FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

Bluetooth & 802.11a/b/g/n/ac 3x3 VIDEO SET TOP BOX

MODEL NUMBER: IPSTB1000, IPC3100

FCC ID: 2ABTE-8G2XL5

REPORT NUMBER: 15U22443-E2V2

ISSUE DATE: 3/16/2016

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2/11/2016	Initial Issue	C. VERGONIO
V2	3/16/2016	Added Below 30 MHz data in Section 9.10, updated Section 5.2, Section 1, Section 3, and setup photo in Section 11	C. VERGONIO

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	Verizon Online LLC 1300 I Street Washington, DC 20005 U.S.A
EUT DESCRIPTION:	Bluetooth & 802.11 a/b/g/n/ac 3x3 Video Set Top Box
MODEL:	IPSTB1000, IPC3100
SERIAL NUMBER:	MCNZ5Dg60018, MCNZ5Dd20040, MCNZ5Dd20056
DATE TESTED:	December 25, 2015 – March 16, 2016

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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CONSUMER TECHNOLOGY DICISION
WiSE ENGINEER
UL VERIFICATION SERVICES INC.

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WiSE LAB ENGINEER
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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, and ANSI C63.10-2013.

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.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

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, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance,1000 to 6000 MHz	3.86 dB
Radiated Disturbance,6000 to 18000 MHz	4.23 dB
Radiated Disturbance,18000 to 26000 MHz	5.30 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Bluetooth and 802.11 a/b/g/n/ac 3x3 Video Set Top Box.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum 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 - 2462	802.11b Legacy 1TX	N/A	19.88	N/A	19.88	97.27
2412 - 2462	802.11g Legacy 1TX	N/A	18.66	N/A	18.66	73.45
2412 - 2462	802.11n HT20 CDD 1TX	N/A	18.60	N/A	18.60	72.44
2412 - 2462	802.11n HT20 CDD 3TX	18.14	18.46	18.71	23.21	209.61
2422 - 2452	802.11n HT40 1TX	N/A	16.74	N/A	16.74	47.21
2422 - 2452	802.11n HT40 CDD 3TX	18.74	19.00	19.20	23.76	237.43

List of test reductions (non-beamforming modes):

Antenna Port Testing		
Band	**Mode**	**Covered by**
2.4 GHz band	802.11n HT20 1TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11n HT20 CDD/SDM/STBC 2TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11n HT20 STBC 3TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11n HT40 1TX	802.11n HT40 CDD 3TX
2.4 GHz band	802.11n HT40 CDD/SDM/STBC 2TX	802.11n HT40 CDD 3TX
2.4 GHz band	802.11n HT40 STBC 3TX	802.11n HT40 CDD 3TX

Radiated Testing		
Band	**Mode**	**Covered by**
2.4 GHz band	802.11n HT20 CDD/SDM/STBC 2TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11n HT20 STBC 3TX	802.11n HT20 CDD 3TX
2.4 GHz band	802.11n HT40 CDD/SDM/STBC 2TX	802.11n HT40 CDD 3TX
2.4 GHz band	802.11n HT40 STBC 3TX	802.11n HT40 CDD 3TX

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a chip antenna, with a maximum gain of 4.85 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during conducted testing was Broadcom, rev. 7.14.124.54 (R585938 BCMINT); radiated testing. rev. 7.14.124(TOB)(r614880 BCMINT)

The EUT driver software installed during testing was Broadcom, rev. 7.14RC124.54.

The test utility software used during testing was Broadcom MTool, rev. 2.0.2.6.

5.5. WORST-CASE CONFIGURATION AND MODE

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

The EUT is for desktop applications; all radiated testing was performed with EUT laid out in desktop configuration.

Worst-case chains as provided by the client were:

For SISO modes:

For 2.4 GHz, band edge preliminary investigation showed that antenna port J1 worst case for all modes.

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

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

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	Delta	IPSTB1000-PS	HSPD5A6001R	N/A
Laptop	HP	Elite Book 8440P	CND0451B4G	N/A
Laptop AC Adapter	HP	PPP016H	F1-09090462500A	N/A
Laptop	HP	Elite Book 2560P	CNU2092200	N/A
Laptop AC Adapter	HP	PPP0017H	F3-07100545060C	N/A

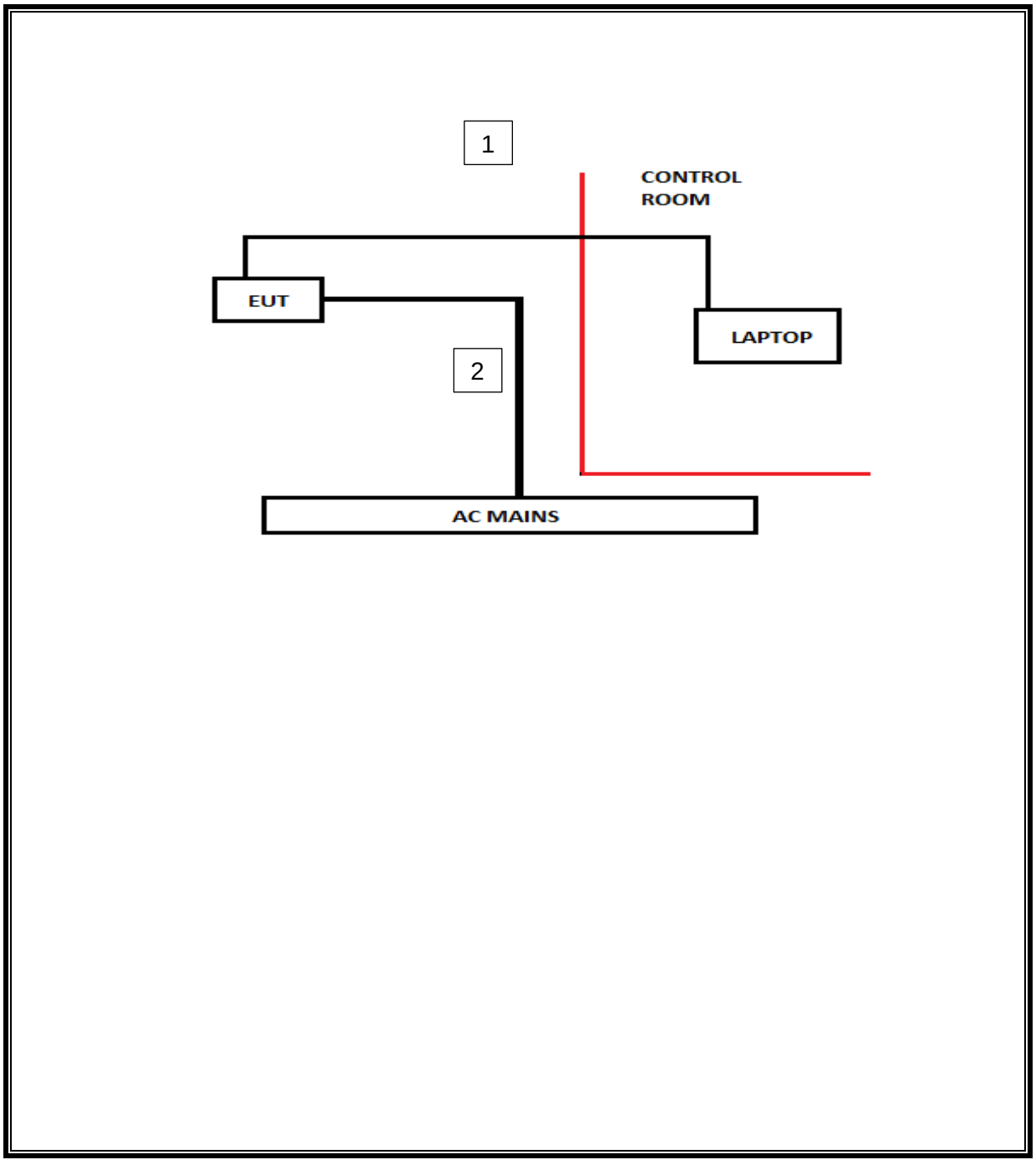
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	RJ45	1	RJ45	Unshielded	1.2	N/A
2	AC	1	2-Prong	Unshielded	1.5	N/A

TEST SETUP

The EUT was tested stand alone and the communication was established via RJ45 cable between EUT and support laptop. Test software exercised the radio.

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 Number**	**Cal Due**
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	477	06/10/16
Antenna, Horn, 18GHz	ETS Lindgren	3117	136	03/03/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/12/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	88	04/07/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	404	06/29/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	PRE0126762	12/08/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	E4446A	99	06/10/16
EMI Test Receiver, 9 KHz to 7 GHz	Rohde & Schwarz	ECSI7	284	09/10/16
Peak Power Meter	Agilent / HP	N1911A	229	07/30/16
Peak / Average Power Sensor	Keysight	N1921A	1225	07/06/16
LISN for Conducted Emission	Ficher	FCC-LISN-50/250-	1310	9/16/2016
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	160	CNR
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	417	05/04/16
High Pass Filter 6GHz	Micro-Tronics	HPS17542	893	04/25/16
High Pass Filter 3GHz	Micro-Tronics	HPS17543	898	04/25/16

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015
Antenna Port Software	UL	UL RF	Ver 3.9.1, Dec 28, 2015
Antenna Port Software	UL	UL RF	Ver 4.1, Jan 14, 2016

7. MEASUREMENT METHODS

Duty Cycle: KDB 558074 D01 v03r04, Section 6.0

6 dB BW: KDB 558074 D01 v03r04, Section 8.1.

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

Output Power: KDB 558074 D01 v03r04, Section 9.2.3.2.

Power Spectral Density: KDB 558074 D01 v03r04, Section 10.3.

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v03r04, Section 11.0.

Out-of-band emissions in restricted bands: KDB 558074 D01 v03r04, Section 12.1.

Band-edge: KDB 558074 D01 v03r04, Section 13.3.1.

AC Power Line Conducted Emissions: ANSI CV63.10-2013 Section 6.2.

Unwanted emissions within Restricted Bands are measured using traditional radiated procedures.

Band edge emissions within Restricted Bands are measured using RMS with duty cycle factor offset method.

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

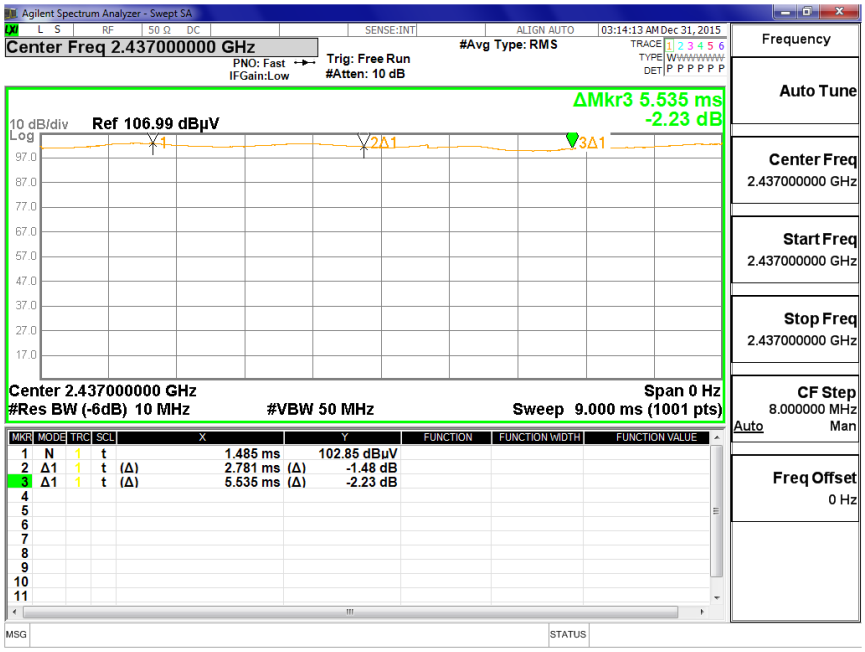
ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.11b CDD	1.000	1.000	1.000	100.00%	0.00	0.010
802.11g CDD	2.064	2.082	0.991	99.14%	0.00	0.010
802.11n HT20 CDD	1.917	1.938	0.989	98.92%	0.00	0.010
802.11n HT40 CDD	7.665	7.695	0.996	99.61%	0.00	0.010

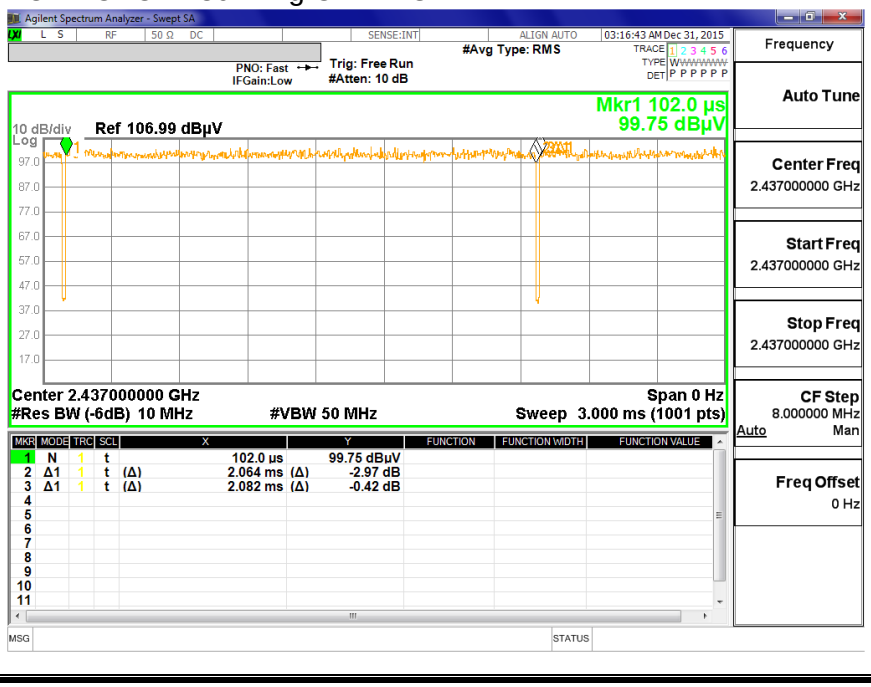
DUTY CYCLE PLOTS

2.4 GHz BAND

DUTY CYCLE 802.11b CDD MODE

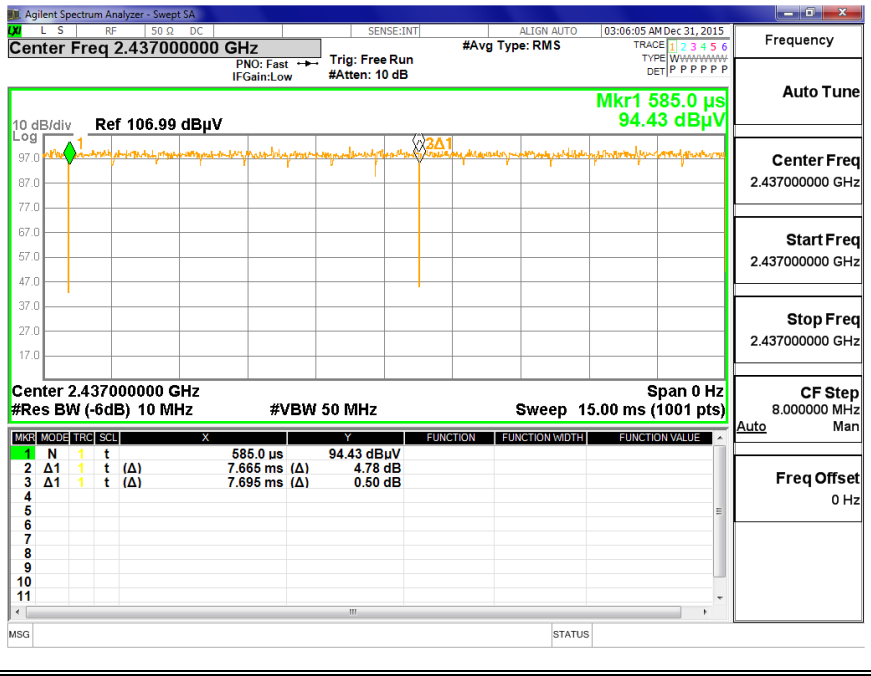


DUTY CYCLE 802.11g CDD MODE



DUTY CYCLE 802.11n HT20 CDD MODE

DUTY CYCLE 802.11n HT40 CDD MODE



8.2. 802.11b LEGACY SISO MODE IN THE 2.4 GHz BAND

8.2.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

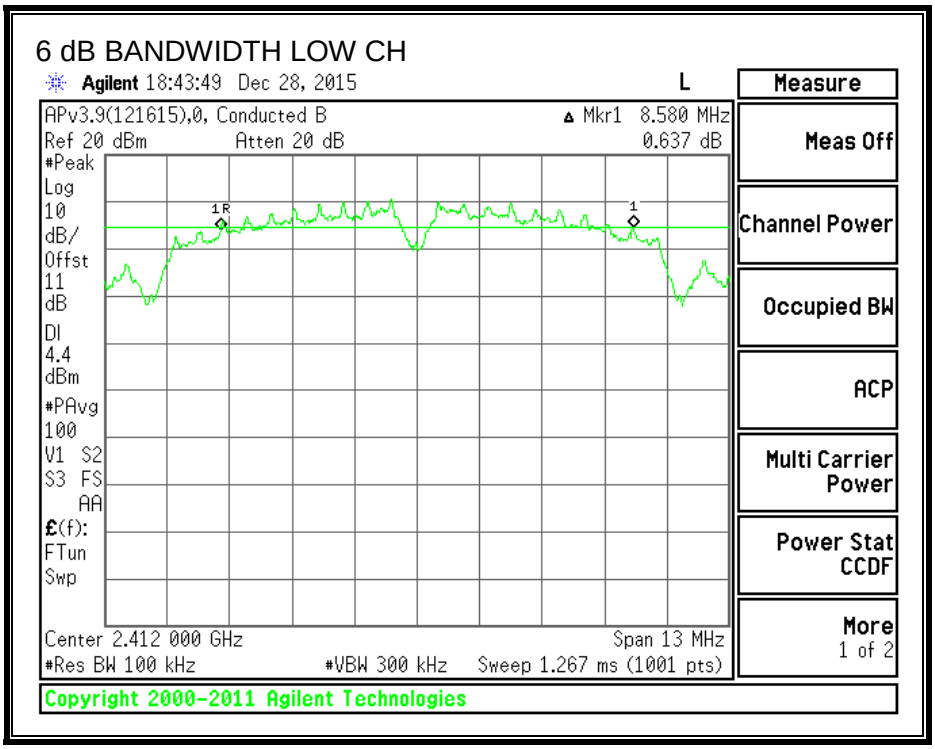
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

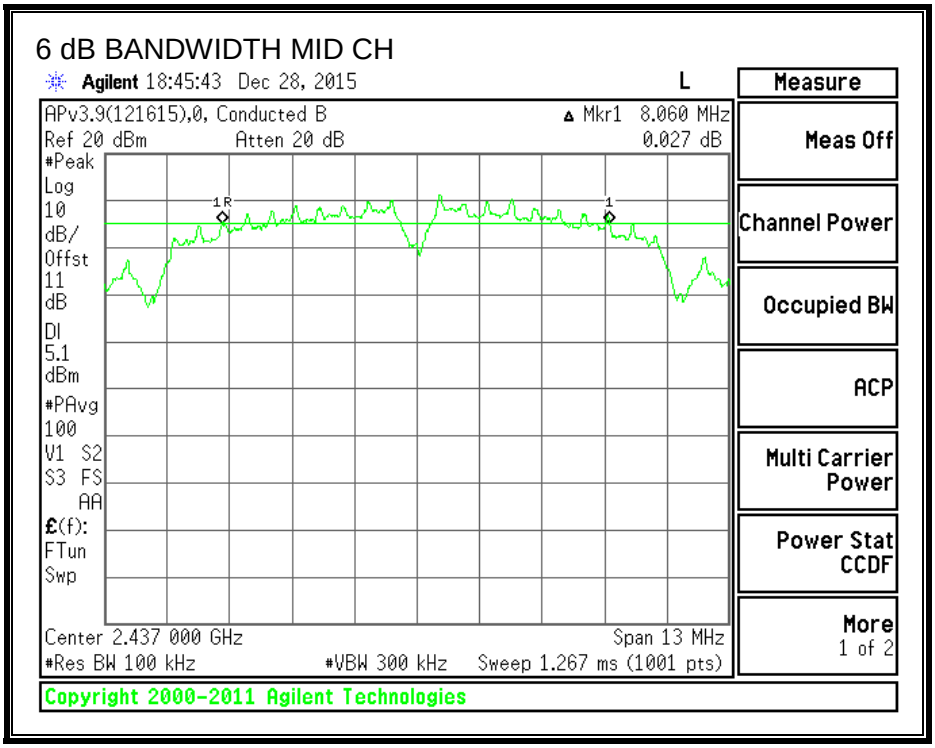
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	8.580	0.5
Mid	2437	8.060	0.5
High	2462	8.567	0.5

6 dB BANDWIDTH

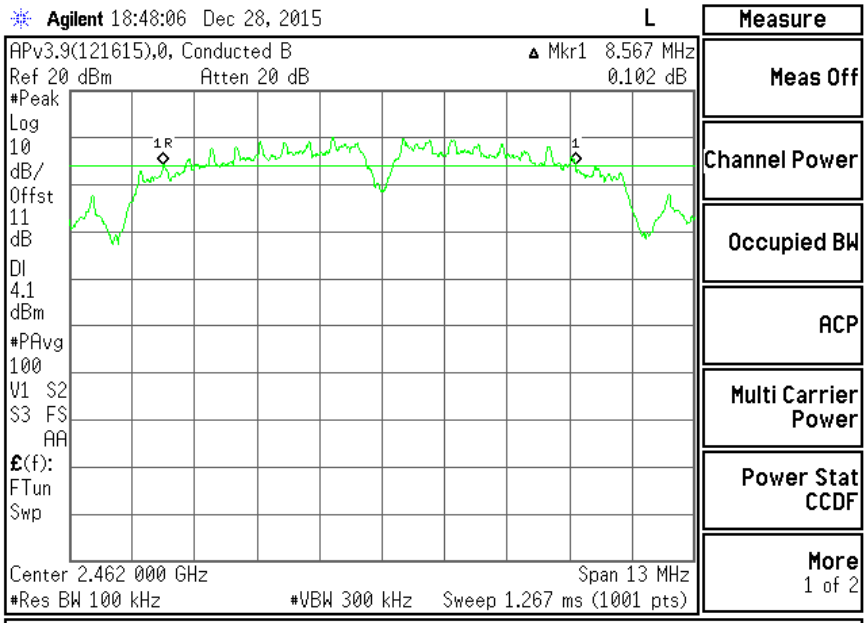
6 dB BANDWIDTH LOW CH



6 dB BANDWIDTH MID CH



6 dB BANDWIDTH HIGH CH



8.2.2. 99% BANDWIDTH

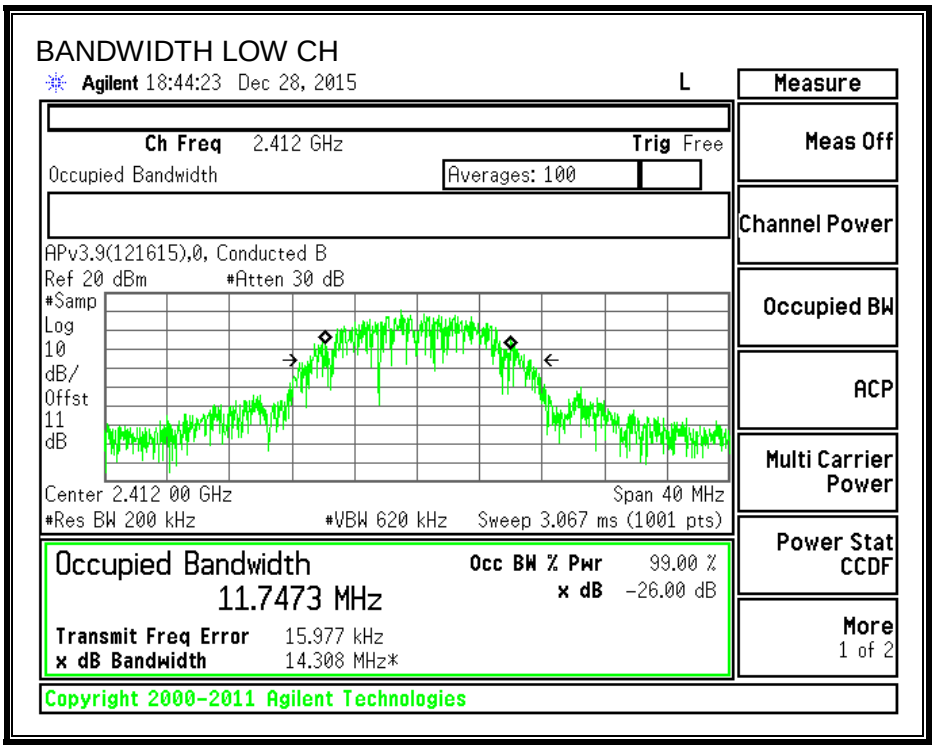
LIMITS

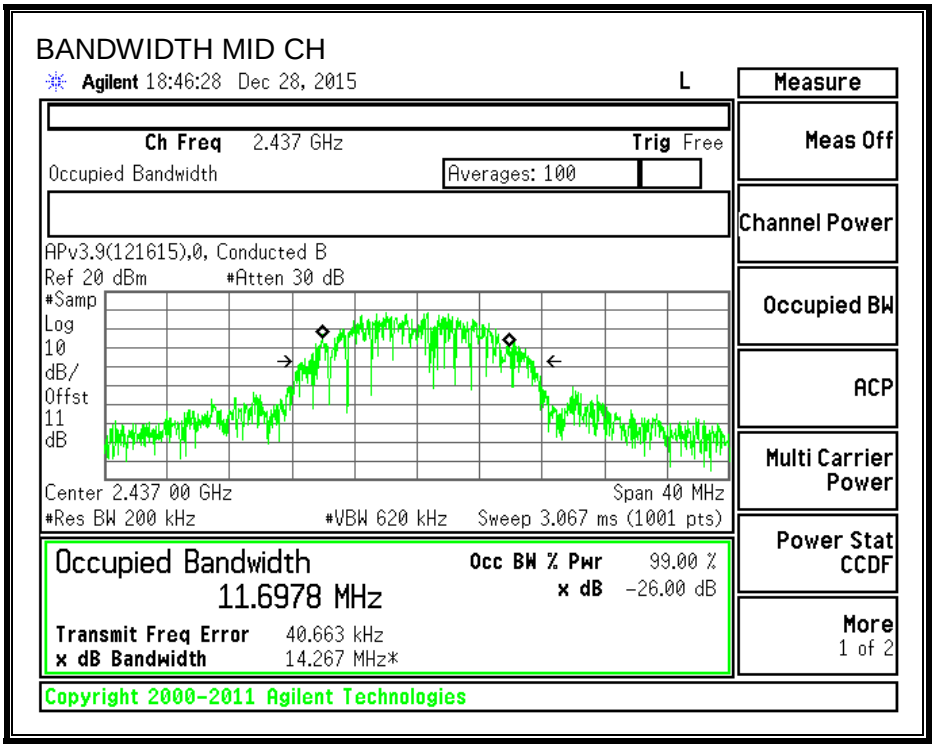
None; for reporting purposes only.

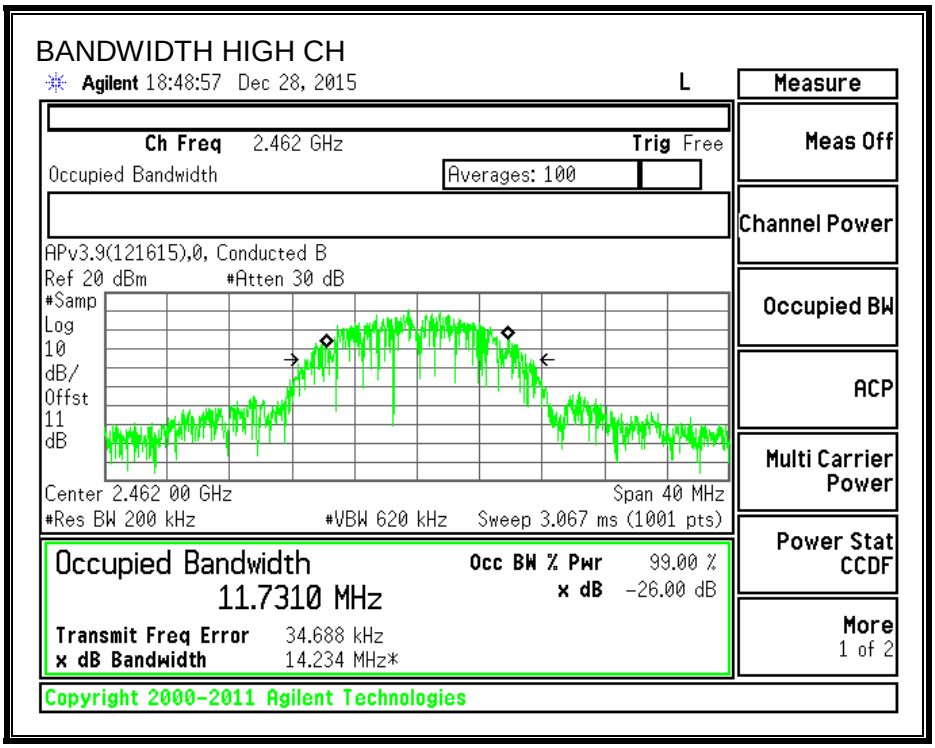
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	11.7473
Mid	2437	11.6978
High	2462	11.7310

99% BANDWIDTH







8.2.3. 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

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

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	4.85	30.00	30	36	30.00
Mid	2437	4.85	30.00	30	36	30.00
High	2462	4.85	30.00	30	36	30.00

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

Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	19.88	19.88	30.00	-10.12
Mid	2437	19.80	19.80	30.00	-10.20
High	2462	19.84	19.84	30.00	-10.16

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.

8.2.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

For digitally modulated systems shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions.

RESULTS

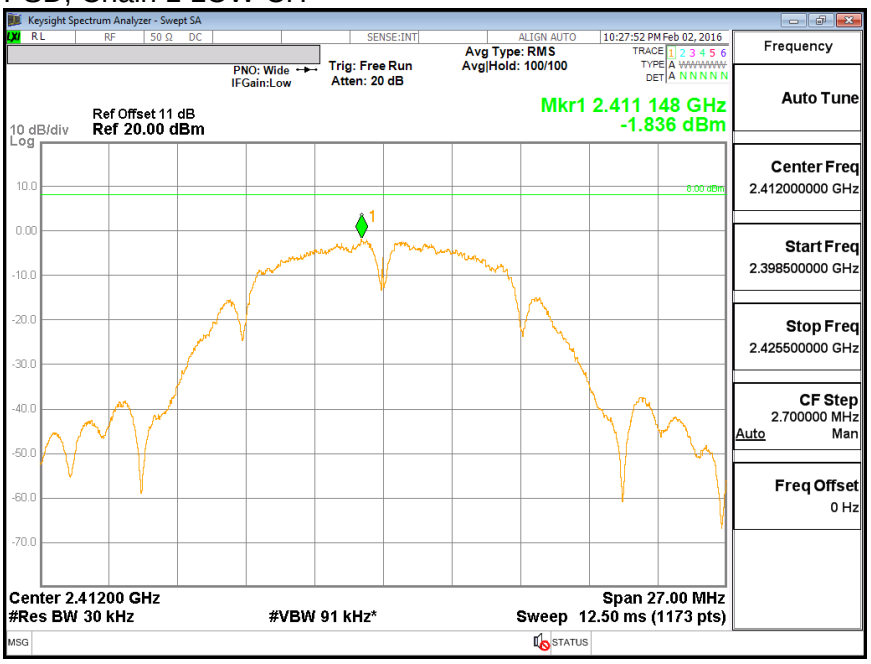
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

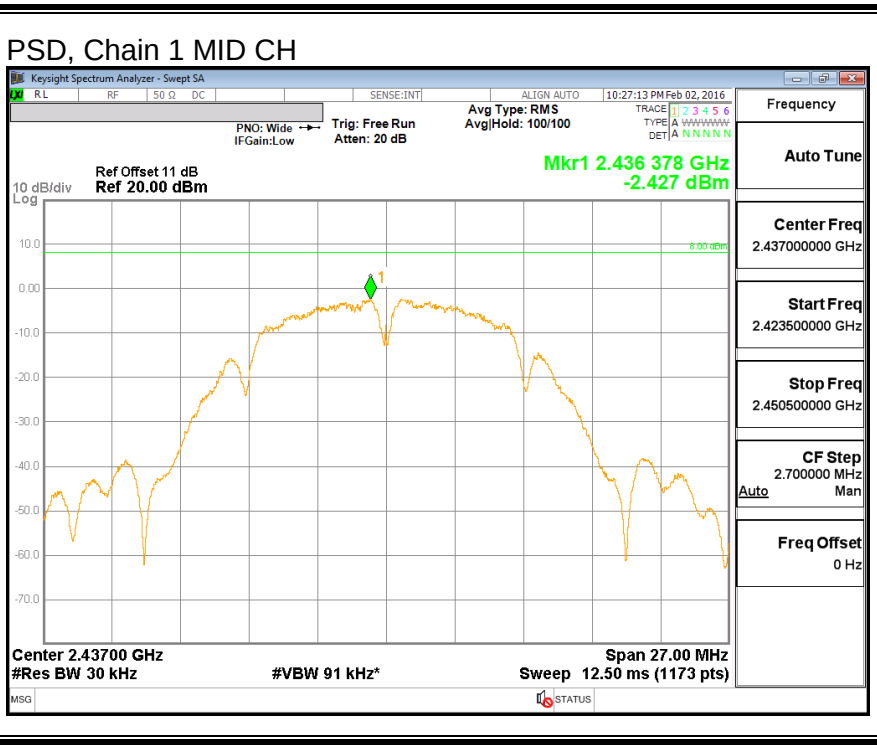
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-1.836	-1.836	8.00	-9.84
Mid	2437	-2.427	-2.427	8.00	-10.43
High	2462	-2.196	-2.196	8.00	-10.20

