FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

802.11b/g/n/a/ac 3X3 WLAN + Bluetooth PCI-E Custom Combination Card

MODEL NUMBER: BCM943602CDP

FCC ID: QDS-BRCM1089

REPORT NUMBER: 15U20173-E7 Revision

ISSUE DATE: MAY 20, 2015

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	04/24/15	Initial Issue	F. Ibrahim
A	05/20/15	Added reference in Section 7 to KDB 662911 D01 v02r01 Updated Model Numbers on Pg.11	H. Mustapha

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	BROADCOM CORPORATION 190 MATHILDA PLACE SUNNYVALE, CA 94086, U.S.A.
EUT DESCRIPTION:	802.11b/g/n/a/ac 3X3 WLAN + Bluetooth PCI-E Custom Combination Card
MODEL:	BCM943602CDP
SERIAL NUMBER:	Conducted: FC84522014DGCY310 Radiated: FC84522012PGCY31W
DATE TESTED:	MARCH 1-APRIL 22, 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.

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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 and KDB 558074 D01 v03r02.

3. FACILITIES AND ACCREDITATION

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

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
☒ Chamber A	☐ Chamber D
☒ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F
	☐ Chamber G
	☐ Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

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:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.52 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.94 dB
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 an 802.11b/g/n/a/ac 3X3 WLAN + Bluetooth PCI-E Custom Combination Card.

The radio module is manufactured by Broadcom.

5.2. MAXIMUM AVERAGE OUTPUT POWER

The transmitter has a maximum average conducted output power as follows:

2400 - 2483.5 MHz Authorized Frequency Band						
Frequency Range (MHz)	Mode	Power, Chain 0 (dBm)	Power, Chain 1 (dBm)	Power, Chain 2 (dBm)	Total power (dBm)	Total power (mW)
2412 - 2472	802.11b CDD 2Tx	19.73	19.96		22.86	193.06
2412 - 2472	802.11b CDD 3Tx	20.00	20.00	19.65	24.66	292.26
2412 - 2472	802.11g Legacy 1TX		20.00		20.00	100.00
2412 - 2472	802.11n HT20 CDD 2Tx	19.60	19.93		22.78	189.60
2412 - 2472	802.11n HT20 TxBF 2Tx	19.60	19.93		22.78	189.60
2412 - 2472	802.11n HT20 CDD 3TX	19.87	20.20	19.25	24.56	285.90
2412 - 2472	802.11n HT20 TxBF 3TX	19.87	20.20	19.25	24.56	285.90

List of test reductions (non-beamforming modes)

Antenna Port Testing		
Band	**Mode**	**Covered by**
2.4 GHz band	802.11b Legacy 1TX	802.11b HT20 CDD 3TX
2.4 GHz band	802.11b CDD 2TX	802.11b HT20 CDD 3TX
2.4 GHz band	802.11g CDD 2TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11g CDD 3TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11n HT20 1TX	802.11g Legacy 1TX
2.4 GHz band	802.11n HT20 CDD/SDM 2TX	802.11n HT20 CDD 3TX

Radiated Testing		
Band	**Mode**	**Covered by**
2.4 GHz band	802.11b Legacy 1TX	802.11b HT20 CDD 3TX
2.4 GHz band	802.11b CDD 2TX	802.11b HT20 CDD 3TX
2.4 GHz band	802.11g CDD 2TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11g CDD 3TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11n HT20 1TX	802.11g Legacy 1TX
2.4 GHz band	802.11n HT20 CDD/SDM 2TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11g Legacy 1TX (Harmonics)	802.11n HT20 CDD 3TX (Harmonics)

List of test reductions (beamforming modes)

Antenna Port Testing		
Band	**Mode**	**Covered by**
2.4 GHz band	802.11n HT20 BF 2Tx	802.11n HT20 CDD 3Tx
2.4 GHz band	802.11n HT20 BF 2Tx	802.11n HT20 CDD 3Tx

Radiated Testing		
Band	**Mode**	**Covered by**
2.4 GHz band	802.11g BF 2TX	802.11n HT20 BF 3Tx
2.4 GHz band	802.11g BF 3TX	802.11n HT20 BF 3Tx
2.4 GHz band	802.11n HT20 BF 1Tx	802.11n HT20 BF 3Tx
2.4 GHz band	802.11n HT20 BF 2Tx	802.11n HT20 BF 3Tx

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The EUT utilizes the following antennas:

First Set:

Antenna Manufacturer	Antenna Type	Model	Peak Gain (2400-2483.5 MHz)
Amphenol/Molex	802.11abgn WLAN Antenna	604-03492 /04563/04564, WF2	4.32
Amphenol/Molex	802.11abgn WLAN Antenna	604-03493, WF3	4.77
Amphenol/Molex	802.11abgn WLAN Antenna	604-03490, WF4	3.72

Second Set:

Antenna Manufacturer	Antenna Type	Model	Peak Gain (2400-2483.5 MHz)
Amphenol/Molex	802.11abgn WLAN Antenna	604-04672/04678, WF2	3.38
Amphenol/Molex	802.11abgn WLAN Antenna	604-03424, WF3	5.33
Amphenol/Molex	802.11abgn WLAN Antenna	604-03425, WF4	5.9

For both conducted and radiated testing, the following antennas were used as worst-case representative of both sets shown above:

Antenna Manufacturer	Antenna Type	Model	Peak Gain (2400-2483.5 MHz)
Amphenol/Molex	802.11abgn WLAN Antenna	604-03492/04563/ 04564, WF2	4.32
Amphenol/Molex	802.11abgn WLAN Antenna	604-03424 WF3	5.33
Amphenol/Molex	802.11abgn WLAN	604-03425 WF4	5.9

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was Broadcom, rev. 7.15RC163.2.

The EUT driver software installed during testing was Broadcom, rev. 7.15.163.2.

The test utility software used during testing was Broadcom, rev. 7.15RC163.2 (r518356 WLTEST).

5.5. WORST-CASE CONFIGURATION AND MODE

The EUT was tested as an external module installed in a test jig board connected to a host Laptop PC.

The EUT can only be setup in desktop orientation; therefore, all radiated testing was performed with the EUT in desktop orientation.

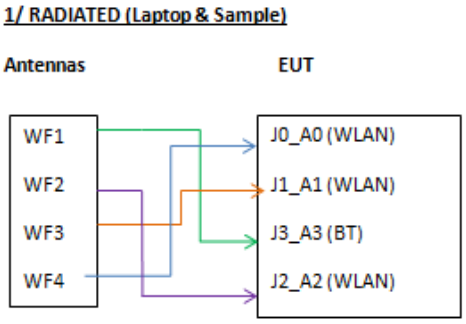
Radiated emission below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

For 2.4 GHz, band edge preliminary investigation showed that horizontal polarization was worst case for CDD and SISO modes, therefore only horizontal polarization was tested for these modes.

Worst-case for SISO modes:
- 2.4 GHz band: chain 1 (connector J2) was connected to antenna with highest gain (WF4).

Worst-case for MIMO 2 TX modes:
- 2.4 GHz band: chain 1 (connector J2) was connected to antenna with highest gain (WF4), and chain 0 (connector J1) was connected to antenna with second highest gain (WF3).

The 3TX antenna mapping to chains was as follow:



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

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20 mode: MCS0

Based on client's input, there is no colocation among different radios.

For TxBF mode conducted testing, the bandwidth and duty cycle data were shared with CDD mode; the TxBF mode radiated portion has its own duty cycle.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List			
Description	**Manufacturer**	**Model**	**Serial Number**
Laptop	Lenovo	Lenovo G560	CBU3474487
AC / DC Adapter	Lenovo	PA-1650-56LC	N/A
Laptop	DELL	Latitude E6400	7WCBYH1
AC / DC Adapter	DELL	DA90PM111	N/A
Catalyst PCIe. Board	Enterprises Inc.	N/A	N/A

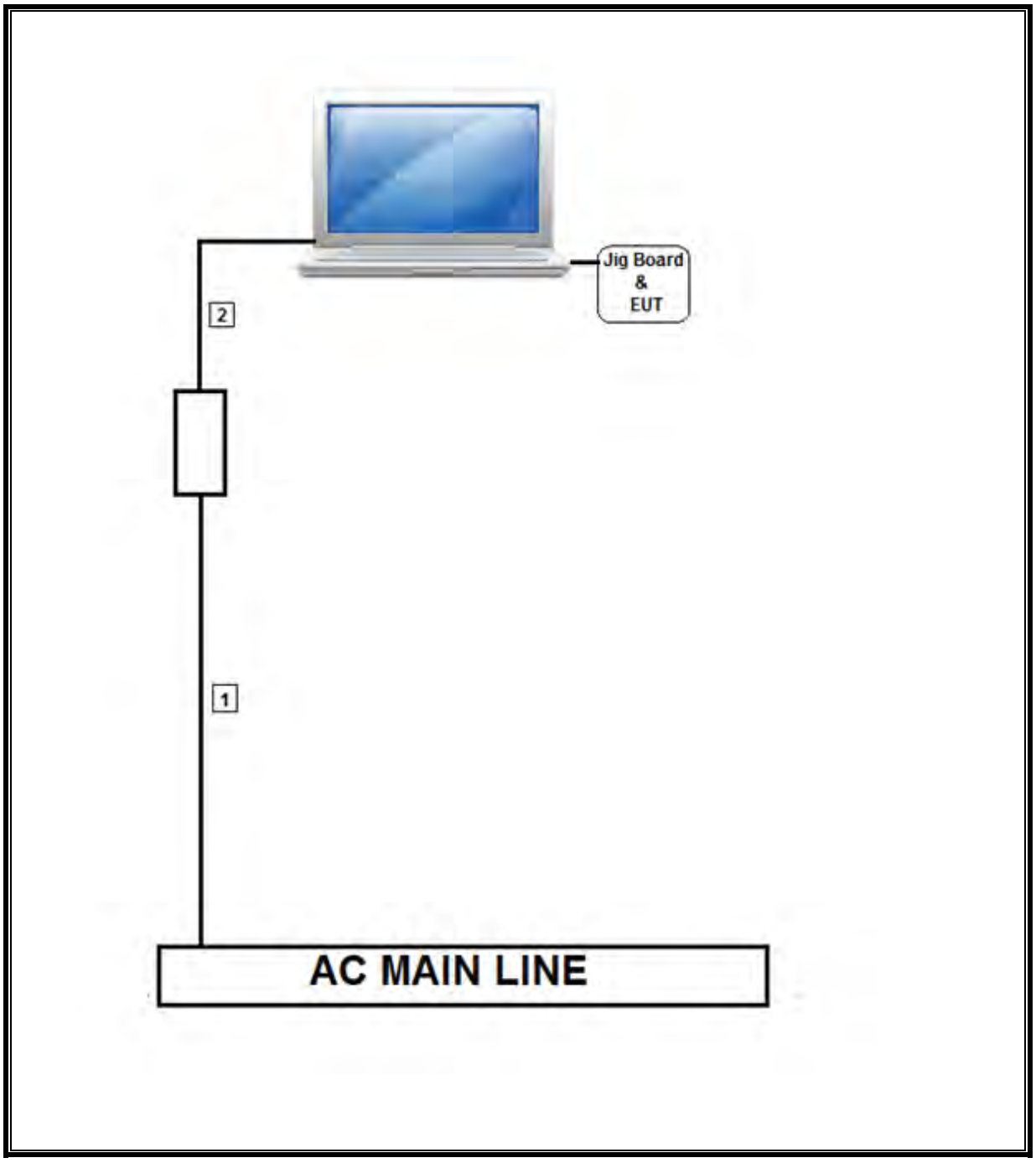
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	US115V	Unshielded	1	
2	DC	1	VDC	Unshielded	1.5	Ferrite on laptop end

TEST SETUP

The EUT was connected to a host laptop via PCIE card. Test software exercised the EUT.

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		
Line Conducted Software	UL	UL EMC	Ver 9.5, May 17, 2012		
Bilog Antenna 30-1000MHz	Sunol	JB1	130	09/10/14	09/10/15
Horn Antenna 1-18GHz	ETS	3117	136	01/15/15	01/15/16
Horn Antenna 1-18GHz	ETS	3117	345	03/03/15	03/03/16
Horn Antenna 18-26GHz	ARA	SWH-28	125	05/09/14	05/09/15
Preamp 10kHz-1000MHz	Sonoma	310	300	11/01/14	11/01/15
Preamp 1-8GHz	Miteq	AMF-4D-01000800-30-29P	782	11/18/14	11/18/15
Preamp 1-18GHz	Miteq	AFS42-00101800-25-2-42	492	08/09/14	08/09/15
Preamp 1-26.5GHz	Agilent	8449B	404	04/13/15	04/13/16
Spectrum Analyzer 3kHz - 44GHz	Agilent	N9030A	908	09/05/14	09/05/15
Spectrum Analyzer 9kHz - 40GHz	HP	8564E	106	08/06/14	08/06/15
Coaxial Switchbox	Agilent	SP6T	927	09/15/14	09/15/15
3GHz HPF	Micro-Tronics	HPM17543	487	01/31/15	01/31/16
EMI Test Receiver	Rohde & Schwarz	ECSI 7	284	09/16/14	09/16/15
Spectrum Analzer 3Hz to 44GHz	Agilent	E4440A	123	10/28/14	10/28/15
Power Meter	Agilent	N1911A	377	06/30/14	06/30/15
LISN for Conducted Emission	FCC	50/250-25-2	24	01/16/15	01/16/16
Power Sensor	Agilent	E9323A	399	05/02/14	05/02/15

7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 558074 D01 v03r02, Section 6.0.

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

99% BW: ANSI C63.10-2013, Section 6.9.3.

Output Power: KDB 558074 D01 v03r02, Section 9.2.3.2, and KDB 662911 D01 v02r01.

Power Spectral Density: KDB 558074 D01 v03r02, Section 10.3 and 10.5 and KDB 662911 D01 v02r01

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 12.1.

AC Power Line Conducted Emissions: ANSI C63.10-2009, Section 6.2.

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

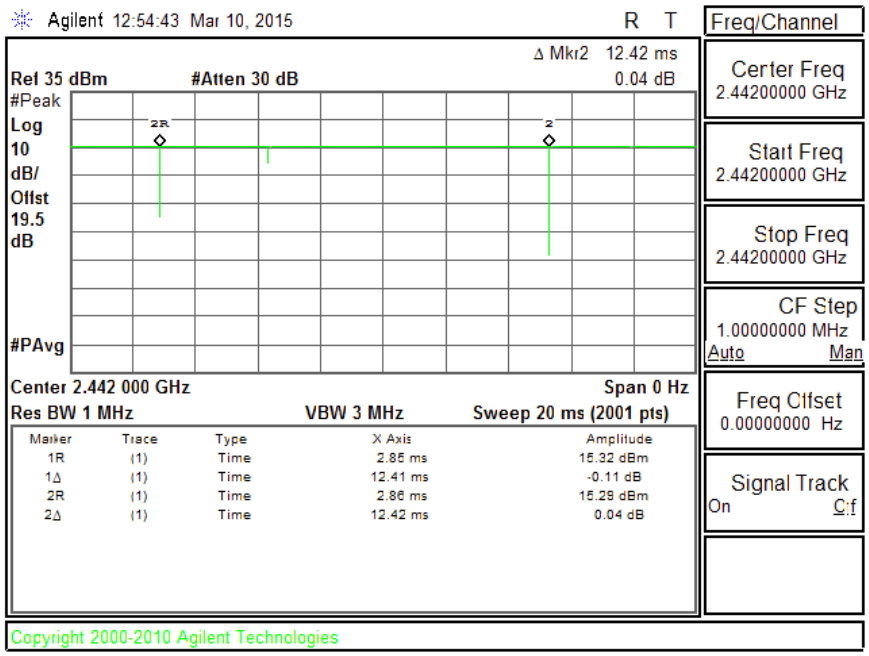
ON TIME AND DUTY CYCLE RESULTS

	B (msec)	(msec)	x (linear)	Cycle (%)	Correction Factor (dB)	Minimum VBW (kHz)
2.4GHz Band						
802.11b CDD 3TX	12.410	12.420	0.999	99.92%	0.00	0.010
802.11g 1TX	2.065	2.085	0.990	99.04%	0.00	0.010
802.11n HT20 CDD 3TX	1.915	1.935	0.990	98.97%	0.00	0.010
802.11n HT20 BF 3TX	23.477	25.280	0.929	92.87%	0.32	0.043

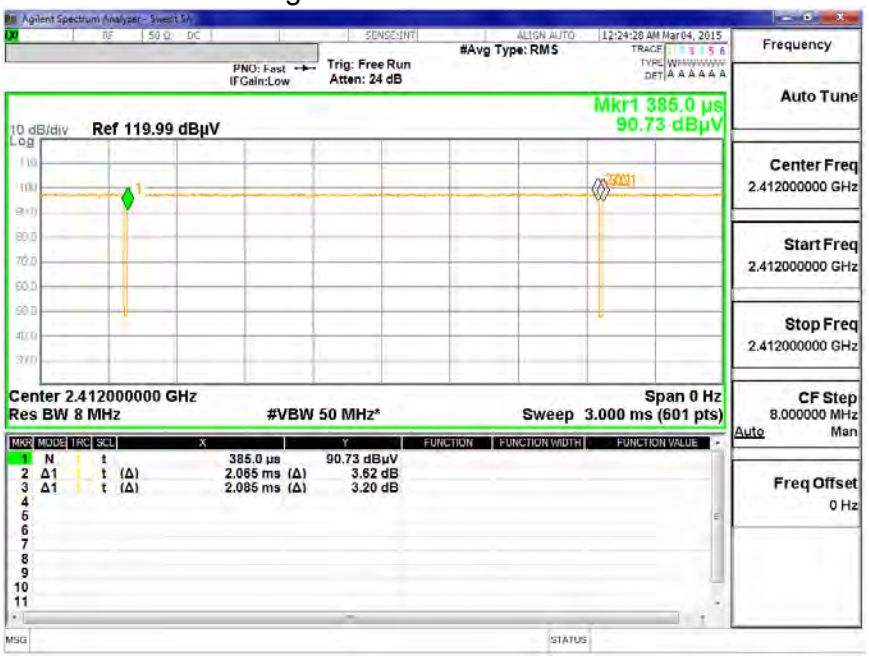
Note: CDD mode was also used for conducted BF testing. DCCF for BF was only used for radiated testing.

DUTY CYCLE PLOTS

DUTY CYCLE 802.11b CDD 3TX MODE



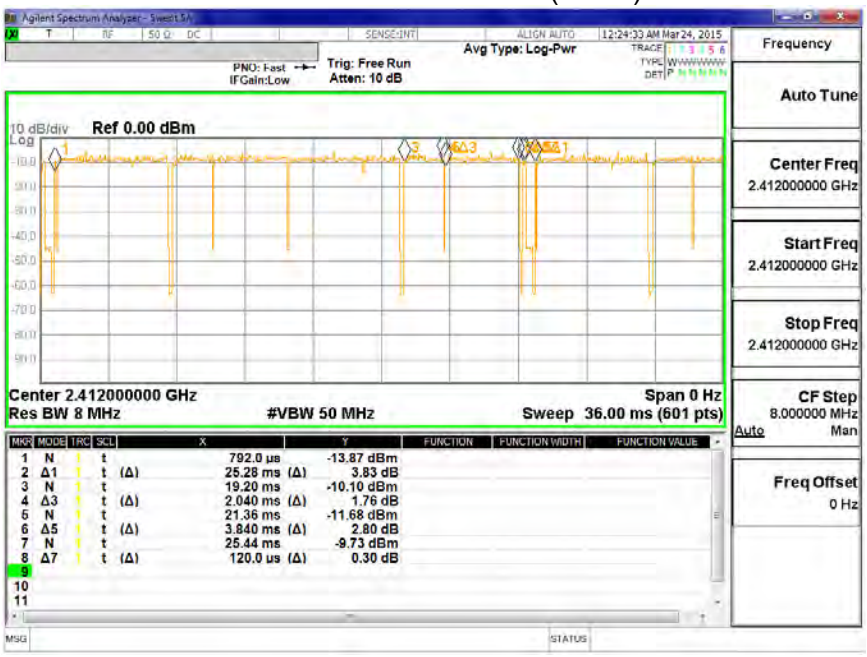
DUTY CYCLE 802.11g 1TX MODE



DUTY CYCLE 802.11n HT20 CDD 3TX MODE

DUTY CYCLE 802.11n HT20 TxBF Mode (1 of 2)

DUTY CYCLE 802.11n HT20 TxBF Mode (2 of 2)



8.2. 802.11b MODE CDD 2TX IN THE 2.4 GHz BAND

8.2.1. 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 unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
5.90	5.33	5.62

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	5.62	30.00	30	36	30.00
2	2417	5.62	30.00	30	36	30.00
7	2442	5.62	30.00	30	36	30.00
11	2462	5.62	30.00	30	36	30.00
12	2467	5.62	30.00	30	36	30.00
13	2472	5.62	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	19.73	19.89	22.82	30.00	-7.18
2	2417	19.73	19.96	22.86	30.00	-7.14
7	2442	19.61	19.75	22.69	30.00	-7.31
11	2462	19.64	19.74	22.70	30.00	-7.30
12	2467	19.00	19.10	22.06	30.00	-7.94
13	2472	16.00	15.60	18.81	30.00	-11.19

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.2.2. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

For digitally modulated systems, the power spectral density conducted form the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions.

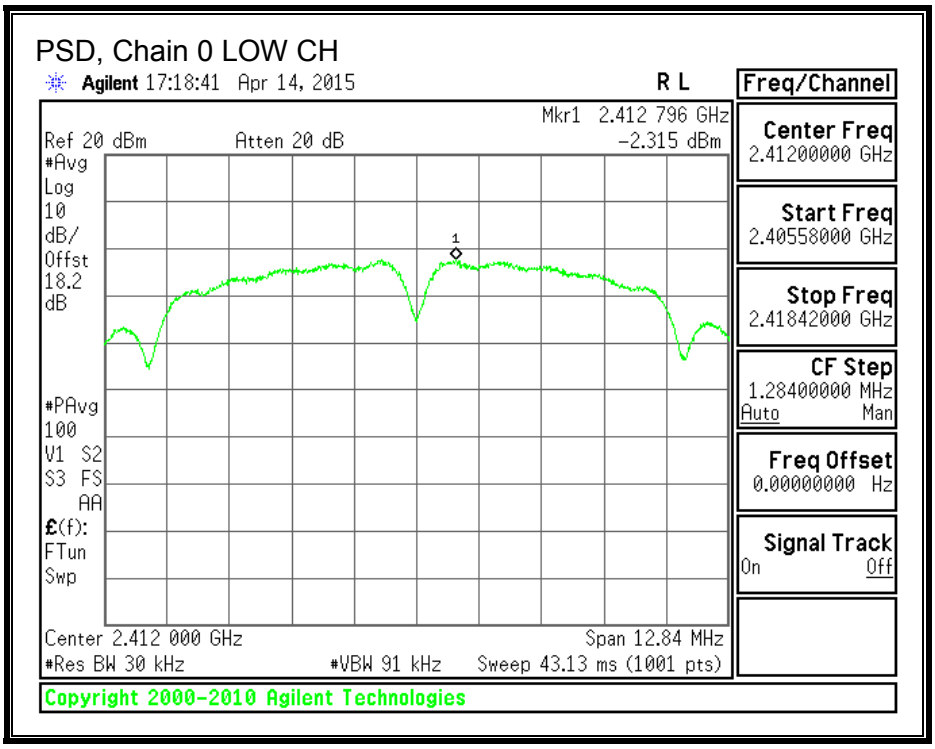
RESULTS

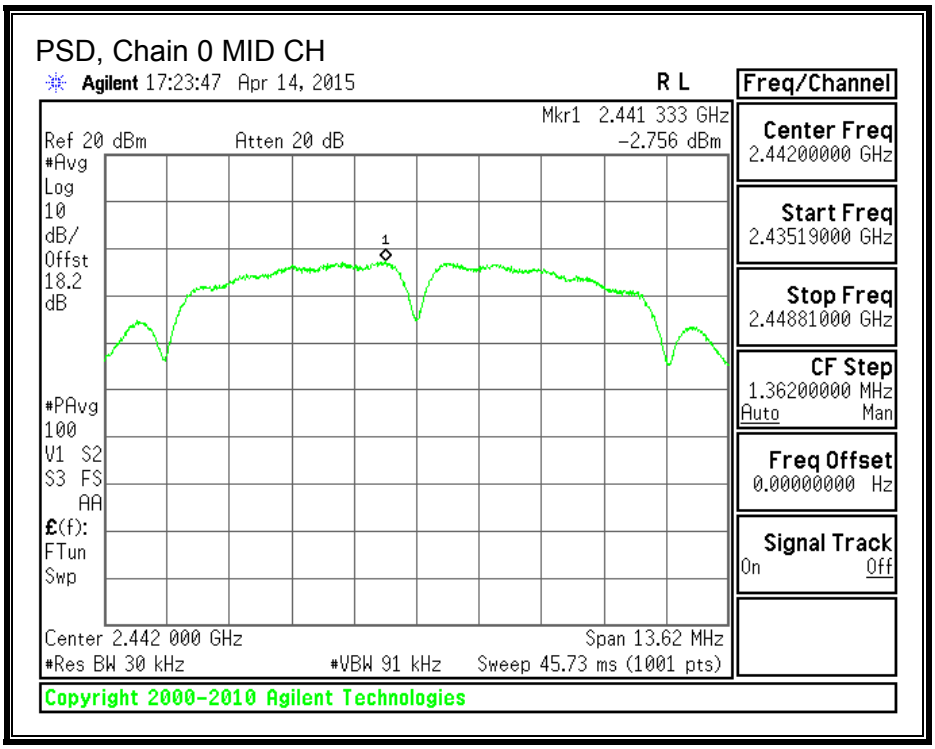
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

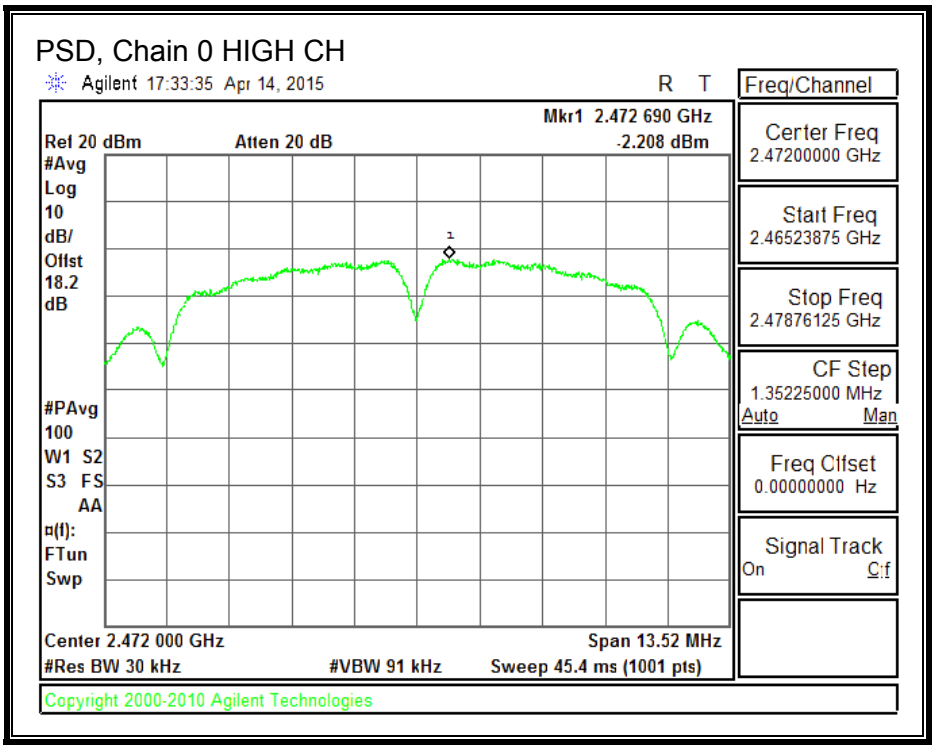
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-2.315	-2.269	0.718	8.0	-7.282
Mid	2442	-2.756	-2.559	0.354	8.0	-7.646
High	2472	-2.208	-2.009	0.903	8.0	-7.097

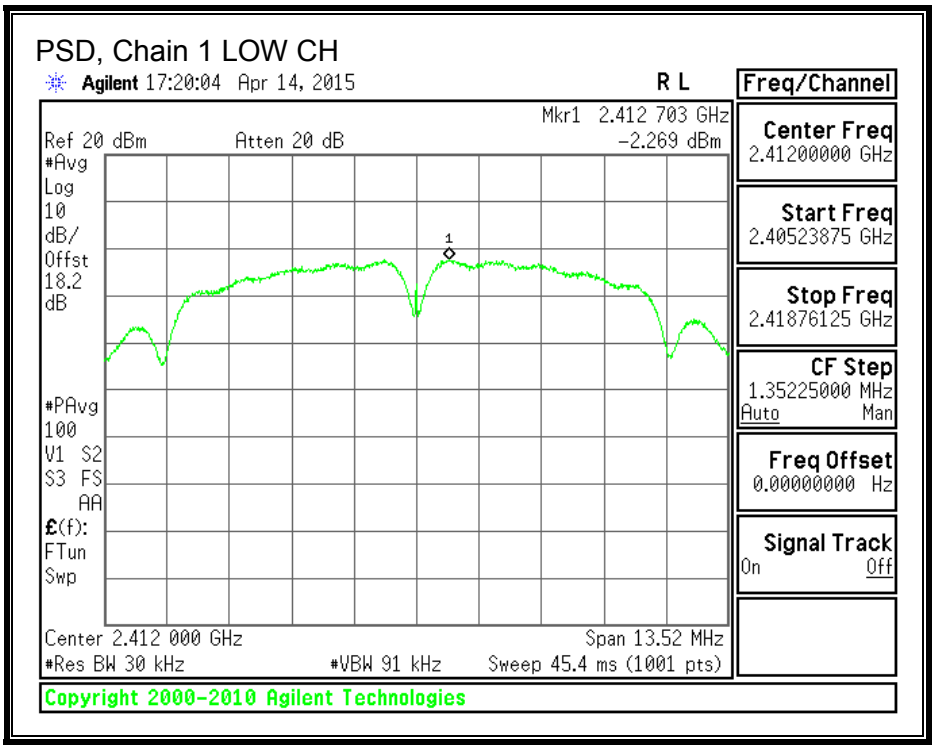
PSD, Chain 0



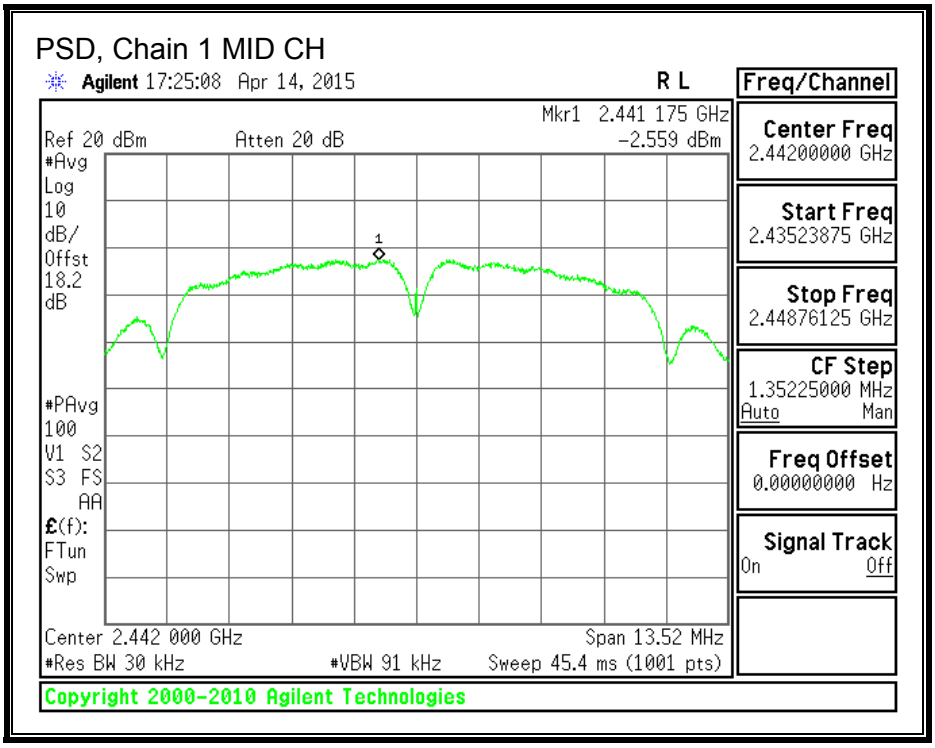




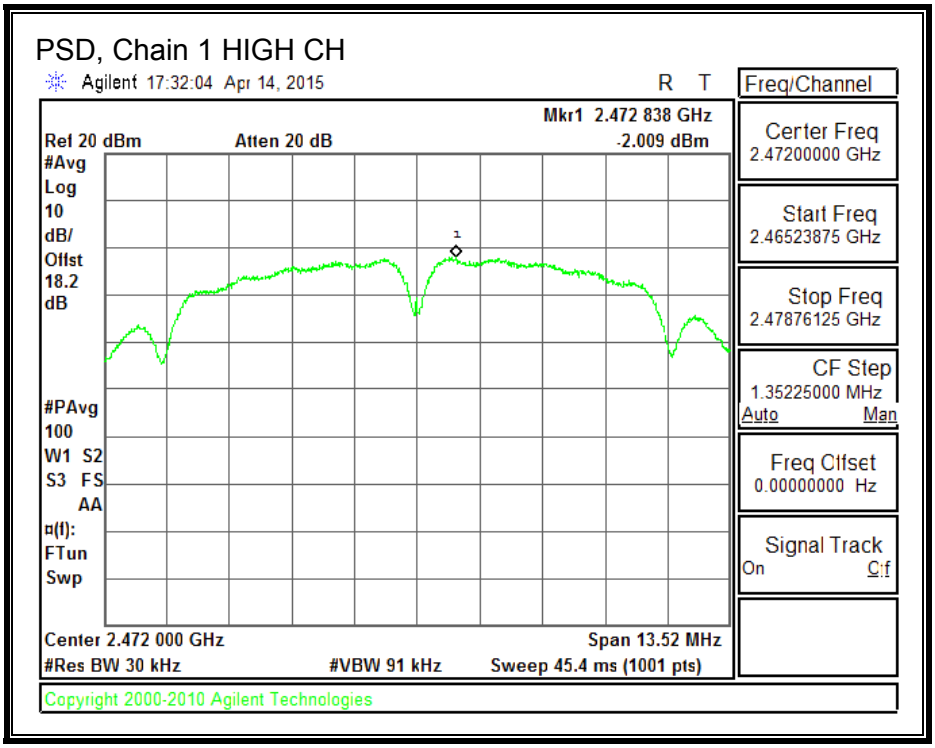
PSD, Chain 1



PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



8.3. 802.11b CDD 3TX MODE IN THE 2.4 GHz BAND

8.3.1. 6 dB BANDWIDTH

LIMITS

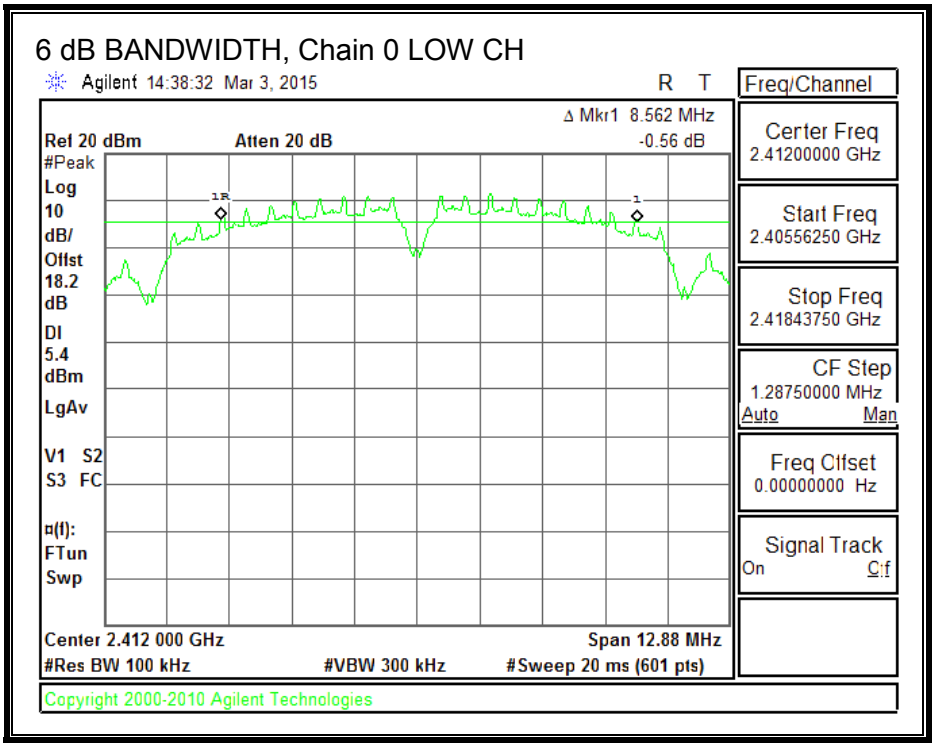
FCC §15.247 (a) (2)

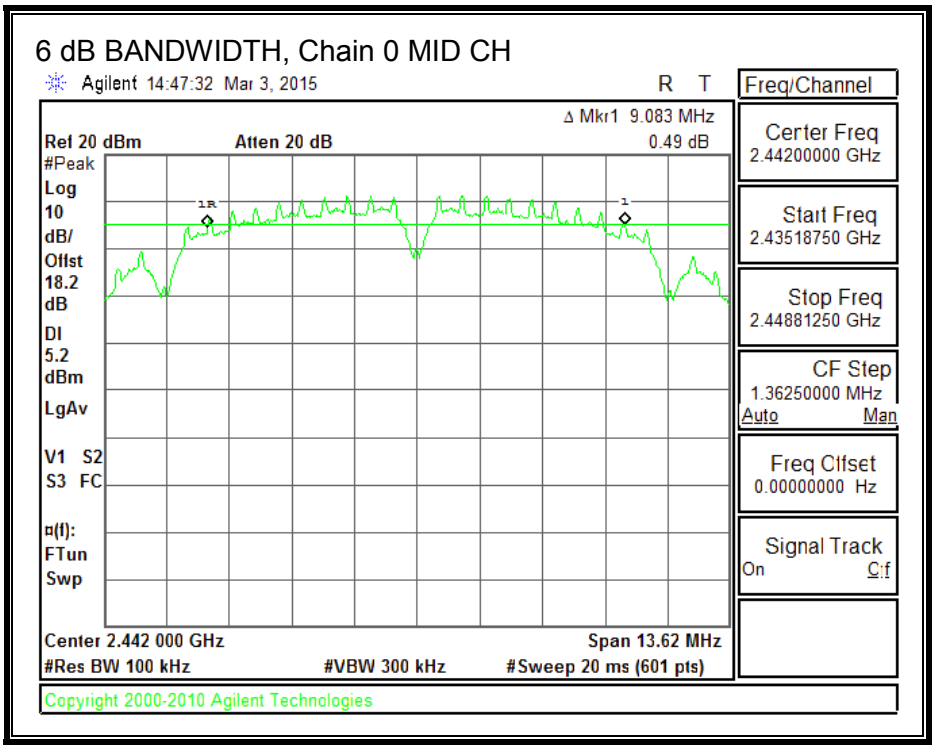
The minimum 6 dB bandwidth shall be at least 500 kHz.

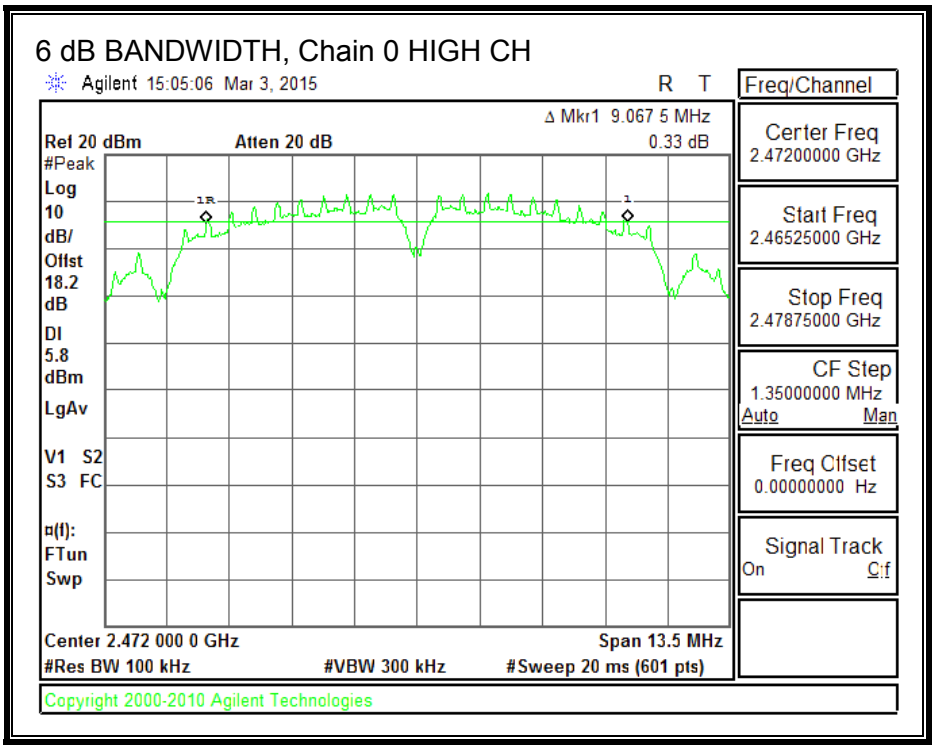
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low	2412	8.562	9.015	9.045	0.5
Mid	2442	9.083	9.015	9.061	0.5
High	2472	9.068	9.038	9.045	0.5

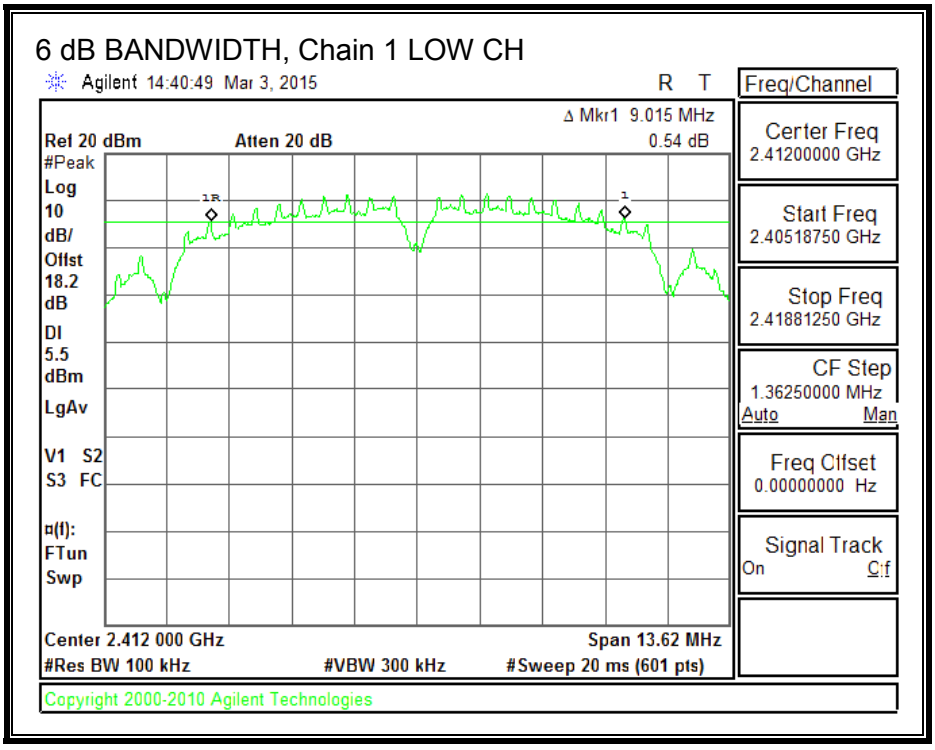
6 dB BANDWIDTH, Chain 0

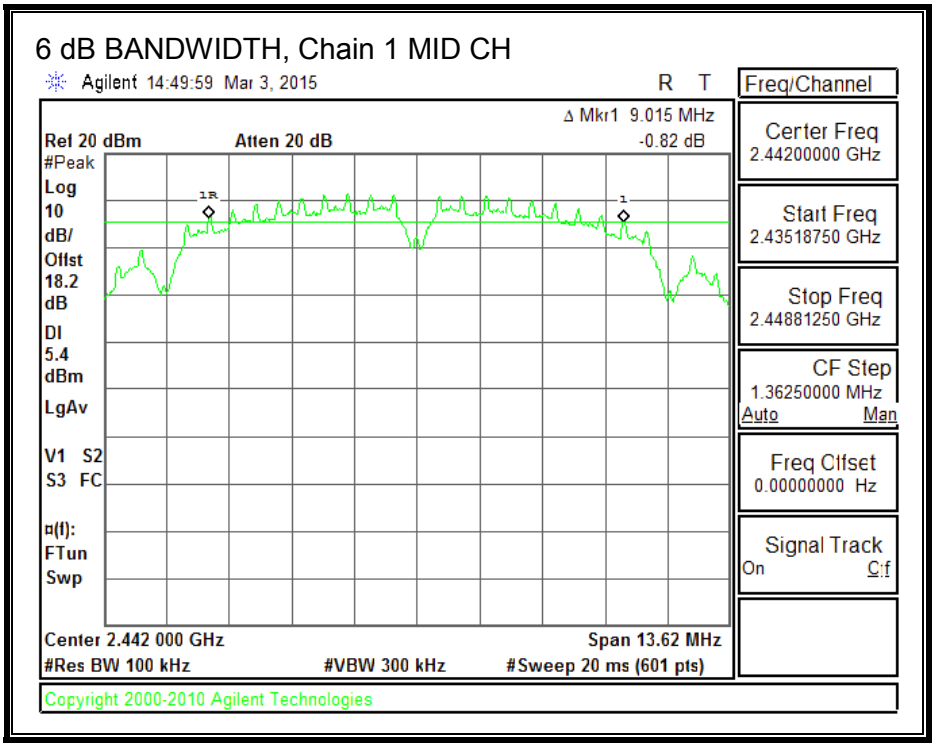


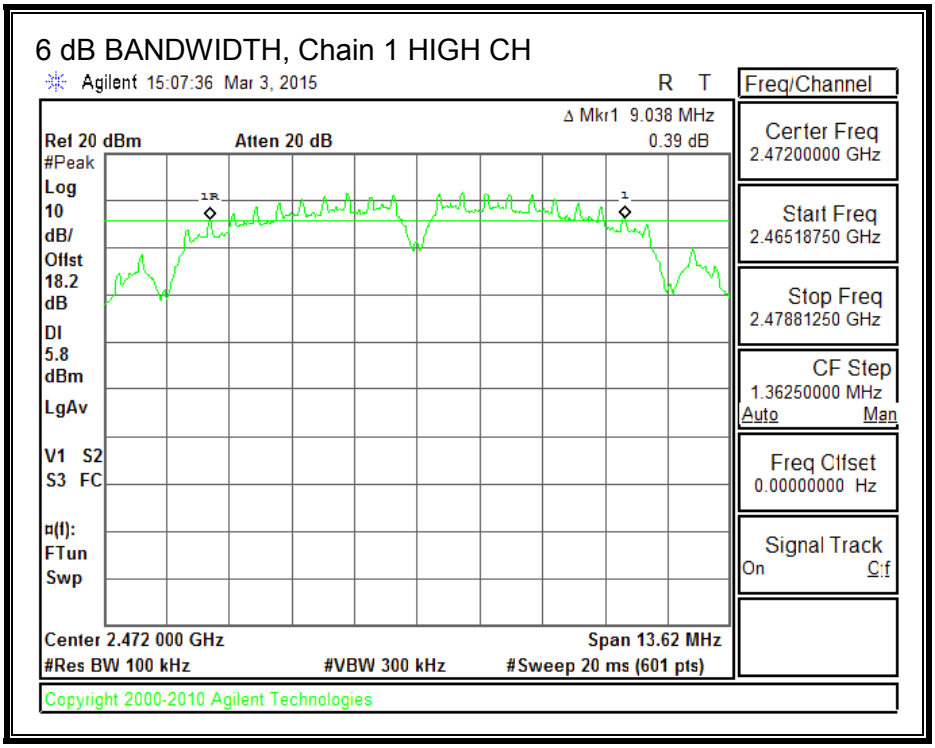




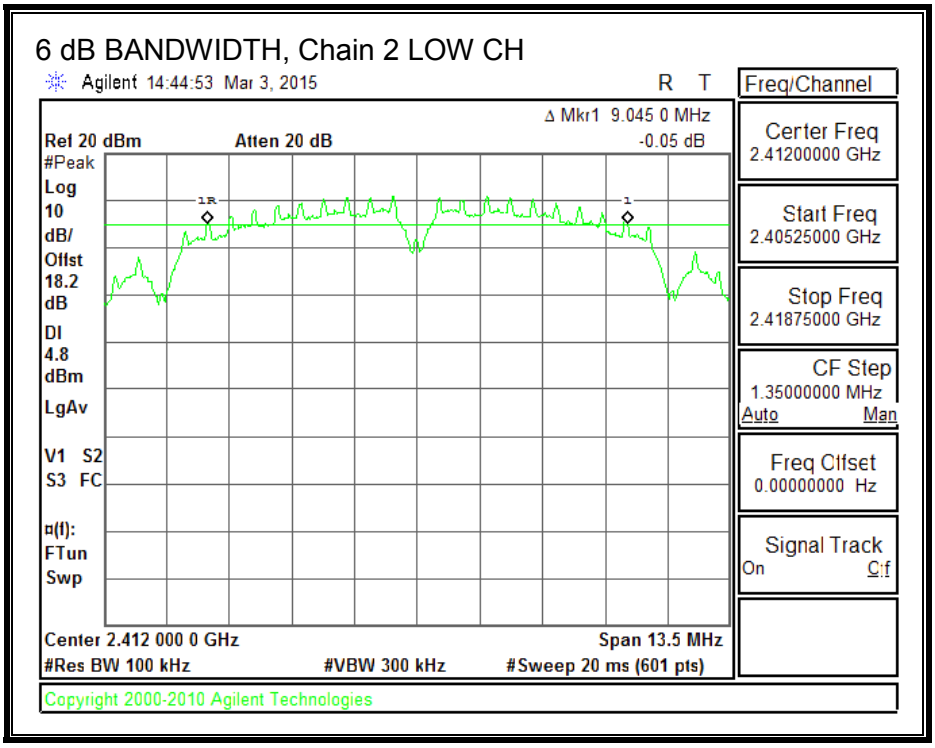
6 dB BANDWIDTH, Chain 1

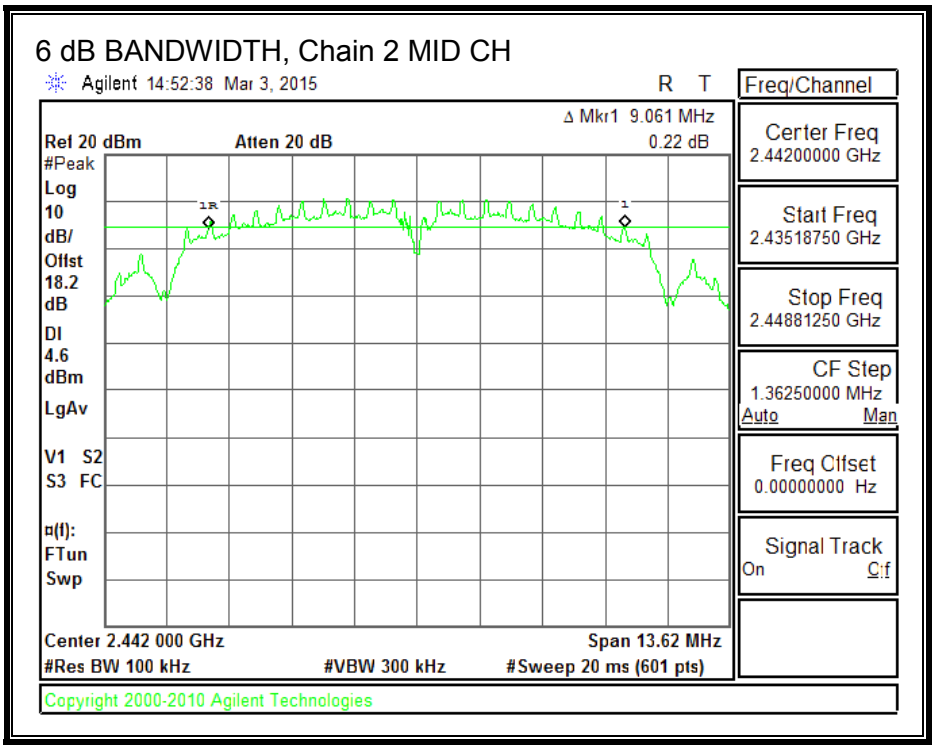


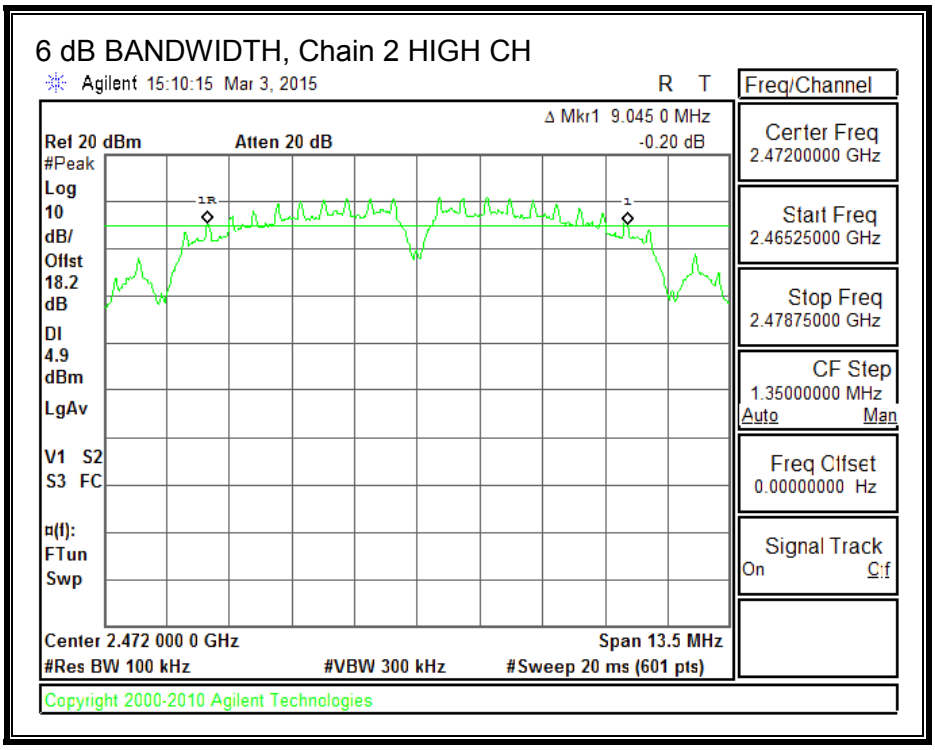




6 dB BANDWIDTH, Chain 2







8.3.2. 99% BANDWIDTH

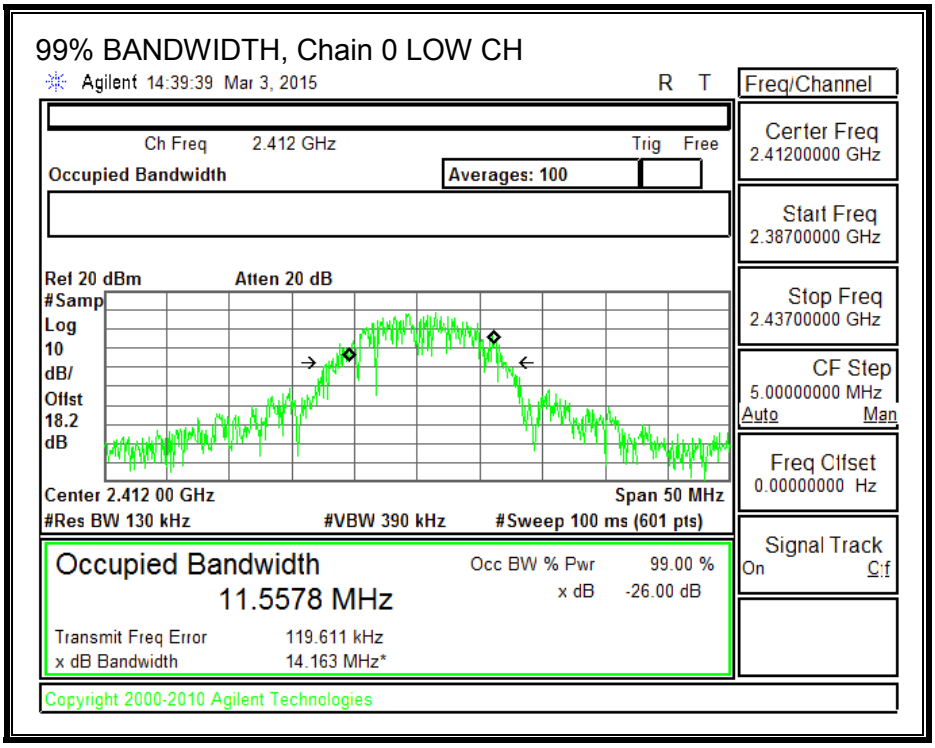
LIMITS

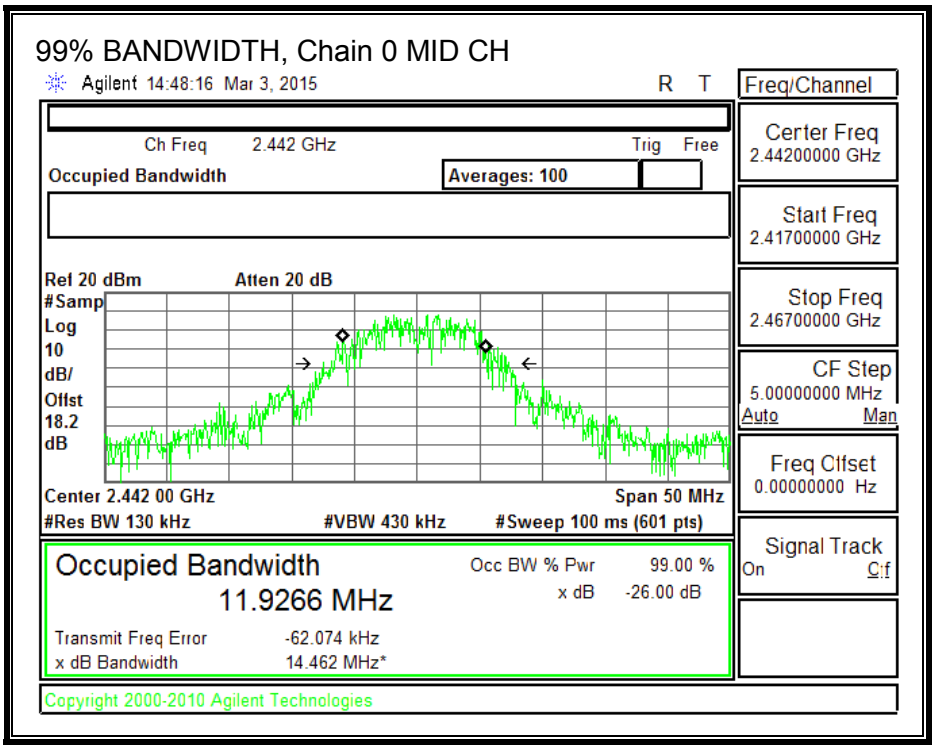
None; for reporting purposes only.

