



FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

2.4 AND 5 GHz WIRELESS MODULE

MODEL NUMBER: 416549

FCC ID: A94416549

REPORT NUMBER: 14M19686-E2 Revision B

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Prepared for

**BOSE CORPORATION
100 THE MOUNTAIN ROAD
FRAMINGHAM, MA, 01701, USA**

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A	3/20/15	Updated page formats	F. de Anda
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: BOSE CORPORATION
100 THE MOUNTAIN ROAD
FRAMINGHAM, MA, 01701, USA

EUT DESCRIPTION: 2.4 AND 5 GHz WIRELESS MODULE

MODEL: 416549

SERIAL NUMBER: US-1(CONDUCTED), US-R1 (RADIATED)

DATE TESTED: JANUARY 20 – FEBRUARY 13, 2015

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	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.

Approved & Released For
UL Verification Services Inc. By:



FRANCISCO DE ANDA
WISE PROJECT LEADER
UL Verification Services Inc.

Tested By:



ERIC YU
EMC ENGINEER
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2009.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
<input type="checkbox"/> Chamber A	<input type="checkbox"/> Chamber D
<input type="checkbox"/> Chamber B	<input type="checkbox"/> Chamber E
<input type="checkbox"/> Chamber C	<input type="checkbox"/> Chamber F
	<input type="checkbox"/> Chamber G
	<input checked="" type="checkbox"/> Chamber H

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.52 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.94 dB
Radiated Disturbance, 1 to 6 GHz	± 3.86 dB
Radiated Disturbance, 6 to 18 GHz	± 4.23 dB
Radiated Disturbance, 18 to 26 GHz	± 5.30 dB
Radiated Disturbance, 26 to 40 GHz	± 5.23 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a 2.4 and 5 GHz Wireless Module.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	16.44	44.06
2412 - 2462	802.11g	16.13	41.02
2412 - 2462	802.11n HT20	15.4	34.67
2412 - 2462	802.11n HT20 MIMO	17.52	56.49
2422 - 2452	802.11n HT40	13.39	21.83

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a printed PCB etch antenna, with a maximum gain of 4.0 dBi.

EUT has two antenna ports. Port 0 and 1, Port 1 is used for SISO modes. Only 2.4GHz 11n HT20 mode supports MIMO. Others are SISO.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 8.0.3.18697.1059216

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

All final radiated testing was performed with the EUT in X-orientation.

Worst-case data rates as provided by the client were:

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT20mode MIMO: MCS12
802.11n HT40mode: MCS0

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	2349CW5	PBE5C1R	N/A
AC/DC Adapter #1	Lenovo	ADLX65NLT2A	11S45N0319Z1ZLZF38M5M0	N/A
AC/DC Adapter #2	Intertek	S024RU1700100	344666-0020	N/A

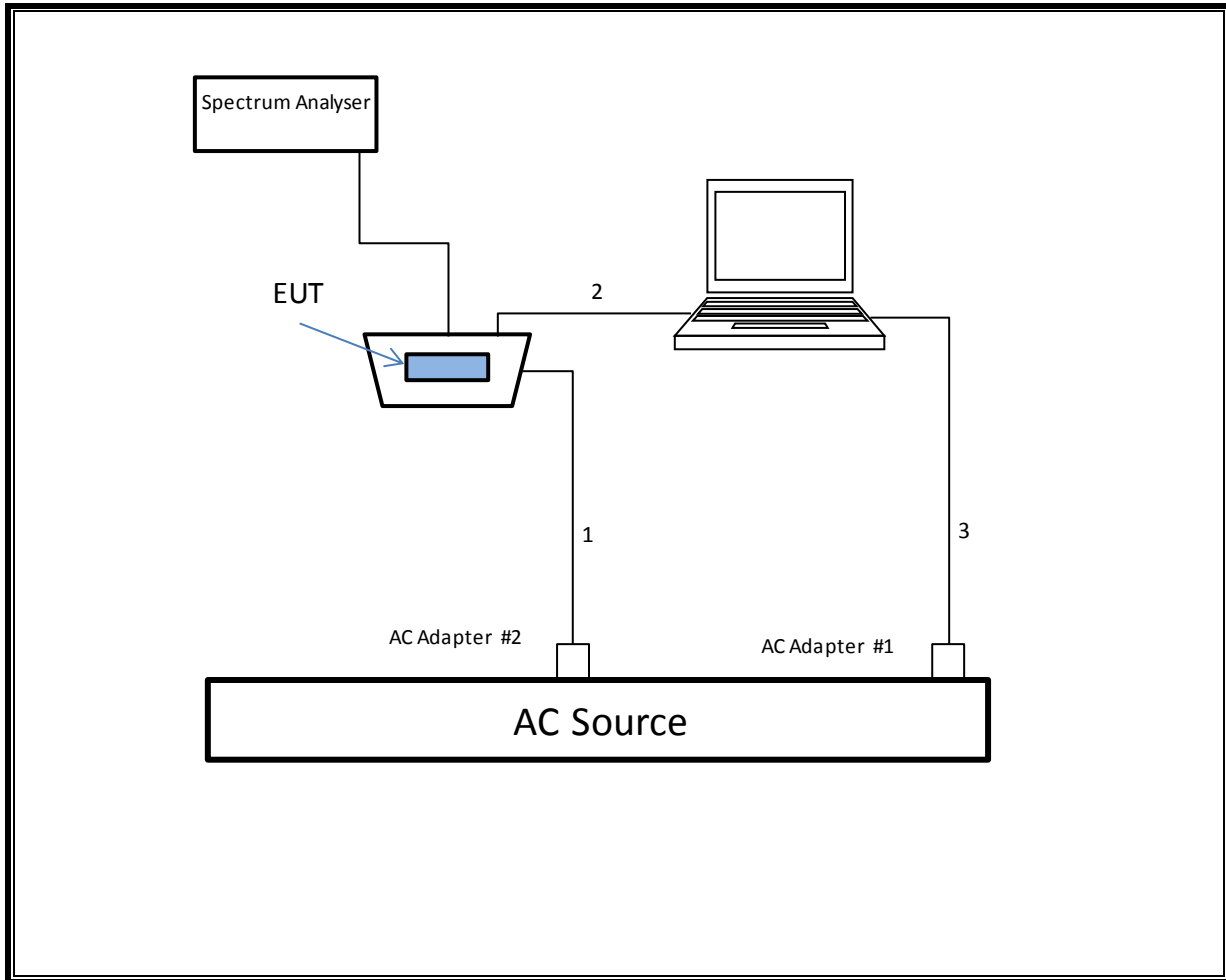
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC	1	Barrel	Un-Shielded	1.5	N/A
2	USB/Serial	1	USB	Un-Shielded	0.5	N/A
3	DC	1	Barrel	Un-Shielded	1	N/A
4	DATA	1	edge	Shielded	0.2	Ribbon cable

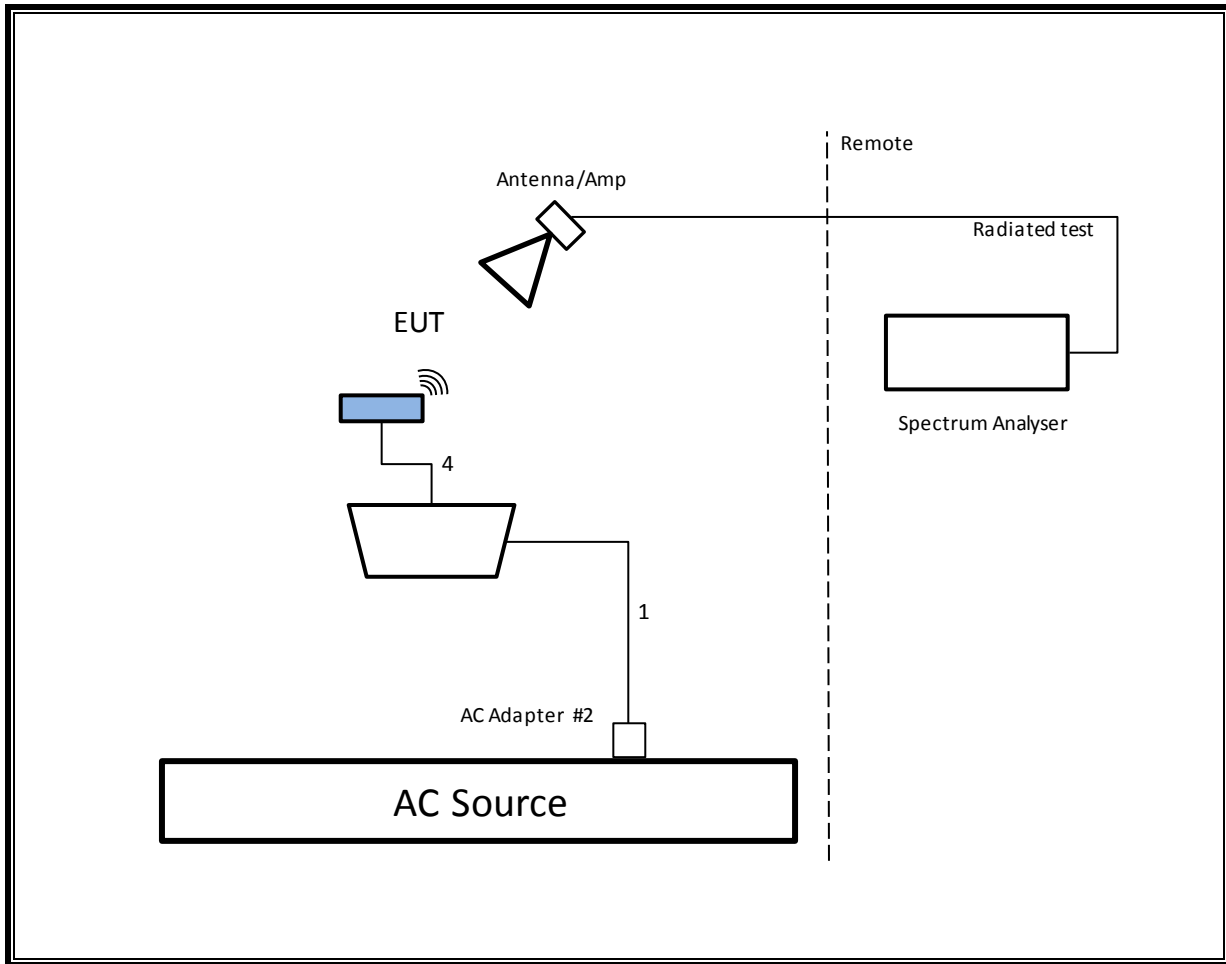
TEST SETUP

The EUT is a module connected to a test box and linked to host laptop computer via serial-to-USB interface. Test software exercised the radio card.

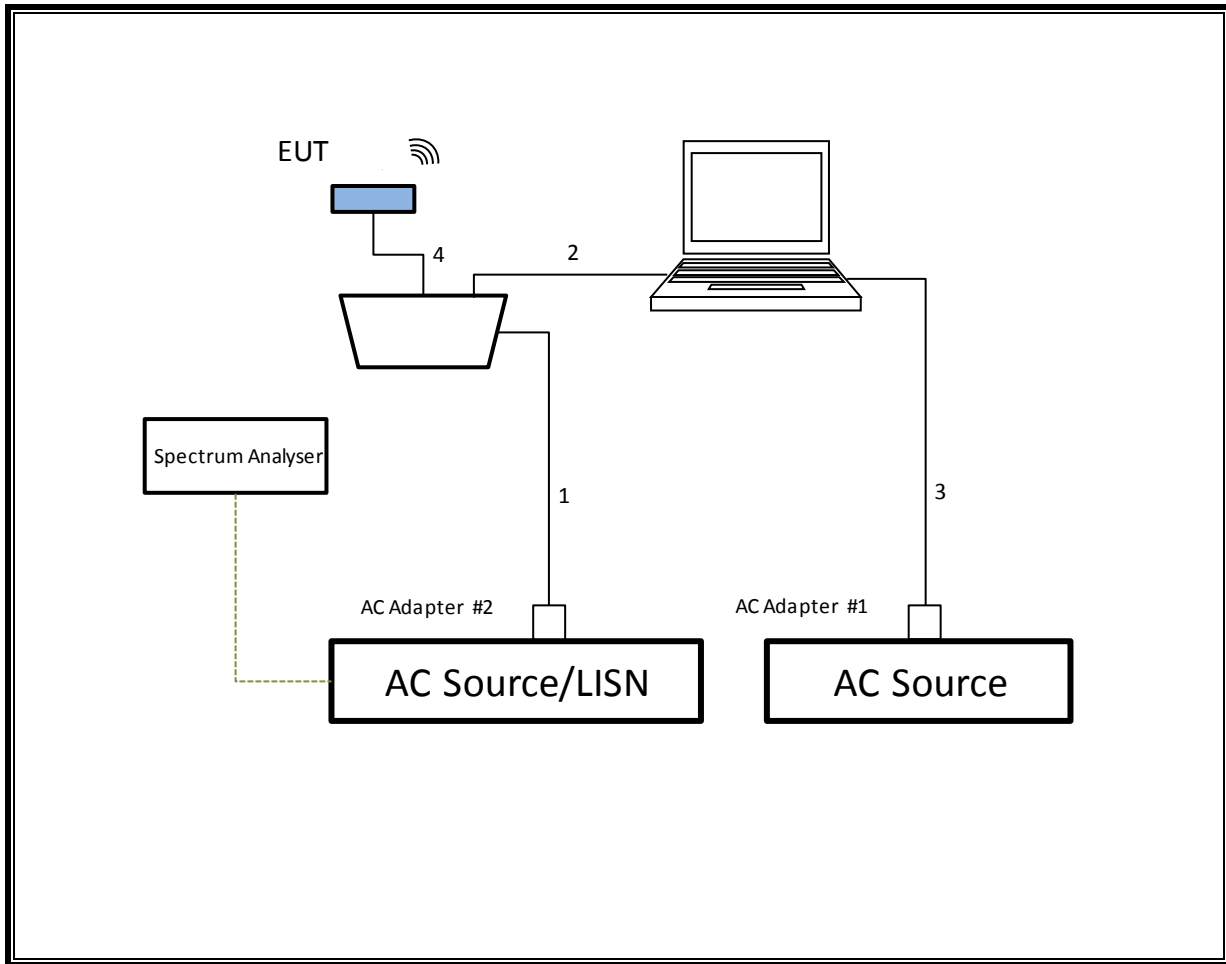
CONDUCTED PORT SETUP DIAGRAM FOR TESTS



RADIATED SETUP DIAGRAM FOR TESTS



LC SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List					
Description	Manufacturer	Model	T No.	Cal Date	Cal Due
Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014		
Radiated					
Antenna, Horn 18 GHz	ETS Lindgren	3117	863	04/14/14	04/14/15
Antenna, Biconolog, 30MHz-1GH	Sunol Sciences	JB3	900	05/14/14	04/27/15
RF PreAmplifier, 1-18GHz	Miteq	12-00101800-25-3	495	06/05/14	06/05/15
Preamp, 1000MHz	Sonoma	310N	835	06/05/14	06/05/15
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	906	05/07/14	05/07/15
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	339	1/21/2015	1/21/2016
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	477	5/27/2014	5/29/2015
Antenna, Horn 1-18GHz	ETS Lindgren	3117	120	3/20/2014	3/20/2015
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	173	6/7/2014	6/7/2015
Amplifier, 1 - 18GHz	Miteq	AFS42-00101800-25-S-42	742	1/31/2014	1/31/2016
Conducted					
Spectrum Analyzzer	Agilent	E4440A	189	05/09/14	05/09/15
Power Meter, P-series single channel	Agilent	N1911A	382	04/09/14	04/09/15
Power Sensor, Peak and average, 50 MHz to 6 GHz, 5 MHz BW	Agilent	E9323A	400	05/02/14	05/02/15
LISN	FCC	50/250-25-2	C00626	01/16/15	01/16/16

7. MEASUREMENT METHODS

6 dB BW: KDB 558074 D01 v03r02, Section 8.1.

Output Power: KDB 558074 D01 v03r01, Section 9.2.3.

Power Spectral Density: KDB 558074 D01 v03r01, Section 10.3.

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v03r02, Section 11.0.

Out-of-band emissions in restricted bands: KDB 558074 D01 v03r02, Section 12.2.7.

Conducted BE: KDB 558074 D01 v03r02, Section 13.3.2

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

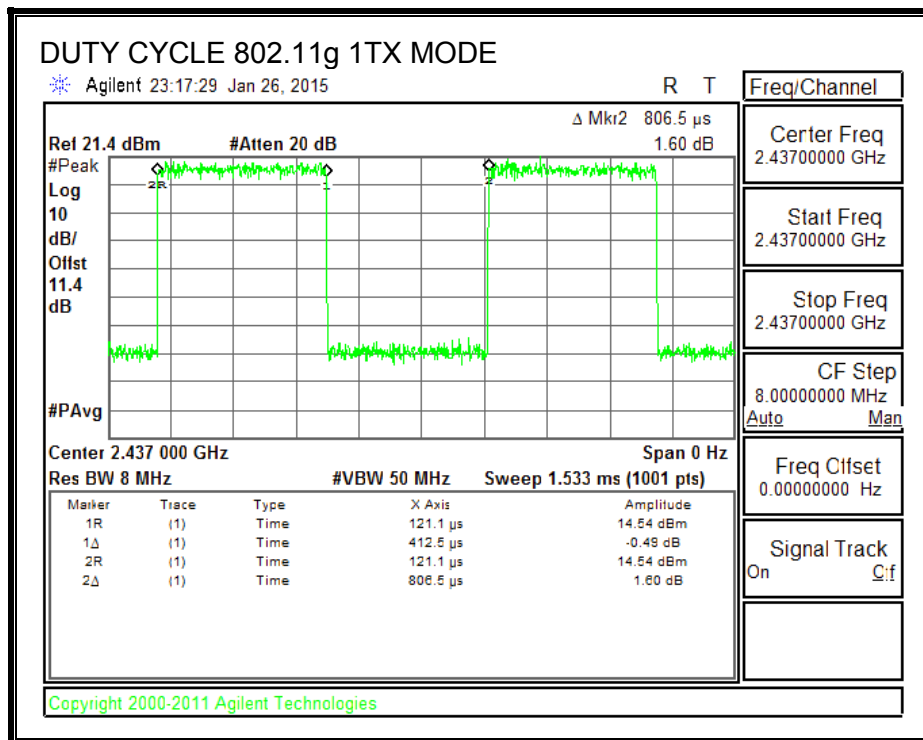
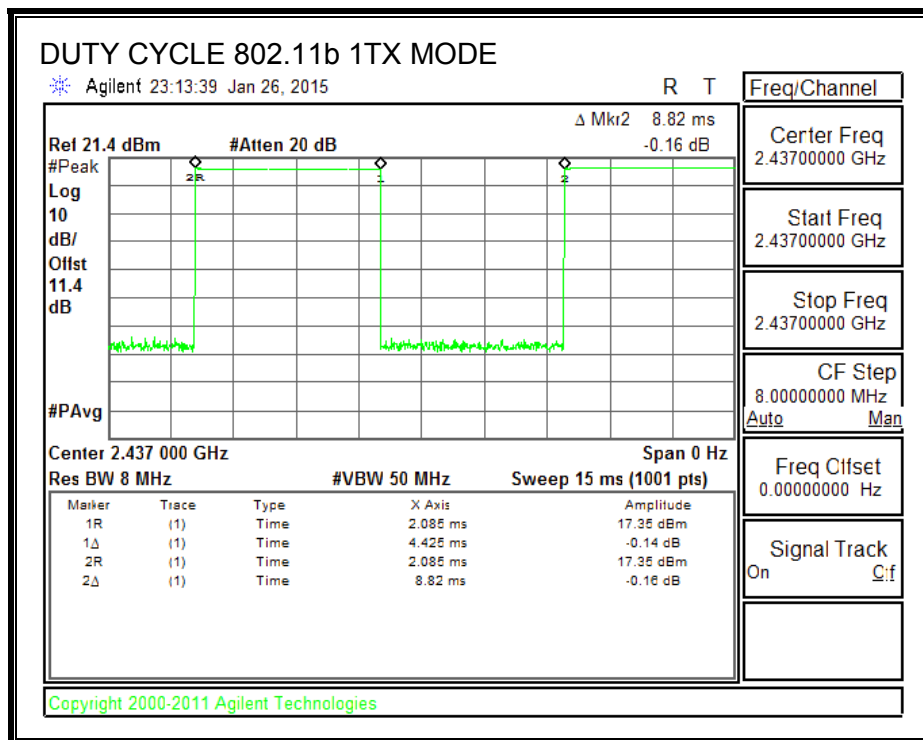
KDB 558074 Zero-Span Spectrum Analyzer Method.

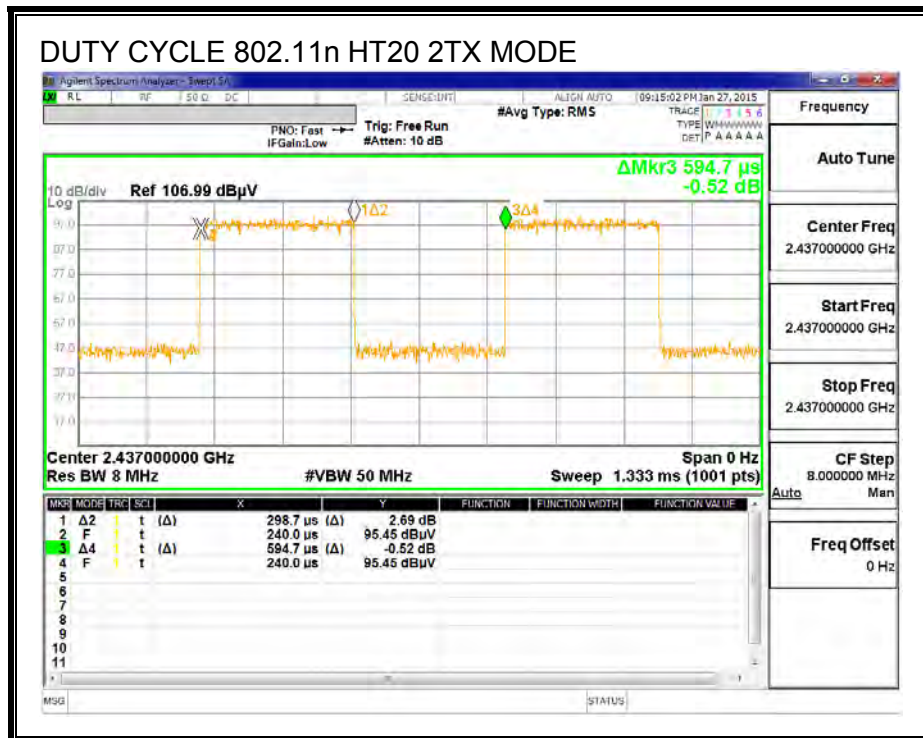
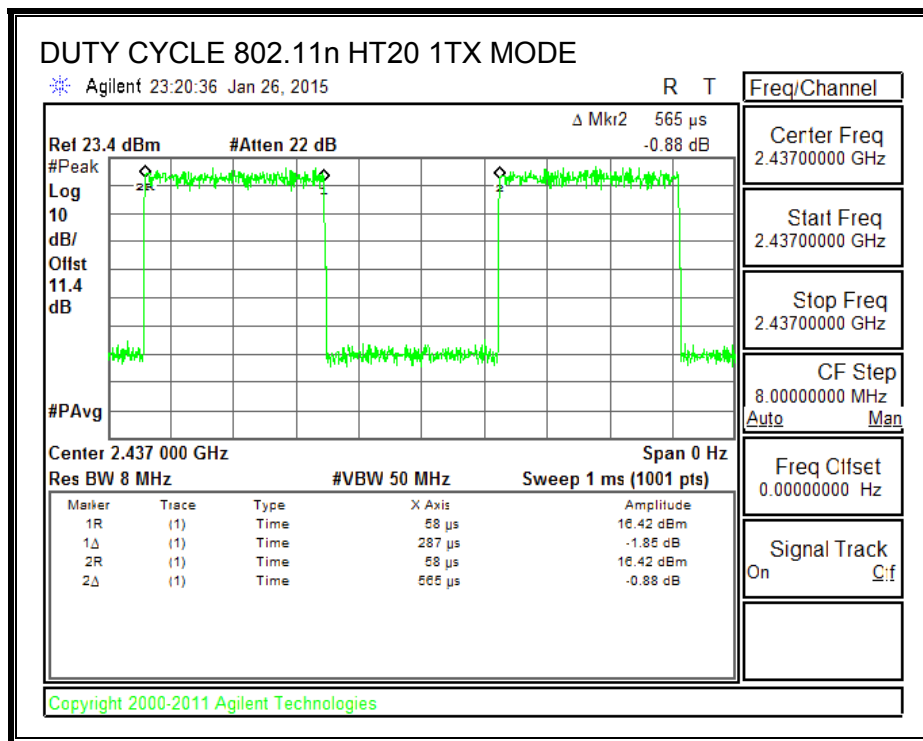
ON TIME AND DUTY CYCLE RESULTS

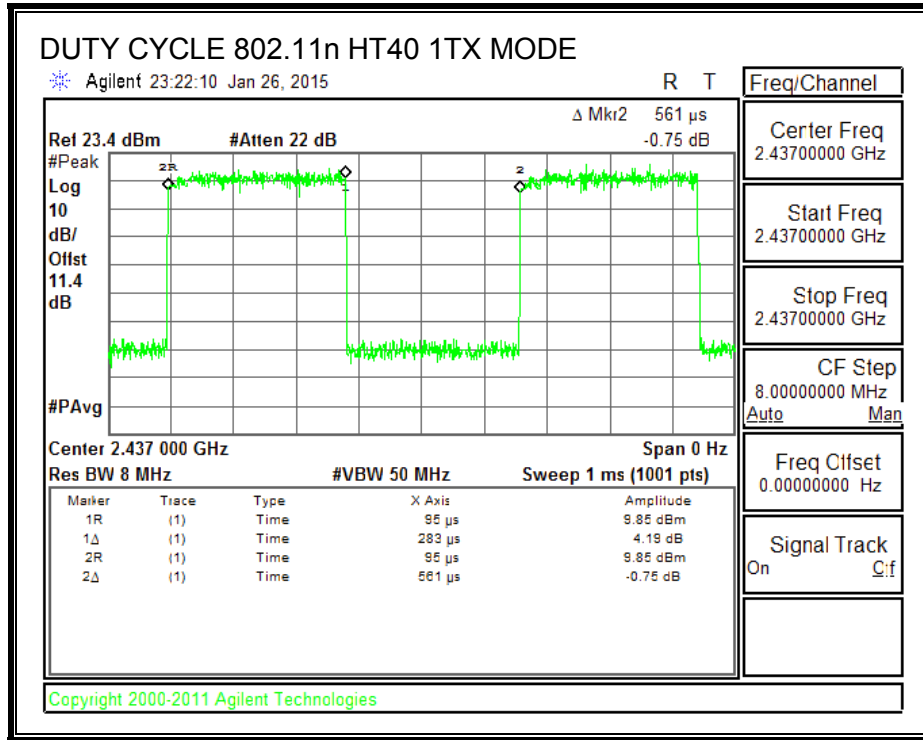
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.11b 1TX	4.425	8.820	0.502	50.17%	3.00	0.226
802.11g 1TX	0.413	0.807	0.511	51.15%	2.91	2.424
802.11n HT20 1TX	0.287	0.565	0.508	50.80%	2.94	3.484
802.11n HT20 2TX	0.299	0.595	0.502	50.23%	2.99	3.348
802.11n HT40 1TX	0.283	0.561	0.504	50.45%	2.97	3.534

DUTY CYCLE PLOTS

2.4 GHz BAND







8.2. 802.11b MODE IN THE 2.4 GHz BAND

8.2.1. 6 dB BANDWIDTH

LIMITS

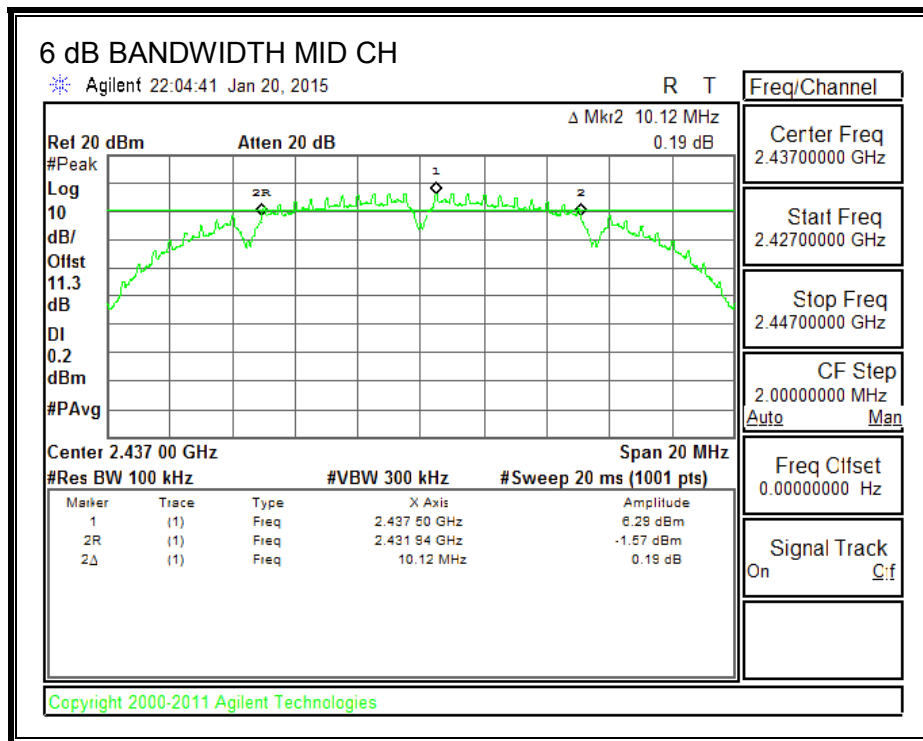
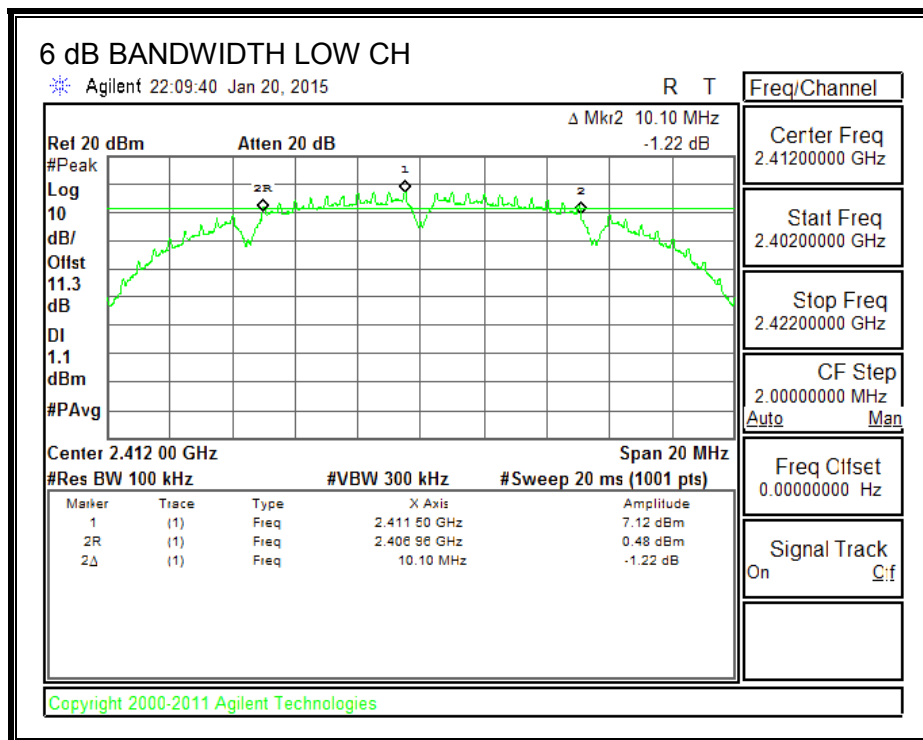
FCC §15.247 (a) (2)

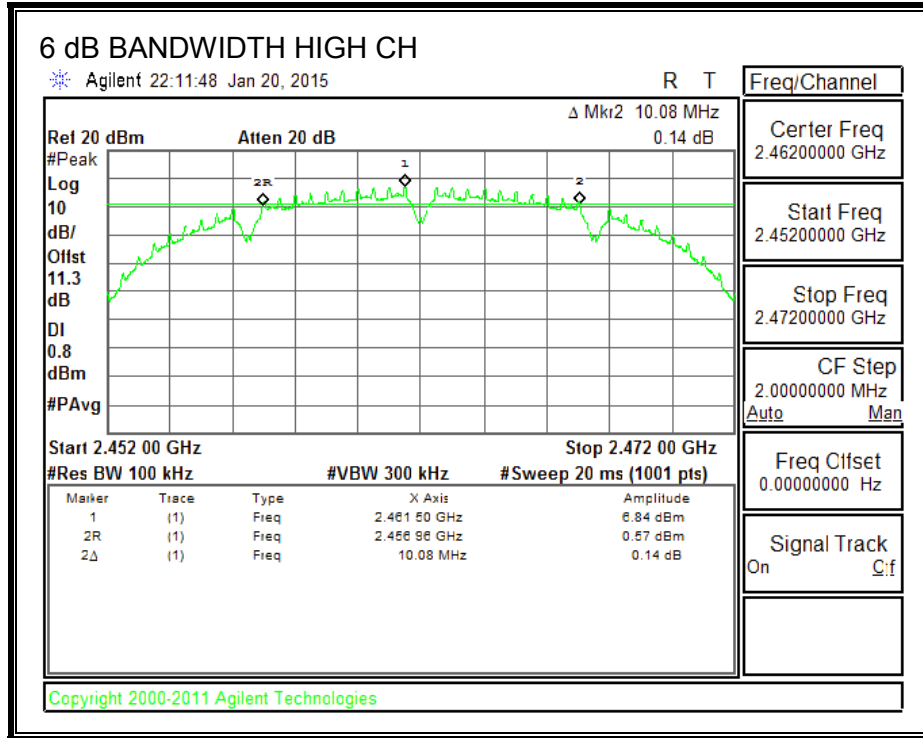
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	10.100	0.5
Mid	2437	10.120	0.5
High	2462	10.080	0.5

6 dB BANDWIDTH





8.2.2. OUTPUT POWER

LIMITS

FCC §15.247

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	Max Power (dBm)
Low	2412	4.00	30.00	30.00
Mid	2437	4.00	30.00	30.00
High	2462	4.00	30.00	30.00

Duty Cycle CF (dB)	3.00	Included in Calculations of Corr'd Power
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Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	13.44	16.44	30.00	-13.56
Mid	2437	13.22	16.22	30.00	-13.78
High	2462	12.83	15.83	30.00	-14.17

8.2.3. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

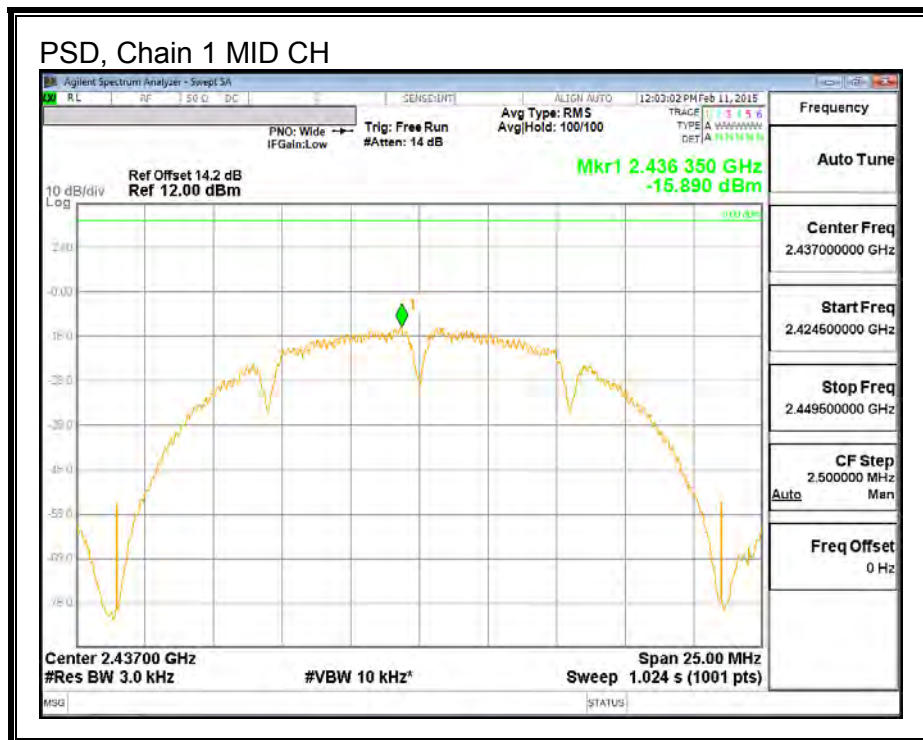
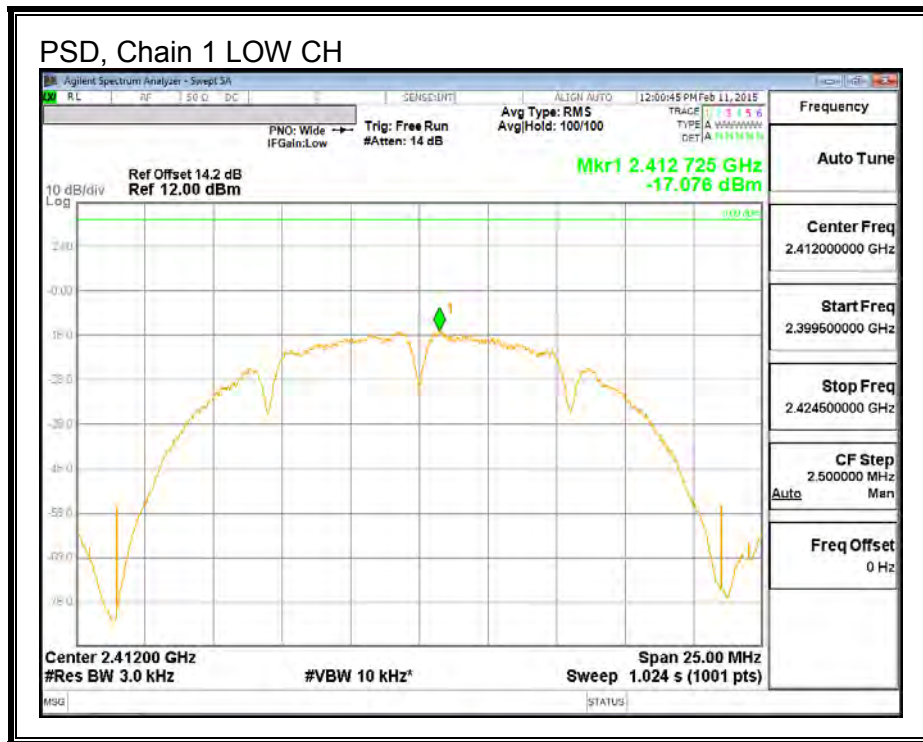
RESULTS

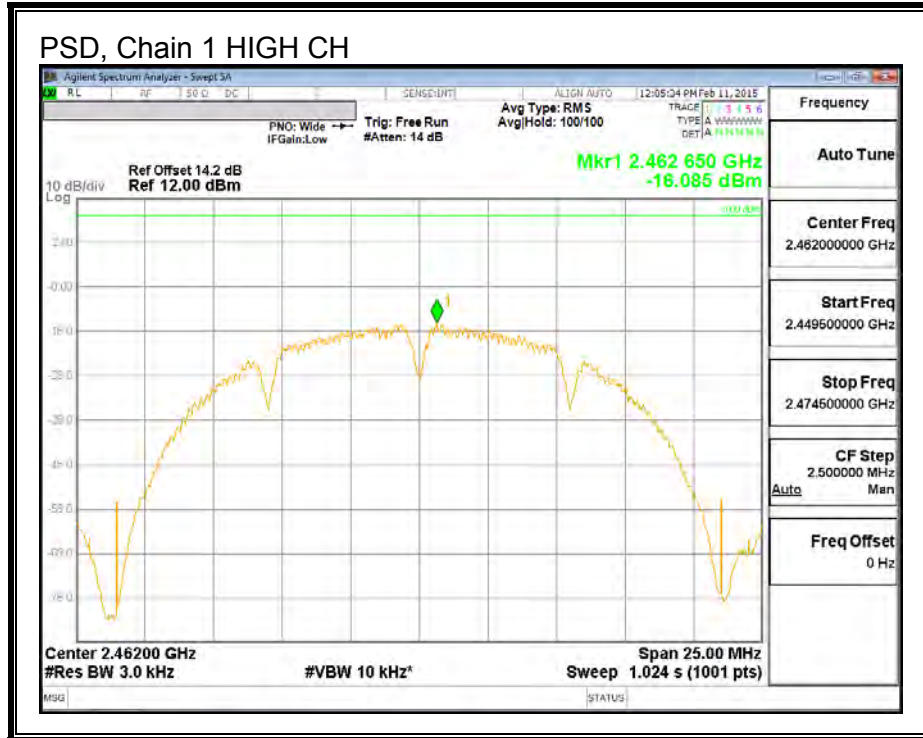
PSD Results

Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-17.08	-17.08	8.0	-25.1
Mid	2437	-15.59	-15.59	8.0	-23.6
High	2462	-16.09	-16.09	8.0	-24.1

Duty Cycle correction factor Included in Measurement

PSD, Chain 1





8.2.4. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

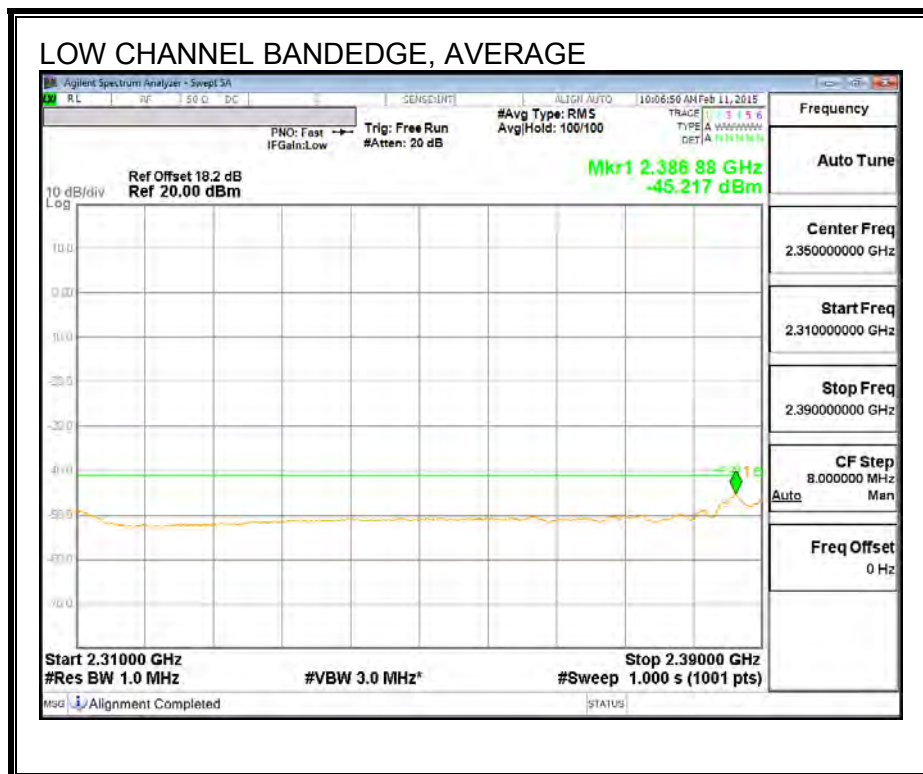
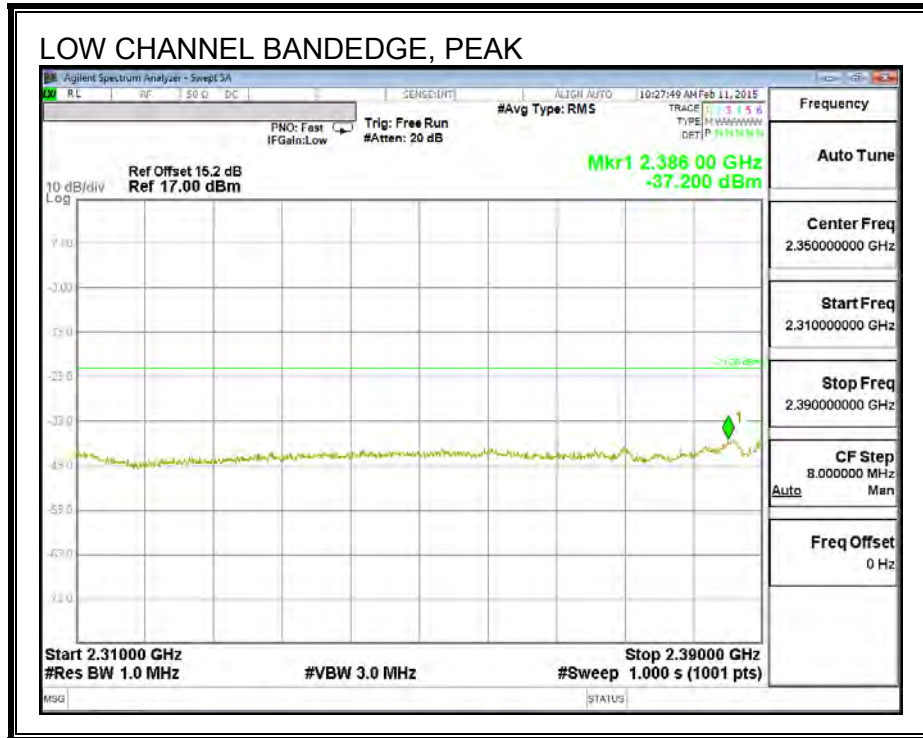
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

PROCEDURE

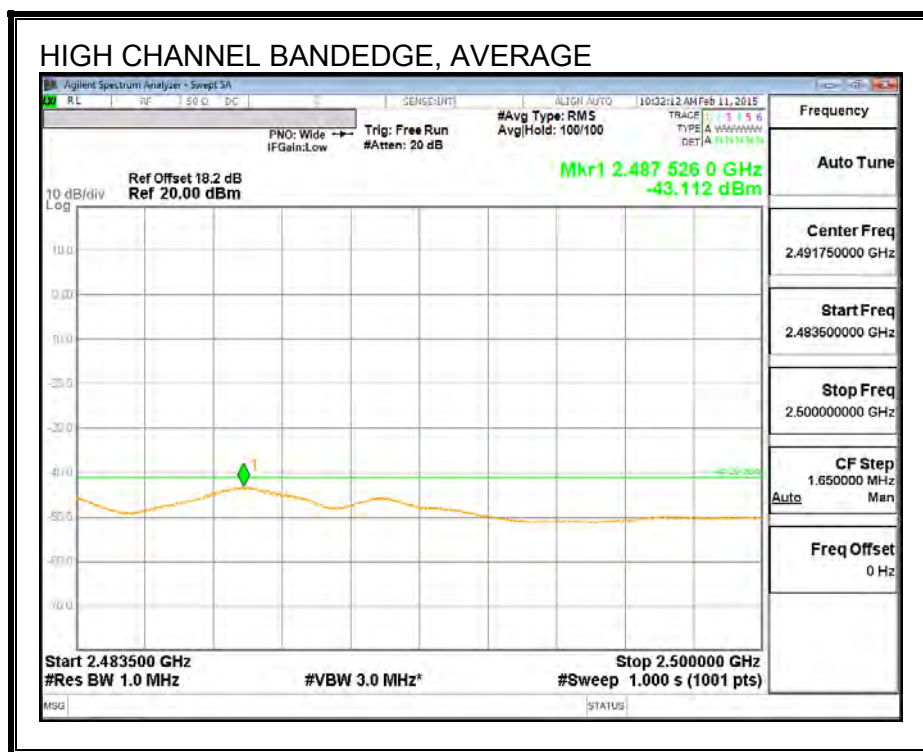
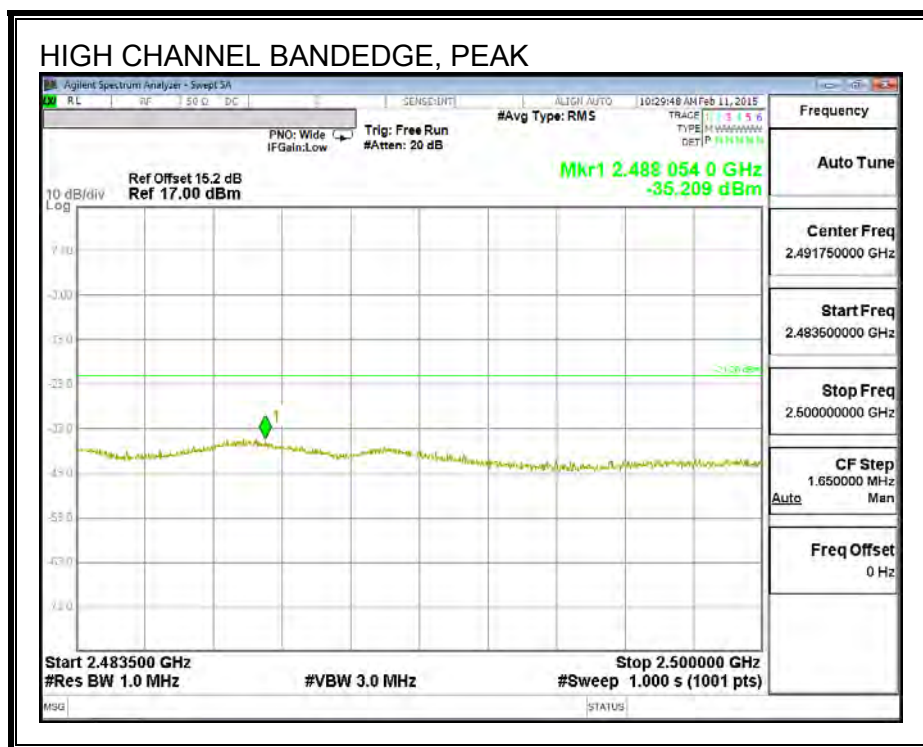
Conducted BE measurements are being used to demonstrate compliance with the spurious limits in the restricted band. §15.209 limits are 54dBuV/m average and 74dBuV/m peak, which are equivalent to eirp of -41.2 dBm and -21.2dBm respectively. The plots include an offset to account for the EUT antenna gain, Duty cycle correction and external attenuation between EUT antenna port and spectrum analyzer.

