	38.45	-16.5
				8	0	23.0	21.3	38.45	-17.1
				8	4	22.5	20.8	38.45	-17.7
				8	7	22.6	20.8	38.45	-17.6
				15	0	22.4	20.7	38.45	-17.7

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OUTPUT POWER FOR LTE BAND 5 (5.0 MHz)

Antenna Gain (dBi)		0.43							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	20425	826.5	QPSK	1	0	24.0	22.3	38.45	-16.1
				1	12	24.0	22.3	38.45	-16.2
				1	24	24.1	22.4	38.45	-16.1
				12	0	23.2	21.5	38.45	-17.0
				12	6	23.6	21.8	38.45	-16.6
				12	11	23.5	21.8	38.45	-16.6
				25	0	23.4	21.7	38.45	-16.7
			16QAM	1	0	23.6	21.9	38.45	-16.6
				1	12	**23.9**	**22.2**	38.45	-16.3
				1	24	23.7	22.0	38.45	-16.5
				12	0	22.2	20.5	38.45	-18.0
				12	6	21.7	20.0	38.45	-18.5
				12	11	21.7	19.9	38.45	-18.5
				25	0	21.6	19.8	38.45	-18.6
5.0	20525	836.5	QPSK	1	0	24.1	22.4	38.45	-16.1
				1	12	24.1	22.3	38.45	-16.1
				1	24	24.1	22.4	38.45	-16.1
				12	0	23.2	21.5	38.45	-17.0
				12	6	23.2	21.5	38.45	-17.0
				12	11	23.2	21.5	38.45	-16.9
				25	0	23.3	21.6	38.45	-16.9
			16QAM	1	0	23.2	21.5	38.45	-17.0
				1	12	23.2	21.4	38.45	-17.0
				1	24	23.2	21.5	38.45	-17.0
				12	0	22.2	20.5	38.45	-18.0
				12	6	22.2	20.5	38.45	-18.0
				12	11	22.2	20.5	38.45	-18.0
				25	0	22.2	20.5	38.45	-17.9
5.0	20625	846.5	QPSK	1	0	24.2	22.5	38.45	-16.0
				1	12	24.2	22.5	38.45	-16.0
				1	24	**24.3**	**22.6**	38.45	-15.9
				12	0	23.2	21.5	38.45	-17.0
				12	6	23.3	21.5	38.45	-16.9
				12	11	23.4	21.6	38.45	-16.8
				25	0	23.3	21.6	38.45	-16.9
			16QAM	1	0	23.6	21.9	38.45	-16.6
				1	12	23.5	21.8	38.45	-16.7
				1	24	23.7	21.9	38.45	-16.5
				12	0	23.2	21.5	38.45	-17.0
				12	6	22.4	20.7	38.45	-17.8
				12	11	22.5	20.8	38.45	-17.7
				25	0	22.4	20.7	38.45	-17.8

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OUTPUT POWER FOR LTE BAND 5 (10.0 MHz)

Antenna Gain (dBi)		0.43							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	20450	829.0	QPSK	1	0	24.2	22.5	38.45	-16.0
				1	24	24.2	22.5	38.45	-16.0
				1	49	24.2	22.5	38.45	-16.0
				25	0	23.2	21.5	38.45	-17.0
				25	12	23.7	21.9	38.45	-16.5
				25	24	23.9	22.2	38.45	-16.3
				50	0	23.7	21.9	38.45	-16.5
			16QAM	1	0	23.6	21.9	38.45	-16.6
				1	24	23.7	22.0	38.45	-16.5
				1	49	23.2	21.5	38.45	-17.0
				25	0	22.2	20.5	38.45	-18.0
				25	12	22.7	21.0	38.45	-17.5
				25	24	23.0	21.3	38.45	-17.2
				50	0	22.8	21.0	38.45	-17.4
10.0	20525	836.5	QPSK	1	0	24.2	22.5	38.45	-16.0
				1	24	24.2	22.5	38.45	-16.0
				1	49	24.2	22.5	38.45	-16.0
				25	0	23.2	21.5	38.45	-16.9
				25	12	23.3	21.6	38.45	-16.9
				25	24	23.3	21.5	38.45	-16.9
				50	0	23.3	21.6	38.45	-16.8
			16QAM	1	0	23.2	21.5	38.45	-17.0
				1	24	23.2	21.5	38.45	-17.0
				1	49	23.2	21.5	38.45	-17.0
				25	0	22.3	20.6	38.45	-17.9
				25	12	22.3	20.5	38.45	-17.9
				25	24	22.3	20.5	38.45	-17.9
				50	0	22.3	20.6	38.45	-17.8
10.0	20600	844.0	QPSK	1	0	24.2	22.5	38.45	-16.0
				1	24	**24.2**	**22.5**	38.45	-16.0
				1	49	24.2	22.5	38.45	-16.0
				25	0	23.2	21.5	38.45	-17.0
				25	12	23.7	21.9	38.45	-16.5
				25	24	23.9	22.2	38.45	-16.3
				50	0	23.7	22.0	38.45	-16.5
			16QAM	1	0	23.6	21.9	38.45	-16.6
				1	24	**23.7**	**22.0**	38.45	-16.5
				1	49	23.3	21.6	38.45	-16.9
				25	0	23.3	21.5	38.45	-16.9
				25	12	22.7	21.0	38.45	-17.5
				25	24	22.9	21.2	38.45	-17.3
				50	0	22.8	21.0	38.45	-17.4

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7.5. LTE BAND 7

ID:	29439	Date:	11/21/16

OUTPUT POWER FOR LTE BAND 7 (5.0 MHZ)

Antenna Gain (dBi)		1.20							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	20775	2502.5	QPSK	1	0	23.8	25.0	33.0	-8.0
				1	12	23.9	25.1	33.0	-8.0
				1	24	23.9	25.1	33.0	-7.9
				12	0	22.8	24.0	33.0	-9.0
				12	6	22.6	23.8	33.0	-9.2
				12	11	22.7	23.9	33.0	-9.1
				25	0	22.7	23.9	33.0	-9.1
			16QAM	1	0	23.4	24.6	33.0	-8.4
				1	12	22.7	23.9	33.0	-9.1
				1	24	22.9	24.1	33.0	-8.9
				12	0	21.8	23.0	33.0	-10.0
				12	6	21.7	22.9	33.0	-10.2
				12	11	21.7	22.9	33.0	-10.1
				25	0	21.6	22.8	33.0	-10.2
5.0	21100	2535.0	QPSK	1	0	23.7	24.9	33.0	-8.1
				1	12	23.7	24.9	33.0	-8.1
				1	24	23.7	24.9	33.0	-8.1
				12	0	22.8	24.0	33.0	-9.0
				12	6	23.3	24.5	33.0	-8.5
				12	11	23.4	24.6	33.0	-8.4
				25	0	23.4	24.6	33.0	-8.4
			16QAM	1	0	23.5	24.7	33.0	-8.3
				1	12	23.5	24.7	33.0	-8.4
				1	24	**23.6**	**24.8**	33.0	-8.2
				12	0	21.9	23.1	33.0	-9.9
				12	6	21.4	22.6	33.0	-10.4
				12	11	21.5	22.7	33.0	-10.3
				25	0	21.4	22.6	33.0	-10.4
5.0	21425	2567.5	QPSK	1	0	**24.0**	**25.2**	33.0	-7.8
				1	12	24.0	25.2	33.0	-7.9
				1	24	23.9	25.1	33.0	-7.9
				12	0	22.9	24.1	33.0	-9.0
				12	6	22.8	24.0	33.0	-9.0
				12	11	22.8	24.0	33.0	-9.0
				25	0	22.8	24.0	33.0	-9.0
			16QAM	1	0	22.7	23.9	33.0	-9.2
				1	12	22.6	23.8	33.0	-9.2
				1	24	22.6	23.8	33.0	-9.2
				12	0	21.9	23.1	33.0	-9.9
				12	6	21.9	23.1	33.0	-9.9
				12	11	21.9	23.1	33.0	-10.0
				25	0	21.8	23.0	33.0	-10.0

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OUTPUT POWER FOR LTE BAND 7 (10.0 MHZ)

Antenna Gain (dBi)	1.20								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	20800	2505.0	QPSK	1	0	23.9	25.1	33.0	-7.9
				1	24	24.0	25.2	33.0	-7.9
				1	49	**24.0**	**25.2**	33.0	-7.8
				25	0	22.8	24.0	33.0	-9.1
				25	12	22.9	24.1	33.0	-8.9
				25	24	23.0	24.2	33.0	-8.8
				50	0	22.9	24.1	33.0	-8.9
			16QAM	1	0	**23.4**	**24.6**	33.0	-8.5
				1	24	22.8	24.0	33.0	-9.0
				1	49	22.8	24.0	33.0	-9.1
				25	0	21.7	22.9	33.0	-10.1
				25	12	21.9	23.1	33.0	-9.9
				25	24	22.0	23.2	33.0	-9.8
				50	0	21.9	23.1	33.0	-9.9
10.0	21100	2535.0	QPSK	1	0	23.8	25.0	33.0	-8.0
				1	24	23.7	24.9	33.0	-8.1
				1	49	23.8	25.0	33.0	-8.1
				25	0	22.8	24.0	33.0	-9.0
				25	12	22.4	23.6	33.0	-9.4
				25	24	22.5	23.7	33.0	-9.3
				50	0	22.4	23.6	33.0	-9.4
			16QAM	1	0	22.7	23.9	33.0	-9.1
				1	24	22.7	23.9	33.0	-9.1
				1	49	23.0	24.2	33.0	-8.8
				25	0	21.9	23.1	33.0	-10.0
				25	12	21.5	22.7	33.0	-10.3
				25	24	21.5	22.7	33.0	-10.3
				50	0	21.4	22.6	33.0	-10.4
10.0	21400	2565.0	QPSK	1	0	23.9	25.1	33.0	-7.9
				1	24	23.9	25.1	33.0	-7.9
				1	49	23.9	25.1	33.0	-7.9
				25	0	22.9	24.1	33.0	-8.9
				25	12	23.0	24.2	33.0	-8.9
				25	24	22.9	24.1	33.0	-8.9
				50	0	22.9	24.1	33.0	-8.9
			16QAM	1	0	22.7	23.9	33.0	-9.1
				1	24	22.7	23.9	33.0	-9.1
				1	49	22.7	23.9	33.0	-9.1
				25	0	22.0	23.2	33.0	-9.8
				25	12	22.0	23.2	33.0	-9.8
				25	24	21.9	23.1	33.0	-9.9
				50	0	21.9	23.1	33.0	-9.9

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OUTPUT POWER FOR LTE BAND 7 (15.0 MHZ)

Antenna Gain (dBi)	1.20								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	20825	2507.5	QPSK	1	0	23.8	25.0	33.0	-8.0
				1	37	**23.8**	**25.0**	33.0	-8.0
				1	74	23.8	25.0	33.0	-8.0
				36	0	22.8	24.0	33.0	-9.0
				36	16	22.9	24.1	33.0	-9.0
				36	35	22.9	24.1	33.0	-8.9
				75	0	22.9	24.1	33.0	-9.0
			16-QAM	1	0	**23.2**	**24.4**	33.0	-8.6
				1	37	22.6	23.8	33.0	-9.2
				1	74	22.6	23.8	33.0	-9.2
				36	0	21.8	23.0	33.0	-10.0
				36	16	21.9	23.1	33.0	-9.9
				36	35	22.0	23.2	33.0	-9.8
				75	0	21.9	23.1	33.0	-9.9
15.0	21100	2535.0	QPSK	1	0	23.7	24.9	33.0	-8.1
				1	37	23.7	24.9	33.0	-8.1
				1	74	23.6	24.8	33.0	-8.2
				36	0	22.8	24.0	33.0	-9.1
				36	16	23.3	24.5	33.0	-8.5
				36	35	23.4	24.6	33.0	-8.4
				75	0	23.3	24.5	33.0	-8.5
			16-QAM	1	0	22.7	23.9	33.0	-9.1
				1	37	22.6	23.8	33.0	-9.2
				1	74	22.9	24.1	33.0	-8.9
				36	0	21.8	23.0	33.0	-10.1
				36	16	21.4	22.6	33.0	-10.5
				36	35	21.5	22.7	33.0	-10.3
				75	0	21.3	22.5	33.0	-10.5
15.0	21375	2562.5	QPSK	1	0	23.8	25.0	33.0	-8.0
				1	37	23.8	25.0	33.0	-8.1
				1	74	23.7	24.9	33.0	-8.1
				36	0	23.0	24.2	33.0	-8.9
				36	16	23.0	24.2	33.0	-8.8
				36	35	22.8	24.0	33.0	-9.0
				75	0	22.8	24.0	33.0	-9.0
			16-QAM	1	0	23.0	24.2	33.0	-8.8
				1	37	23.0	24.2	33.0	-8.9
				1	74	22.9	24.1	33.0	-8.9
				36	0	22.0	23.2	33.0	-9.8
				36	16	22.0	23.2	33.0	-9.8
				36	35	22.0	23.2	33.0	-9.9
				75	0	21.9	23.1	33.0	-9.9

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OUTPUT POWER FOR LTE BAND 7 (20.0 MHZ)

Antenna Gain (dBi)	1.20								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	20850	2510.0	QPSK	1	0	23.7	24.9	33.0	-8.1
				1	49	23.7	24.9	33.0	-8.1
				1	99	23.7	24.9	33.0	-8.1
				50	0	22.7	23.9	33.0	-9.1
				50	24	22.9	24.1	33.0	-8.9
				50	49	23.0	24.2	33.0	-8.8
				100	0	22.9	24.1	33.0	-9.0
			16-QAM	1	0	22.5	23.7	33.0	-9.3
				1	49	22.9	24.1	33.0	-8.9
				1	99	23.0	24.2	33.0	-8.8
				50	0	21.7	22.9	33.0	-10.1
				50	24	22.0	23.2	33.0	-9.8
				50	49	22.0	23.2	33.0	-9.8
				100	0	21.9	23.1	33.0	-9.9
20.0	21100	2535.0	QPSK	1	0	**23.8**	**25.0**	33.0	-8.0
				1	49	23.8	25.0	33.0	-8.0
				1	99	23.7	24.9	33.0	-8.1
				50	0	22.8	24.0	33.0	-9.0
				50	24	23.4	24.6	33.0	-8.5
				50	49	23.5	24.7	33.0	-8.3
				100	0	23.3	24.5	33.0	-8.5
			16-QAM	1	0	22.8	24.0	33.0	-9.0
				1	49	22.7	23.9	33.0	-9.1
				1	99	22.8	24.0	33.0	-9.0
				50	0	21.8	23.0	33.0	-10.0
				50	24	21.4	22.6	33.0	-10.4
				50	49	21.5	22.7	33.0	-10.3
				100	0	21.3	22.5	33.0	-10.5
20.0	21350	2560.0	QPSK	1	0	23.8	25.0	33.0	-8.1
				1	49	23.7	24.9	33.0	-8.1
				1	99	23.7	24.9	33.0	-8.1
				50	0	23.0	24.2	33.0	-8.8
				50	24	23.0	24.2	33.0	-8.9
				50	49	22.8	24.0	33.0	-9.0
				100	0	22.9	24.1	33.0	-8.9
			16-QAM	1	0	**23.0**	**24.2**	33.0	-8.8
				1	49	22.9	24.1	33.0	-8.9
				1	99	22.9	24.1	33.0	-8.9
				50	0	22.1	23.3	33.0	-9.7
				50	24	22.0	23.2	33.0	-9.8
				50	49	21.9	23.1	33.0	-9.9
				100	0	22.0	23.2	33.0	-9.9

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7.6. LTE BAND 12

ID:	50820	Date:	11/9/16

OUTPUT POWER FOR LTE BAND 12 (1.4MHZz)

Antenna Gain (dBi)	-1.44								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
1.4	23017	699.7	QPSK	1	0	25.0	21.4	34.77	-13.4
				1	2	24.9	21.3	34.77	-13.4
				1	5	25.0	21.4	34.77	-13.4
				3	0	25.0	21.4	34.77	-13.4
				3	1	25.0	21.4	34.77	-13.4
				3	2	25.0	21.4	34.77	-13.4
				6	0	24.0	20.4	34.77	-14.4
			16QAM	1	0	23.9	20.3	34.77	-14.4
				1	2	23.9	20.3	34.77	-14.5
				1	5	24.0	20.4	34.77	-14.4
				3	0	24.2	20.6	34.77	-14.1
				3	1	24.1	20.5	34.77	-14.3
				3	2	24.2	20.6	34.77	-14.1
				6	0	23.2	19.6	34.77	-15.2
1.4	23095	707.5	QPSK	1	0	24.9	21.3	34.77	-13.4
				1	2	24.9	21.4	34.77	-13.4
				1	5	**25.0**	**21.4**	34.77	-13.4
				3	0	24.9	21.3	34.77	-13.5
				3	1	24.9	21.3	34.77	-13.5
				3	2	25.0	21.4	34.77	-13.4
				6	0	23.8	20.2	34.77	-14.6
			16QAM	1	0	24.1	20.5	34.77	-14.3
				1	2	24.1	20.5	34.77	-14.3
				1	5	24.1	20.5	34.77	-14.3
				3	0	24.0	20.4	34.77	-14.4
				3	1	23.9	20.4	34.77	-14.4
				3	2	23.9	20.4	34.77	-14.4
				6	0	23.1	19.5	34.77	-15.3
1.4	23173	715.3	QPSK	1	0	24.8	21.2	34.77	-13.5
				1	2	24.8	21.2	34.77	-13.6
				1	5	24.8	21.2	34.77	-13.5
				3	0	24.8	21.2	34.77	-13.6
				3	1	24.7	21.1	34.77	-13.6
				3	2	24.8	21.2	34.77	-13.6
				6	0	23.9	20.3	34.77	-14.5
			16QAM	1	0	**24.3**	**20.7**	34.77	-14.1
				1	2	24.2	20.6	34.77	-14.2
				1	5	24.2	20.6	34.77	-14.1
				3	0	24.0	20.4	34.77	-14.4
				3	1	23.9	20.3	34.77	-14.4
				3	2	23.9	20.3	34.77	-14.4
				6	0	23.9	20.3	34.77	-14.4

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OUTPUT POWER FOR LTE BAND 12 (3.0 MHz)

Antenna Gain (dBi)	-1.44								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
3.0	23025	700.5	QPSK	1	0	24.9	21.3	34.77	-13.5
				1	7	24.8	21.2	34.77	-13.5
				1	14	24.8	21.2	34.77	-13.5
				8	0	24.0	20.4	34.77	-14.4
				8	4	24.0	20.4	34.77	-14.4
				8	7	23.9	20.3	34.77	-14.5
				15	0	23.9	20.3	34.77	-14.5
			16QAM	1	0	23.8	20.2	34.77	-14.6
				1	7	23.7	20.1	34.77	-14.6
				1	14	23.7	20.1	34.77	-14.7
				8	0	22.9	19.3	34.77	-15.4
				8	4	22.9	19.3	34.77	-15.4
				8	7	22.9	19.3	34.77	-15.4
				15	0	22.8	19.2	34.77	-15.6
3.0	23095	707.5	QPSK	1	0	24.8	21.2	34.77	-13.5
				1	7	24.8	21.2	34.77	-13.6
				1	14	24.8	21.2	34.77	-13.6
				8	0	23.9	20.3	34.77	-14.4
				8	4	23.8	20.2	34.77	-14.6
				8	7	23.9	20.3	34.77	-14.5
				15	0	23.9	20.3	34.77	-14.5
			16QAM	1	0	23.7	20.1	34.77	-14.6
				1	7	23.6	20.0	34.77	-14.7
				1	14	23.7	20.1	34.77	-14.6
				8	0	22.9	19.3	34.77	-15.4
				8	4	22.9	19.3	34.77	-15.5
				8	7	22.9	19.3	34.77	-15.4
				15	0	22.9	19.3	34.77	-15.4
3.0	23165	714.5	QPSK	1	0	24.9	21.3	34.77	-13.5
				1	7	24.9	21.3	34.77	-13.5
				1	14	**24.9**	**21.3**	34.77	-13.4
				8	0	23.9	20.3	34.77	-14.5
				8	4	23.9	20.3	34.77	-14.5
				8	7	23.9	20.3	34.77	-14.5
				15	0	23.9	20.3	34.77	-14.5
			16QAM	1	0	**24.1**	**20.5**	34.77	-14.3
				1	7	24.0	20.4	34.77	-14.4
				1	14	24.1	20.5	34.77	-14.3
				8	0	22.7	19.1	34.77	-15.7
				8	4	22.7	19.1	34.77	-15.7
				8	7	22.7	19.1	34.77	-15.7
				15	0	22.9	19.4	34.77	-15.4

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OUTPUT POWER FOR LTE BAND 12 (5.0 MHz)

Antenna Gain (dBi)	-1.44								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	23035	701.5	QPSK	1	0	**24.9**	**21.3**	34.77	-13.5
				1	12	24.8	21.2	34.77	-13.6
				1	24	24.8	21.2	34.77	-13.6
				12	0	23.9	20.3	34.77	-14.5
				12	6	24.0	20.4	34.77	-14.4
				12	11	23.9	20.3	34.77	-14.4
				25	0	24.0	20.4	34.77	-14.4
			16QAM	1	0	23.9	20.3	34.77	-14.5
				1	12	23.8	20.2	34.77	-14.6
				1	24	23.8	20.2	34.77	-14.6
				12	0	22.8	19.2	34.77	-15.5
				12	6	22.9	19.3	34.77	-15.5
				12	11	22.9	19.3	34.77	-15.5
				25	0	22.8	19.3	34.77	-15.5
5.0	23095	707.5	QPSK	1	0	24.8	21.2	34.77	-13.5
				1	12	24.7	21.1	34.77	-13.6
				1	24	24.8	21.2	34.77	-13.6
				12	0	23.9	20.3	34.77	-14.5
				12	6	23.8	20.2	34.77	-14.5
				12	11	23.8	20.2	34.77	-14.5
				25	0	23.8	20.2	34.77	-14.6
			16QAM	1	0	23.7	20.1	34.77	-14.7
				1	12	23.6	20.0	34.77	-14.8
				1	24	23.6	20.1	34.77	-14.7
				12	0	22.9	19.3	34.77	-15.5
				12	6	22.8	19.2	34.77	-15.5
				12	11	22.8	19.2	34.77	-15.5
				25	0	22.9	19.3	34.77	-15.4
5.0	23155	713.5	QPSK	1	0	24.8	21.2	34.77	-13.5
				1	12	24.8	21.2	34.77	-13.6
				1	24	24.8	21.2	34.77	-13.5
				12	0	23.8	20.2	34.77	-14.5
				12	6	23.8	20.2	34.77	-14.6
				12	11	23.8	20.2	34.77	-14.6
				25	0	23.8	20.2	34.77	-14.6
			16QAM	1	0	23.9	20.4	34.77	-14.4
				1	12	23.9	20.3	34.77	-14.4
				1	24	**23.9**	**20.4**	34.77	-14.4
				12	0	22.8	19.3	34.77	-15.5
				12	6	22.9	19.3	34.77	-15.5
				12	11	22.9	19.3	34.77	-15.5
				25	0	22.9	19.3	34.77	-15.5

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OUTPUT POWER FOR LTE BAND 12 (10.0 MHz)

Antenna Gain (dBi)	-1.44								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	23060	704.0	QPSK	1	0	**24.9**	**21.3**	34.77	-13.5
				1	24	24.8	21.2	34.77	-13.6
				1	49	24.8	21.2	34.77	-13.5
				25	0	23.9	20.3	34.77	-14.5
				25	12	23.9	20.3	34.77	-14.4
				25	24	23.9	20.3	34.77	-14.5
				50	0	24.0	20.4	34.77	-14.4
			16QAM	1	0	23.8	20.2	34.77	-14.5
				1	24	23.7	20.1	34.77	-14.7
				1	49	23.7	20.2	34.77	-14.6
				25	0	22.9	19.3	34.77	-15.4
				25	12	22.9	19.4	34.77	-15.4
				25	24	22.9	19.3	34.77	-15.4
				50	0	22.9	19.3	34.77	-15.4
10.0	23095	707.5	QPSK	1	0	24.7	21.1	34.77	-13.6
				1	24	24.8	21.2	34.77	-13.6
				1	49	24.7	21.2	34.77	-13.6
				25	0	23.8	20.3	34.77	-14.5
				25	12	23.8	20.2	34.77	-14.5
				25	24	23.8	20.2	34.77	-14.6
				50	0	23.9	20.3	34.77	-14.4
			16QAM	1	0	23.7	20.1	34.77	-14.7
				1	24	23.7	20.1	34.77	-14.7
				1	49	23.7	20.1	34.77	-14.7
				25	0	22.9	19.3	34.77	-15.5
				25	12	22.8	19.3	34.77	-15.5
				25	24	22.8	19.3	34.77	-15.5
				50	0	22.9	19.3	34.77	-15.4
10.0	23130	711.0	QPSK	1	0	24.9	21.3	34.77	-13.5
				1	24	24.8	21.2	34.77	-13.5
				1	49	24.9	21.3	34.77	-13.5
				25	0	23.8	20.2	34.77	-14.5
				25	12	23.8	20.2	34.77	-14.6
				25	24	23.8	20.2	34.77	-14.5
				50	0	23.9	20.3	34.77	-14.5
			16QAM	1	0	24.1	20.5	34.77	-14.3
				1	24	24.0	20.4	34.77	-14.3
				1	49	**24.1**	**20.5**	34.77	-14.3
				25	0	22.9	19.3	34.77	-15.5
				25	12	22.9	19.3	34.77	-15.5
				25	24	22.9	19.3	34.77	-15.5
				50	0	22.9	19.3	34.77	-15.4

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7.7. LTE BAND 13

ID:	43575	Date:	11/9/16

OUTPUT POWER FOR LTE BAND 13 (5.0 MHz)

Antenna Gain (dBi)		-0.74							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	23207	779.5	QPSK	1	0	24.8	21.9	34.77	-12.9
				1	12	24.8	21.9	34.77	-12.9
				1	24	24.8	21.9	34.77	-12.9
				12	0	23.9	21.0	34.77	-13.8
				12	6	24.0	21.1	34.77	-13.7
				12	11	24.0	21.1	34.77	-13.7
				25	0	23.9	21.0	34.77	-13.7
			16QAM	1	0	23.3	20.4	34.77	-14.4
				1	12	24.0	21.1	34.77	-13.7
				1	24	23.9	21.0	34.77	-13.8
				12	0	23.0	20.1	34.77	-14.7
				12	6	22.9	20.1	34.77	-14.7
				12	11	22.9	20.0	34.77	-14.7
				25	0	23.0	20.1	34.77	-14.7
5.0	23230	782.0	QPSK	1	0	**25.0**	**22.1**	34.77	-12.7
				1	12	24.9	22.1	34.77	-12.7
				1	24	24.9	22.0	34.77	-12.8
				12	0	23.9	21.0	34.77	-13.7
				12	6	24.0	21.1	34.77	-13.7
				12	11	23.9	21.0	34.77	-13.7
				25	0	23.9	21.0	34.77	-13.8
			16QAM	1	0	23.9	21.0	34.77	-13.8
				1	12	23.8	20.9	34.77	-13.9
				1	24	23.8	20.9	34.77	-13.9
				12	0	22.9	20.0	34.77	-14.8
				12	6	22.9	20.0	34.77	-14.8
				12	11	22.9	20.0	34.77	-14.8
				25	0	23.0	20.1	34.77	-14.7
5.0	23255	784.5	QPSK	1	0	24.8	21.9	34.77	-12.8
				1	12	24.8	21.9	34.77	-12.9
				1	24	24.8	21.9	34.77	-12.9
				12	0	23.9	21.1	34.77	-13.7
				12	6	23.9	21.0	34.77	-13.8
				12	11	23.9	21.0	34.77	-13.8
				25	0	23.9	21.0	34.77	-13.8
			16QAM	1	0	**24.0**	**21.1**	34.77	-13.7
				1	12	23.9	21.1	34.77	-13.7
				1	24	23.9	21.0	34.77	-13.8
				12	0	23.0	20.1	34.77	-14.7
				12	6	22.9	20.0	34.77	-14.8
				12	11	22.9	20.0	34.77	-14.8
				25	0	22.8	20.0	34.77	-14.8

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OUTPUT POWER FOR LTE BAND 13 (10.0 MHz)

Antenna Gain (dBi)		-0.74							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	23230	782.0	QPSK	1	0	25.0	22.1	34.77	-12.7
				1	24	**25.0**	**22.1**	34.77	-12.7
				1	49	24.9	22.0	34.77	-12.8
				25	0	23.9	21.0	34.77	-13.7
				25	12	23.9	21.0	34.77	-13.8
				25	24	23.9	21.0	34.77	-13.8
				50	0	24.0	21.1	34.77	-13.7
			16QAM	1	0	23.6	20.7	34.77	-14.1
				1	24	**24.1**	**21.2**	34.77	-13.6
				1	49	24.0	21.1	34.77	-13.7
				25	0	22.9	20.1	34.77	-14.7
				25	12	22.9	20.0	34.77	-14.8
				25	24	22.8	19.9	34.77	-14.9
				50	0	23.0	20.1	34.77	-14.7

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7.8. LTE BAND 17

ID:	43575	Date:	11/9/16

OUTPUT POWER FOR LTE BAND 17 (5.0 MHz)

Antenna Gain (dBi)	-1.44								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	23755	706.5	QPSK	1	0	24.7	21.1	34.77	-13.7
				1	12	24.7	21.2	34.77	-13.6
				1	24	24.8	21.2	34.77	-13.6
				12	0	24.0	20.4	34.77	-14.4
				12	6	23.9	20.3	34.77	-14.4
				12	11	23.9	20.3	34.77	-14.5
				25	0	23.9	20.3	34.77	-14.5
			16QAM	1	0	23.8	20.2	34.77	-14.5
				1	12	23.9	20.3	34.77	-14.5
				1	24	23.9	20.3	34.77	-14.5
				12	0	22.9	19.3	34.77	-15.4
				12	6	22.9	19.3	34.77	-15.5
				12	11	22.9	19.3	34.77	-15.5
				25	0	22.9	19.3	34.77	-15.5
5.0	23790	710.0	QPSK	1	0	24.9	21.3	34.77	-13.4
				1	12	24.9	21.3	34.77	-13.5
				1	24	**24.9**	**21.4**	34.77	-13.4
				12	0	24.0	20.4	34.77	-14.4
				12	6	23.9	20.4	34.77	-14.4
				12	11	23.9	20.3	34.77	-14.5
				25	0	23.9	20.3	34.77	-14.5
			16QAM	1	0	23.8	20.2	34.77	-14.6
				1	12	23.8	20.2	34.77	-14.6
				1	24	23.8	20.3	34.77	-14.5
				12	0	23.0	19.4	34.77	-15.4
				12	6	22.9	19.3	34.77	-15.5
				12	11	22.9	19.3	34.77	-15.5
				25	0	23.0	19.4	34.77	-15.4
5.0	23825	713.5	QPSK	1	0	24.8	21.2	34.77	-13.6
				1	12	24.8	21.2	34.77	-13.6
				1	24	24.8	21.2	34.77	-13.6
				12	0	24.0	20.4	34.77	-14.4
				12	6	23.9	20.3	34.77	-14.5
				12	11	23.9	20.3	34.77	-14.4
				25	0	23.9	20.3	34.77	-14.4
			16QAM	1	0	23.9	20.3	34.77	-14.4
				1	12	23.9	20.4	34.77	-14.4
				1	24	**24.0**	**20.4**	34.77	-14.4
				12	0	23.0	19.4	34.77	-15.4
				12	6	22.8	19.3	34.77	-15.5
				12	11	22.9	19.3	34.77	-15.5
				25	0	22.9	19.3	34.77	-15.5

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OUTPUT POWER FOR LTE BAND 17 (10.0 MHz)

Antenna Gain (dBi)		-1.44							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	23790	710.0	QPSK	1	0	24.9	21.3	34.77	-13.5
				1	24	25.0	21.4	34.77	-13.4
				1	49	**25.0**	**21.4**	34.77	-13.4
				25	0	24.0	20.4	34.77	-14.4
				25	12	23.9	20.3	34.77	-14.5
				25	24	23.9	20.3	34.77	-14.5
				50	0	23.9	20.4	34.77	-14.4
			16QAM	1	0	24.0	20.4	34.77	-14.4
				1	24	24.0	20.4	34.77	-14.3
				1	49	**24.0**	**20.5**	34.77	-14.3
				25	0	22.9	19.4	34.77	-15.4
				25	12	22.8	19.2	34.77	-15.5
				25	24	22.8	19.2	34.77	-15.6
				50	0	22.9	19.3	34.77	-15.4

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7.9. LTE BAND 25

ID:	43575	Date:	11/9/16

OUTPUT POWER FOR LTE BAND 25 (1.4MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
1.4	26047	1850.7	QPSK	1	0	24.4	26.8	33.0	-6.3
				1	2	24.4	26.7	33.0	-6.3
				1	5	**24.4**	**26.8**	33.0	-6.2
				3	0	24.4	26.7	33.0	-6.3
				3	1	24.4	26.7	33.0	-6.3
				3	2	24.4	26.7	33.0	-6.3
				6	0	23.4	25.8	33.0	-7.2
			16QAM	1	0	23.4	25.8	33.0	-7.3
				1	2	23.4	25.8	33.0	-7.3
				1	5	23.4	25.8	33.0	-7.3
				3	0	23.4	25.8	33.0	-7.2
				3	1	23.4	25.8	33.0	-7.3
				3	2	23.4	25.8	33.0	-7.3
				6	0	22.4	24.7	33.0	-8.3
1.4	26365	1882.5	QPSK	1	0	24.3	26.7	33.0	-6.3
				1	2	24.3	26.7	33.0	-6.4
				1	5	24.4	26.7	33.0	-6.3
				3	0	24.4	26.8	33.0	-6.3
				3	1	24.4	26.7	33.0	-6.3
				3	2	24.4	26.7	33.0	-6.3
				6	0	23.4	25.8	33.0	-7.3
			16QAM	1	0	23.4	25.8	33.0	-7.2
				1	2	23.4	25.8	33.0	-7.3
				1	5	23.5	25.8	33.0	-7.2
				3	0	23.3	25.7	33.0	-7.3
				3	1	23.3	25.6	33.0	-7.4
				3	2	23.3	25.7	33.0	-7.4
				6	0	22.4	24.8	33.0	-8.3
1.4	26683	1914.3	QPSK	1	0	24.3	26.7	33.0	-6.4
				1	2	24.3	26.7	33.0	-6.4
				1	5	24.4	26.7	33.0	-6.3
				3	0	24.4	26.7	33.0	-6.3
				3	1	24.4	26.8	33.0	-6.3
				3	2	24.4	26.8	33.0	-6.3
				6	0	23.5	25.8	33.0	-7.2
			16QAM	1	0	23.5	25.9	33.0	-7.2
				1	2	23.5	25.8	33.0	-7.2
				1	5	**23.5**	**25.9**	33.0	-7.1
				3	0	23.3	25.7	33.0	-7.4
				3	1	23.4	25.7	33.0	-7.3
				3	2	23.4	25.7	33.0	-7.3
				6	0	22.3	24.7	33.0	-8.3

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OUTPUT POWER FOR LTE BAND 25 (3.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
3.0	26055	1851.5	QPSK	1	0	24.4	26.8	33.0	-6.3
				1	7	24.4	26.7	33.0	-6.3
				1	14	24.4	26.8	33.0	-6.2
				8	0	23.4	25.7	33.0	-7.3
				8	4	23.3	25.7	33.0	-7.4
				8	7	23.4	25.8	33.0	-7.2
				15	0	23.4	25.7	33.0	-7.3
			16QAM	1	0	23.4	25.7	33.0	-7.3
				1	7	23.3	25.7	33.0	-7.4
				1	14	23.4	25.8	33.0	-7.3
				8	0	22.4	24.7	33.0	-8.3
				8	4	22.3	24.7	33.0	-8.3
				8	7	22.4	24.8	33.0	-8.3
				15	0	22.4	24.7	33.0	-8.3
3.0	26365	1882.5	QPSK	1	0	24.4	26.8	33.0	-6.3
				1	7	24.4	26.7	33.0	-6.3
				1	14	24.4	26.8	33.0	-6.2
				8	0	23.3	25.7	33.0	-7.3
				8	4	23.3	25.7	33.0	-7.4
				8	7	23.4	25.8	33.0	-7.3
				15	0	23.4	25.7	33.0	-7.3
			16QAM	1	0	23.4	25.8	33.0	-7.3
				1	7	23.5	25.8	33.0	-7.2
				1	14	23.5	25.8	33.0	-7.2
				8	0	22.4	24.8	33.0	-8.3
				8	4	22.3	24.7	33.0	-8.3
				8	7	22.5	24.8	33.0	-8.2
				15	0	22.3	24.7	33.0	-8.3
3.0	26675	1913.5	QPSK	1	0	24.4	26.8	33.0	-6.2
				1	7	24.4	26.7	33.0	-6.3
				1	14	**24.5**	**26.9**	33.0	-6.2
				8	0	23.3	25.7	33.0	-7.4
				8	4	23.3	25.7	33.0	-7.3
				8	7	23.4	25.7	33.0	-7.3
				15	0	23.3	25.7	33.0	-7.4
			16QAM	1	0	23.5	25.8	33.0	-7.2
				1	7	23.5	25.8	33.0	-7.2
				1	14	**23.6**	**25.9**	33.0	-7.1
				8	0	22.3	24.6	33.0	-8.4
				8	4	22.3	24.7	33.0	-8.3
				8	7	22.4	24.7	33.0	-8.3
				15	0	22.3	24.7	33.0	-8.3

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OUTPUT POWER FOR LTE BAND 25 (5.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	26065	1852.5	QPSK	1	0	24.4	26.8	33.0	-6.3
				1	12	24.4	26.7	33.0	-6.3
				1	24	24.4	26.8	33.0	-6.2
				12	0	23.4	25.7	33.0	-7.3
				12	6	23.3	25.7	33.0	-7.4
				12	11	23.4	25.8	33.0	-7.2
				25	0	23.4	25.7	33.0	-7.3
			16QAM	1	0	23.4	25.7	33.0	-7.3
				1	12	23.3	25.7	33.0	-7.4
				1	24	23.4	25.8	33.0	-7.3
				12	0	22.4	24.7	33.0	-8.3
				12	6	22.3	24.7	33.0	-8.3
				12	11	22.4	24.8	33.0	-8.3
				25	0	22.4	24.7	33.0	-8.3
5.0	26365	1882.5	QPSK	1	0	24.4	26.8	33.0	-6.3
				1	12	24.4	26.7	33.0	-6.3
				1	24	24.4	26.8	33.0	-6.2
				12	0	23.3	25.7	33.0	-7.3
				12	6	23.3	25.7	33.0	-7.4
				12	11	23.4	25.8	33.0	-7.3
				25	0	23.4	25.7	33.0	-7.3
			16QAM	1	0	23.4	25.8	33.0	-7.3
				1	12	23.5	25.8	33.0	-7.2
				1	24	23.5	25.8	33.0	-7.2
				12	0	22.4	24.8	33.0	-8.3
				12	6	22.3	24.7	33.0	-8.3
				12	11	22.5	24.8	33.0	-8.2
				25	0	22.3	24.7	33.0	-8.3
5.0	26665	1912.5	QPSK	1	0	24.4	26.8	33.0	-6.2
				1	12	24.4	26.7	33.0	-6.3
				1	24	**24.5**	**26.9**	33.0	-6.2
				12	0	23.3	25.7	33.0	-7.4
				12	6	23.3	25.7	33.0	-7.3
				12	11	23.4	25.7	33.0	-7.3
				25	0	23.3	25.7	33.0	-7.4
			16QAM	1	0	23.5	25.8	33.0	-7.2
				1	12	23.5	25.8	33.0	-7.2
				1	24	**23.6**	**25.9**	33.0	-7.1
				12	0	22.3	24.6	33.0	-8.4
				12	6	22.3	24.7	33.0	-8.3
				12	11	22.4	24.7	33.0	-8.3
				25	0	22.3	24.7	33.0	-8.3

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OUTPUT POWER FOR LTE BAND 25 (10.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	26090	1855.0	QPSK	1	0	24.4	26.7	33.0	-6.3
				1	24	24.4	26.7	33.0	-6.3
				1	49	24.4	26.7	33.0	-6.3
				25	0	23.4	25.8	33.0	-7.3
				25	12	23.4	25.7	33.0	-7.3
				25	24	23.4	25.7	33.0	-7.3
				50	0	23.4	25.8	33.0	-7.2
			16QAM	1	0	23.4	25.7	33.0	-7.3
				1	24	23.4	25.8	33.0	-7.3
				1	49	23.4	25.8	33.0	-7.2
				25	0	22.5	24.8	33.0	-8.2
				25	12	22.5	24.8	33.0	-8.2
				25	24	22.5	24.8	33.0	-8.2
				50	0	22.5	24.8	33.0	-8.2
10.0	26365	1882.5	QPSK	1	0	**24.5**	**26.8**	33.0	-6.2
				1	24	24.3	26.7	33.0	-6.4
				1	49	24.3	26.6	33.0	-6.4
				25	0	23.4	25.7	33.0	-7.3
				25	12	23.3	25.7	33.0	-7.3
				25	24	23.4	25.7	33.0	-7.3
				50	0	23.4	25.7	33.0	-7.3
			16QAM	1	0	23.5	25.9	33.0	-7.1
				1	24	23.3	25.7	33.0	-7.3
				1	49	23.3	25.7	33.0	-7.3
				25	0	22.4	24.8	33.0	-8.2
				25	12	22.3	24.7	33.0	-8.3
				25	24	22.4	24.8	33.0	-8.3
				50	0	22.3	24.7	33.0	-8.3
10.0	26640	1910.0	QPSK	1	0	24.4	26.7	33.0	-6.3
				1	24	24.3	26.7	33.0	-6.4
				1	49	24.5	26.8	33.0	-6.2
				25	0	23.3	25.6	33.0	-7.4
				25	12	23.2	25.6	33.0	-7.5
				25	24	23.3	25.7	33.0	-7.3
				50	0	23.3	25.7	33.0	-7.3
			16QAM	1	0	23.5	25.8	33.0	-7.2
				1	24	23.4	25.7	33.0	-7.3
				1	49	**23.6**	**25.9**	33.0	-7.1
				25	0	22.3	24.6	33.0	-8.4
				25	12	22.2	24.6	33.0	-8.4
				25	24	22.3	24.7	33.0	-8.3
				50	0	22.2	24.6	33.0	-8.4

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OUTPUT POWER FOR LTE BAND 25 (15.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	26115	1857.5	QPSK	1	0	24.3	26.7	33.0	-6.3
				1	37	24.3	26.7	33.0	-6.3
				1	74	24.4	26.8	33.0	-6.3
				36	0	23.4	25.8	33.0	-7.2
				36	16	23.4	25.8	33.0	-7.2
				36	35	23.4	25.8	33.0	-7.2
				75	0	23.5	25.9	33.0	-7.2
			16-QAM	1	0	23.6	25.9	33.0	-7.1
				1	37	23.6	25.9	33.0	-7.1
				1	74	**23.7**	**26.0**	33.0	-7.0
				36	0	22.4	24.8	33.0	-8.2
				36	16	22.4	24.8	33.0	-8.2
				36	35	22.4	24.8	33.0	-8.3
				75	0	22.6	24.9	33.0	-8.1
15.0	26365	1882.5	QPSK	1	0	24.4	26.8	33.0	-6.2
				1	37	24.4	26.8	33.0	-6.2
				1	74	24.2	26.6	33.0	-6.4
				36	0	23.4	25.7	33.0	-7.3
				36	16	23.4	25.7	33.0	-7.3
				36	35	23.4	25.7	33.0	-7.3
				75	0	23.5	25.8	33.0	-7.2
			16-QAM	1	0	23.5	25.9	33.0	-7.1
				1	37	23.5	25.8	33.0	-7.2
				1	74	23.3	25.7	33.0	-7.3
				36	0	22.5	24.8	33.0	-8.2
				36	16	22.4	24.7	33.0	-8.3
				36	35	22.3	24.7	33.0	-8.3
				75	0	22.5	24.8	33.0	-8.2
15.0	26615	1907.5	QPSK	1	0	24.4	26.8	33.0	-6.2
				1	37	24.3	26.7	33.0	-6.3
				1	74	**24.4**	**26.8**	33.0	-6.2
				36	0	23.4	25.7	33.0	-7.3
				36	16	23.2	25.6	33.0	-7.4
				36	35	23.3	25.7	33.0	-7.4
				75	0	23.4	25.7	33.0	-7.3
			16-QAM	1	0	23.5	25.9	33.0	-7.1
				1	37	23.5	25.8	33.0	-7.2
				1	74	23.6	25.9	33.0	-7.1
				36	0	22.3	24.7	33.0	-8.3
				36	16	22.2	24.6	33.0	-8.5
				36	35	22.3	24.6	33.0	-8.4
				75	0	22.4	24.7	33.0	-8.3

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OUTPUT POWER FOR LTE BAND 25 (20.0 MHz)

Antenna Gain (dBi)	2.35								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	26140	1860.0	QPSK	1	0	24.3	26.6	33.0	-6.4
				1	49	24.3	26.7	33.0	-6.4
				1	99	24.4	26.8	33.0	-6.2
				50	0	23.4	25.8	33.0	-7.2
				50	24	23.5	25.8	33.0	-7.2
				50	49	23.5	25.8	33.0	-7.2
				100	0	23.5	25.8	33.0	-7.2
			16-QAM	1	0	23.5	25.8	33.0	-7.2
				1	49	23.5	25.9	33.0	-7.1
				1	99	**23.6**	**25.9**	33.0	-7.1
				50	0	22.4	24.8	33.0	-8.2
				50	24	22.5	24.9	33.0	-8.1
				50	49	22.5	24.9	33.0	-8.2
				100	0	22.5	24.9	33.0	-8.2
20.0	26365	1882.5	QPSK	1	0	**24.5**	**26.9**	33.0	-6.2
				1	49	24.4	26.7	33.0	-6.3
				1	99	24.5	26.8	33.0	-6.2
				50	0	23.4	25.8	33.0	-7.2
				50	24	23.4	25.8	33.0	-7.3
				50	49	23.4	25.7	33.0	-7.3
				100	0	23.4	25.7	33.0	-7.3
			16-QAM	1	0	23.4	25.7	33.0	-7.3
				1	49	23.2	25.5	33.0	-7.5
				1	99	23.3	25.7	33.0	-7.4
				50	0	22.4	24.8	33.0	-8.3
				50	24	22.4	24.8	33.0	-8.3
				50	49	22.3	24.6	33.0	-8.4
				100	0	22.4	24.8	33.0	-8.3
20.0	26590	1905.0	QPSK	1	0	24.3	26.7	33.0	-6.3
				1	49	24.1	26.5	33.0	-6.5
				1	99	24.2	26.5	33.0	-6.5
				50	0	23.4	25.7	33.0	-7.3
				50	24	23.3	25.7	33.0	-7.3
				50	49	23.3	25.6	33.0	-7.4
				100	0	23.3	25.6	33.0	-7.4
			16-QAM	1	0	23.4	25.7	33.0	-7.3
				1	49	23.2	25.6	33.0	-7.4
				1	99	23.2	25.6	33.0	-7.4
				50	0	22.4	24.8	33.0	-8.2
				50	24	22.4	24.7	33.0	-8.3
				50	49	22.3	24.6	33.0	-8.4
				100	0	22.3	24.6	33.0	-8.4

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7.10. LTE BAND 26

ID:	29439	Date:	11/21/16

OUTPUT POWER FOR LTE BAND 26 (1.4 MHz)

Antenna Gain (dBi)		0.20							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
1.4	26697	814.7	QPSK	1	0	**24.4**	**22.4**	38.45	-16.0
				1	2	24.3	22.3	38.45	-16.1
				1	5	24.3	22.4	38.45	-16.1
				3	0	24.3	22.3	38.45	-16.1
				3	1	24.3	22.4	38.45	-16.1
				3	2	24.3	22.4	38.45	-16.1
				6	0	23.3	21.3	38.45	-17.1
			16QAM	1	0	23.1	21.1	38.45	-17.3
				1	2	23.3	21.4	38.45	-17.1
				1	5	**23.4**	**21.5**	38.45	-17.0
				3	0	23.1	21.2	38.45	-17.3
				3	1	23.2	21.3	38.45	-17.2
				3	2	23.3	21.4	38.45	-17.1
				6	0	22.3	20.3	38.45	-18.2
1.4	26740	819.0	QPSK	1	0	24.3	22.4	38.45	-16.1
				1	2	24.2	22.3	38.45	-16.2
				1	5	24.3	22.3	38.45	-16.1
				3	0	24.3	22.3	38.45	-16.1
				3	1	24.3	22.3	38.45	-16.1
				3	2	24.3	22.3	38.45	-16.1
				6	0	23.4	21.4	38.45	-17.0
			16QAM	1	0	23.4	21.5	38.45	-17.0
				1	2	23.4	21.4	38.45	-17.0
				1	5	23.4	21.5	38.45	-17.0
				3	0	23.3	21.3	38.45	-17.1
				3	1	23.2	21.3	38.45	-17.2
				3	2	23.2	21.3	38.45	-17.2
				6	0	22.3	20.4	38.45	-18.1
1.4	26783	823.3	QPSK	1	0	24.2	22.3	38.45	-16.2
				1	2	24.2	22.3	38.45	-16.2
				1	5	24.3	22.3	38.45	-16.1
				3	0	24.3	22.3	38.45	-16.1
				3	1	24.3	22.3	38.45	-16.1
				3	2	24.3	22.3	38.45	-16.2
				6	0	23.3	21.3	38.45	-17.1
			16QAM	1	0	23.4	21.5	38.45	-17.0
				1	2	23.3	21.4	38.45	-17.1
				1	5	23.4	21.5	38.45	-17.0
				3	0	23.3	21.3	38.45	-17.1
				3	1	23.1	21.1	38.45	-17.3
				3	2	23.0	21.1	38.45	-17.4
				6	0	22.4	20.4	38.45	-18.0

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OUTPUT POWER FOR LTE BAND 26 (3.0 MHz)

Antenna Gain (dBi)	0.20								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
3.0	26705	815.5	QPSK	1	0	**24.4**	**22.4**	38.45	-16.0
				1	7	24.3	22.3	38.45	-16.1
				1	14	24.3	22.4	38.45	-16.1
				8	0	23.3	21.3	38.45	-17.2
				8	4	23.3	21.3	38.45	-17.1
				8	7	23.3	21.4	38.45	-17.1
				15	0	23.3	21.3	38.45	-17.1
			16QAM	1	0	**23.2**	**21.2**	38.45	-17.2
				1	7	23.2	21.2	38.45	-17.2
				1	14	23.2	21.2	38.45	-17.2
				8	0	22.4	20.4	38.45	-18.1
				8	4	22.3	20.4	38.45	-18.1
				8	7	22.3	20.4	38.45	-18.1
				15	0	22.4	20.4	38.45	-18.1
3.0	26740	819.0	QPSK	1	0	24.4	22.4	38.45	-16.0
				1	7	24.4	22.4	38.45	-16.1
				1	14	24.4	22.4	38.45	-16.0
				8	0	23.3	21.3	38.45	-17.1
				8	4	23.3	21.4	38.45	-17.1
				8	7	23.3	21.3	38.45	-17.1
				15	0	23.3	21.3	38.45	-17.1
			16QAM	1	0	23.2	21.2	38.45	-17.2
				1	7	23.1	21.1	38.45	-17.3
				1	14	23.1	21.2	38.45	-17.3
				8	0	22.3	20.4	38.45	-18.1
				8	4	22.3	20.3	38.45	-18.1
				8	7	22.3	20.4	38.45	-18.1
				15	0	22.4	20.4	38.45	-18.0
3.0	26775	822.5	QPSK	1	0	24.4	22.4	38.45	-16.0
				1	7	24.4	22.4	38.45	-16.1
				1	14	24.3	22.4	38.45	-16.1
				8	0	23.3	21.3	38.45	-17.1
				8	4	23.2	21.3	38.45	-17.2
				8	7	23.3	21.3	38.45	-17.1
				15	0	23.3	21.4	38.45	-17.1
			16QAM	1	0	**23.2**	**21.2**	38.45	-17.2
				1	7	23.1	21.1	38.45	-17.3
				1	14	23.2	21.2	38.45	-17.2
				8	0	22.3	20.4	38.45	-18.1
				8	4	22.2	20.3	38.45	-18.2
				8	7	22.2	20.3	38.45	-18.2
				15	0	22.2	20.3	38.45	-18.2

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OUTPUT POWER FOR LTE BAND 26 (5.0 MHz)

Antenna Gain (dBi)	0.20								
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
5.0	26715	816.5	QPSK	1	0	**24.2**	**22.3**	38.45	-16.2
				1	12	24.2	22.3	38.45	-16.2
				1	24	24.2	22.2	38.45	-16.2
				12	0	23.3	21.4	38.45	-17.1
				12	6	23.3	21.3	38.45	-17.1
				12	11	23.3	21.3	38.45	-17.1
				25	0	23.2	21.3	38.45	-17.2
			16QAM	1	0	23.1	21.1	38.45	-17.3
				1	12	23.1	21.1	38.45	-17.3
				1	24	23.1	21.2	38.45	-17.3
				12	0	22.2	20.2	38.45	-18.2
				12	6	22.2	20.2	38.45	-18.2
				12	11	22.2	20.2	38.45	-18.2
				25	0	22.3	20.4	38.45	-18.1
5.0	26740	819.0	QPSK	1	0	24.2	22.2	38.45	-16.2
				1	12	24.1	22.2	38.45	-16.3
				1	24	24.2	22.2	38.45	-16.2
				12	0	23.2	21.3	38.45	-17.2
				12	6	23.2	21.2	38.45	-17.2
				12	11	23.2	21.2	38.45	-17.2
				25	0	23.2	21.2	38.45	-17.2
			16QAM	1	0	**23.2**	**21.2**	38.45	-17.2
				1	12	23.0	21.1	38.45	-17.4
				1	24	**23.2**	**21.2**	38.45	-17.2
				12	0	22.2	20.2	38.45	-18.3
				12	6	22.1	20.2	38.45	-18.3
				12	11	22.2	20.2	38.45	-18.3
				25	0	22.3	20.3	38.45	-18.1
5.0	26765	821.5	QPSK	1	0	24.1	22.2	38.45	-16.3
				1	12	24.1	22.1	38.45	-16.3
				1	24	24.1	22.1	38.45	-16.3
				12	0	23.1	21.2	38.45	-17.3
				12	6	23.1	21.2	38.45	-17.3
				12	11	23.1	21.2	38.45	-17.3
				25	0	23.1	21.2	38.45	-17.3
			16QAM	1	0	23.0	21.0	38.45	-17.4
				1	12	22.9	21.0	38.45	-17.5
				1	24	23.0	21.0	38.45	-17.4
				12	0	22.1	20.1	38.45	-18.3
				12	6	22.0	20.1	38.45	-18.4
				12	11	22.1	20.1	38.45	-18.3
				25	0	22.2	20.2	38.45	-18.2

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OUTPUT POWER FOR LTE BAND 26 (10.0 MHz)

Antenna Gain (dBi)		0.20							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	ERP Average (dBm)	ERP Limit (dBm)	Margin (dB)
10.0	26740	819.0	QPSK	1	0	**24.4**	**22.5**	38.45	-16.0
				1	24	24.4	22.4	38.45	-16.0
				1	49	24.4	22.5	38.45	-16.0
				25	0	23.3	21.3	38.45	-17.2
				25	12	23.1	21.1	38.45	-17.3
				25	24	23.1	21.1	38.45	-17.3
				50	0	23.1	21.2	38.45	-17.3
			16QAM	1	0	23.1	21.2	38.45	-17.3
				1	24	**23.1**	**21.2**	38.45	-17.3
				1	49	23.1	21.2	38.45	-17.3
				25	0	22.3	20.3	38.45	-18.1
				25	12	22.1	20.2	38.45	-18.3
				25	24	22.1	20.1	38.45	-18.3
				50	0	22.2	20.3	38.45	-18.2

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7.11. LTE BAND 41

ID:	43575	Date:	11/9/16

OUTPUT POWER FOR LTE BAND 41 (5.0 MHz)

Antenna Gain (dBi)		1.71							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5.0	39675	2498.5	QPSK	1	0	**22.5**	**24.2**	33.0	-8.8
				1	12	22.4	24.2	33.0	-8.9
				1	24	**22.5**	**24.2**	33.0	-8.8
				12	0	21.5	23.2	33.0	-9.9
				12	6	21.4	23.1	33.0	-9.9
				12	11	21.4	23.1	33.0	-9.9
				25	0	21.6	23.3	33.0	-9.7
			16QAM	1	0	21.6	23.3	33.0	-9.7
				1	12	21.6	23.3	33.0	-9.7
				1	24	21.6	23.3	33.0	-9.7
				12	0	20.6	22.3	33.0	-10.7
				12	6	20.6	22.3	33.0	-10.7
				12	11	20.5	22.2	33.0	-10.8
				25	0	20.6	22.4	33.0	-10.7
5.0	40620	2593.0	QPSK	1	0	22.4	24.1	33.0	-8.9
				1	12	22.5	24.2	33.0	-8.9
				1	24	22.4	24.1	33.0	-8.9
				12	0	21.5	23.2	33.0	-9.8
				12	6	21.5	23.2	33.0	-9.8
				12	11	21.5	23.2	33.0	-9.8
				25	0	21.5	23.2	33.0	-9.8
			16QAM	1	0	21.5	23.2	33.0	-9.8
				1	12	**21.6**	**23.3**	33.0	-9.7
				1	24	21.5	23.2	33.0	-9.8
				12	0	20.7	22.4	33.0	-10.6
				12	6	20.6	22.3	33.0	-10.7
				12	11	20.5	22.2	33.0	-10.8
				25	0	20.6	22.3	33.0	-10.7
5.0	41565	2687.5	QPSK	1	0	22.4	24.1	33.0	-8.9
				1	12	22.3	24.0	33.0	-9.1
				1	24	22.4	24.1	33.0	-8.9
				12	0	21.5	23.2	33.0	-9.8
				12	6	21.3	23.1	33.0	-10.0
				12	11	21.4	23.1	33.0	-9.9
				25	0	21.5	23.2	33.0	-9.8
			16QAM	1	0	21.1	22.8	33.0	-10.2
				1	12	21.2	22.9	33.0	-10.1
				1	24	21.3	23.0	33.0	-10.0
				12	0	21.3	23.0	33.0	-10.0
				12	6	20.2	21.9	33.0	-11.1
				12	11	20.3	22.1	33.0	-11.0
				25	0	20.3	22.0	33.0	-11.0

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OUTPUT POWER FOR LTE BAND 41 (10.0 MHz)

Antenna Gain (dBi)		1.71							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10.0	39700	2501.0	QPSK	1	0	22.4	24.1	33.0	-8.9
				1	24	22.4	24.1	33.0	-8.9
				1	49	22.4	24.2	33.0	-8.9
				25	0	21.4	23.1	33.0	-9.9
				25	12	21.5	23.2	33.0	-9.9
				25	24	21.5	23.2	33.0	-9.8
				50	0	21.5	23.2	33.0	-9.9
			16QAM	1	0	21.6	23.3	33.0	-9.7
				1	24	21.6	23.3	33.0	-9.7
				1	49	21.6	23.3	33.0	-9.7
				25	0	20.6	22.3	33.0	-10.7
				25	12	20.6	22.3	33.0	-10.7
				25	24	20.6	22.3	33.0	-10.7
				50	0	20.5	22.2	33.0	-10.8
10.0	40620	2593.0	QPSK	1	0	22.4	24.1	33.0	-8.9
				1	24	22.4	24.1	33.0	-8.9
				1	49	22.4	24.1	33.0	-8.9
				25	0	21.5	23.2	33.0	-9.8
				25	12	21.5	23.2	33.0	-9.9
				25	24	21.5	23.2	33.0	-9.8
				50	0	21.5	23.2	33.0	-9.9
			16QAM	1	0	21.5	23.2	33.0	-9.8
				1	24	21.5	23.2	33.0	-9.8
				1	49	21.5	23.2	33.0	-9.8
				25	0	20.6	22.3	33.0	-10.7
				25	12	20.6	22.3	33.0	-10.7
				25	24	20.6	22.3	33.0	-10.7
				50	0	20.5	22.2	33.0	-10.8
10.0	41540	2685.0	QPSK	1	0	22.4	24.1	33.0	-8.9
				1	24	**22.5**	**24.2**	33.0	-8.8
				1	49	22.4	24.2	33.0	-8.9
				25	0	21.5	23.2	33.0	-9.8
				25	12	21.4	23.1	33.0	-10.0
				25	24	21.5	23.2	33.0	-9.8
				50	0	21.5	23.2	33.0	-9.8
			16QAM	1	0	21.5	23.2	33.0	-9.8
				1	24	**21.6**	**23.3**	33.0	-9.7
				1	49	21.6	23.3	33.0	-9.7
				25	0	20.6	22.3	33.0	-10.7
				25	12	20.5	22.2	33.0	-10.8
				25	24	20.5	22.3	33.0	-10.8
				50	0	20.6	22.3	33.0	-10.7

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OUTPUT POWER FOR LTE BAND 41 (15.0 MHz)

Antenna Gain (dBi)		1.71							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15.0	39725	2503.5	QPSK	1	0	22.4	24.1	33.0	-8.9
				1	37	22.4	24.1	33.0	-8.9
				1	74	22.5	24.2	33.0	-8.9
				36	0	21.4	23.2	33.0	-9.9
				36	16	21.5	23.2	33.0	-9.8
				36	35	21.5	23.2	33.0	-9.8
				75	0	21.5	23.2	33.0	-9.8
			16-QAM	1	0	21.6	23.3	33.0	-9.8
				1	37	21.6	23.3	33.0	-9.8
				1	74	21.6	23.3	33.0	-9.7
				36	0	20.6	22.3	33.0	-10.7
				36	16	20.6	22.3	33.0	-10.7
				36	35	20.6	22.3	33.0	-10.7
				75	0	20.7	22.4	33.0	-10.7
15.0	40620	2593.0	QPSK	1	0	22.5	24.2	33.0	-8.8
				1	37	22.4	24.1	33.0	-8.9
				1	74	22.4	24.1	33.0	-8.9
				36	0	21.5	23.2	33.0	-9.8
				36	16	21.4	23.1	33.0	-9.9
				36	35	21.5	23.2	33.0	-9.8
				75	0	21.5	23.2	33.0	-9.8
			16-QAM	1	0	21.6	23.3	33.0	-9.7
				1	37	21.6	23.3	33.0	-9.7
				1	74	21.5	23.3	33.0	-9.8
				36	0	20.6	22.3	33.0	-10.7
				36	16	20.6	22.3	33.0	-10.7
				36	35	20.6	22.3	33.0	-10.7
				75	0	20.6	22.3	33.0	-10.7
15.0	41515	2682.5	QPSK	1	0	22.4	24.1	33.0	-8.9
				1	37	22.3	24.0	33.0	-9.0
				1	74	**22.5**	**24.2**	33.0	-8.8
				36	0	22.3	24.0	33.0	-9.0
				36	16	21.2	22.9	33.0	-10.1
				36	35	21.2	22.9	33.0	-10.1
				75	0	21.3	23.0	33.0	-10.0
			16-QAM	1	0	21.6	23.3	33.0	-9.7
				1	37	21.5	23.2	33.0	-9.9
				1	74	**21.7**	**23.4**	33.0	-9.6
				36	0	21.4	23.1	33.0	-10.0
				36	16	20.2	21.9	33.0	-11.1
				36	35	20.3	22.0	33.0	-11.1
				75	0	20.3	22.0	33.0	-11.0

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OUTPUT POWER FOR LTE BAND 41 (20.0 MHz)

Antenna Gain (dBi)		1.71							
Bandwidth	UL Channel	Frequency (MHz)	Modulation	RB Size	RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20.0	39750	2506.0	QPSK	1	0	**22.5**	**24.2**	33.0	-8.8
				1	49	22.5	24.2	33.0	-8.8
				1	99	22.4	24.2	33.0	-8.9
				50	0	21.5	23.2	33.0	-9.8
				50	24	21.6	23.3	33.0	-9.7
				50	49	21.5	23.2	33.0	-9.8
				100	0	21.5	23.2	33.0	-9.8
			16-QAM	1	0	21.6	23.3	33.0	-9.7
				1	49	**21.6**	**23.3**	33.0	-9.7
				1	99	21.5	23.3	33.0	-9.8
				50	0	20.7	22.4	33.0	-10.6
				50	24	20.7	22.4	33.0	-10.6
				50	49	20.6	22.3	33.0	-10.7
				100	0	20.6	22.3	33.0	-10.7
20.0	40620	2593.0	QPSK	1	0	22.5	24.2	33.0	-8.8
				1	49	22.5	24.2	33.0	-8.8
				1	99	22.5	24.2	33.0	-8.8
				50	0	21.5	23.2	33.0	-9.8
				50	24	21.5	23.3	33.0	-9.8
				50	49	21.5	23.2	33.0	-9.8
				100	0	21.5	23.2	33.0	-9.8
			16-QAM	1	0	21.6	23.3	33.0	-9.7
				1	49	**21.6**	**23.3**	33.0	-9.7
				1	99	21.6	23.3	33.0	-9.7
				50	0	20.7	22.4	33.0	-10.6
				50	24	20.7	22.4	33.0	-10.6
				50	49	20.6	22.3	33.0	-10.7
				100	0	20.6	22.3	33.0	-10.7
20.0	41490	2680.0	QPSK	1	0	22.4	24.1	33.0	-8.9
				1	49	22.5	24.2	33.0	-8.9
				1	99	22.4	24.1	33.0	-8.9
				50	0	21.5	23.2	33.0	-9.8
				50	24	21.5	23.2	33.0	-9.8
				50	49	21.5	23.2	33.0	-9.8
				100	0	21.5	23.2	33.0	-9.8
			16-QAM	1	0	21.5	23.2	33.0	-9.8
				1	49	21.6	23.3	33.0	-9.7
				1	99	21.5	23.2	33.0	-9.8
				50	0	20.6	22.3	33.0	-10.7
				50	24	20.6	22.3	33.0	-10.7
				50	49	20.6	22.3	33.0	-10.7
				100	0	20.6	22.3	33.0	-10.7

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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 middle 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 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested.