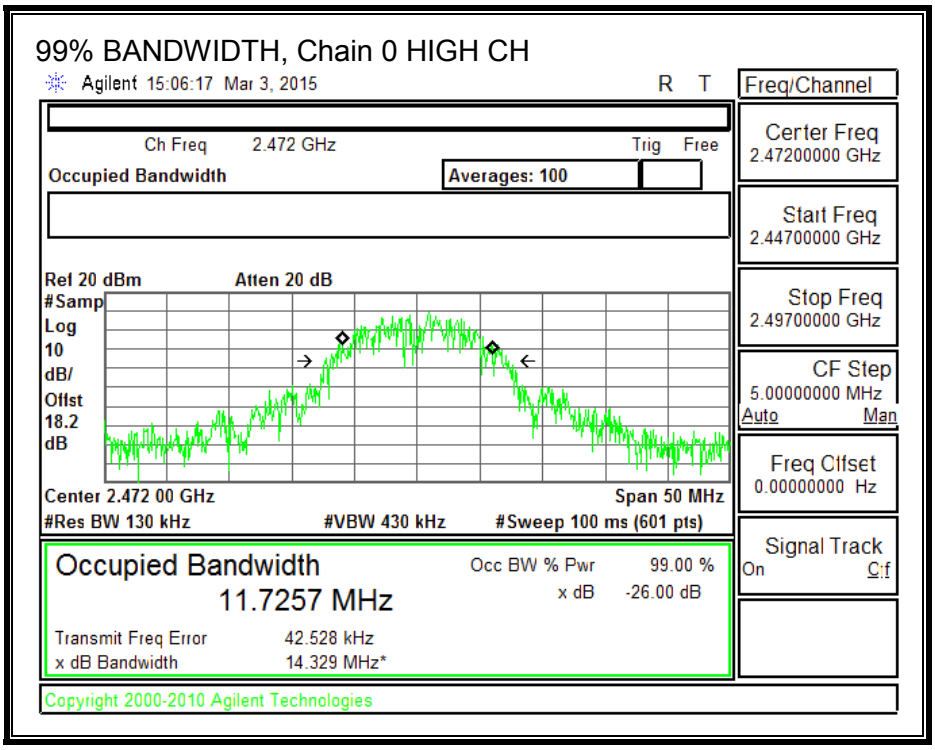
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	2412	11.5578	11.7188	11.7047
Mid	2442	11.9266	11.7543	11.6993
High	2472	11.7257	11.7599	11.5799

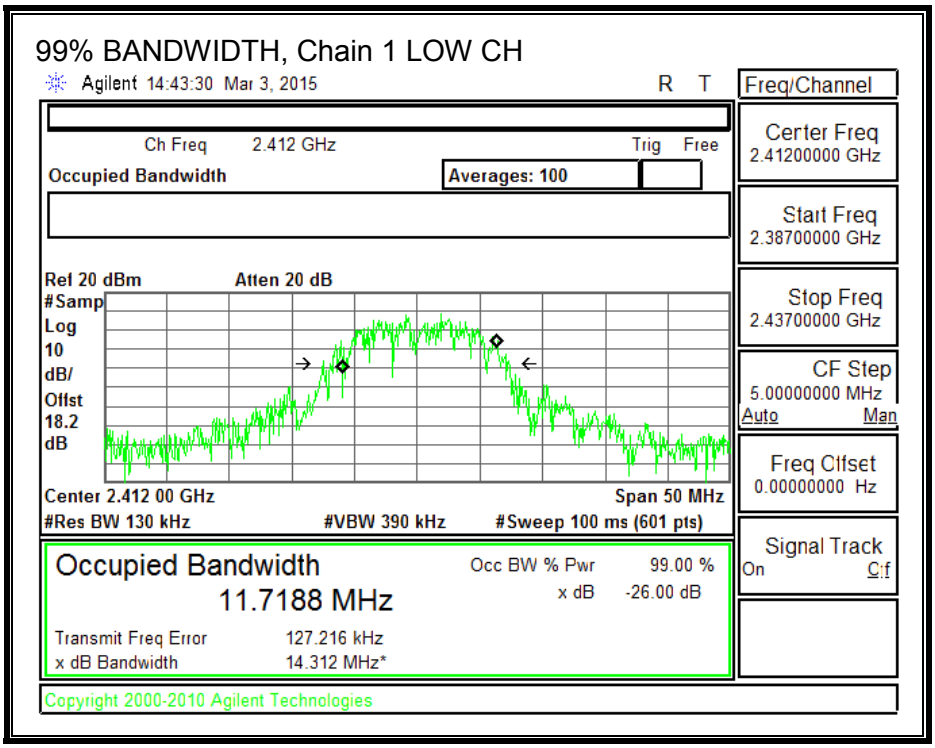
99% BANDWIDTH, Chain 0



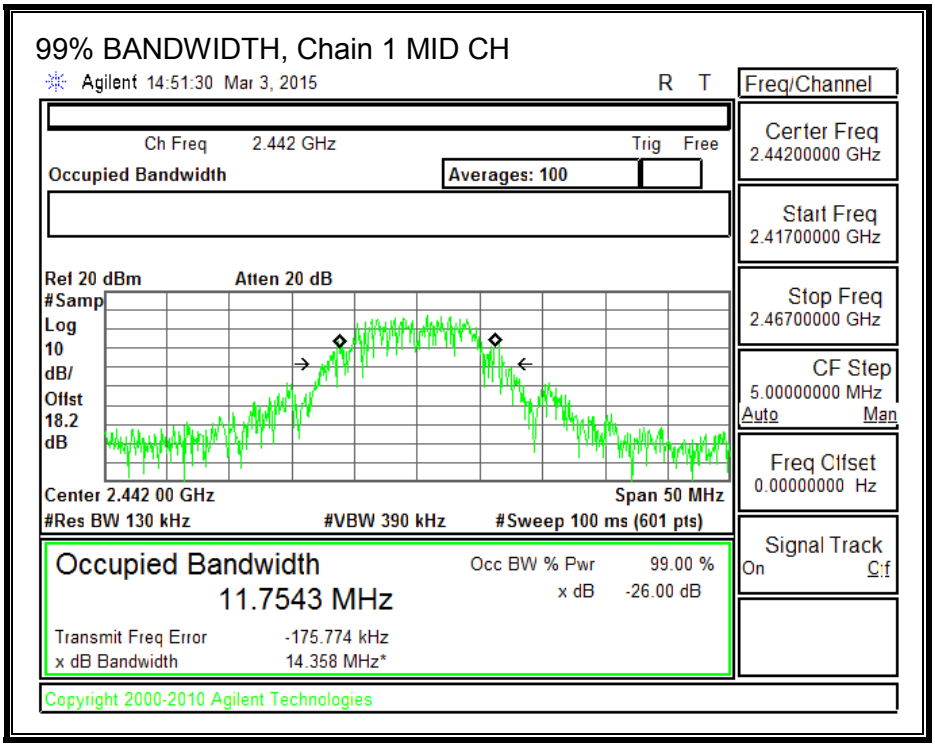




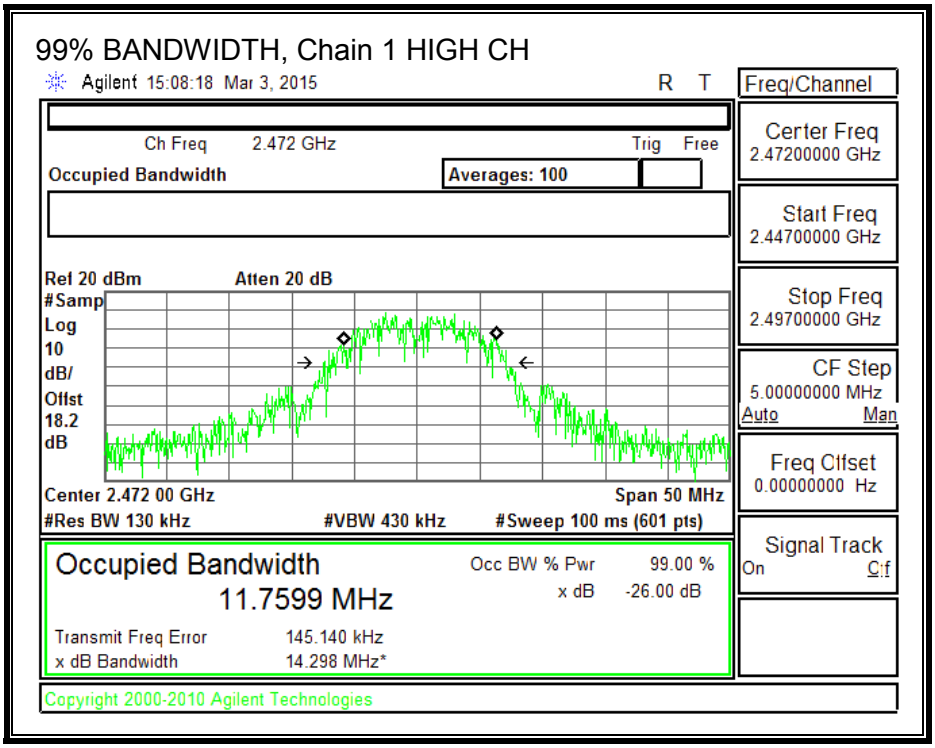
99% BANDWIDTH, Chain 1



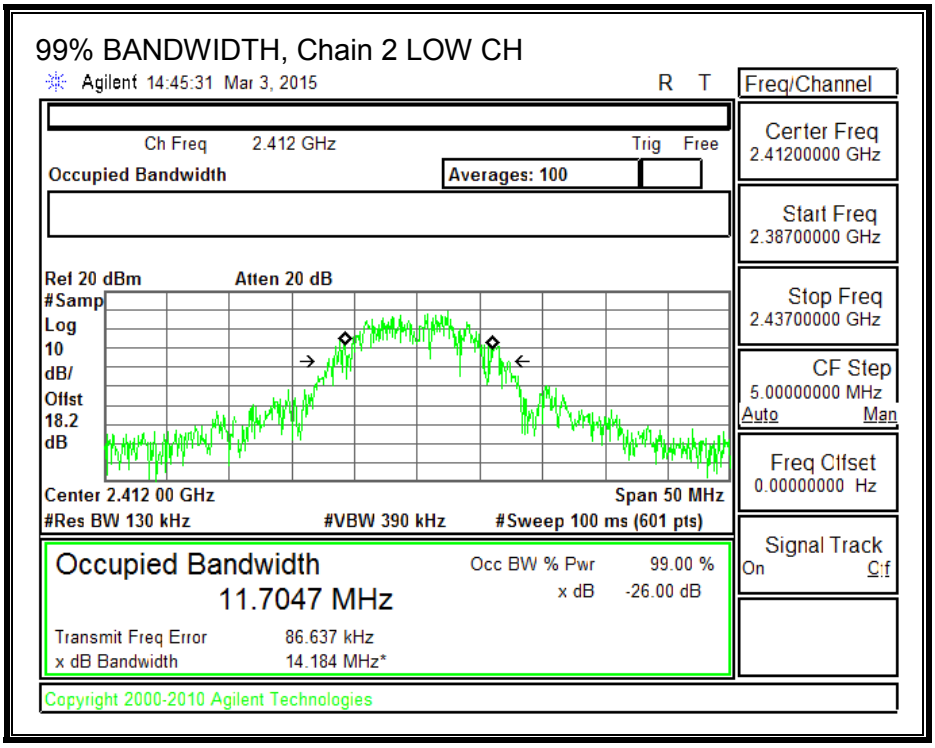
99% BANDWIDTH, Chain 1 MID CH

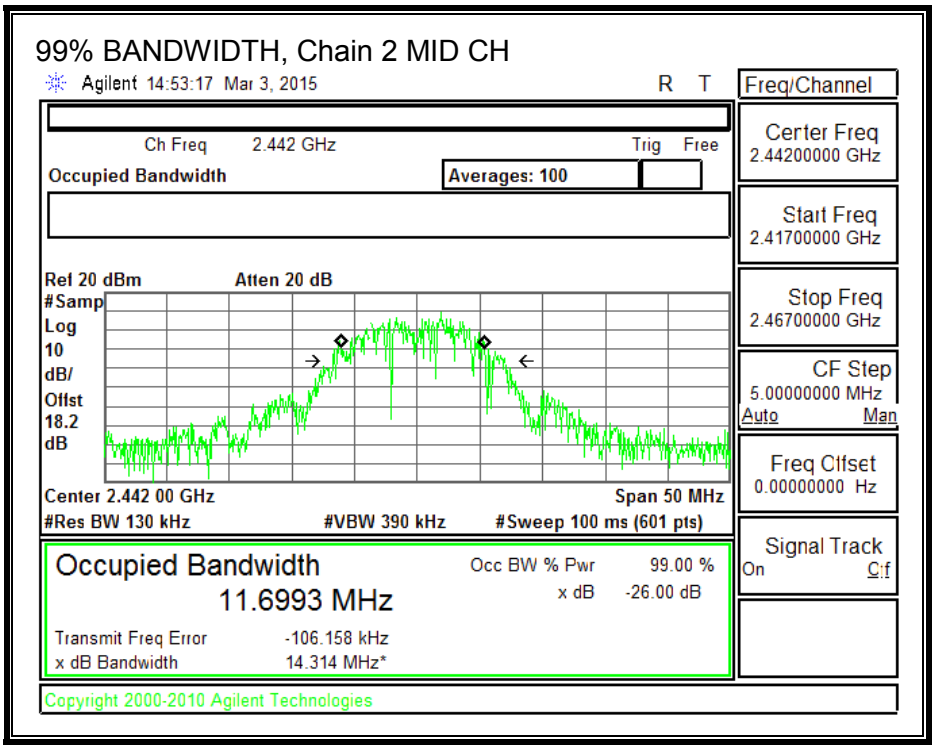


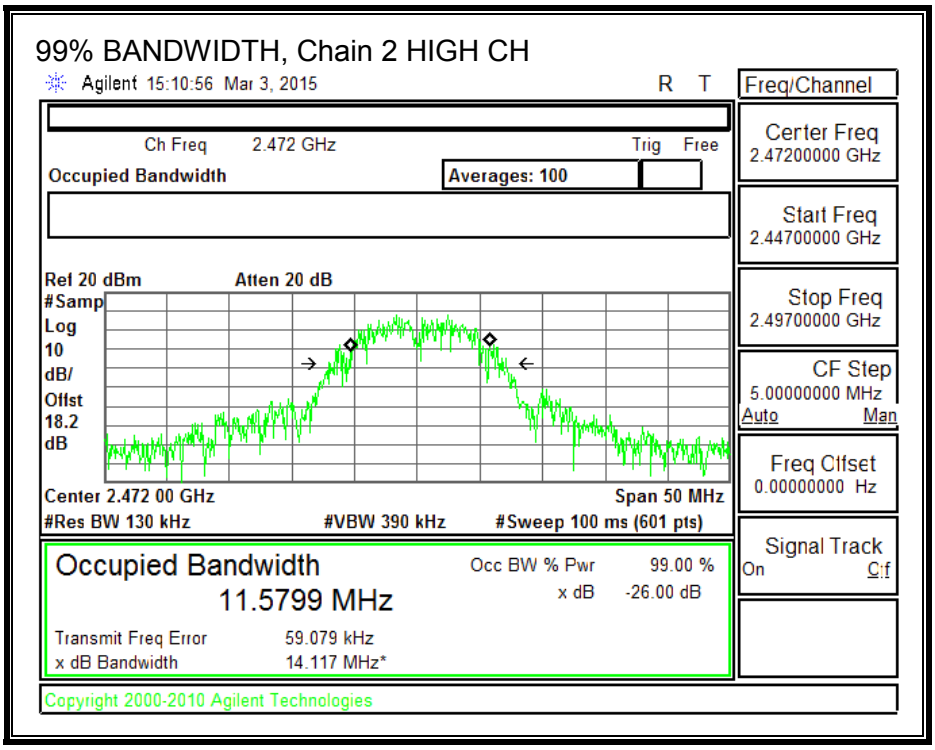
99% BANDWIDTH, Chain 1 HIGH CH



99% BANDWIDTH, Chain 2







8.3.3. 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 unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
5.90	5.33	4.32	5.23

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	5.23	30	30	36	30.00
2	2417	5.23	30	30	36	30.00
7	2442	5.23	30	30	36	30.00
11	2462	5.23	30	30	36	30.00
12	2467	5.23	30	30	36	30.00
13	2472	5.23	30	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	19.95	19.97	19.45	24.57	30.00	-5.43
2	2417	20.00	20.00	19.65	24.66	30.00	-5.34
7	2442	19.87	19.85	19.18	24.42	30.00	-5.58
11	2462	19.60	19.90	19.10	24.32	30.00	-5.68
12	2467	16.60	16.40	16.00	21.11	30.00	-8.89
13	2472	13.30	13.30	12.80	17.91	30.00	-12.09

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.3.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of Section A8.4 (4), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

RESULTS

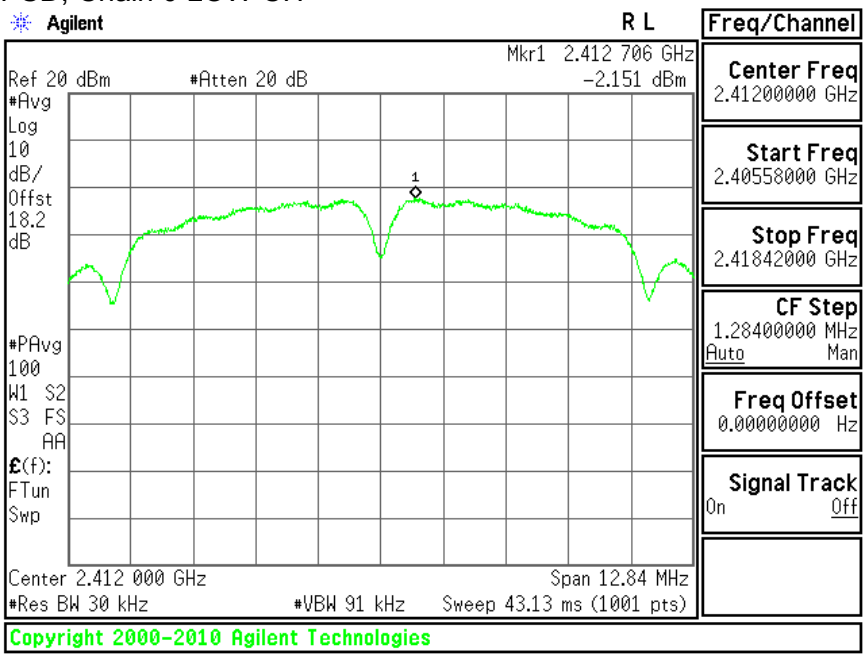
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

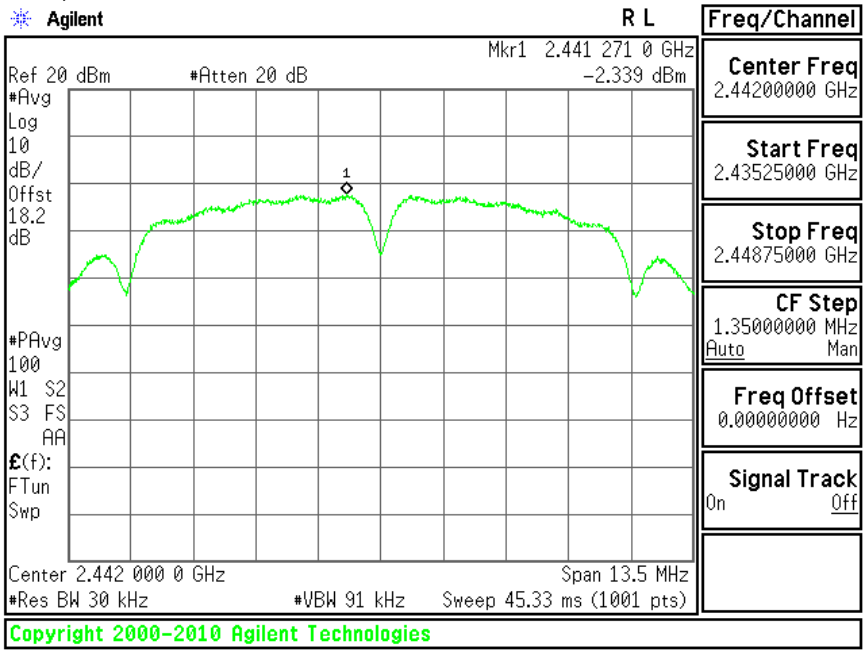
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Chain 2 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-2.151	-2.074	-2.817	2.44	8.0	-5.6
Mid	2442	-2.339	-2.502	-2.988	2.17	8.0	-5.8
High	2472	-2.097	-1.963	-2.551	2.57	8.0	-5.4

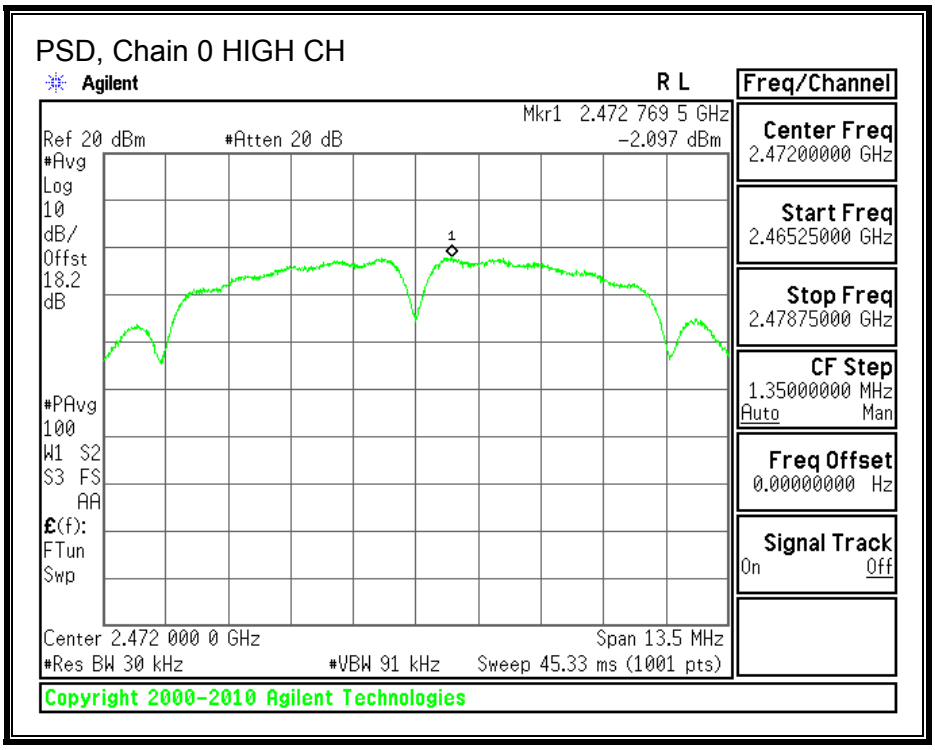
PSD, Chain 0

PSD, Chain 0 LOW CH

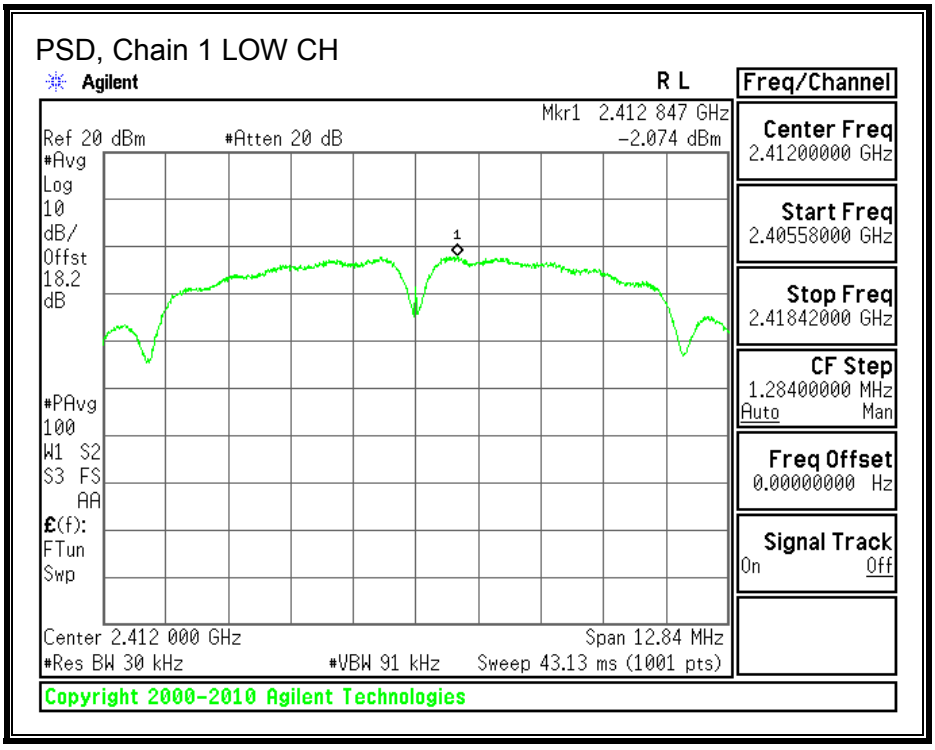


PSD, Chain 0 MID CH

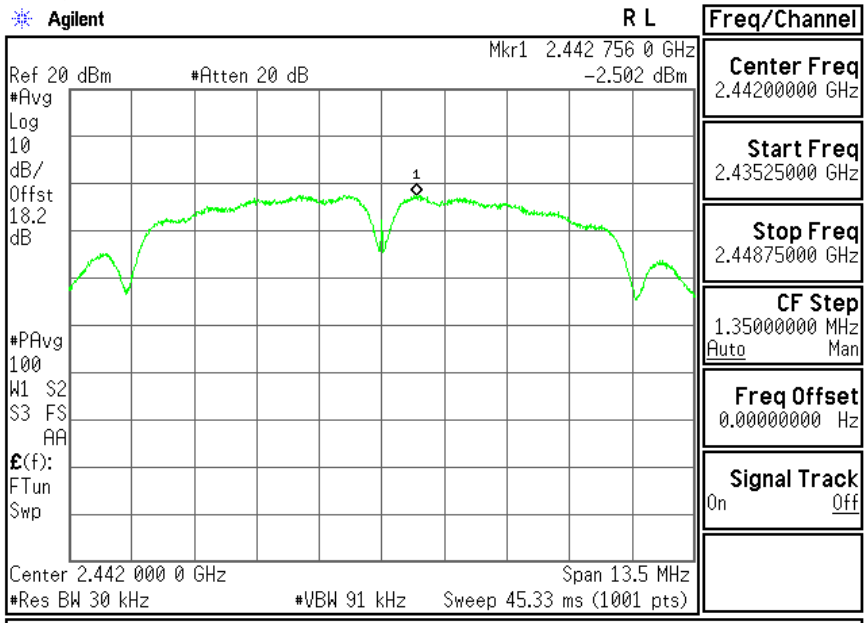




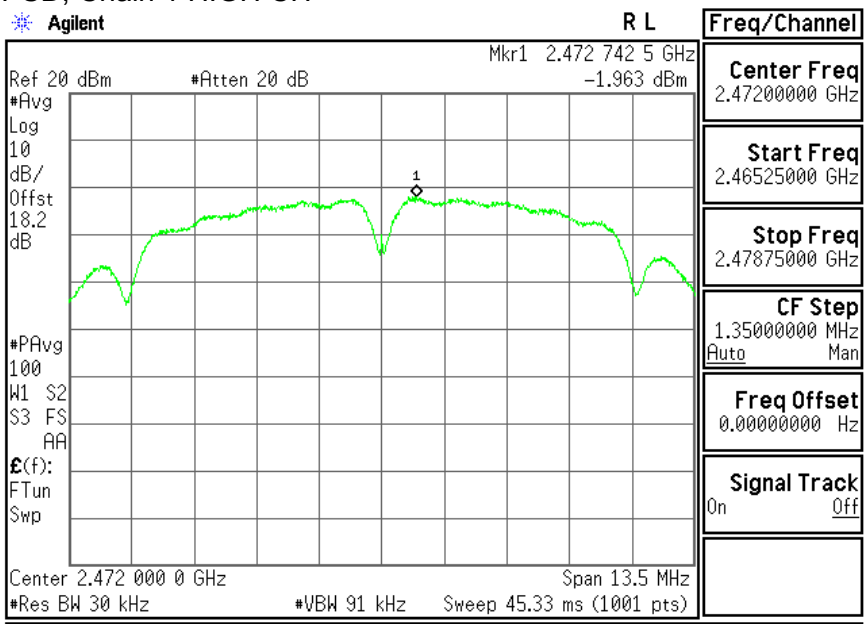
PSD, Chain 1



PSD, Chain 1 MID CH

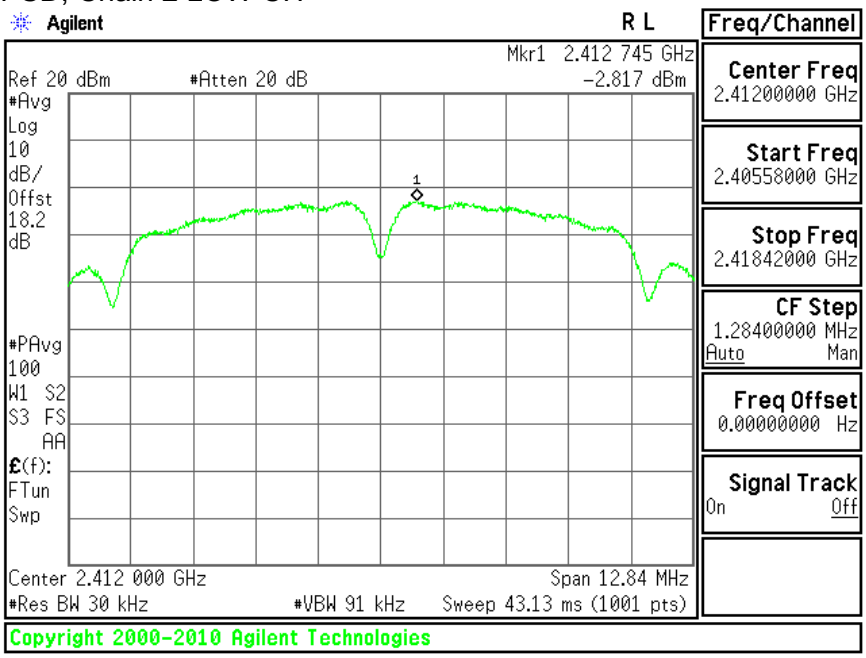


PSD, Chain 1 HIGH CH

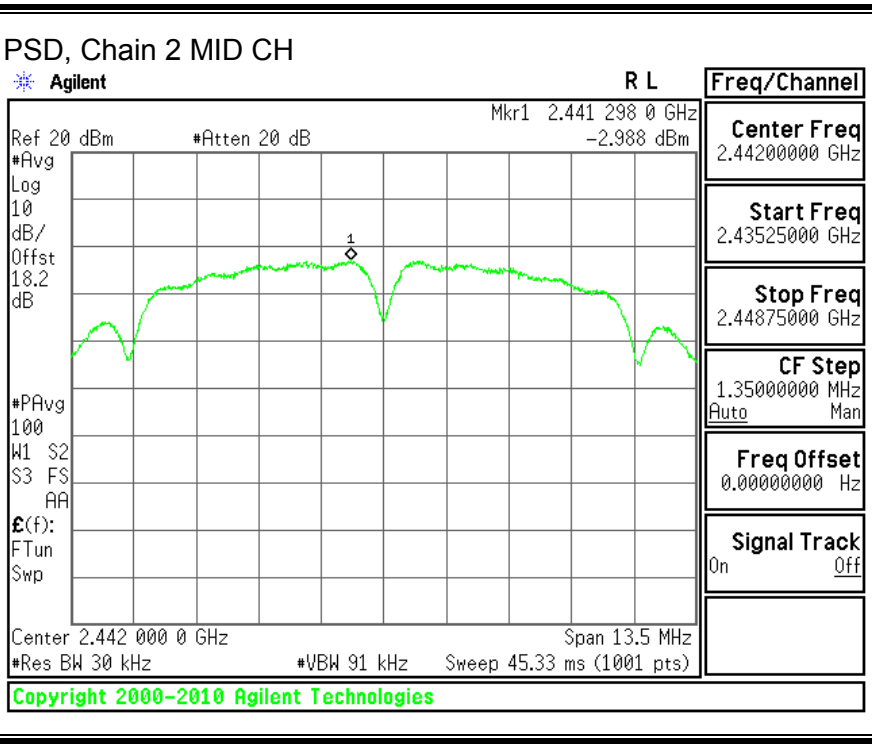


PSD, Chain 2

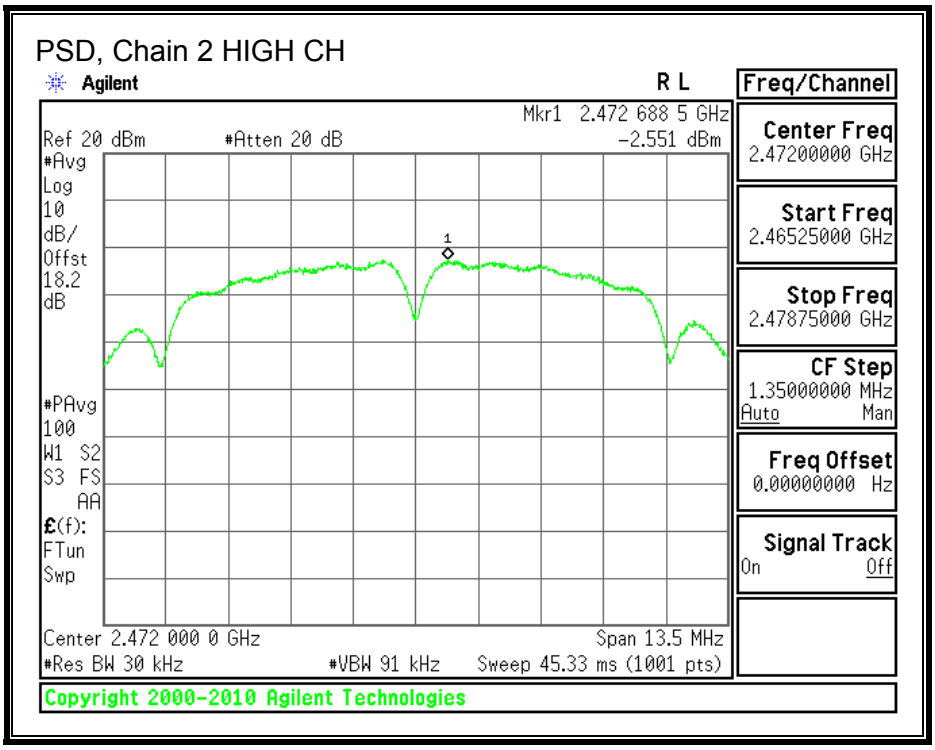
PSD, Chain 2 LOW CH



PSD, Chain 2 MID CH



PSD, Chain 2 HIGH CH



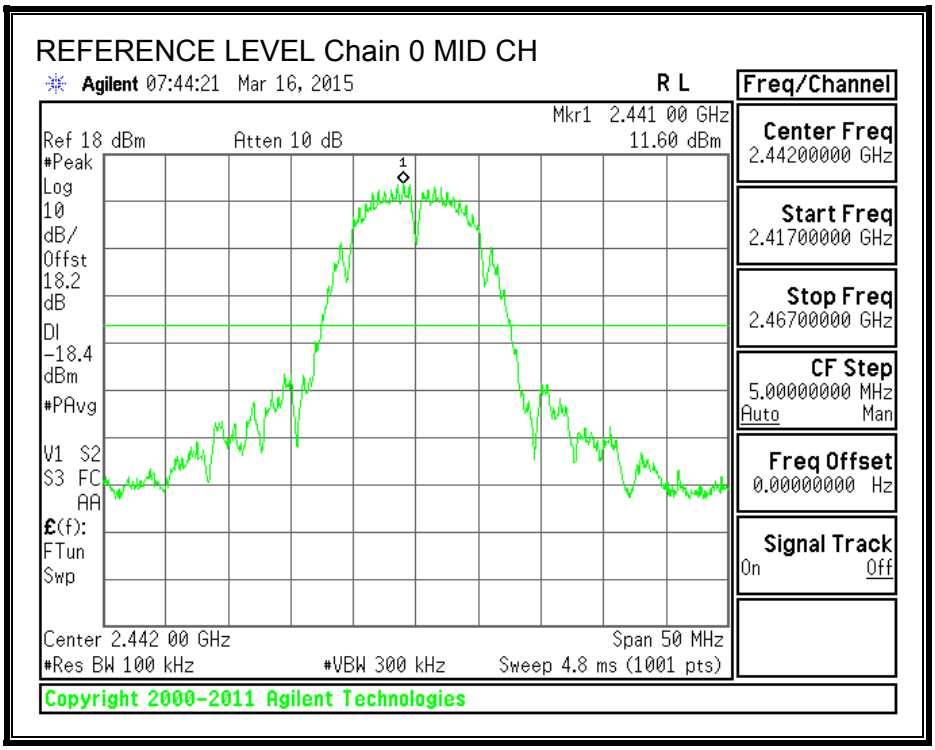
8.3.5. OUT-OF-BAND EMISSIONS

LIMITS

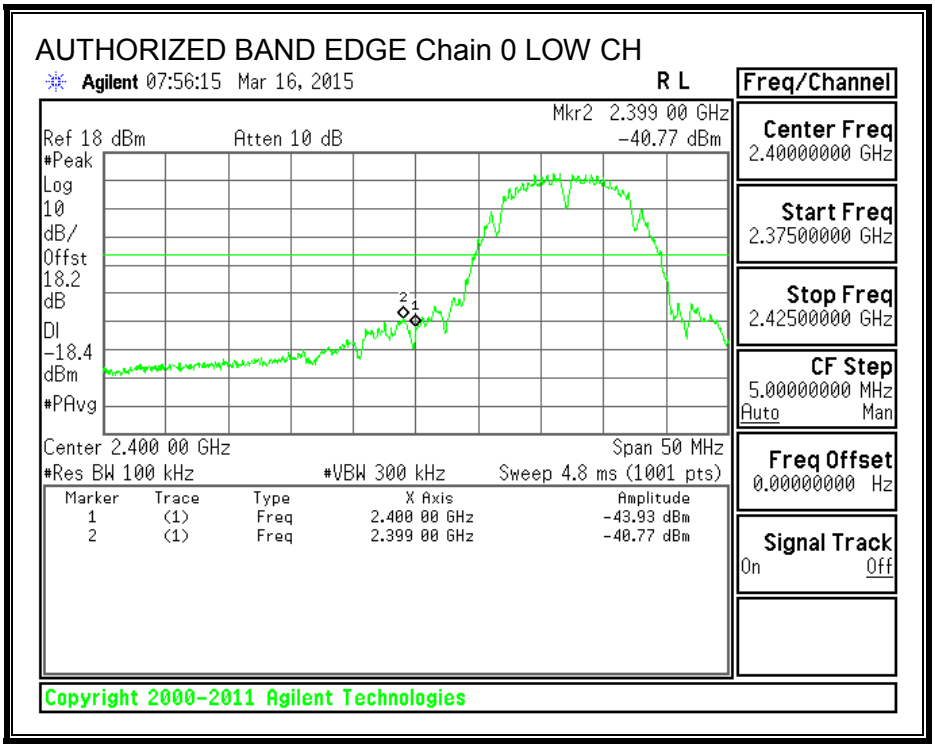
FCC §15.247 (d)