RESULTS

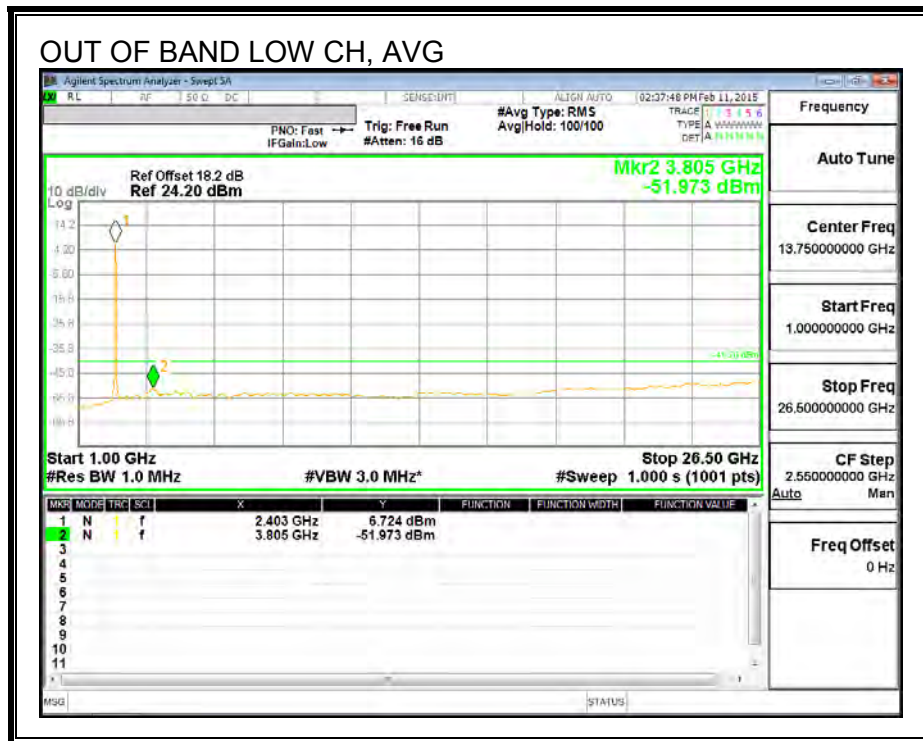
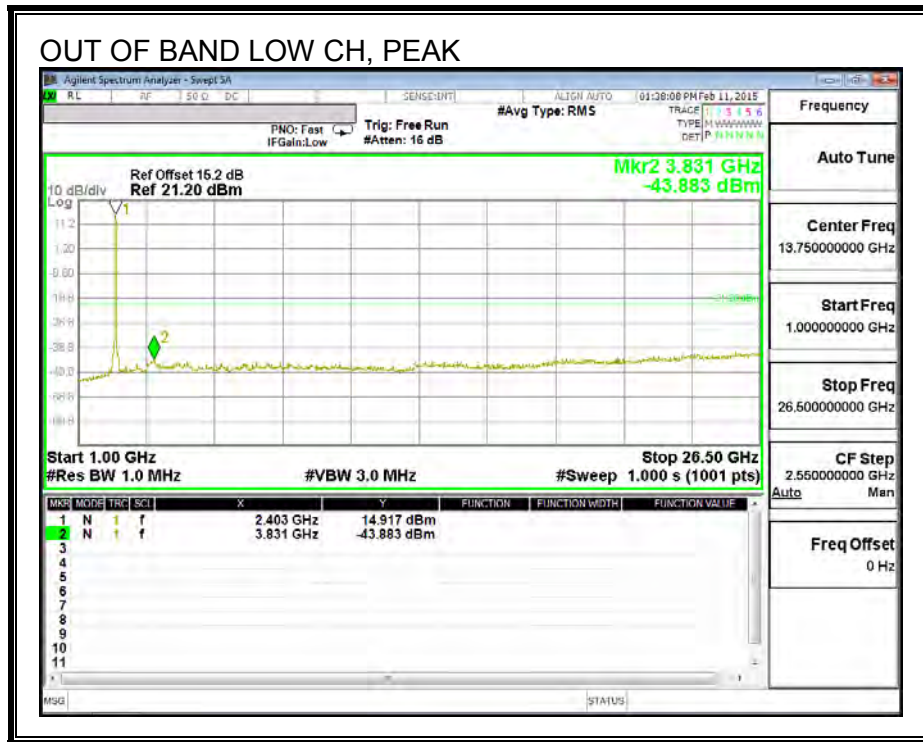
AUTHORIZED BANDEDGE (LOW CHANNEL)

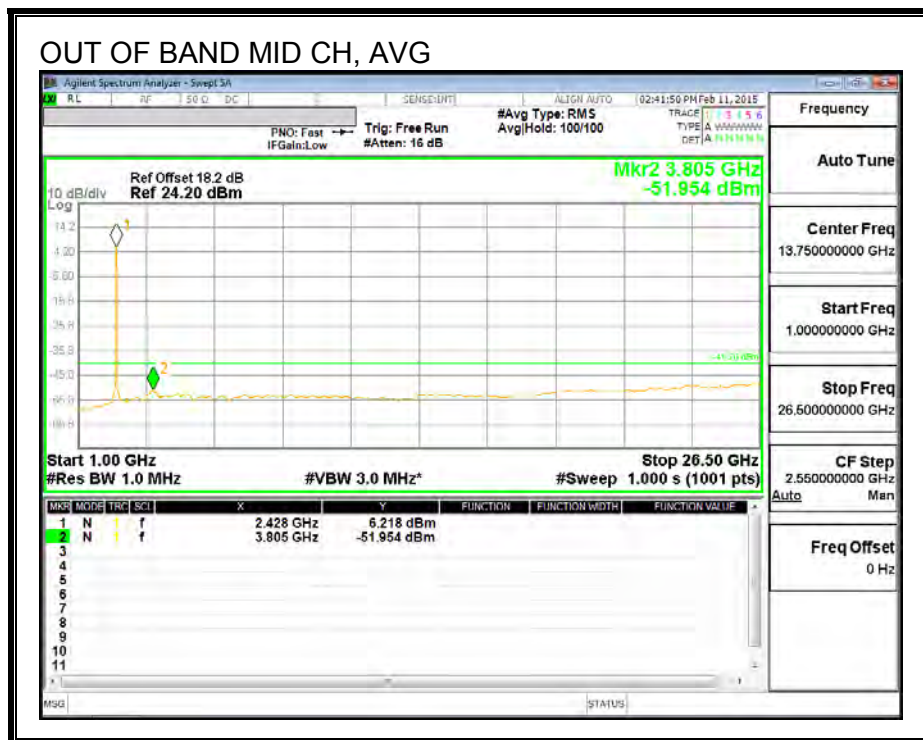
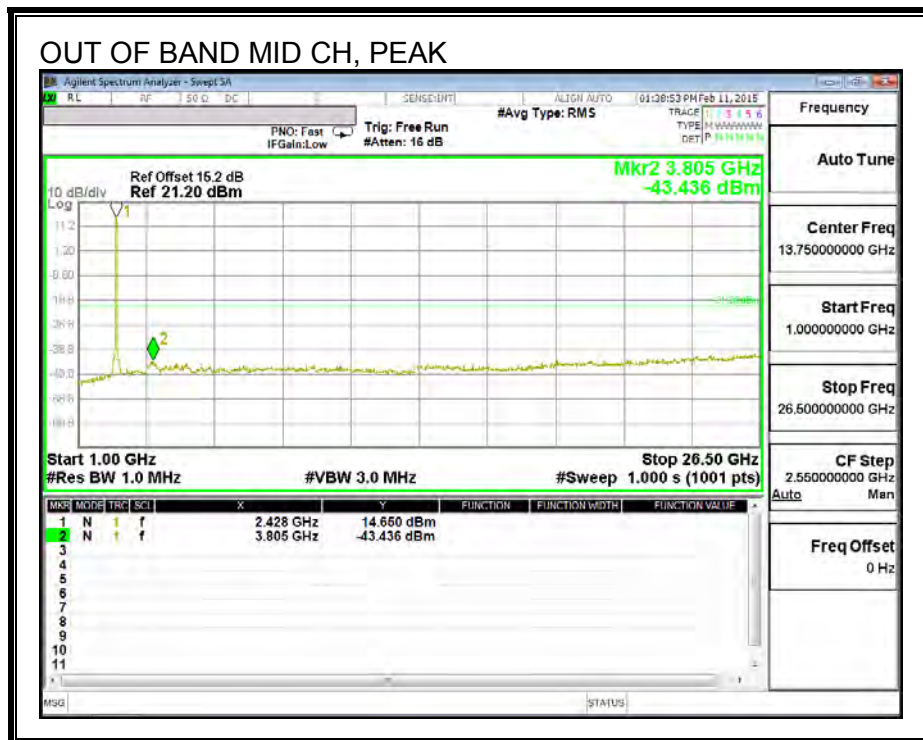


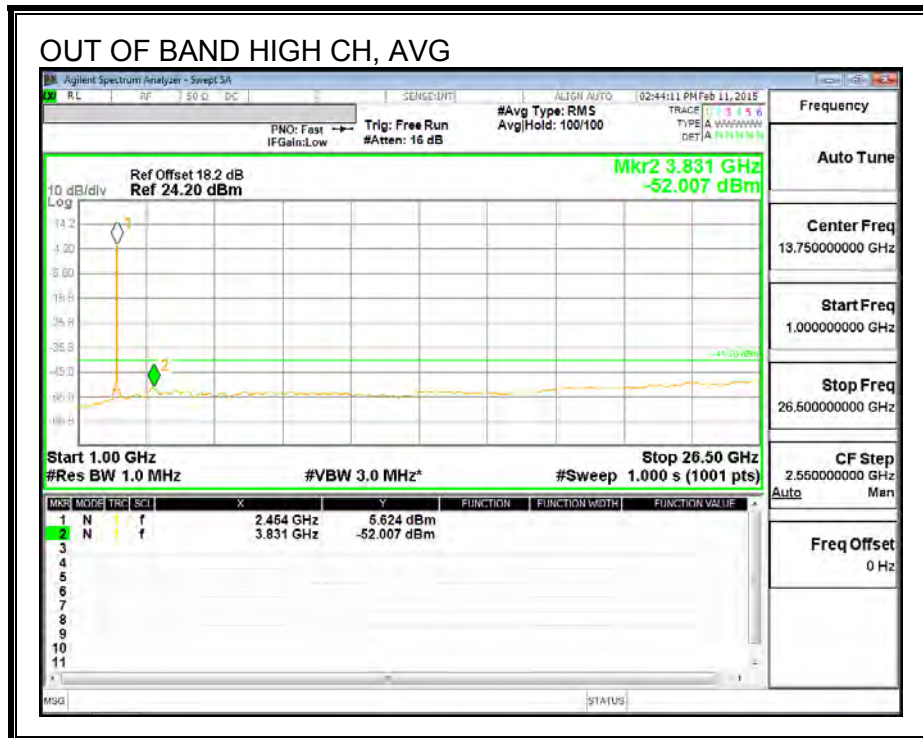
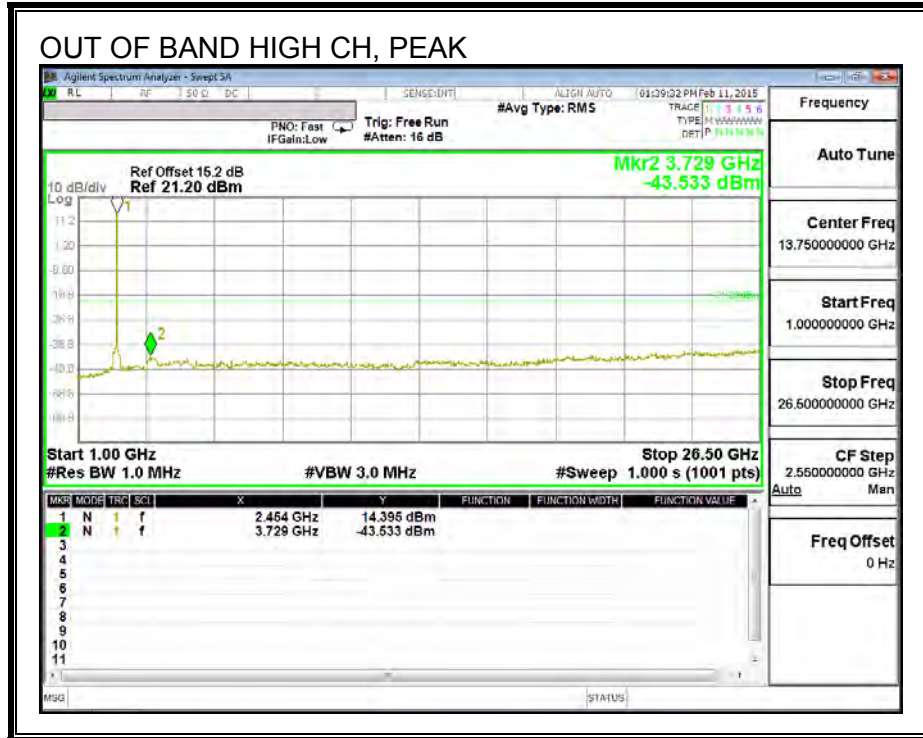
AUTHORIZED BANDEDGE (HIGH CHANNEL)



OUT-OF-BAND EMISSIONS







8.3. 802.11g MODE IN THE 2.4 GHz BAND

8.3.1. 6 dB BANDWIDTH

LIMITS

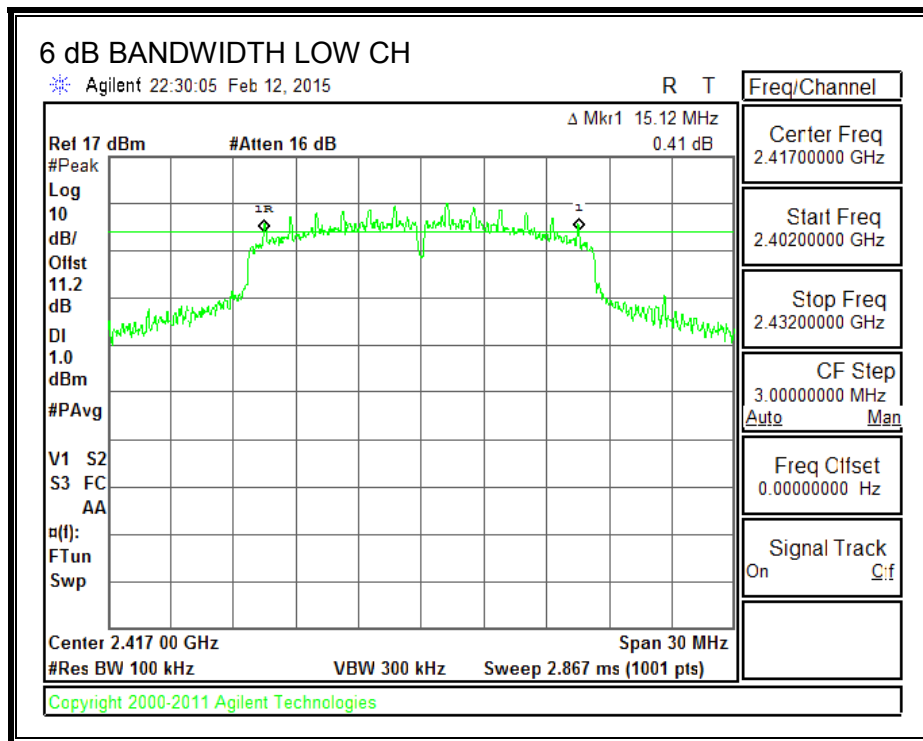
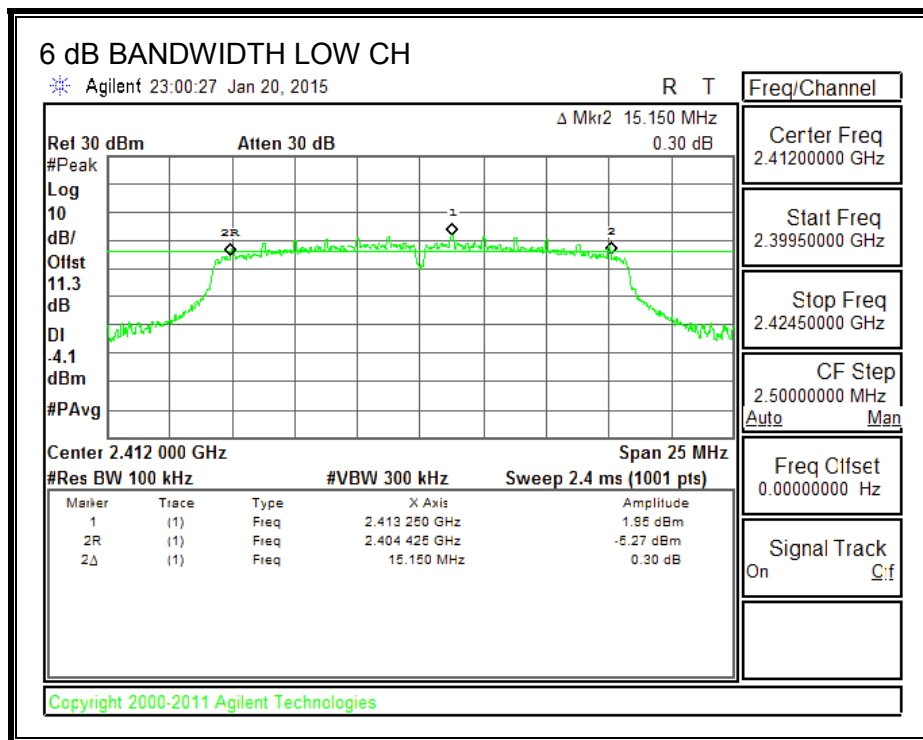
FCC §15.247 (a) (2)

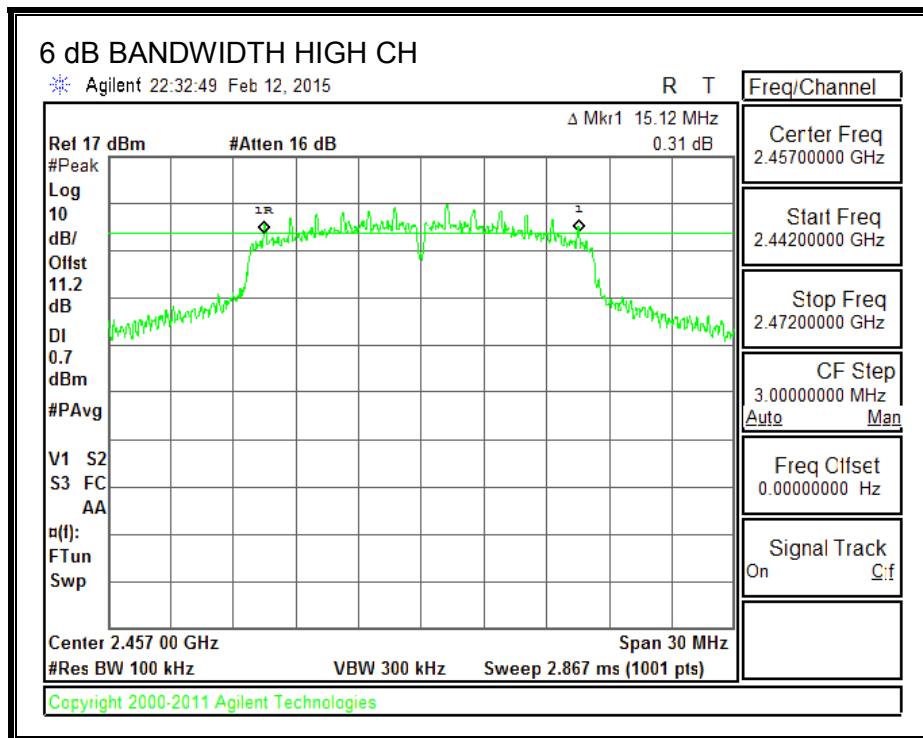
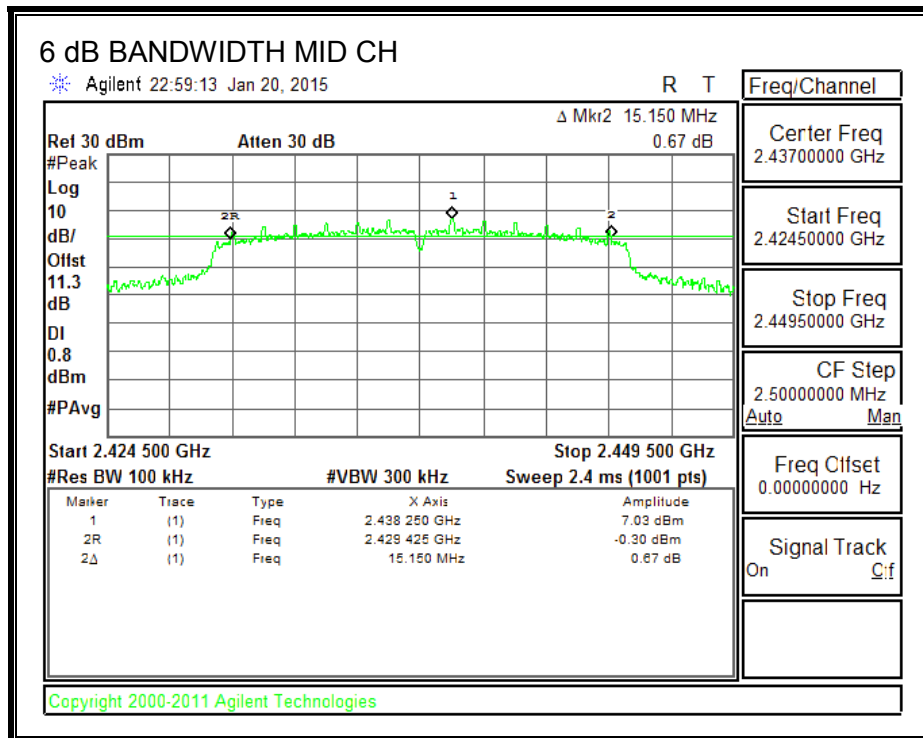
The minimum 6 dB bandwidth shall be at least 500 kHz.

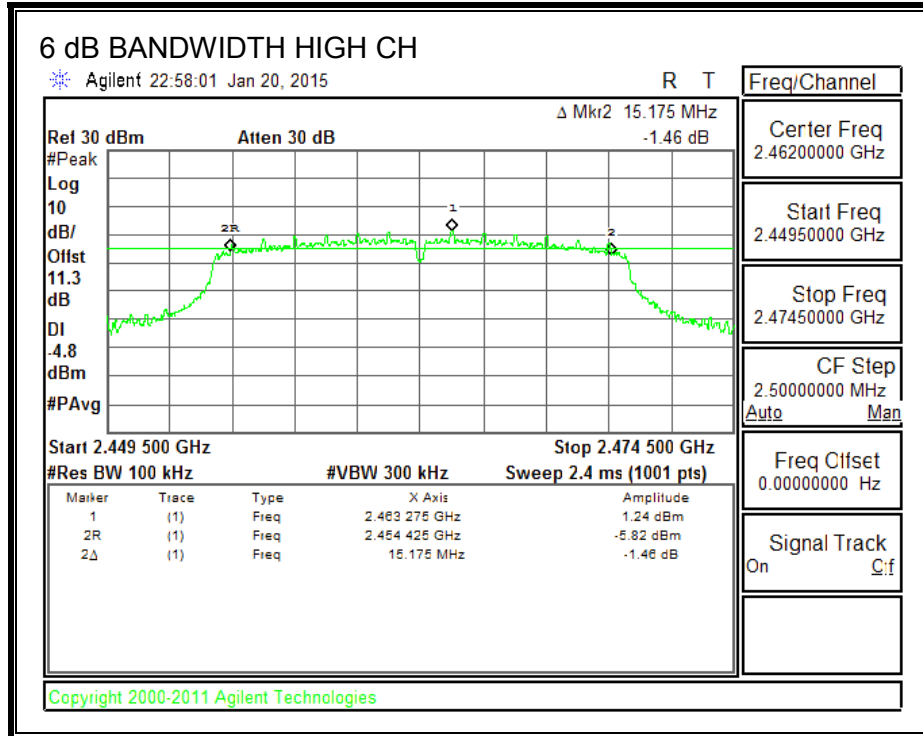
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.150	0.5
Low	2417	15.120	0.5
Mid	2437	15.150	0.5
High	2457	15.120	0.5
High	2462	15.175	0.5

6 dB BANDWIDTH







8.3.2. OUTPUT POWER

LIMITS

FCC §15.247

For systems using digital modulation in the 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	Max Power (dBm)
Low	2412	4.00	30.00	30.00
Low	2417	4.00	30.00	30.00
Mid	2437	4.00	30.00	30.00
High	2457	4.00	30.00	30.00
High	2462	4.00	30.00	30.00

Duty Cycle CF (dB)	2.91	Included in Calculations of Corr'd Power
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Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	8.62	11.53	30.00	-18.47
Low	2417	10.65	13.56	30.00	-16.44
Mid	2437	13.22	16.13	30.00	-13.87
High	2457	10.09	13.00	30.00	-17.00
High	2462	8.09	11.00	30.00	-19.00

8.3.3. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

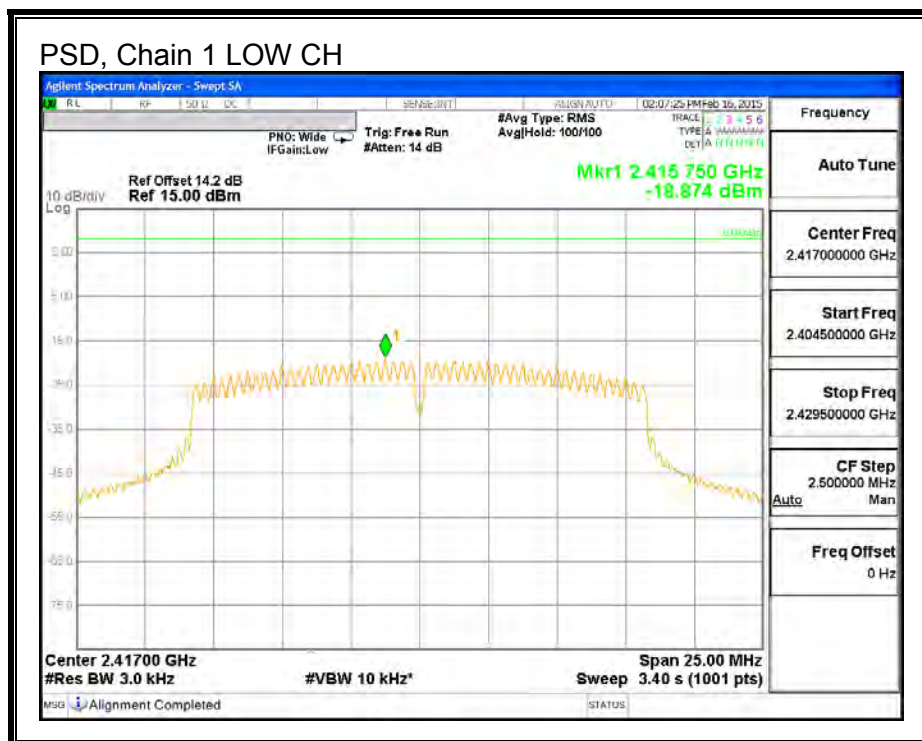
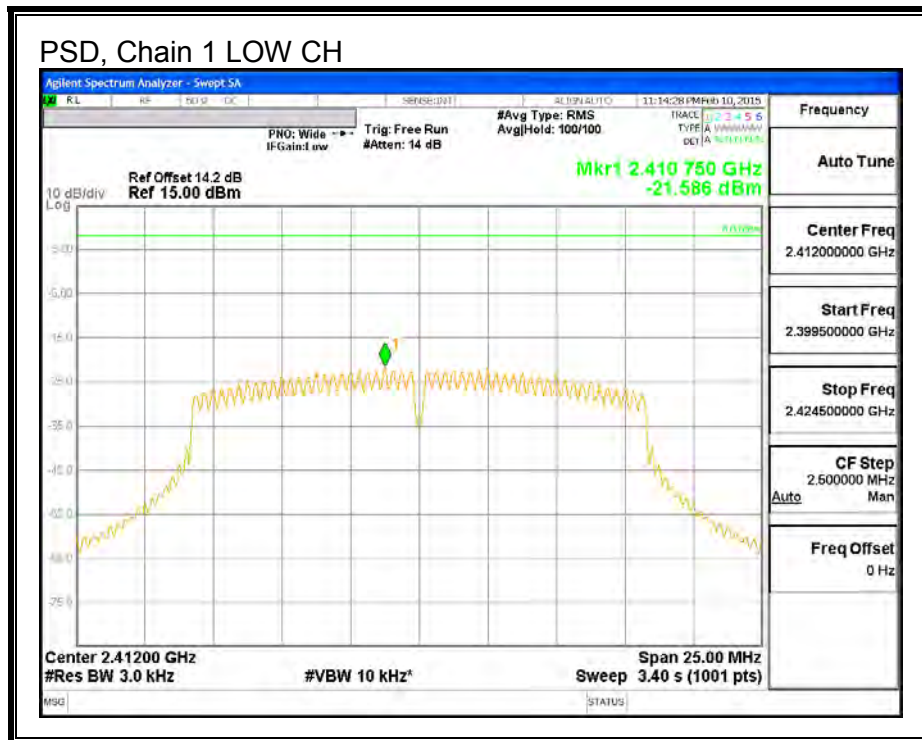
RESULTS

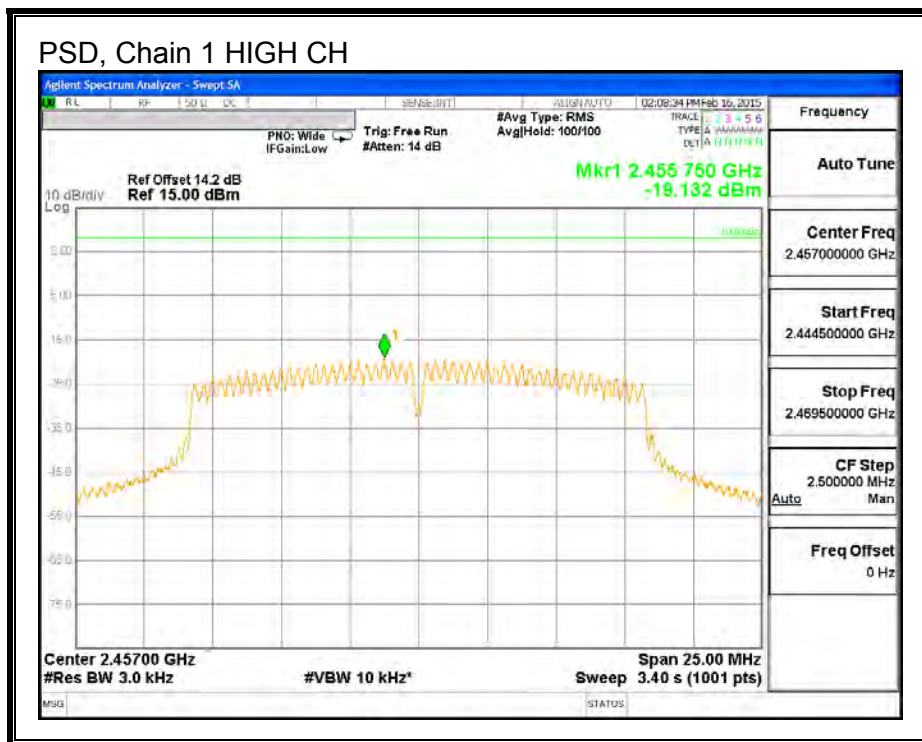
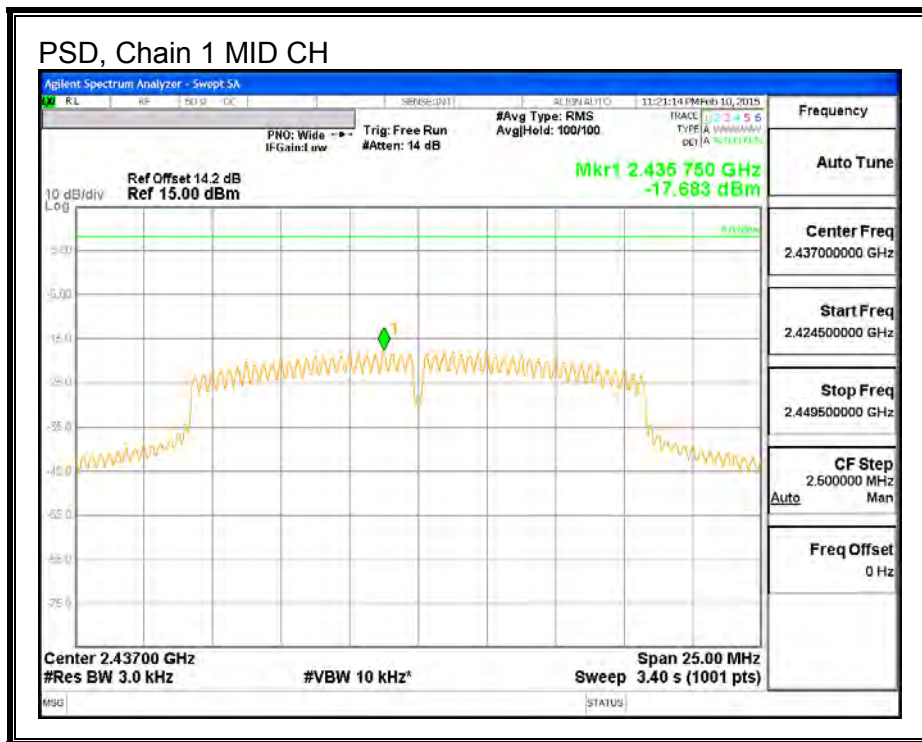
PSD Results

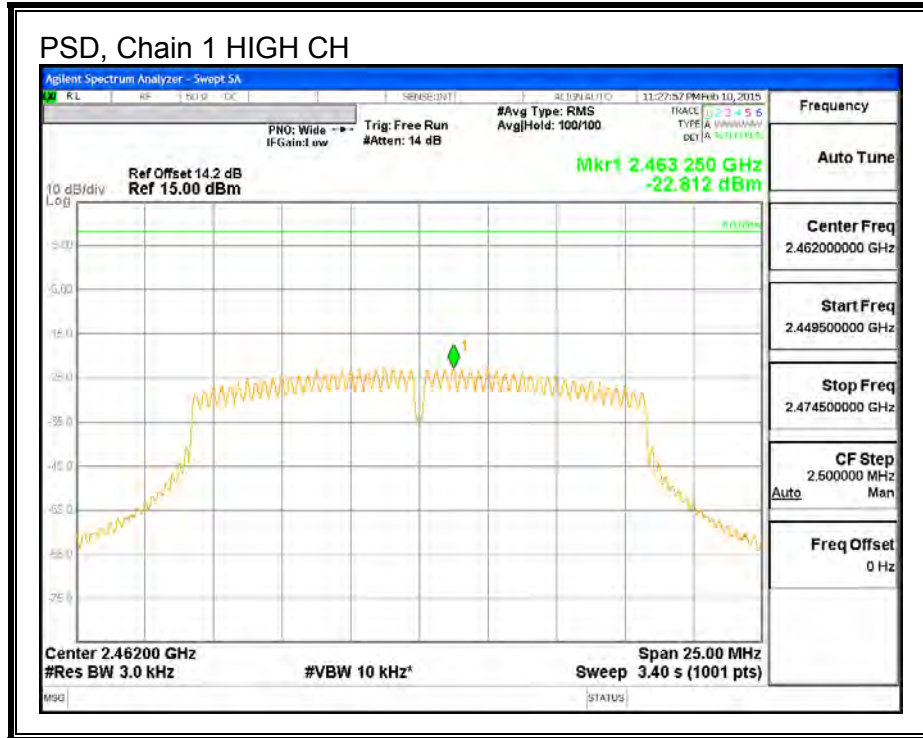
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-21.59	-21.59	8.0	-29.6
Low	2417	-18.87	-18.87	8.0	-26.9
Mid	2437	-17.68	-17.68	8.0	-25.7
High	2457	-19.13	-19.13	8.0	-27.1
High	2462	-22.81	-22.81	8.0	-30.8

Duty Cycle Correction Factor Included in Measurement

PSD, Chain 1







8.3.4. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

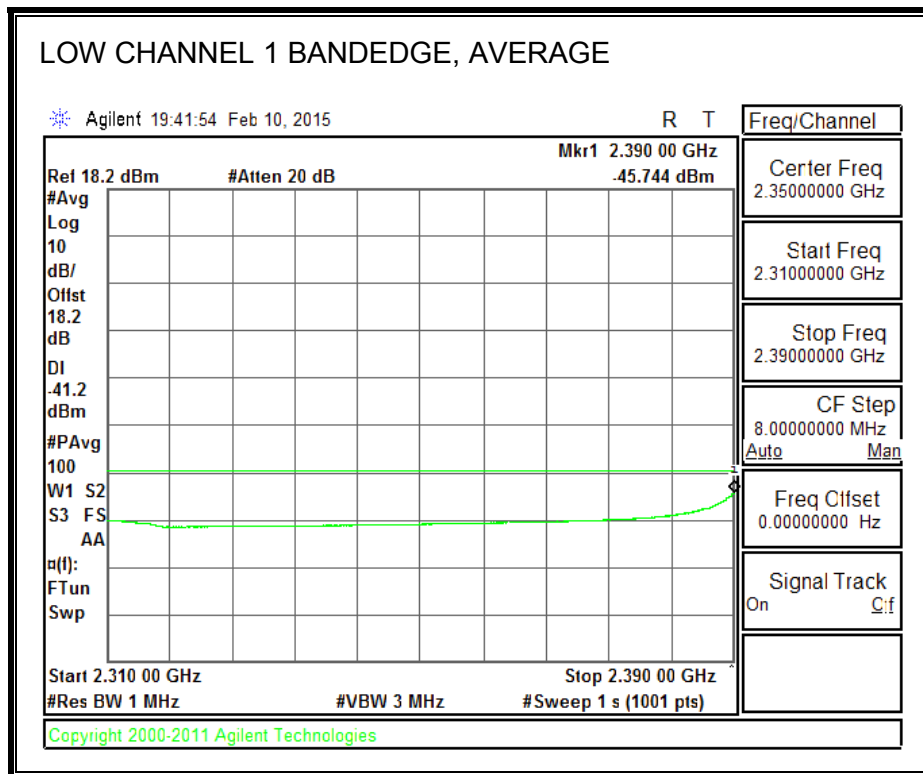
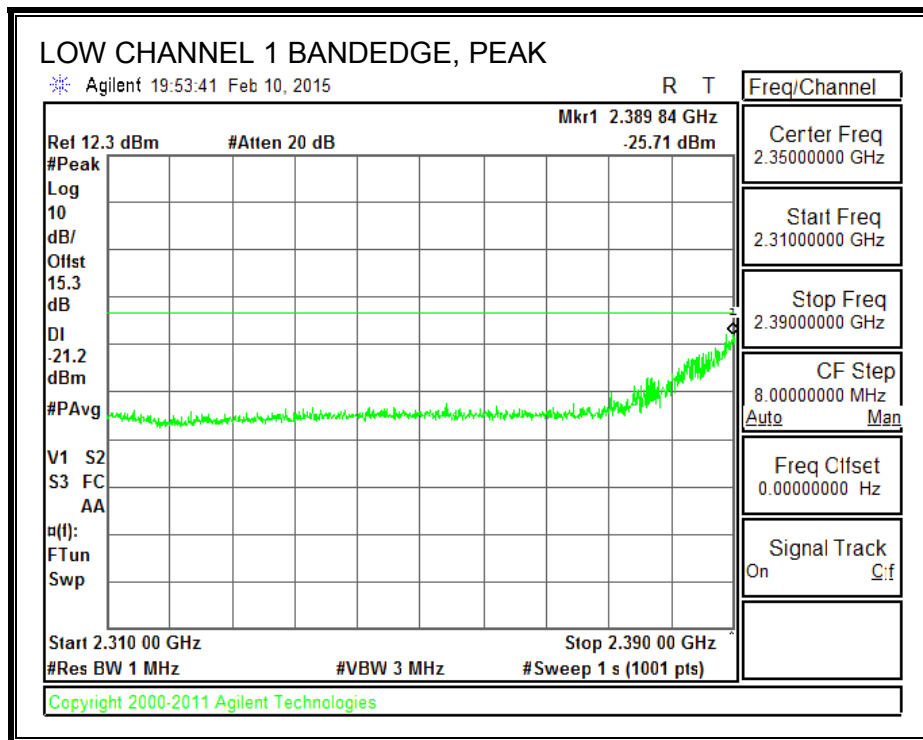
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

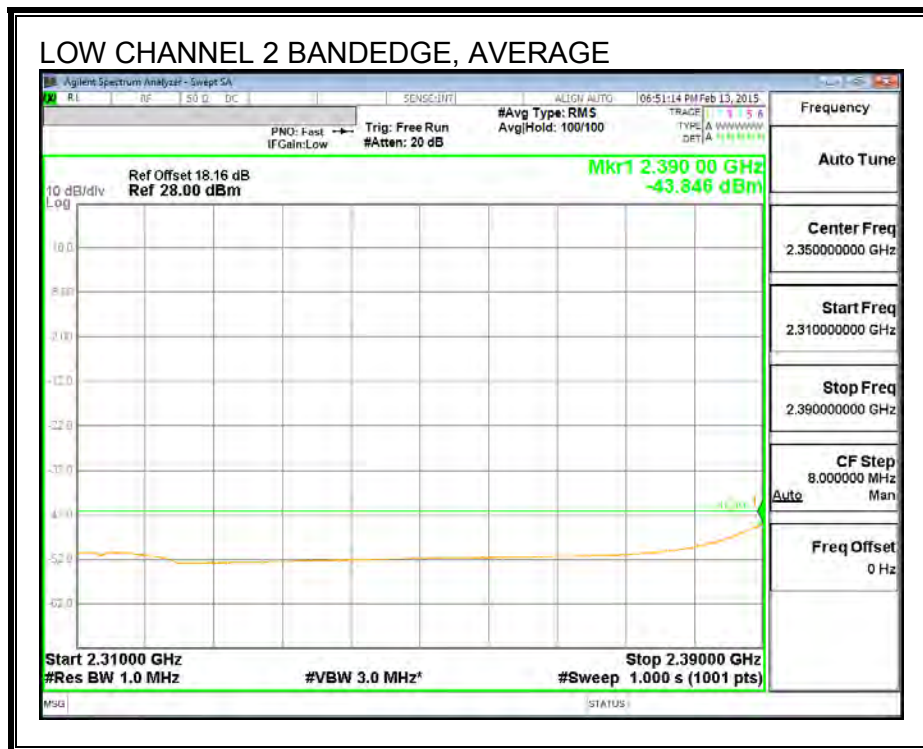
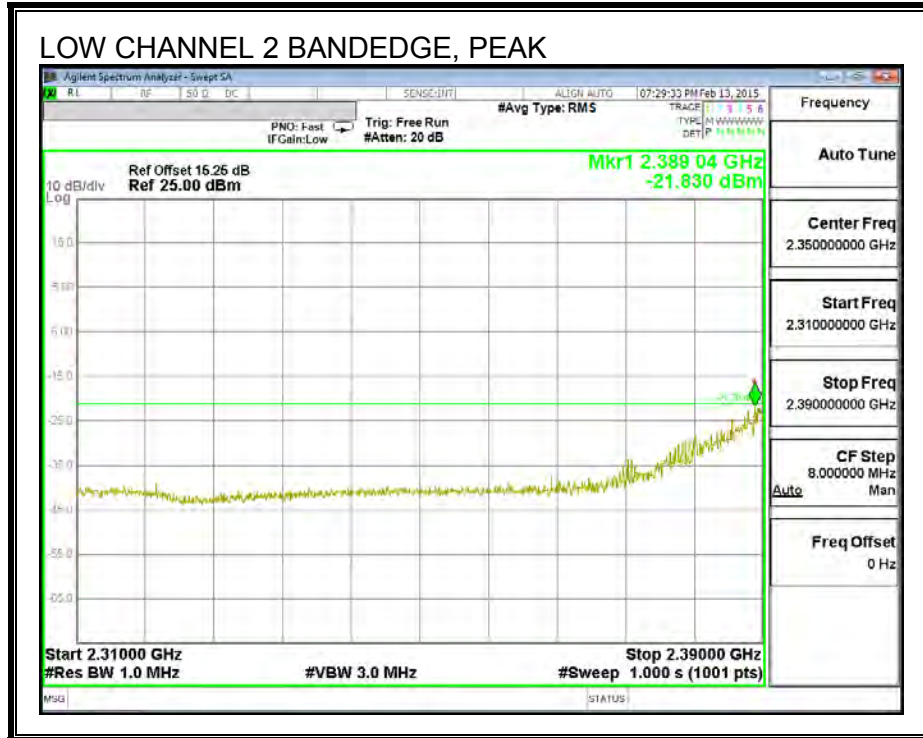
PROCEDURE

Conducted BE measurements are being used to demonstrate compliance with the spurious limits in the restricted band. §15.209 limits are 54dBuV/m average and 74dBuV/m peak, which are equivalent to eirp of -41.2 dBm and -21.2dBm respectively. The plots include an offset to account for the EUT antenna gain, Duty cycle correction and external attenuation between EUT antenna port and spectrum analyzer.

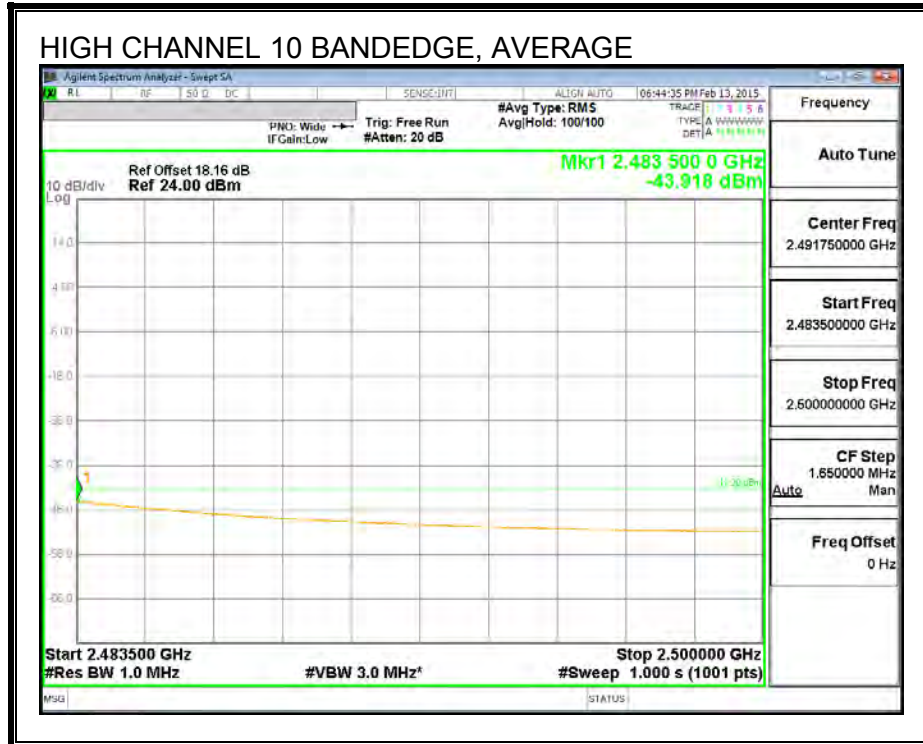
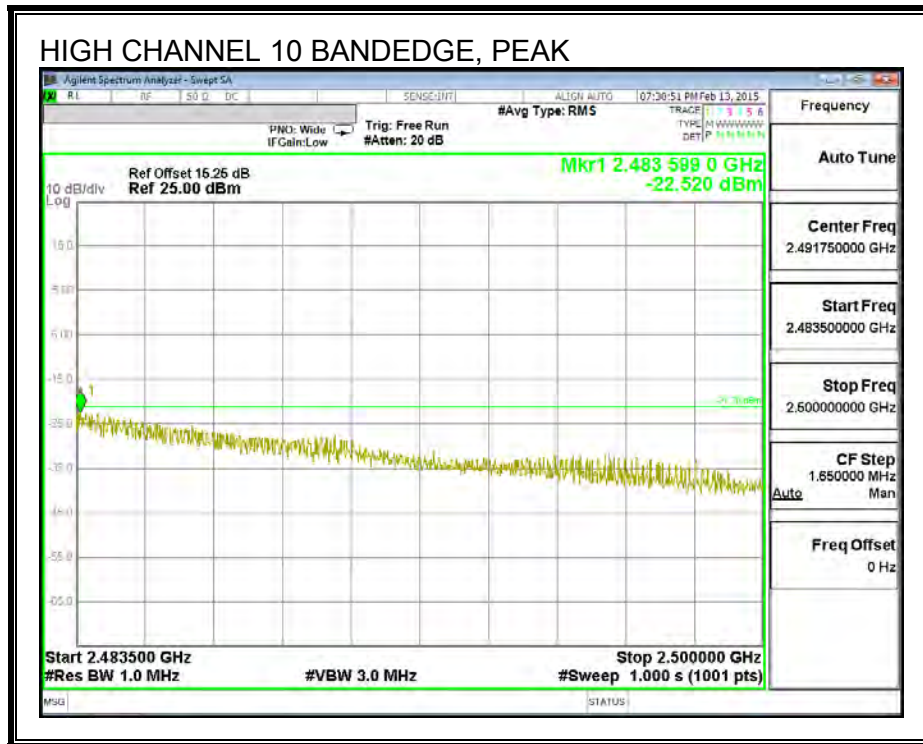
RESULTS

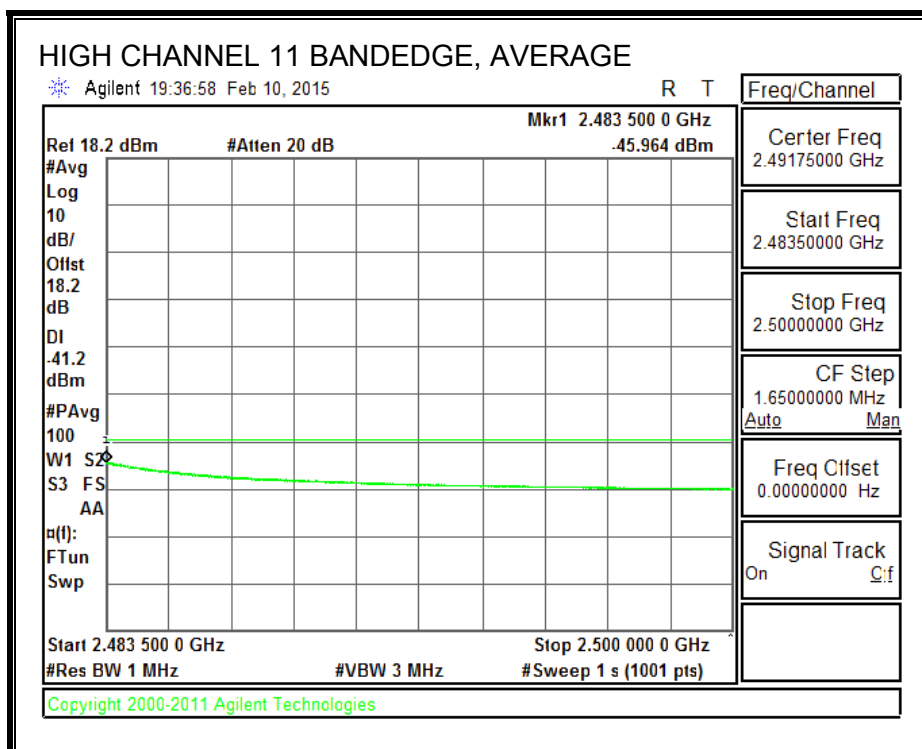
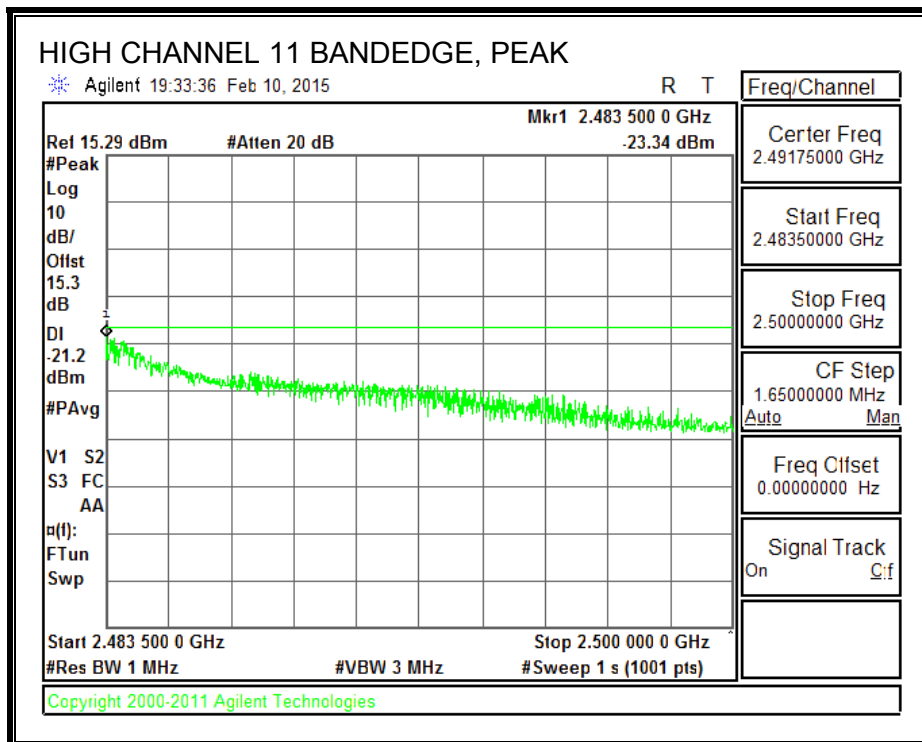
AUTHORIZED BANDEDGE (LOW CHANNEL)



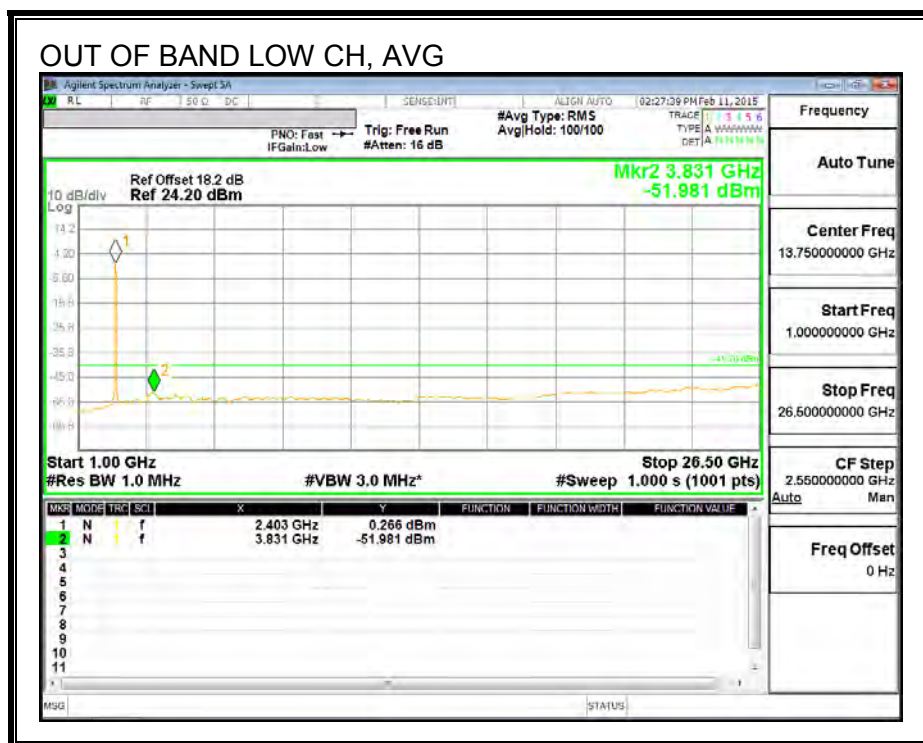
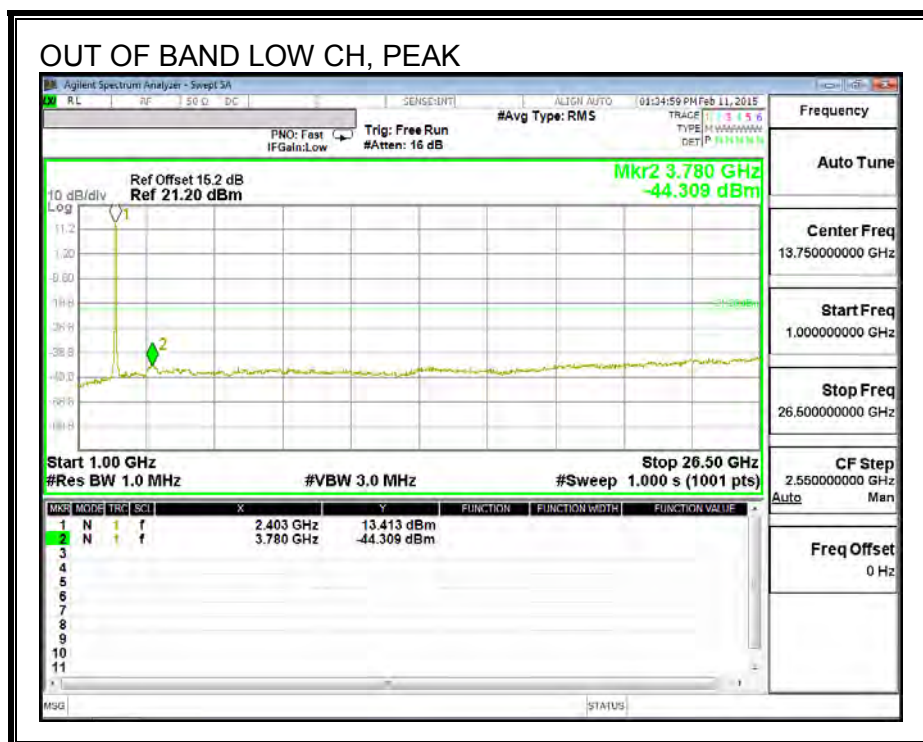


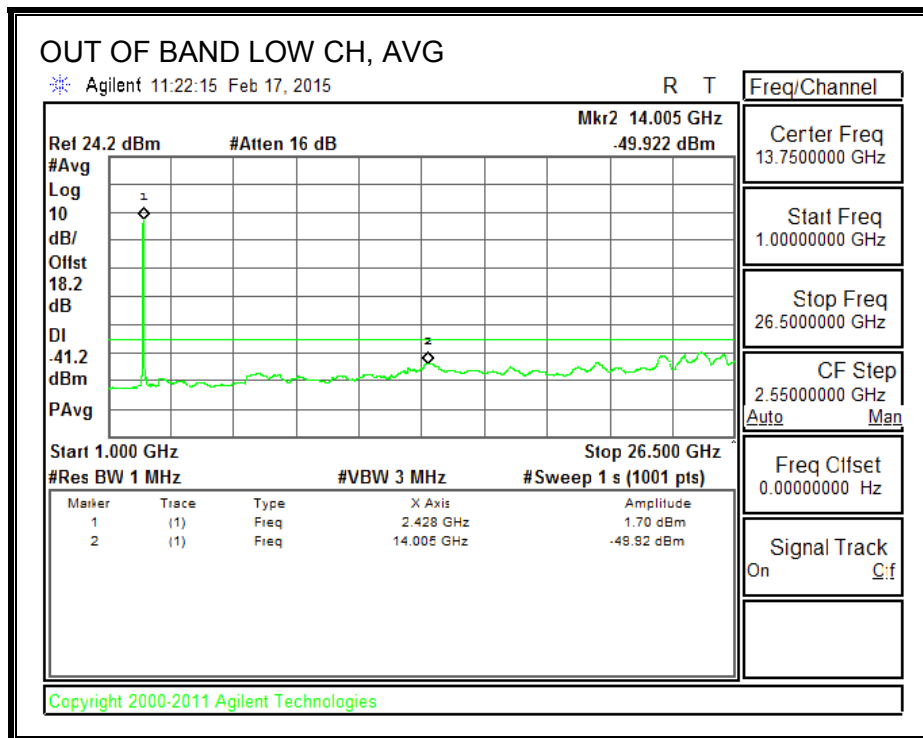
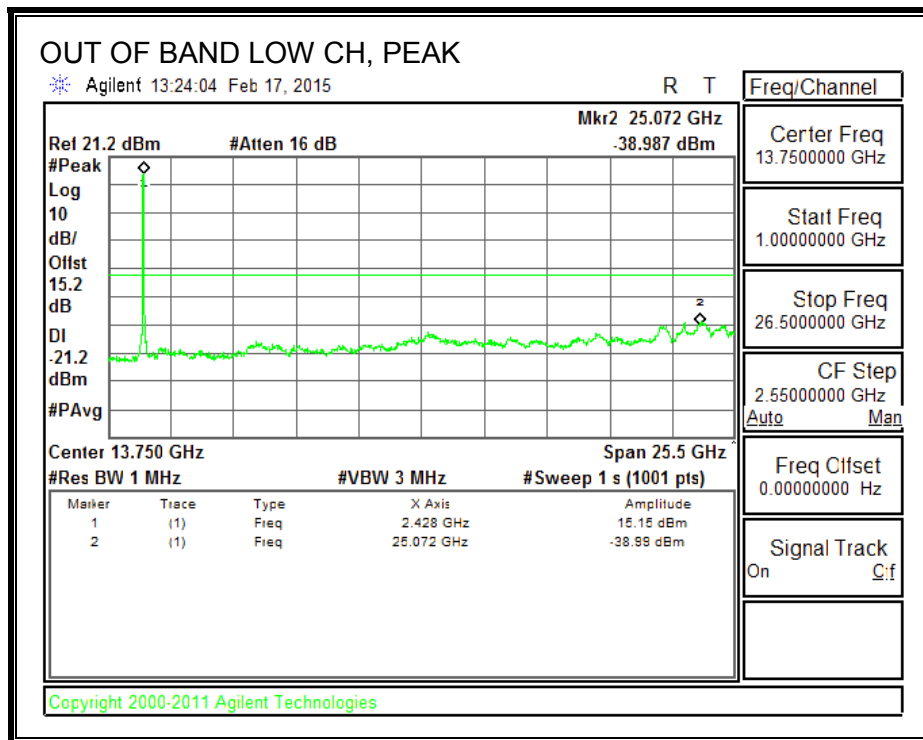
AUTHORIZED BANDEGE (HIGH CHANNEL)

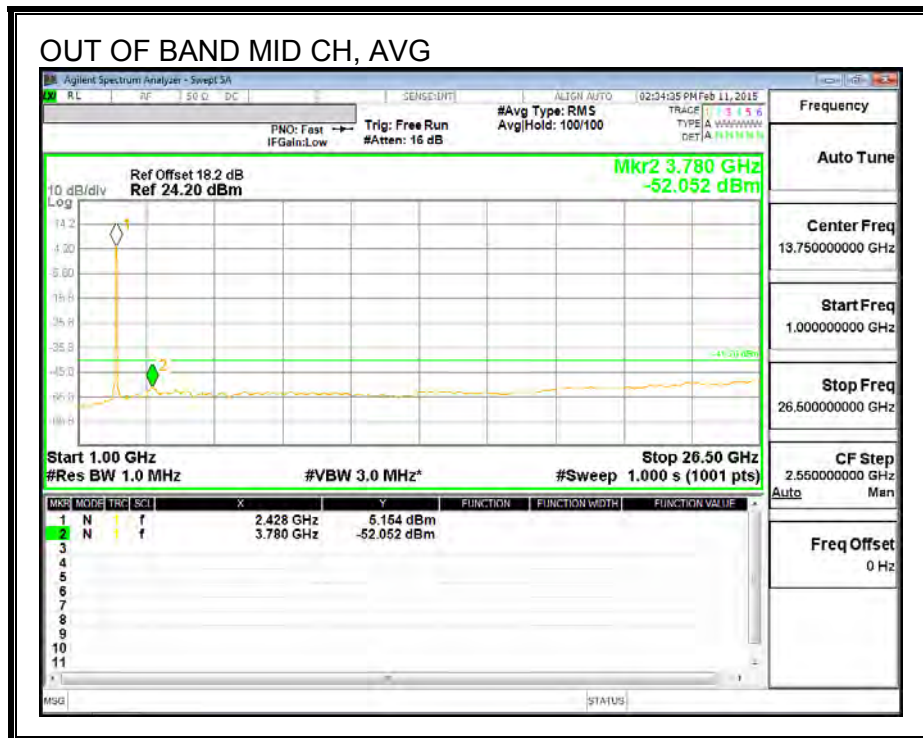
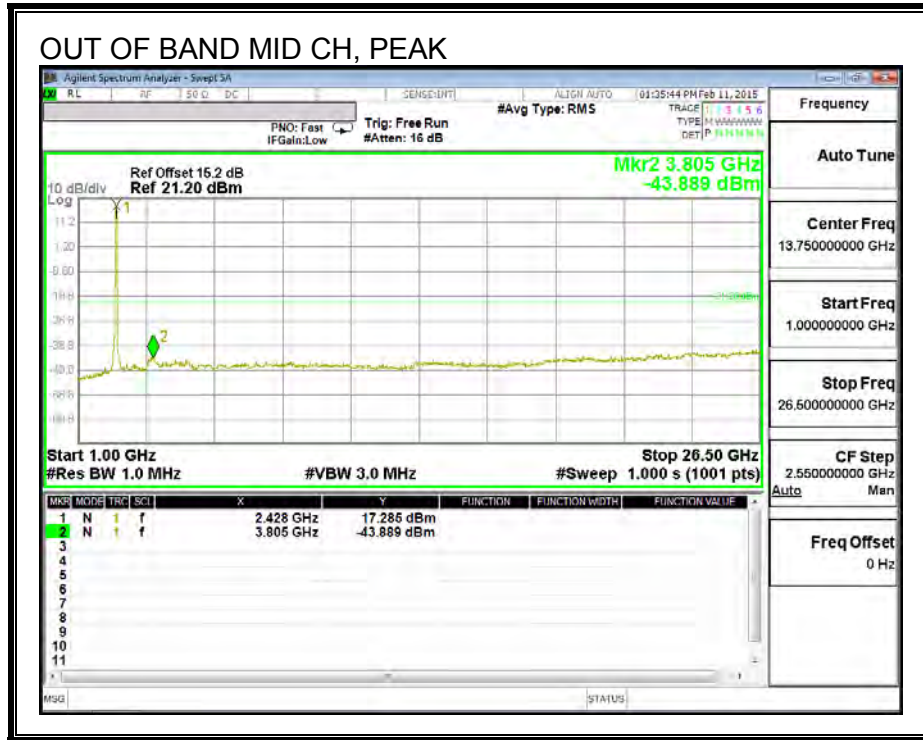