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LTE BAND 2

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 2	1.4 MHz, QPSK	6/0	1880.0	1.0820	1.275
	1.4 MHz,16QAM			1.0864	1.282
	3 MHz, QPSK	15/0		2.6972	2.970
	3 MHz, 16QAM			2.6991	2.982
	5 MHz, QPSK	25/0		4.4990	4.977
	5 MHz, 16QAM			4.4986	4.981
	10 MHz, QPSK	50/0		8.9776	9.840
	10 MHz, 16QAM			8.9823	9.876
	15 MHz, QPSK	75/0		13.436	14.58
	15 MHz, 16QAM			13.429	14.58
	20 MHz, QPSK	100/0		17.905	19.21
	20 MHz, 16QAM			17.894	19.22

LTE BAND 4

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 4	1.4 MHz, QPSK	6/0	1732.5	1.0856	1.252
	1.4 MHz,16QAM			1.0927	1.296
	3 MHz, QPSK	15/0		2.6892	2.960
	3 MHz, 16QAM			2.6857	2.958
	5 MHz, QPSK	25/0		4.5046	4.985
	5 MHz, 16QAM			4.4957	4.971
	10 MHz, QPSK	50/0		8.9601	9.766
	10 MHz, 16QAM			8.9343	9.775
	15 MHz, QPSK	75/0		13.4219	14.600
	15 MHz, 16QAM			13.4047	14.412
	20 MHz, QPSK	100/0		17.8676	19.209
	20 MHz, 16QAM			17.8571	19.096

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LTE BAND 5

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 5	1.4 MHz, QPSK	6/0	836.5	1.0796	1.257
	1.4 MHz,16QAM			1.0885	1.276
	3 MHz, QPSK	15/0		2.6813	2.951
	3 MHz, 16QAM			2.6910	2.950
	5 MHz, QPSK	25/0		4.4904	4.918
	5 MHz, 16QAM			4.4985	4.933
	10 MHz, QPSK	50/0		8.9597	9.794
	10 MHz, 16QAM			8.9441	9.725

LTE BAND 7

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 7	5 MHz, QPSK	25/0	2535.0	4.5063	4.965
	5 MHz, 16QAM			4.5036	5.014
	10 MHz, QPSK	50/0		8.9779	9.845
	10 MHz, 16QAM			8.9599	9.839
	15 MHz, QPSK	75/0		13.437	14.58
	15 MHz, 16QAM			13.446	14.62
	20 MHz, QPSK	100/0		17.868	19.36
	20 MHz, 16QAM			17.902	19.31

LTE BAND 12

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 12	1.4 MHz, QPSK	6/0	707.5	1.0711	1.236
	1.4 MHz,16QAM			1.0733	1.214
	3 MHz, QPSK	15/0		2.6676	2.864
	3 MHz, 16QAM			2.6640	2.856
	5 MHz, QPSK	25/0		4.4552	4.677
	5 MHz, 16QAM			4.4463	4.685
	10 MHz, QPSK	50/0		8.9327	9.844
	10 MHz, 16QAM			8.9325	9.581

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LTE BAND 13

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 13	5 MHz, QPSK	25/0	782.0	4.4493	4.679
	5 MHz, 16QAM			4.4552	4.683
	10 MHz, QPSK	50/0		8.9337	9.726
	10 MHz, 16QAM			8.9212	9.731

LTE BAND 17

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 17	5 MHz, QPSK	25/0	710.0	4.4952	4.962
	5 MHz, 16QAM			4.4878	4.891
	10 MHz, QPSK	50/0		8.9625	9.841
	10 MHz, 16QAM			8.9582	9.751

LTE BAND 25

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 25	1.4 MHz, QPSK	6/0	1882.5	1.0876	1.275
	1.4 MHz,16QAM			1.0955	1.302
	3 MHz, QPSK	15/0		2.6977	2.961
	3 MHz, 16QAM			2.7018	2.988
	5 MHz, QPSK	25/0		4.5119	4.991
	5 MHz, 16QAM			4.5026	5.005
	10 MHz, QPSK	50/0		8.9779	9.858
	10 MHz, 16QAM			8.9718	9.861
	15 MHz, QPSK	75/0		13.433	14.66
	15 MHz, 16QAM			13.437	14.62
	20 MHz, QPSK	100/0		17.871	19.18
	20 MHz, 16QAM			17.874	19.26

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LTE BAND 26

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 26	1.4 MHz, QPSK	6/0	819.0	1.0580	1.196
	1.4 MHz,16QAM			1.0610	1.230
	3 MHz, QPSK	15/0		2.7084	2.811
	3 MHz, 16QAM			2.6858	2.824
	5 MHz, QPSK	25/0		4.1980	4.758
	5 MHz, 16QAM			4.2177	4.812
	10 MHz, QPSK	50/0		8.5410	9.182
	10 MHz, 16QAM			8.4328	9.284
	5 MHz, 16QAM			4.4697	4.868
	10 MHz, QPSK	50/0		8.9781	9.658
	10 MHz, 16QAM			8.9727	9.539
	15 MHz, QPSK	75/0		13.4060	14.348
	15 MHz, 16QAM			13.3670	14.273
	20 MHz, QPSK	100/0		17.8493	19.082
	20 MHz, 16QAM			17.8261	18.851

LTE BAND 41

BAND	MODE	RB SIZE/RB OFFSET	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 41	5 MHz, QPSK	25/0	2593.0	4.4994	5.007
	5 MHz, 16QAM			4.4981	5.020
	10 MHz, QPSK	50/0		8.9448	9.763
	10 MHz, 16QAM			8.9739	9.787
	15 MHz, QPSK	75/0		13.419	14.52
	15 MHz, 16QAM			13.413	14,61
	20 MHz, QPSK	100/0		17.837	19.25
	20 MHz, 16QAM			17.848	19.16

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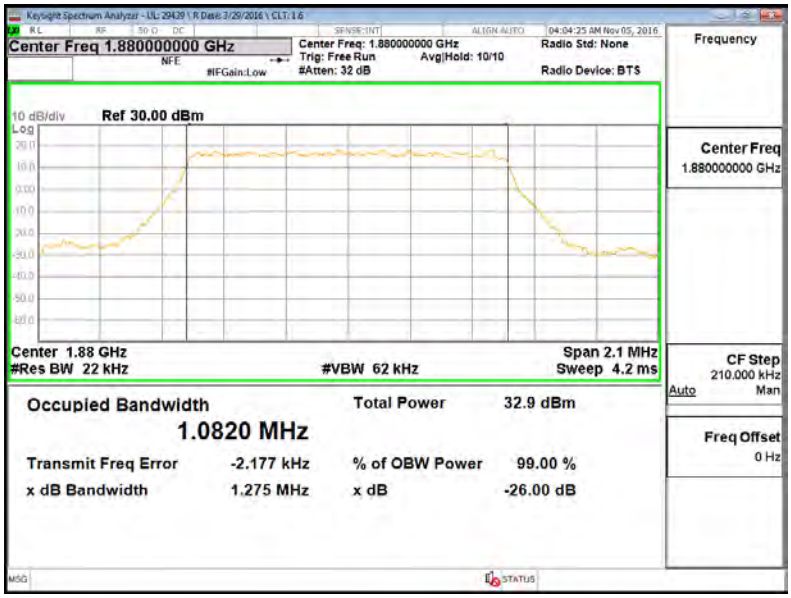
8.1.1. LTE BAND 2

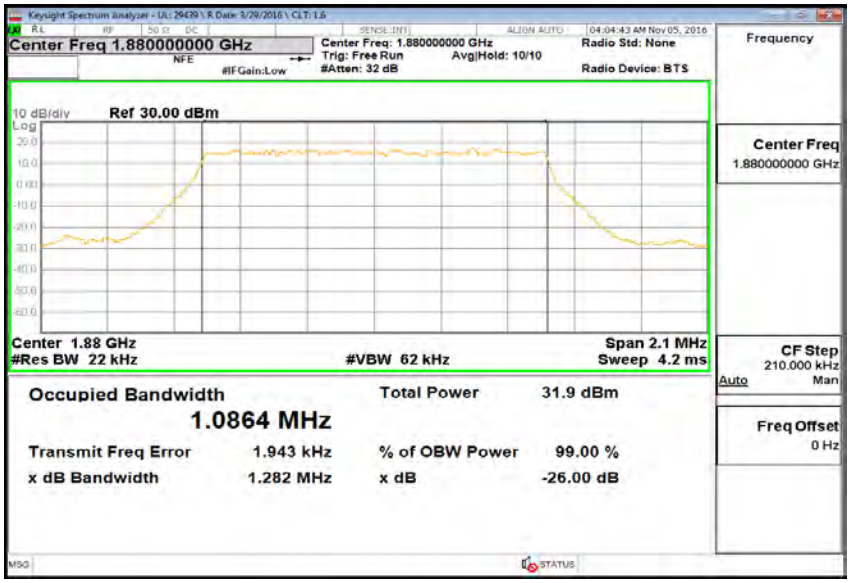
LTE BAND 2 QPSK, (1.4 MHz)

MID CH, RB6-0



LTE BAND 2 16QAM, (1.4 MHz)

MID CH, RB6-0



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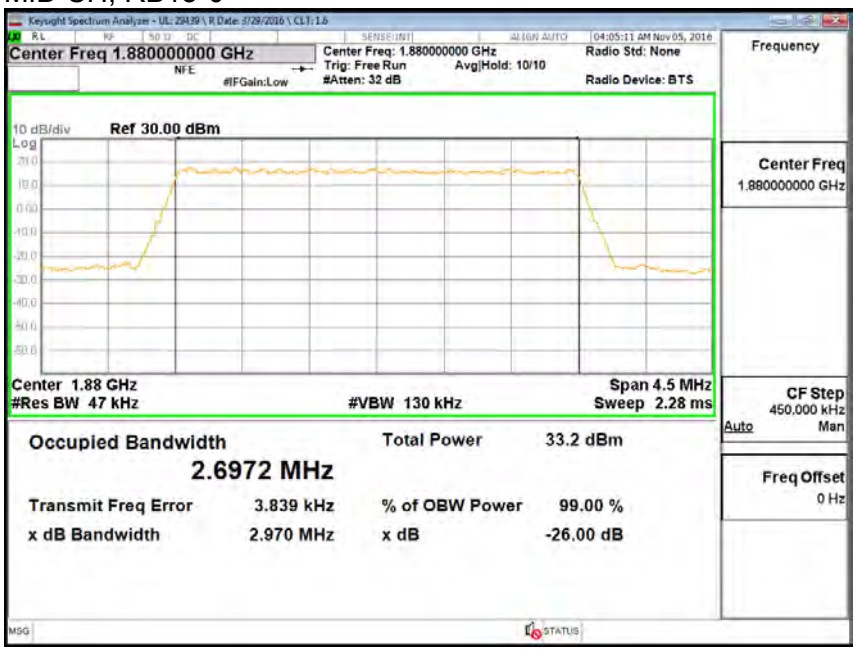
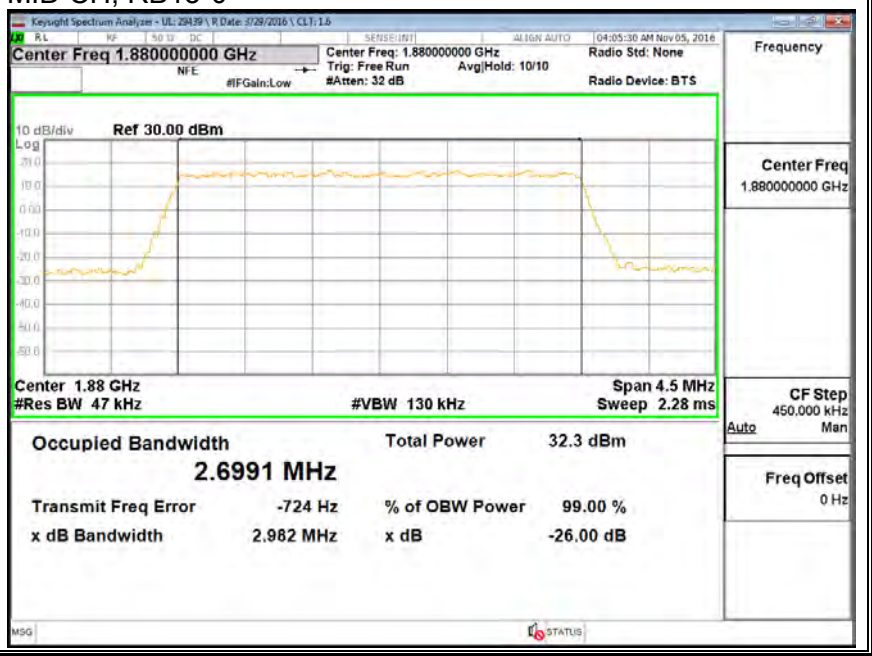
LTE BAND 2 QPSK, (3 MHz)

MID CH, RB15-0



LTE BAND 2 16QAM, (3 MHz)

MID CH, RB15-0



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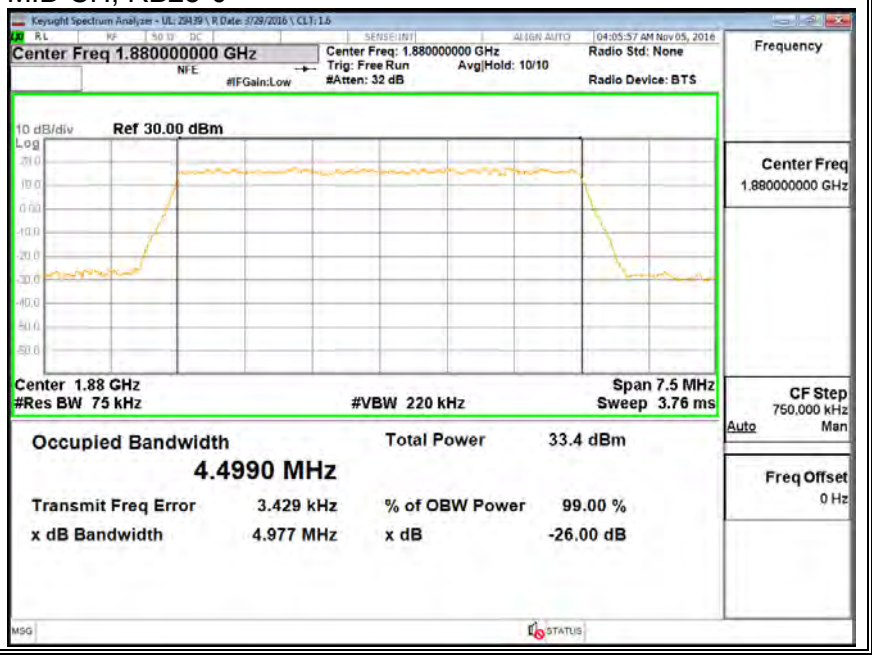
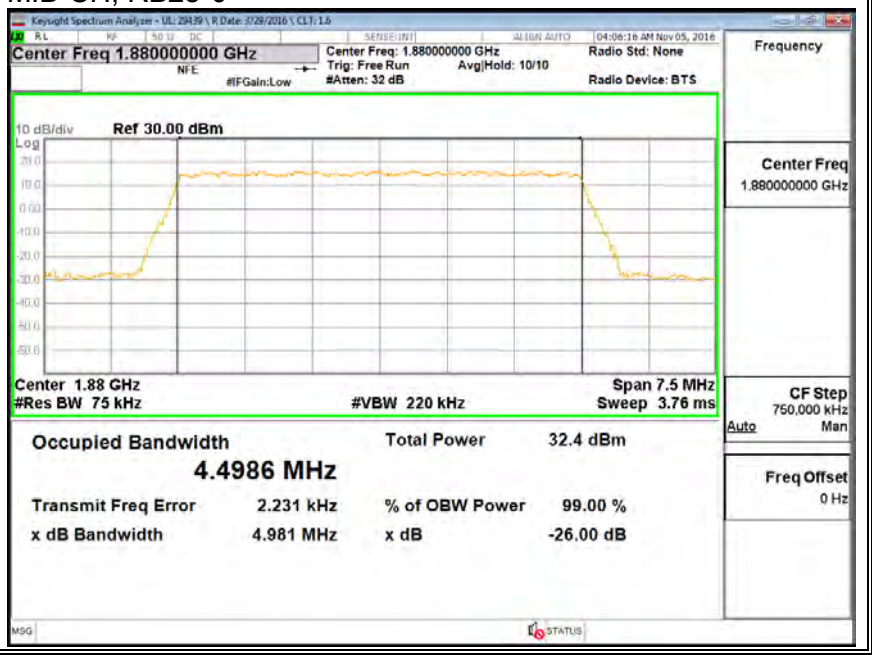
LTE BAND 2 QPSK, (5 MHz)

MID CH, RB25-0



LTE BAND 2 16QAM, (5 MHz)

MID CH, RB25-0



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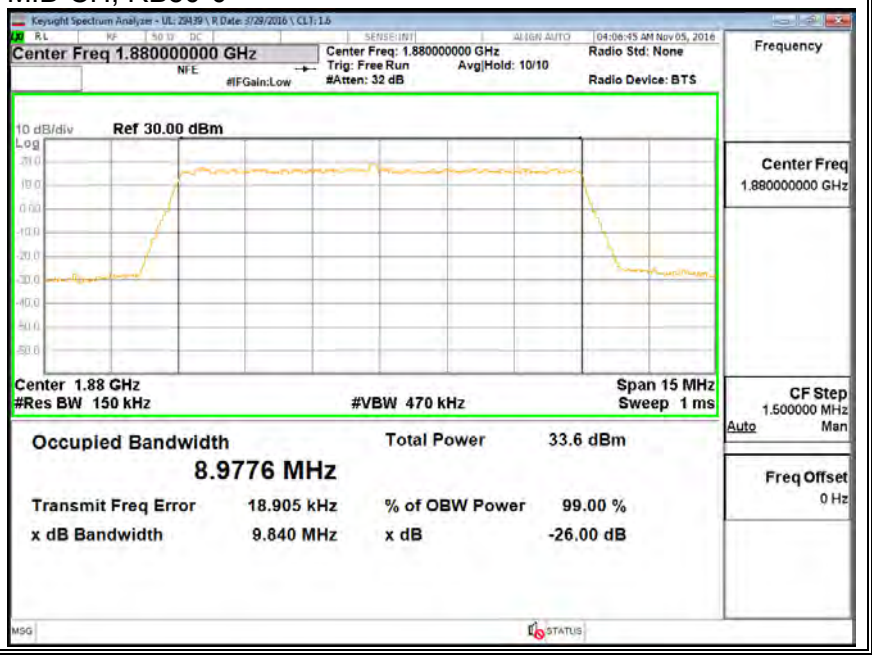
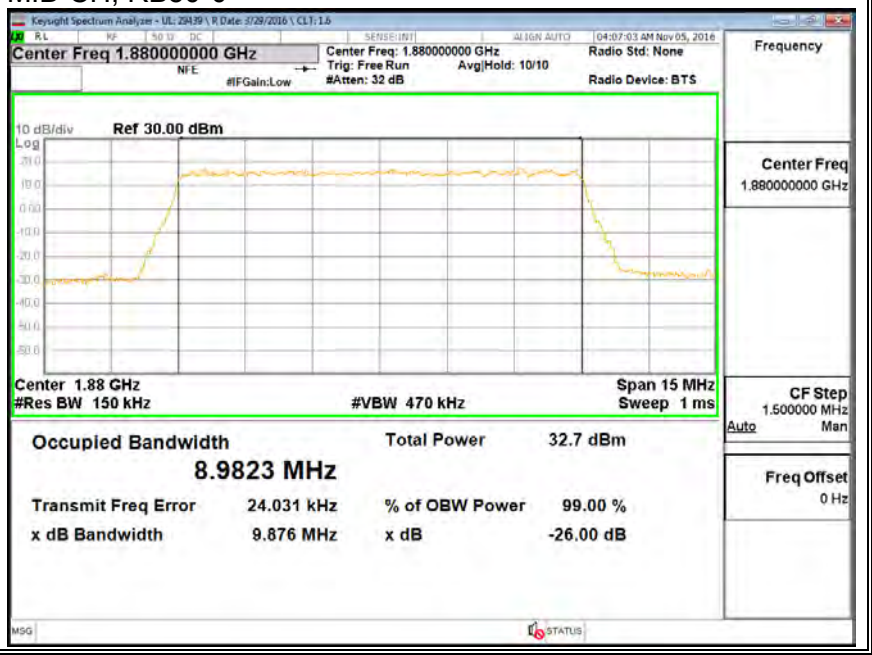
LTE BAND 2 QPSK, (10 MHz)

MID CH, RB50-0



LTE BAND 2 16QAM, (10 MHz)

MID CH, RB50-0



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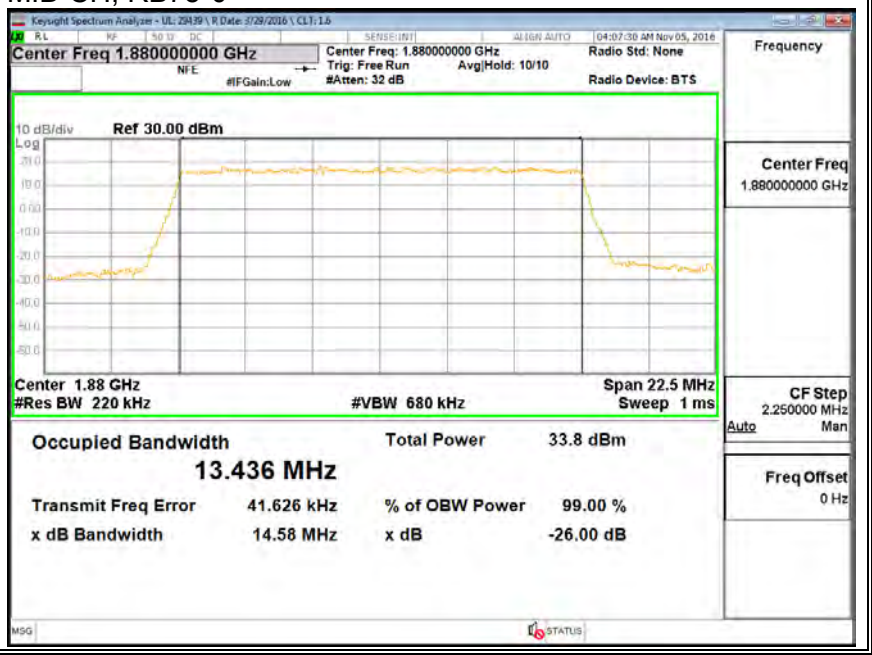
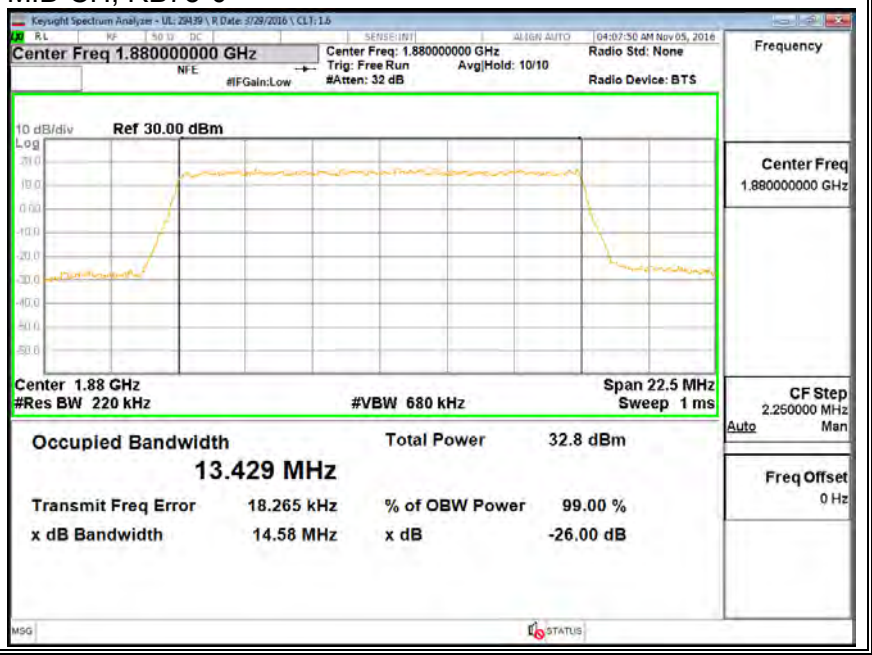
LTE BAND 2 QPSK, (15 MHz)

MID CH, RB75-0



LTE BAND 2 16QAM, (15 MHz)

MID CH, RB75-0



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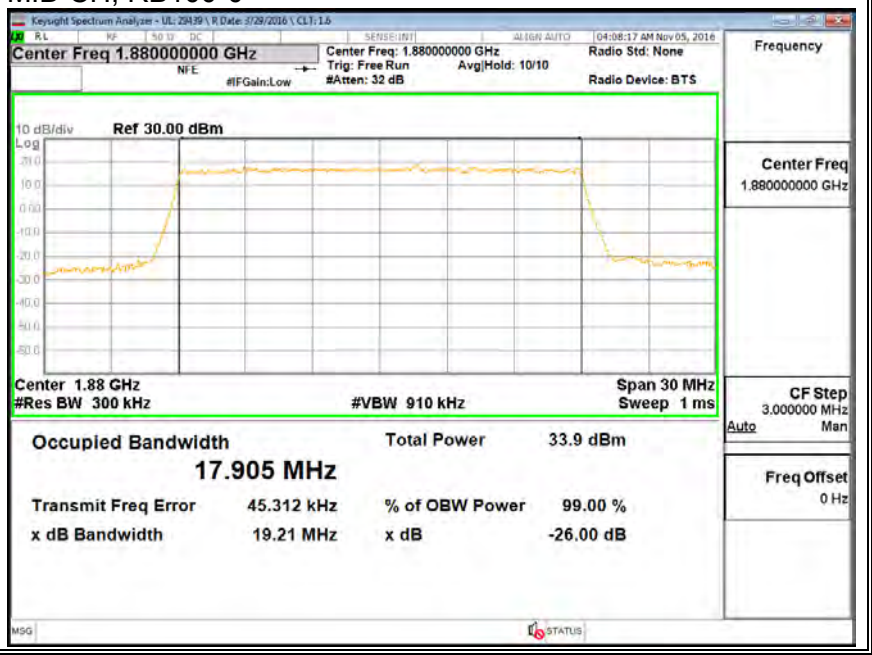
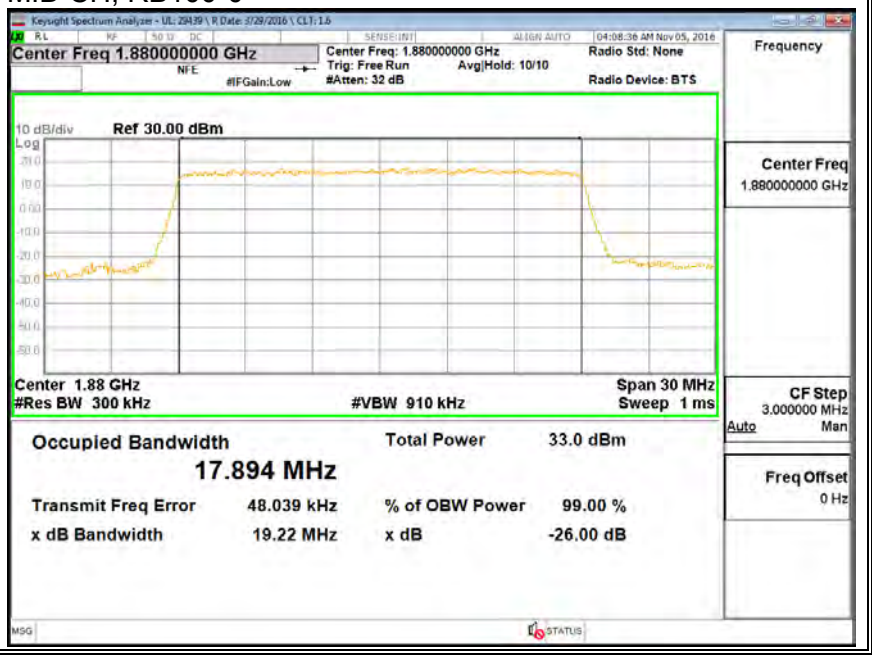
LTE BAND 2 QPSK, (20 MHz)

MID CH, RB100-0



LTE BAND 2 16QAM, (20 MHz)

MID CH, RB100-0



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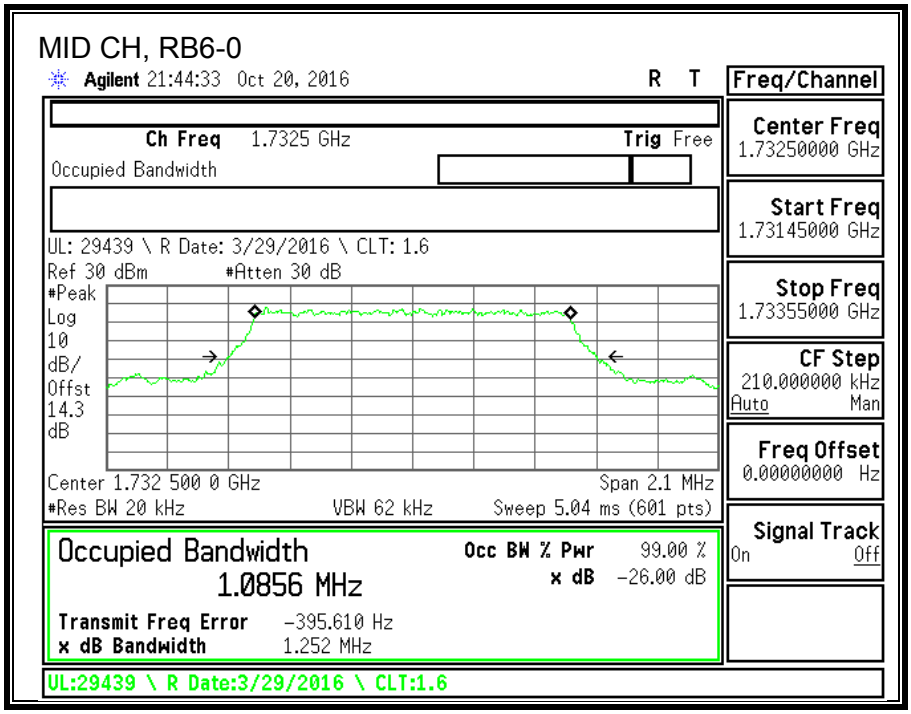
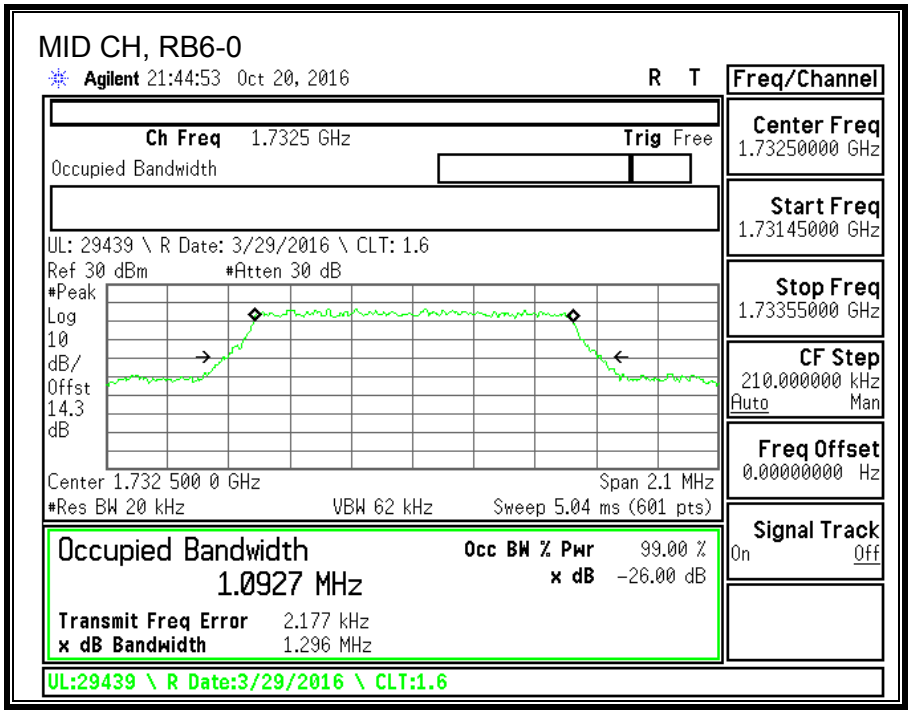
8.1.2. LTE BAND 4

LTE BAND 4 QPSK, (1.4 MHz)



LTE BAND 4 16QAM, (1.4 MHz)



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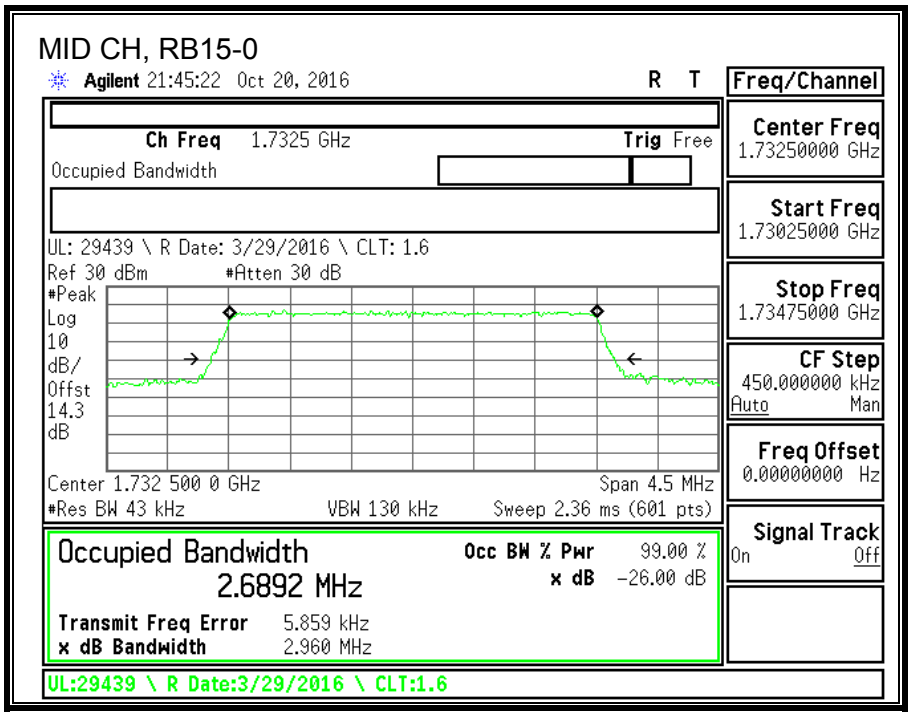
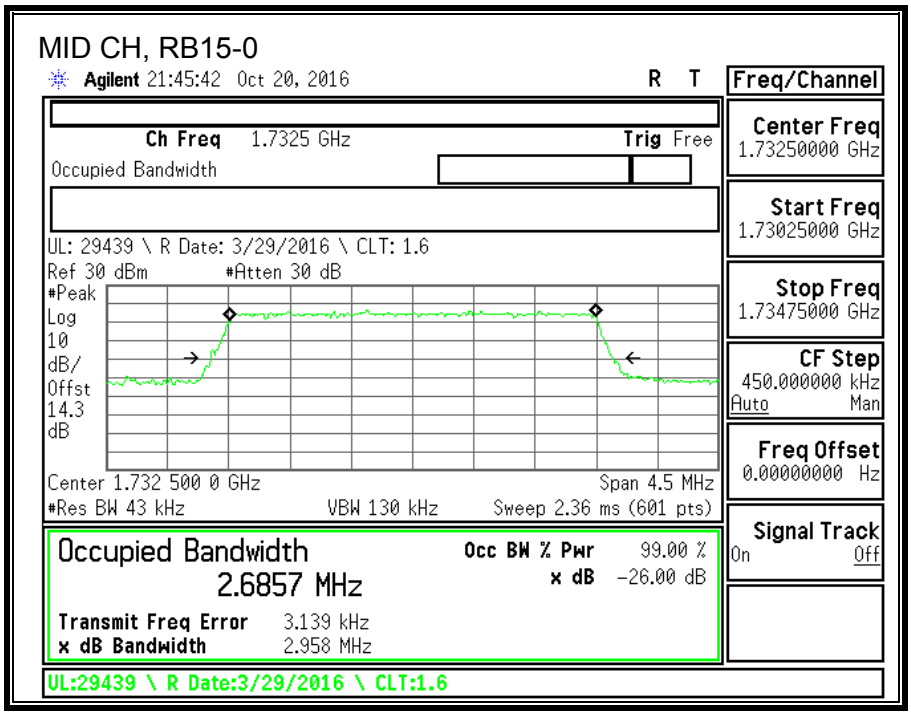
LTE BAND 4 QPSK, (3 MHz)



LTE BAND 4 16QAM, (3 MHz)



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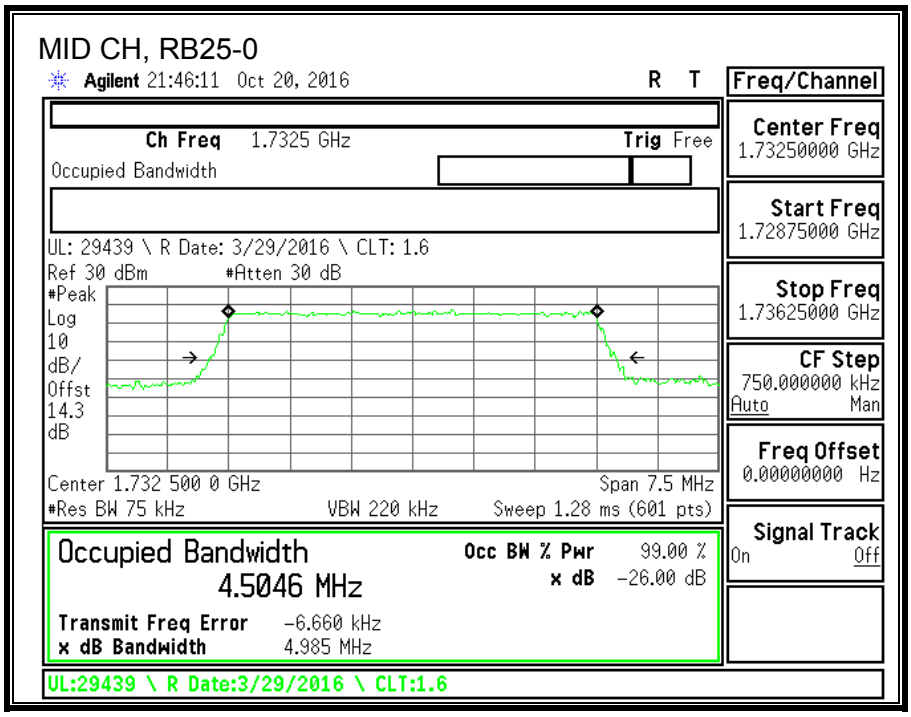
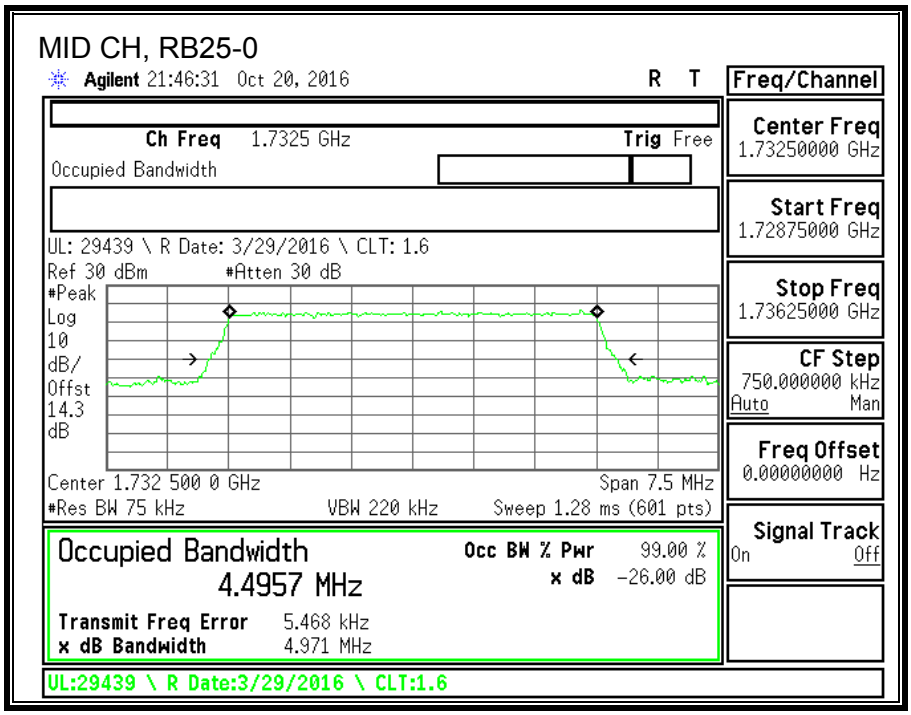
LTE BAND 4 QPSK, (5 MHz)



LTE BAND 4 16QAM, (5 MHz)



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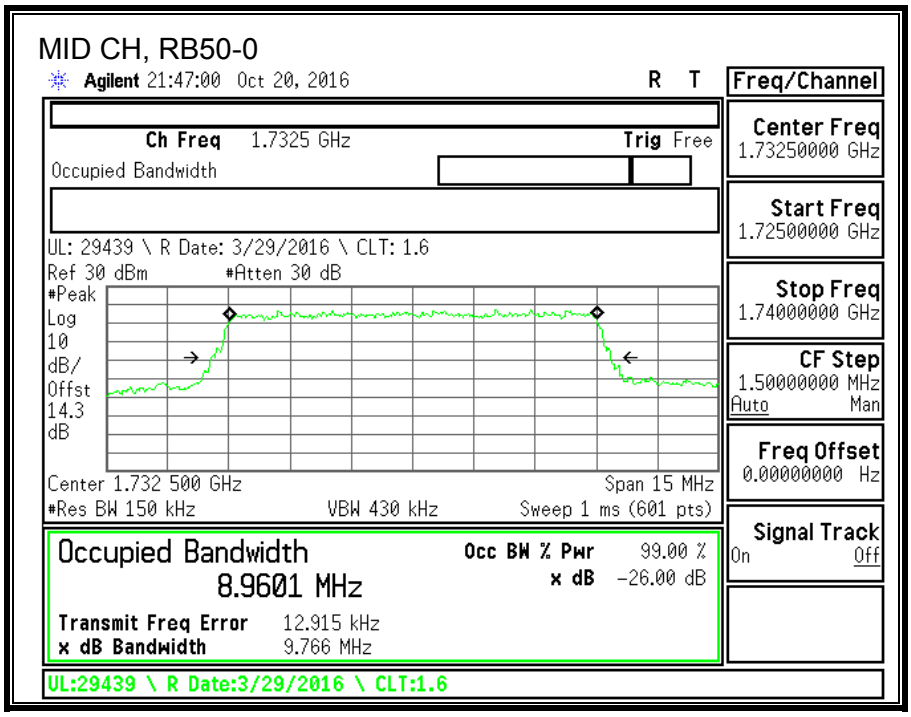
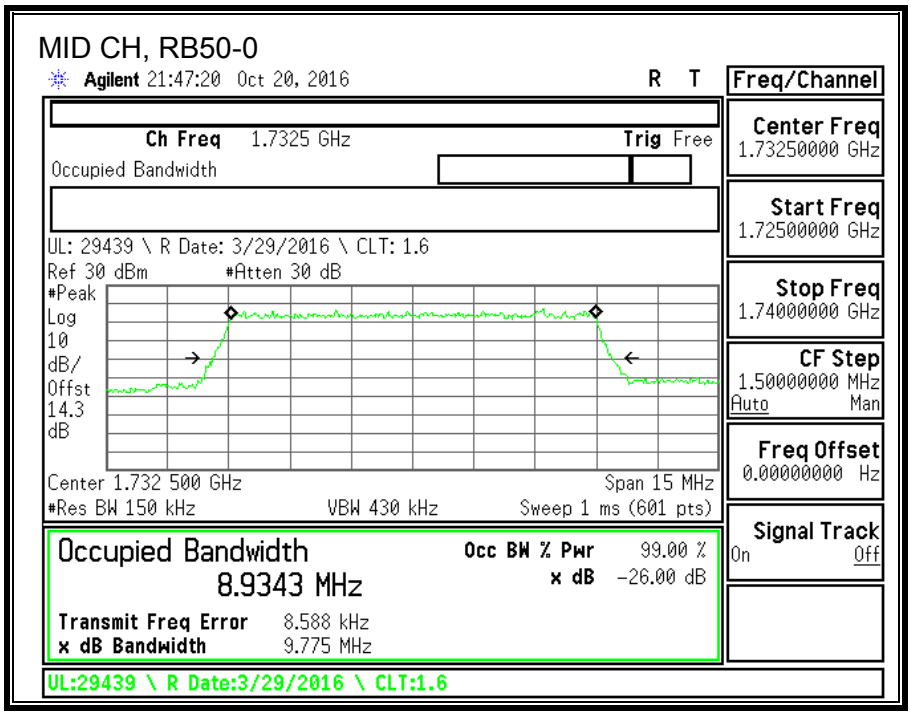
LTE BAND 4 QPSK, (10 MHz)



LTE BAND 4 16QAM, (10 MHz)



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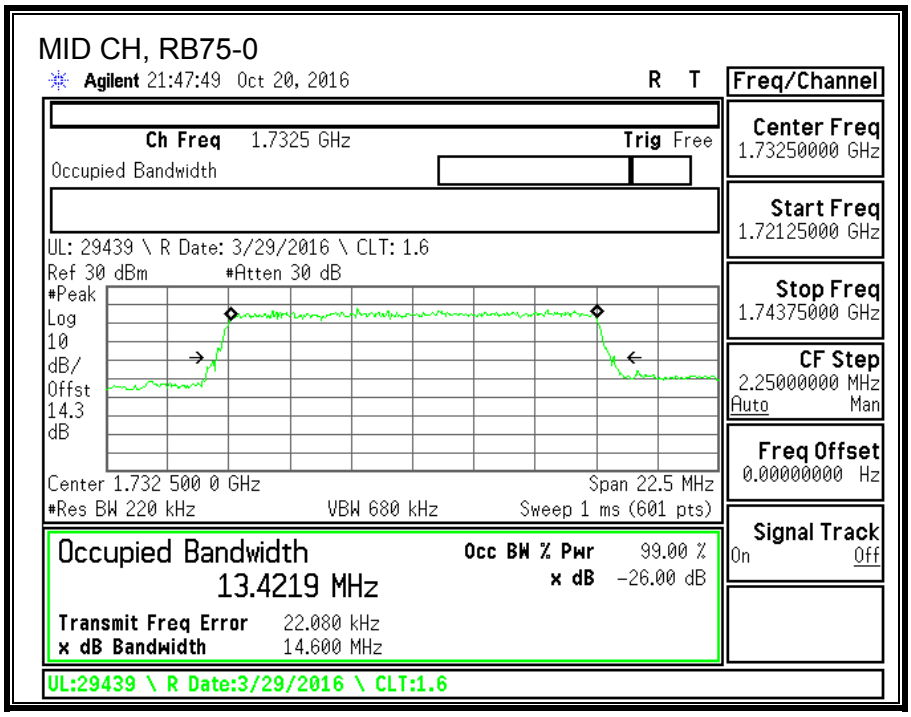
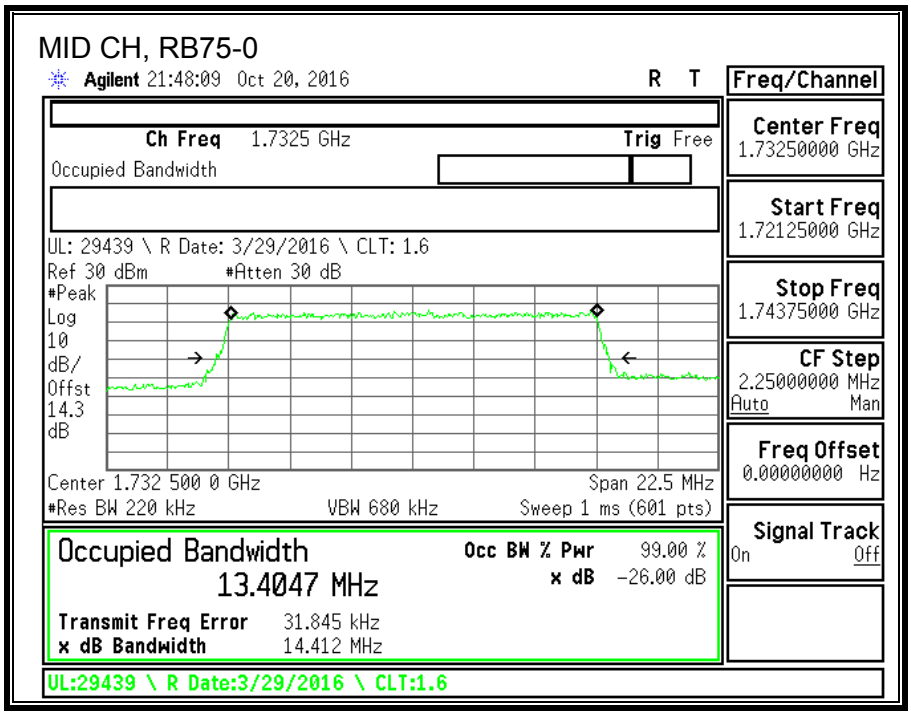
LTE BAND 4 QPSK, (15 MHz)



LTE BAND 4 16QAM, (15 MHz)



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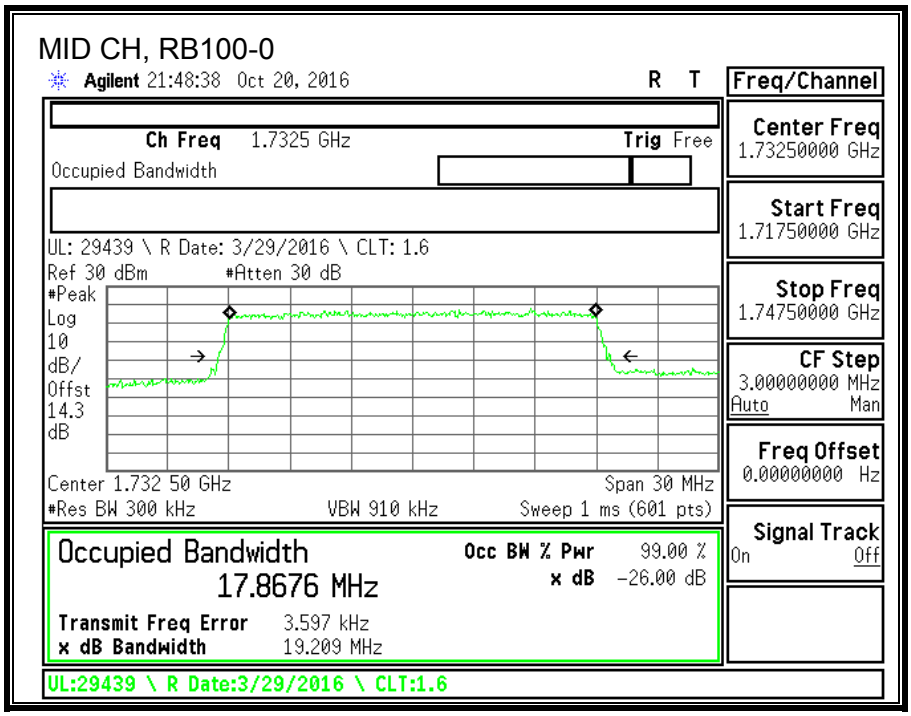
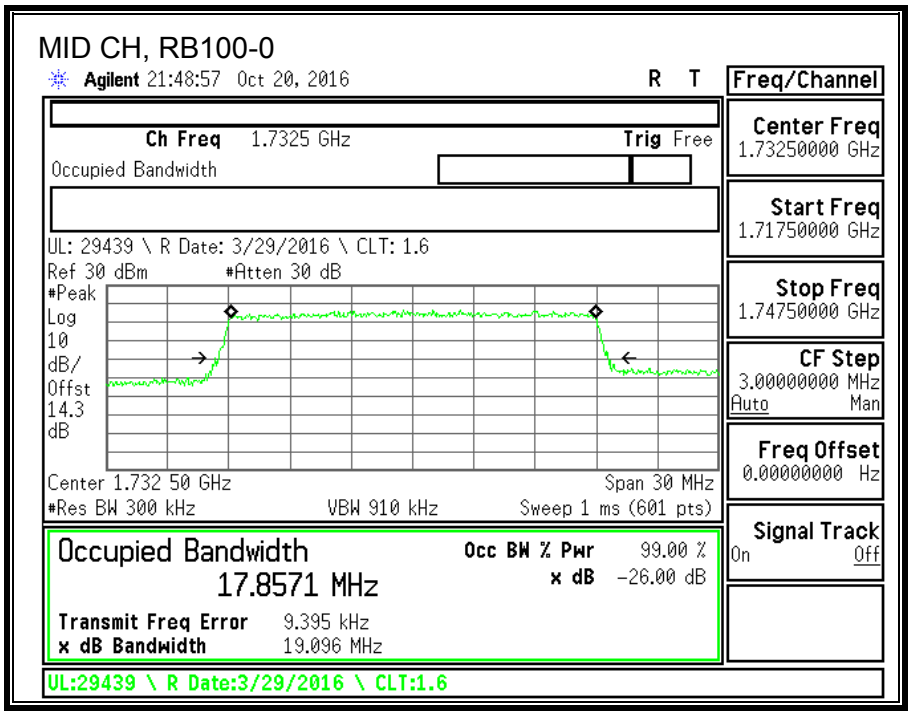
LTE BAND 4 QPSK, (20 MHz)



LTE BAND 4 16QAM, (20 MHz)



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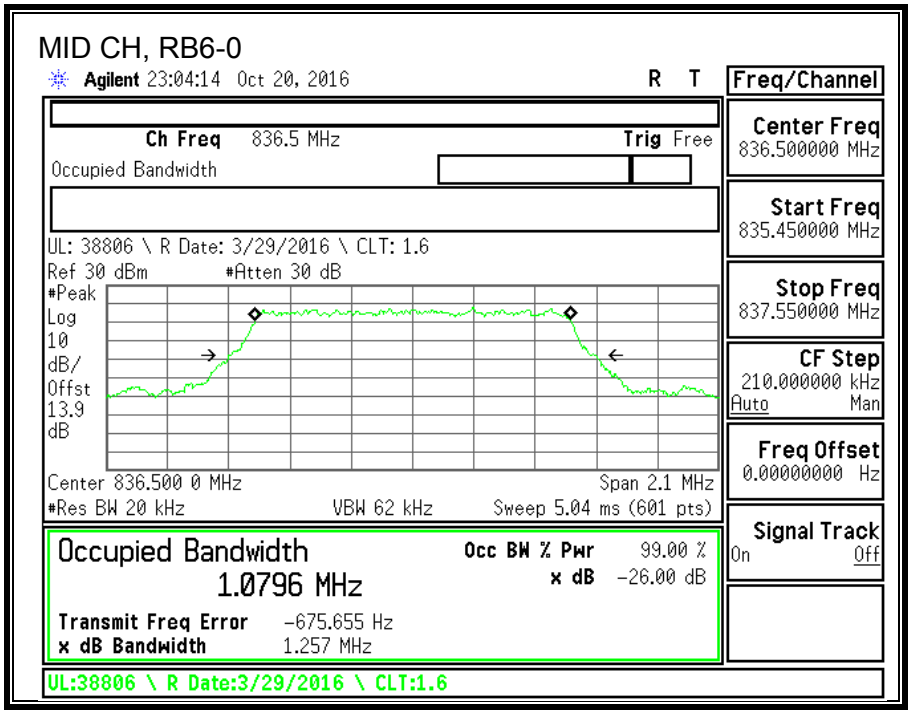
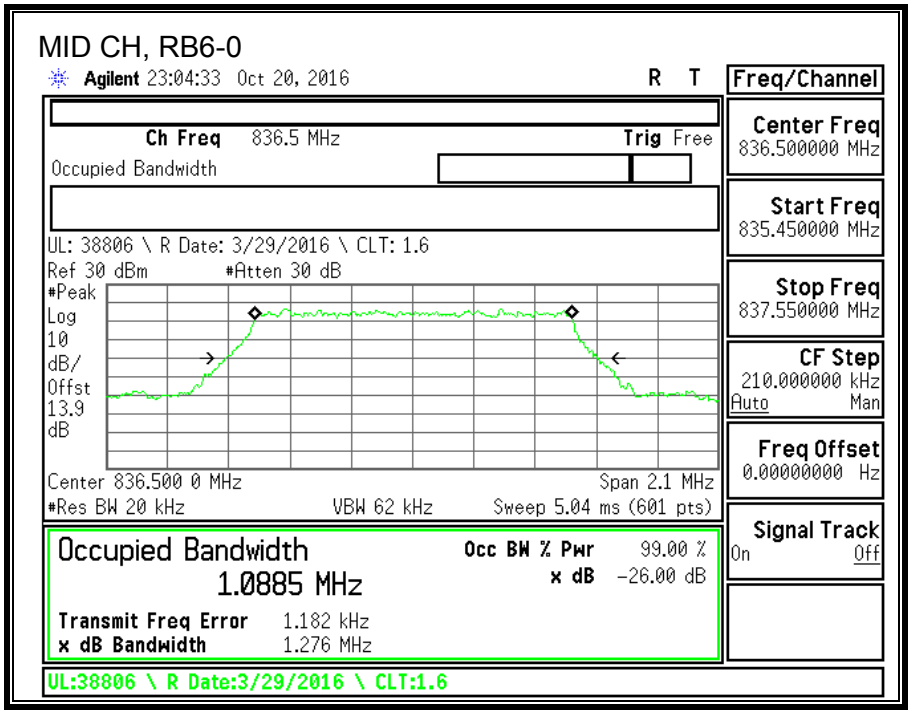
8.1.3. LTE BAND 5

LTE BAND 5 QPSK, (1.4 MHz)



LTE BAND 5 16QAM, (1.4 MHz)



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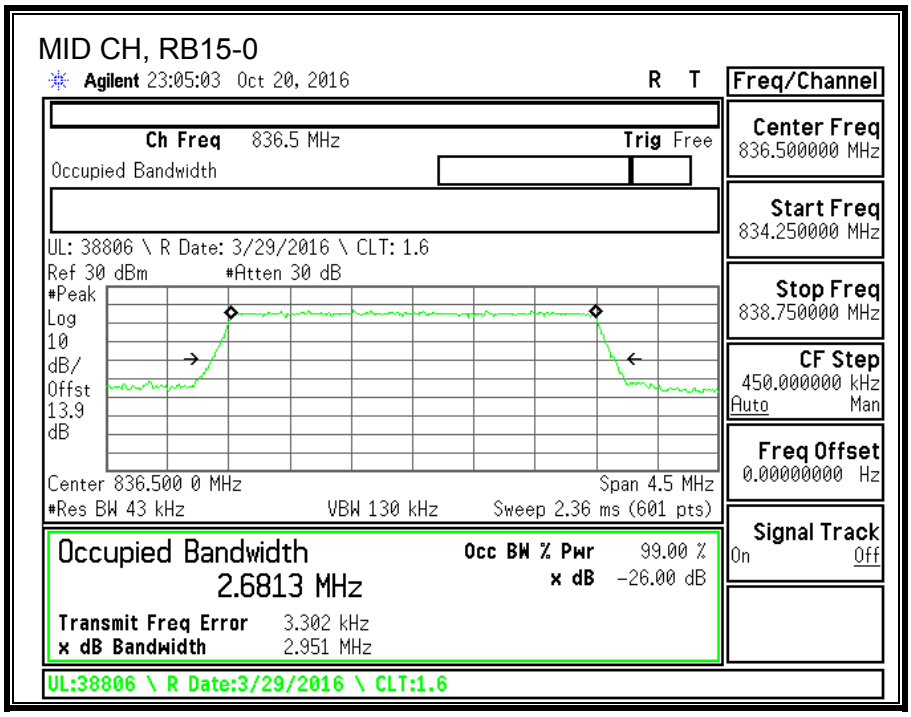
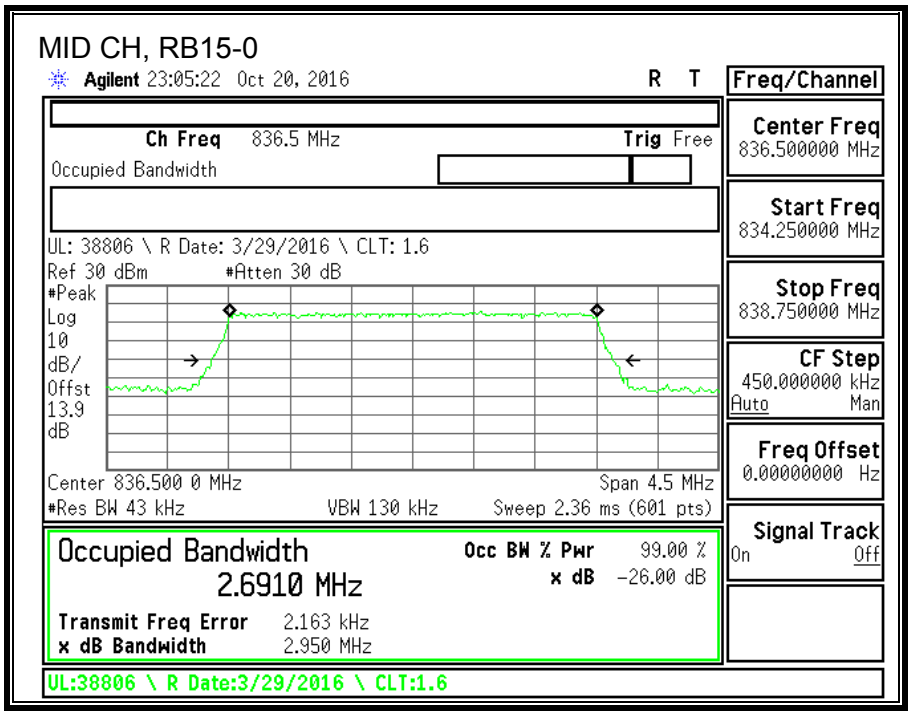
LTE BAND 5 QPSK, (3 MHz)



LTE BAND 5 16QAM, (3 MHz)



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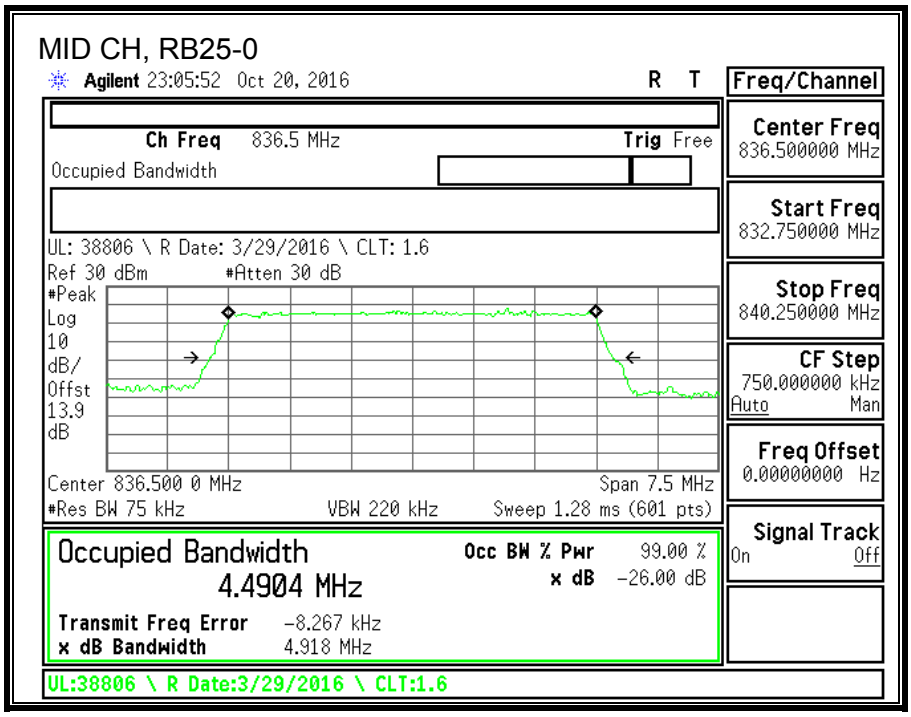
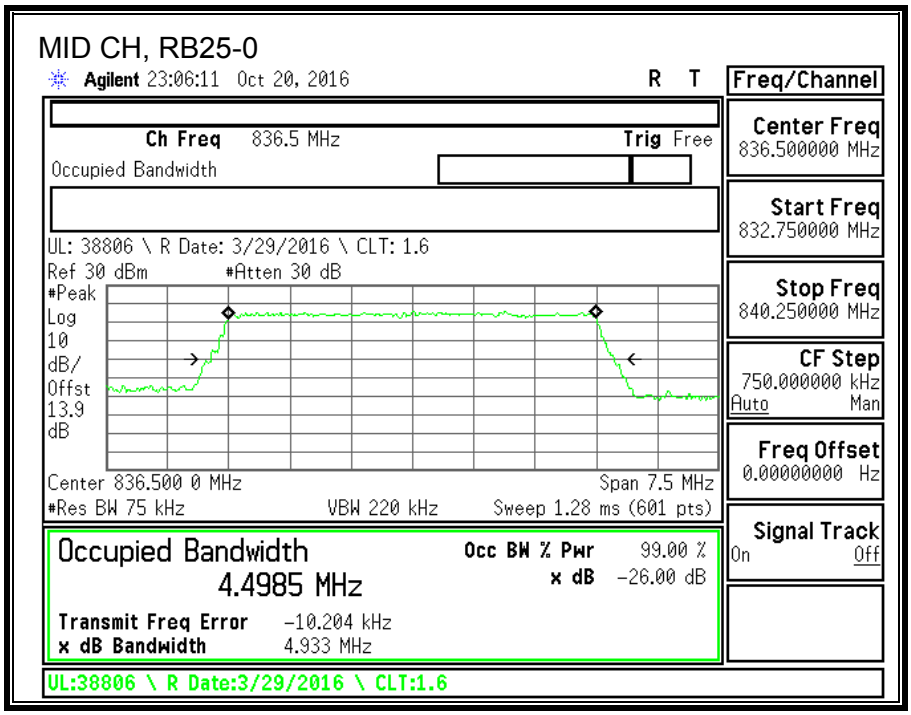
LTE BAND 5 QPSK, (5 MHz)



LTE BAND 5 16QAM, (5 MHz)



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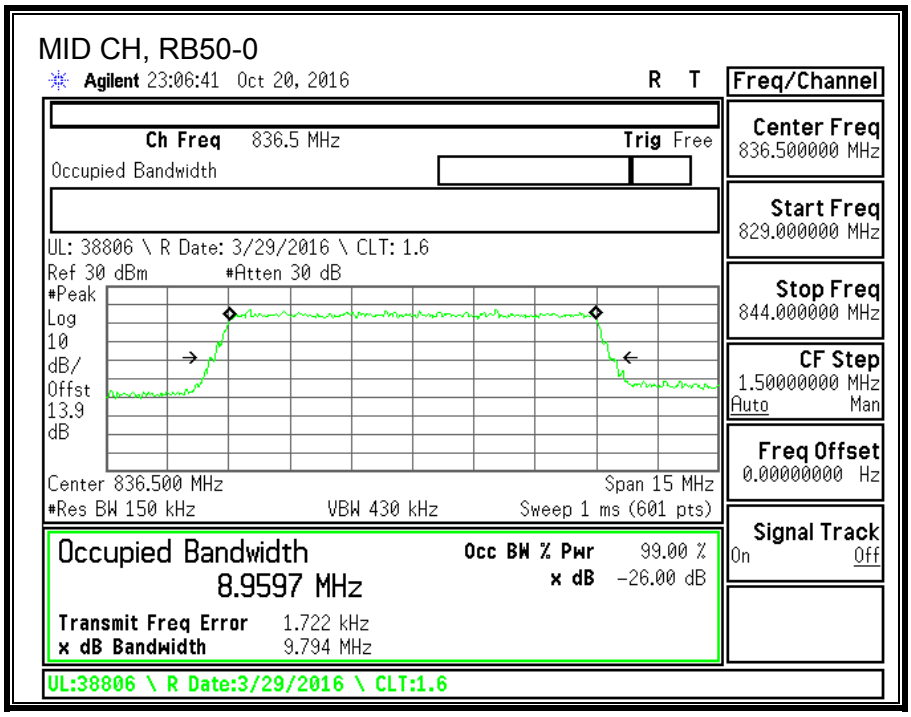
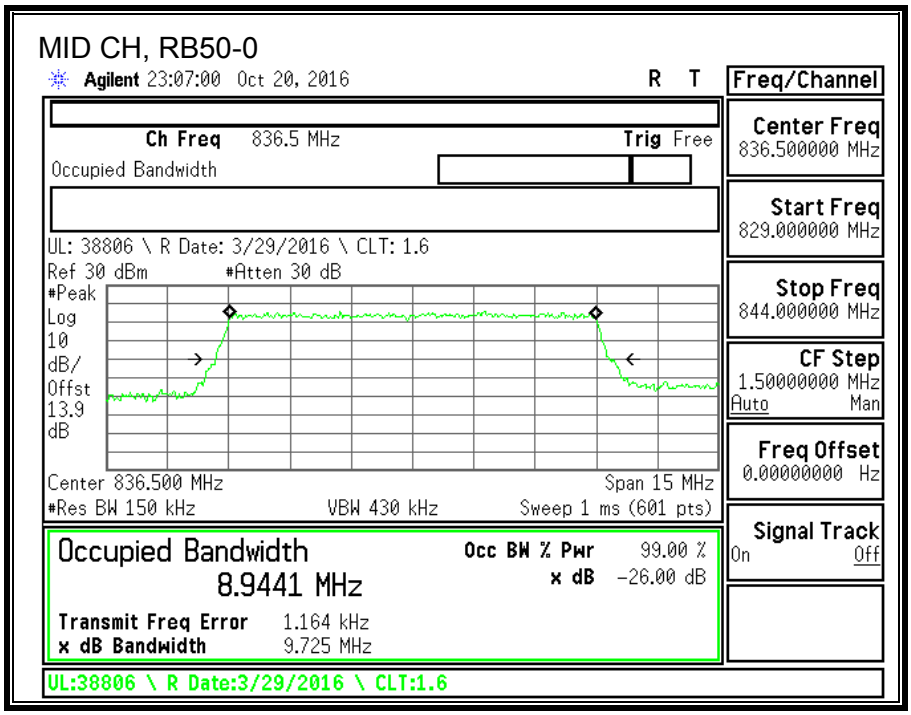
LTE BAND 5 QPSK, (10 MHz)



LTE BAND 5 16QAM, (10 MHz)



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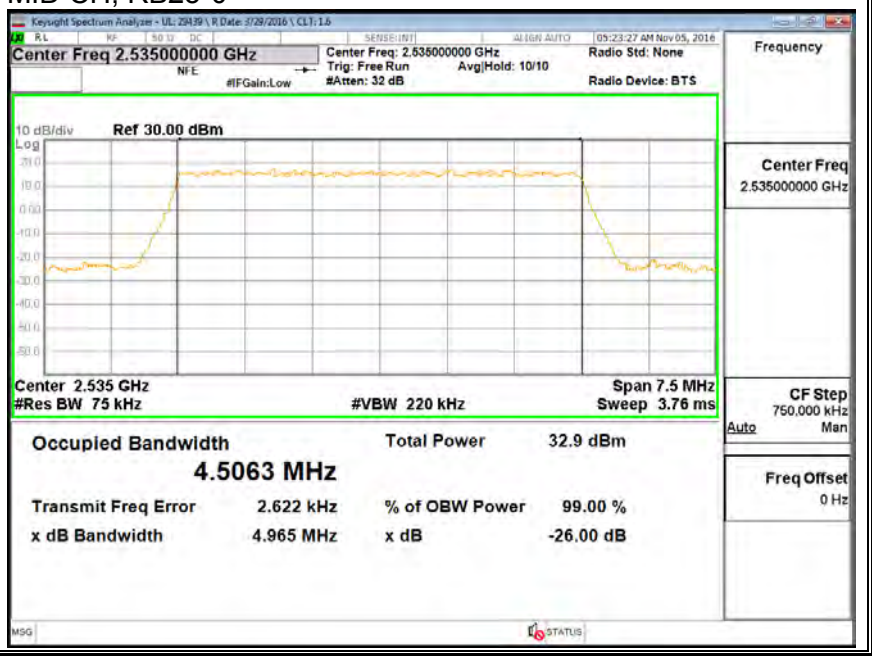
8.1.4. LTE BAND 7