RESULTS

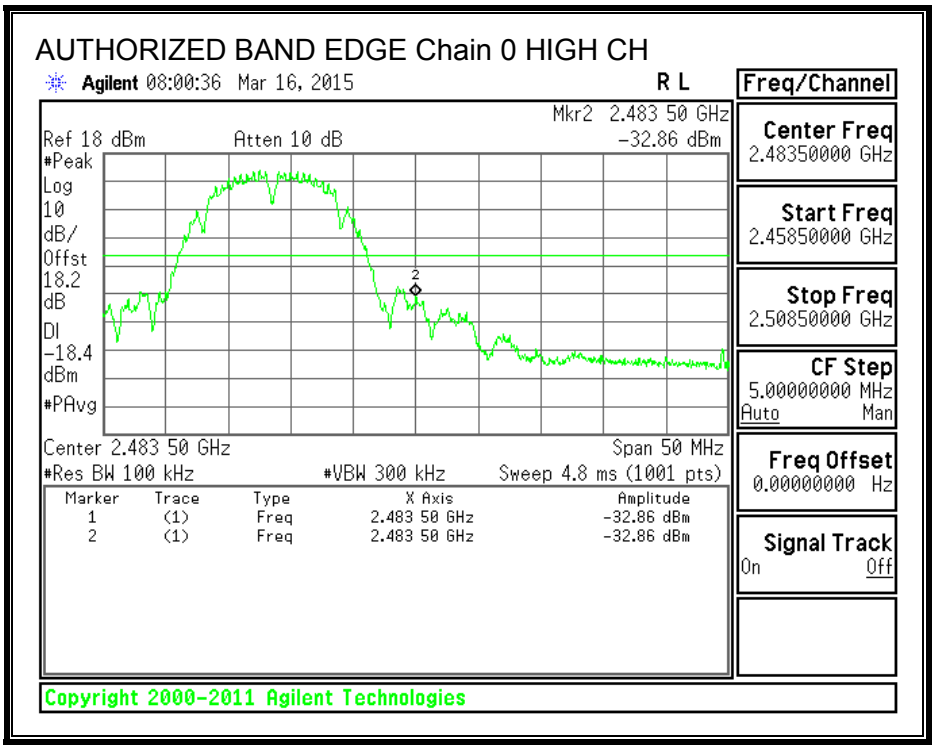
IN-BAND REFERENCE LEVEL, Chain 0



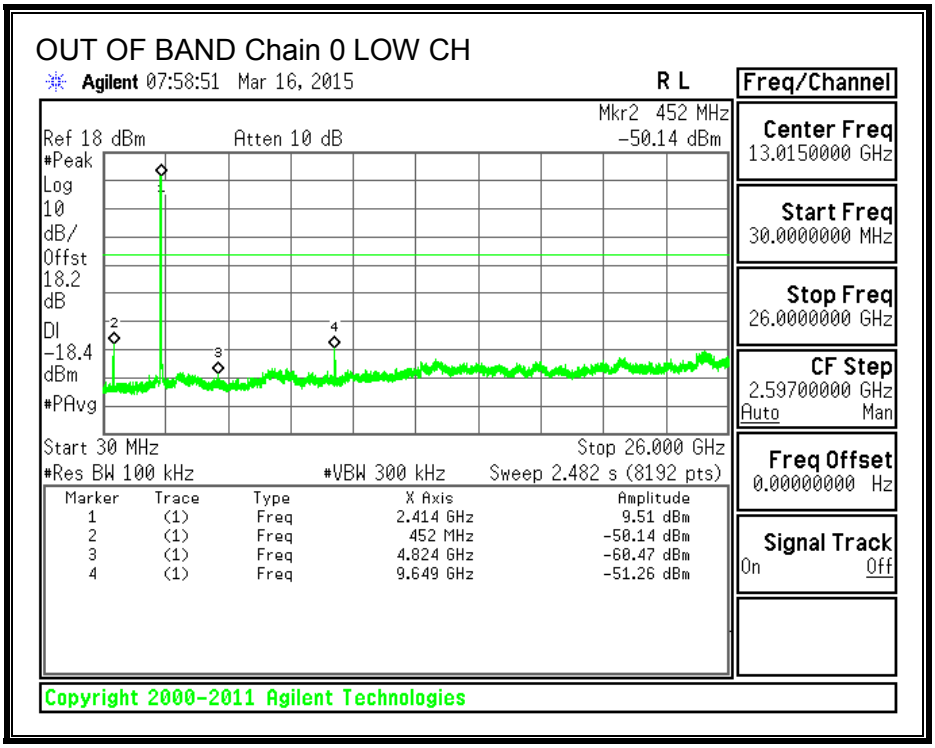
LOW CHANNEL BANDEDGE, Chain 0

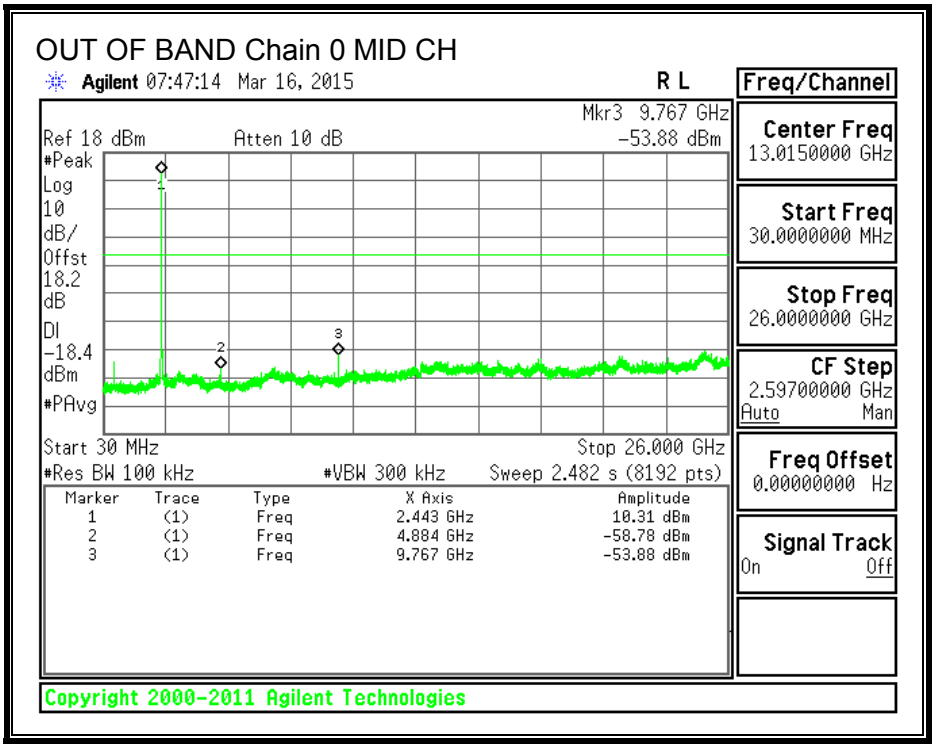


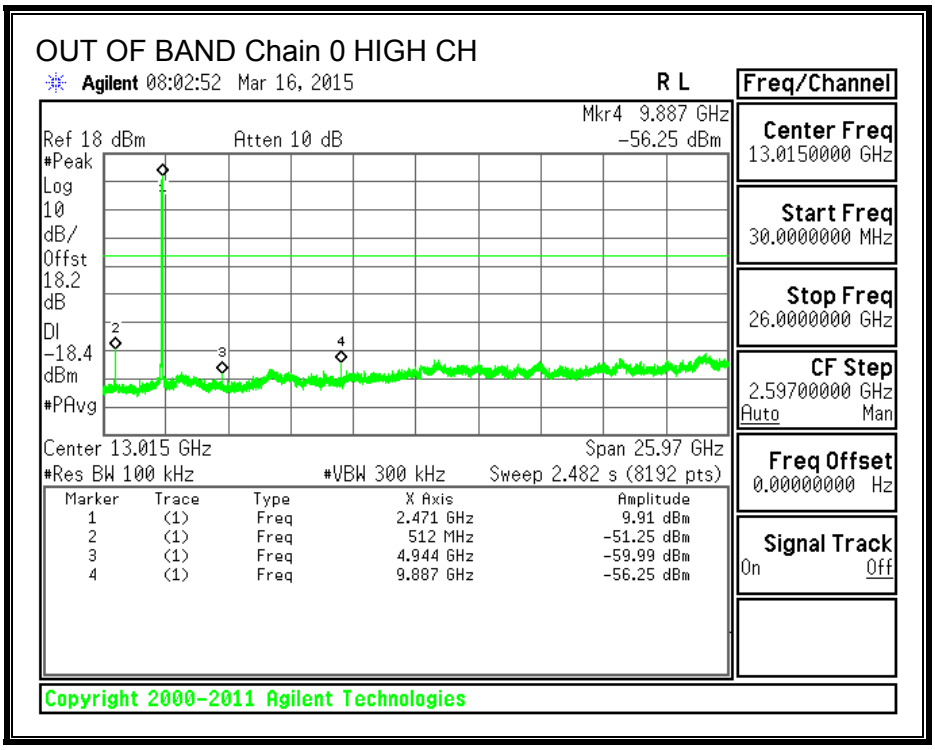
HIGH CHANNEL BANDEDGE, Chain 0



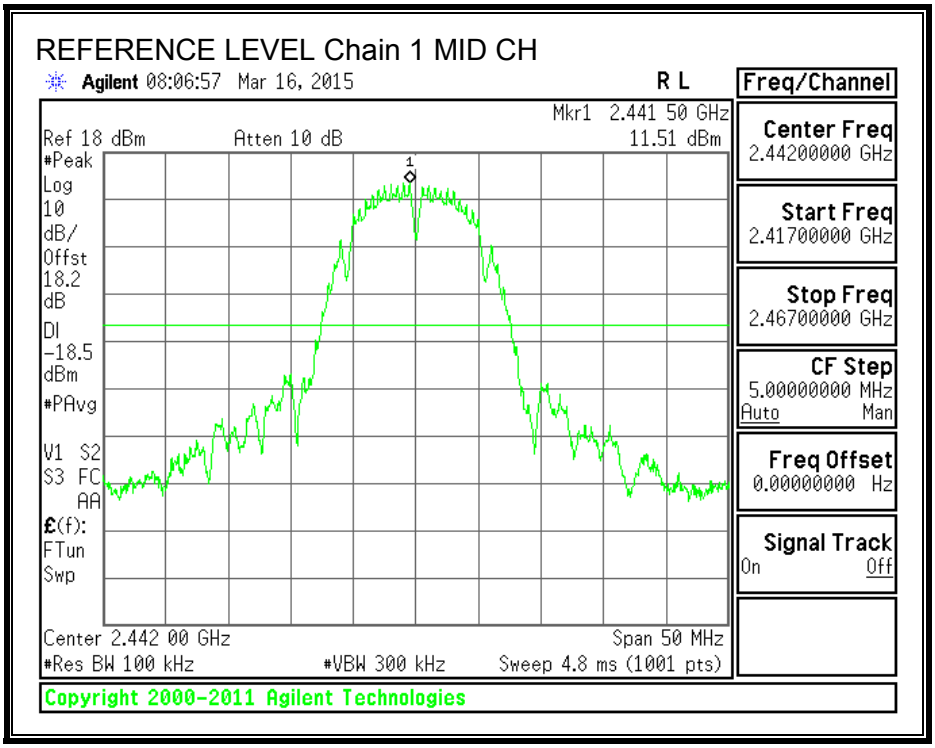
OUT-OF-BAND EMISSIONS, Chain 0



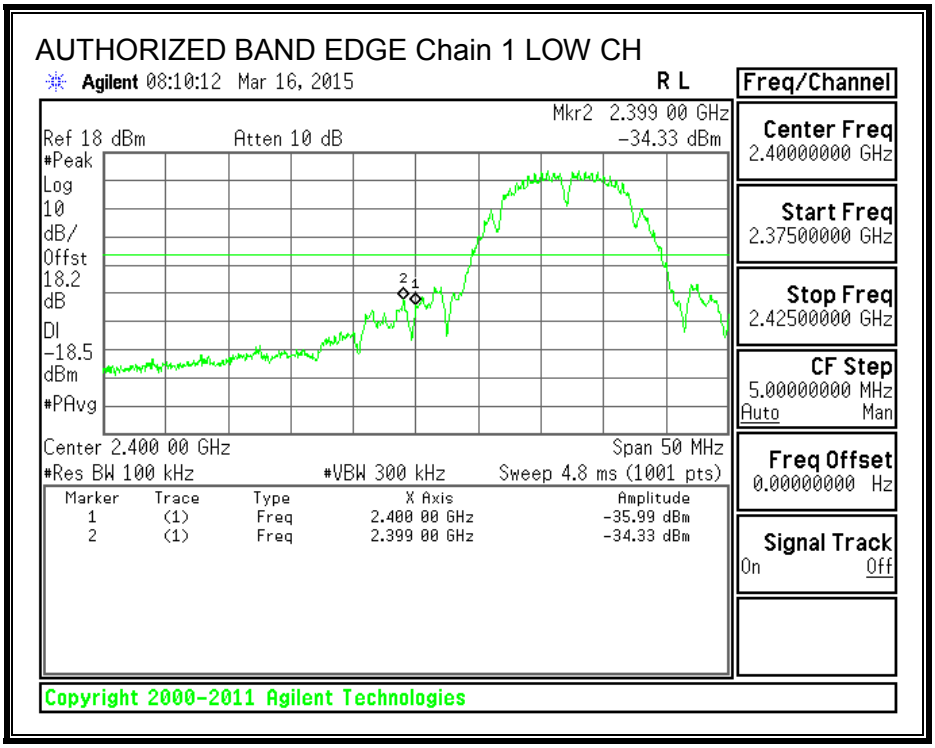




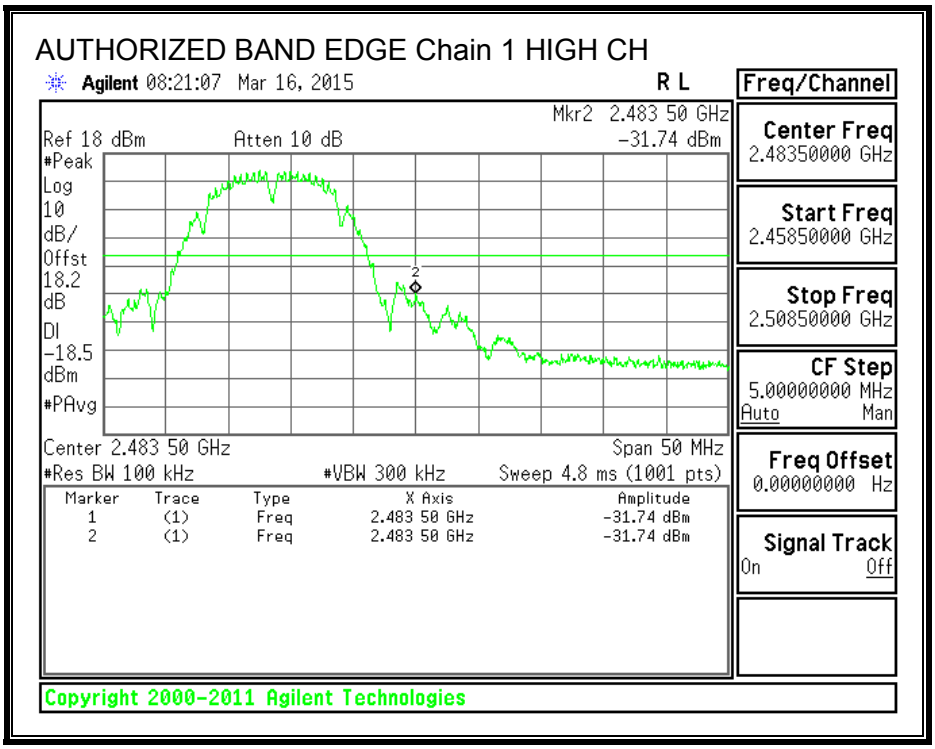
IN-BAND REFERENCE LEVEL, Chain 1



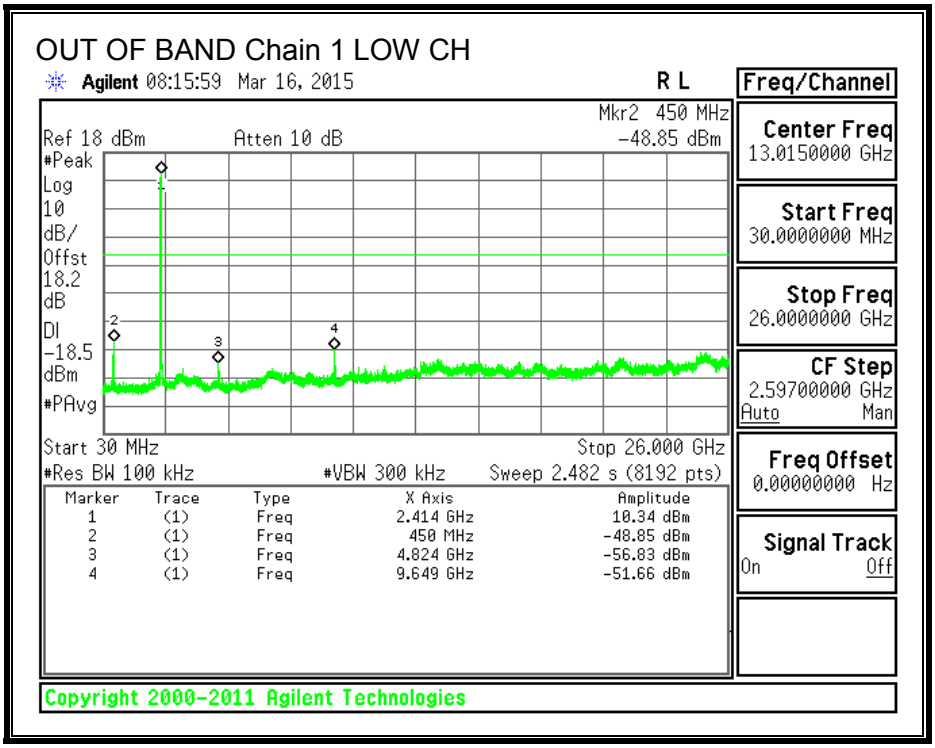
LOW CHANNEL BANDEDGE, Chain 1

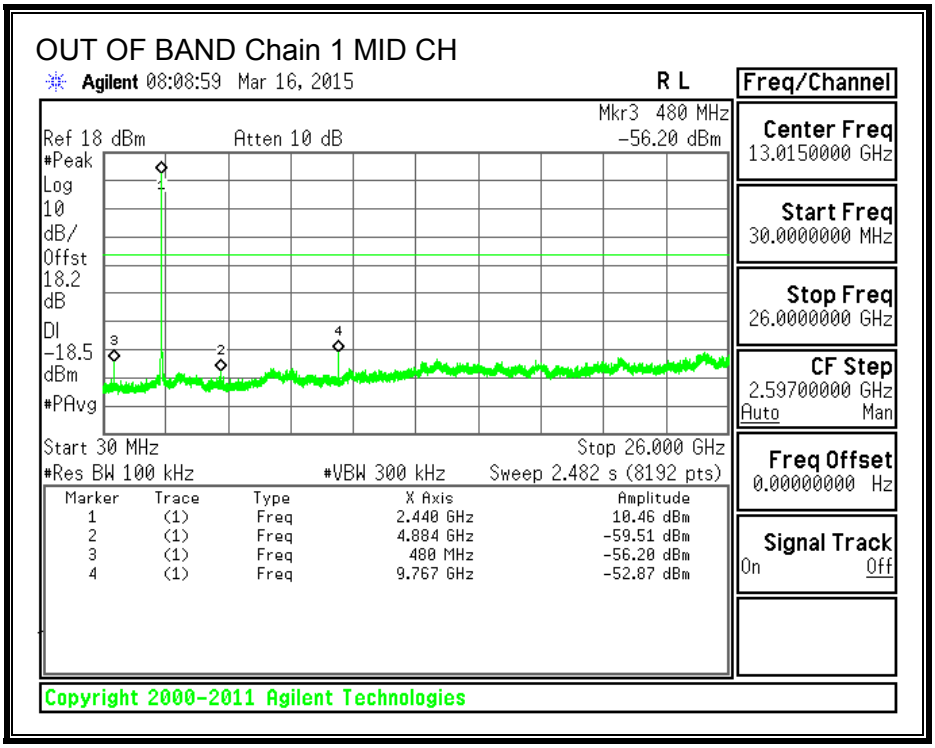


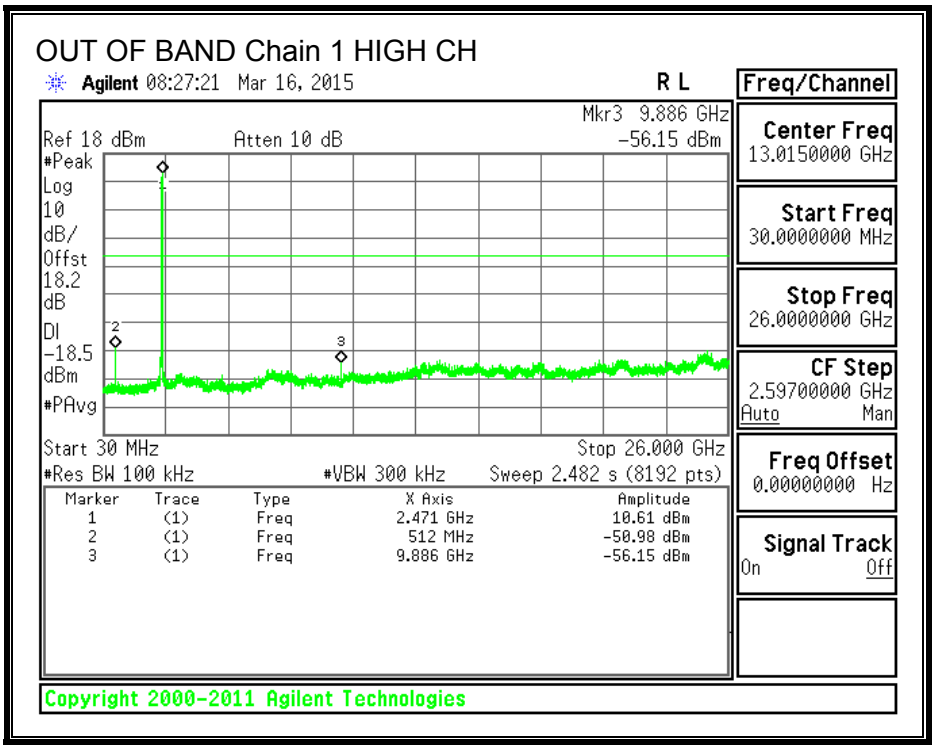
HIGH CHANNEL BANDEDGE, Chain 1



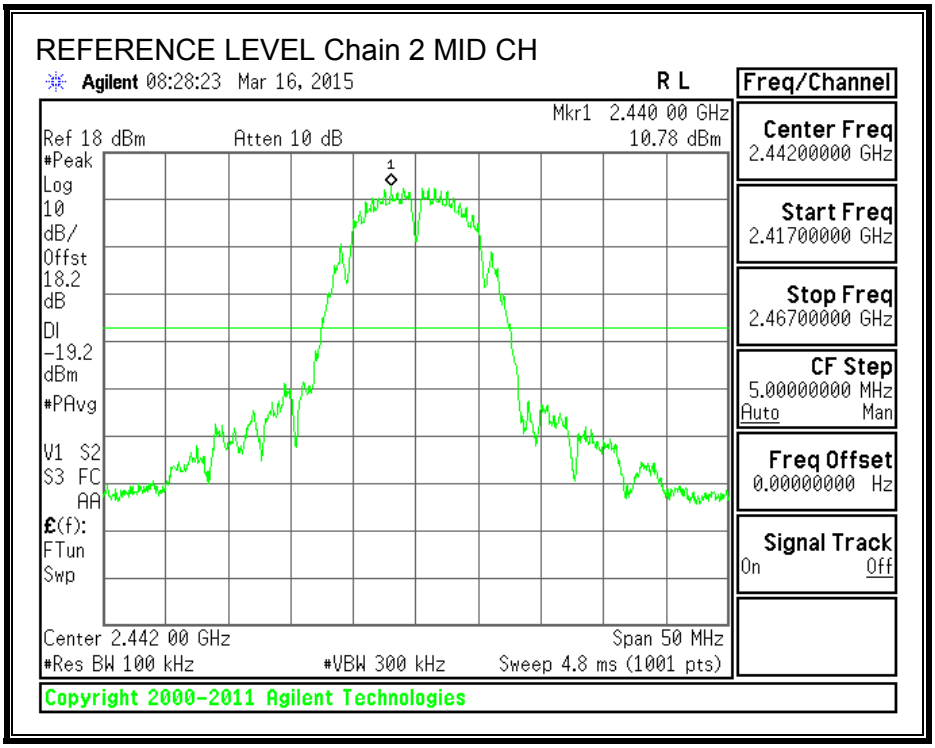
OUT-OF-BAND EMISSIONS, Chain 1



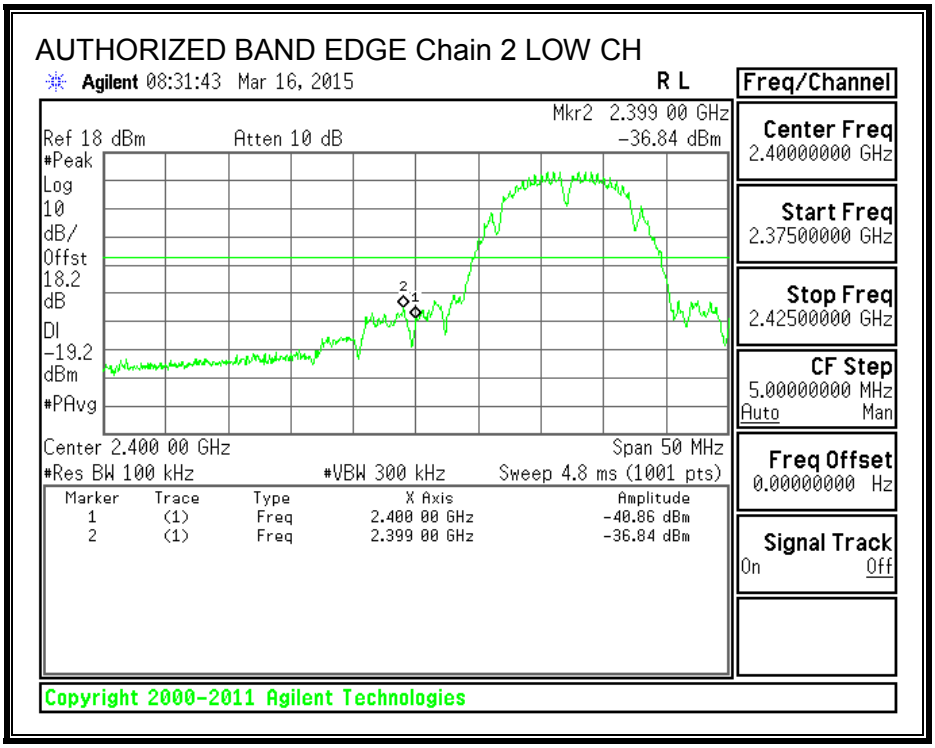




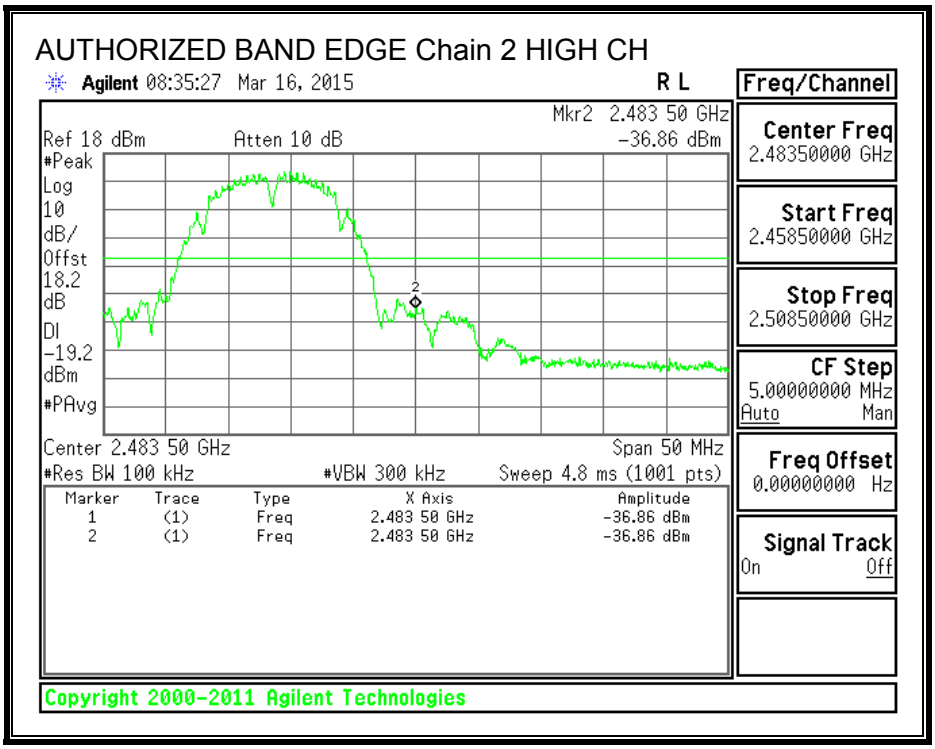
IN-BAND REFERENCE LEVEL, Chain 2



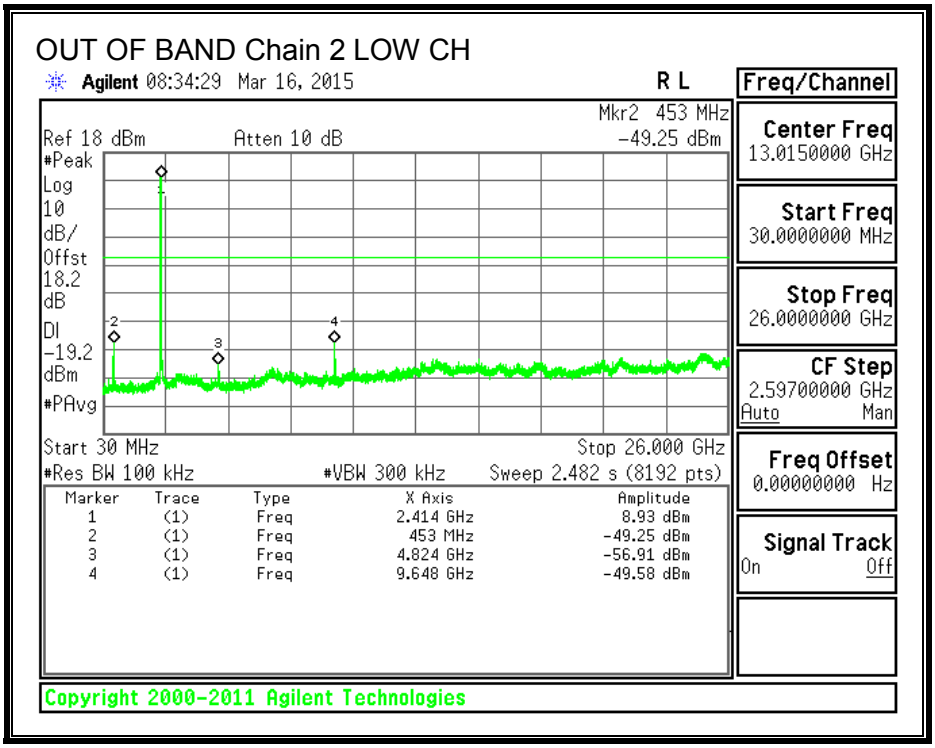
LOW CHANNEL BANDEDGE, Chain 2

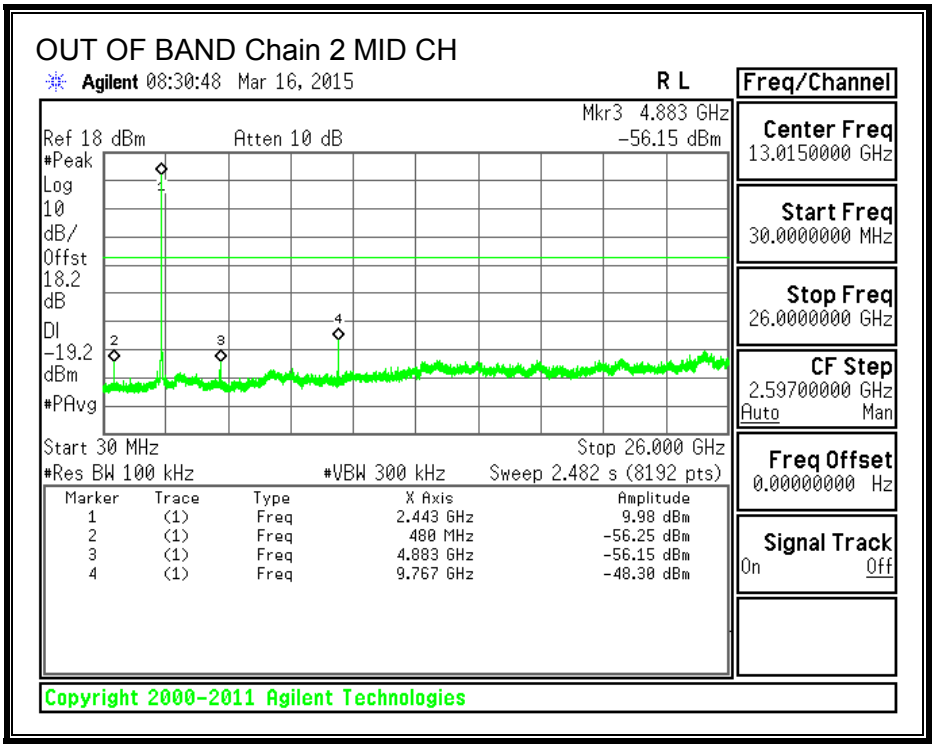


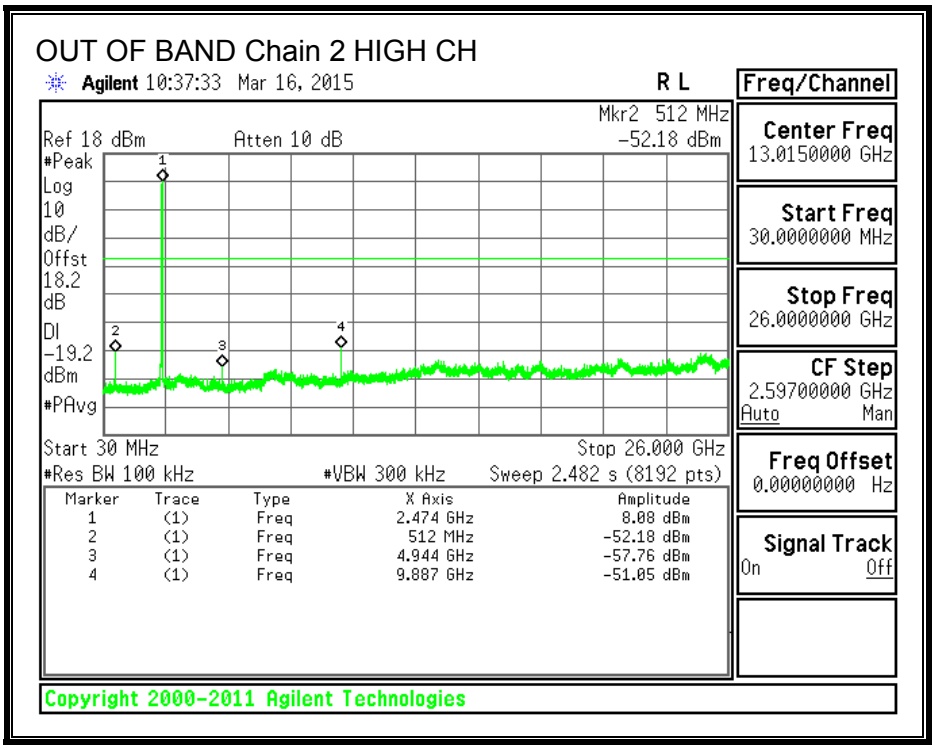
HIGH CHANNEL BANDEDGE, Chain 2



OUT-OF-BAND EMISSIONS, Chain 2







8.4. 802.11g LEGACY SISO MODE IN THE 2.4 GHz BAND

8.4.1. 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

This is SISO mode, AG is the highest (worst-case) = 5.90 dBi

RESULTS

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	5.90	30.00	30	36	30.00
2	2417	5.90	30.00	30	36	30.00
7	2442	5.90	30.00	30	36	30.00
10	2457	5.90	30.00	30	36	30.00
11	2462	5.90	30.00	30	36	30.00
12	2467	5.90	30.00	30	36	30.00
13	2472	5.90	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	15.40	15.40	30.00	-14.60
2	2417	17.30	17.30	30.00	-12.70
7	2442	20.00	20.00	30.00	-10.00
10	2457	18.50	18.50	30.00	-11.50
11	2462	16.30	16.30	30.00	-13.70
12	2467	15.20	15.20	30.00	-14.80

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.5. 802.11n HT20 CDD 2TX MODE IN THE 2.4 GHz BAND

8.5.1. 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 unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
5.90	5.33	5.62

RESULTS

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	5.62	30.00	30	36	30.00
2	2417	5.62	30.00	30	36	30.00
7	2442	5.62	30.00	30	36	30.00
10	2457	5.62	30.00	30	36	30.00
11	2462	5.62	30.00	30	36	30.00
12	2467	5.62	30.00	30	36	30.00
13	2472	5.62	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	13.60	14.00	16.81	30.00	-13.19
2	2417	15.30	15.60	18.46	30.00	-11.54
7	2442	19.60	19.93	22.78	30.00	-7.22
10	2457	16.10	16.40	19.26	30.00	-10.74
11	2462	13.20	13.40	16.31	30.00	-13.69
12	2467	12.50	12.60	15.56	30.00	-14.44
13	2472	2.30	2.10	5.21	30.00	-24.79

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.5.2. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

For digitally modulated systems, the power spectral density conducted form the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions.

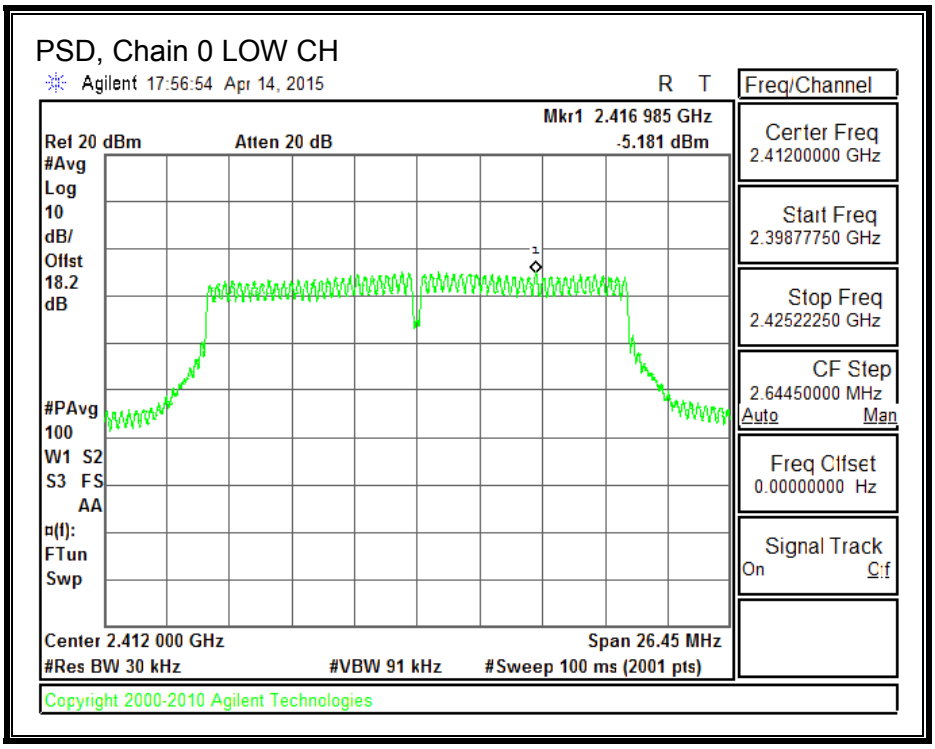
RESULTS

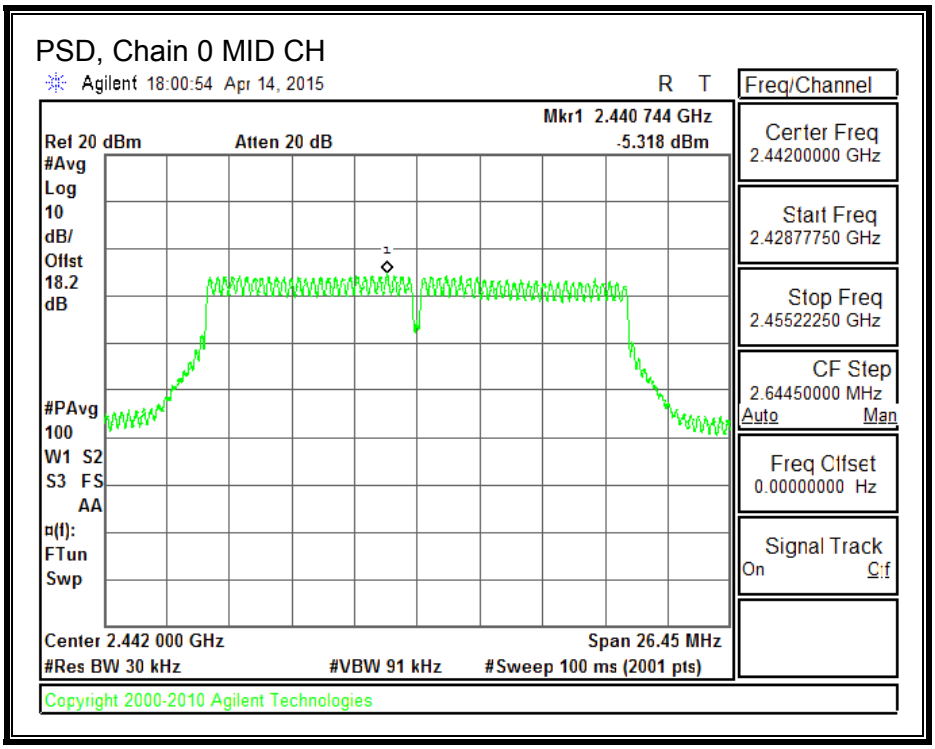
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

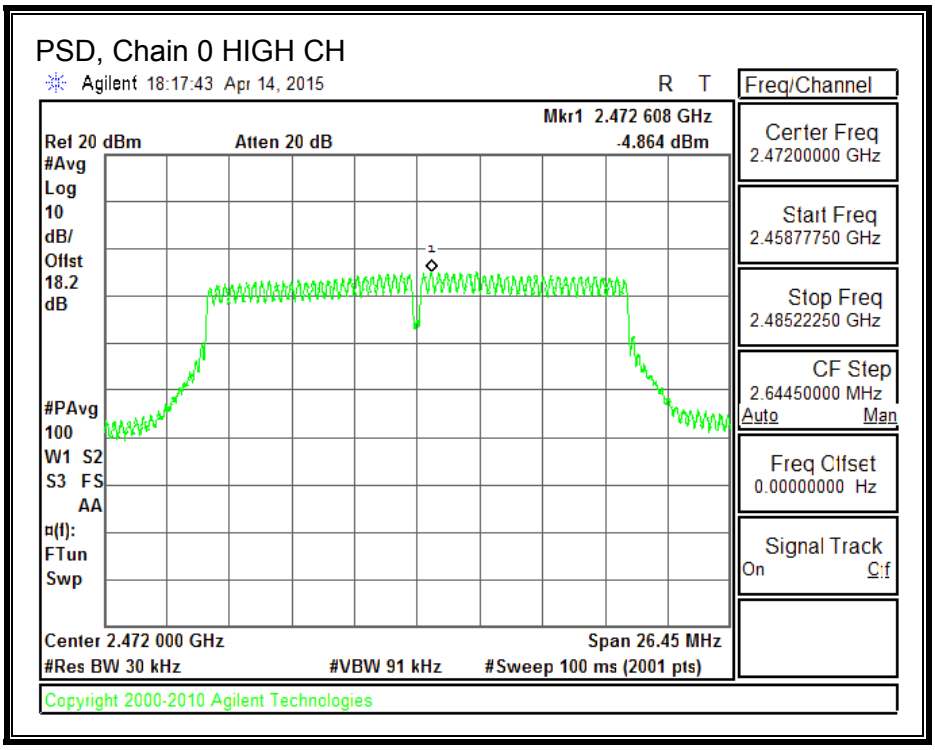
PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-5.181	-5.019	-2.089	8.0	-10.089
Mid	2442	-5.318	-5.436	-2.366	8.0	-10.366
High	2472	-4.864	-4.482	-1.659	8.0	-9.659

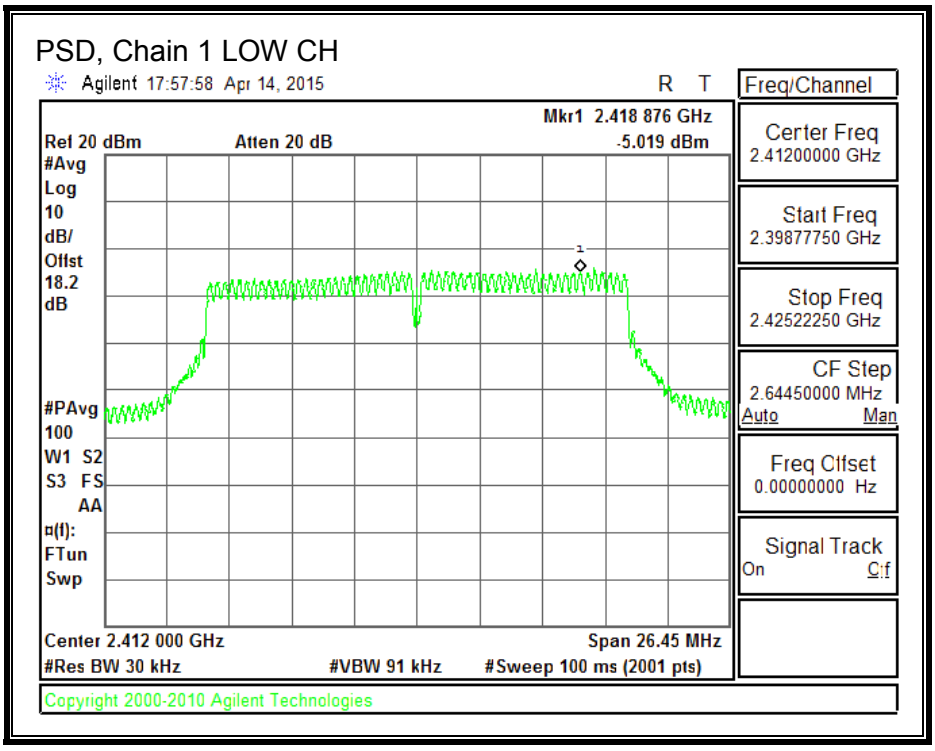
PSD, Chain 0



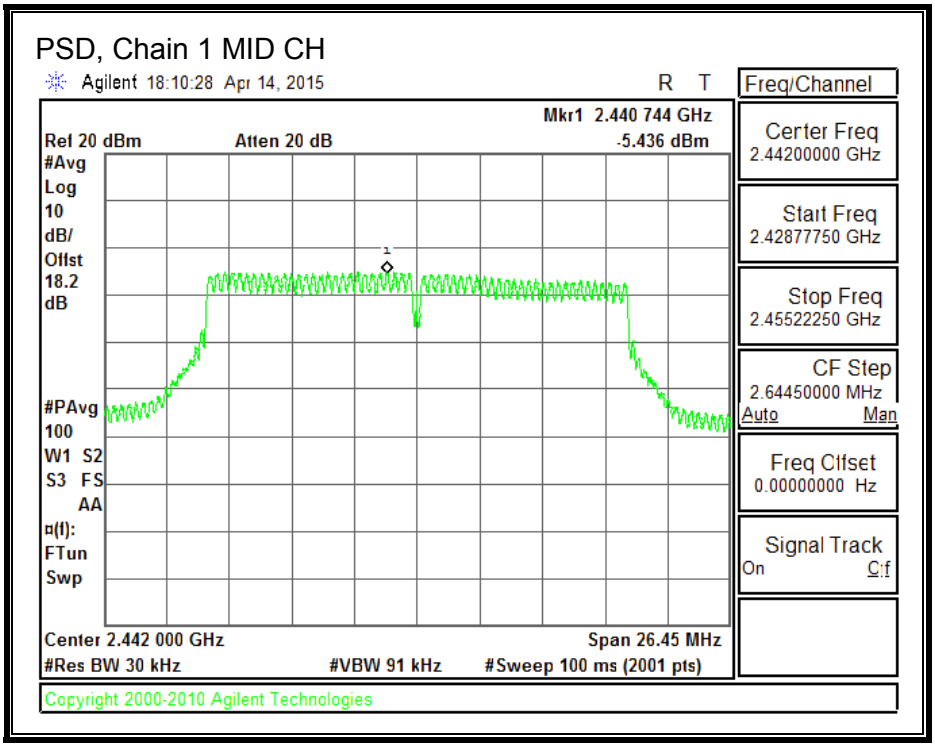




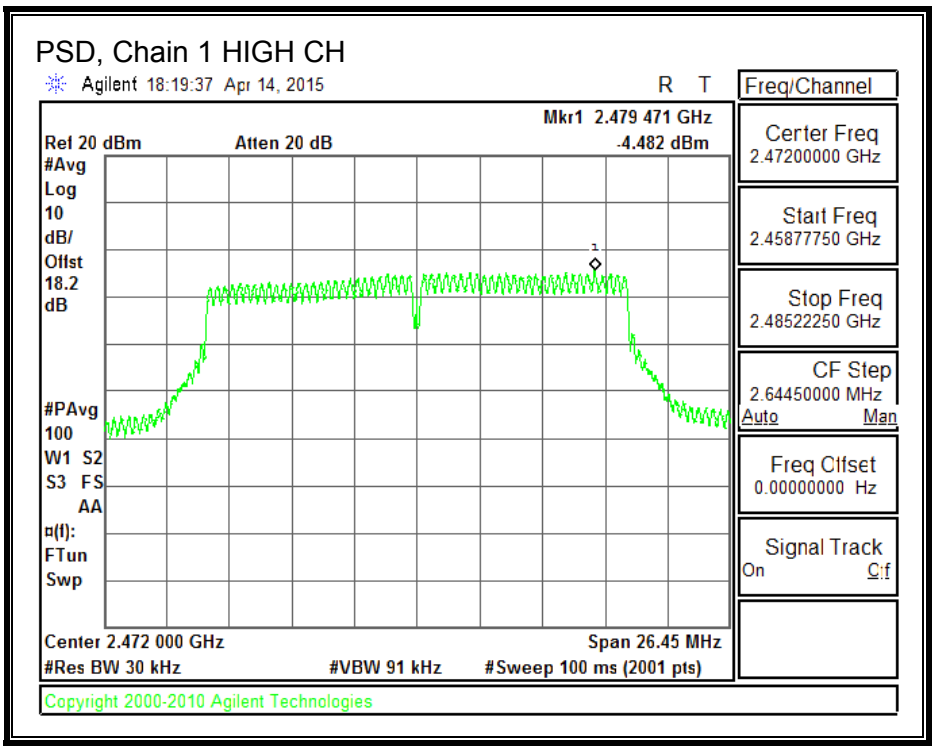
PSD, Chain 1



PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



8.6. 802.11n HT20 TxBF 2TX MODE IN THE 2.4 GHz BAND

8.6.1. 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 correlated and the antenna gain is unequal among the chains. The directional gain is

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
5.90	5.33	8.63

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	8.63	30	30	36	27.37
2	2417	8.63	30	30	36	27.37
7	2442	8.63	30	30	36	27.37
11	2462	8.63	30	30	36	27.37
12	2467	8.63	30	30	36	27.37
13	2472	8.63	30	30	36	27.37

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	13.60	13.40	16.51	27.37	-10.86
2	2417	15.30	15.40	18.36	27.37	-9.01
7	2442	19.60	19.93	22.78	27.37	-4.59
11	2462	13.30	13.40	16.36	27.37	-11.01
12	2467	11.40	11.60	14.51	27.37	-12.86

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

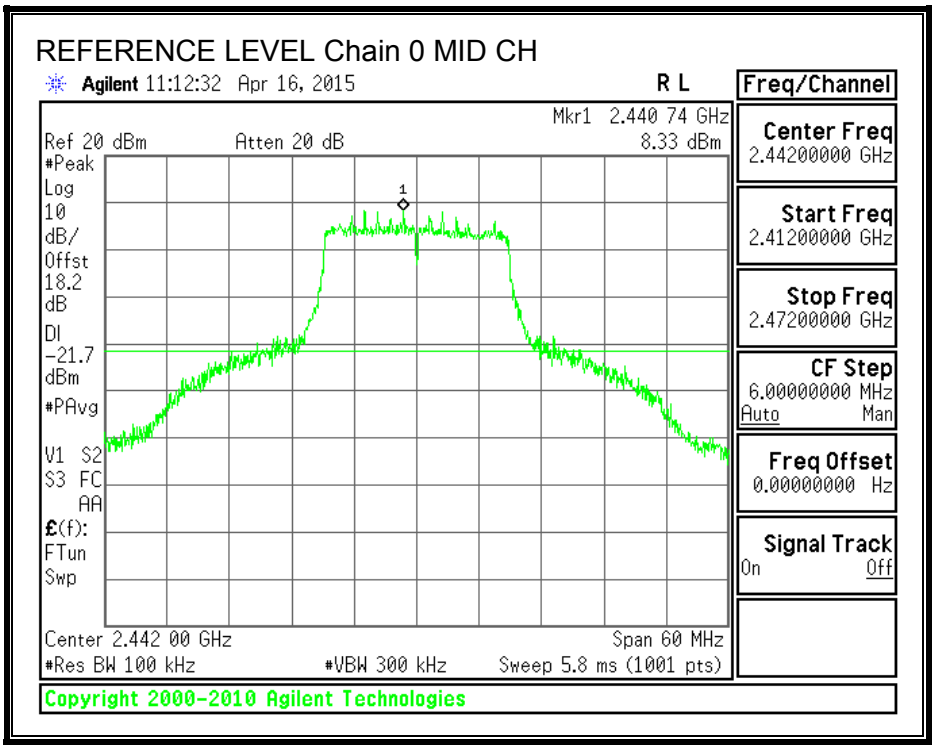
8.6.2. OUT-OF-BAND EMISSIONS

LIMITS

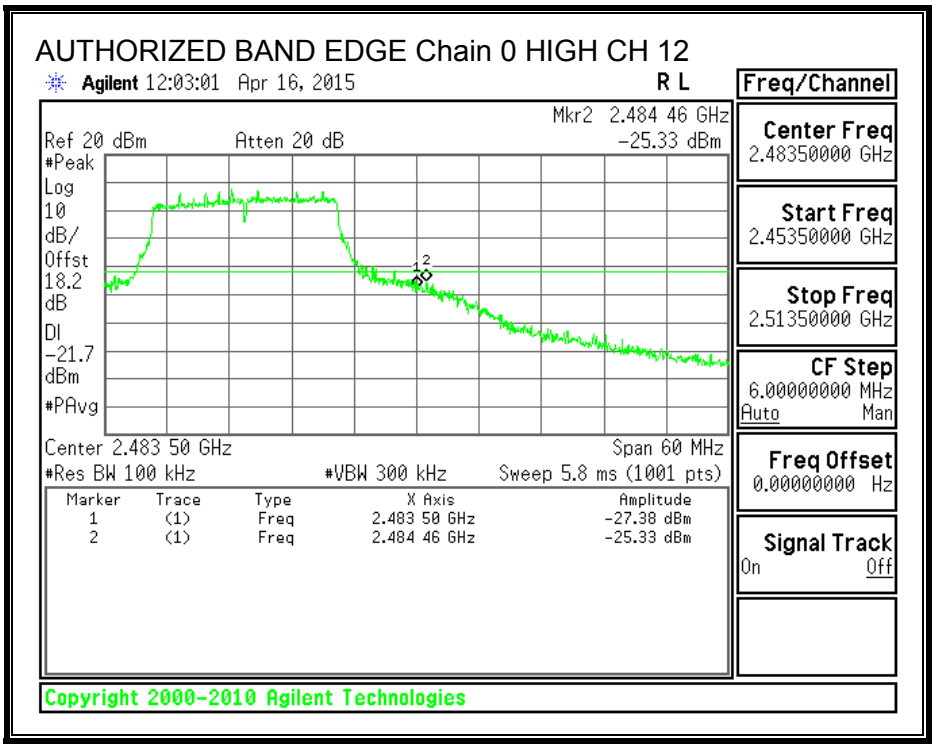
FCC §15.247 (d)