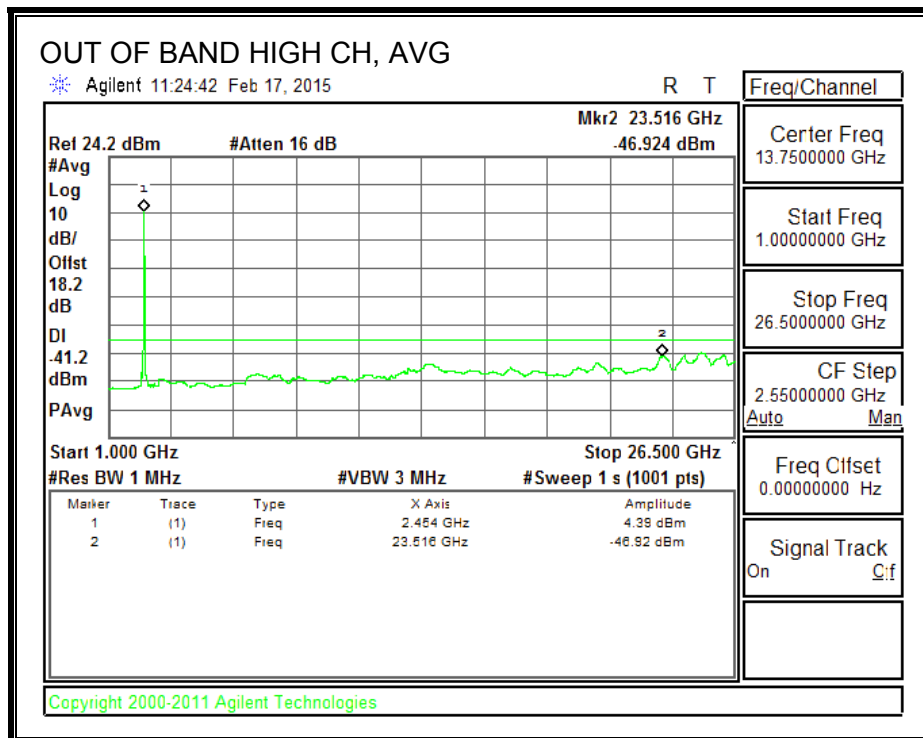
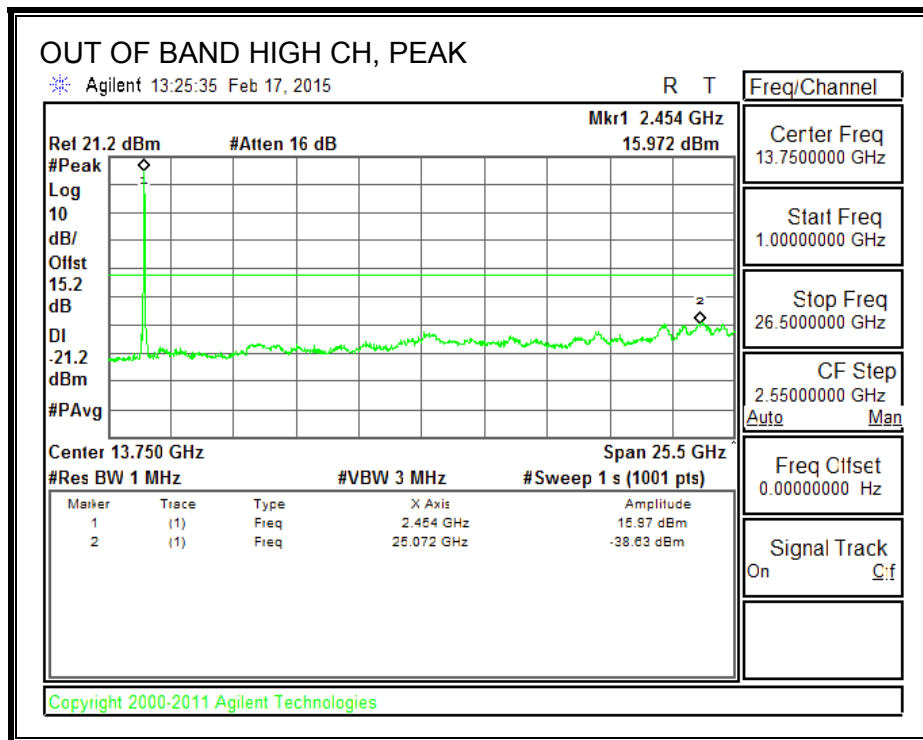


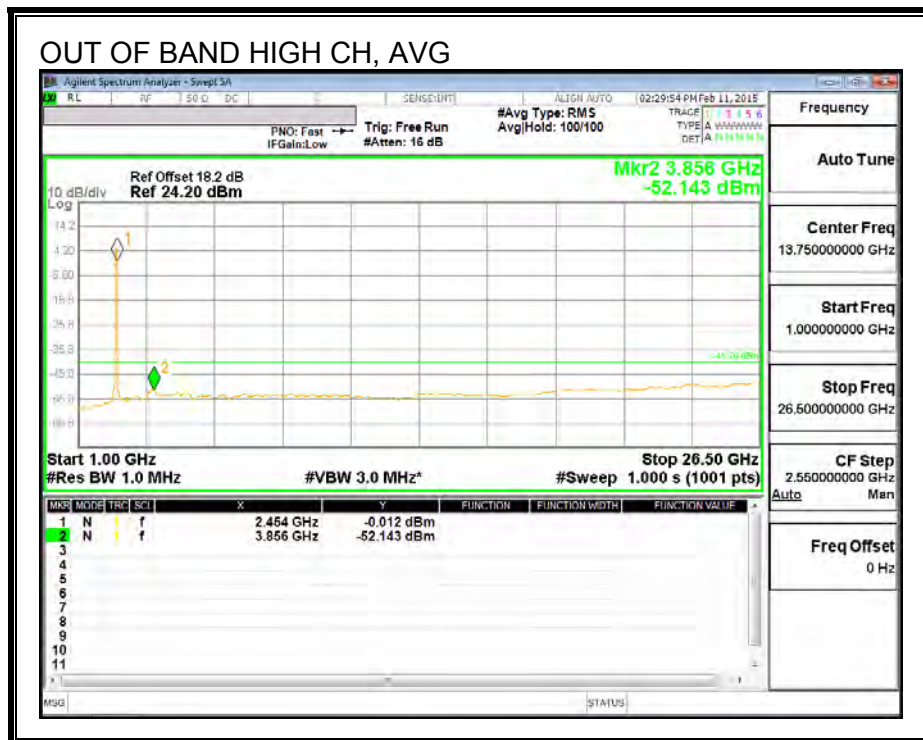
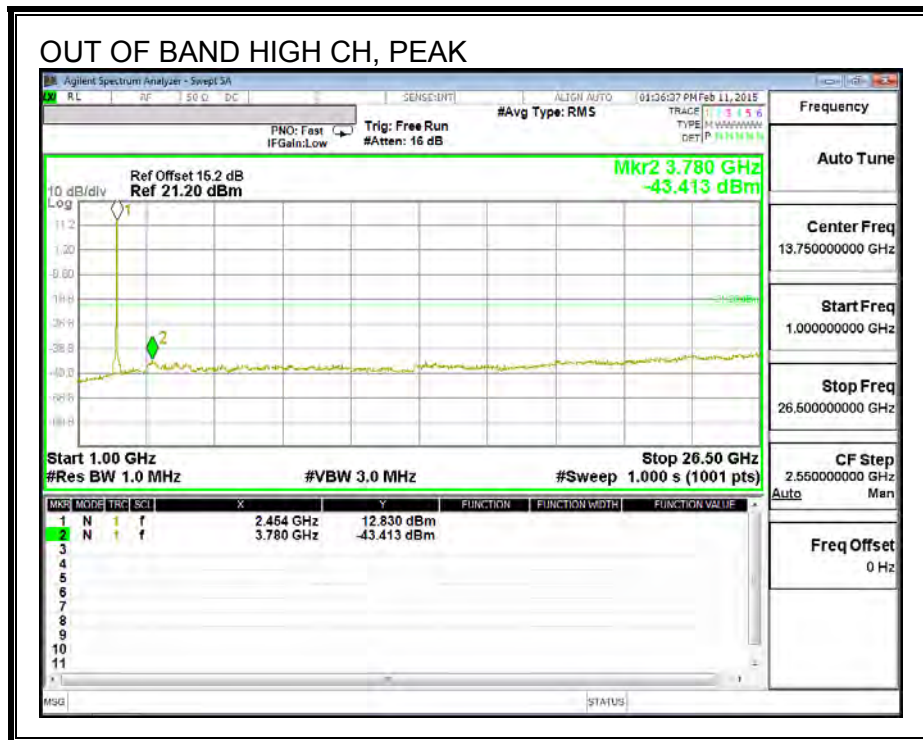
OUT-OF-BAND EMISSIONS











8.4. 802.11n HT20 MODE IN THE 2.4 GHZ BAND

8.4.1. 6 dB BANDWIDTH

LIMITS

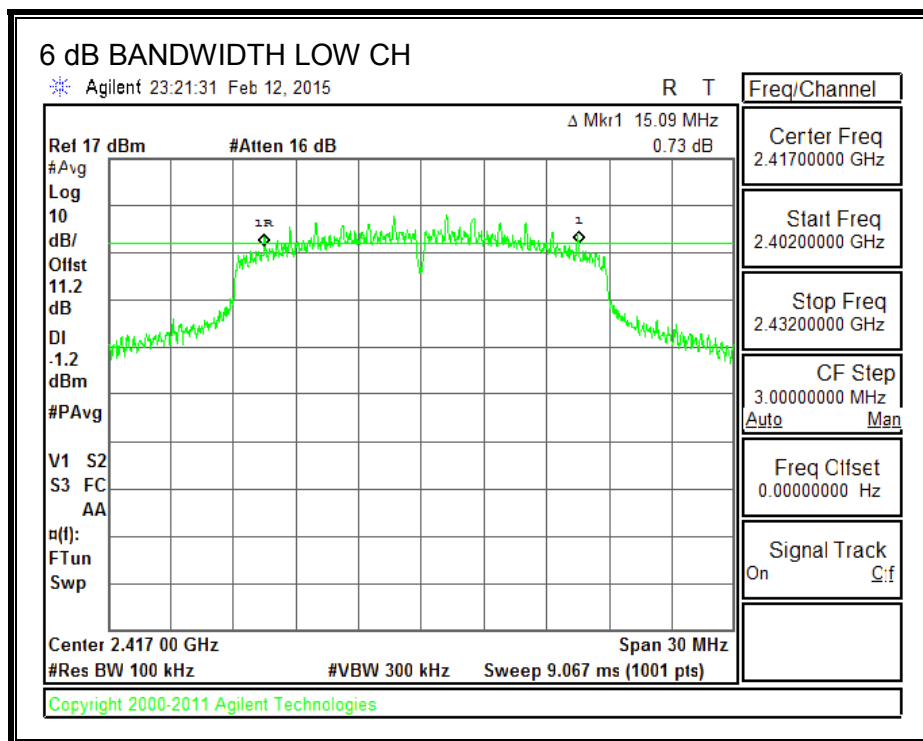
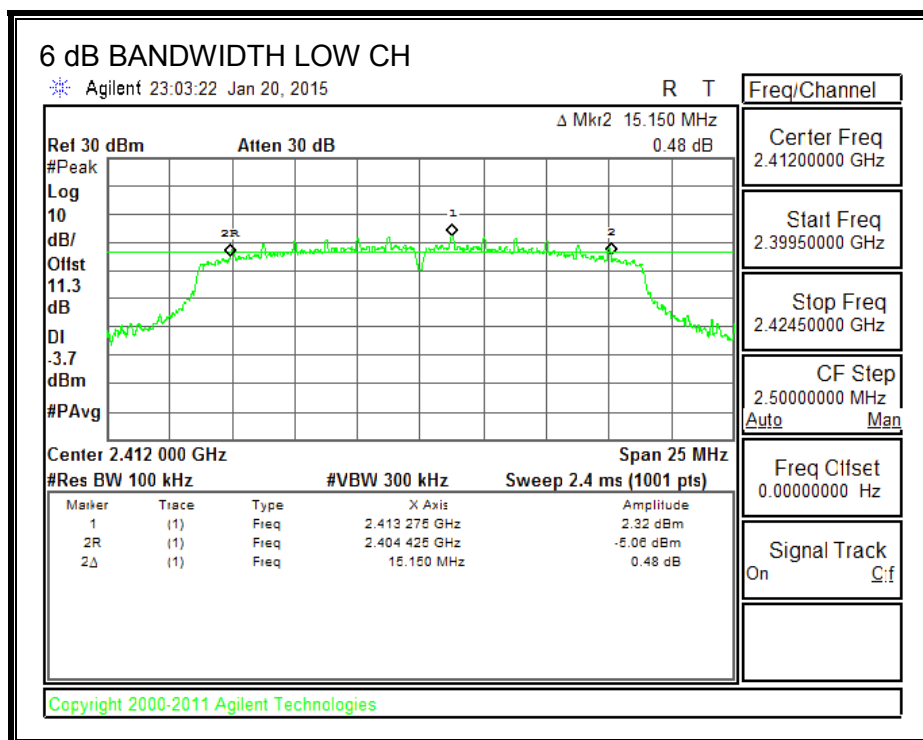
FCC §15.247 (a) (2)

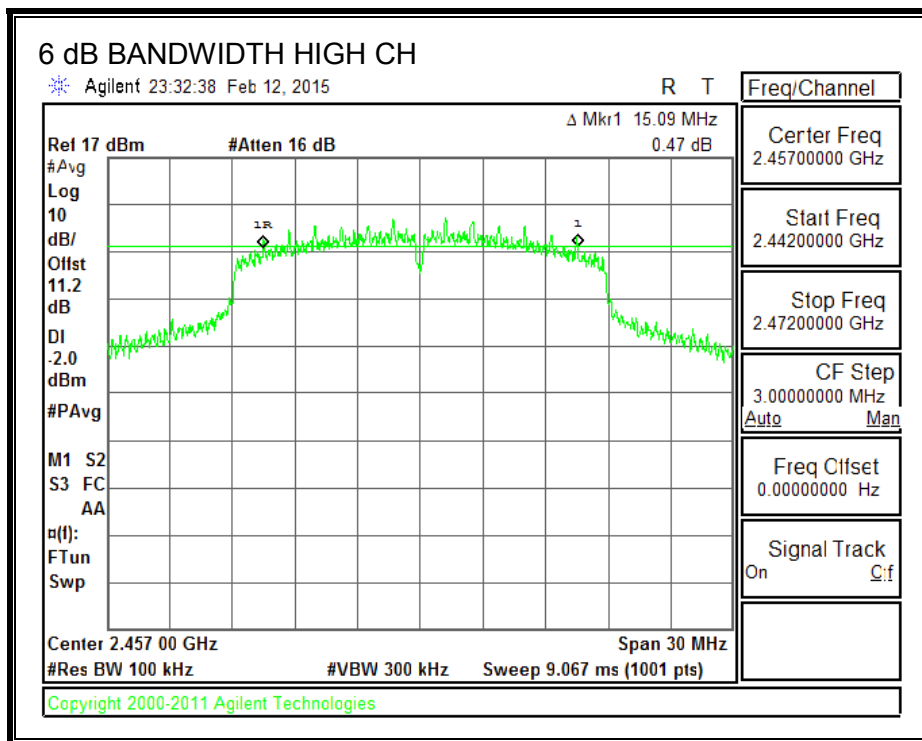
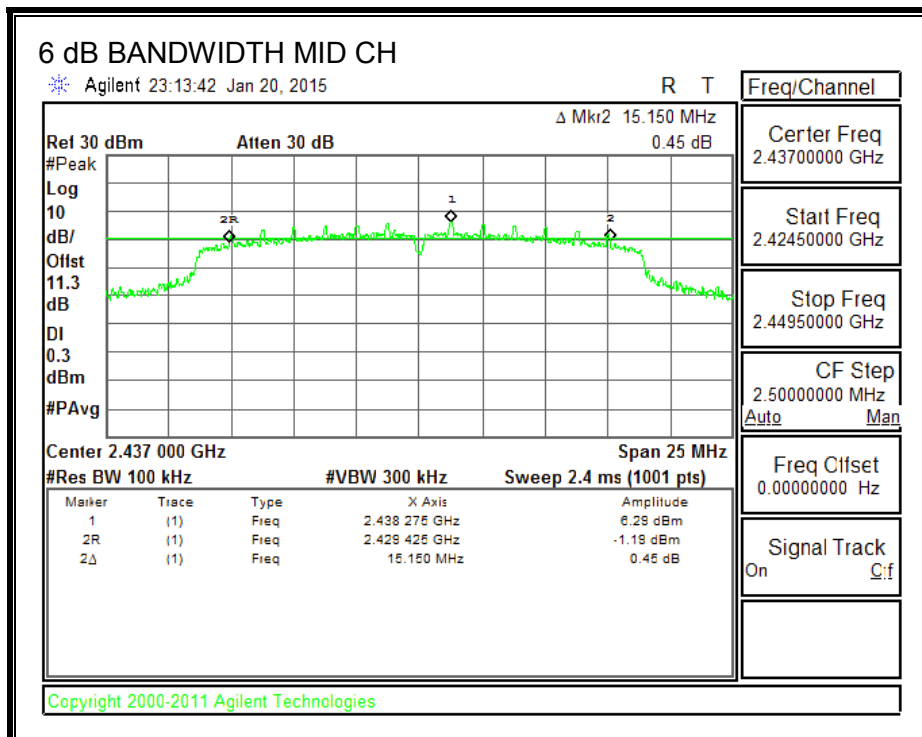
The minimum 6 dB bandwidth shall be at least 500 kHz.

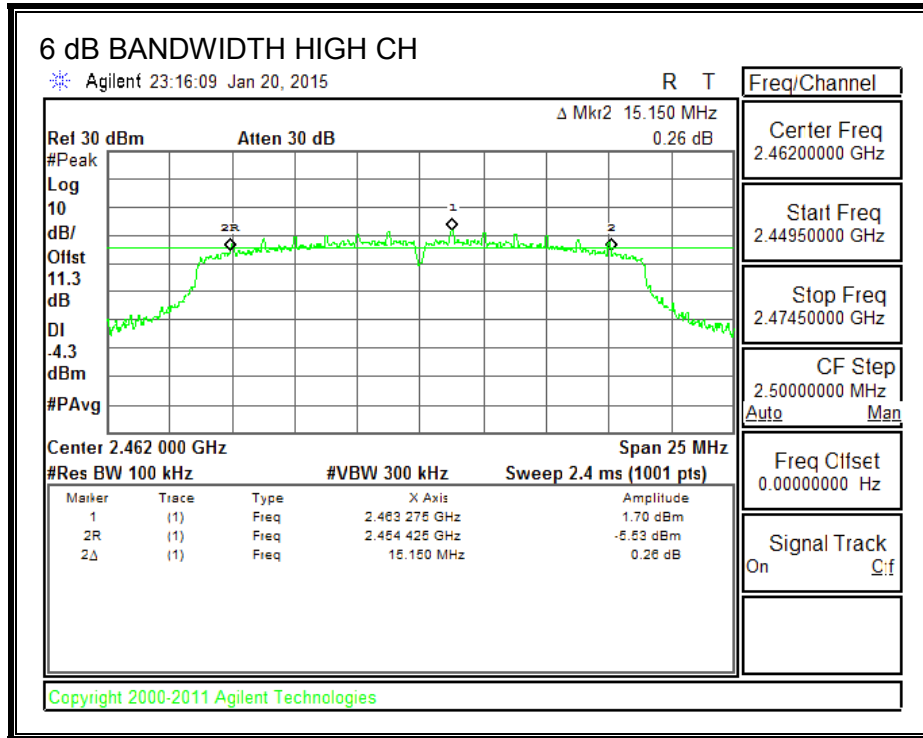
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.150	0.5
Low	2417	15.090	0.5
Mid	2437	15.150	0.5
High	2457	15.090	0.5
High	2462	15.150	0.5

6 dB BANDWIDTH







8.4.2. OUTPUT POWER

LIMITS

FCC §15.247

For systems using digital modulation in the 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	Max Power (dBm)
Low	2412	4.00	30.00	30.00
Low	2417	4.00	30.00	30.00
Mid	2437	4.00	30.00	30.00
High	2457	4.00	30.00	30.00
High	2462	4.00	30.00	30.00

Duty Cycle CF (dB)	2.94	Included in Calculations of Corr'd Power
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Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	8.87	11.81	30.00	-18.19
Low	2417	10.82	13.76	30.00	-16.24
Mid	2437	12.46	15.40	30.00	-14.60
High	2457	10.30	13.24	30.00	-16.76
High	2462	8.13	11.07	30.00	-18.93

8.4.3. POWER SPECTRAL DENSITY

LIMITS

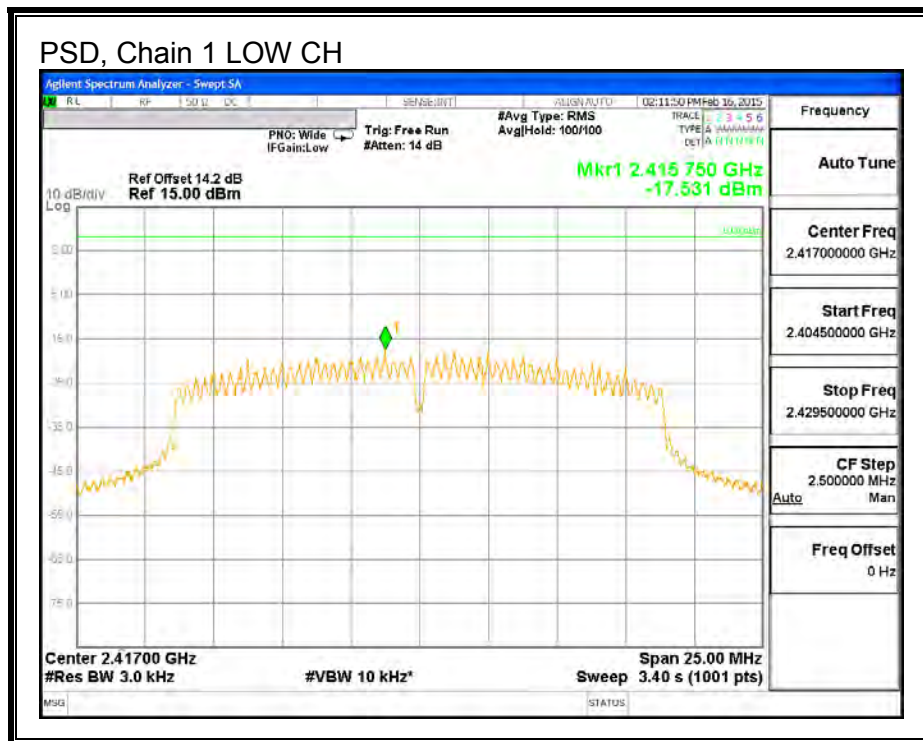
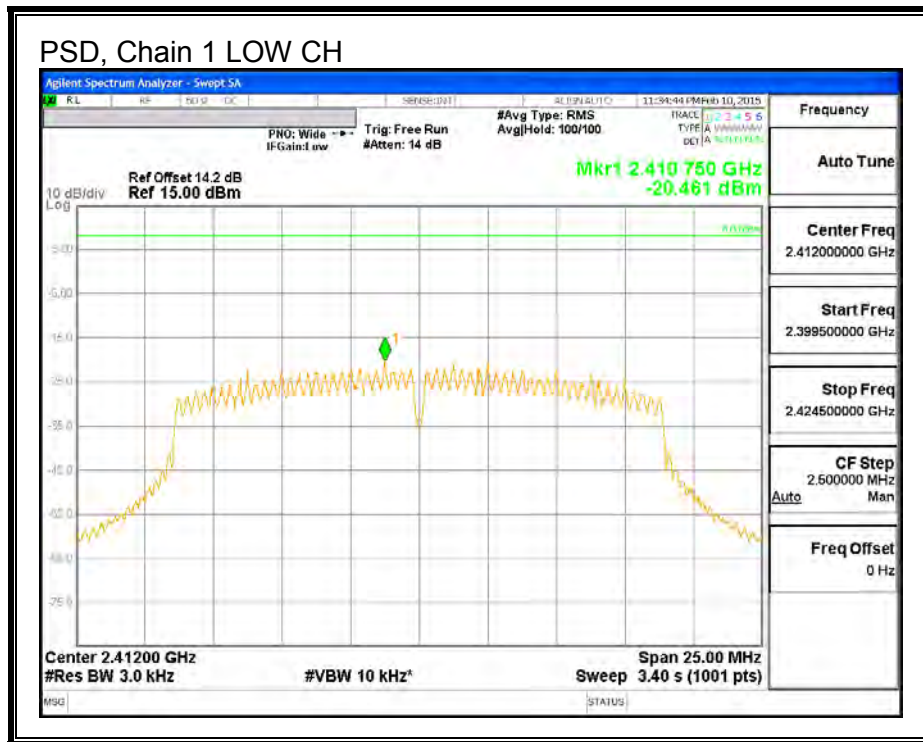
FCC §15.247

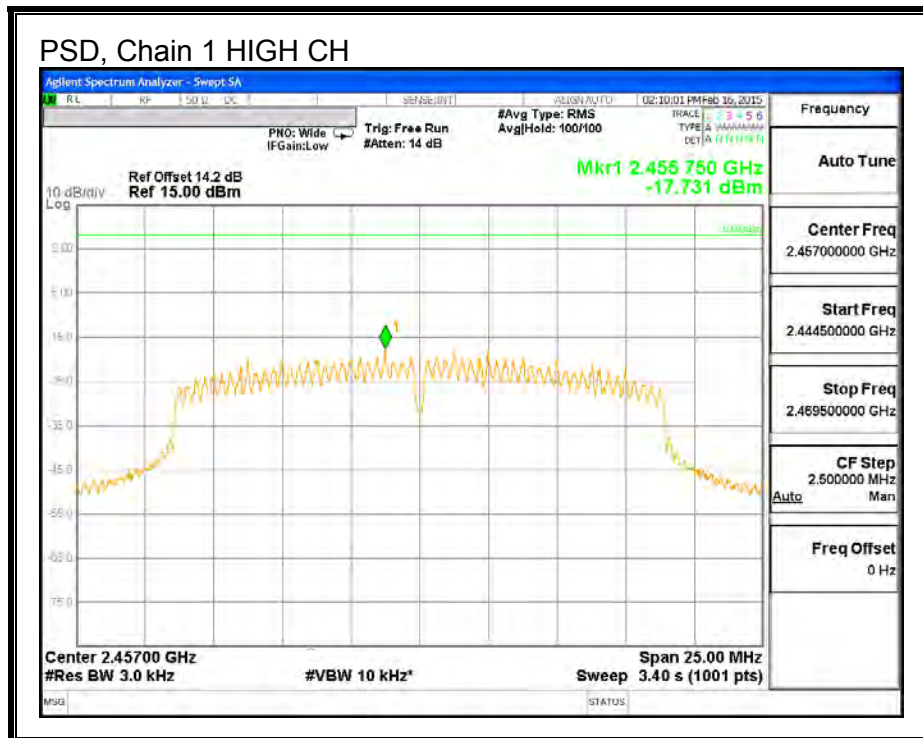
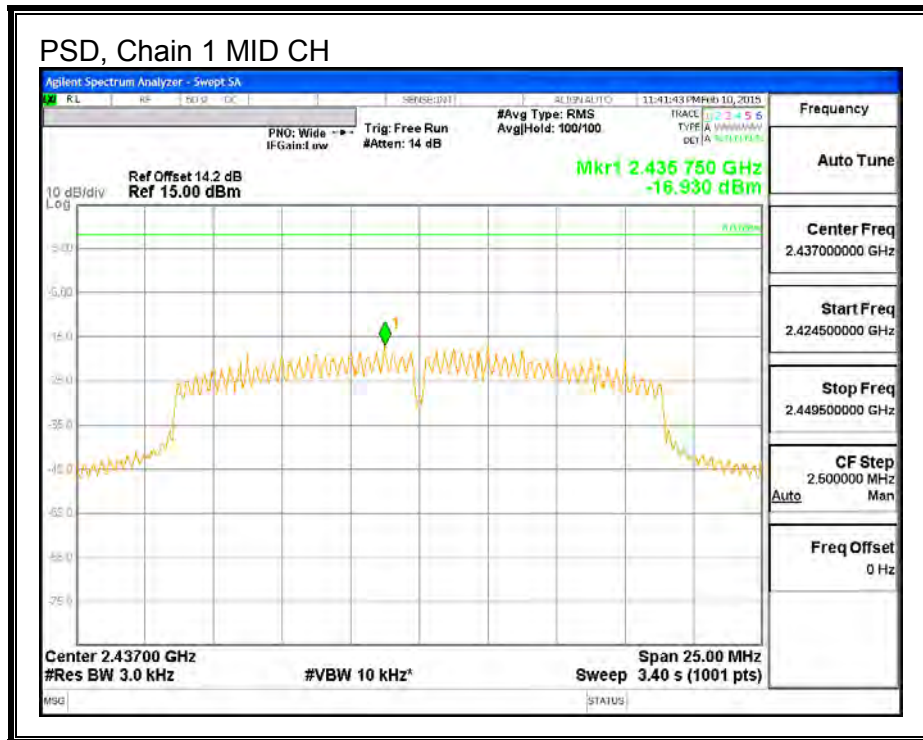
RESULTS

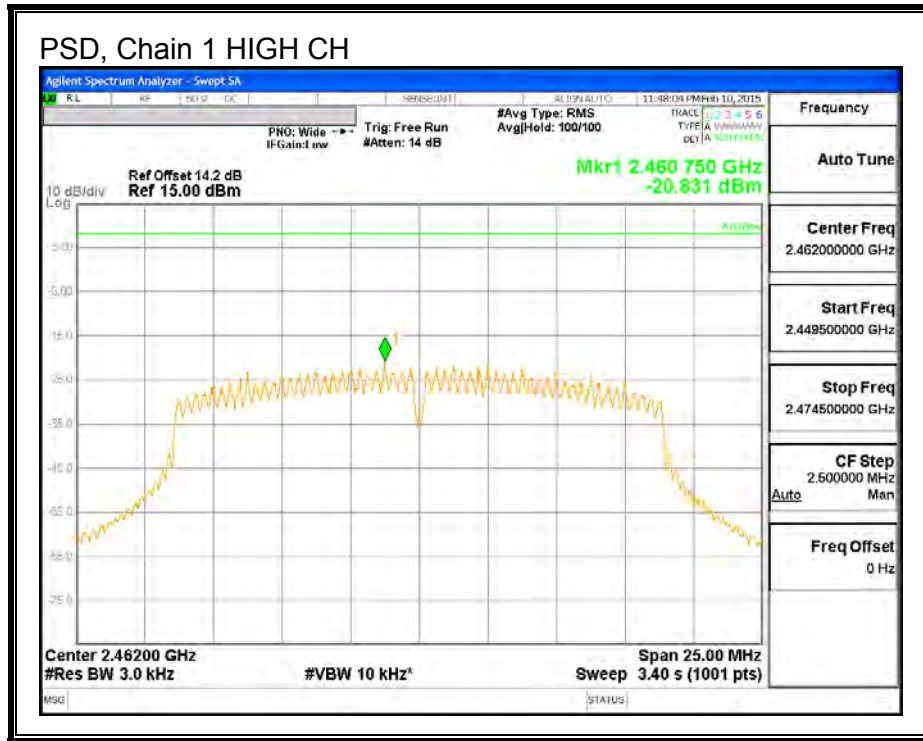
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-20.46	-20.46	8.0	-28.5
Low	2417	-17.53	-17.53	8.0	-25.5
Mid	2437	-16.93	-16.93	8.0	-24.9
High	2457	-17.73	-17.73	8.0	-25.7
High	2462	-20.83	-20.83	8.0	-28.8

Duty Cycle Correction Factor Included in Measurement

PSD, Chain 1







8.4.4. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

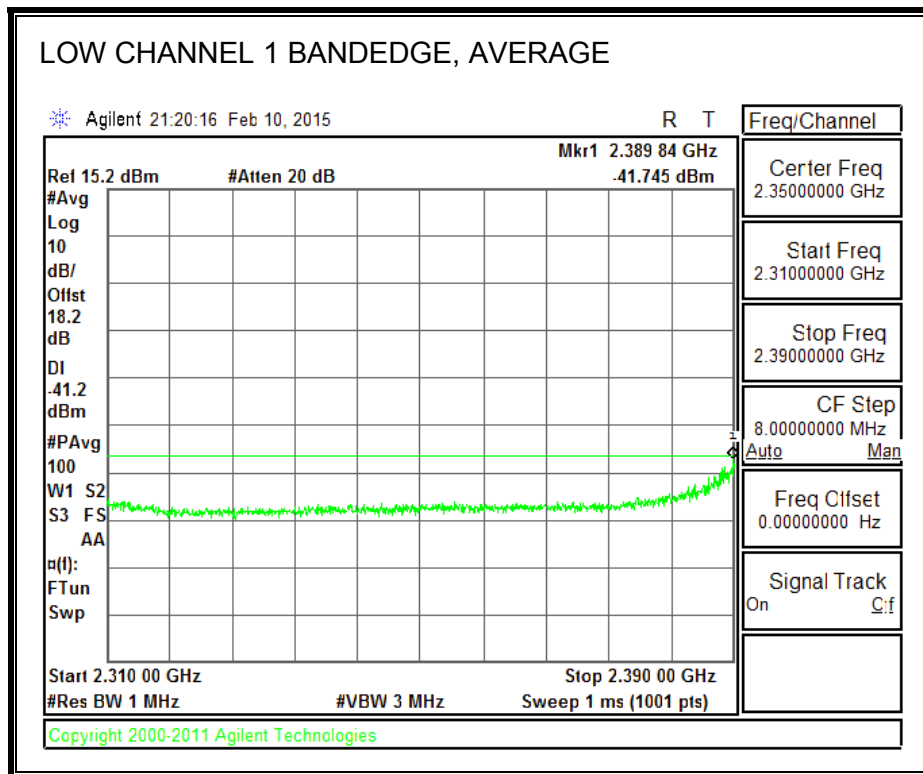
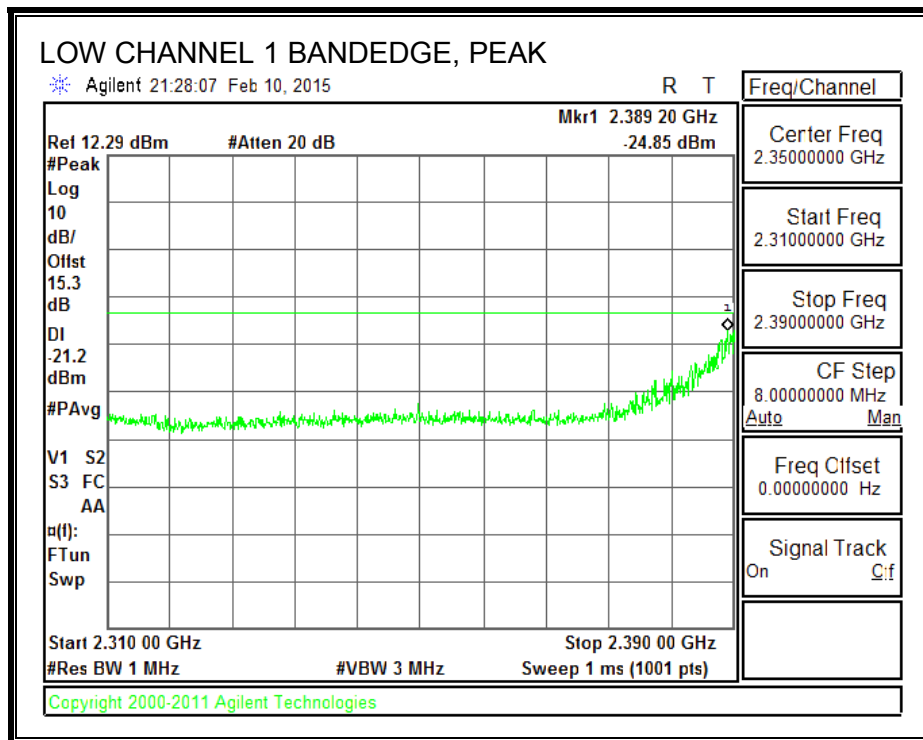
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

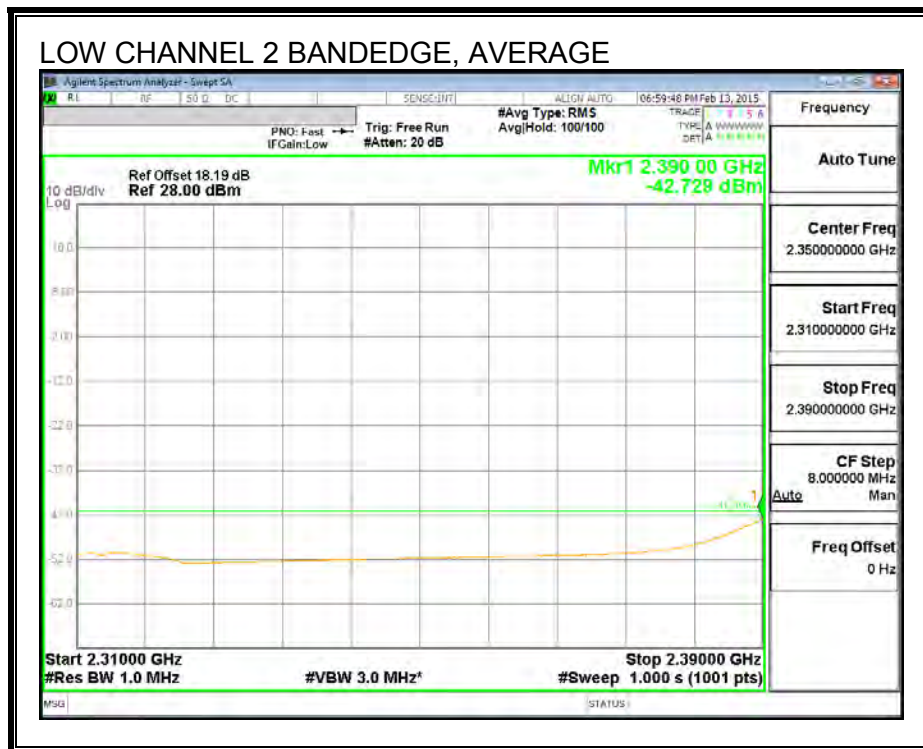
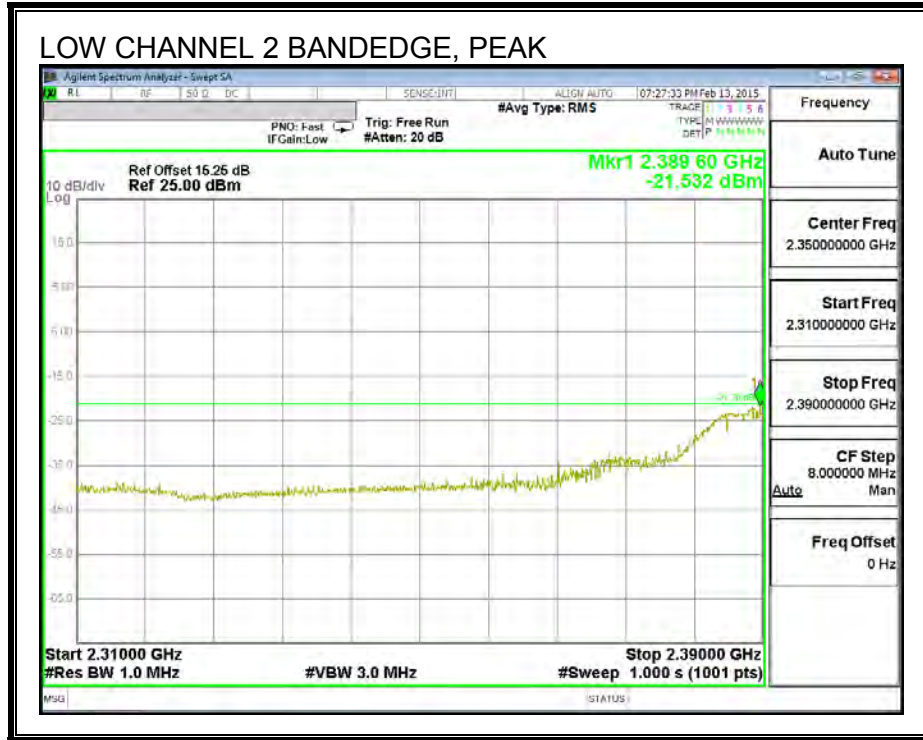
PROCEDURE

Conducted BE measurements are being used to demonstrate compliance with the spurious limits in the restricted band. §15.209 limits are 54dBuV/m average and 74dBuV/m peak, which are equivalent to eirp of -41.2 dBm and -21.2dBm respectively. The plots include an offset to account for the EUT antenna gain, Duty cycle correction and external attenuation between EUT antenna port and spectrum analyzer.

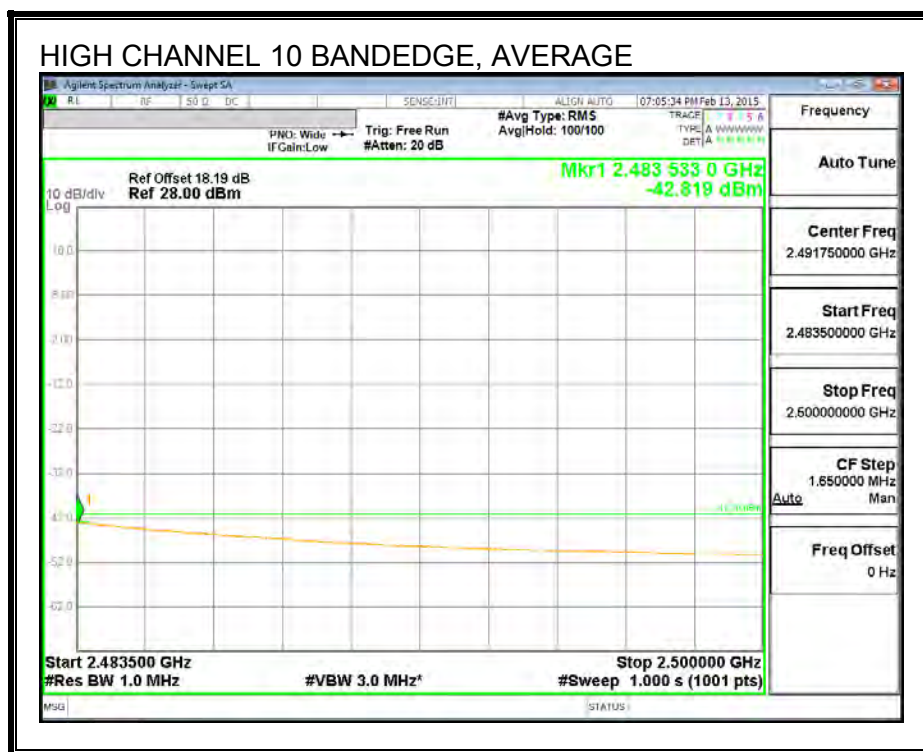
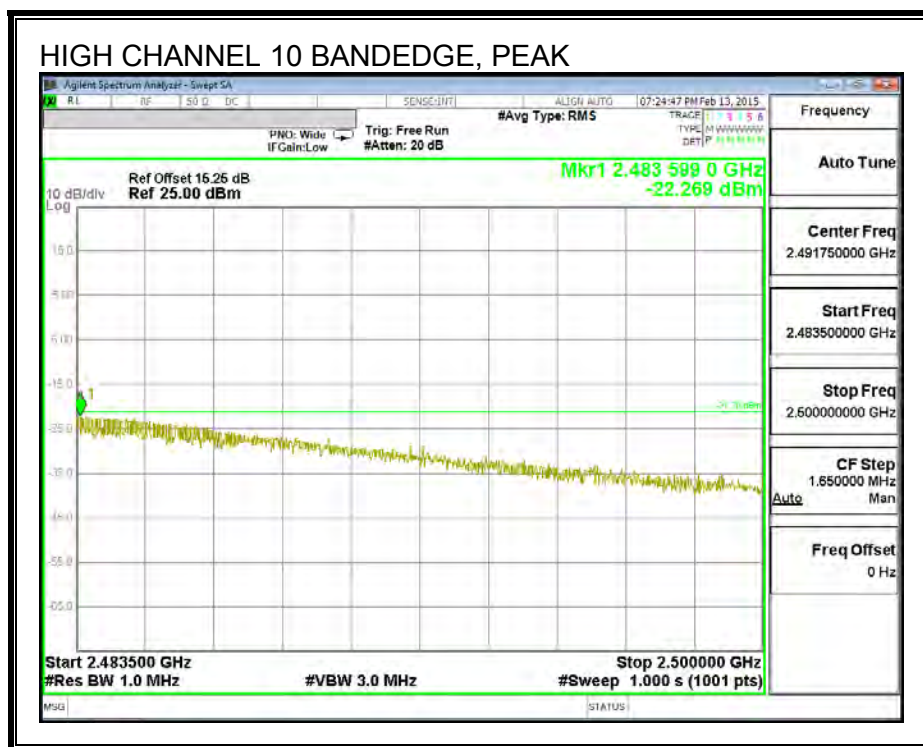
RESULTS

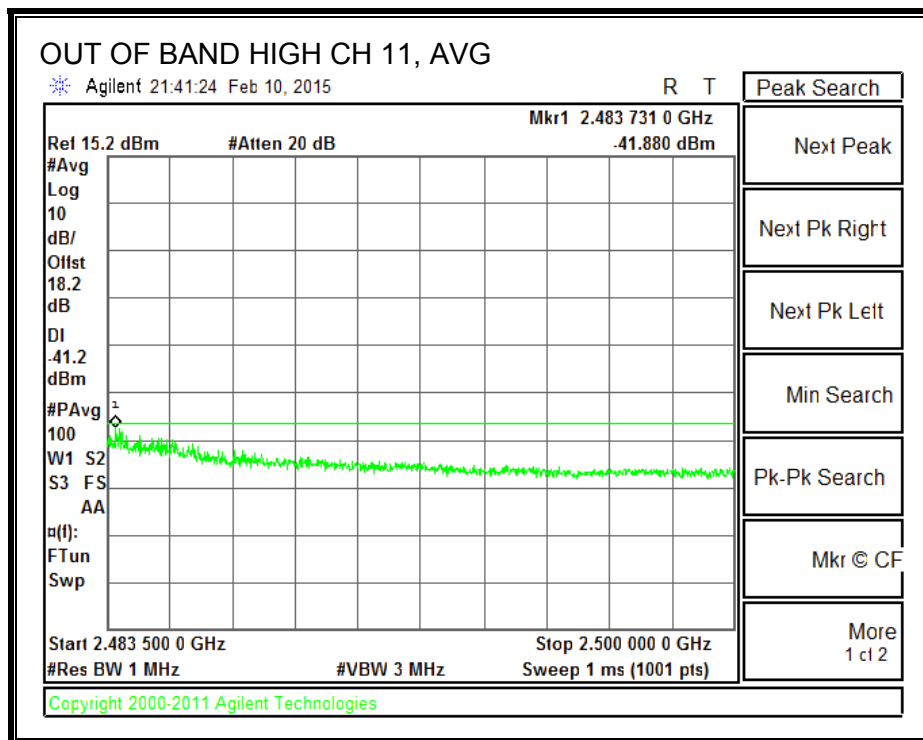
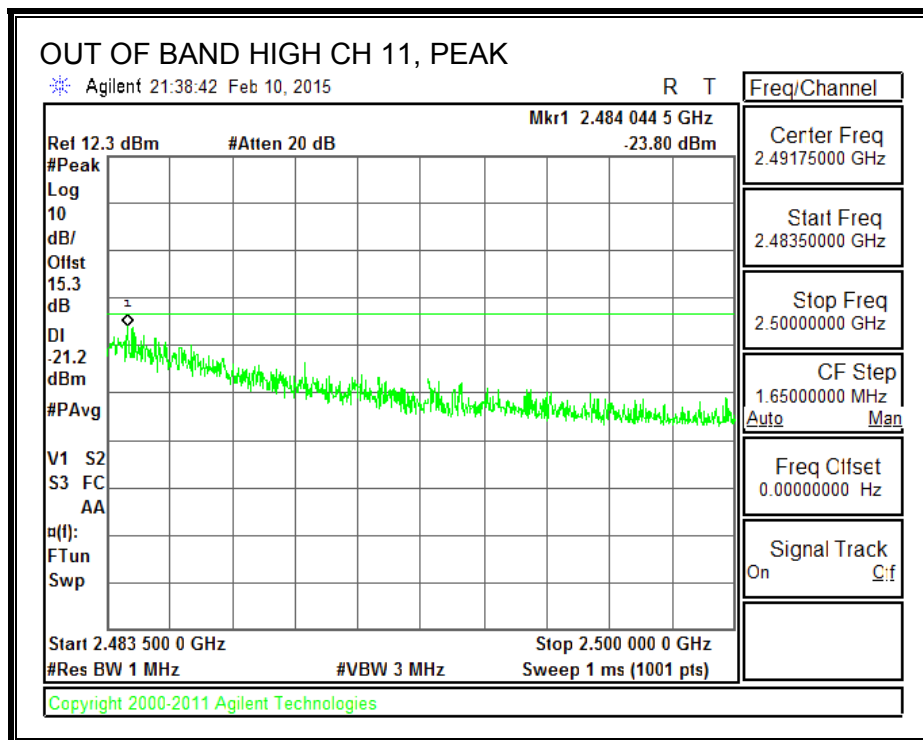
AUTHORIZED BANDEDGE (LOW CHANNEL)



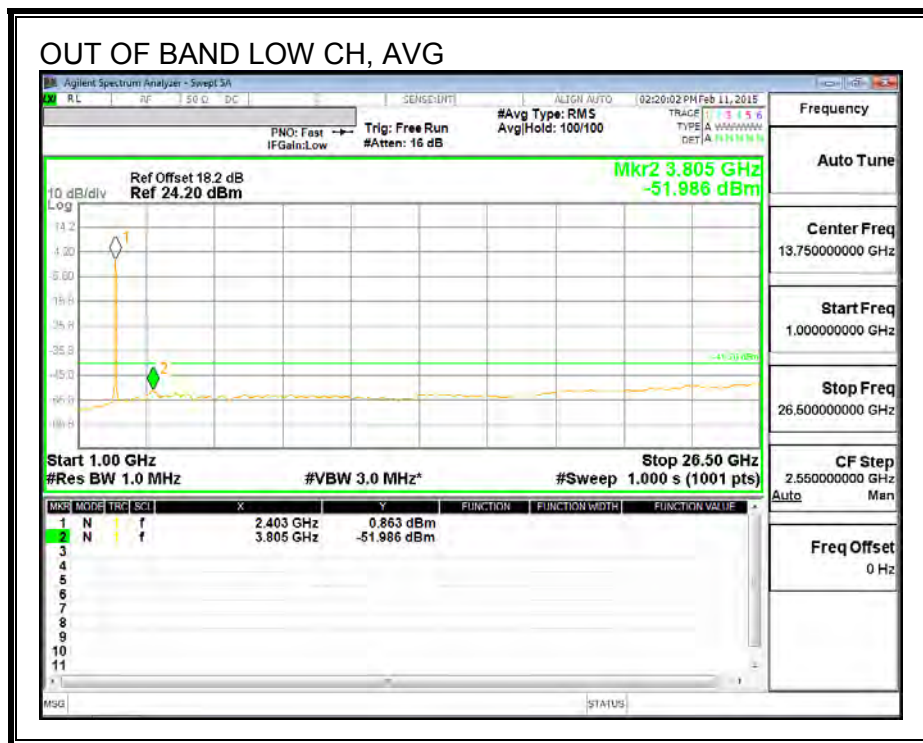
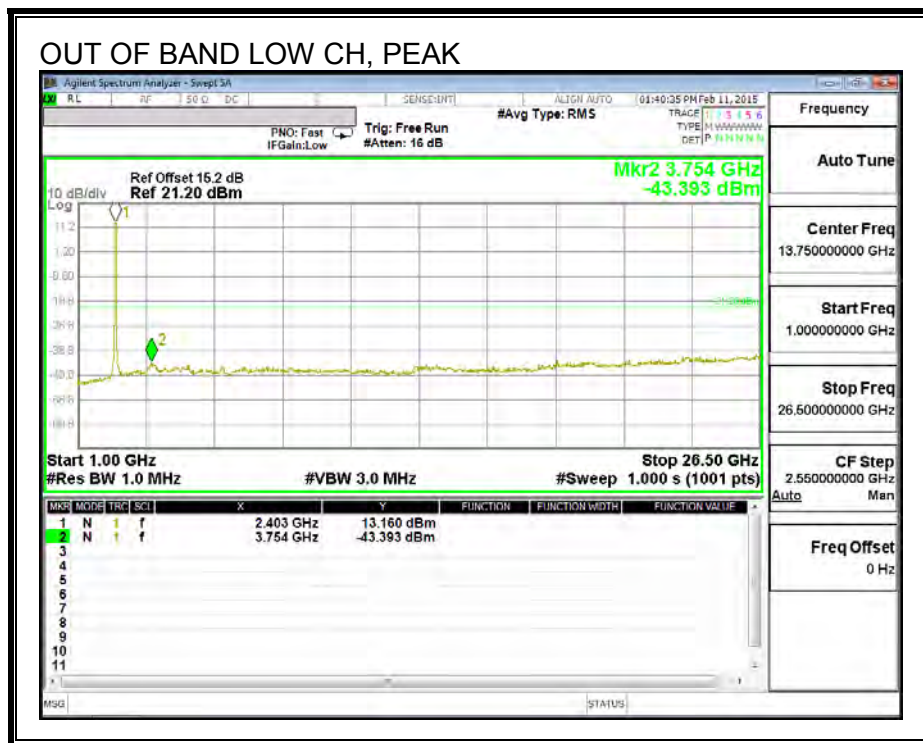


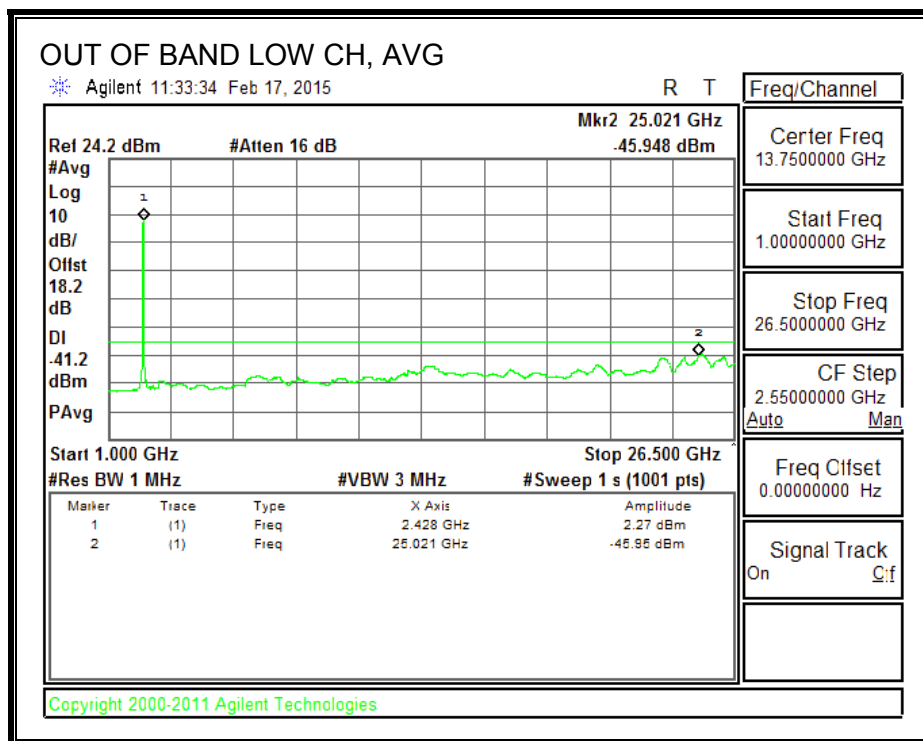
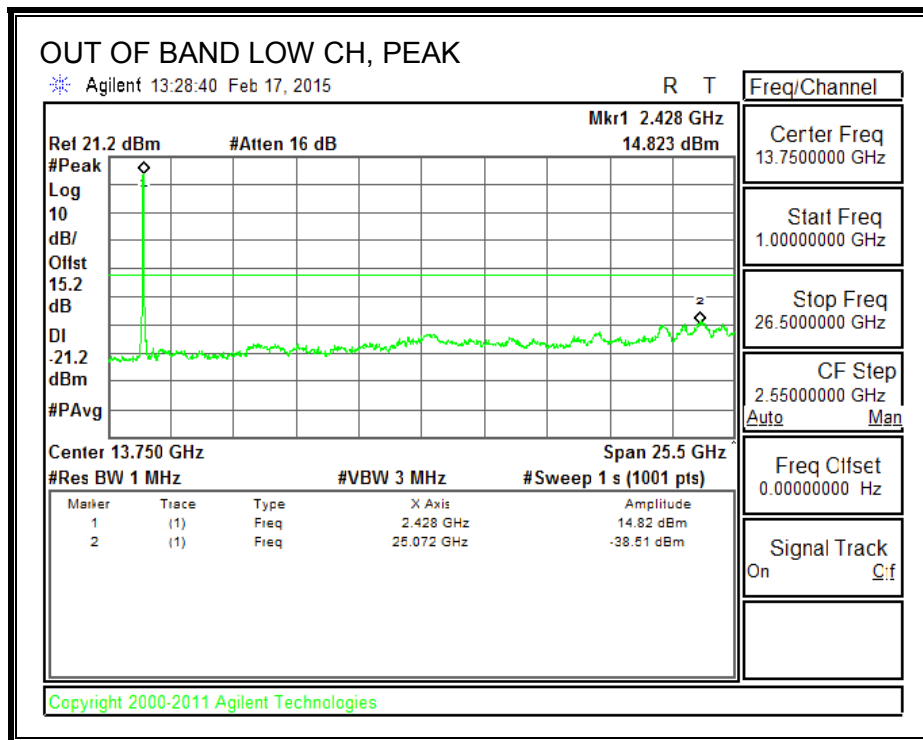
AUTHORIZED BANDEGE (HIGH CHANNEL)