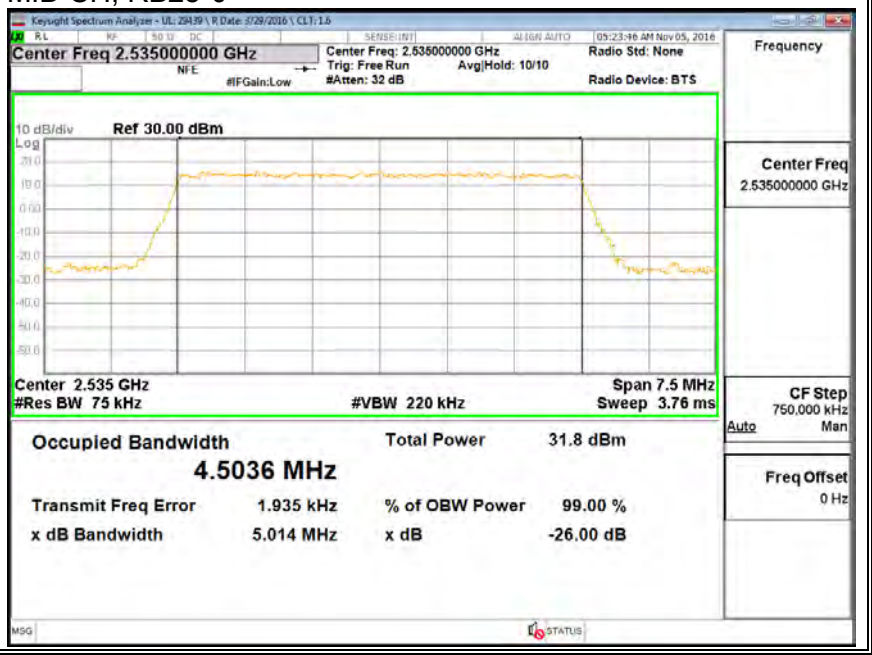
LTE BAND 7 QPSK, (5 MHz)

MID CH, RB25-0



LTE BAND 7 16QAM, (5 MHz)

MID CH, RB25-0



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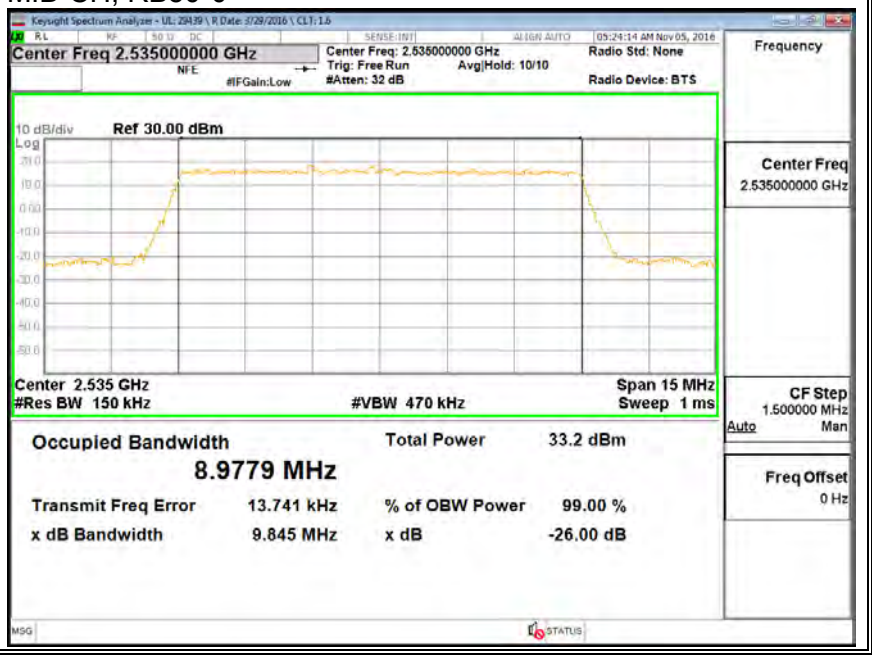
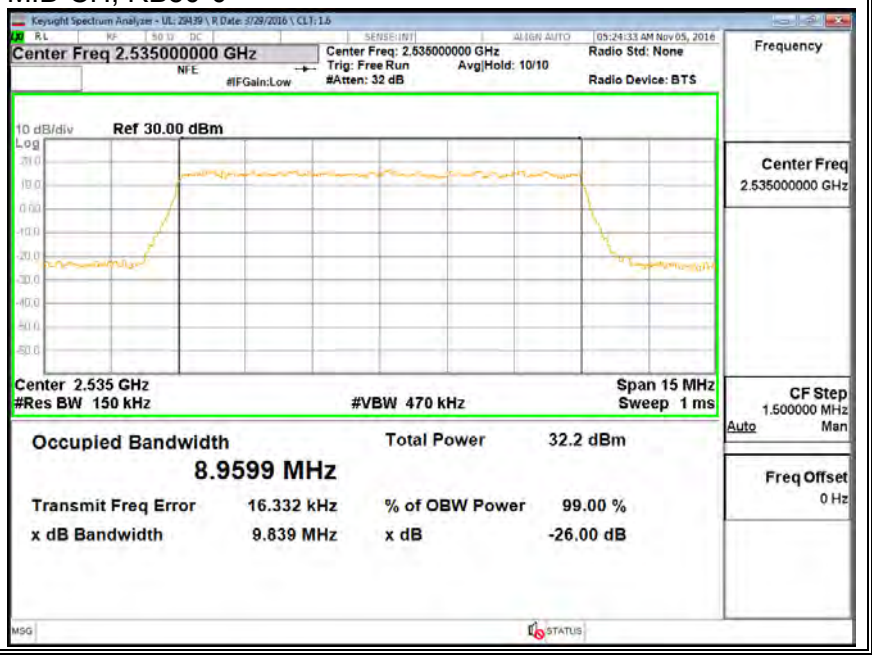
LTE BAND 7 QPSK, (10 MHz)

MID CH, RB50-0



LTE BAND 7 16QAM, (10 MHz)

MID CH, RB50-0



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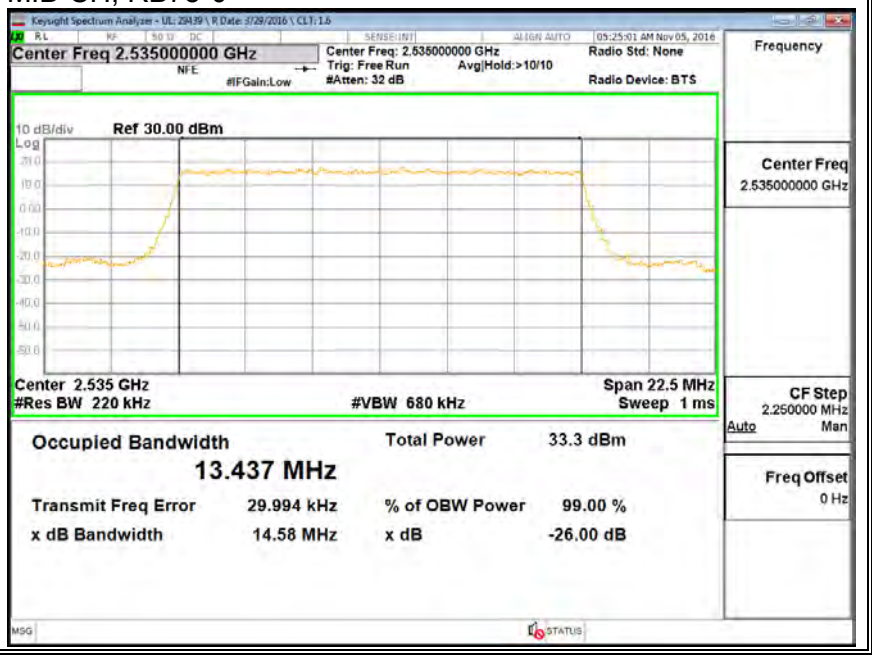
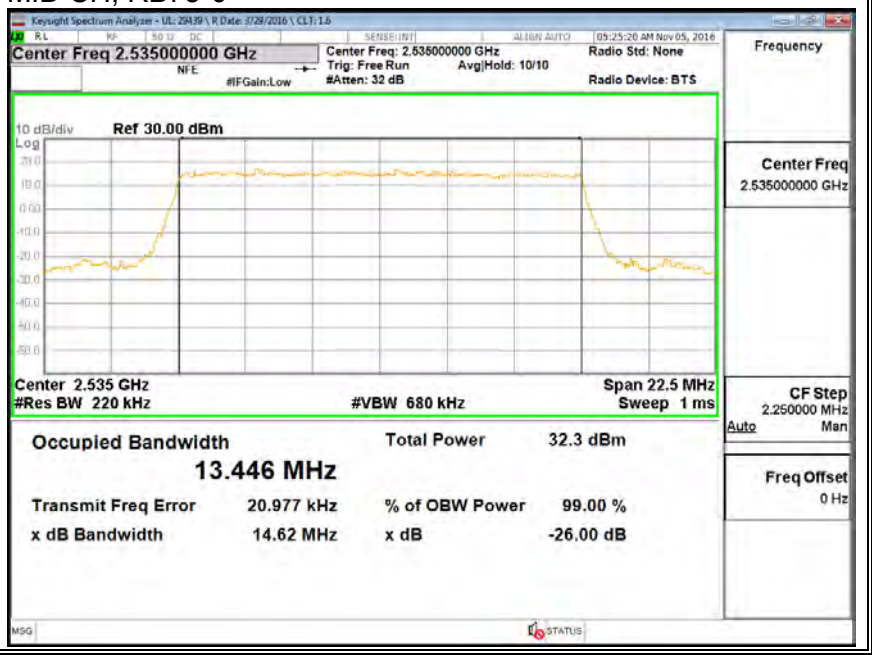
LTE BAND 7 QPSK, (15 MHz)

MID CH, RB75-0



LTE BAND 7 16QAM, (15 MHz)

MID CH, RB75-0



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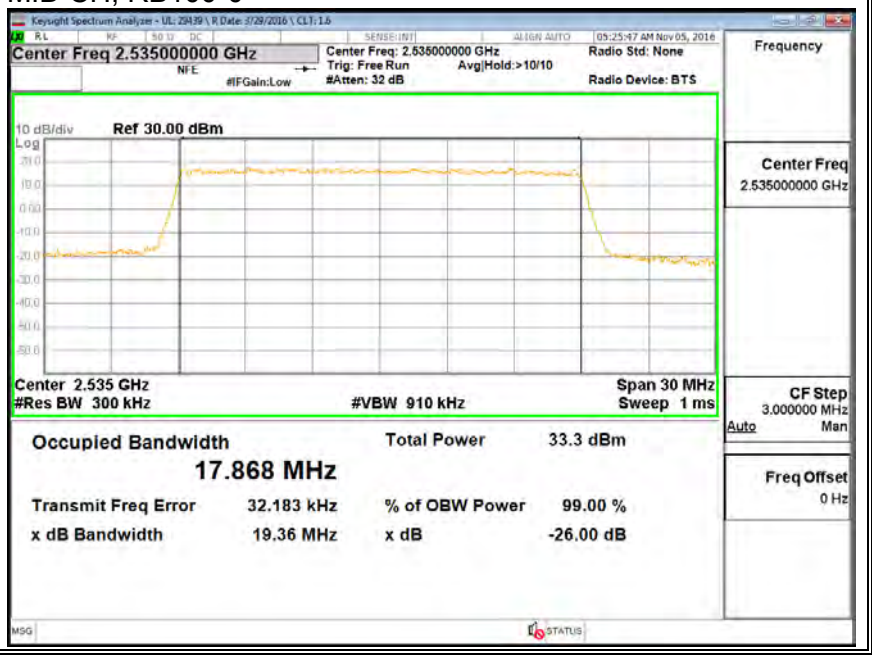
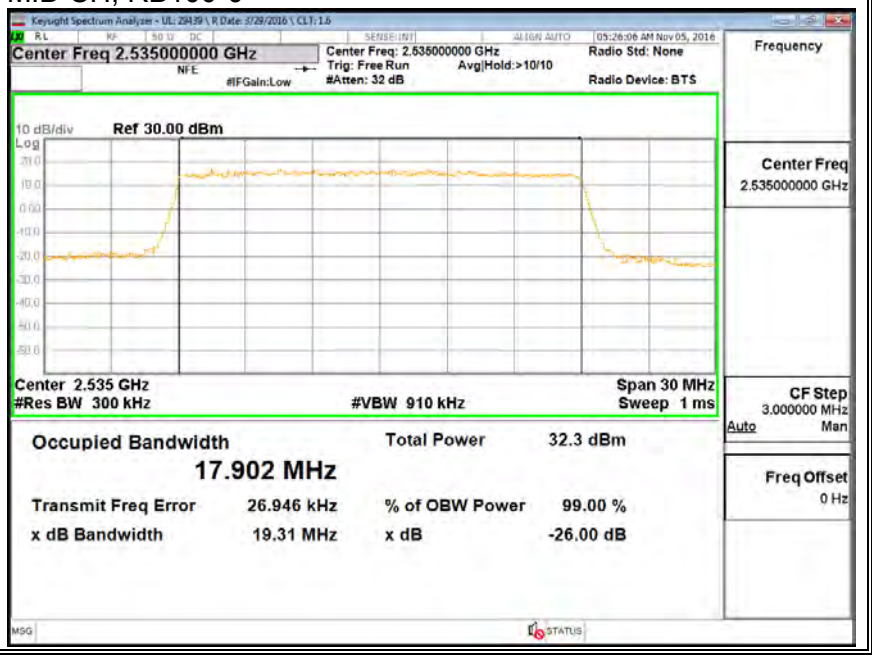
LTE BAND 7 QPSK, (20 MHz)

MID CH, RB100-0



LTE BAND 7 16QAM, (20 MHz)

MID CH, RB100-0



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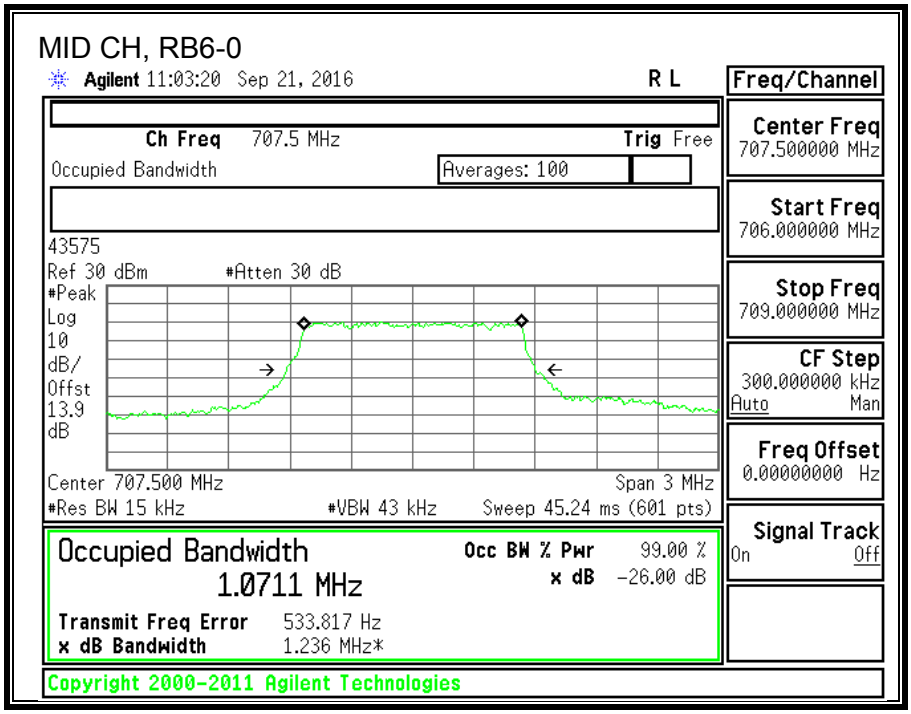
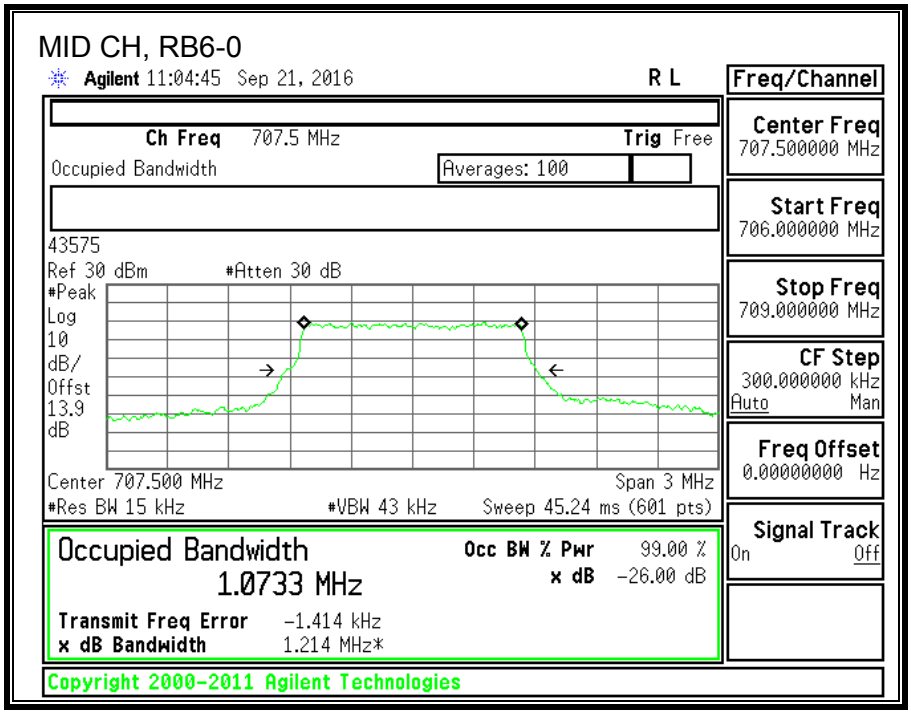
8.1.5. LTE BAND 12

LTE BAND 12 QPSK, (1.4 MHz)



LTE BAND 12 16QAM, (1.4 MHz)



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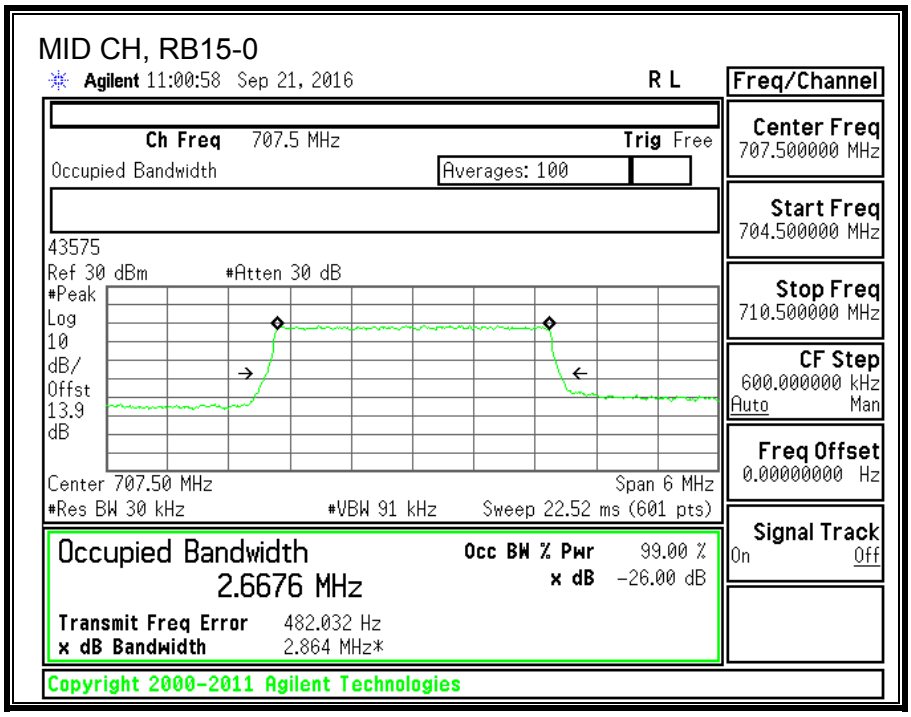
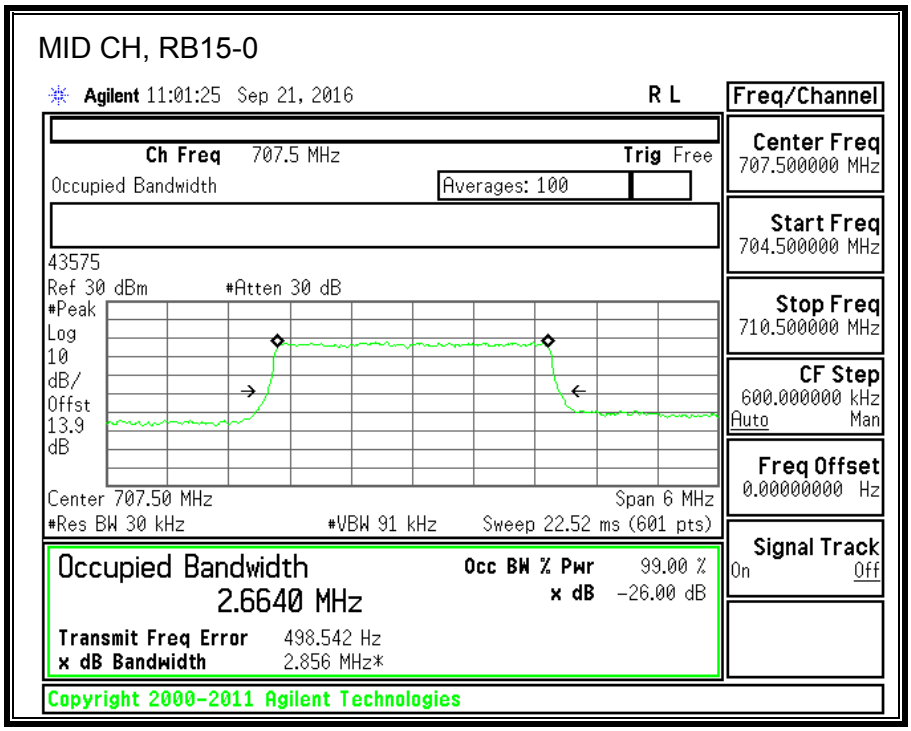
LTE BAND 12 QPSK, (3 MHz)



LTE BAND 12 16QAM, (3 MHz)



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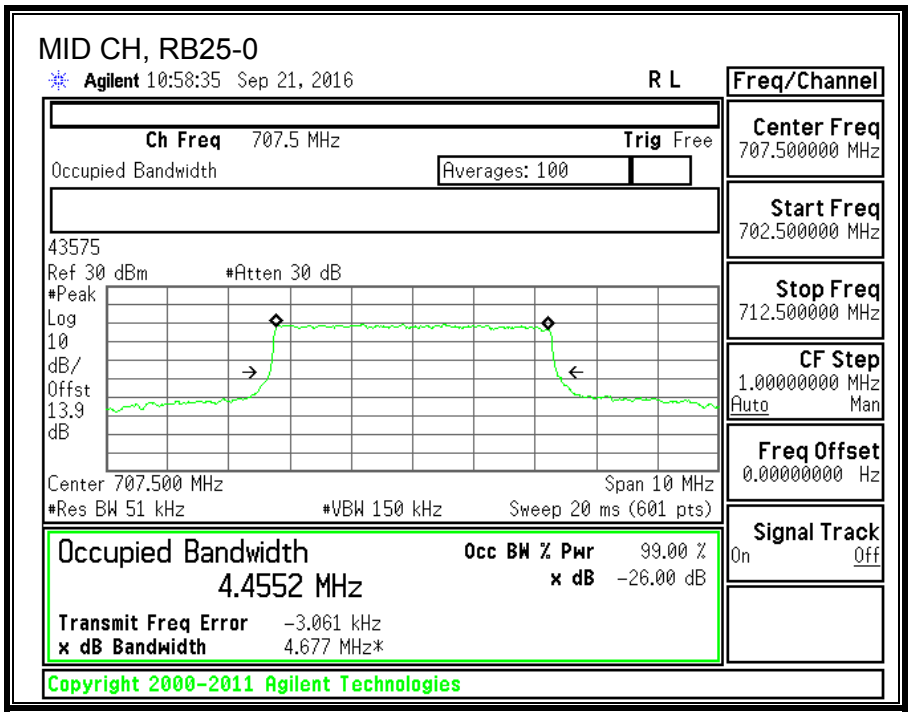
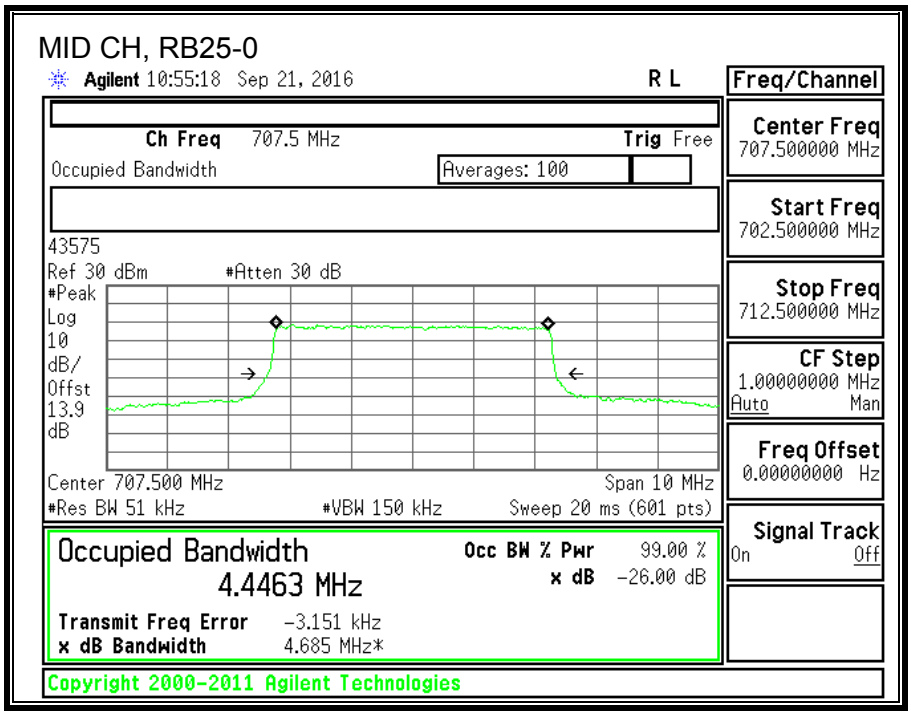
LTE BAND 12 QPSK, (5 MHz)



LTE BAND 12 16QAM, (5 MHz)



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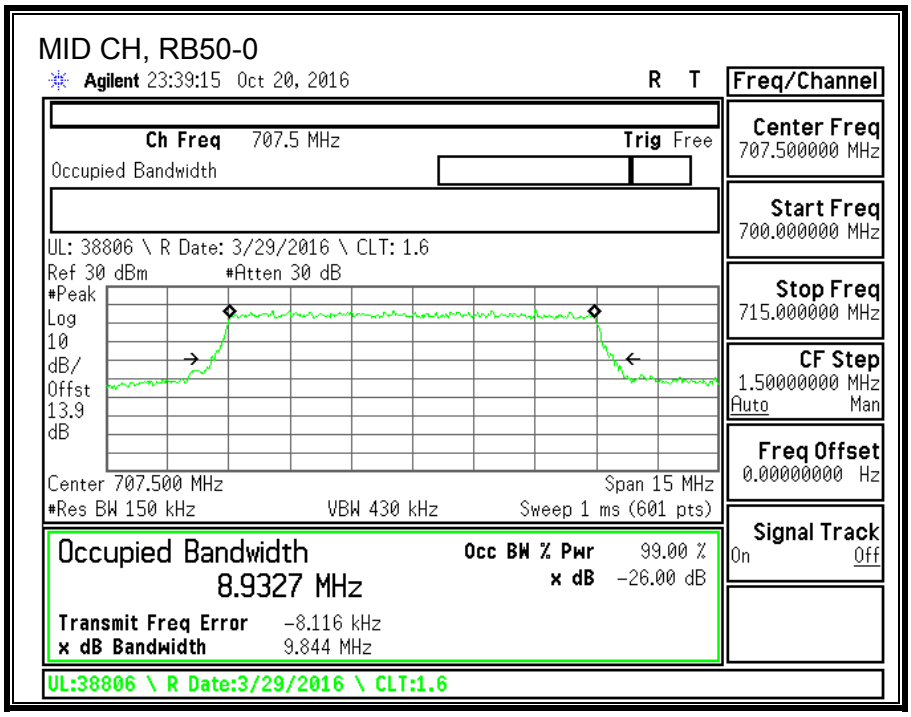
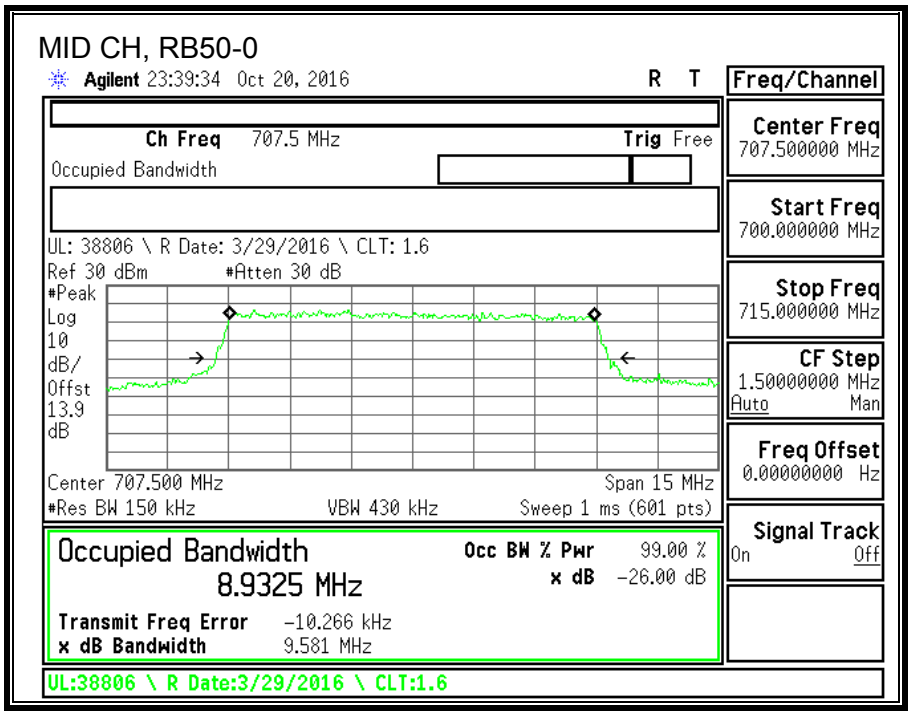
LTE BAND 12 QPSK, (10 MHz)



LTE BAND 12 16QAM, (10 MHz)



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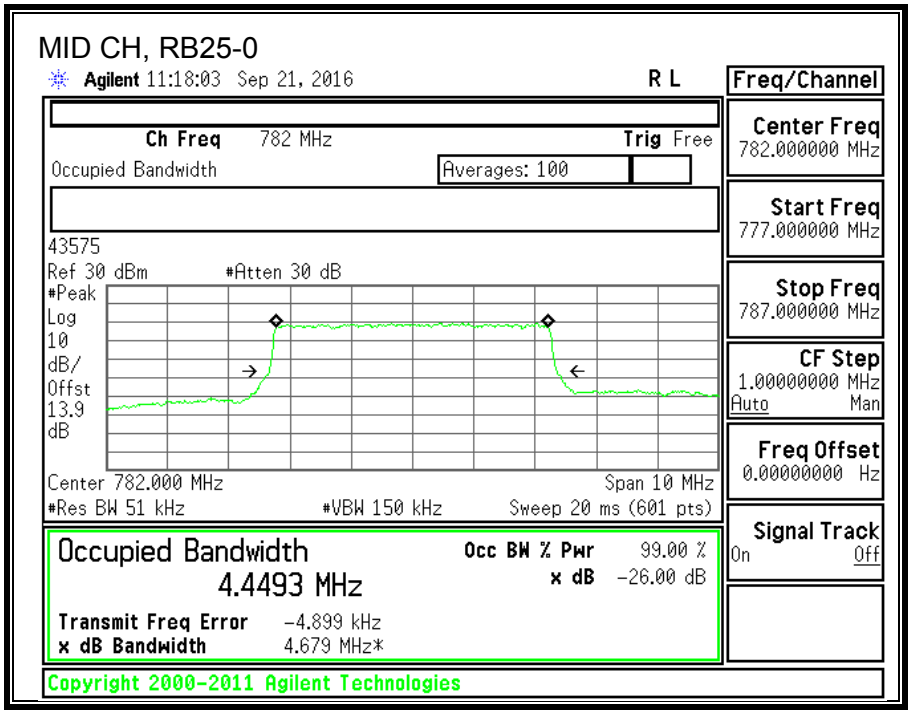
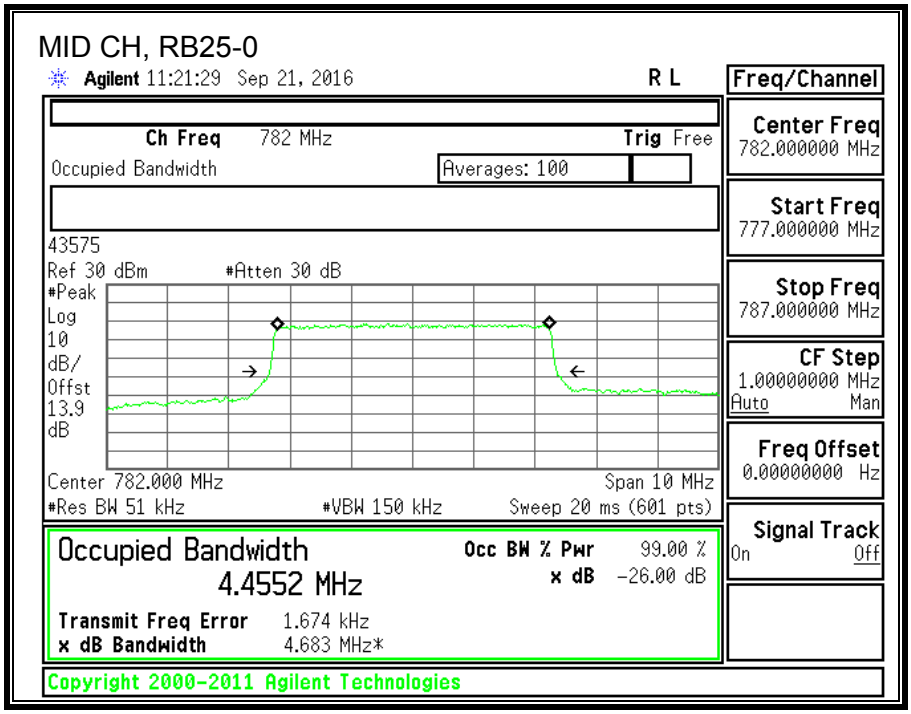
8.1.6. LTE BAND 13

LTE BAND 13 QPSK, (5 MHz)



LTE BAND 13 16QAM, (5 MHz)



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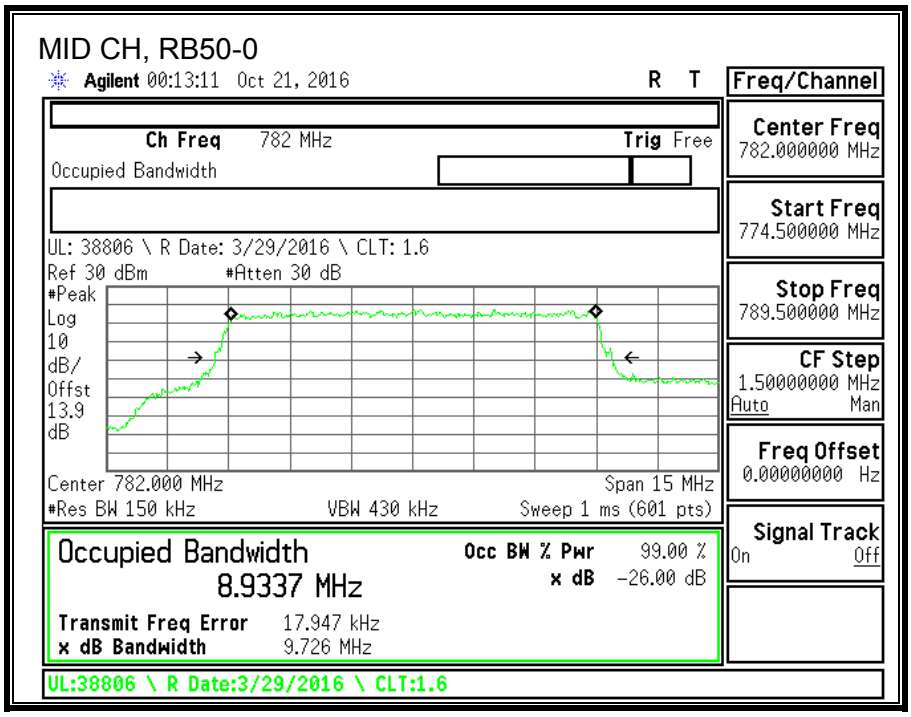
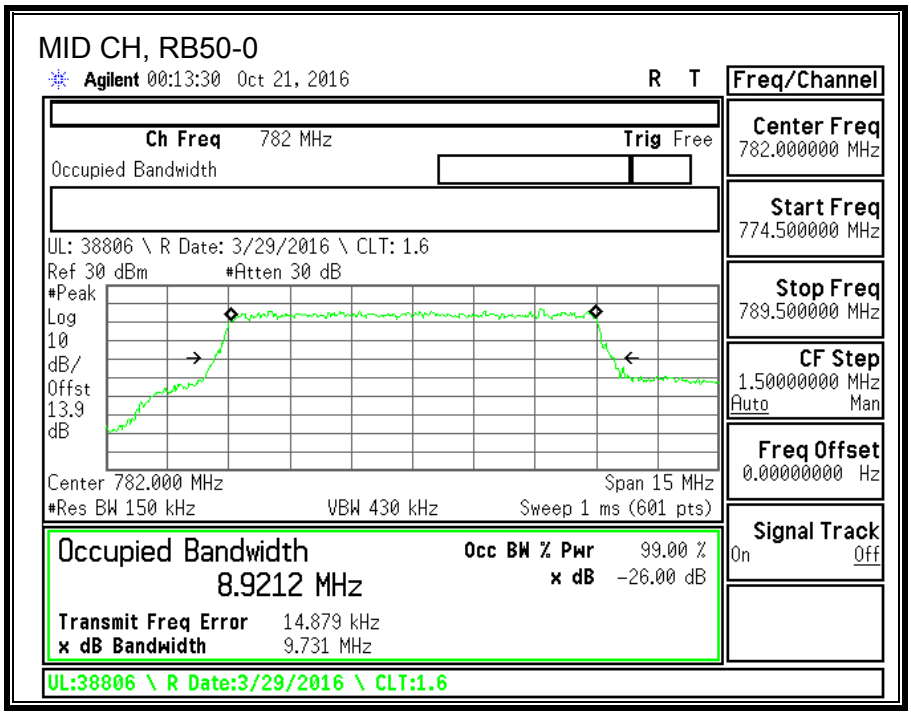
LTE BAND 13 QPSK, (10 MHz)



LTE BAND 13 16QAM, (10 MHz)



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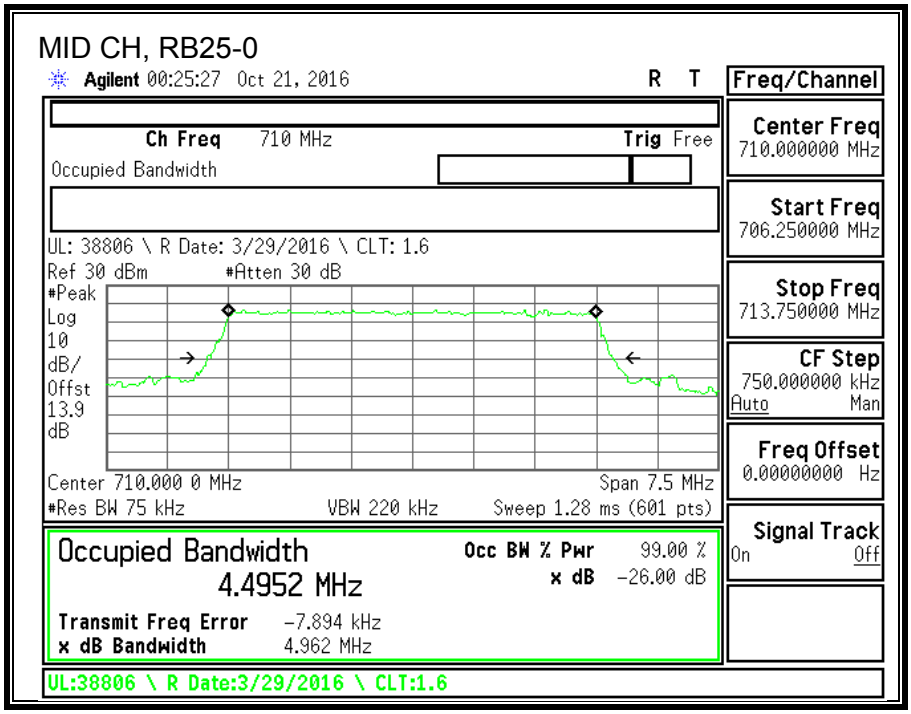
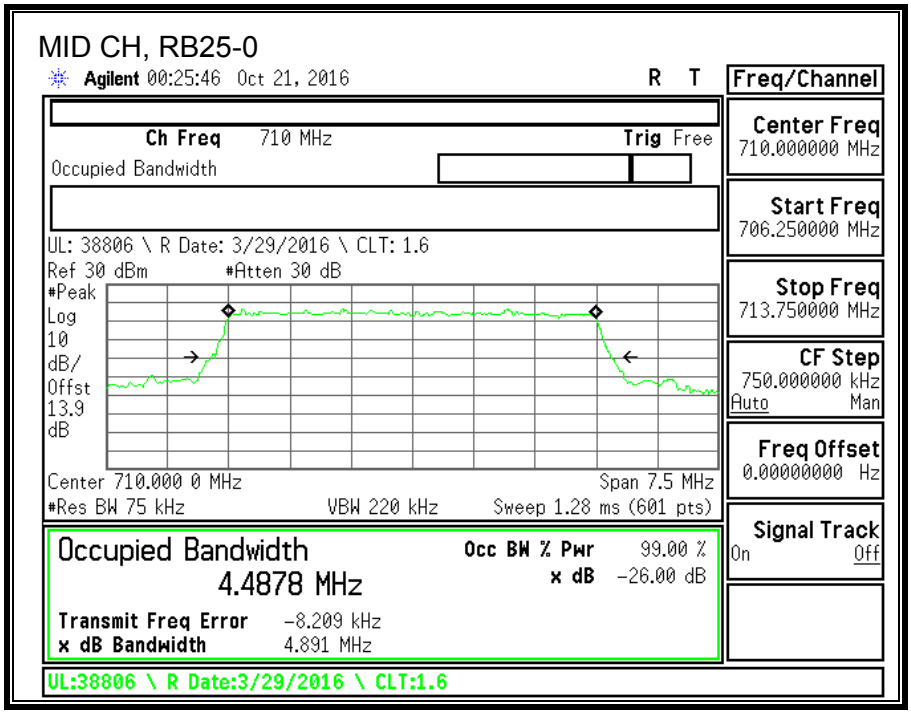
8.1.7. LTE BAND 17

LTE BAND 17 QPSK, (5 MHz)



LTE BAND 17 16QAM, (5 MHz)



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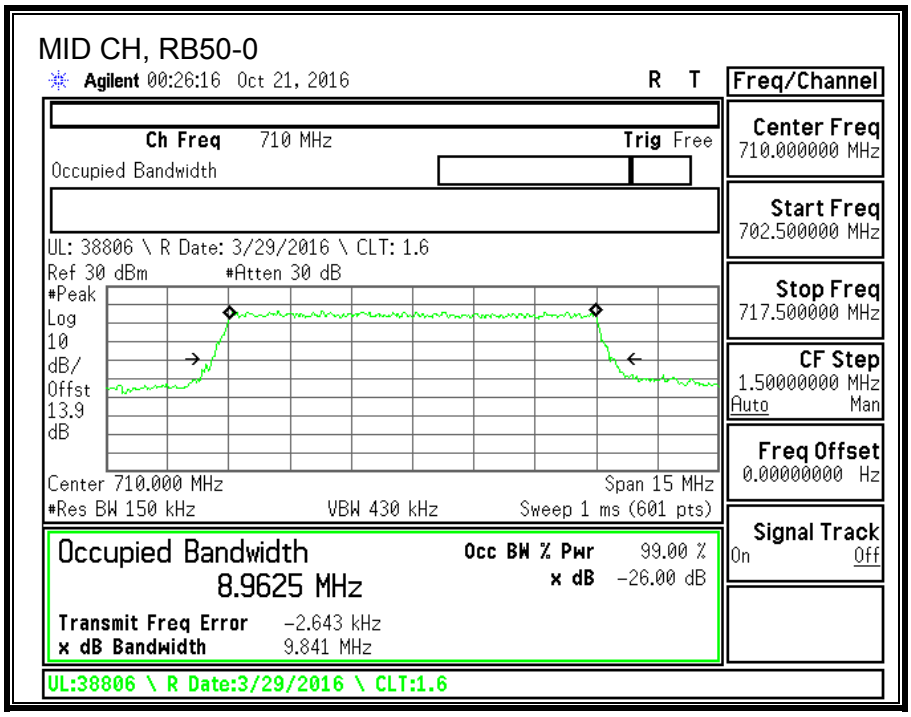
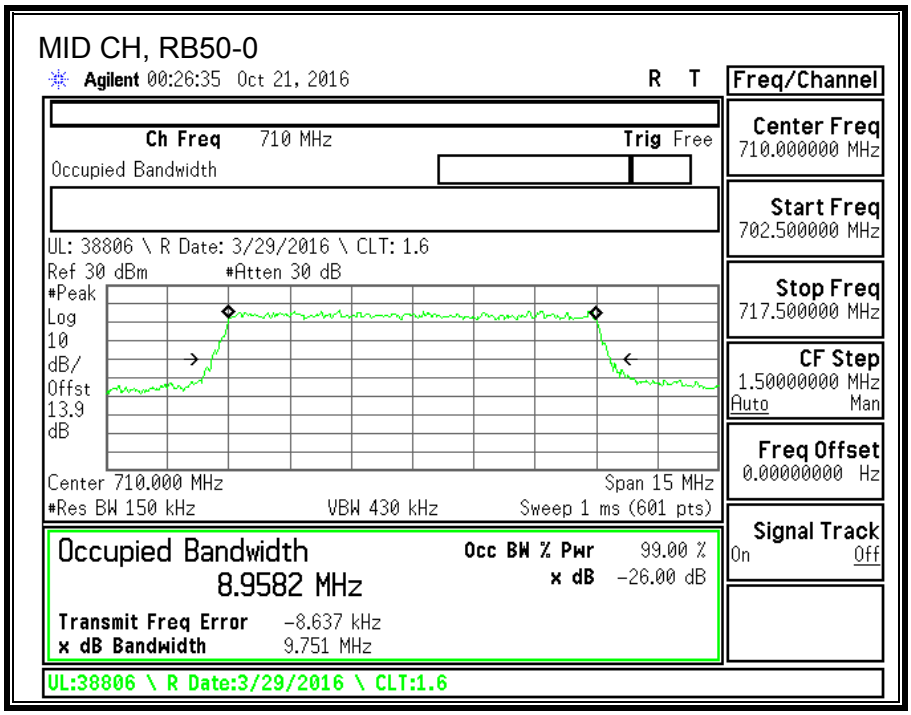
LTE BAND 17 QPSK, (10 MHz)



LTE BAND 17 16QAM, (10 MHz)



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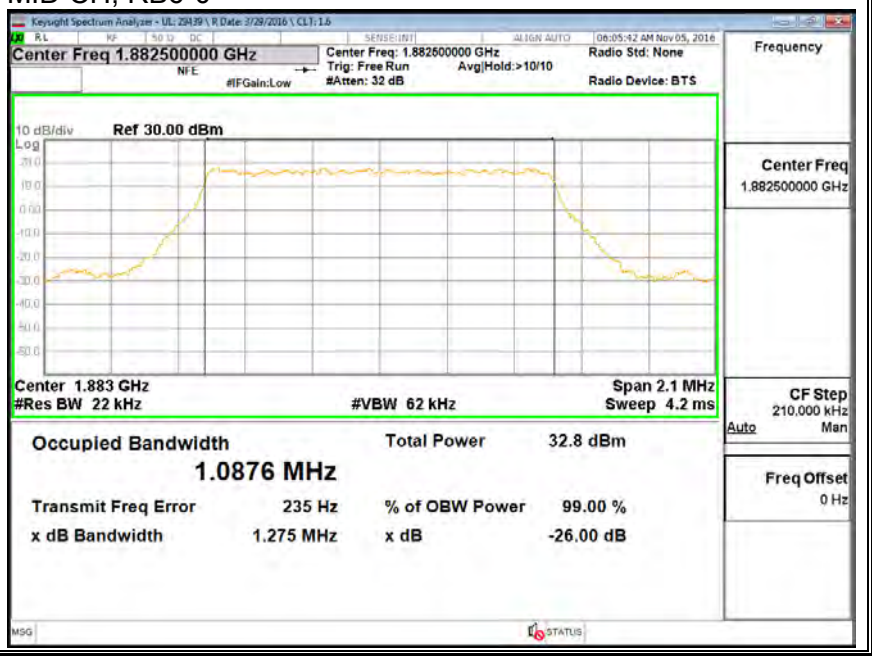
8.1.8. LTE BAND 25

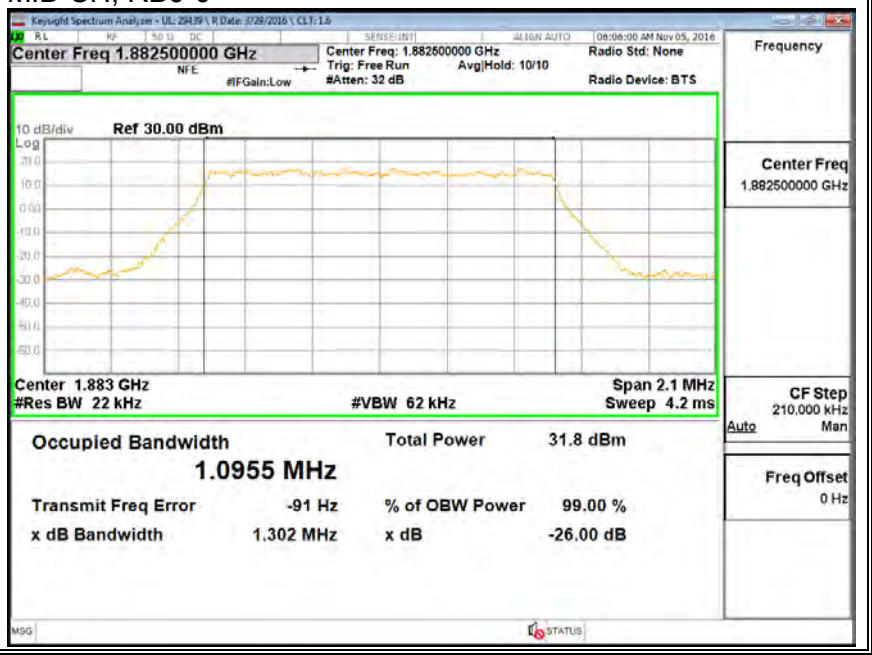
LTE BAND 25 QPSK, (1.4 MHz)

MID CH, RB6-0



LTE BAND 25 16QAM, (1.4 MHz)

MID CH, RB6-0



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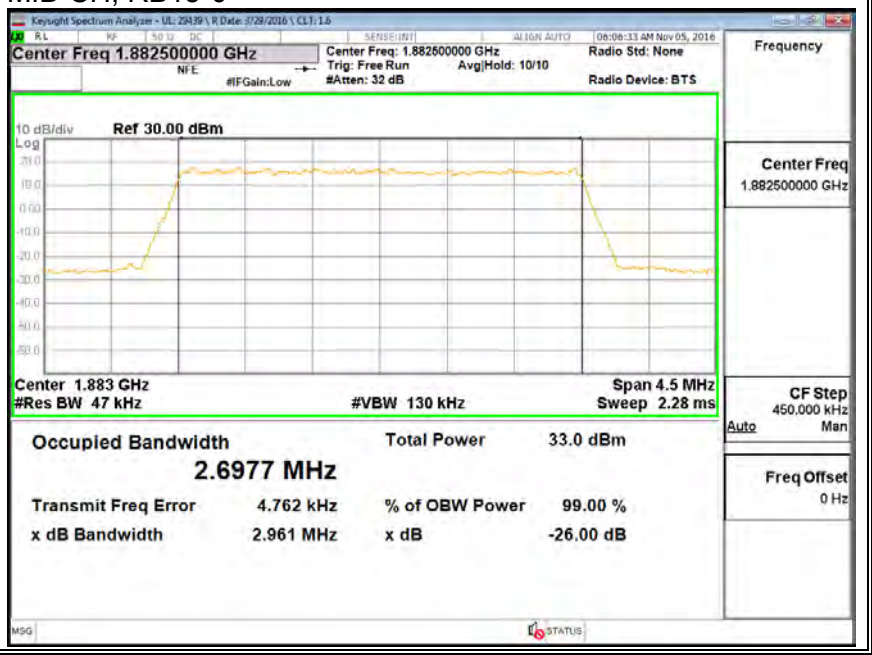
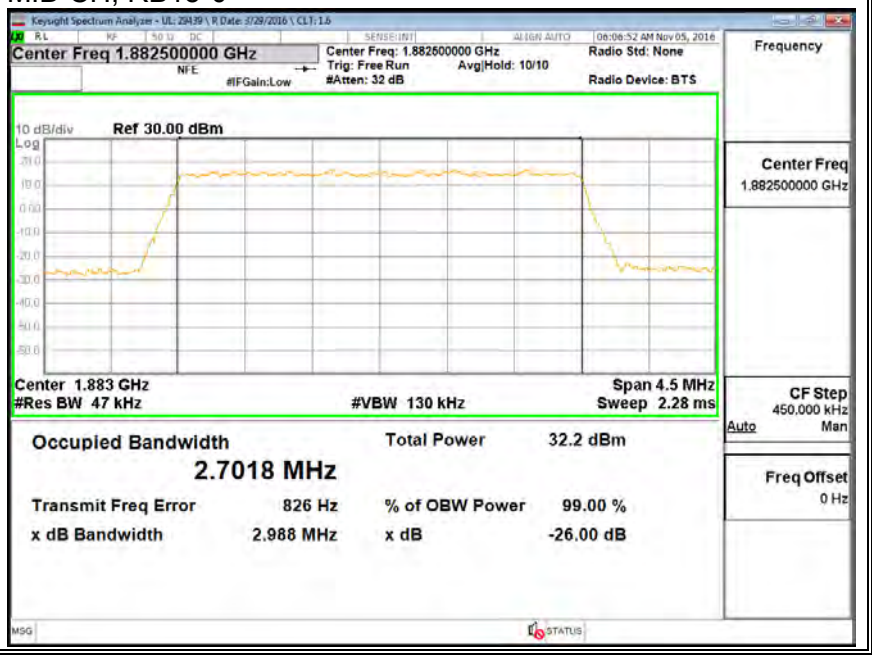
LTE BAND 25 QPSK, (3 MHz)

MID CH, RB15-0



LTE BAND 25 16QAM, (3 MHz)

MID CH, RB15-0



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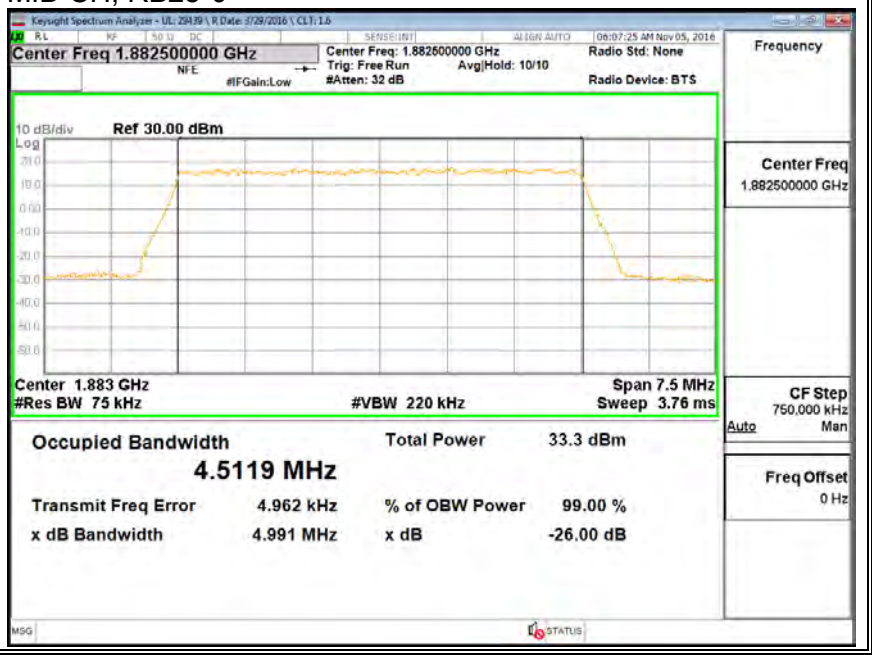
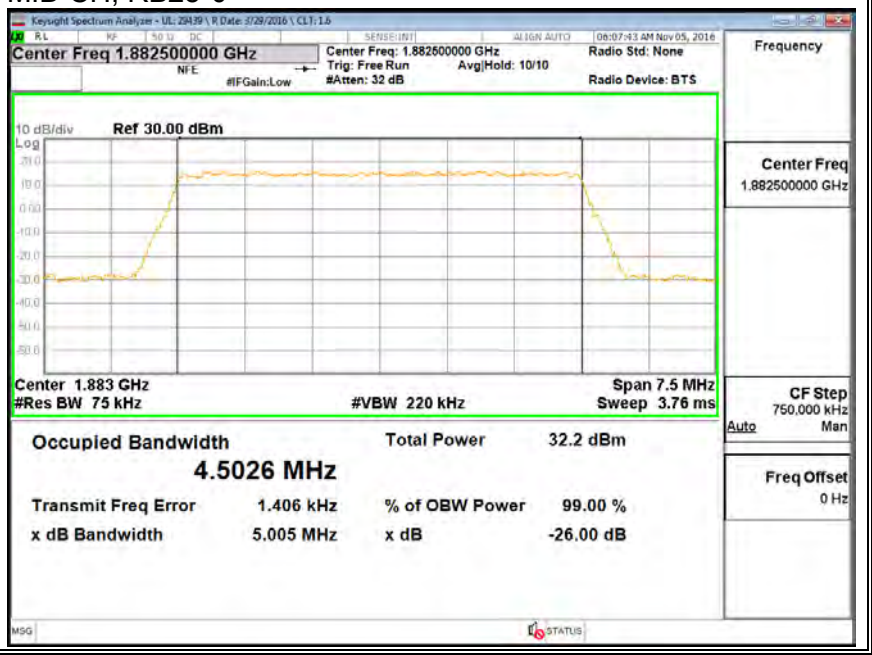
LTE BAND 25 QPSK, (5 MHz)

MID CH, RB25-0



LTE BAND 25 16QAM, (5 MHz)

MID CH, RB25-0



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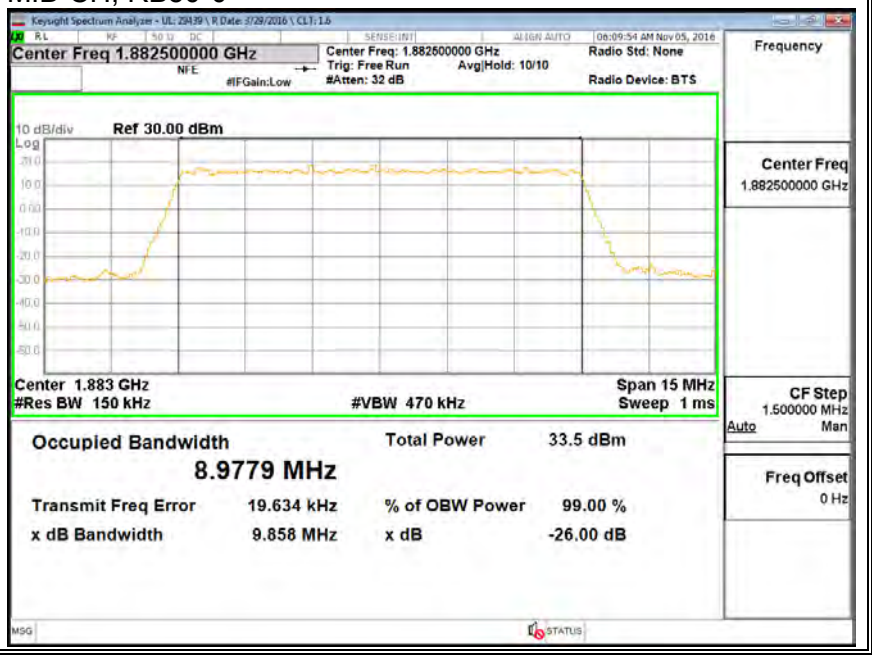
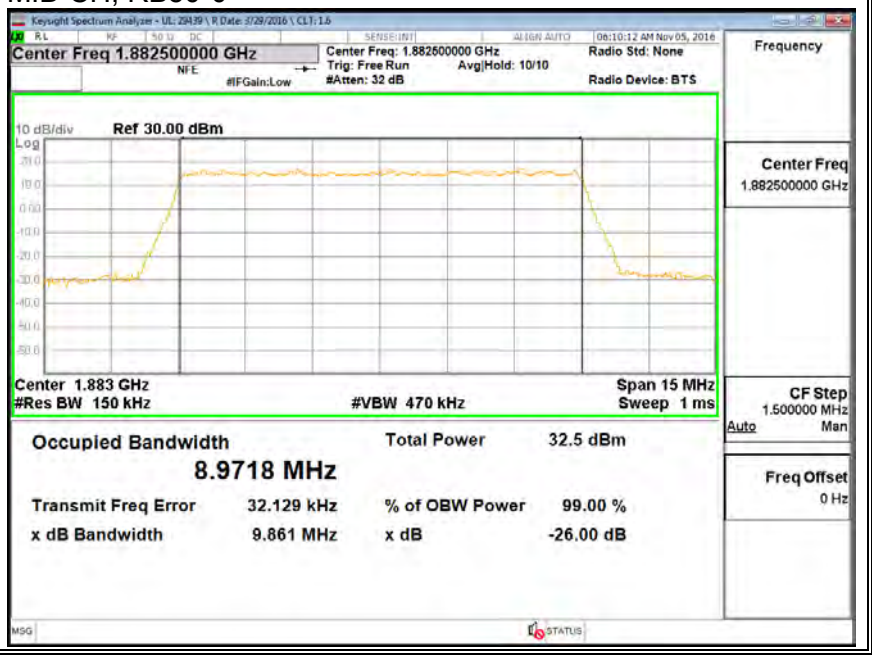
LTE BAND 25 QPSK, (10 MHz)

MID CH, RB50-0



LTE BAND 25 16QAM, (10 MHz)

MID CH, RB50-0



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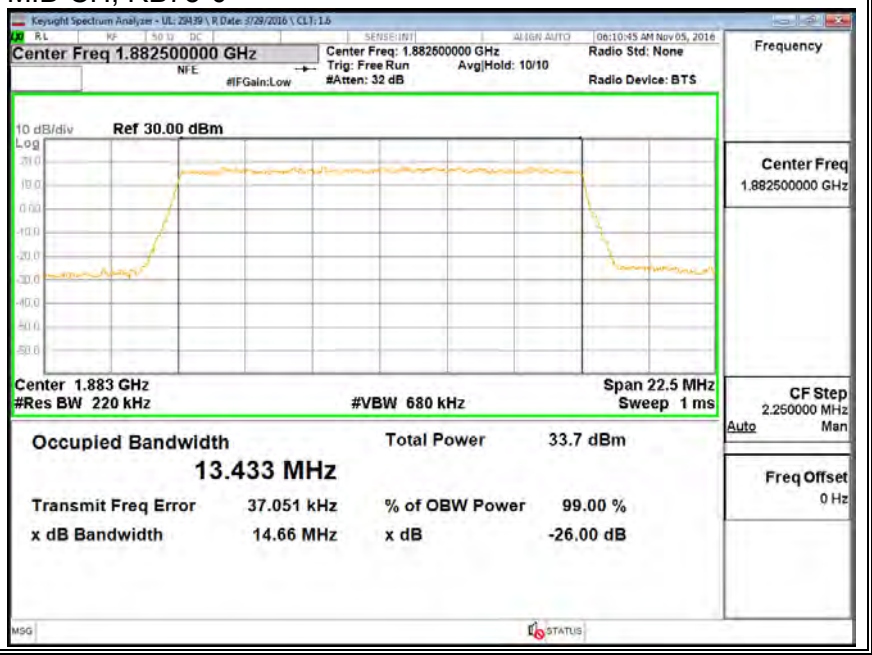
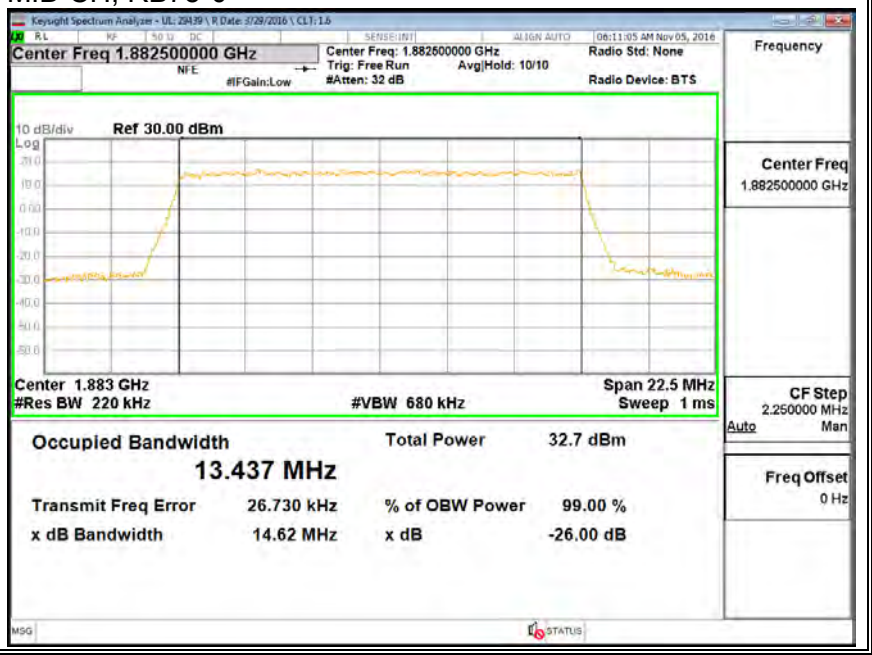
LTE BAND 25 QPSK, (15 MHz)

MID CH, RB75-0



LTE BAND 25 16QAM, (15 MHz)

MID CH, RB75-0



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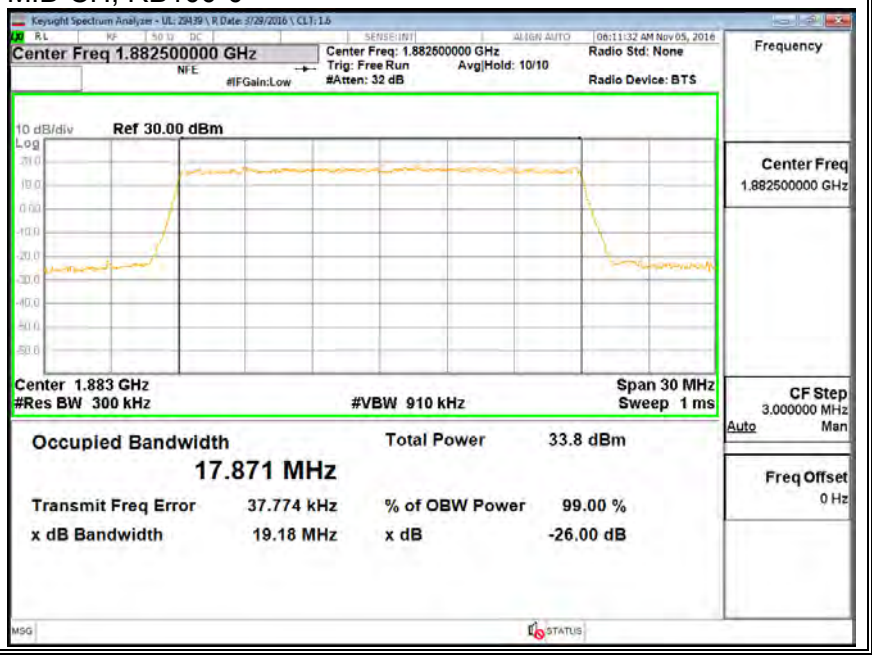
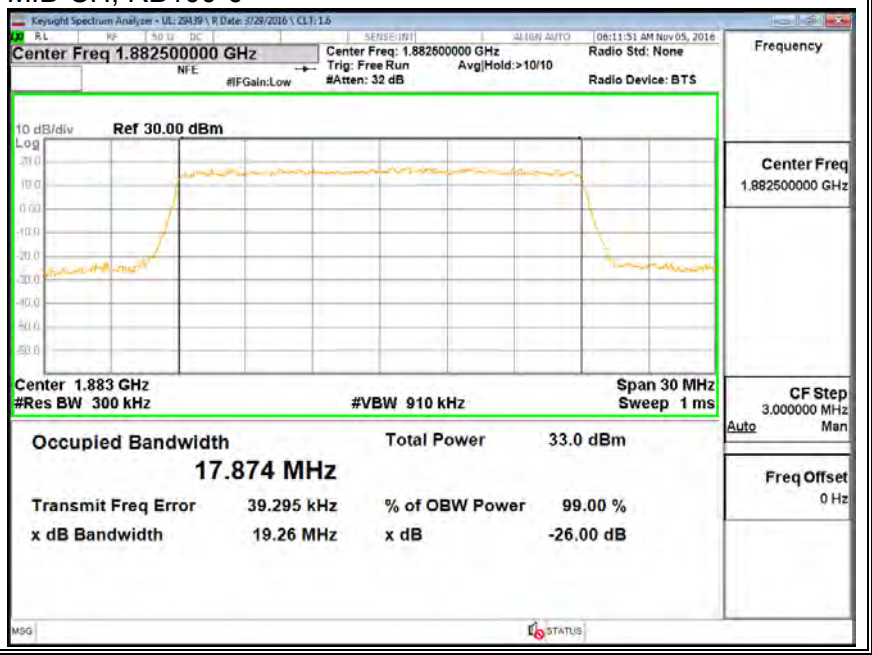
LTE BAND 25 QPSK, (20 MHz)