RESULTS

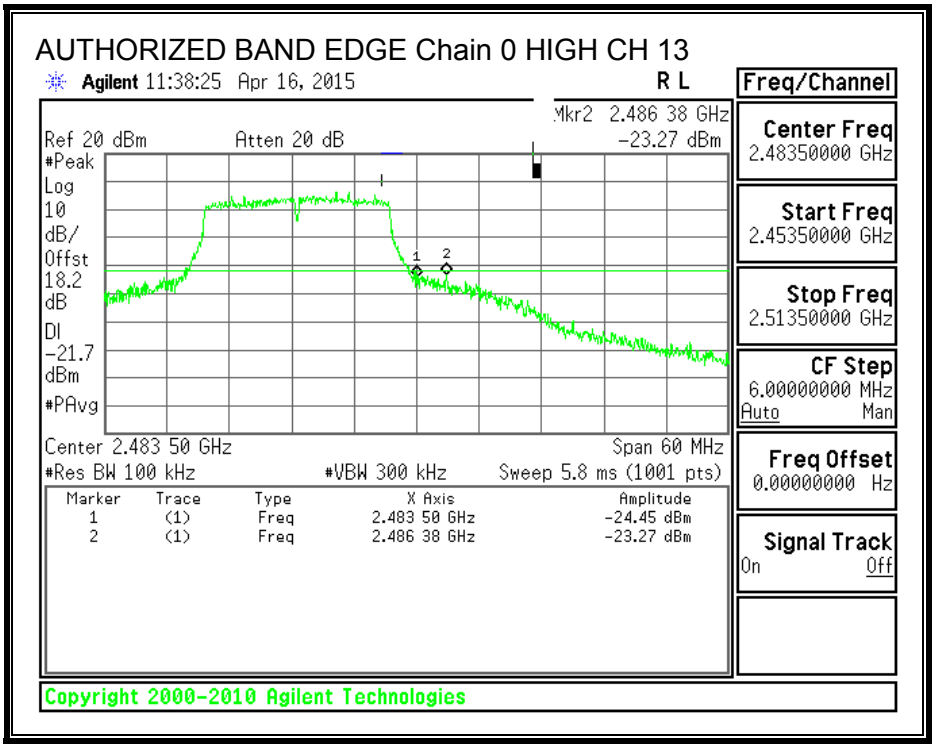
IN-BAND REFERENCE LEVEL, Chain 0



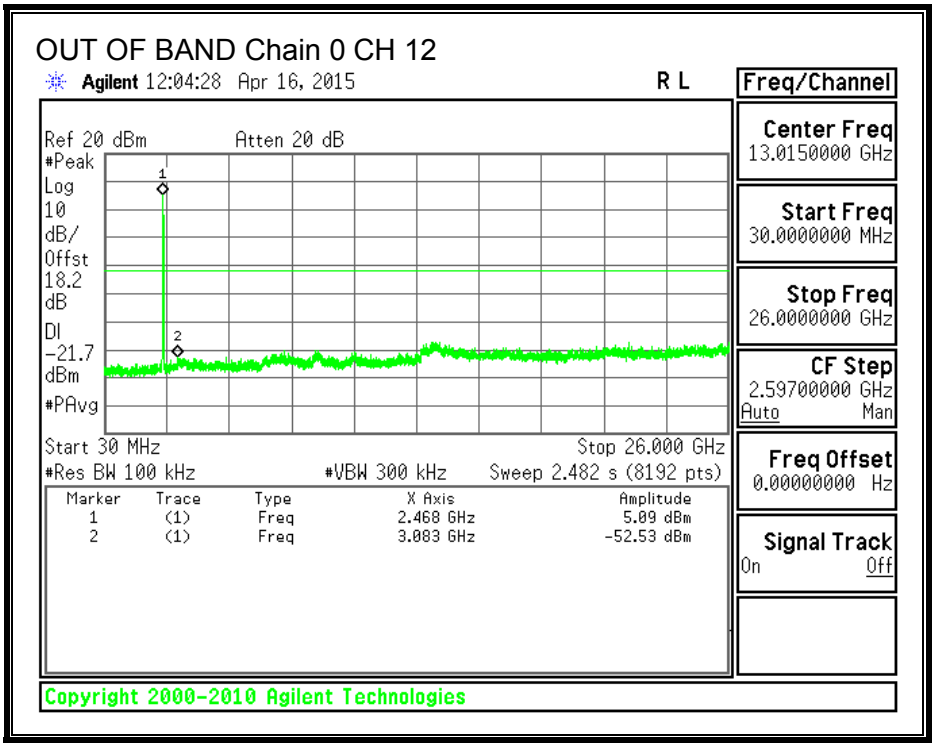
HIGH CHANNEL (CH12) BANDEDGE, Chain 0

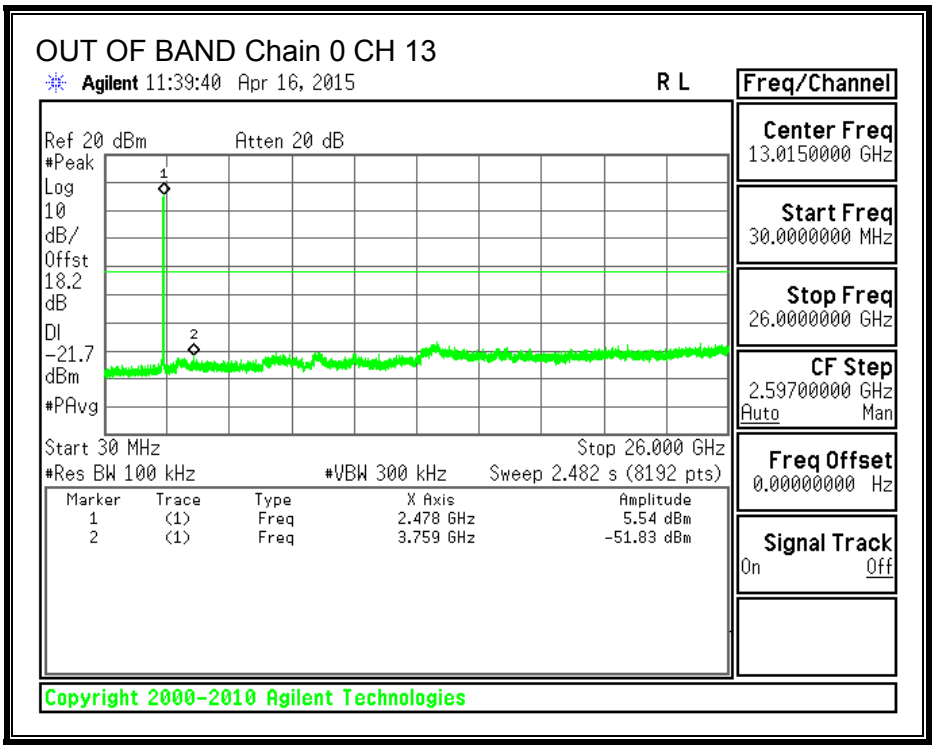


HIGH CHANNEL (CH13) BANDEDGE, Chain 0

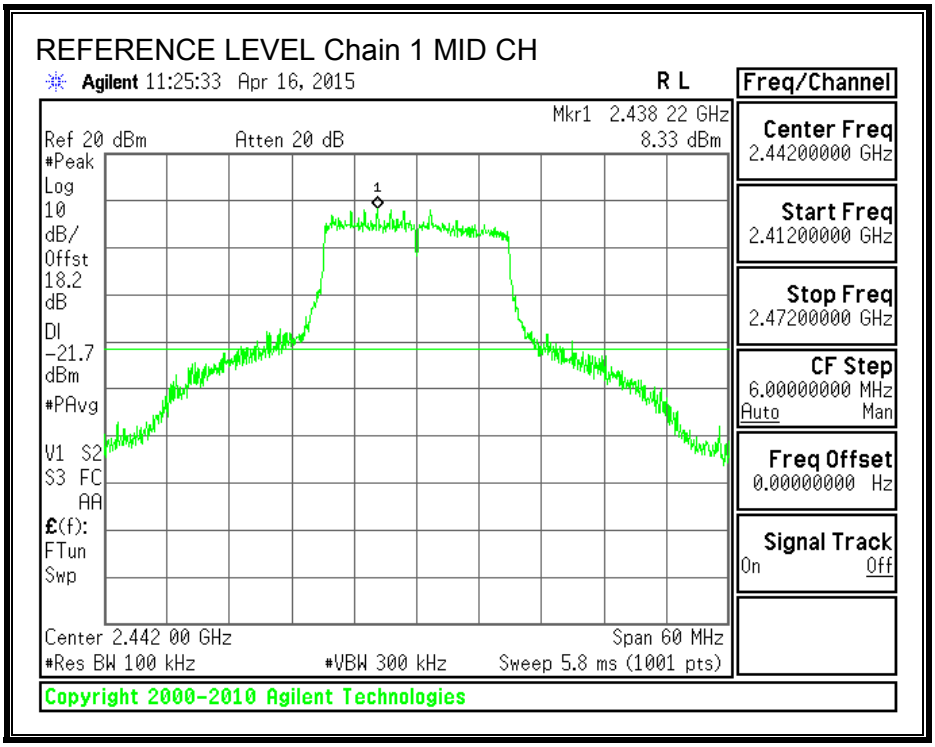


OUT-OF-BAND EMISSIONS, Chain 0

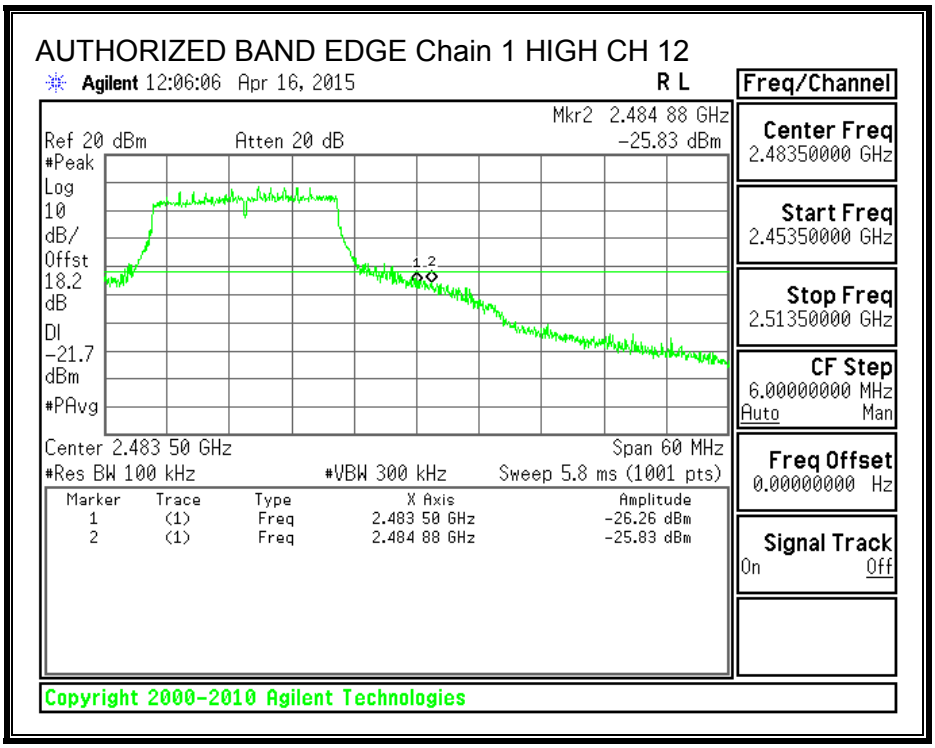




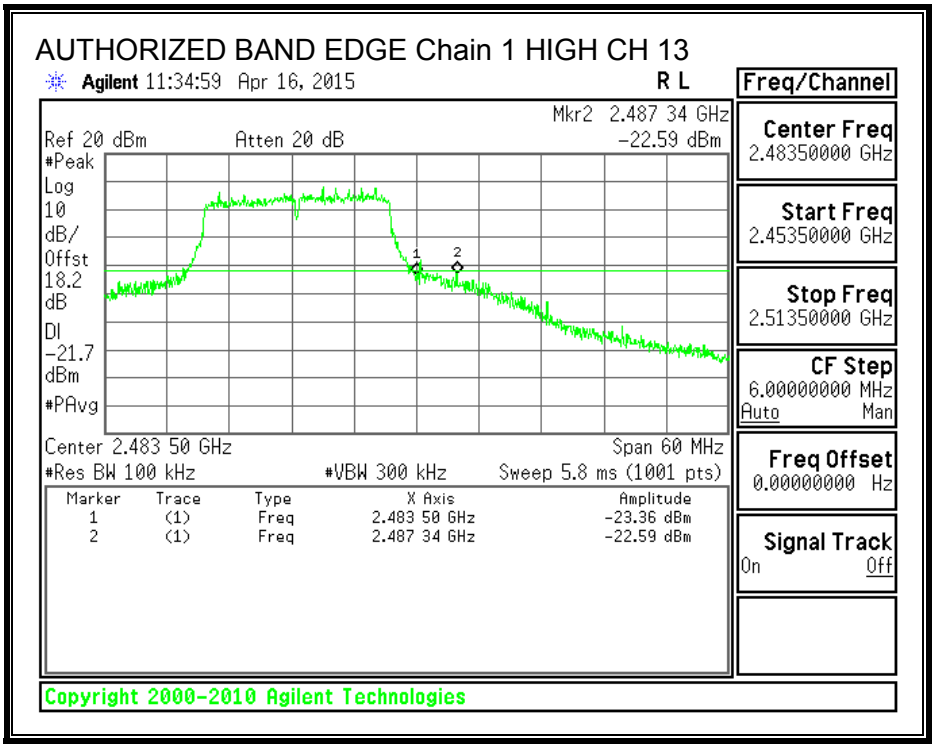
IN-BAND REFERENCE LEVEL, Chain 1



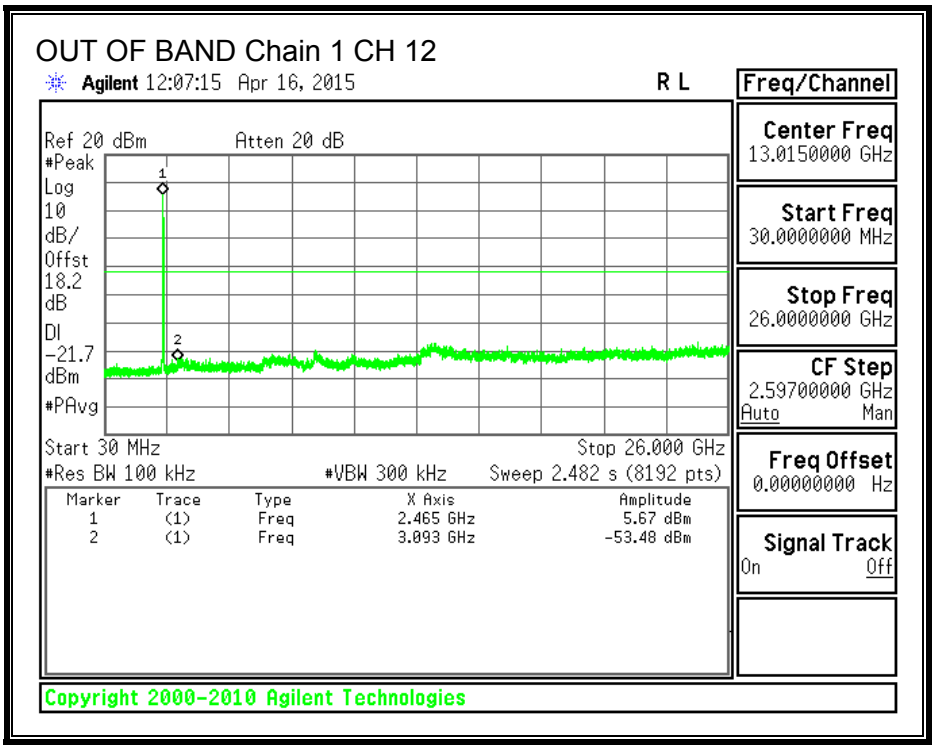
HIGH CHANNEL (CH 12) BANDEDGE, Chain 1



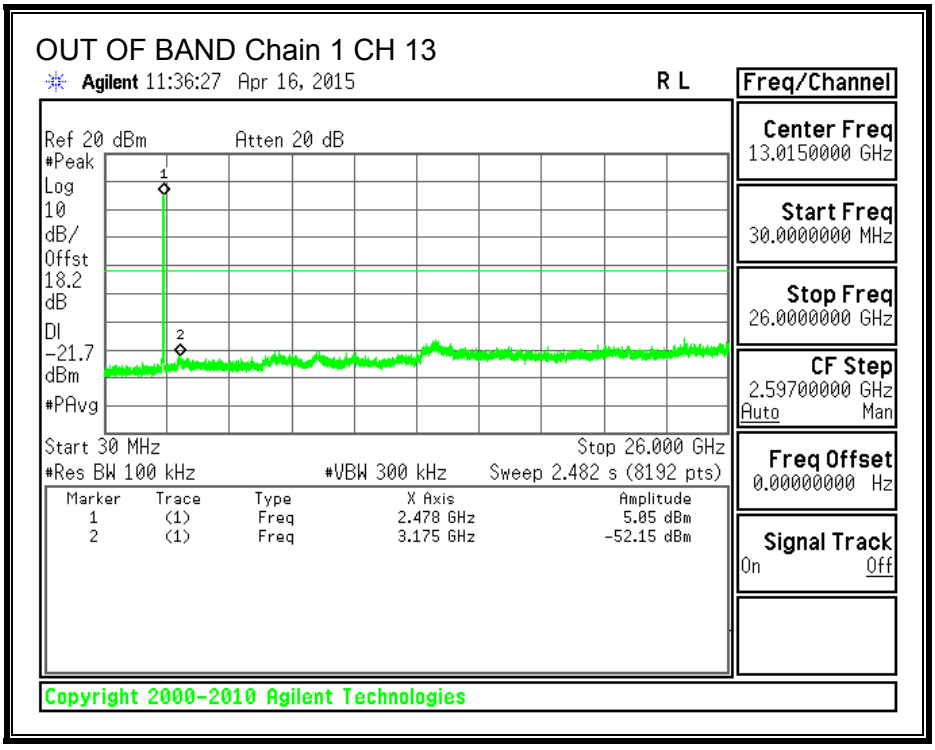
HIGH CHANNEL (CH 13) BANDEDGE, Chain 1



OUT OF BAND Chain 1 CH 12



OUT OF BAND Chain 1 CH 13



8.7. 802.11n HT20 CDD 3TX MODE IN THE 2.4 GHz BAND

8.7.1. 6 dB BANDWIDTH

LIMITS

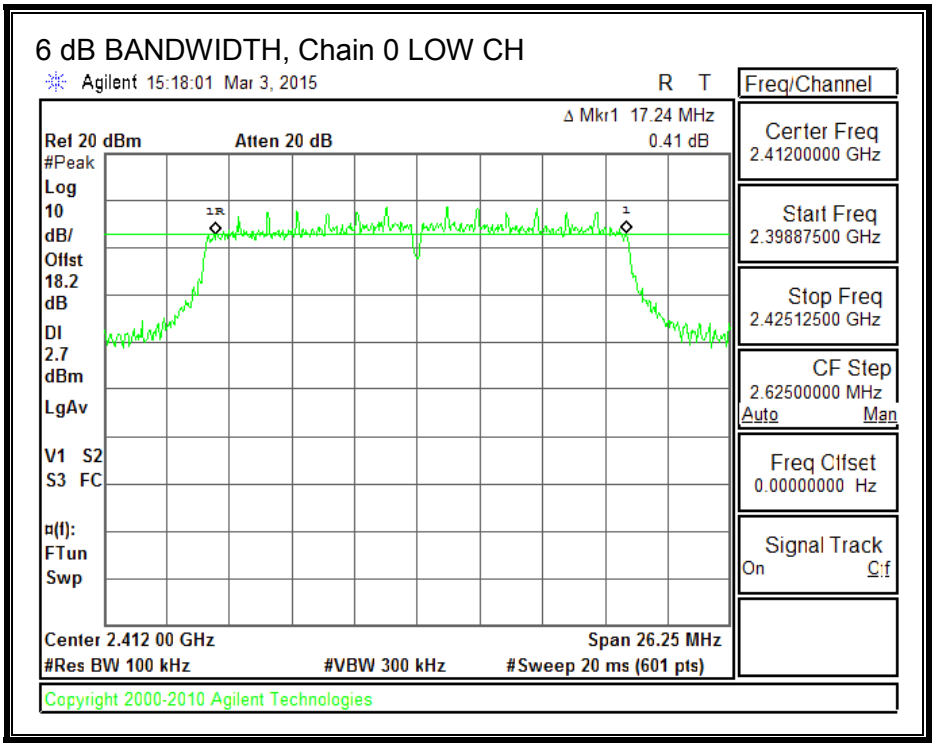
FCC §15.247 (a)

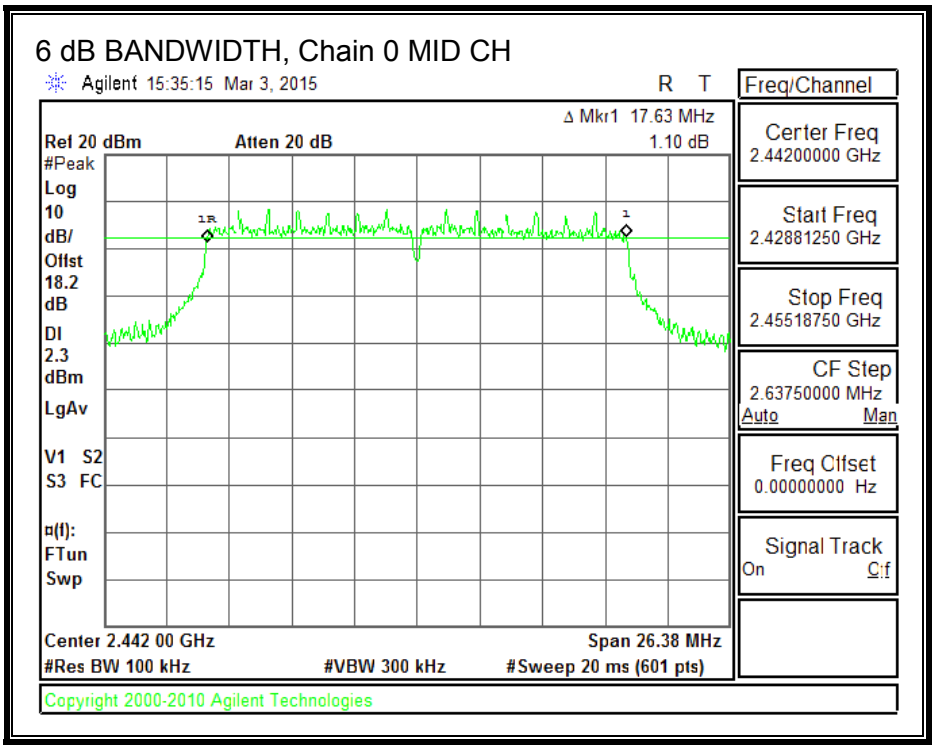
The minimum 6 dB bandwidth shall be at least 500 kHz.

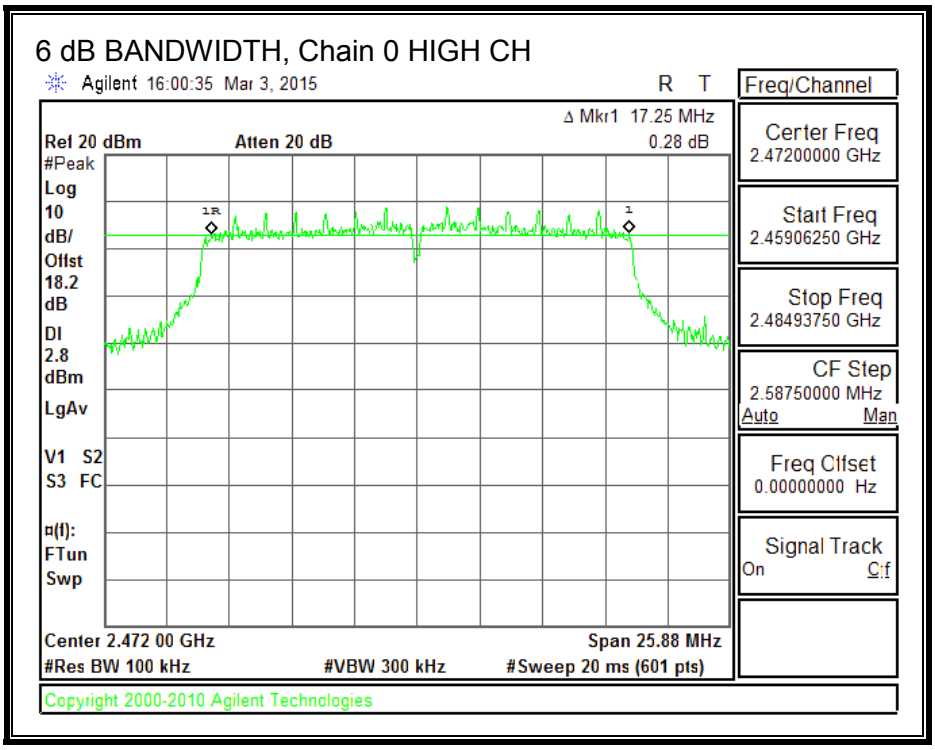
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low	2412	17.24	17.60	17.59	0.5
Mid	2442	17.63	17.63	17.63	0.5
High	2472	17.25	17.58	17.59	0.5

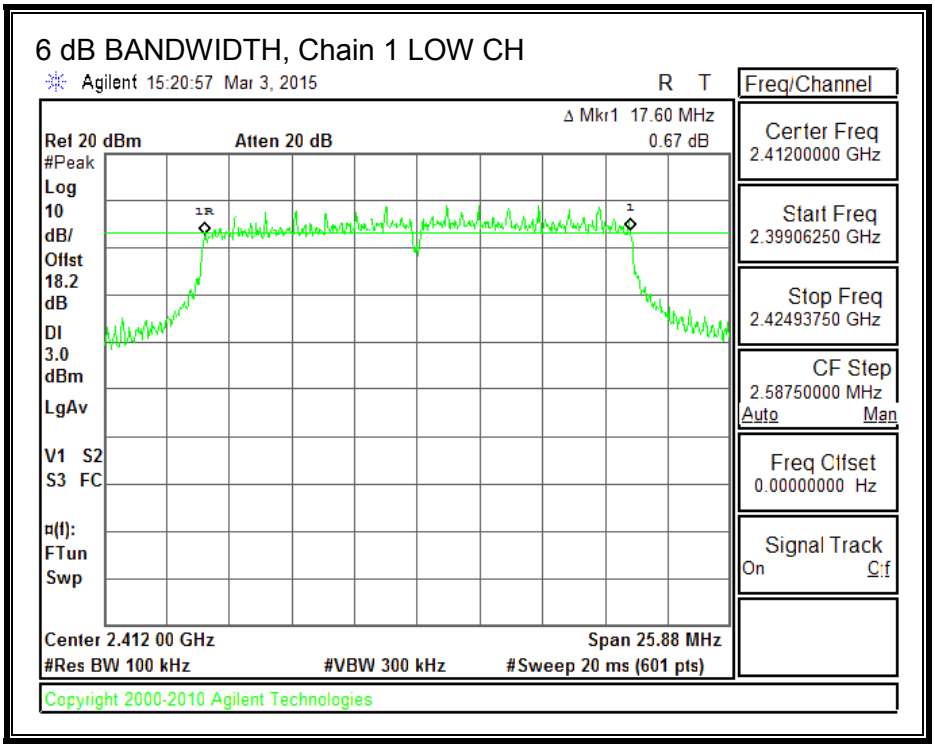
6 dB BANDWIDTH, Chain 0

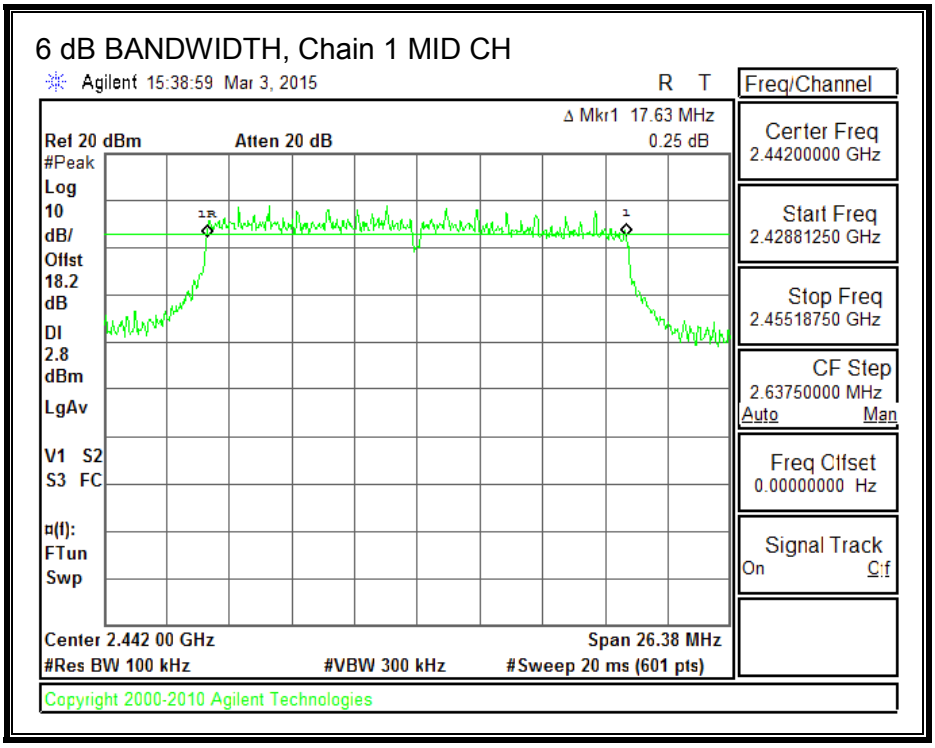


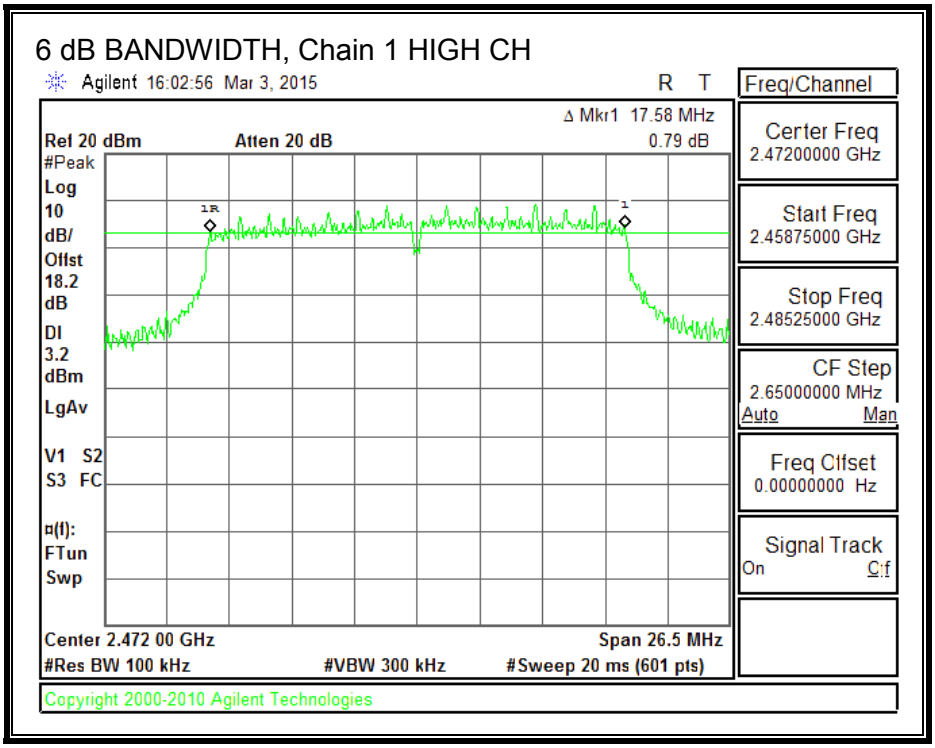




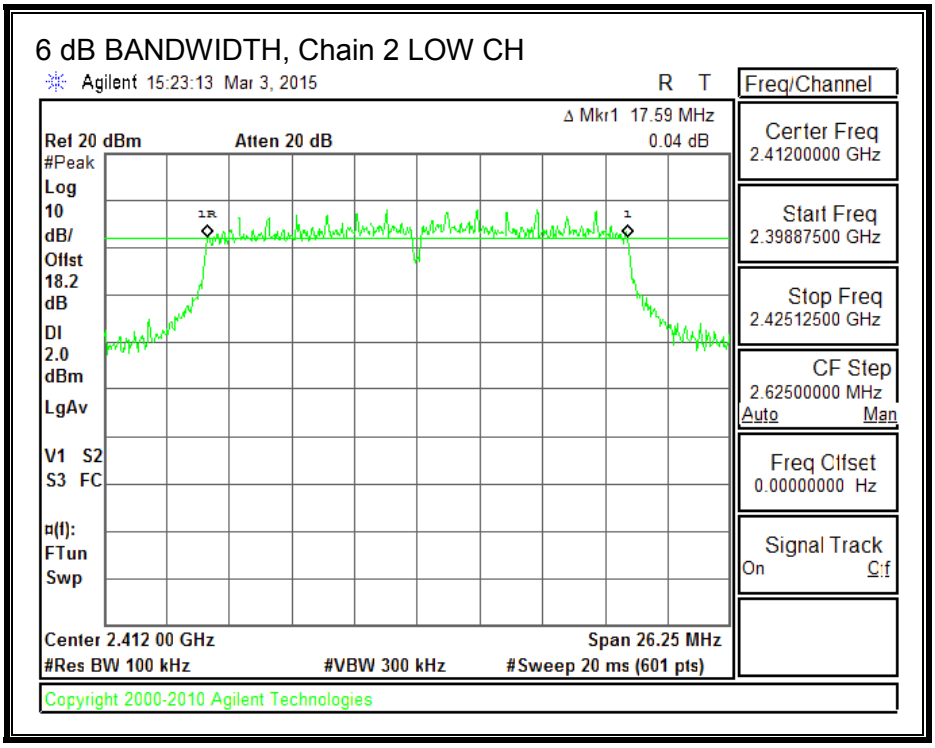
6 dB BANDWIDTH, Chain 1

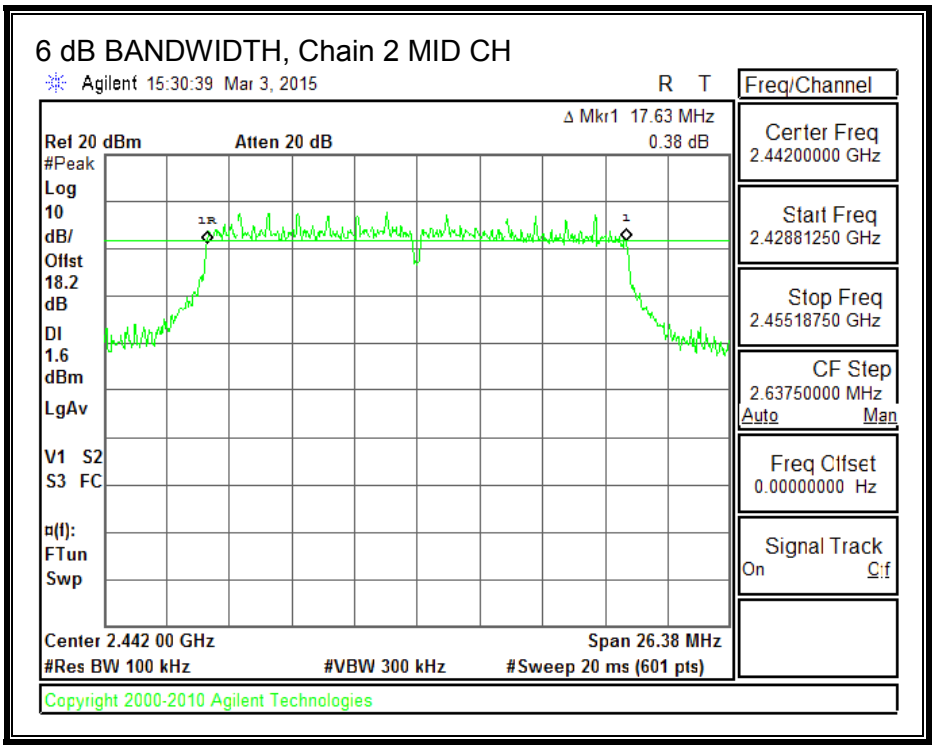


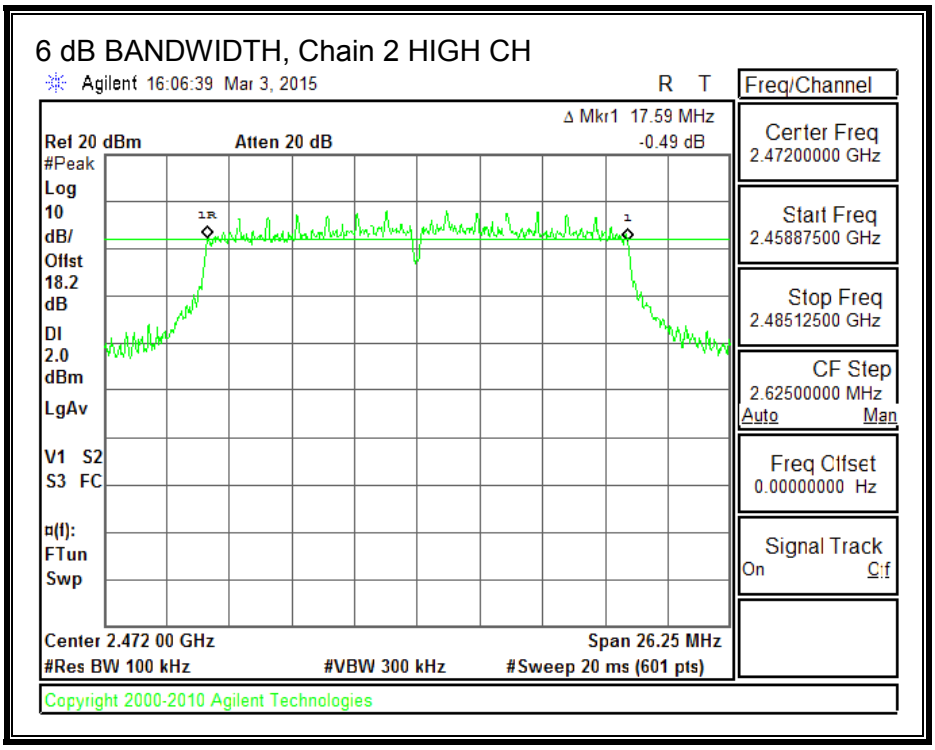




6 dB BANDWIDTH, Chain 2







8.7.2. 99% BANDWIDTH

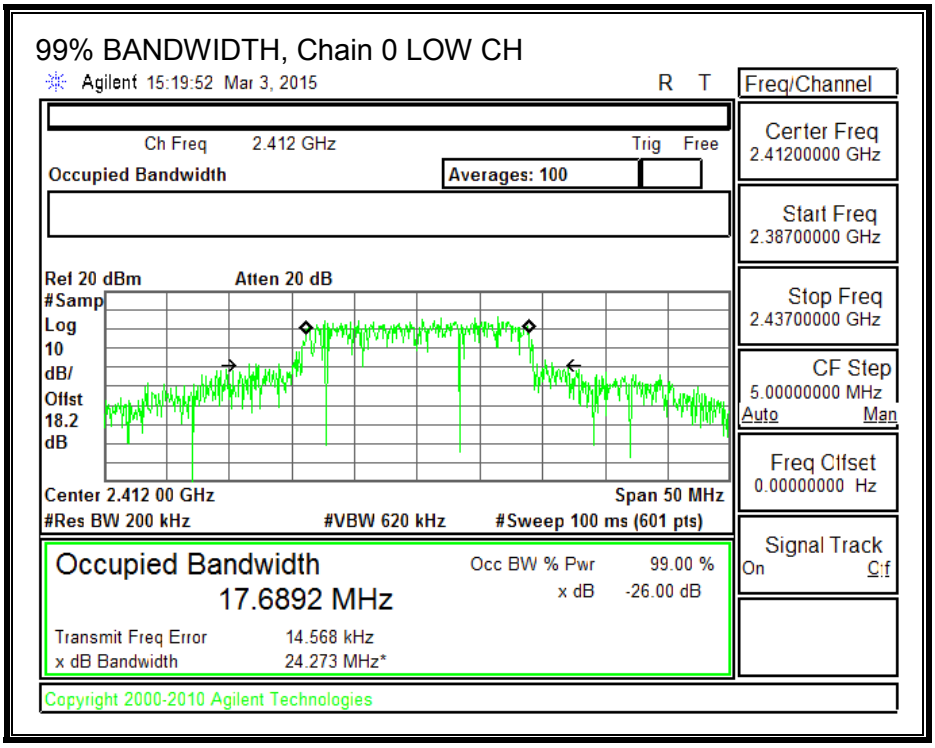
LIMITS

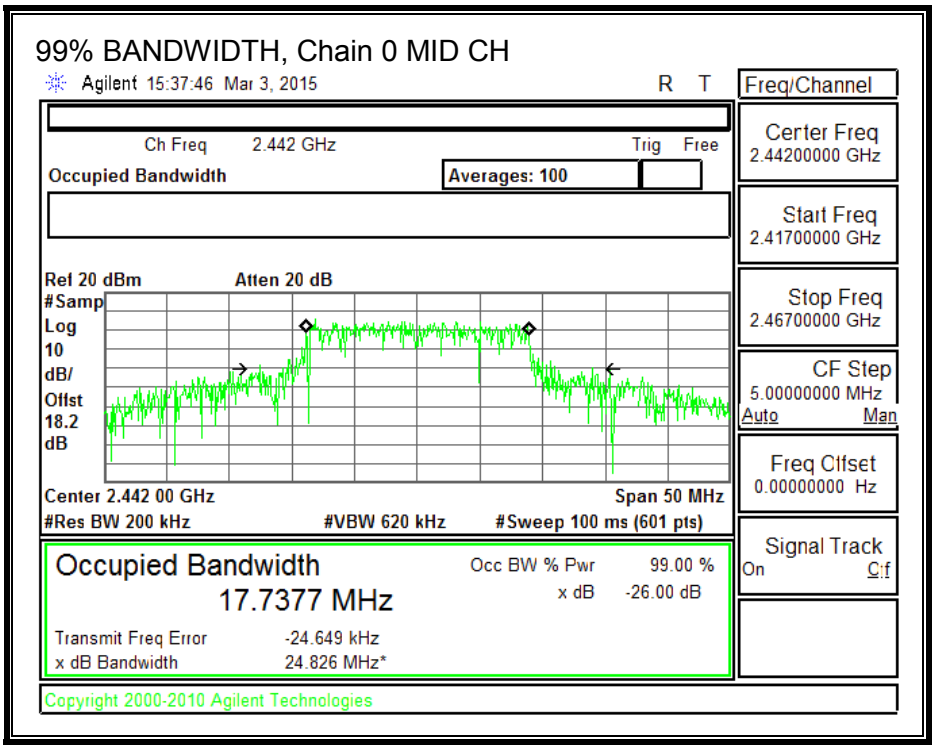
None; for reporting purposes only.

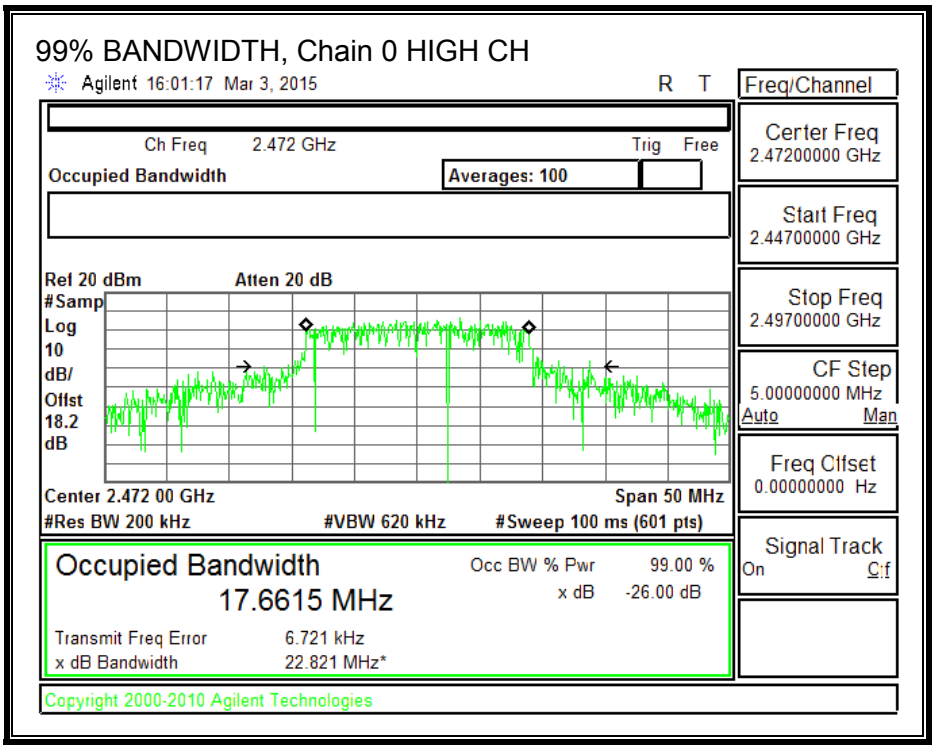
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	2412	17.6892	17.7111	17.6701
Mid	2442	17.7377	17.7380	17.7146
High	2472	17.6615	17.6968	17.6508

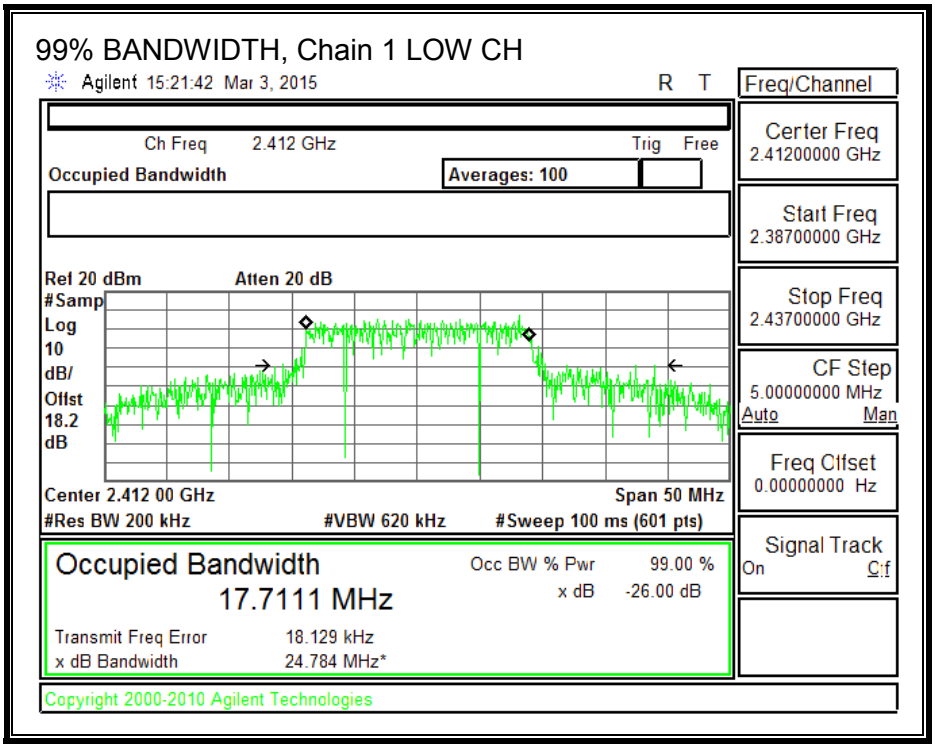
99% BANDWIDTH, Chain 0



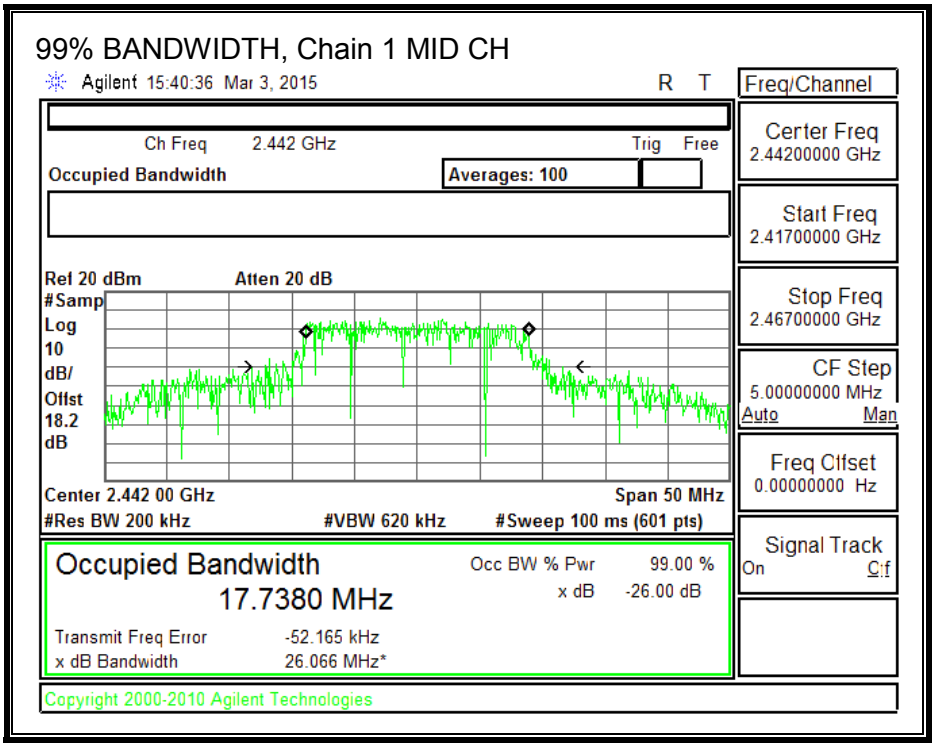




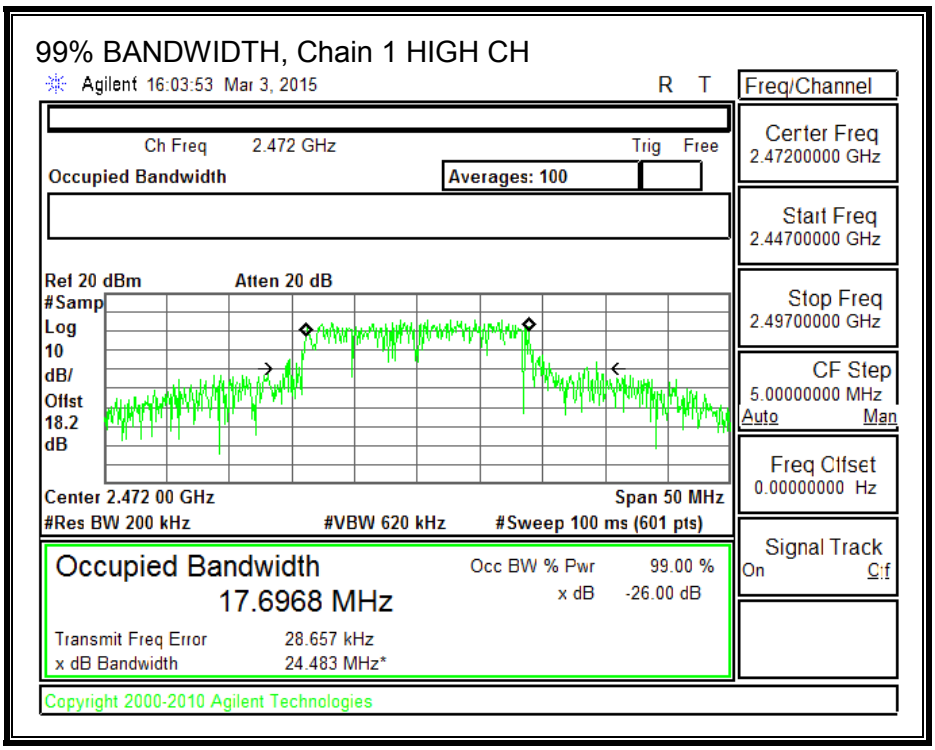
99% BANDWIDTH, Chain 1



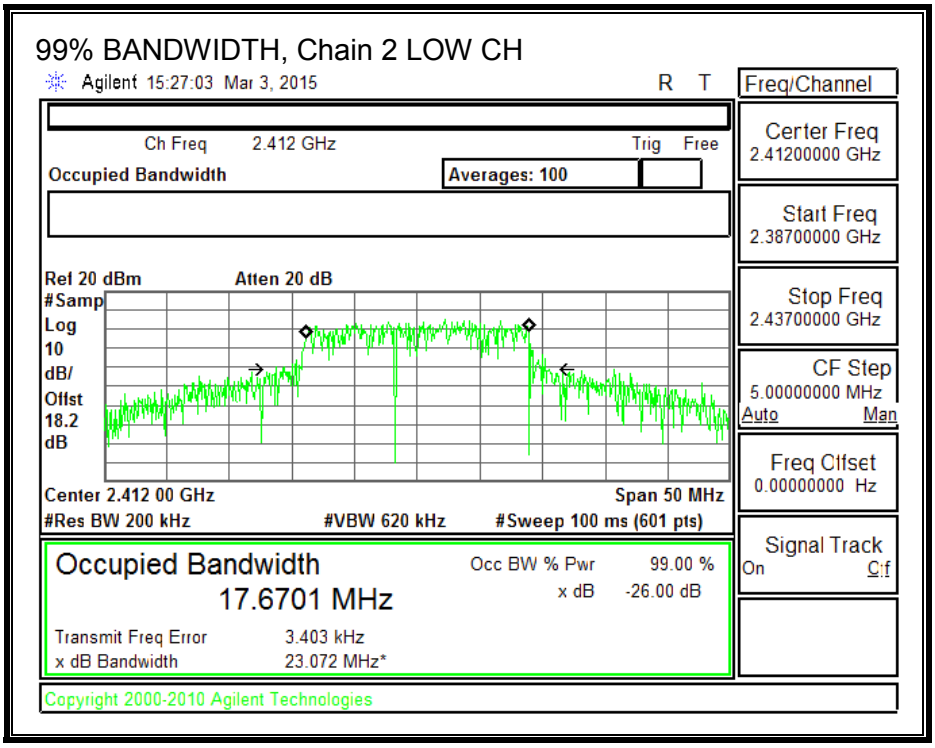
99% BANDWIDTH, Chain 1 MID CH

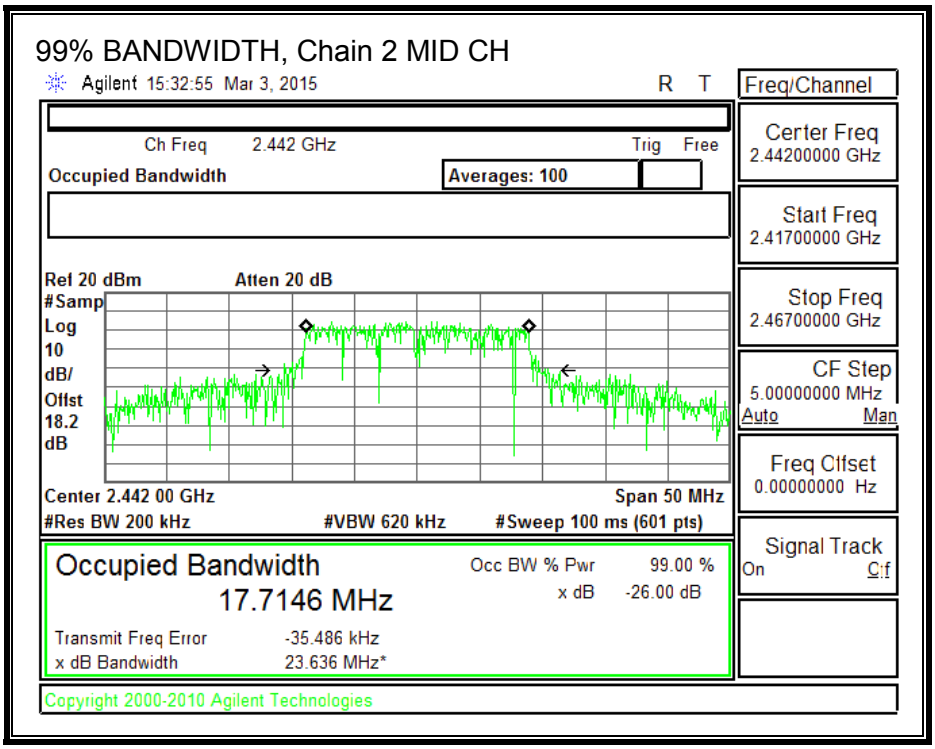


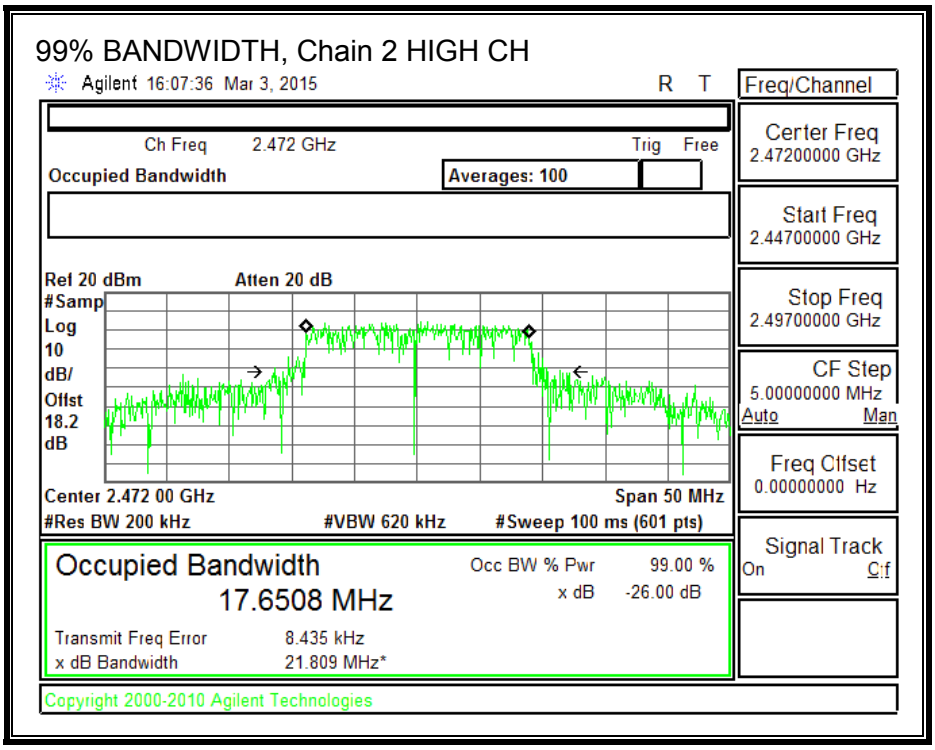
99% BANDWIDTH, Chain 1 HIGH CH



99% BANDWIDTH, Chain 2







8.7.3. 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 unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
5.90	5.33	4.32	5.23

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	5.23	30	30	36	30.00
2	2417	5.23	30	30	36	30.00
7	2442	5.23	30	30	36	30.00
10	2457	5.23	30	30	36	30.00
11	2462	5.23	30	30	36	30.00
12	2467	5.23	30	30	36	30.00
13	2472	5.23	30	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	13.00	13.20	12.50	17.68	30.00	-12.32
2	2417	15.30	15.20	14.40	19.76	30.00	-10.24
7	2442	19.87	20.20	19.25	24.56	30.00	-5.44
10	2457	14.60	14.50	13.90	19.12	30.00	-10.88
11	2462	12.30	12.40	11.70	16.92	30.00	-13.08
12	2467	11.00	11.20	10.40	15.65	30.00	-14.35
13	2472	1.90	1.70	1.30	6.41	30.00	-23.59

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

8.7.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

For digitally modulated systems, the power spectral density conducted form the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions.