PSD, Chain 1

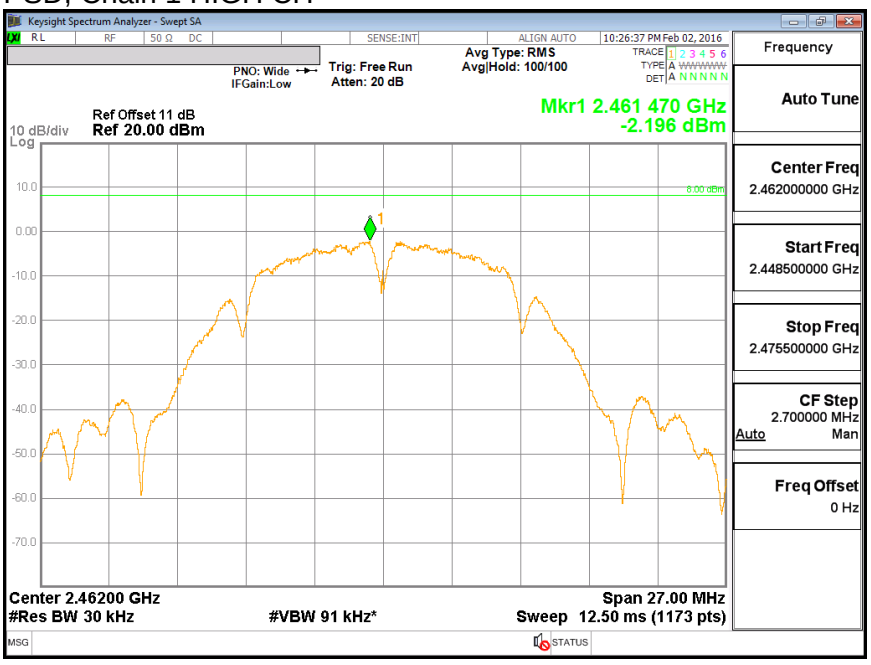
PSD, Chain 1 LOW CH



PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



8.2.5. OUT-OF-BAND EMISSIONS

LIMITS

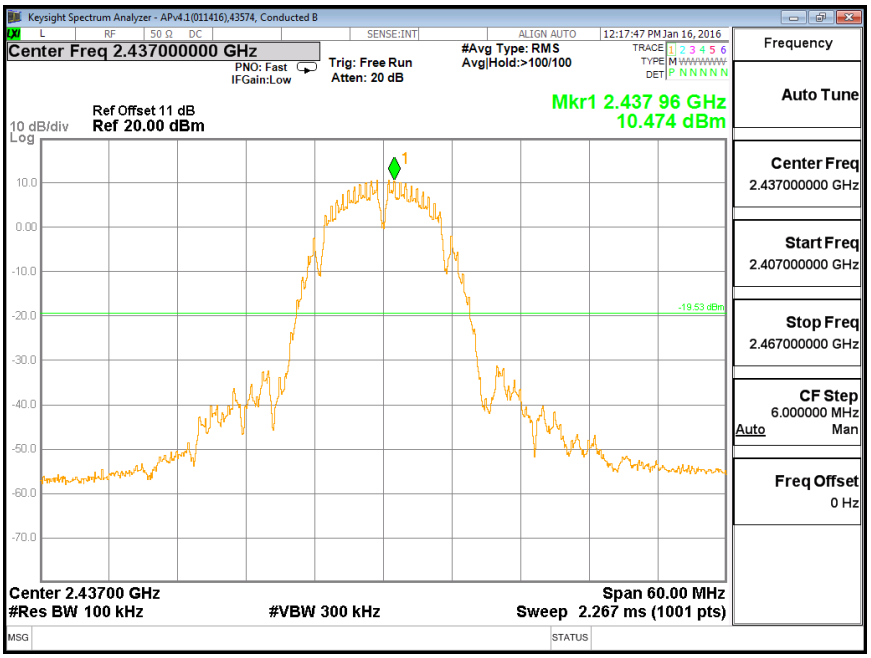
FCC §15.247 (d)

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

RESULTS

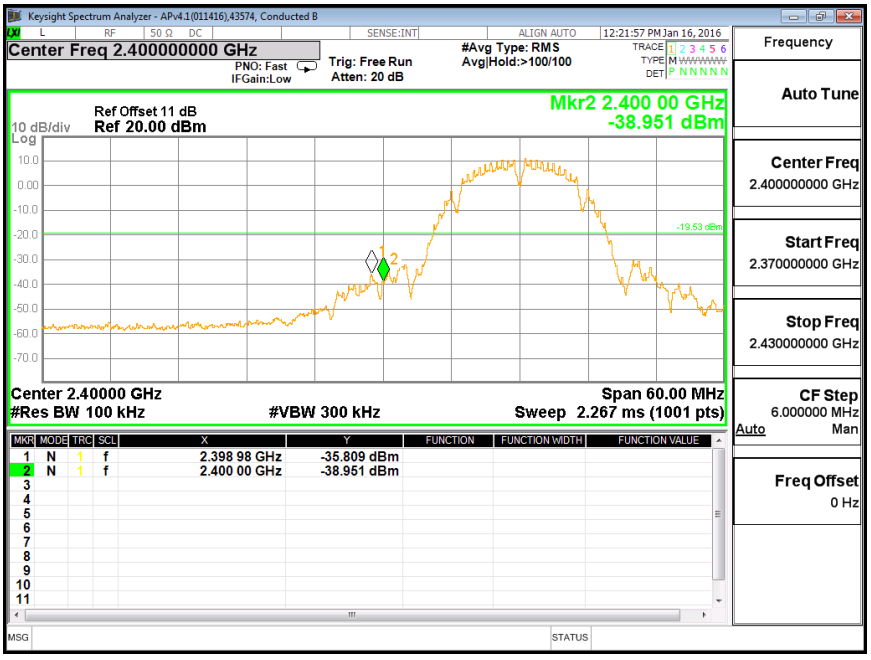
IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH



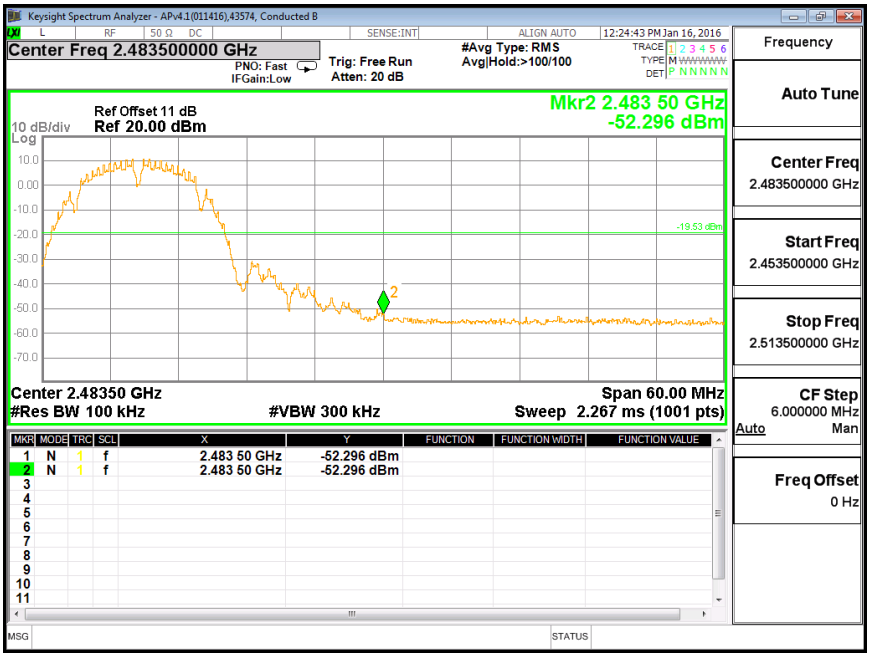
LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH



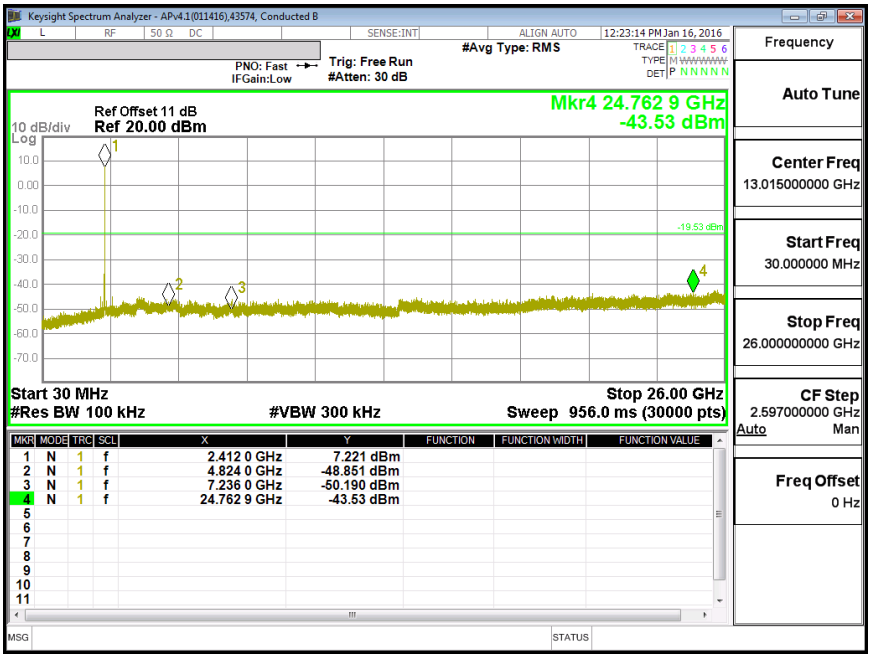
HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH

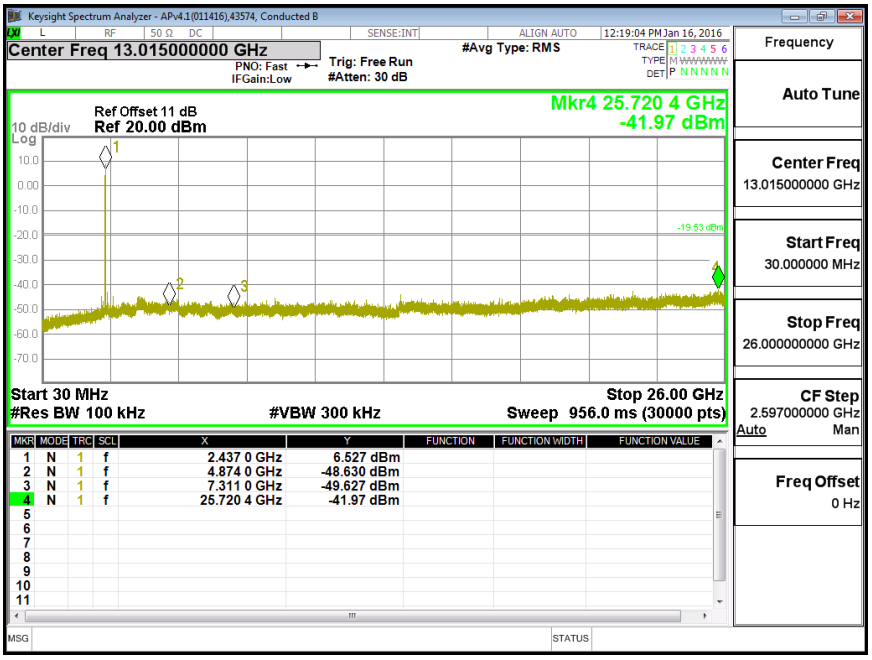


OUT-OF-BAND EMISSIONS

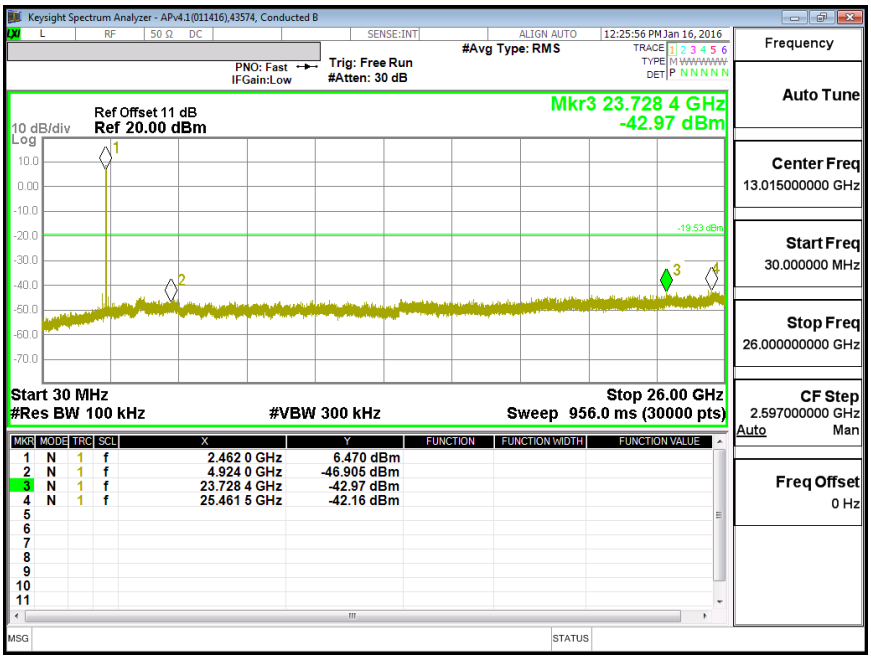
OUT OF BAND LOW CH



OUT OF BAND MID CH



OUT OF BAND HIGH CH



8.3. 802.11g LEGACY SISO MODE IN THE 2.4 GHz BAND

8.3.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

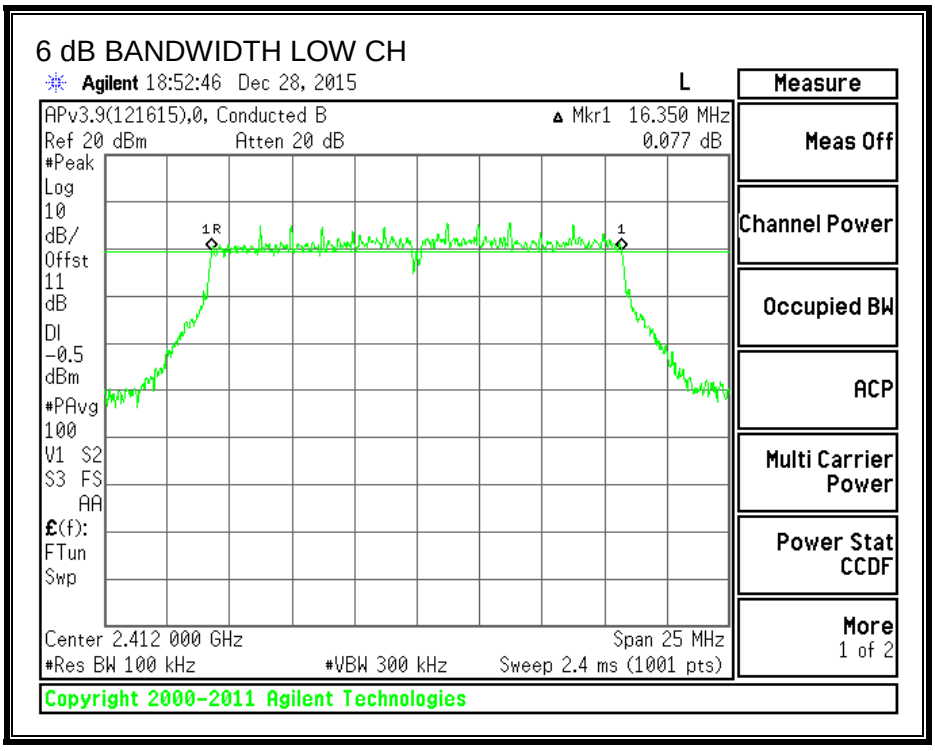
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

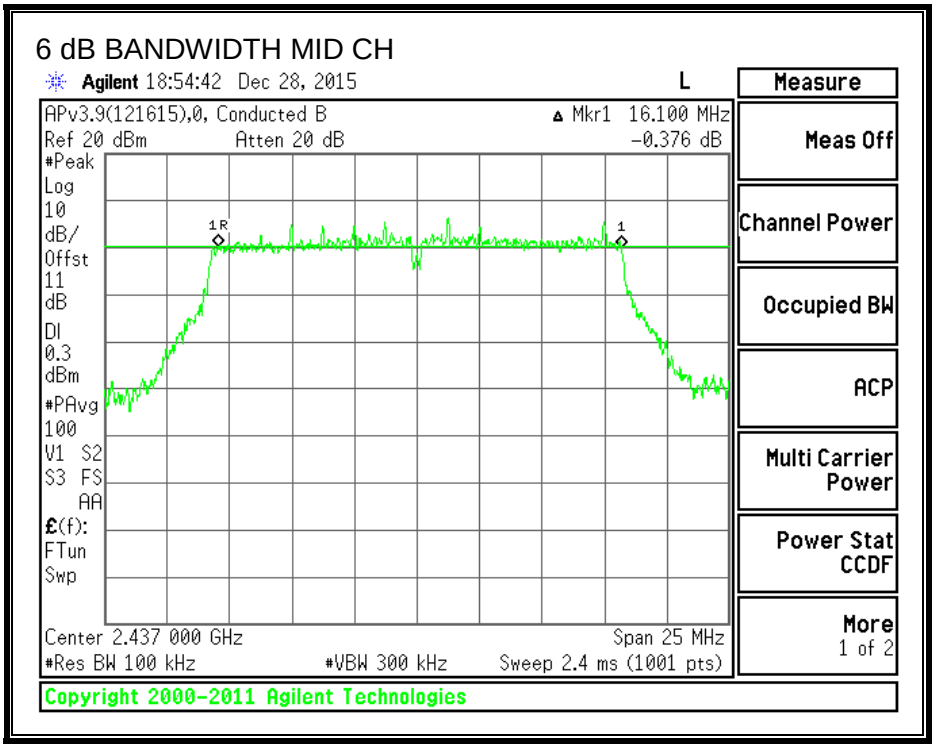
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.350	0.5
Mid	2437	16.100	0.5
High	2462	16.375	0.5

6 dB BANDWIDTH

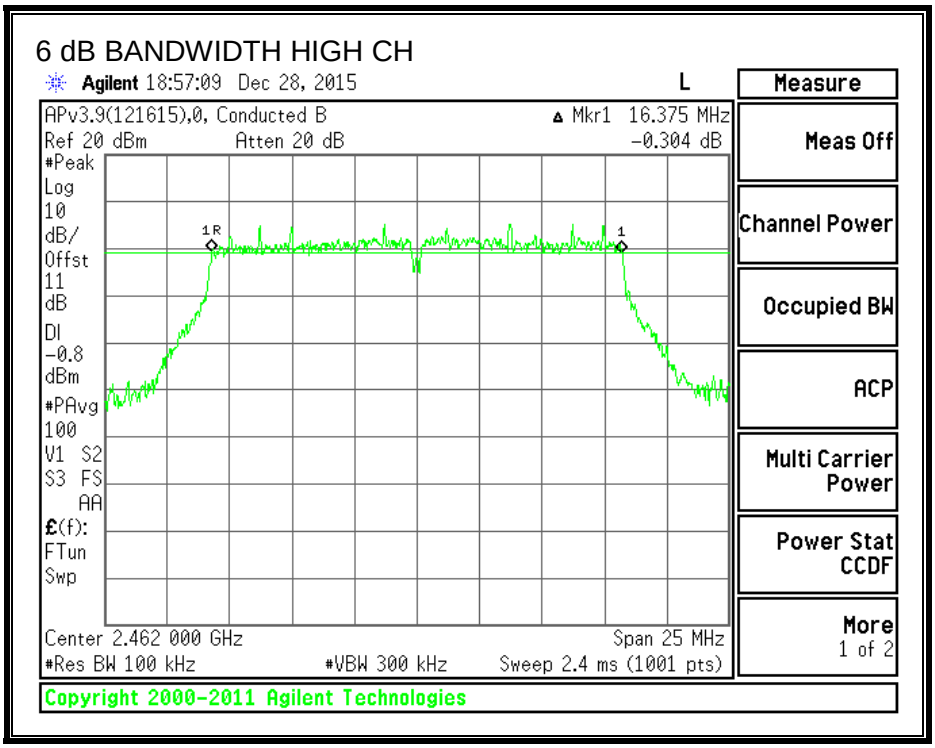
6 dB BANDWIDTH LOW CH



6 dB BANDWIDTH MID CH



6 dB BANDWIDTH HIGH CH



8.3.2. 99% BANDWIDTH

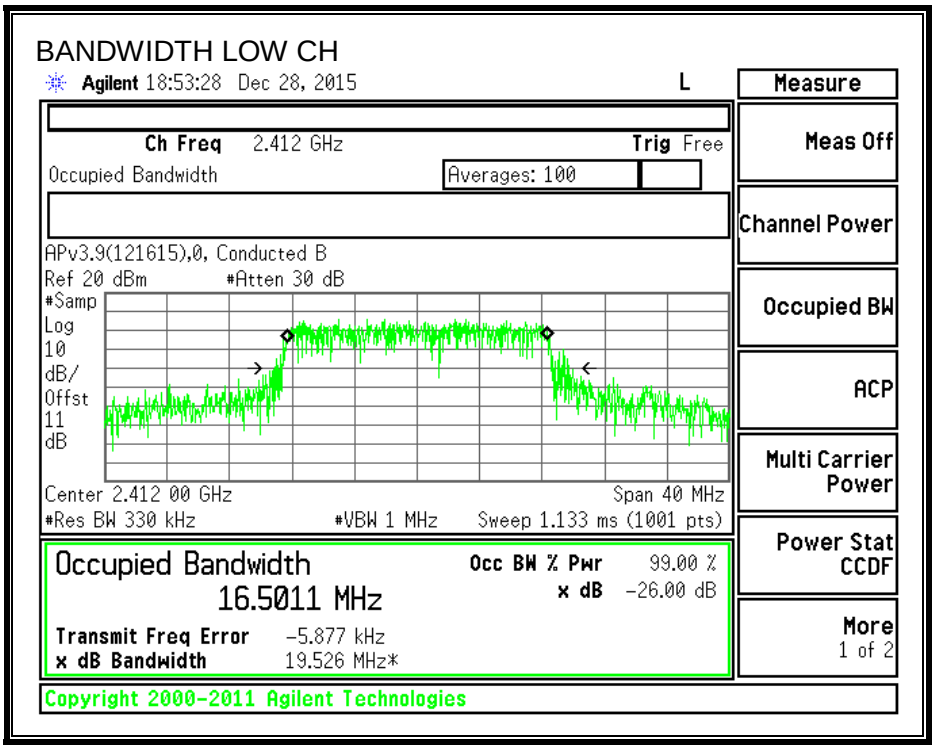
LIMITS

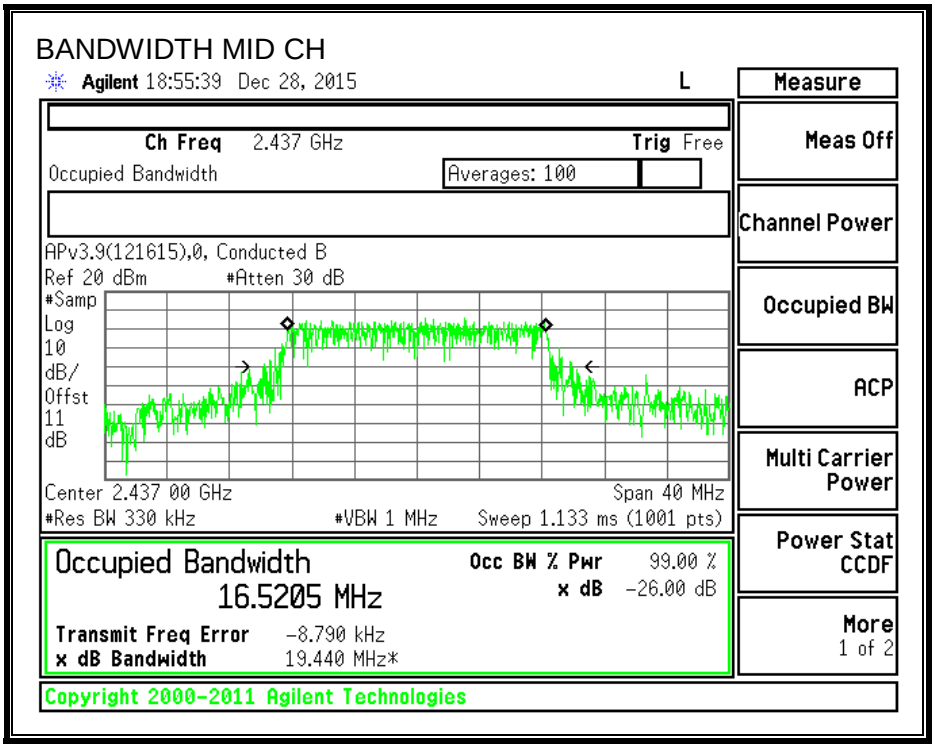
None; for reporting purposes only.

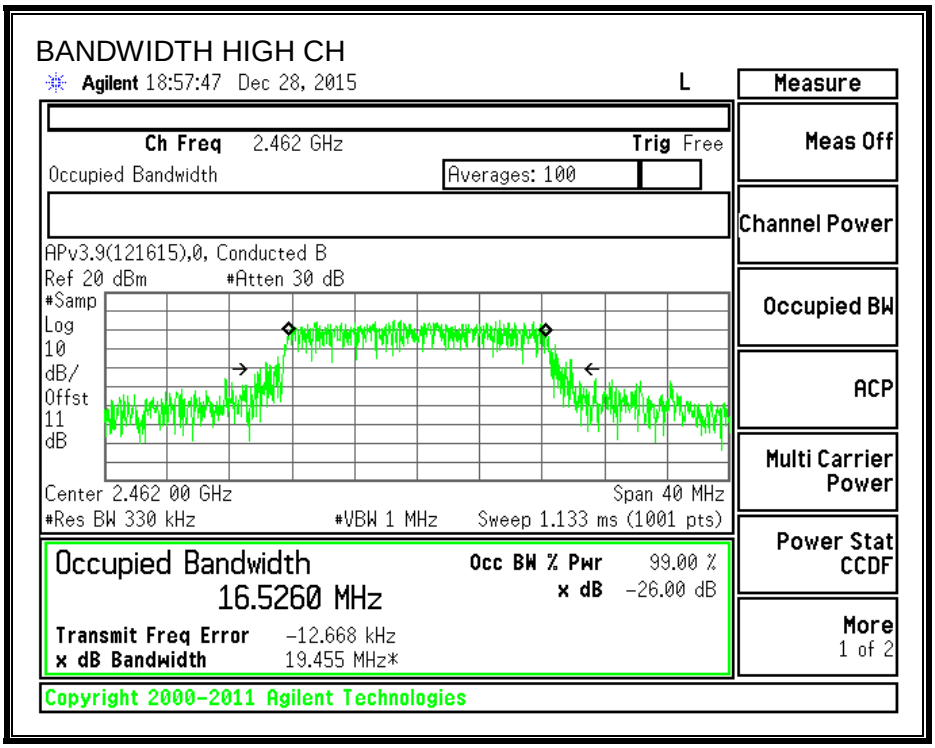
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.5011
Mid	2437	16.5205
High	2462	16.5260

99% BANDWIDTH







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

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

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	4.85	30.00	30	36	30.00
2	2417	4.85	30.00	30	36	30.00
6	2437	4.85	30.00	30	36	30.00
10	2457	4.85	30.00	30	36	30.00
11	2462	4.85	30.00	30	36	30.00

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

Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	16.47	16.47	30.00	-13.53
2	2417	18.35	18.35	30.00	-11.65
6	2437	18.66	18.66	30.00	-11.34
10	2457	18.38	18.38	30.00	-11.62
11	2462	16.51	16.51	30.00	-13.49

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

For digitally modulated systems shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions.

RESULTS

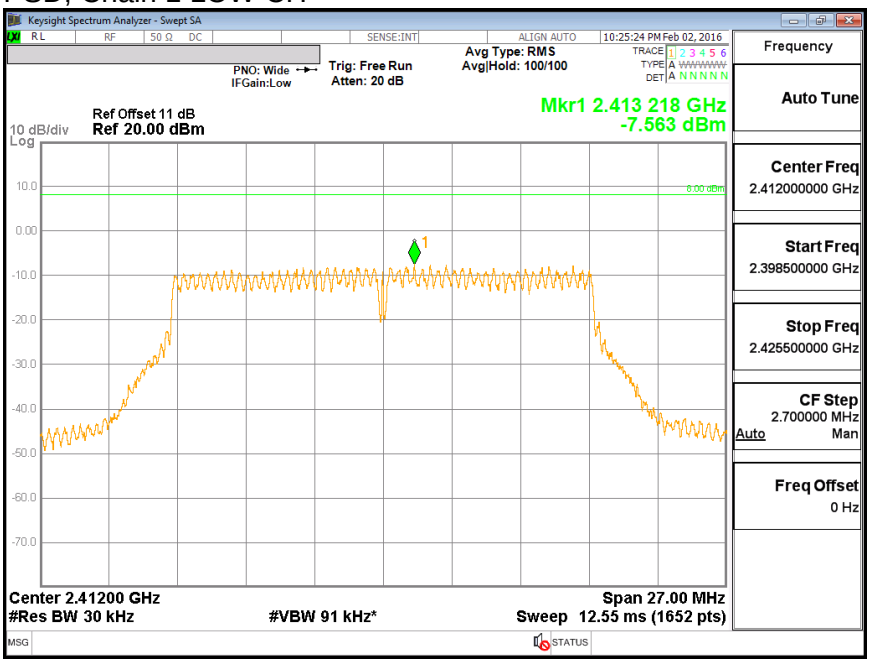
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

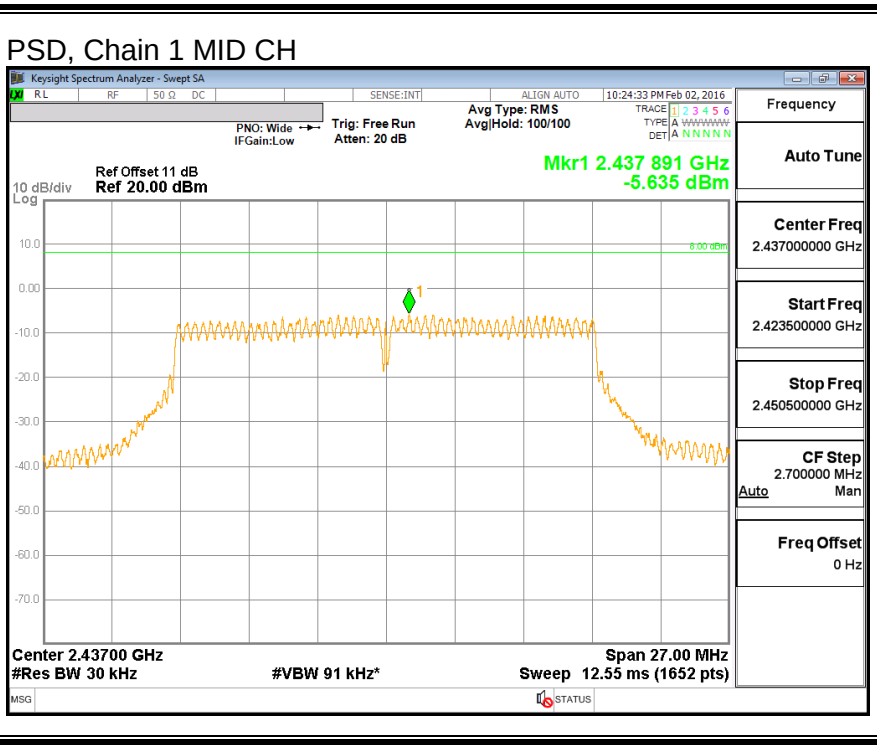
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-7.563	-7.563	8.00	-15.56
Mid	2437	-5.635	-5.635	8.00	-13.64
High	2462	-7.475	-7.475	8.00	-15.48

PSD, Chain 1

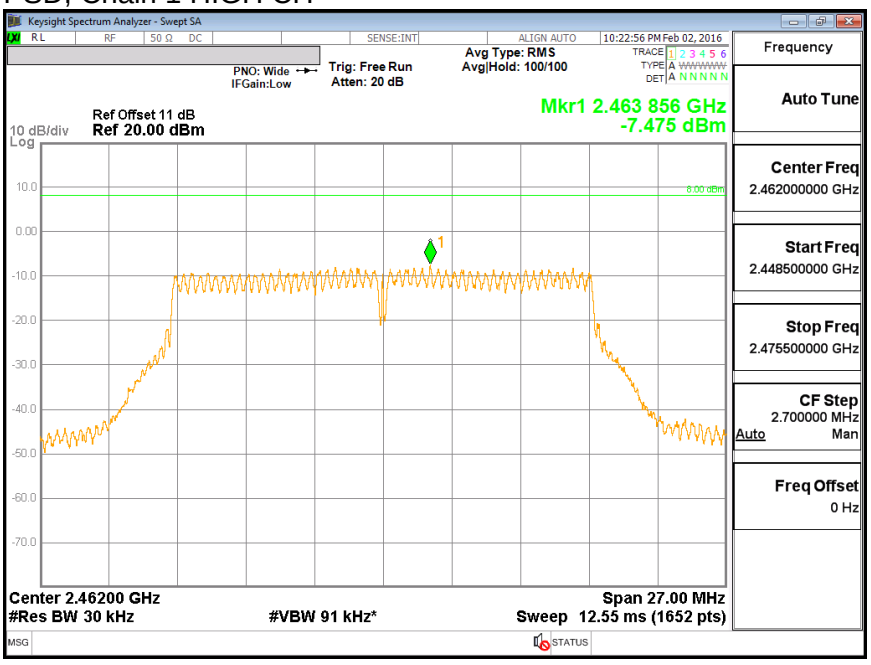
PSD, Chain 1 LOW CH



PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



8.3.5. OUT-OF-BAND EMISSIONS

LIMITS

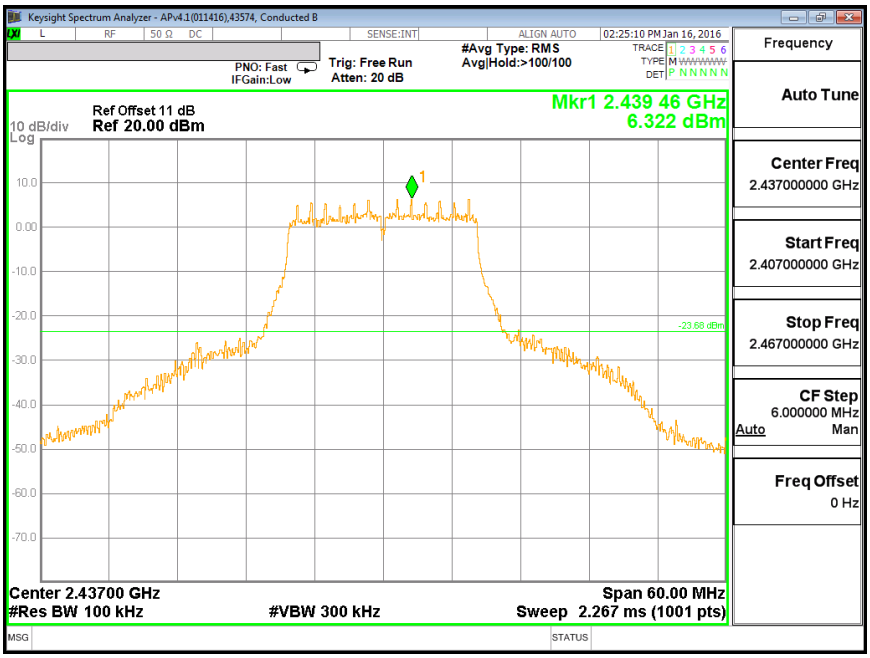
FCC §15.247 (d)

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

RESULTS

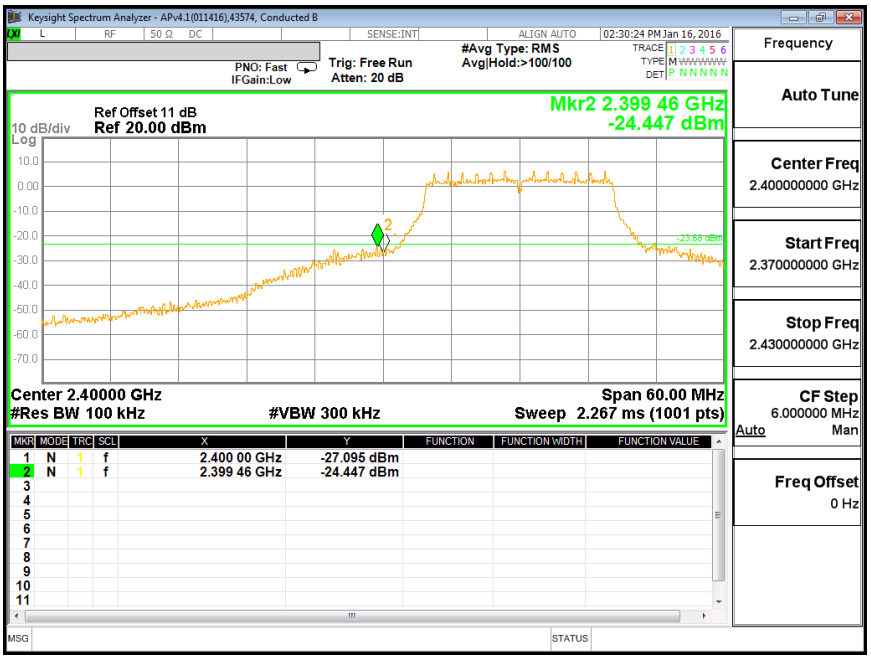
IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH



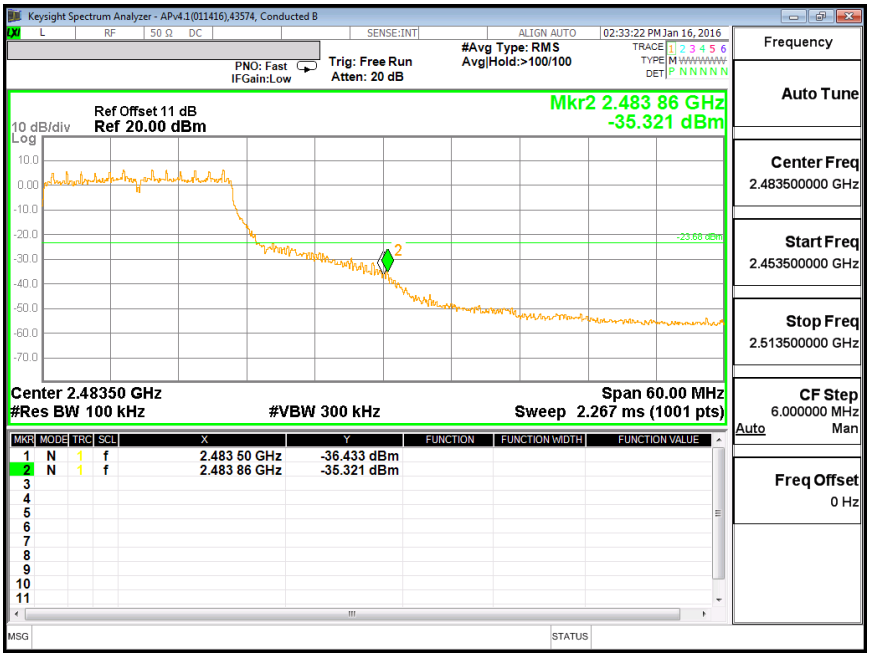
LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH



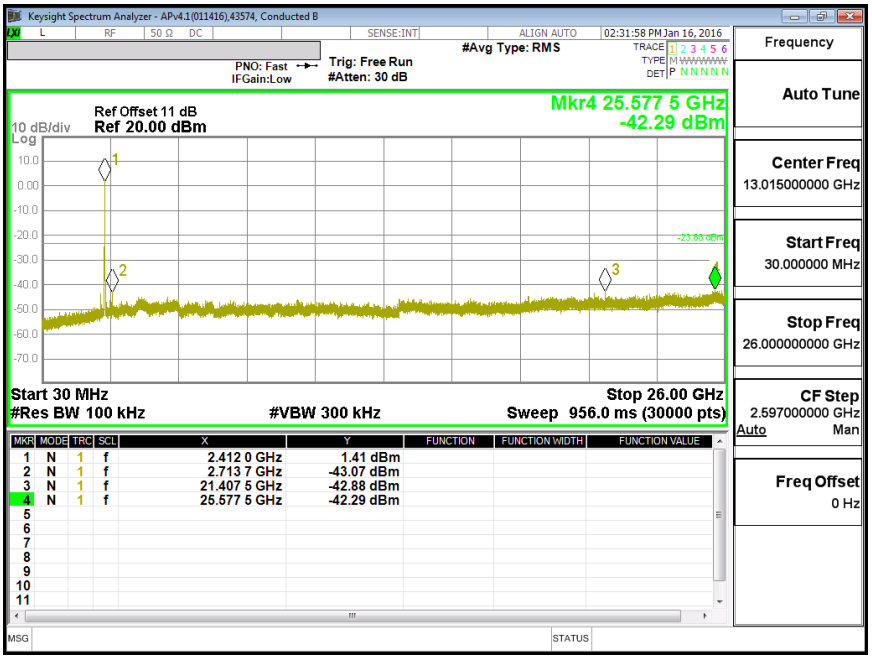
HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH

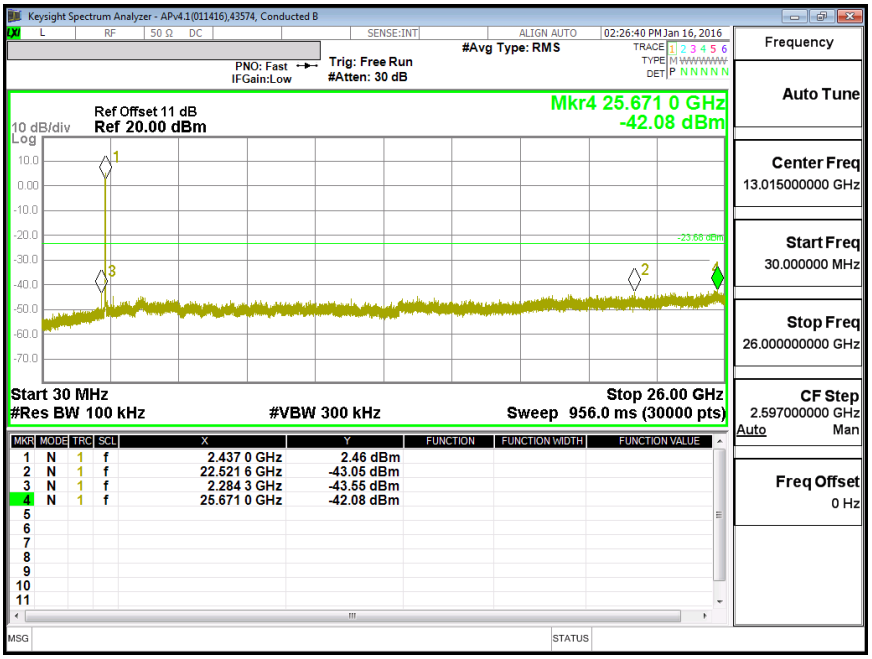


OUT-OF-BAND EMISSIONS

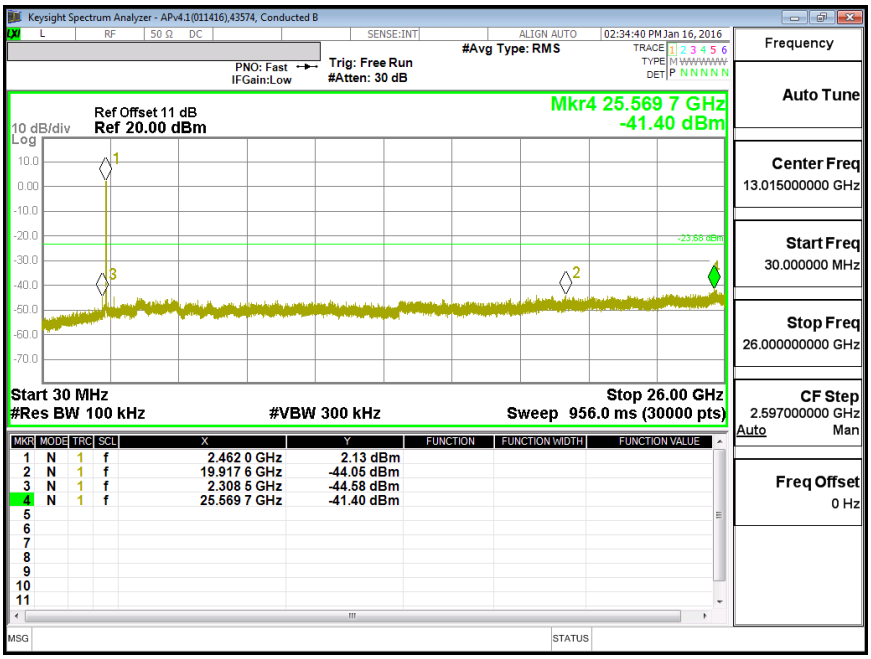
OUT OF BAND LOW CH



OUT OF BAND MID CH



OUT OF BAND HIGH CH



8.4. 802.11n HT20 CDD SISO MODE IN THE 2.4 GHz BAND

8.4.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

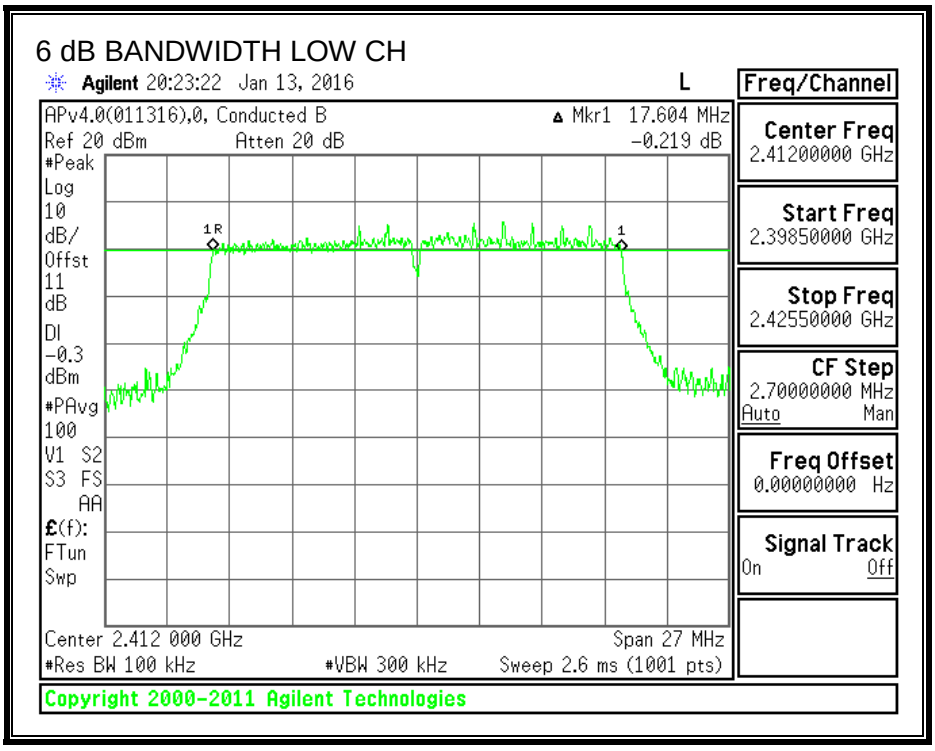
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

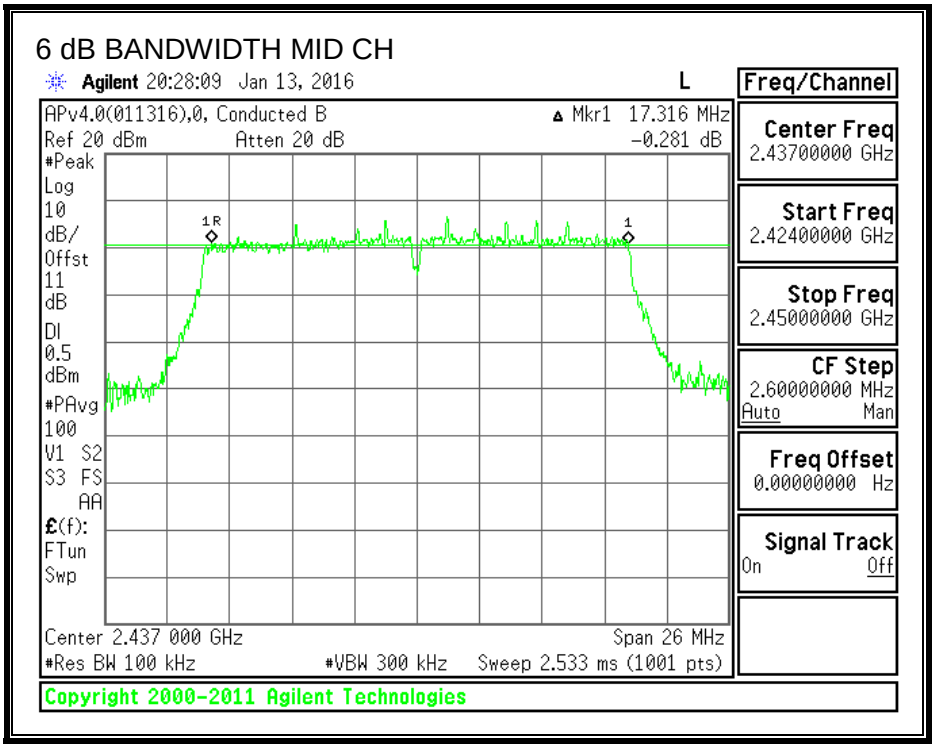
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.604	0.5
Mid	2437	17.316	0.5
High	2462	17.577	0.5

6 dB BANDWIDTH

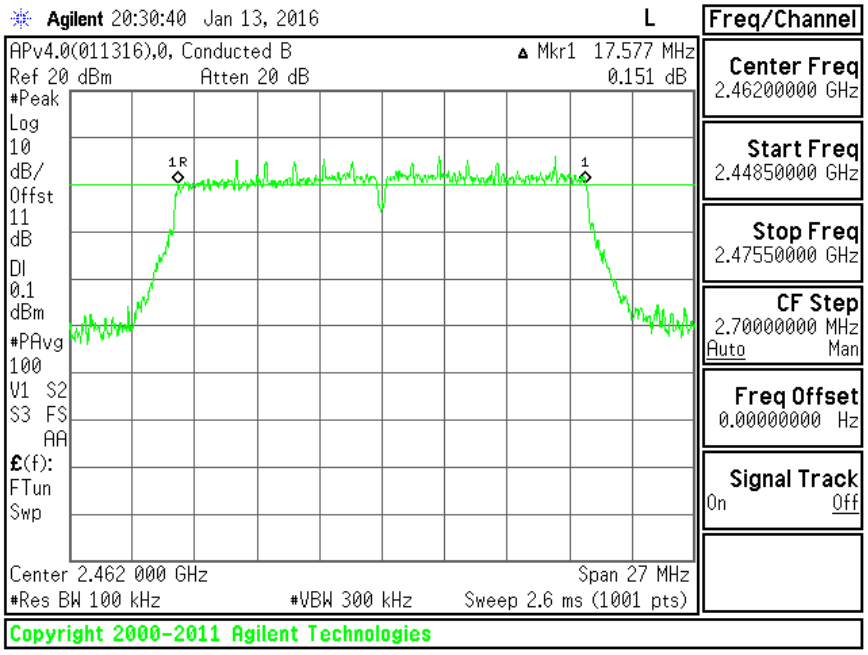
6 dB BANDWIDTH LOW CH



6 dB BANDWIDTH MID CH



6 dB BANDWIDTH HIGH CH



8.4.2. 99% BANDWIDTH

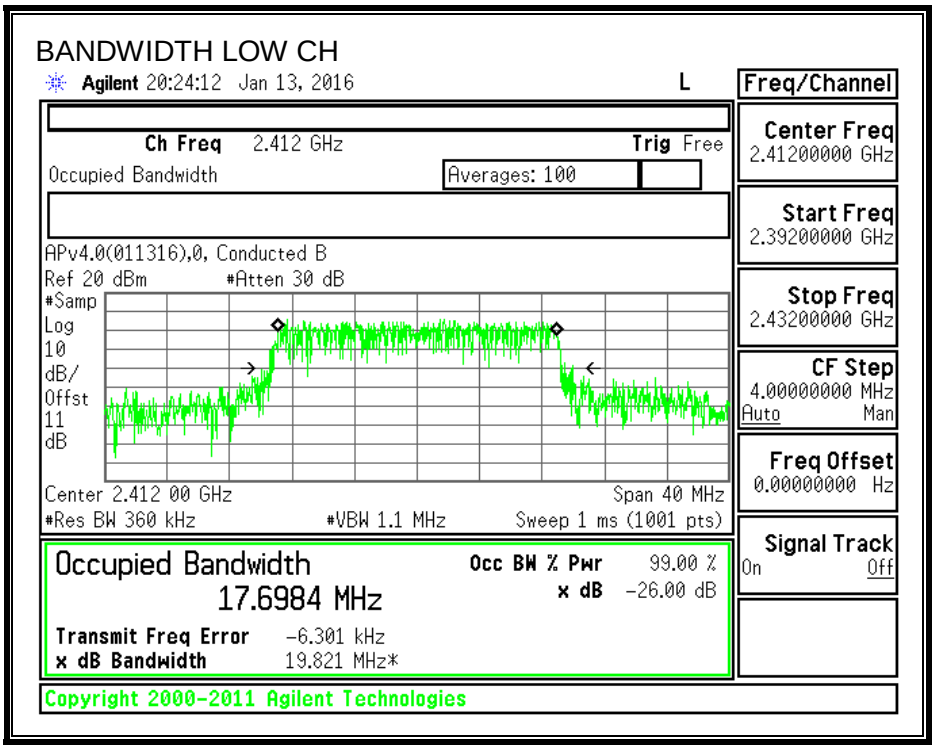
LIMITS

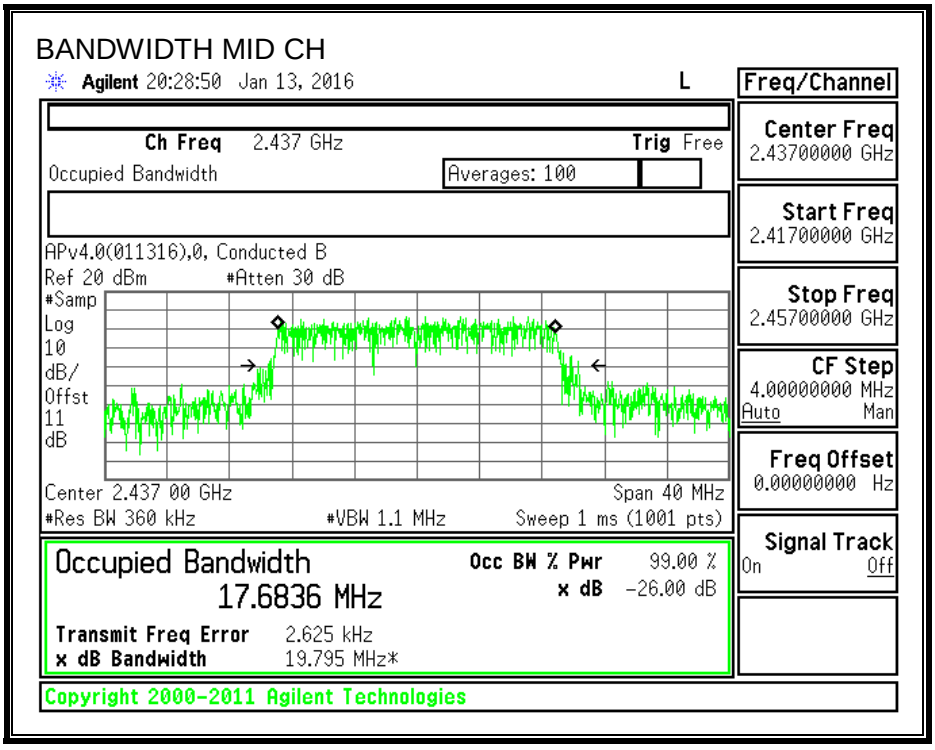
None; for reporting purposes only.

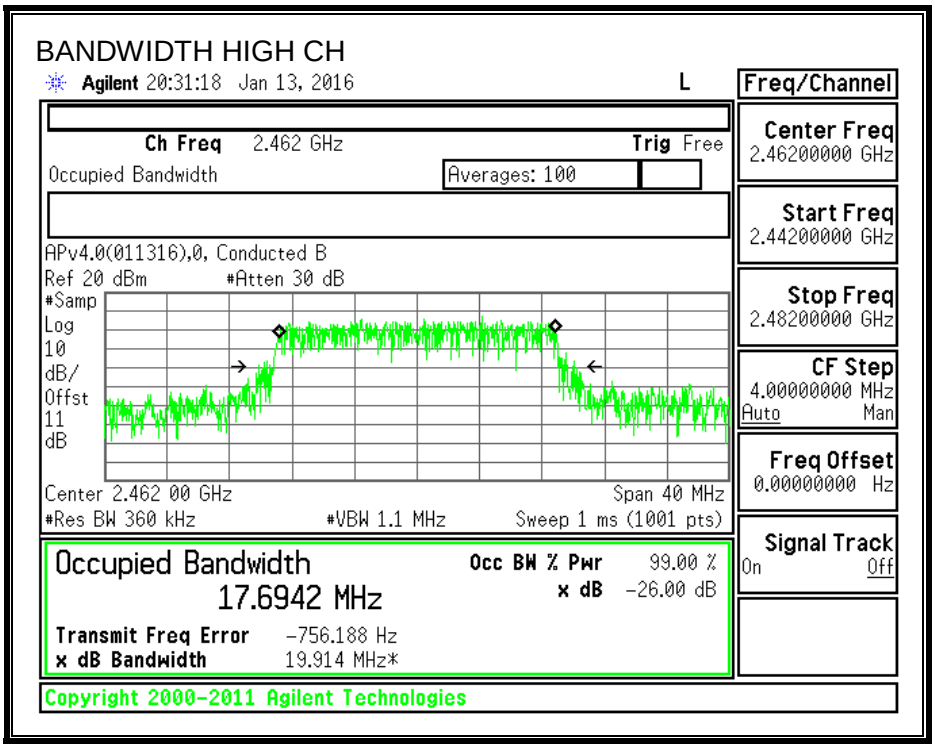
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.6984
Mid	2437	17.6836
High	2462	17.6942

99% BANDWIDTH







8.4.3. 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

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

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
1	2412	4.85	30.00	30	36	30.00
2	2417	4.85	30.00	30	36	30.00
6	2437	4.85	30.00	30	36	30.00
10	2457	4.85	30.00	30	36	30.00
11	2462	4.85	30.00	30	36	30.00

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

Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
1	2412	15.78	15.78	30.00	-14.22
2	2417	18.36	18.36	30.00	-11.64
6	2437	18.60	18.60	30.00	-11.40
10	2457	18.36	18.36	30.00	-11.64
11	2462	15.36	15.36	30.00	-14.64

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.

8.4.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

For digitally modulated systems shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions.

RESULTS

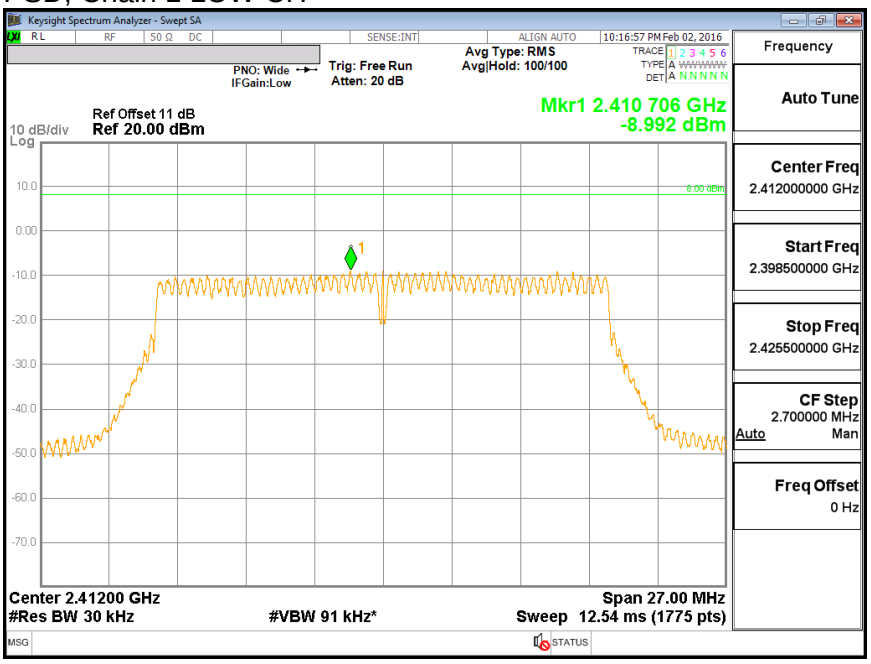
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

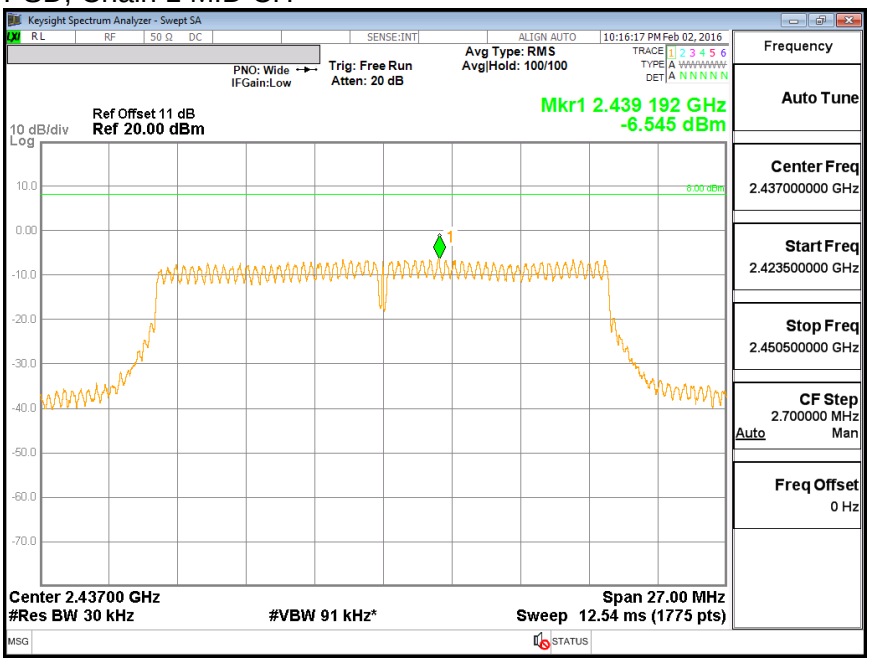
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-8.992	-8.992	8.00	-16.99
Mid	2437	-6.545	-6.545	8.00	-14.55
High	2462	-9.469	-9.469	8.00	-17.47

PSD, Chain 1

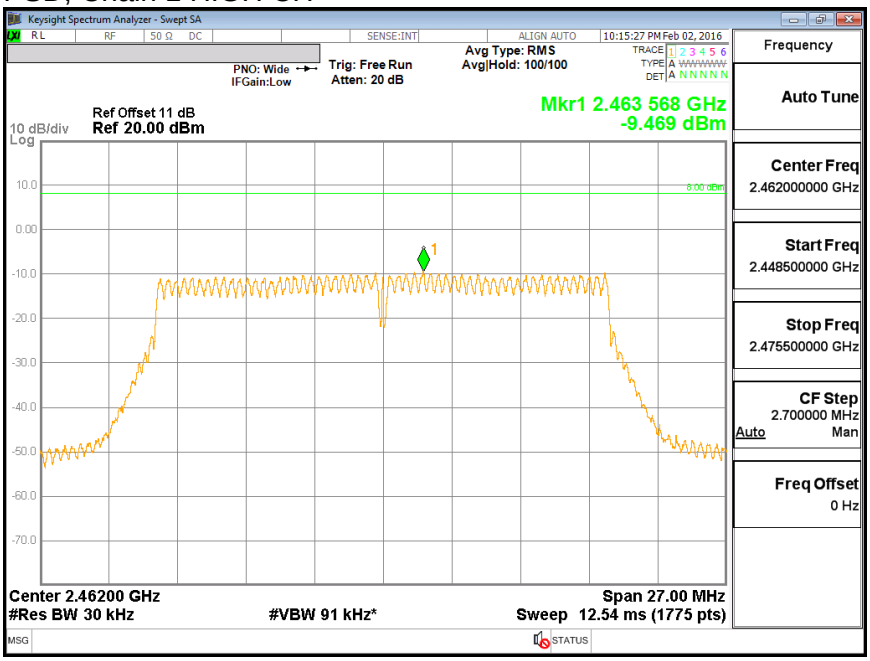
PSD, Chain 1 LOW CH



PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



8.4.5. OUT-OF-BAND EMISSIONS

LIMITS

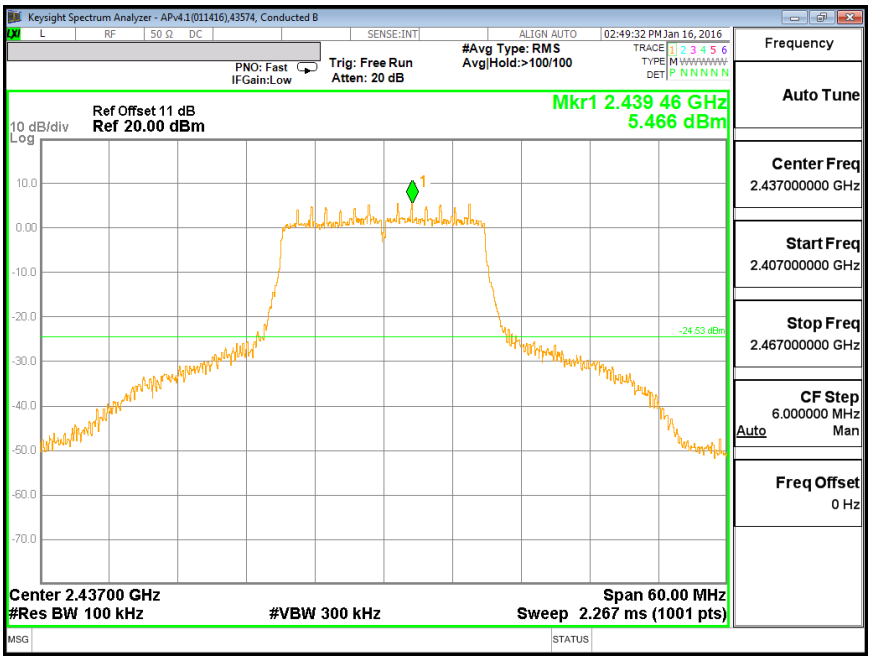
FCC §15.247 (d)

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

RESULTS

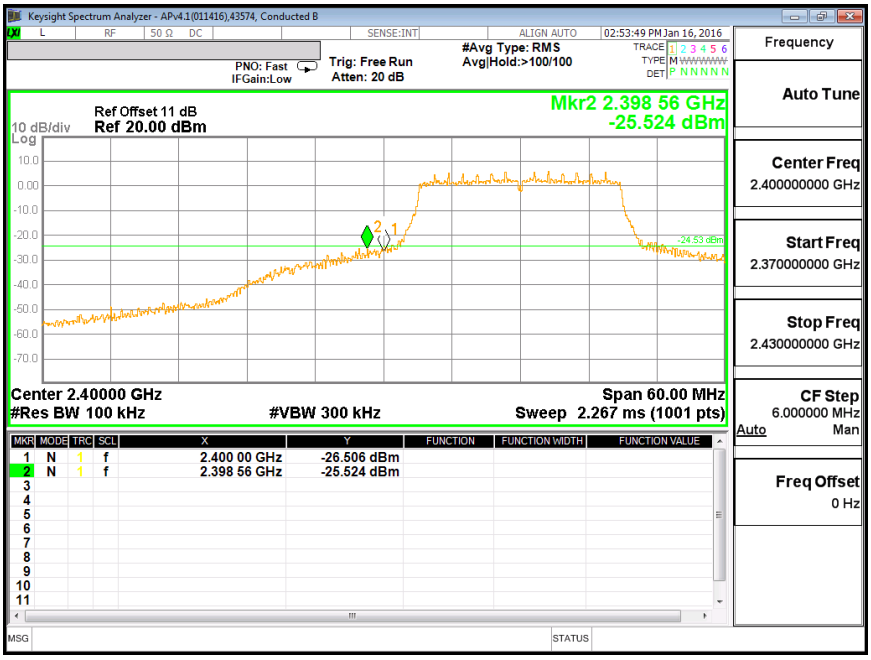
IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH



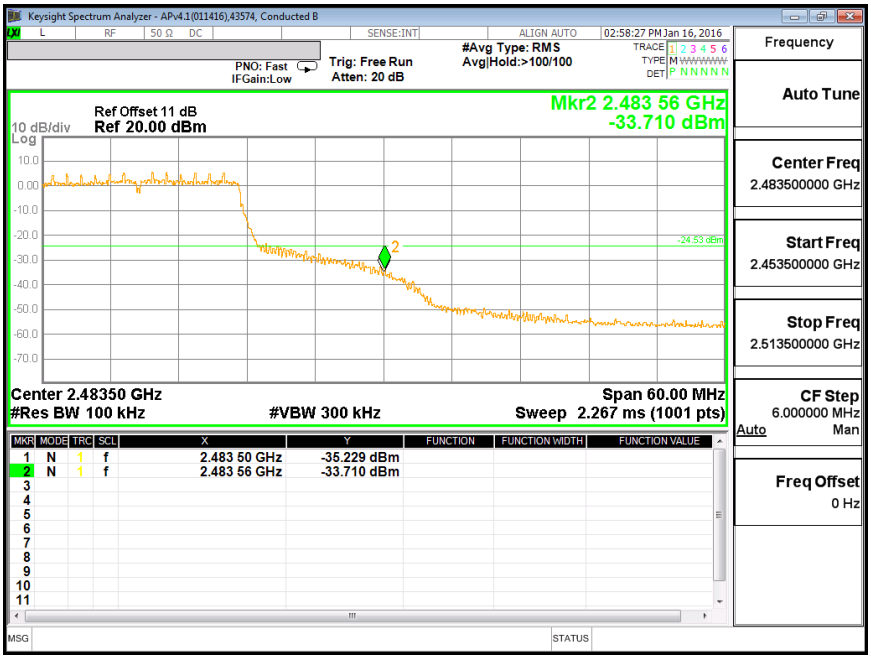
LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH



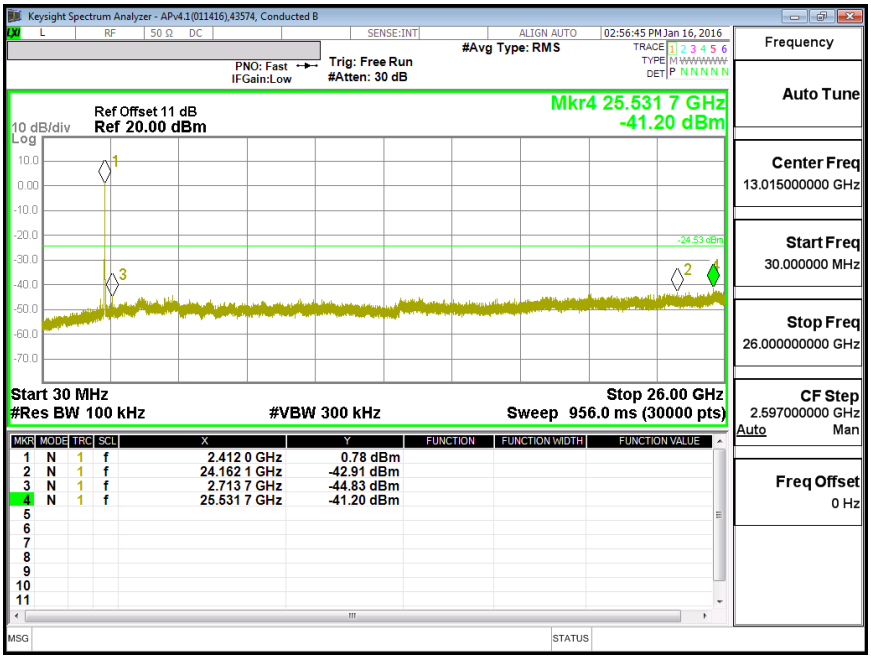
HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH

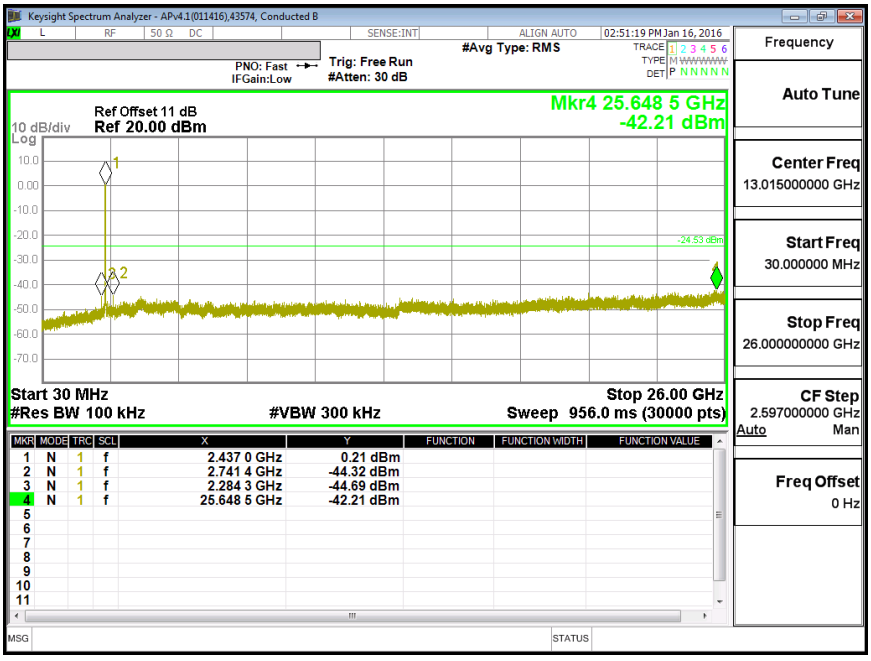


OUT-OF-BAND EMISSIONS

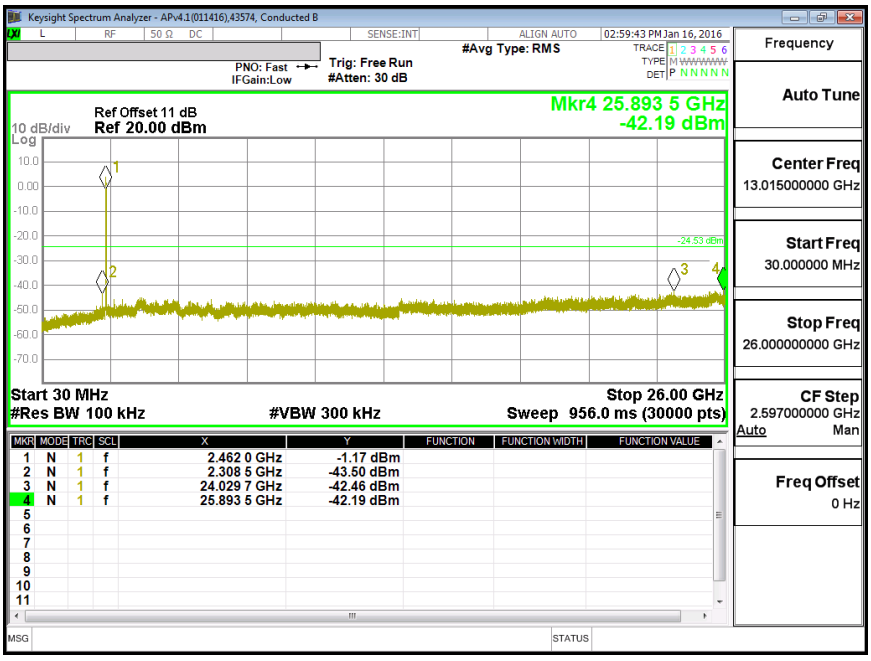
OUT OF BAND LOW CH



OUT OF BAND MID CH



OUT OF BAND HIGH CH



8.5. 802.11n HT20 CDD 3TX MODE IN THE 2.4 GHz BAND

8.5.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

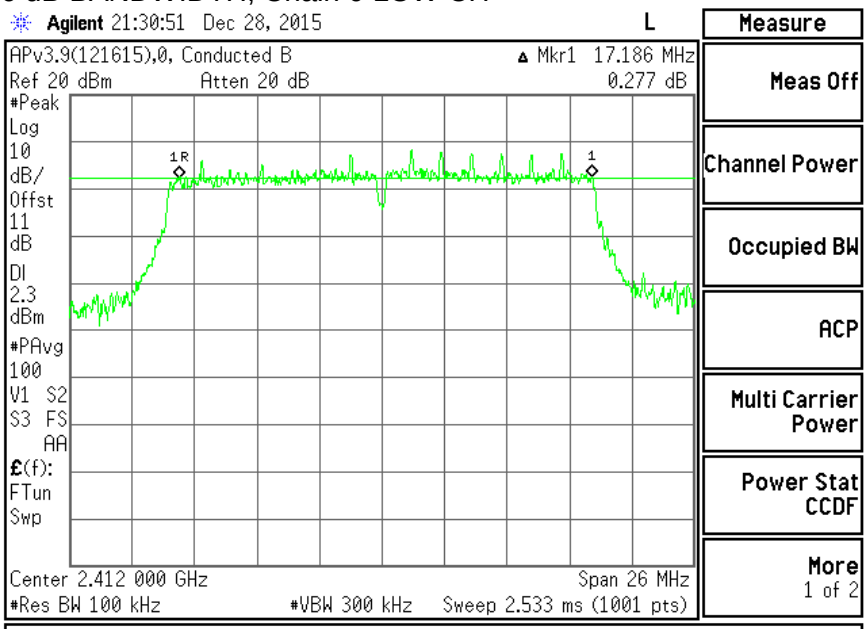
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

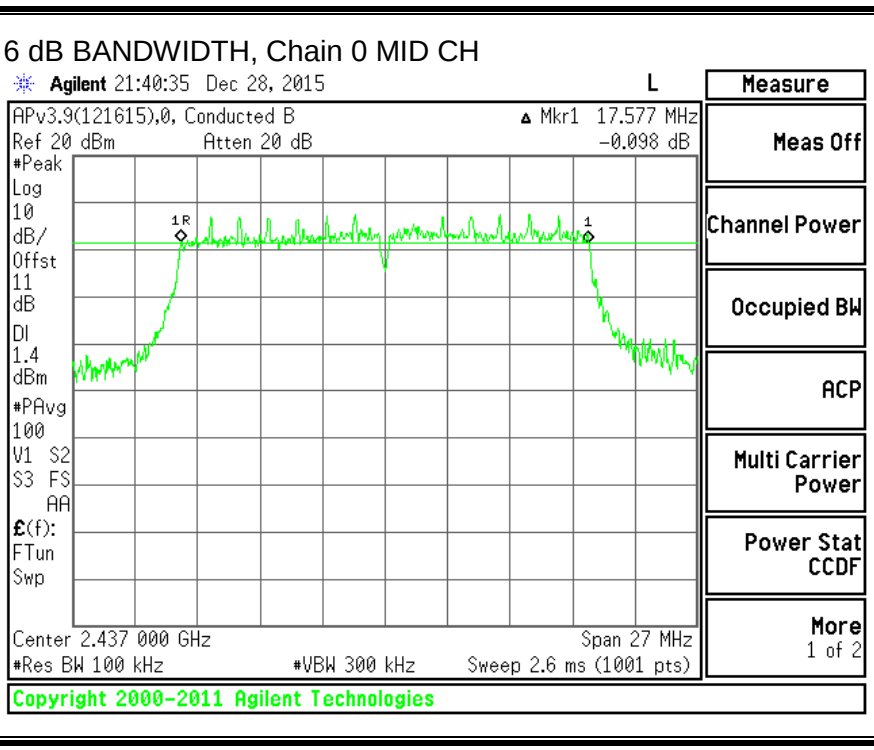
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low	2412	17.186	17.604	17.577	0.5
Mid	2437	17.577	17.577	17.604	0.5
High	2462	17.334	17.604	17.604	0.5

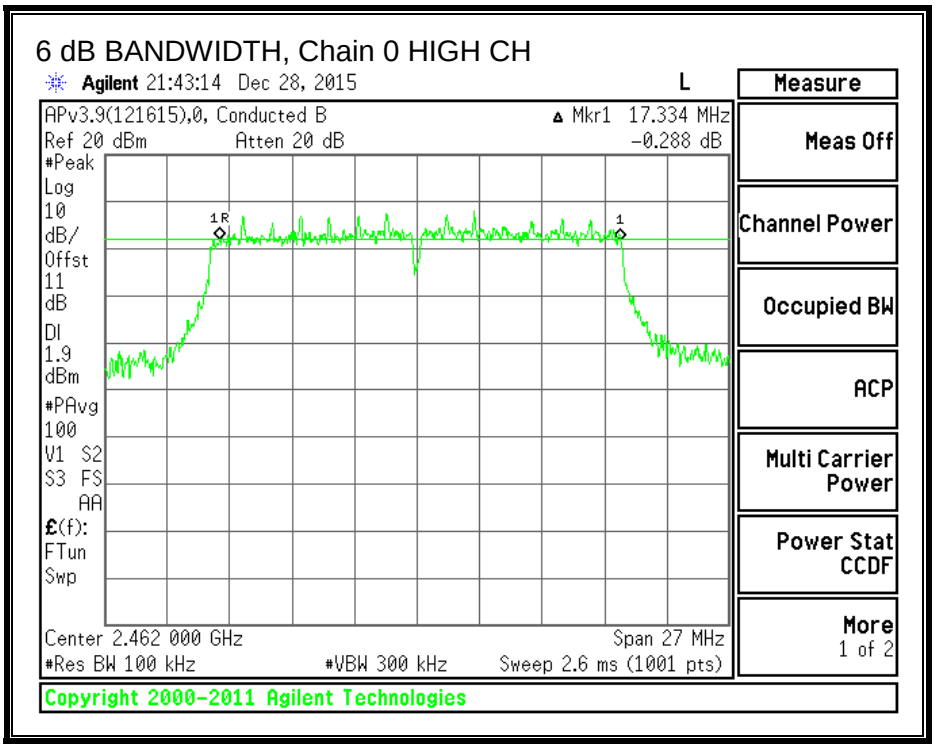
6 dB BANDWIDTH, Chain 0

6 dB BANDWIDTH, Chain 0 LOW CH

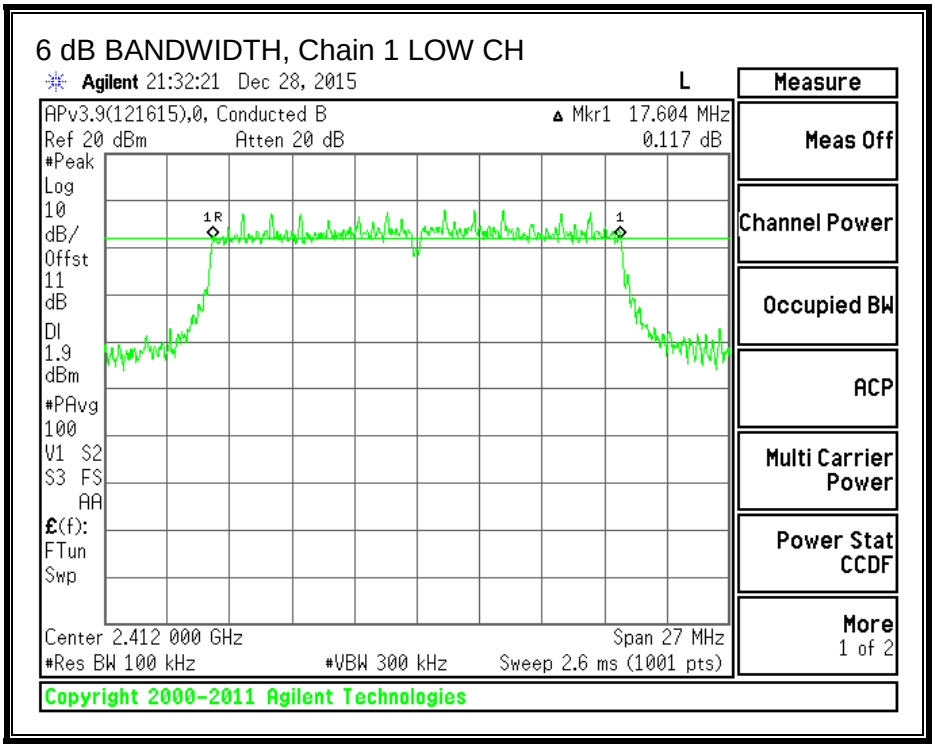


6 dB BANDWIDTH, Chain 0 MID CH

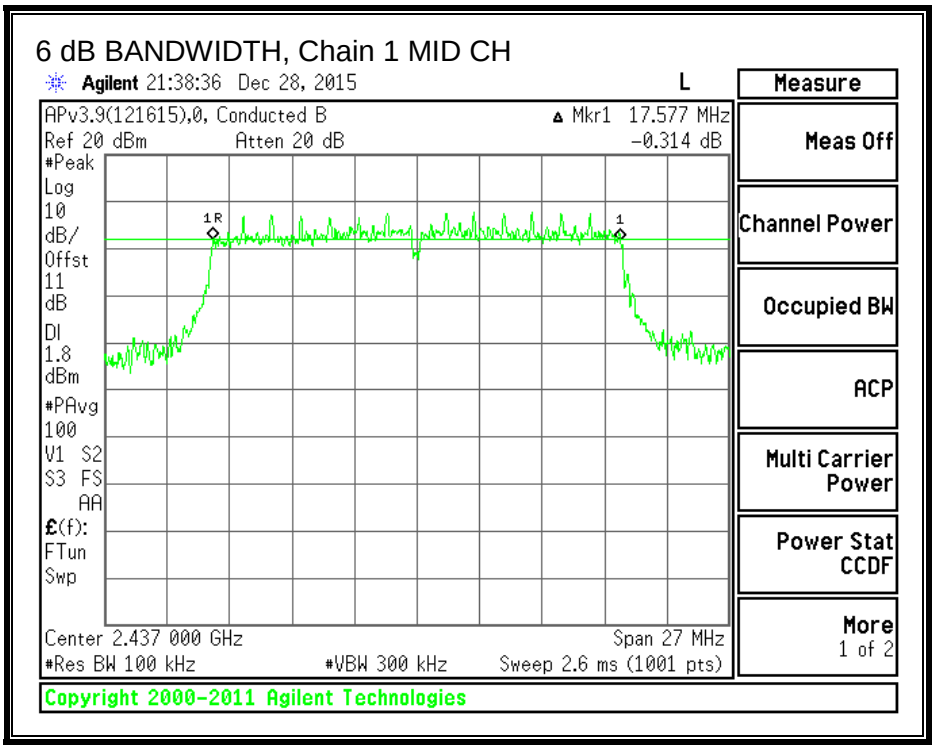




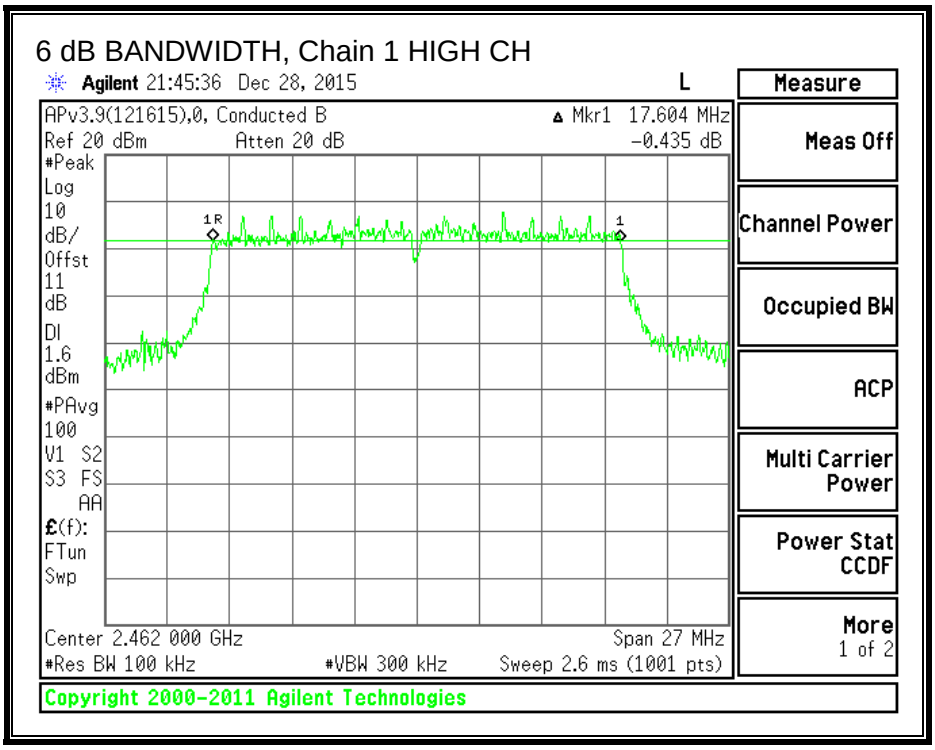
6 dB BANDWIDTH, Chain 1



6 dB BANDWIDTH, Chain 1 MID CH

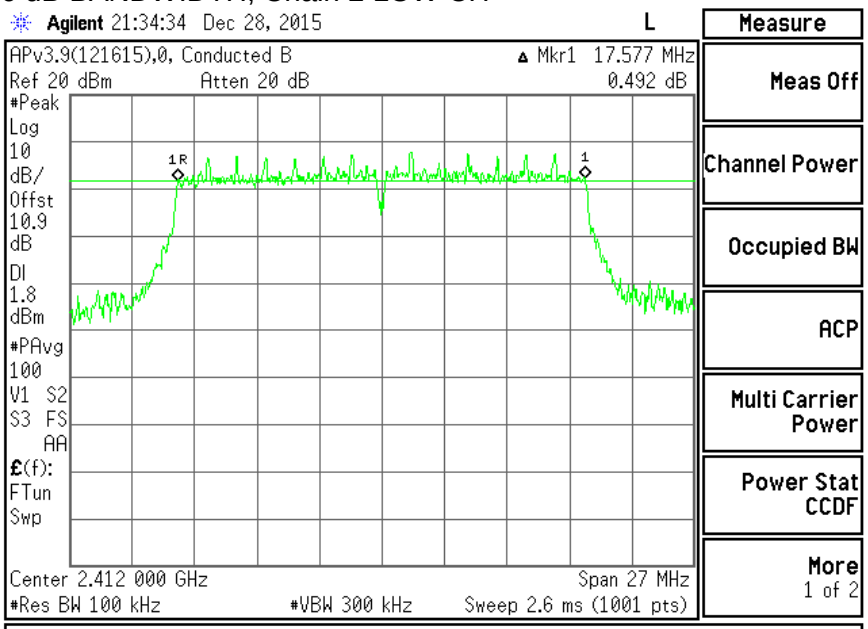


6 dB BANDWIDTH, Chain 1 HIGH CH

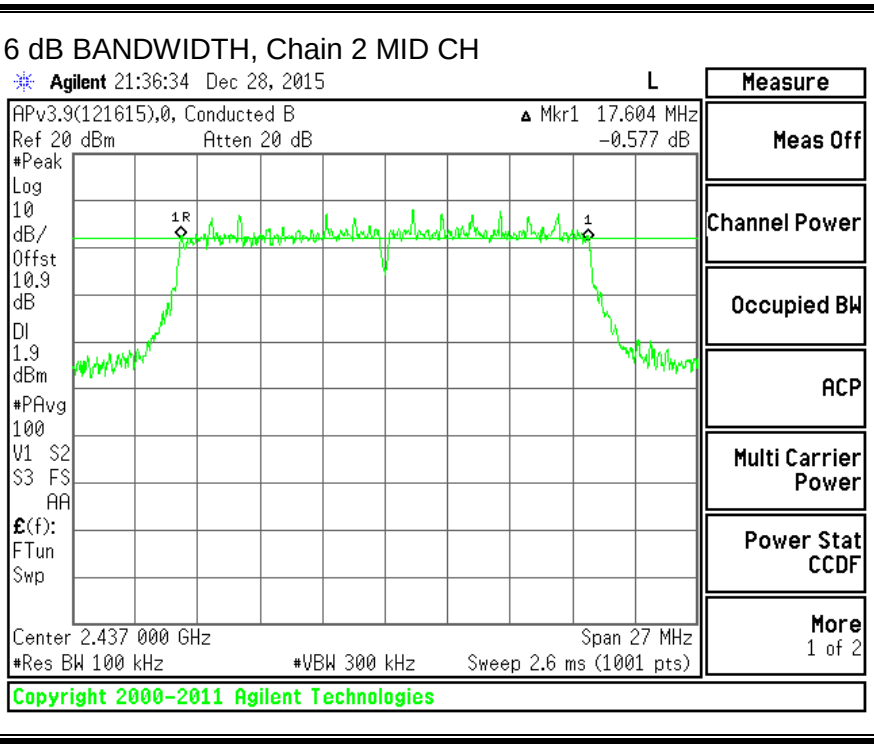


6 dB BANDWIDTH, Chain 2

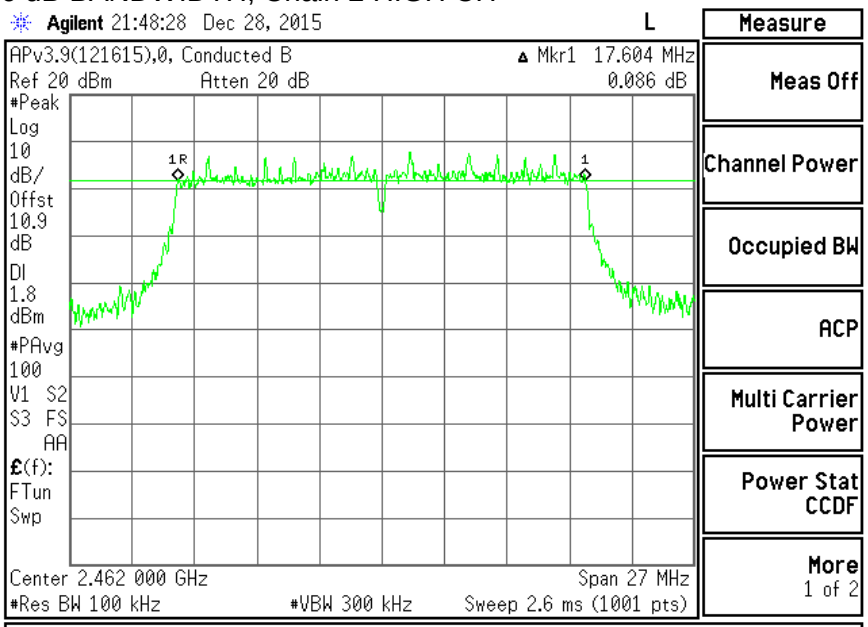
6 dB BANDWIDTH, Chain 2 LOW CH



6 dB BANDWIDTH, Chain 2 MID CH



6 dB BANDWIDTH, Chain 2 HIGH CH



8.5.2. 99% BANDWIDTH

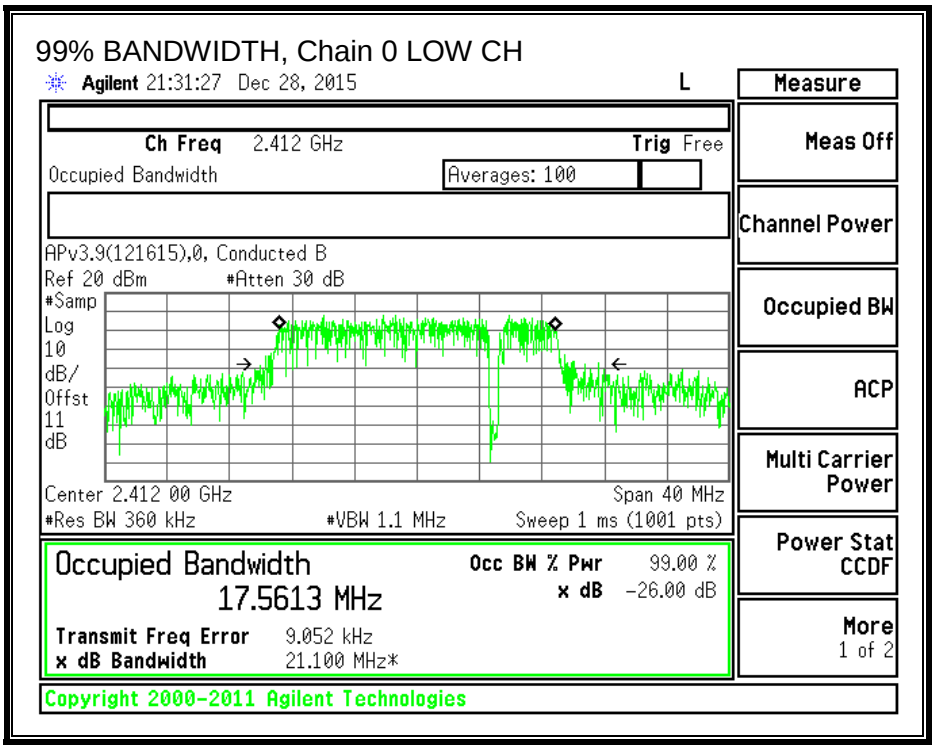
LIMITS

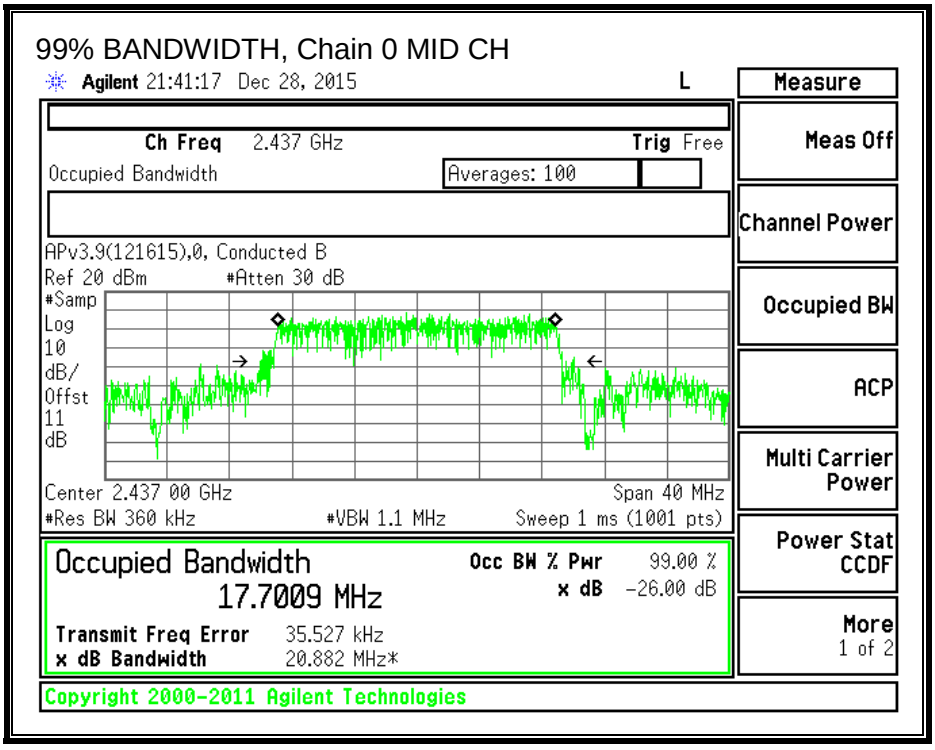
None; for reporting purposes only.

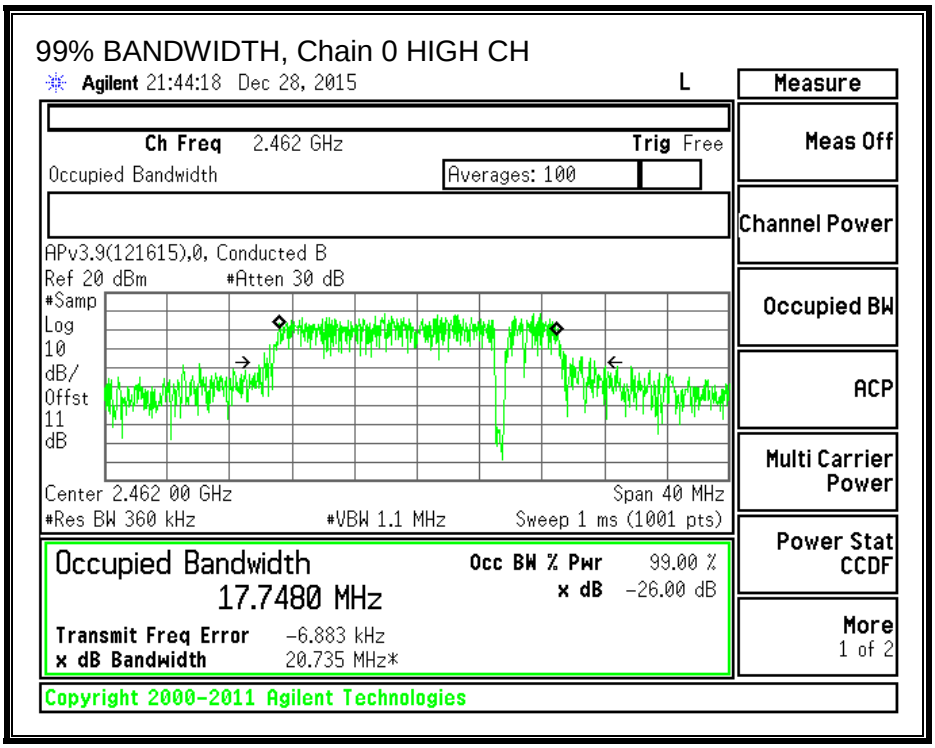
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	2412	17.5613	17.7346	17.7143
Mid	2437	17.7009	17.7542	17.6375
High	2462	17.7480	17.6771	17.6701