MID CH, RB100-0



LTE BAND 25 16QAM, (20 MHz)

MID CH, RB100-0



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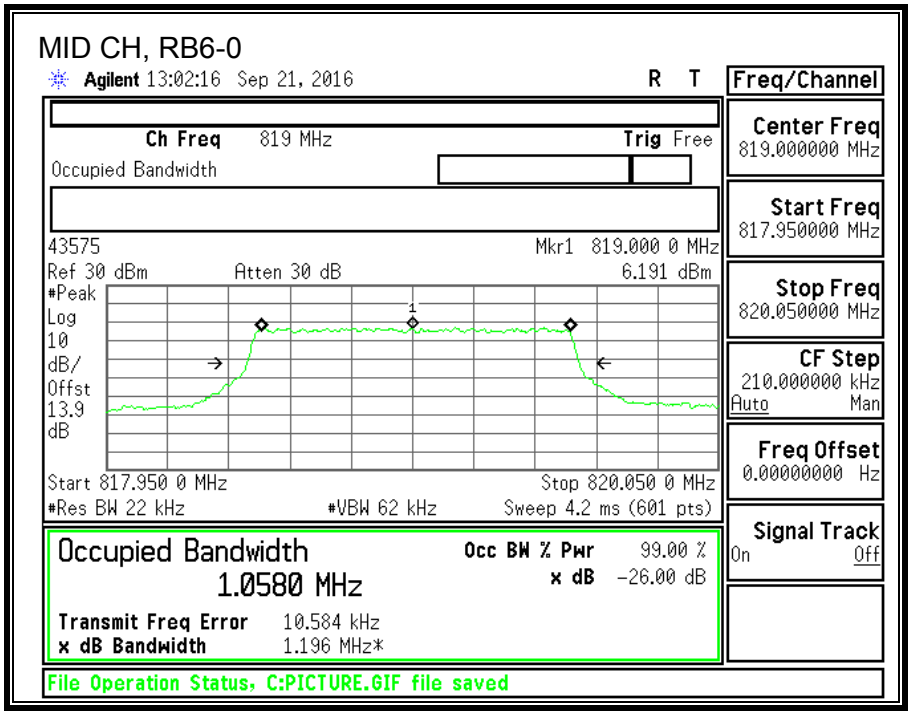
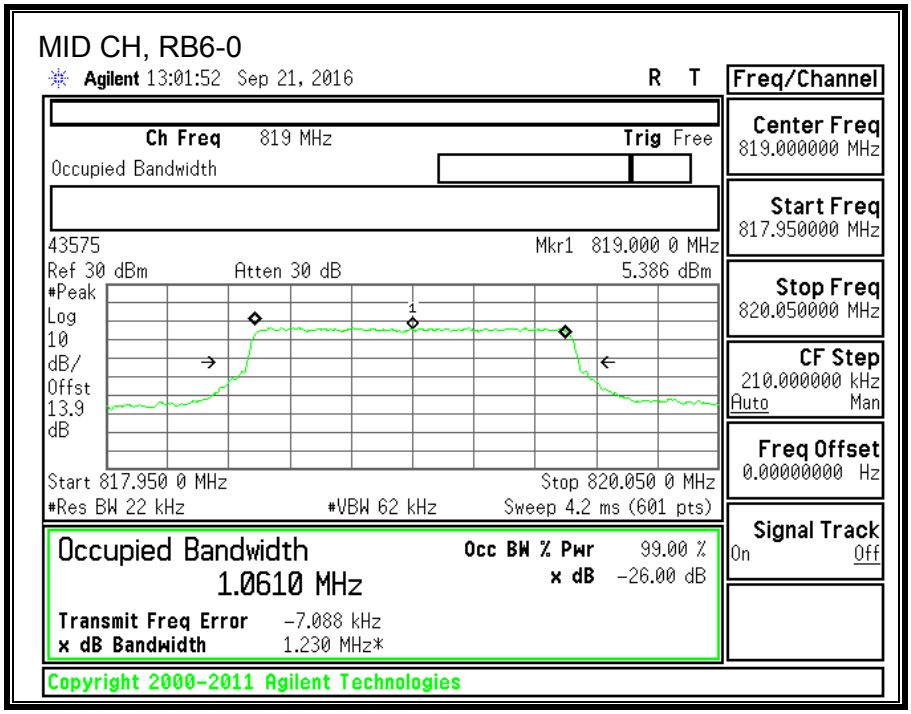
8.1.9. LTE BAND 26

LTE BAND 26 QPSK, (1.4 MHz)



LTE BAND 26 16QAM, (1.4 MHz)



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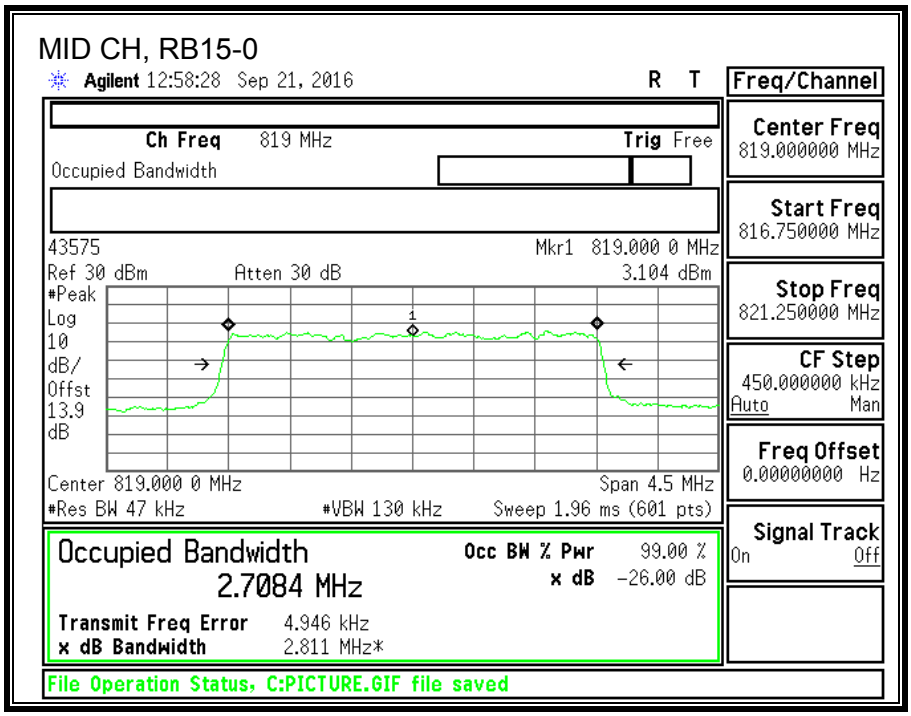
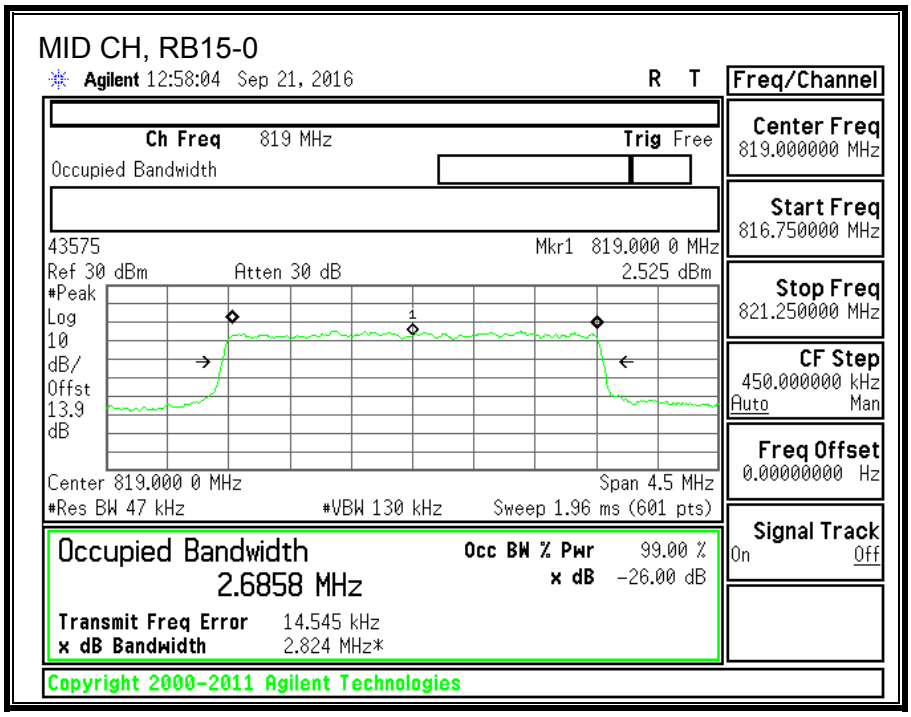
LTE BAND 26 QPSK, (3 MHz)



LTE BAND 26 16QAM, (3 MHz)



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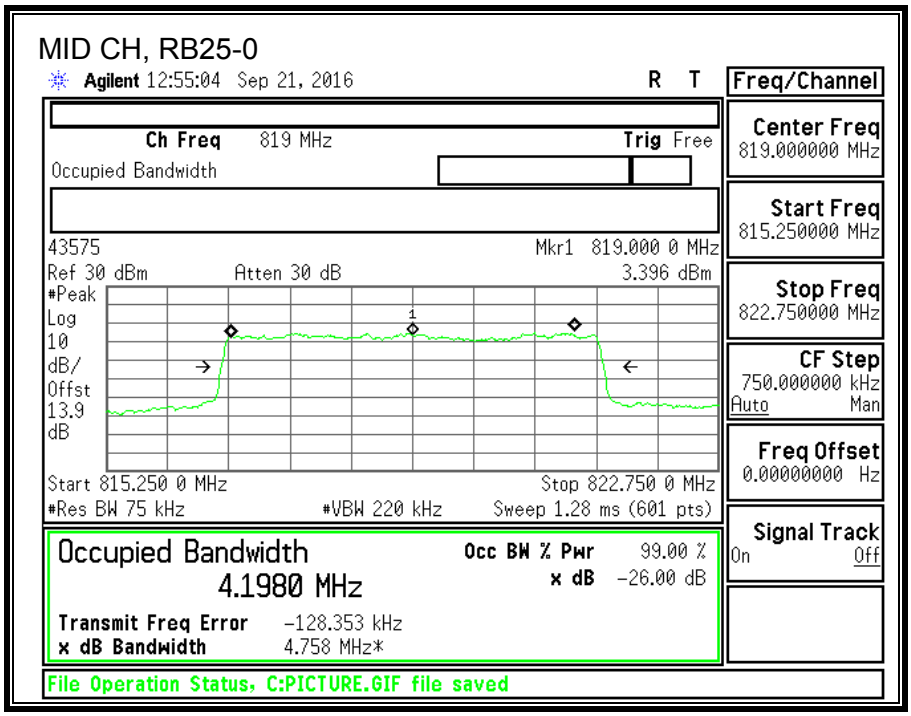
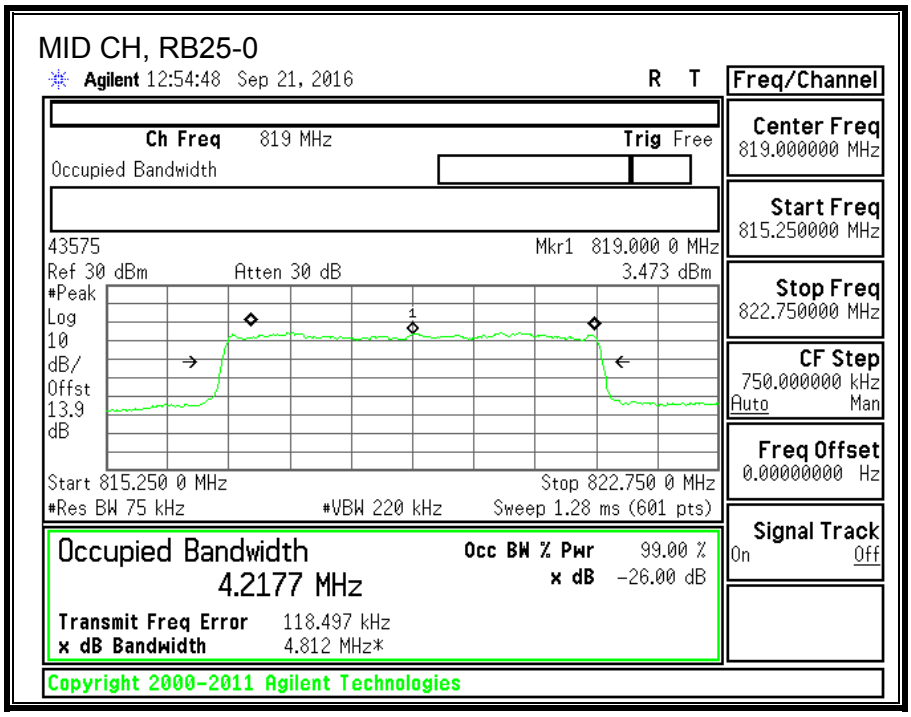
LTE BAND 26 QPSK, (5 MHz)



LTE BAND 26 16QAM, (5 MHz)



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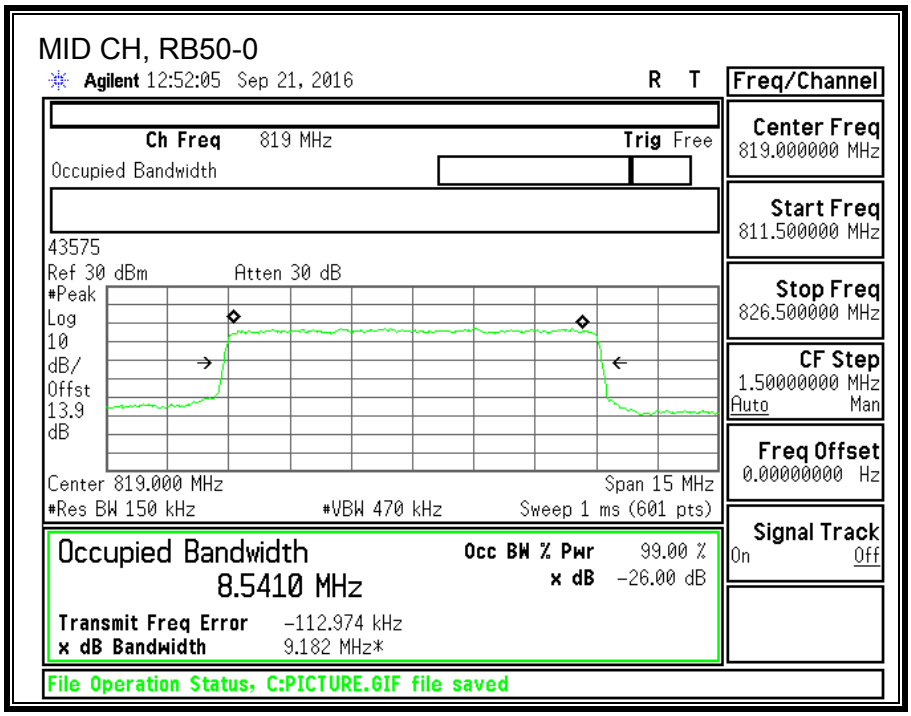
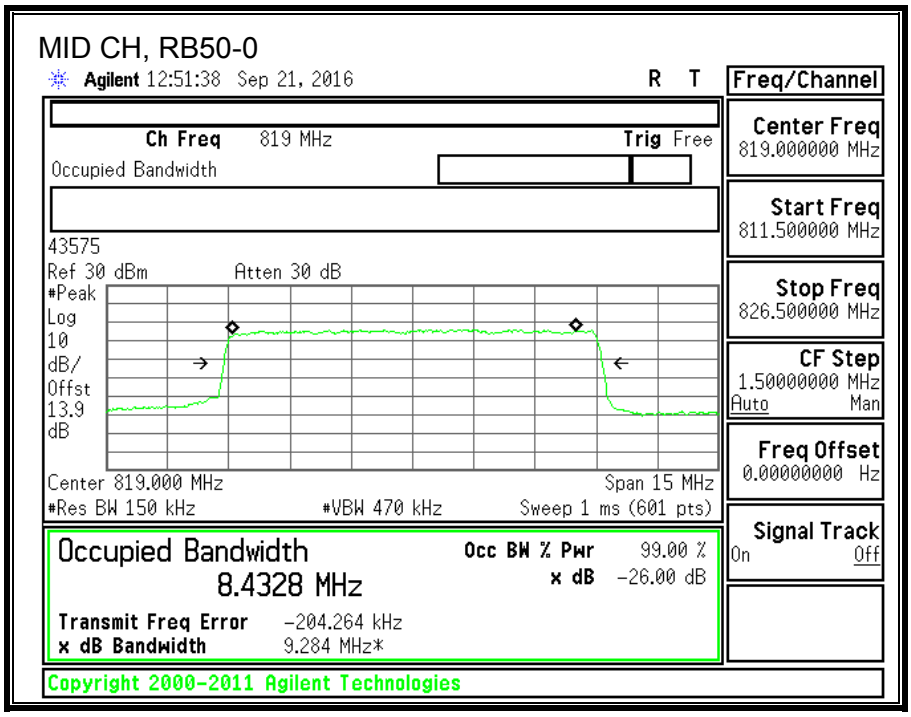
LTE BAND 26 QPSK, (10 MHz)



LTE BAND 26 16QAM, (10 MHz)



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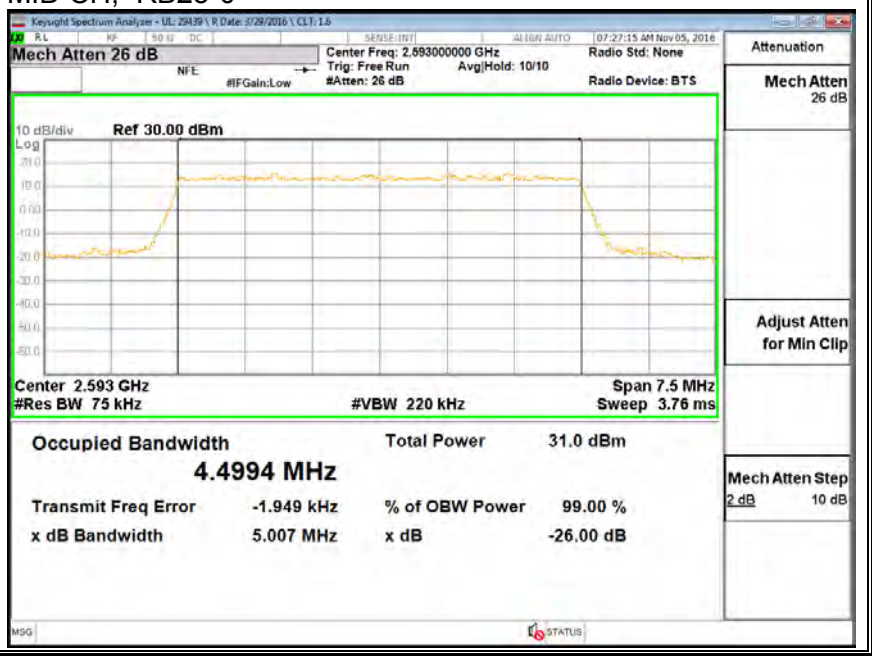
8.1.10. LTE BAND 41

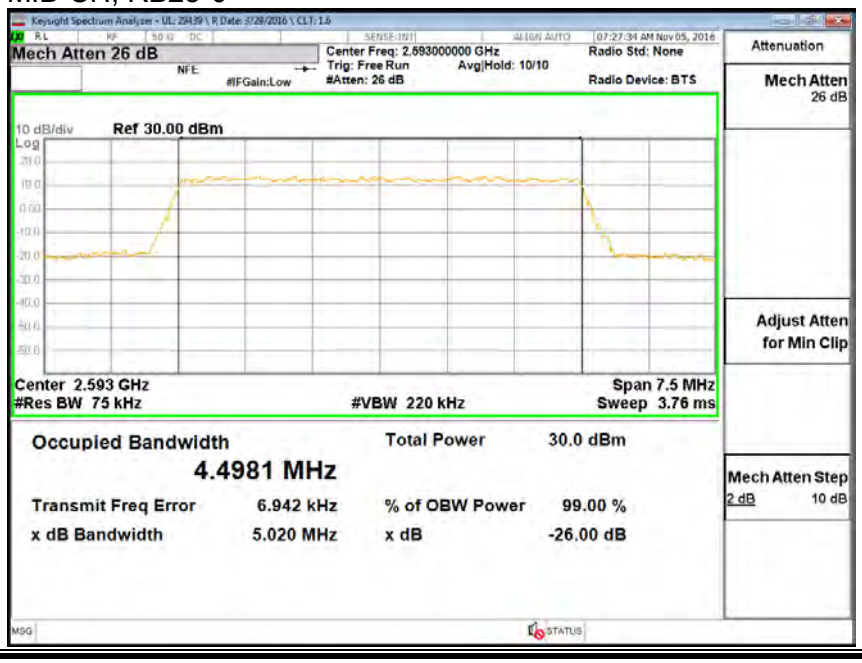
LTE BAND 41 QPSK, (5 MHz)

MID CH, RB25-0



LTE BAND 41 16QAM, (5 MHz)

MID CH, RB25-0



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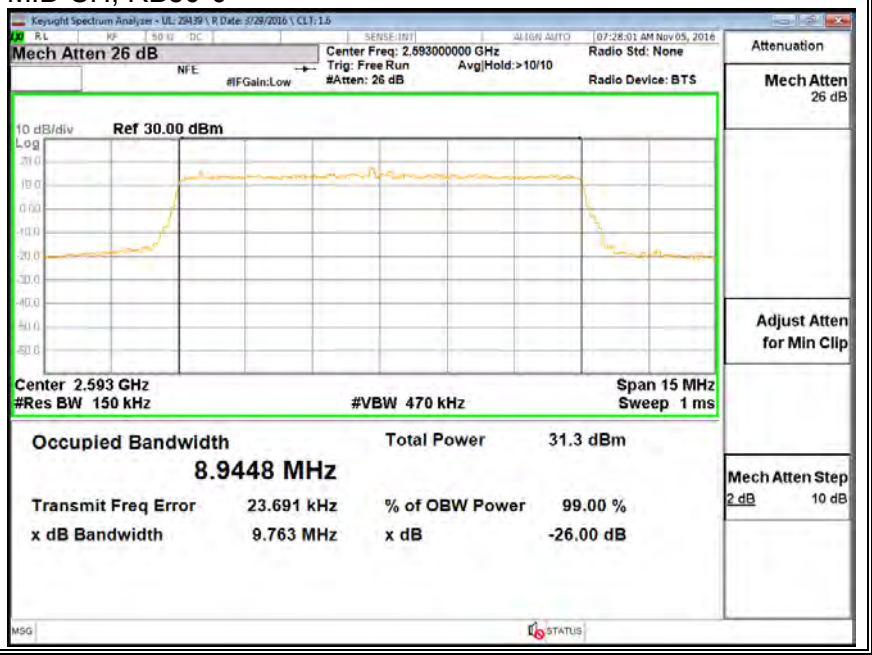
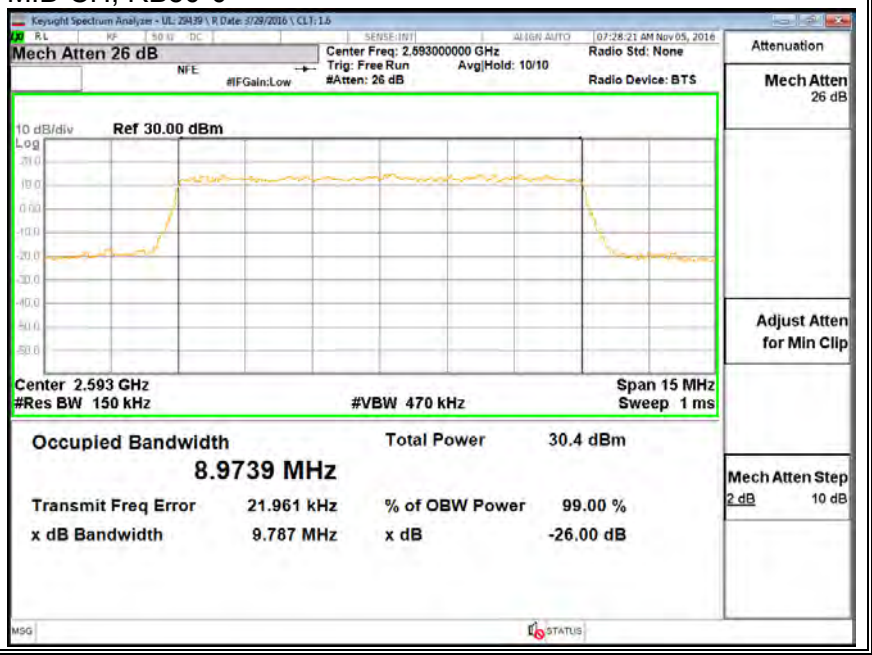
LTE BAND 41 QPSK, (10 MHz)

MID CH, RB50-0



LTE BAND 41 16QAM, (10 MHz)

MID CH, RB50-0



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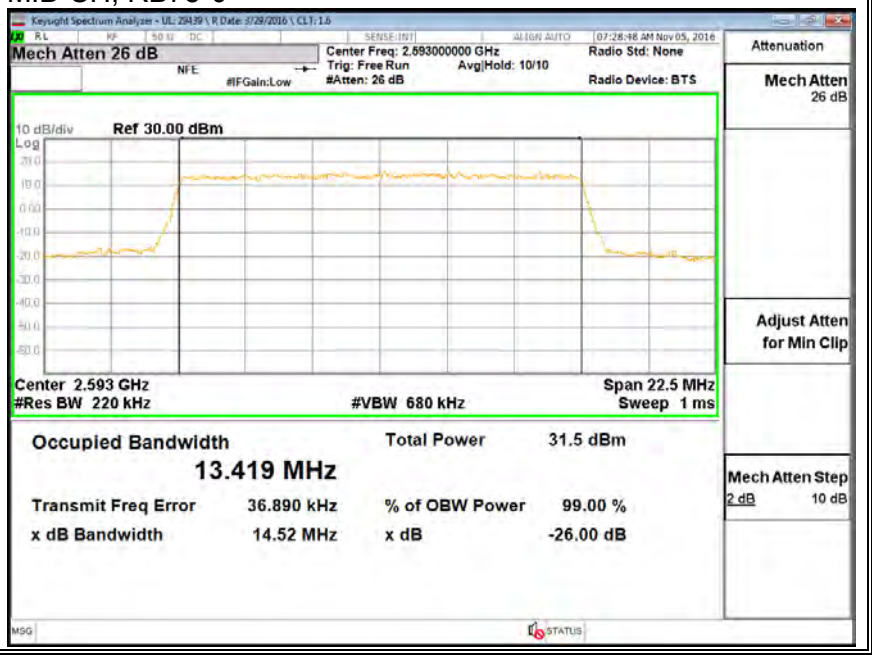
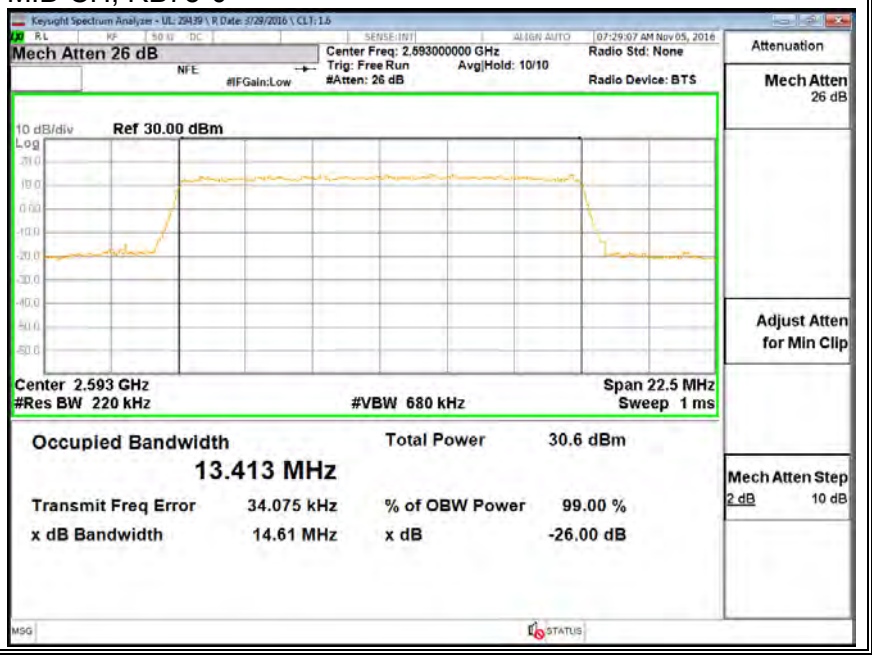
LTE BAND 41 QPSK, (15 MHz)

MID CH, RB75-0



LTE BAND 41 16QAM, (15 MHz)

MID CH, RB75-0



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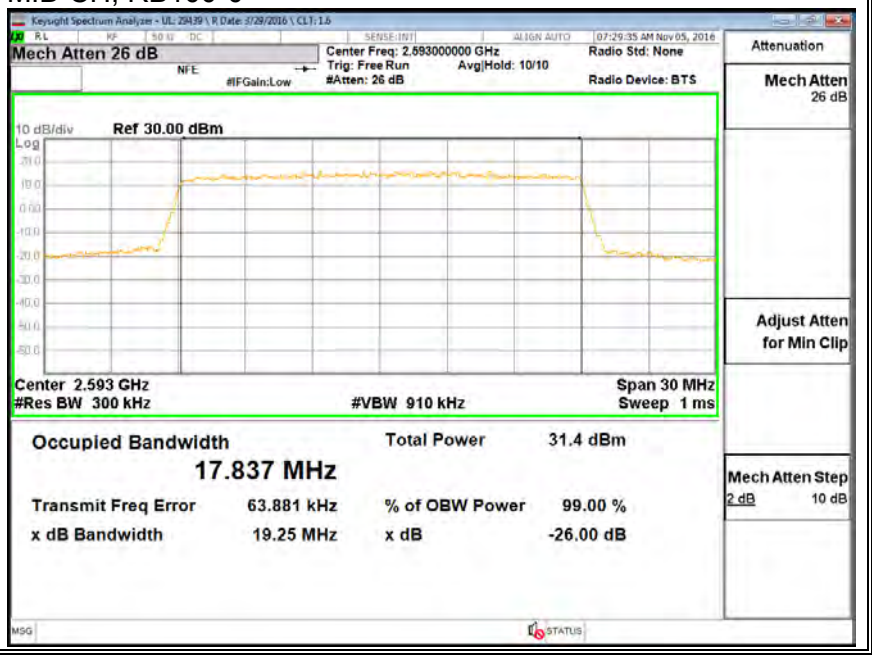
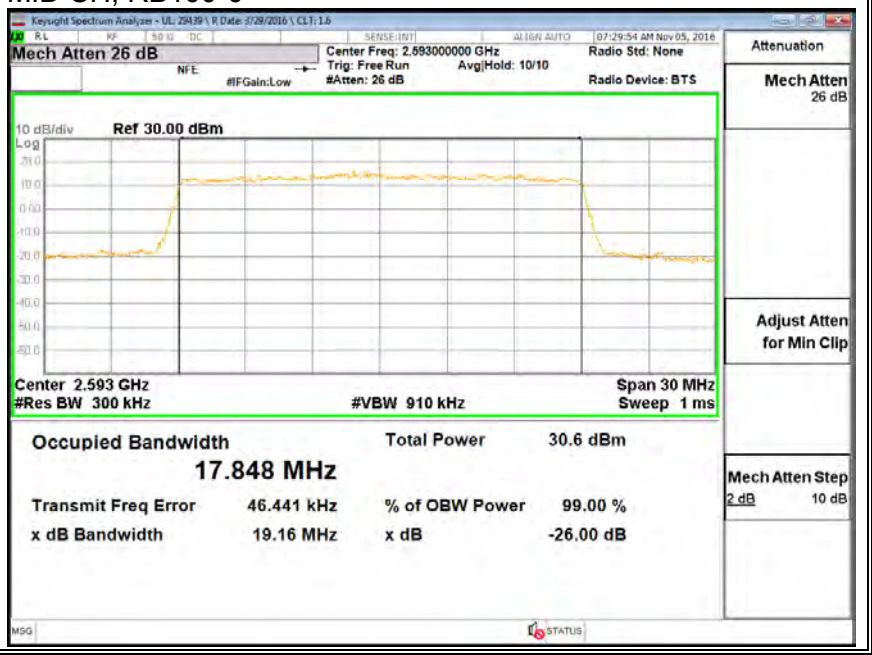
LTE BAND 41 QPSK, (20 MHz)

MID CH, RB100-0



LTE BAND 41 16QAM, (20 MHz)

MID CH, RB100-0



UL VERIFICATION SERVICES INC. FORM NO: CCSUP4031B
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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8.2. BANDEDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.359, §22.917, §24.238, §27.53, and §90.691

LIMITS

FCC: §22.359, §22.917, §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.

FCC: §90.210, and §90.691 (LTE BAND 26)
(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.

FCC: §27.53
(c) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;
(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;
(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

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FCC: §27.53 (LTE BAND 41)
(m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz 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; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.Show citation box.

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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:

1. Set the spectrum analyzer span to include the block edge frequency.
2. Set a marker to point the corresponding band edge frequency in each test case.
3. Set display line at -13 dBm
4. Set resolution bandwidth to at least 1% of emission bandwidth.

MODES TESTED

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41

RESULTS

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8.2.1. LTE BAND 2 BANDEDGE

LTE BAND 2 QPSK, (1.4 MHz)

LOW CH, RB1-0

HIGH CH, RB1-5

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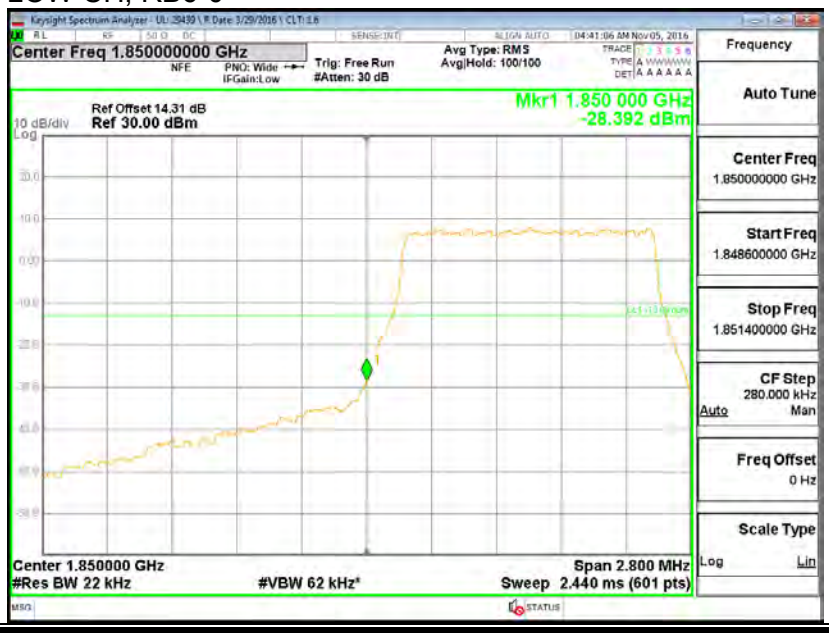
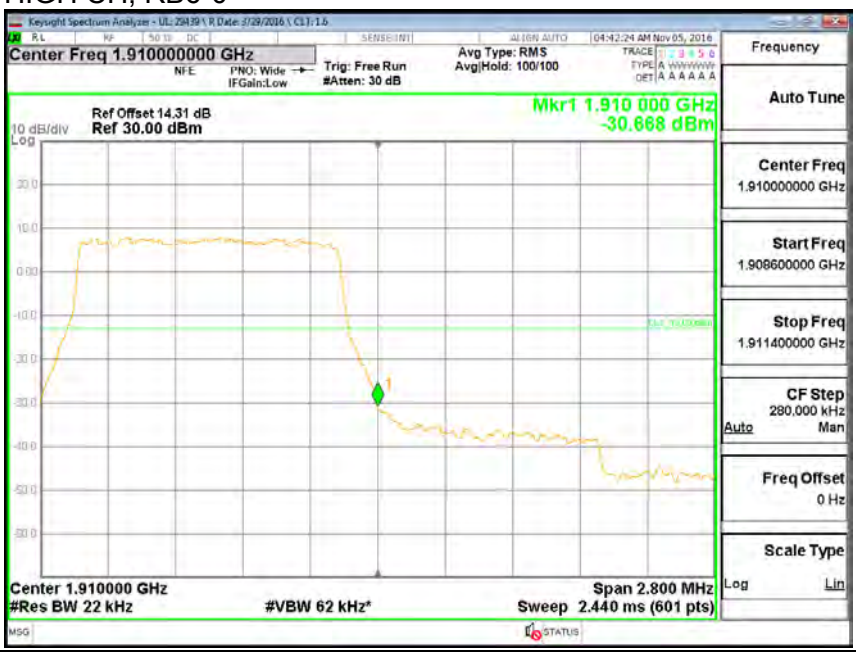
LOW CH, RB6-0



HIGH CH, RB6-0



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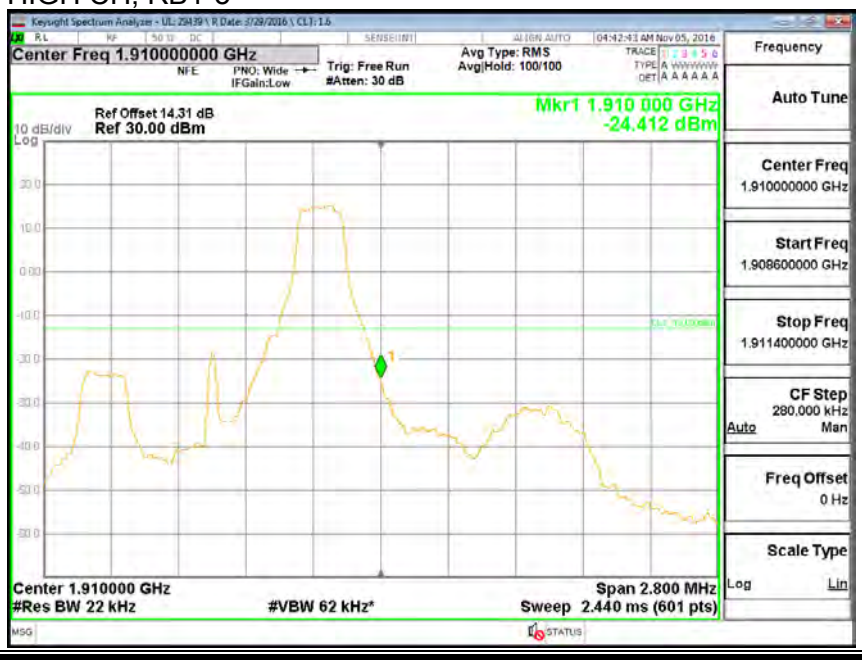
LTE BAND 2 16QAM, (1.4 MHz)

LOW CH, RB1-0

HIGH CH, RB1-5



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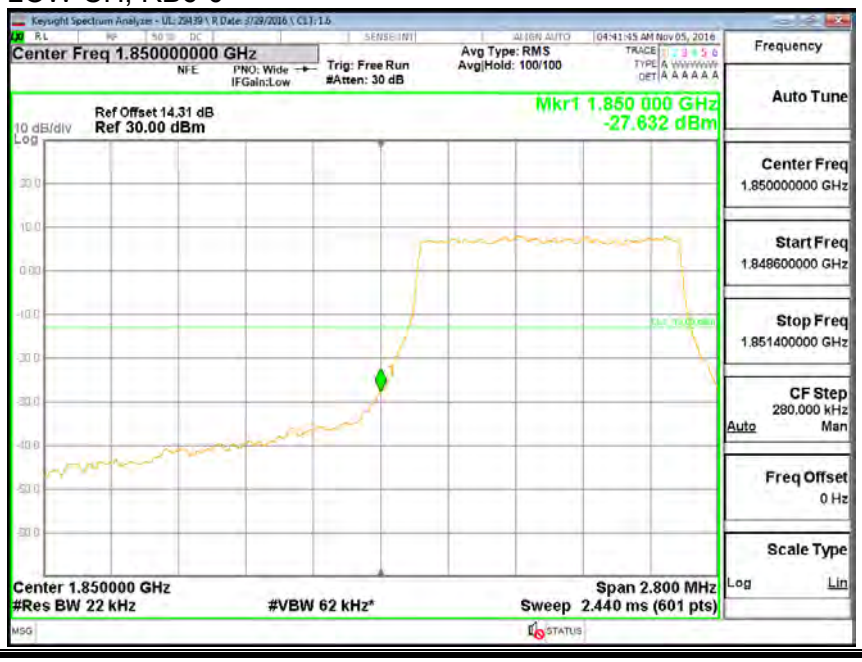
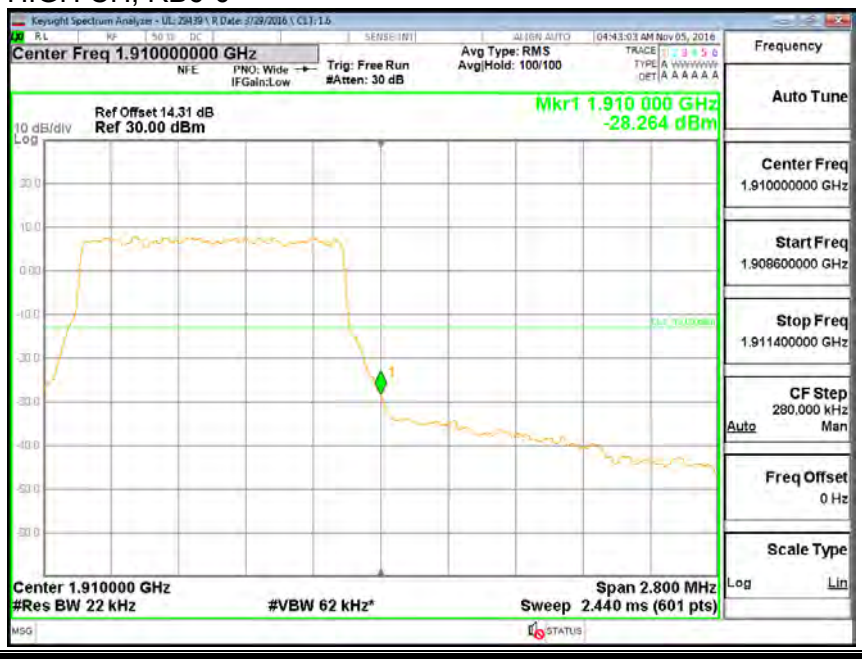
LOW CH, RB6-0



HIGH CH, RB6-0



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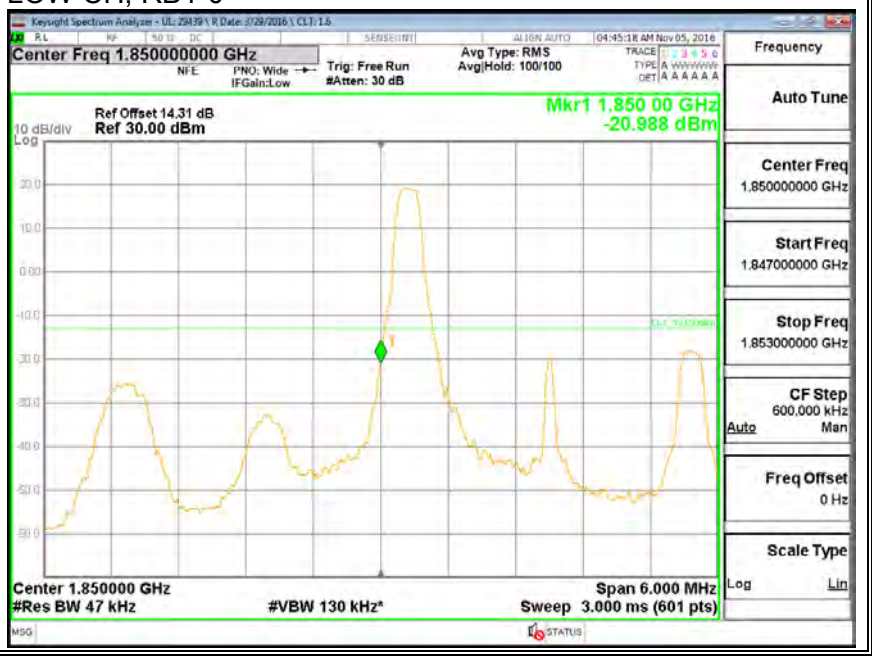
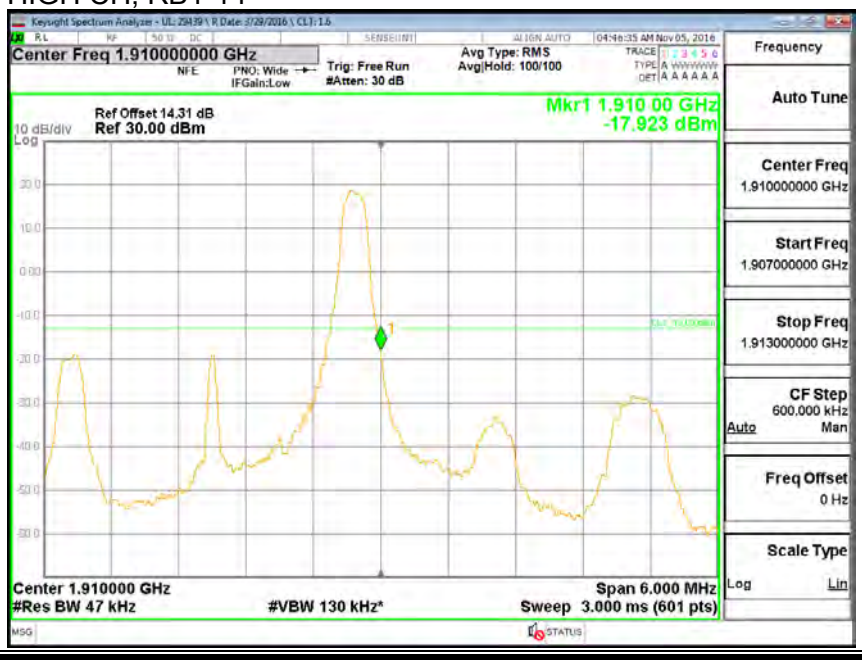
LTE BAND 2 QPSK, (3 MHz)

LOW CH, RB1-0



HIGH CH, RB1-14



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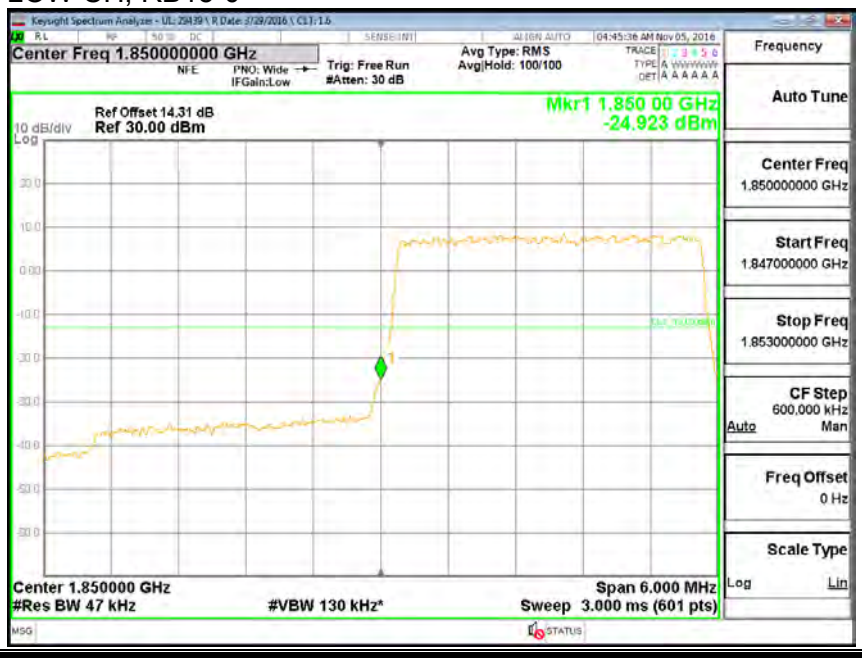
LOW CH, RB15-0



HIGH CH, RB15-0

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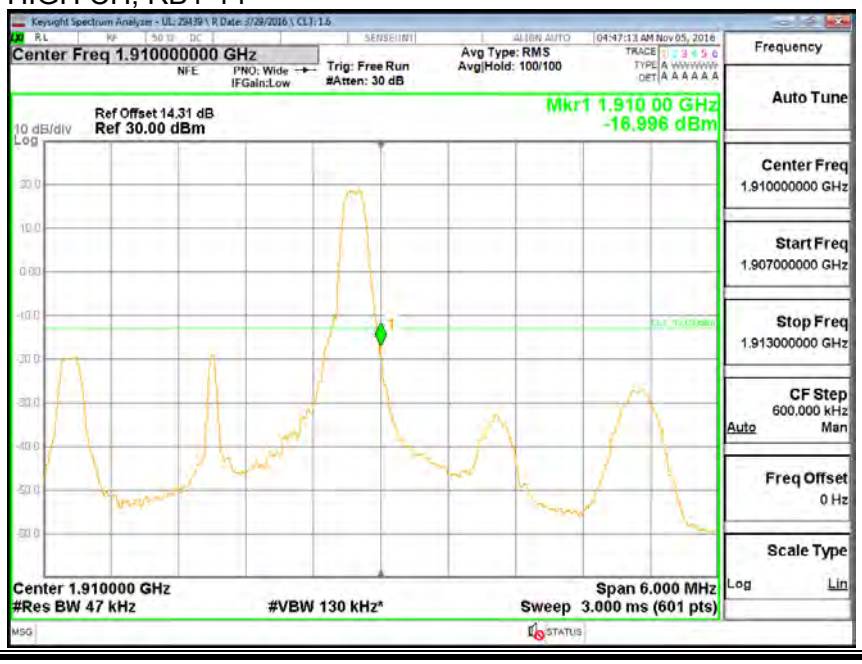
LTE BAND 2 16QAM, (3 MHz)

LOW CH, RB1-0

HIGH CH, RB1-14



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LOW CH, RB15-0

HIGH CH, RB15-0

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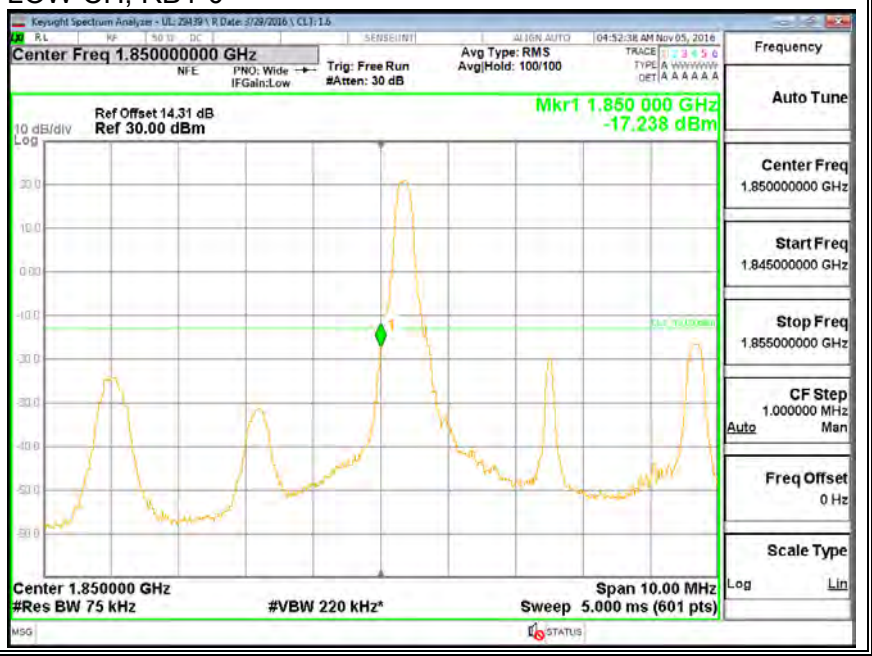
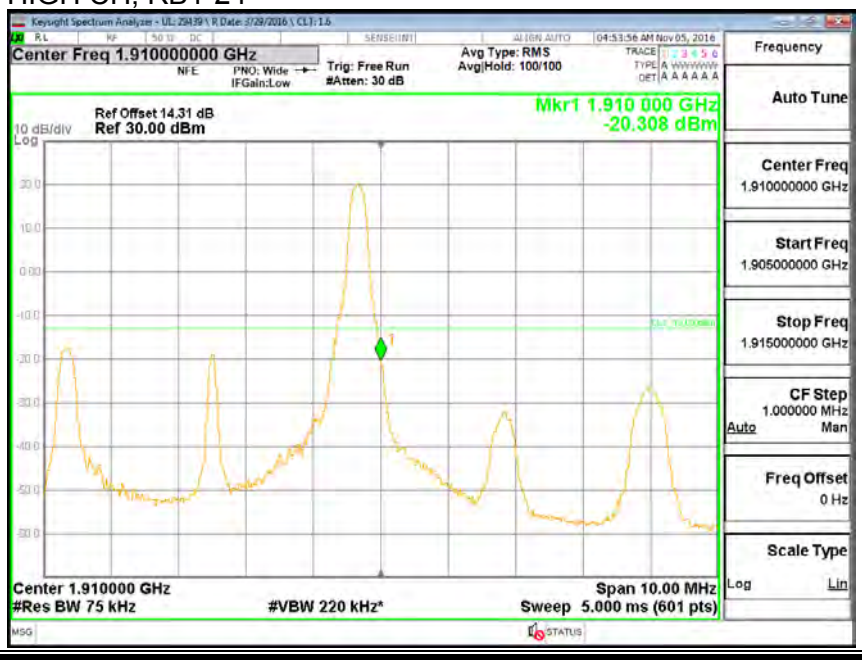
LTE BAND 2 QPSK, (5 MHz)

LOW CH, RB1-0



HIGH CH, RB1-24



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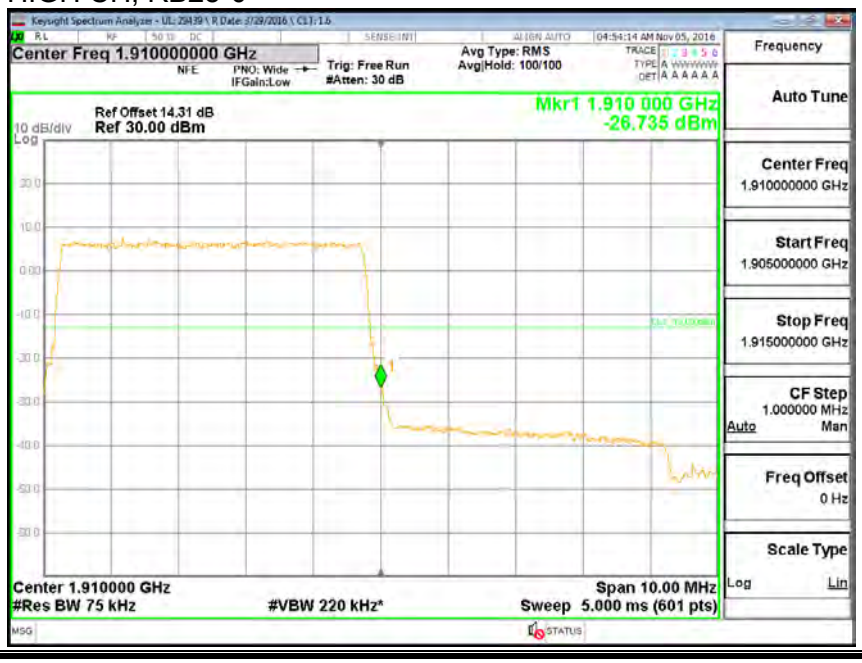
LOW CH, RB25-0

HIGH CH, RB25-0



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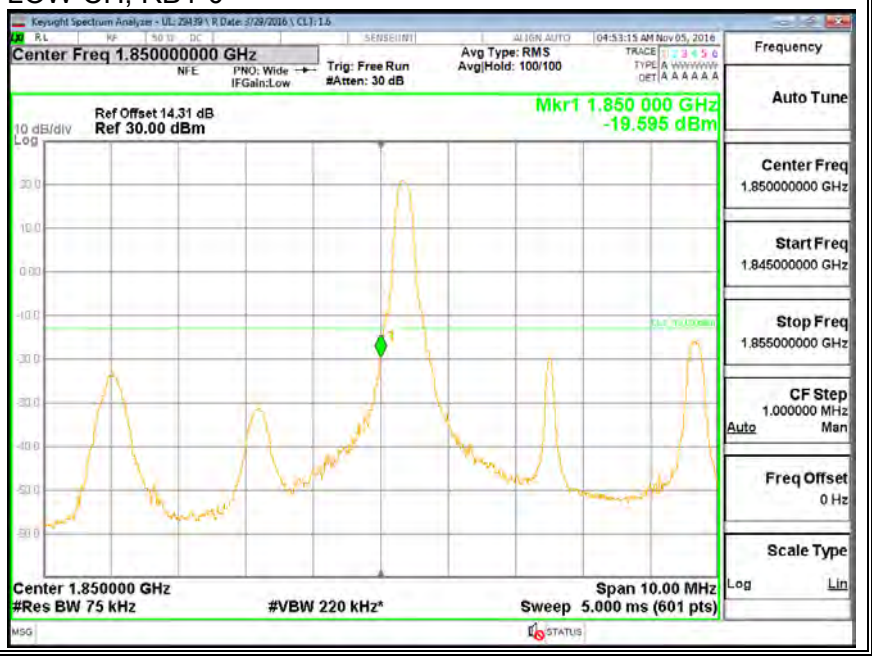
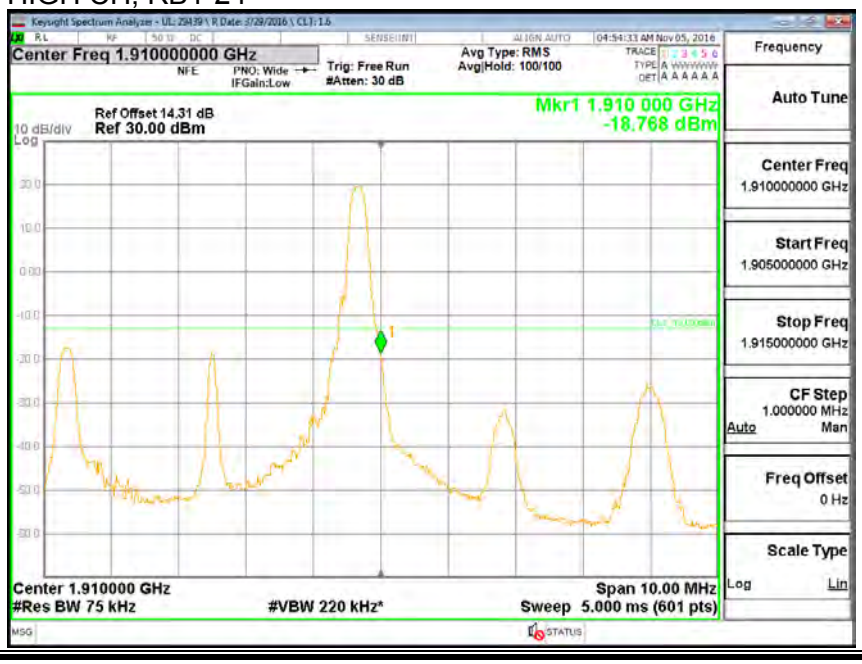
LTE BAND 2 16QAM, (5 MHz)

LOW CH, RB1-0



HIGH CH, RB1-24



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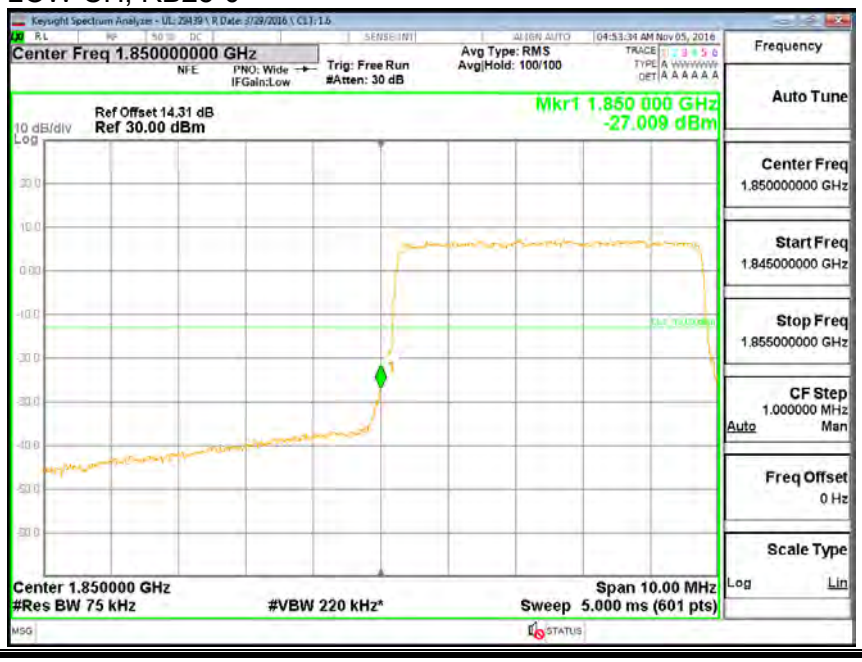
LOW CH, RB25-0



HIGH CH, RB25-0

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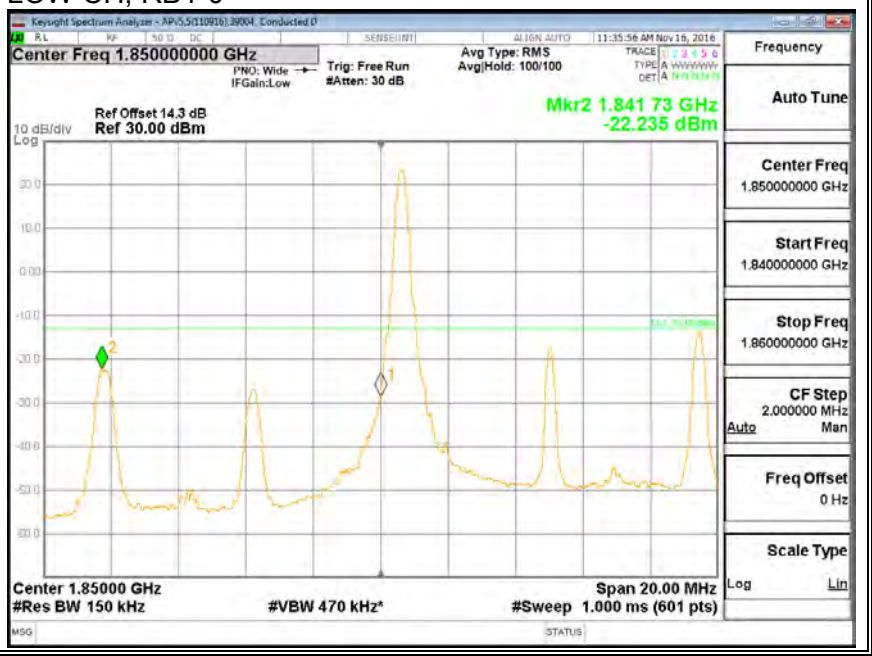
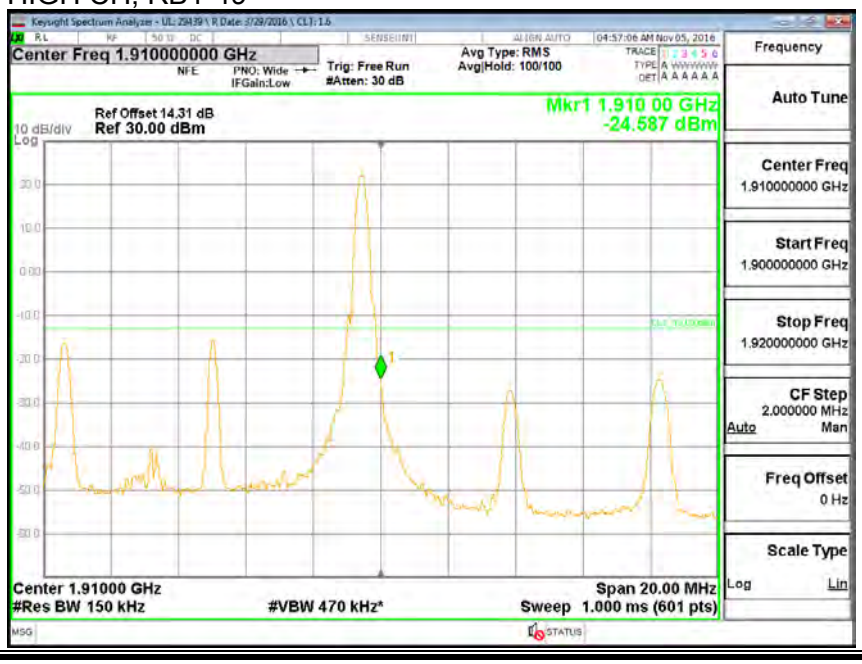
LTE BAND 2 QPSK, (10 MHz)

LOW CH, RB1-0



HIGH CH, RB1-49



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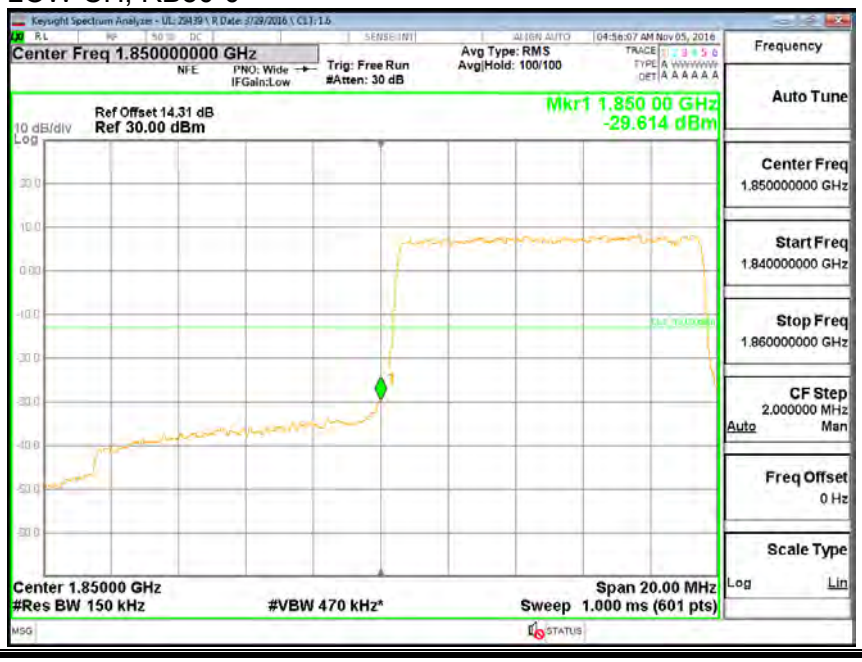
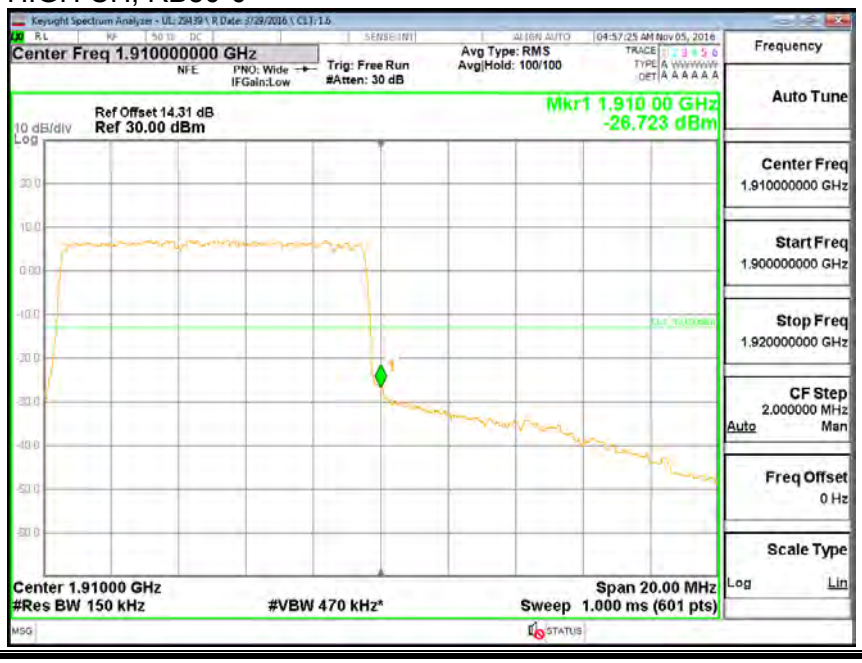
LOW CH, RB50-0