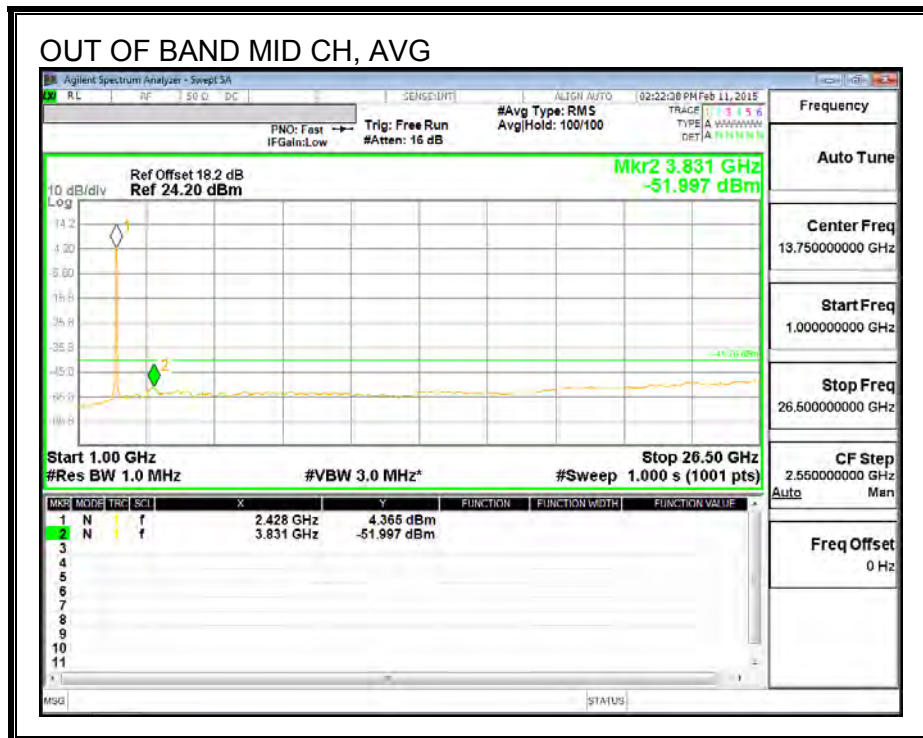
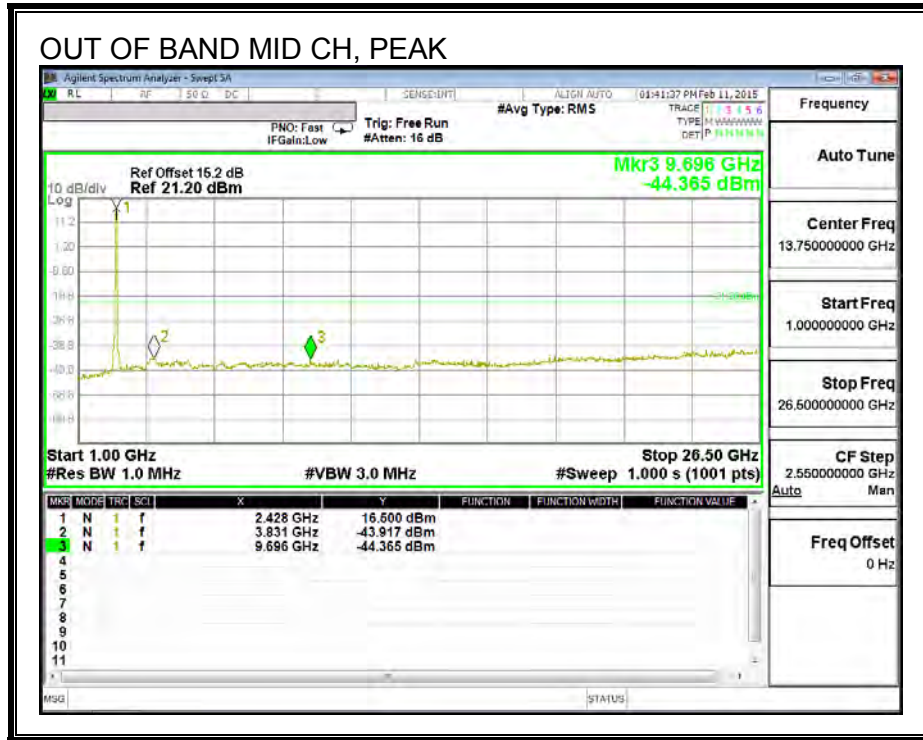


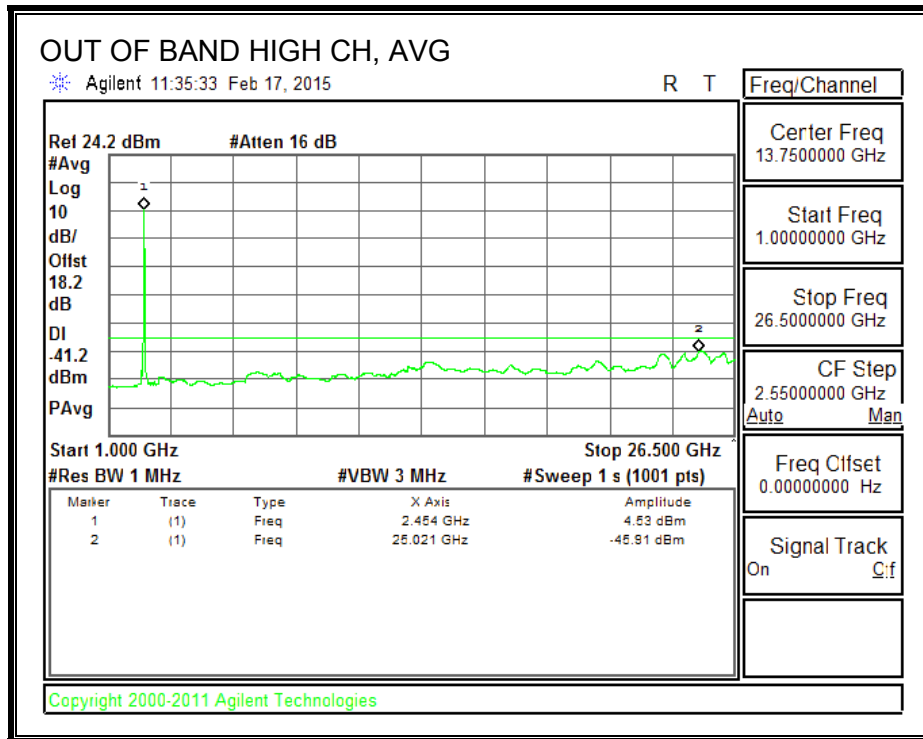
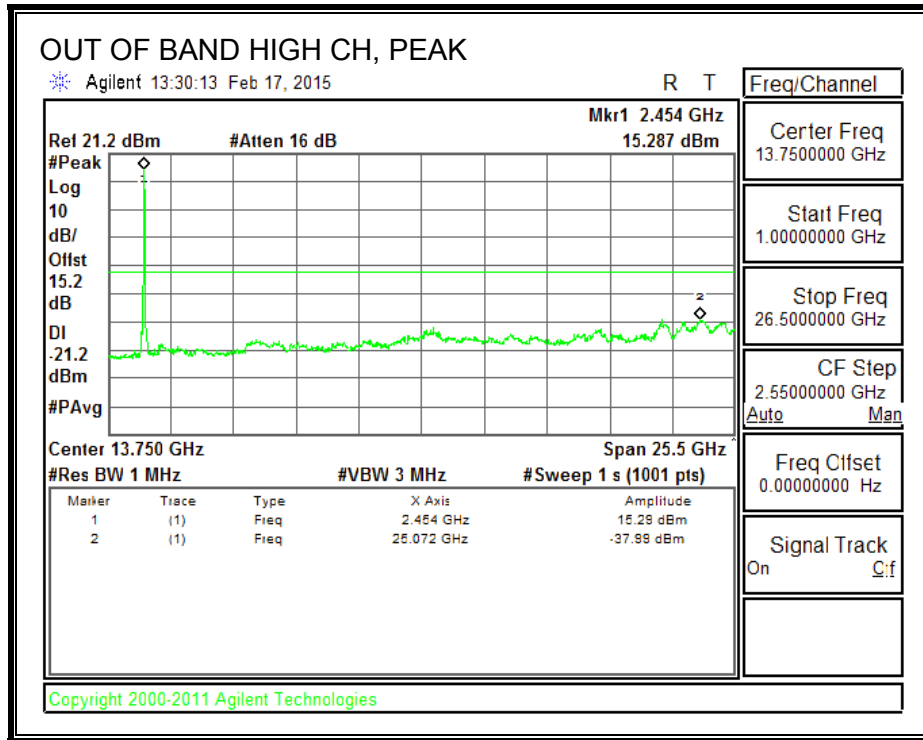


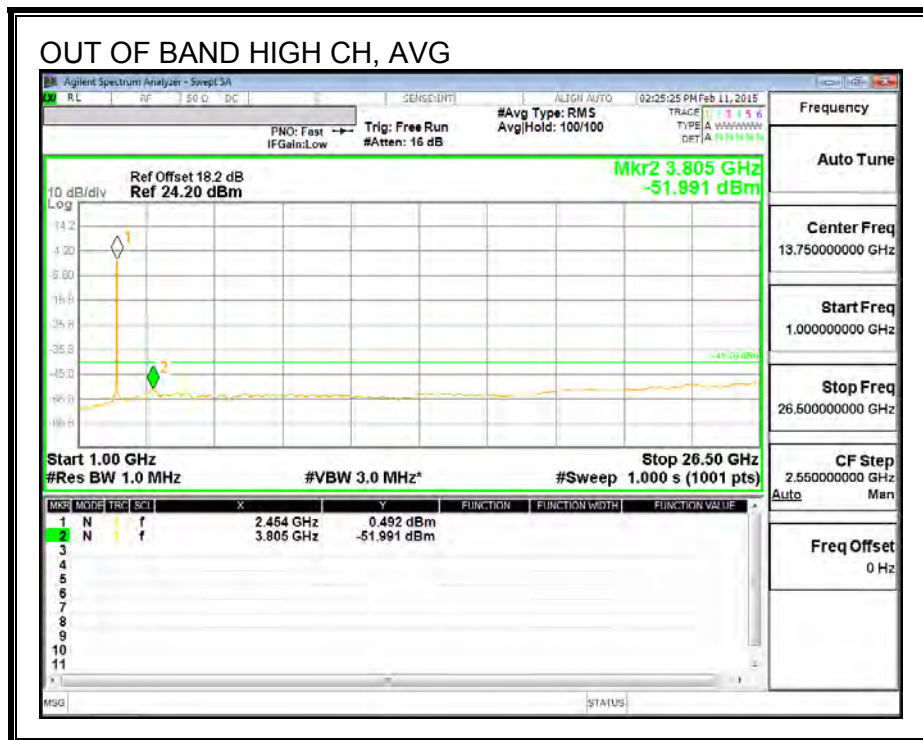
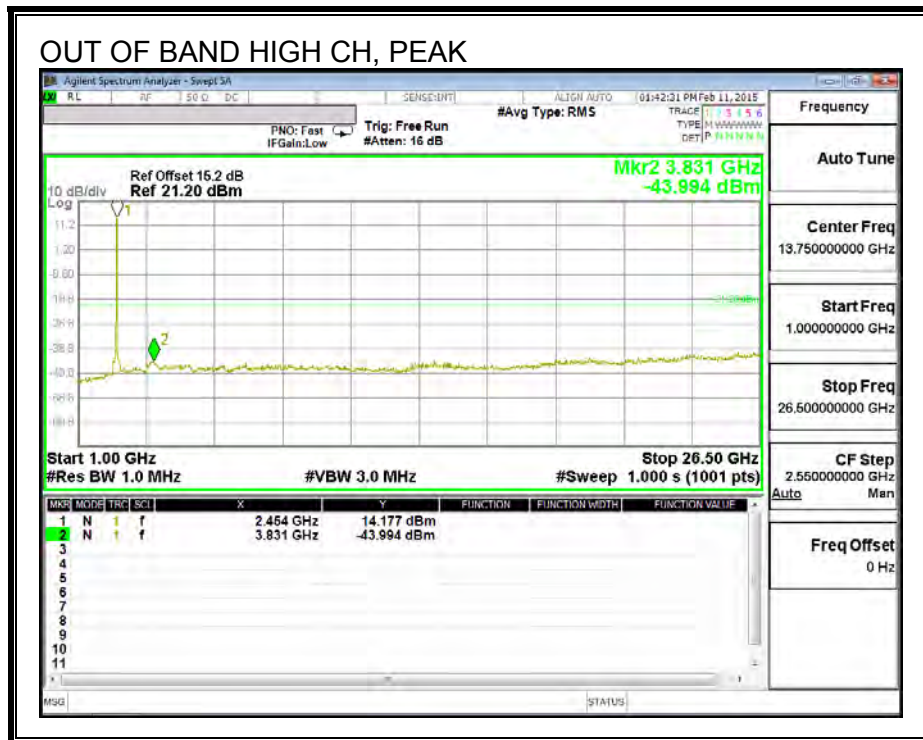
OUT-OF-BAND EMISSIONS











8.5. 802.11n HT20 MIMO MODE IN THE 2.4 GHz BAND

8.5.1. 6 dB BANDWIDTH

LIMITS

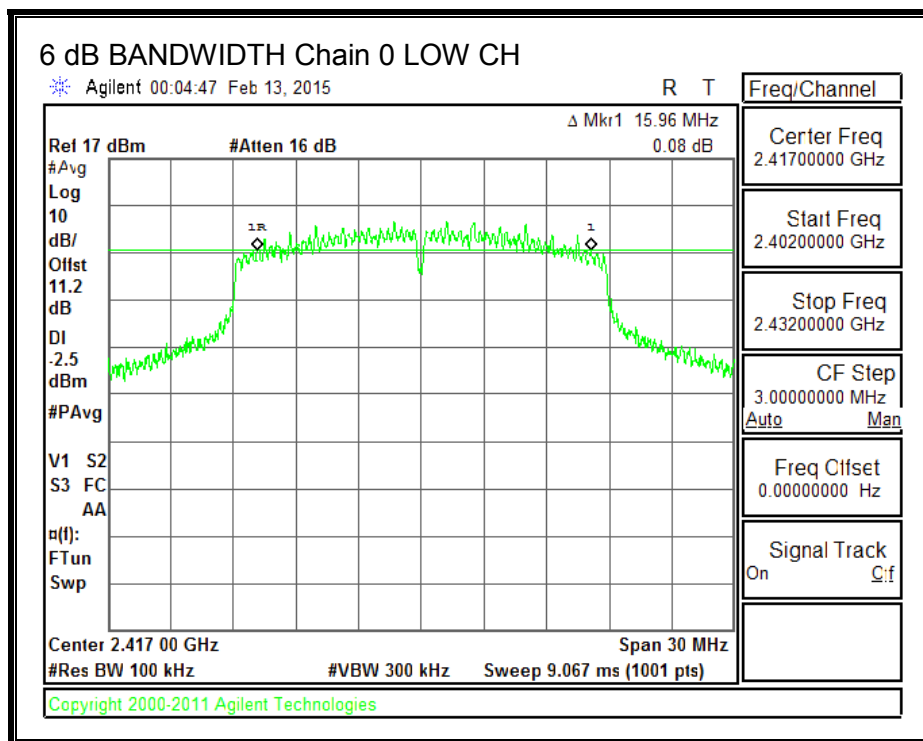
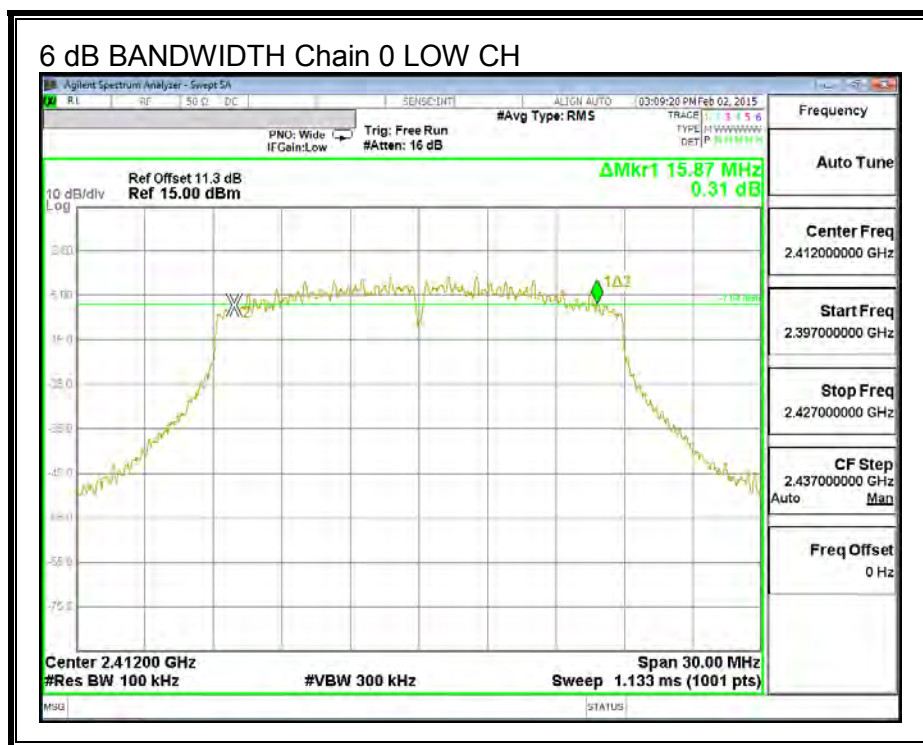
FCC §15.247 (a) (2)

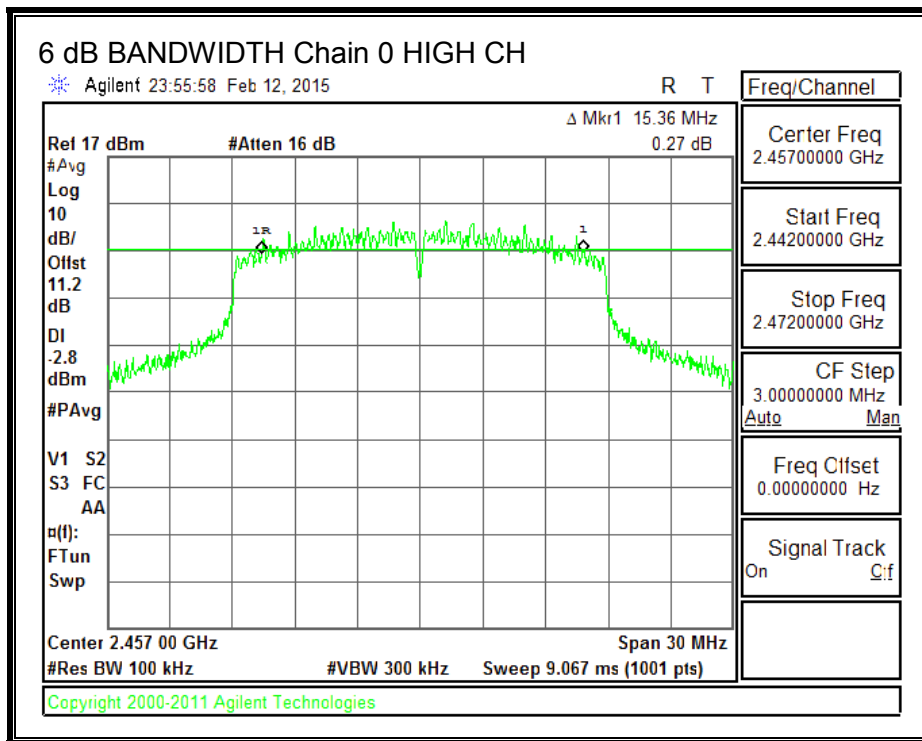
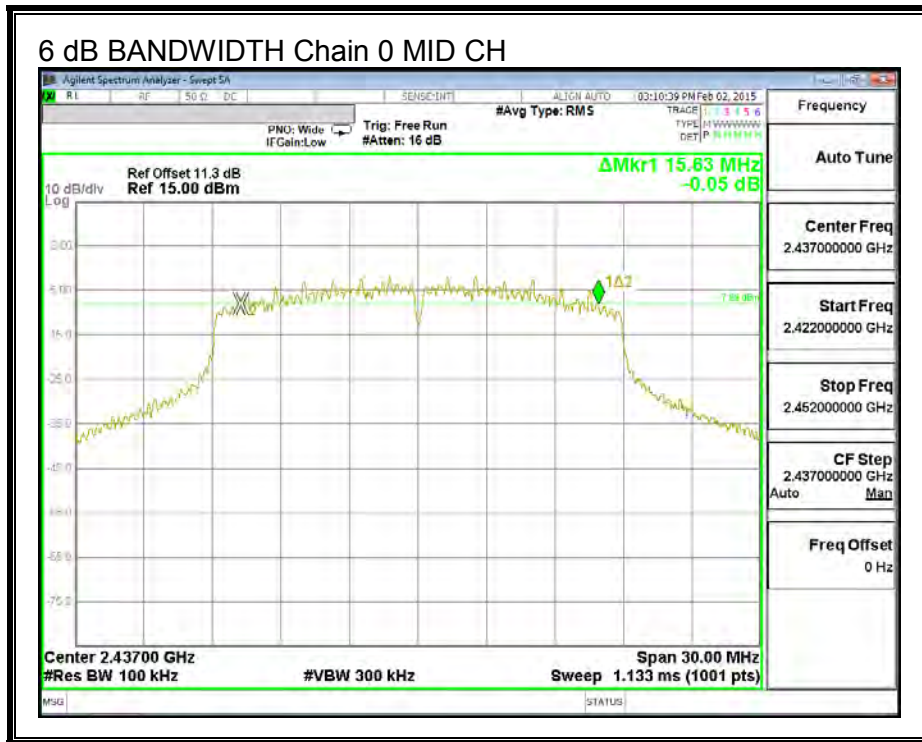
The minimum 6 dB bandwidth shall be at least 500 kHz.

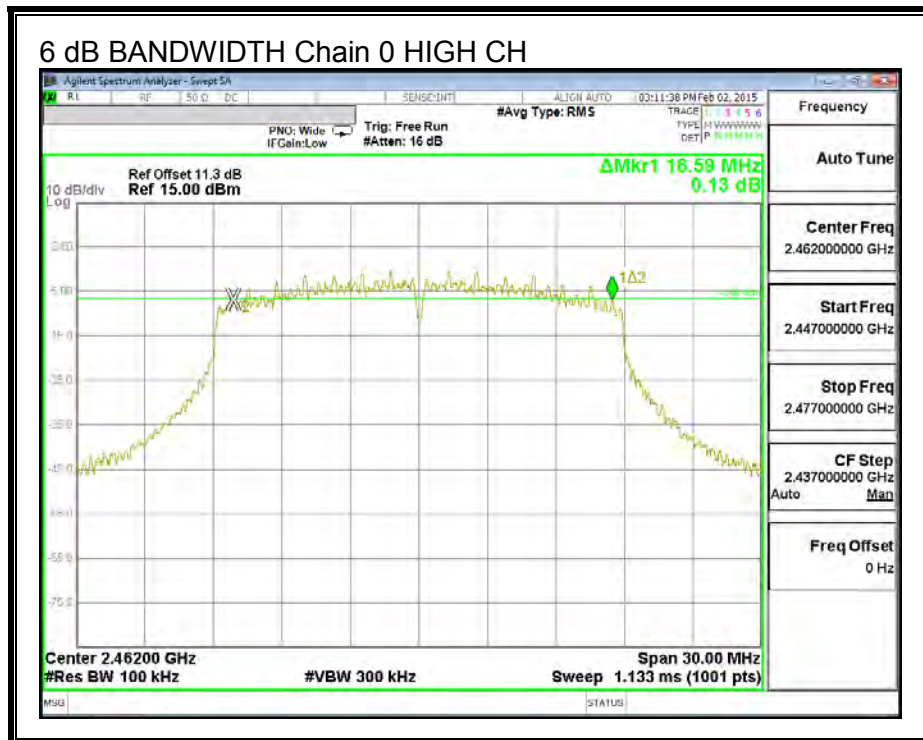
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	2412	15.870	15.630	0.5
Low	2417	15.960	15.390	0.5
Mid	2437	15.630	16.020	0.5
High	2457	15.360	15.390	0.5
High	2462	16.590	15.960	0.5

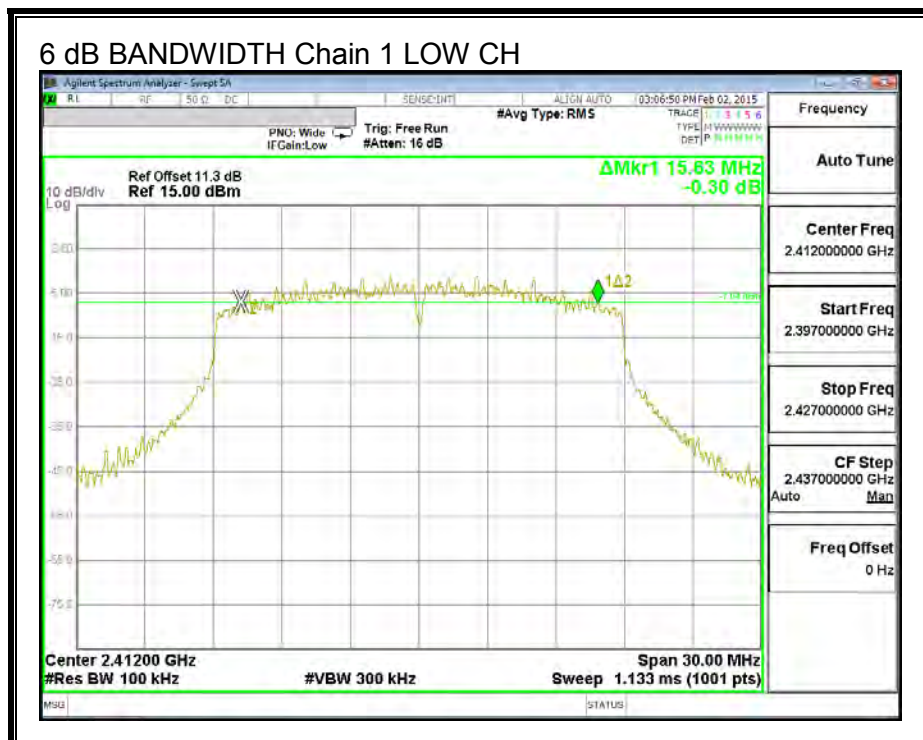
6 dB BANDWIDTH, Chain 0

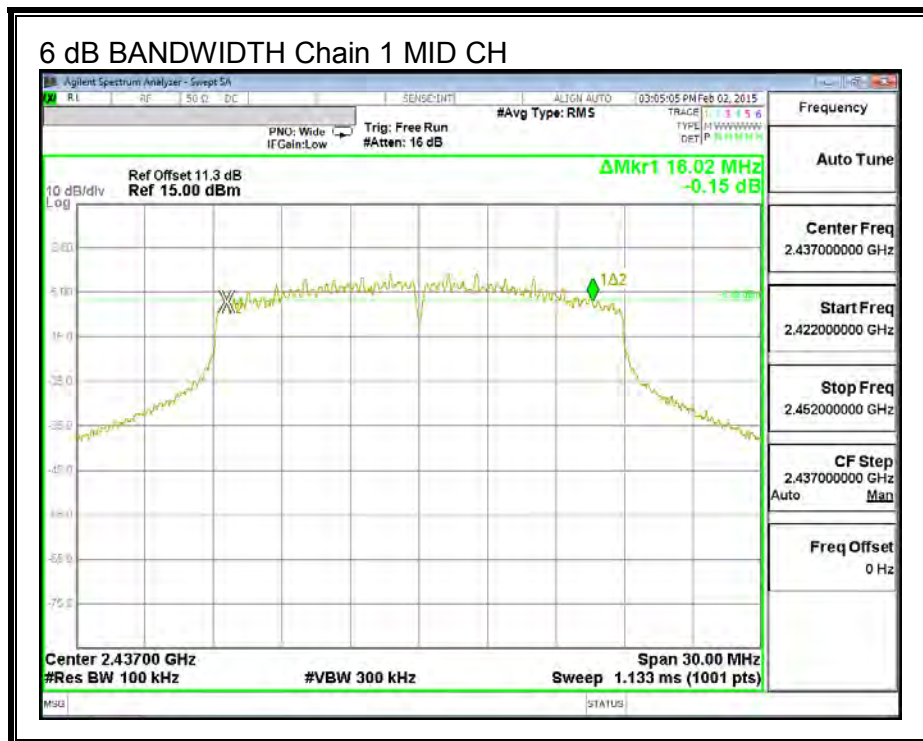
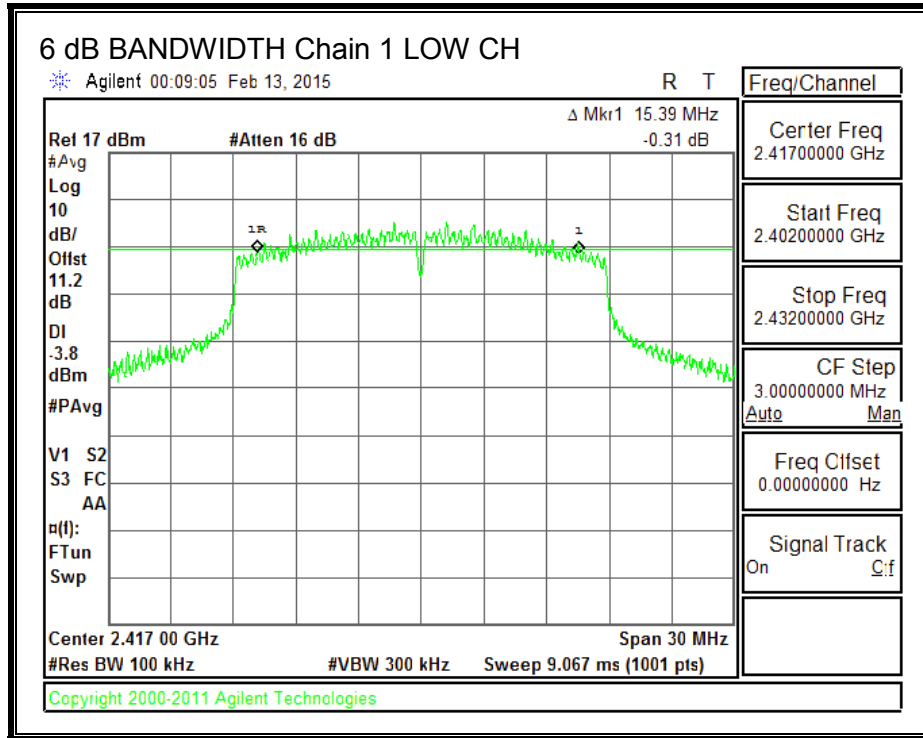


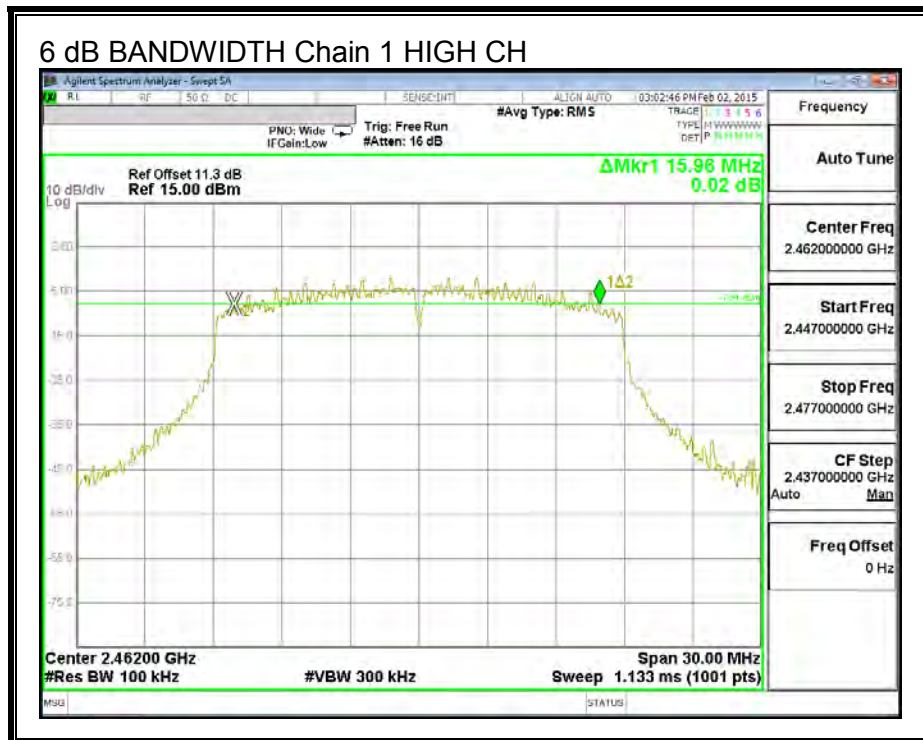
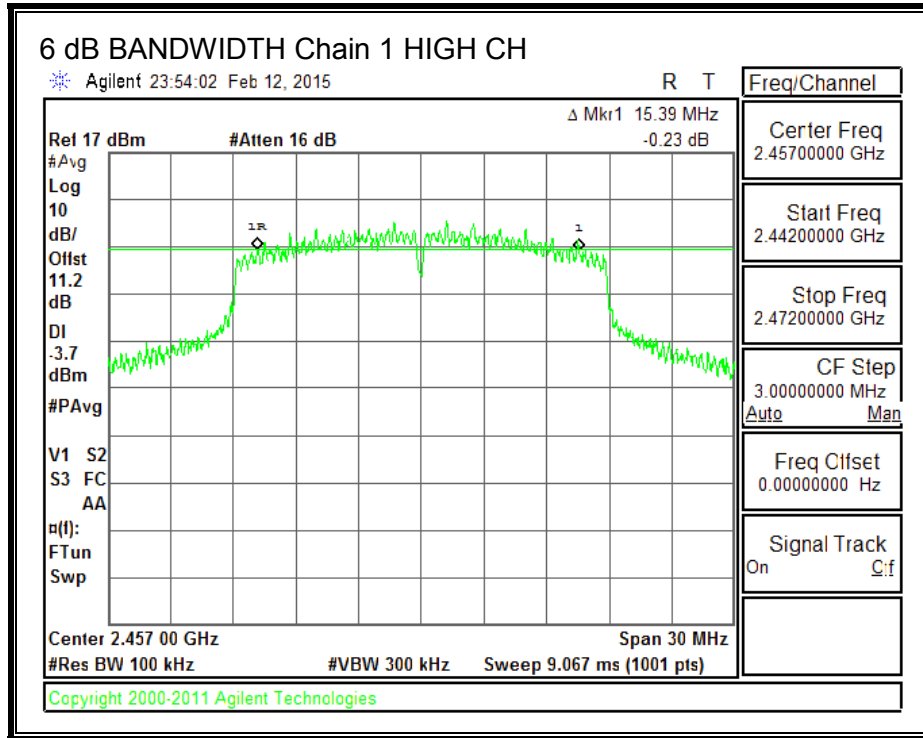




6 dB BANDWIDTH, Chain 1







8.5.2. OUTPUT POWER

LIMITS

FCC §15.247

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	Max Power (dBm)
Low	2412	4.00	30.00	30.00
Low	2417	4.00	30.00	30.00
Mid	2437	4.00	30.00	30.00
High	2457	4.00	30.00	30.00
High	2462	4.00	30.00	30.00

Duty Cycle CF (dB)	2.99	Included in Calculations of Corr'd Power
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Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low	2412	8.37	7.75	14.07	30.00	-15.93
Low	2417	6.54	7.47	13.03	30.00	-16.97
Mid	2437	12.34	10.50	17.52	30.00	-12.48
High	2457	6.53	6.91	12.72	30.00	-17.28
High	2462	8.43	7.17	13.85	30.00	-16.15

8.5.3. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

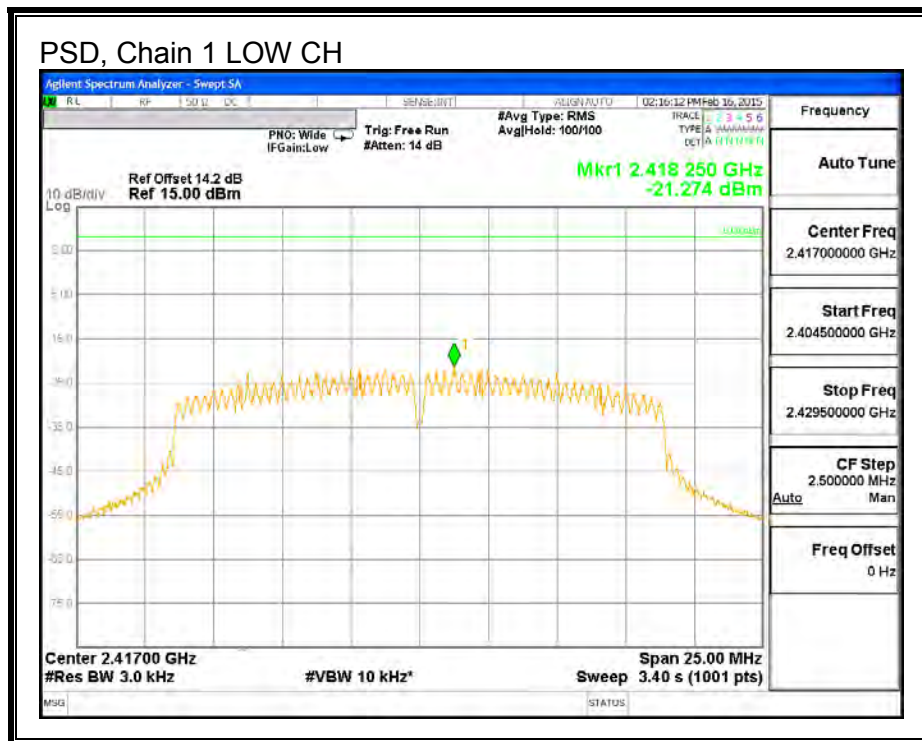
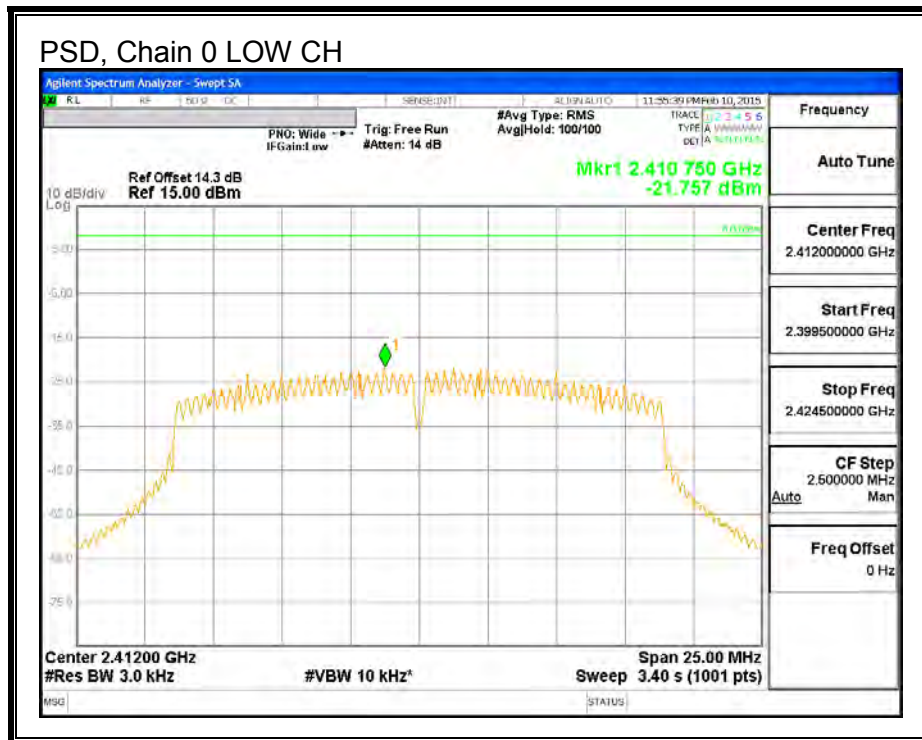
RESULTS

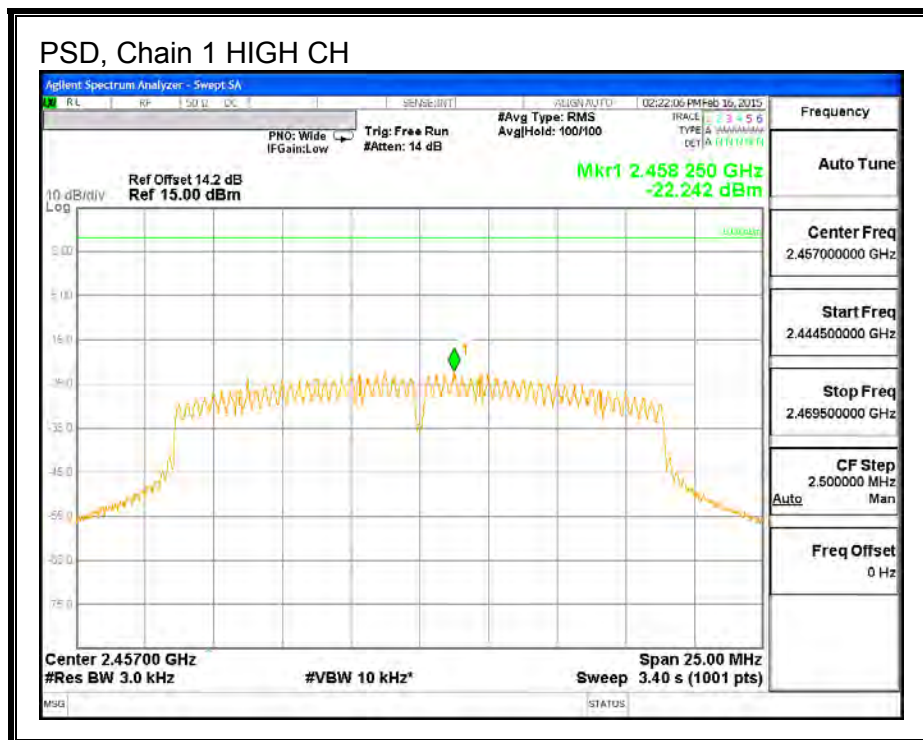
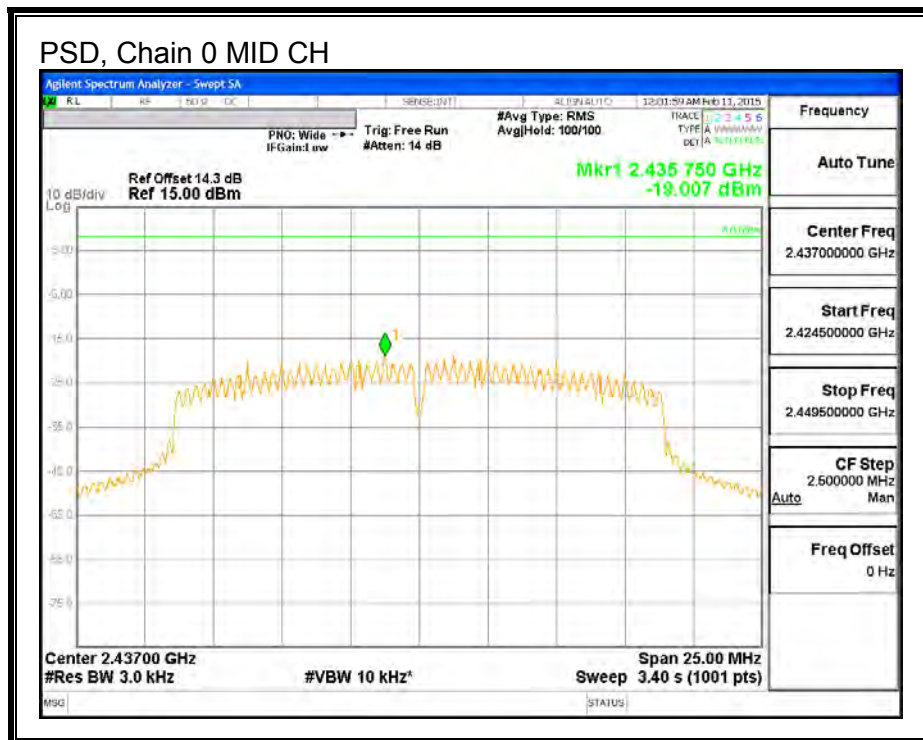
PSD Results

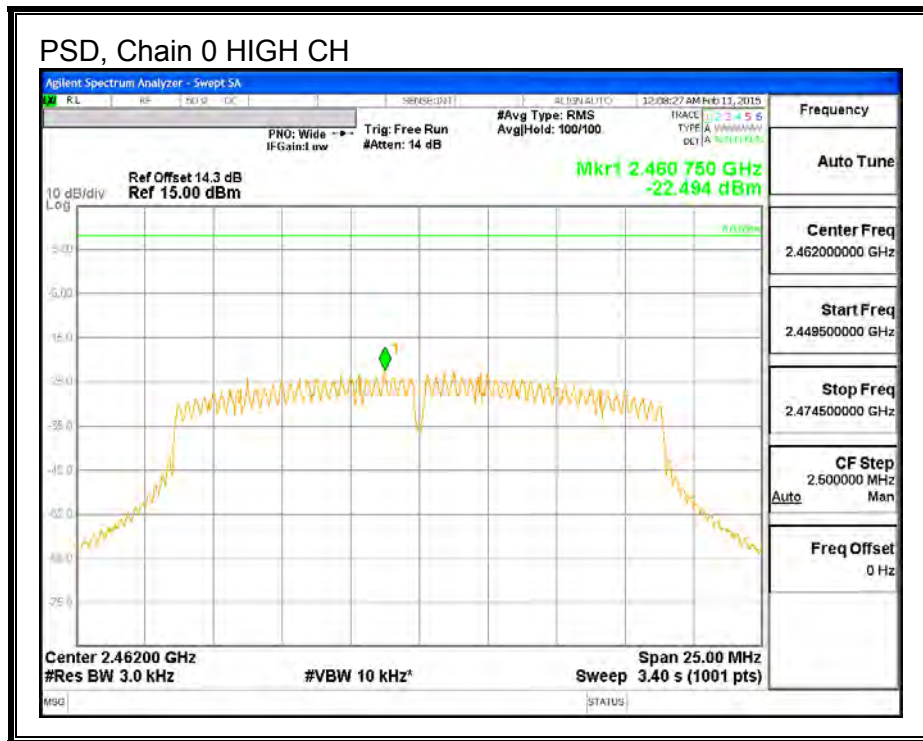
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-21.76	-19.94	-17.74	8.0	-25.7
Low	2417	-21.27	-21.73	-18.49	8.0	-26.5
Mid	2437	-19.01	-17.46	-15.16	8.0	-23.2
High	2457	-22.24	-22.31	-19.27	8.0	-27.3
High	2462	-22.49	-19.47	-17.72	8.0	-25.7

Duty Cycle Correction Factor Included in Measurement

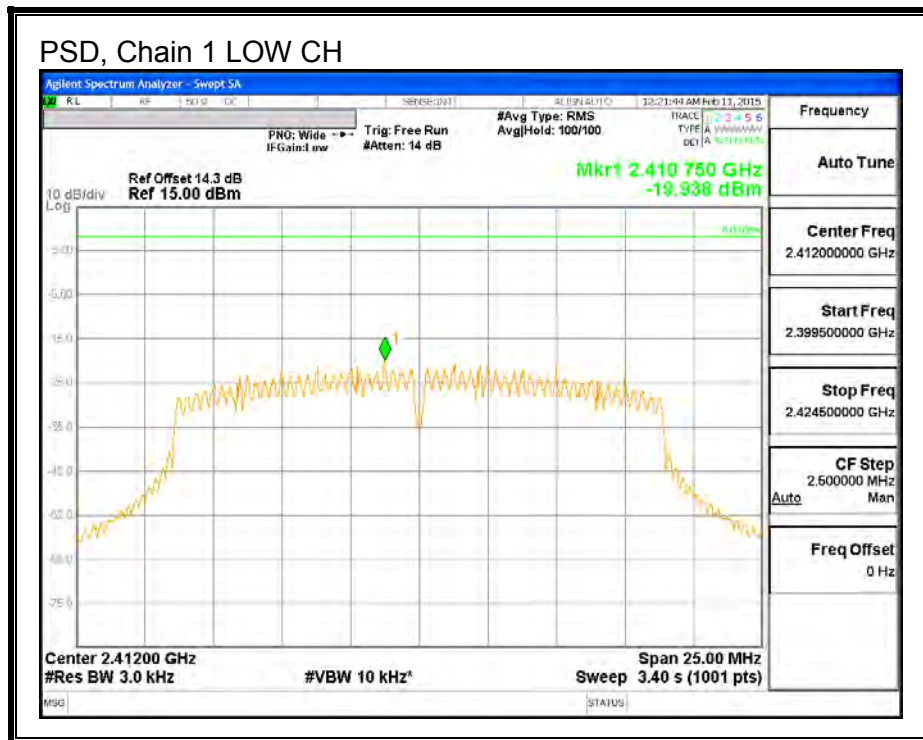
PSD, Chain 0

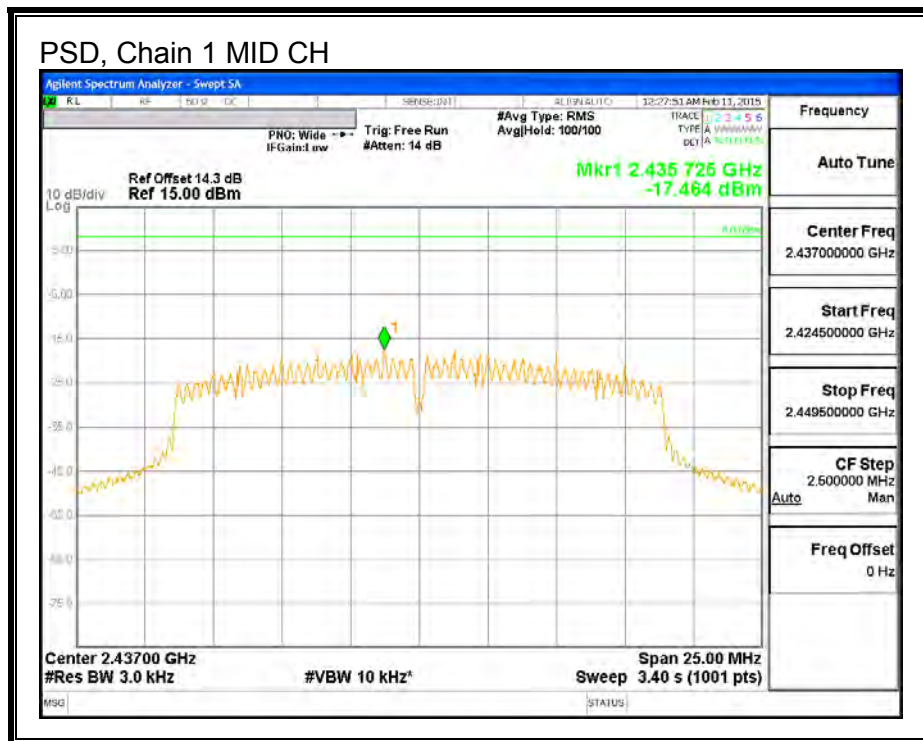
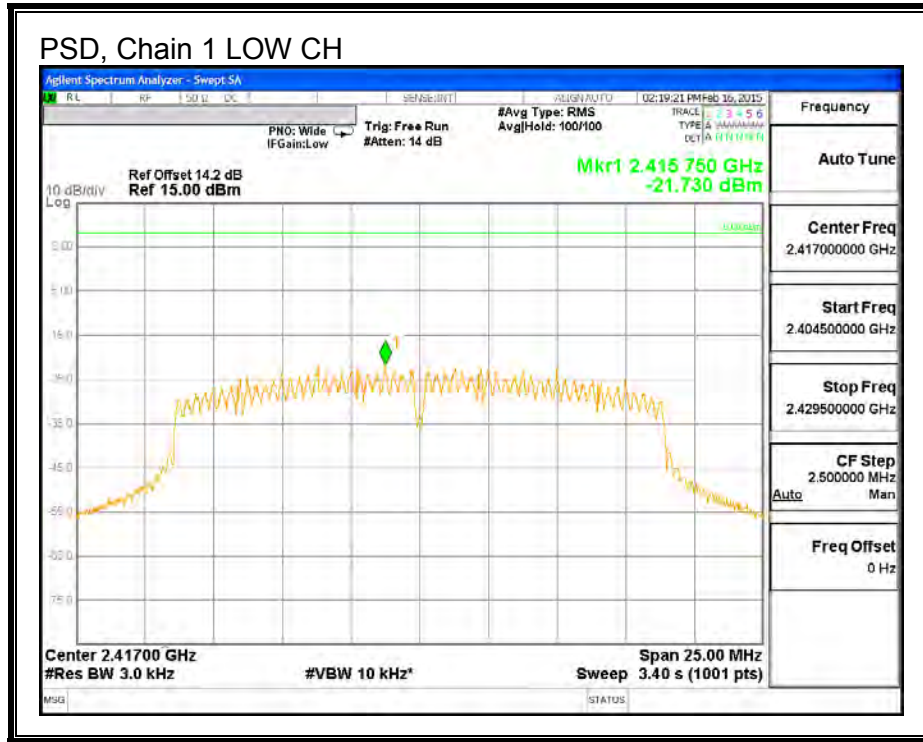


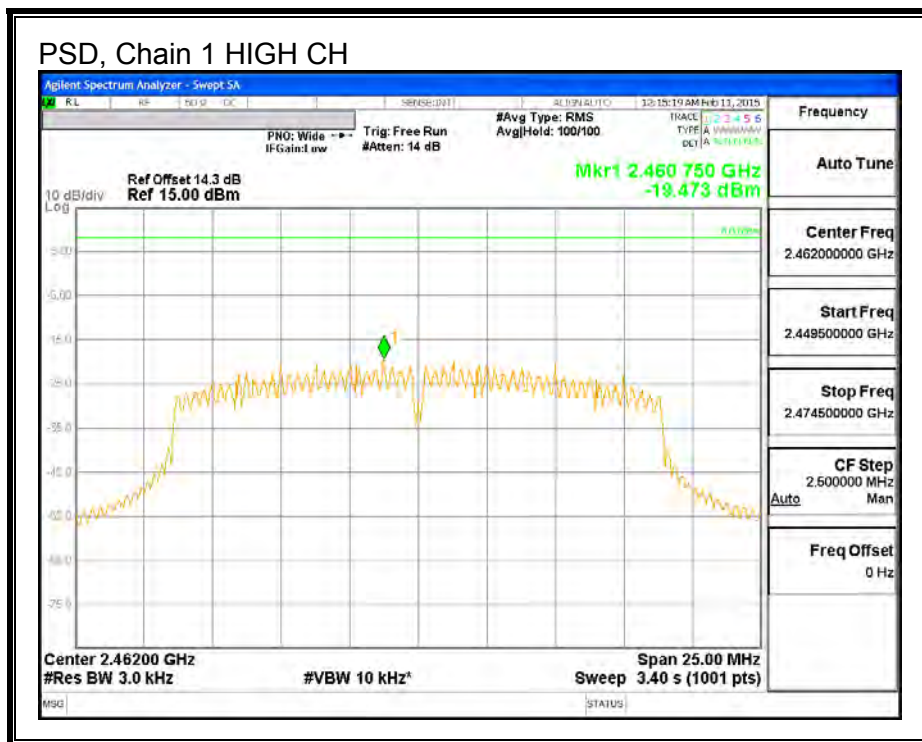
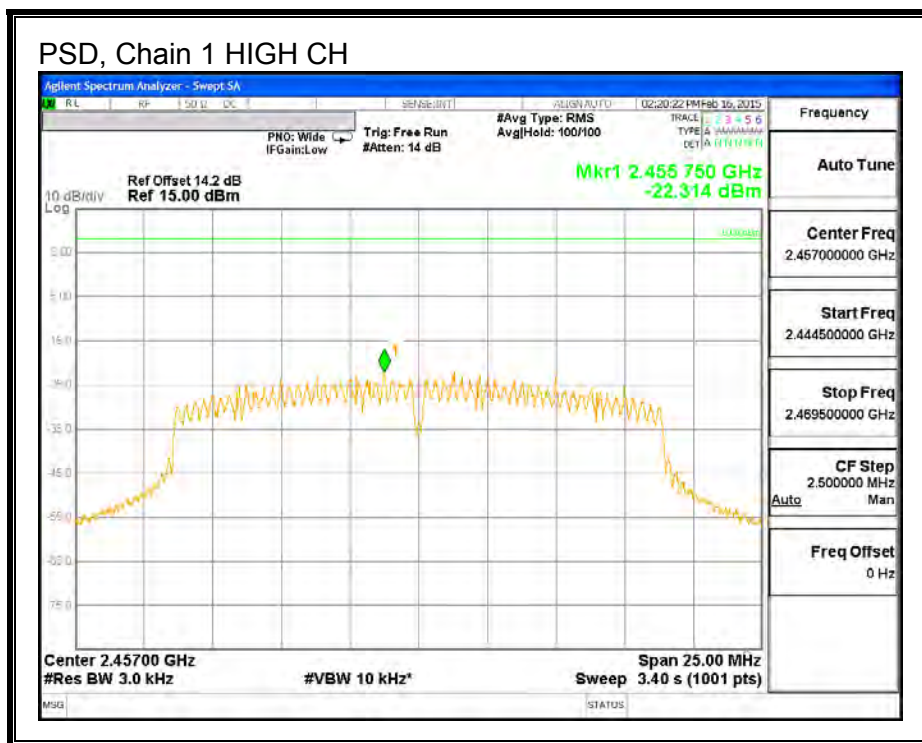




PSD, Chain 1







8.5.4. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

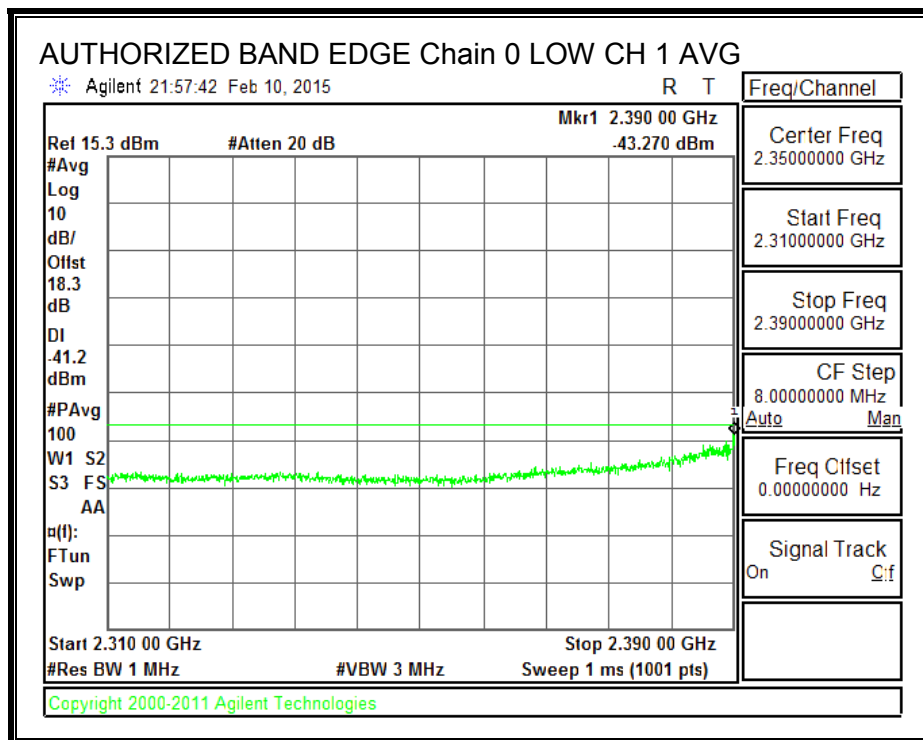
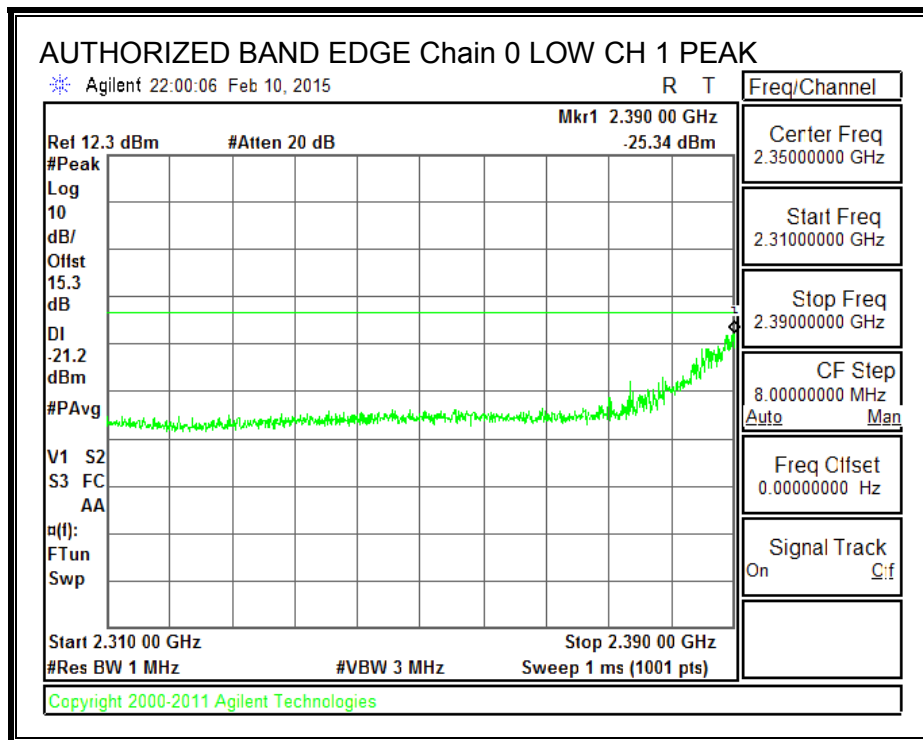
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

PROCEDURE

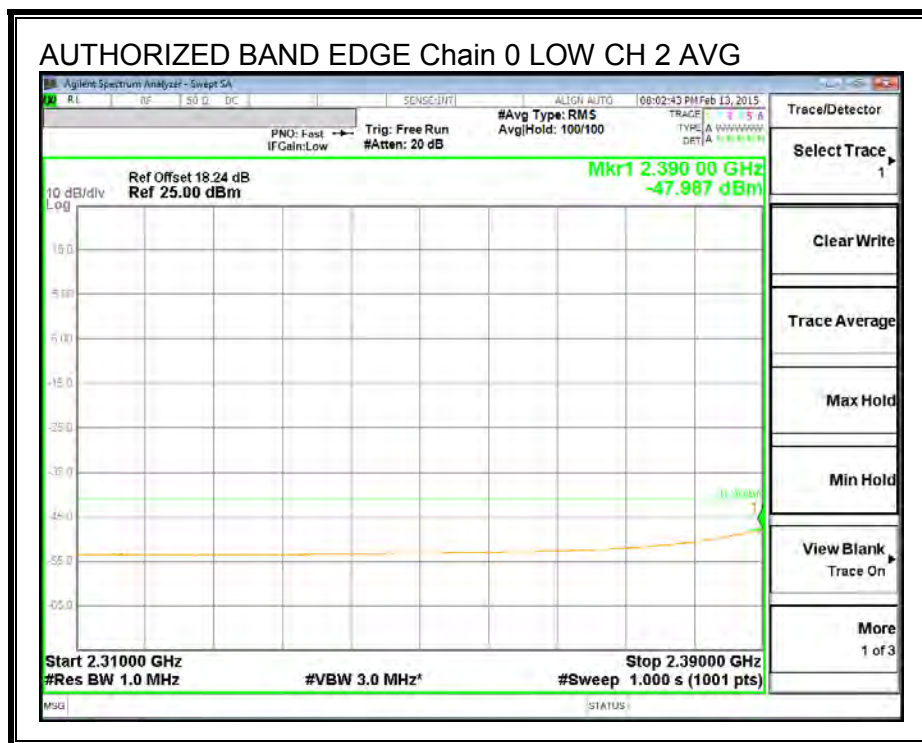
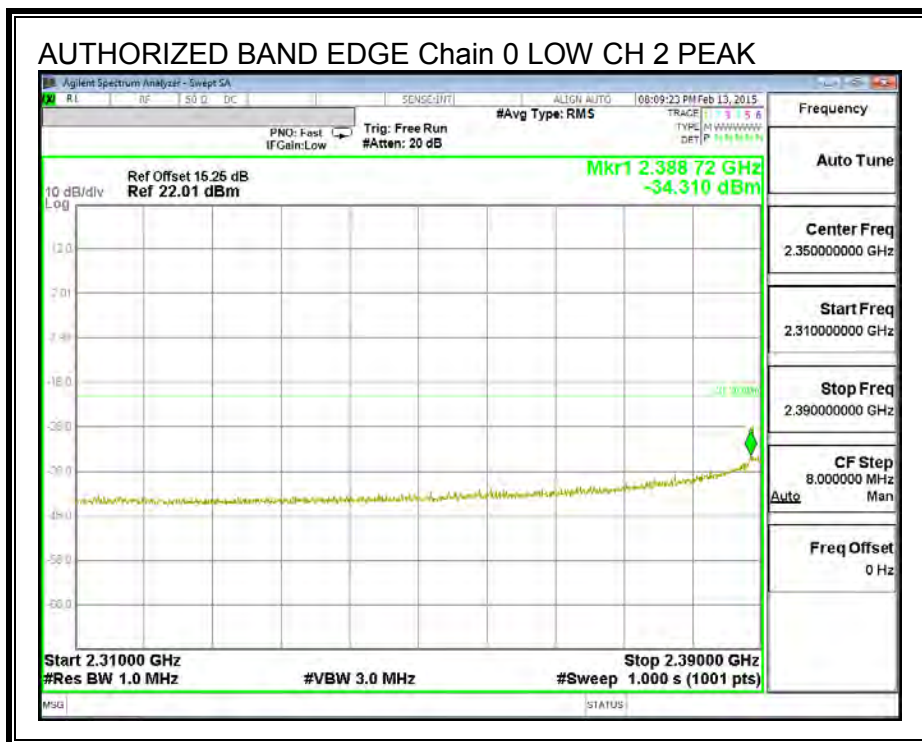
Conducted BE measurements are being used to demonstrate compliance with the spurious limits in the restricted band. §15.209 limits are 54dBuV/m average and 74dBuV/m peak, which are equivalent to eirp of -41.2 dBm and -21.2dBm respectively. The plots include an offset to account for the EUT antenna gain, Duty cycle correction and external attenuation between EUT antenna port and spectrum analyzer.