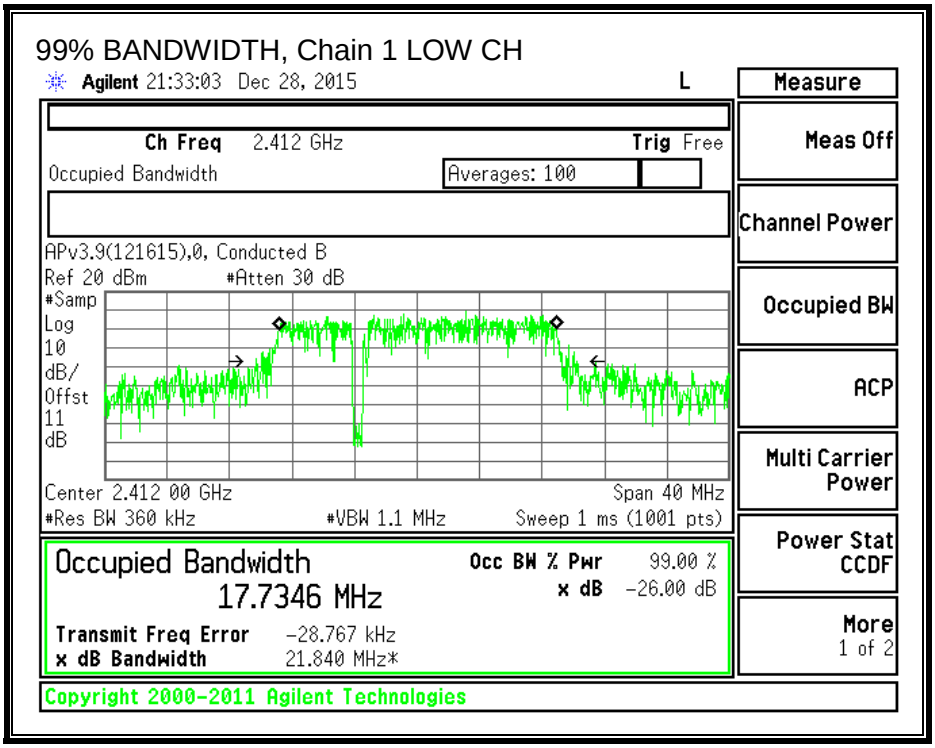
99% BANDWIDTH, Chain 0



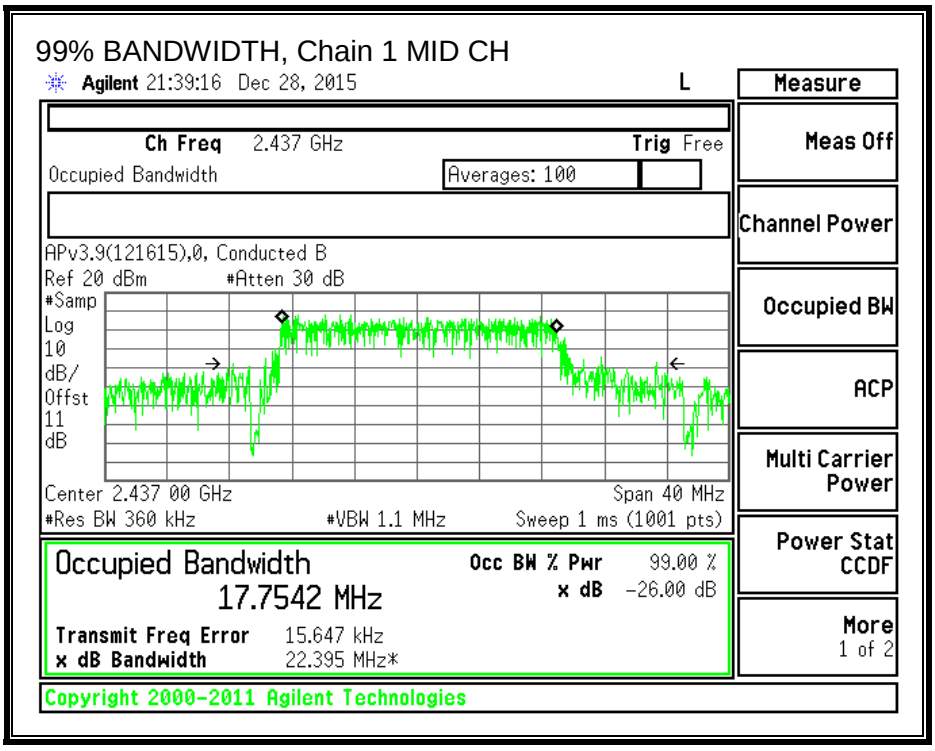




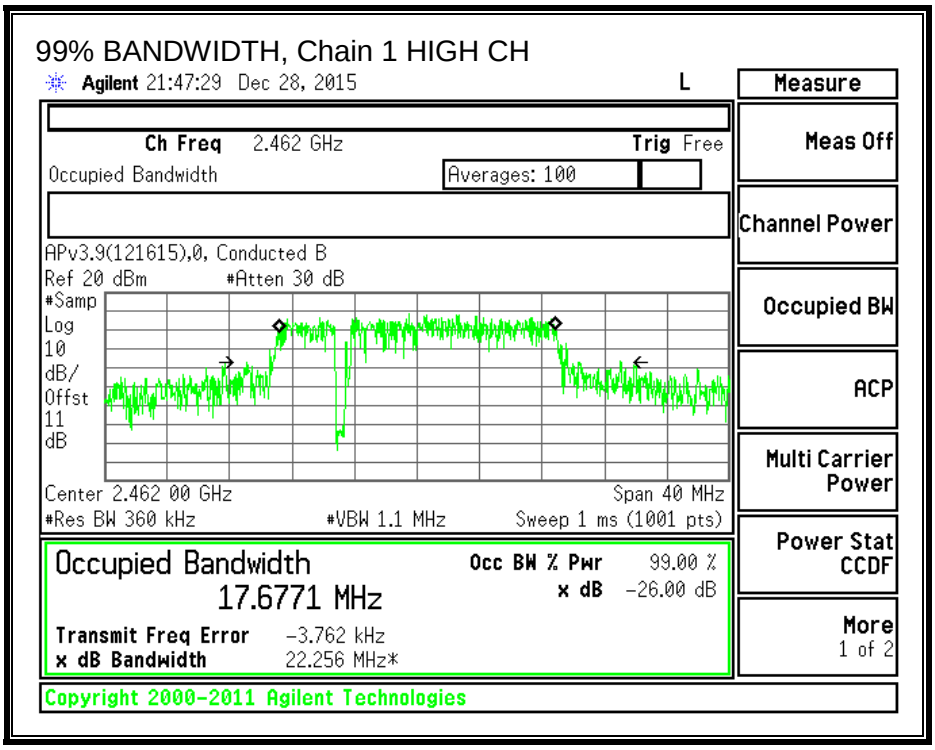
99% BANDWIDTH, Chain 1



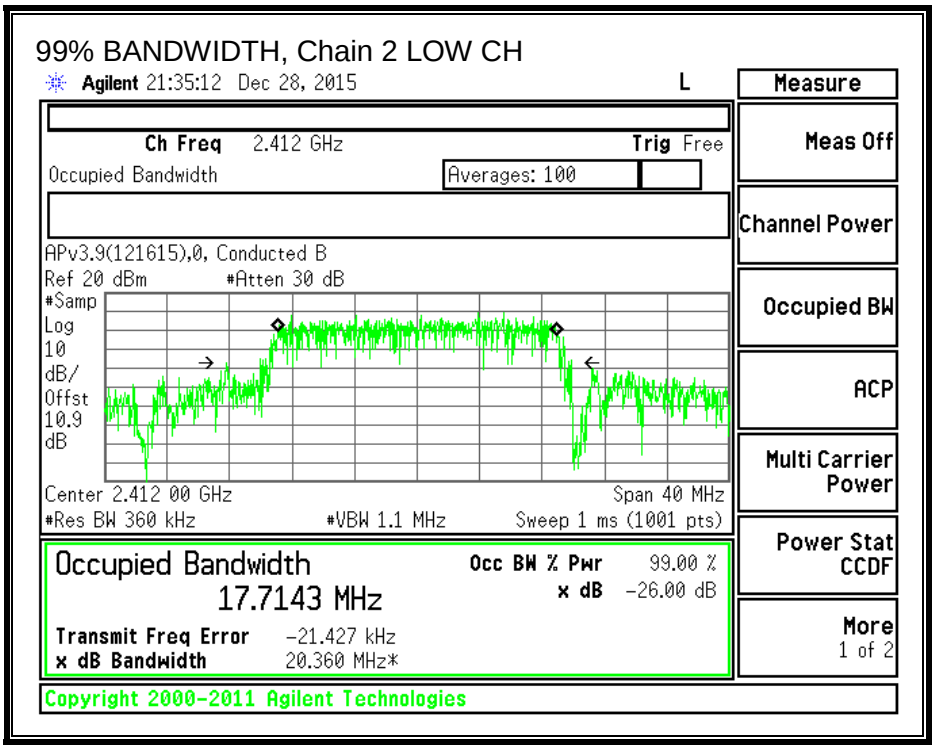
99% BANDWIDTH, Chain 1 MID CH

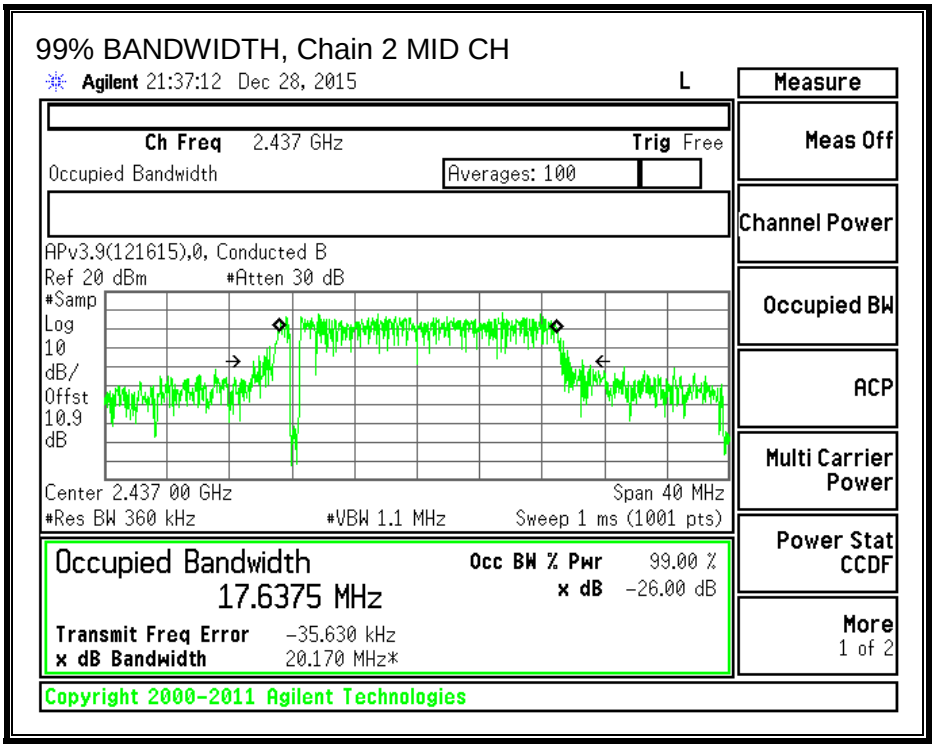


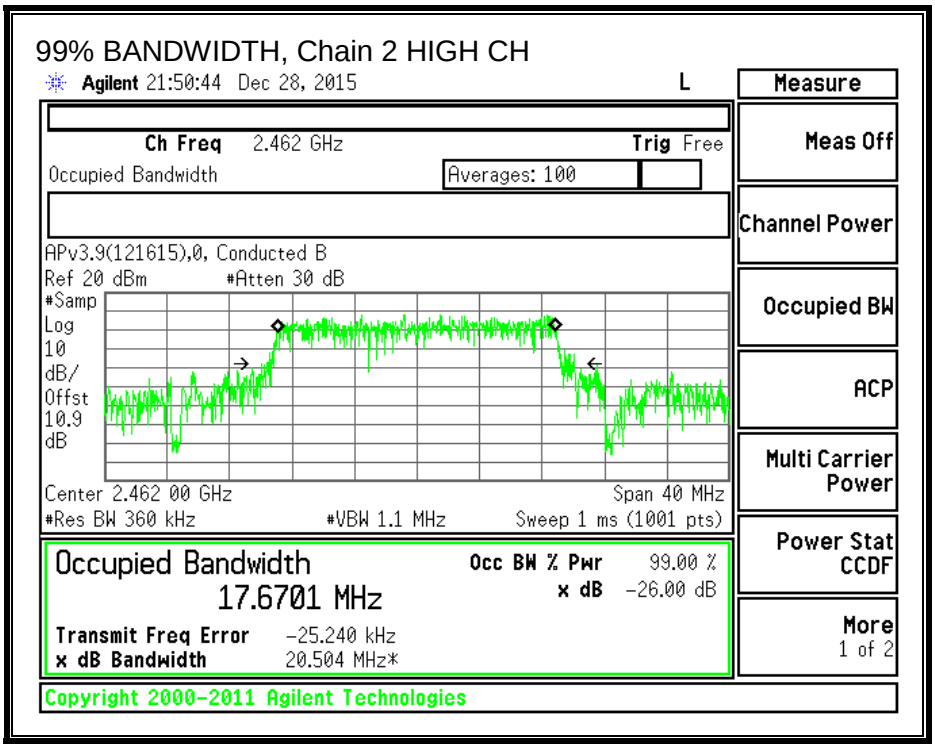
99% BANDWIDTH, Chain 1 HIGH CH



99% BANDWIDTH, Chain 2







8.5.3. 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)
1.60	4.85	1.82	3.03

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	3.03	30.00	30	36	30.00
2	2417	3.03	30.00	30	36	30.00
6	2437	3.03	30.00	30	36	30.00
9	2452	3.03	30.00	30	36	30.00
10	2457	3.03	30.00	30	36	30.00
11	2462	3.03	30.00	30	36	30.00

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

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	15.81	15.00	15.20	20.12	30.00	-9.88
2	2417	18.00	18.47	18.24	23.01	30.00	-6.99
6	2437	18.14	18.46	18.71	23.21	30.00	-6.79
9	2452	18.05	18.17	18.56	23.04	30.00	-6.96
10	2457	17.51	17.91	18.28	22.68	30.00	-7.32
11	2462	13.38	13.43	13.73	18.29	30.00	-11.71

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.

8.5.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

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

RESULTS

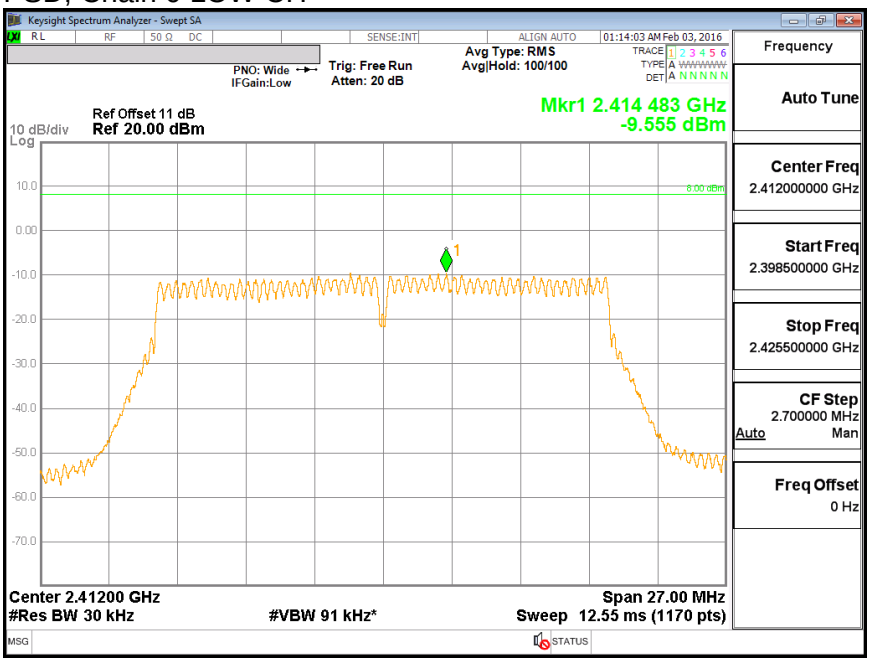
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

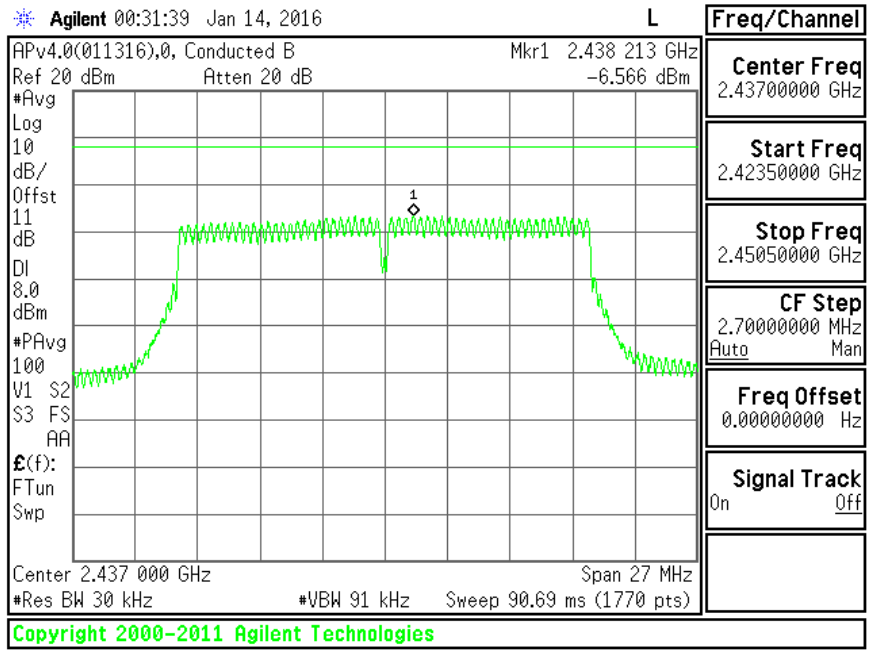
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Chain 2 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-9.555	-10.197	-9.847	-5.087	8.00	-13.09
Mid	2437	-6.566	-6.451	-6.407	-1.703	8.00	-9.70
High	2462	-11.419	-11.401	-10.846	-6.443	8.00	-14.44

PSD, Chain 0

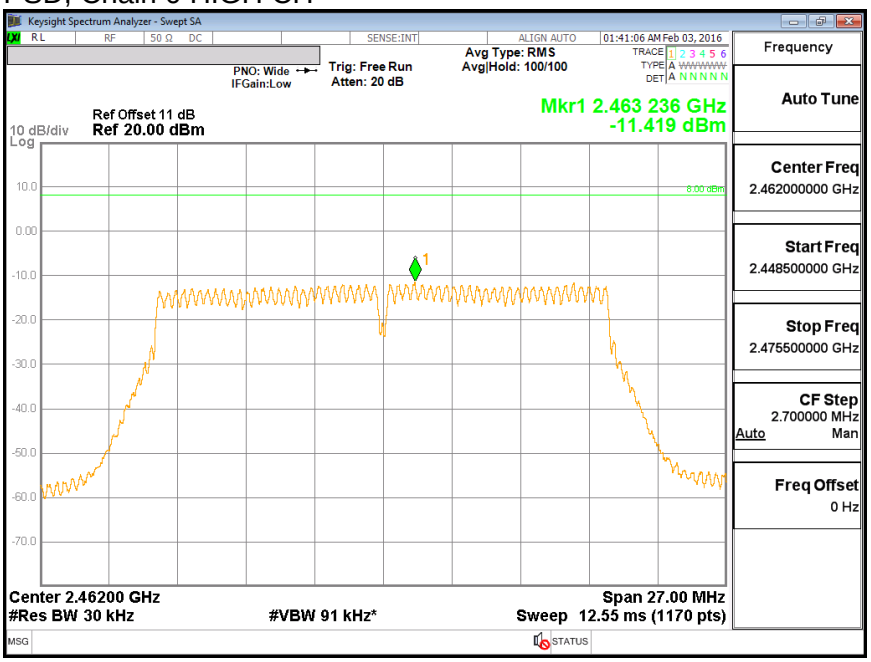
PSD, Chain 0 LOW CH



PSD, Chain 0 MID CH

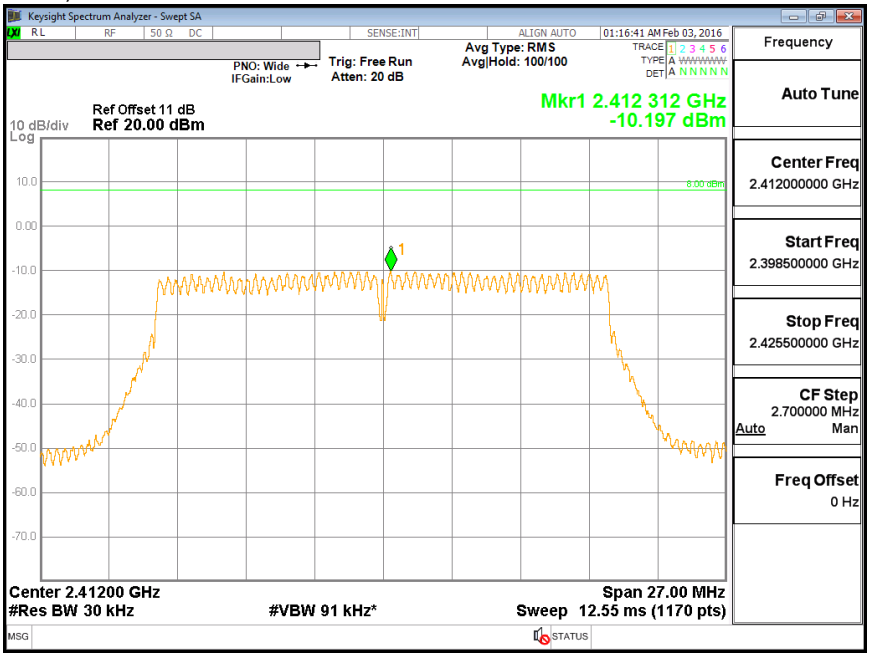


PSD, Chain 0 HIGH CH

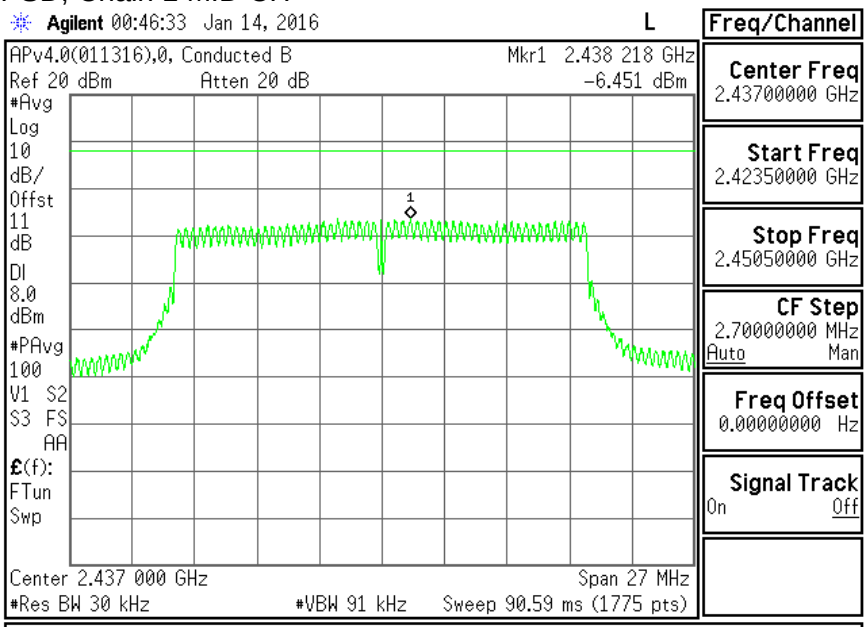


PSD, Chain 1

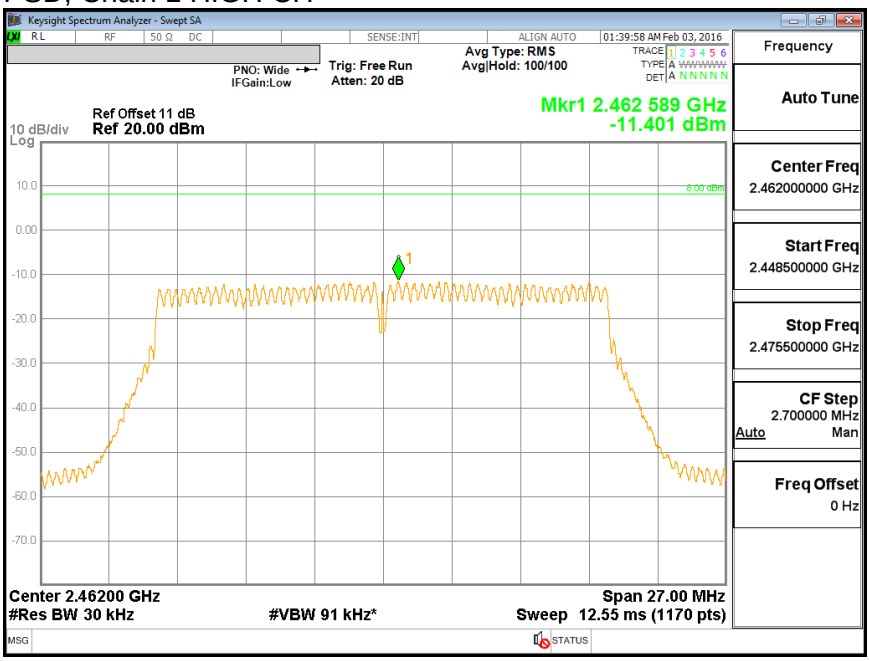
PSD, Chain 1 LOW CH



PSD, Chain 1 MID CH

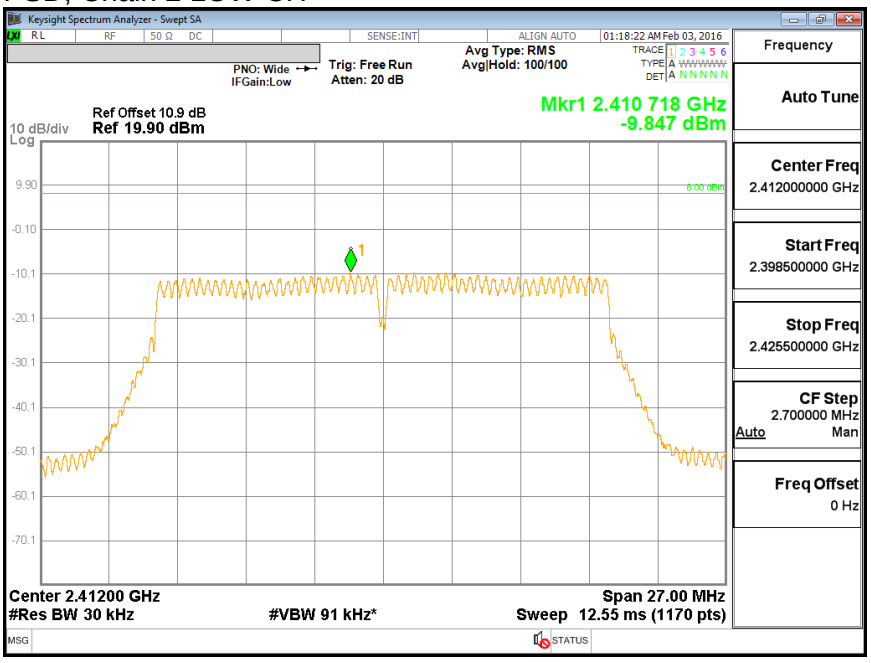


PSD, Chain 1 HIGH CH

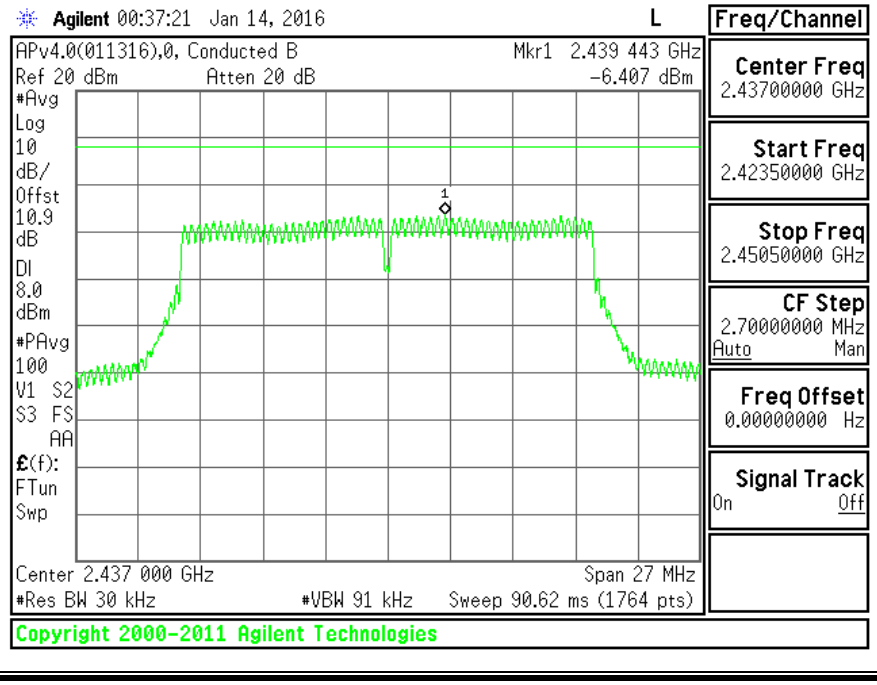


PSD, Chain 2

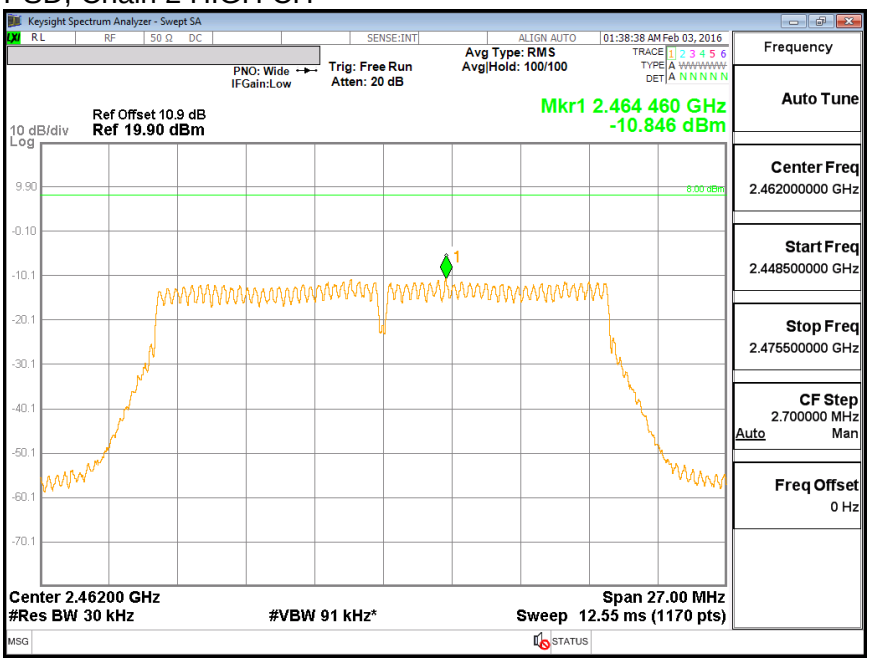
PSD, Chain 2 LOW CH



PSD, Chain 2 MID CH



PSD, Chain 2 HIGH CH



8.5.5. OUT-OF-BAND EMISSIONS

LIMITS

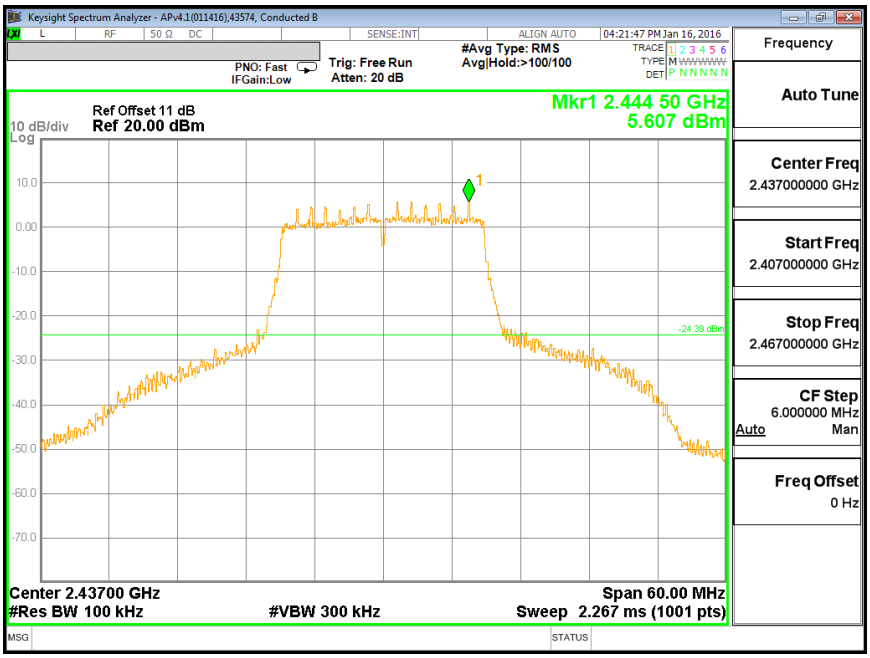
FCC §15.247 (d)