HIGH CH, RB50-0



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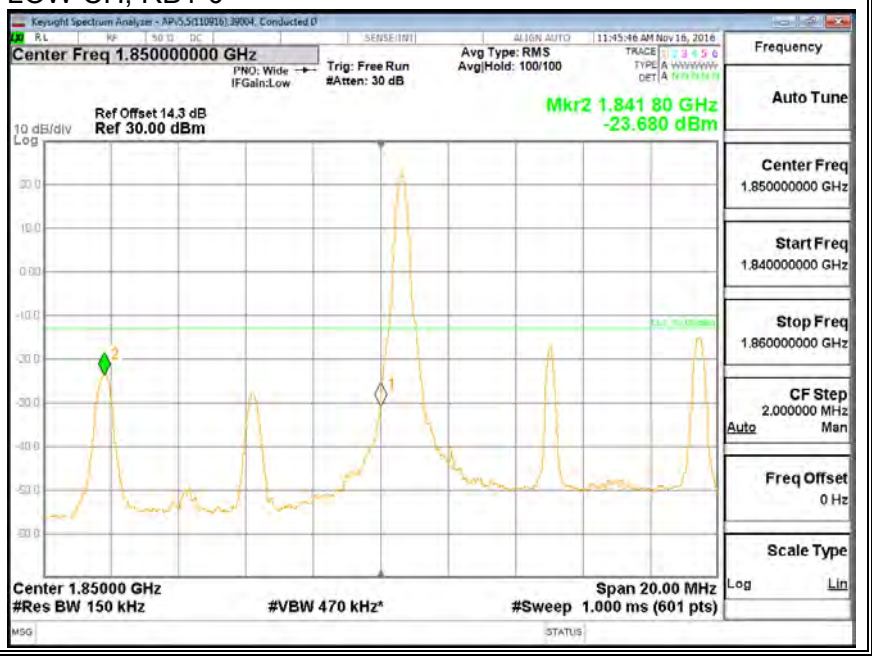
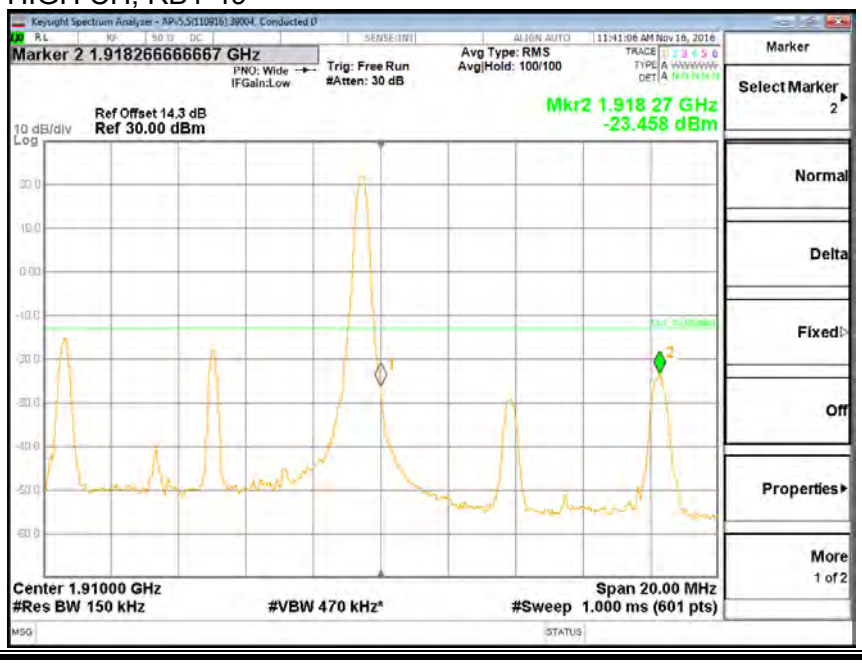
LTE BAND 2 16QAM, (10 MHz)

LOW CH, RB1-0



HIGH CH, RB1-49



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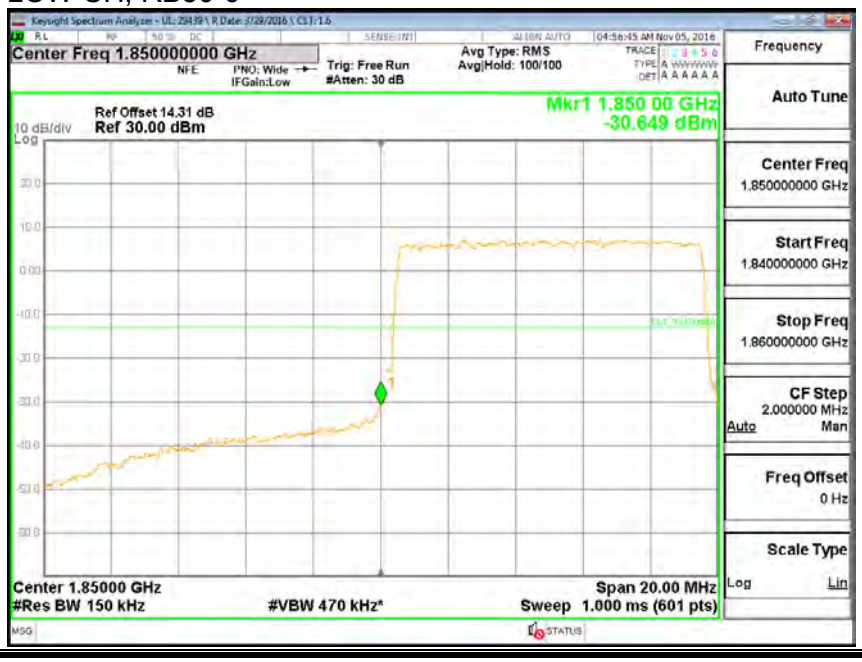
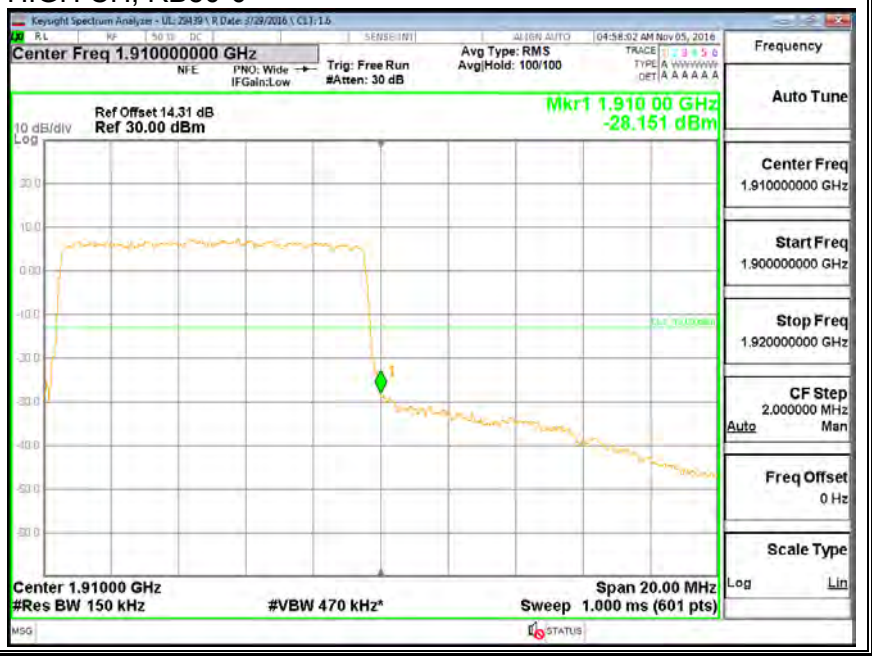
LOW CH, RB50-0



HIGH CH, RB50-0



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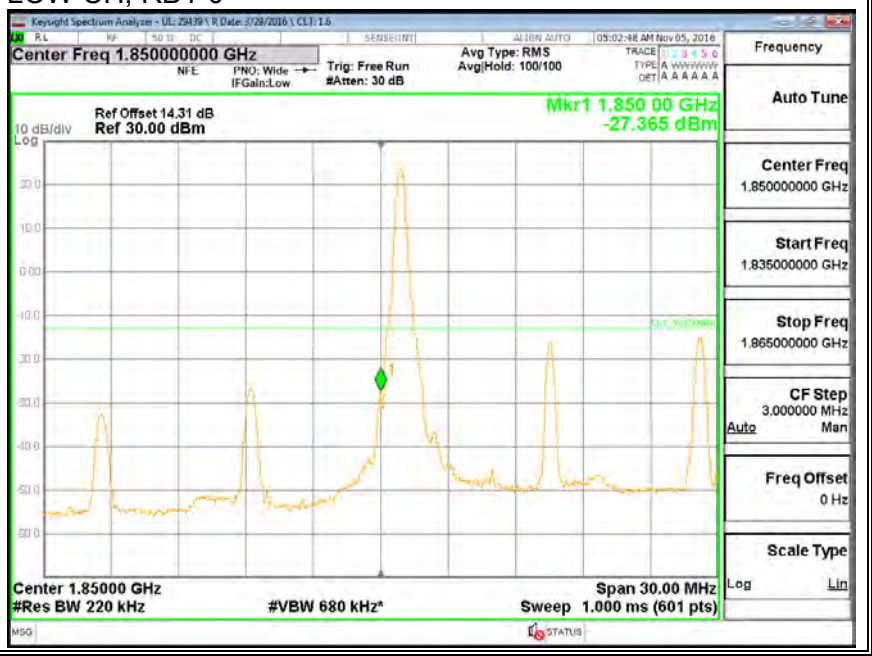
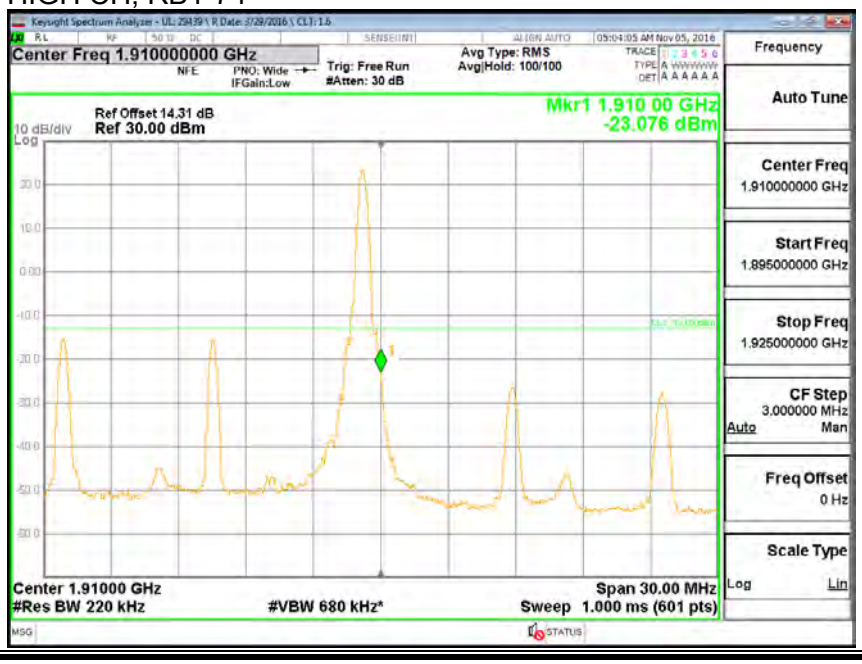
LTE BAND 2 QPSK, (15 MHz)

LOW CH, RB1-0



HIGH CH, RB1-74



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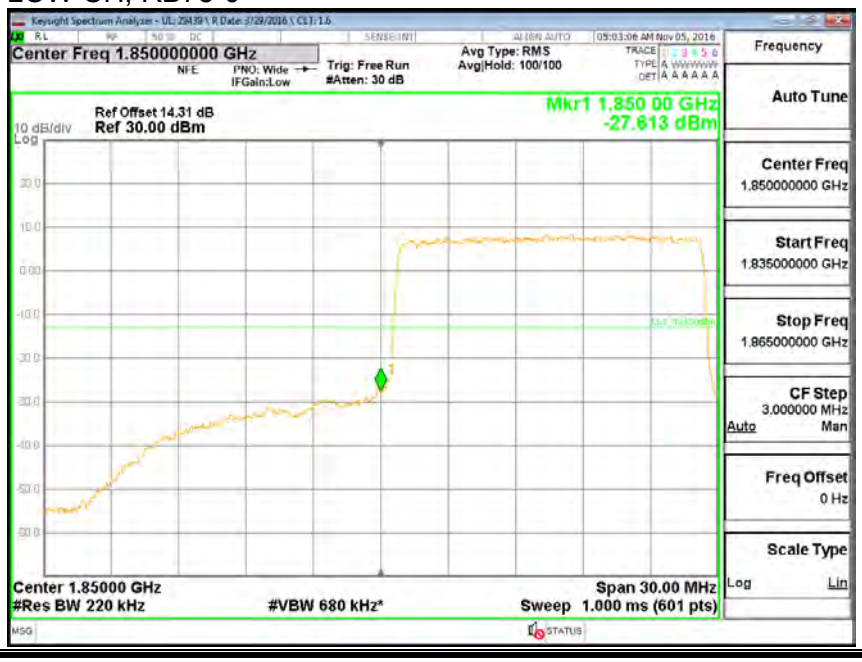
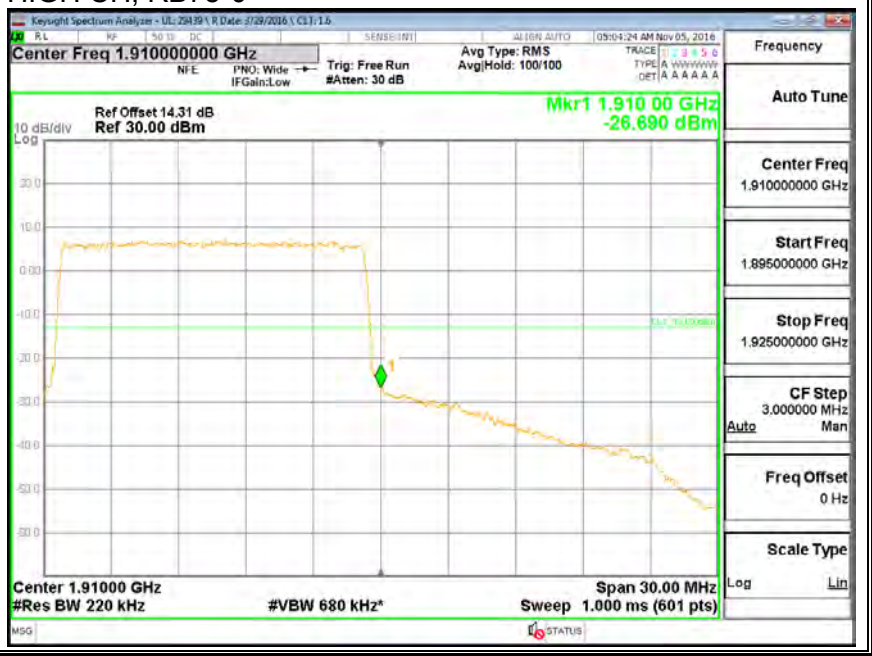
LOW CH, RB75-0



HIGH CH, RB75-0



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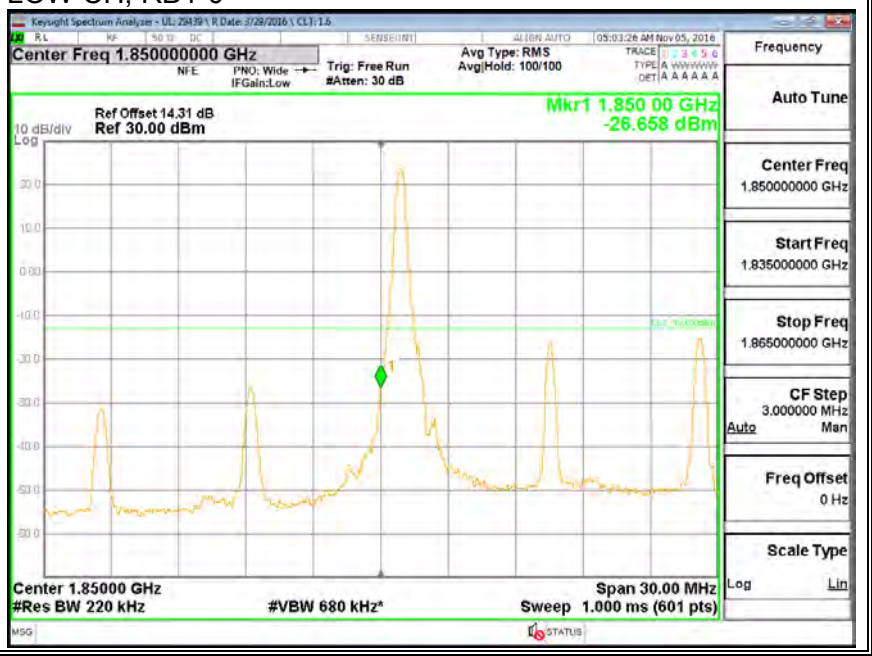
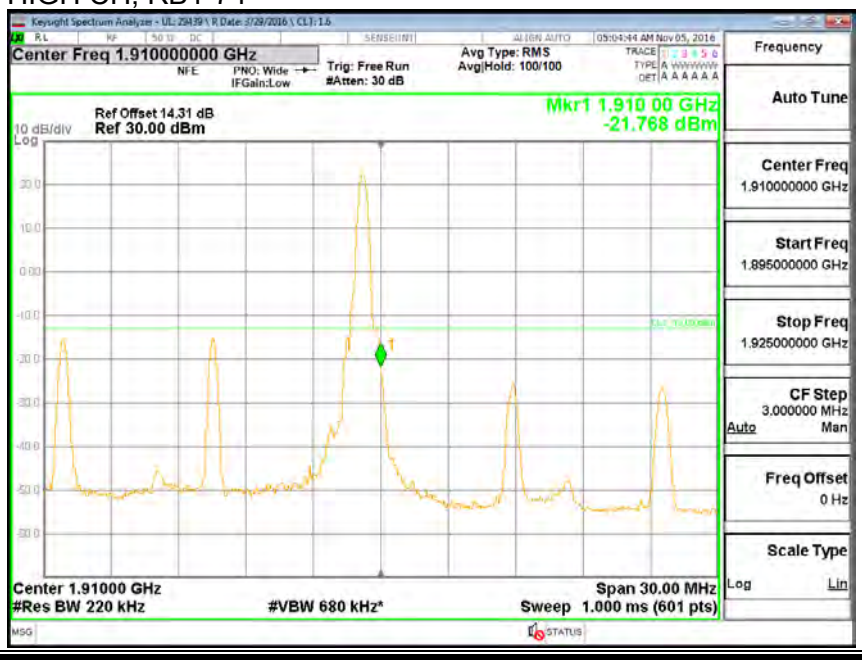
LTE BAND 2 16QAM, (15 MHz)

LOW CH, RB1-0



HIGH CH, RB1-74



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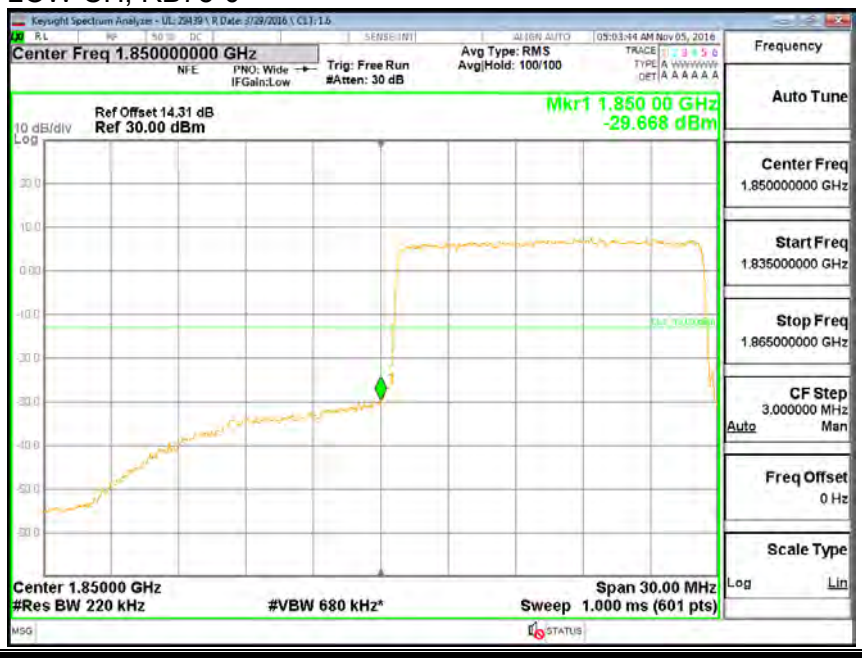
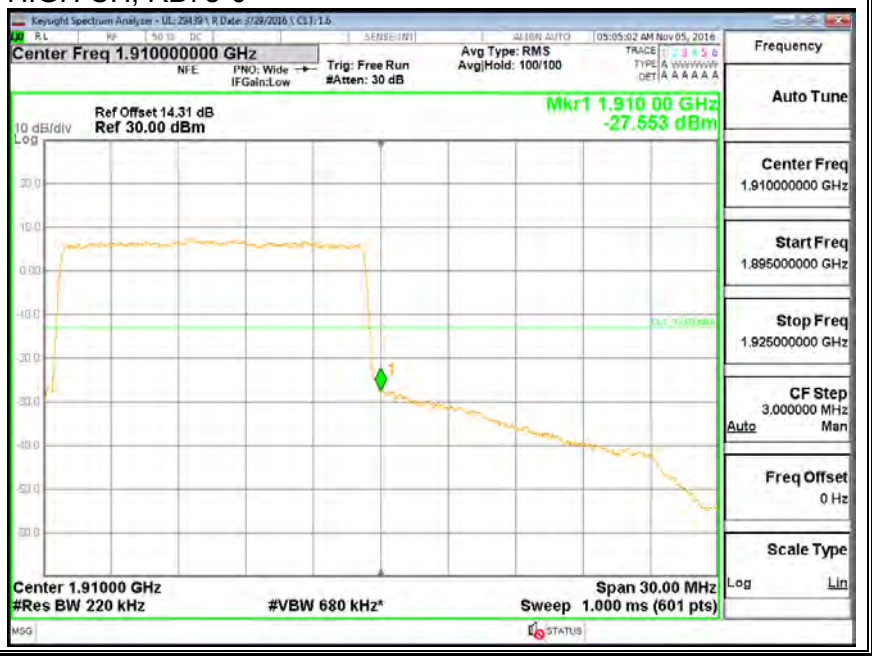
LOW CH, RB75-0



HIGH CH, RB75-0



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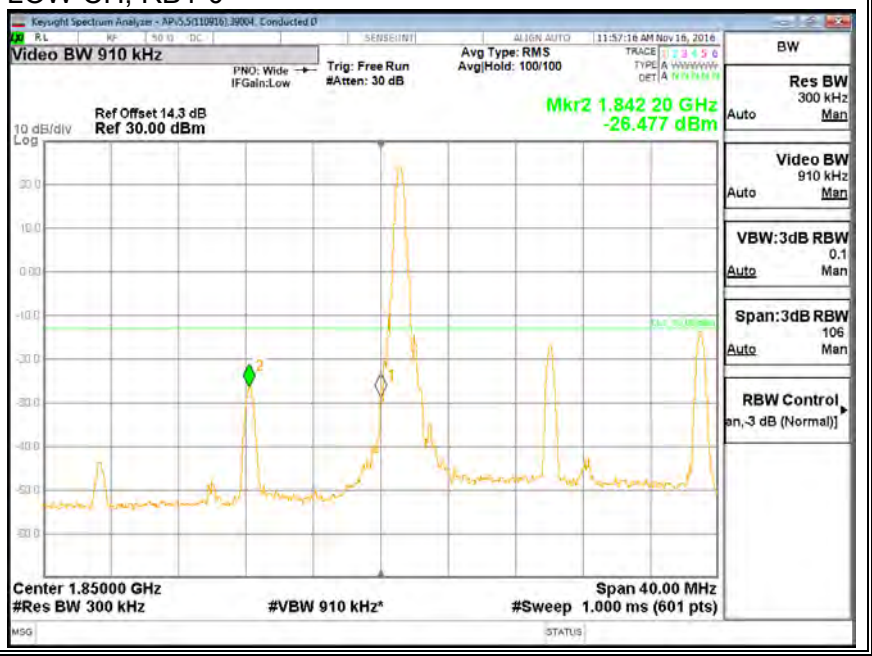
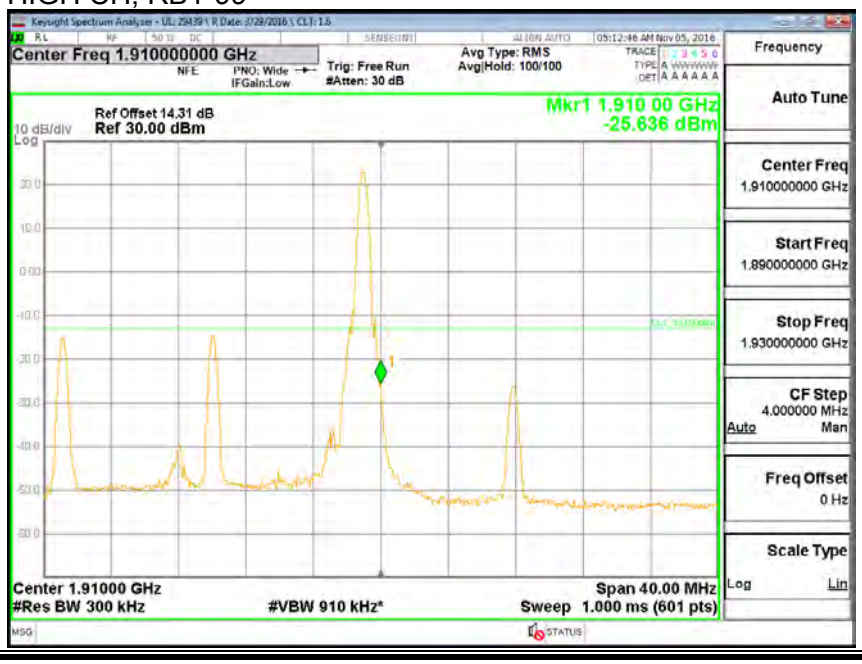
LTE BAND 2 QPSK, (20 MHz)

LOW CH, RB1-0



HIGH CH, RB1-99



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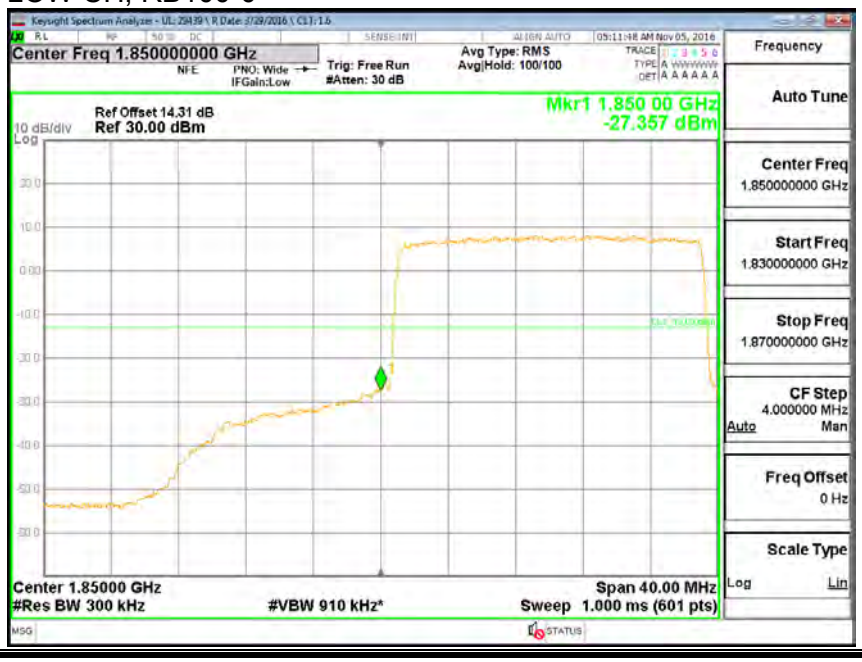
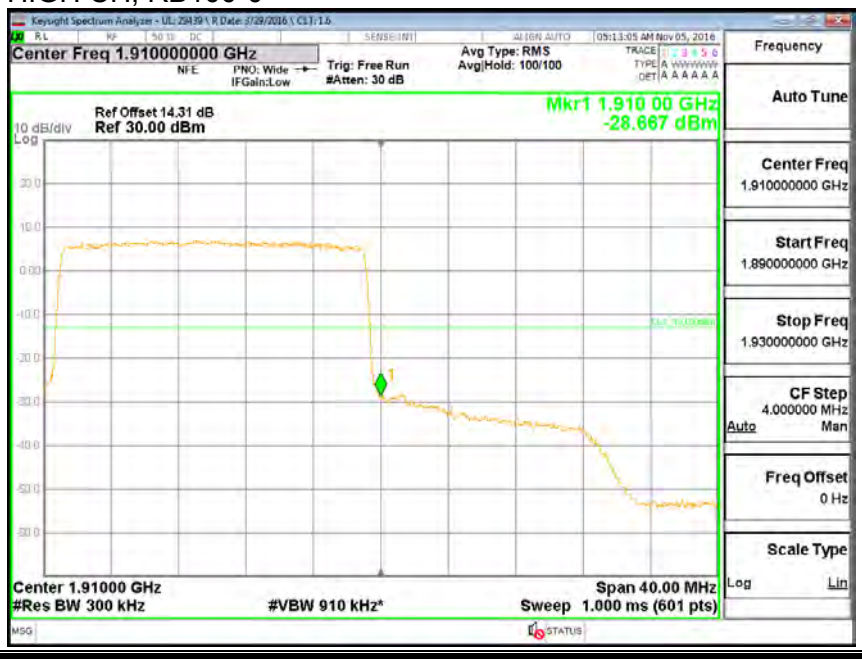
LOW CH, RB100-0



HIGH CH, RB100-0



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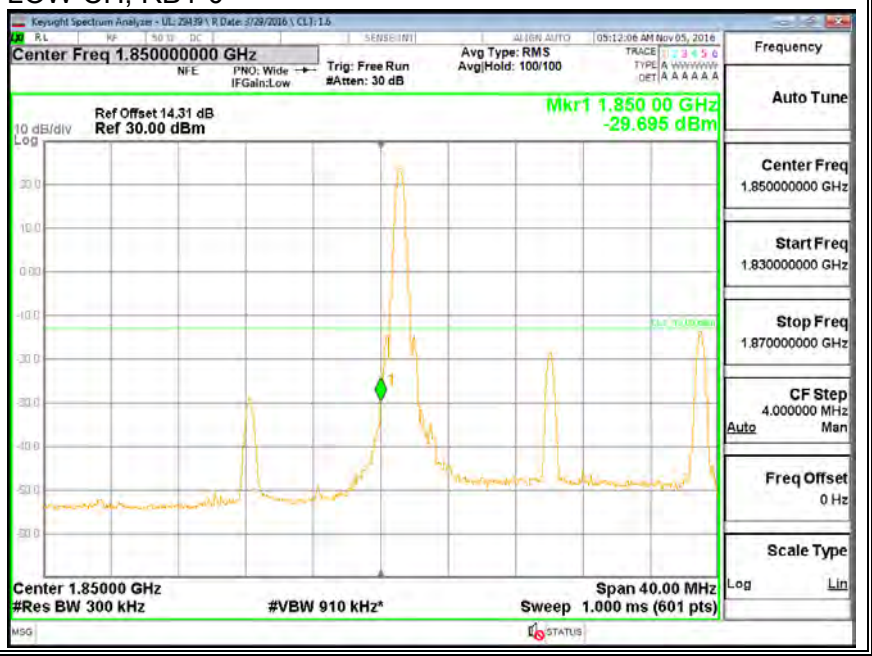
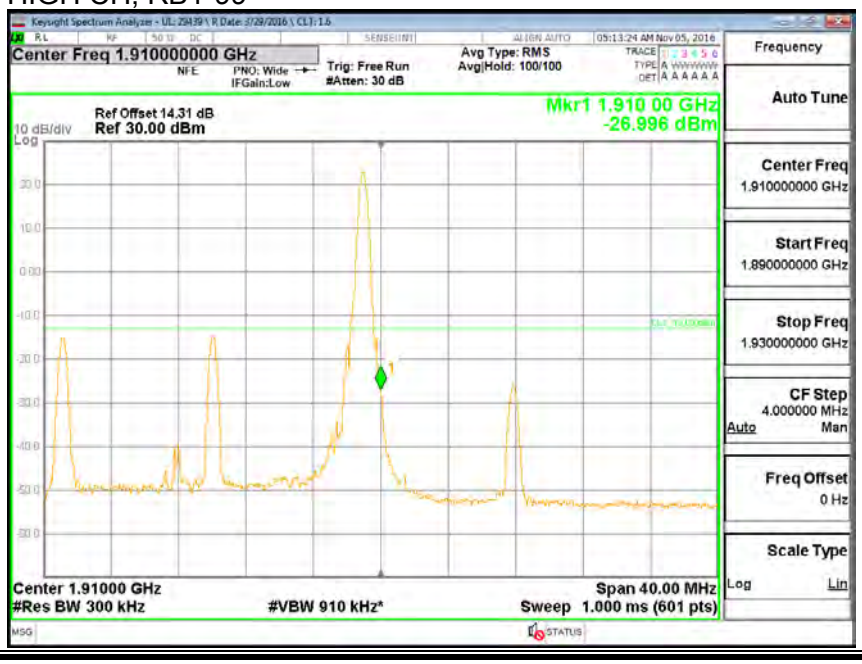
LTE BAND 2 16QAM, (20 MHz)

LOW CH, RB1-0



HIGH CH, RB1-99



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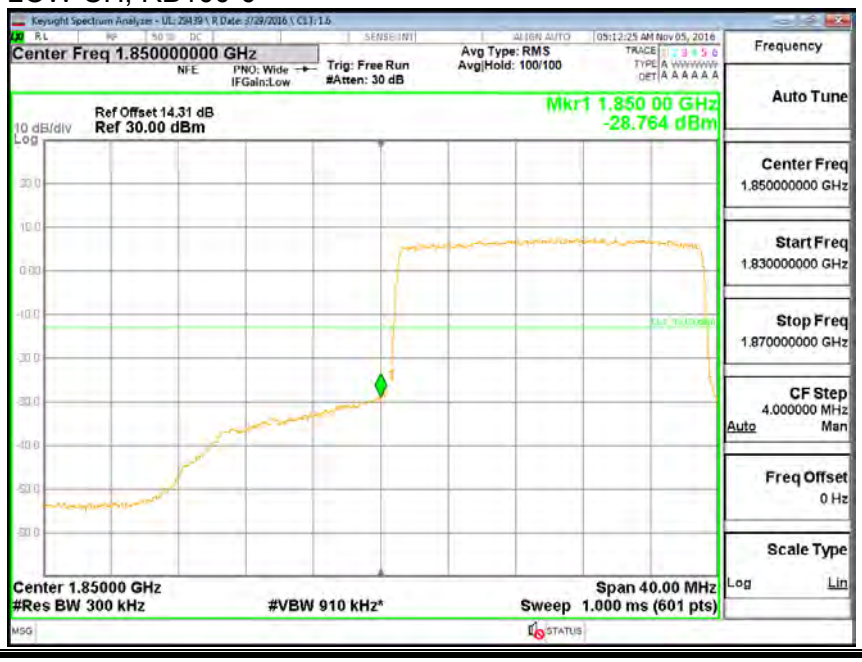
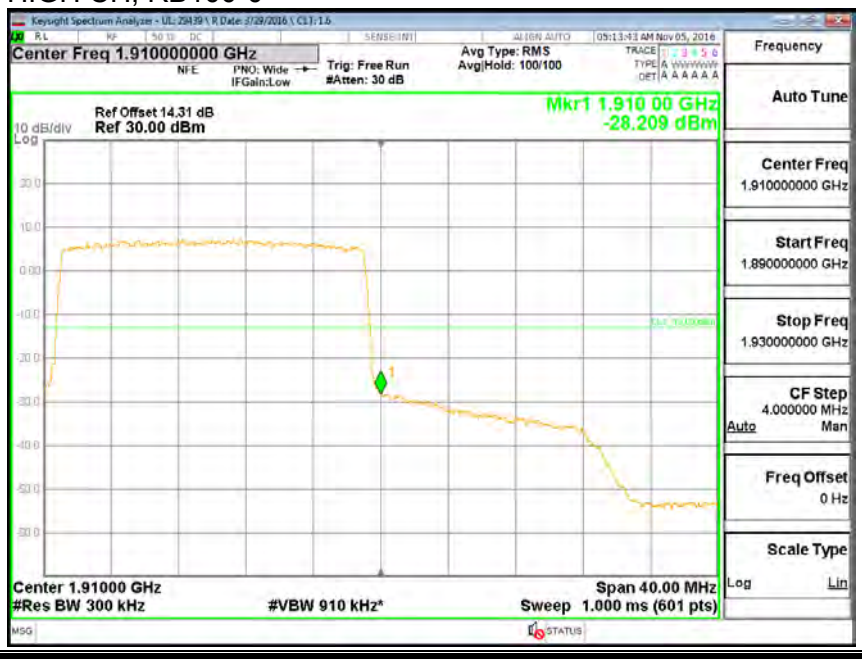
LOW CH, RB100-0



HIGH CH, RB100-0



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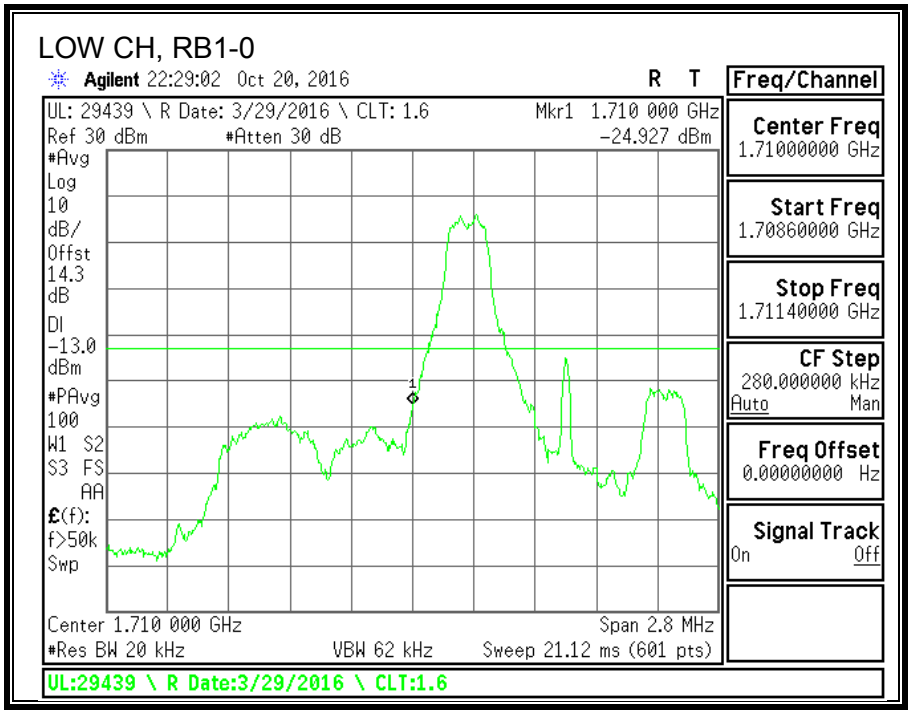
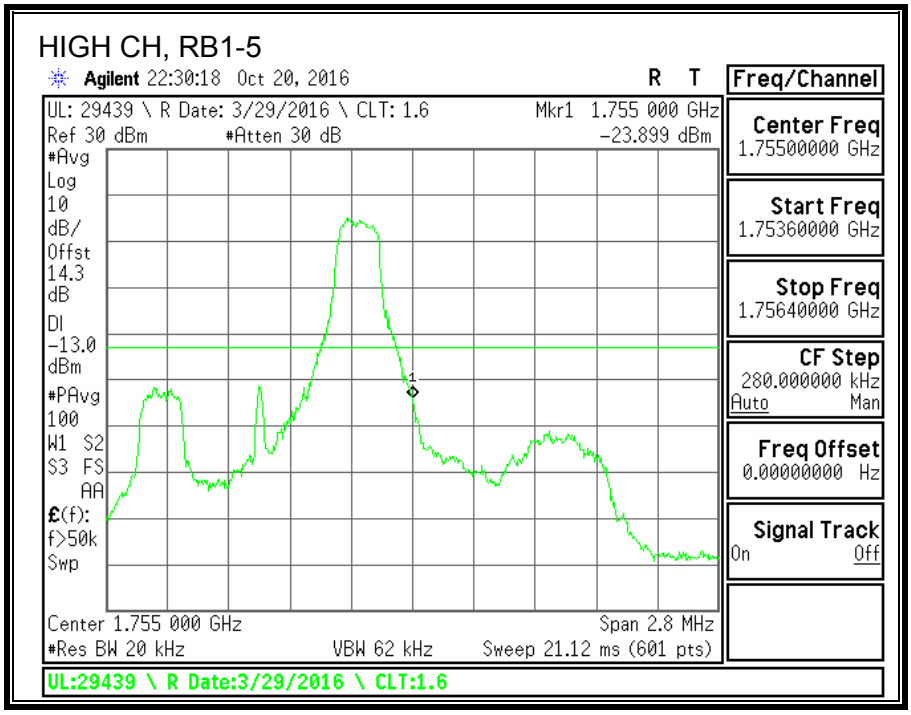
8.2.2. LTE BAND 4 BANDEDGE

LTE BAND 4 QPSK, (1.4 MHz)





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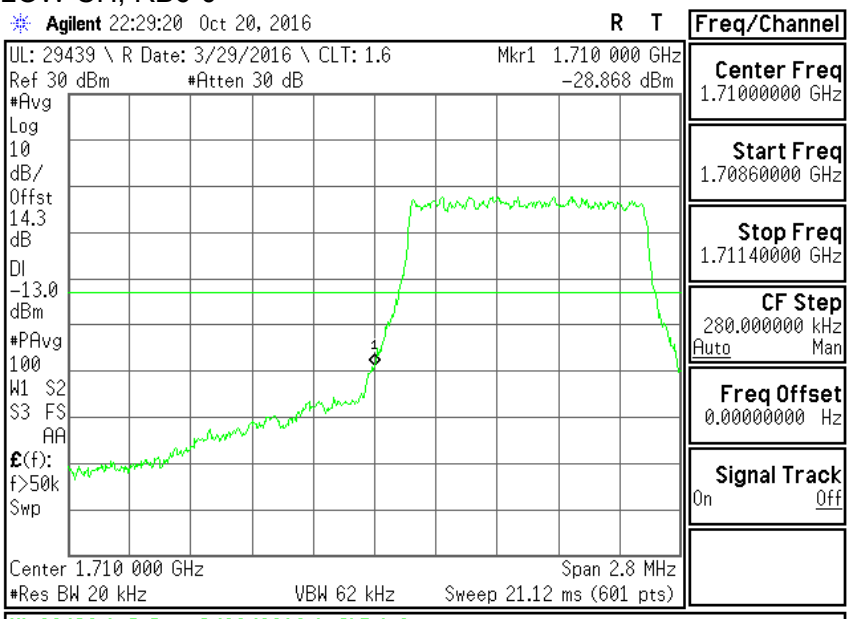
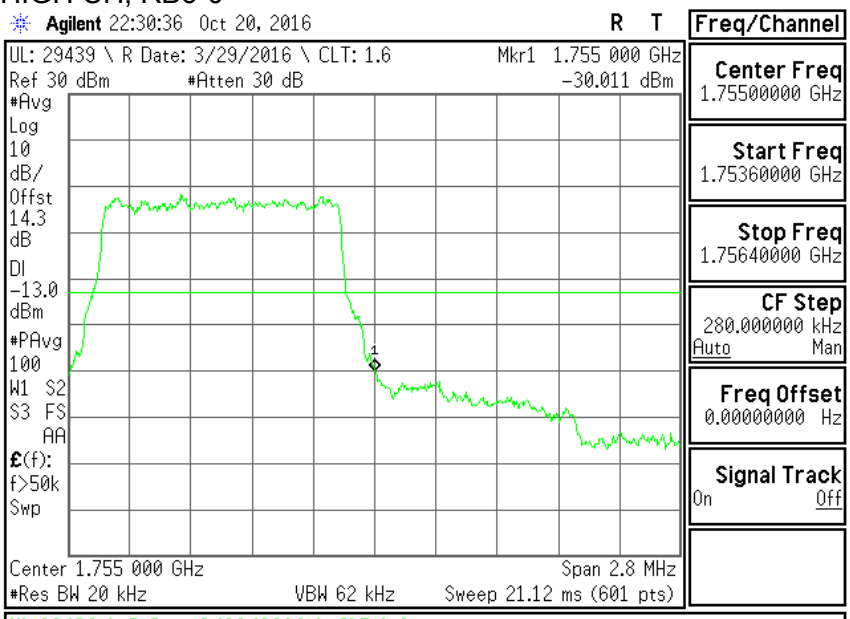
LOW CH, RB6-0



HIGH CH, RB6-0



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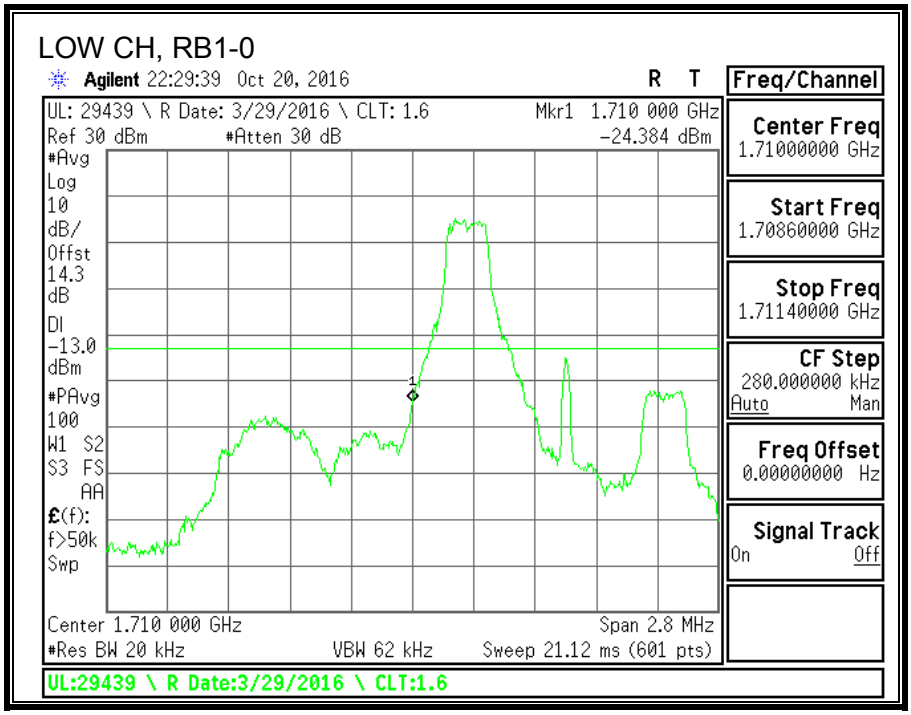
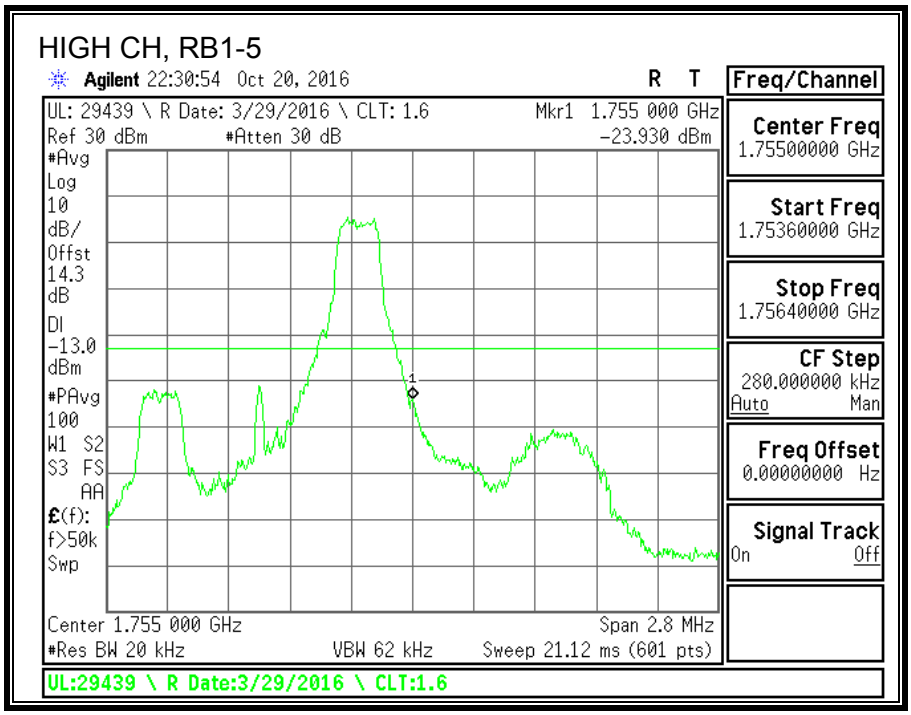
LTE BAND 4 16QAM, (1.4 MHz)





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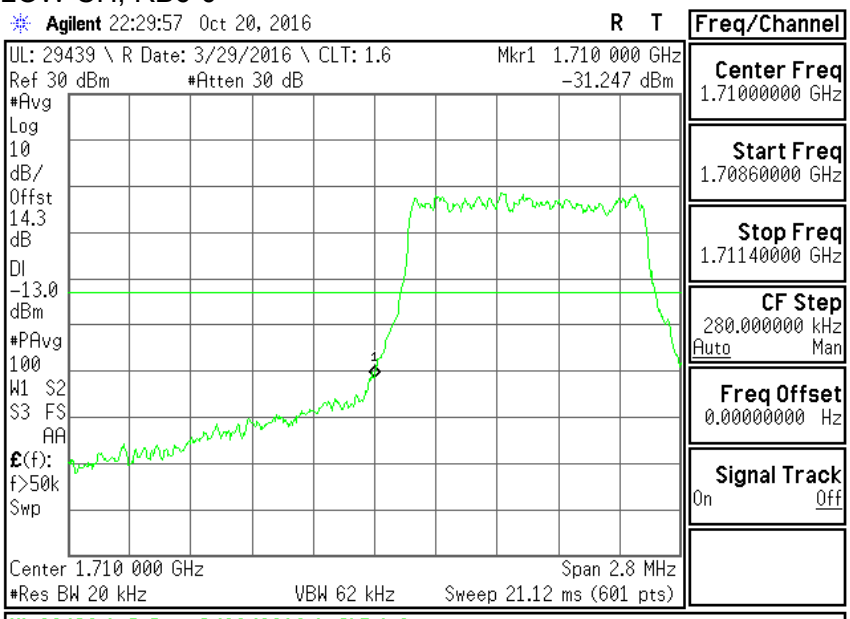
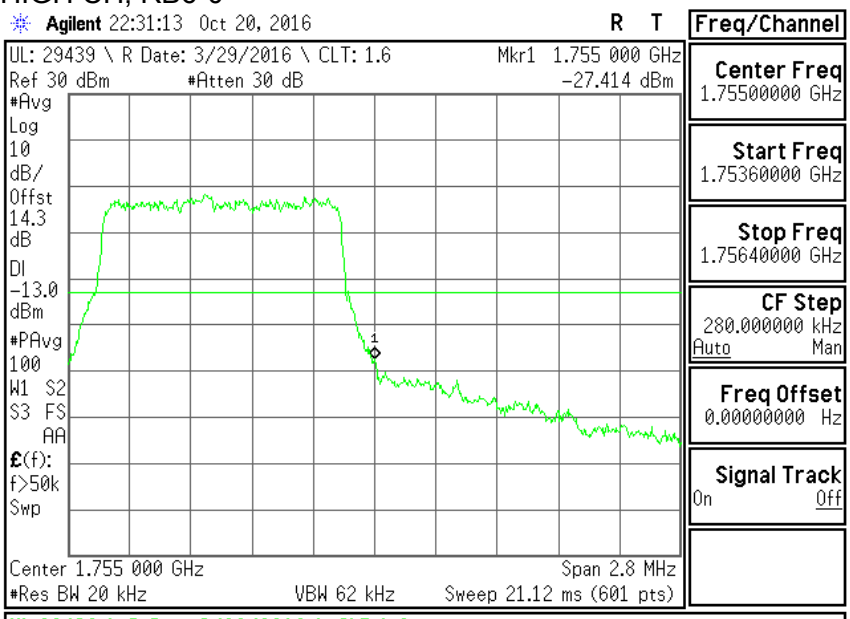
LOW CH, RB6-0



HIGH CH, RB6-0



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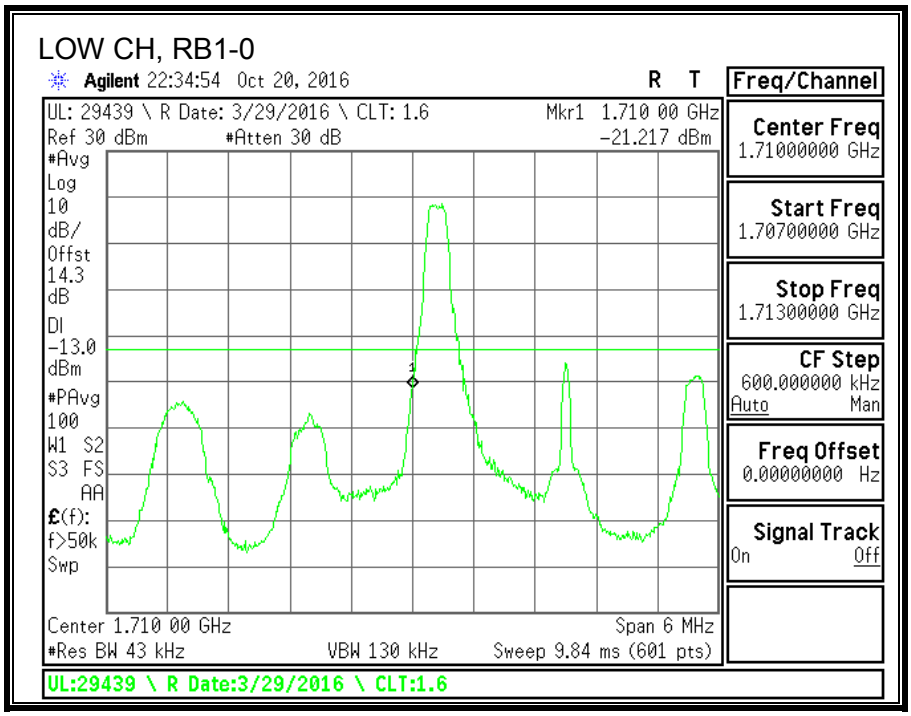
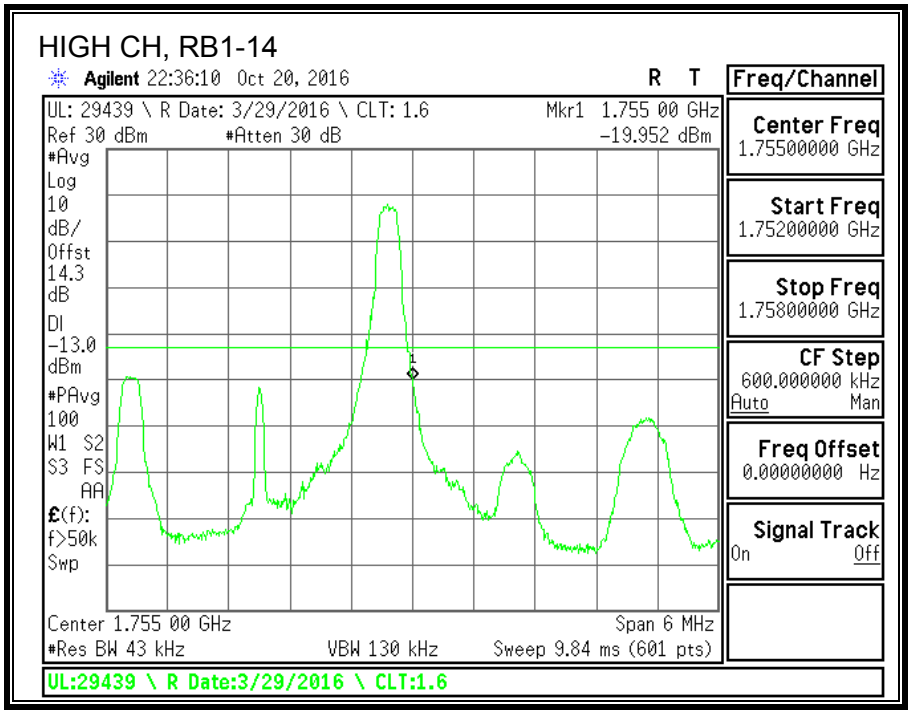
LTE BAND 4 QPSK, (3 MHz)





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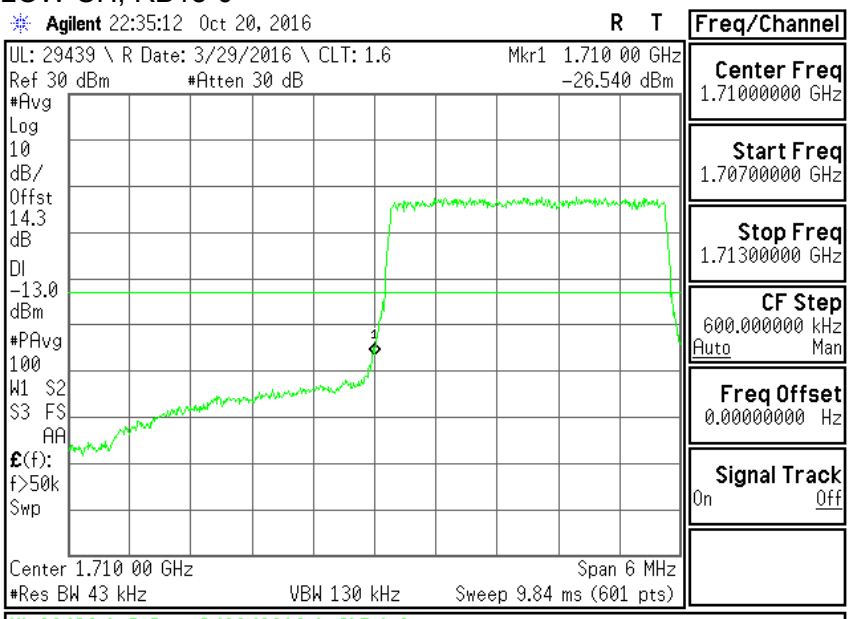
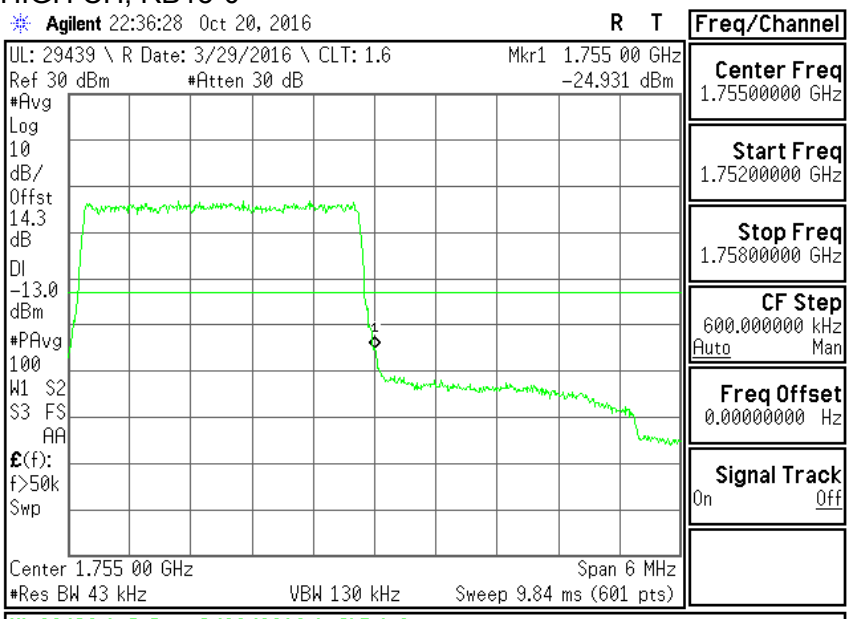
LOW CH, RB15-0



HIGH CH, RB15-0



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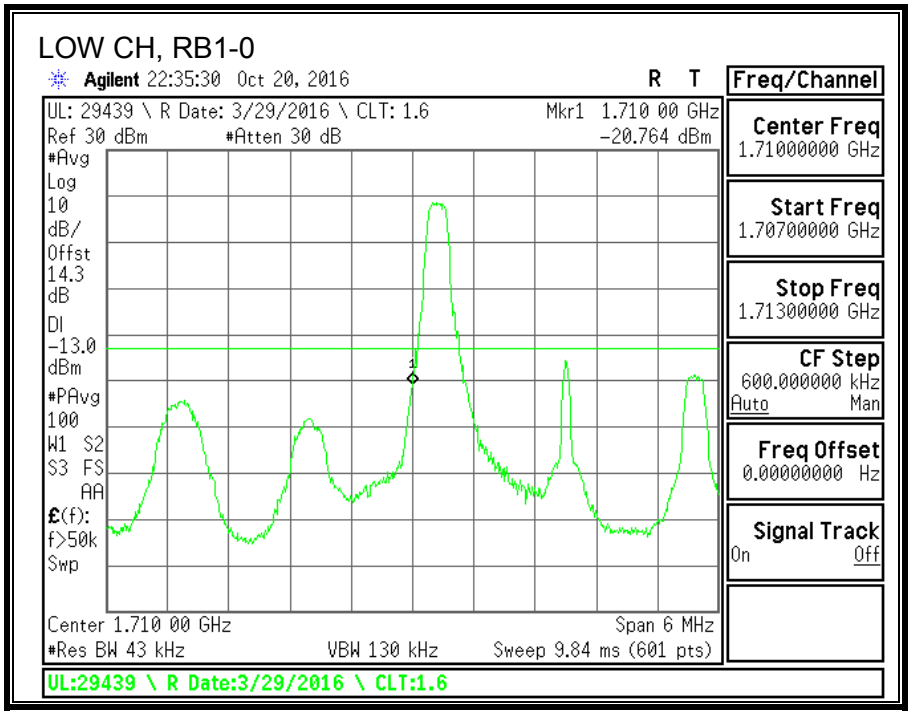
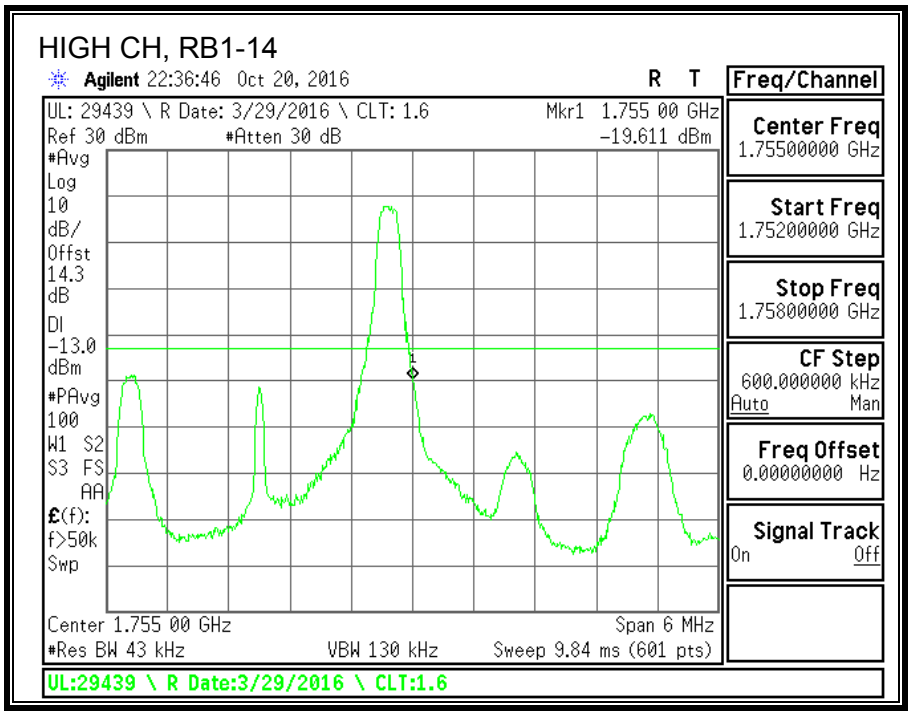
LTE BAND 4 16QAM, (3 MHz)





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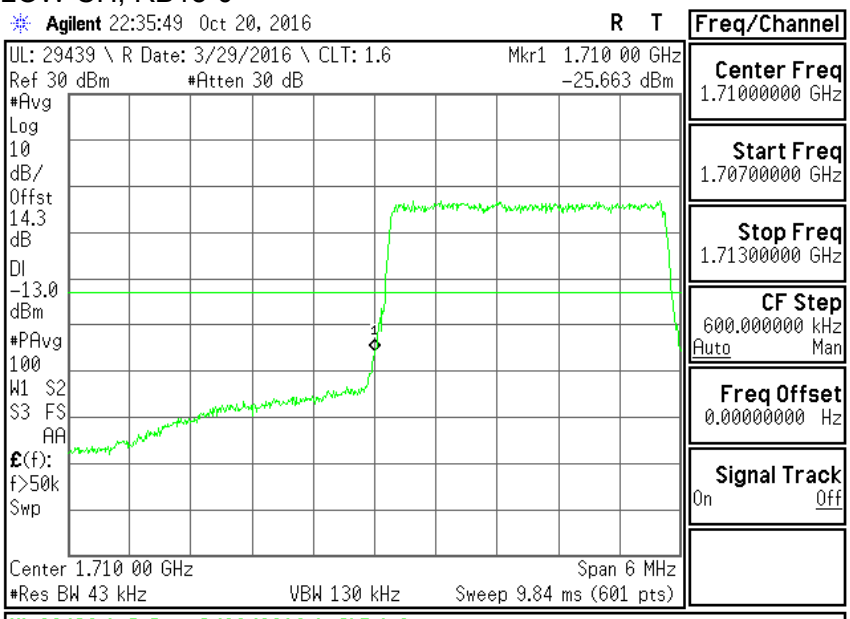
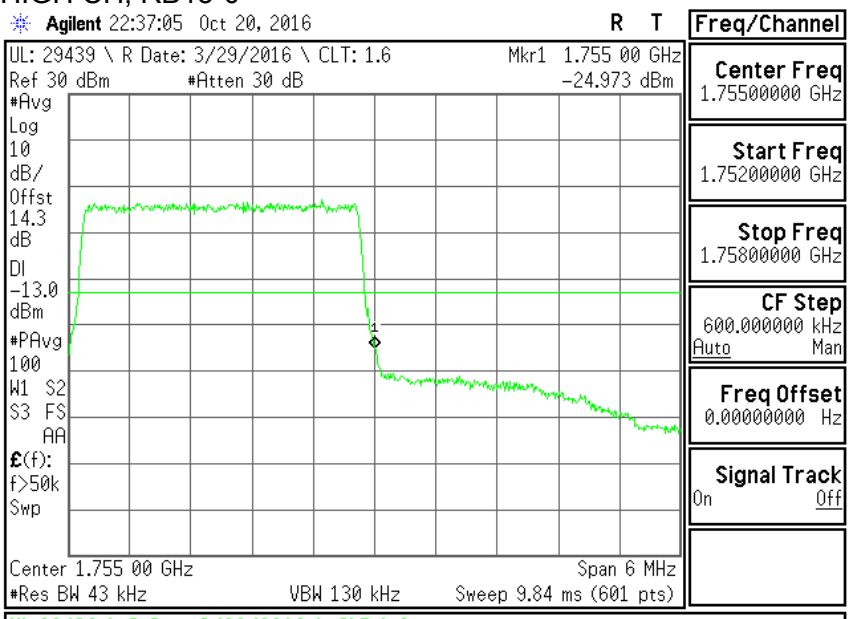
LOW CH, RB15-0