RESULTS

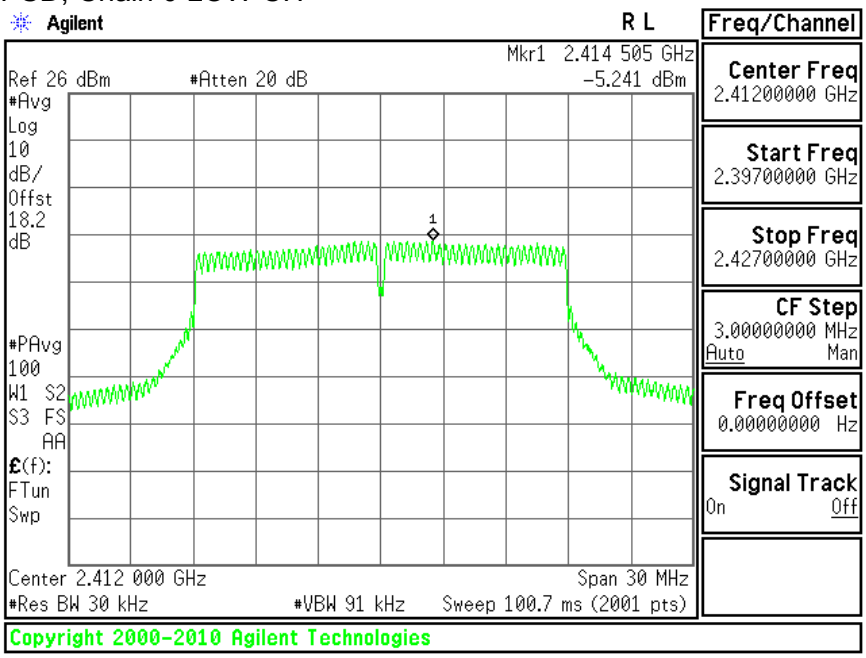
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

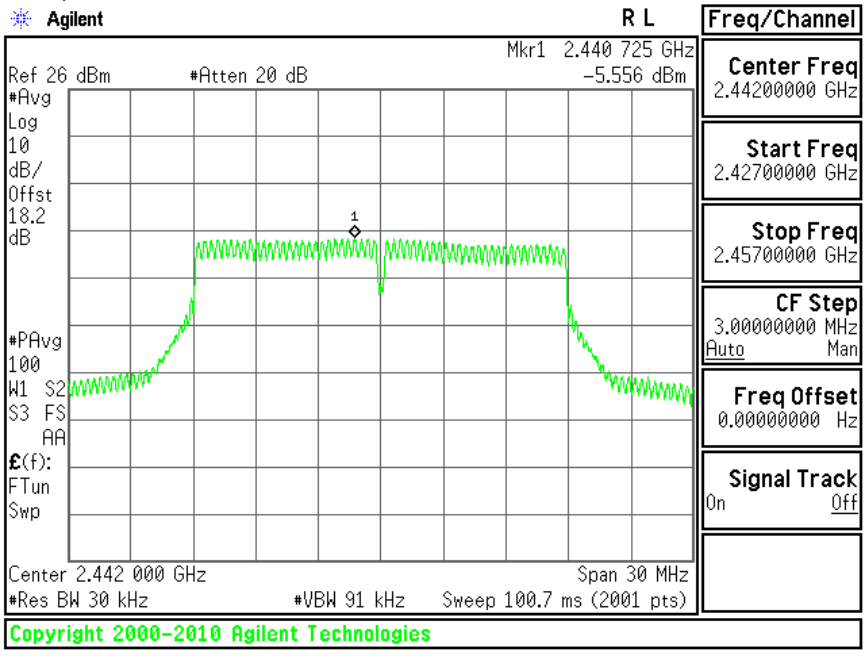
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Chain 2 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-5.241	-4.646	-5.129	-0.23	8.0	-8.2
Mid	2442	-5.556	-4.999	-5.871	-0.69	8.0	-8.7
High	2472	-4.447	-4.660	-5.259	0.00	8.0	-8.0

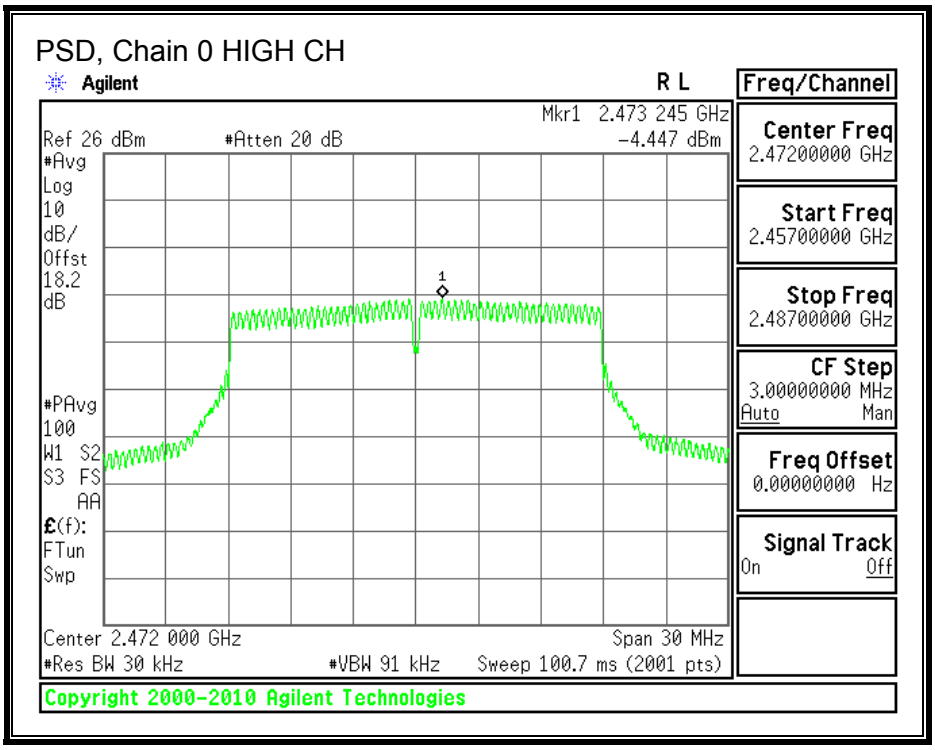
PSD, Chain 0

PSD, Chain 0 LOW CH

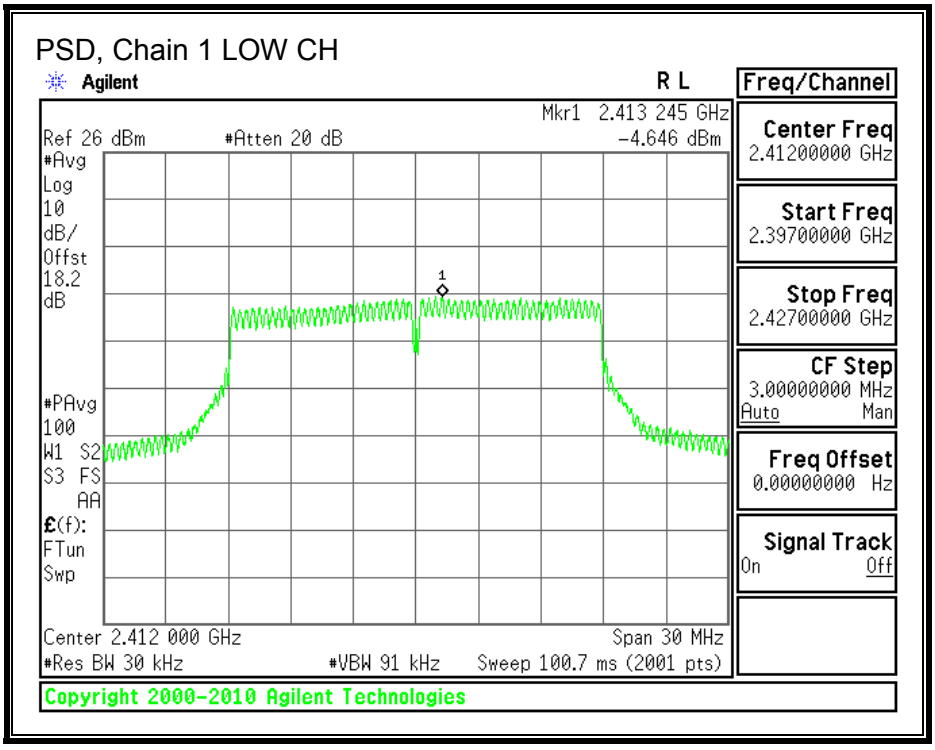


PSD, Chain 0 MID CH

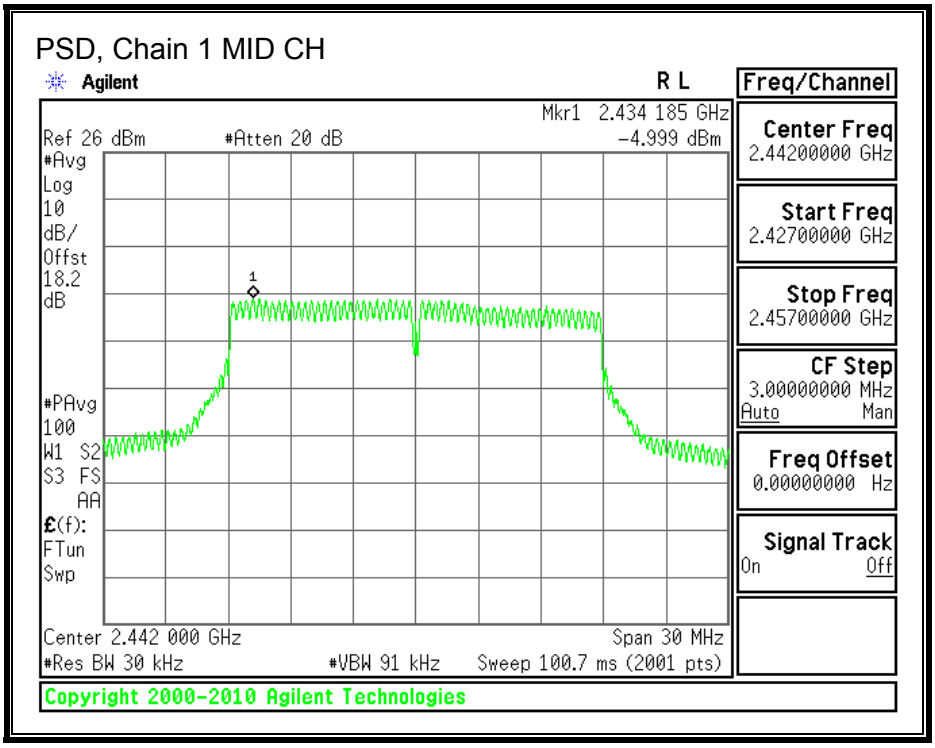




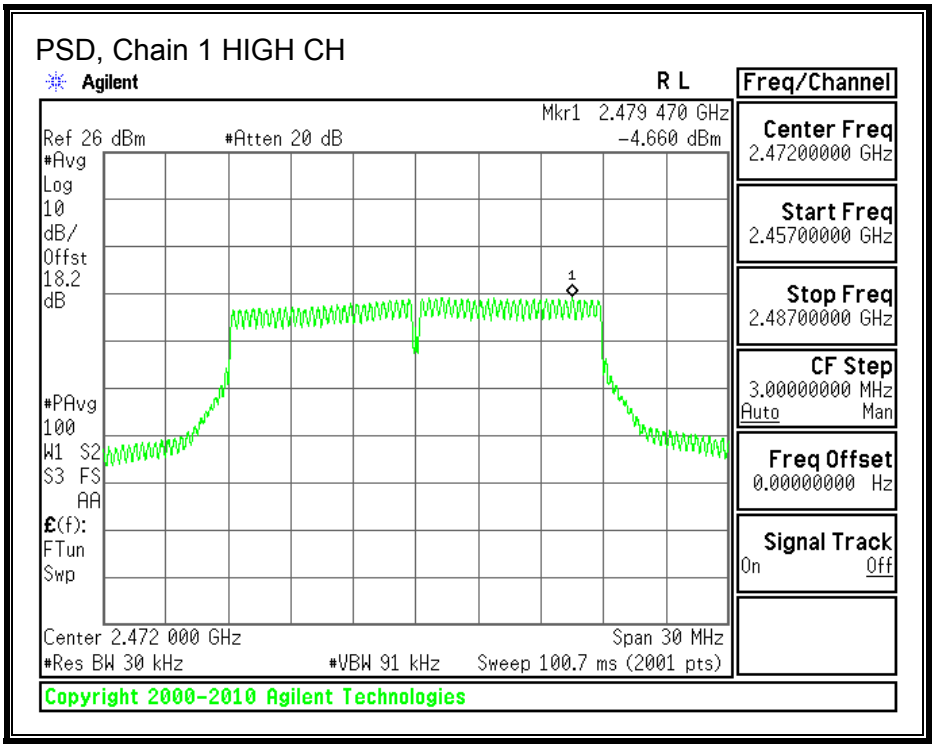
PSD, Chain 1



PSD, Chain 1 MID CH

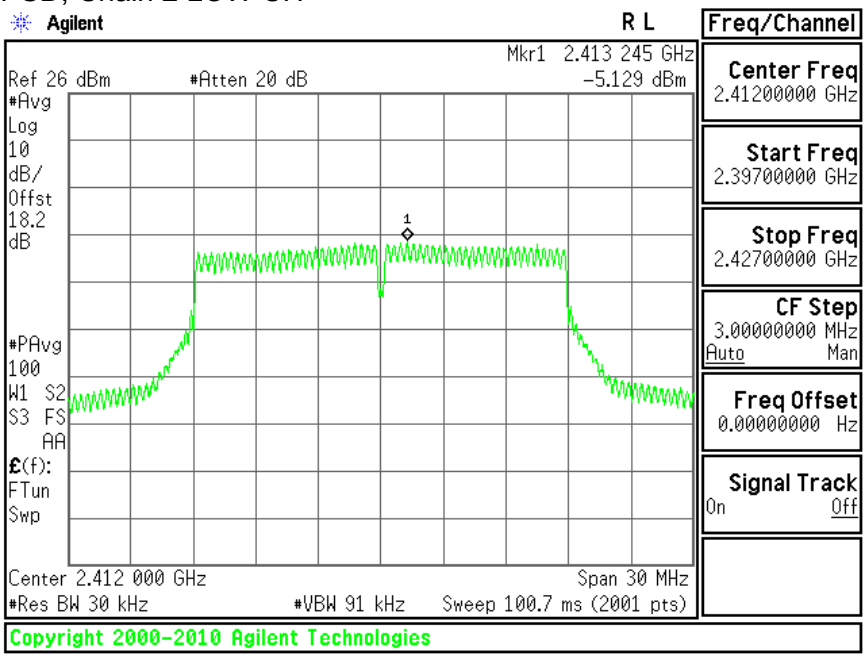


PSD, Chain 1 HIGH CH

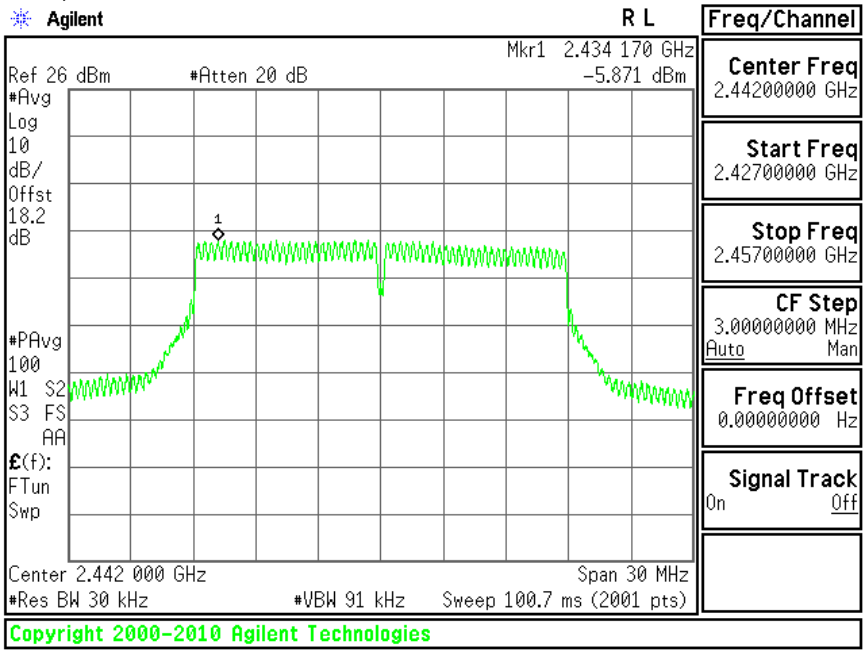


PSD, Chain 2

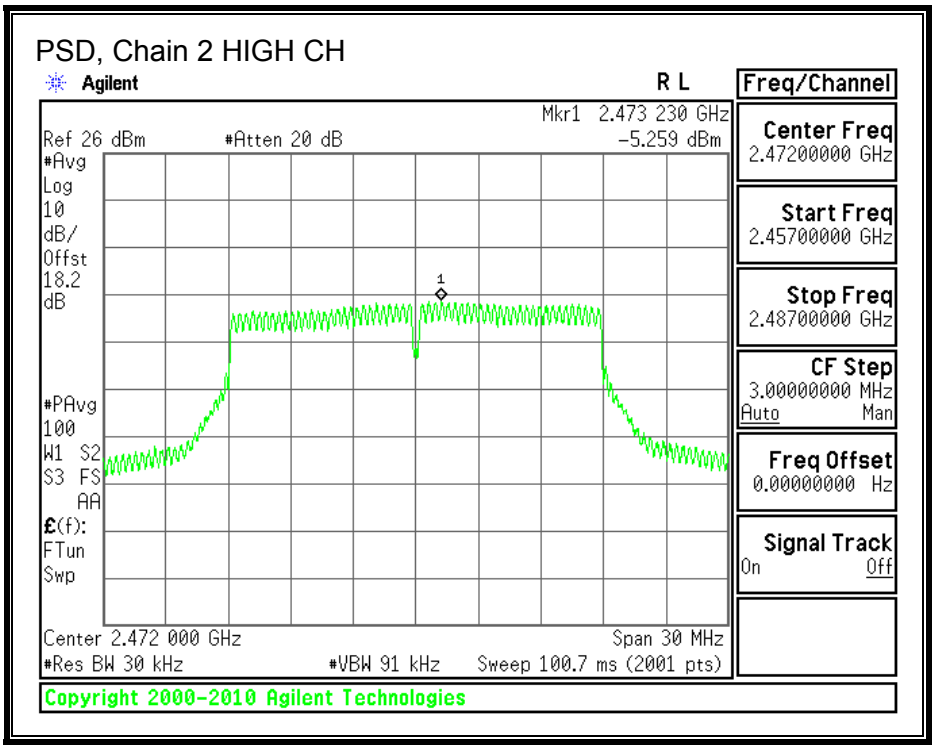
PSD, Chain 2 LOW CH



PSD, Chain 2 MID CH



PSD, Chain 2 HIGH CH



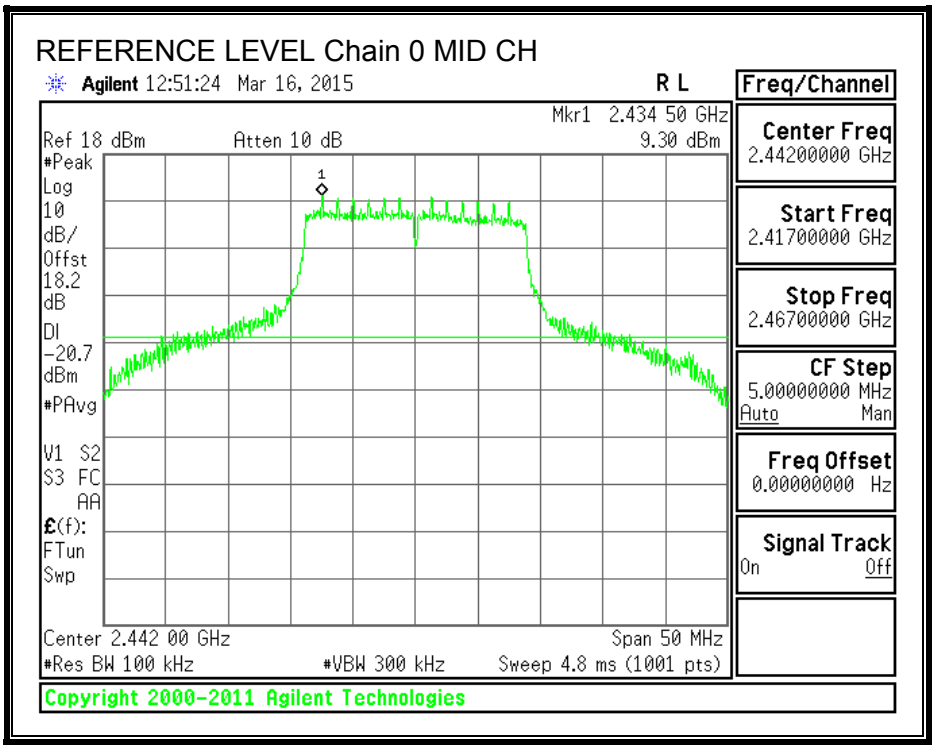
8.7.5. OUT-OF-BAND EMISSIONS

LIMITS

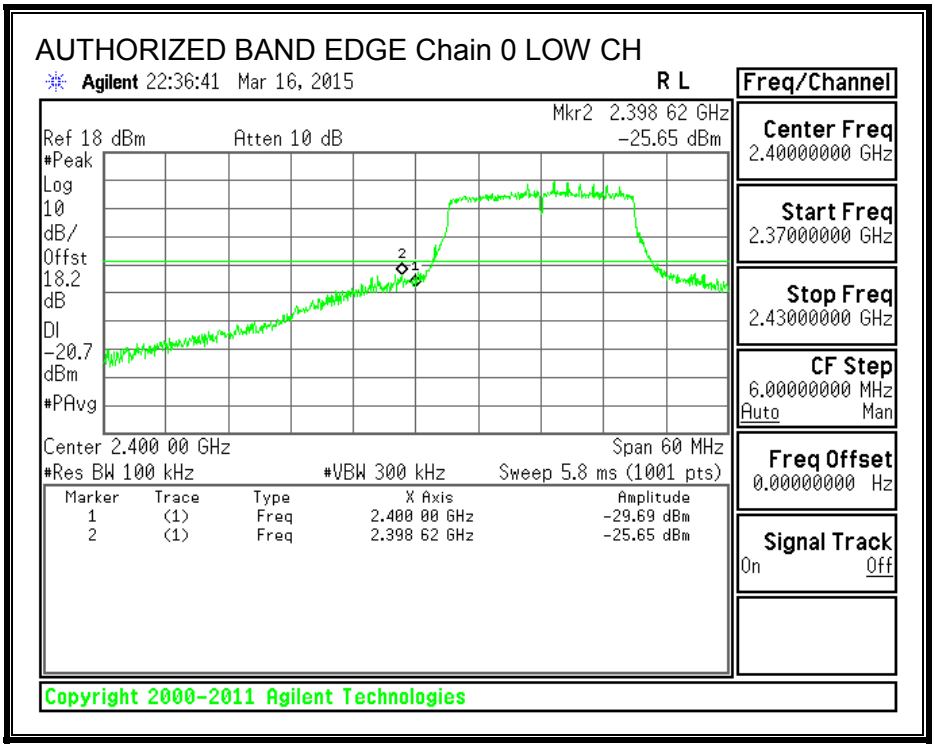
FCC §15.247 (d)