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

RESULTS

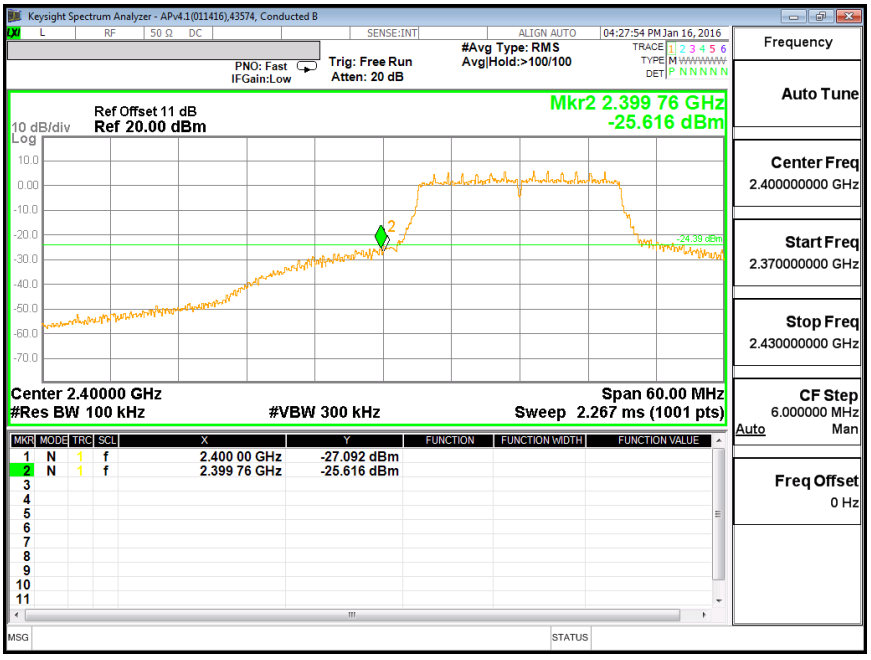
IN-BAND REFERENCE LEVEL, Chain 0

REFERENCE LEVEL Chain 0 MID CH



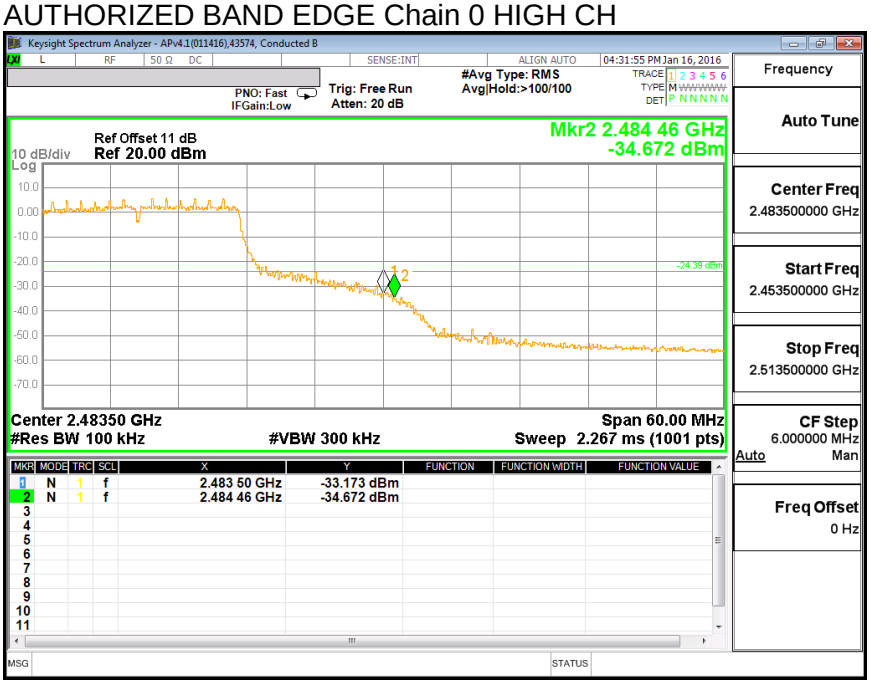
LOW CHANNEL BANDEDGE, Chain 0

AUTHORIZED BAND EDGE Chain 0 LOW CH



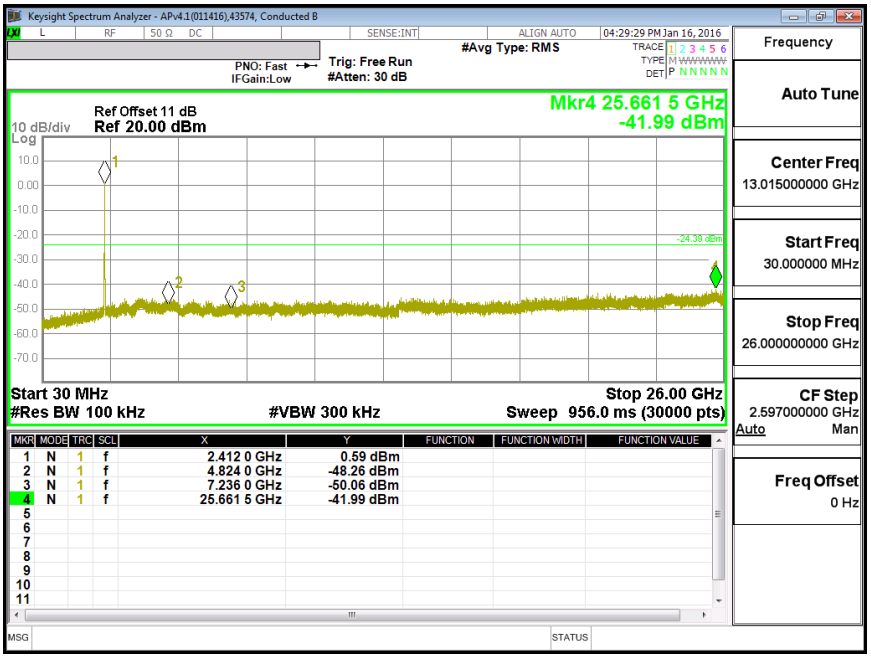
HIGH CHANNEL BANDEDGE, Chain 0

AUTHORIZED BAND EDGE Chain 0 HIGH CH

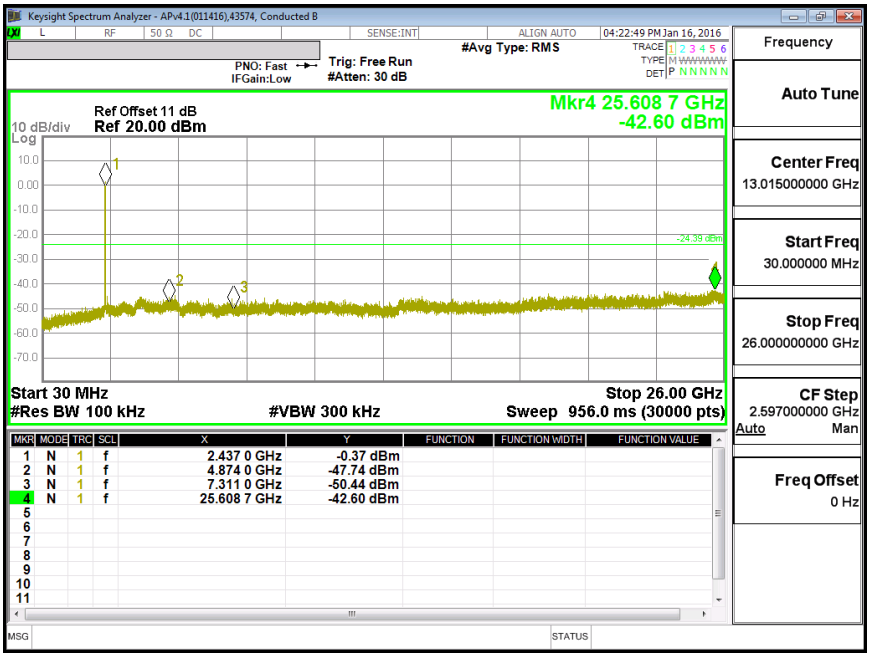


OUT-OF-BAND EMISSIONS, Chain 0

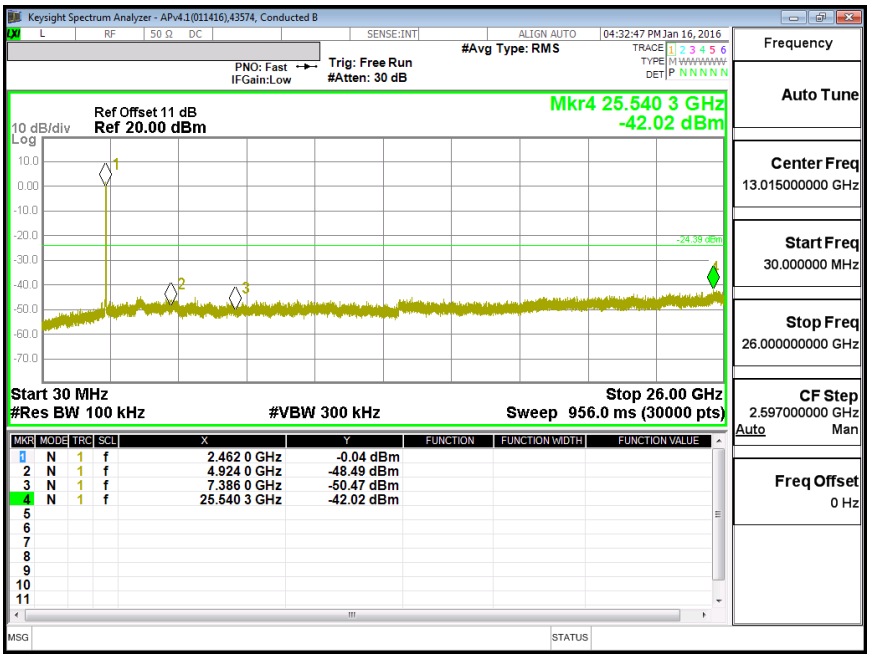
OUT OF BAND Chain 0 LOW CH



OUT OF BAND Chain 0 MID CH

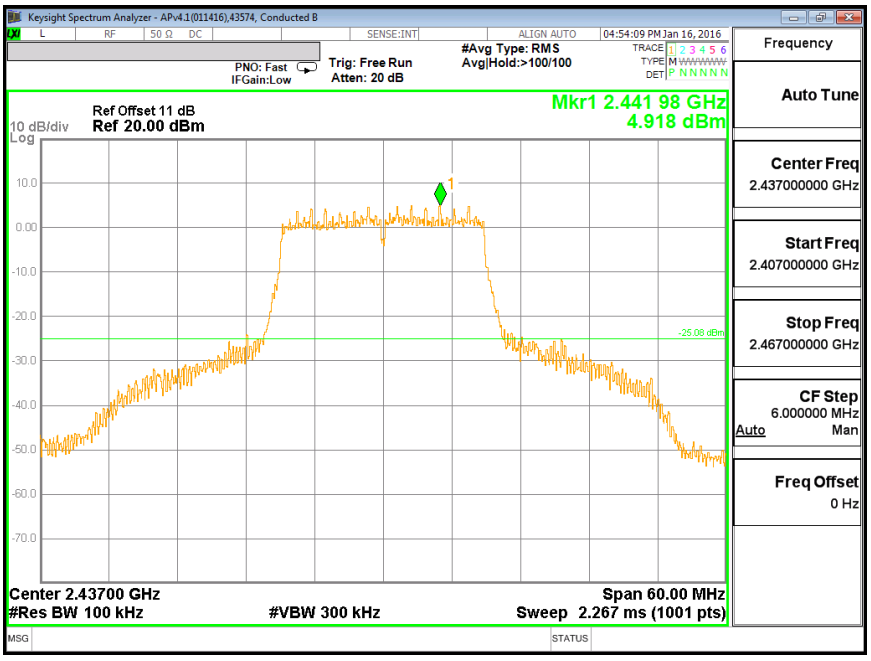


OUT OF BAND Chain 0 HIGH CH



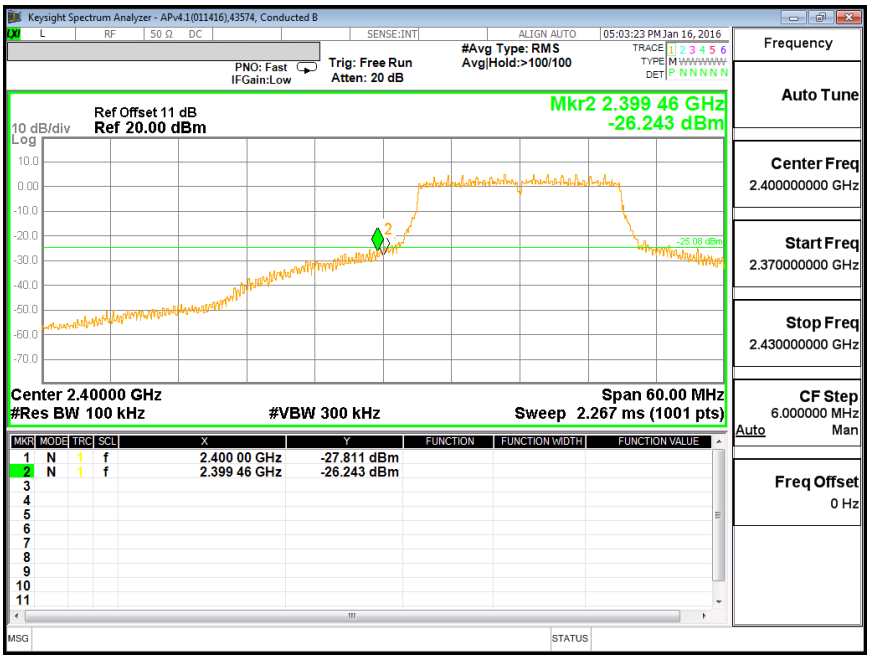
IN-BAND REFERENCE LEVEL, Chain 1

REFERENCE LEVEL Chain 1 MID CH



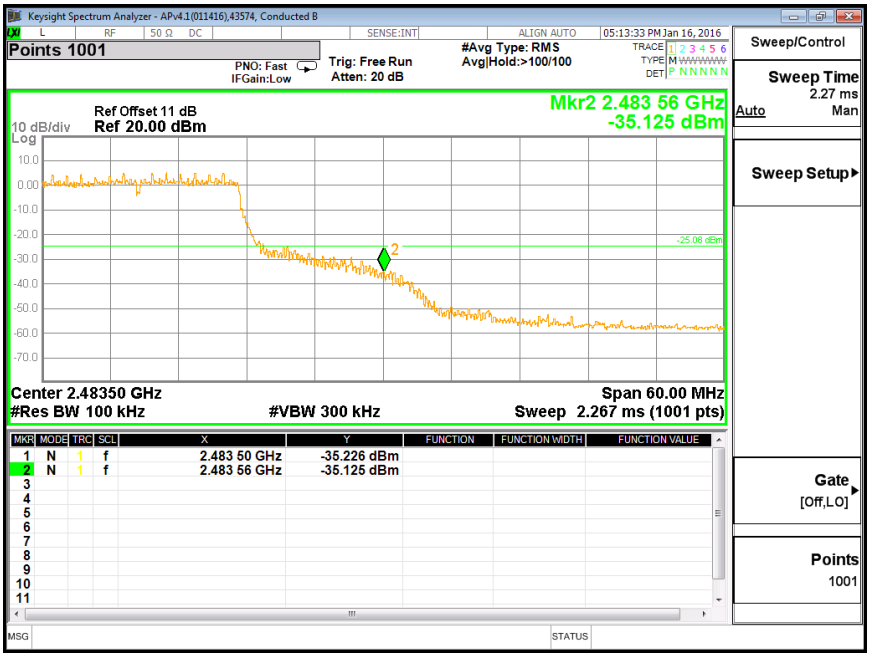
LOW CHANNEL BANDEDGE, Chain 1

AUTHORIZED BAND EDGE Chain 1 LOW CH



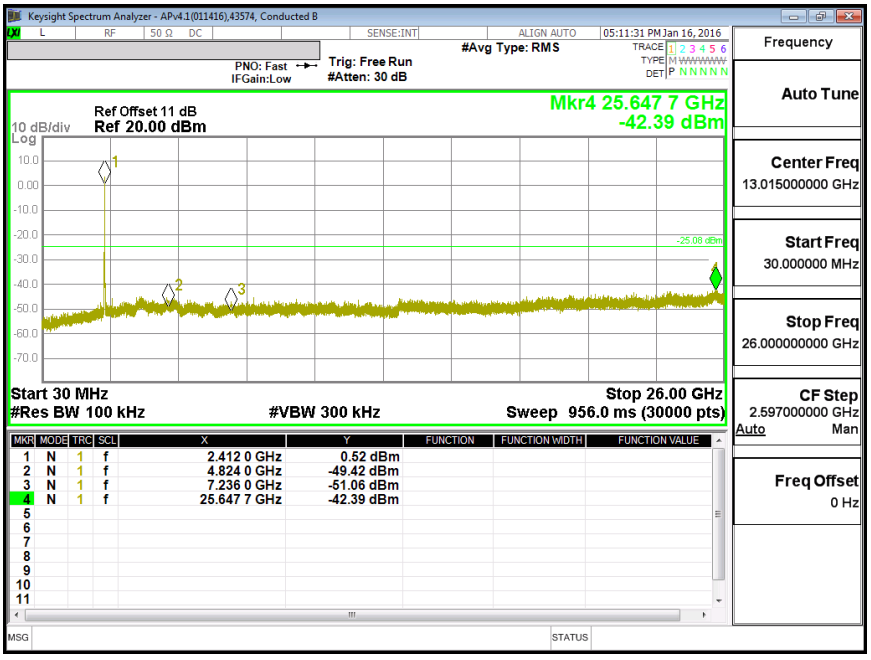
HIGH CHANNEL BANDEDGE, Chain 1

AUTHORIZED BAND EDGE Chain 0 HIGH CH

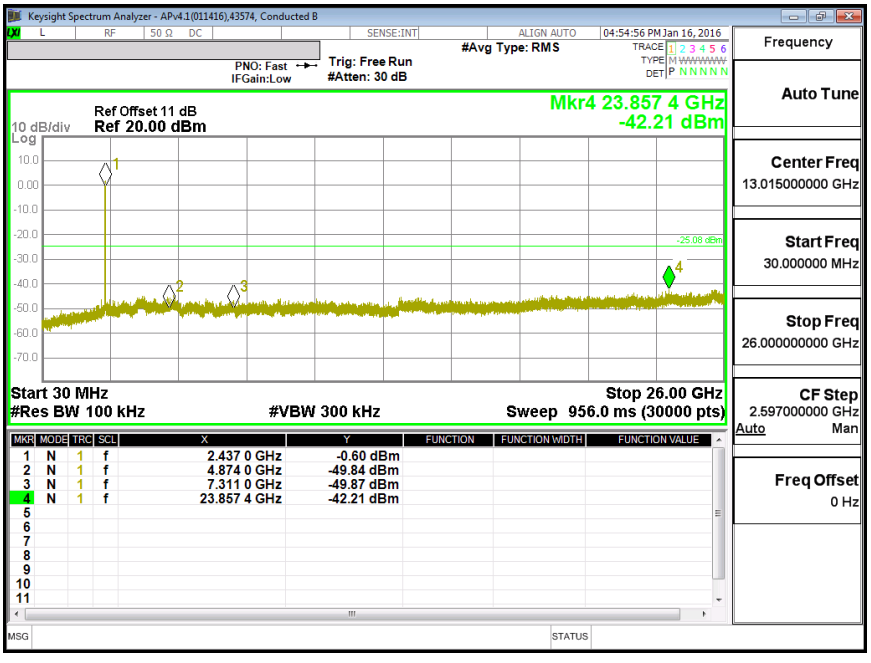


OUT-OF-BAND EMISSIONS, Chain 1

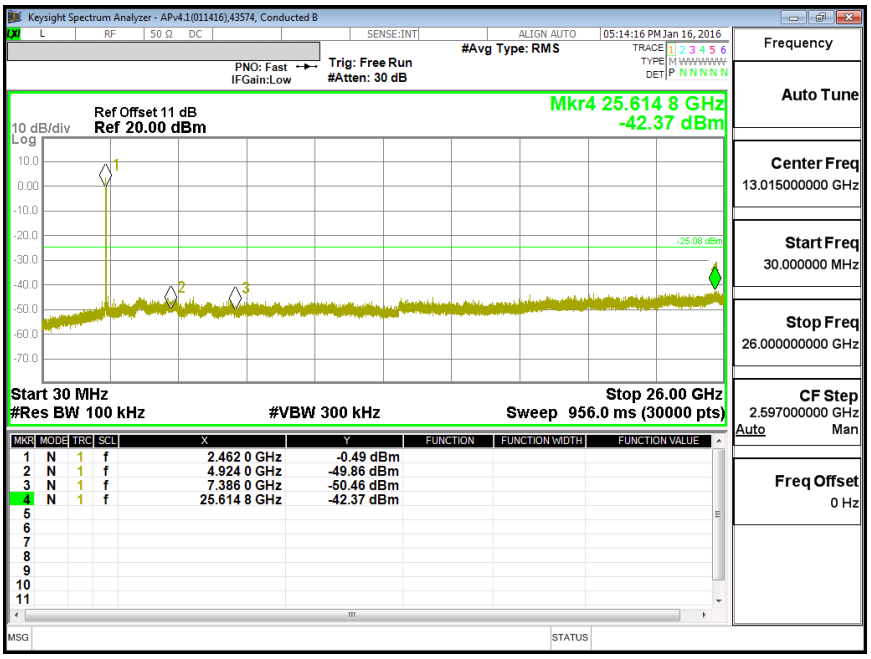
OUT OF BAND Chain 1 LOW CH



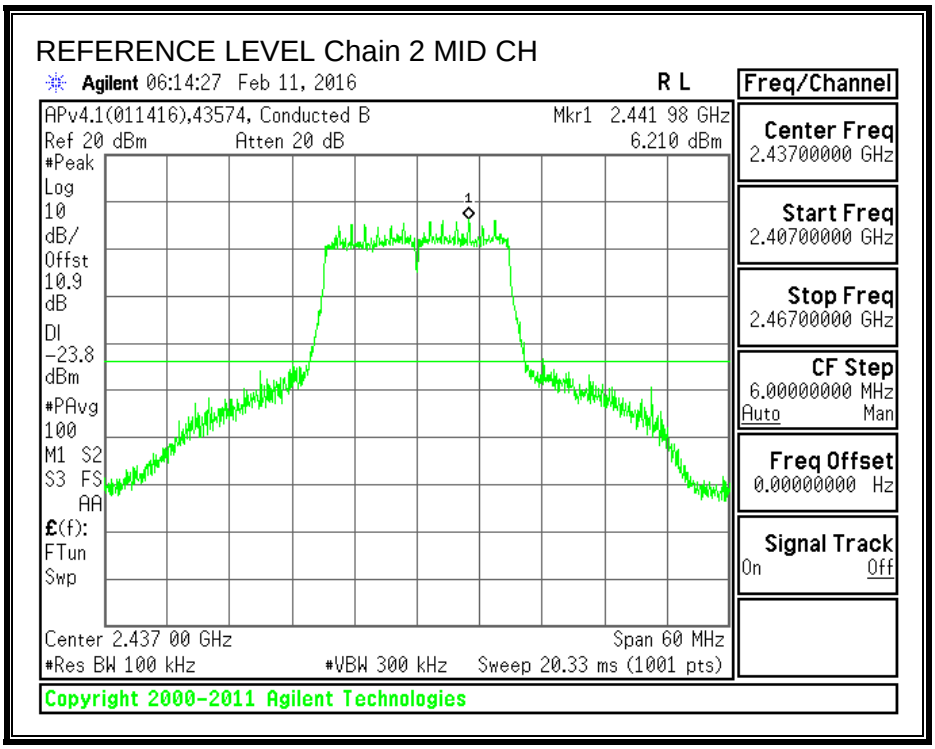
OUT OF BAND Chain 1 MID CH



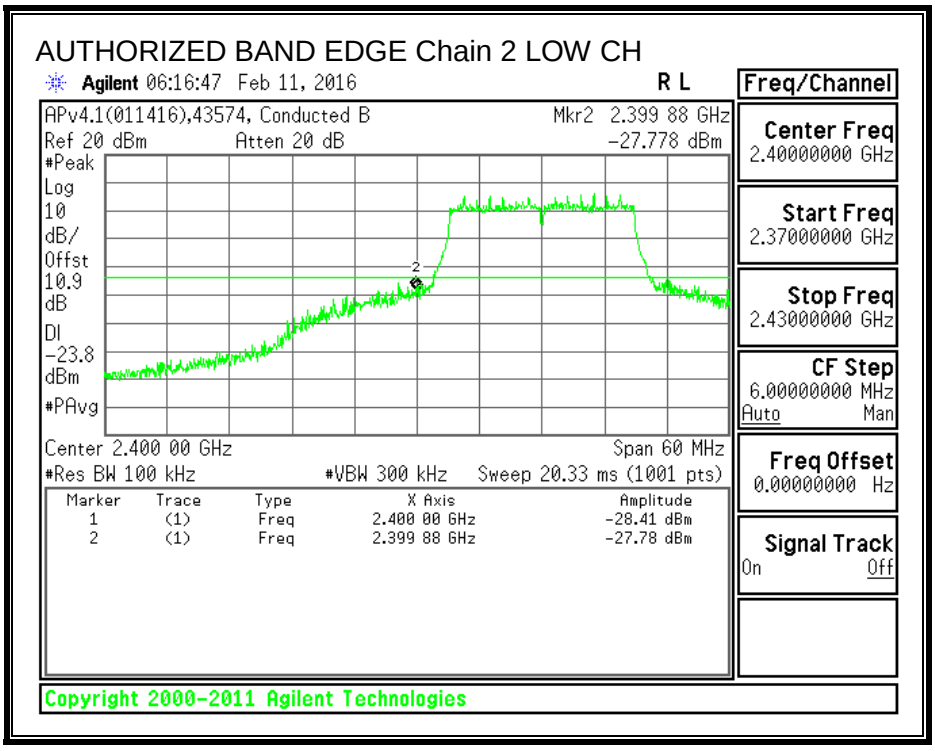
OUT OF BAND Chain 1 HIGH CH



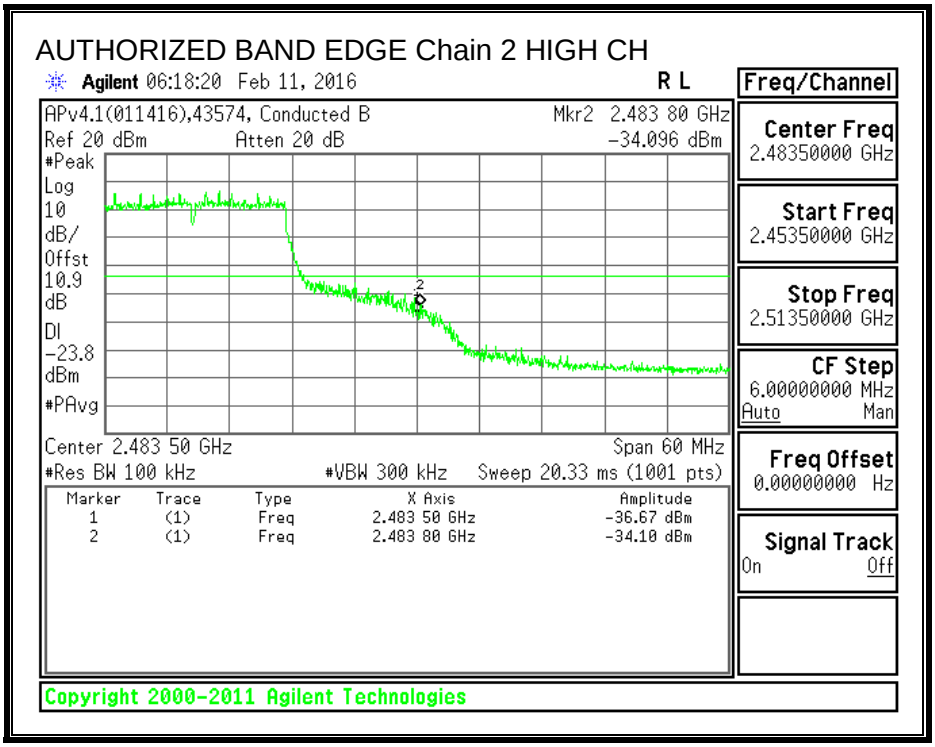
IN-BAND REFERENCE LEVEL, Chain 2



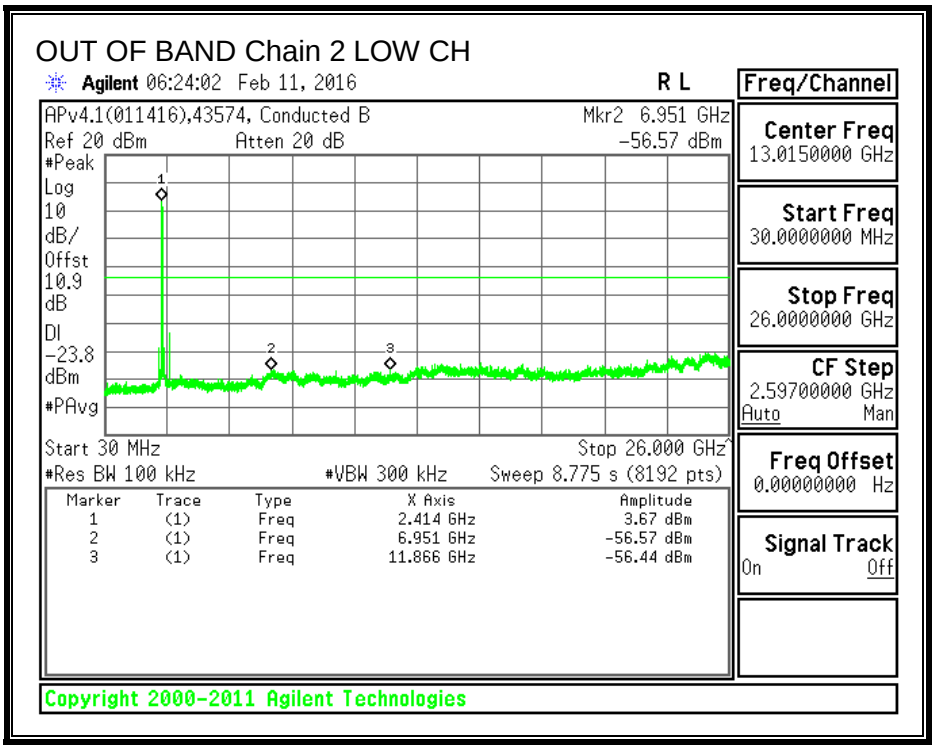
LOW CHANNEL BANDEDGE, Chain 2

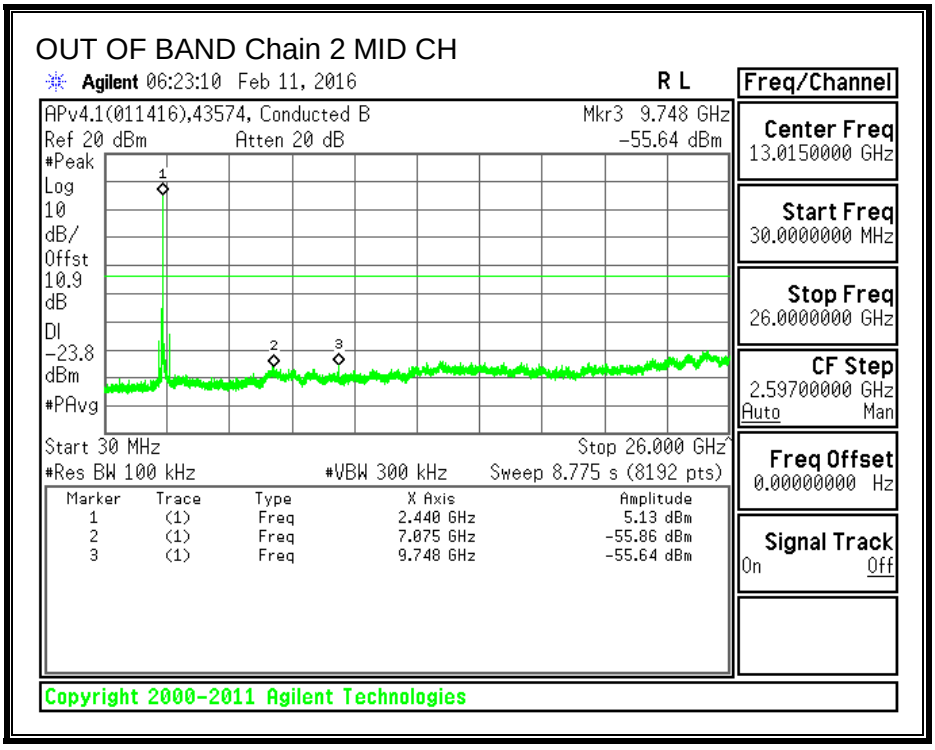


HIGH CHANNEL BANDEDGE, Chain 2

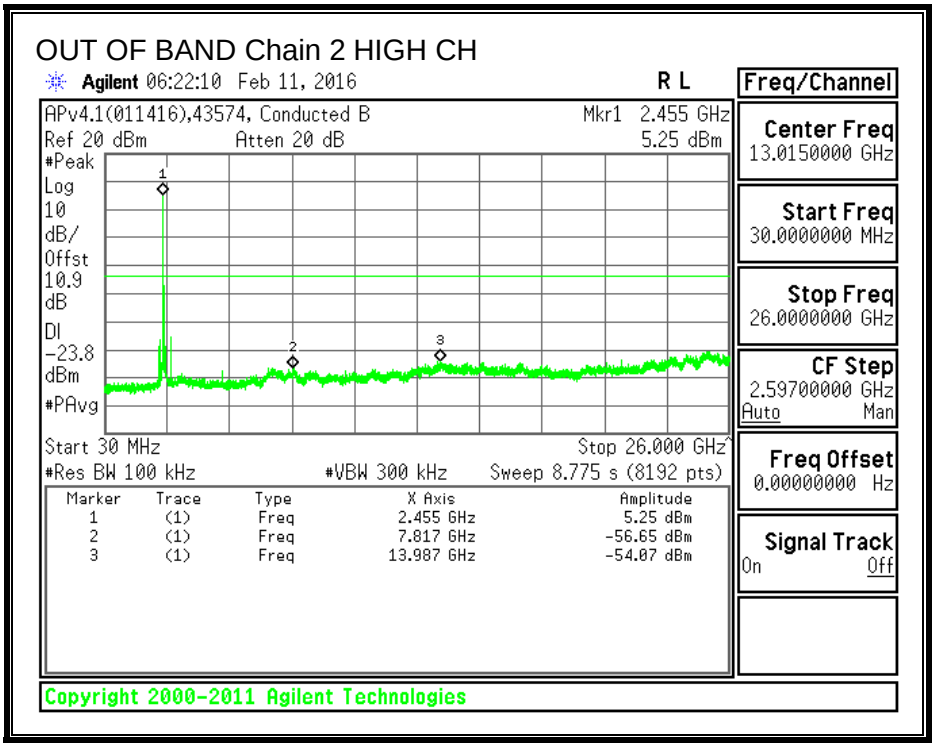


OUT-OF-BAND EMISSIONS, Chain 2





OUT OF BAND Chain 2 HIGH CH



8.6. 802.11n HT40 CDD SISO MODE IN THE 2.4 GHz BAND

8.6.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

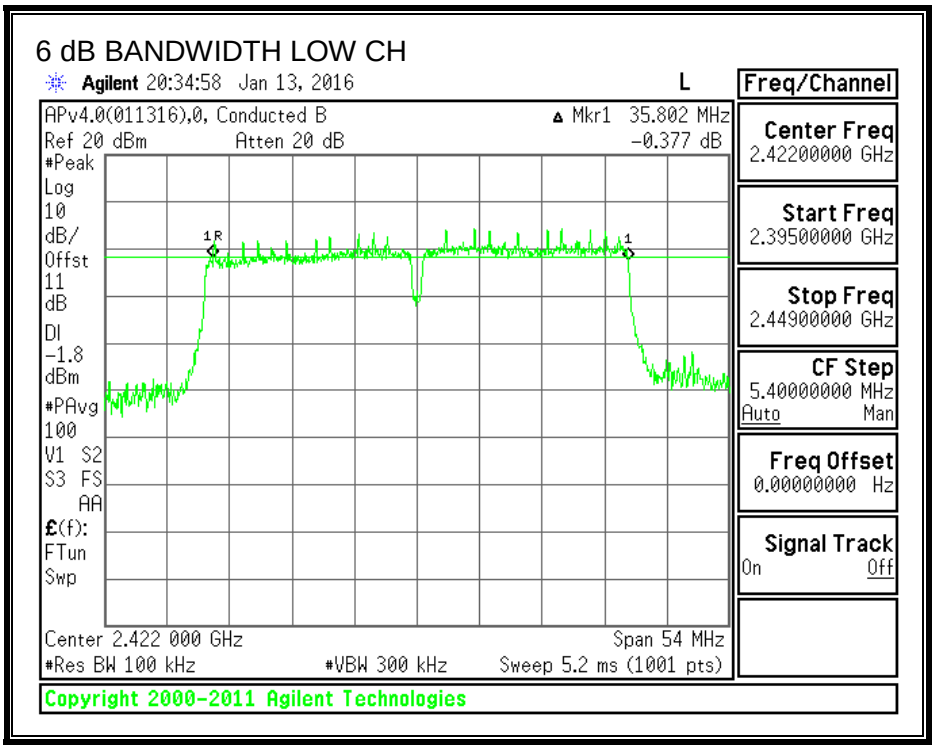
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

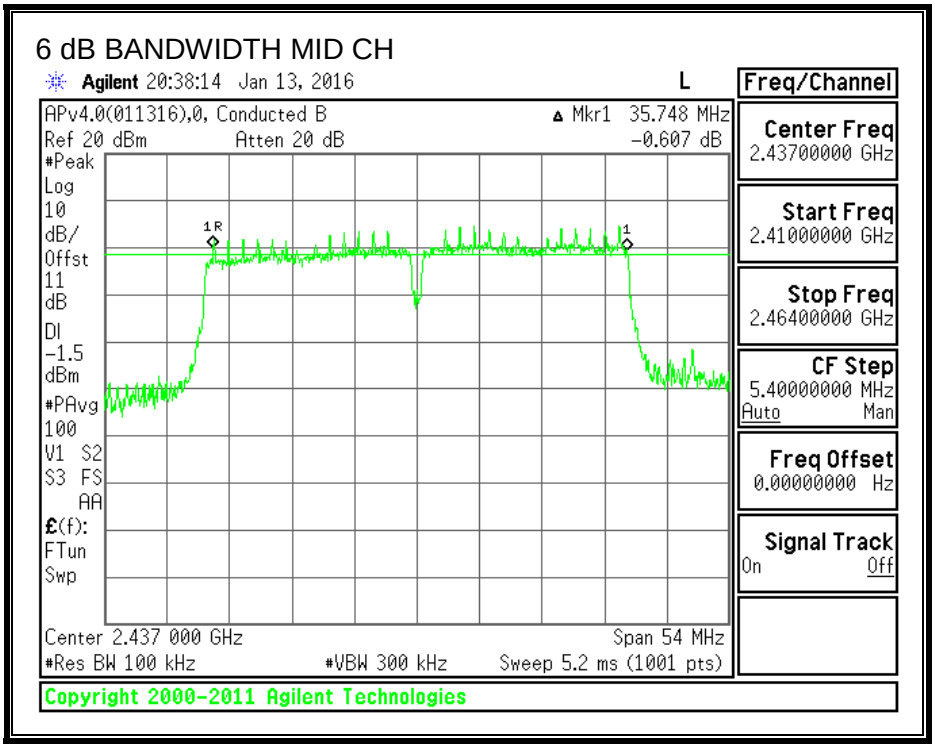
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2422	35.802	0.5
Mid	2437	35.748	0.5
High	2452	35.748	0.5

6 dB BANDWIDTH

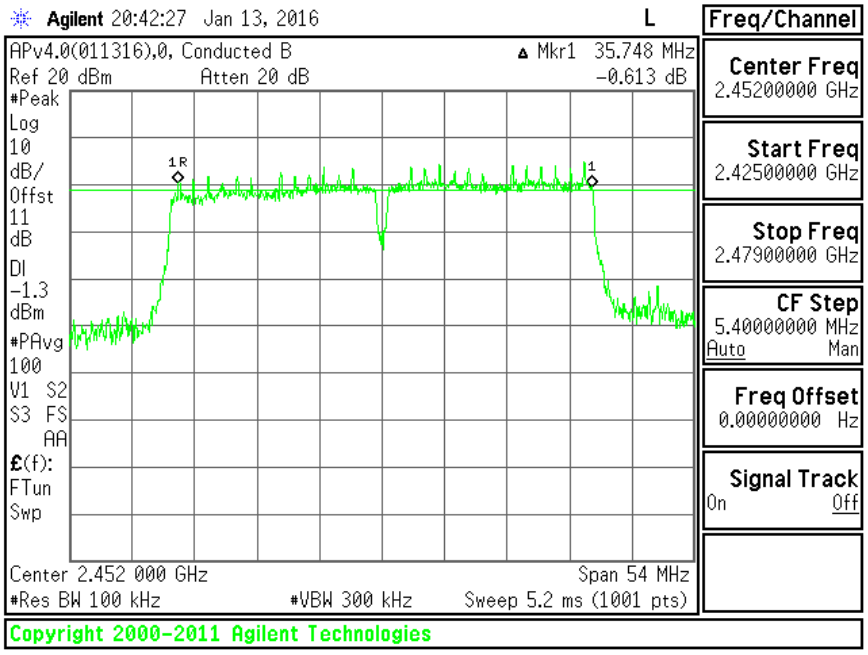
6 dB BANDWIDTH LOW CH



6 dB BANDWIDTH MID CH



6 dB BANDWIDTH HIGH CH



8.6.2. 99% BANDWIDTH

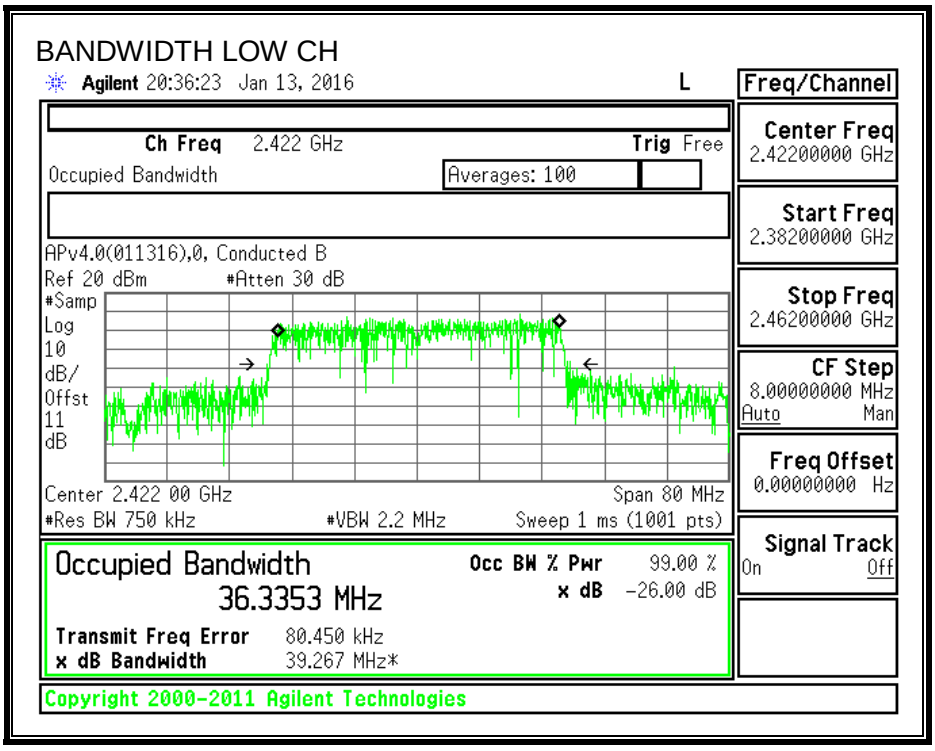
LIMITS

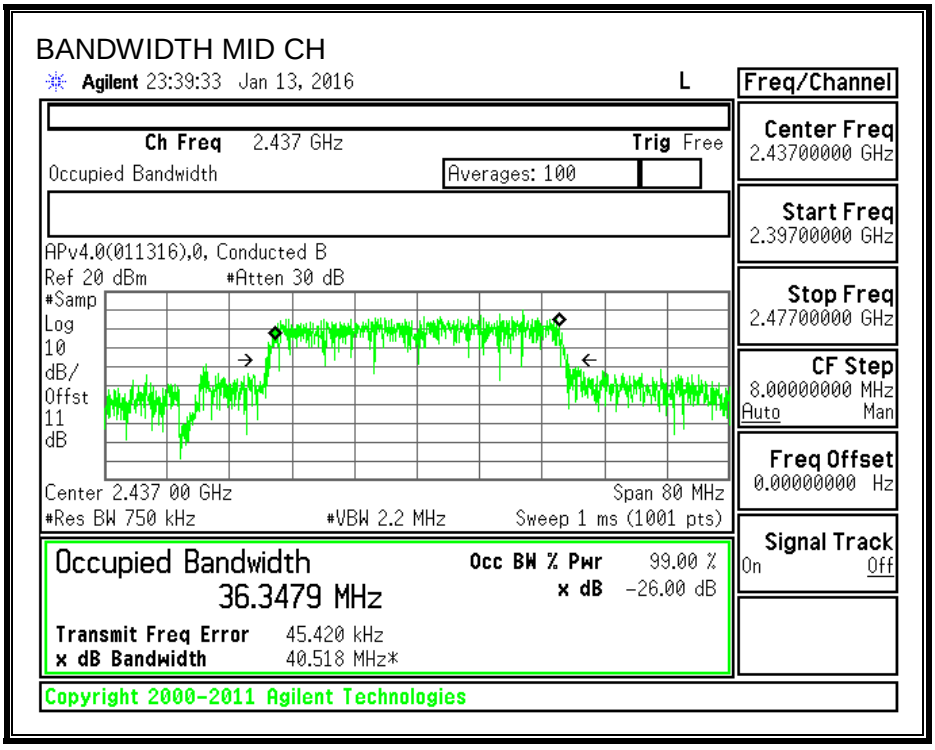
None; for reporting purposes only.