HIGH CH, RB15-0



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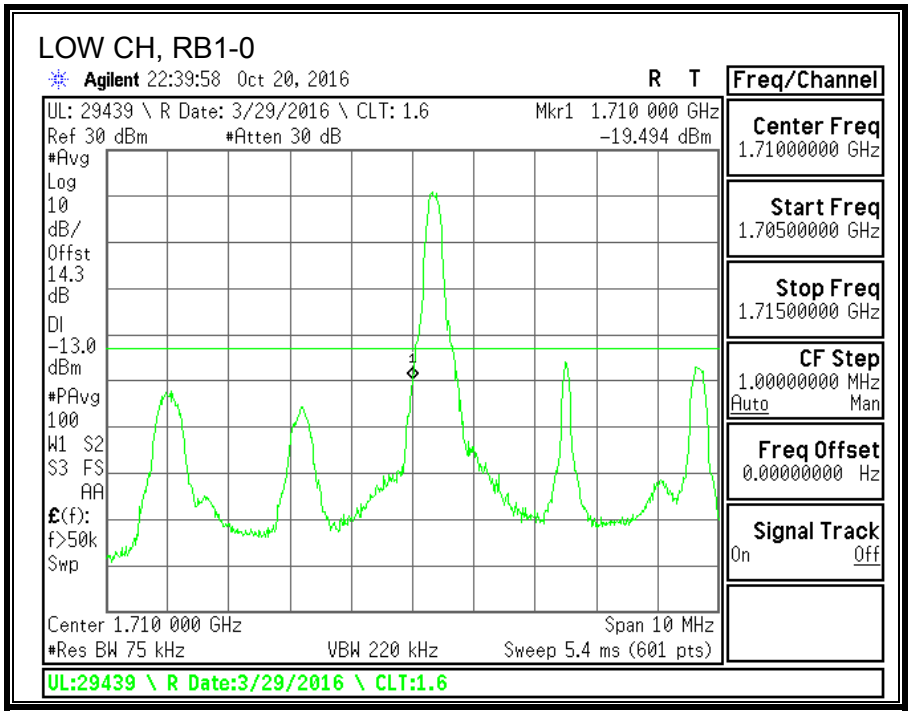
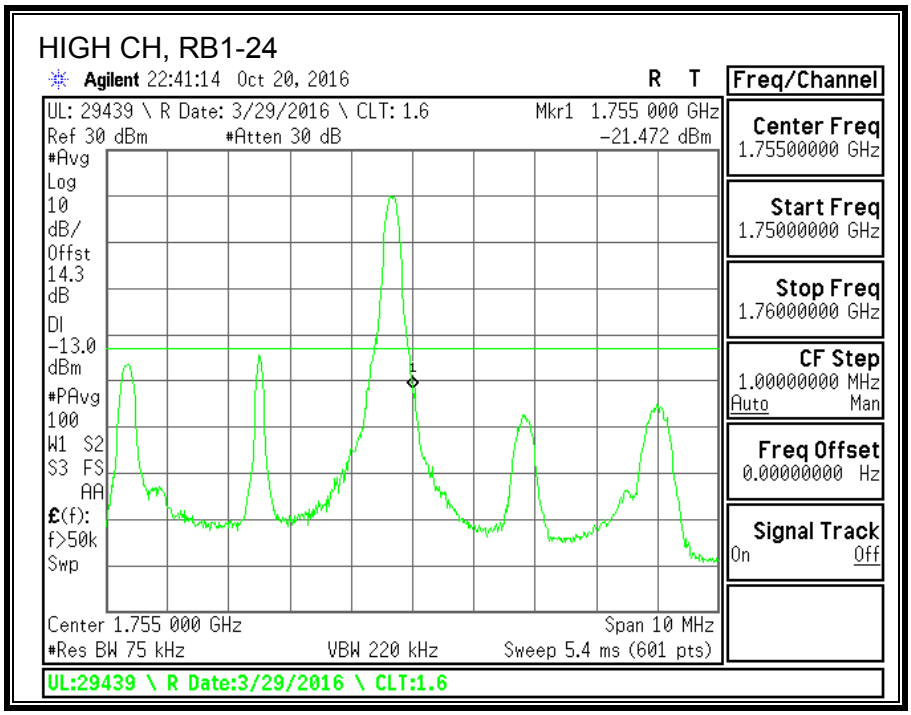
LTE BAND 4 QPSK, (5 MHz)





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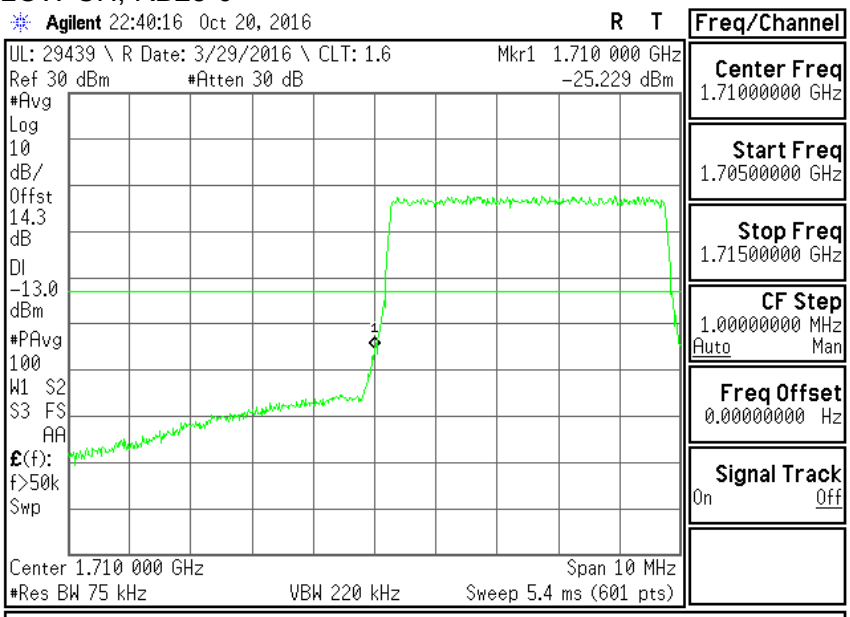
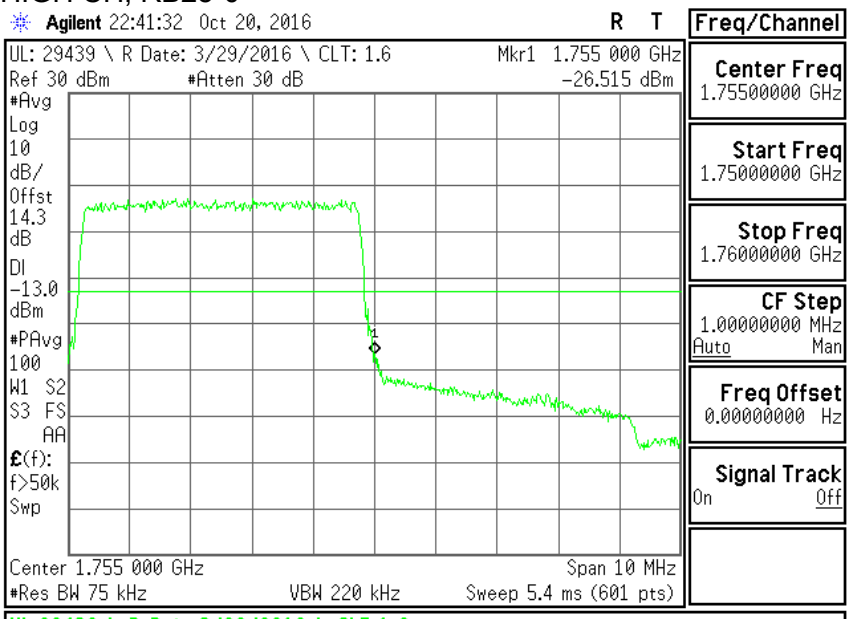
LOW CH, RB25-0



HIGH CH, RB25-0



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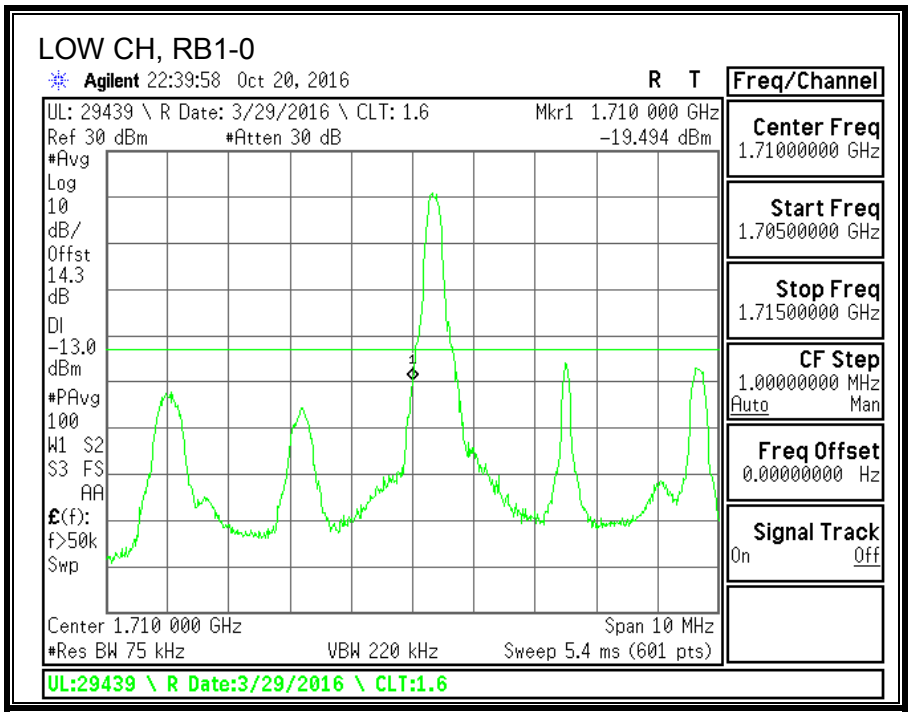
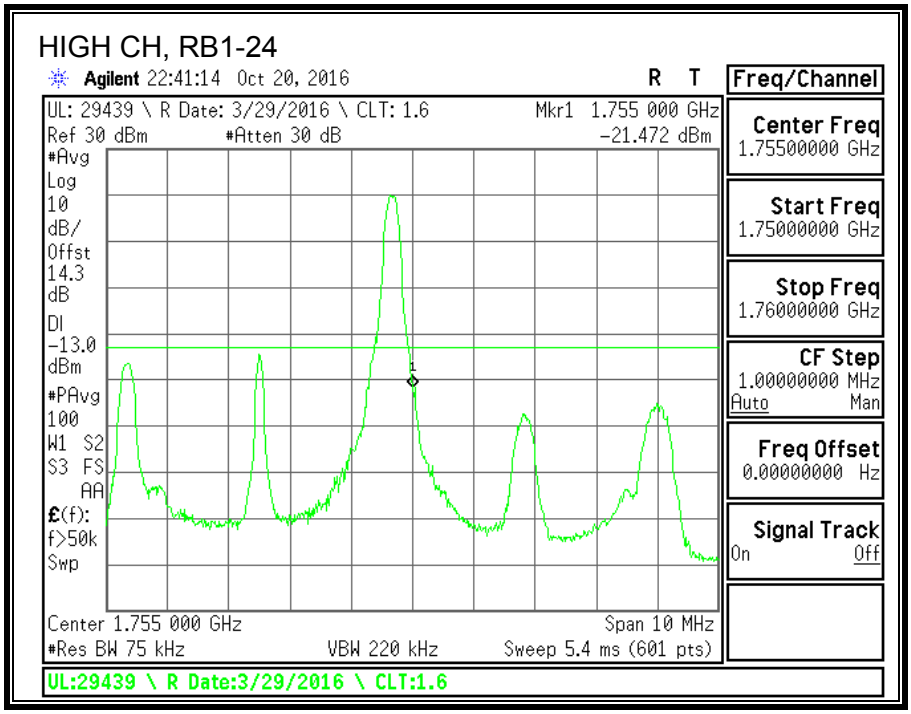
LTE BAND 4 16QAM, (5 MHz)





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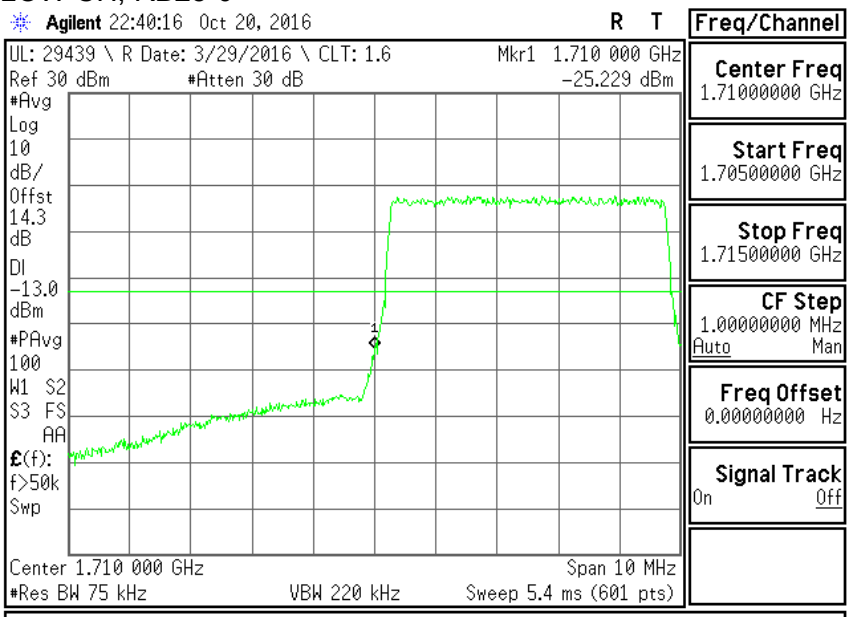
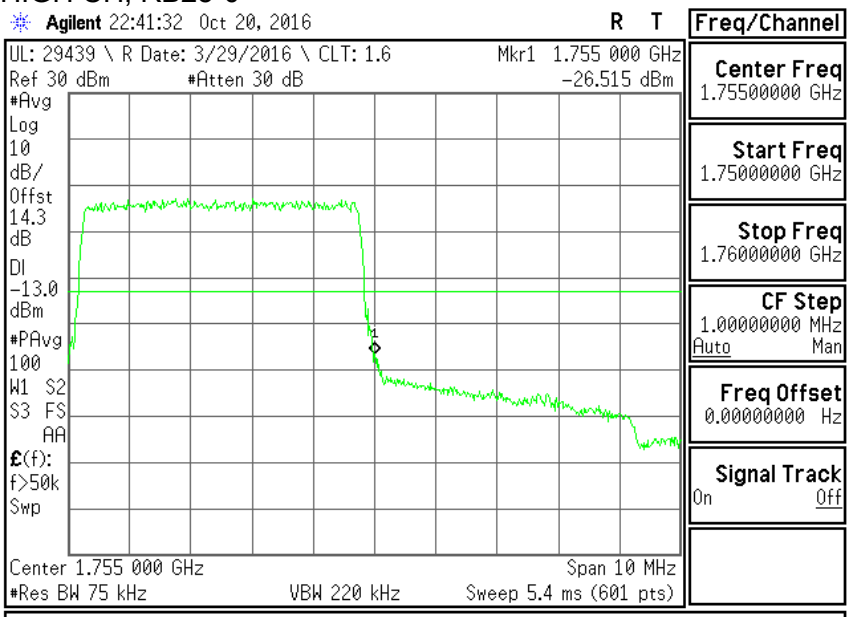
LOW CH, RB25-0



HIGH CH, RB25-0



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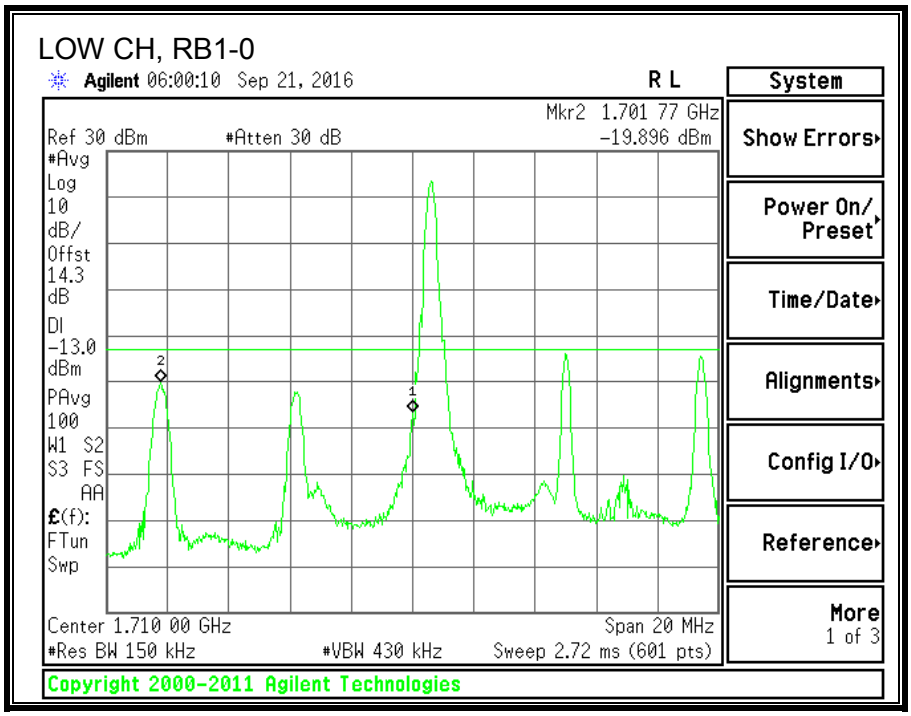
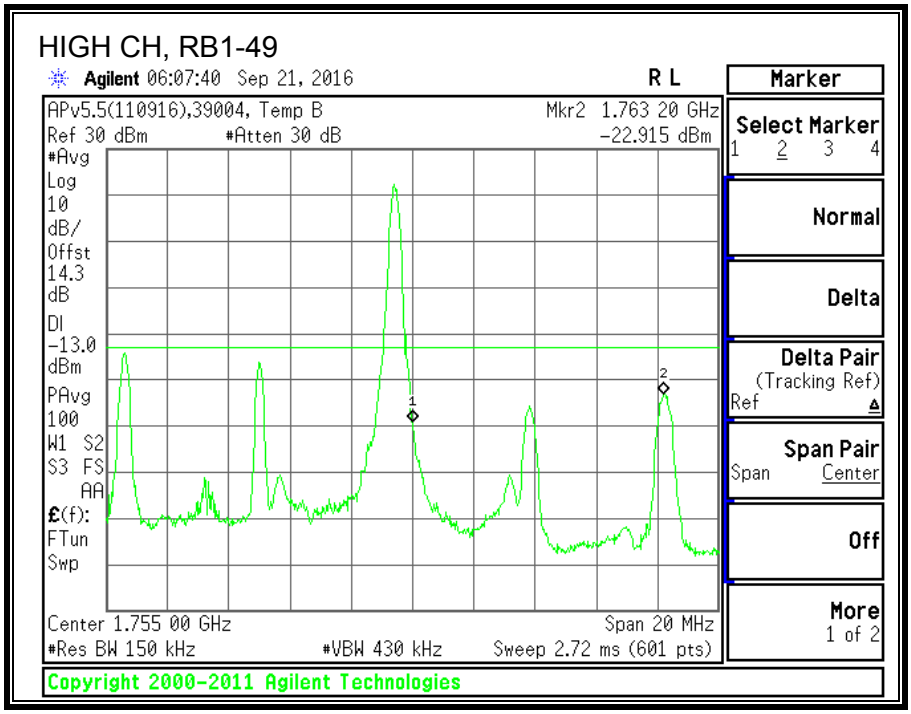
LTE BAND 4 QPSK, (10 MHz)





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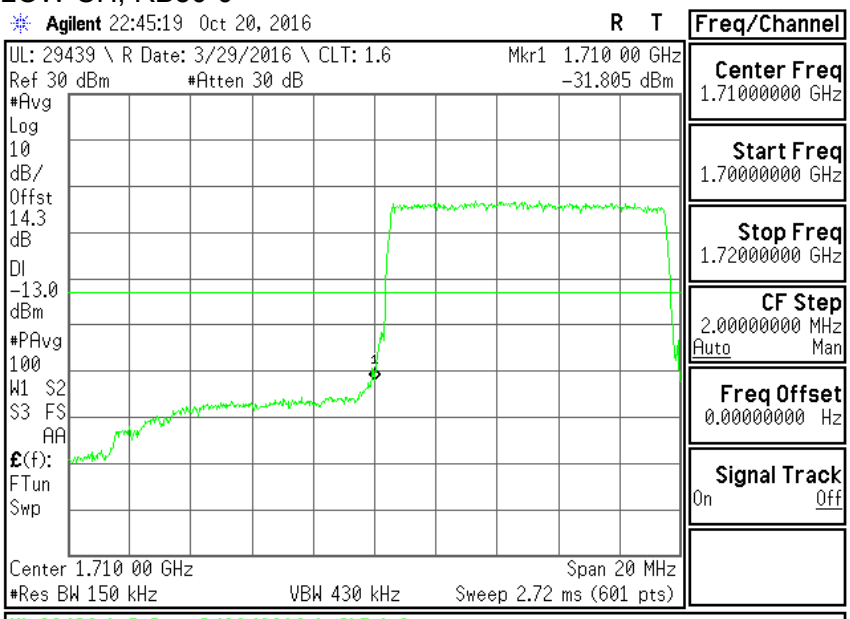
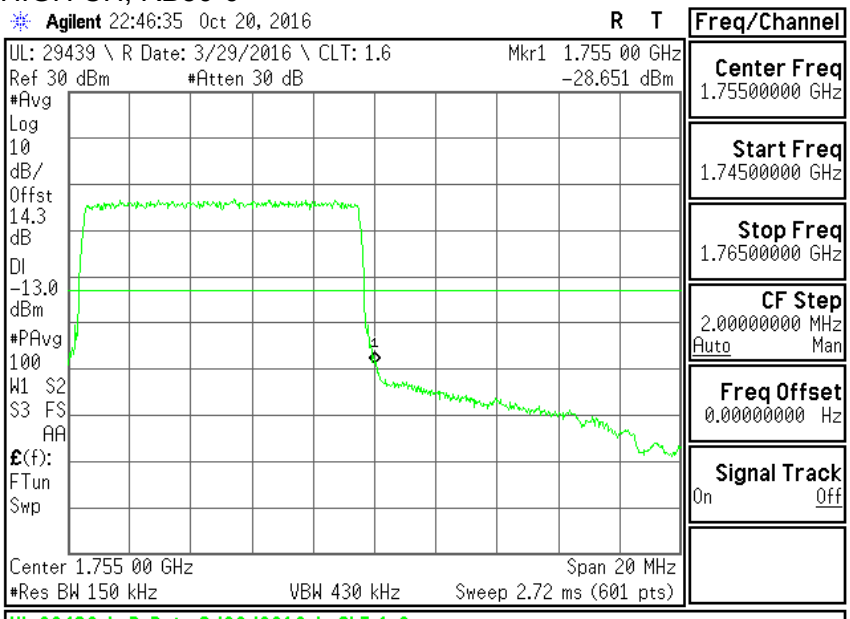
LOW CH, RB50-0



HIGH CH, RB50-0



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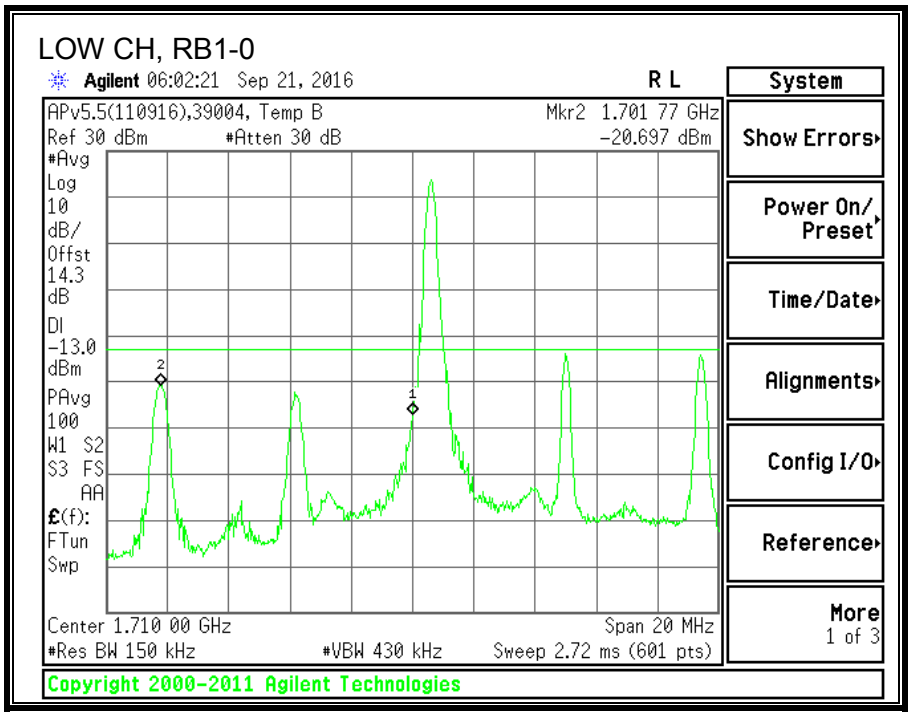
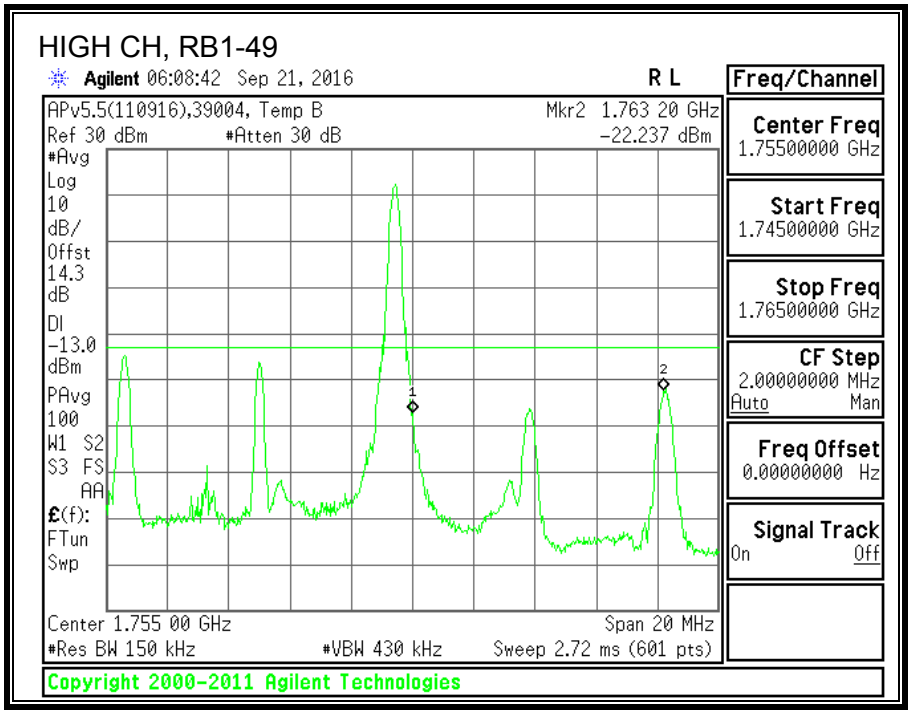
LTE BAND 4 16QAM, (10 MHz)





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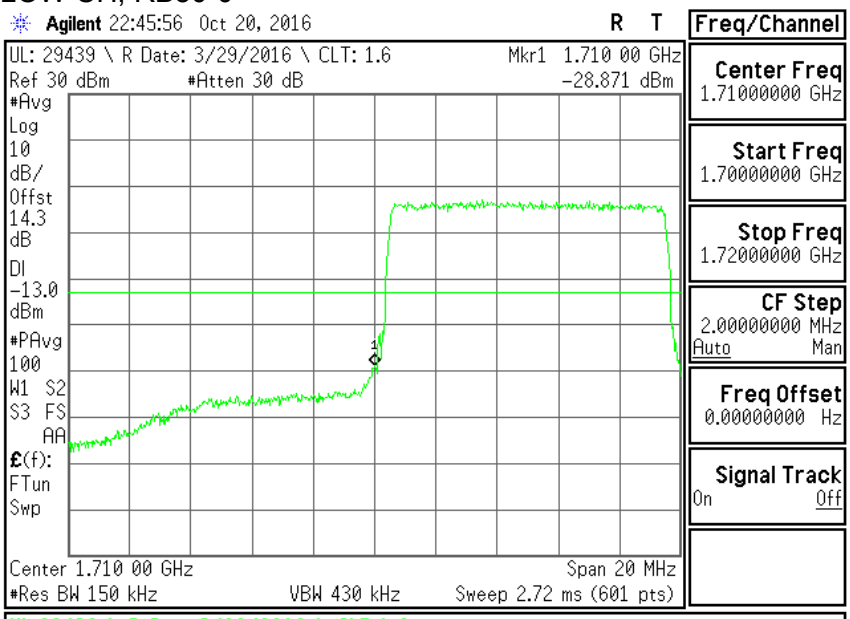
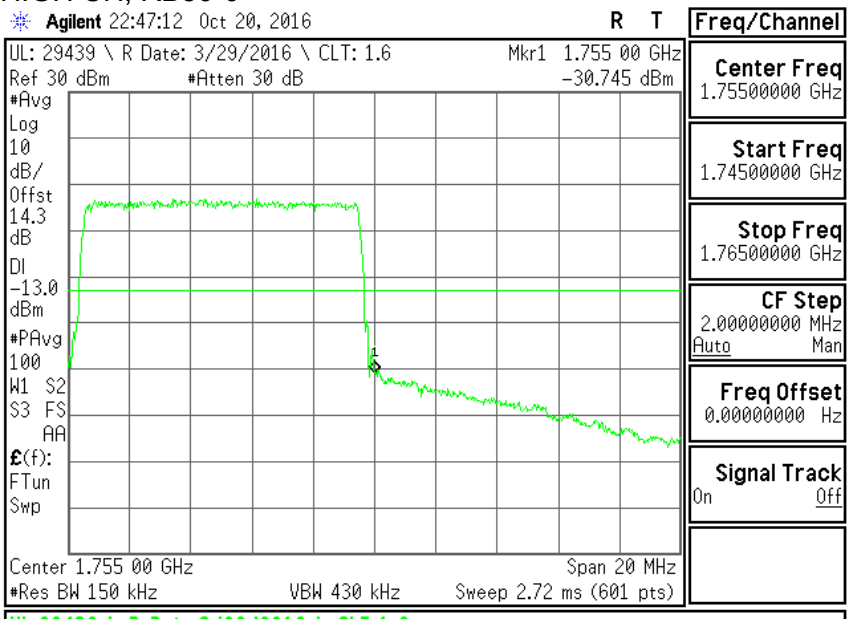
LOW CH, RB50-0



HIGH CH, RB50-0



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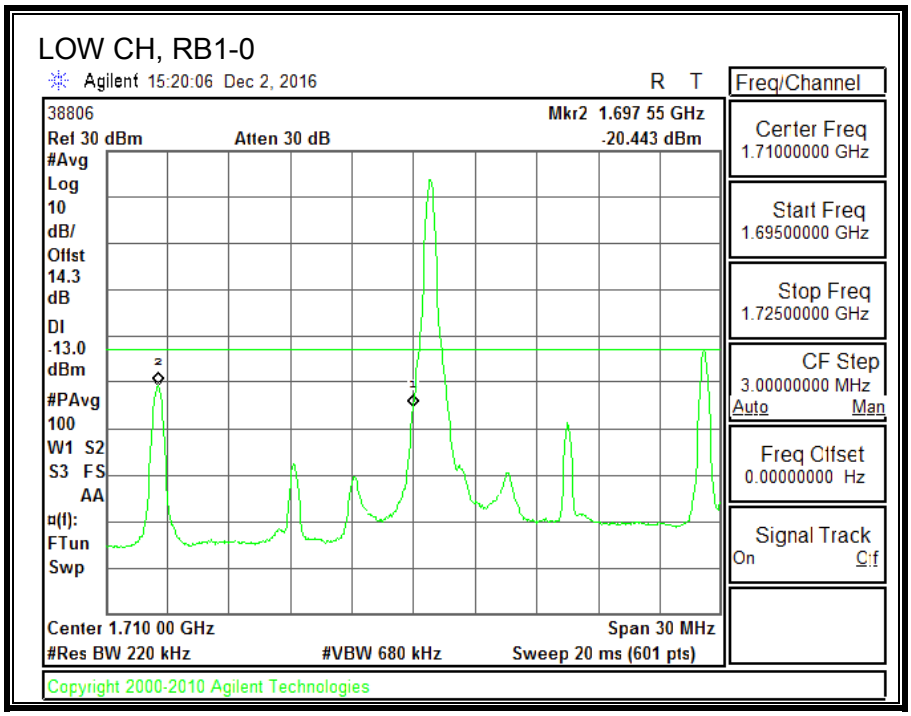
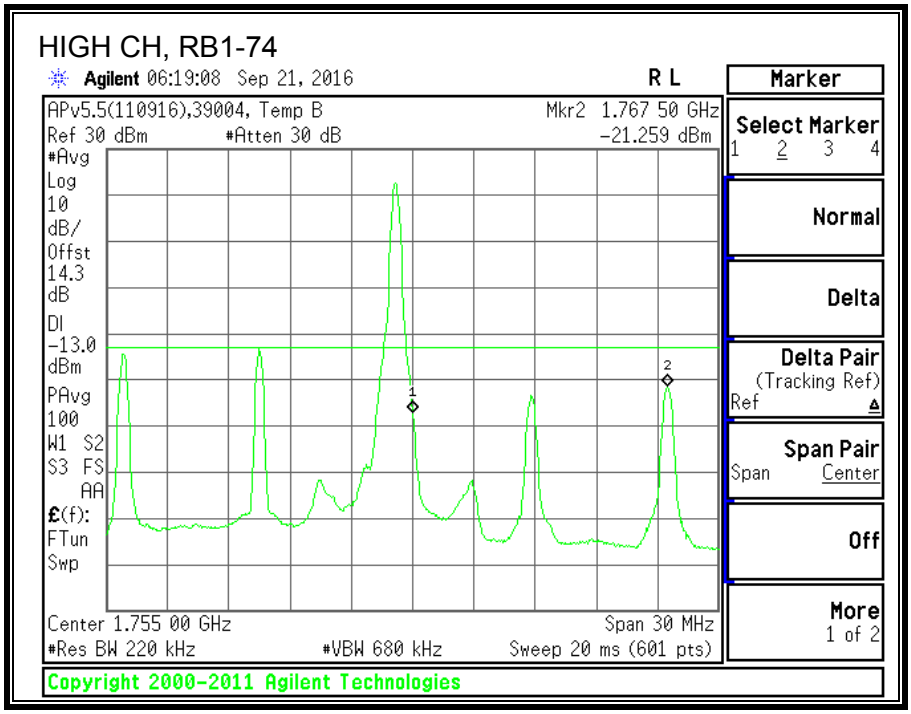
LTE BAND 4 QPSK, (15 MHz)





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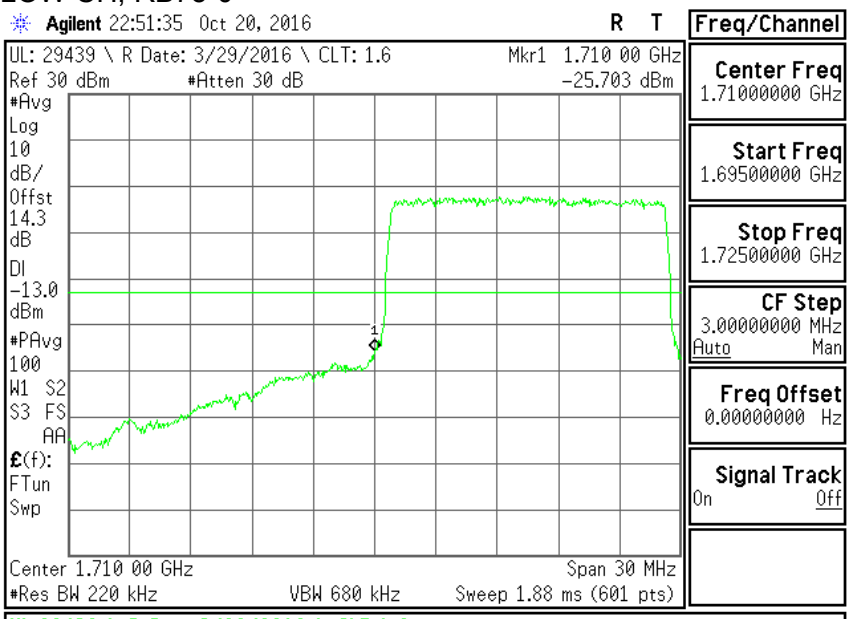
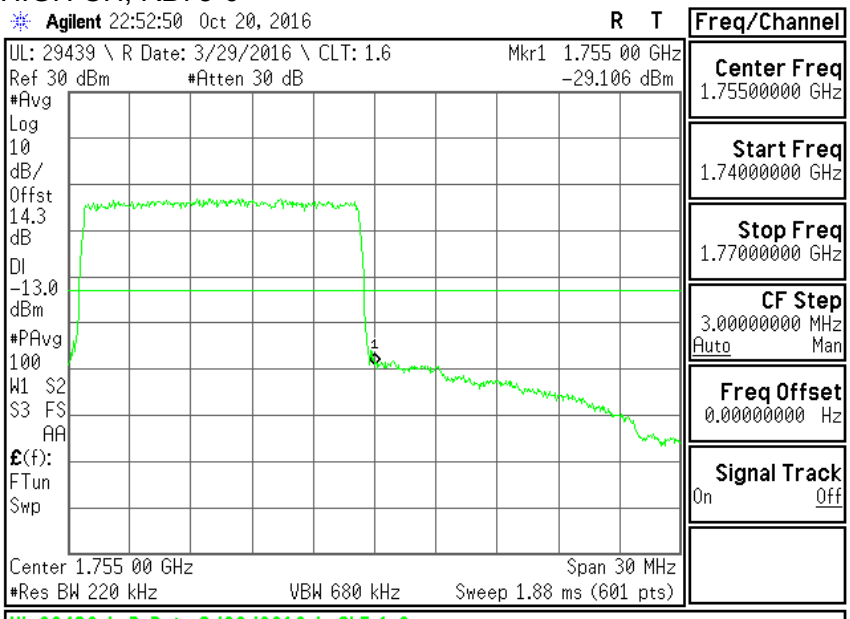
LOW CH, RB75-0



HIGH CH, RB75-0



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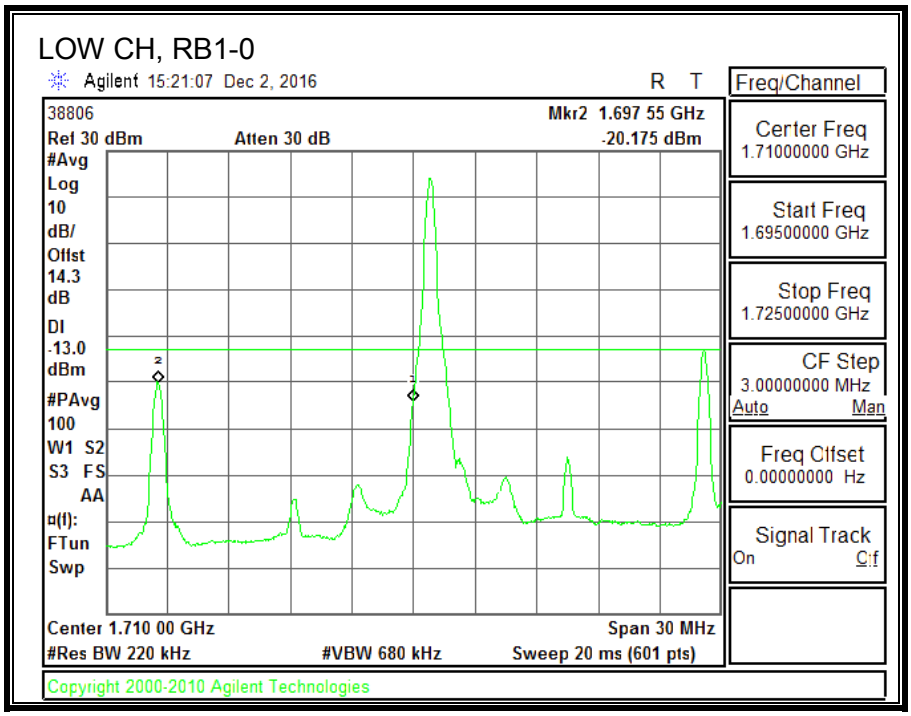
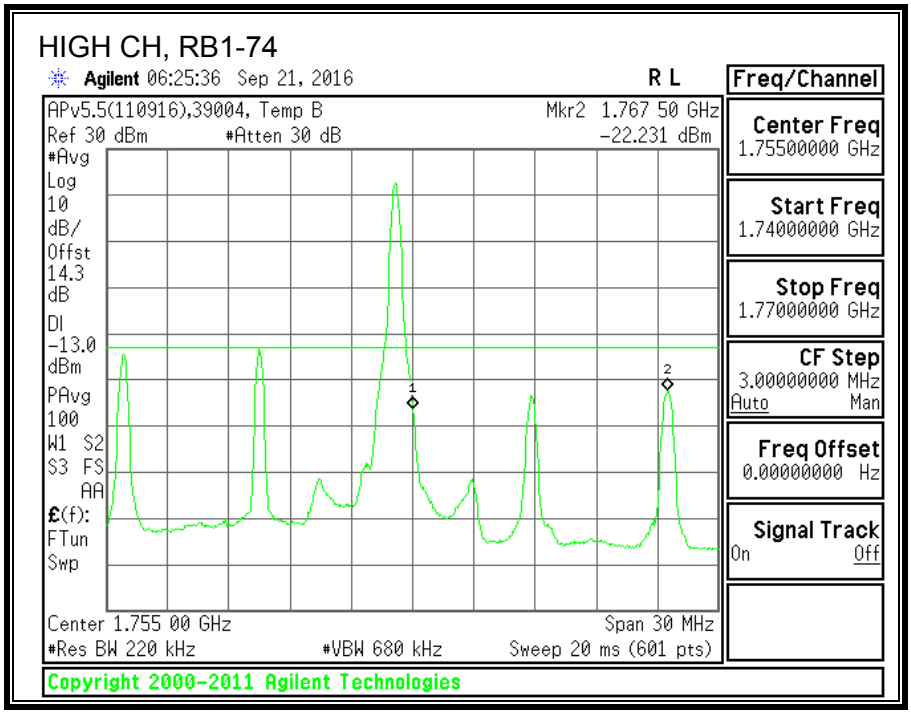
LTE BAND 4 16QAM, (15 MHz)





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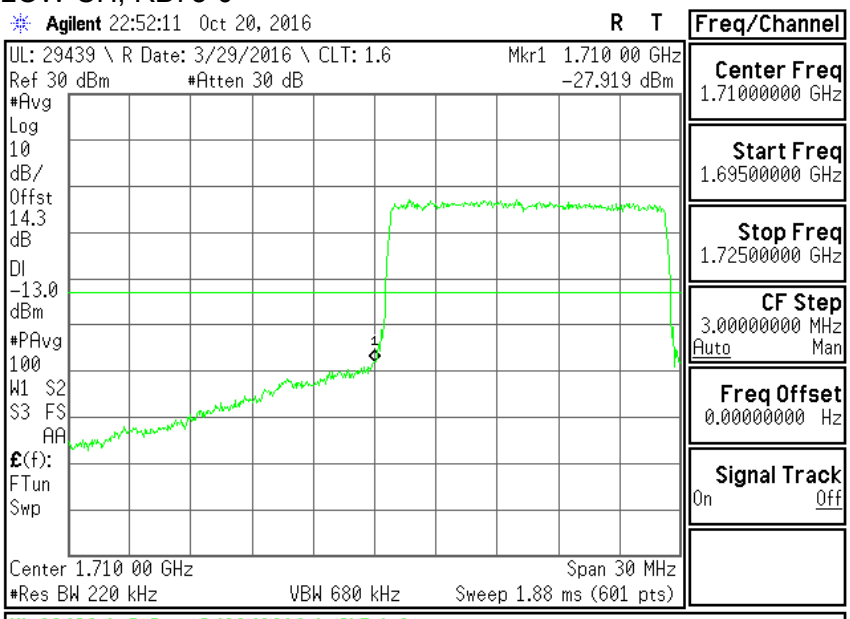
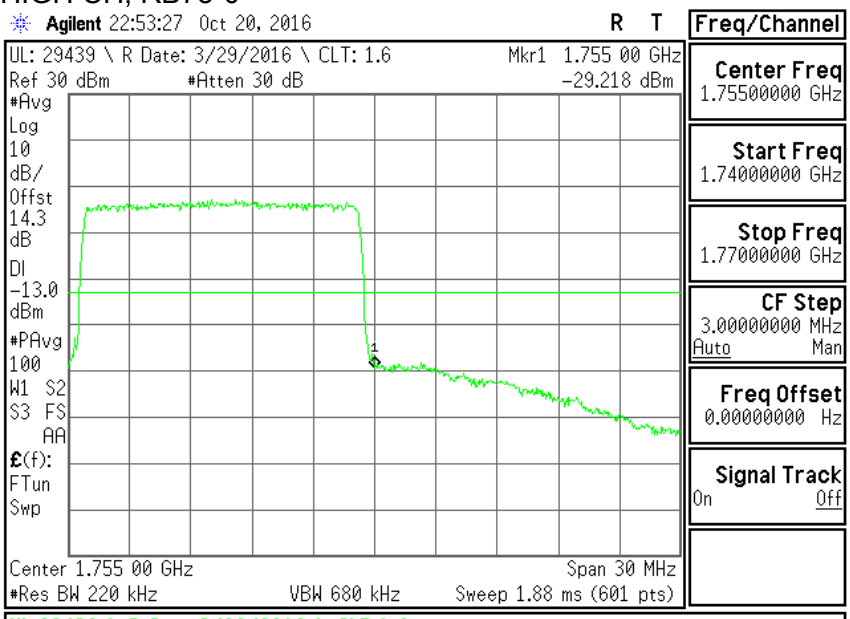
LOW CH, RB75-0



HIGH CH, RB75-0



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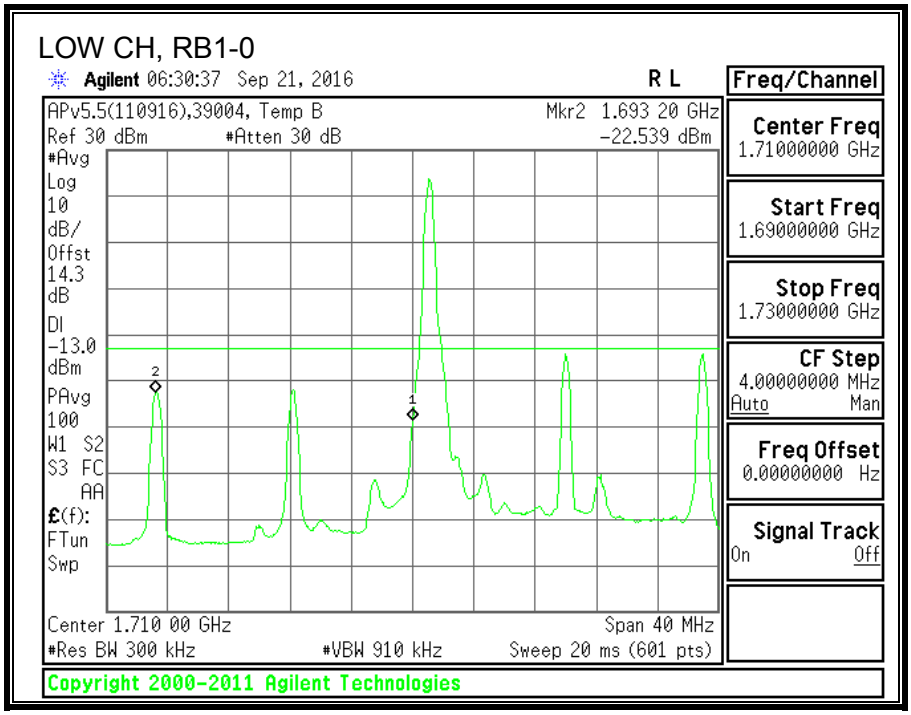
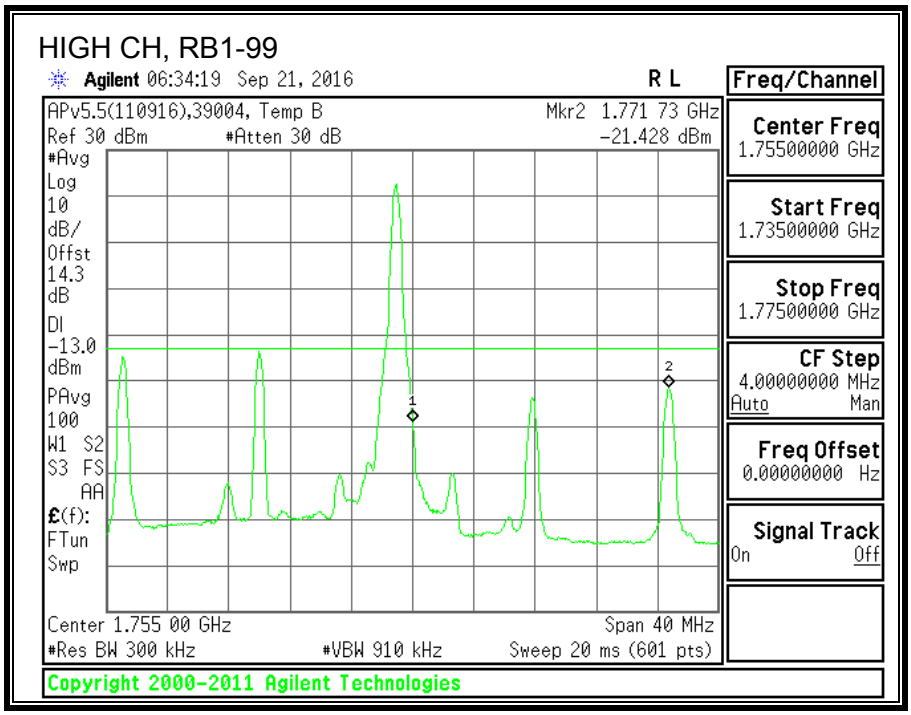
LTE BAND 4 QPSK, (20 MHz)





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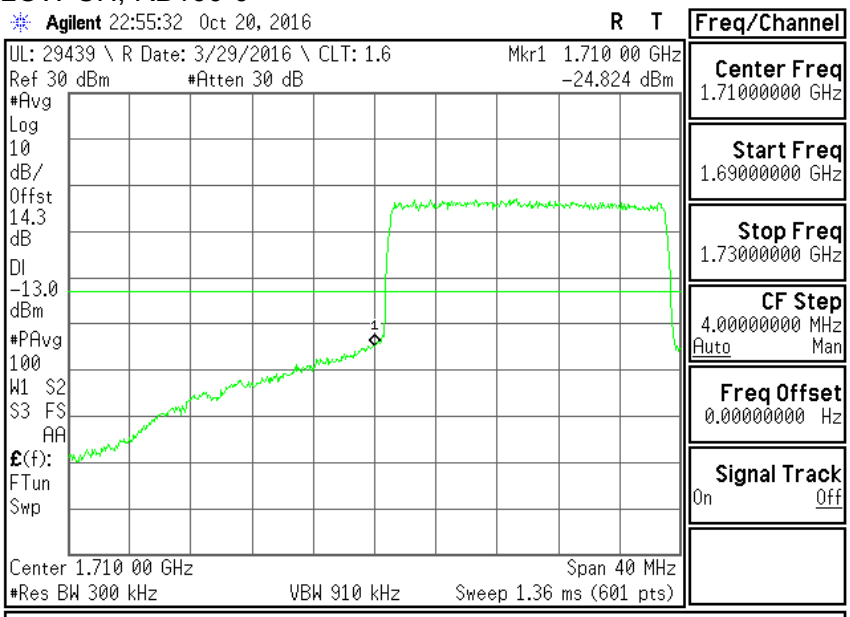
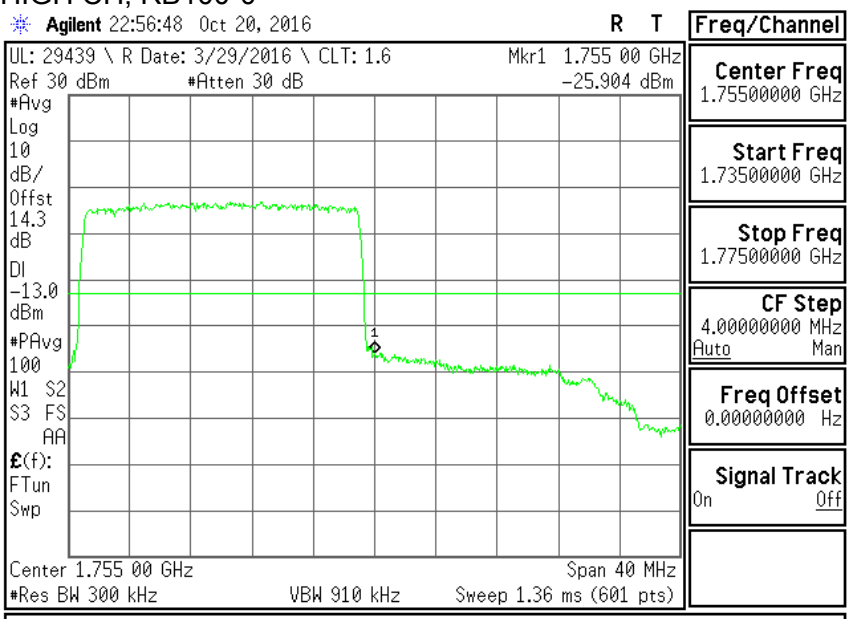
LOW CH, RB100-0



HIGH CH, RB100-0



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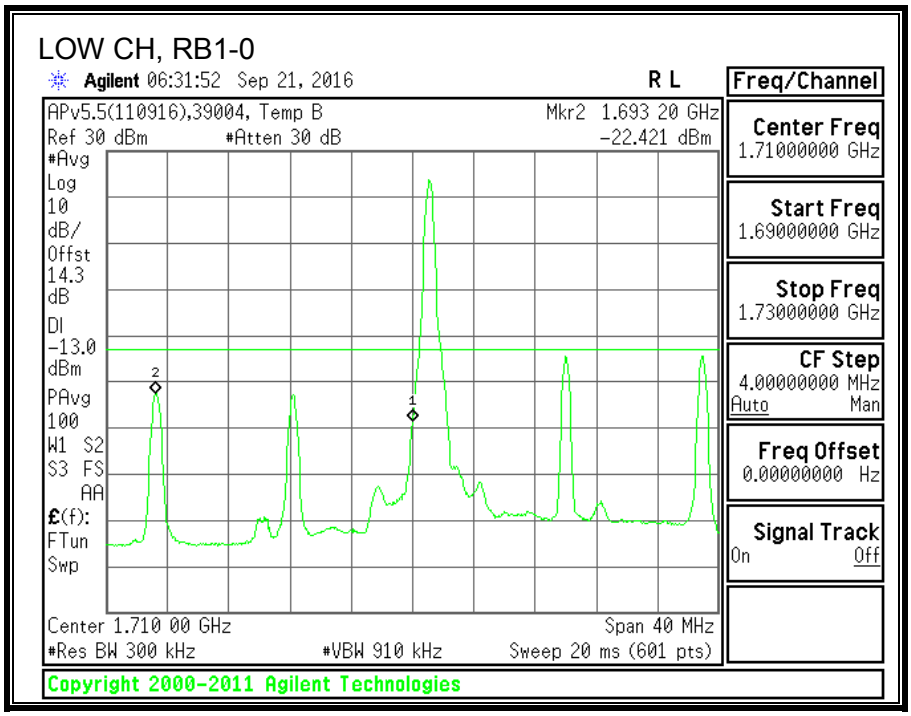
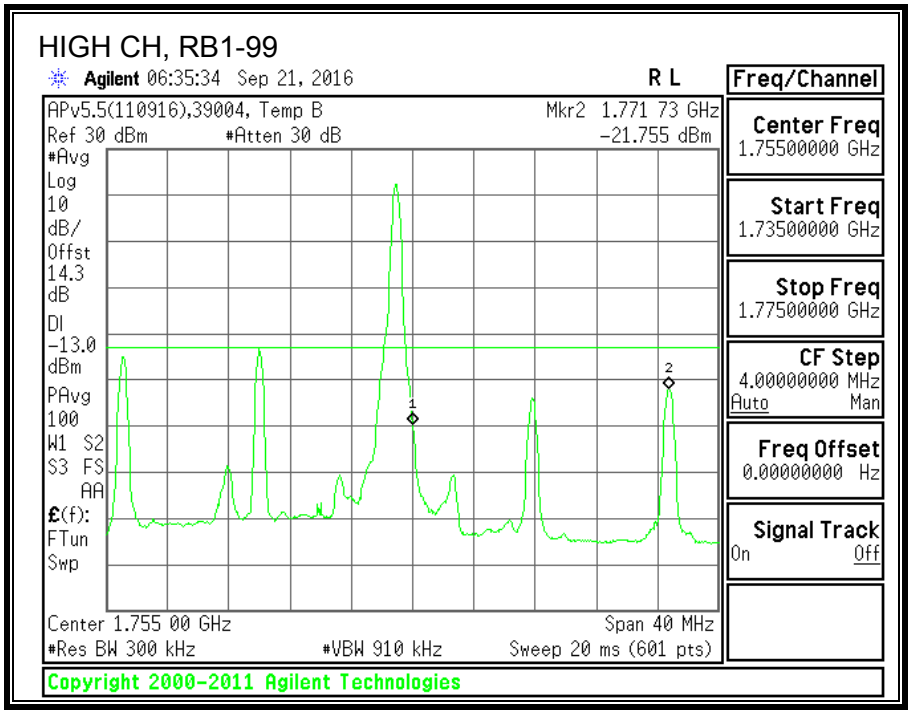
LTE BAND 4 16QAM, (20 MHz)





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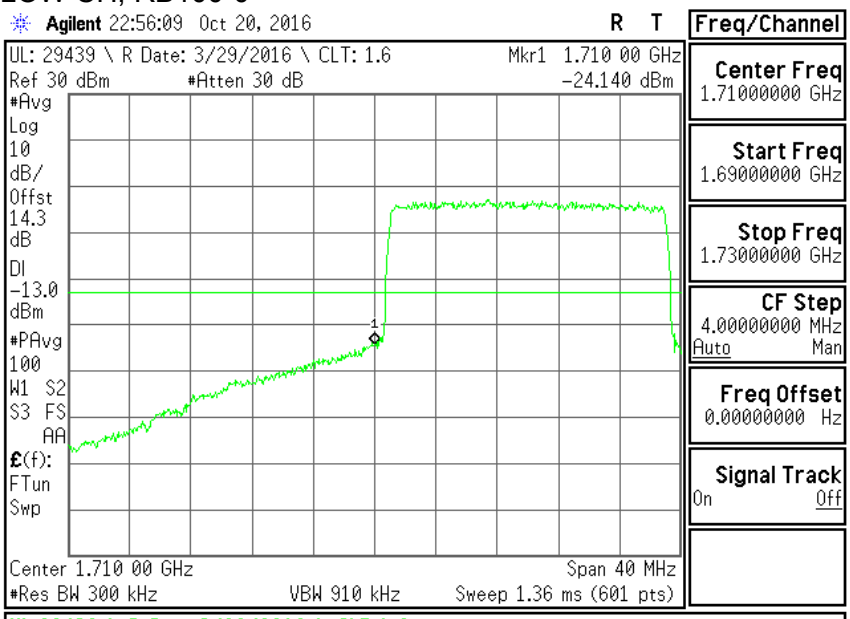
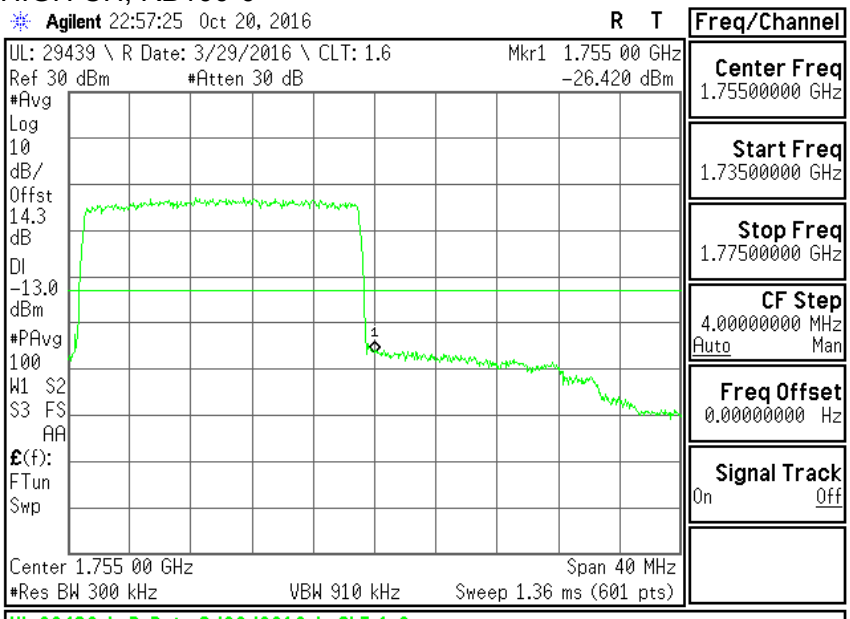
LOW CH, RB100-0



HIGH CH, RB100-0



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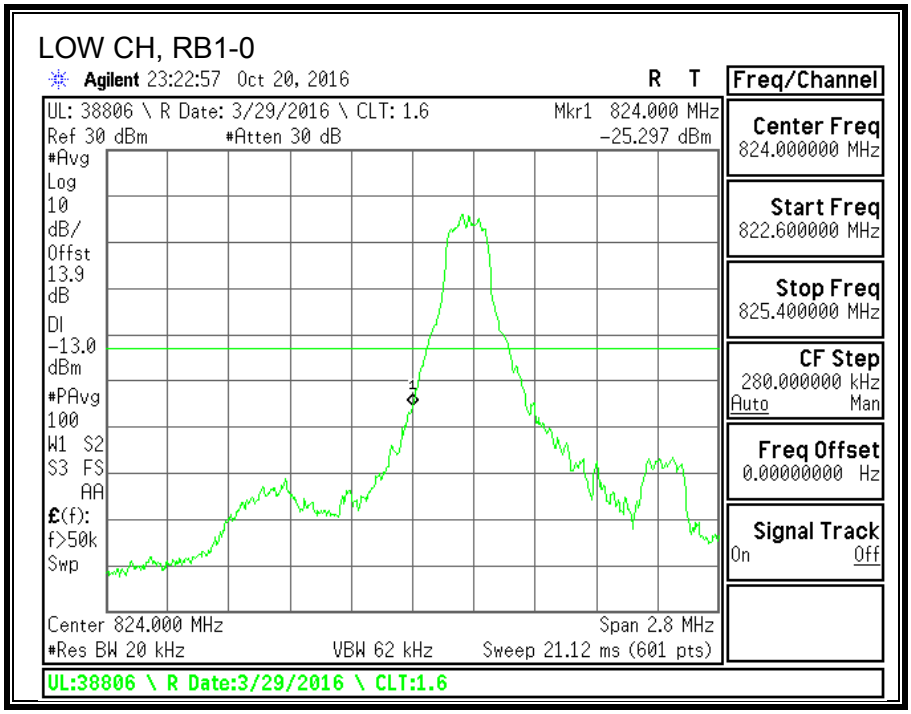
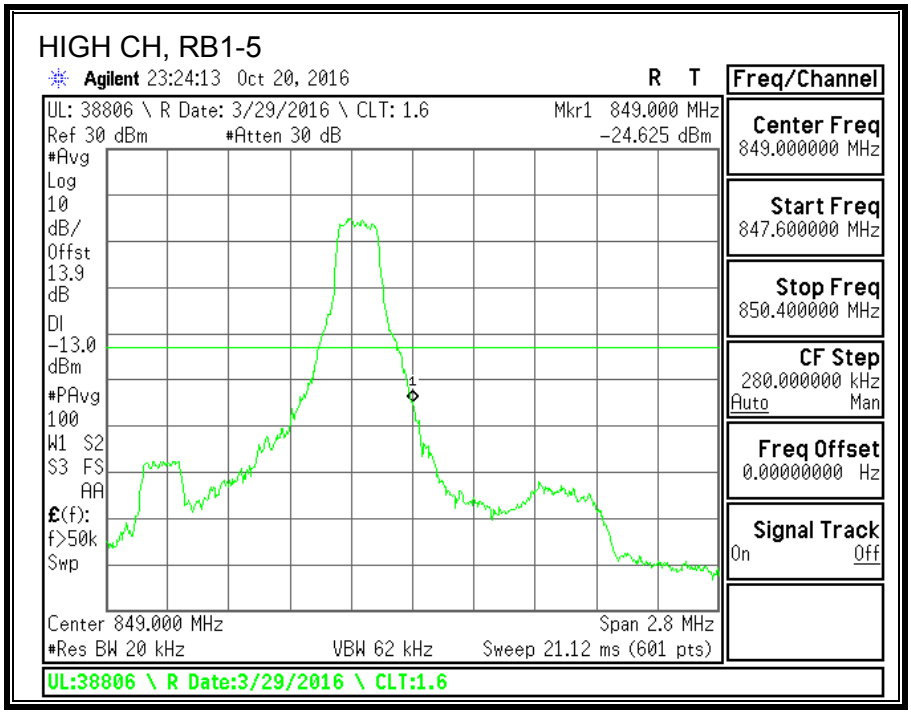
8.2.3. LTE BAND 5 BANDEDGE

LTE BAND 5 QPSK, (1.4 MHz)





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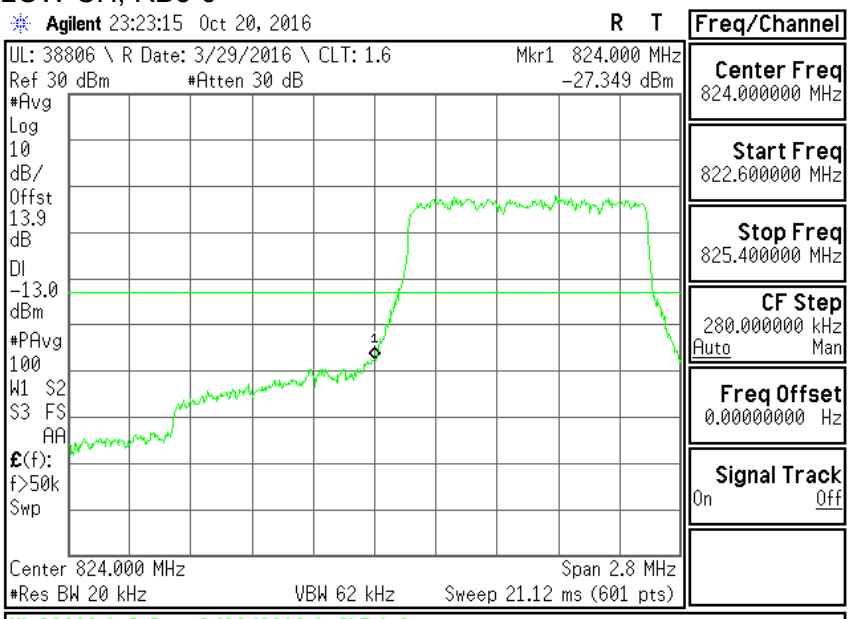
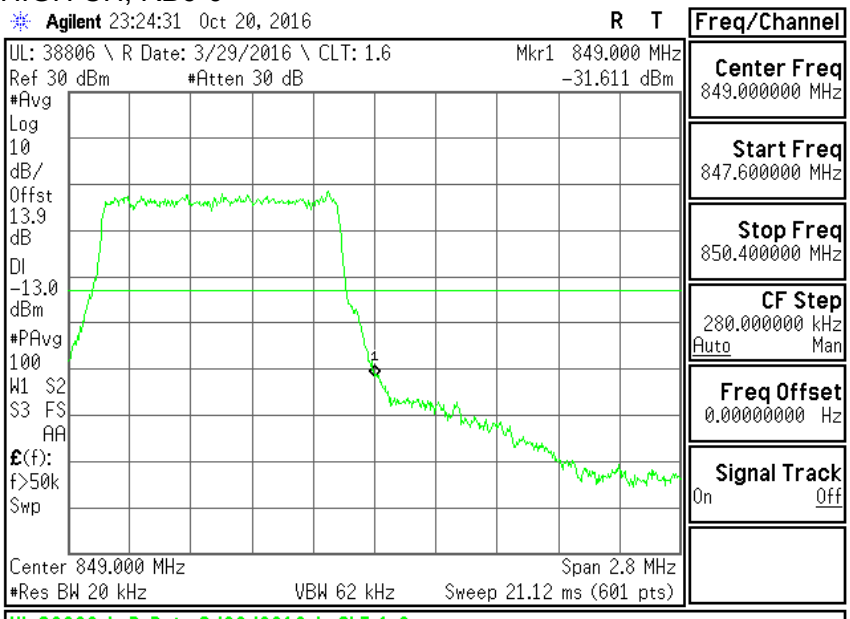
LOW CH, RB6-0