RESULTS

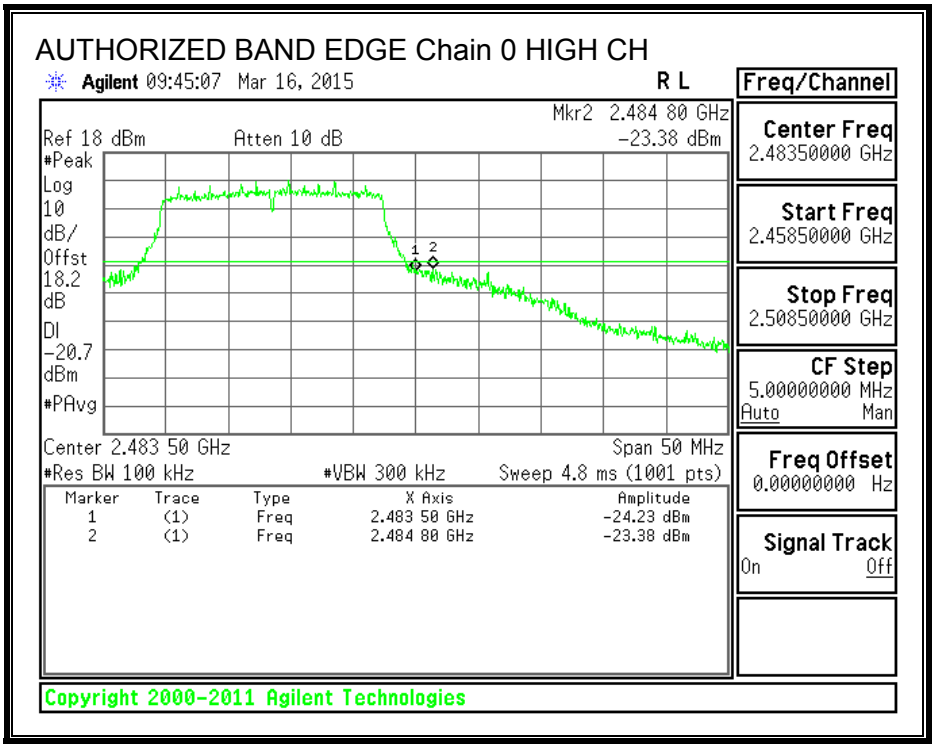
IN-BAND REFERENCE LEVEL, Chain 0



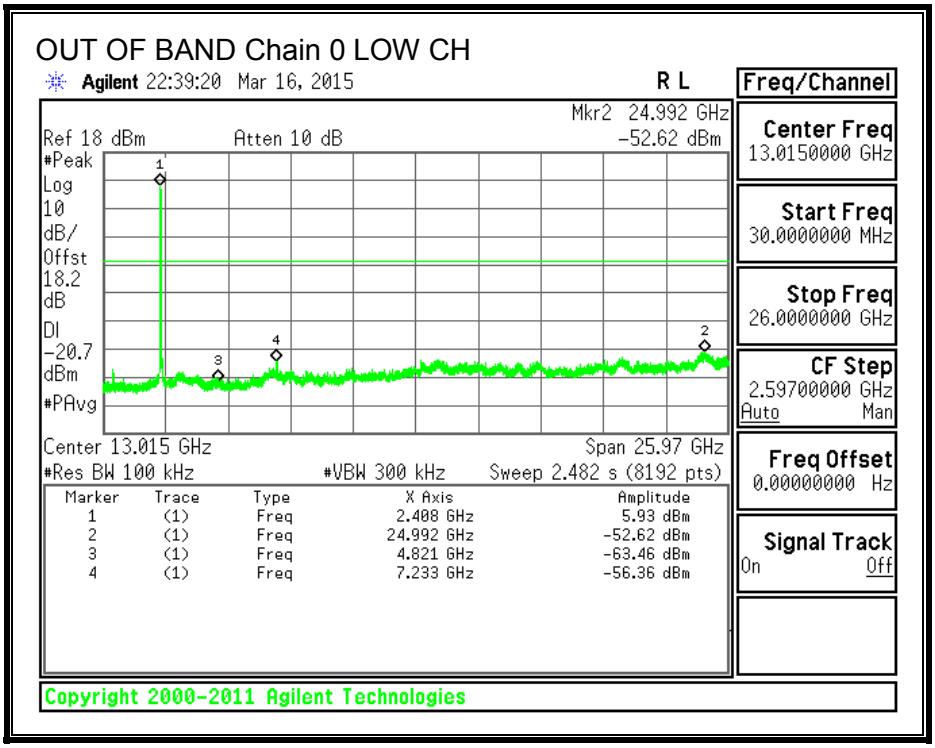
LOW CHANNEL BANDEDGE, Chain 0

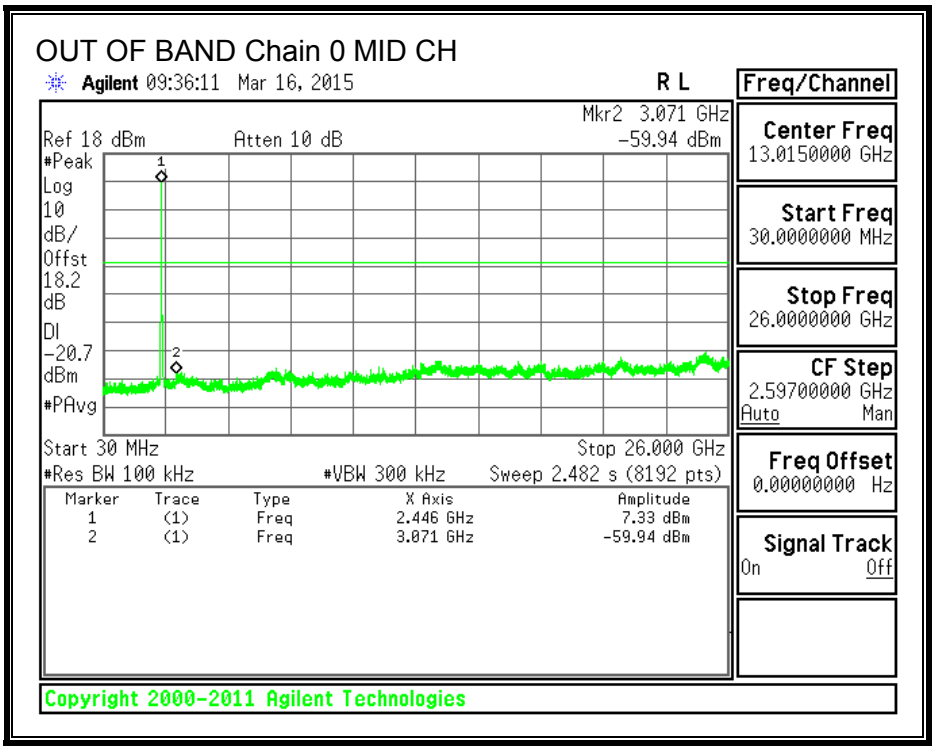


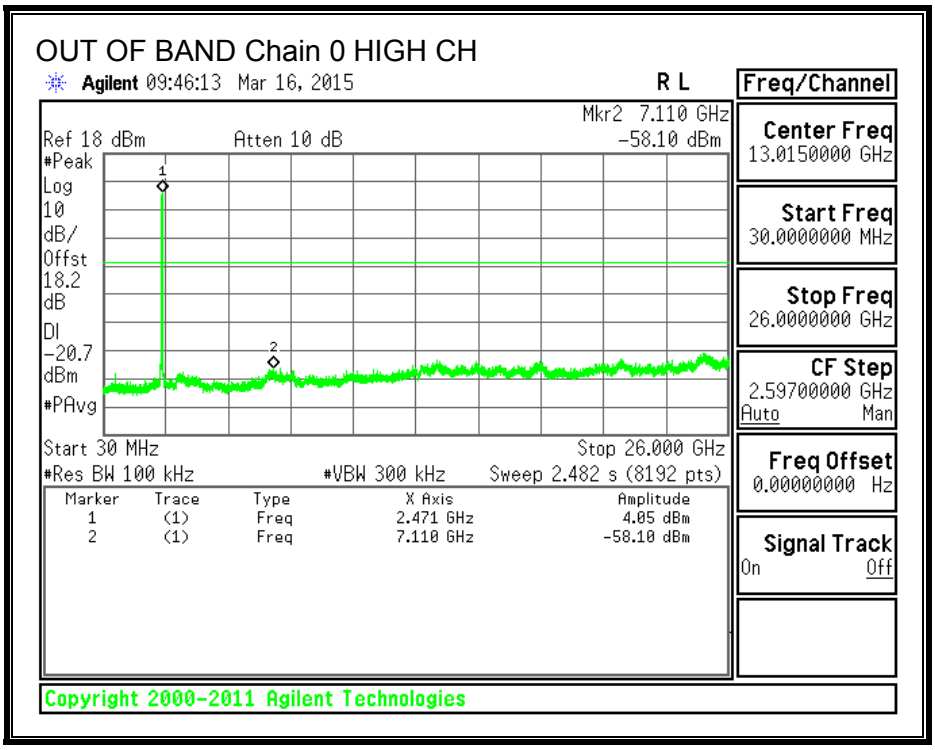
HIGH CHANNEL BANDEDGE, Chain 0



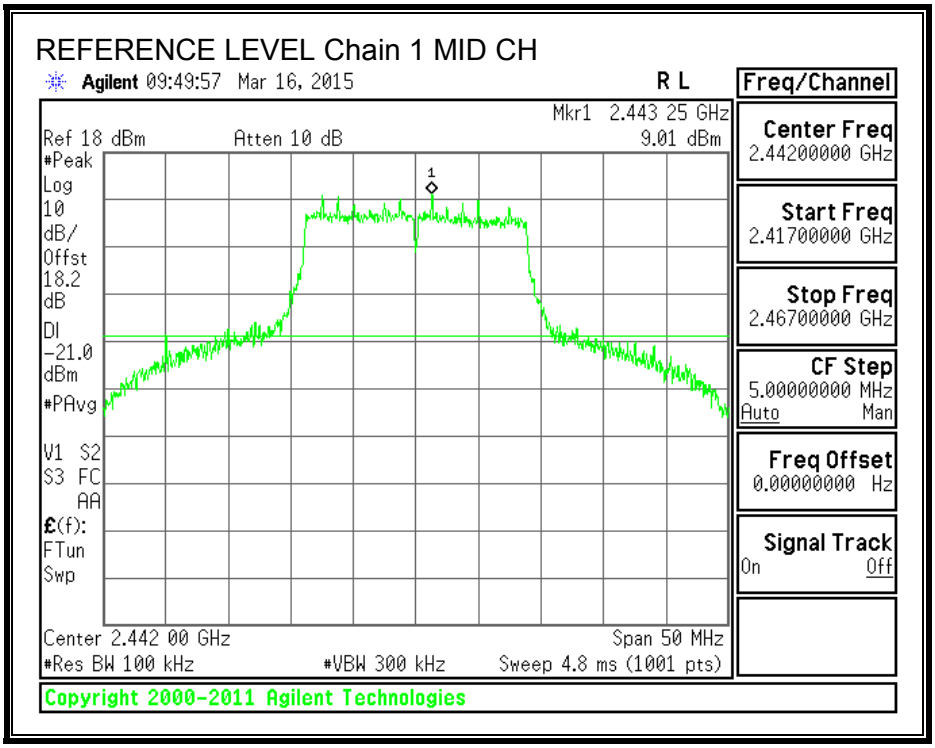
OUT-OF-BAND EMISSIONS, Chain 0



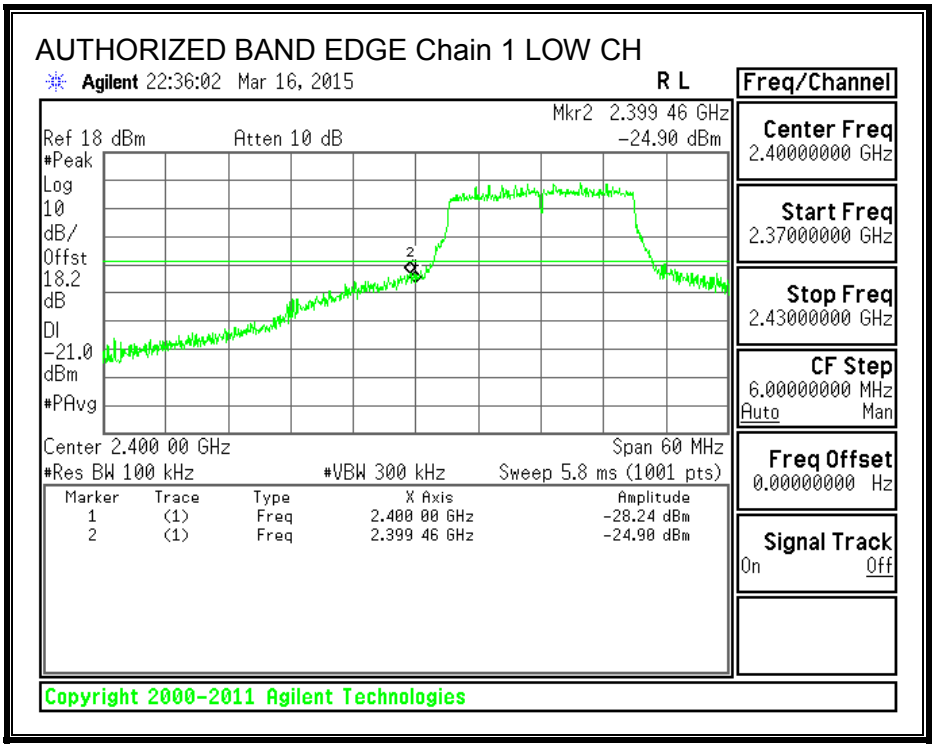




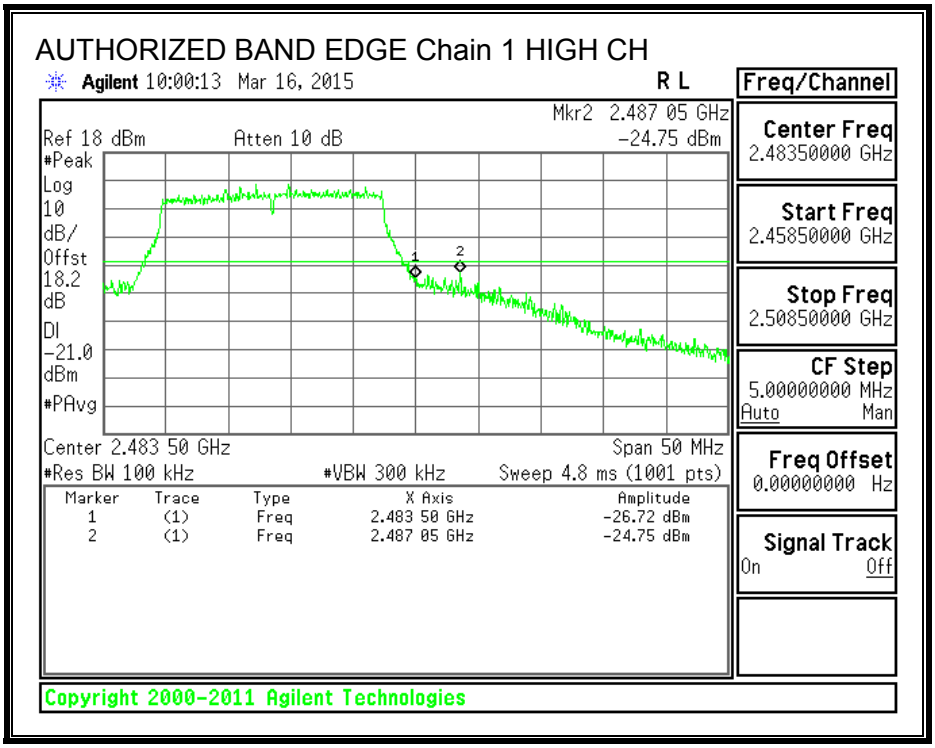
IN-BAND REFERENCE LEVEL, Chain 1



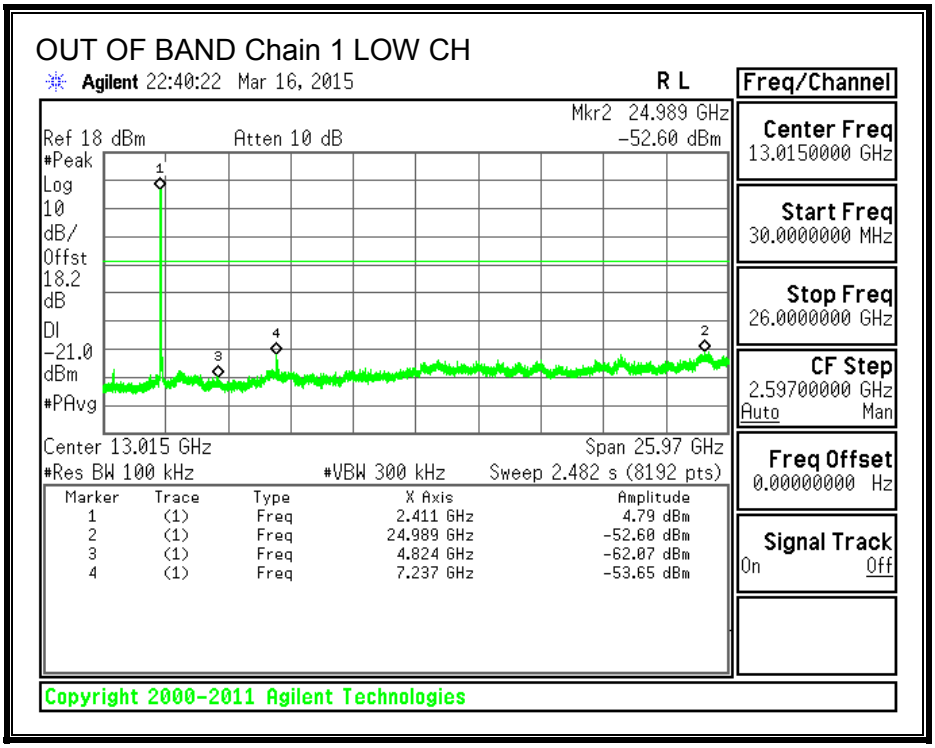
LOW CHANNEL BANDEDGE, Chain 1

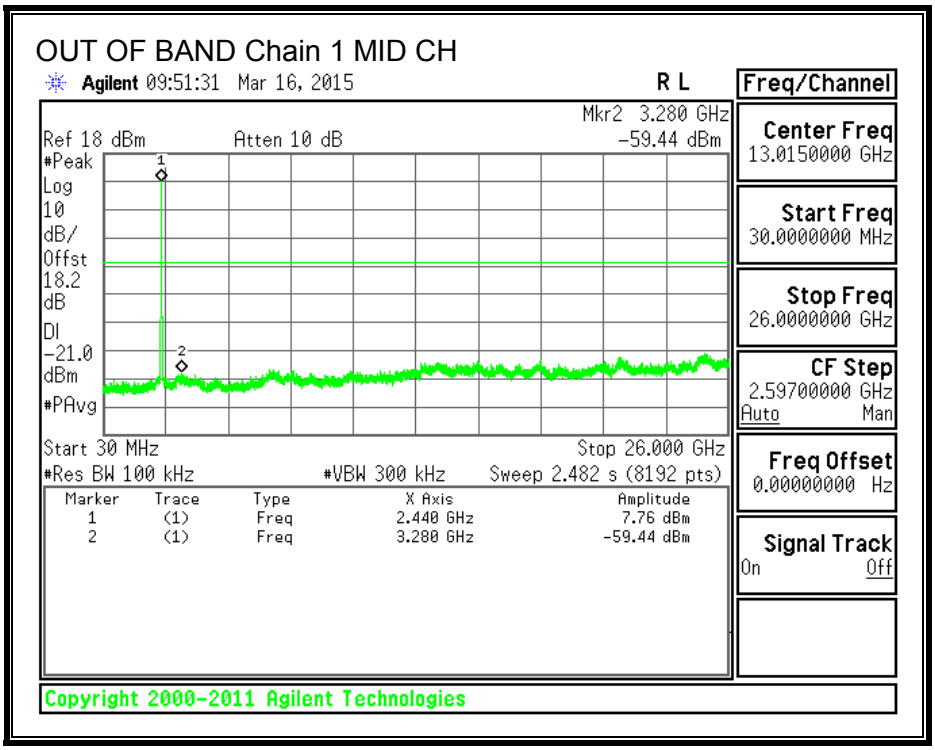


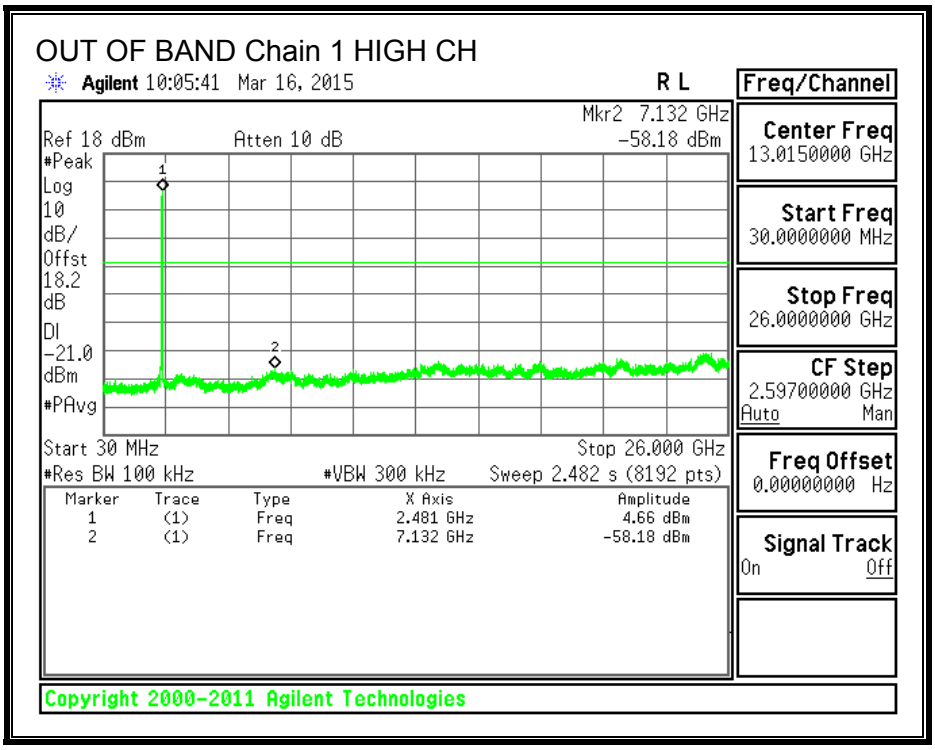
HIGH CHANNEL BANDEDGE, Chain 1



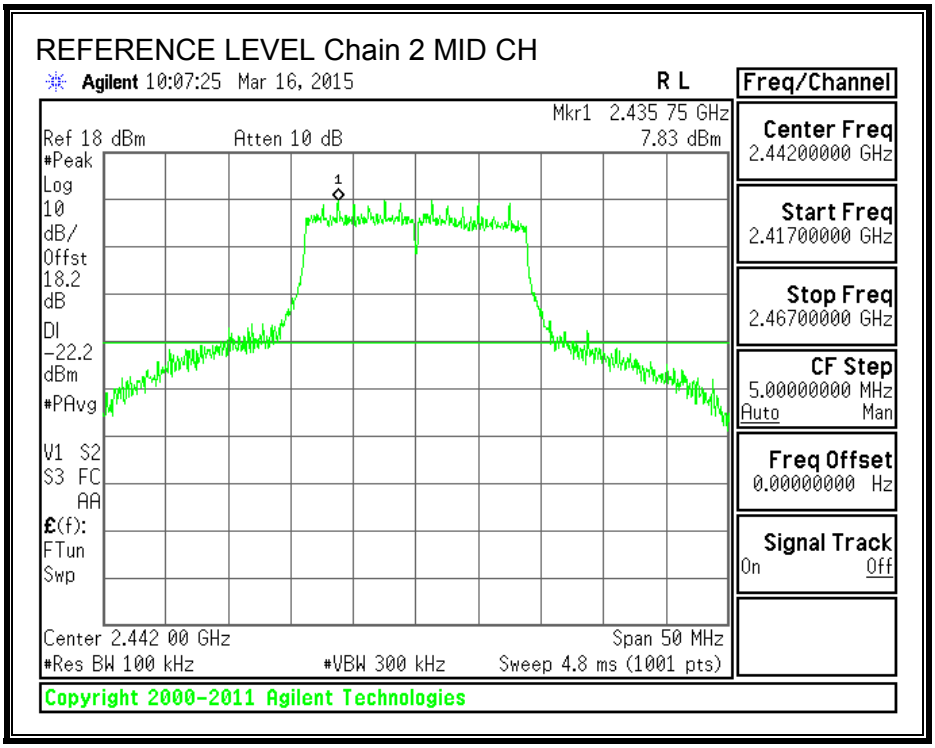
OUT-OF-BAND EMISSIONS, Chain 1



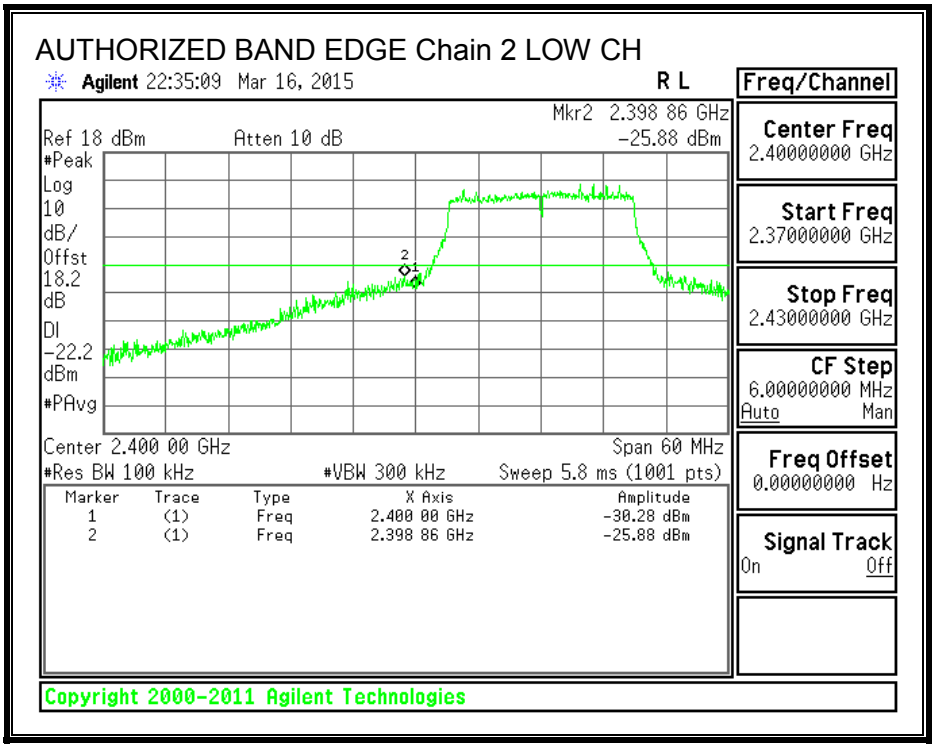




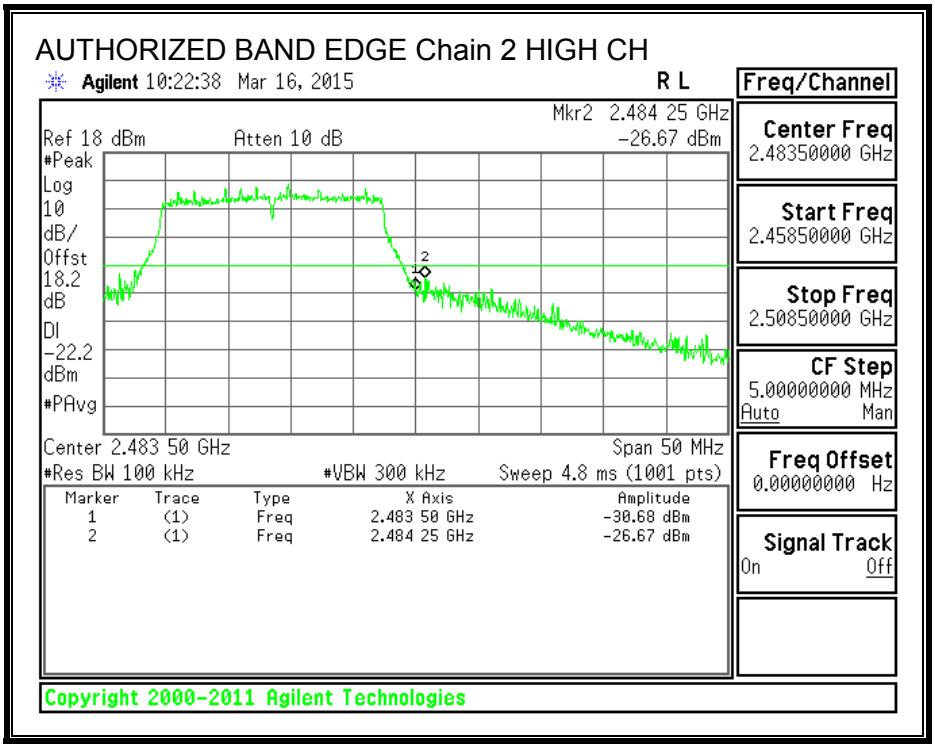
IN-BAND REFERENCE LEVEL, Chain 2



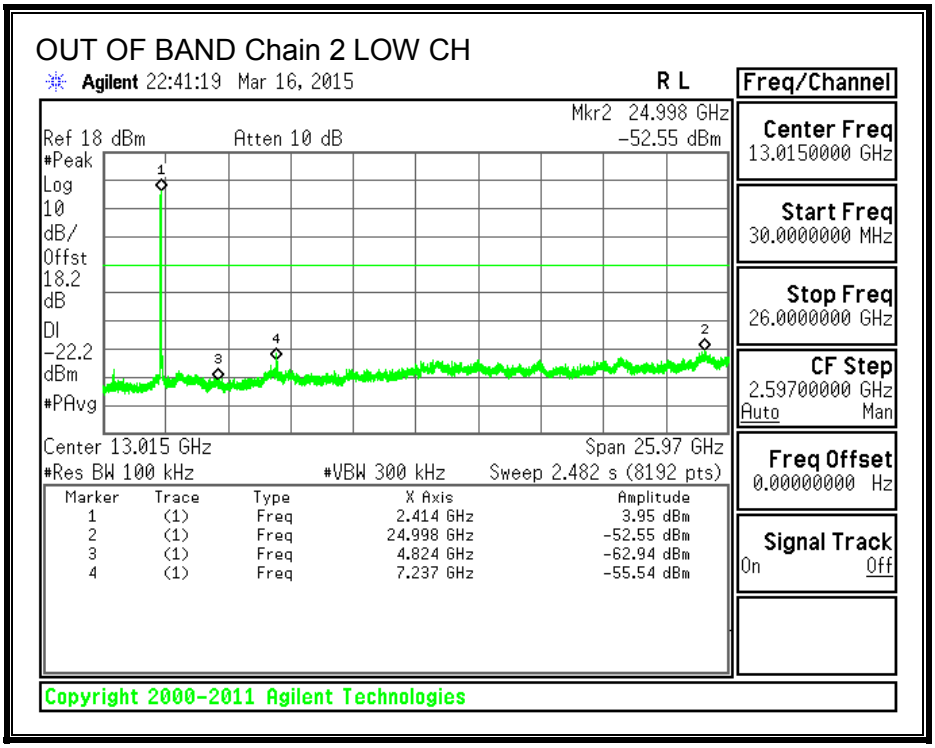
LOW CHANNEL BANDEDGE, Chain 2

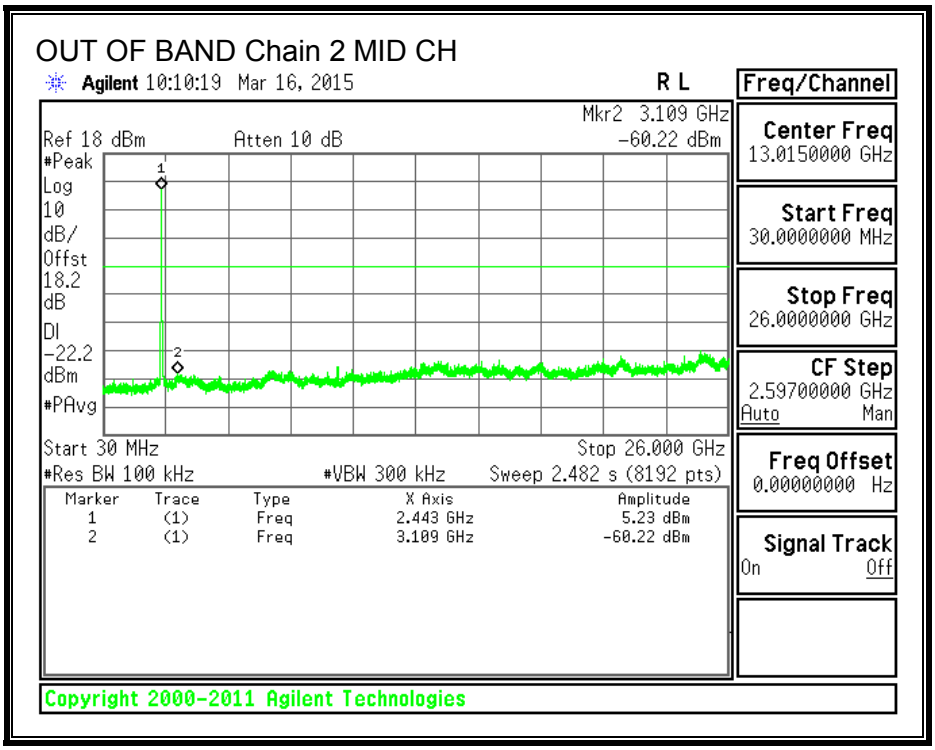


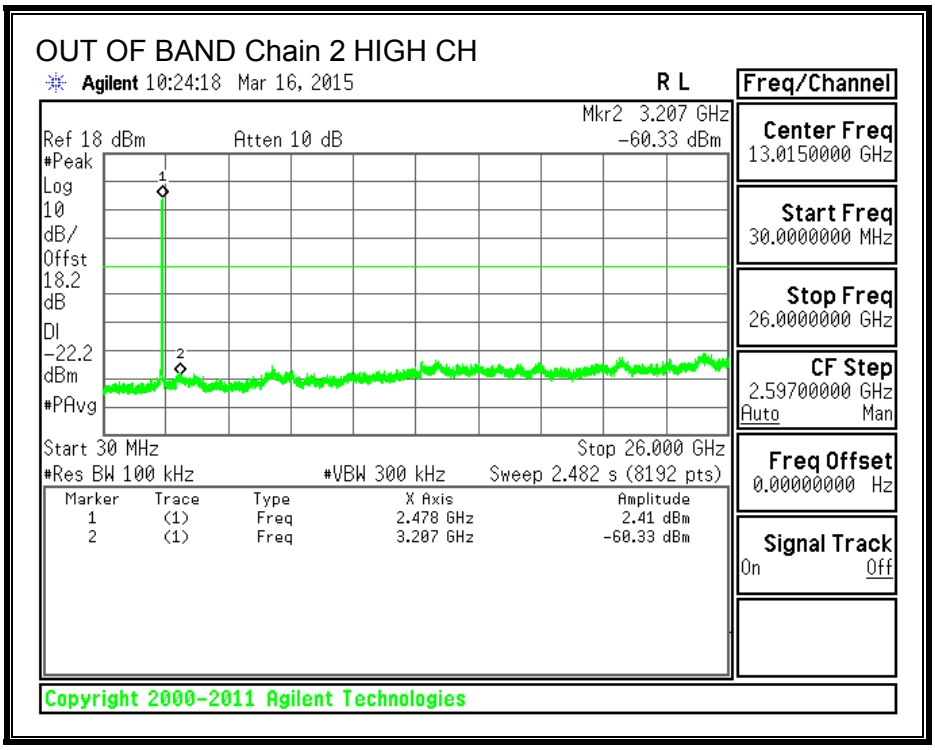
HIGH CHANNEL BANDEDGE, Chain 2



OUT-OF-BAND EMISSIONS, Chain 2







8.8. 802.11n HT20 TxBF 3TX MODE IN THE 2.4 GHz BAND

8.8.1. 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 correlated and the antenna gain is unequal among the chains. The directional gain is:

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Chain 2 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
5.90	5.33	4.32	9.98

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	9.98	26.02	30	36	26.02
2	2417	9.98	26.02	30	36	26.02
7	2442	9.98	26.02	30	36	26.02
11	2462	9.98	26.02	30	36	26.02
12	2467	9.98	26.02	30	36	26.02
13	2472	9.98	26.02	30	36	26.02

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Chain 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	11.20	11.40	10.60	15.85	26.02	-10.17
2	2417	15.30	15.20	14.60	19.82	26.02	-6.20
7	2442	19.87	20.20	19.25	24.56	26.02	-1.46
10	2457	14.40	14.50	13.80	19.02	26.02	-7.00
11	2462	11.80	11.90	11.10	16.39	26.02	-9.63
12	2467	11.60	11.70	11.00	16.22	26.02	-9.80
13	2472	-4.00	-4.00	-4.10	0.74	26.02	-25.28

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

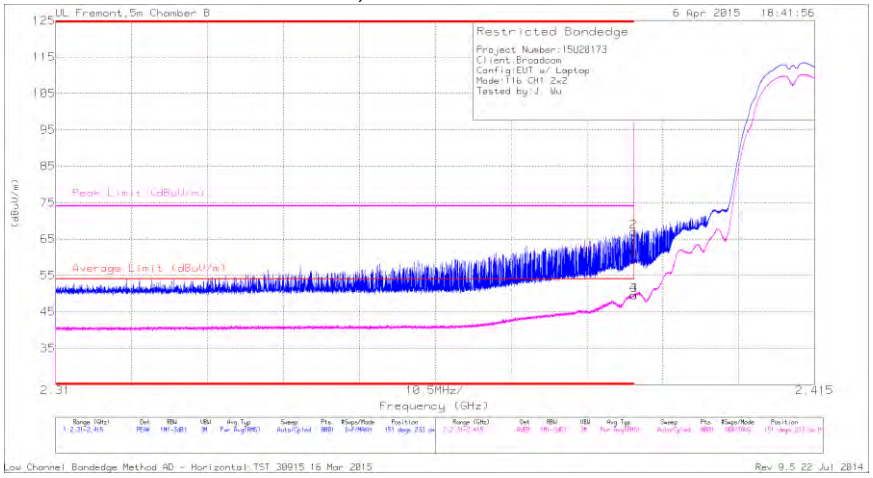
FCC §15.205 and §15.209

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

9.2. TX ABOVE 1 GHz 802.11b CDD 2Tx MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1)

CHANNEL1 RESTRICTED, HORIZ



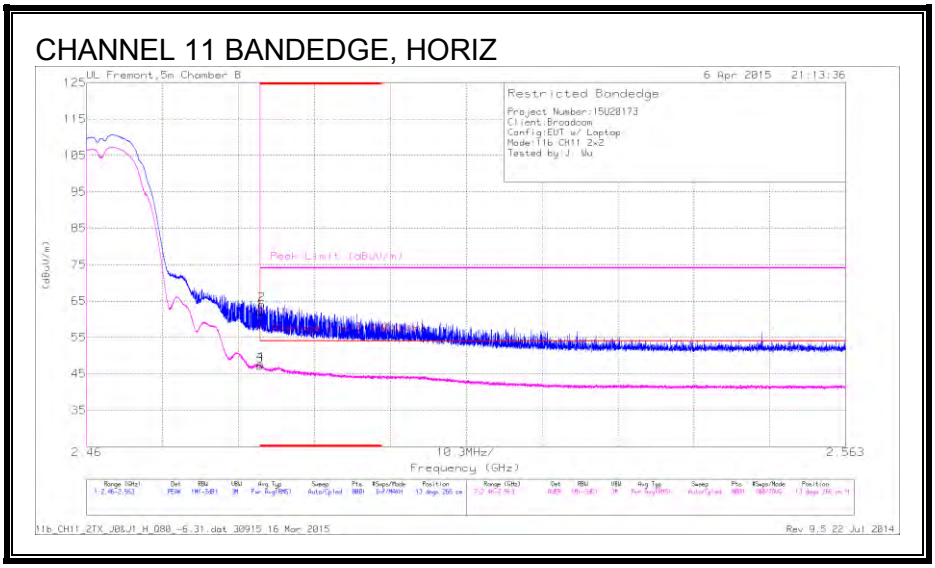
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	50.51	PK	32	-20.9	0	61.61	-	-	74	-12.39	151	233	H
2	* 2.39	55.81	PK	32	-20.9	0	66.91	-	-	74	-7.09	151	233	H
3	* 2.39	38.46	RMS	32	-20.9	0	49.56	54	-4.44	-	-	151	233	H
4	* 2.39	38.42	RMS	32	-20.9	0	49.52	54	-4.48	-	-	151	233	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11)



Trace Markers

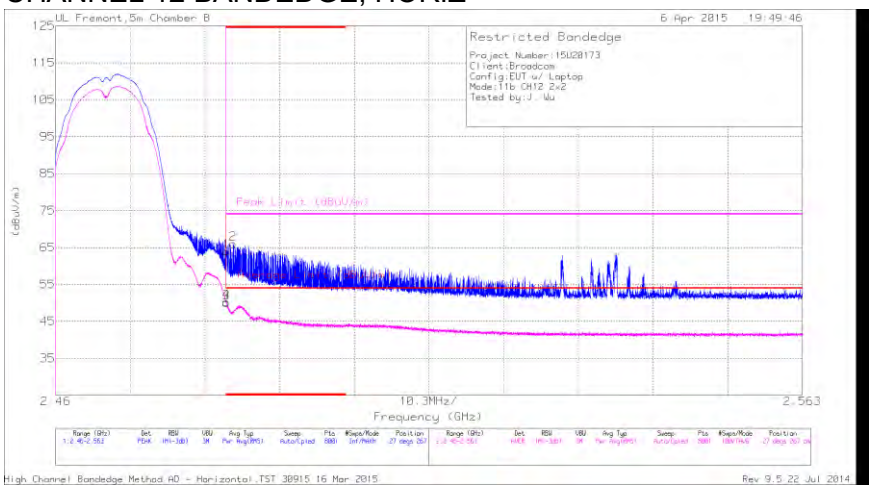
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	50.46	PK	32.5	-20.9	0	62.06	-	-	74	-11.94	13	266	H
2	* 2.484	52.42	PK	32.5	-20.9	0	64.02	-	-	74	-9.98	13	266	H
3	* 2.484	35.65	RMS	32.5	-20.9	0	47.25	54	-6.75	-	-	13	266	H
4	* 2.484	36.09	RMS	32.5	-20.9	0	47.69	54	-6.31	-	-	13	266	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 12)

CHANNEL 12 BANDEDGE, HORIZ



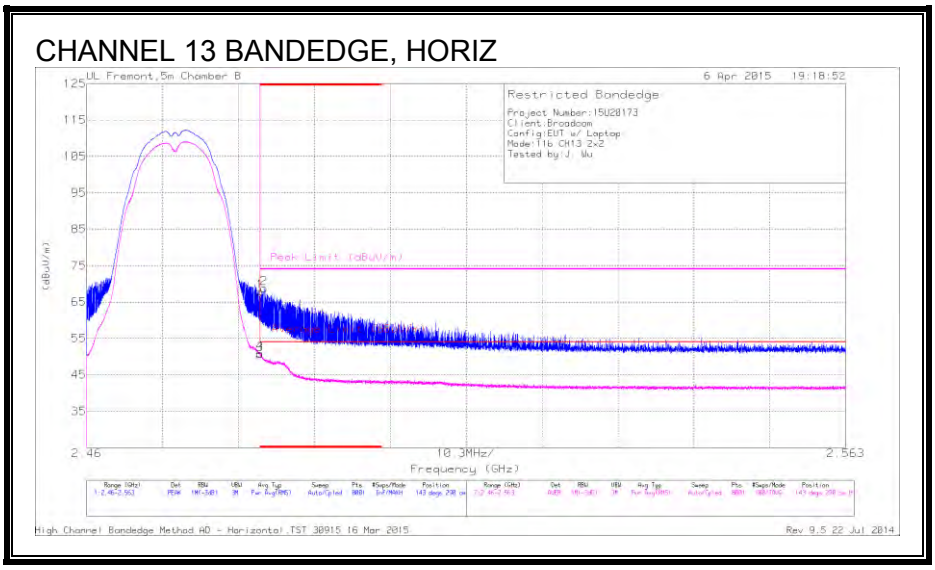
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.34	PK	32.5	-20.9	0	63.94	-	-	74	-10.06	27	267	H
2	* 2.484	54.4	PK	32.5	-20.9	0	66	-	-	74	-8	27	267	H
3	* 2.484	38.45	RMS	32.5	-20.9	0	50.05	54	-3.95	-	-	27	267	H
4	* 2.484	38.7	RMS	32.5	-20.9	0	50.3	54	-3.7	-	-	27	267	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 13)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	56.37	PK	32.5	-20.9	0	67.97	-	-	74	-6.03	143	290	H
2	* 2.484	57.22	PK	32.5	-20.9	0	68.82	-	-	74	-5.18	143	290	H
3	* 2.484	39.02	RMS	32.5	-20.9	0	50.62	54	-3.38	-	-	143	290	H
4	* 2.484	39.29	RMS	32.5	-20.9	0	50.89	54	-3.11	-	-	143	290	H

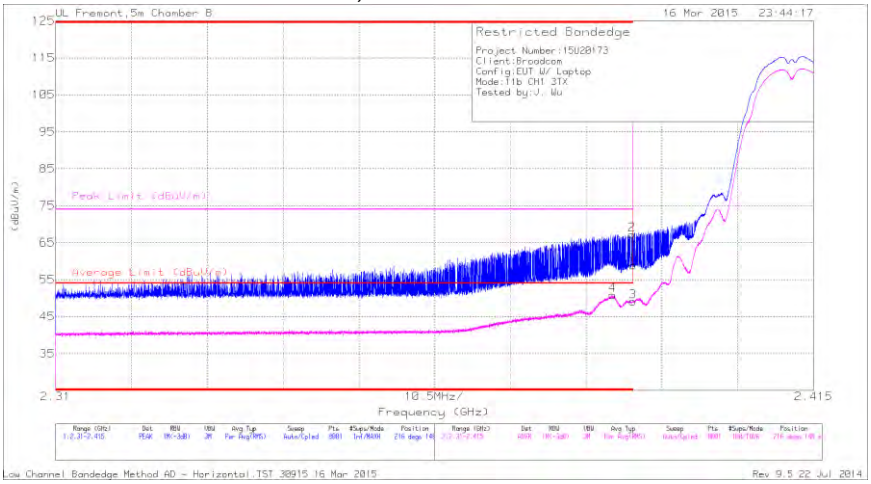
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector
RMS - RMS detection

9.3. TX ABOVE 1 GHz 802.11b CDD 3Tx MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1)

CHANNEL1 RESTRICTED, HORIZ



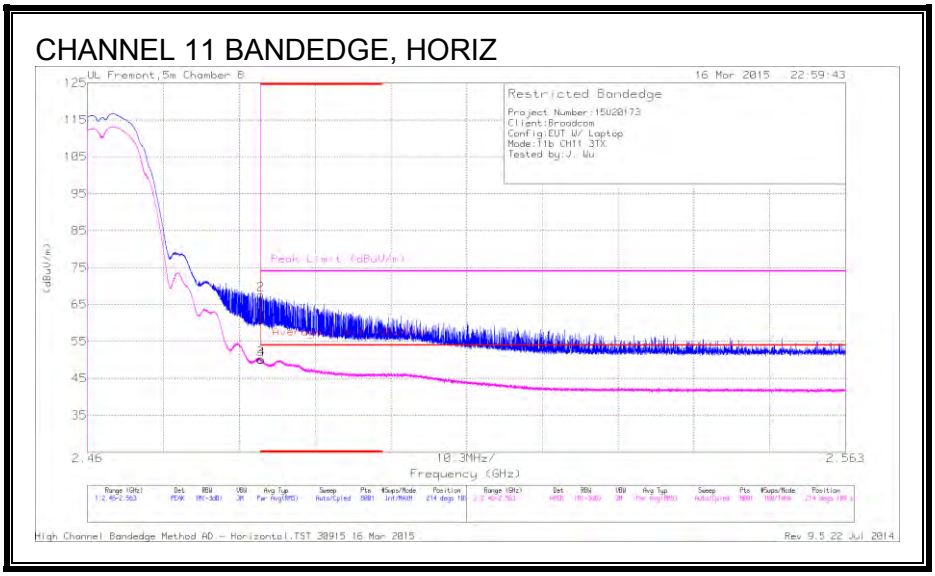
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.387	39.75	RMS	32	-20.9	50.85	54	-3.15	-	-	216	148	H
1	* 2.39	47.83	PK	32	-20.9	58.93	-	-	74	-15.07	216	148	H
2	* 2.39	56.08	PK	32	-20.9	67.18	-	-	74	-6.82	216	148	H
3	* 2.39	38.01	RMS	32	-20.9	49.11	54	-4.89	-	-	216	148	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11)



Trace Markers

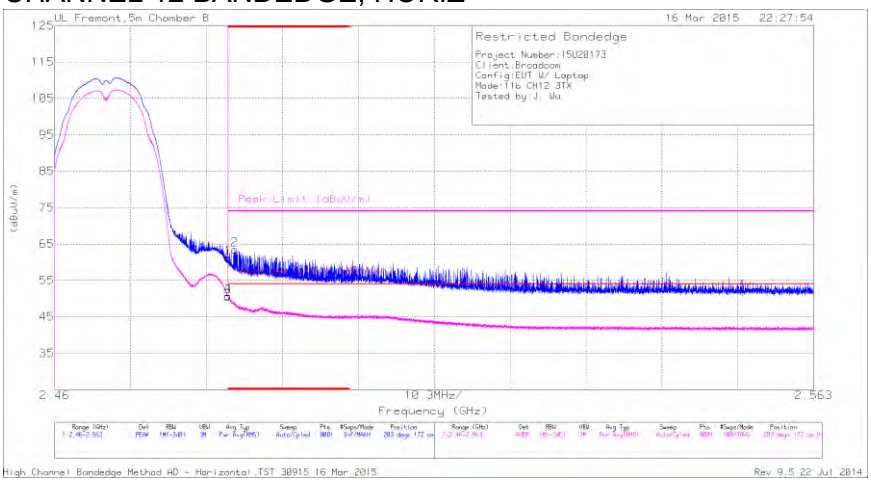
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	49.25	PK	32.5	-20.9	0	60.85	-	-	74	-13.15	214	109	H
2	* 2.484	56.09	PK	32.5	-20.9	0	67.69	-	-	74	-6.31	214	109	H
3	* 2.484	38.63	RMS	32.5	-20.9	0	50.23	54	-3.77	-	-	214	109	H
4	* 2.484	38.47	RMS	32.5	-20.9	0	50.07	54	-3.93	-	-	214	109	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 12)

CHANNEL 12 BANDEDGE, HORIZ



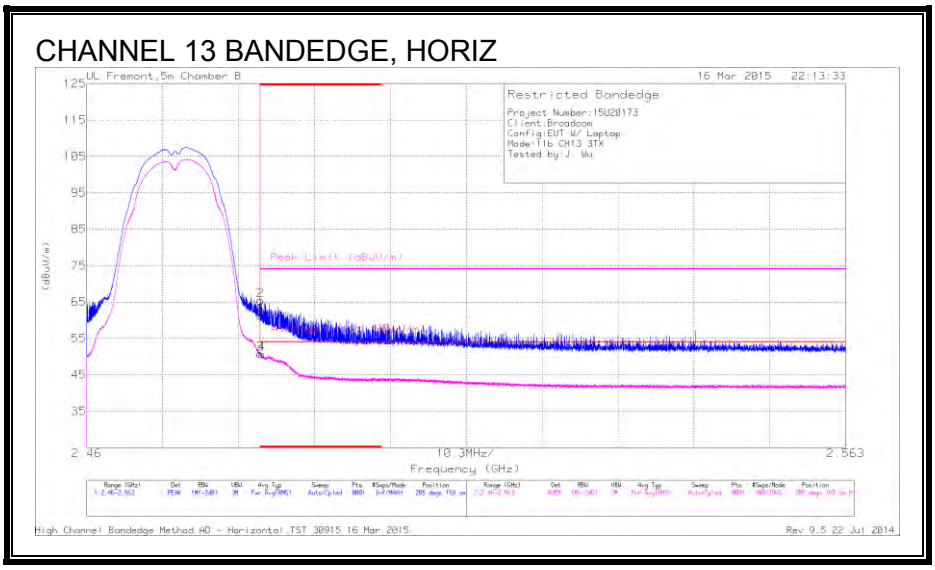
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	49.58	PK	32.5	-20.9	0	61.18	-	-	74	-12.82	203	172	H
2	* 2.484	51.84	PK	32.5	-20.9	0	63.44	-	-	74	-10.56	203	172	H
3	* 2.484	38.99	RMS	32.5	-20.9	0	50.59	54	-3.41	-	-	203	172	H
4	* 2.484	39.1	RMS	32.5	-20.9	0	50.7	54	-3.3	-	-	203	172	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 13)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	49.63	PK	32.5	-20.9	0	61.23	-	-	74	-12.77	205	169	H
2	* 2.484	53.78	PK	32.5	-20.9	0	65.38	-	-	74	-8.62	205	169	H
3	* 2.484	39.13	RMS	32.5	-20.9	0	50.73	54	-3.27	-	-	205	169	H
4	* 2.484	39.08	RMS	32.5	-20.9	0	50.68	54	-3.32	-	-	205	169	H

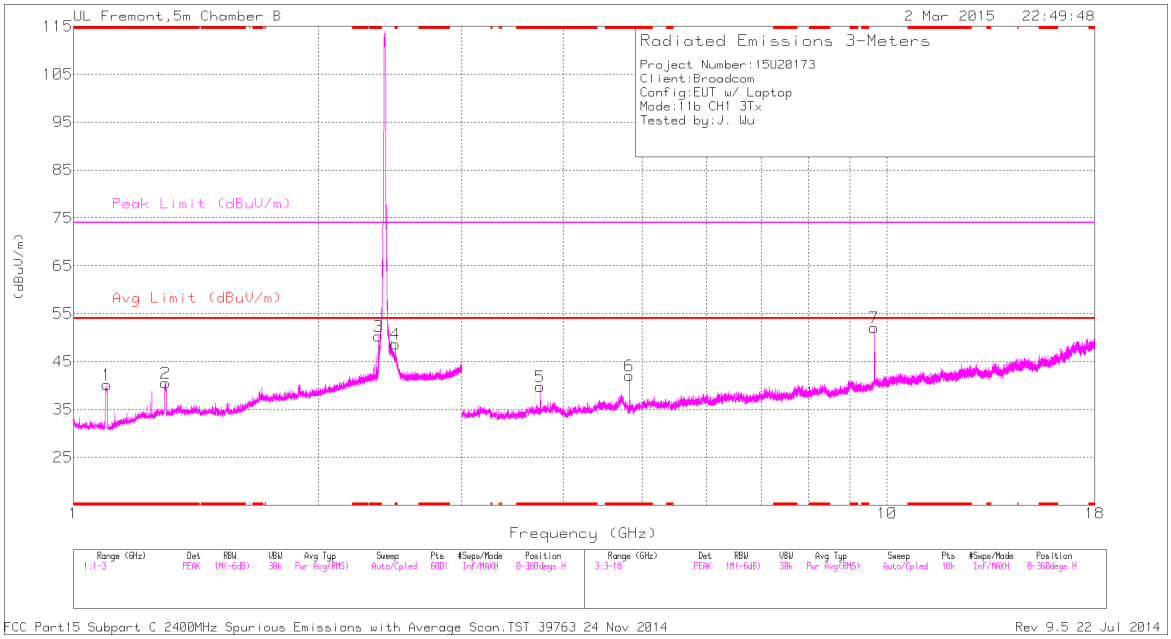
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector
RMS - RMS detection

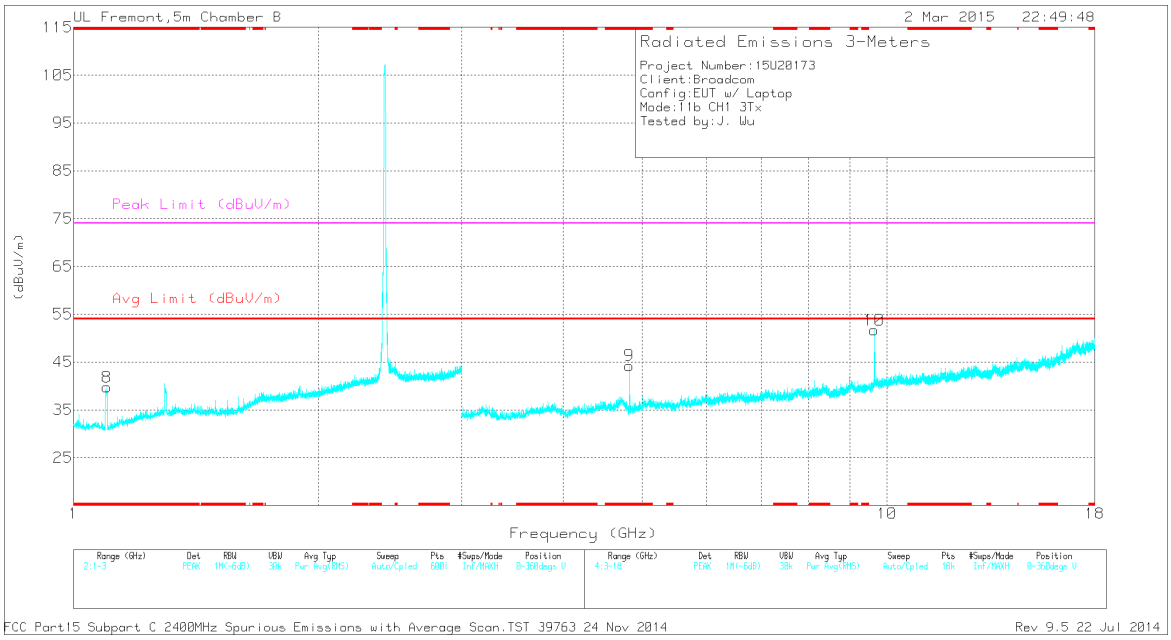
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/ Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.098	43.21	PK2	26.6	-22.9	46.91	-	-	74	-27.09	241	222	H
	* 1.099	33.05	MAv1	26.6	-22.9	36.75	54	-17.25	-	-	241	222	H
2	* 1.295	41.75	PK2	28.4	-22.1	48.05	-	-	74	-25.95	152	282	H
	* 1.294	30.4	MAv1	28.4	-22	36.8	54	-17.2	-	-	152	282	H
3	** 2.372	39.15	PK	32.1	-20.9	50.35	-	-	74	-23.65	0-360	101	H
4	** 2.487	37.49	PK	32.1	-20.9	48.69	-	-	74	-25.31	0-360	199	H
8	* 1.097	41.88	PK2	26.6	-22.9	45.58	-	-	74	-28.42	270	205	V
	* 1.099	32.03	MAv1	26.6	-22.9	35.73	54	-18.27	-	-	270	205	V
5	* 3.755	41.46	PK2	33.1	-31.1	43.46	-	-	74	-30.54	167	234	H
	* 3.746	29.58	MAv1	33.1	-31.1	31.58	54	-22.42	-	-	167	234	H
6	* 4.824	44.32	PK2	33.9	-29.7	48.52	-	-	74	-25.48	197	226	H
	* 4.824	39.28	MAv1	33.9	-29.7	43.48	54	-10.52	-	-	197	226	H
9	* 4.824	44.51	PK2	33.9	-29.7	48.71	-	-	74	-25.29	217	261	V
	* 4.824	39.64	MAv1	33.9	-29.7	43.84	54	-10.16	-	-	217	261	V
7	9.647	39.02	PK	36.8	-23.8	52.02	-	-	-	-	0-360	200	H
10	9.647	38.67	PK	36.8	-23.8	51.67	-	-	-	-	0-360	200	V

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

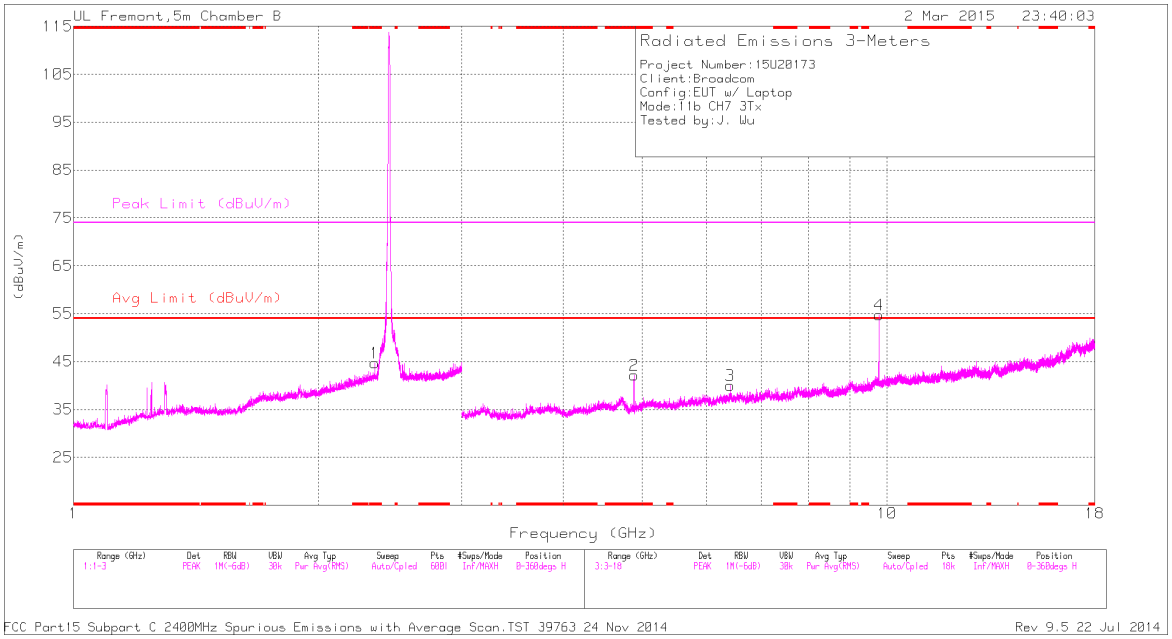
** - indicates frequency covered by BE measurement

-Compliance for emissions in non-restricted bands is shown in conducted out of band testing.

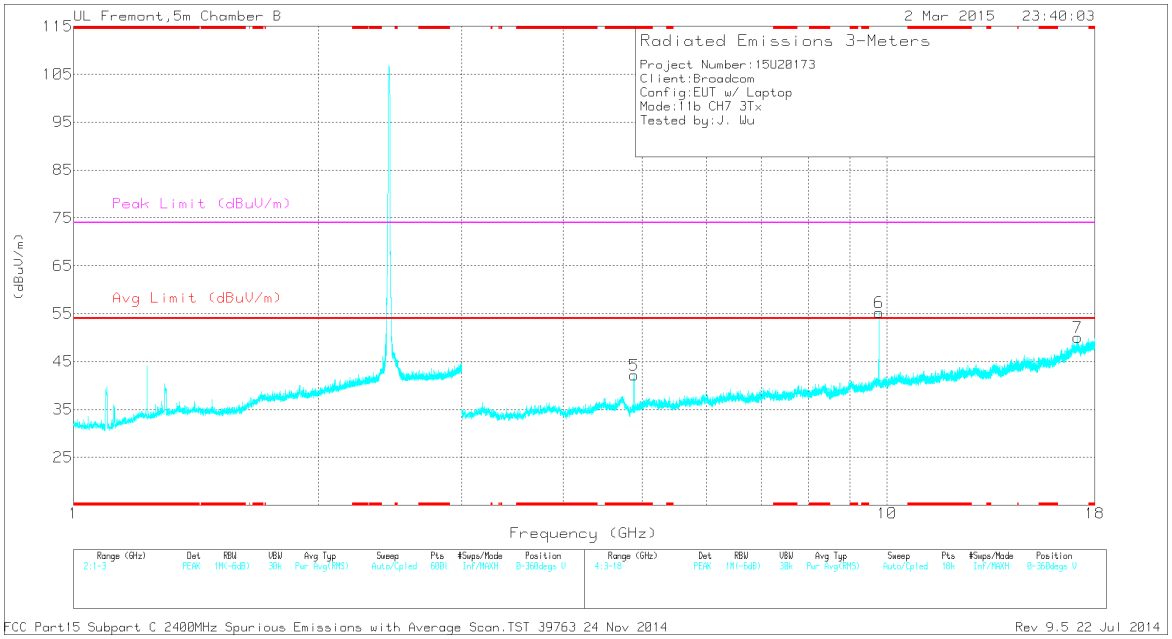
PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	** 2.346	33.63	PK	32	-20.9	44.73	-	-	74	-29.27	0-360	199	H
2	* 4.884	43.8	PK2	33.8	-30.4	47.2	-	-	74	-26.8	199	223	H
	* 4.884	37.29	MAv1	33.8	-30.4	40.69	54	-13.31	-	-	199	223	H
5	* 4.884	43.52	PK2	33.8	-30.4	46.92	-	-	74	-27.08	218	110	V
	* 4.884	37.73	MAv1	33.8	-30.4	41.13	54	-12.87	-	-	218	110	V
3	6.413	33.86	PK	35.3	-29.1	40.06	-	-	-	-	0-360	101	H
4	9.768	41.89	PK	36.9	-24	54.79	-	-	-	-	0-360	200	H
6	9.768	42.35	PK	36.9	-24	55.25	-	-	-	-	0-360	200	V
7	17.145	27.29	PK	42.9	-20.2	49.99	-	-	-	-	0-360	200	V

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

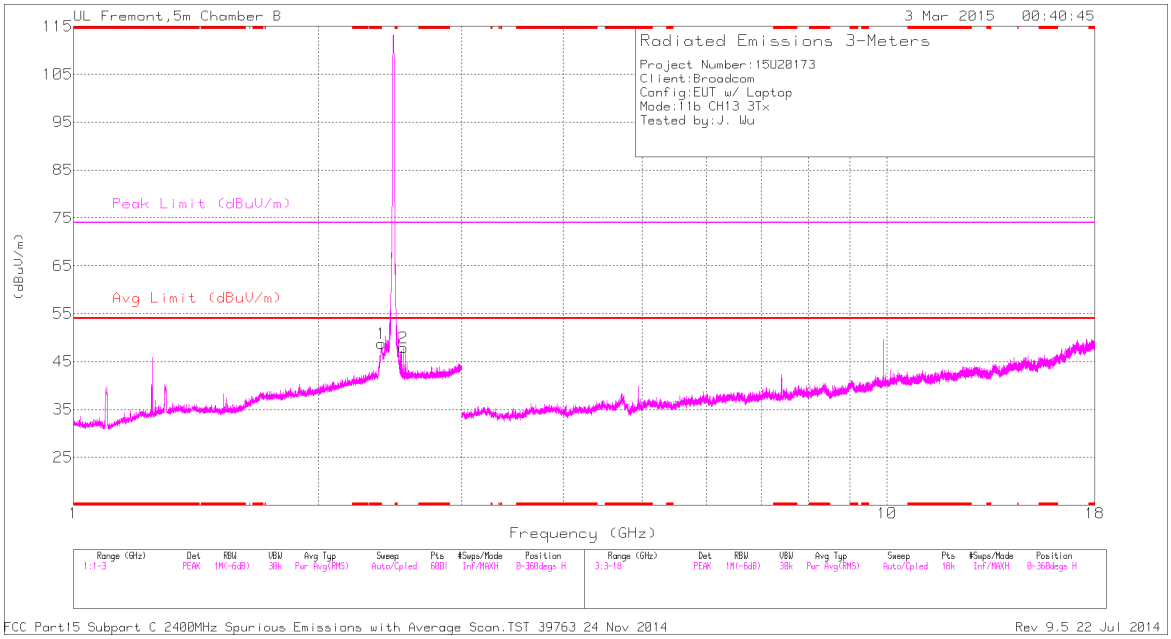
** - indicates frequency covered by BE measurement

-Compliance for emissions in non-restricted bands is shown in conducted out of band testing

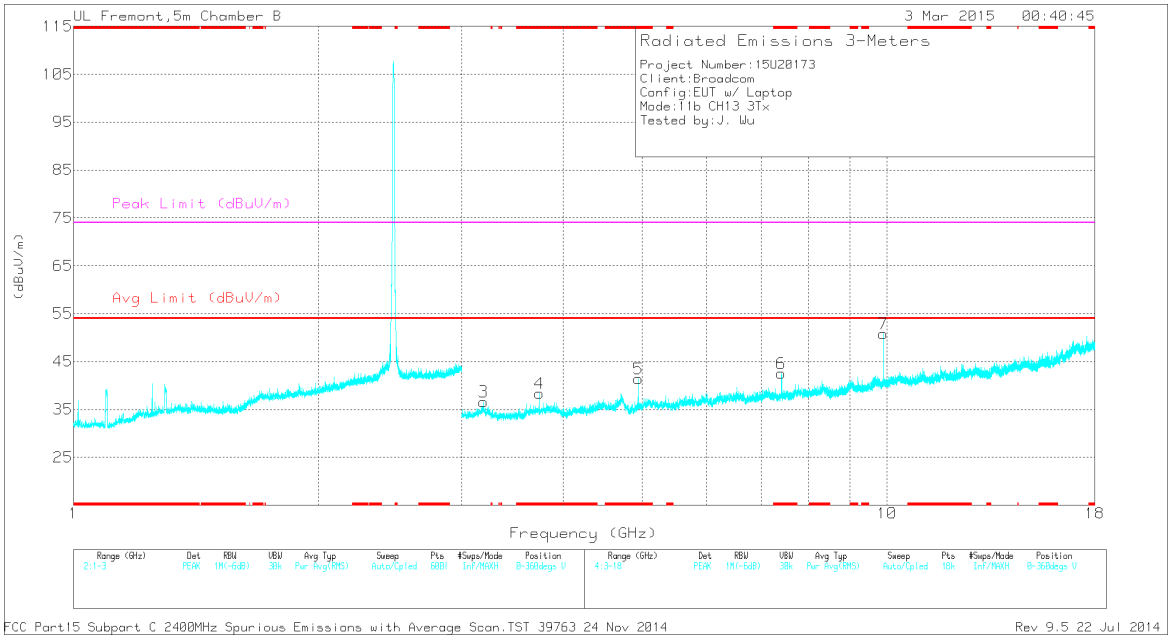
PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.741	43.23	PK2	33.1	-31.2	45.13	-	-	74	-28.87	298	123	V
	* 3.742	30.42	MAv1	33.1	-31.1	32.42	54	-21.58	-	-	298	123	V
5	* 4.944	42.59	PK2	33.9	-30.4	46.09	-	-	74	-27.91	213	212	V
	* 4.944	35.5	MAv1	33.9	-30.4	39	54	-15	-	-	213	212	V
6	* 7.416	43.09	PK2	35.4	-27.3	51.19	-	-	74	-22.81	240	267	V
	* 7.417	35.18	MAv1	35.4	-27.3	43.28	54	-10.72	-	-	240	267	V
1	2.391	37.53	PK	32.1	-20.9	48.73	-	-	-	-	0-360	199	H
2	2.545	36.79	PK	32	-20.9	47.89	-	-	-	-	0-360	199	H
3	3.191	33.75	PK	33.6	-30.7	36.65	-	-	-	-	0-360	200	V
7	9.888	37.54	PK	37.2	-23.9	50.84	-	-	-	-	0-360	200	V

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

** - indicates frequency covered by BE measurement

-Compliance for emissions in non-restricted bands is shown in conducted out of band testing

PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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

RESTRICTED BANDEDGE (CHANNEL 1)

CHANNEL1 RESTRICTED, HORIZ

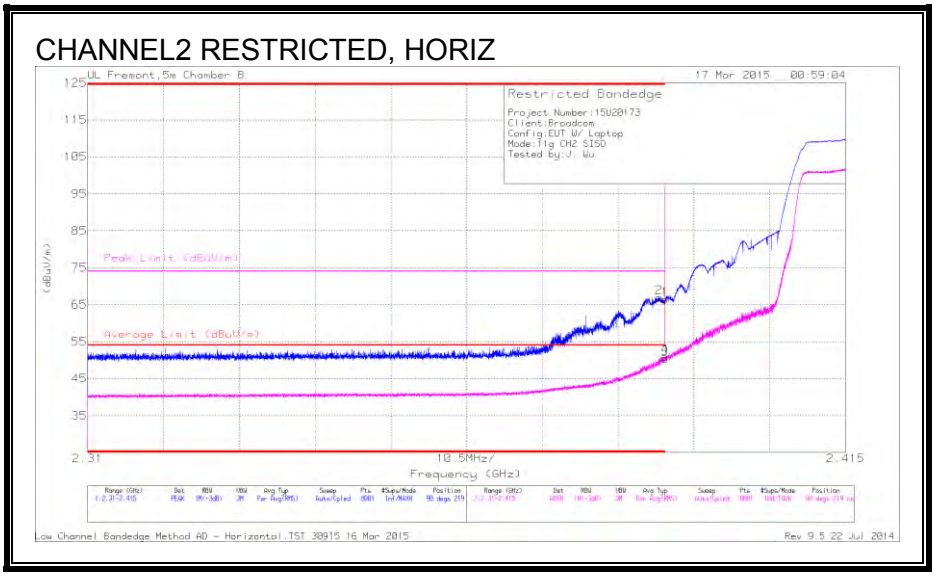
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	59.41	PK	32	-20.9	0	70.51	-	-	74	-3.49	90	214	H
2	* 2.39	59.88	PK	32	-20.9	0	70.98	-	-	74	-3.02	90	214	H
3	* 2.39	38.67	RMS	32	-20.9	0	49.77	54	-4.23	-	-	90	214	H
4	* 2.39	39.45	RMS	32	-20.9	0	50.55	54	-3.45	-	-	90	214	H