RESULTS

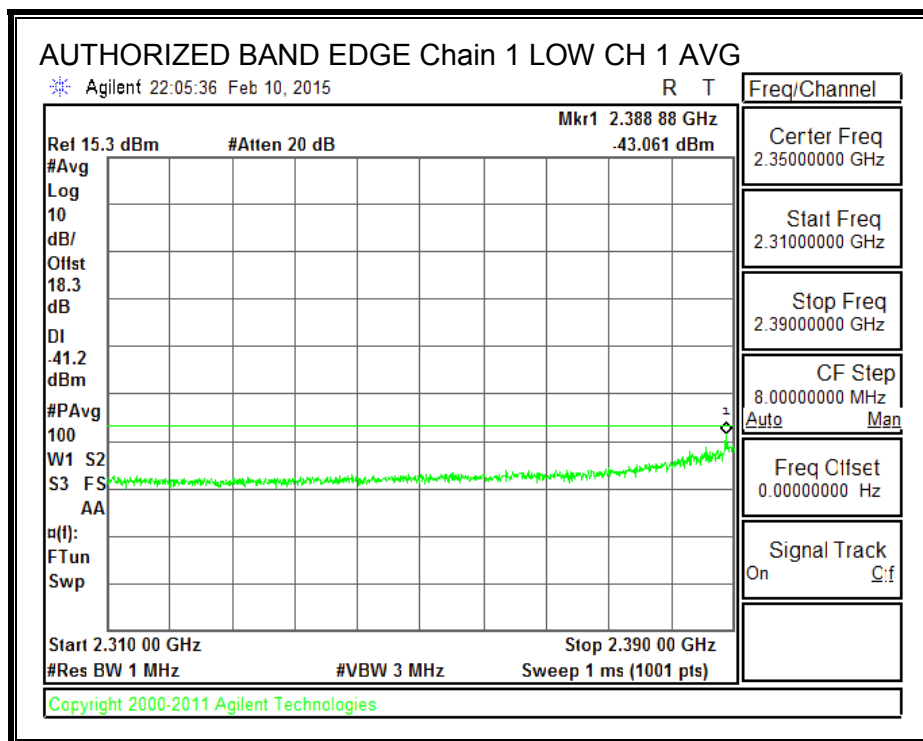
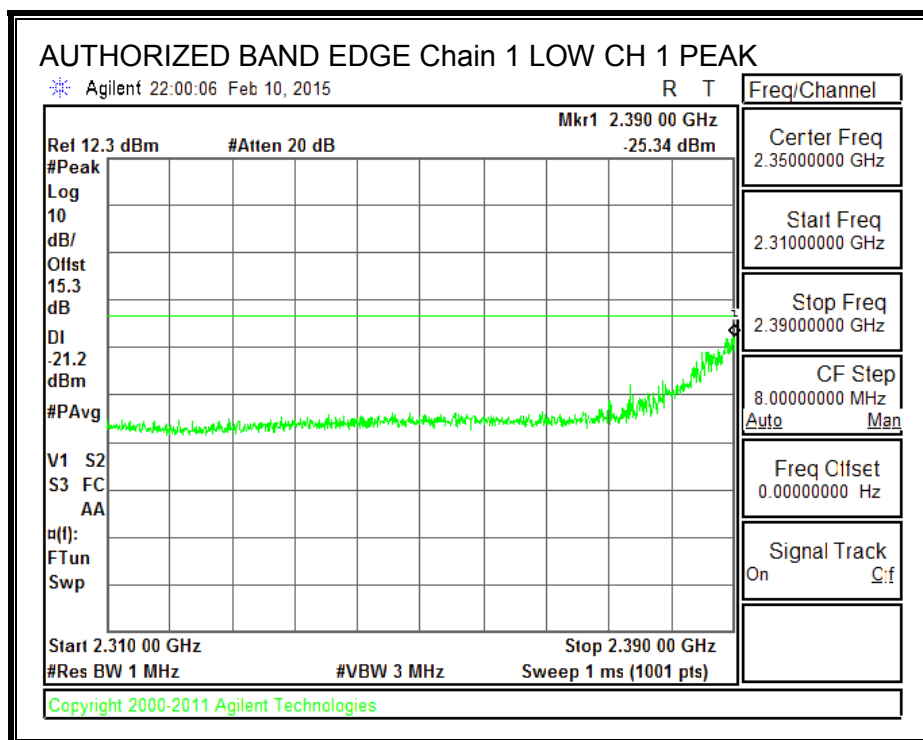
LOW CHANNEL 1 BANDEDGE, Chain 0



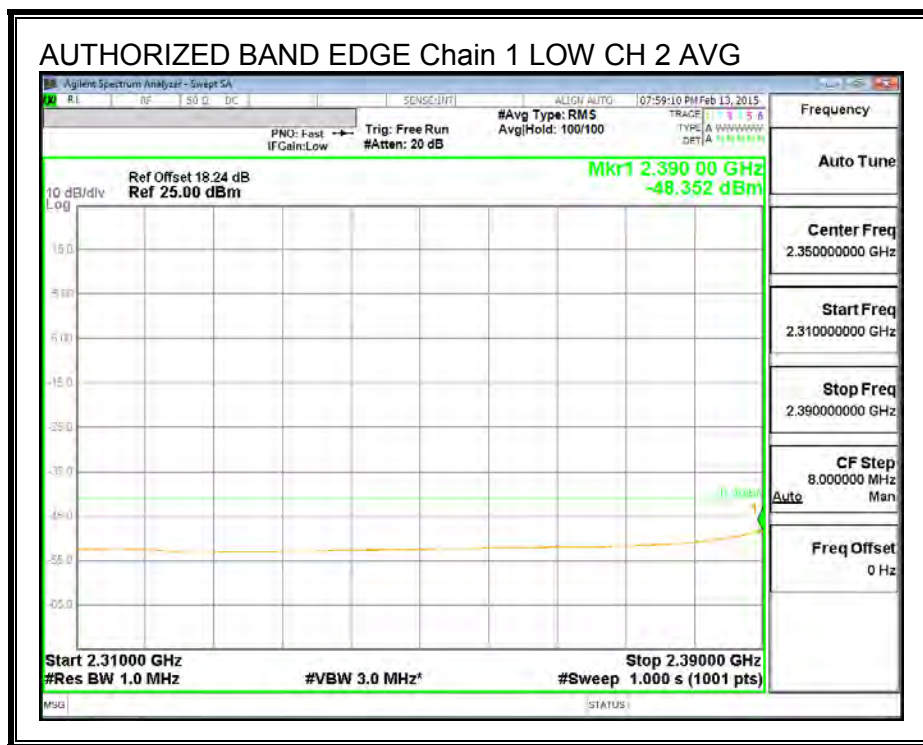
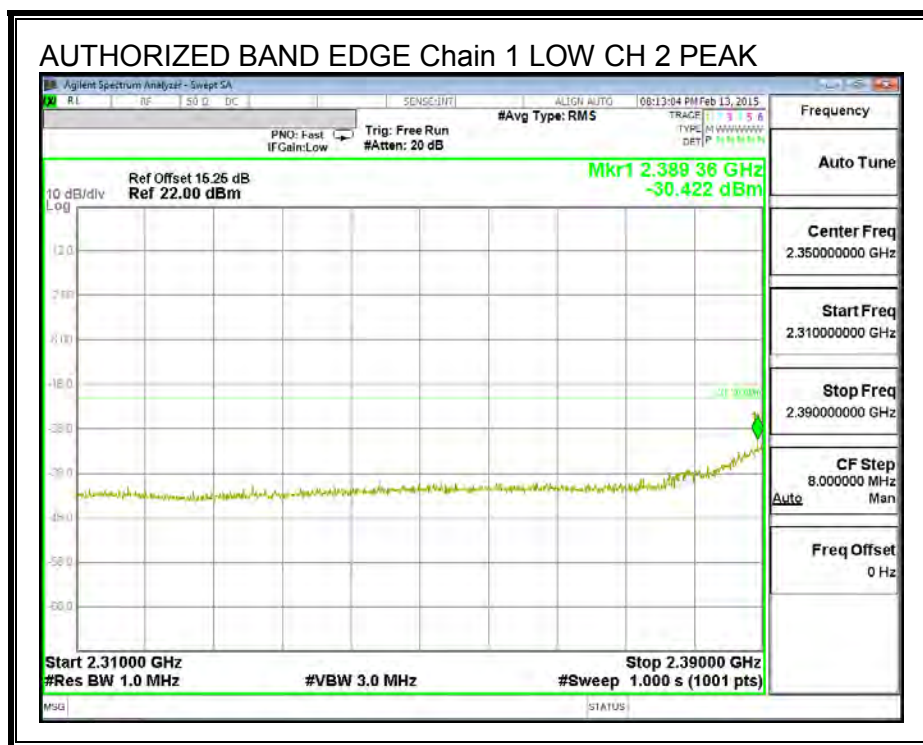
LOW CHANNEL 2 BANDEDGE, Chain 0



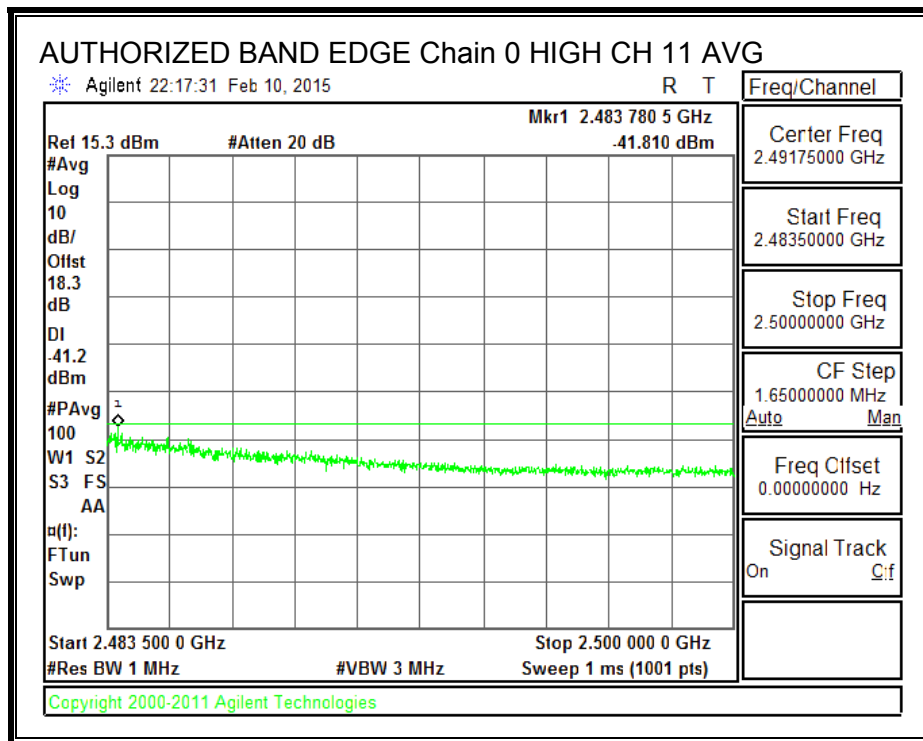
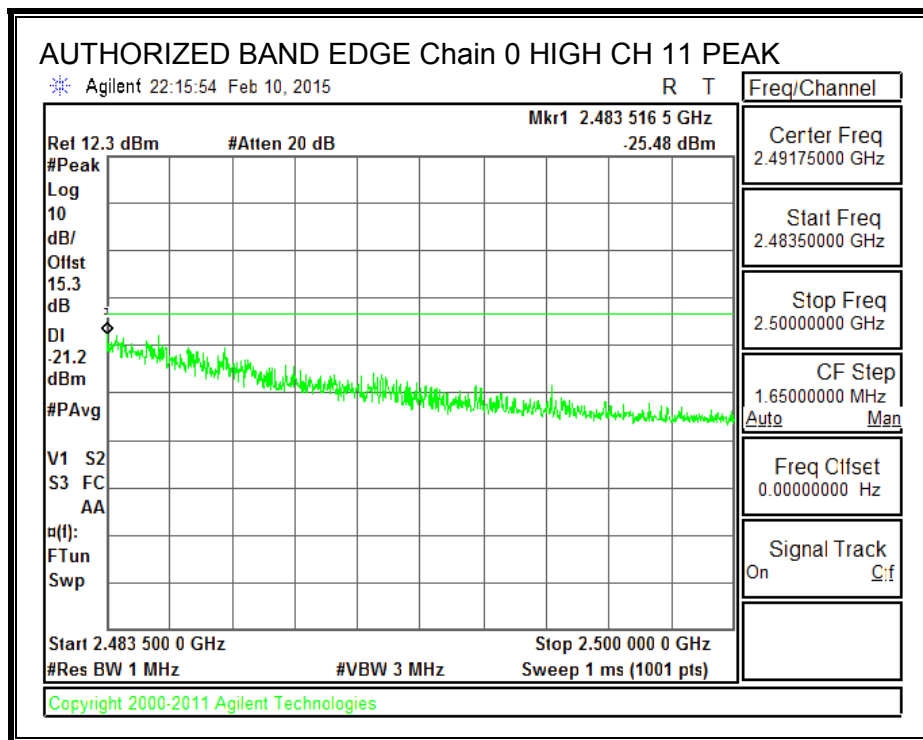
LOW CHANNEL 1 BANDEDGE, Chain 1



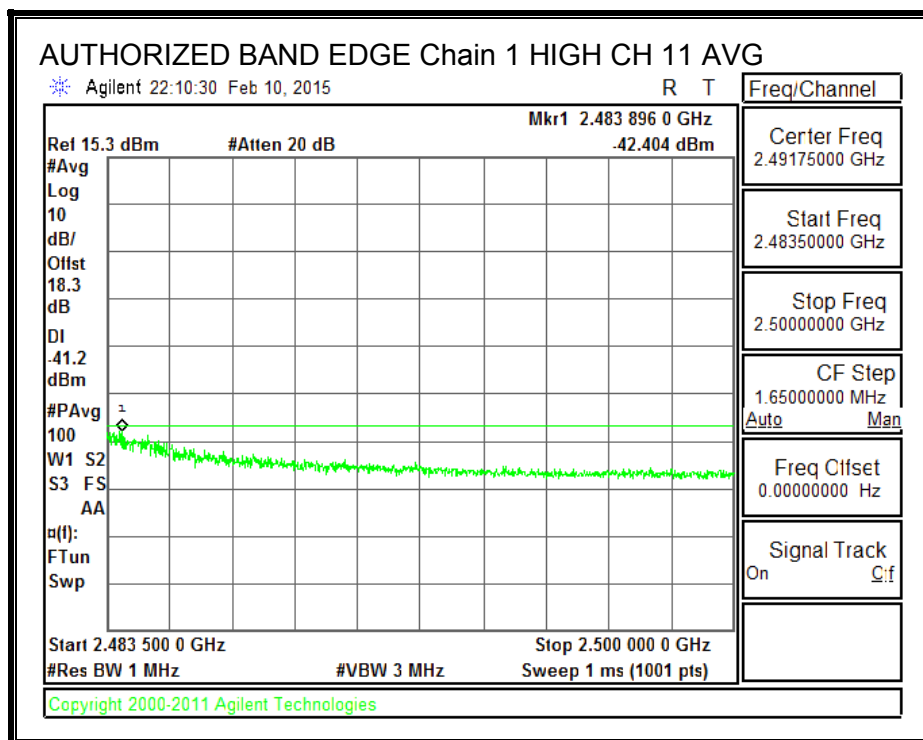
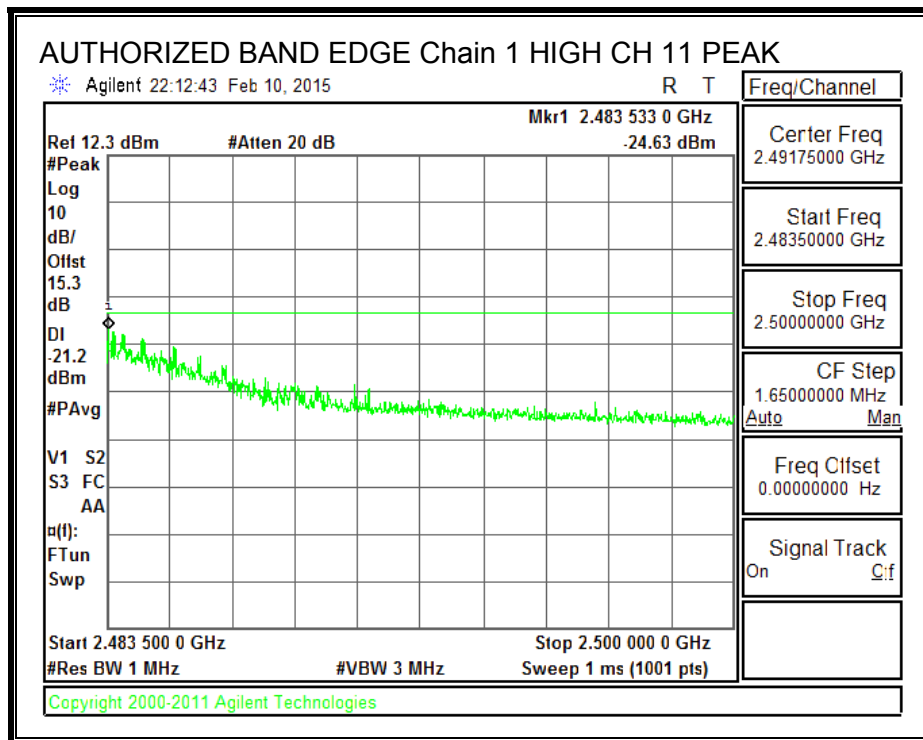
LOW CHANNEL 2 BANDEDGE, Chain 1



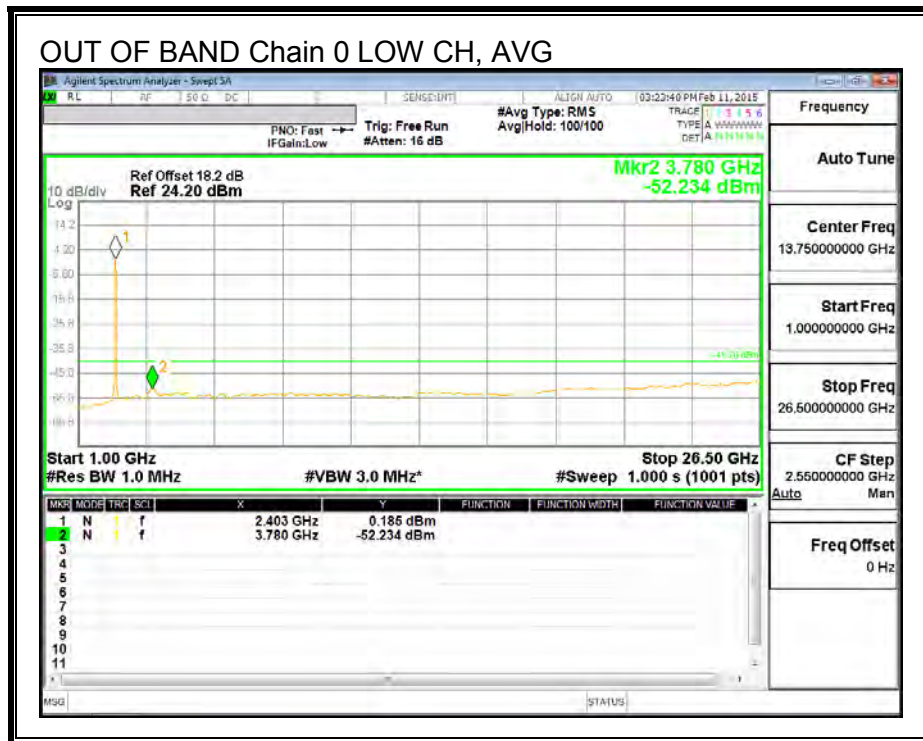
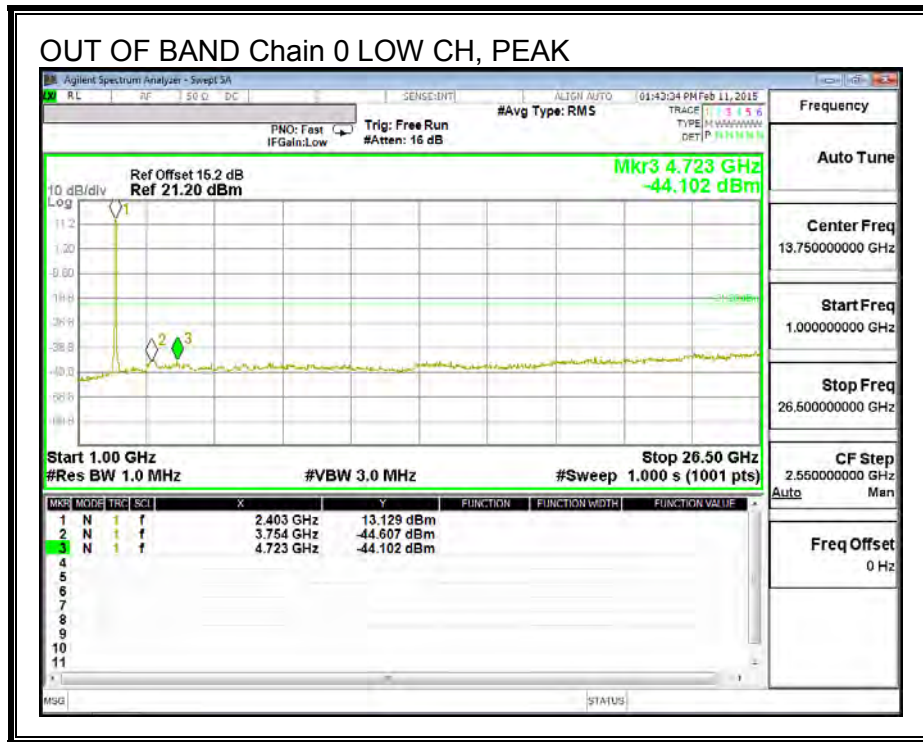
HIGH CHANNEL 11 BANDEDGE, Chain 0

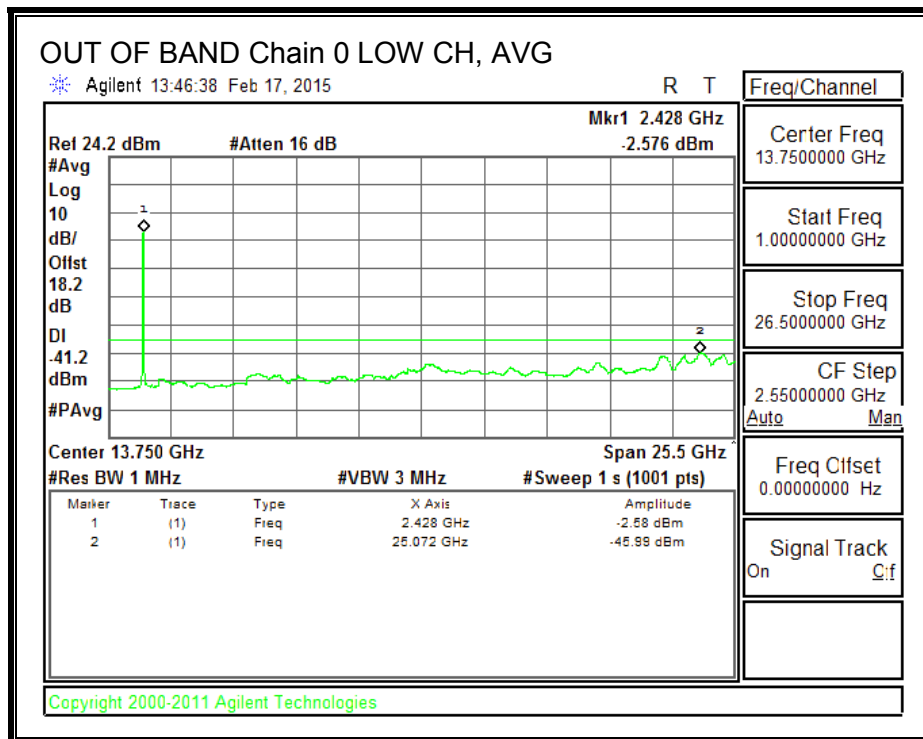
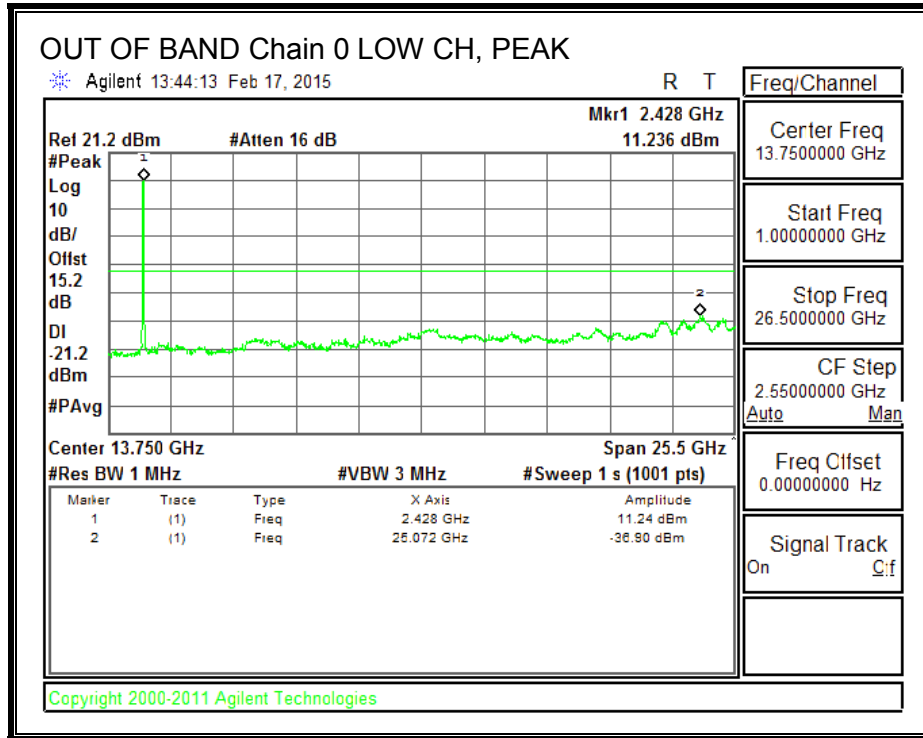


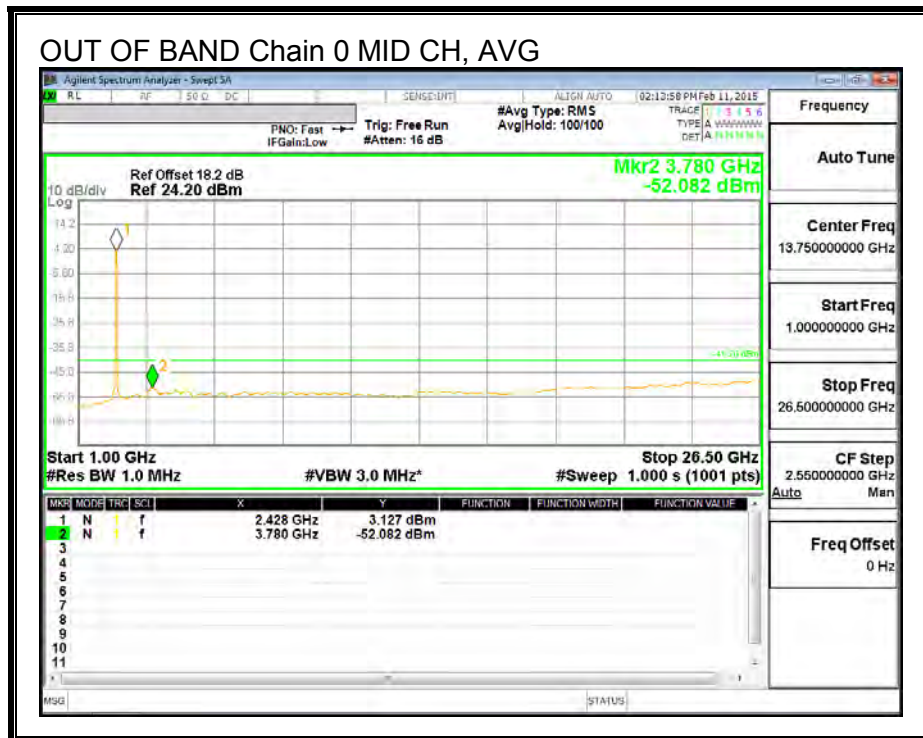
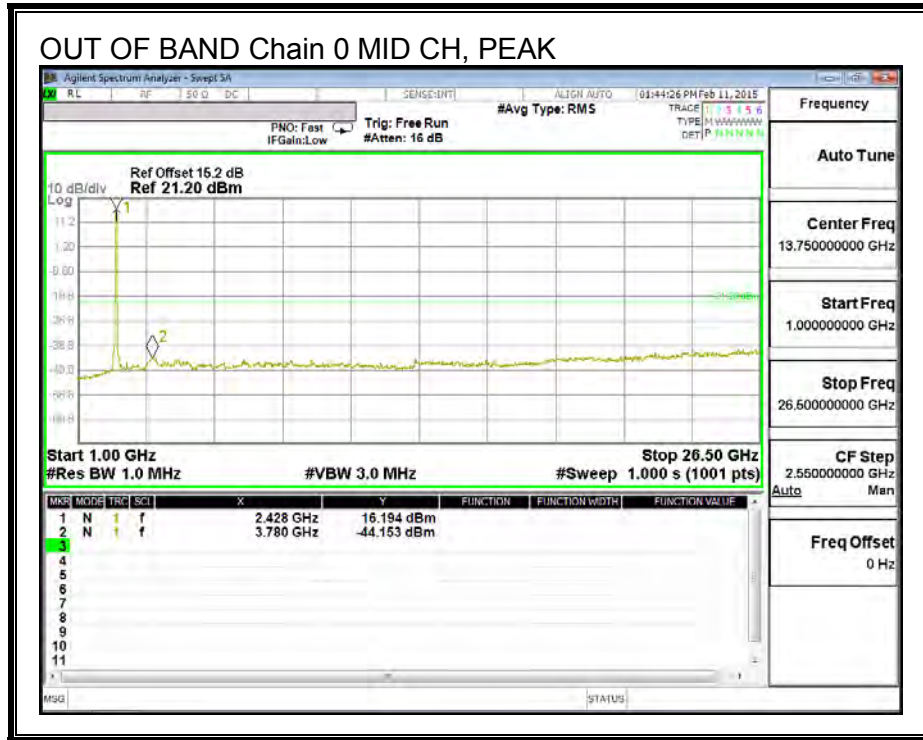
HIGH CHANNEL11 BANDEDGE, Chain 1

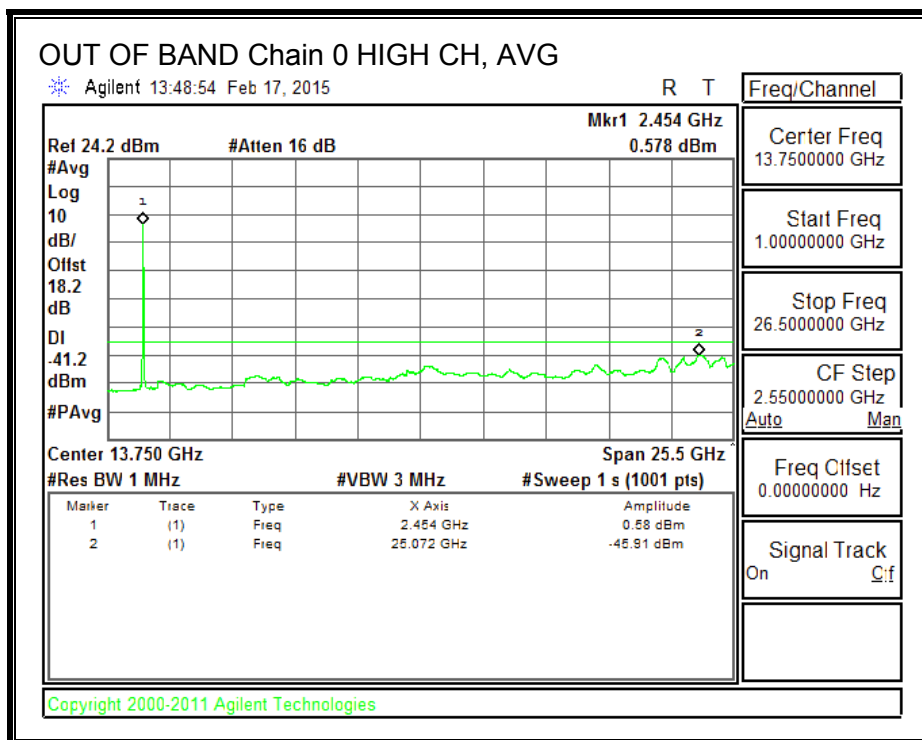
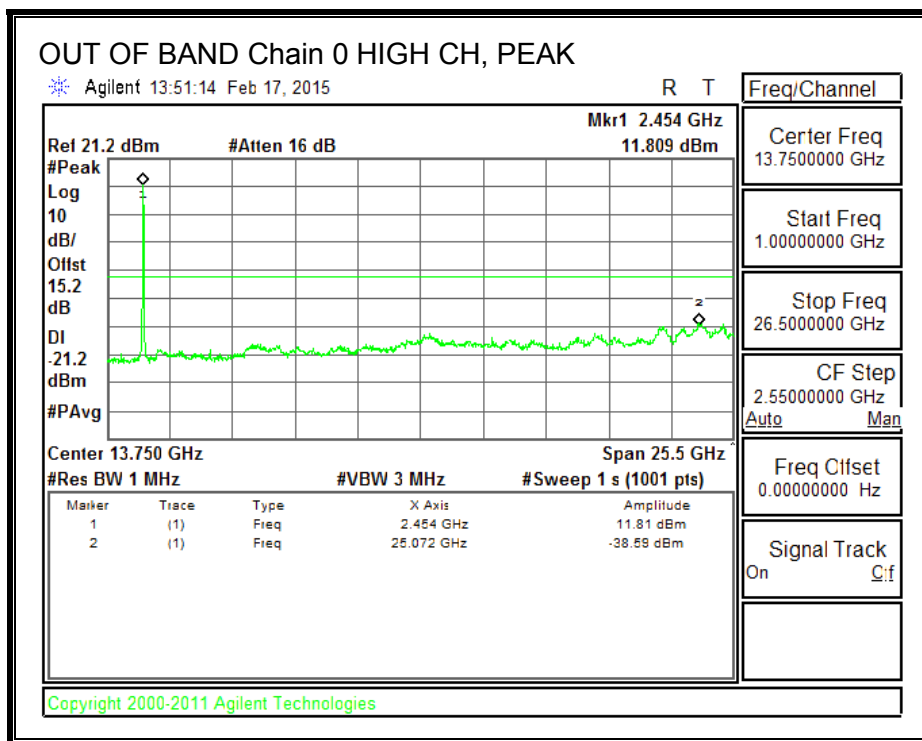


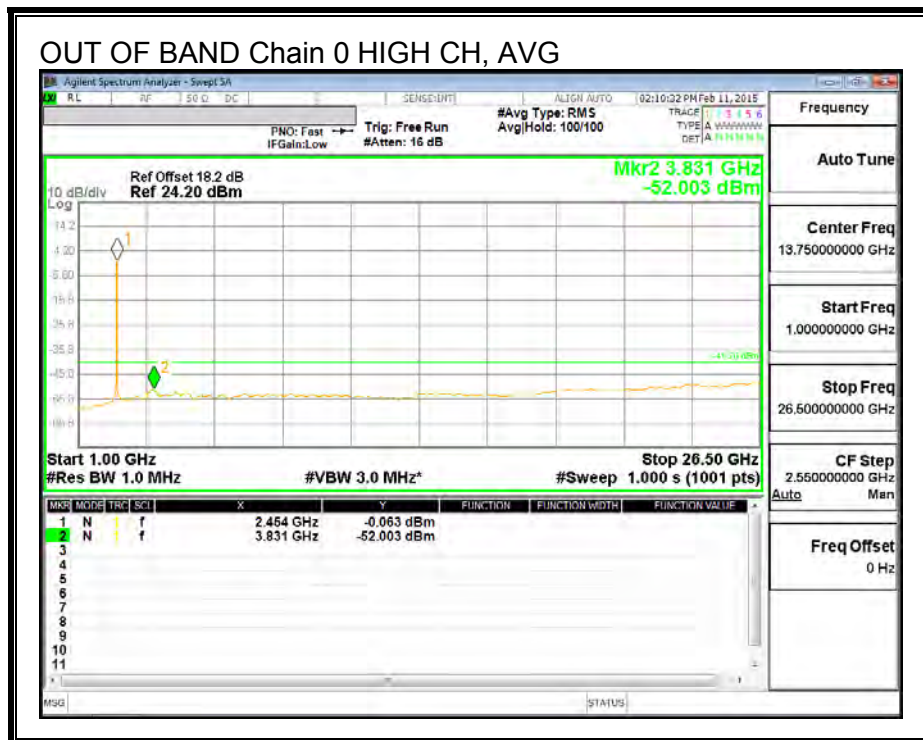
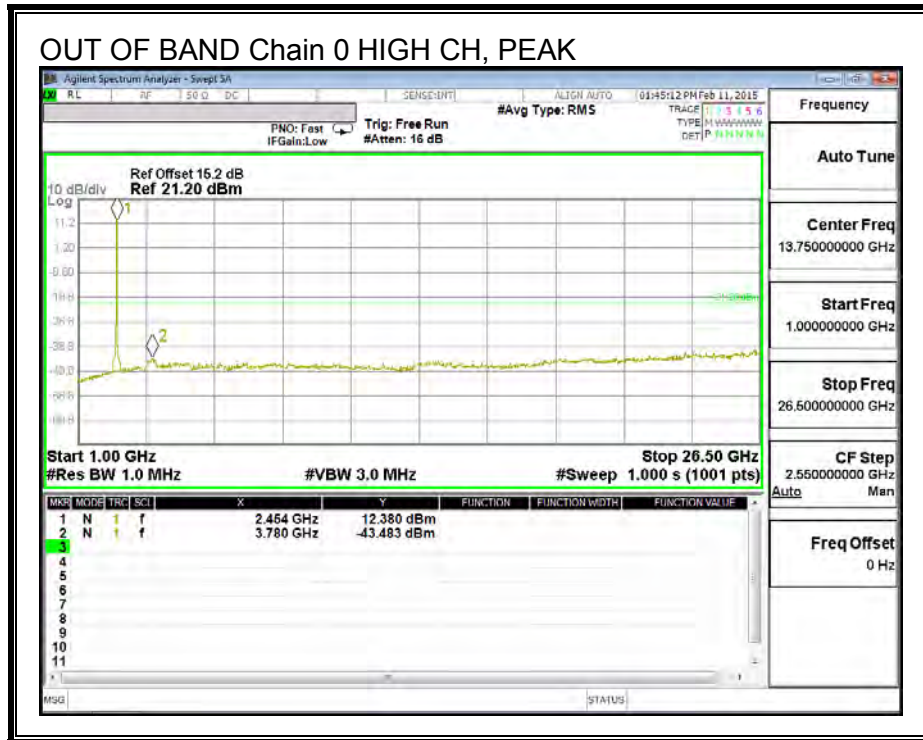
OUT-OF-BAND EMISSIONS, Chain 0



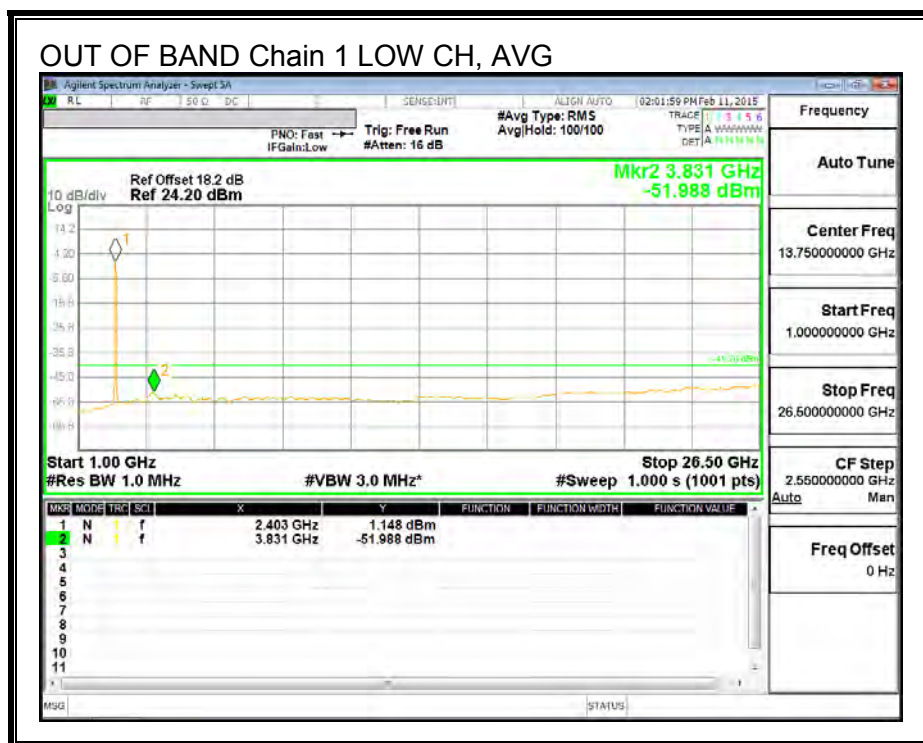
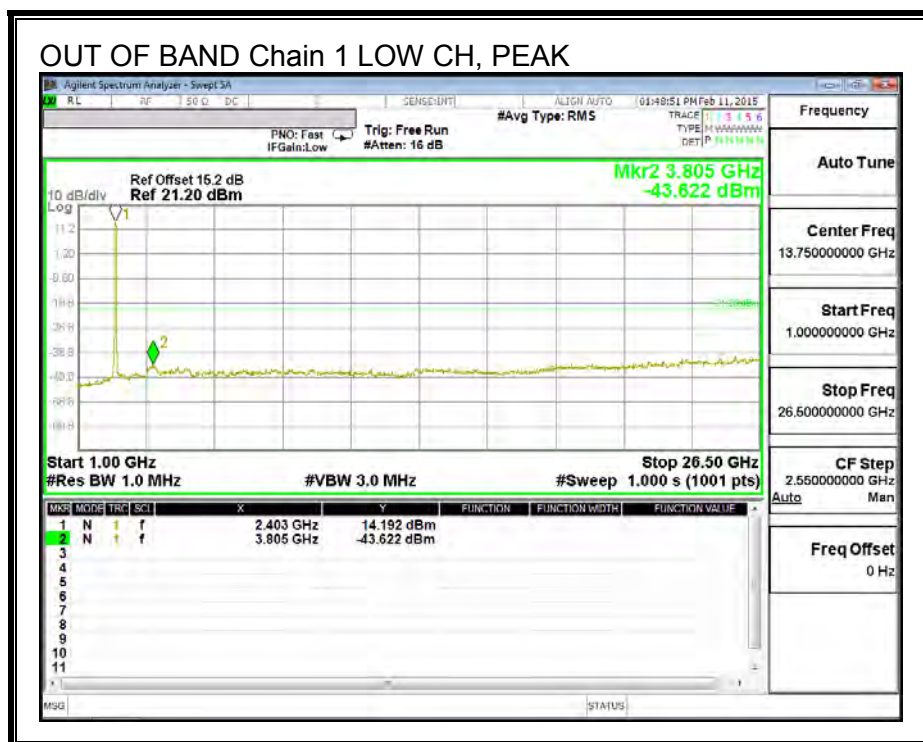


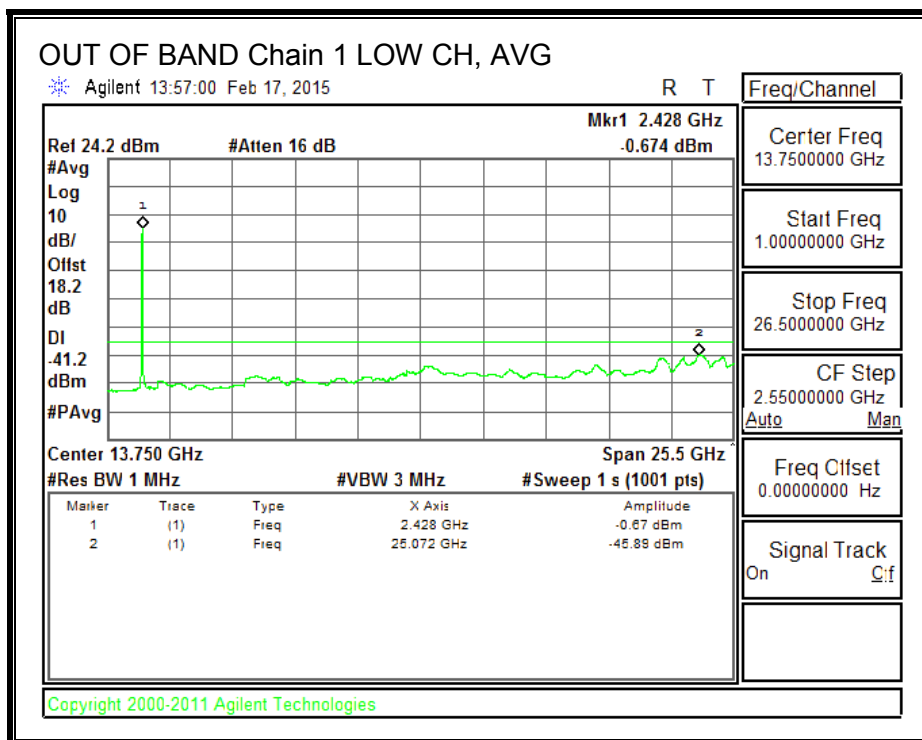
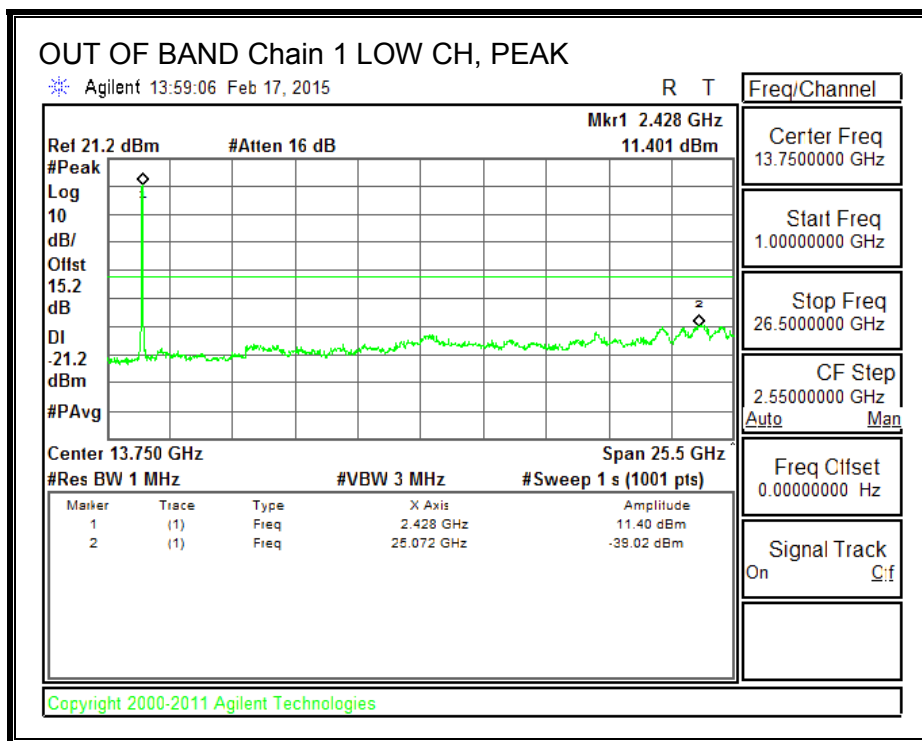


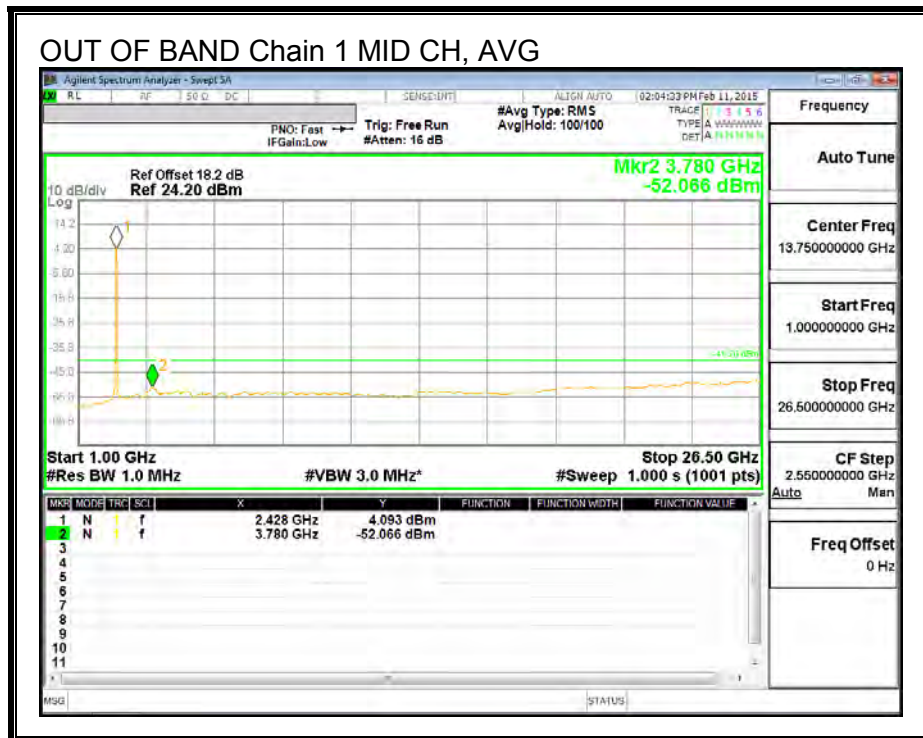
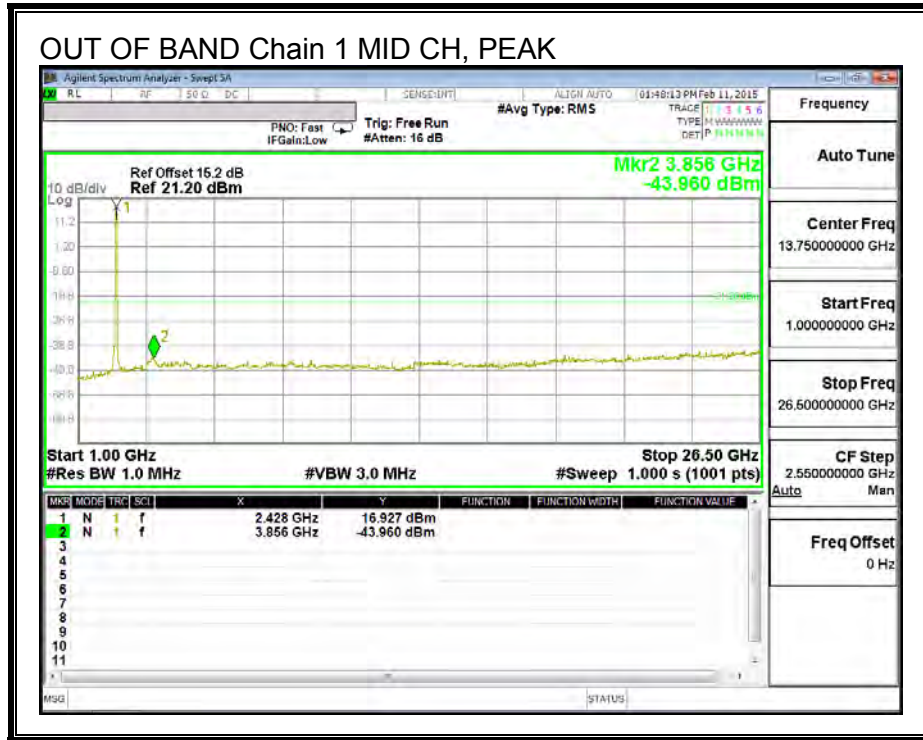