HIGH CH, RB6-0



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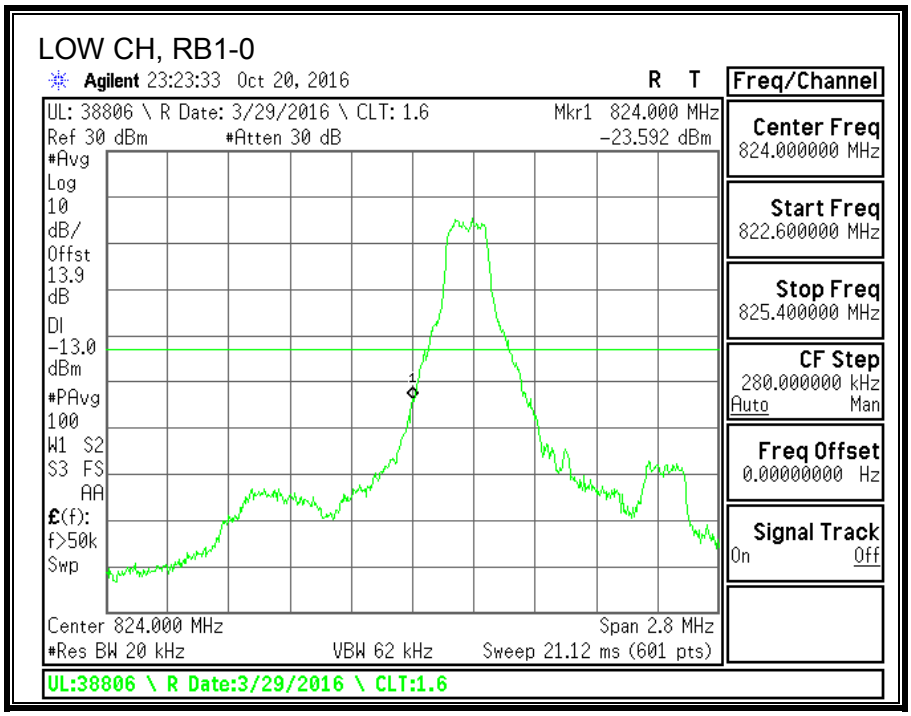
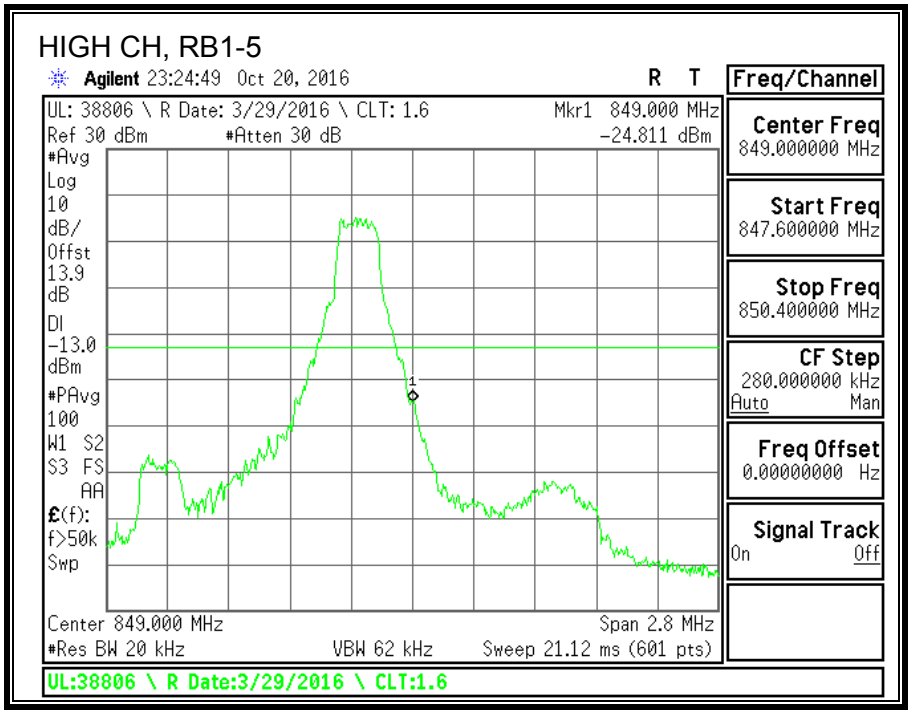
LTE BAND 5 16QAM, (1.4 MHz)





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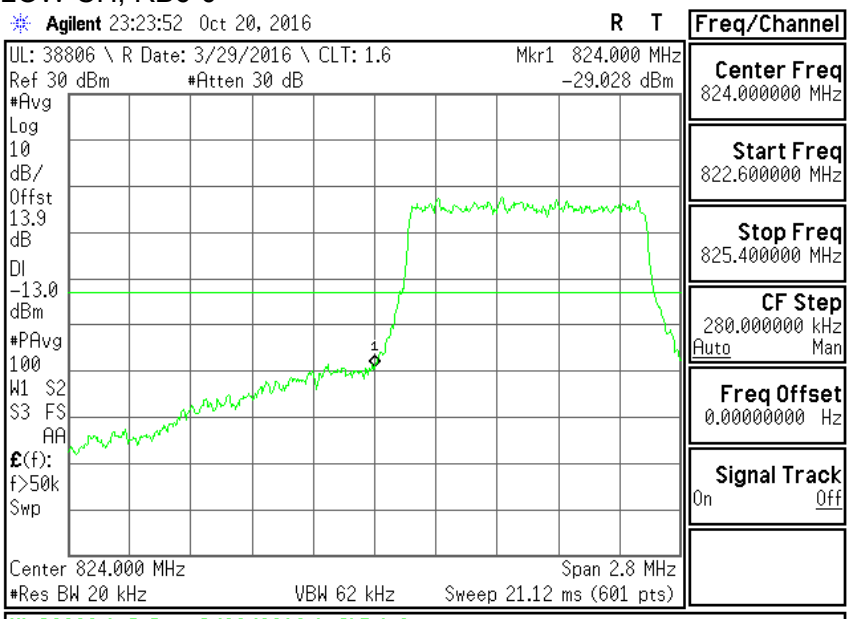
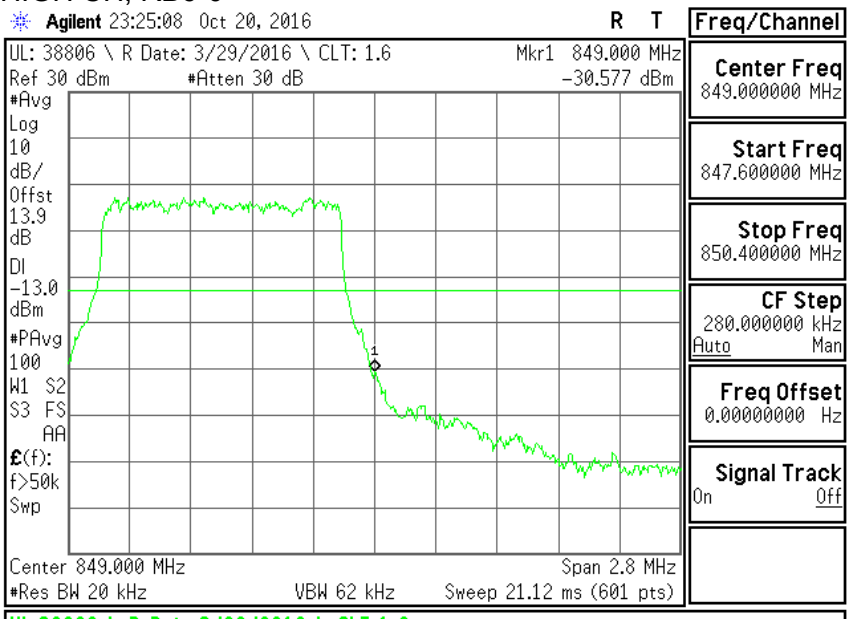
LOW CH, RB6-0



HIGH CH, RB6-0



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47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
FORM NO: CCSUP4031B
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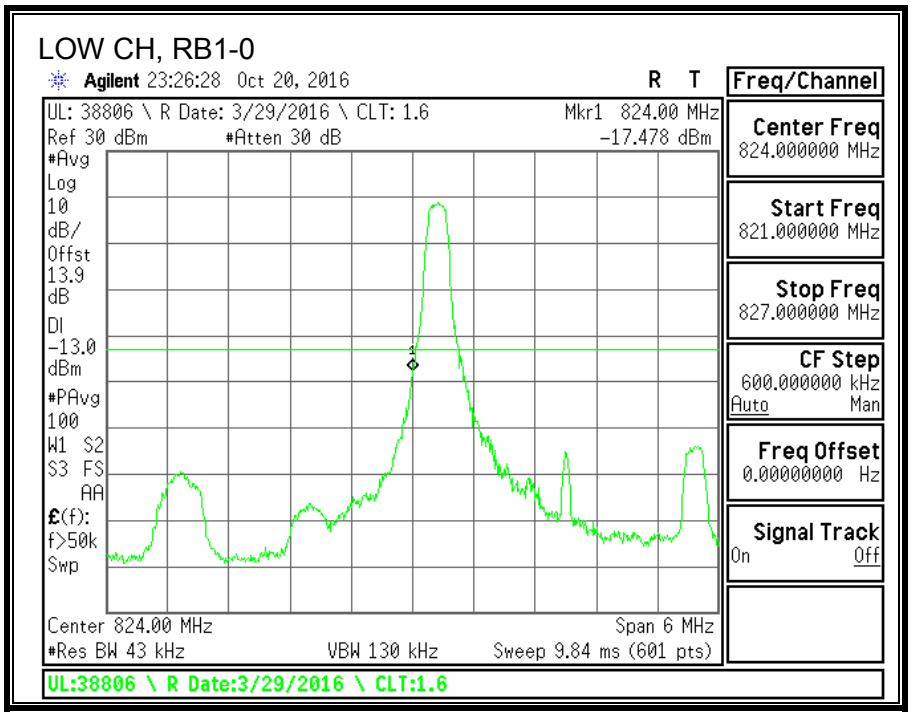
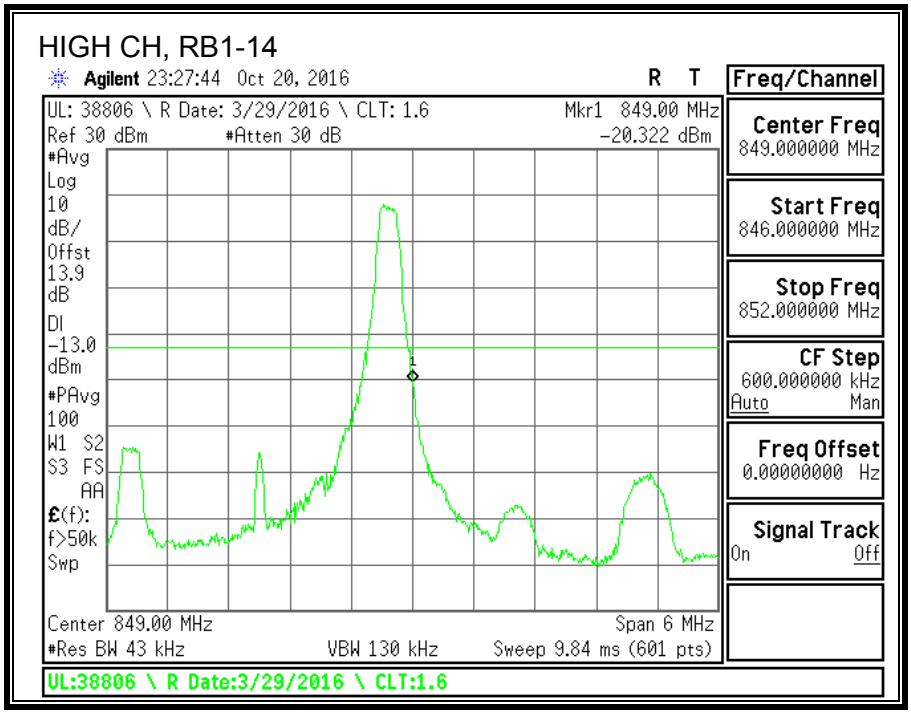
LTE BAND 5 QPSK, (3 MHz)





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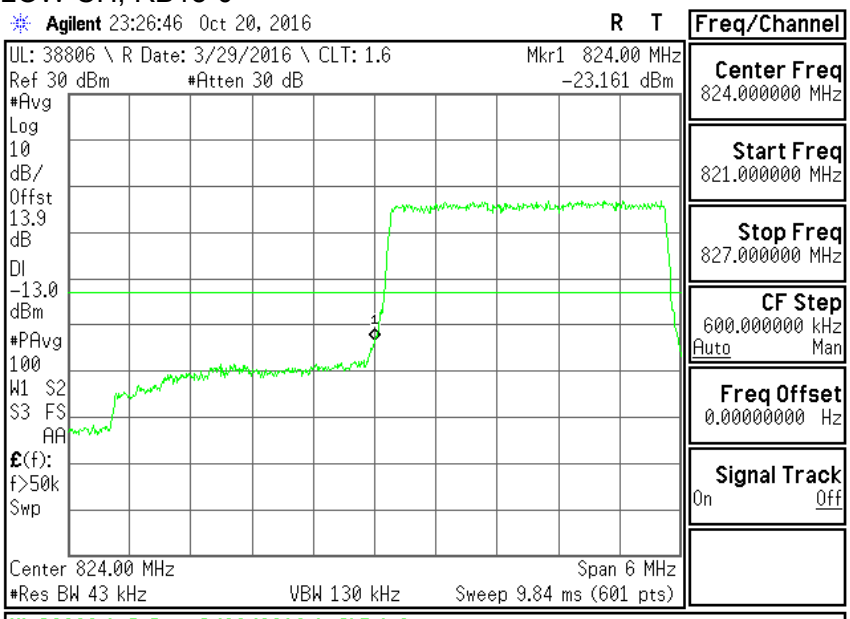
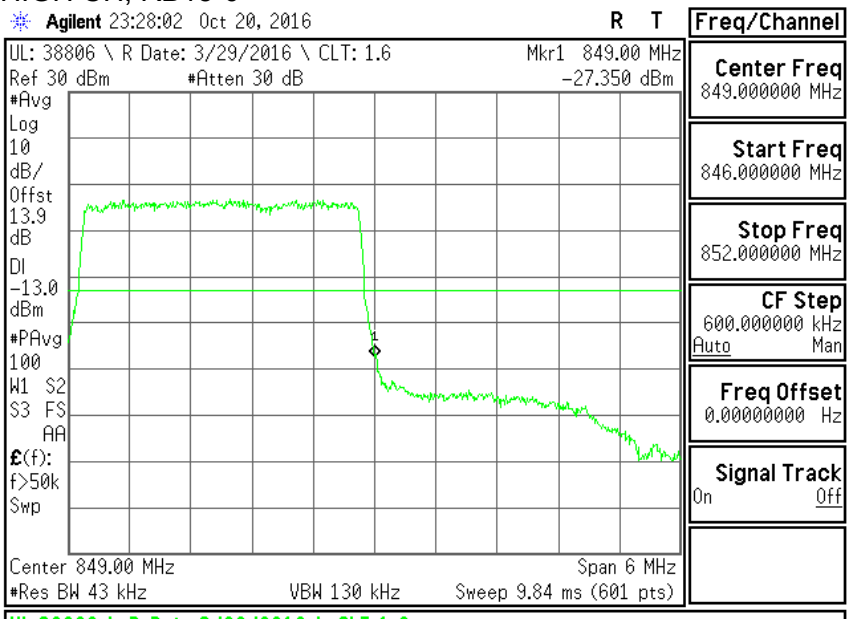
LOW CH, RB15-0



HIGH CH, RB15-0



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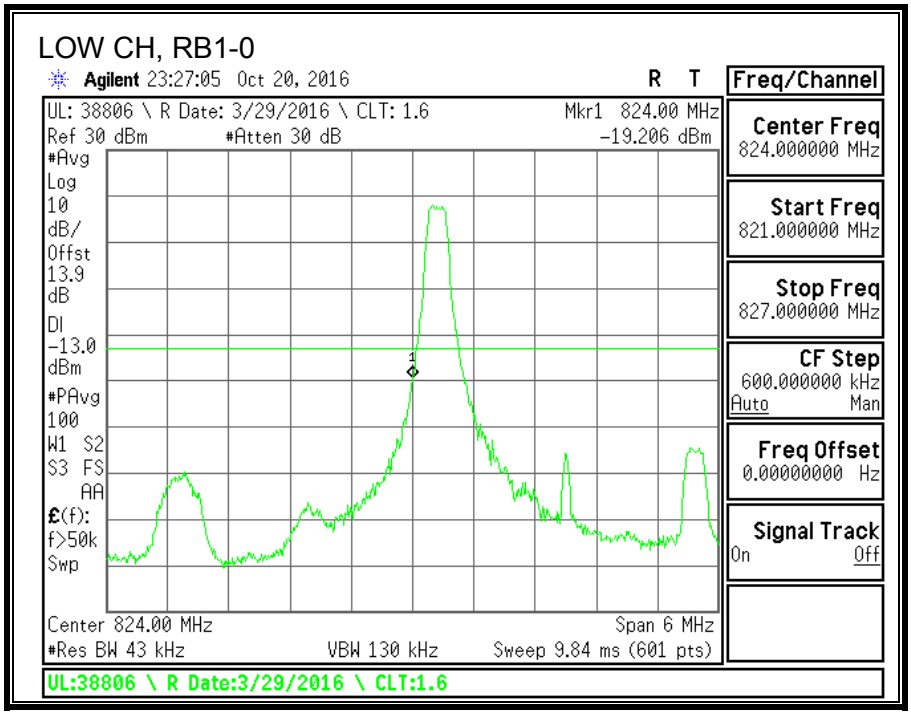
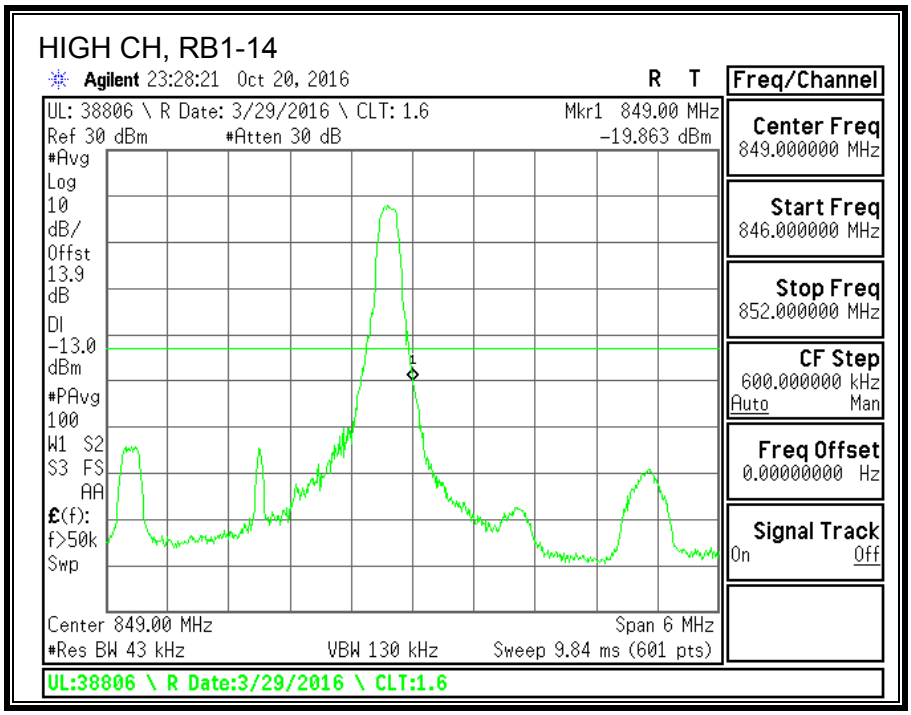
LTE BAND 5 16QAM, (3 MHz)





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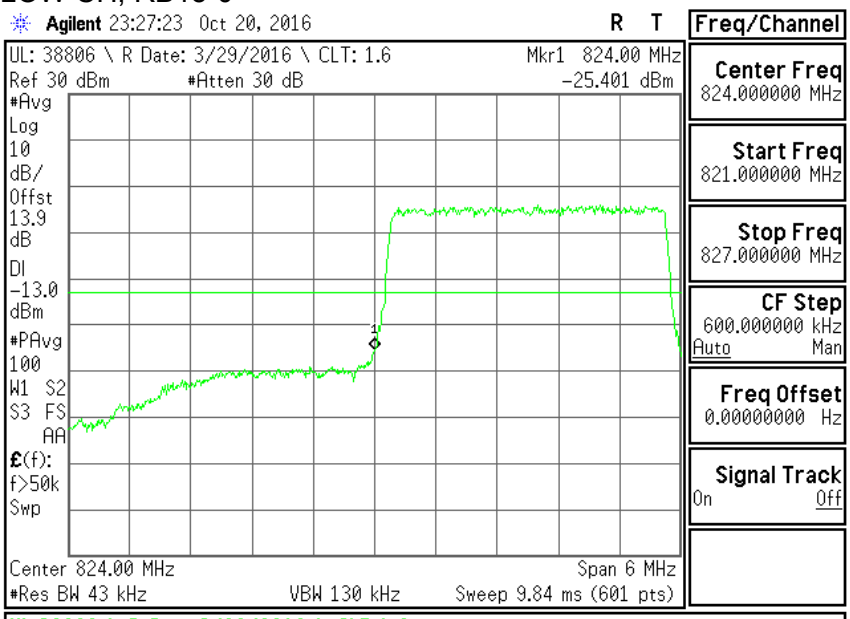
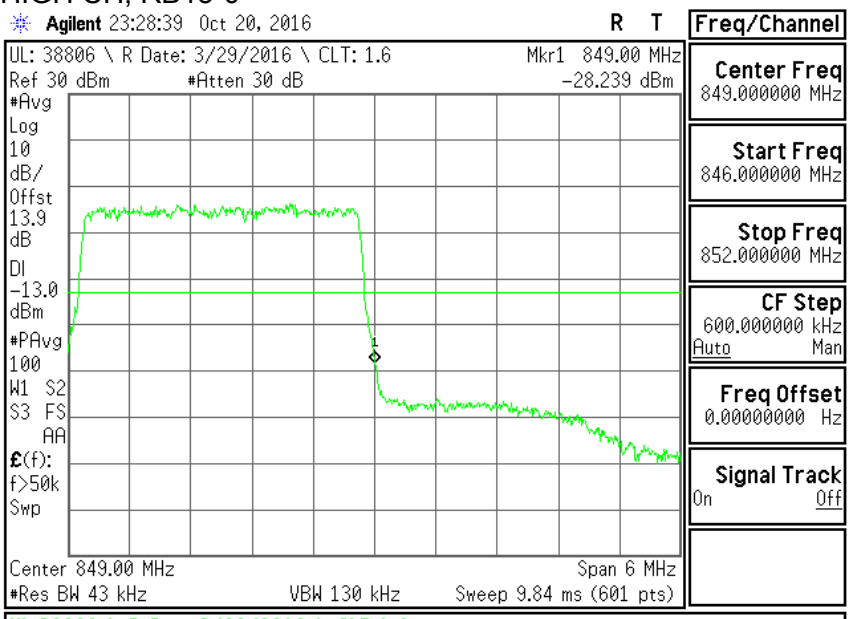
LOW CH, RB15-0



HIGH CH, RB15-0



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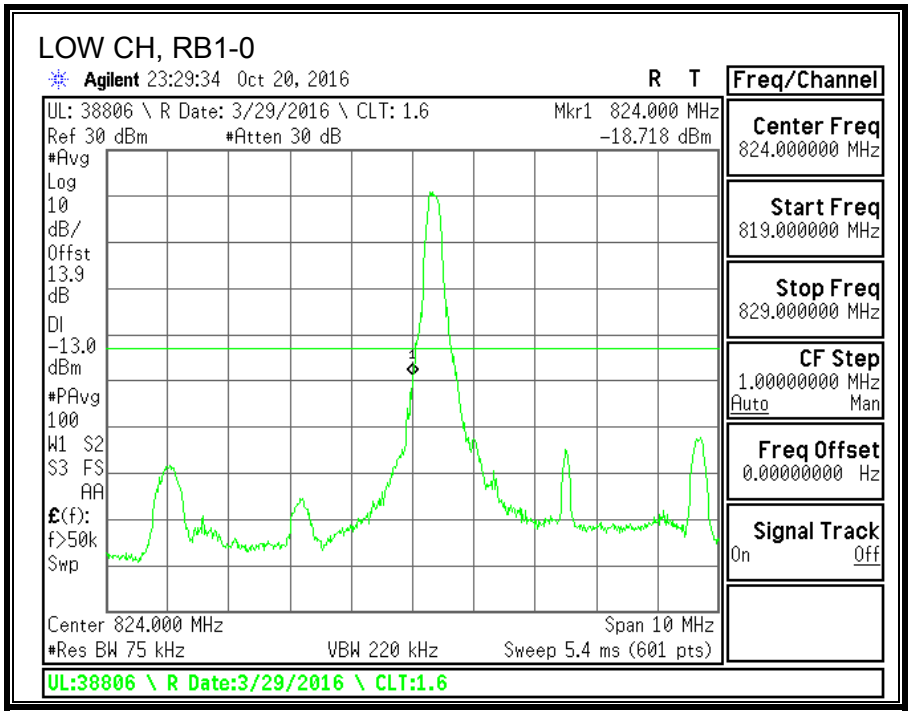
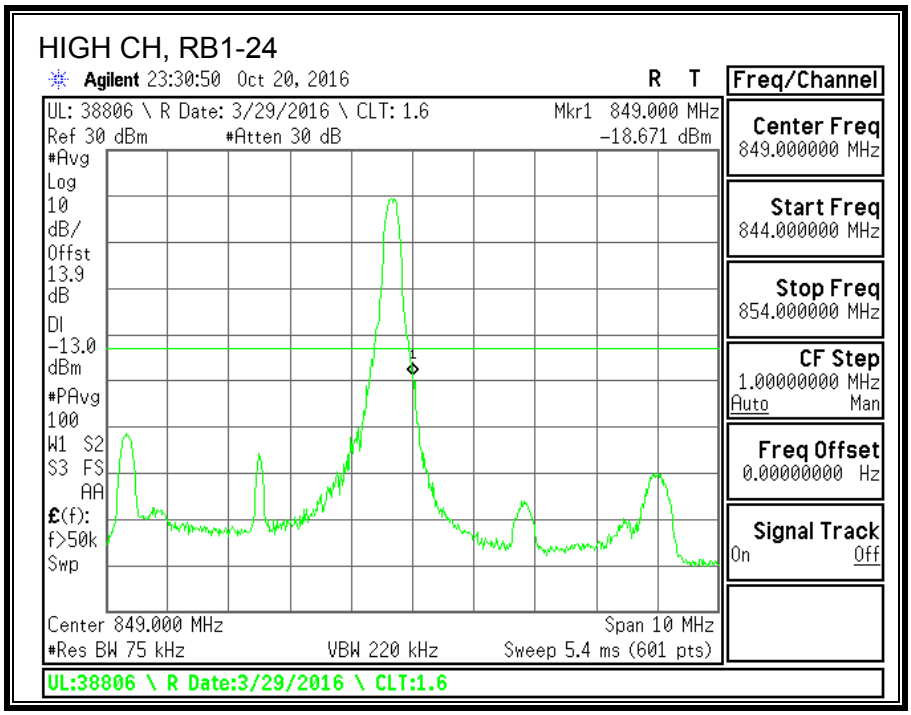
LTE BAND 5 QPSK, (5 MHz)





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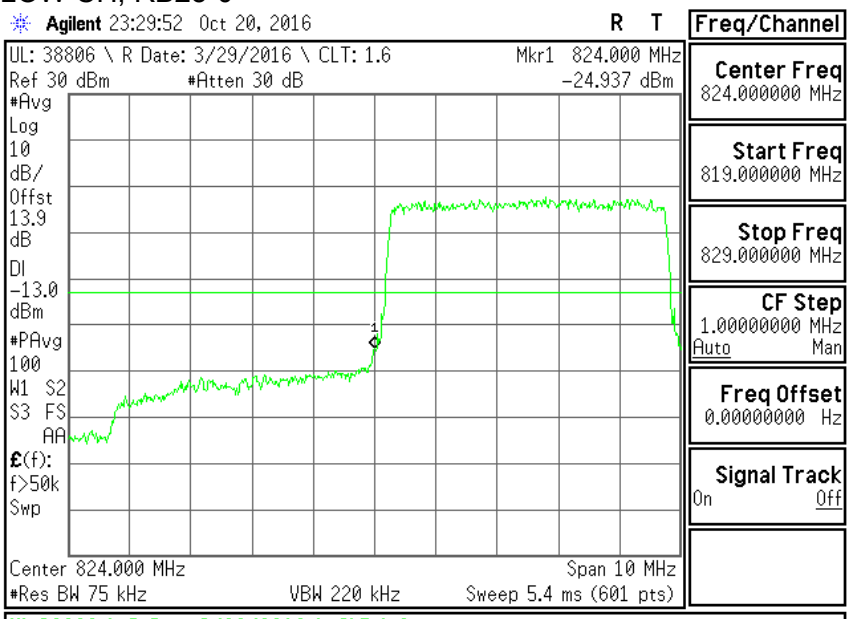
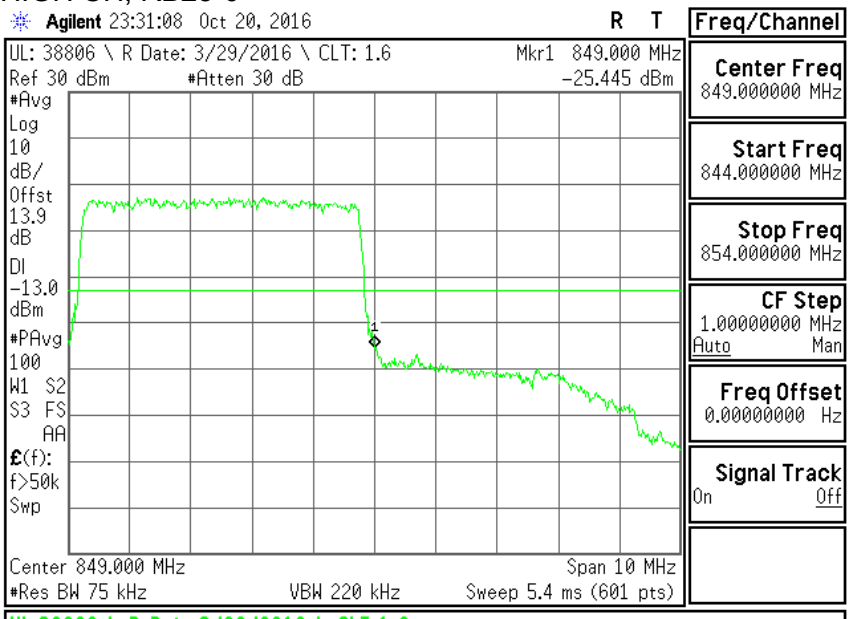
LOW CH, RB25-0



HIGH CH, RB25-0



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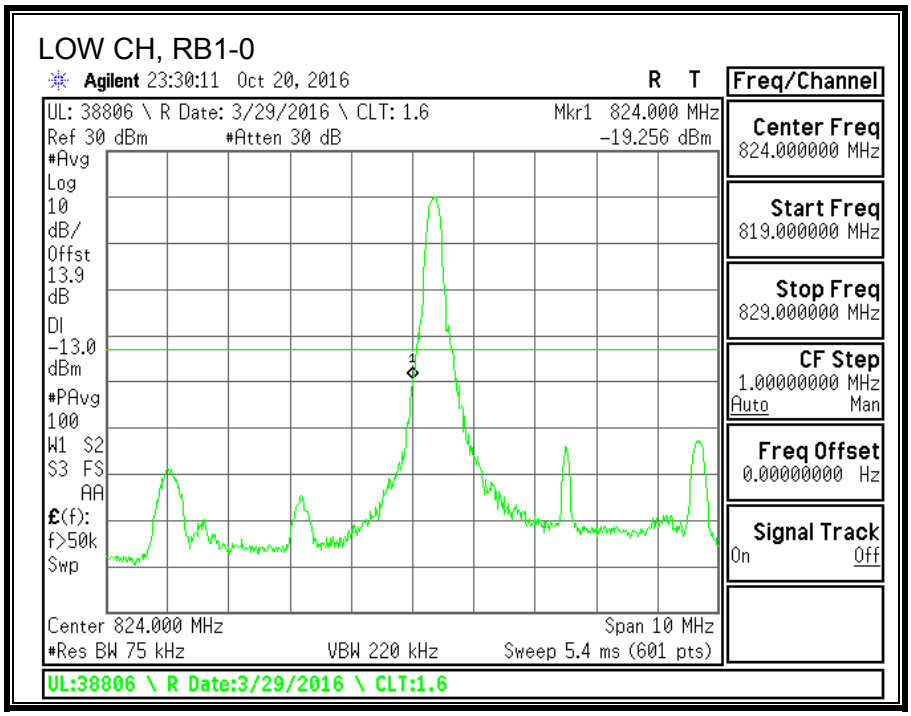
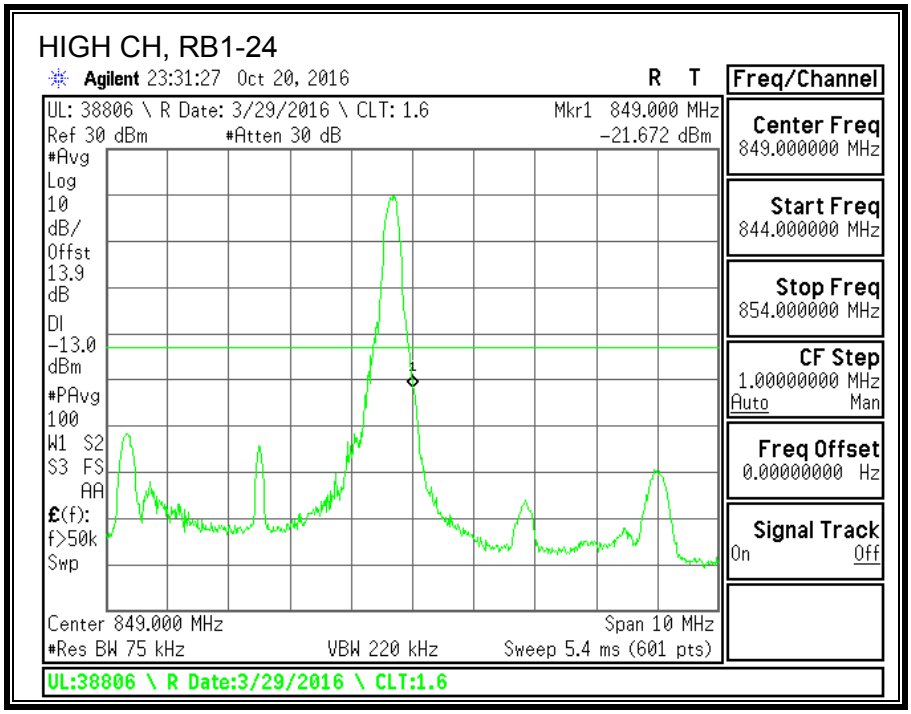
LTE BAND 5 16QAM, (5 MHz)





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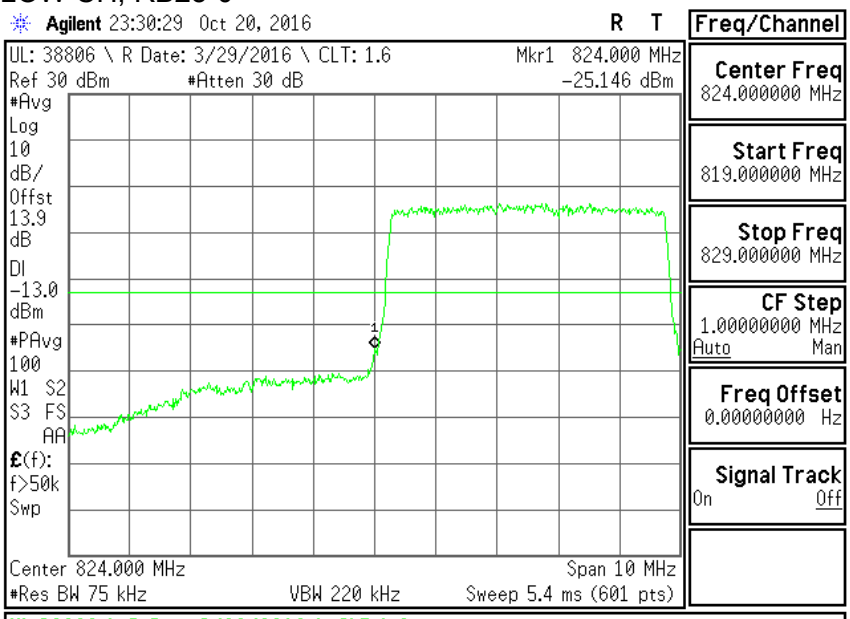
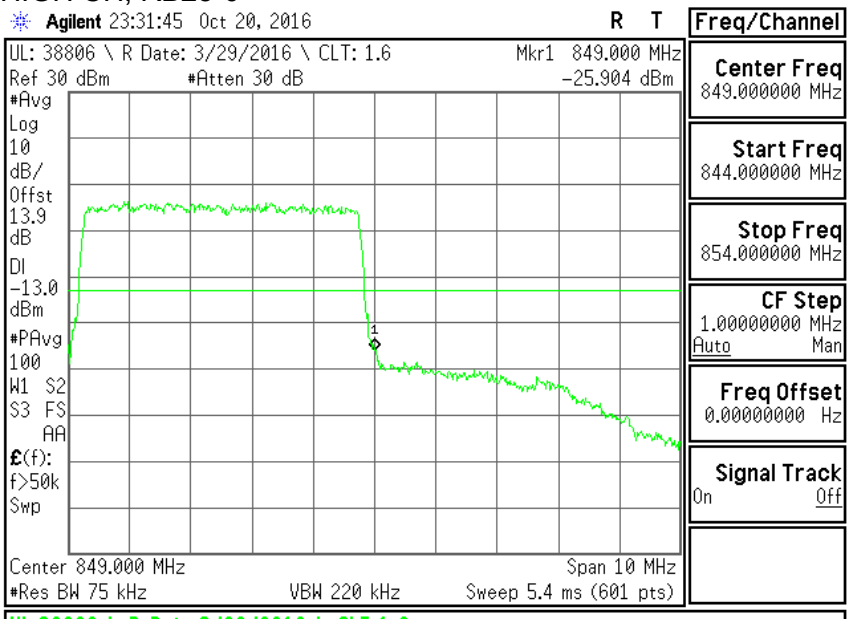
LOW CH, RB25-0



HIGH CH, RB25-0



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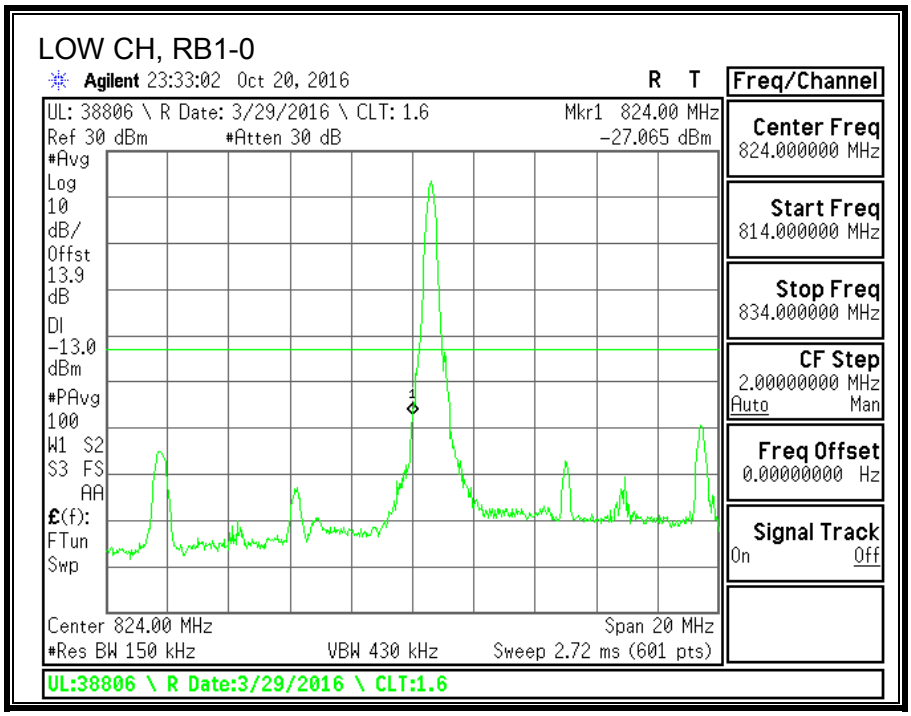
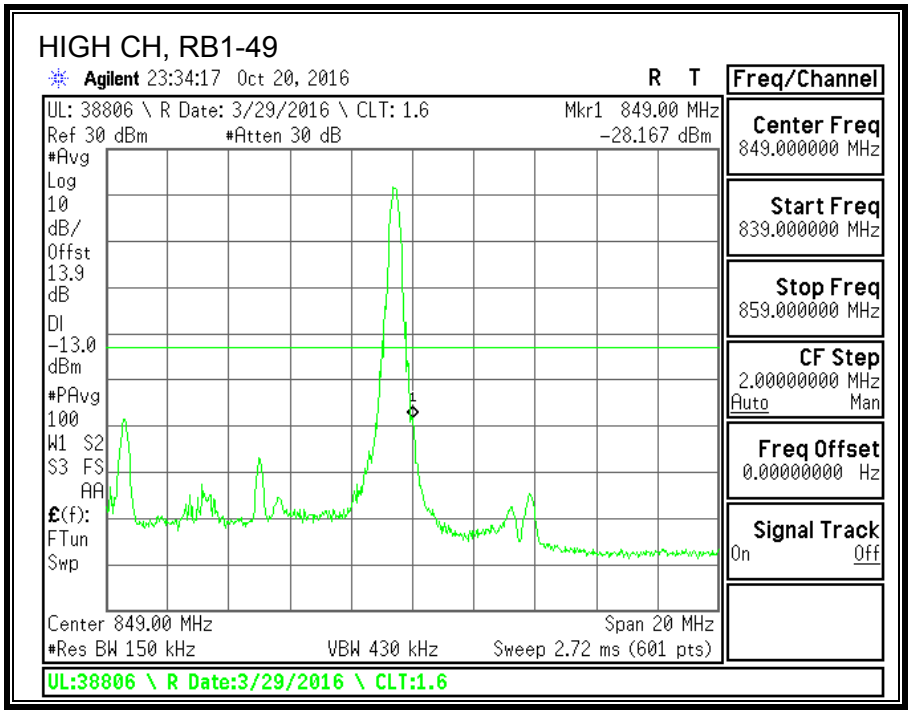
LTE BAND 5 QPSK, (10 MHz)





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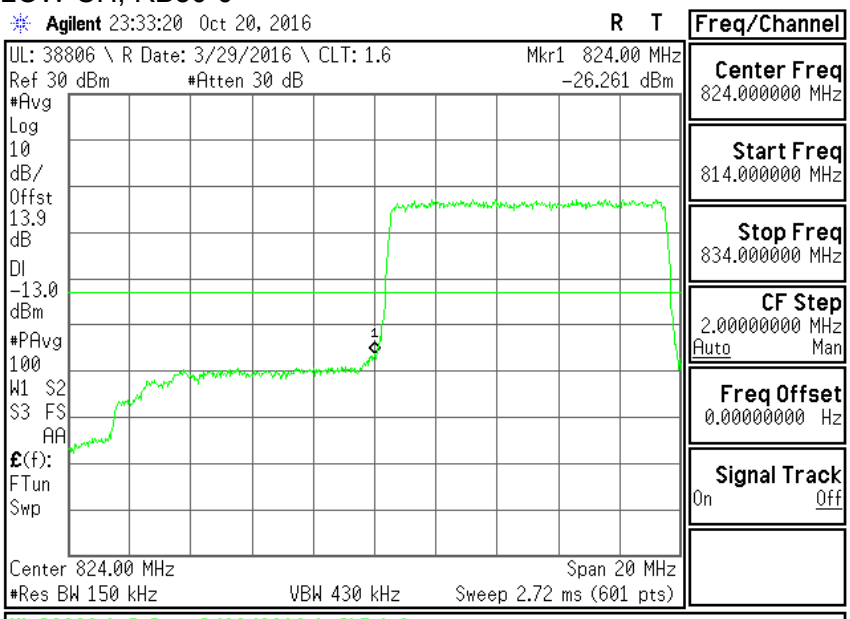
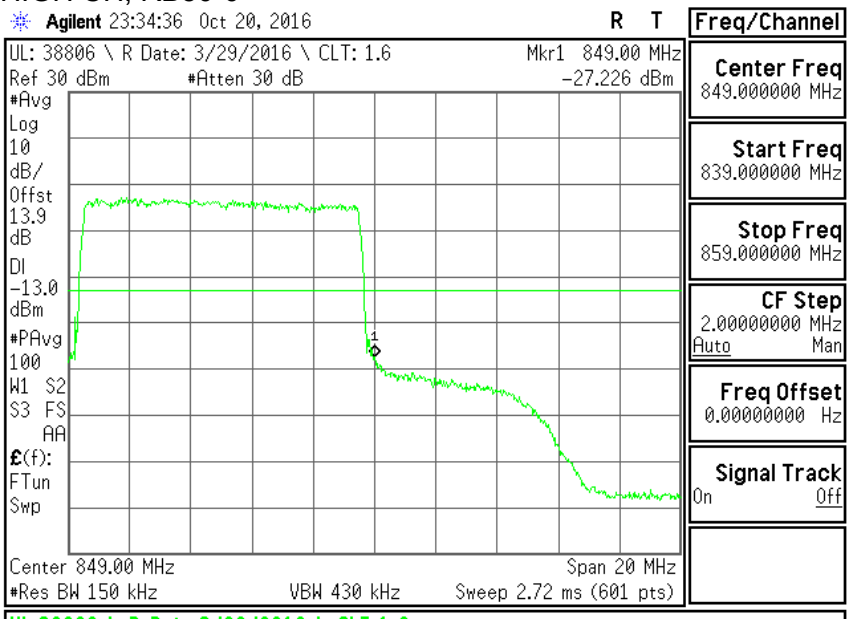
LOW CH, RB50-0



HIGH CH, RB50-0



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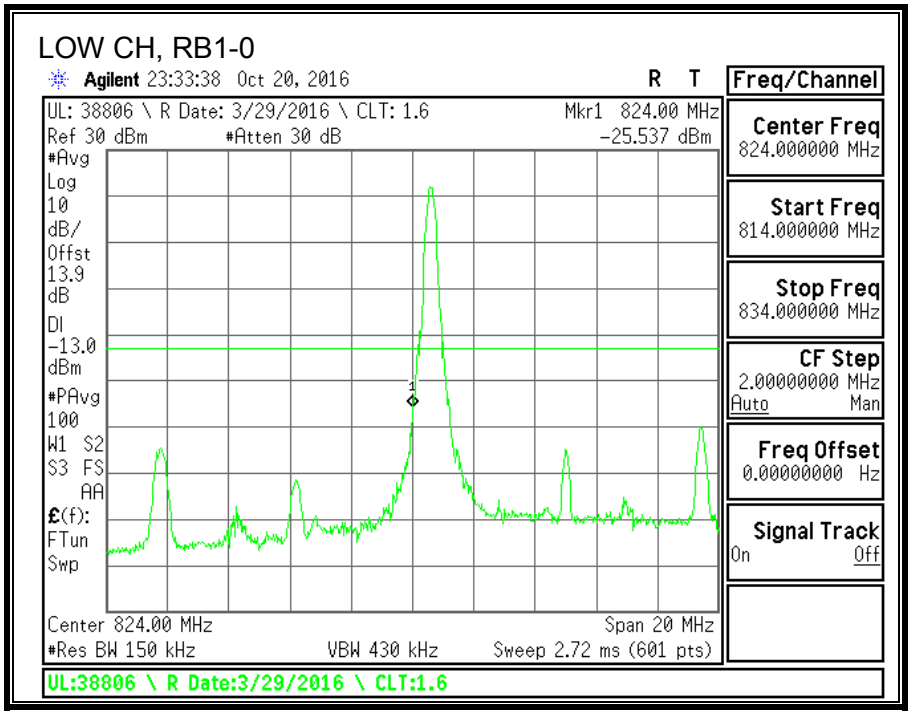
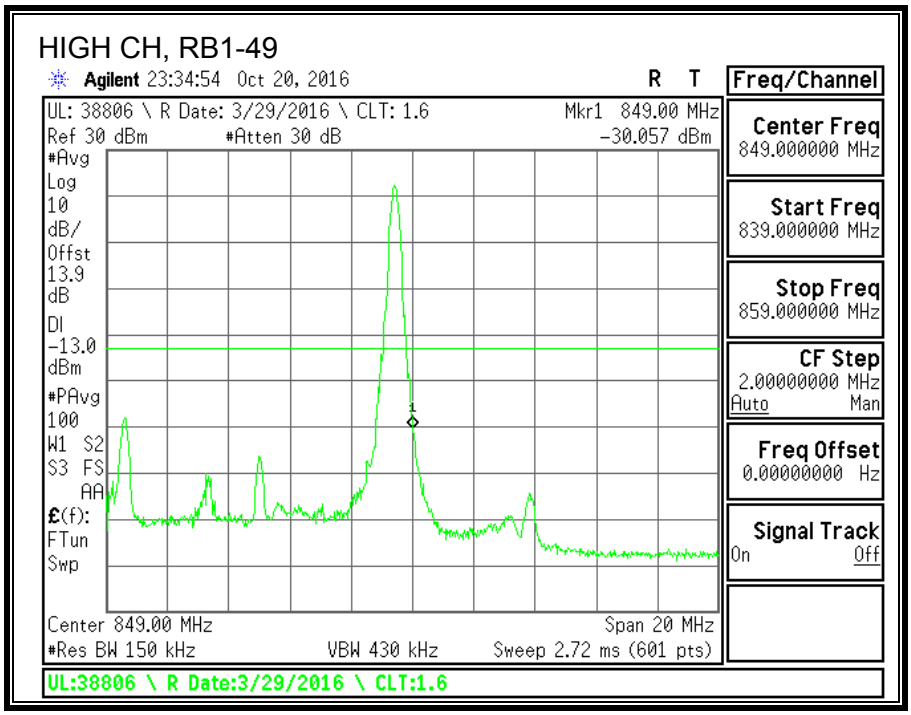
LTE BAND 5 16QAM, (10 MHz)





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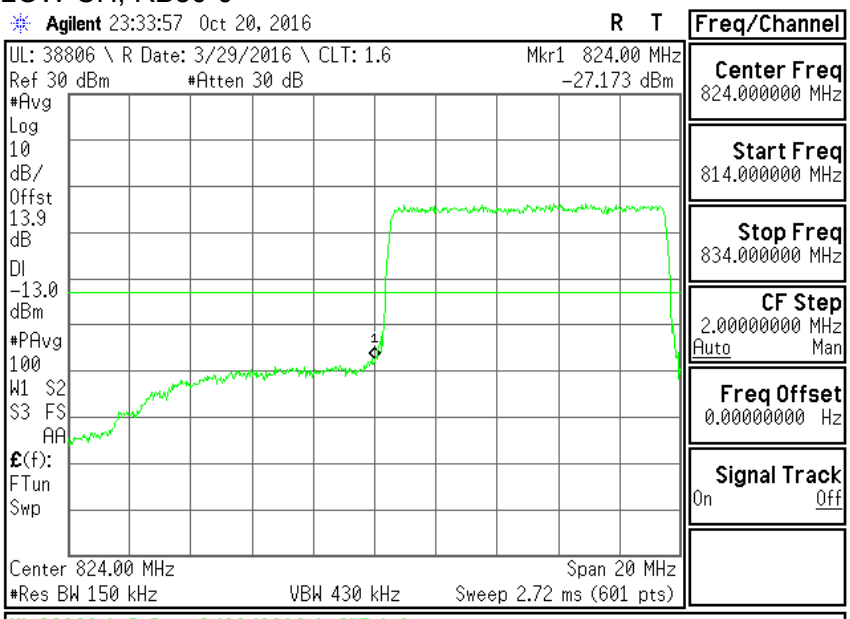
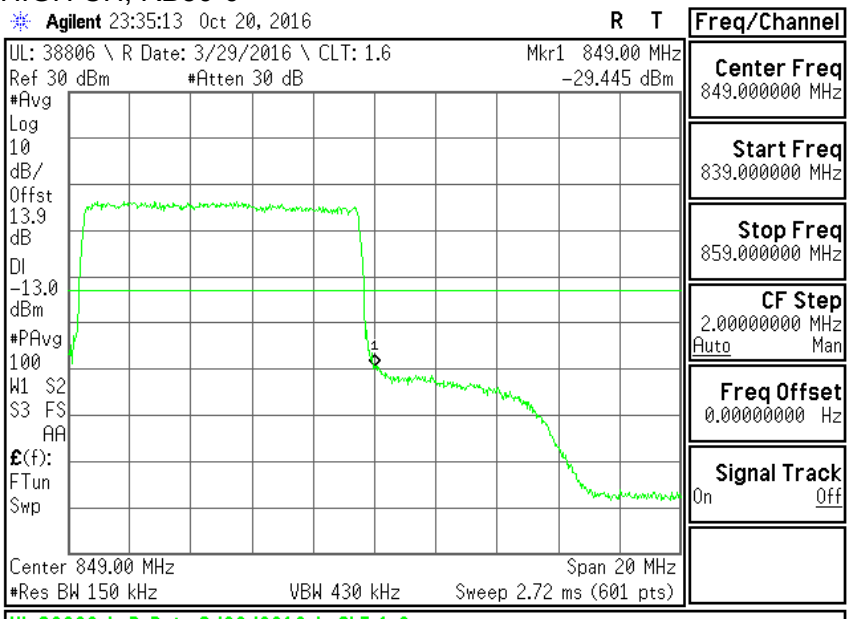
LOW CH, RB50-0



HIGH CH, RB50-0



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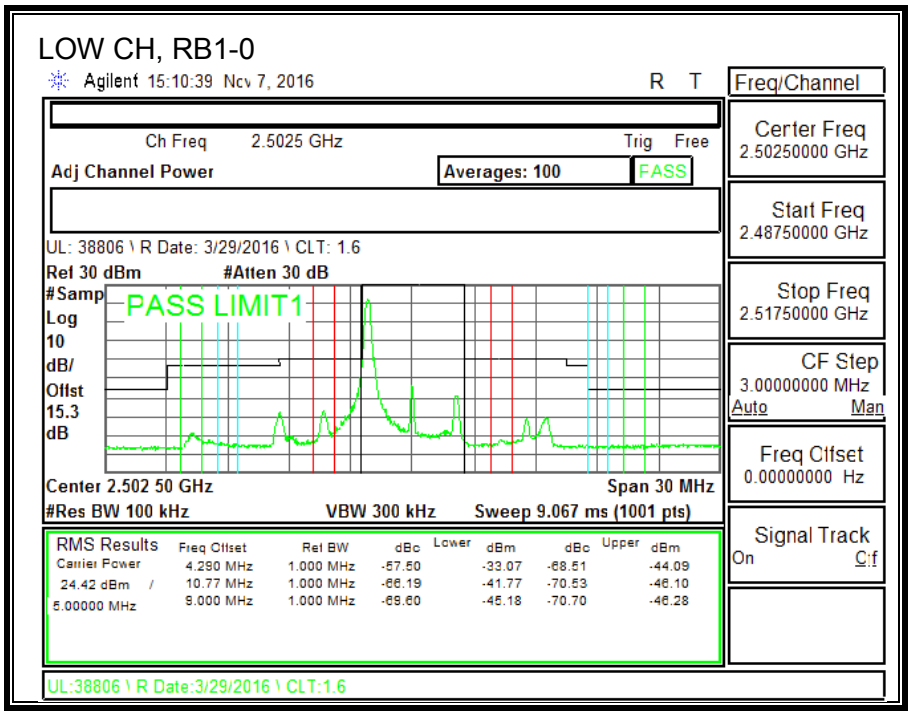
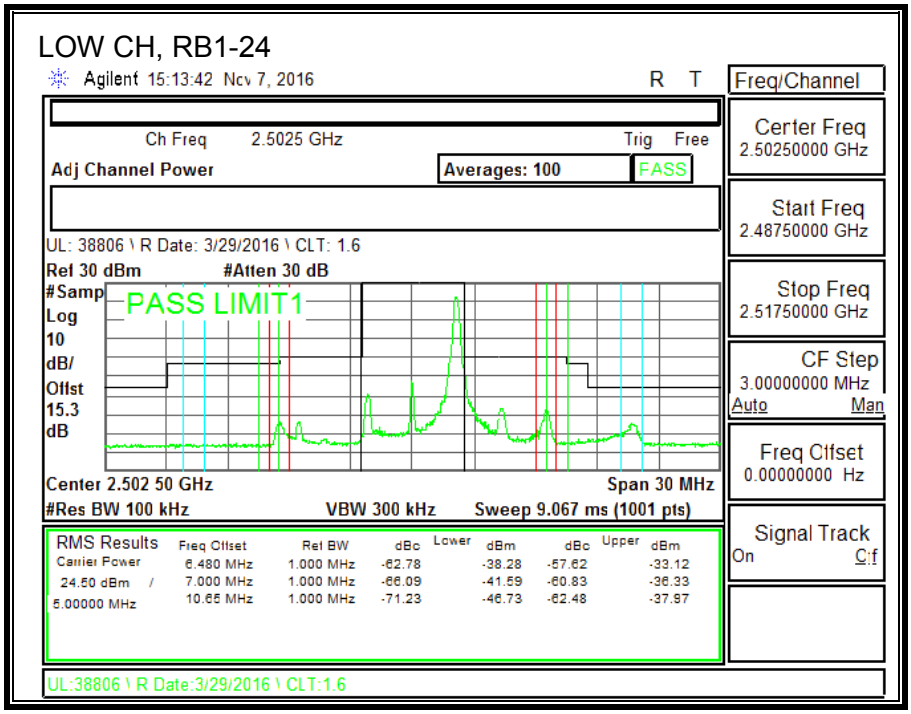
8.2.4. LTE BAND 7 ADJACENT CHANNEL POWER

LTE BAND 7 QPSK, (5 MHz)





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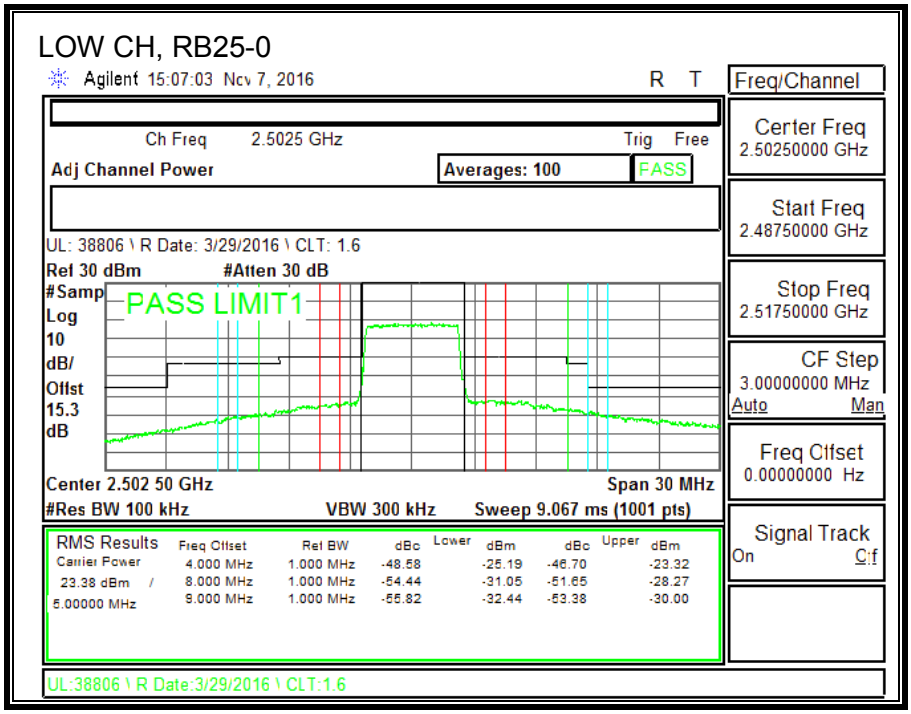

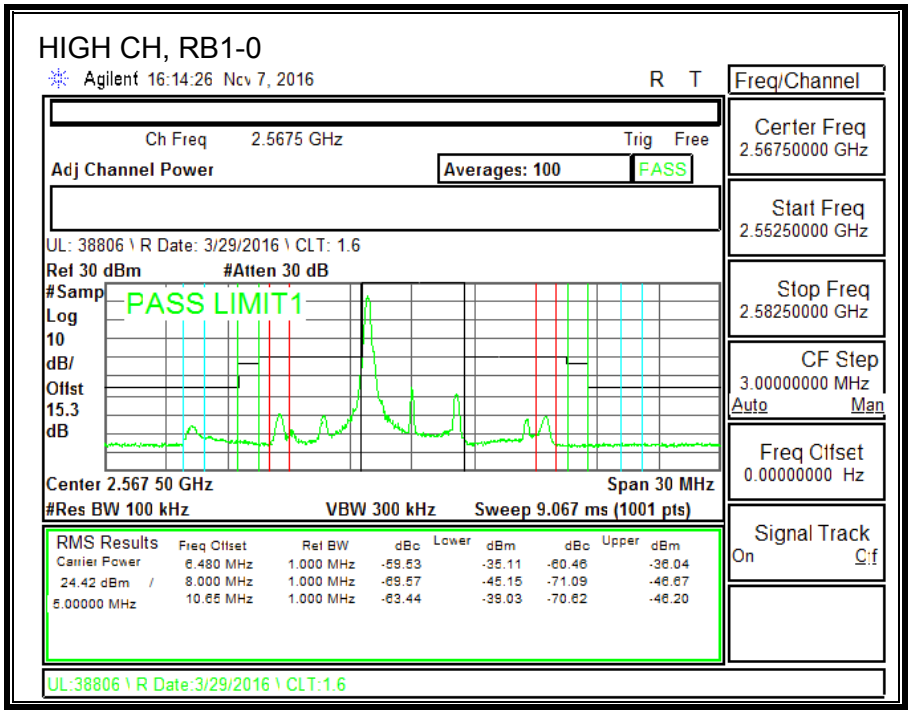

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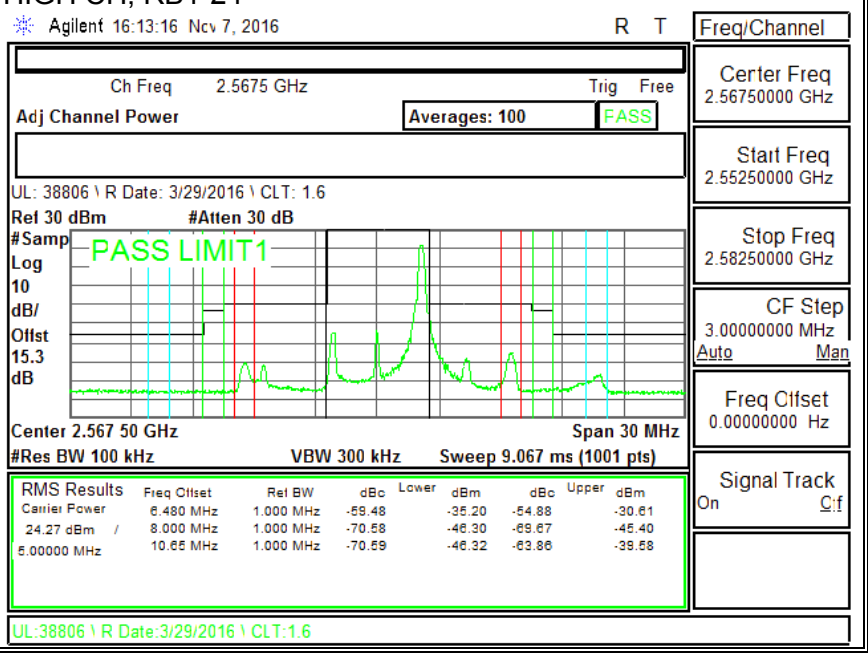
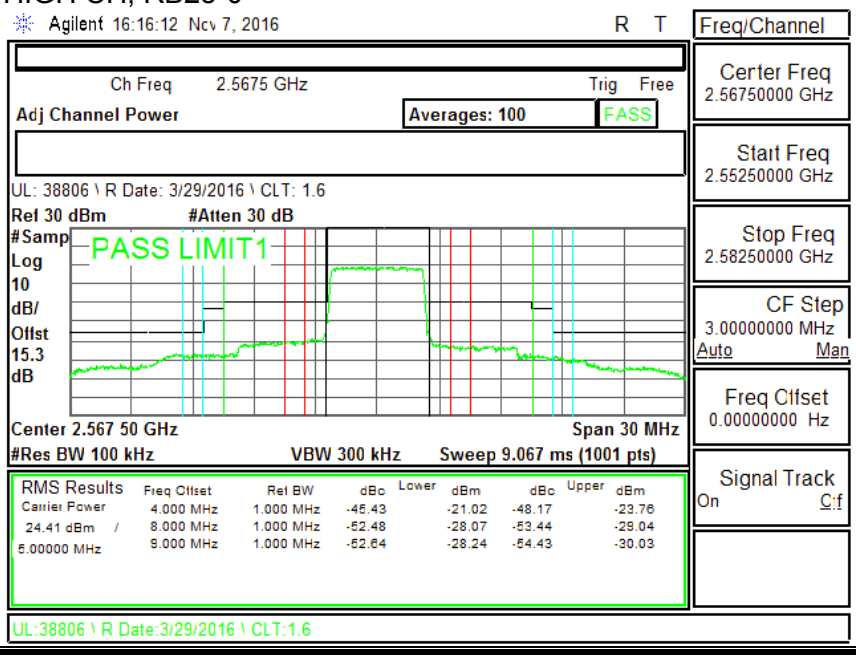
HIGH CH, RB1-24



HIGH CH, RB25-0



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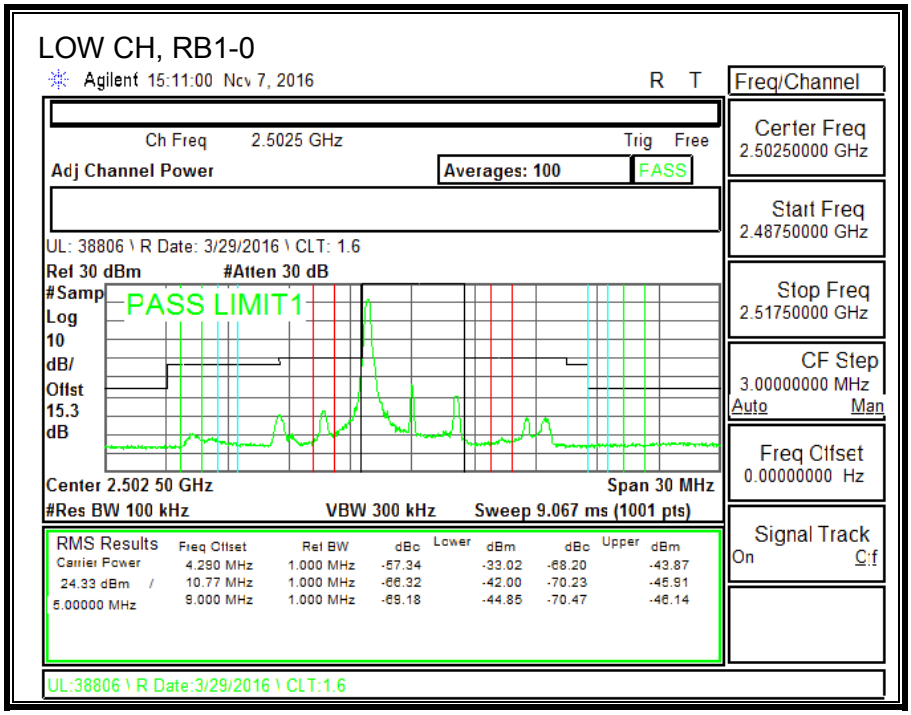
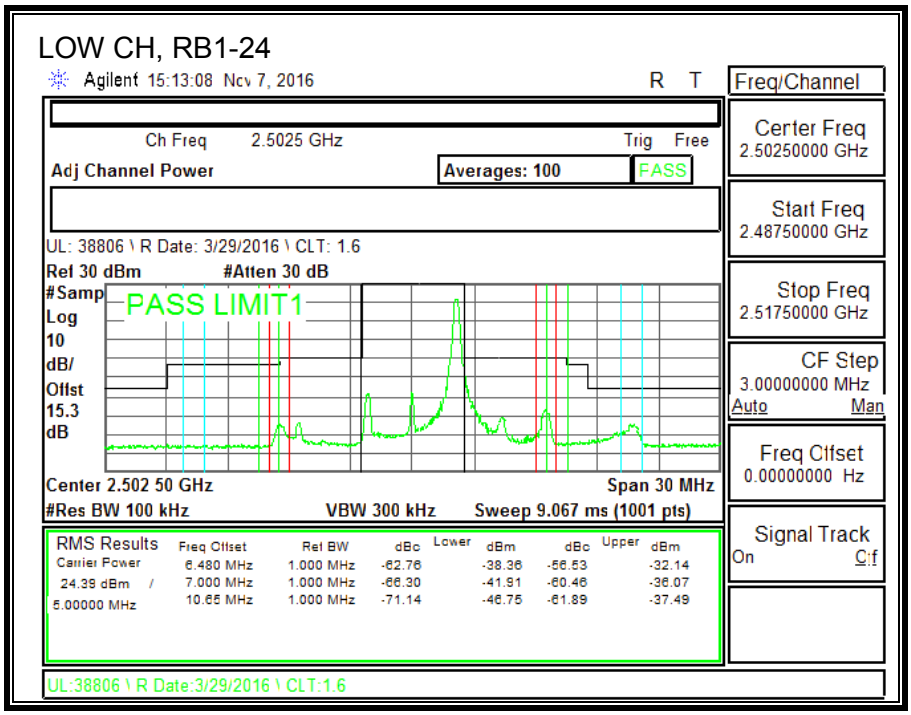
LTE BAND 7 16QAM, (5 MHz)