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2)



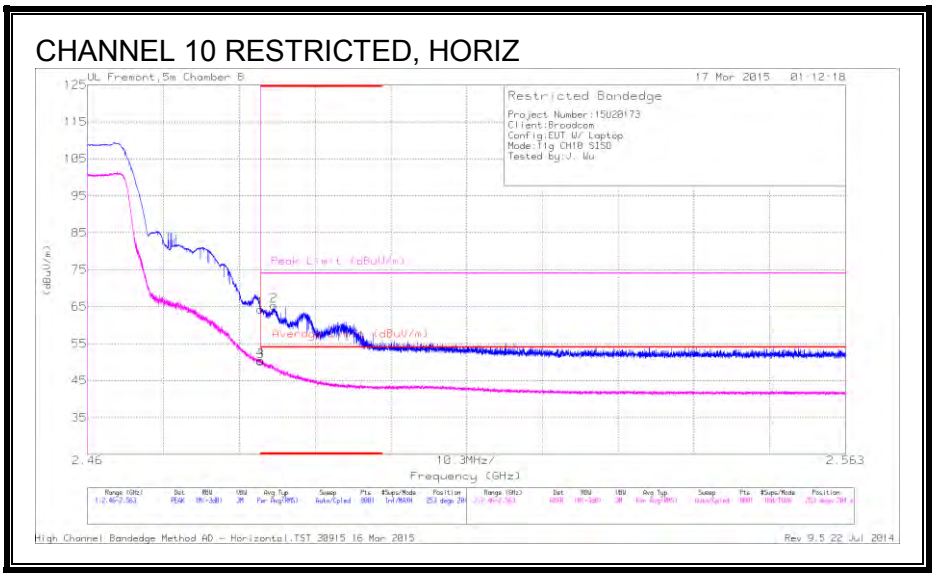
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.389	55.81	PK	32	-20.9	0	66.91	-	-	74	-7.09	90	219	H
1	* 2.39	55.36	PK	32	-20.9	0	66.46	-	-	74	-7.54	90	219	H
3	* 2.39	39.37	RMS	32	-20.9	0	50.47	54	-3.53	-	-	90	219	H
4	* 2.39	39.82	RMS	32	-20.9	0	50.92	54	-3.08	-	-	90	219	H

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 10)



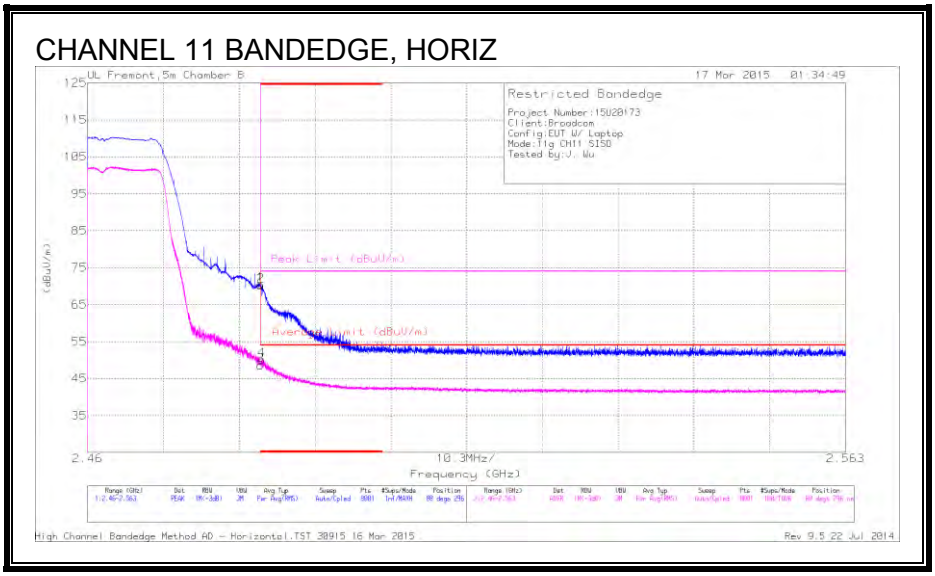
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.68	PK	32.5	-20.9	0	64.28	-	-	74	-9.72	253	204	H
2	* 2.485	53.68	PK	32.5	-20.9	0	65.28	-	-	74	-8.72	253	204	H
3	* 2.484	38.64	RMS	32.5	-20.9	0	50.24	54	-3.76	-	-	253	204	H
4	* 2.484	38.9	RMS	32.5	-20.9	0	50.5	54	-3.5	-	-	253	204	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11)



Trace Markers

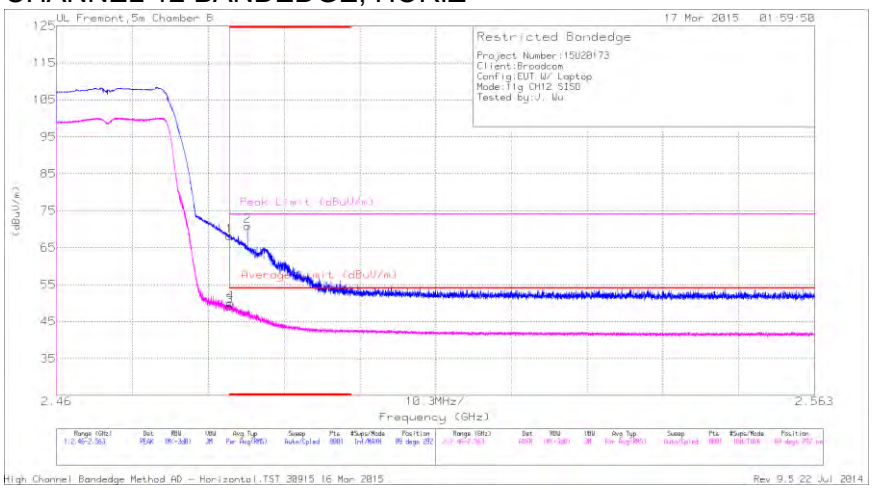
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	58.89	PK	32.5	-20.9	0	70.49	-	-	74	-3.51	88	296	H
2	* 2.484	58.51	PK	32.5	-20.9	0	70.11	-	-	74	-3.89	88	296	H
3	* 2.484	36.98	RMS	32.5	-20.9	0	48.58	54	-5.42	-	-	88	296	H
4	* 2.484	38.46	RMS	32.5	-20.9	0	50.06	54	-3.94	-	-	88	296	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 12)

CHANNEL 12 BANDEDGE, HORIZ



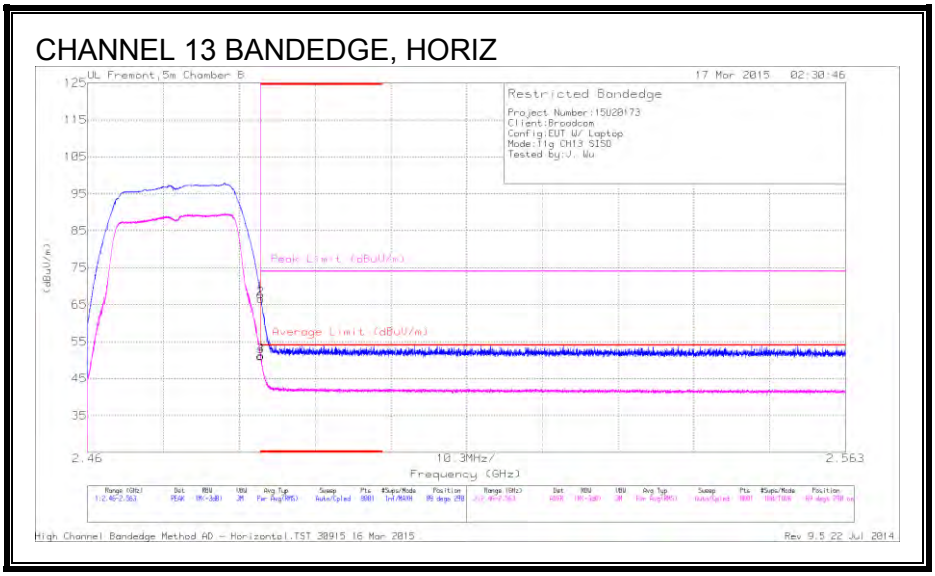
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	56.56	PK	32.5	-20.9	0	68.16	-	-	74	-5.84	89	292	H
3	* 2.484	37.48	RMS	32.5	-20.9	0	49.08	54	-4.92	-	-	89	292	H
4	* 2.484	38.47	RMS	32.5	-20.9	0	50.07	54	-3.93	-	-	89	292	H
2	* 2.486	59.23	PK	32.5	-20.9	0	70.83	-	-	74	-3.17	89	292	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 13)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	56.23	PK	32.5	-20.9	0	67.83	-	-	74	-6.17	89	290	H
2	* 2.484	54.96	PK	32.5	-20.9	0	66.56	-	-	74	-7.44	89	290	H
3	* 2.484	39.49	RMS	32.5	-20.9	0	51.09	54	-2.91	-	-	89	290	H
4	* 2.484	39.55	RMS	32.5	-20.9	0	51.15	54	-2.85	-	-	89	290	H

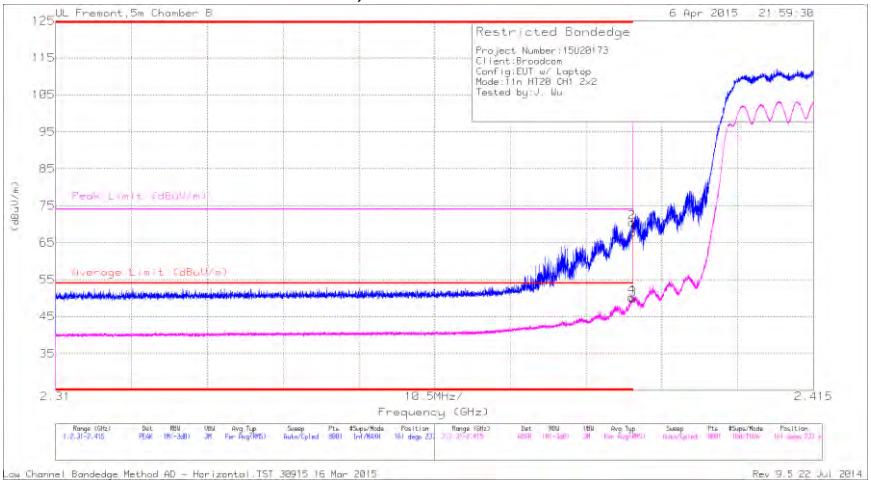
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector
RMS - RMS detection

9.5. TX ABOVE 1 GHz 802.11n HT20 CDD 2Tx MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1)

CHANNEL1 RESTRICTED, HORIZ



Trace Markers

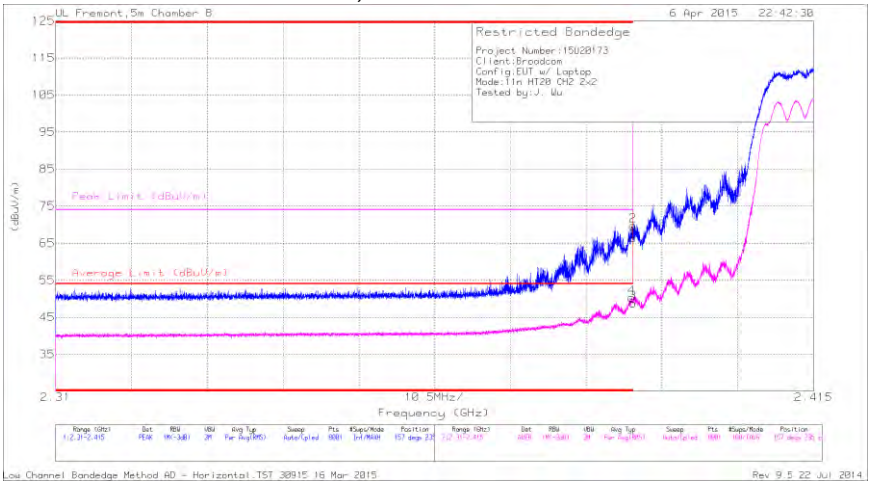
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	56.75	PK	32	-20.9	0	67.85	-	-	74	-6.15	161	237	H
2	* 2.39	59.38	PK	32	-20.9	0	70.48	-	-	74	-3.52	161	237	H
3	* 2.39	38.71	RMS	32	-20.9	0	49.81	54	-4.19	-	-	161	237	H
4	* 2.39	39.16	RMS	32	-20.9	0	50.26	54	-3.74	-	-	161	237	H

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2)

CHANNEL1 RESTRICTED, HORIZ



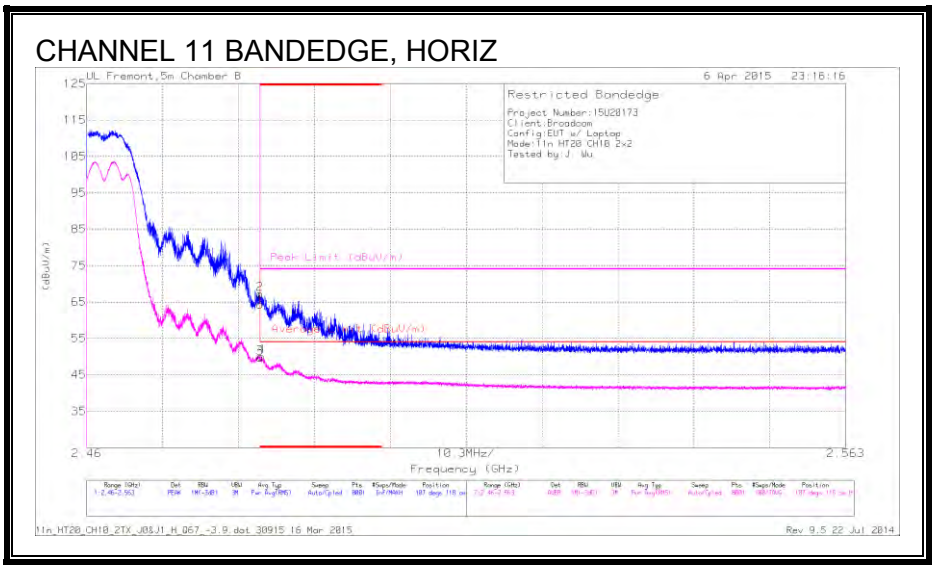
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	55.21	PK	32	-20.9	0	66.31	-	-	74	-7.69	157	235	H
2	* 2.39	58.6	PK	32	-20.9	0	69.7	-	-	74	-4.3	157	235	H
3	* 2.39	37.71	RMS	32	-20.9	0	48.81	54	-5.19	-	-	157	235	H
4	* 2.39	39.2	RMS	32	-20.9	0	50.3	54	-3.7	-	-	157	235	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10)



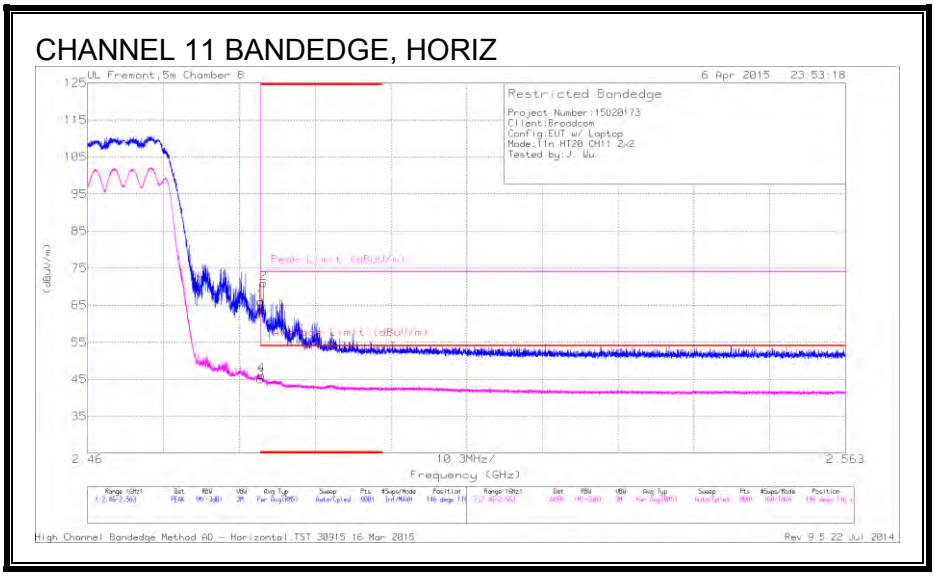
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	52.71	PK	32.5	-20.9	0	64.31	-	-	74	-9.69	107	118	H
2	* 2.484	55.61	PK	32.5	-20.9	0	67.21	-	-	74	-6.79	107	118	H
3	* 2.484	38.11	RMS	32.5	-20.9	0	49.71	54	-4.29	-	-	107	118	H
4	* 2.484	38.5	RMS	32.5	-20.9	0	50.1	54	-3.9	-	-	107	118	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11)



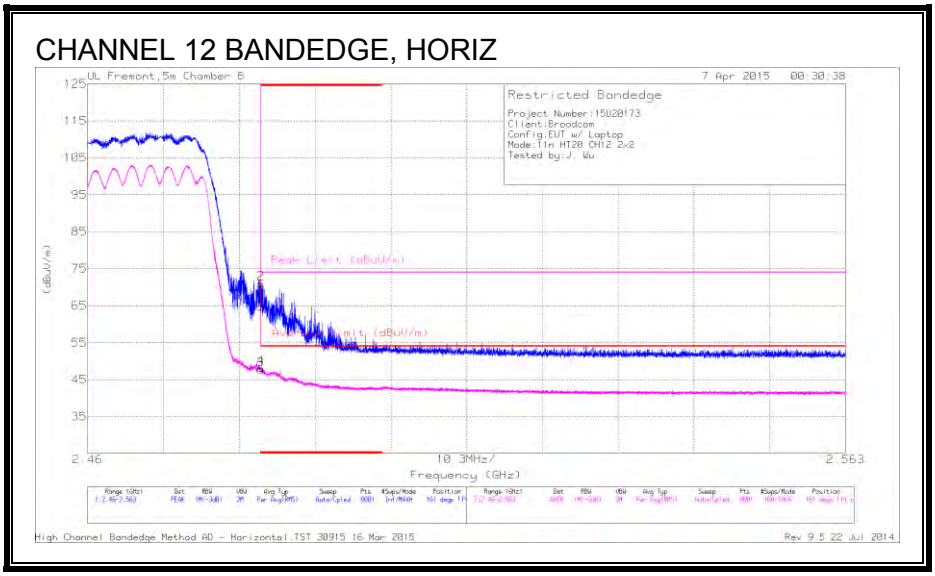
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.38	PK	32.5	-20.9	0	65.98	-	-	74	-8.02	146	116	H
2	* 2.484	59.36	PK	32.5	-20.9	0	70.96	-	-	74	-3.04	146	116	H
3	* 2.484	33.35	RMS	32.5	-20.9	0	44.95	54	-9.05	-	-	146	116	H
4	* 2.484	34.48	RMS	32.5	-20.9	0	46.08	54	-7.92	-	-	146	116	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 12)



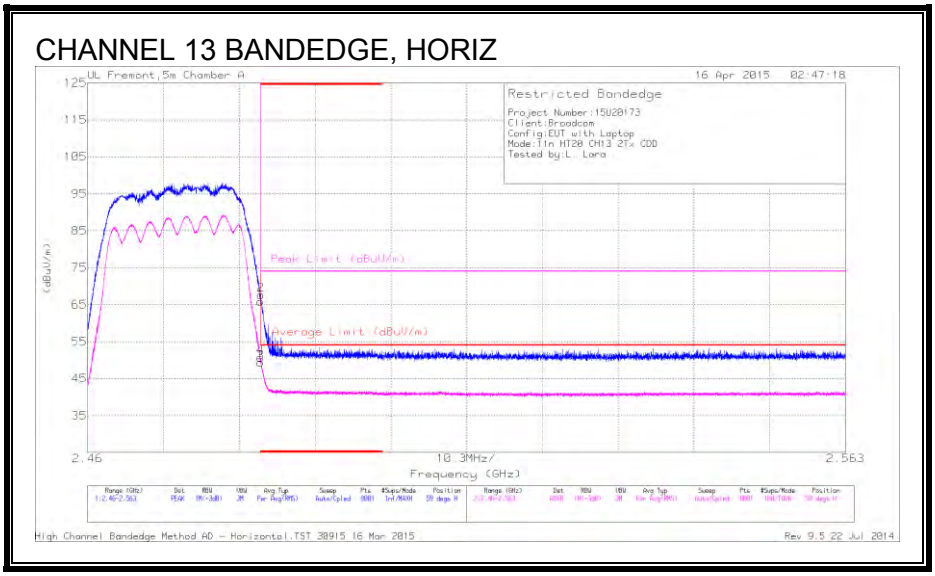
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	53.17	PK	32.5	-20.9	0	64.77	-	-	74	-9.23	161	119	H
2	* 2.484	59.4	PK	32.5	-20.9	0	71	-	-	74	-3	161	119	H
3	* 2.484	36.16	RMS	32.5	-20.9	0	47.76	54	-6.24	-	-	161	119	H
4	* 2.484	36.5	RMS	32.5	-20.9	0	48.1	54	-5.9	-	-	161	119	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 13)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.82	PK	32.1	-21.1	65.82	-	-	74	-8.18	58	146	H
2	* 2.484	56.63	PK	32.1	-21.1	67.63	-	-	74	-6.37	58	146	H
3	* 2.484	38.35	RMS	32.1	-21.1	49.35	54	-4.65	-	-	58	146	H
4	* 2.484	39.69	RMS	32.1	-21.1	50.69	54	-3.31	-	-	58	146	H

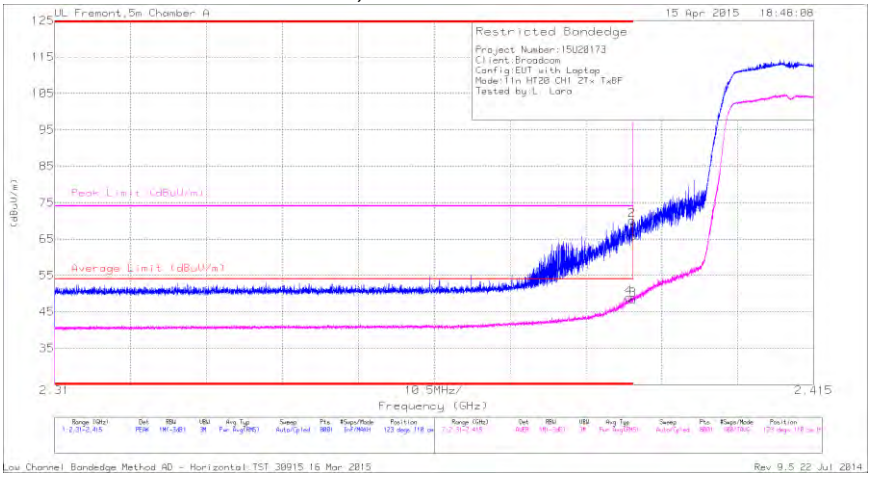
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector
RMS - RMS detection

9.6. TX ABOVE 1 GHz 802.11n HT20 TxBF 2Tx MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1)

CHANNEL1 RESTRICTED, HORIZ



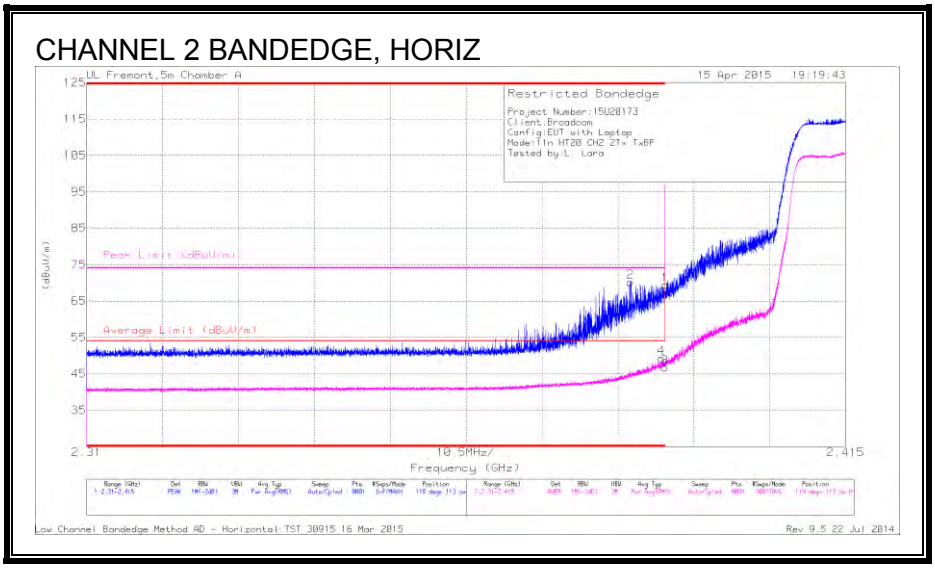
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	55.07	PK	32	-21.1	0	65.97	-	-	74	-8.03	123	110	H
2	* 2.39	59.31	PK	32	-21.1	0	70.21	-	-	74	-3.79	123	110	H
3	* 2.39	37.04	RMS	32	-21.1	.32	48.26	54	-5.74	-	-	123	110	H
4	* 2.389	37.76	RMS	32	-21.1	.32	48.98	54	-5.02	-	-	123	110	H

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2)



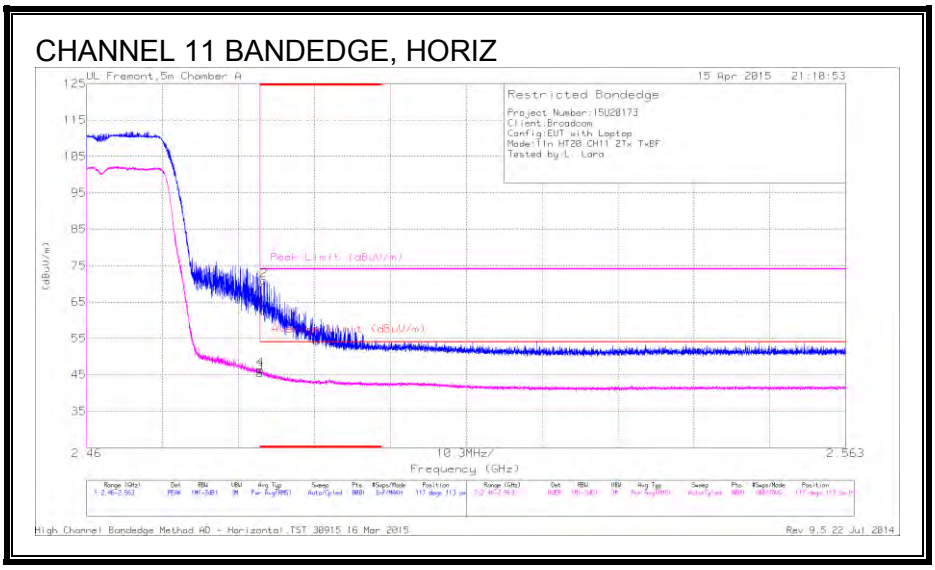
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.385	59.32	PK	32	-21.1	0	70.22	-	-	74	-3.78	119	113	H
1	* 2.39	58.46	PK	32	-21.1	0	69.36	-	-	74	-4.64	119	113	H
3	* 2.39	35.58	RMS	32	-21.1	.32	46.8	54	-7.2	-	-	119	113	H
4	* 2.39	38.1	RMS	32	-21.1	.32	49.32	54	-4.68	-	-	119	113	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11)



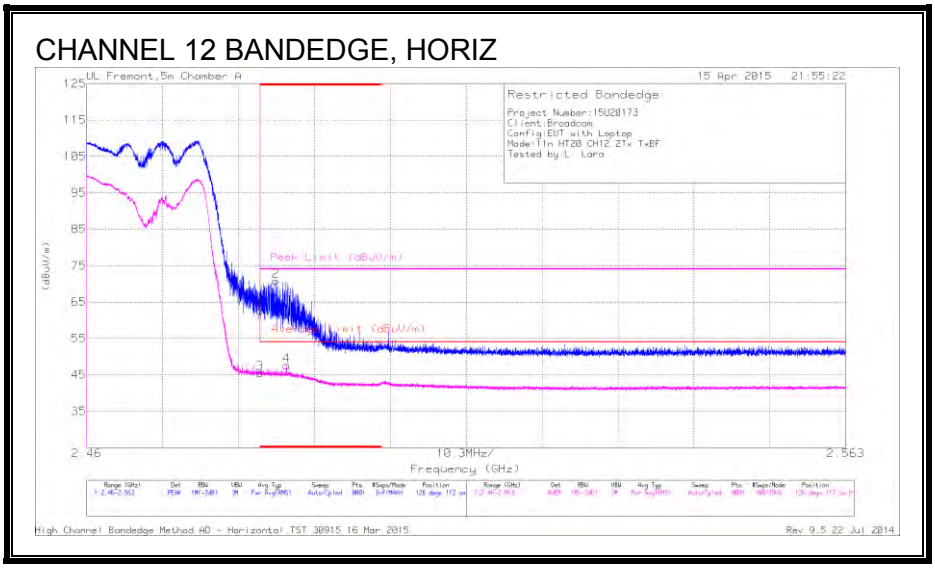
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.89	PK	32.1	-21.1	0	65.89	-	-	74	-8.11	117	113	H
2	* 2.484	59.9	PK	32.1	-21.1	0	70.9	-	-	74	-3.1	117	113	H
3	* 2.484	34.15	RMS	32.1	-21.1	.32	45.47	54	-8.53	-	-	117	113	H
4	* 2.484	35.08	RMS	32.1	-21.1	.32	46.4	54	-7.6	-	-	117	113	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 12)



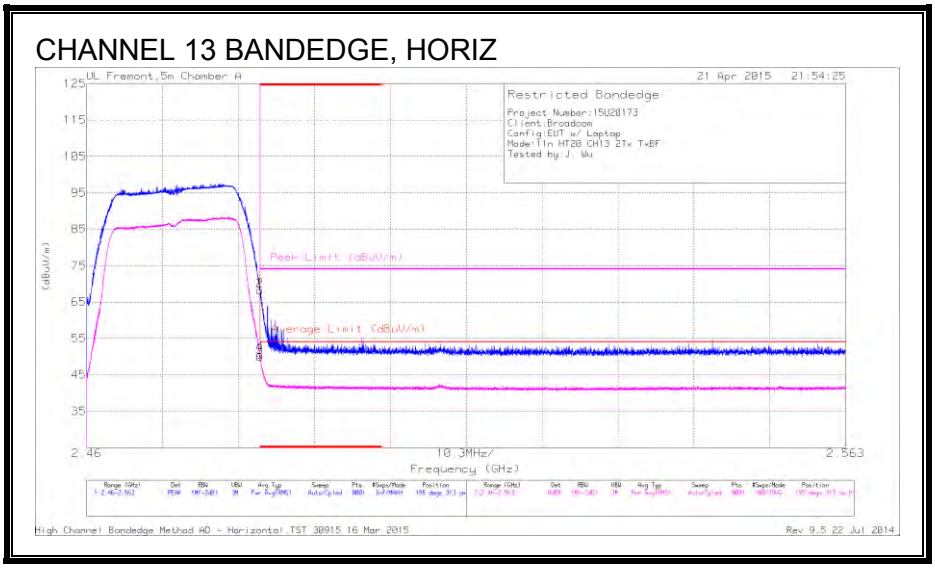
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	51.55	PK	32.1	-21.1	0	62.55	-	-	74	-11.45	126	112	H
3	* 2.484	34.11	RMS	32.1	-21.1	.32	45.43	54	-8.57	-	-	126	112	H
2	* 2.486	59.73	PK	32.1	-21	0	70.83	-	-	74	-3.17	126	112	H
4	* 2.487	36.29	RMS	32.1	-21.1	.32	47.61	54	-6.39	-	-	126	112	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 13)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	57.14	PK	32.1	-21.1	0	68.14	-	-	74	-5.86	195	313	H
2	* 2.484	57.18	PK	32.1	-21.1	0	68.18	-	-	74	-5.82	195	313	H
3	* 2.484	38.6	RMS	32.1	-21.1	.32	49.92	54	-4.08	-	-	195	313	H
4	* 2.484	39.28	RMS	32.1	-21.1	.32	50.6	54	-3.4	-	-	195	313	H

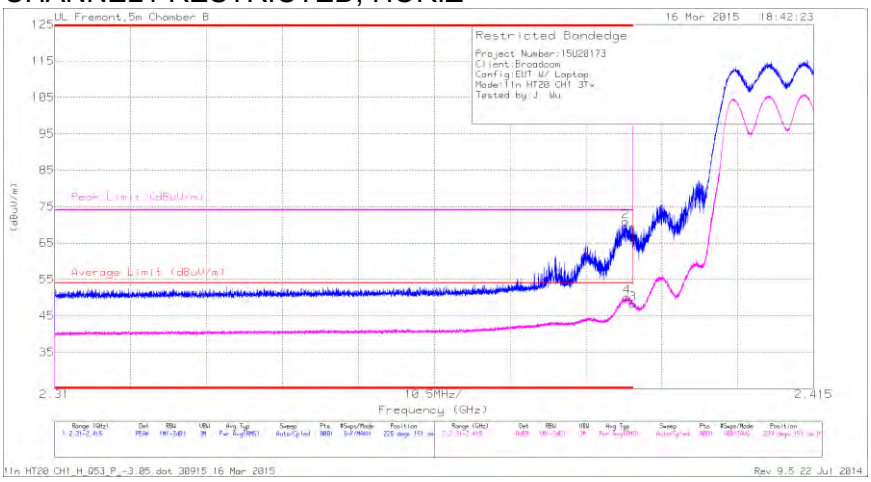
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector
RMS - RMS detection

9.7. TX ABOVE 1 GHz 802.11n HT20 CDD 3Tx MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1)

CHANNEL1 RESTRICTED, HORIZ



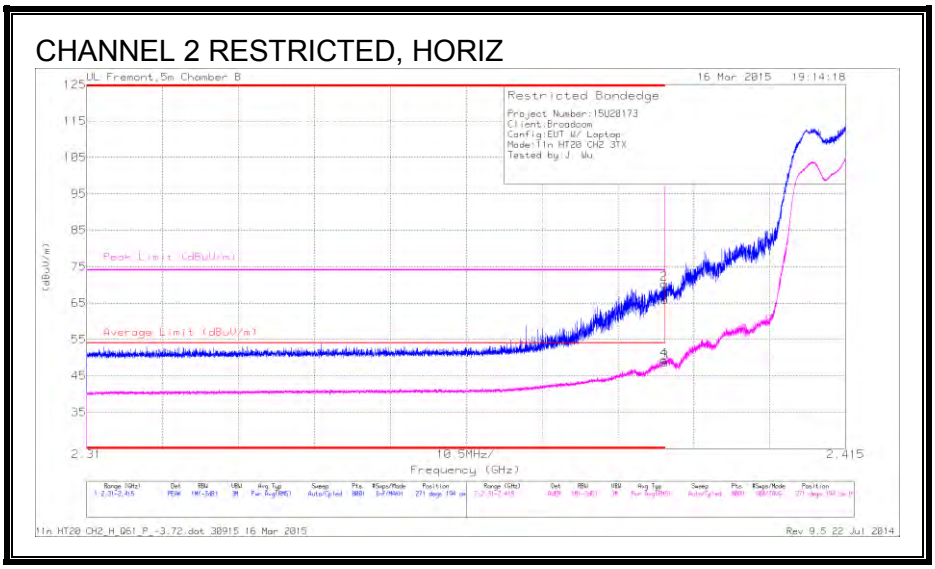
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.389	59.85	PK	32	-20.9	0	70.95	-	-	74	-3.05	229	151	H
4	* 2.389	39.11	RMS	32	-20.9	0	50.21	54	-3.79	-	-	229	151	H
1	* 2.39	55.53	PK	32	-20.9	0	66.63	-	-	74	-7.37	229	151	H
3	* 2.39	37.22	RMS	32	-20.9	0	48.32	54	-5.68	-	-	229	151	H

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2)



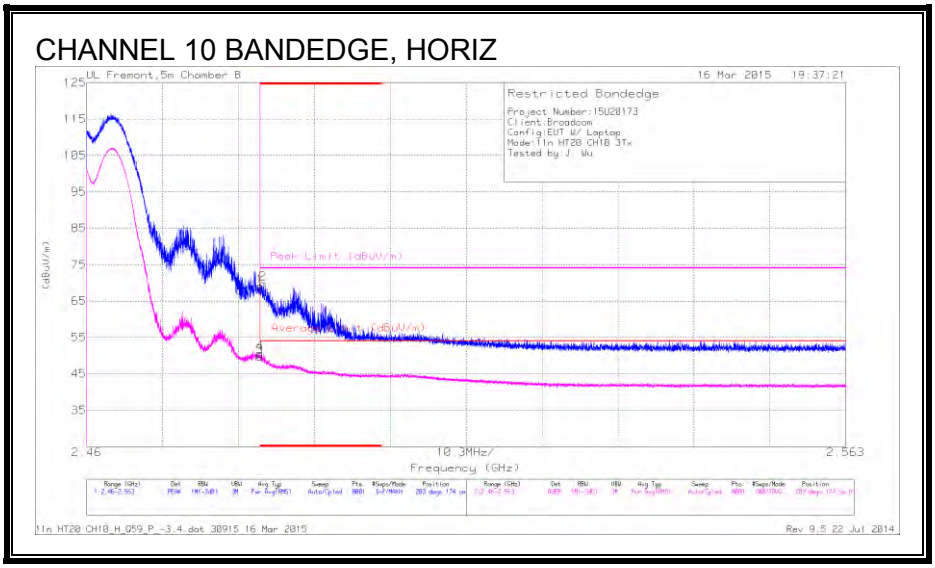
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	54.89	PK	32	-20.9	0	65.99	-	-	74	-8.01	271	194	H
2	* 2.39	59.18	PK	32	-20.9	0	70.28	-	-	74	-3.72	271	194	H
3	* 2.39	37.53	RMS	32	-20.9	0	48.63	54	-5.37	-	-	271	194	H
4	* 2.39	38.25	RMS	32	-20.9	0	49.35	54	-4.65	-	-	271	194	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10)



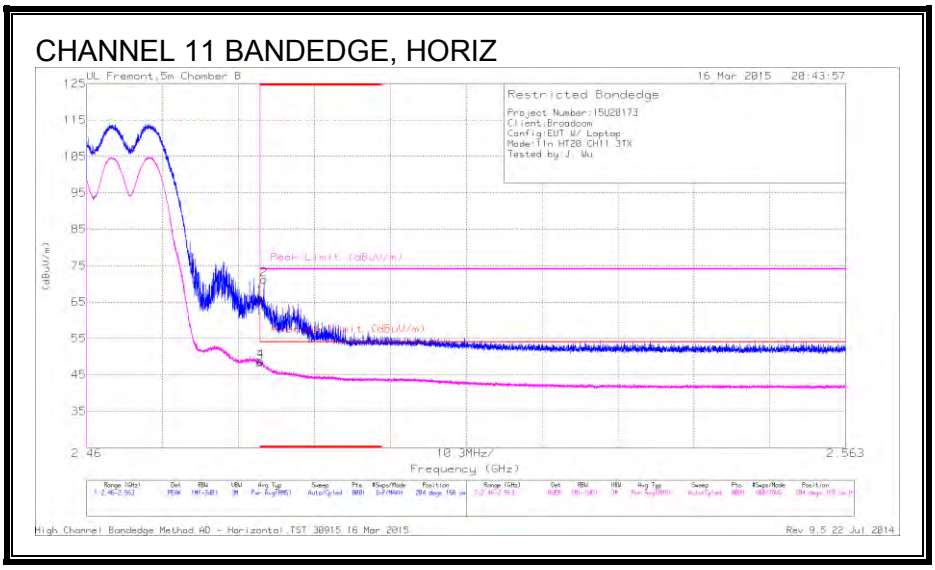
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	57.45	PK	32.5	-20.9	0	69.05	-	-	74	-4.95	203	174	H
2	* 2.484	58.21	PK	32.5	-20.9	0	69.81	-	-	74	-4.19	203	174	H
3	* 2.484	38.09	RMS	32.5	-20.9	0	49.69	54	-4.31	-	-	203	174	H
4	* 2.484	39	RMS	32.5	-20.9	0	50.6	54	-3.4	-	-	203	174	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11)



Trace Markers

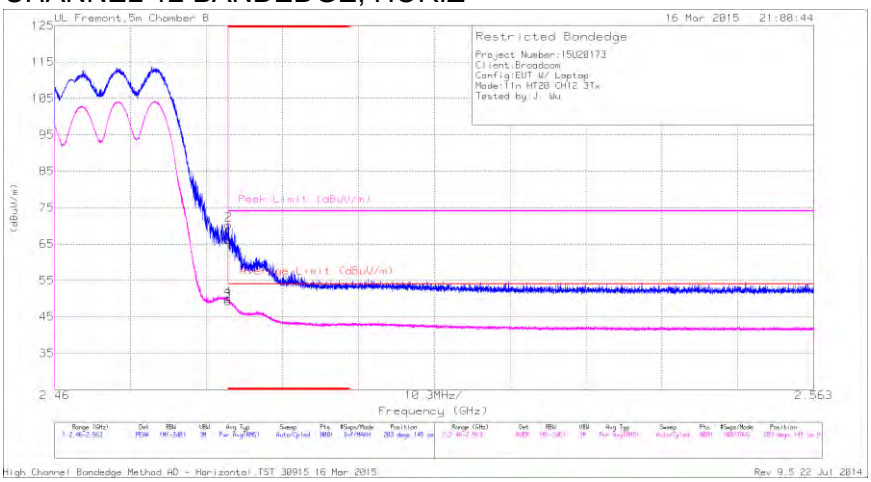
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.6	PK	32.5	-20.9	0	66.2	-	-	74	-7.8	204	168	H
2	* 2.484	59.5	PK	32.5	-20.9	0	71.1	-	-	74	-2.9	204	168	H
3	* 2.484	36.76	RMS	32.5	-20.9	0	48.36	54	-5.64	-	-	204	168	H
4	* 2.484	37.06	RMS	32.5	-20.9	0	48.66	54	-5.34	-	-	204	168	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 12)

CHANNEL 12 BANDEDGE, HORIZ



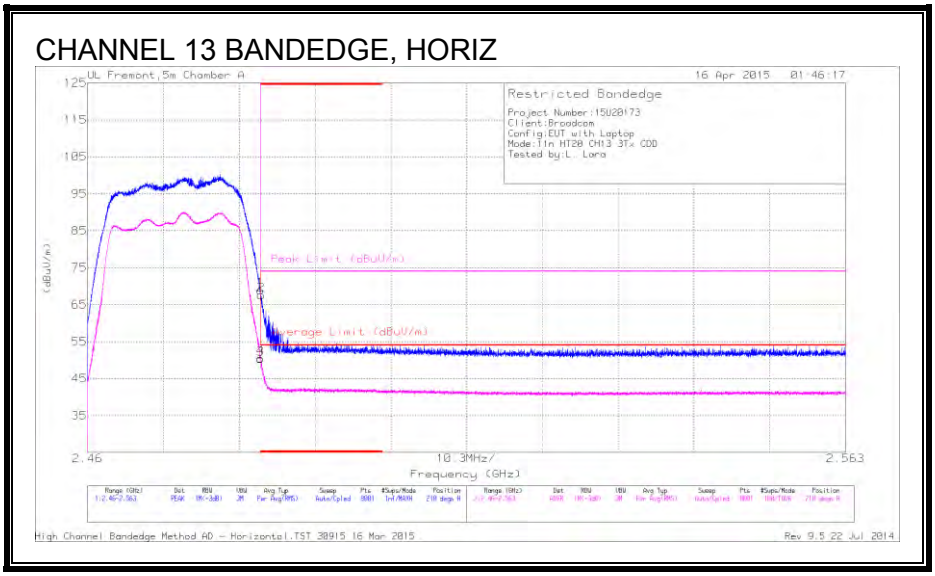
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.64	PK	32.5	-20.9	0	66.24	-	-	74	-7.76	203	145	H
2	* 2.484	58.74	PK	32.5	-20.9	0	70.34	-	-	74	-3.66	203	145	H
3	* 2.484	37.69	RMS	32.5	-20.9	0	49.29	54	-4.71	-	-	203	145	H
4	* 2.484	38.33	RMS	32.5	-20.9	0	49.93	54	-4.07	-	-	203	145	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 13)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	57.93	PK	32.1	-21.1	68.93	-	-	74	-5.07	210	130	H
2	* 2.484	56.62	PK	32.1	-21.1	67.62	-	-	74	-6.38	210	130	H
3	* 2.484	39.37	RMS	32.1	-21.1	50.37	54	-3.63	-	-	210	130	H
4	* 2.484	39.51	RMS	32.1	-21.1	50.51	54	-3.49	-	-	210	130	H

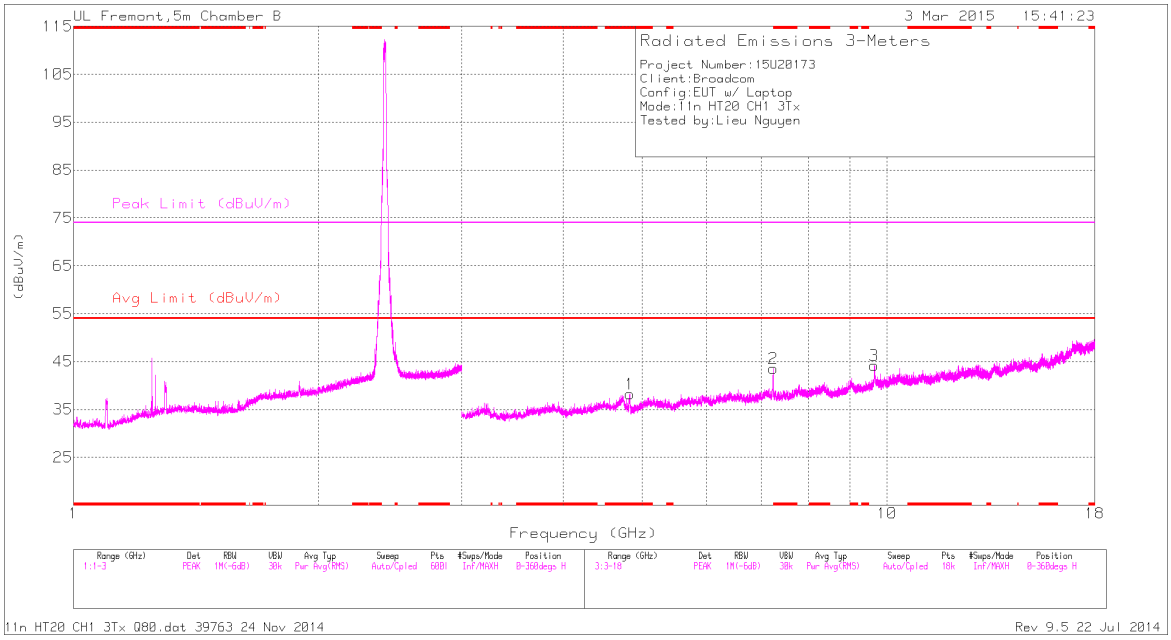
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector
RMS - RMS detection

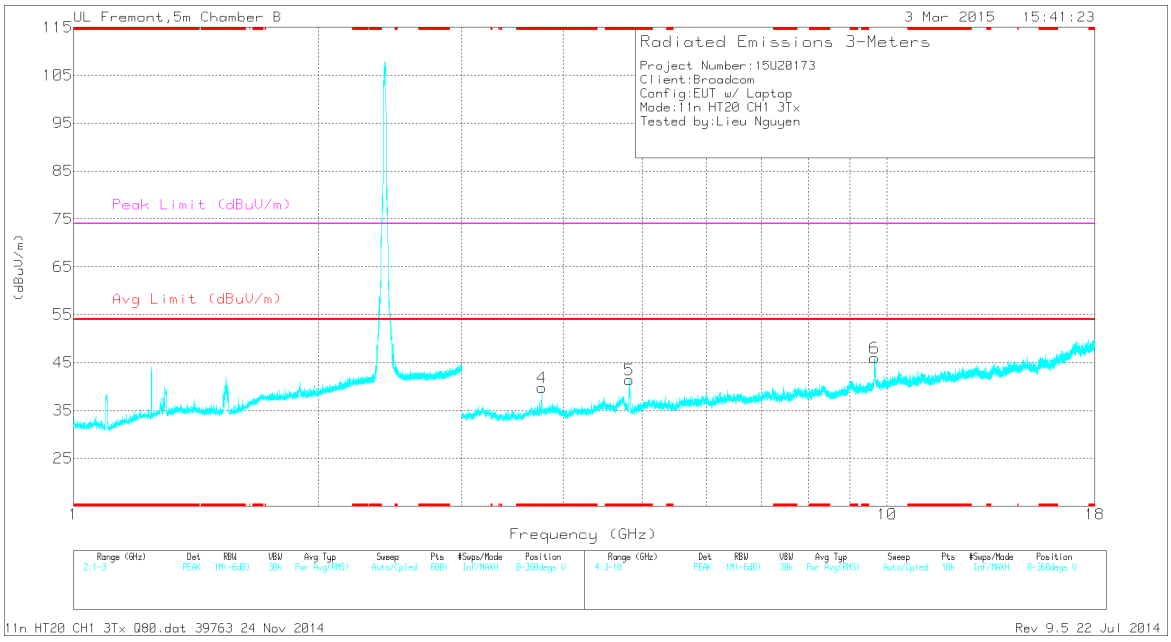
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/ m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.826	45.15	PK2	33.9	-29.7	49.35	-	-	74	-24.65	239	305	H
	* 4.825	31.9	MAv1	33.9	-29.7	36.1	54	-17.9	-	-	239	305	H
4	* 3.764	42.06	PK2	33.1	-30.9	44.26	-	-	74	-29.74	325	200	V
	* 3.765	29.74	MAv1	33.1	-30.9	31.94	54	-22.06	-	-	325	200	V
5	* 4.821	46.56	PK2	33.9	-29.7	50.76	-	-	74	-23.24	22	118	V
	* 4.822	32.77	MAv1	33.9	-29.7	36.97	54	-17.03	-	-	22	118	V
2	7.243	36.01	PK	35.4	-27.8	43.61	-	-	-	-	0-360	199	H
3	9.646	31.21	PK	36.8	-23.8	44.21	-	-	-	-	0-360	199	H
6	9.649	32.97	PK	36.8	-23.8	45.97	-	-	-	-	0-360	199	V