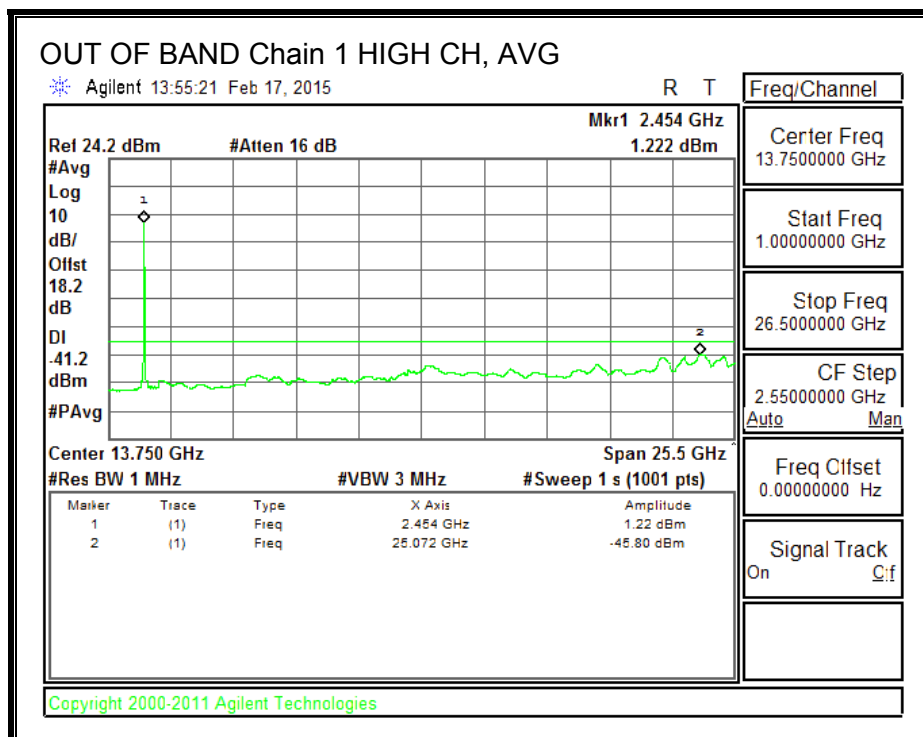
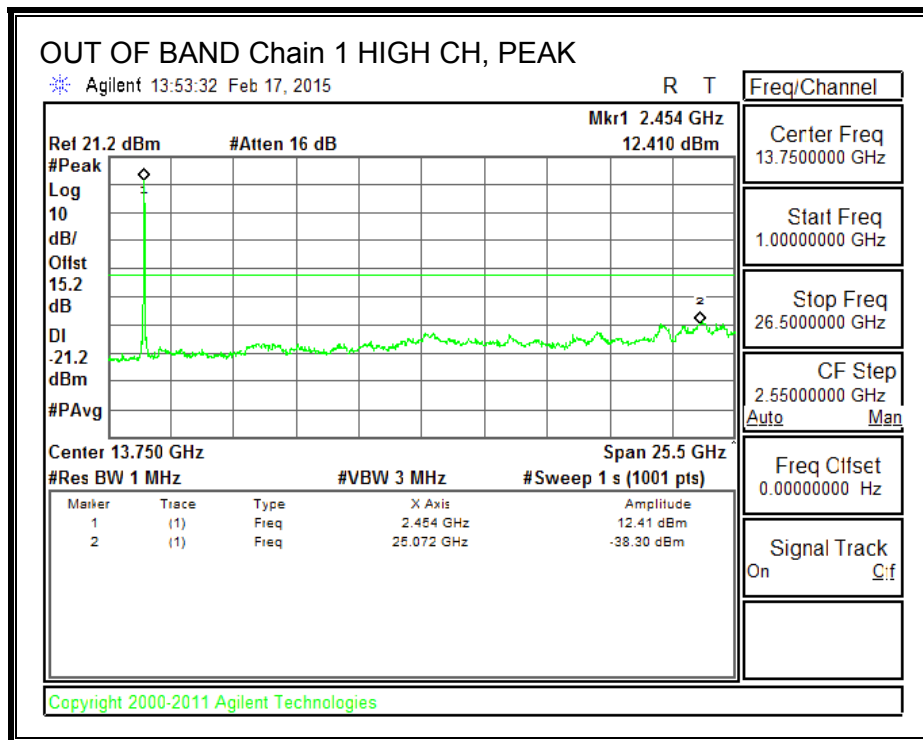


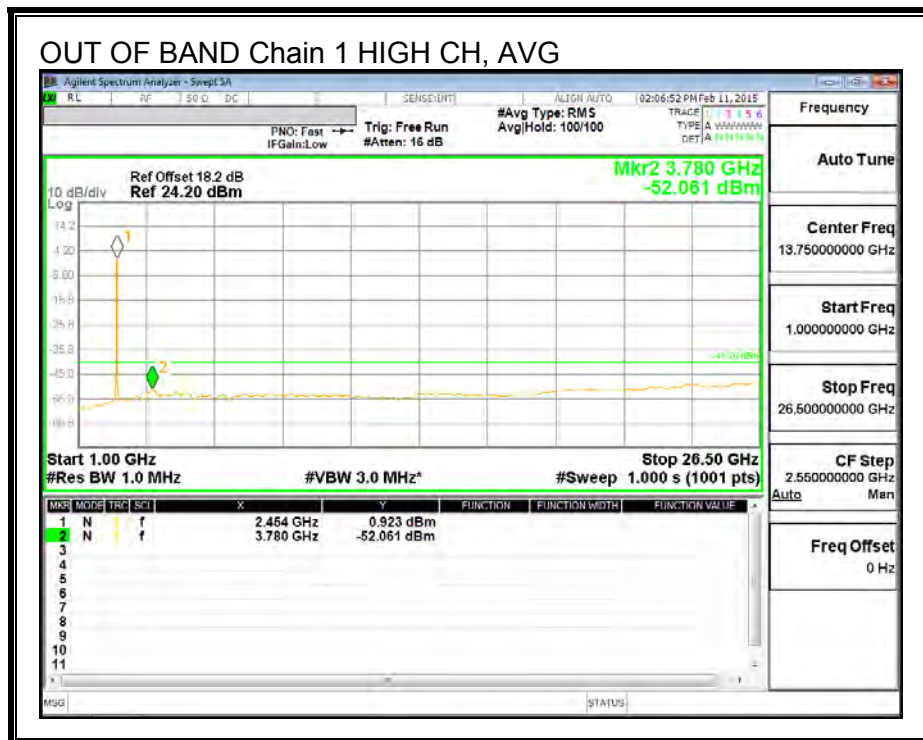
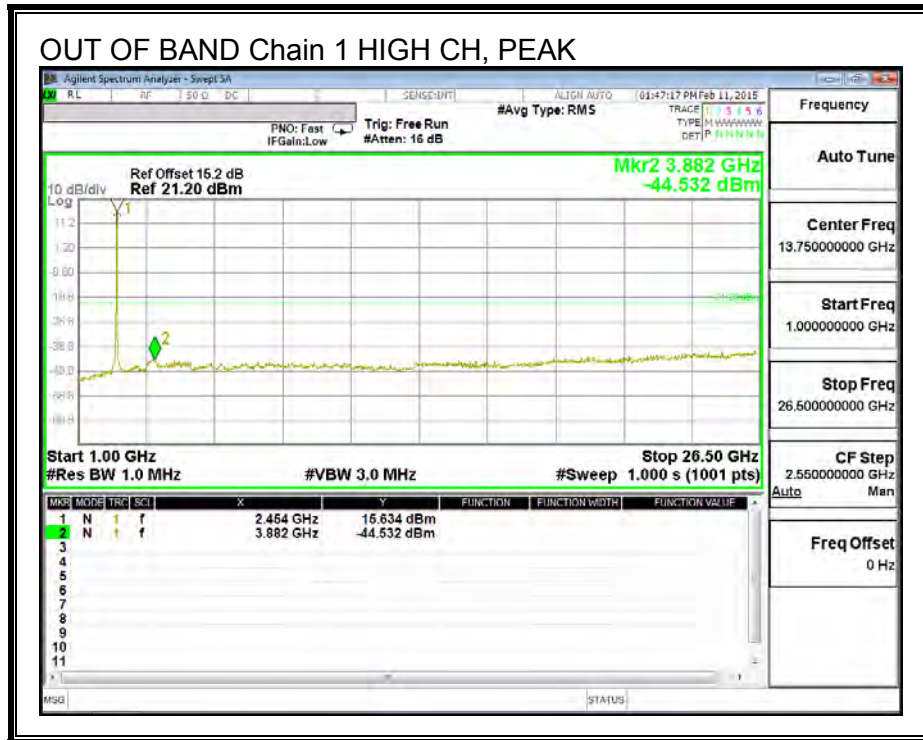
OUT-OF-BAND EMISSIONS, Chain 1











8.6. 802.11n HT40 MODE IN THE 2.4 GHZ BAND

8.6.1. 6 dB BANDWIDTH

LIMITS

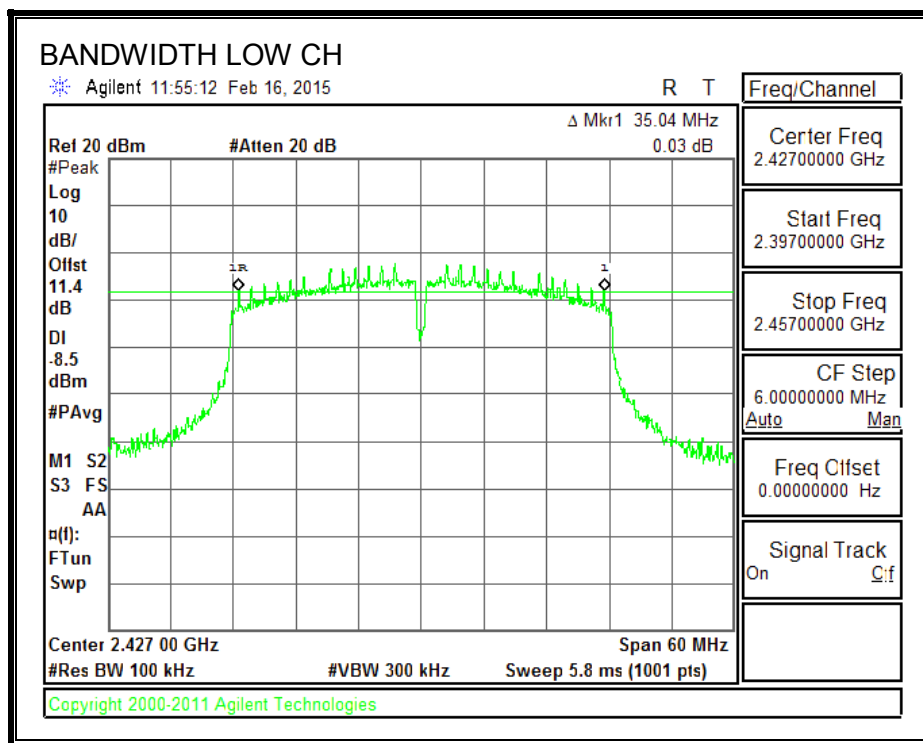
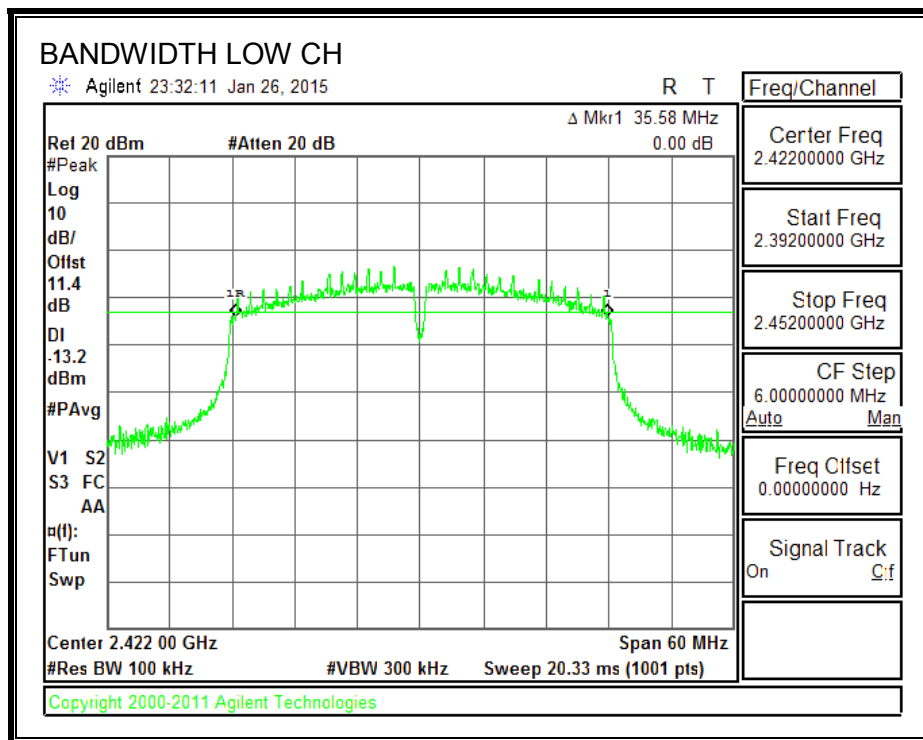
FCC §15.247 (a) (2)

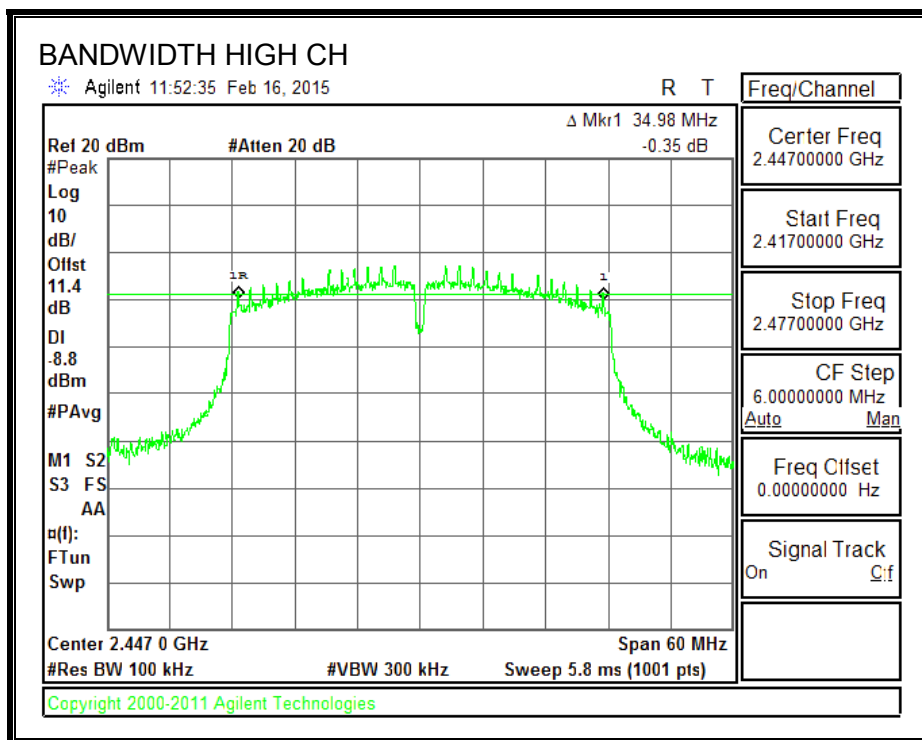
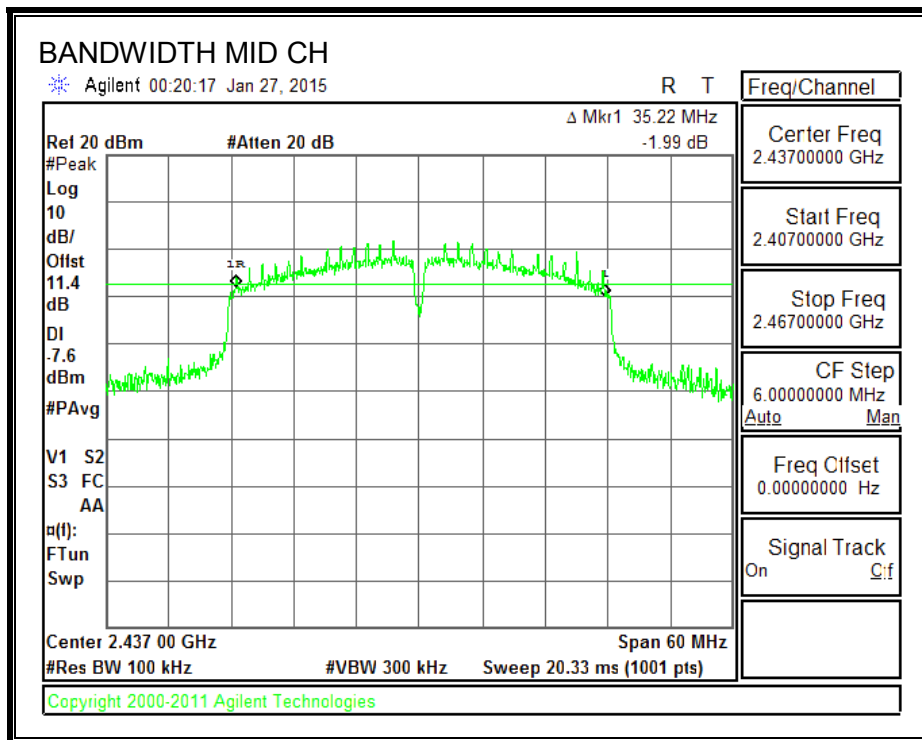
The minimum 6 dB bandwidth shall be at least 500 kHz.

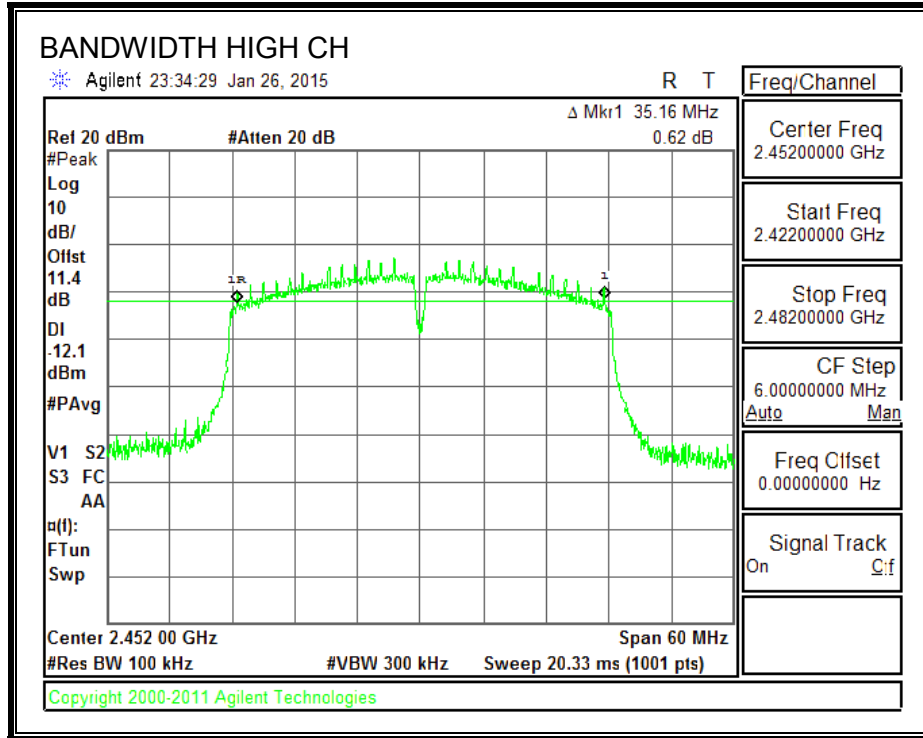
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2422	35.580	0.5
Low	2427	35.040	0.5
Mid	2437	35.220	0.5
High	2447	34.980	0.5
High	2452	35.160	0.5

6 dB BANDWIDTH







8.6.2. OUTPUT POWER

LIMITS

FCC §15.247

For systems using digital modulation in the 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	Max Power (dBm)
Low	2422	4.00	30.00	30.00
Low	2427	4.00	30.00	30.00
Mid	2437	4.00	30.00	30.00
High	2447	4.00	30.00	30.00
High	2452	4.00	30.00	30.00

Duty Cycle CF (dB)	2.97	Included in Calculations of Corr'd Power
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Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2422	5.94	8.91	30.00	-21.09
Low	2427	9.88	12.85	30.00	-17.15
Mid	2437	10.42	13.39	30.00	-16.61
High	2447	10.01	12.98	30.00	-17.02
High	2452	6.27	9.24	30.00	-20.76

8.6.3. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

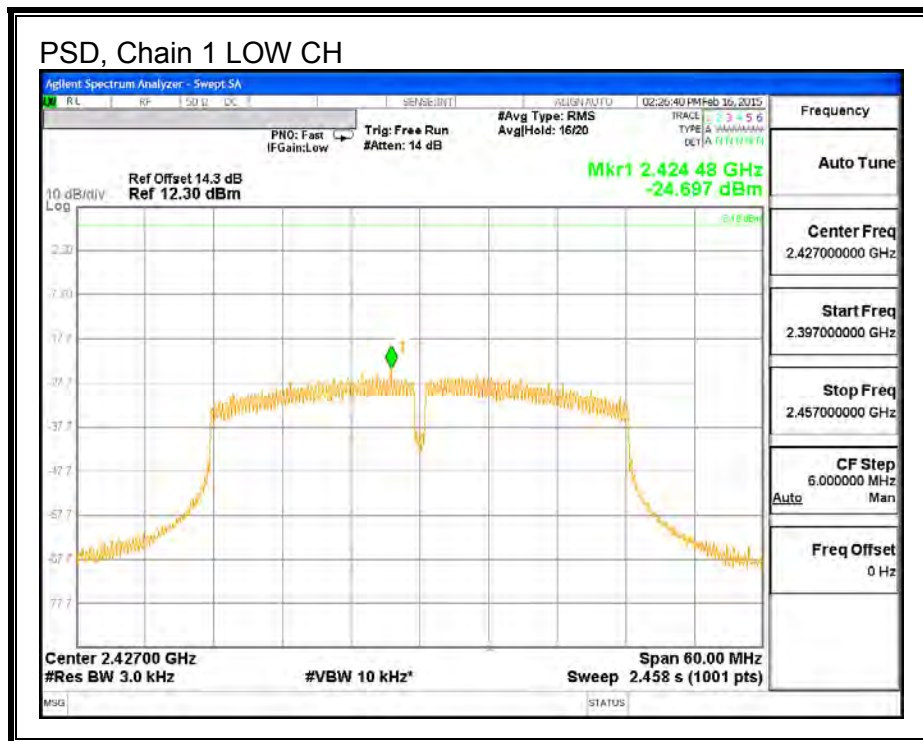
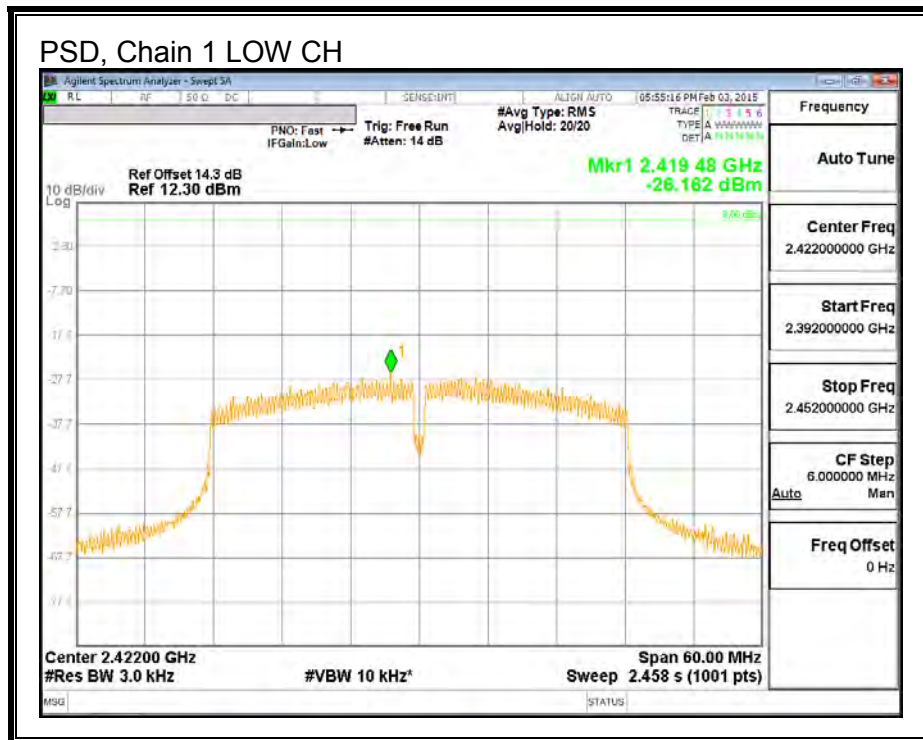
RESULTS

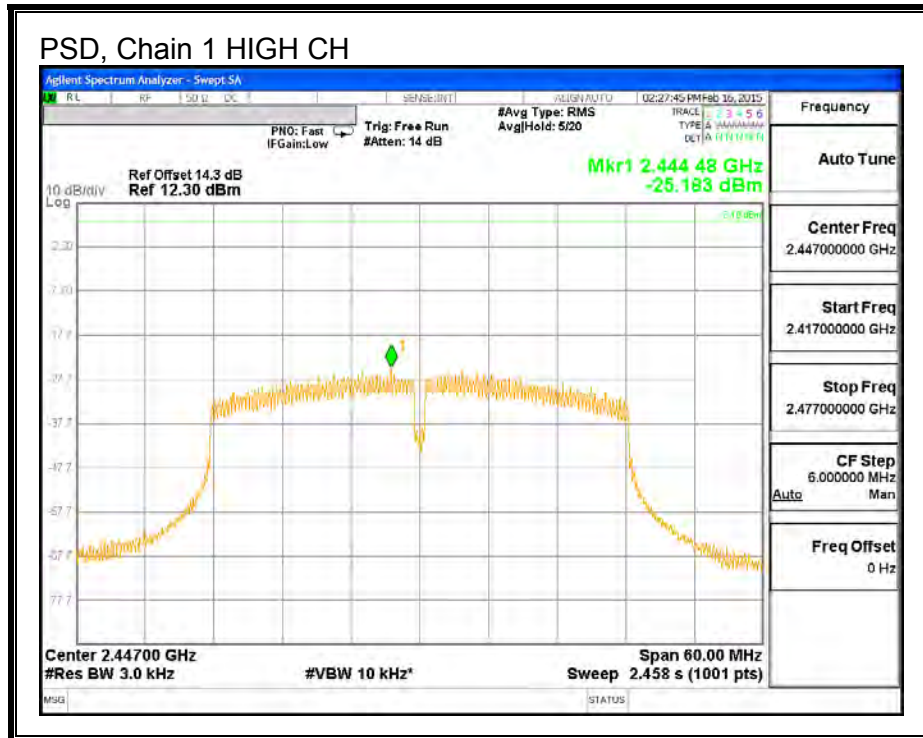
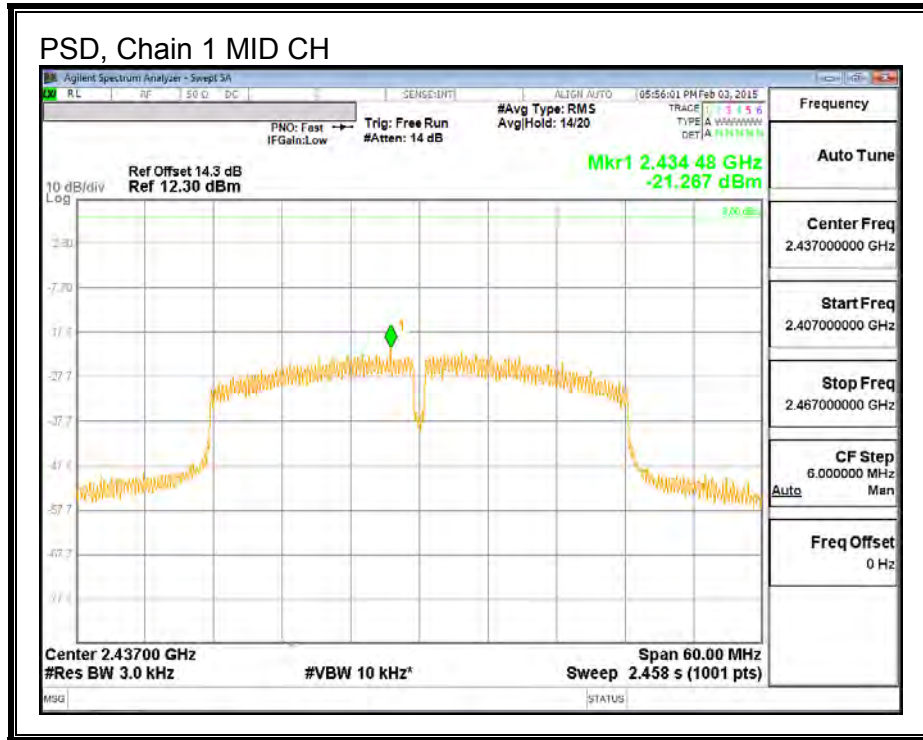
PSD Results

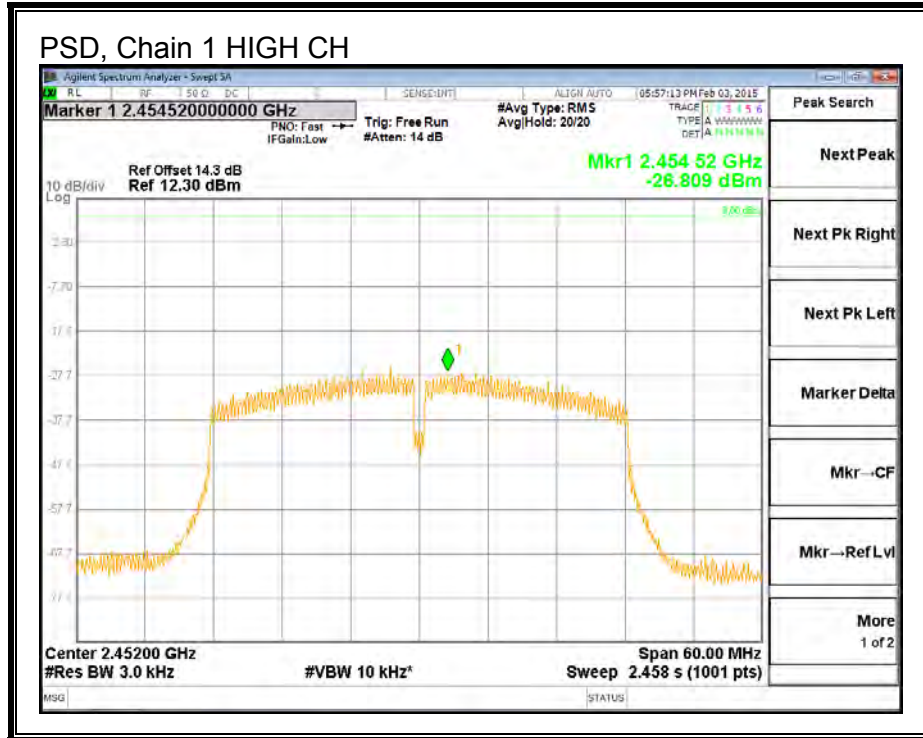
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2422	-26.16	-26.16	8.0	-34.2
Low	2427	-24.70	-24.70	8.0	-32.7
Mid	2437	-21.27	-21.27	8.0	-29.3
High	2447	-25.18	-25.18	8.0	-33.2
High	2452	-26.81	-26.81	8.0	-34.8

Duty Cycle Correction Factor Included in Measurement

PSD, Chain 1







8.6.4. OUT-OF-BAND EMISSIONS

LIMITS

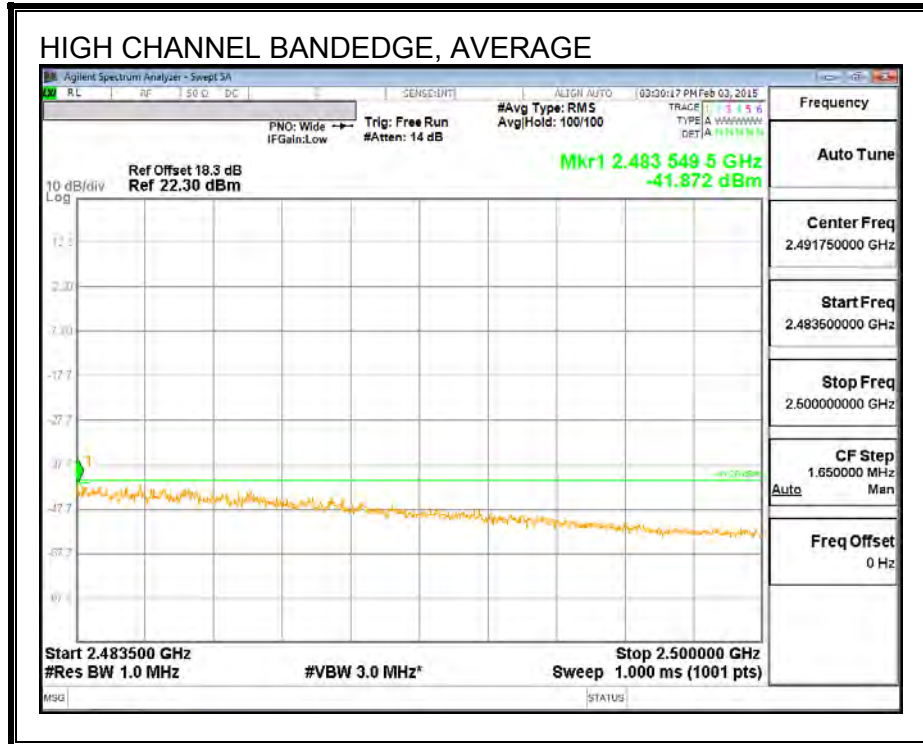
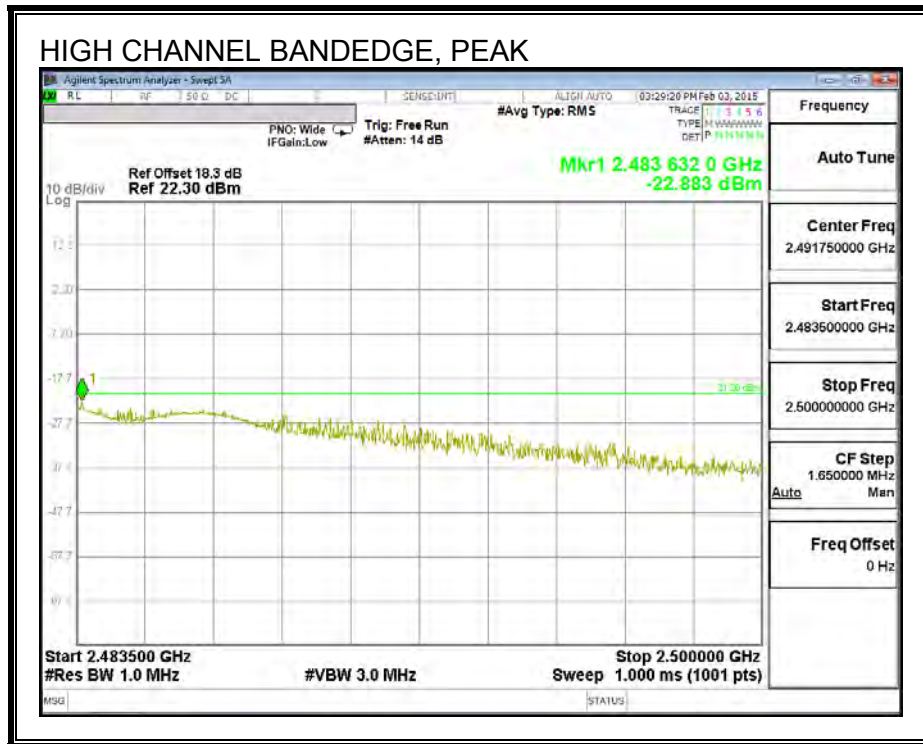
FCC §15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

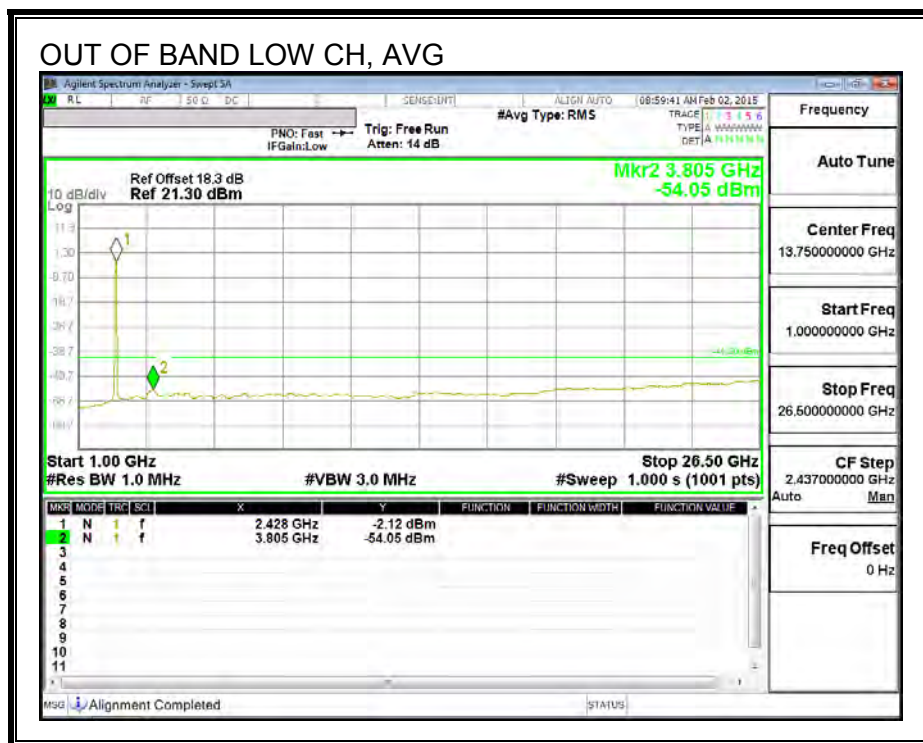
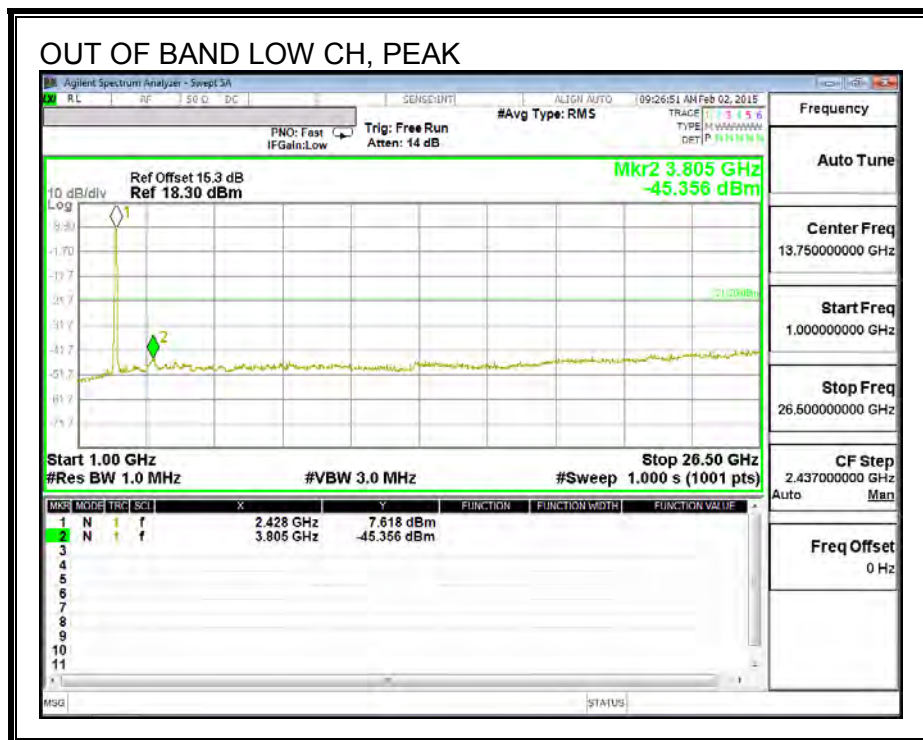
PROCEDURE

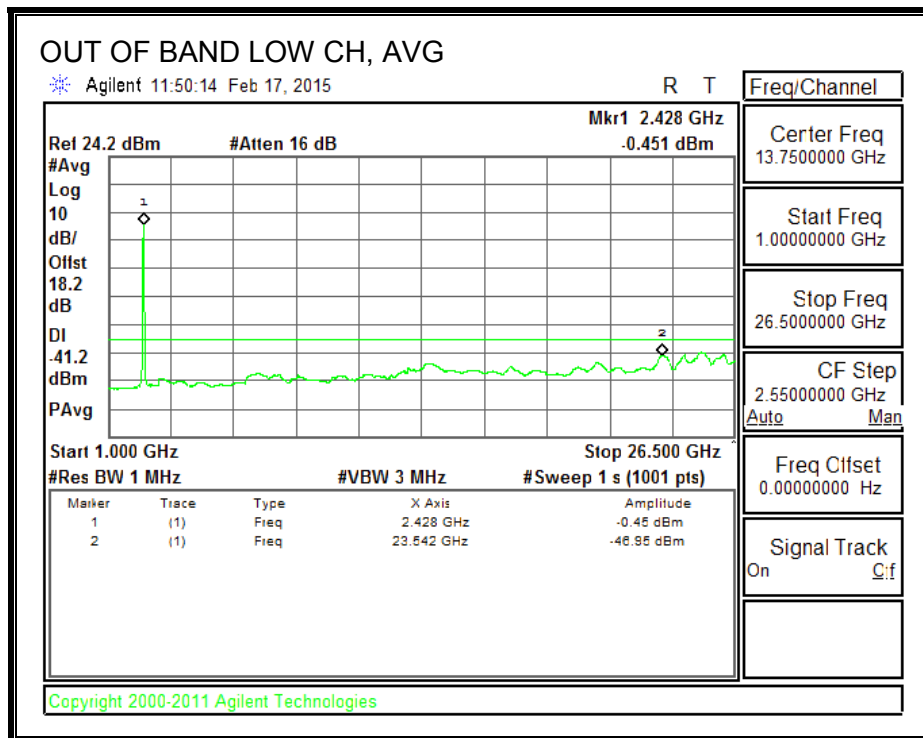
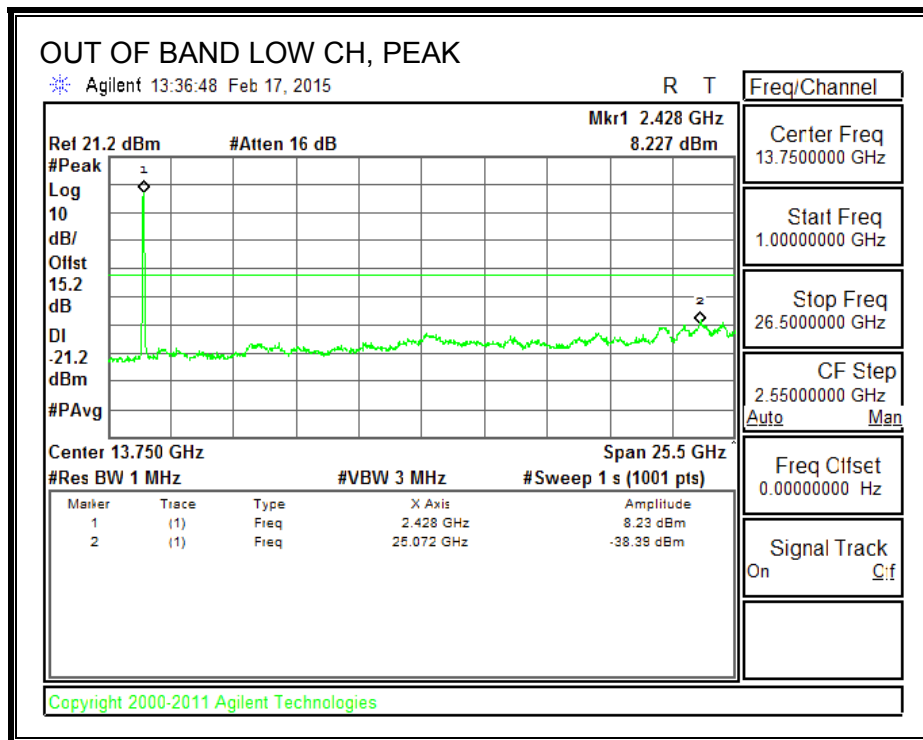
Conducted BE measurements are being used to demonstrate compliance with the spurious limits in the restricted band. §15.209 limits are 54dBuV/m average and 74dBuV/m peak, which are equivalent to eirp of -41.2 dBm and -21.2dBm respectively. The plots include an offset to account for the EUT antenna gain, Duty cycle correction and external attenuation between EUT antenna port and spectrum analyzer.

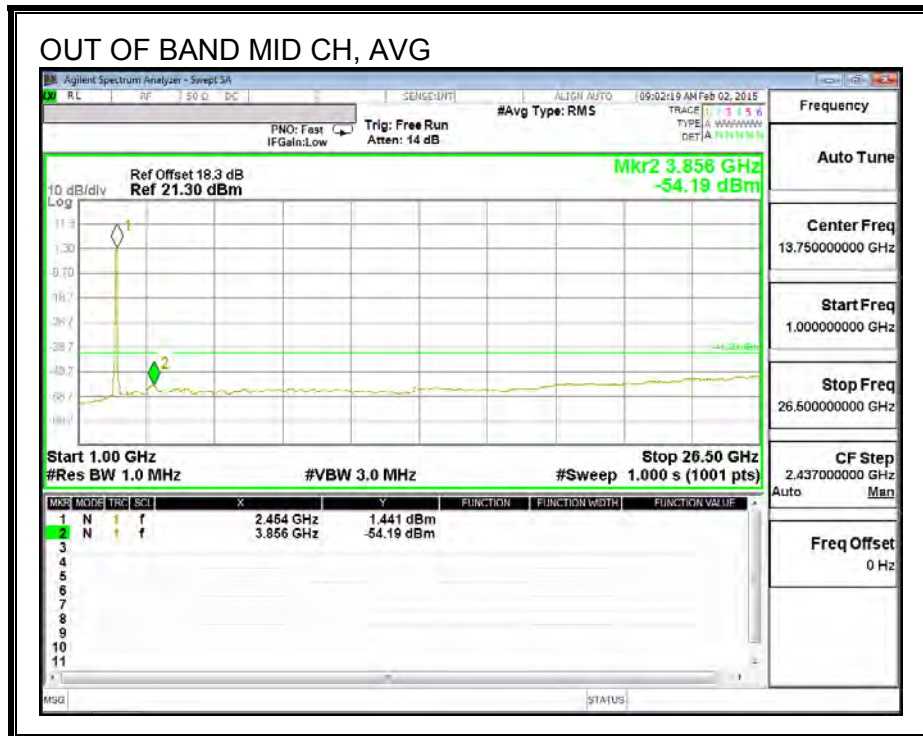
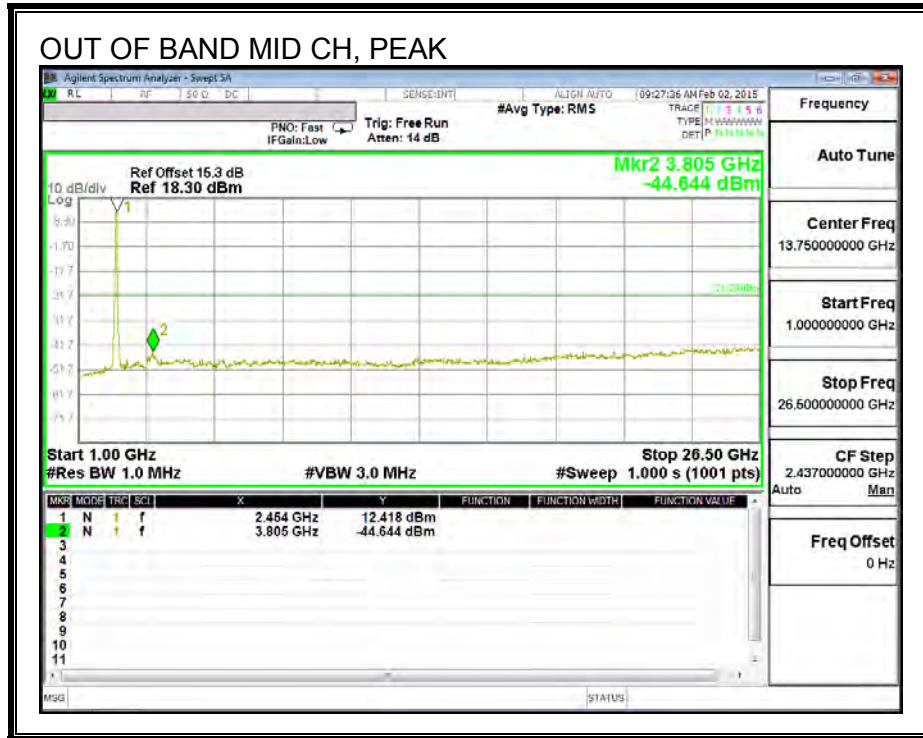
AUTHORIZED BANDEDGE (HIGH CHANNEL)

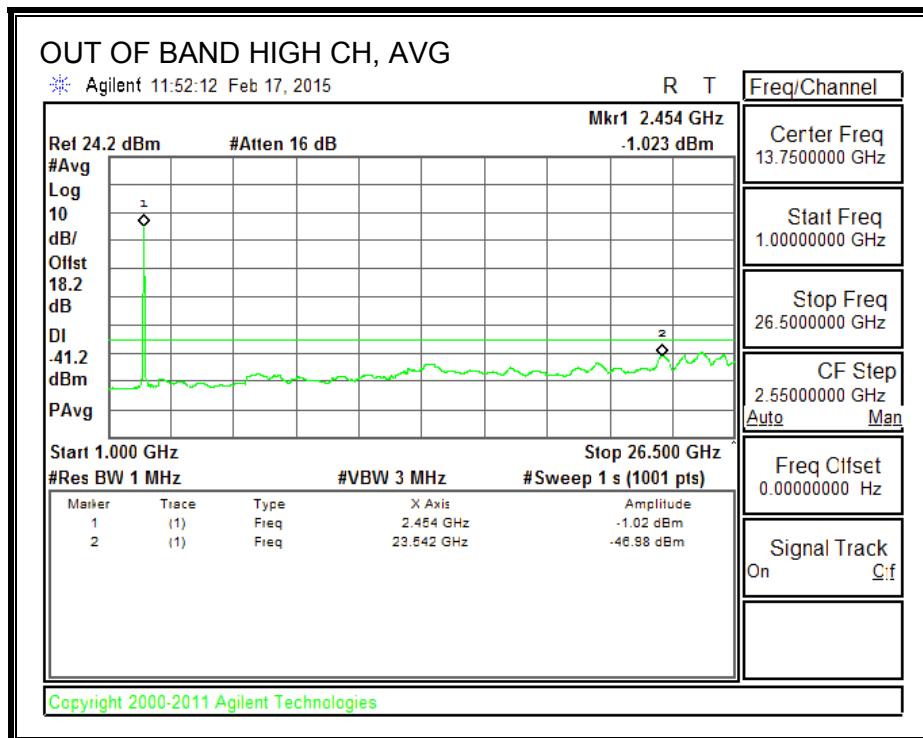
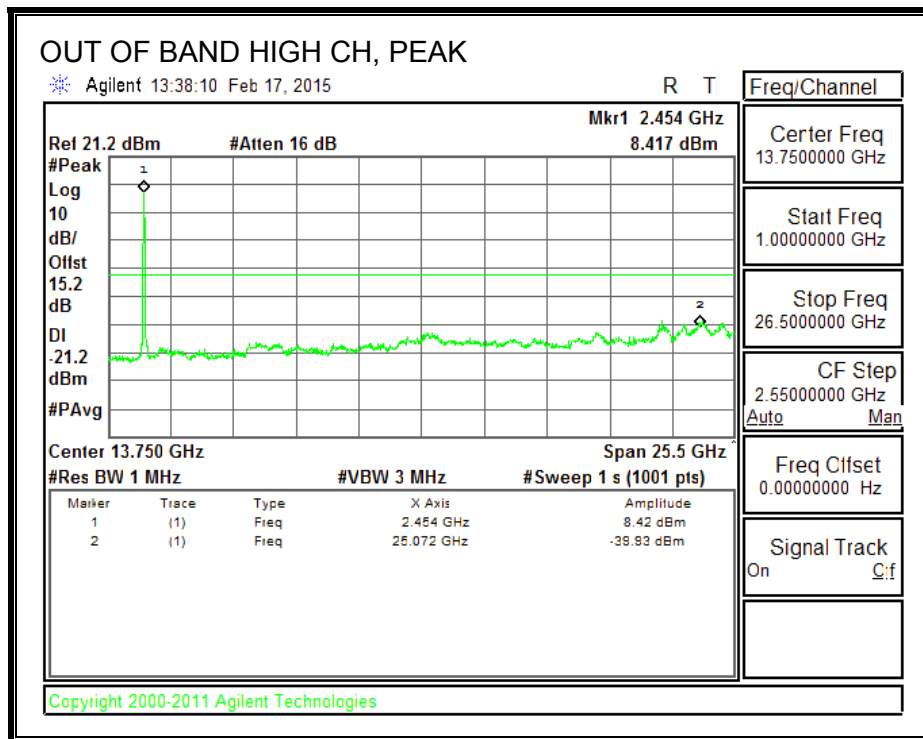


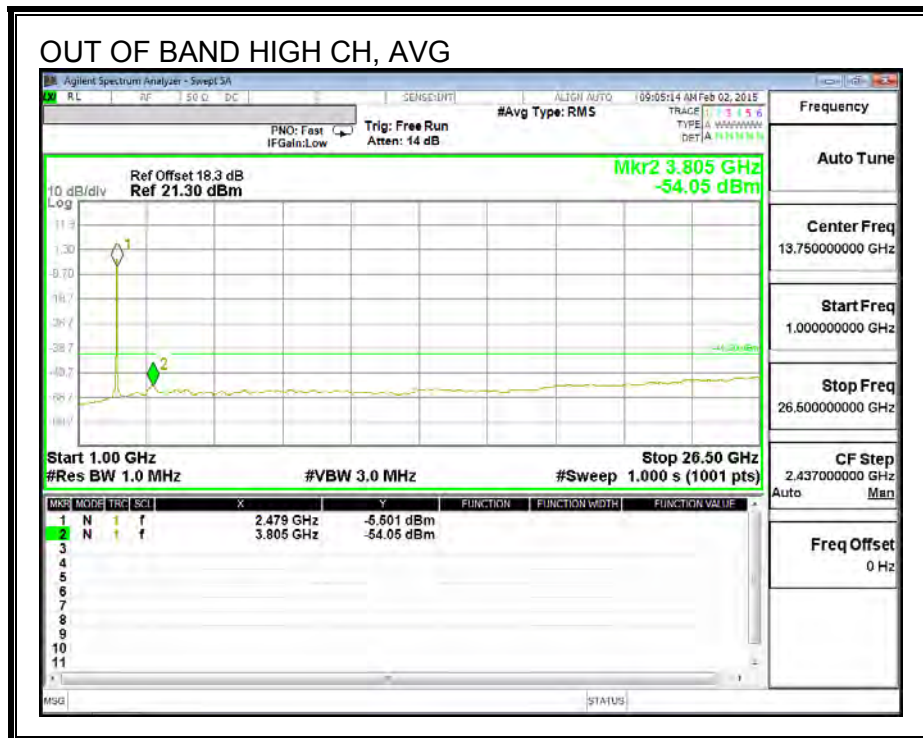
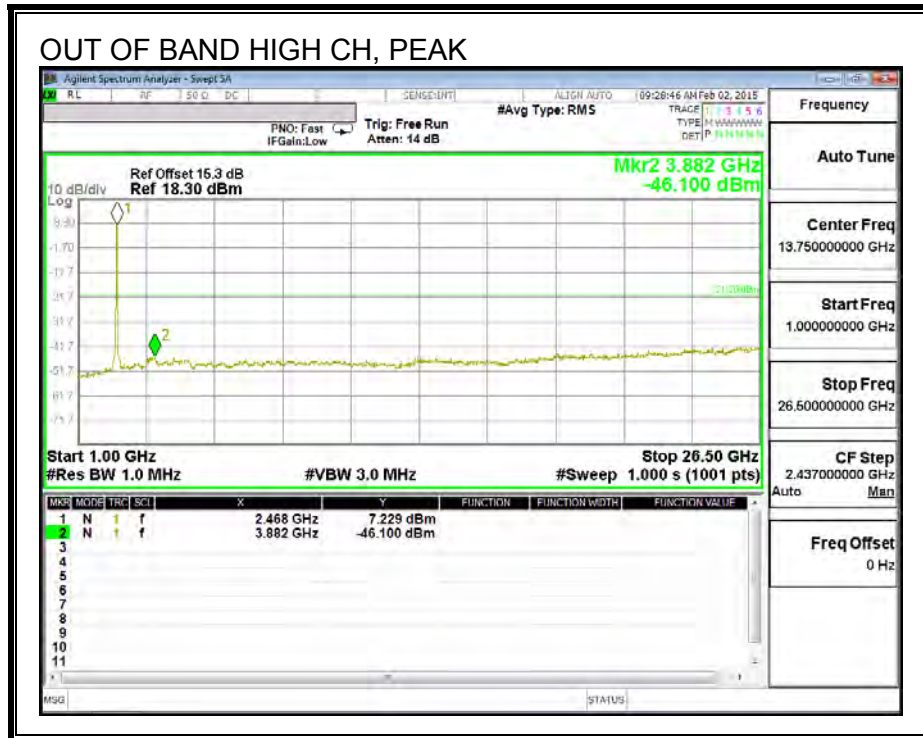
OUT-OF-BAND EMISSIONS











9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

PROCEEDURE

KDB 558074 D01 v03r02, 12.2.1

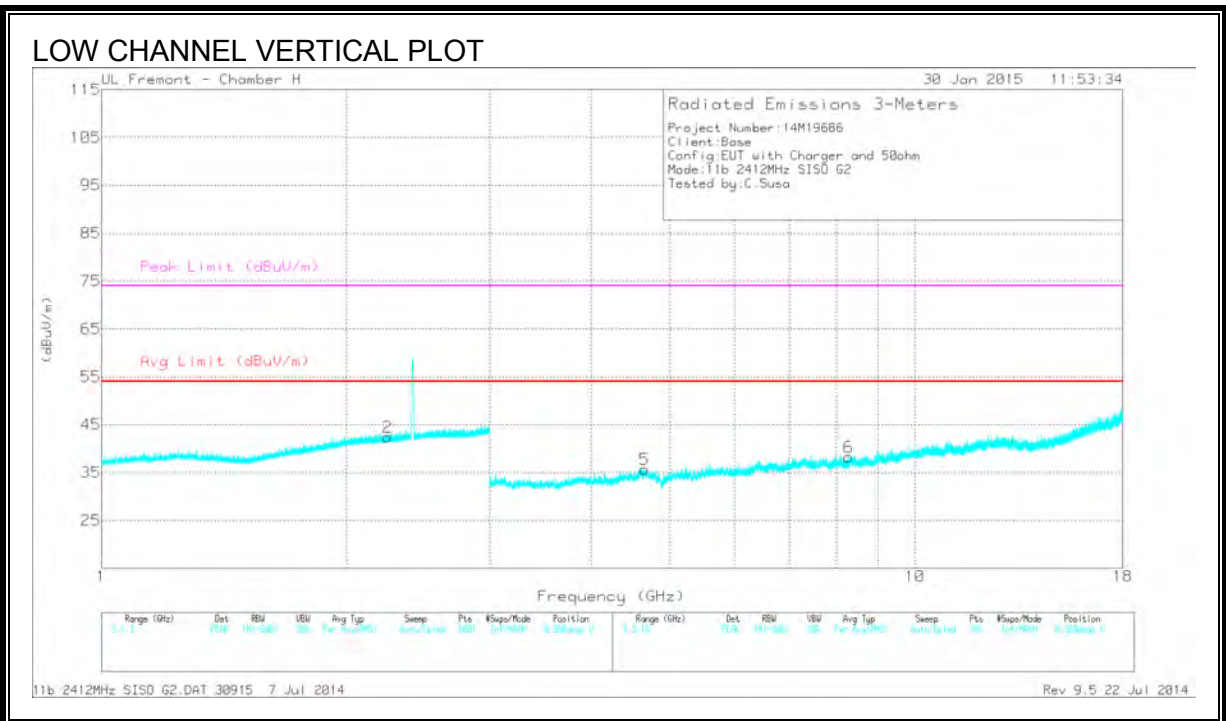
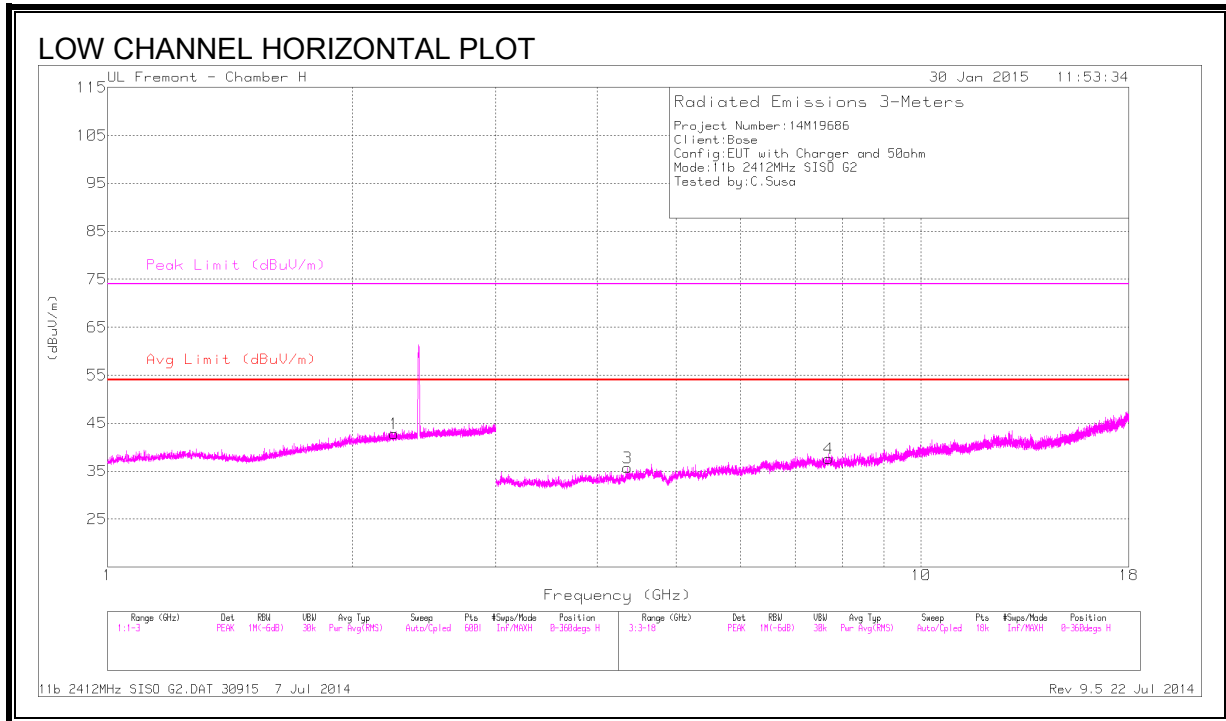
Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

Conducted measurements are being used to demonstrate compliance with the BE limits in the restricted band. All other spurious emissions are being measured with radiated test method for cabinet/case.