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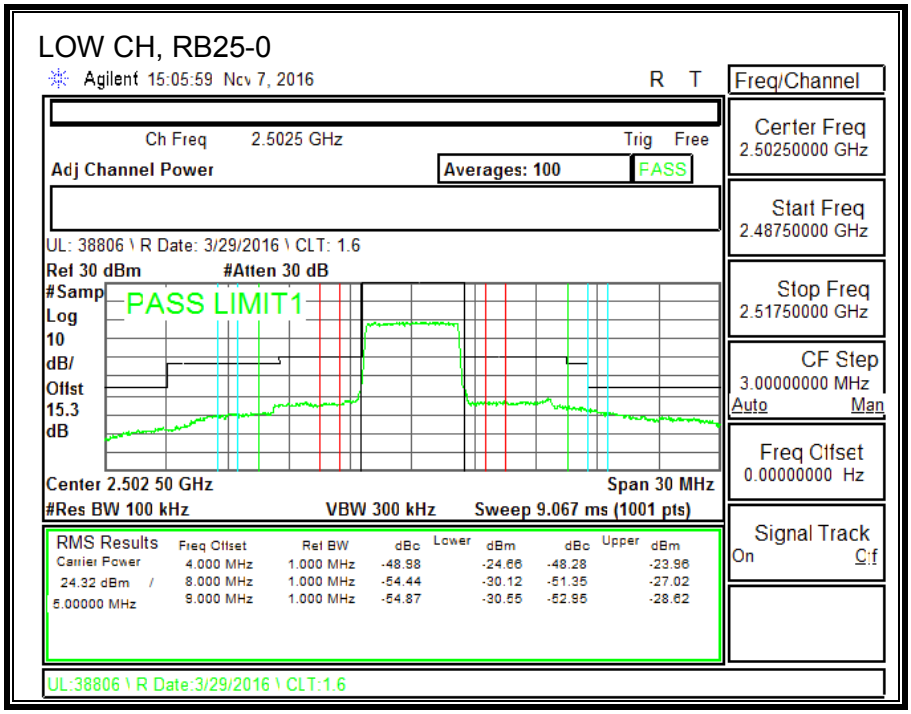

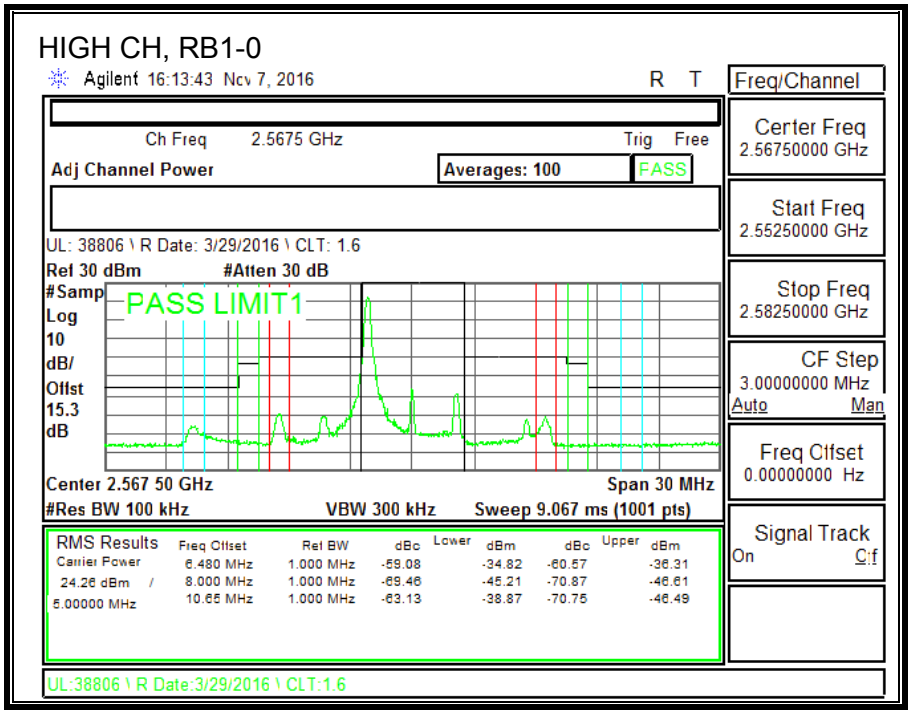

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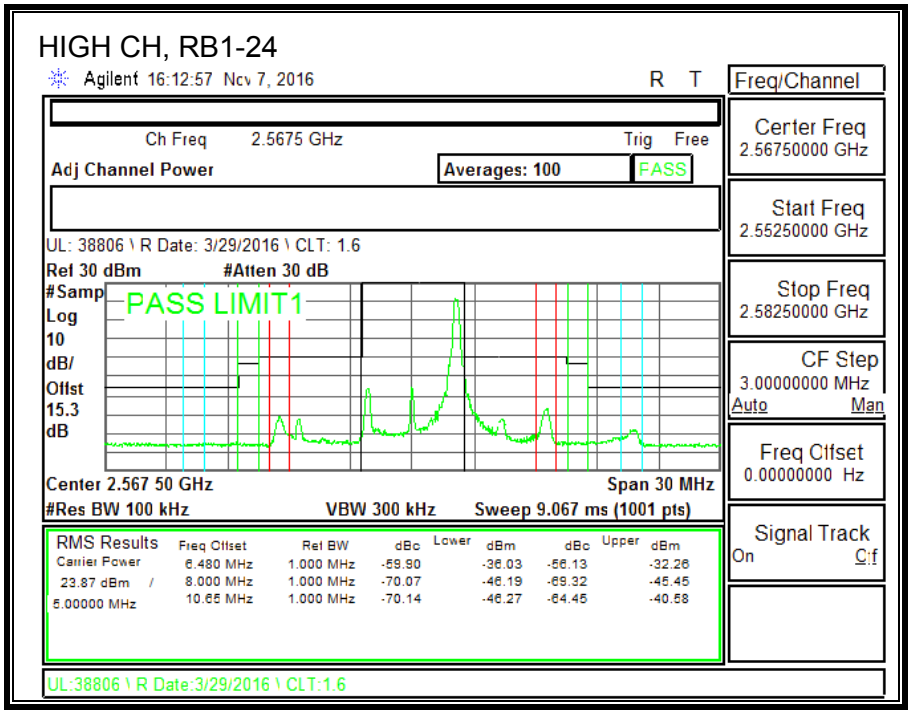
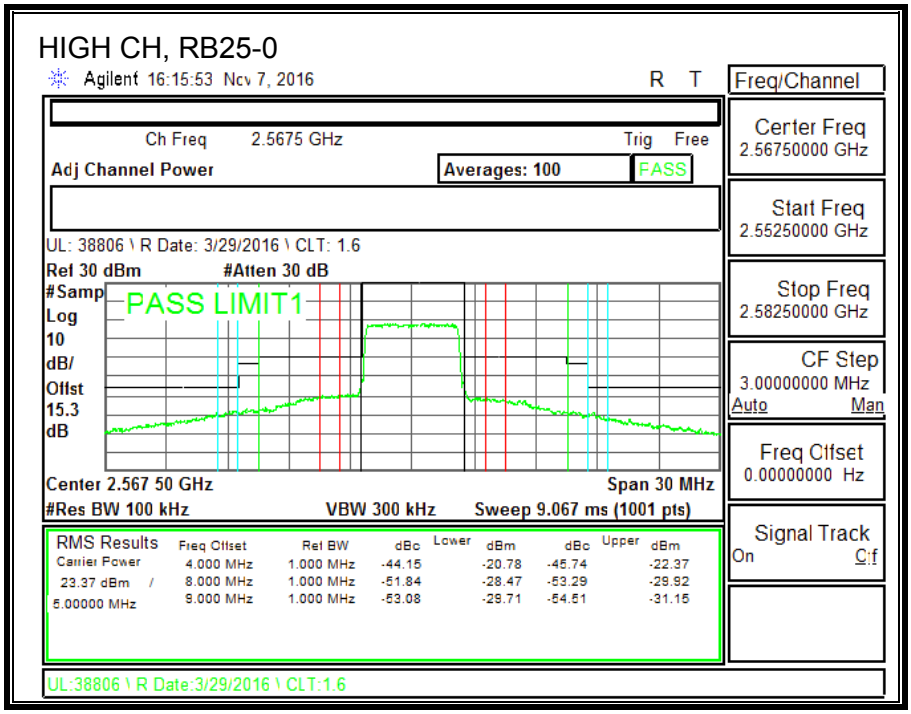
HIGH CH, RB1-24



HIGH CH, RB25-0



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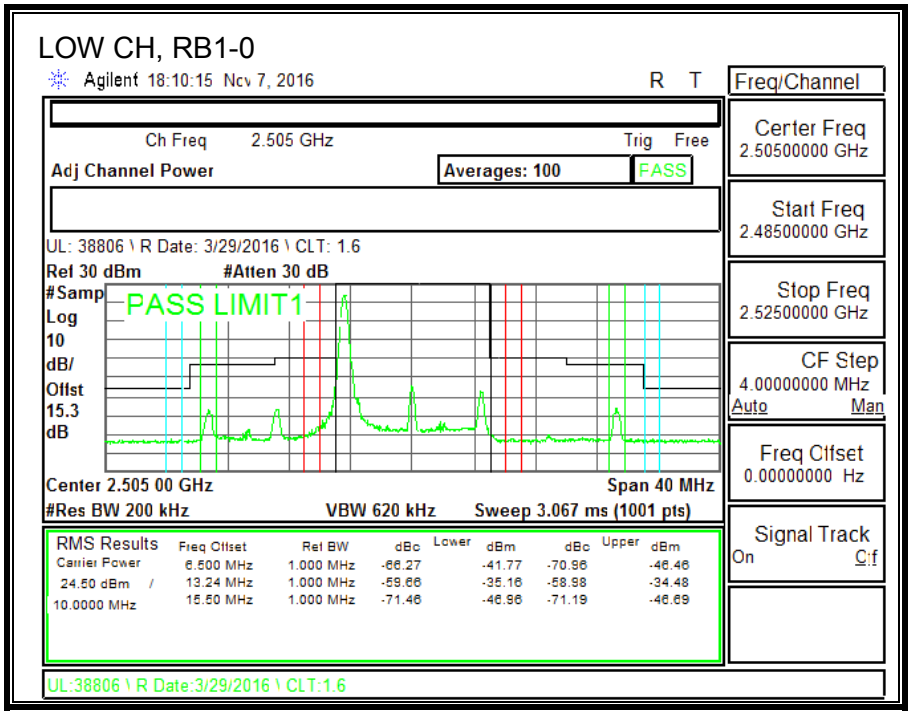
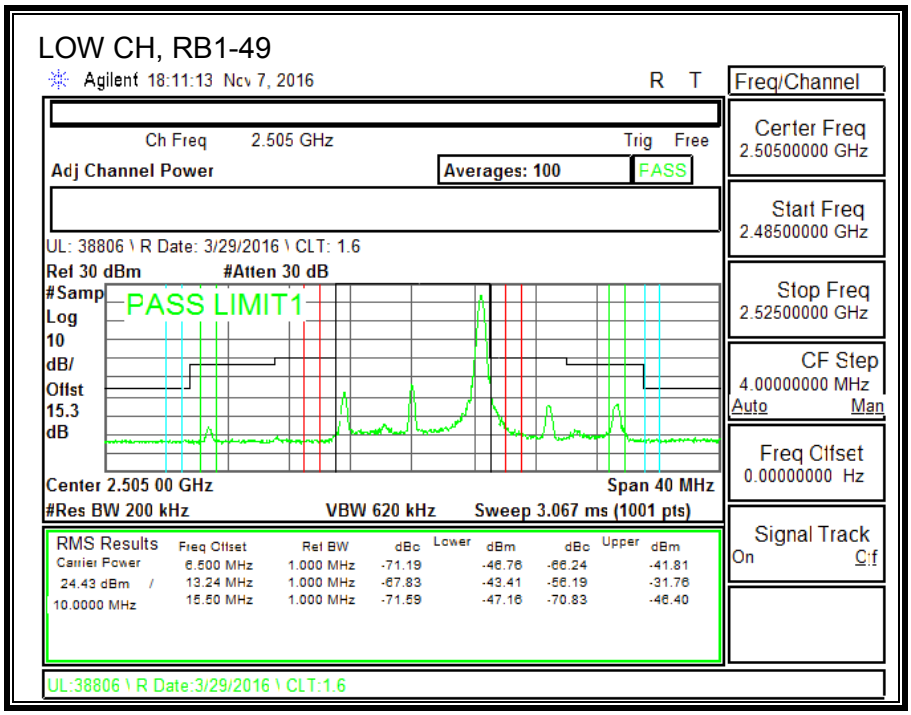
LTE BAND 7 QPSK, (10 MHz)





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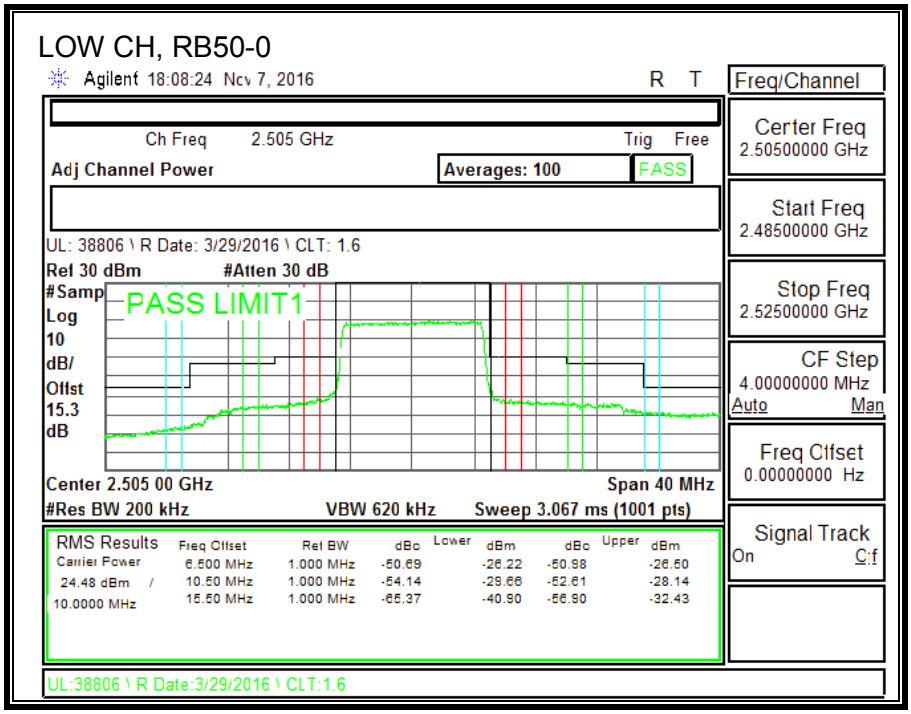

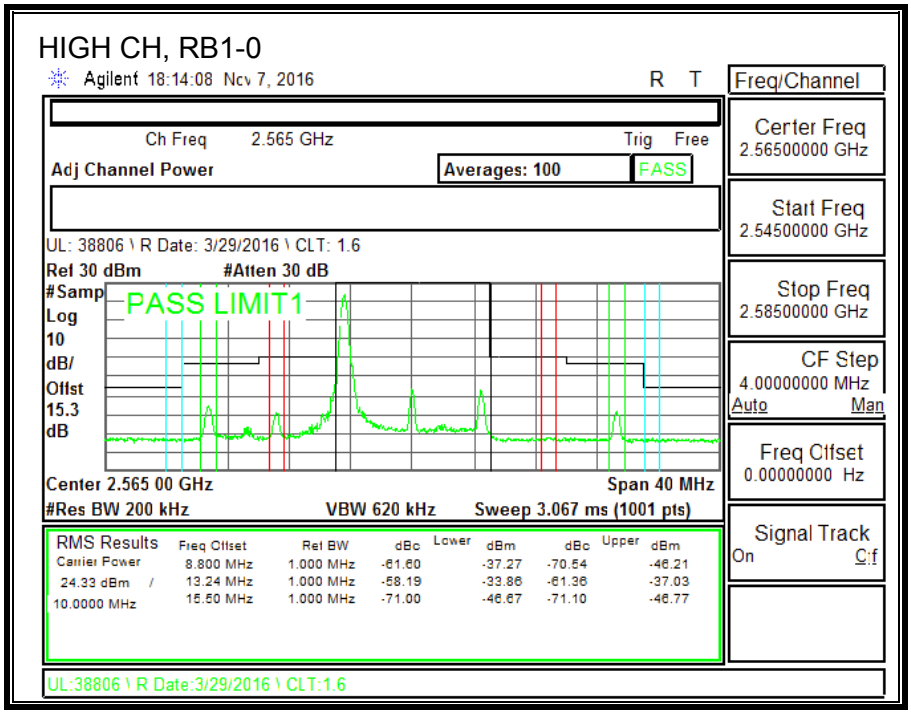

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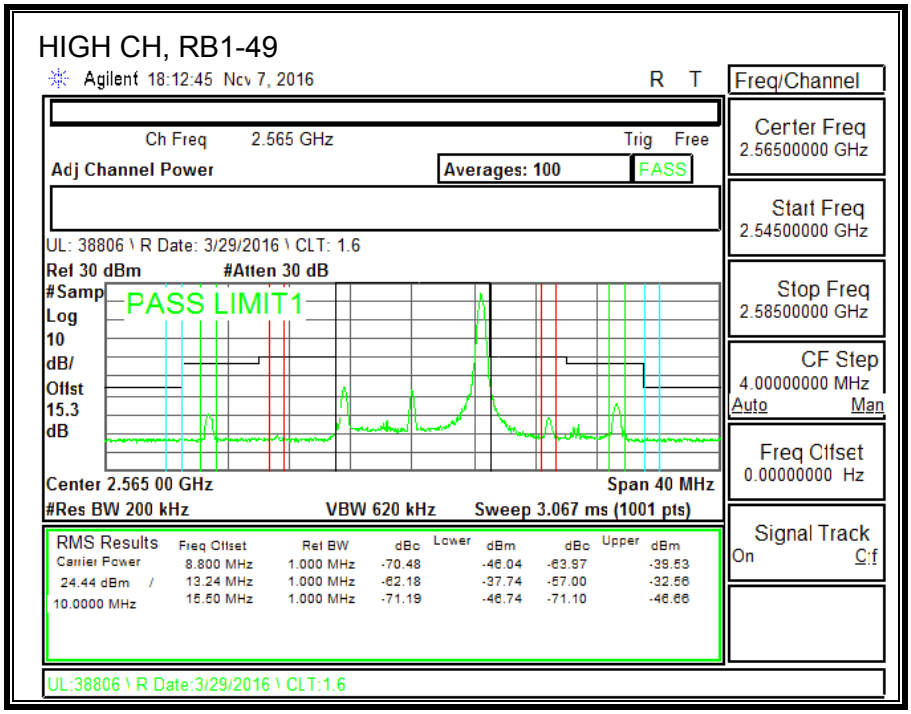

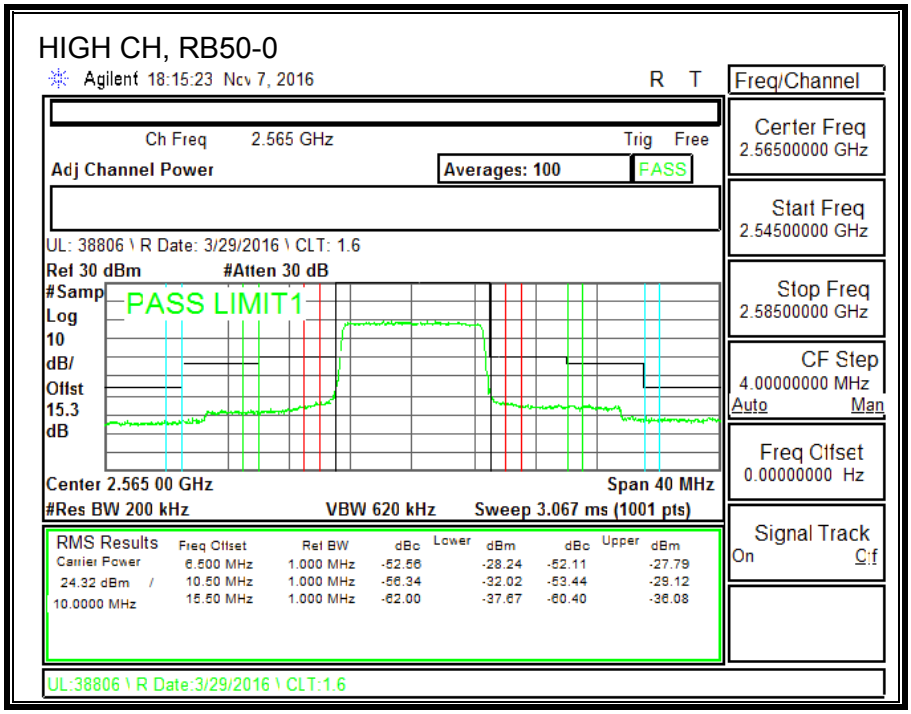

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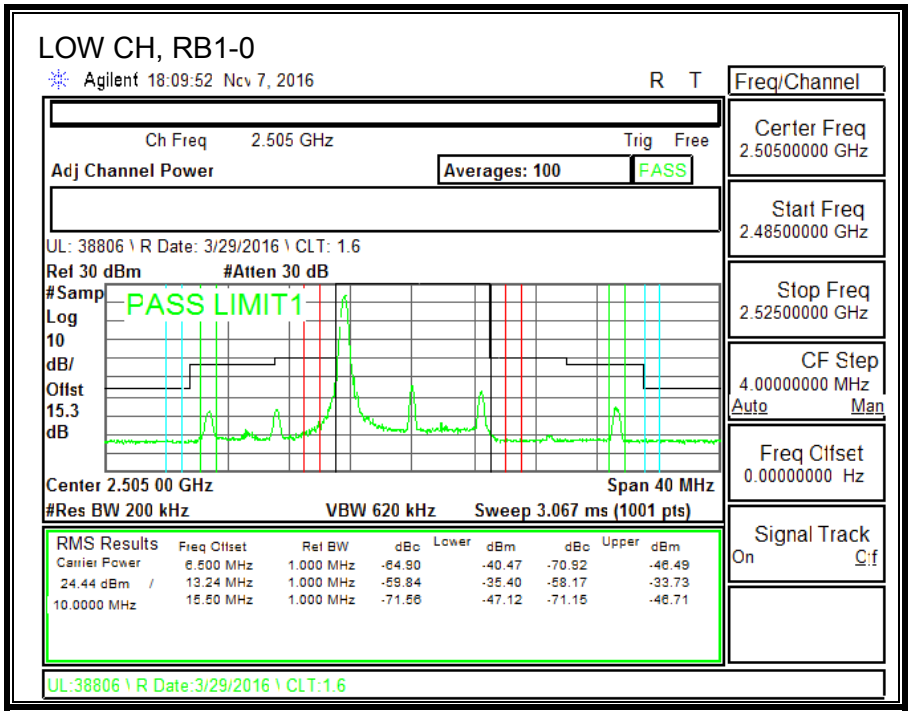
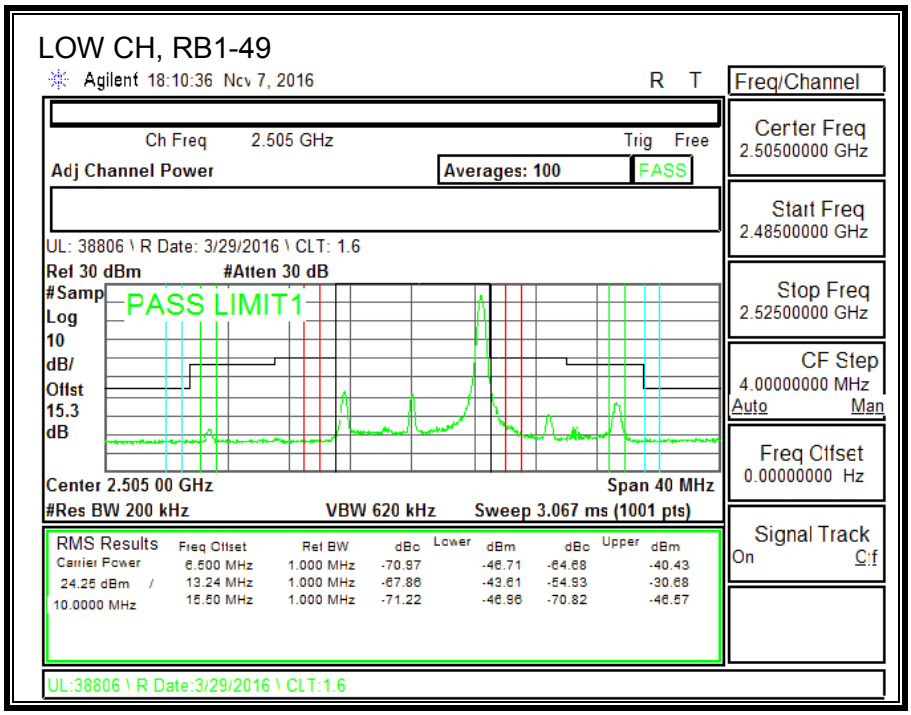
LTE BAND 7 16QAM, (10 MHz)





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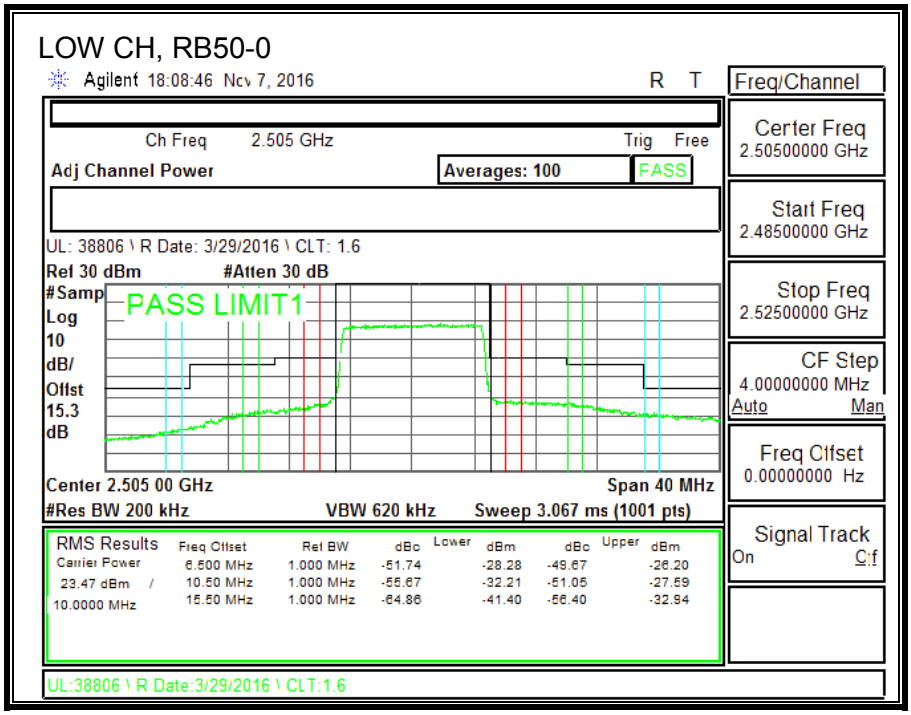

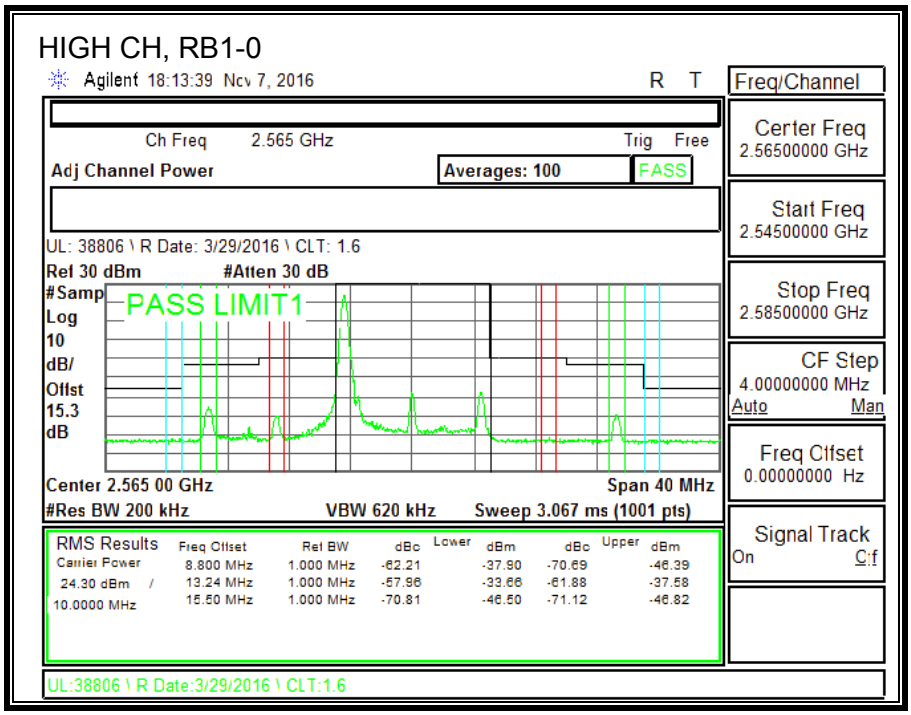

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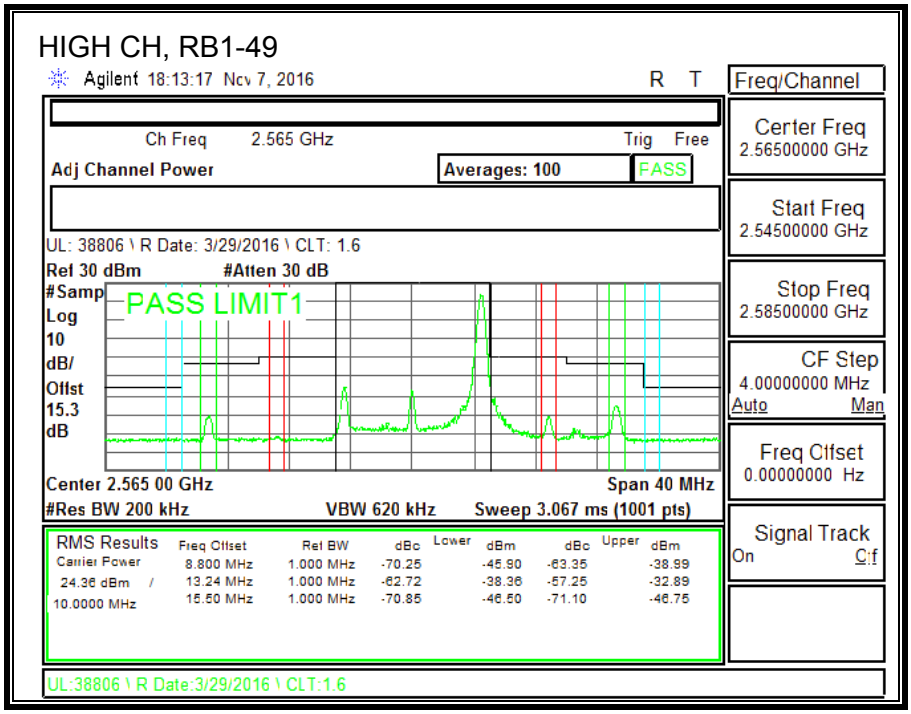

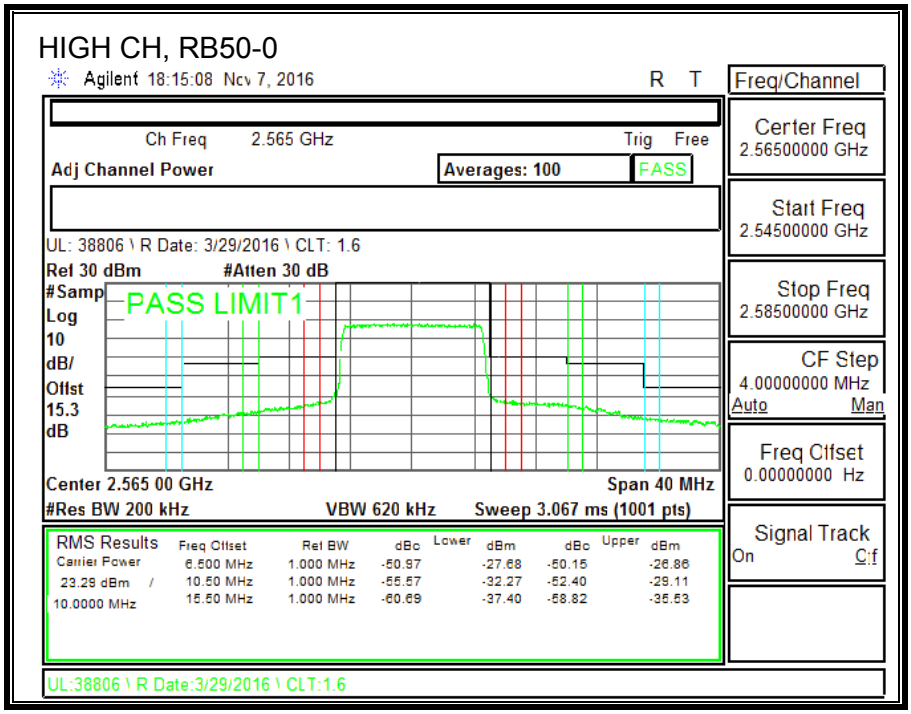

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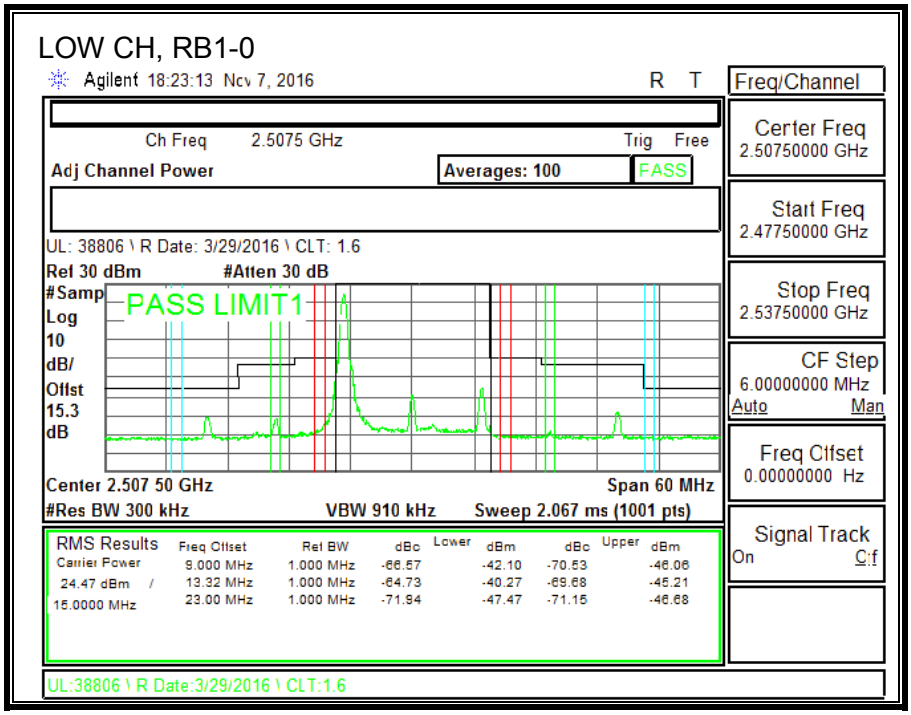
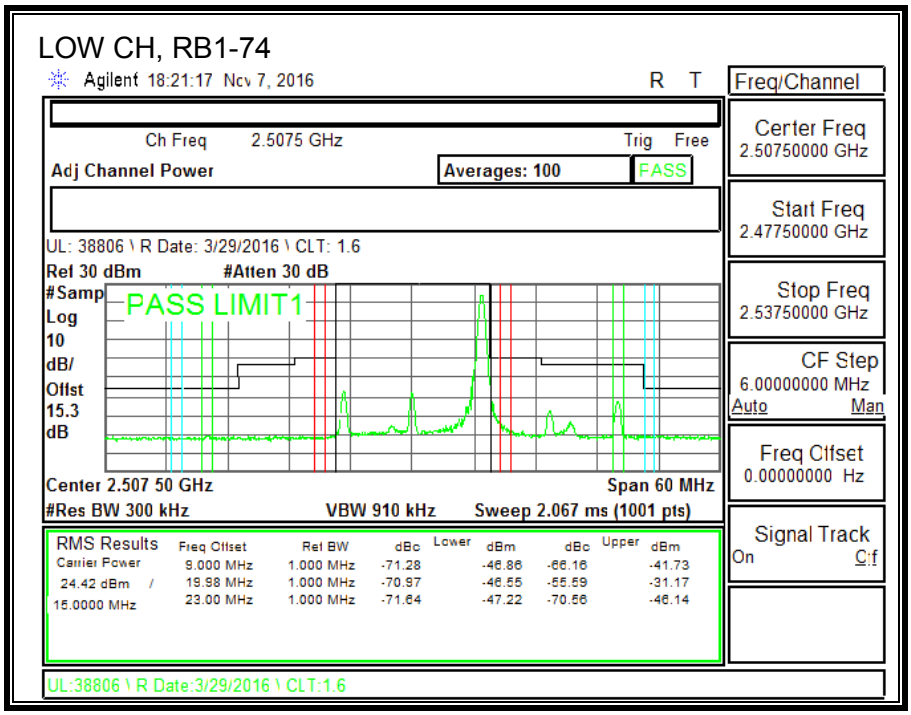
LTE BAND 7 QPSK, (15 MHz)





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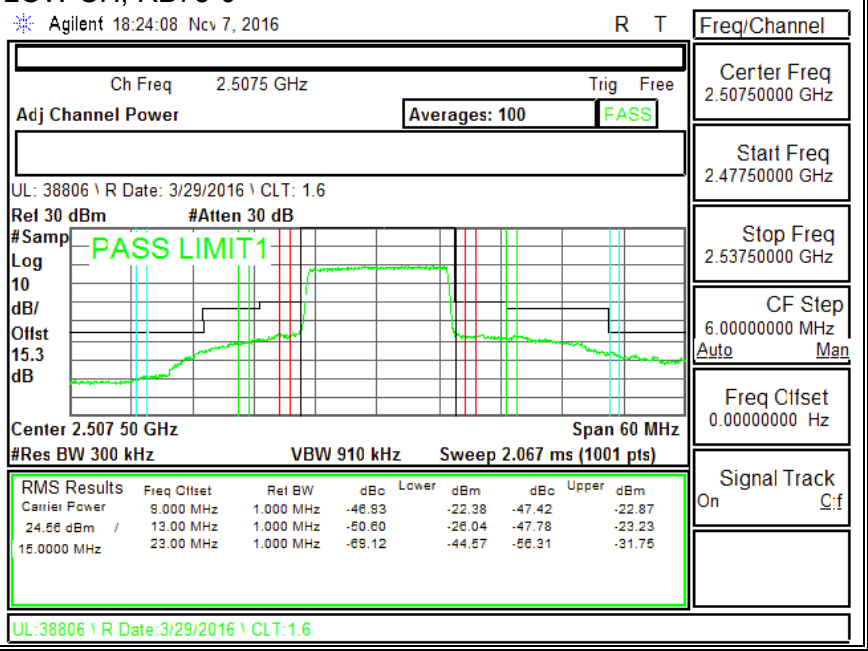
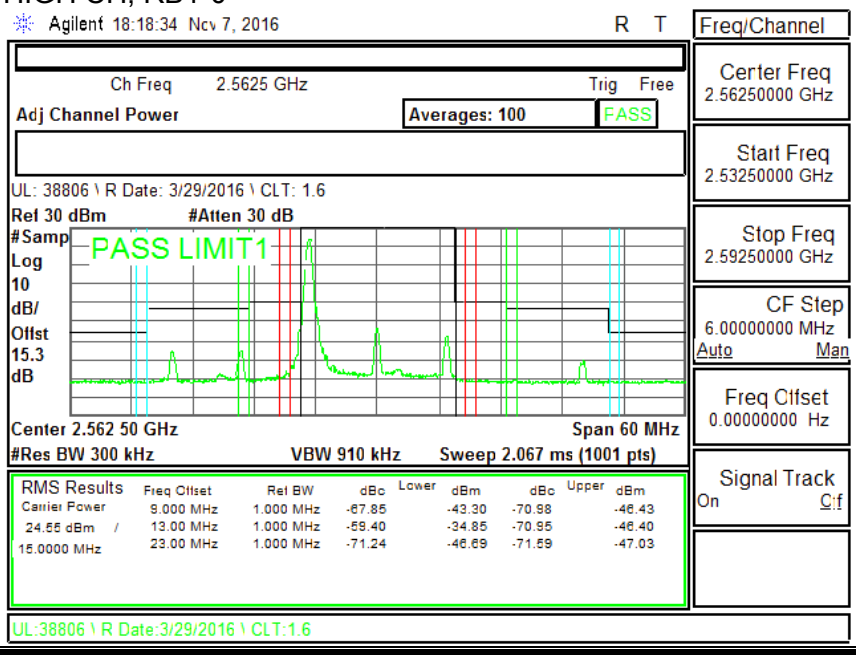
LOW CH, RB75-0



HIGH CH, RB1-0



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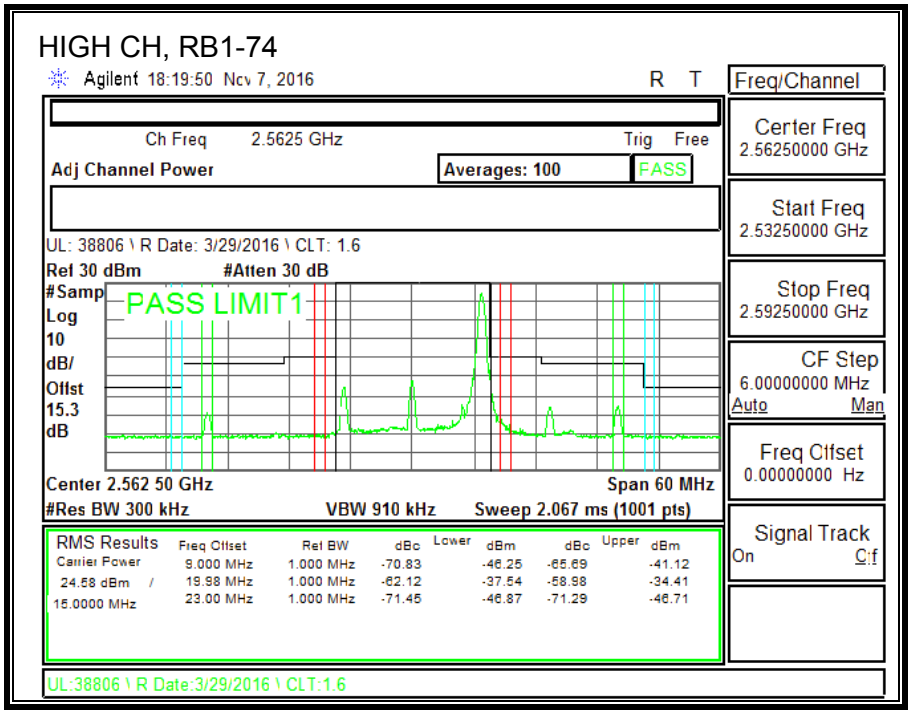

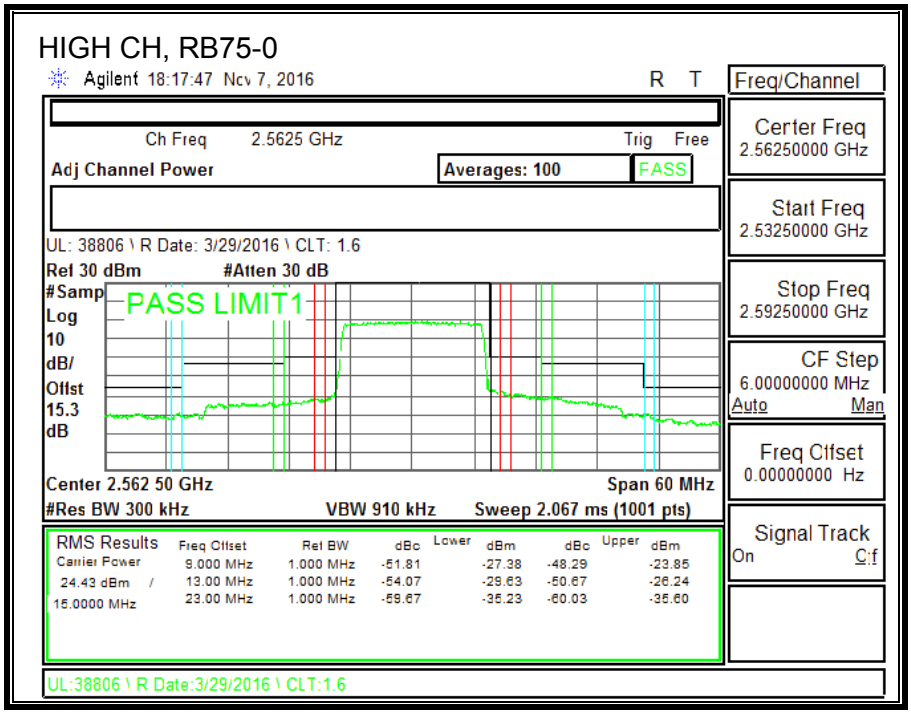

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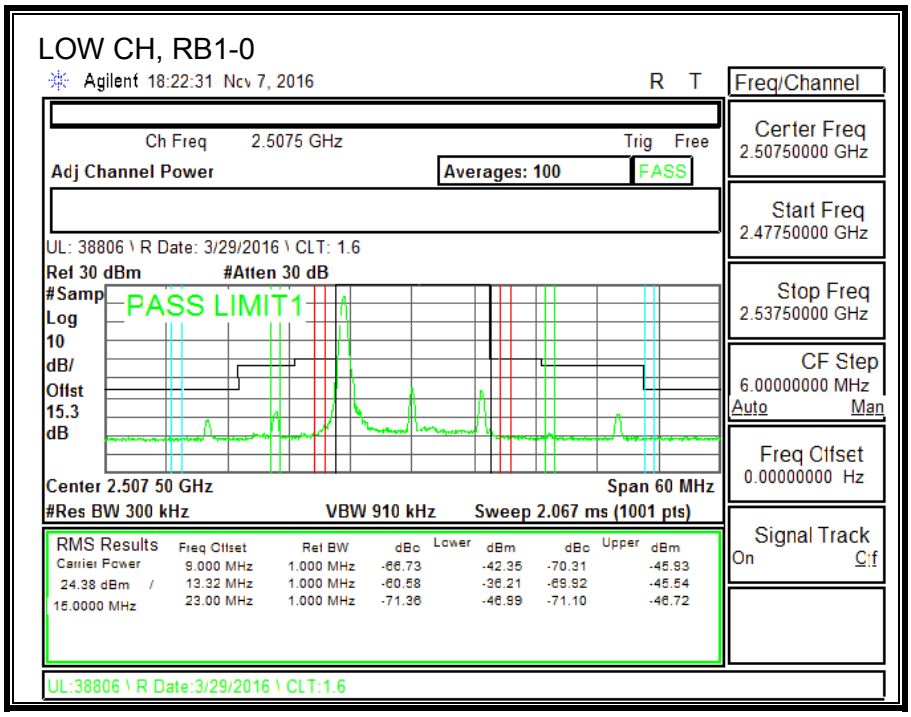
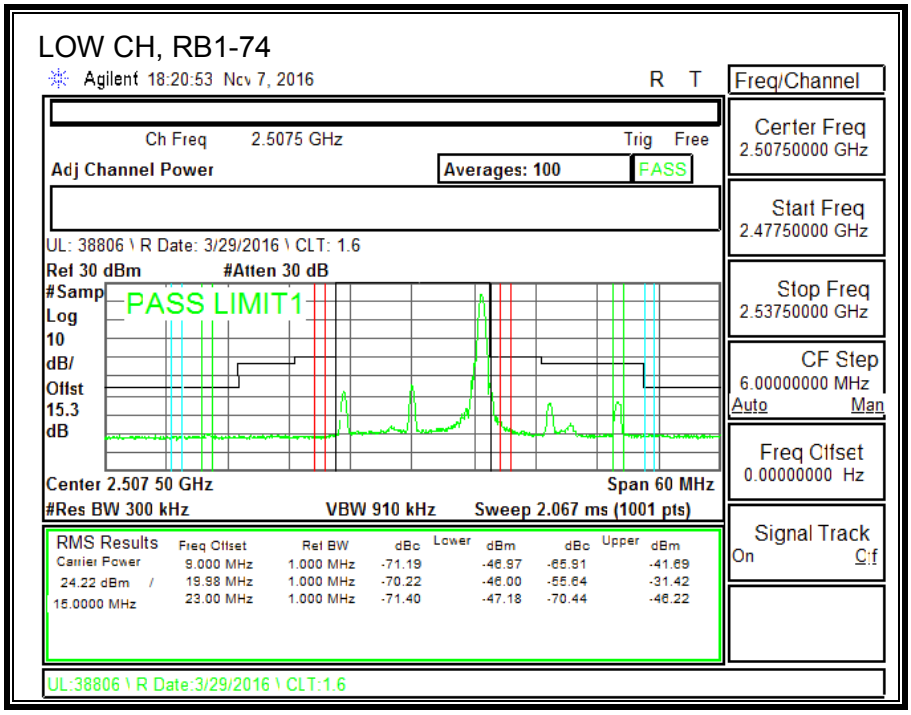
LTE BAND 7 16QAM, (15 MHz)





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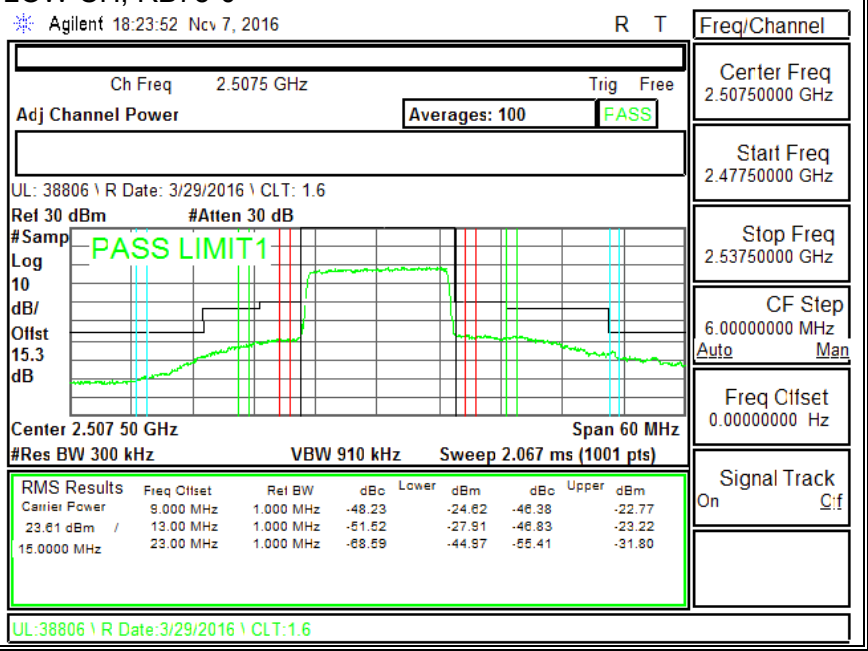
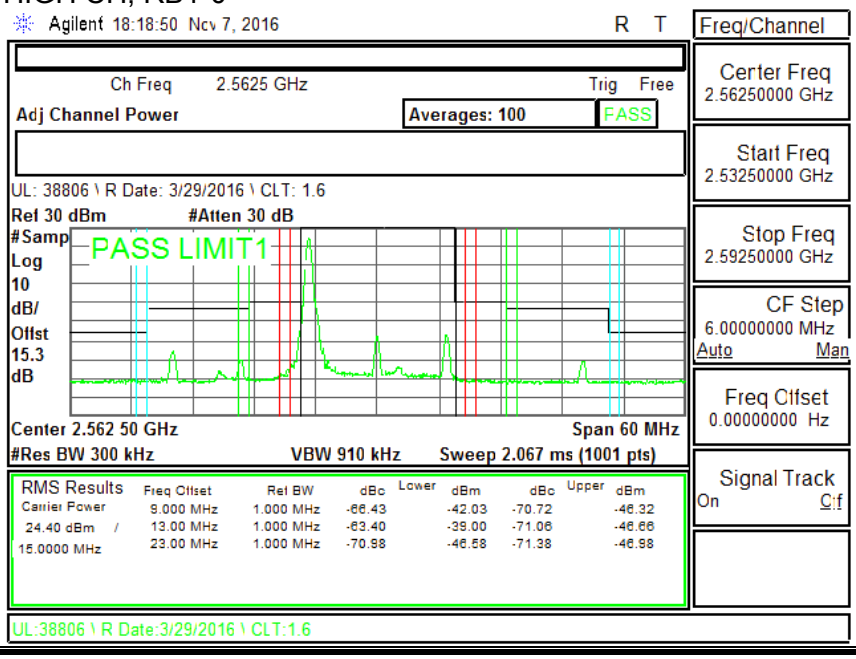
LOW CH, RB75-0



HIGH CH, RB1-0



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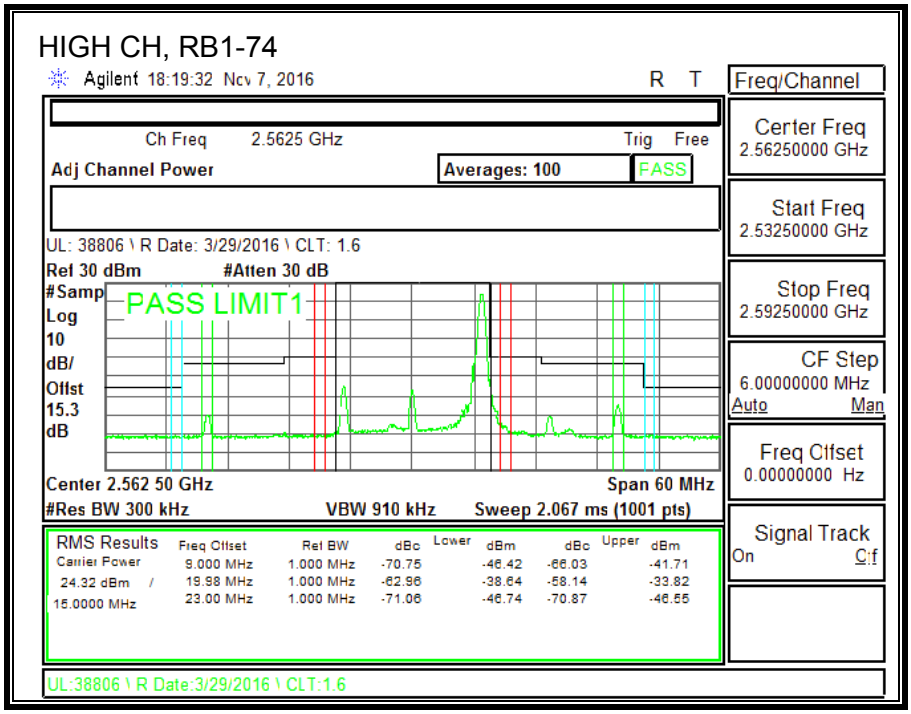

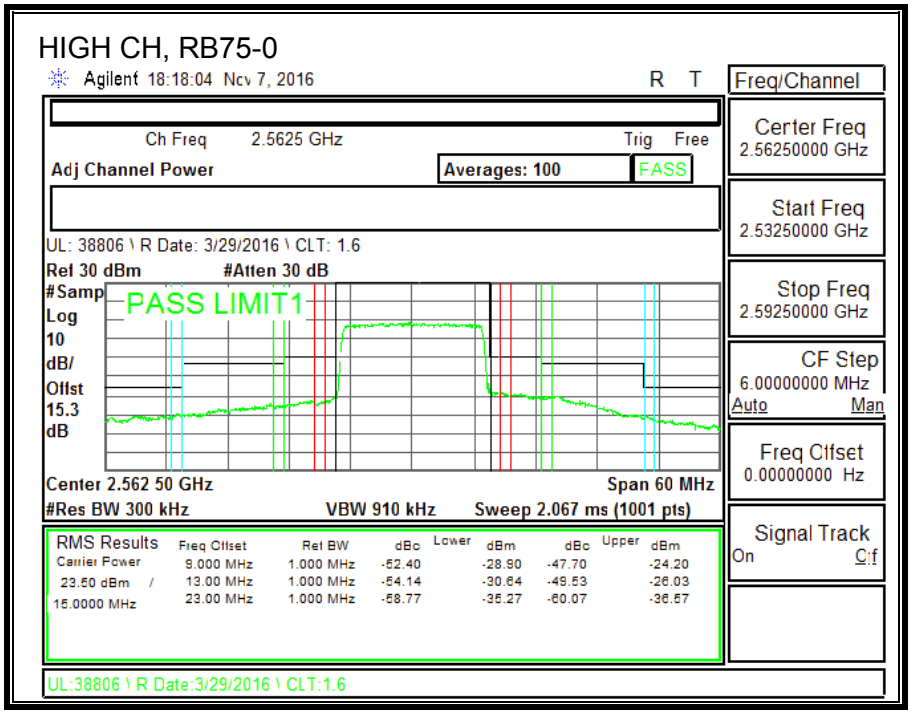

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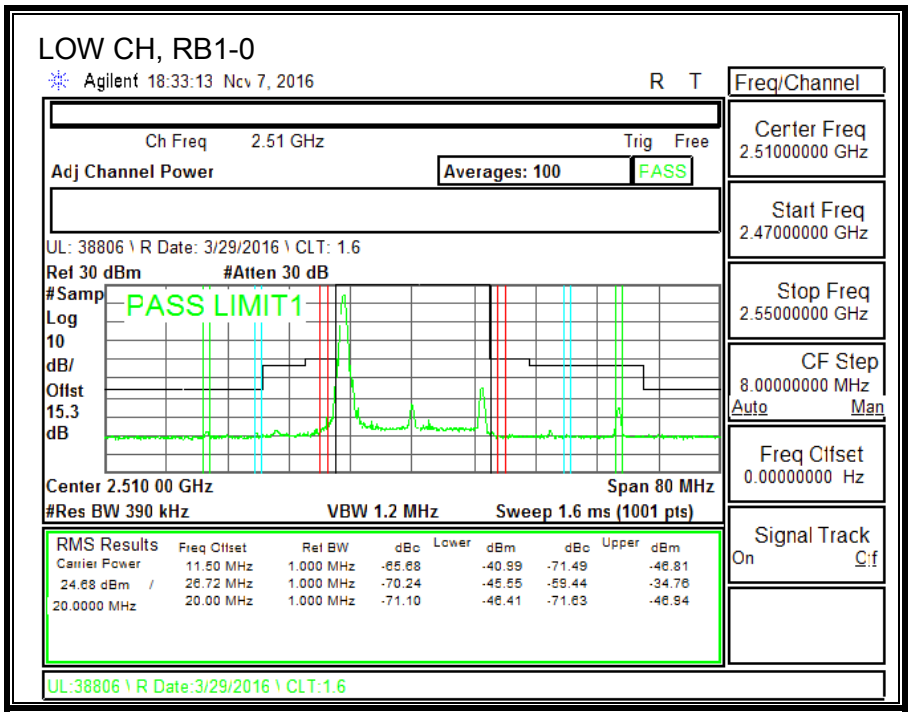
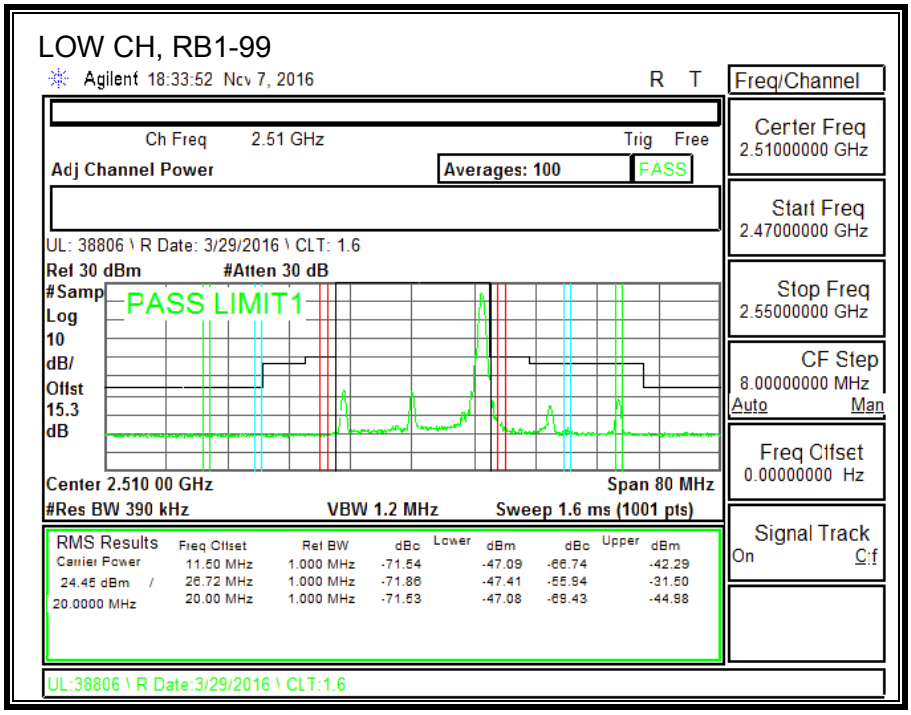
LTE BAND 7 QPSK, (20 MHz)





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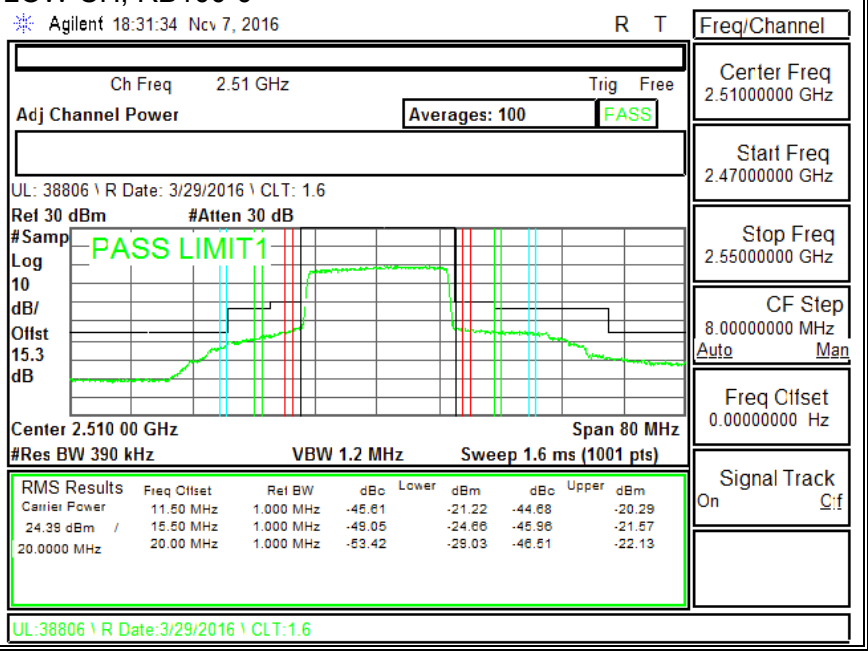
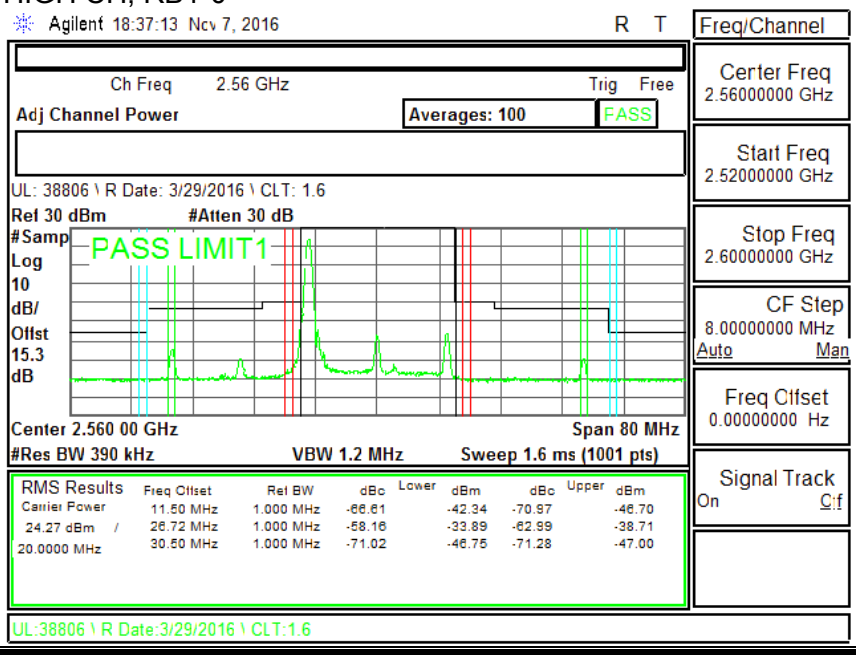
LOW CH, RB100-0



HIGH CH, RB1-0



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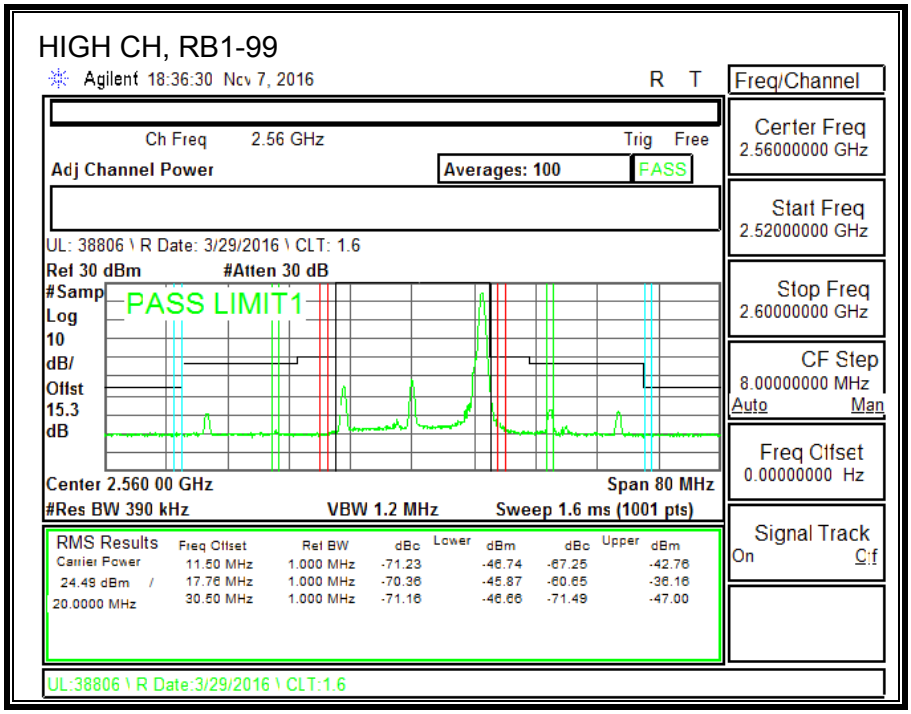

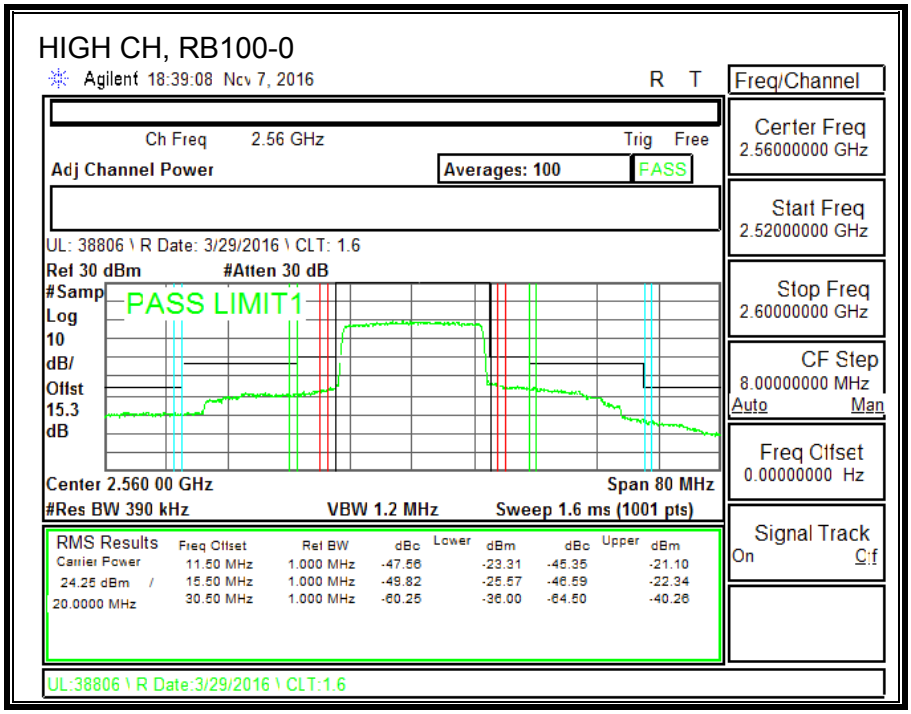

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