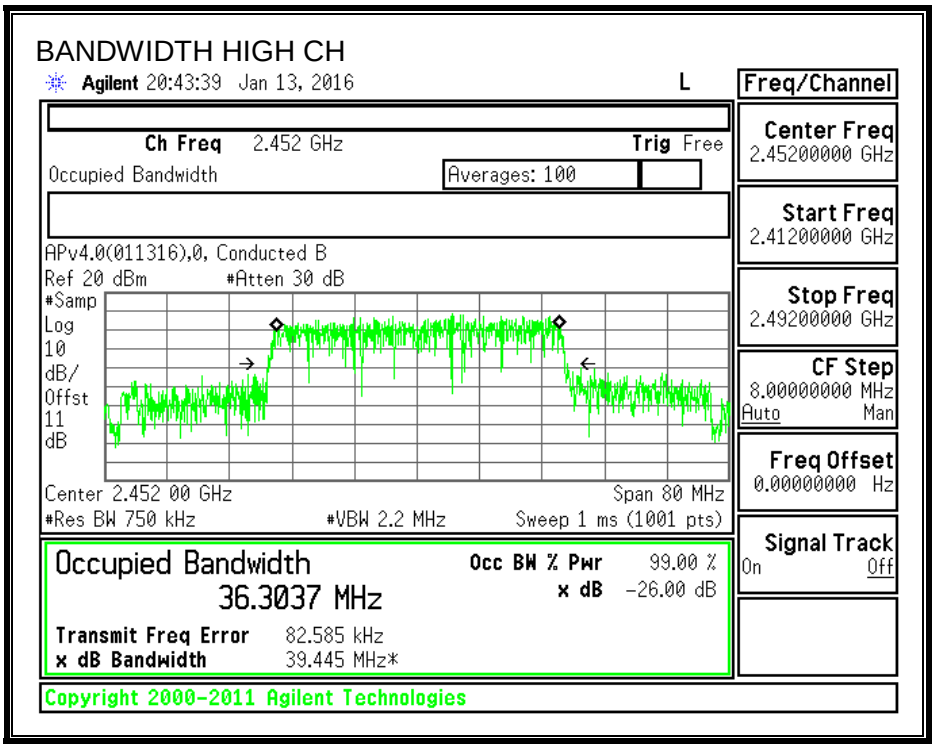
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2422	36.3353
Mid	2437	36.3479
High	2452	36.3037

99% BANDWIDTH







8.6.3. 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

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

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
3	2422	4.85	30.00	30	36	30.00
4	2427	4.85	30.00	30	36	30.00
5	2432	4.85	30.00	30	36	30.00
6	2437	4.85	30.00	30	36	30.00
7	2442	4.85	30.00	30	36	30.00
8	2447	4.85	30.00	30	36	30.00
9	2452	4.85	30.00	30	36	30.00

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

Results

Channel	Frequency (MHz)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
3	2422	14.59	14.59	30.00	-15.41
4	2427	15.25	15.25	30.00	-14.75
5	2432	16.25	16.25	30.00	-13.75
6	2437	16.74	16.74	30.00	-13.26
7	2442	15.52	15.52	30.00	-14.48
8	2447	14.77	14.77	30.00	-15.23
9	2452	14.25	14.25	30.00	-15.75

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.

8.6.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

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

RESULTS

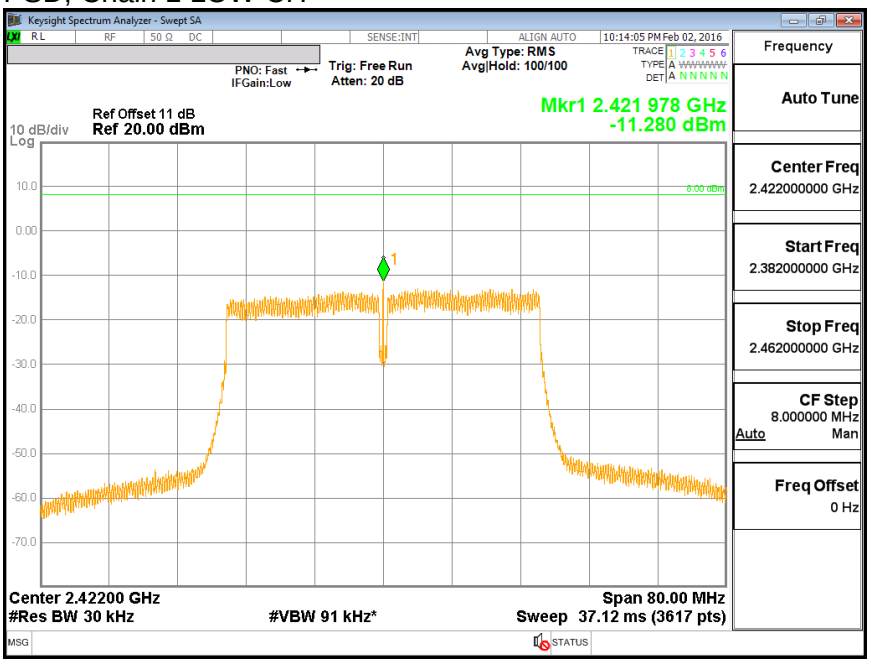
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

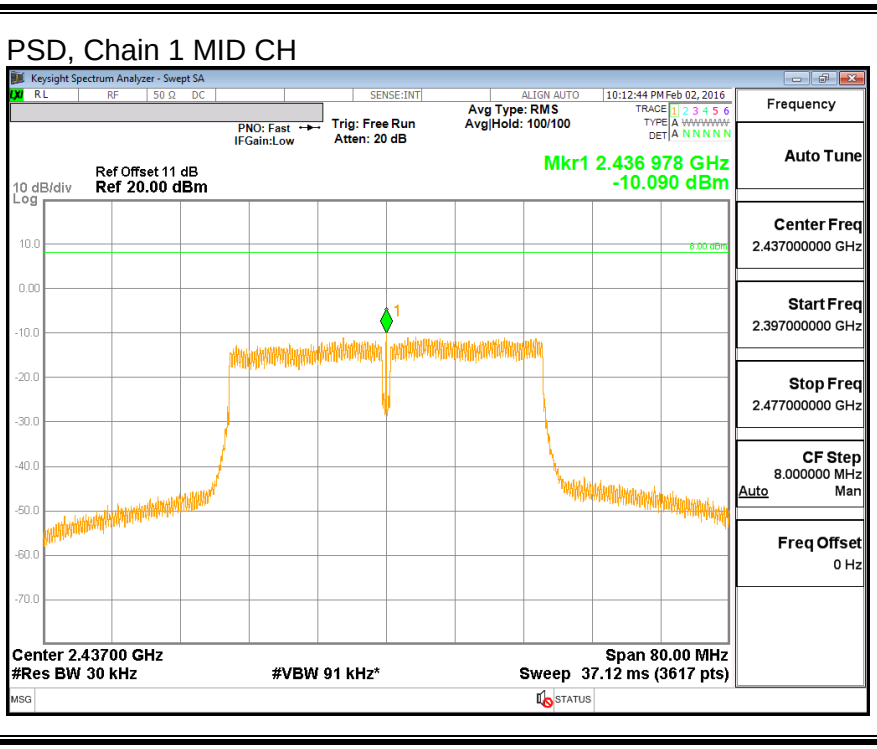
Channel	Frequency (MHz)	Chain 1 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2422	-11.280	-11.280	8.00	-19.28
Mid	2437	-10.090	-10.090	8.00	-18.09
High	2452	-13.056	-13.056	8.00	-21.06

PSD, Chain 1

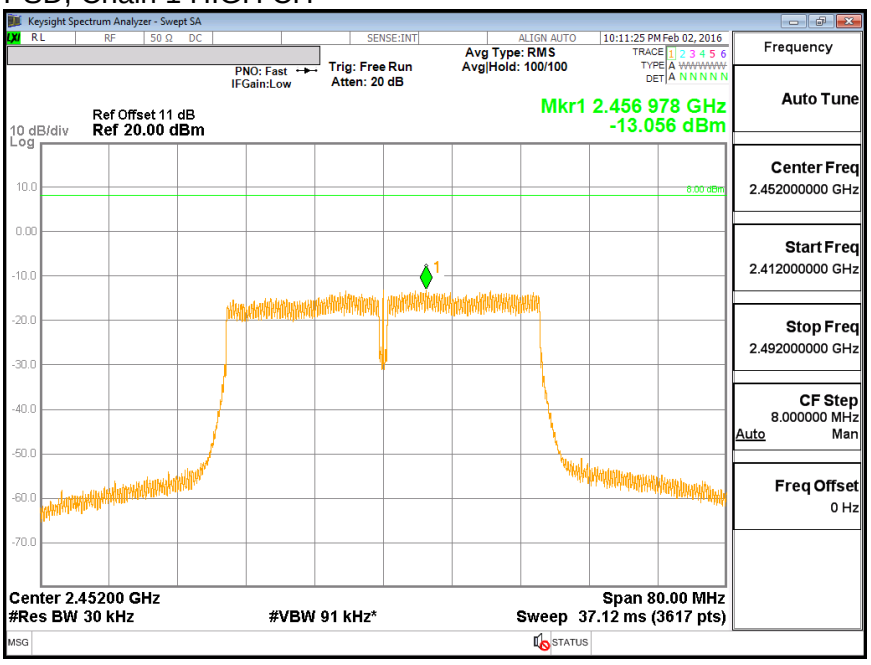
PSD, Chain 1 LOW CH



PSD, Chain 1 MID CH



PSD, Chain 1 HIGH CH



8.6.5. OUT-OF-BAND EMISSIONS

LIMITS

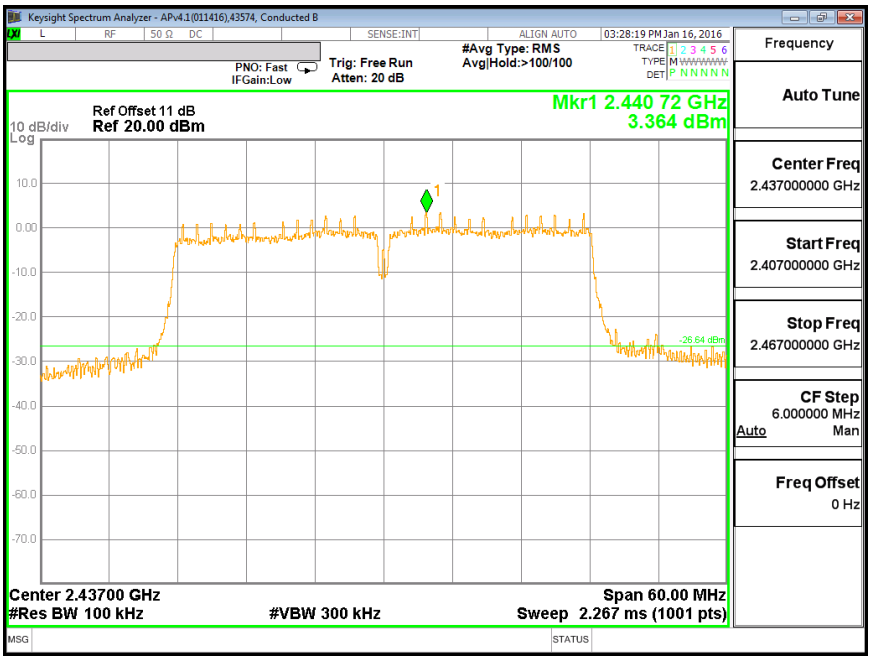
FCC §15.247 (d)

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

RESULTS

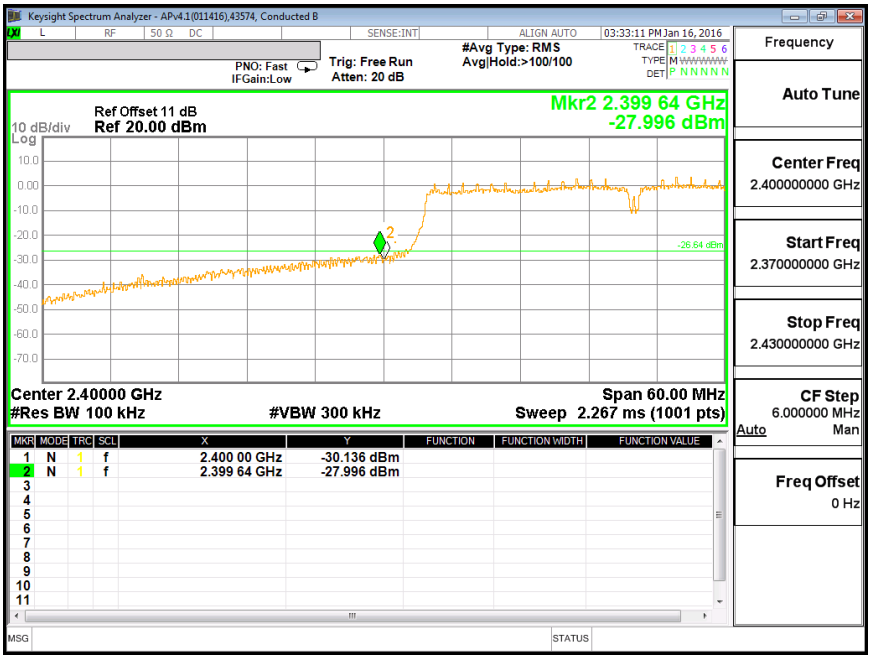
IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH



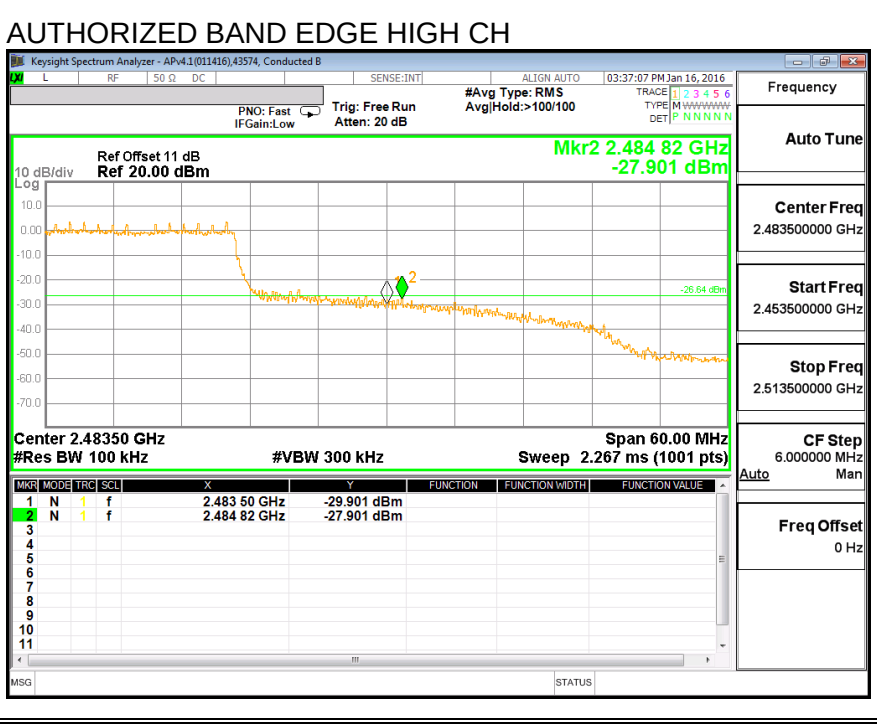
LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH



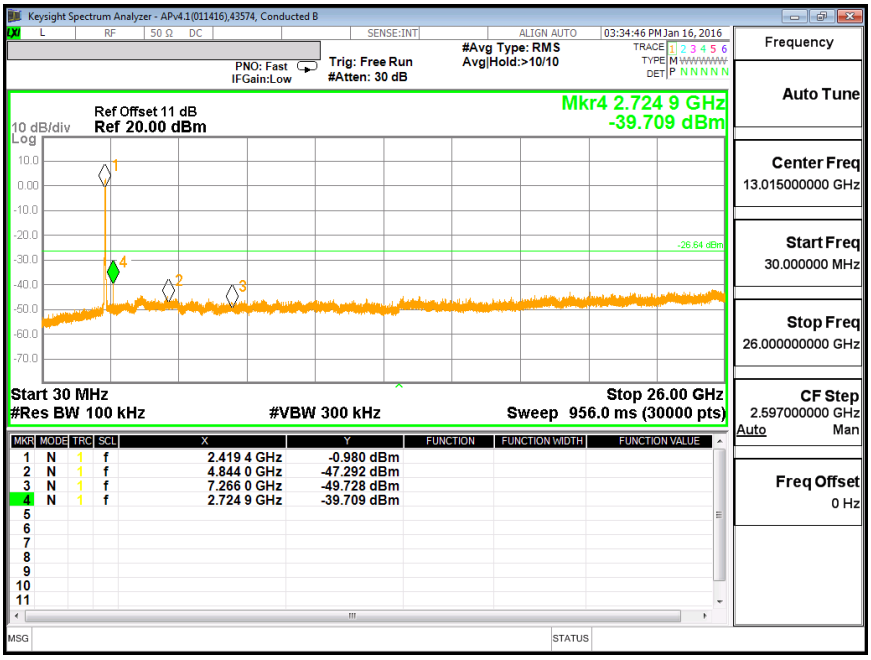
HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH

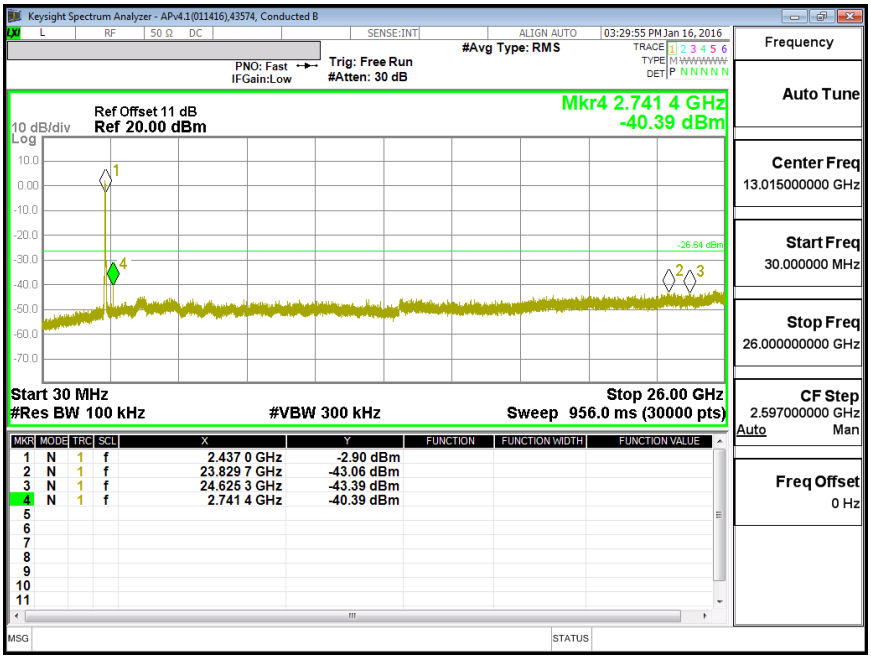


OUT-OF-BAND EMISSIONS

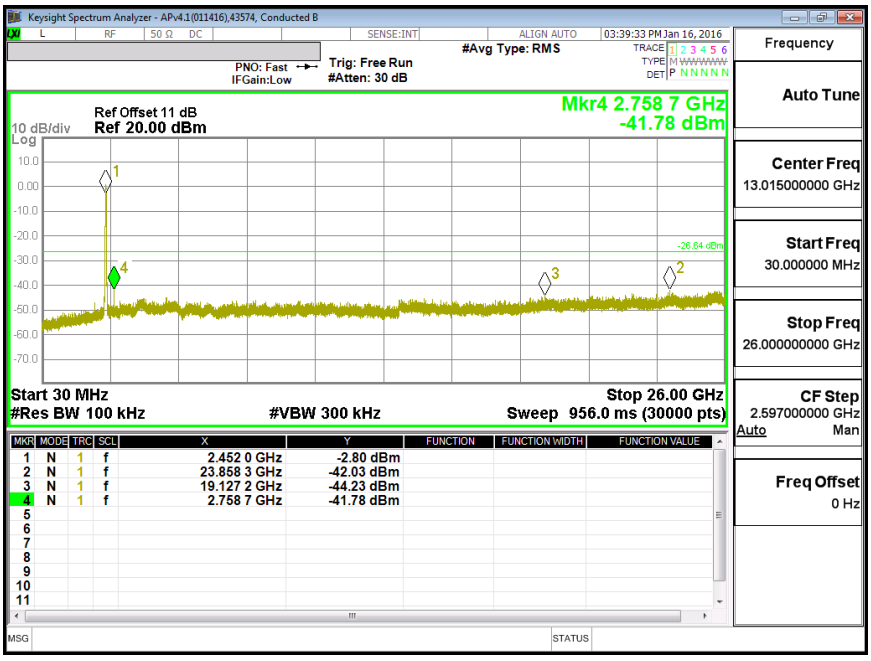
OUT OF BAND LOW CH



OUT OF BAND MID CH



OUT OF BAND HIGH CH



8.7. 802.11n HT40 CDD 3TX MODE IN THE 2.4 GHz BAND

8.7.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

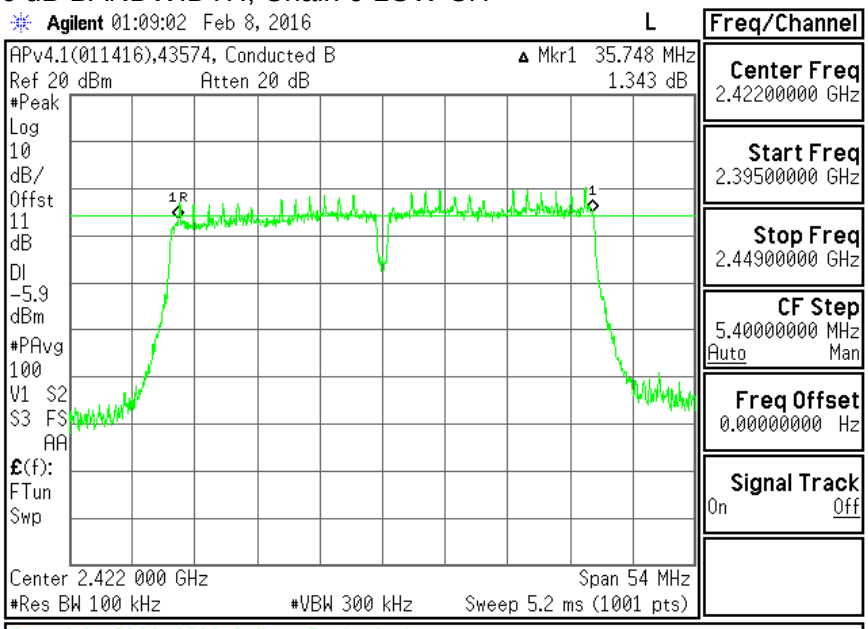
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

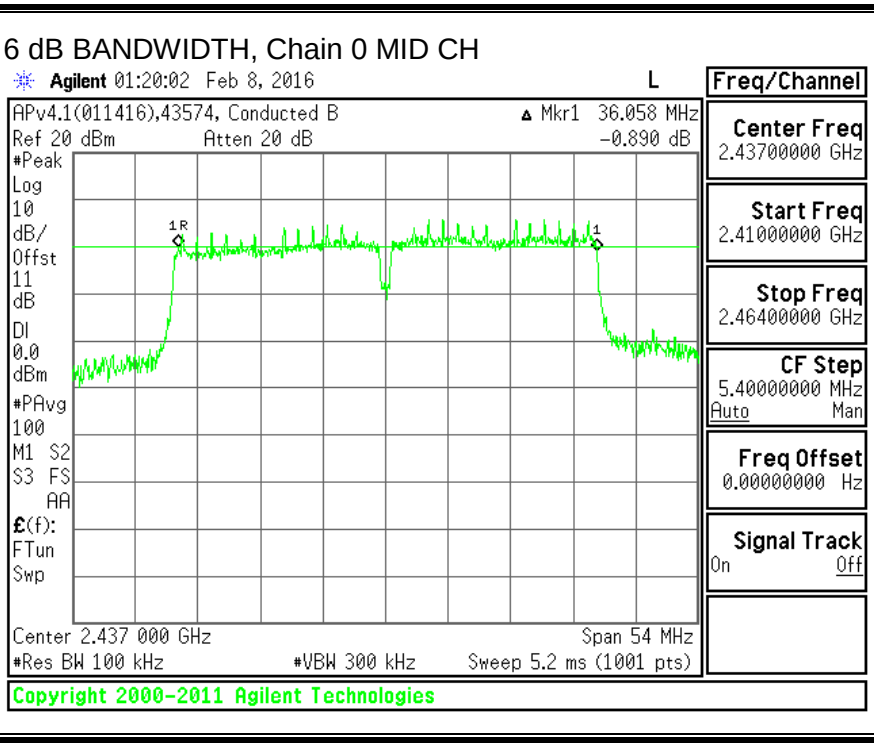
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	6 dB BW Chain 2 (MHz)	Minimum Limit (MHz)
Low	2422	35.748	35.984	35.950	0.5
Mid	2437	36.058	35.856	36.328	0.5
High	2452	36.112	36.328	36.328	0.5