9.2. TRANSMITTER ABOVE 1 GHz

9.3. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

HARMONICS AND SPURIOUS EMISSIONS



DATA

Radiated Emissions

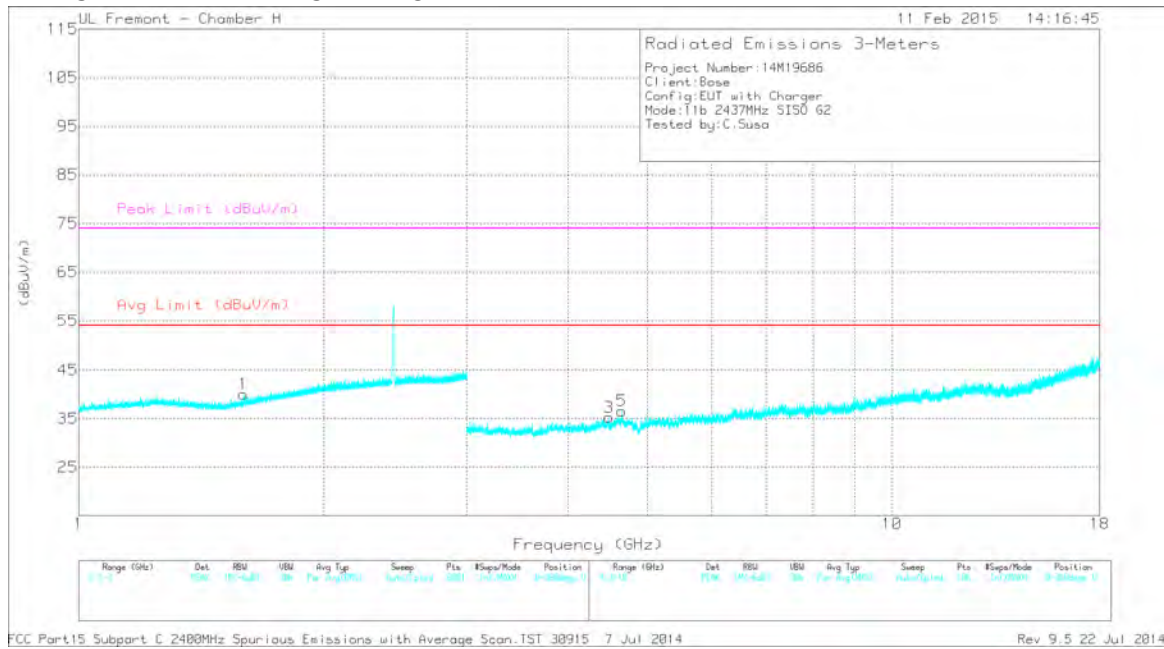
markers	Frequen cy (GHz)	Meter Readin g (dBuV)	Det	AF T863 (dB/m)	Amp/Cb l/Filtr/Pa d (dB)	DC Corr (dB)	Correcte d Reading (dBuV/ m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimet h (Degs)	Height (cm)	Polarit y
1	* 2.249	43.09	PK2	31.7	-24.6	0	50.19	-	-	74	-23.81	125	123	H
	* 2.248	31.96	MAv1	31.7	-24.6	3.01	42.07	54	-11.93	-	-	125	123	H
2	* 2.247	43.06	PK2	31.7	-24.6	0	50.16	-	-	74	-23.84	131	149	V
	* 2.245	31.96	MAv1	31.7	-24.6	3.01	42.07	54	-11.93	-	-	131	149	V
3	* 4.354	40.75	PK2	33.7	-32	0	42.45	-	-	74	-31.55	151	185	H
	* 4.355	30.07	MAv1	33.7	-31.9	3.01	34.88	54	-19.12	-	-	151	185	H
4	* 7.69	38	PK2	36.1	-28.8	0	45.3	-	-	74	-28.7	113	132	H
	* 7.689	27.64	MAv1	36.1	-28.8	3.01	37.95	54	-16.05	-	-	113	132	H
5	* 4.648	40.93	PK2	34.2	-31.7	0	43.43	-	-	74	-30.57	22	118	V
	* 4.651	30.25	MAv1	34.2	-31.8	3.01	35.66	54	-18.34	-	-	22	118	V
6	* 8.284	38.52	PK2	36.1	-28.4	0	46.22	-	-	74	-27.78	42	125	V
	* 8.283	27.21	MAv1	36.1	-28.4	3.01	37.92	54	-16.08	-	-	42	125	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 PK2 - KDB558074 Method: Maximum Peak
 MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



DATA

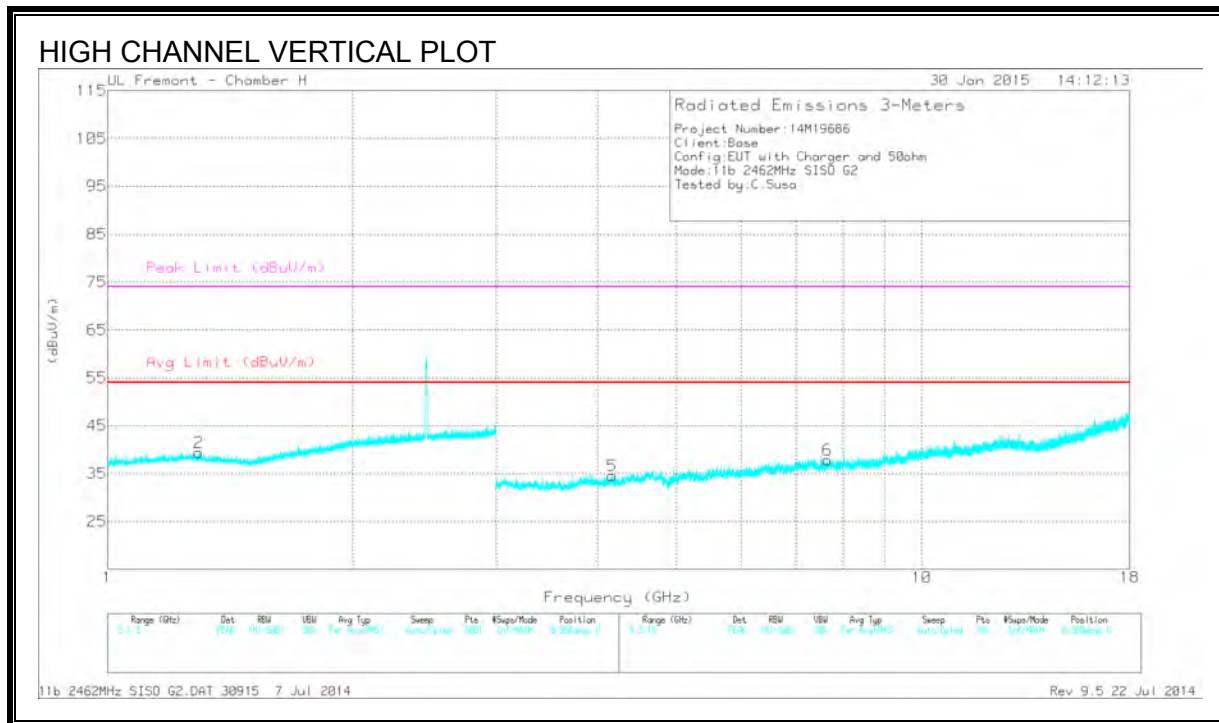
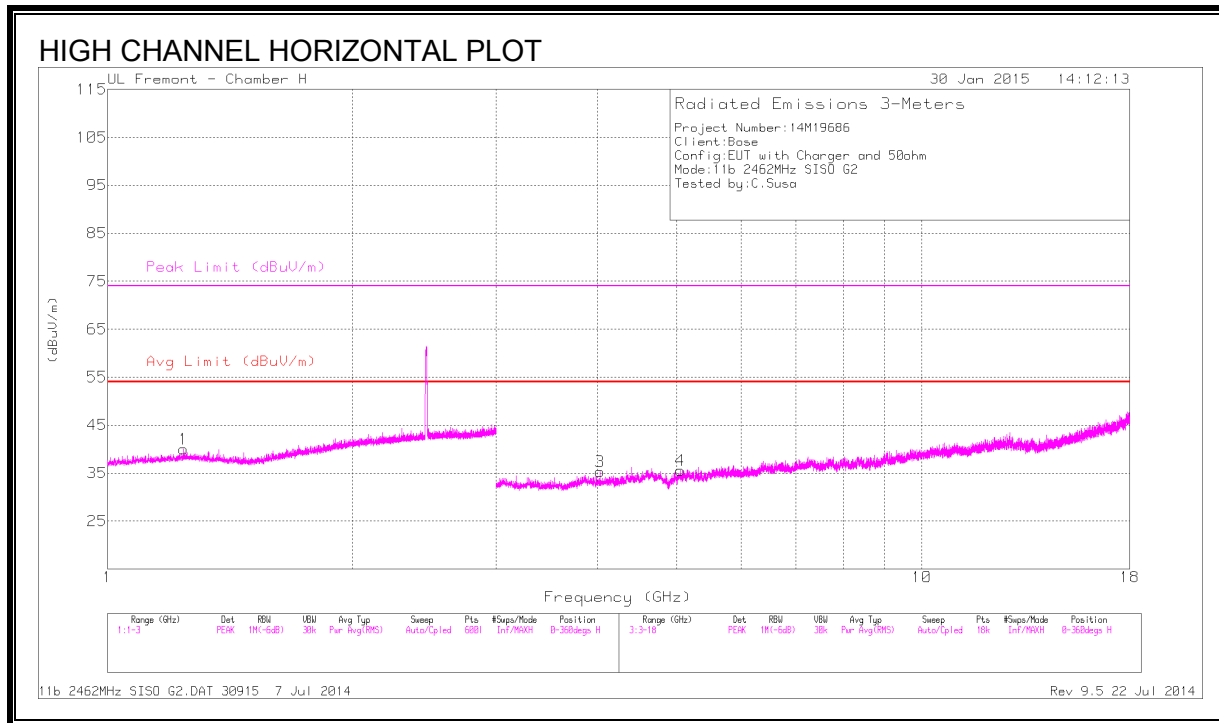
Radiated Emissions

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 1.612	43.35	PK2	28.6	-25.1	0	46.85	-	-	74	-27.15	165	167	H
	* 1.612	31.97	MAv1	28.6	-25.1	3.01	38.48	54	-15.52	-	-	165	167	H
1	* 1.596	43.13	PK2	28.5	-25.1	0	46.53	-	-	74	-27.47	182	171	V
	* 1.594	32.05	MAv1	28.5	-25.1	3.01	38.46	54	-15.54	-	-	182	171	V
6	* 4.779	41	PK2	34.3	-32.2	0	43.1	-	-	74	-30.9	180	181	H
	* 4.78	29.91	MAv1	34.3	-32.2	3.01	35.02	54	-18.98	-	-	180	181	H
5	* 4.654	41.54	PK2	34.2	-31.8	0	43.94	-	-	74	-30.06	178	171	V
	* 4.655	30.23	MAv1	34.2	-31.8	3.01	35.64	54	-18.36	-	-	178	171	V
4	4.487	42.16	PK2	34	-32.6	0	43.56	-	-	-	-	190	185	H
3	4.489	41.36	PK2	34	-32.7	0	42.66	-	-	-	-	203	175	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

Radiated Emissions

Markers	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.24	44.11	PK2	28.9	-25.9	0	47.11	-	-	74	-26.89	44	114	H
	* 1.24	32.63	MAv1	28.9	-25.9	3.01	38.64	54	-15.36	-	-	44	114	H
2	* 1.292	43.68	PK2	28.8	-25.8	0	46.68	-	-	74	-27.32	60	127	V
	* 1.295	32.57	MAv1	28.8	-25.8	3.01	38.58	54	-15.42	-	-	60	127	V
3	* 4.027	40.35	PK2	33.5	-32.4	0	41.45	-	-	74	-32.55	80	141	H
	* 4.026	30.07	MAv1	33.5	-32.4	3.01	34.18	54	-19.82	-	-	80	141	H
4	* 5.047	40.97	PK2	34.4	-32.3	0	43.07	-	-	74	-30.93	47	158	H
	* 5.048	30.25	MAv1	34.4	-32.3	3.01	35.36	54	-18.64	-	-	47	158	H
5	* 4.161	41.48	PK2	33.5	-32.3	0	42.68	-	-	74	-31.32	85	114	V
	* 4.162	30.28	MAv1	33.5	-32.3	3.01	34.49	54	-19.51	-	-	85	114	V
6	* 7.659	38.53	PK2	36.1	-29	0	45.63	-	-	74	-28.37	47	128	V
	* 7.658	27.73	MAv1	36.1	-29	3.01	37.84	54	-16.16	-	-	47	128	V

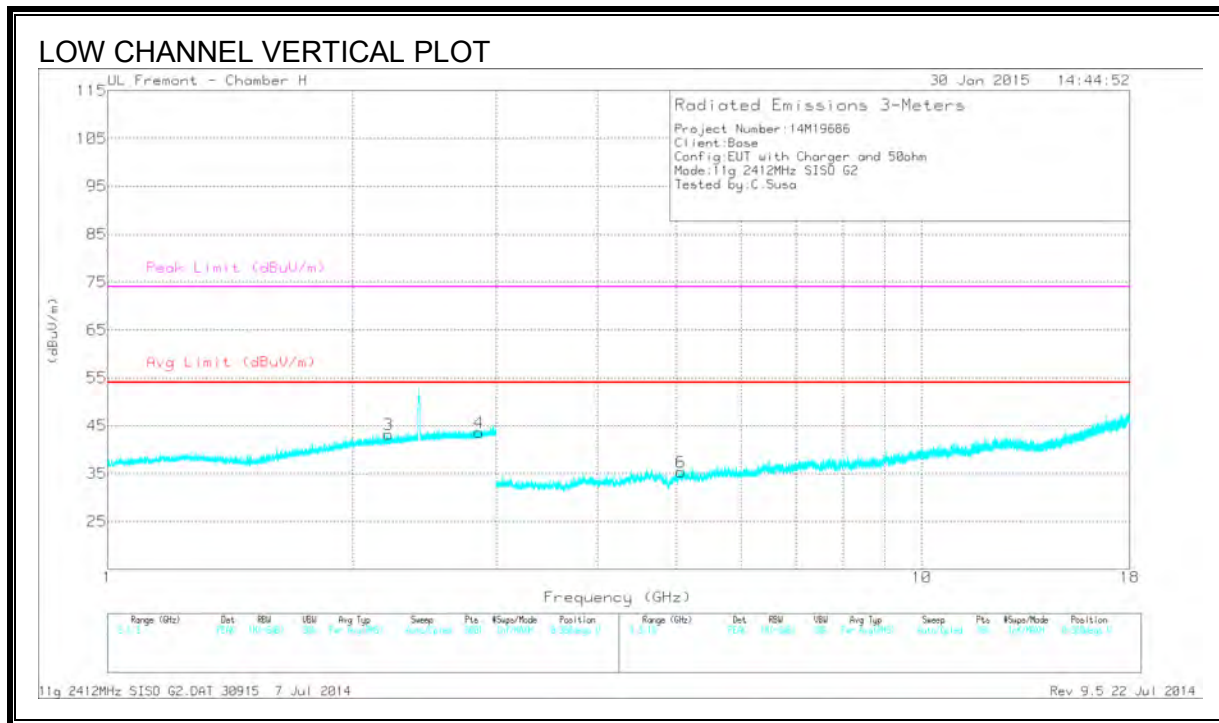
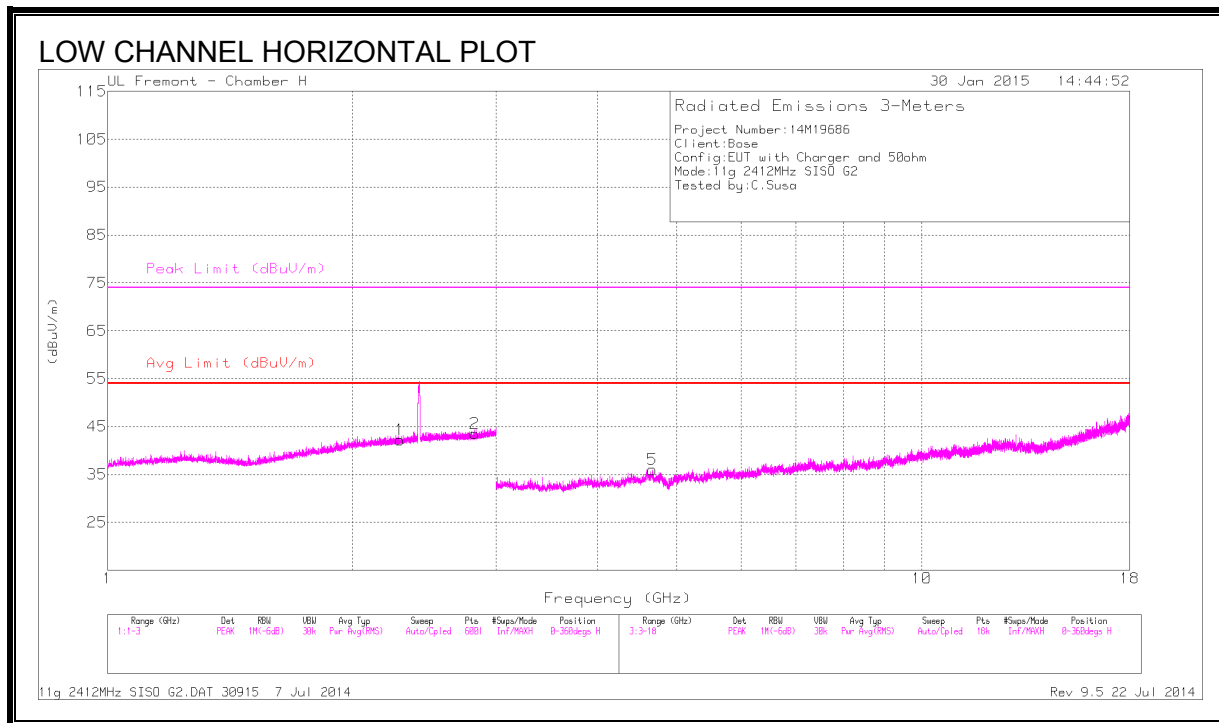
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.4. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

HARMONICS AND SPURIOUS EMISSIONS



DATA

Radiated Emissions

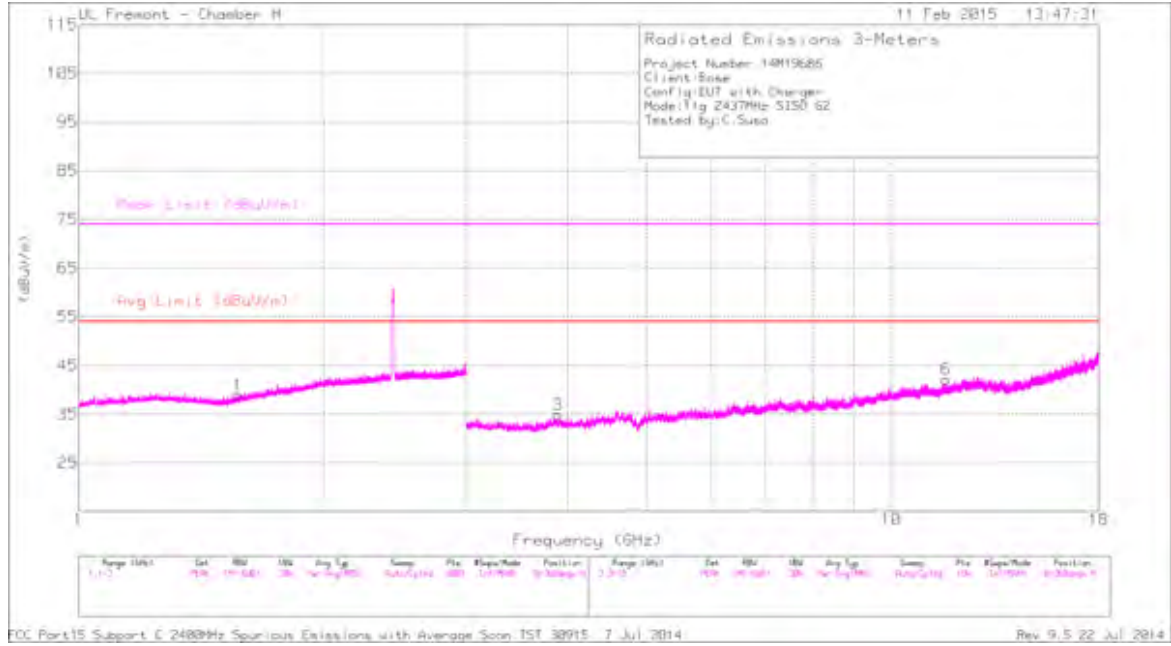
Markers	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.285	42.89	PK2	31.8	-24.6	0	50.09	-	-	74	-23.91	28	160	H
	* 2.285	31.92	MAv1	31.8	-24.6	3.01	42.13	54	-11.87	-	-	28	160	H
2	* 2.826	43.28	PK2	32.5	-24.3	0	51.48	-	-	74	-22.52	57	147	H
	* 2.825	31.79	MAv1	32.4	-24.3	3.01	42.9	54	-11.1	-	-	57	147	H
3	* 2.213	43.31	PK2	31.6	-24.7	0	50.21	-	-	74	-23.79	39	212	V
	* 2.211	31.97	MAv1	31.6	-24.7	3.01	41.88	54	-12.12	-	-	39	212	V
4	* 2.862	42.87	PK2	32.5	-24.2	0	51.17	-	-	74	-22.83	107	183	V
	* 2.862	31.9	MAv1	32.5	-24.2	3.01	43.21	54	-10.79	-	-	107	183	V
5	* 4.662	42.48	PK2	34.2	-31.9	0	44.78	-	-	74	-29.22	70	262	H
	* 4.664	30.51	MAv1	34.2	-31.9	3.01	35.82	54	-18.18	-	-	70	262	H
6	* 5.059	40.94	PK2	34.4	-32.4	0	42.94	-	-	74	-31.06	132	215	V
	* 5.063	30.1	MAv1	34.4	-32.4	3.01	35.11	54	-18.89	-	-	132	215	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

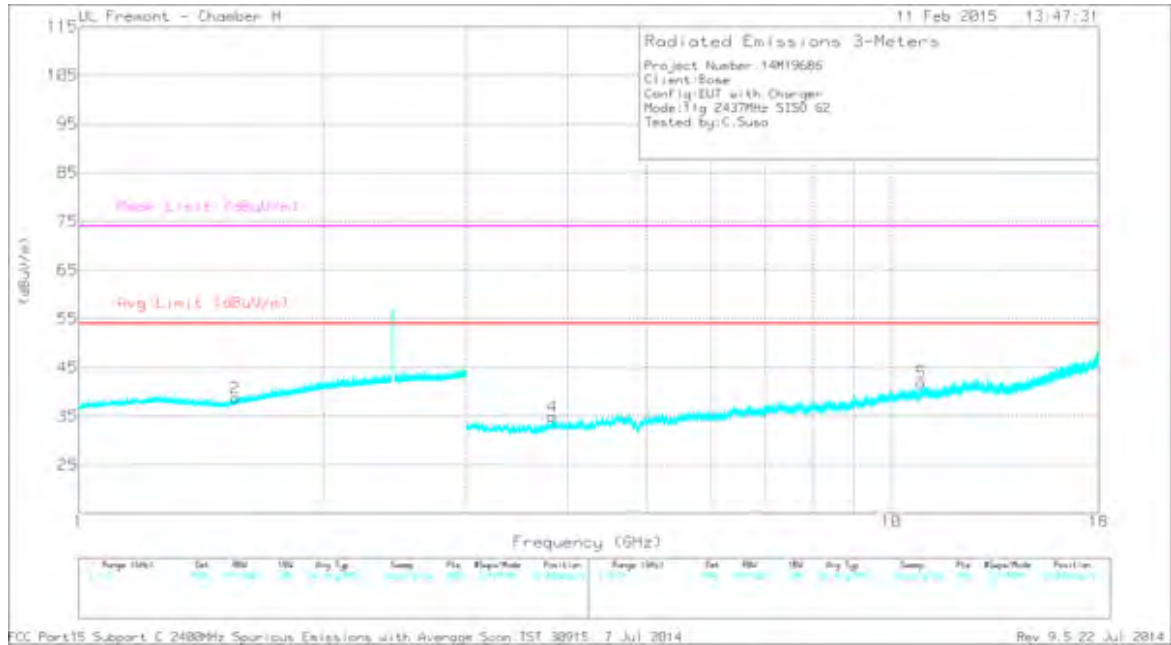
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



DATA

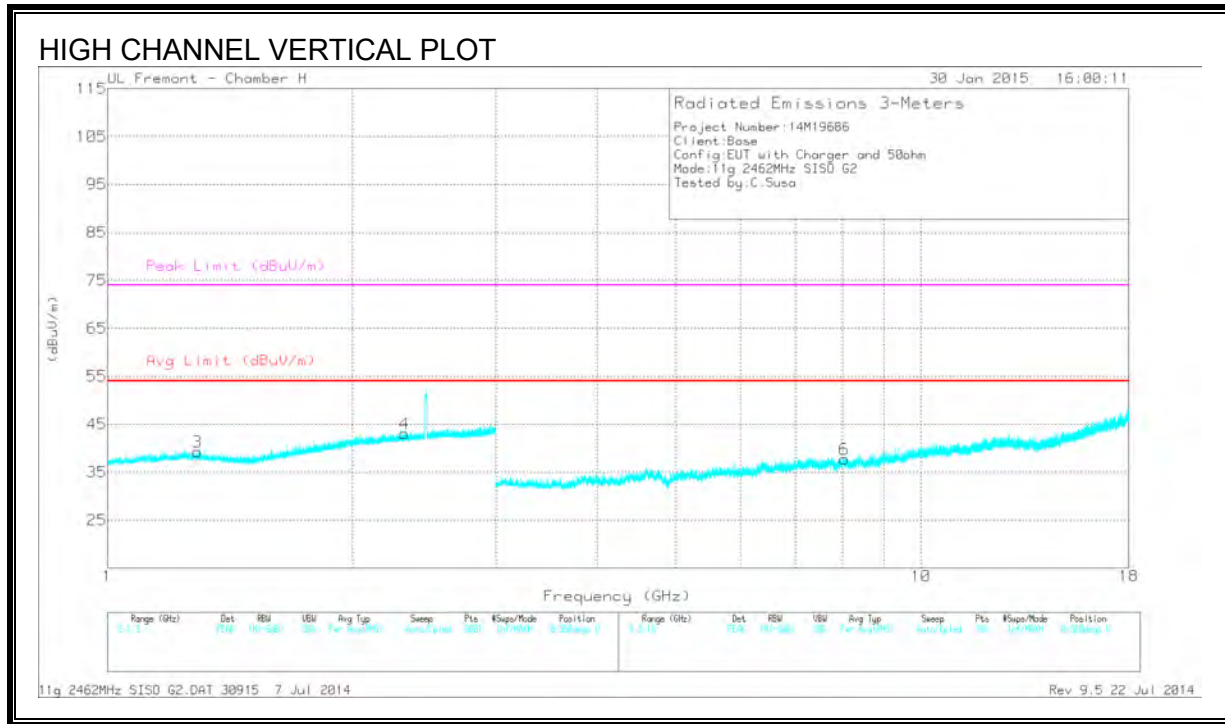
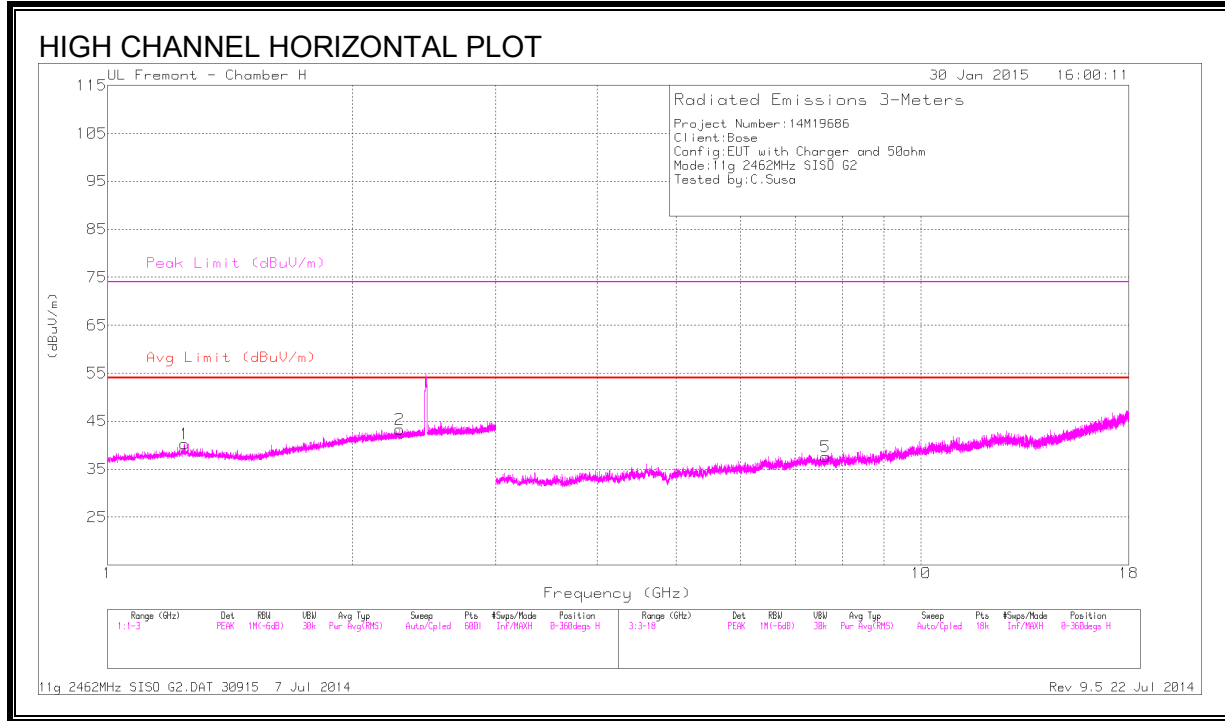
Radiated Emissions

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.57	43.22	PK2	28.3	-25.2	0	46.32	-	-	74	-27.68	148	201	H
	* 1.567	32.02	MAv1	28.2	-25.2	3.01	38.03	54	-15.97	-	-	148	201	H
2	* 1.559	43.74	PK2	28.2	-25.3	0	46.64	-	-	74	-27.36	175	176	V
	* 1.557	32.09	MAv1	28.2	-25.3	3.01	38	54	-16	-	-	175	176	V
3	* 3.893	41.85	PK2	33.4	-32.6	0	42.65	-	-	74	-31.35	201	161	H
	* 3.891	30.55	MAv1	33.4	-32.6	3.01	34.36	54	-19.64	-	-	201	161	H
6	* 11.684	36.15	PK2	38.4	-25.7	0	48.85	-	-	74	-25.15	242	172	H
	* 11.683	24.94	MAv1	38.4	-25.7	3.01	40.65	54	-13.35	-	-	242	172	H
4	* 3.827	40.65	PK2	33.3	-32.1	0	41.85	-	-	74	-32.15	220	162	V
	* 3.83	30.15	MAv1	33.3	-32.1	3.01	34.36	54	-19.64	-	-	220	162	V
5	* 10.893	35.31	PK2	37.7	-25	0	48.01	-	-	74	-25.99	150	177	V
	* 10.89	24.8	MAv1	37.7	-25	3.01	40.51	54	-13.49	-	-	150	177	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

Radiated Emissions

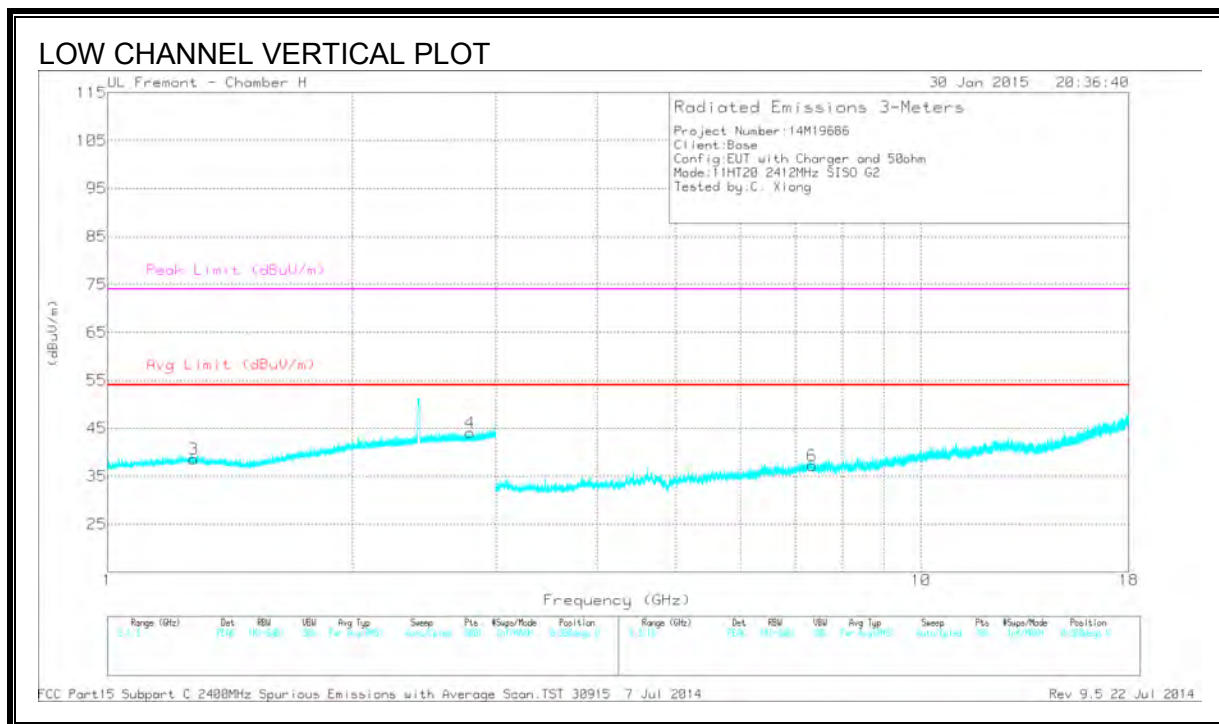
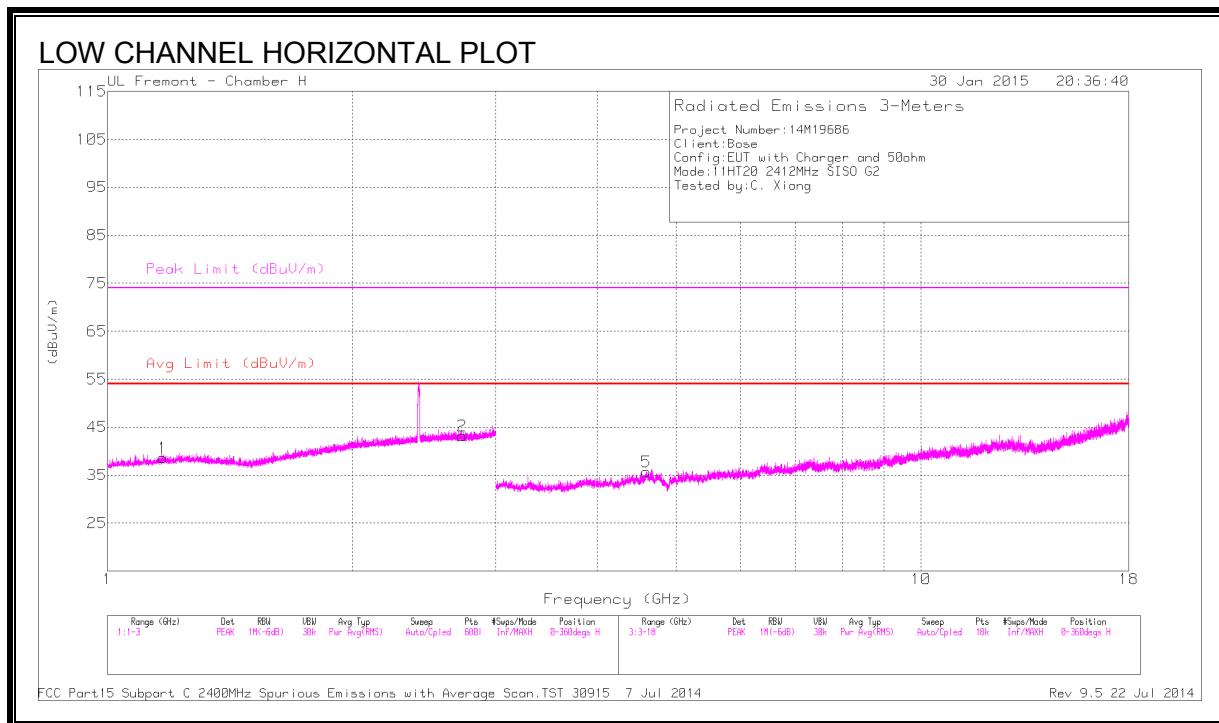
Markers	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.246	44.13	PK2	29	-25.9	0	47.23	-	-	74	-26.77	69	138	H
	* 1.243	32.59	MAv1	29	-25.9	3.01	38.7	54	-15.3	-	-	69	138	H
2	* 2.283	43.73	PK2	31.8	-24.6	0	50.93	-	-	74	-23.07	21	152	H
	* 2.283	31.87	MAv1	31.8	-24.6	3.01	42.08	54	-11.92	-	-	21	152	H
3	* 1.292	43.74	PK2	28.8	-25.8	0	46.74	-	-	74	-27.26	78	212	V
	* 1.291	32.58	MAv1	28.8	-25.8	3.01	38.59	54	-15.41	-	-	78	212	V
4	* 2.318	43.38	PK2	31.8	-24.6	0	50.58	-	-	74	-23.42	120	177	V
	* 2.319	32.04	MAv1	31.8	-24.6	3.01	42.25	54	-11.75	-	-	120	177	V
5	* 7.631	38.93	PK2	36.1	-29.2	0	45.83	-	-	74	-28.17	162	193	H
	* 7.635	27.99	MAv1	36.1	-29.1	3.01	38	54	-16	-	-	162	193	H
6	* 8.046	37.98	PK2	36	-28.4	0	45.58	-	-	74	-28.42	257	133	V
	* 8.045	27.03	MAv1	36	-28.4	3.01	37.64	54	-16.36	-	-	257	133	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.5. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND HARMONICS AND SPURIOUS EMISSIONS



DATA

Radiated Emissions

Markers	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.17	43.52	PK2	28.6	-25.9	0	46.22	-	-	74	-27.78	300	124	H
	* 1.167	32.55	MAv1	28.6	-25.9	2.94	38.19	54	-15.81	-	-	300	124	H
2	* 2.726	43.39	PK2	32.3	-24.3	0	51.39	-	-	74	-22.61	198	145	H
	* 2.728	31.97	MAv1	32.3	-24.3	2.94	42.91	54	-11.09	-	-	198	145	H
3	* 1.277	44.02	PK2	28.9	-25.9	0	47.02	-	-	74	-26.98	209	113	V
	* 1.278	32.35	MAv1	28.9	-25.9	2.94	38.29	54	-15.71	-	-	209	113	V
4	* 2.789	42.98	PK2	32.4	-24.3	0	51.08	-	-	74	-22.92	125	185	V
	* 2.788	31.87	MAv1	32.4	-24.3	2.94	42.91	54	-11.09	-	-	125	185	V
5	* 4.596	42.23	PK2	34.1	-32.4	0	43.93	-	-	74	-30.07	175	174	H
	* 4.598	31.26	MAv1	34.1	-32.4	2.94	35.9	54	-18.1	-	-	175	174	H
6	* 7.349	38.22	PK2	36.2	-28.9	0	45.52	-	-	74	-28.48	157	163	V
	* 7.351	27.39	MAv1	36.2	-29	2.94	37.53	54	-16.47	-	-	157	163	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

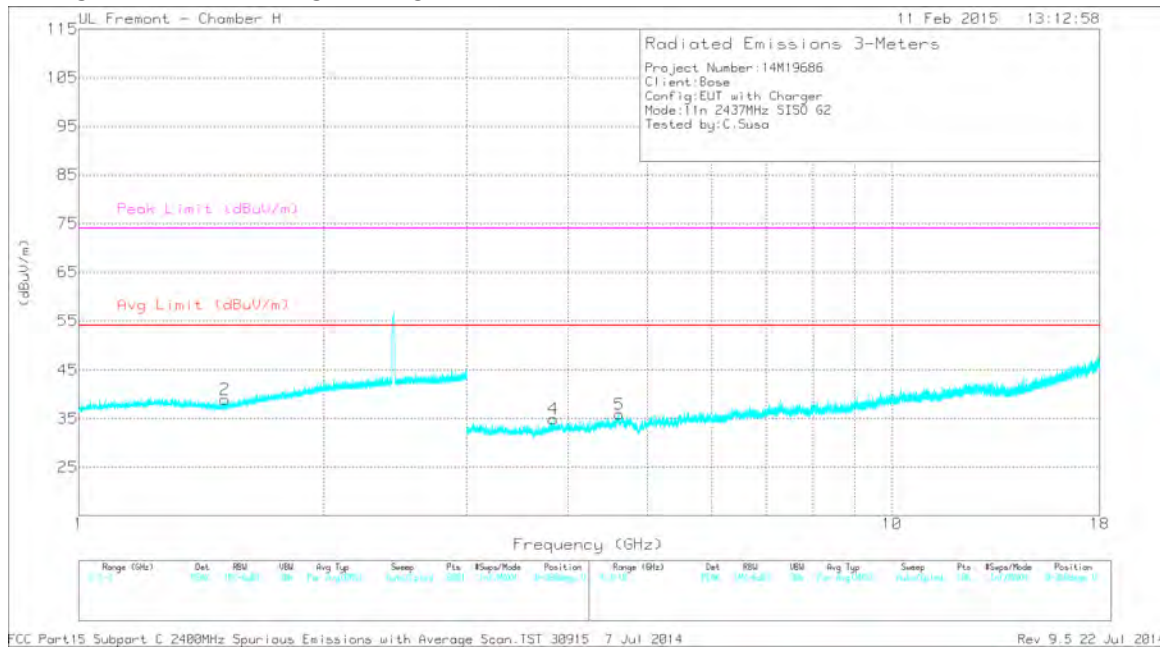
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



DATA

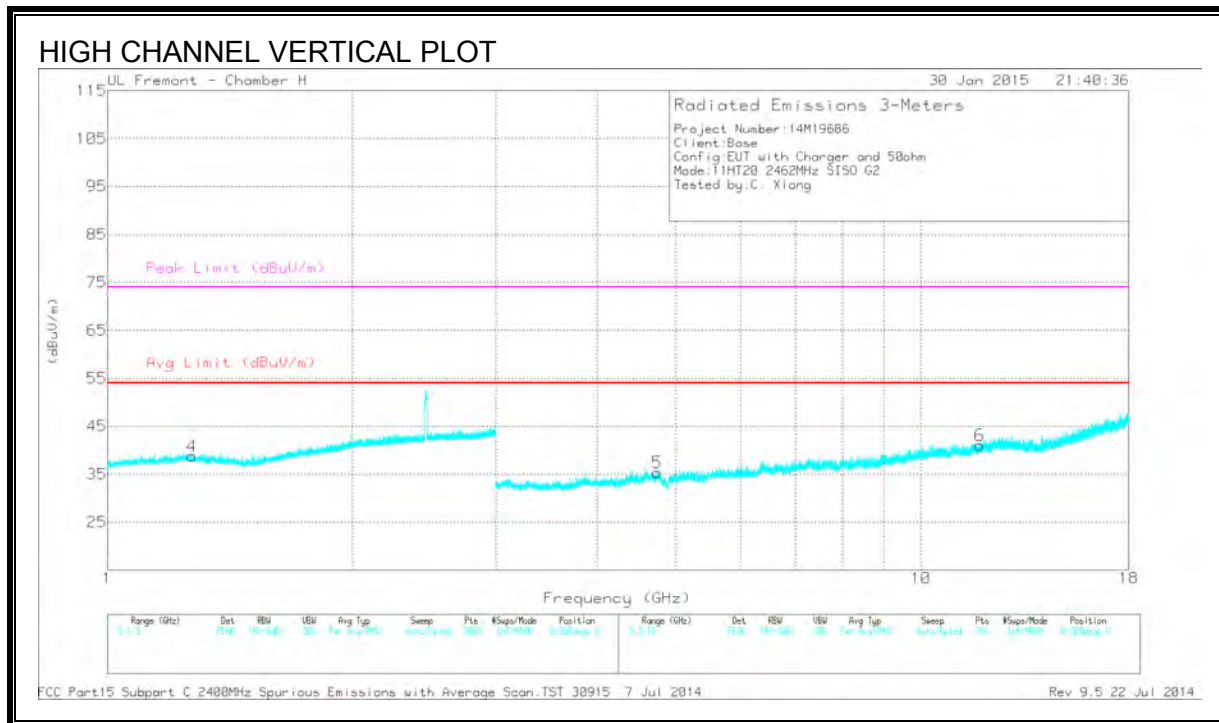
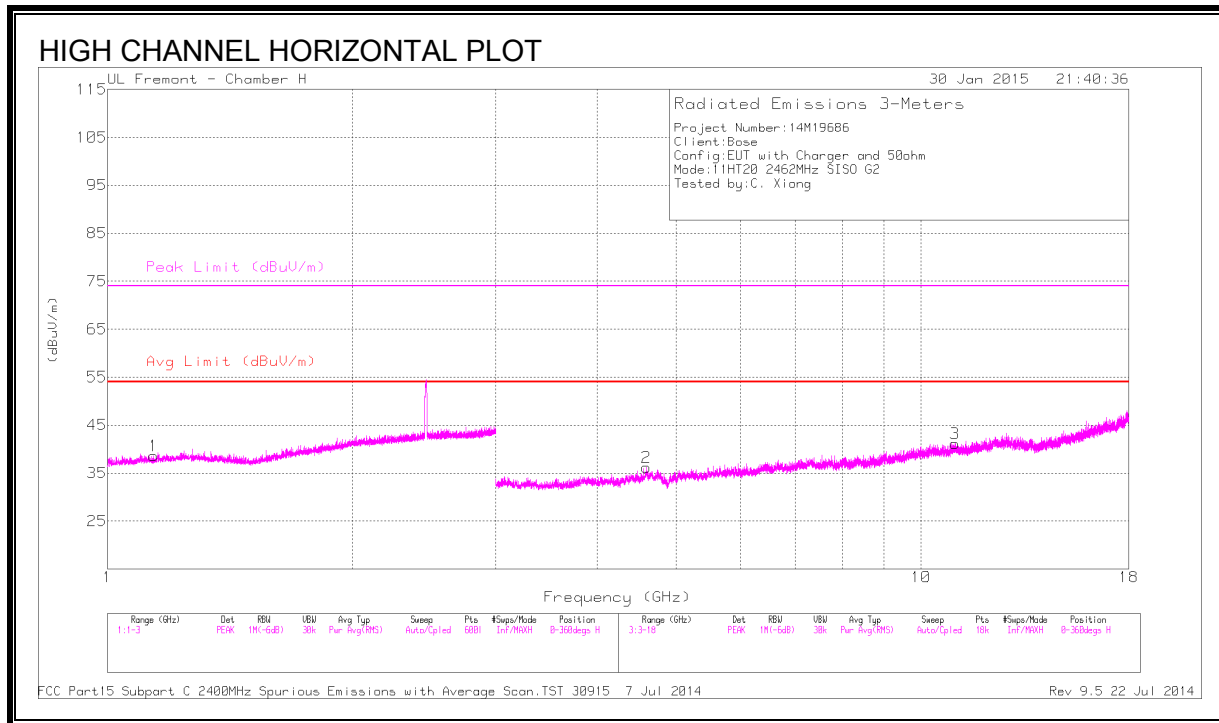
Radiated Emissions

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.567	43.73	PK2	28.2	-25.2	0	46.73	-	-	74	-27.27	145	176	H
	* 1.567	32.05	MAv1	28.2	-25.2	3.01	38.06	54	-15.94	-	-	145	176	H
2	* 1.512	43.76	PK2	27.8	-25.4	0	46.16	-	-	74	-27.84	165	145	V
	* 1.512	32.3	MAv1	27.8	-25.4	3.01	37.71	54	-16.29	-	-	165	145	V
3	* 3.826	41.85	PK2	33.3	-32.1	0	43.05	-	-	74	-30.95	210	190	H
	* 3.828	30.23	MAv1	33.3	-32.1	3.01	34.44	54	-19.56	-	-	210	190	H
6	* 4.575	41.15	PK2	34.1	-32.5	0	42.75	-	-	74	-31.25	180	194	H
	* 4.575	30.5	MAv1	34.1	-32.5	3.01	35.11	54	-18.89	-	-	180	194	H
4	* 3.834	41.94	PK2	33.3	-32.1	0	43.14	-	-	74	-30.86	290	183	V
	* 3.835	30.3	MAv1	33.3	-32.1	3.01	34.51	54	-19.49	-	-	290	183	V
5	* 4.62	41.33	PK2	34.1	-32.2	0	43.23	-	-	74	-30.77	161	170	V
	* 4.619	30.06	MAv1	34.1	-32.2	3.01	34.97	54	-19.03	-	-	161	170	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

Radiated Emissions

Markers	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.14	44.63	PK2	28.4	-25.8	0	47.23	-	-	74	-26.77	13	109	H
	* 1.141	32.39	MAv1	28.4	-25.8	2.94	37.93	54	-16.07	-	-	13	109	H
2	* 4.594	42.25	PK2	34.1	-32.4	0	43.95	-	-	74	-30.05	36	135	H
	* 4.594	31.03	MAv1	34.1	-32.4	2.94	35.67	54	-18.33	-	-	36	135	H
3	* 11.008	35.96	PK2	37.8	-25.3	0	48.46	-	-	74	-25.54	69	134	H
	* 11.01	25.23	MAv1	37.8	-25.3	2.94	40.67	54	-13.33	-	-	69	134	H
4	* 1.272	44.28	PK2	28.9	-25.9	0	47.28	-	-	74	-26.72	28	131	V
	* 1.272	32.56	MAv1	28.9	-25.9	2.94	38.5	54	-15.5	-	-	28	131	V
5	* 4.741	40.49	PK2	34.3	-32.1	0	42.69	-	-	74	-31.31	77	145	V
	* 4.741	29.88	MAv1	34.3	-32.1	2.94	35.02	54	-18.98	-	-	77	145	V
6	* 11.803	36.09	PK2	38.6	-26	0	48.69	-	-	74	-25.31	57	135	V
	* 11.802	25.34	MAv1	38.6	-26	2.94	40.88	54	-13.12	-	-	57	135	V