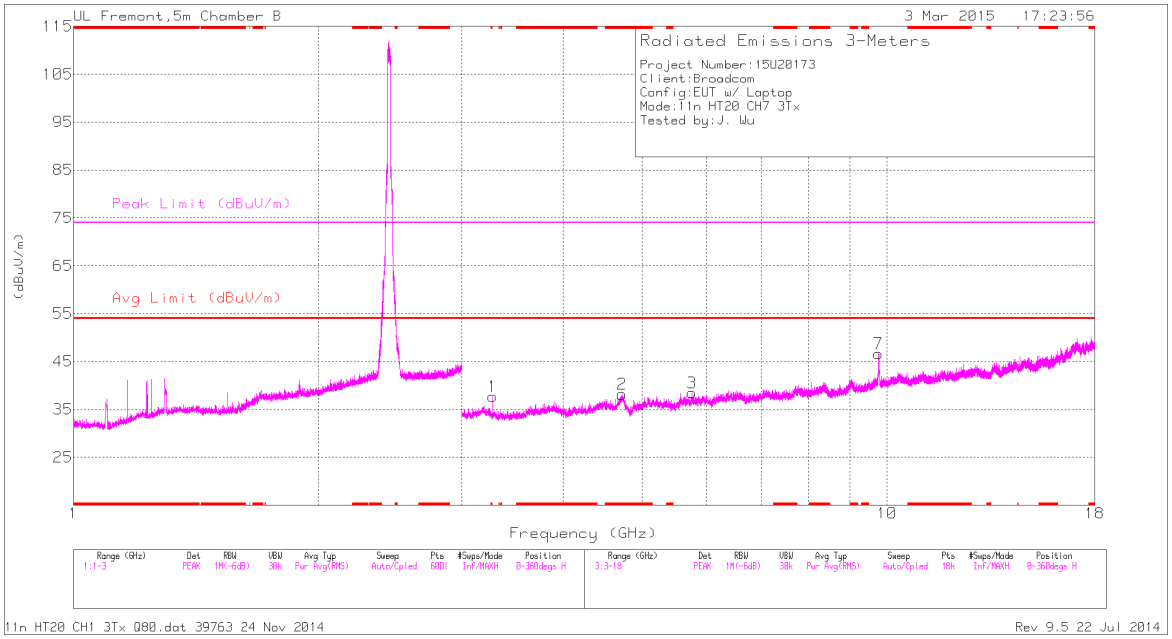
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

-Compliance for emissions in non-restricted bands shown in conducted out of band testing

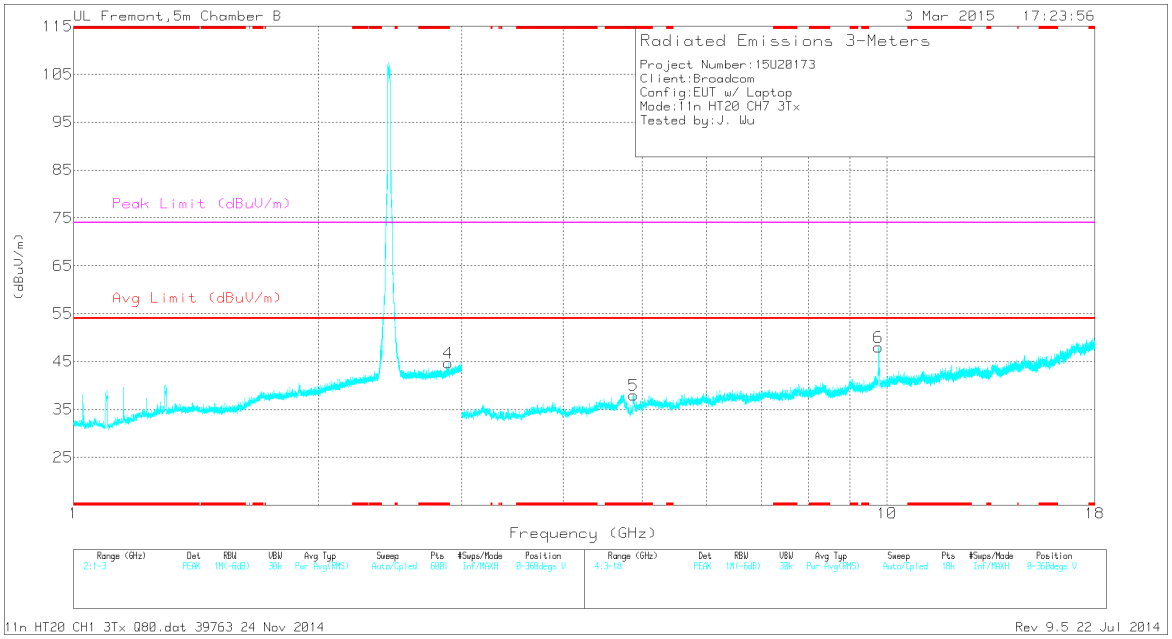
PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.886	37.41	PK2	32.1	-20	49.51	-	-	74	-24.49	315	260	V
	* 2.891	26.07	MAv1	32.2	-20	38.27	54	-15.73	-	-	315	260	V
2	* 4.722	41.3	PK2	34	-29.1	46.2	-	-	74	-27.8	283	347	H
	* 4.717	29.55	MAv1	34	-29.1	34.45	54	-19.55	-	-	283	347	H
5	* 4.883	44.62	PK2	33.8	-30.4	48.02	-	-	74	-25.98	22	255	V
	* 4.884	31.64	MAv1	33.8	-30.4	35.04	54	-18.96	-	-	22	255	V
1	3.274	35.81	PK	32.8	-30.9	37.71	-	-	-	-	0-360	199	H
3	5.758	33.42	PK	34.6	-29.5	38.52	-	-	-	-	0-360	199	H
6	9.763	35.07	PK	36.9	-24	47.97	-	-	-	-	0-360	199	V
7	9.765	33.78	PK	36.9	-24	46.68	-	-	-	-	0-360	199	H

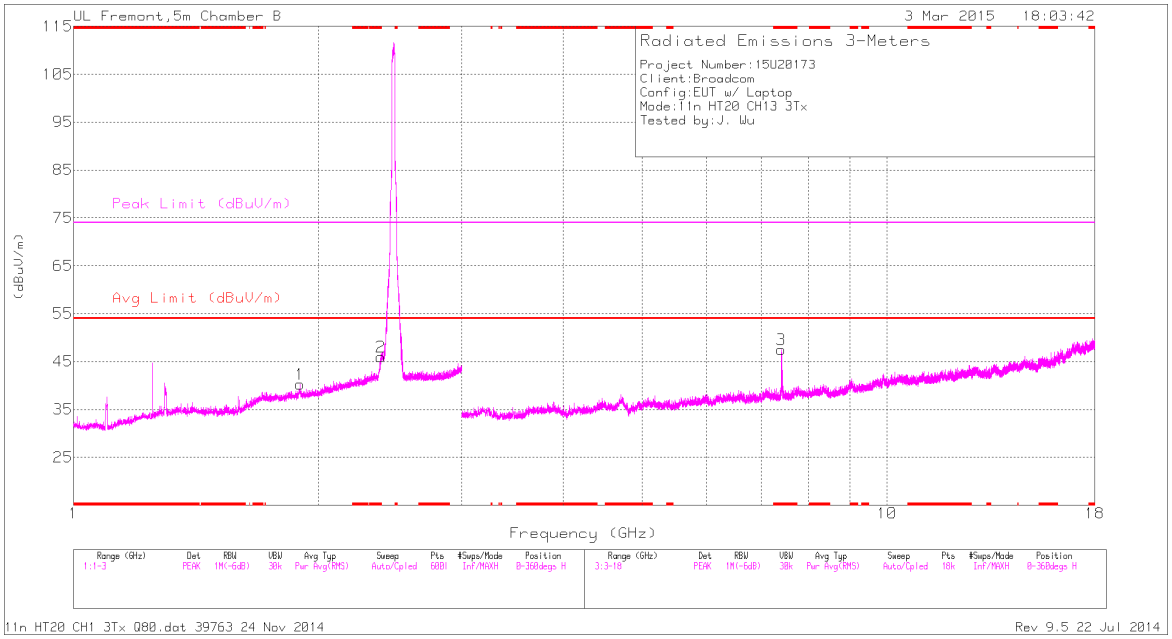
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

-Compliance for emissions in non-restricted bands shown in conducted out of band testing

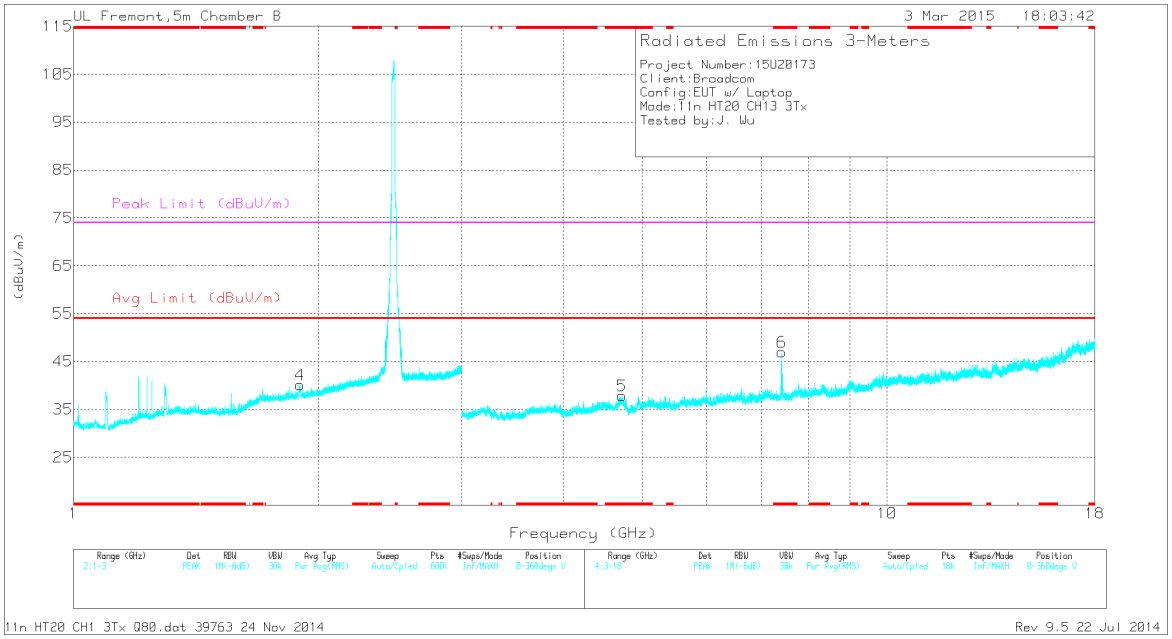
PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.386	34.78	PK	32.1	-20.9	45.98	-	-	74	-28.02	0-360	101	H
3	* 7.419	48.78	PK2	35.4	-27.3	56.88	-	-	74	-17.12	25	114	H
	* 7.416	30.02	MAv1	35.4	-27.3	38.12	54	-15.88	-	-	25	114	H
5	* 4.732	40.66	PK2	34	-29.1	45.56	-	-	74	-28.44	305	166	V
	* 4.726	29.25	MAv1	34	-29.1	34.15	54	-19.85	-	-	305	166	V
6	* 7.419	48.81	PK2	35.4	-27.3	56.91	-	-	74	-17.09	65	127	V
	* 7.416	31.26	MAv1	35.4	-27.3	39.36	54	-14.64	-	-	65	127	V
1	1.899	30.94	PK	30.4	-21.1	40.24	-	-	-	-	0-360	199	H
4	1.9	30.9	PK	30.4	-21.1	40.2	-	-	-	-	0-360	101	V

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

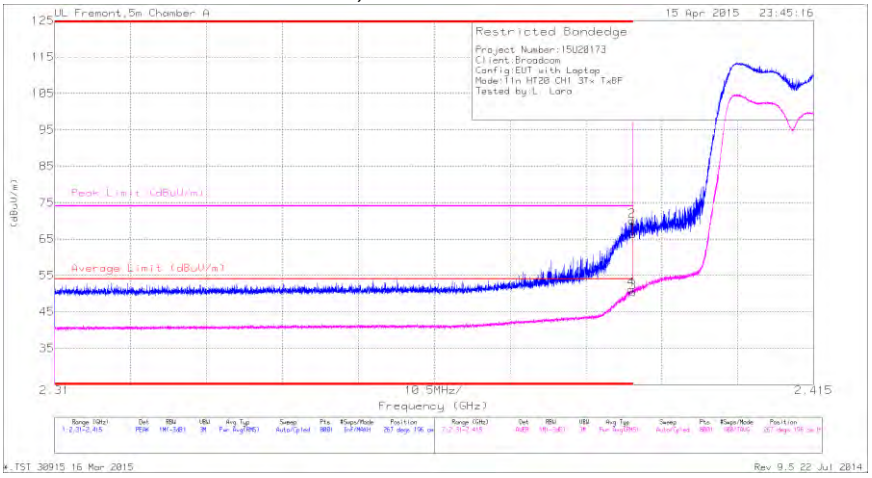
-Compliance for emissions in non-restricted bands shown in conducted out of band testing

PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

9.8. TX ABOVE 1 GHz 802.11n HT20 TxBF 3Tx MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (CHANNEL 1)

CHANNEL1 RESTRICTED, HORIZ



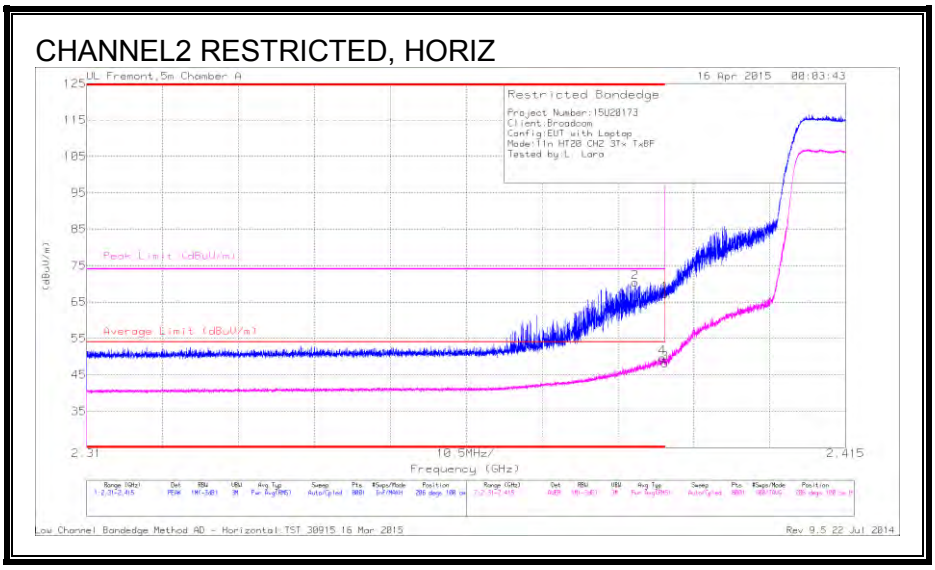
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	55.56	PK	32	-21.1	0	66.46	-	-	74	-7.54	267	196	H
2	* 2.39	59.14	PK	32	-21.1	0	70.04	-	-	74	-3.96	267	196	H
3	* 2.39	39.18	RMS	32	-21.1	.32	50.4	54	-3.6	-	-	267	196	H
4	* 2.39	39.92	RMS	32	-21.1	.32	51.14	54	-2.86	-	-	267	196	H

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (CHANNEL 2)



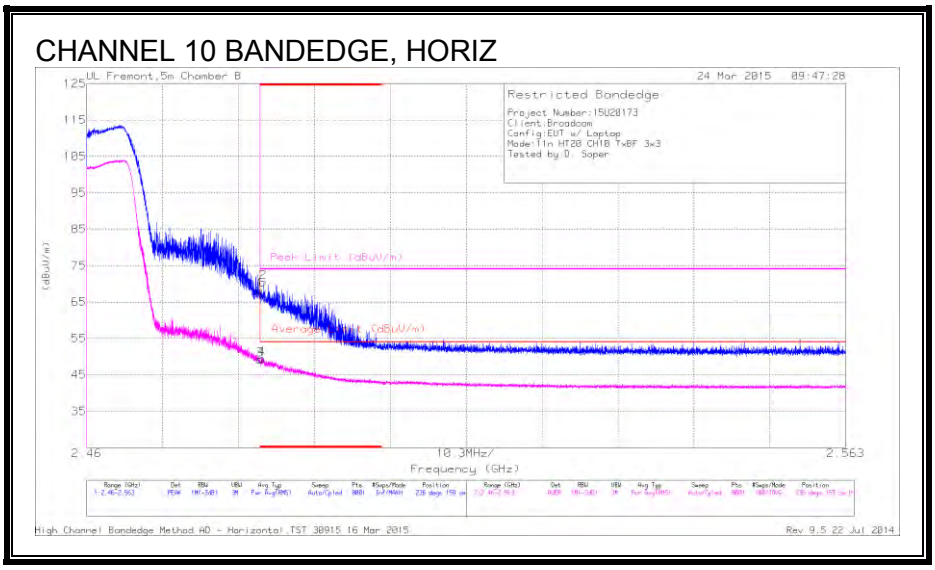
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.386	59.54	PK	32	-21.1	0	70.44	-	-	74	-3.56	206	100	H
1	* 2.39	56.34	PK	32	-21.1	0	67.24	-	-	74	-6.76	206	100	H
3	* 2.39	36.94	RMS	32	-21.1	.32	48.16	54	-5.84	-	-	206	100	H
4	* 2.39	38.51	RMS	32	-21.1	.32	49.73	54	-4.27	-	-	206	100	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 10)



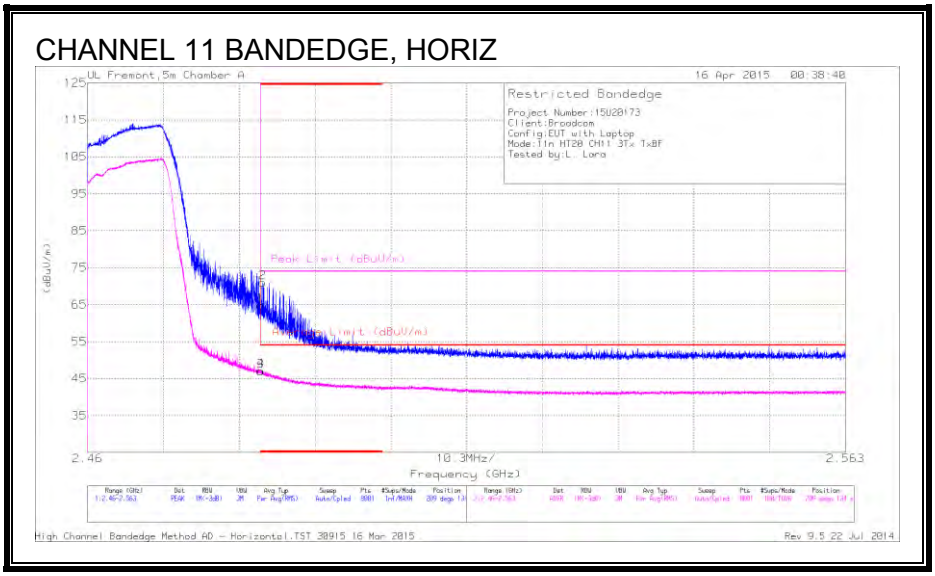
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	56.59	PK	32.5	-20.9	0	68.19	-	-	74	-5.81	236	159	H
2	* 2.484	58.81	PK	32.5	-20.9	0	70.41	-	-	74	-3.59	236	159	H
3	* 2.484	37.63	RMS	32.5	-20.9	.32	49.55	54	-4.45	-	-	236	159	H
4	* 2.484	37.85	RMS	32.5	-20.9	.32	49.77	54	-4.23	-	-	236	159	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 11)



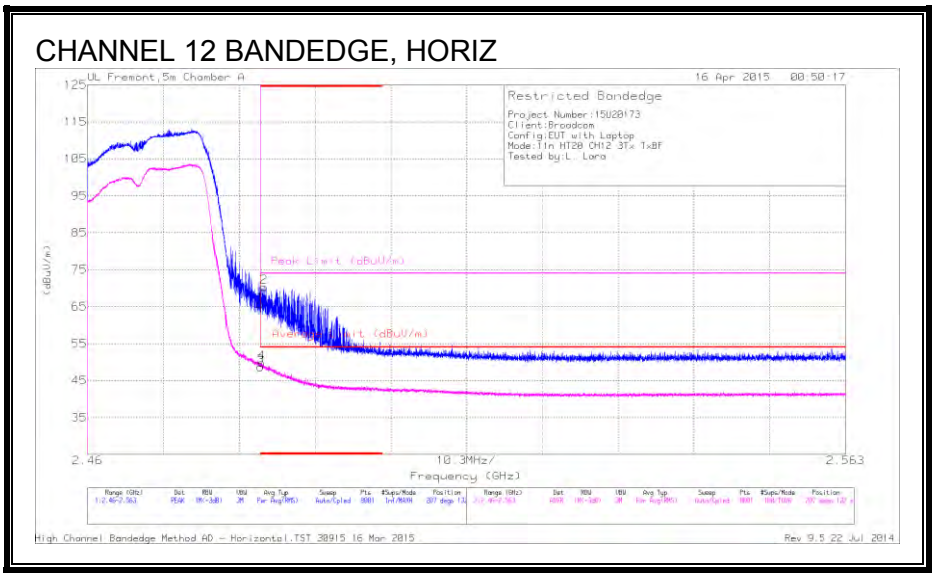
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	53.85	PK	32.1	-21.1	0	64.85	-	-	74	-9.15	209	134	H
2	* 2.484	59.94	PK	32.1	-21.1	0	70.94	-	-	74	-3.06	209	134	H
3	* 2.484	35.72	RMS	32.1	-21.1	.32	47.04	54	-6.96	-	-	209	134	H
4	* 2.484	35.75	RMS	32.1	-21.1	.32	47.07	54	-6.93	-	-	209	134	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 12)



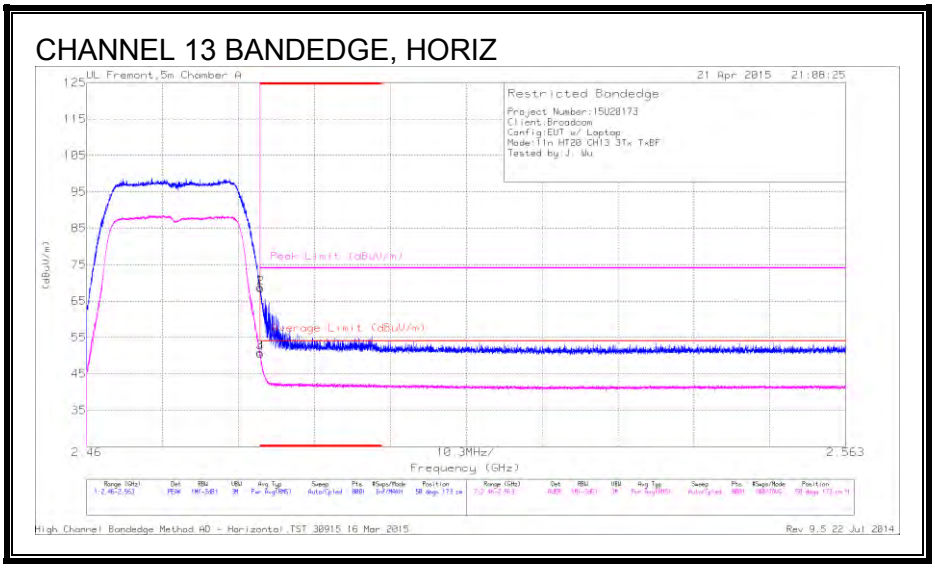
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	54.7	PK	32.1	-21.1	0	65.7	-	-	74	-8.3	207	132	H
2	* 2.484	59.36	PK	32.1	-21.1	0	70.36	-	-	74	-3.64	207	132	H
3	* 2.484	37.38	RMS	32.1	-21.1	.32	48.7	54	-5.3	-	-	207	132	H
4	* 2.484	38.5	RMS	32.1	-21.1	.32	49.82	54	-4.18	-	-	207	132	H

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

PK - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (CHANNEL 13)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	57.75	PK	32.1	-21.1	0	68.75	-	-	74	-5.25	50	173	H
2	* 2.484	57.5	PK	32.1	-21.1	0	68.5	-	-	74	-5.5	50	173	H
3	* 2.484	39.58	RMS	32.1	-21.1	.32	50.9	54	-3.1	-	-	50	173	H
4	* 2.484	39.18	RMS	32.1	-21.1	.32	50.5	54	-3.5	-	-	50	173	H

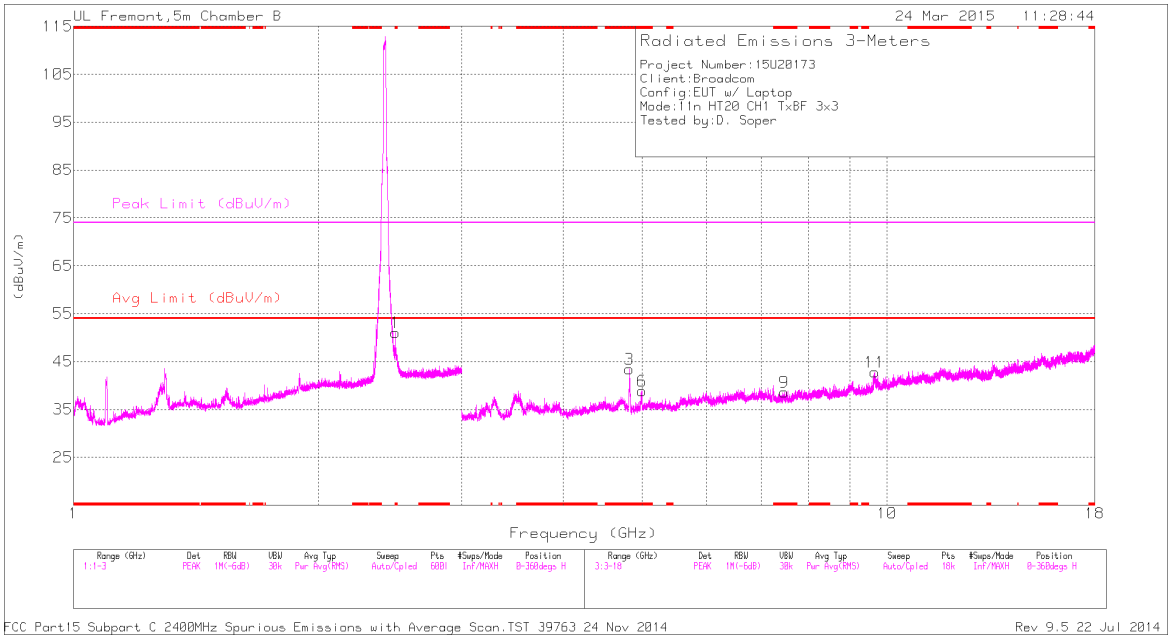
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector
RMS - RMS detection

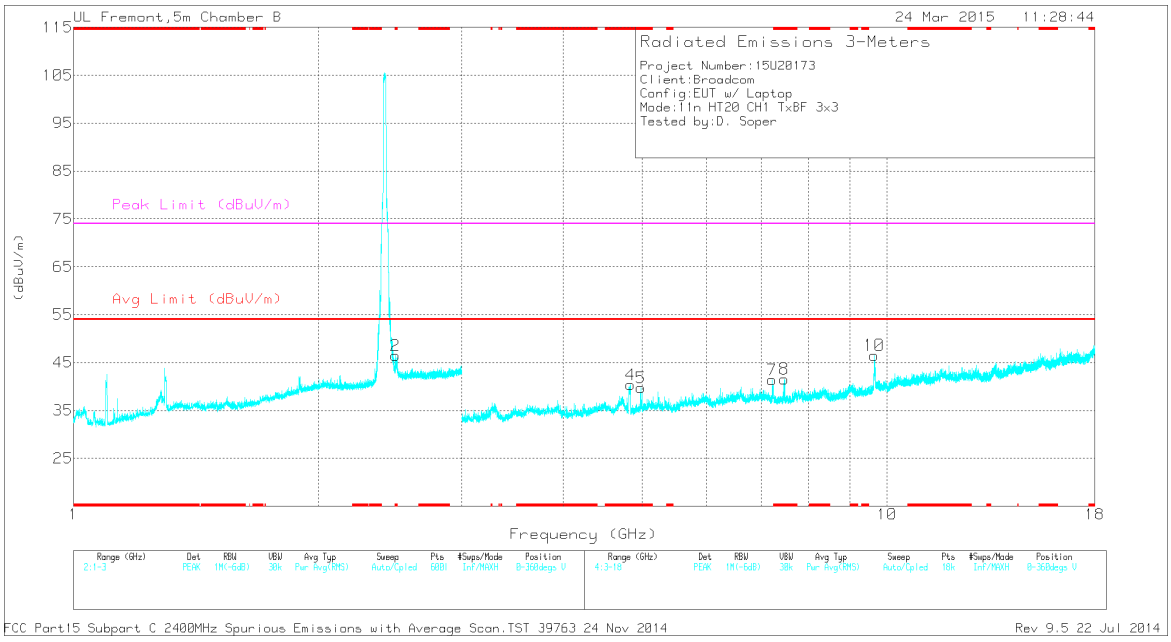
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/ 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	* 2.487	46.6	PK2	32.5	-20.9	0	58.2	-	-	74	-15.8	196	108	H
	* 2.487	37.3	MAv1	32.5	-20.9	.32	49.22	54	-4.78	-	-	196	108	H
2	* 2.487	40.91	PK2	32.5	-20.9	0	52.51	-	-	74	-21.49	253	125	V
	* 2.487	30.16	MAv1	32.5	-20.9	.32	42.08	54	-11.92	-	-	253	125	V
3	* 4.825	45.55	PK2	34.3	-29.7	0	50.15	-	-	74	-23.85	205	201	H
	* 4.824	31.75	MAv1	34.3	-29.7	.32	36.67	54	-17.33	-	-	205	201	H
6	* 4.997	40.8	PK2	34	-29.7	0	45.1	-	-	74	-28.9	224	186	H
	* 4.998	28.87	MAv1	34	-29.7	.32	33.49	54	-20.51	-	-	224	186	H
9	* 7.474	38.36	PK2	35.3	-26.7	0	46.96	-	-	74	-27.04	243	120	H
	* 7.474	26.87	MAv1	35.3	-26.7	.32	35.79	54	-18.21	-	-	243	120	H
4	* 4.834	41.12	PK2	34.3	-29.8	0	45.62	-	-	74	-28.38	261	115	V
	* 4.833	28.8	MAv1	34.3	-29.8	.32	33.62	54	-20.38	-	-	261	115	V
5	* 4.98	40.4	PK2	34.1	-30	0	44.5	-	-	74	-29.5	244	131	V
	* 4.978	29.2	MAv1	34.1	-30	.32	33.62	54	-20.38	-	-	244	131	V
8	* 7.477	39.48	PK2	35.3	-26.7	0	48.08	-	-	74	-25.92	244	198	V
	* 7.478	26.68	MAv1	35.3	-26.8	.32	35.5	54	-18.5	-	-	244	198	V
7	7.216	33.43	PK	35.3	-27.3	0	41.43	-	-	-	-	0-360	101	V
10	9.646	33.65	PK	36.7	-23.8	0	46.55	-	-	-	-	0-360	199	V
11	9.654	29.94	PK	36.7	-23.8	0	42.84	-	-	-	-	0-360	199	H

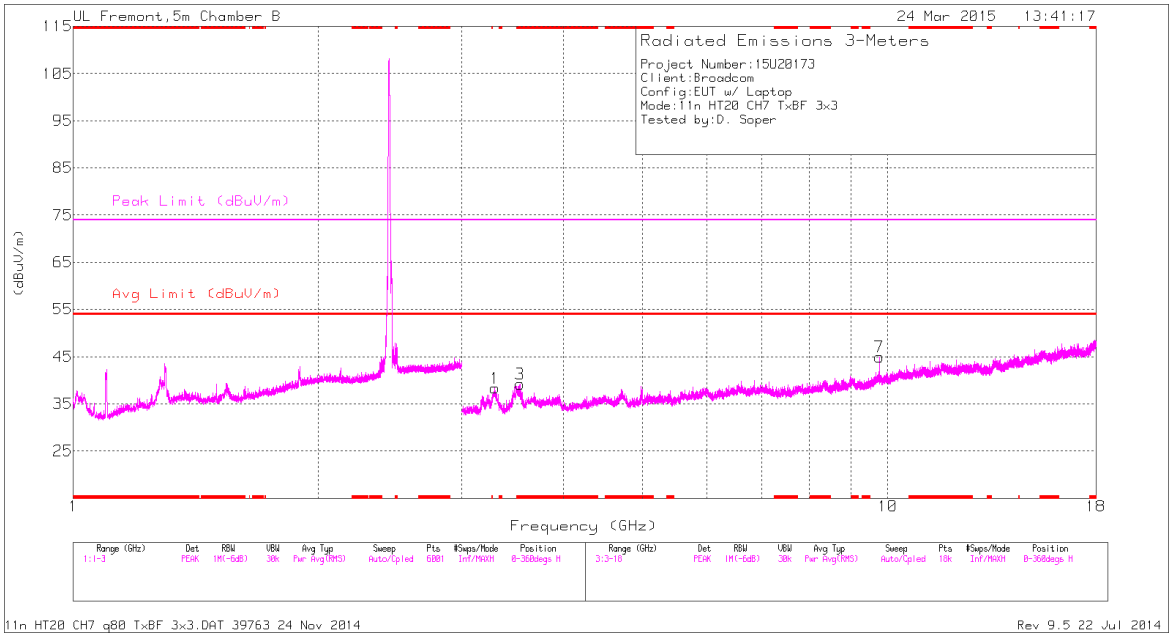
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

-Compliance for emissions in non-restricted bands shown in conducted out of band testing

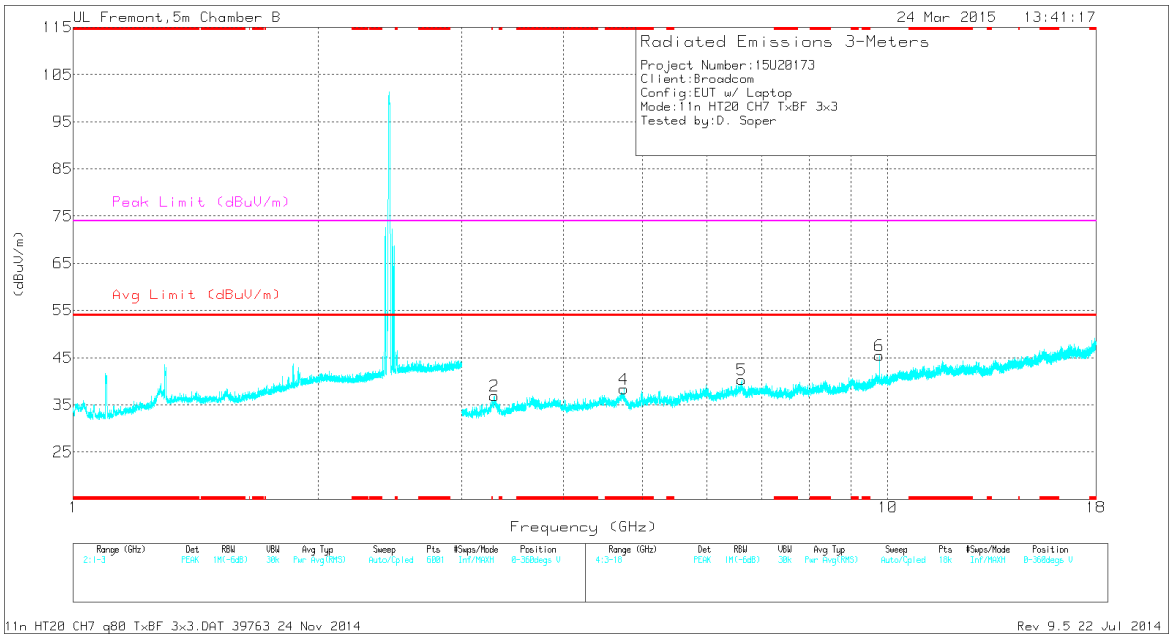
PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/ 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	* 3.537	44.68	PK2	33.7	-31.1	0	47.28	-	-	74	-26.72	224	226	H
	* 3.537	32.98	MAv1	33.7	-31.1	.32	35.9	54	-18.1	-	-	224	226	H
4	* 4.738	40.68	PK2	34.3	-29.1	0	45.88	-	-	74	-28.12	53	289	V
	* 4.738	28.89	MAv1	34.3	-29.1	.32	34.41	54	-19.59	-	-	53	289	V
2	3.289	34.98	PK	32.7	-30.8	0	36.88	-	-	-	-	0-360	199	V
1	3.292	36.43	PK	32.7	-30.8	0	38.33	-	-	-	-	0-360	200	H
5	6.617	32.44	PK	35.9	-28	0	40.34	-	-	-	-	0-360	199	V
7	9.768	32.03	PK	36.9	-24	0	44.93	-	-	-	-	0-360	200	H
6	9.768	32.52	PK	36.9	-24	0	45.42	-	-	-	-	0-360	199	V

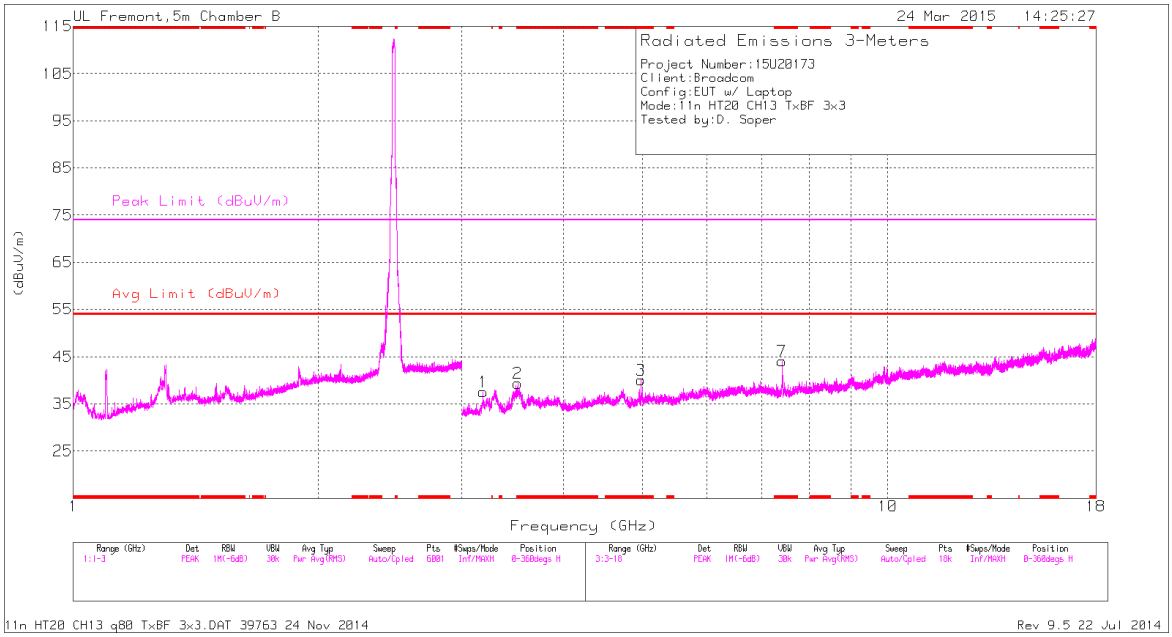
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

-Compliance for emissions in non-restricted bands shown in conducted out of band testing

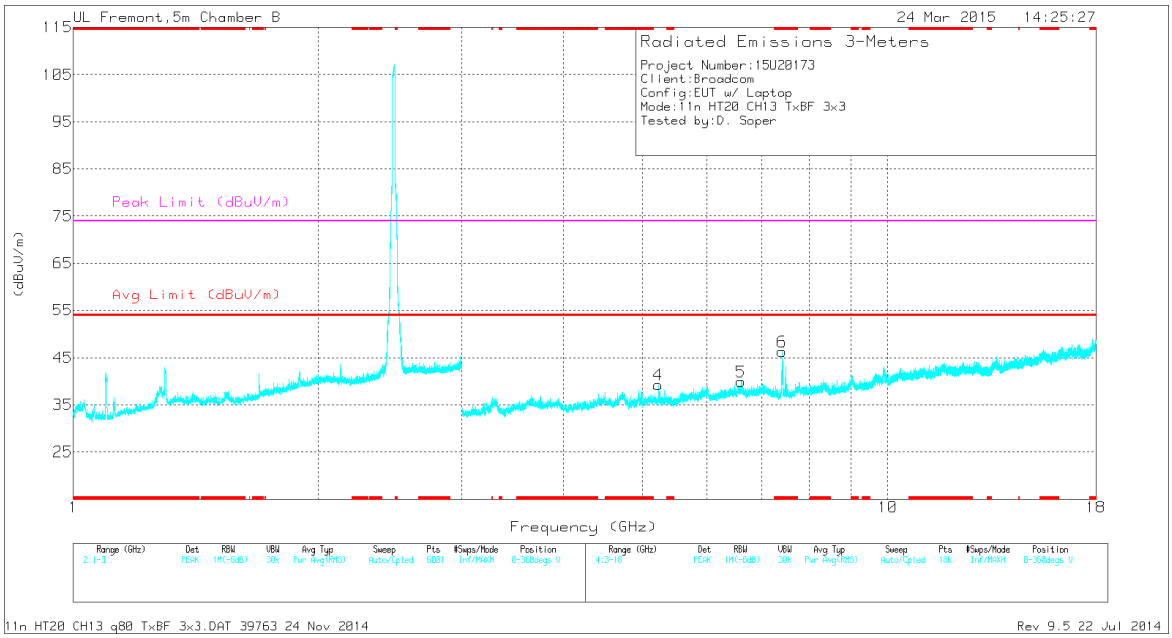
PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL

HORIZONTAL



VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/ 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	* 3.51	44.83	PK2	33.6	-31	0	47.43	-	-	74	-26.57	220	199	H
	* 3.511	33.07	MAv1	33.6	-31	.32	35.99	54	-18.01	-	-	220	199	H
3	* 4.978	42.52	PK2	34.1	-30	0	46.62	-	-	74	-27.38	212	181	H
	* 4.978	29.93	MAv1	34.1	-30	.32	34.35	54	-19.65	-	-	212	181	H
7	* 7.419	43.28	PK2	35.4	-27.3	0	51.38	-	-	74	-22.62	218	185	H
	* 7.416	27.7	MAv1	35.4	-27.3	.32	36.12	54	-17.88	-	-	218	185	H
6	* 7.42	51.27	PK2	35.4	-27.3	0	59.37	-	-	74	-14.63	273	189	V
	* 7.42	31.43	MAv1	35.4	-27.3	.32	39.76	54	-14.24	-	-	273	189	V
1	3.185	35.84	PK	32.4	-30.7	0	37.54	-	-	-	-	0-360	200	H
4	5.226	35.25	PK	34.3	-30.3	0	39.25	-	-	-	-	0-360	101	V
5	6.601	31.9	PK	36	-28	0	39.9	-	-	-	-	0-360	200	V

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

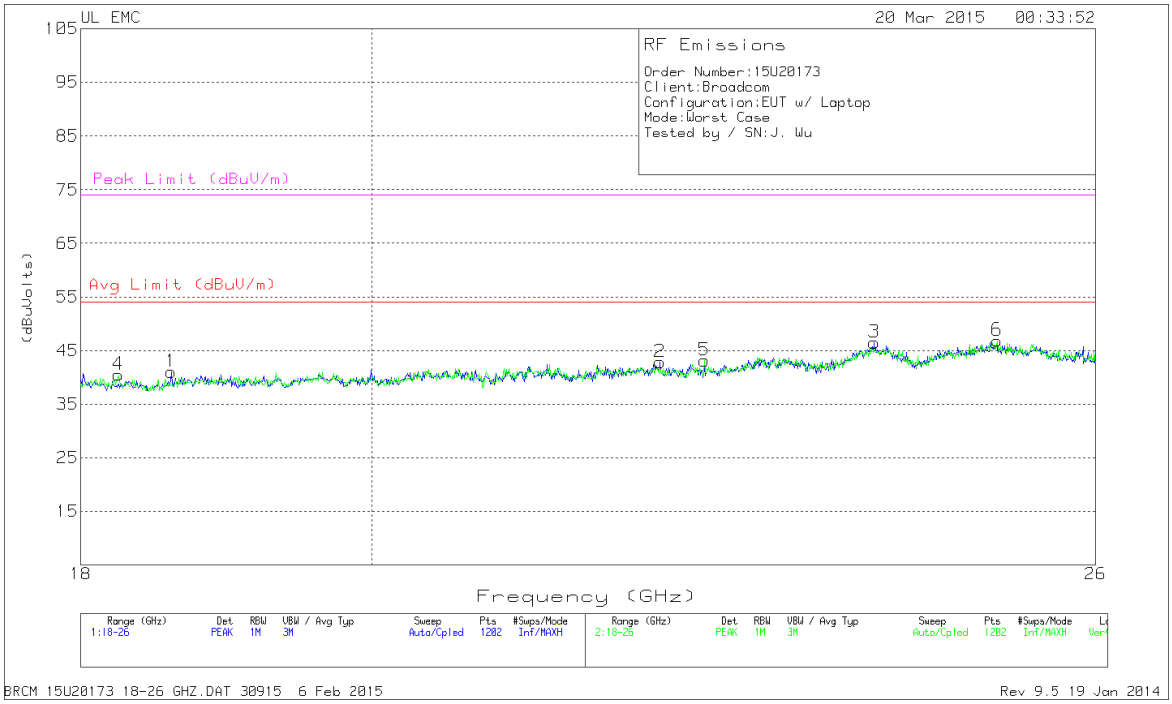
-Compliance for emissions in non-restricted bands shown in conducted out of band testing

PK - Peak detector
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

9.9. WORST-CASE 18-26 GHz

HARMONICS AND SPURIOUS EMISSIONS

PLOT



Trace Markers

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	18.6	42.4	PK	32.6	-24.5	-9.5	41	54	-13	74	-33
2	22.203	41.83	PK	33.7	-23.2	-9.5	42.83	54	-11.17	74	-31.17
3	23.995	44.5	PK	34.2	-22.7	-9.5	46.5	54	-7.5	74	-27.5
4	18.246	42	PK	32.6	-24.6	-9.5	40.5	54	-13.5	74	-33.5
5	22.563	42.47	PK	33.7	-23.5	-9.5	43.17	54	-10.83	74	-30.83
6	25.087	44.73	PK	34.5	-22.9	-9.5	46.83	54	-7.17	74	-27.177

PK - Peak detector

9.10. WORST-CASE BELOW 1 GHz

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

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	41.22	46.42	PK	13.2	-28.8	30.82	40	-9.18	0-360	101	V
1	84.169	58.53	PK	7.3	-28.3	37.53	40	-2.47	85	217	H
5	144.0275	42.89	PK	12.8	-27.6	28.09	43.52	-15.43	0-360	101	V
2	373.8	43.06	PK	15.2	-26	32.26	46.02	-13.76	0-360	101	H
6	622.1	38.96	PK	19.4	-25.1	33.26	46.02	-12.76	0-360	101	V
3	896	38.89	PK	22.5	-23	38.39	46.02	-7.63	0-360	101	H

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

PK - Peak detector

QP - Quasi-Peak detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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.

RESULTS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	0.159	51.76	Pk	1.3	0	53.06	-	-	55.52	-2.46
2	0.159	41.05	Av	1.3	0	42.35	65.52	-23.17	55.52	-13.17
3	2.652	37.83	Pk	.2	0.1	38.13	-	-	46	-7.87
4	2.6475	34.81	Av	.2	0.1	35.11	56	-20.89	46	-10.89
5	5.4645	36.8	Pk	.2	0.1	37.1	-	-	50	-12.9
6	5.4645	32.84	Av	.2	0.1	33.14	60	-26.86	50	-16.86

Pk - Peak detector

Av - Average detection

Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	0.1635	52.03	Pk	1.3	0	53.33	-	-	55.28	-1.95
8	0.1635	39.66	Av	1.3	0	40.96	65.28	-24.32	55.28	-14.32
9	2.661	34.61	Pk	.2	0.1	34.91	-	-	46	-11.09
10	2.661	30.02	Av	.2	0.1	30.32	56	-25.68	46	-15.68
11	5.4825	31.62	Pk	.2	0.1	31.92	-	-	50	-18.08
12	5.4825	23.19	Av	.2	0.1	23.49	60	-36.51	50	-26.51

Pk - Peak detector

Av - Average detection

Quasi-Peak Emissions

Range 1: Line-L1 .15 - 30MHz									
Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.16013	47.23	Qp	1.3	0	48.53	65.52	-16.99	55.46	-6.93

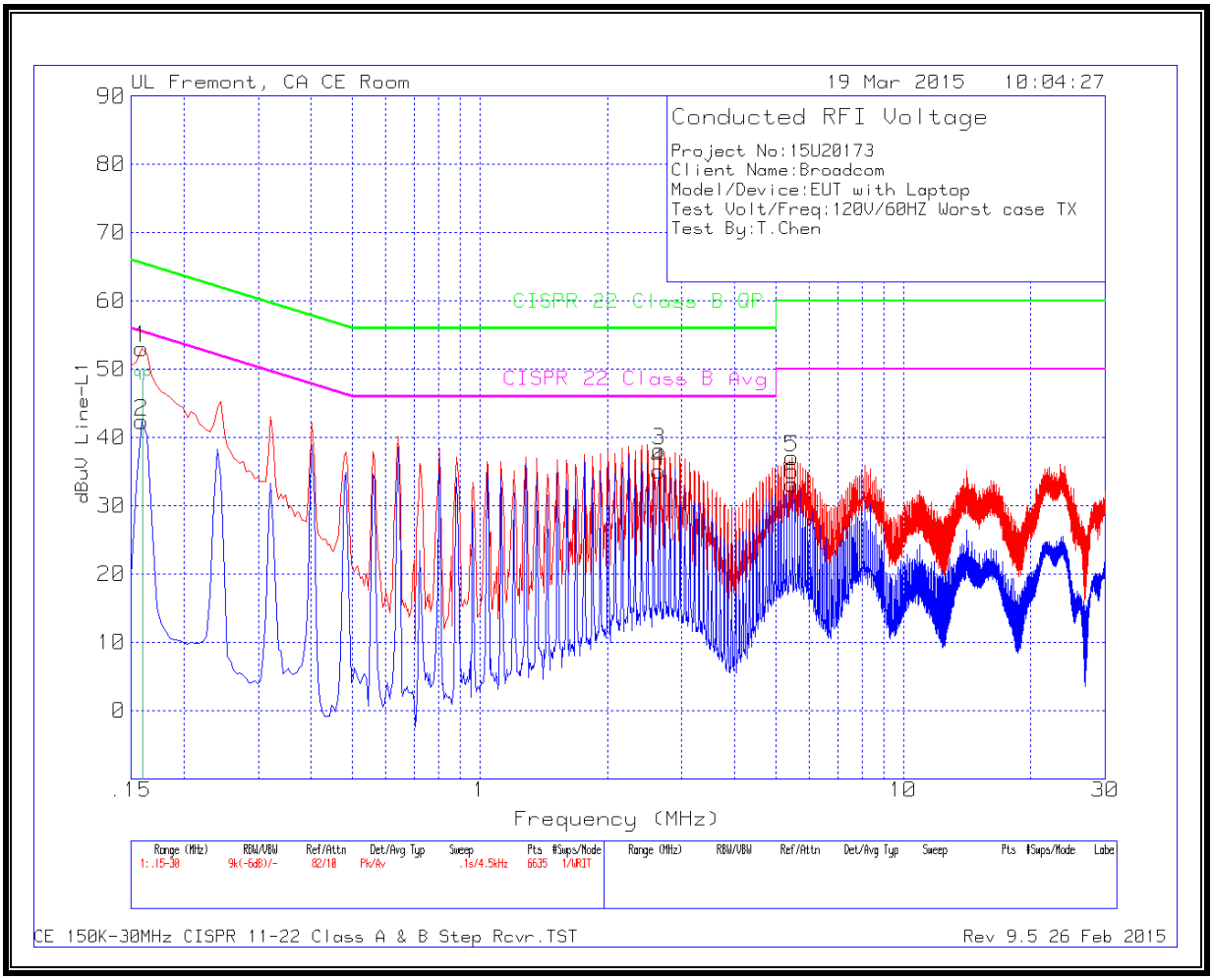
Qp - Quasi-Peak detector

Range 2: Line-L2 .15 - 30MHz									
Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.16238	48.6	Qp	1.3	0	49.9	65.34	-15.44	55.34	-5.44

Qp - Quasi-Peak detector

CE 150K-30MHz CISPR 11-22 Class A & B Step Rcvr.TST

LINE 1 RESULTS



LINE 2 RESULTS