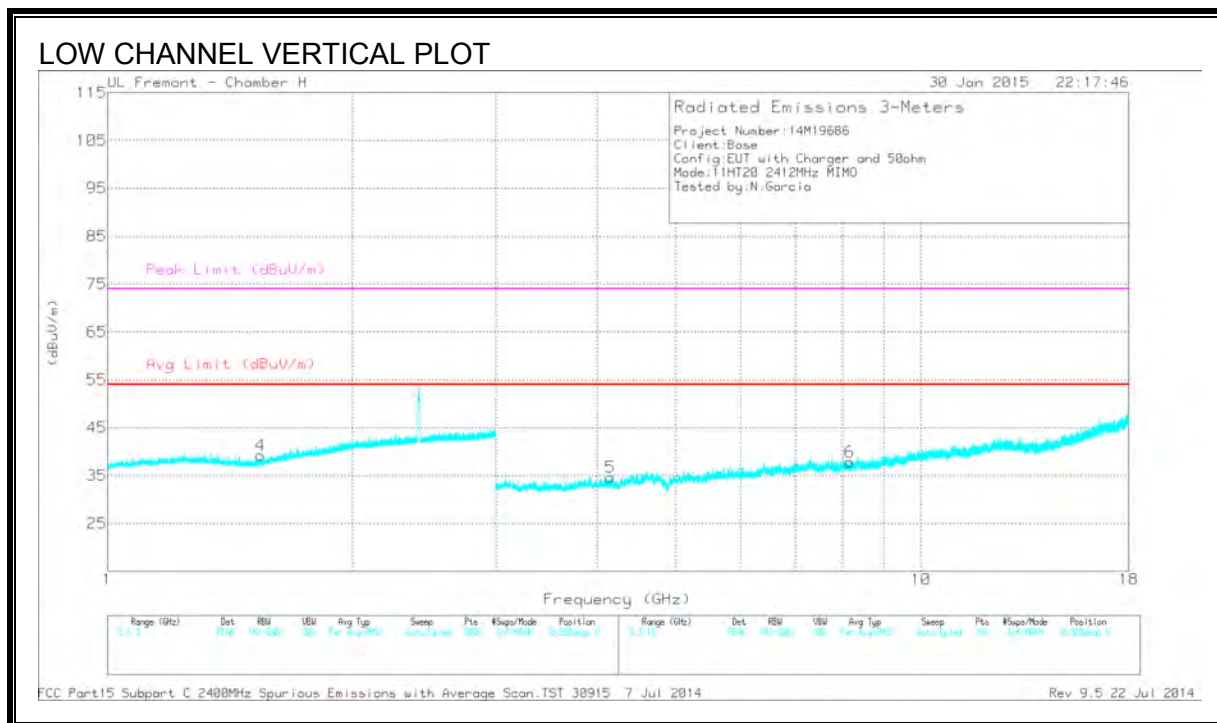
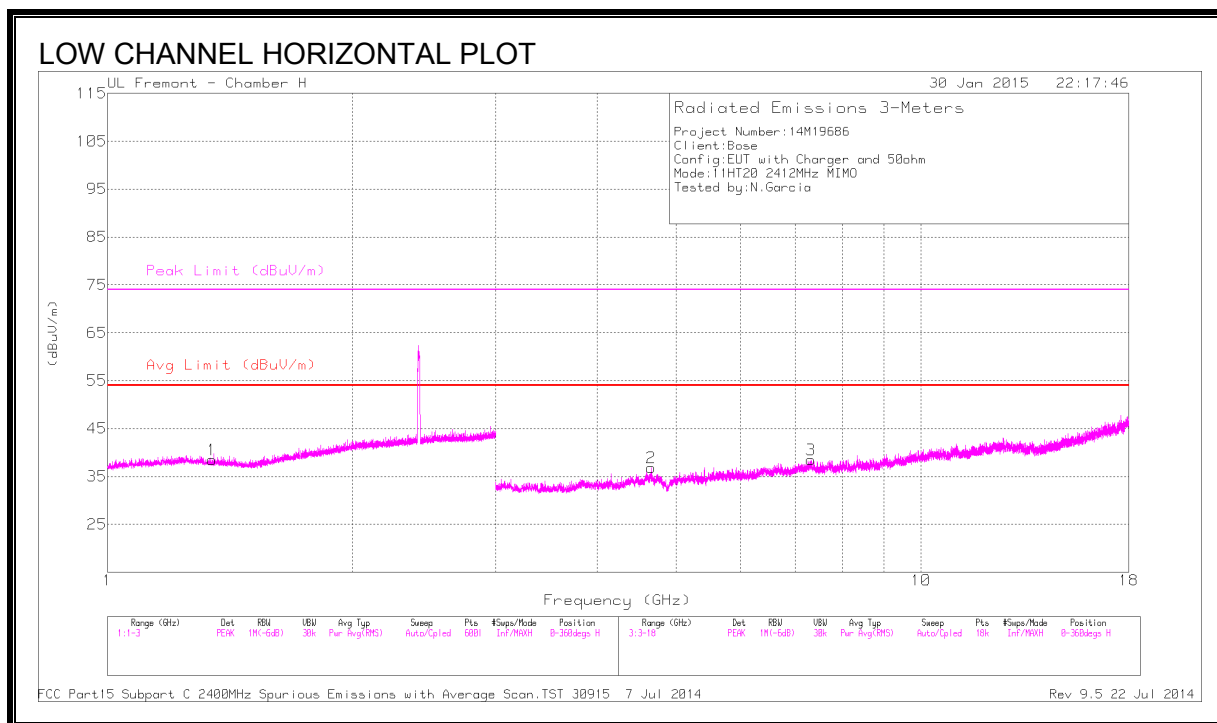
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.6. TX ABOVE 1 GHz 802.11n HT20 MIMO MODE IN THE 2.4 GHz BAND

HARMONICS AND SPURIOUS EMISSIONS



DATA

Radiated Emissions

Markers	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.343	43.76	PK2	28.5	-25.7	0	46.56	-	-	74	-27.44	13	114	H
	* 1.344	32.31	MAv1	28.5	-25.7	2.99	38.1	54	-15.9	-	-	13	114	H
2	* 4.654	42.19	PK2	34.2	-31.8	0	44.59	-	-	74	-29.41	34	145	H
	* 4.655	30.44	MAv1	34.2	-31.8	2.99	35.83	54	-18.17	-	-	34	145	H
3	* 7.324	38.59	PK2	36.2	-28.9	0	45.89	-	-	74	-28.11	91	106	H
	* 7.321	27.81	MAv1	36.2	-28.9	2.99	38.1	54	-15.9	-	-	91	106	H
4	* 1.543	43.68	PK2	28	-25.3	0	46.38	-	-	74	-27.62	26	136	V
	* 1.541	32.19	MAv1	28	-25.3	2.99	37.88	54	-16.12	-	-	26	136	V
5	* 4.153	40.69	PK2	33.5	-32.1	0	42.09	-	-	74	-31.91	27	118	V
	* 4.155	29.82	MAv1	33.5	-32.1	2.99	34.21	54	-19.79	-	-	27	118	V
6	* 8.173	39.03	PK2	36.1	-29.4	0	45.73	-	-	74	-28.27	69	144	V
	* 8.175	27.66	MAv1	36.1	-29.4	2.99	37.35	54	-16.65	-	-	69	144	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

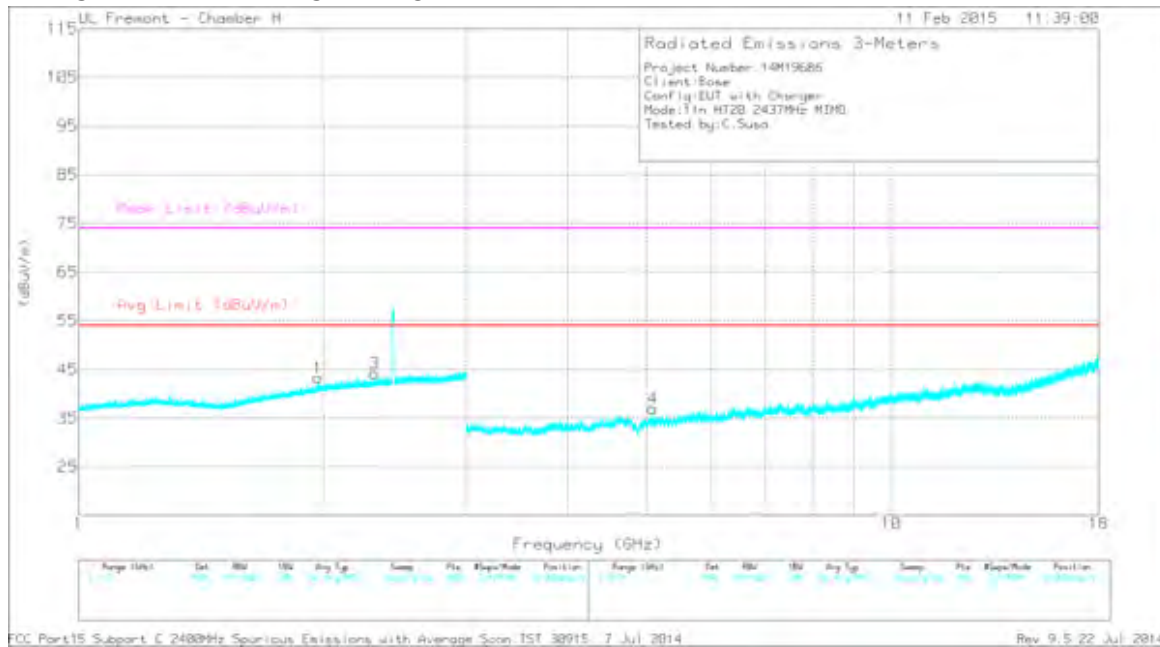
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICAL PLOT



DATA

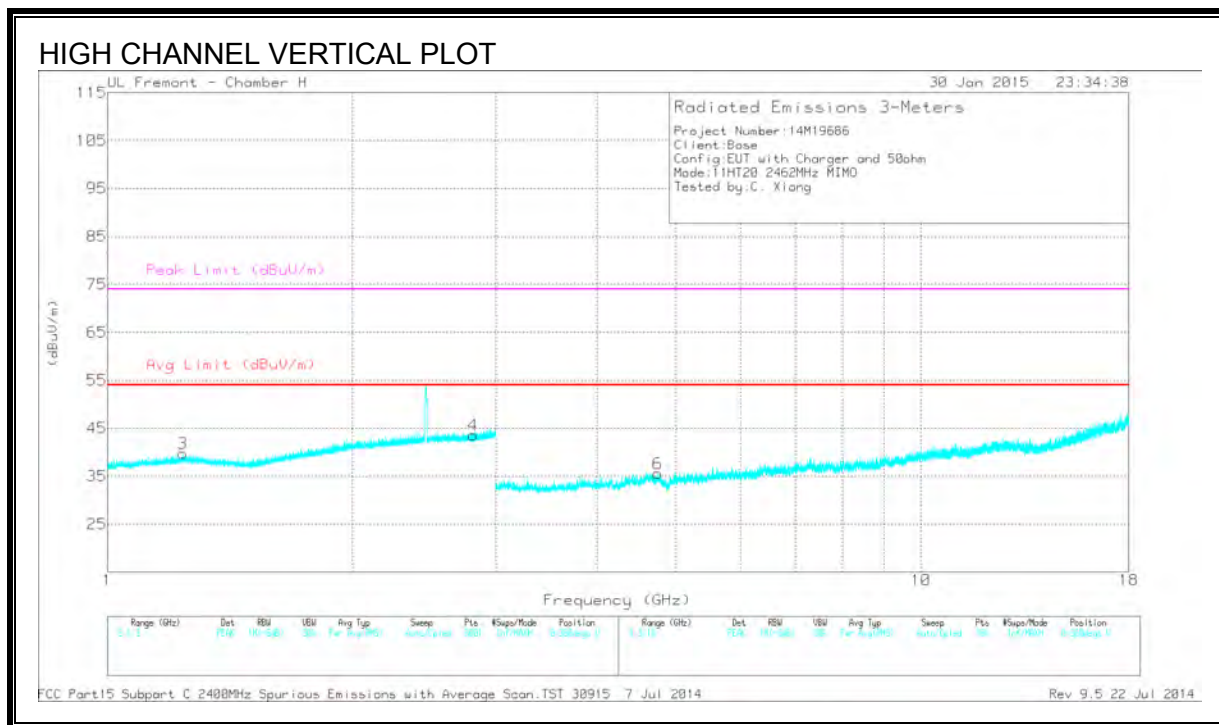
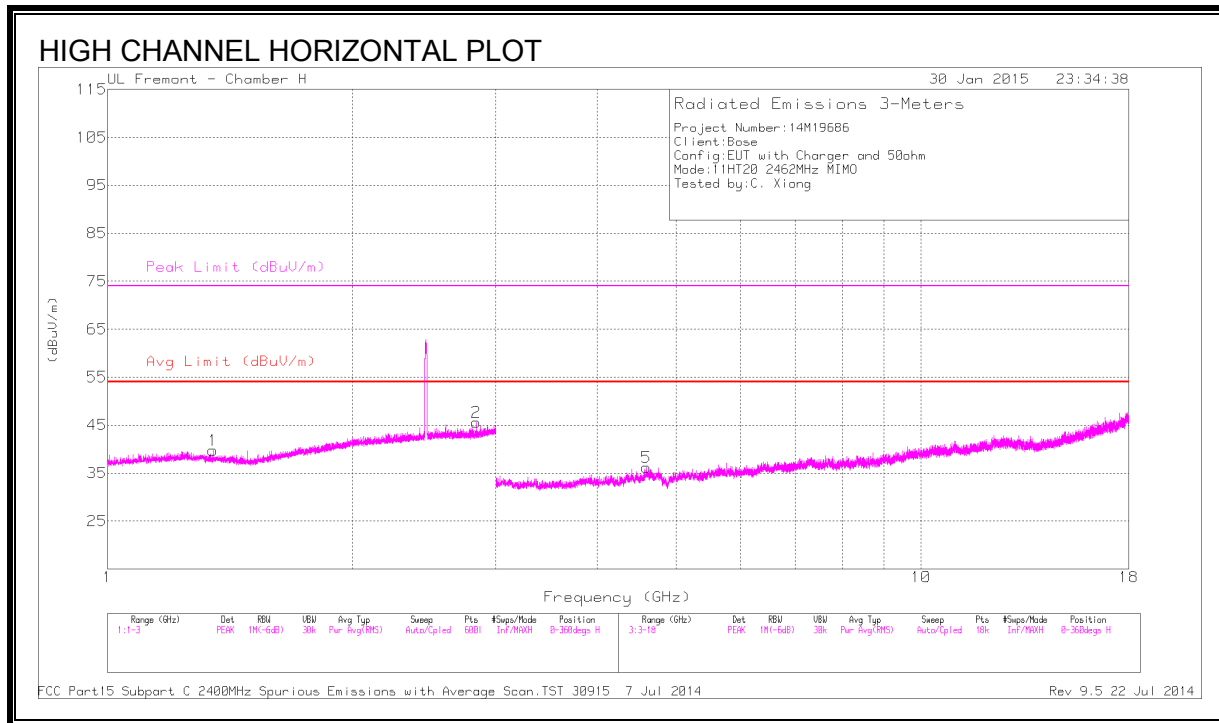
Radiated Emissions

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 2.312	43.08	PK2	31.8	-24.6	0	50.28	-	-	74	-23.72	168	214	V
	* 2.311	31.9	MAv1	31.8	-24.6	3.01	42.11	54	-11.89	-	-	168	214	V
5	* 3.723	42.03	PK2	33.2	-32.7	0	42.53	-	-	74	-31.47	190	178	H
	* 3.726	30.61	MAv1	33.2	-32.8	3.01	34.02	54	-19.98	-	-	190	178	H
6	* 7.306	38.91	PK2	36.2	-29.2	0	45.91	-	-	74	-28.09	223	205	H
	* 7.307	27.91	MAv1	36.2	-29.2	3.01	37.92	54	-16.08	-	-	223	205	H
4	* 5.088	40.27	PK2	34.4	-32.2	0	42.47	-	-	74	-31.53	186	222	V
	* 5.088	29.91	MAv1	34.4	-32.2	3.01	35.12	54	-18.88	-	-	186	222	V
1	1.969	43.32	PK2	31.1	-25	0	49.42	-	-	-	-	155	192	V
2	2.135	43.52	PK2	31.5	-24.8	0	50.22	-	-	-	-	258	186	H

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

Radiated Emissions

Markers	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.349	43.73	PK2	28.5	-25.7	0	46.53	-	-	74	-27.47	19	118	H
	* 1.347	32.38	MAv1	28.5	-25.7	2.99	38.17	54	-15.83	-	-	19	118	H
2	* 2.842	43.47	PK2	32.5	-24.2	0	51.77	-	-	74	-22.23	49	136	H
	* 2.84	31.86	MAv1	32.5	-24.2	2.99	43.15	54	-10.85	-	-	49	136	H
3	* 1.235	43.64	PK2	28.9	-25.9	0	46.64	-	-	74	-27.36	153	128	V
	* 1.236	32.69	MAv1	28.9	-25.9	2.99	38.68	54	-15.32	-	-	153	128	V
4	* 2.811	43.65	PK2	32.4	-24.3	0	51.75	-	-	74	-22.25	249	175	V
	* 2.815	31.8	MAv1	32.4	-24.3	2.99	42.89	54	-11.11	-	-	249	175	V
5	* 4.597	42.96	PK2	34.1	-32.4	0	44.66	-	-	74	-29.34	263	182	H
	* 4.596	31.18	MAv1	34.1	-32.4	2.99	35.87	54	-18.13	-	-	263	182	H
6	* 4.747	40.63	PK2	34.3	-32.2	0	42.73	-	-	74	-31.27	211	157	V
	* 4.743	30.12	MAv1	34.3	-32.2	2.99	35.21	54	-18.79	-	-	211	157	V

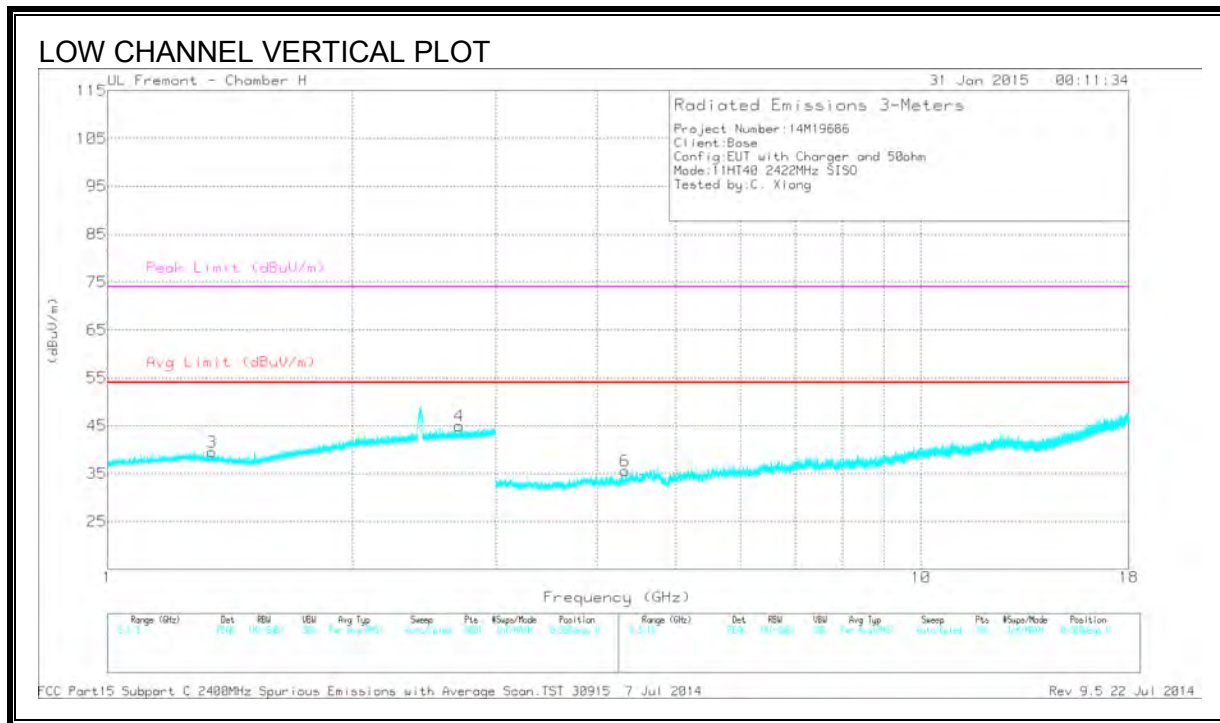
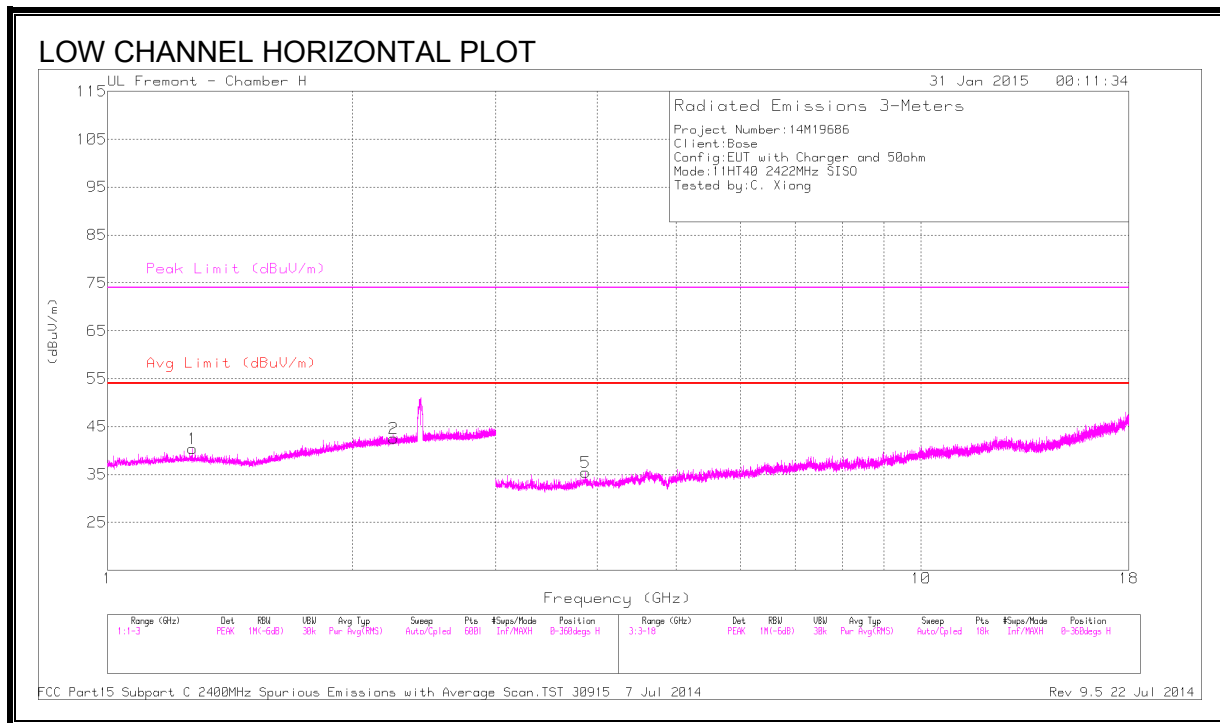
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.7. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 2.4 GHz BAND

HARMONICS AND SPURIOUS EMISSIONS



DATA

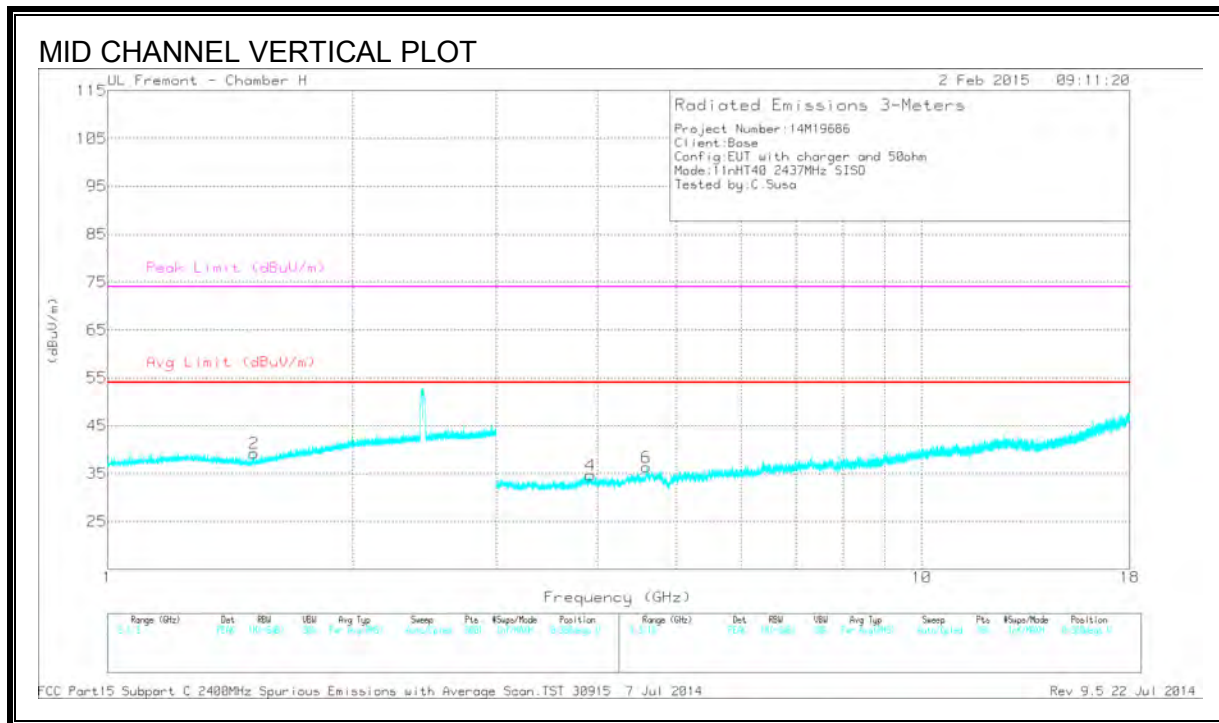
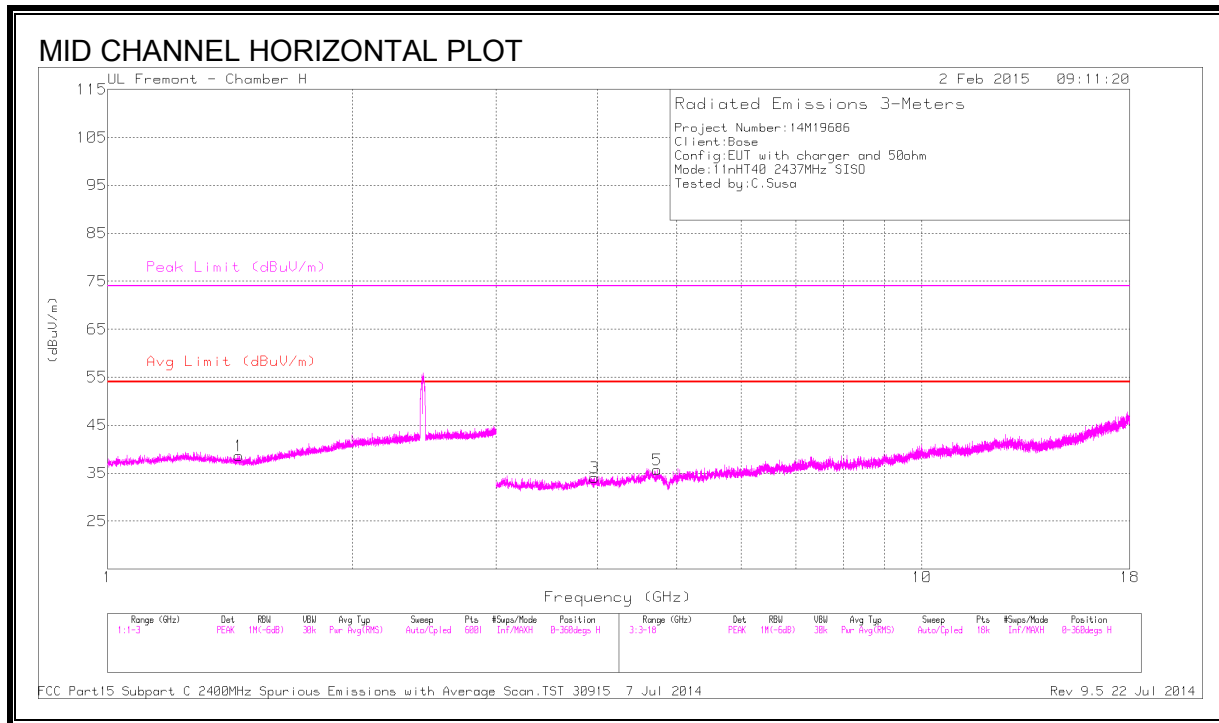
Radiated Emissions

Markers	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.27	43.7	PK2	28.9	-25.9	0	46.7	-	-	74	-27.3	224	128	H
	* 1.272	32.44	MAv1	28.9	-25.9	2.97	38.41	54	-15.59	-	-	224	128	H
2	* 2.249	43.45	PK2	31.7	-24.6	0	50.55	-	-	74	-23.45	233	138	H
	* 2.25	31.91	MAv1	31.7	-24.6	2.97	41.98	54	-12.02	-	-	233	138	H
3	* 1.344	43.61	PK2	28.5	-25.7	0	46.41	-	-	74	-27.59	204	162	V
	* 1.345	32.43	MAv1	28.5	-25.7	2.97	38.2	54	-15.8	-	-	204	162	V
4	* 2.707	43.37	PK2	32.3	-24.3	0	51.37	-	-	74	-22.63	168	193	V
	* 2.706	31.96	MAv1	32.3	-24.3	2.97	42.93	54	-11.07	-	-	168	193	V
5	* 3.867	41.63	PK2	33.3	-32.6	0	42.33	-	-	74	-31.67	135	154	H
	* 3.866	30.72	MAv1	33.3	-32.6	2.97	34.39	54	-19.61	-	-	135	154	H
6	* 4.322	40.64	PK2	33.6	-32.1	0	42.14	-	-	74	-31.86	115	179	V
	* 4.324	29.75	MAv1	33.6	-32.1	2.97	34.22	54	-19.78	-	-	115	179	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

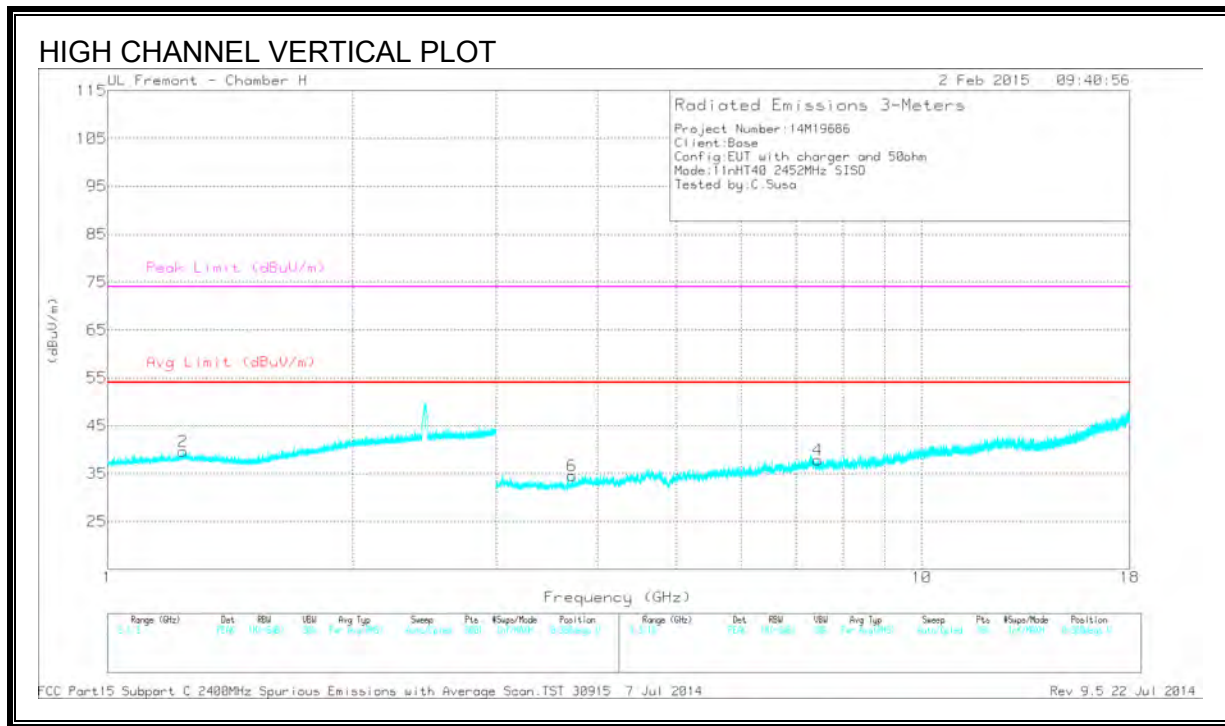
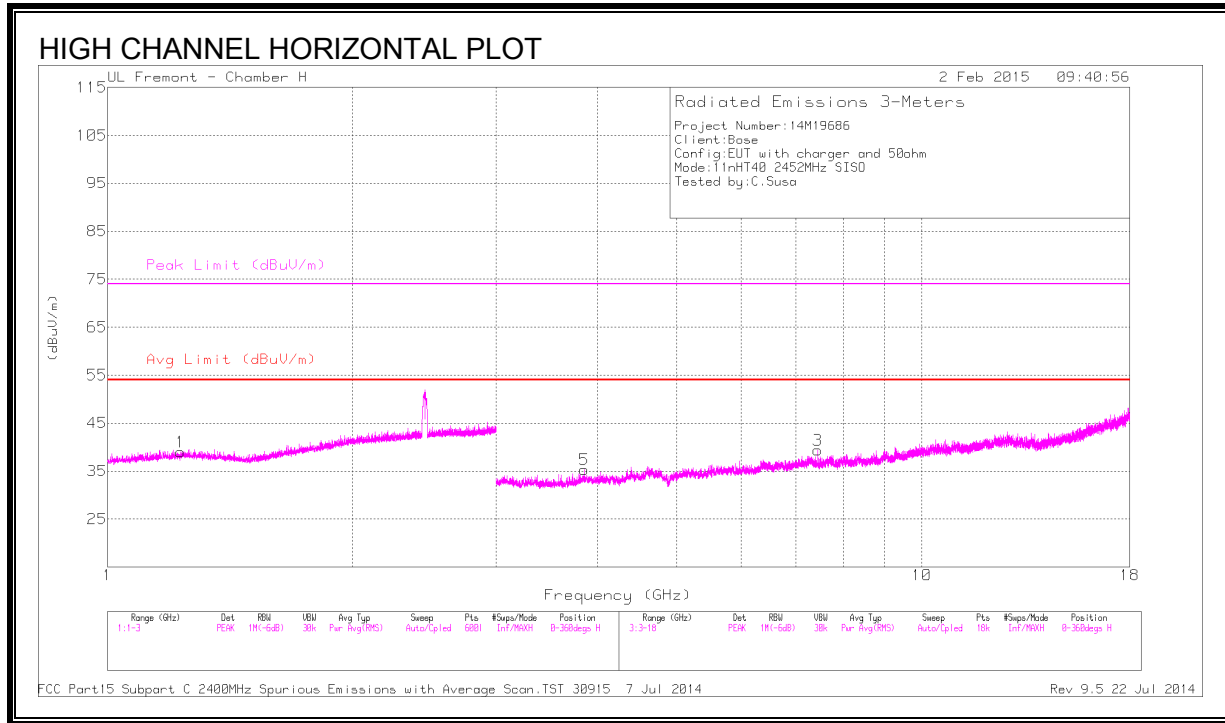
Radiated Emissions

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.447	43.95	PK2	28	-25.5	0	46.45	-	-	74	-27.55	152	220	H
	* 1.45	32.26	MAv1	28	-25.5	3.01	37.77	54	-16.23	-	-	152	220	H
2	* 1.514	43.69	PK2	27.8	-25.4	0	46.09	-	-	74	-27.91	159	210	V
	* 1.515	32.29	MAv1	27.8	-25.4	3.01	37.7	54	-16.3	-	-	159	210	V
3	* 3.962	41.9	PK2	33.5	-33.1	0	42.3	-	-	74	-31.7	201	217	H
	* 3.963	30.68	MAv1	33.5	-33.1	3.01	34.09	54	-19.91	-	-	201	217	H
5	* 4.733	40.84	PK2	34.3	-32	0	43.14	-	-	74	-30.86	171	170	H
	* 4.733	29.94	MAv1	34.3	-32	3.01	35.25	54	-18.75	-	-	171	170	H
4	* 3.919	42.29	PK2	33.4	-33	0	42.69	-	-	74	-31.31	210	204	V
	* 3.921	30.96	MAv1	33.4	-33	3.01	34.37	54	-19.63	-	-	210	204	V
6	* 4.591	42.52	PK2	34.1	-32.5	0	44.12	-	-	74	-29.88	228	239	V
	* 4.591	30.84	MAv1	34.1	-32.5	3.01	35.45	54	-18.55	-	-	228	239	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

Radiated Emissions

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.229	44.63	PK2	28.9	-25.9	0	47.63	-	-	74	-26.37	237	171	H
	* 1.227	32.54	MAv1	28.9	-25.9	3.01	38.55	54	-15.45	-	-	237	171	H
2	* 1.236	44.03	PK2	28.9	-25.9	0	47.03	-	-	74	-26.97	110	191	V
	* 1.239	32.62	MAv1	28.9	-25.9	3.01	38.63	54	-15.37	-	-	110	191	V
3	* 7.454	38.96	PK2	36.1	-29.4	0	45.66	-	-	74	-28.34	163	259	H
	* 7.454	27.84	MAv1	36.1	-29.4	3.01	37.55	54	-16.45	-	-	163	259	H
5	* 3.851	42.18	PK2	33.3	-32.4	0	43.08	-	-	74	-30.92	210	210	H
	* 3.853	30.73	MAv1	33.3	-32.4	3.01	34.64	54	-19.36	-	-	210	210	H
4	* 7.452	38.91	PK2	36.1	-29.5	0	45.51	-	-	74	-28.49	170	195	V
	* 7.453	27.78	MAv1	36.1	-29.5	3.01	37.39	54	-16.61	-	-	170	195	V
6	* 3.72	42.01	PK2	33.2	-32.7	0	42.51	-	-	74	-31.49	231	178	V
	* 3.721	30.65	MAv1	33.2	-32.7	3.01	34.16	54	-19.84	-	-	231	178	V

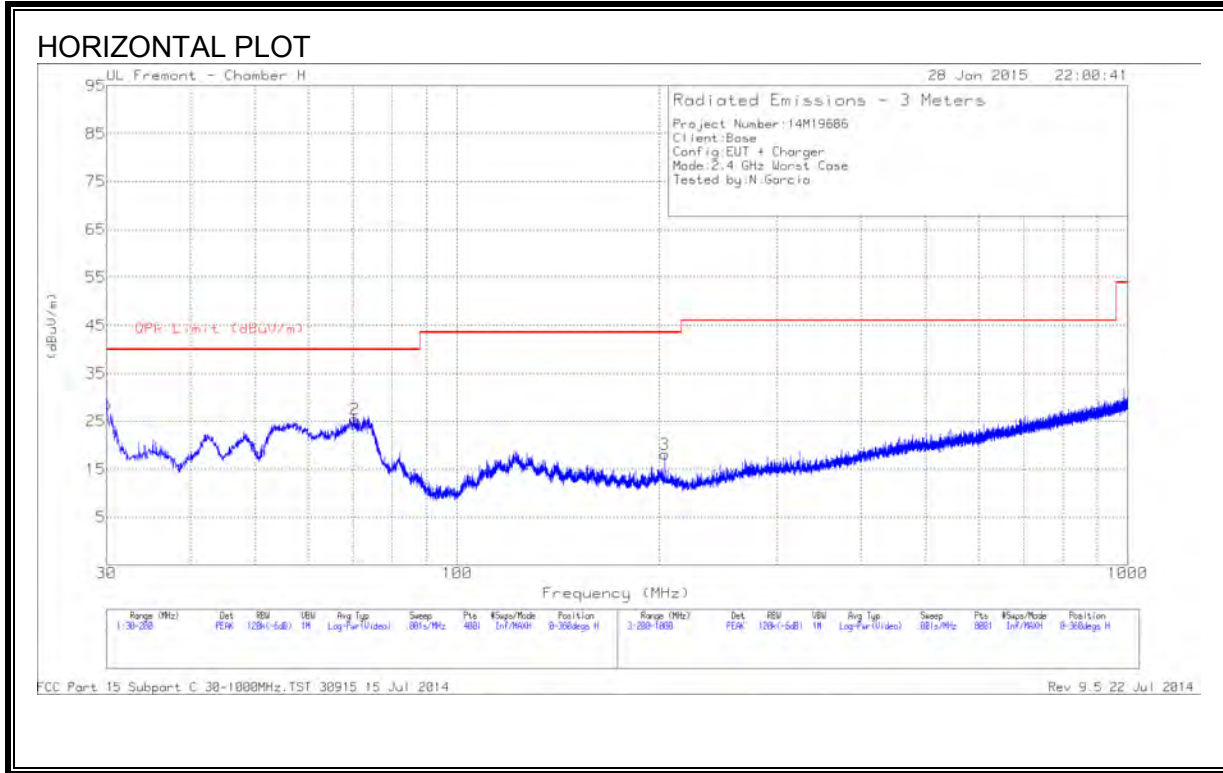
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

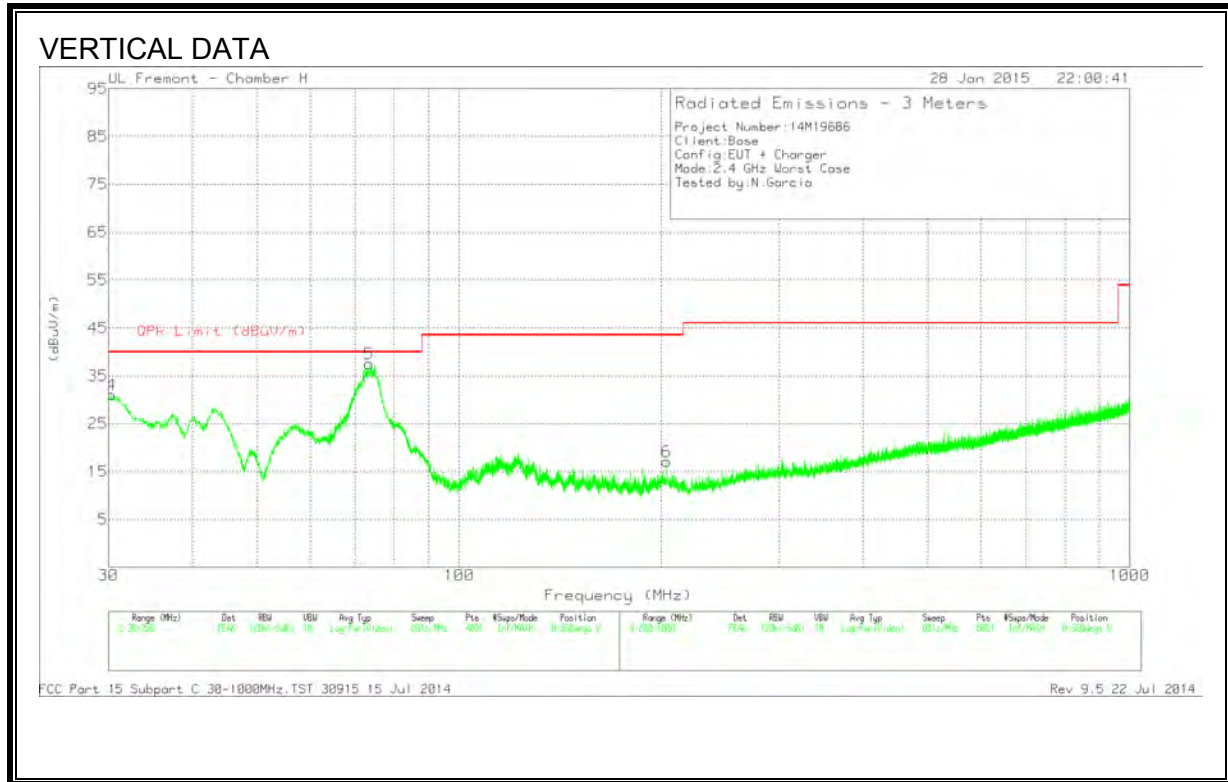
MAv1 - KDB558074 Option 1 Maximum RMS Average

9.8. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	SS JB3 SN A051314-1	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.0425	35.78	PK	23.9	-31	0	28.68	40	-11.32	0-360	99	H
2	70.4175	44.71	PK	11.3	-30.5	0	25.51	40	-14.49	0-360	201	H
3	204	32	PK	15.3	-29.2	0	18.1	43.52	-25.42	0-360	201	H
4	30.2975	38.21	PK	23.8	-31	0	31.01	40	-8.99	0-360	100	V
5	* 73.3925	56.81	PK	11.1	-30.4	0	37.51	40	-2.49	0-360	100	V
	* 73.5304	52.17	QP	11.1	-30.4	0	32.87	40	-7.13	189	106	V
6	204	31.05	PK	15.3	-29.2	0	17.15	43.52	-26.37	0-360	99	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector

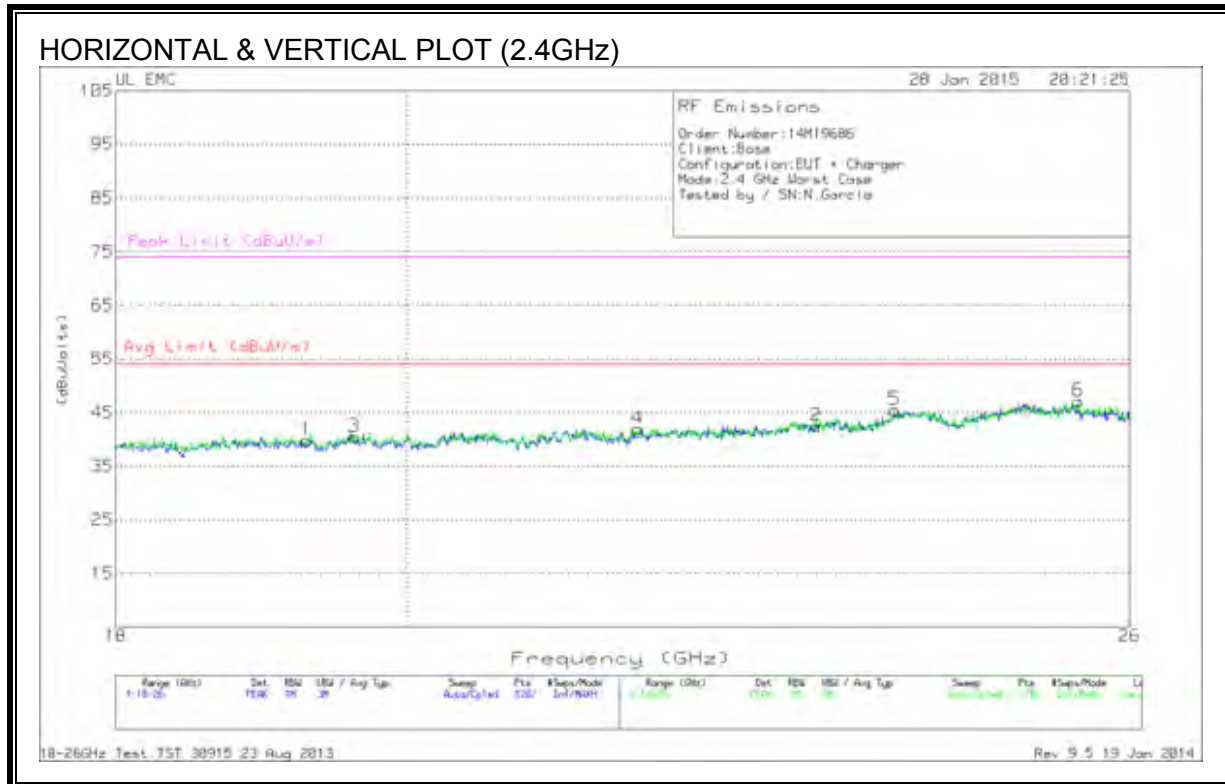
QP - Quasi-Peak detector

FCC Part 15 Subpart C 30-1000MHz.TST 30915 15 Jul 2014

Rev 9.5 22 Jul 2014

10. WORST-CASE 18 to 26 GHz

SPURIOUS EMISSIONS 18000 TO 26000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)



HORIZONTAL & VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.292	40.63	PK	32.8	-24.1	-9.5	39.833	54	-14.167	74	-34.167
2	23.209	41.3	PK	33.9	-23.2	-9.5	42.5	54	-11.5	74	-31.5
3	19.625	41.2	PK	32.9	-24.1	-9.5	40.5	54	-13.5	74	-33.5
4	21.75	41.6	PK	33.6	-23.7	-9.5	42	54	-12	74	-32
5	23.875	43.4	PK	34.2	-22.6	-9.5	45.5	54	-8.5	74	-28.5
6	25.52	45.07	PK	34.7	-23.1	-9.5	47.167	54	-6.833	74	-26.833

PK - Peak detector

18-26GHz Test.TST 30915 23 Aug 2013 Rev 9.5 19 Jan 2014

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.205 and §15.209

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 [*]	56 to 46 [*]
0.5-5	56	46
5-30	60	50

^{*}Decreases with the logarithm of the frequency.

TEST PROCEDURE

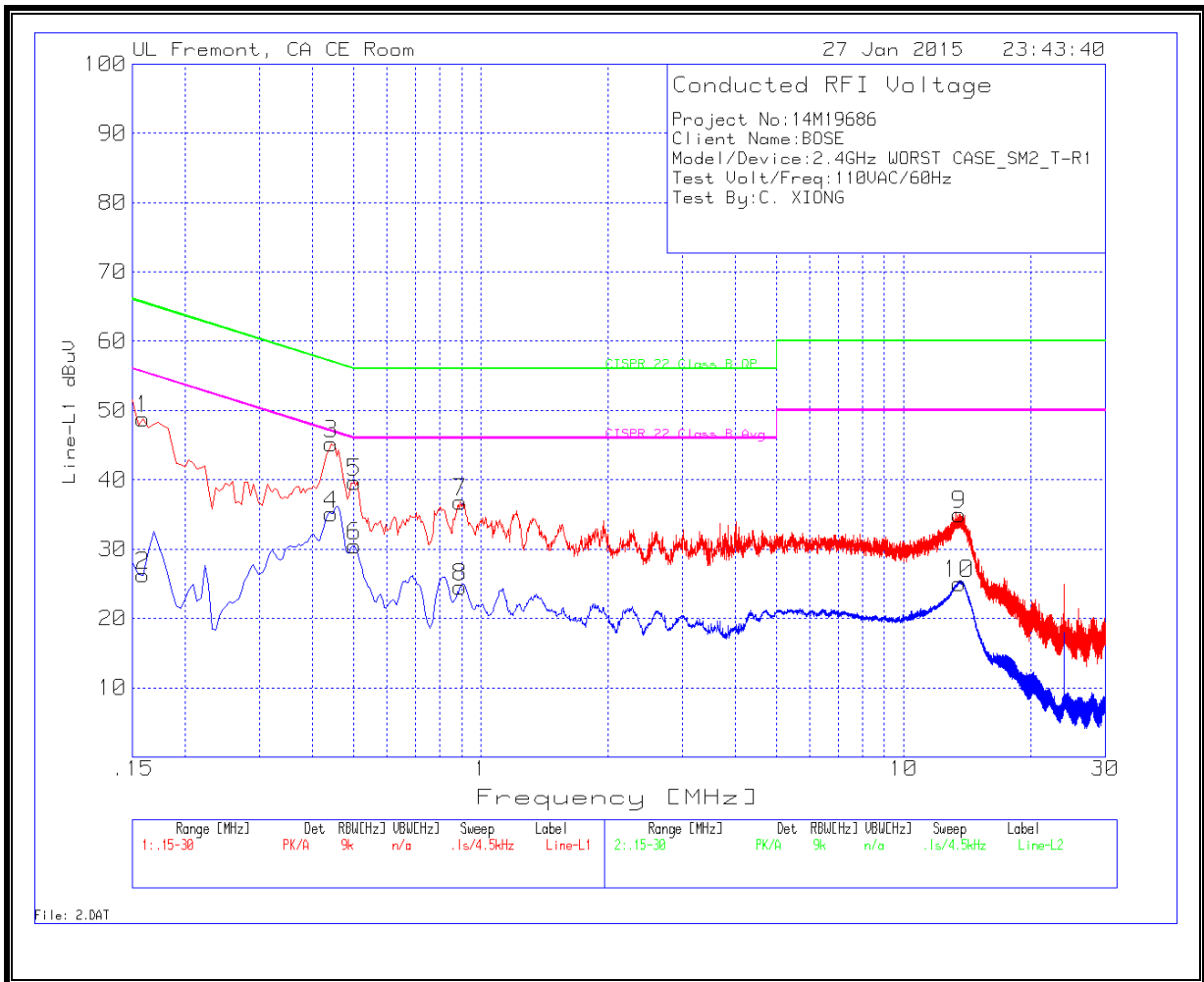
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

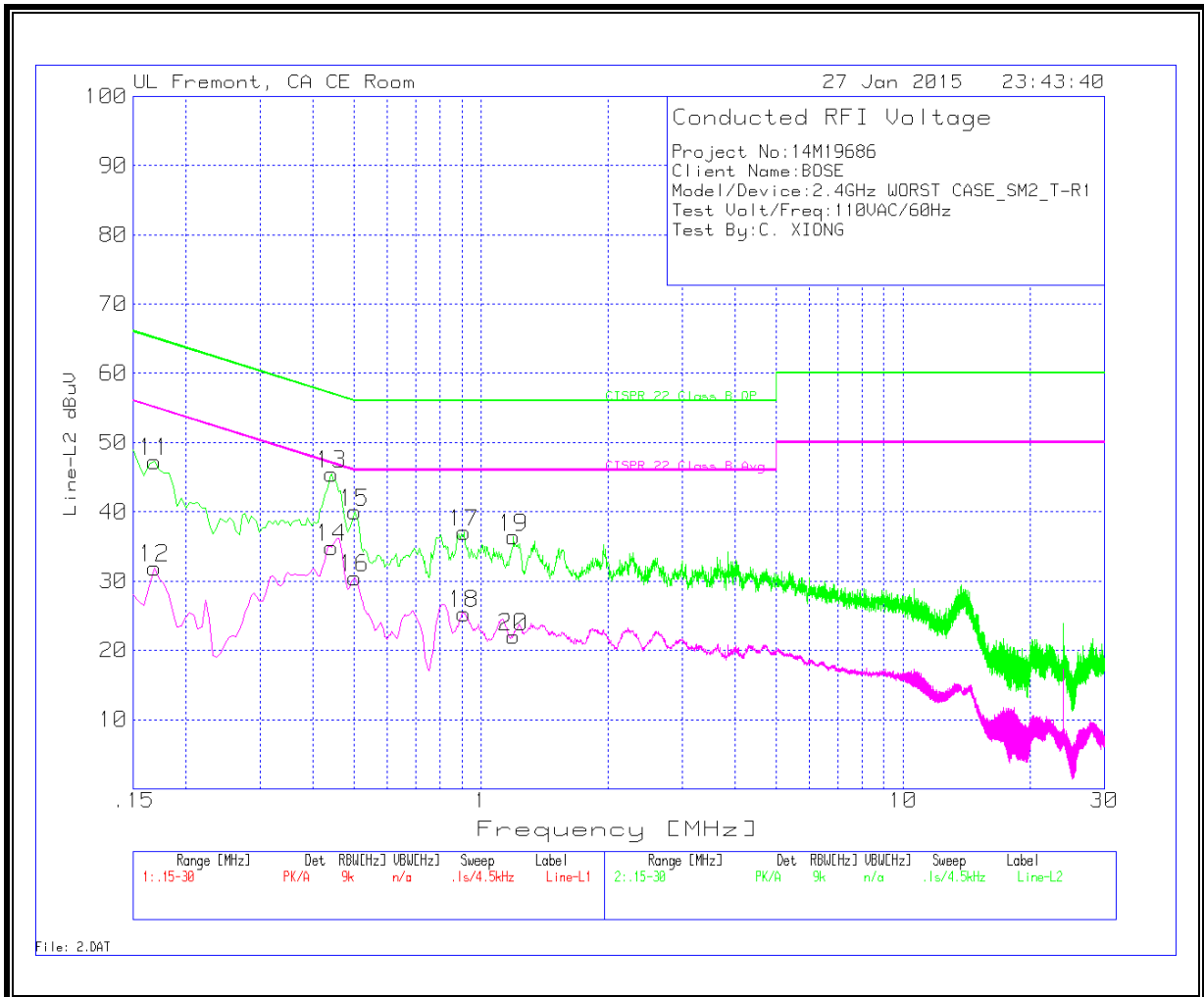
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

LINE 1



LINE 2 RESULTS



WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.159	47.51	PK	1.3	0	48.81	65.5	-16.69	-	-
2	.159	24.98	Av	1.3	0	26.28	-	-	55.5	-29.22
3	.4425	44.85	PK	.4	0	45.25	57	-11.75	-	-
4	.4425	34.67	Av	.4	0	35.07	-	-	47	-11.93
5	.501	39.37	PK	.3	0	39.67	56	-16.33	-	-
6	.501	30.18	Av	.3	0	30.48	-	-	46	-15.52
7	.8925	36.5	PK	.3	0	36.8	56	-19.2	-	-
8	.8925	24.27	Av	.3	0	24.57	-	-	46	-21.43
9	13.515	34.65	PK	.2	.2	35.05	60	-24.95	-	-
10	13.515	24.7	Av	.2	.2	25.1	-	-	50	-24.9

Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
11	.168	45.96	PK	1.3	0	47.26	65.1	-17.84	-	-
12	.168	30.61	Av	1.3	0	31.91	-	-	55.1	-23.19
13	.4425	45.02	PK	.4	0	45.42	57	-11.58	-	-
14	.4425	34.52	Av	.4	0	34.92	-	-	47	-12.08
15	.501	39.58	PK	.4	0	39.98	56	-16.02	-	-
16	.501	30.12	Av	.4	0	30.52	-	-	46	-15.48
17	.9105	36.72	PK	.3	0	37.02	56	-18.98	-	-
18	.9105	25.05	Av	.3	0	25.35	-	-	46	-20.65
19	1.194	35.96	PK	.3	.1	36.36	56	-19.64	-	-
20	1.194	21.62	Av	.3	.1	22.02	-	-	46	-23.98

PK - Peak detector
 Av - average detection