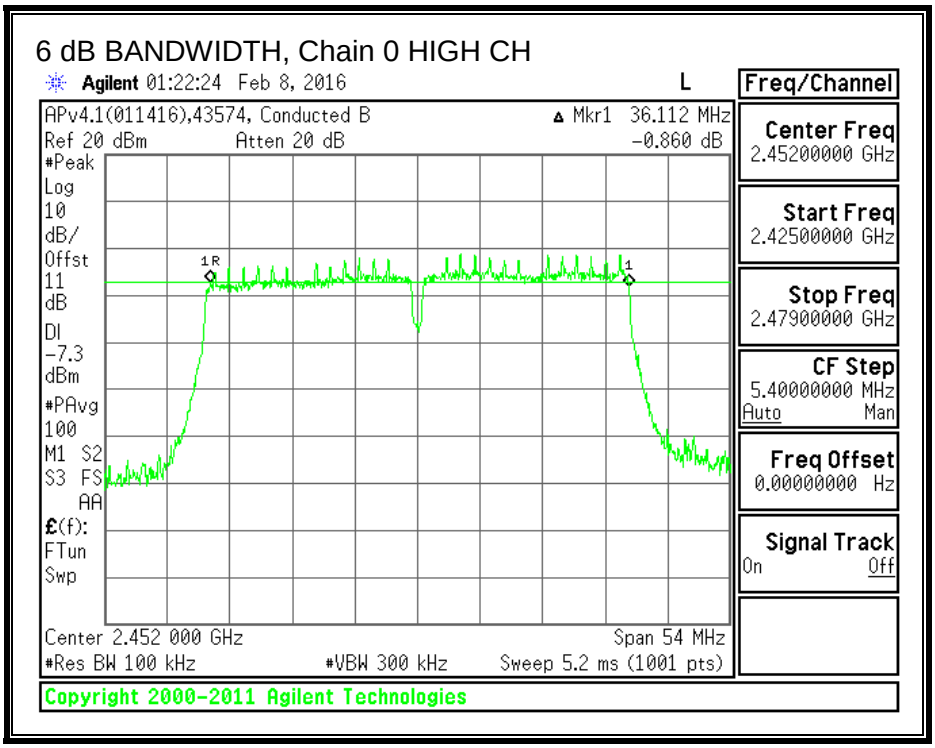
6 dB BANDWIDTH, Chain 0

6 dB BANDWIDTH, Chain 0 LOW CH

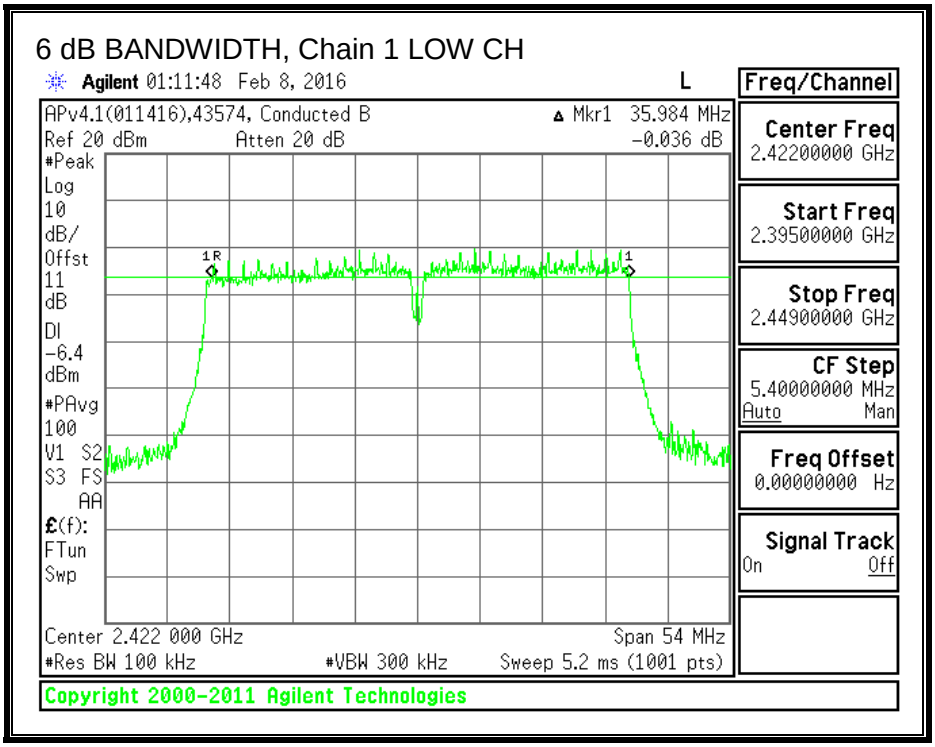


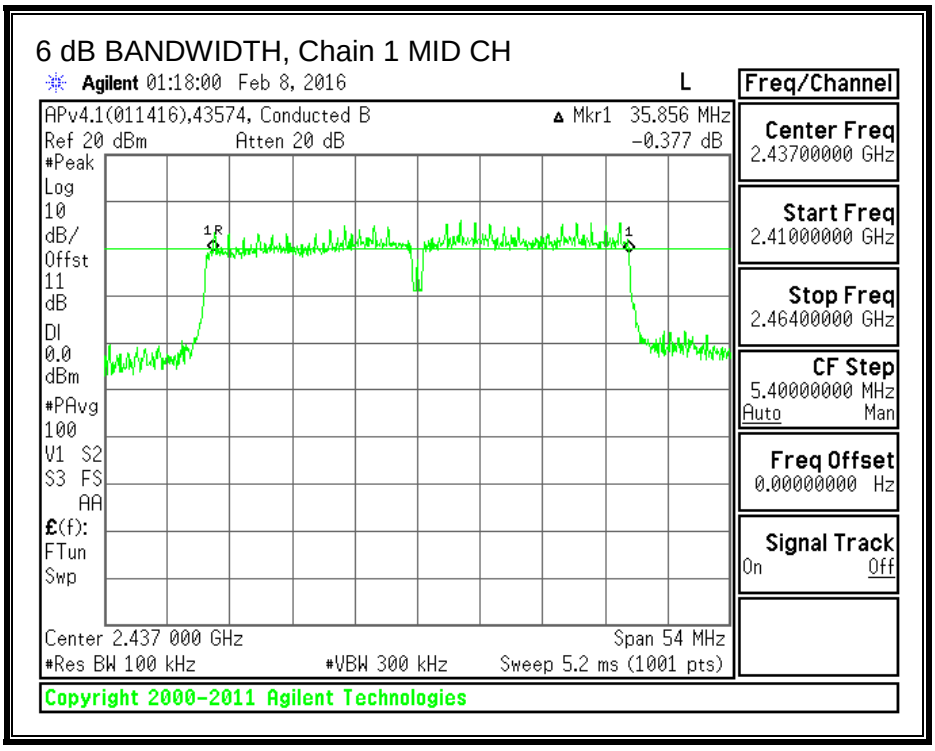
6 dB BANDWIDTH, Chain 0 MID CH

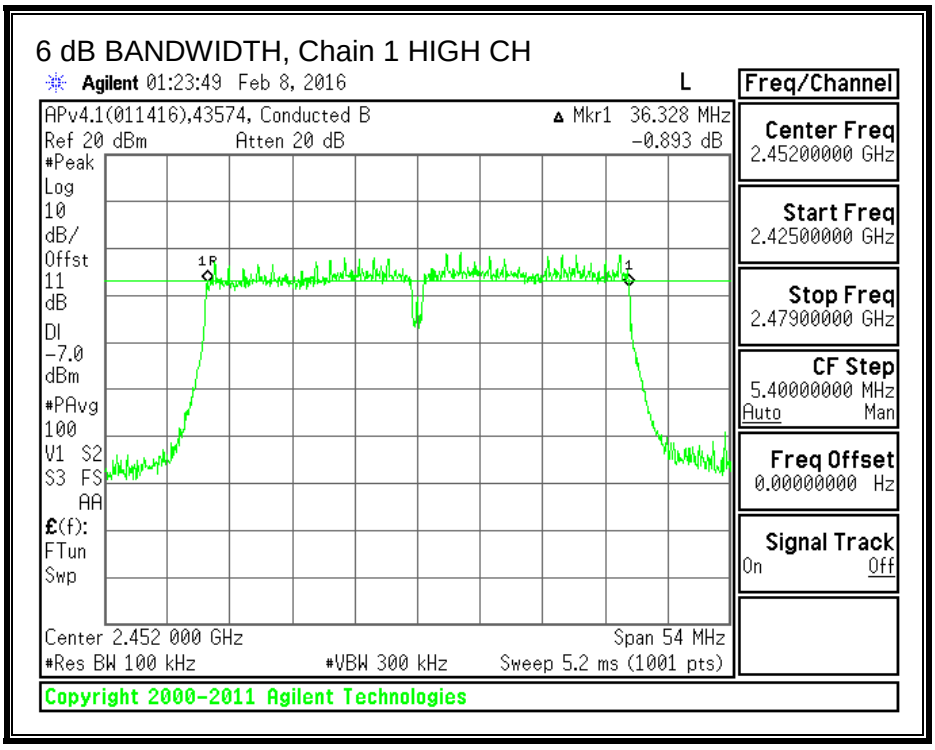




6 dB BANDWIDTH, Chain 1

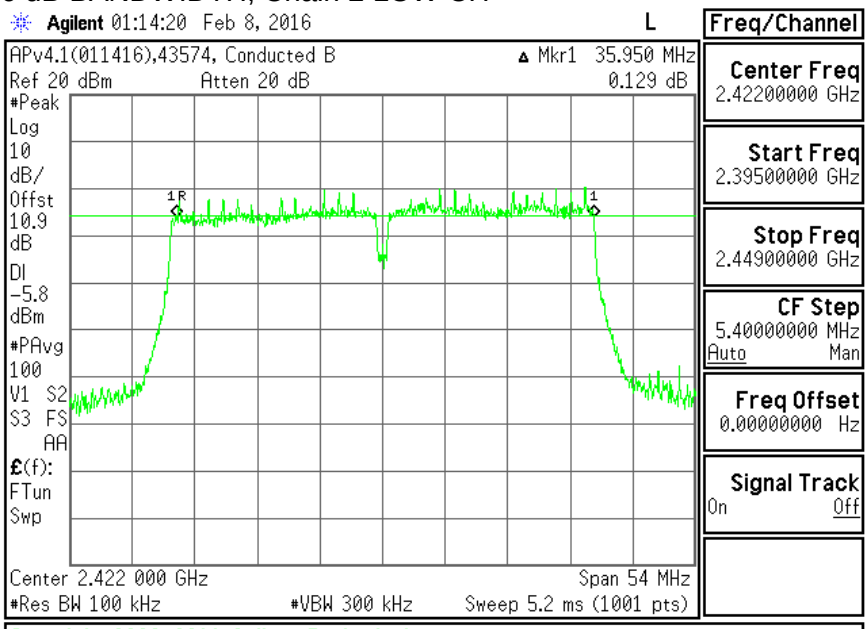




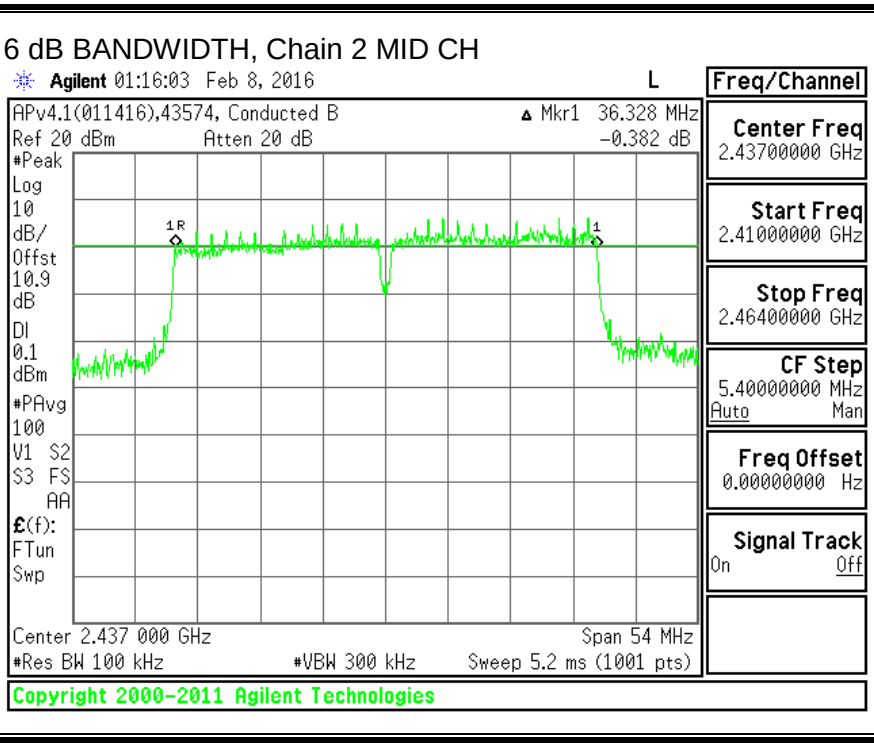


6 dB BANDWIDTH, Chain 2

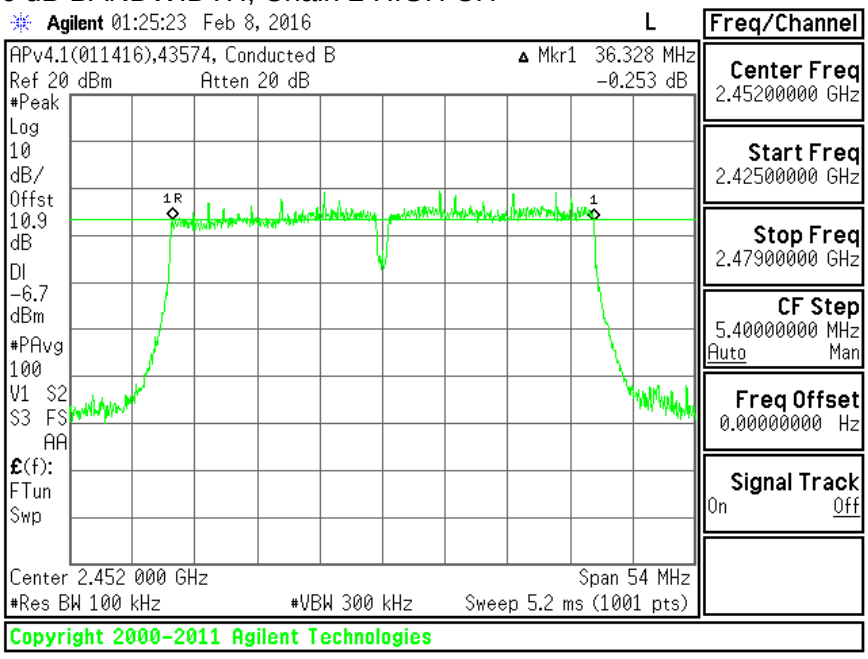
6 dB BANDWIDTH, Chain 2 LOW CH



6 dB BANDWIDTH, Chain 2 MID CH



6 dB BANDWIDTH, Chain 2 HIGH CH



8.7.2. 99% BANDWIDTH

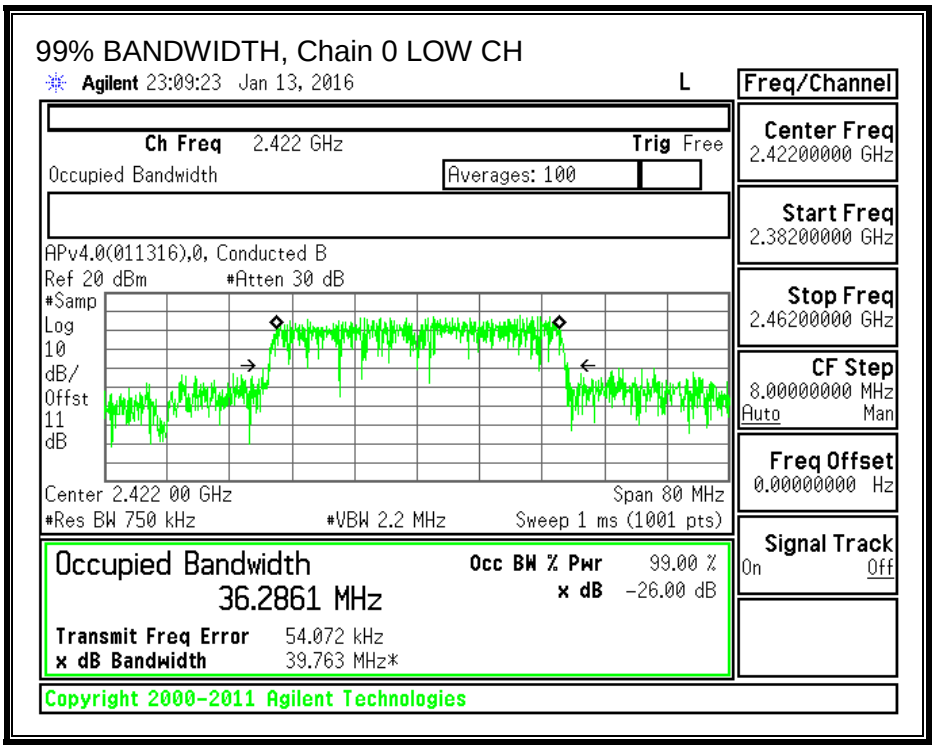
LIMITS

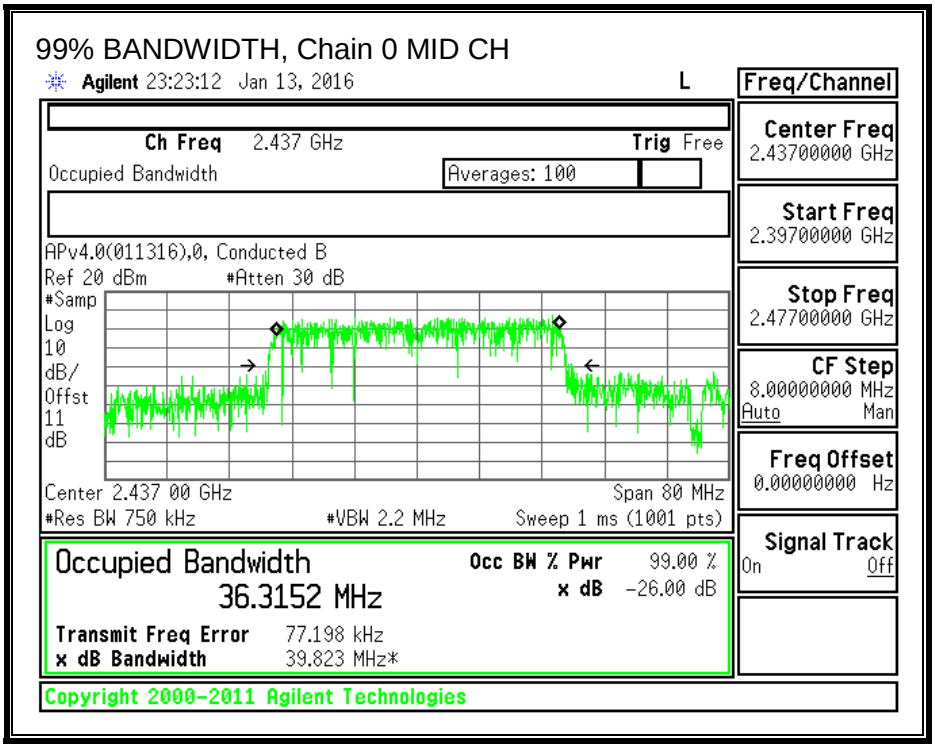
None; for reporting purposes only.

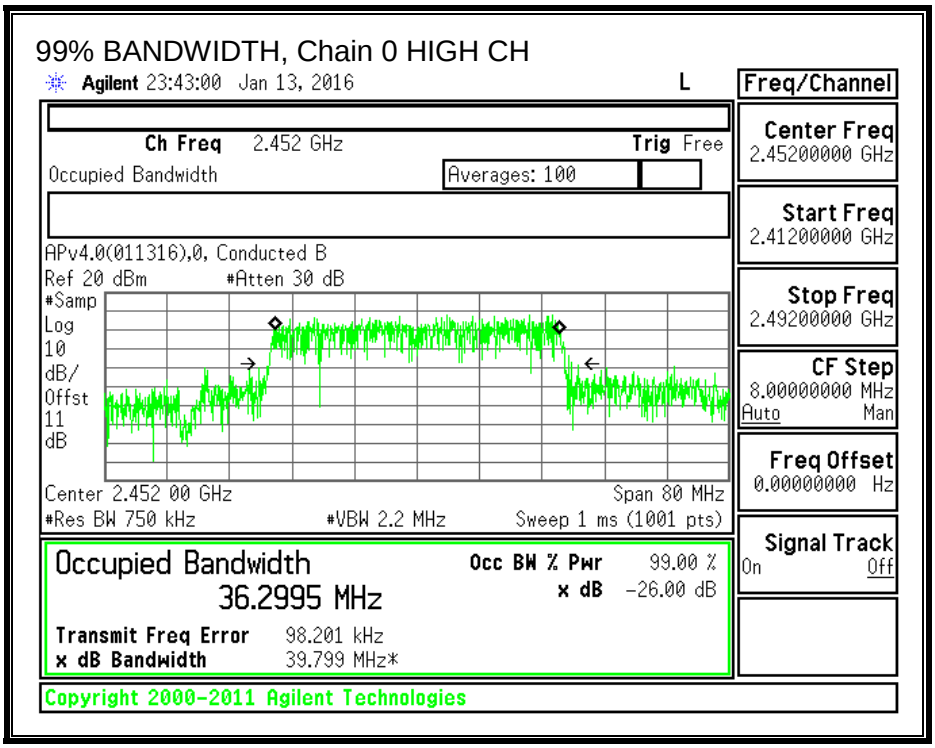
RESULTS

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)	99% BW Chain 2 (MHz)
Low	2422	38.2861	36.3317	36.3449
Mid	2437	36.3152	36.3175	36.3571
High	2452	36.2995	36.3163	36.3630

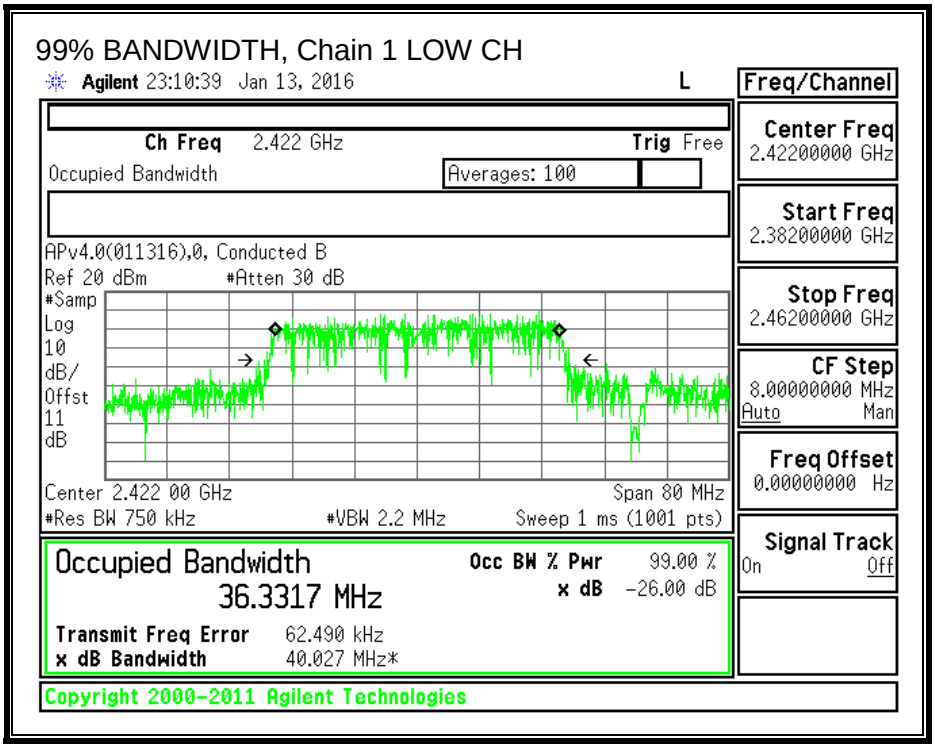
99% BANDWIDTH, Chain 0

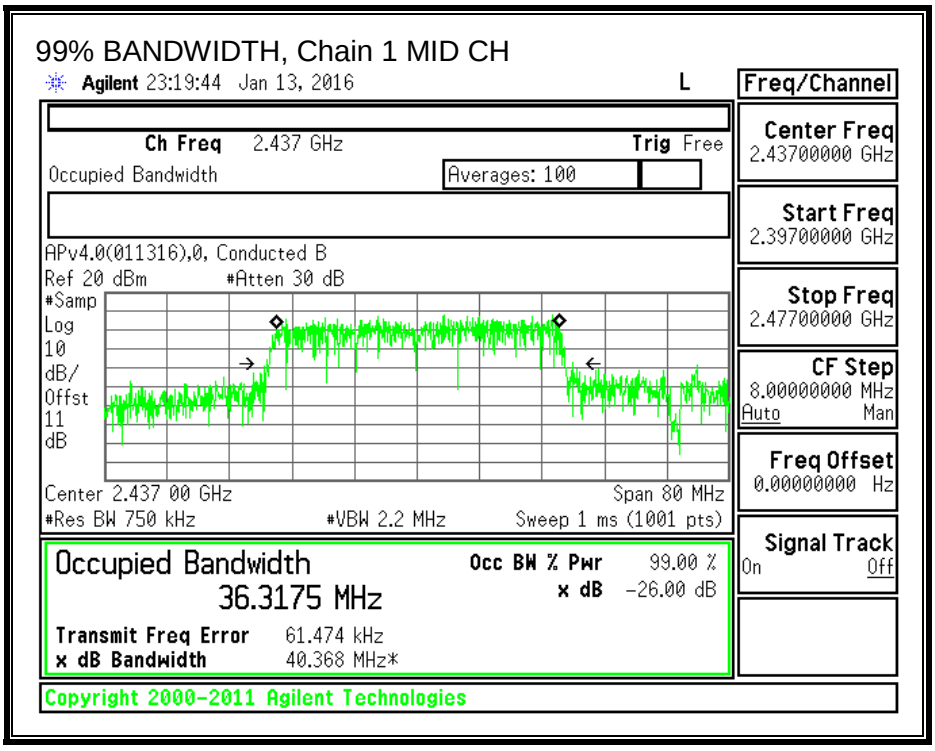


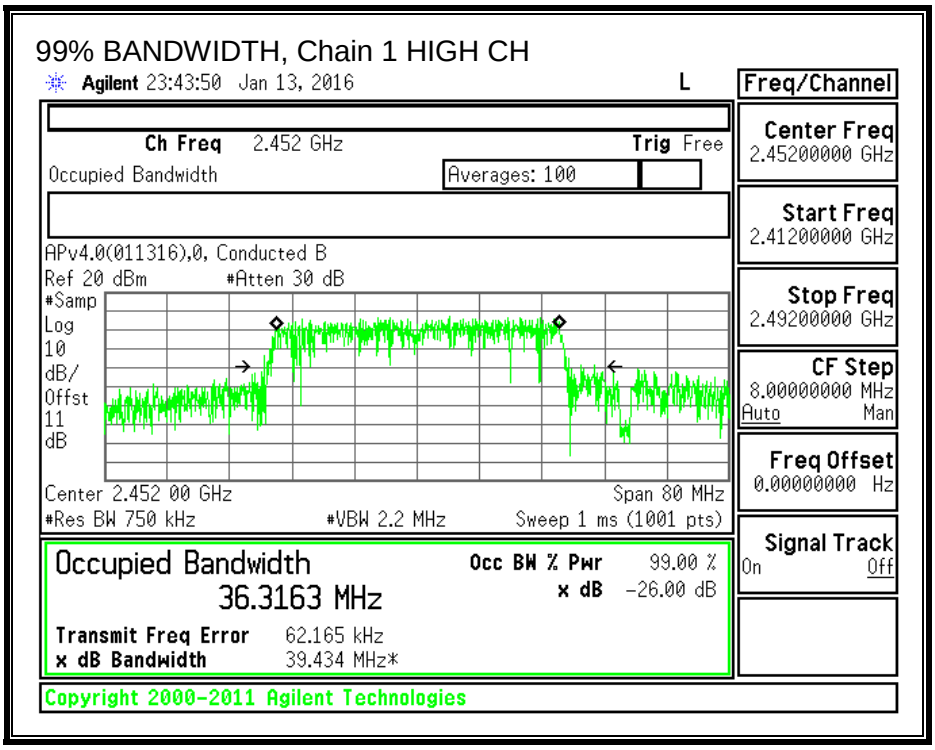




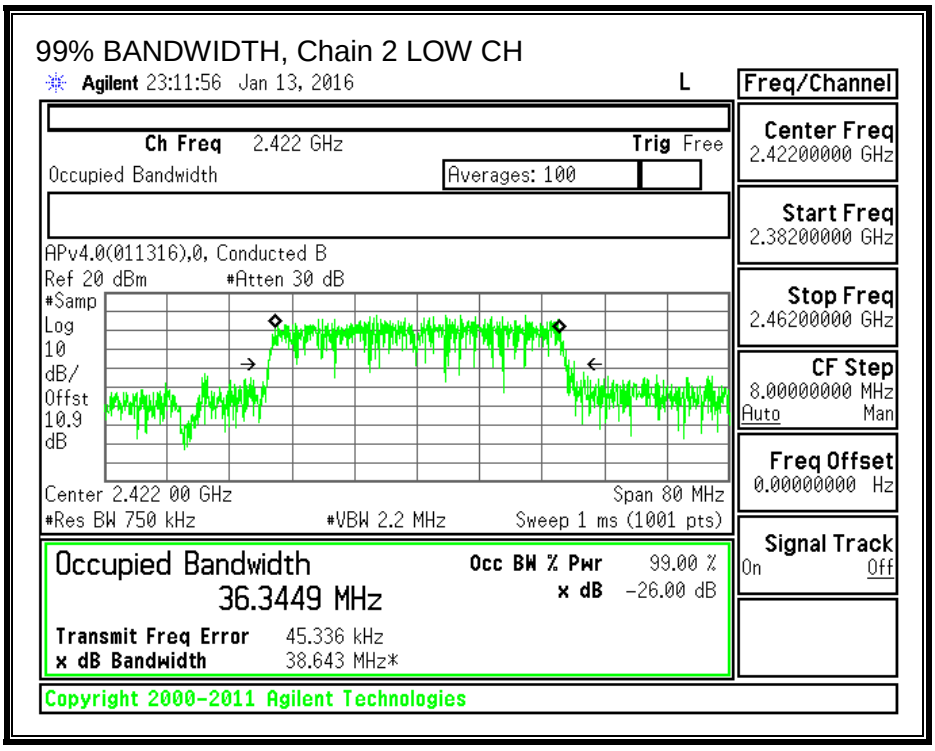
99% BANDWIDTH, Chain 1

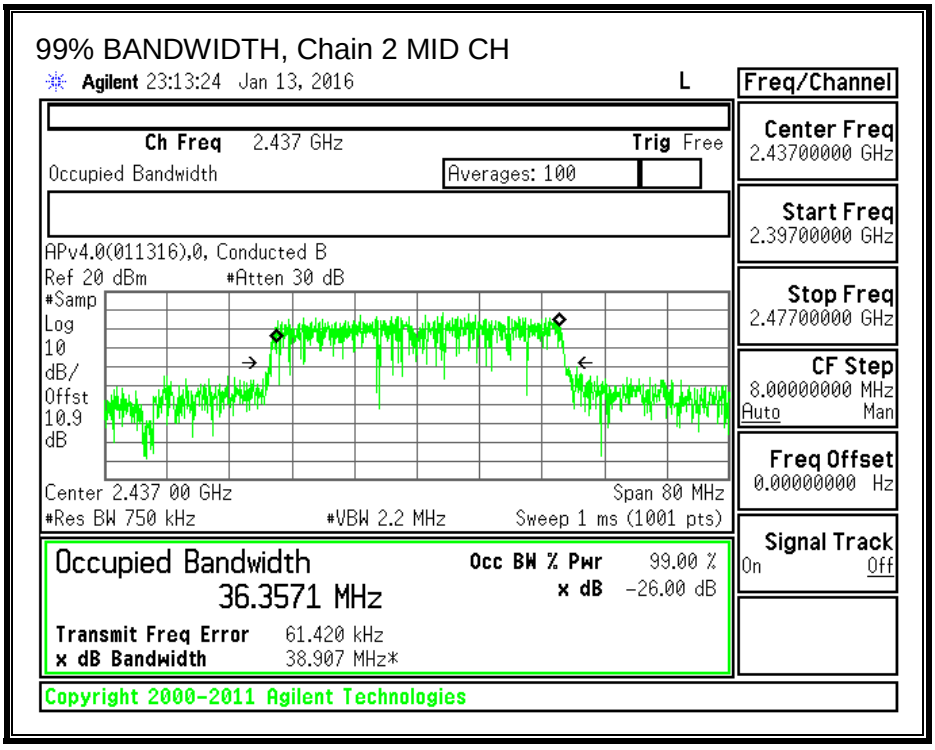


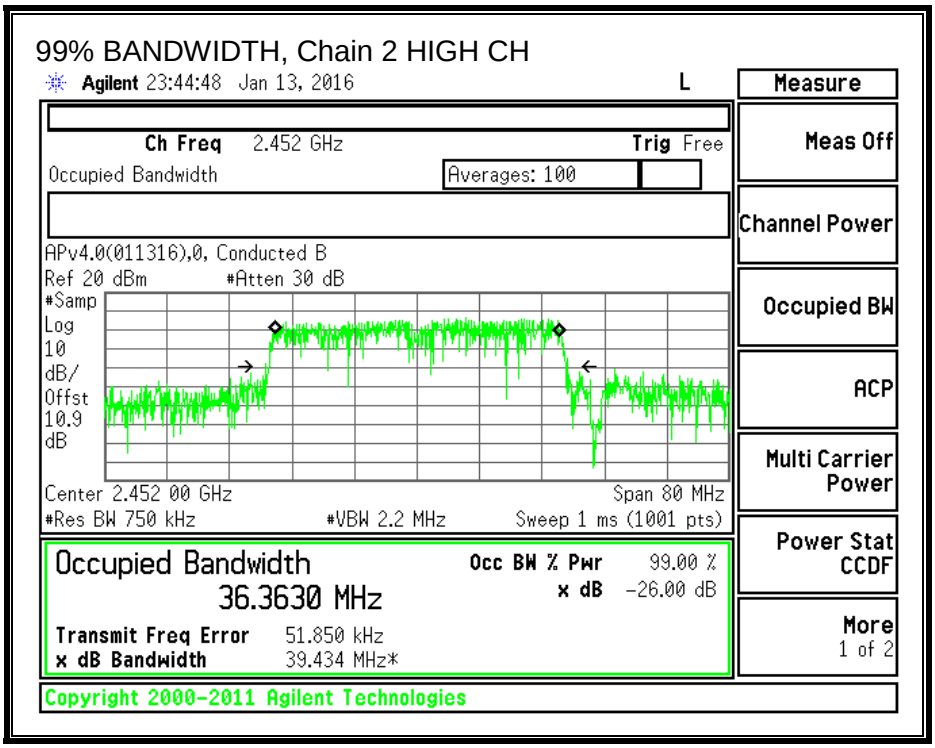




99% BANDWIDTH, Chain 2







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)
1.60	4.85	1.82	3.03

RESULTS

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
3	2422	3.03	30.00	30	36	30.00
4	2427	3.03	30.00	30	36	30.00
5	2432	3.03	30.00	30	36	30.00
6	2437	3.03	30.00	30	36	30.00
7	2442	3.03	30.00	30	36	30.00
8	2447	3.03	30.00	30	36	30.00
9	2452	3.03	30.00	30	36	30.00

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

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)
3	2422	12.92	12.93	13.42	17.87	30.00	-12.13
4	2427	13.50	13.63	13.86	18.44	30.00	-11.56
5	2432	14.70	14.92	15.17	19.71	30.00	-10.29
6	2437	18.74	19.00	19.20	23.76	30.00	-6.24
7	2442	13.45	13.63	14.04	18.48	30.00	-11.52
8	2447	12.06	12.33	12.91	17.22	30.00	-12.78
9	2452	12.01	12.13	12.63	17.04	30.00	-12.96

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 shall not be greater than 8 dBm in any 3 KHz band during any time interval of continuous transmissions, the power spectral density conducted for the international radiator to the antenna.

RESULTS

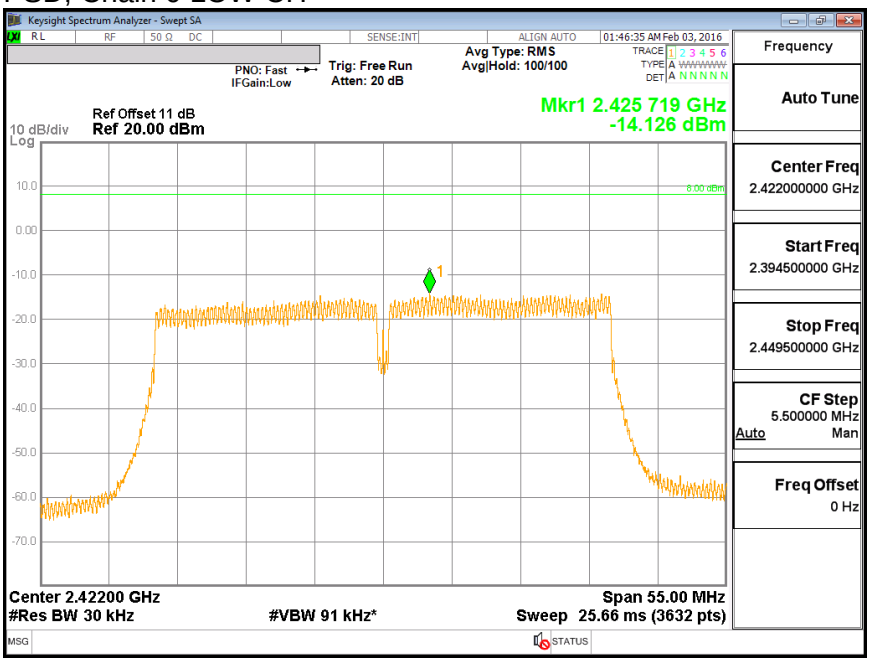
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

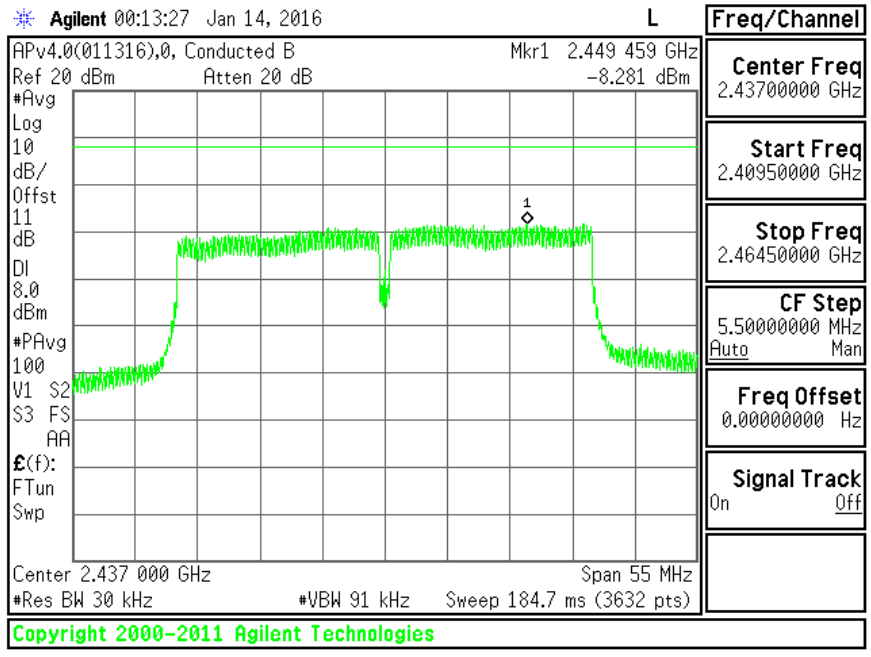
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Chain 2 Meas (dBm)	Total Corr'd PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2422	-14.126	-13.061	-13.600	-8.803	8.00	-16.80
Mid	2437	-8.281	-7.638	-8.355	-3.308	8.00	-11.31
High	2452	-15.269	-15.093	-14.980	-10.341	8.00	-18.34

PSD, Chain 0

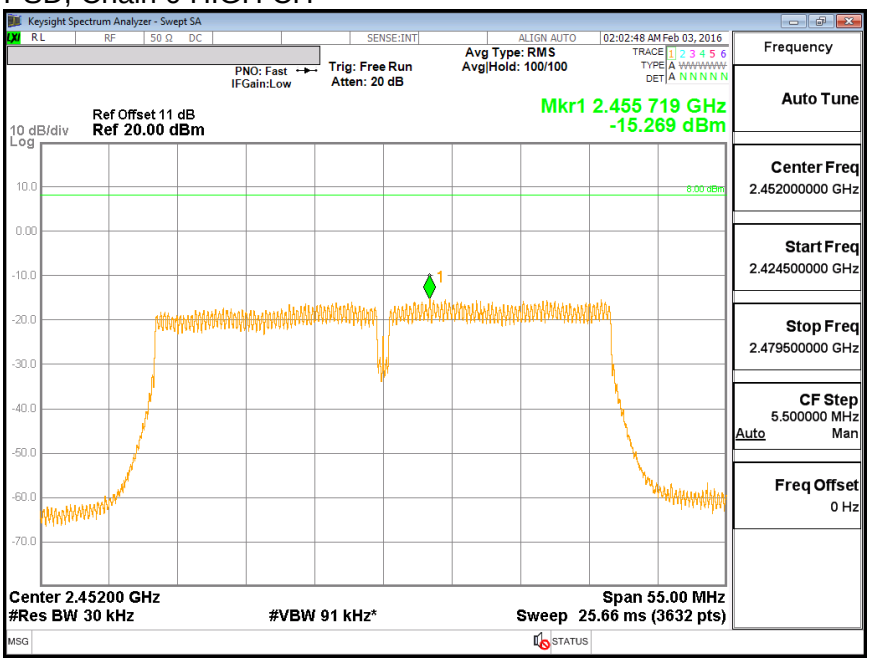
PSD, Chain 0 LOW CH



PSD, Chain 0 MID CH

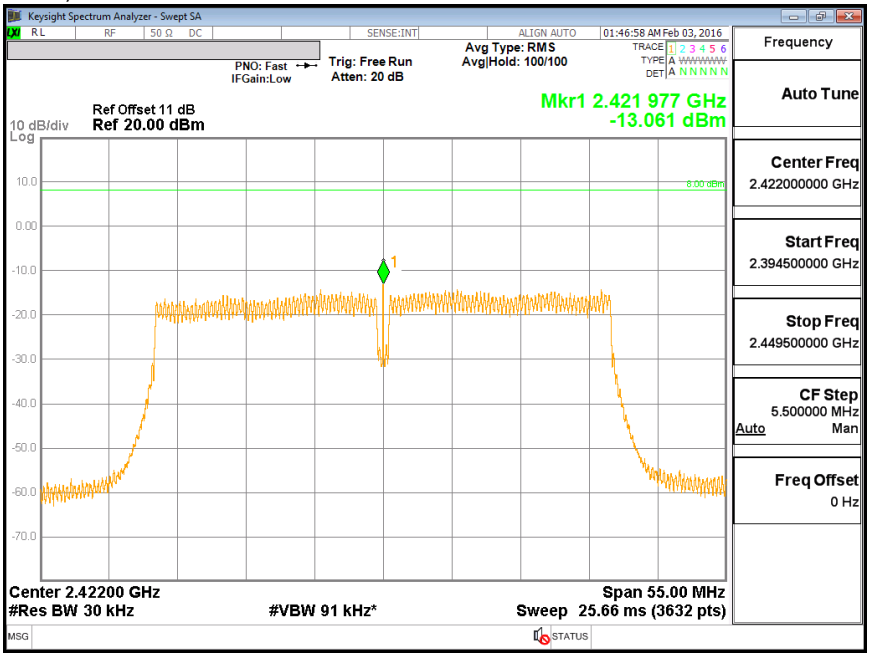


PSD, Chain 0 HIGH CH

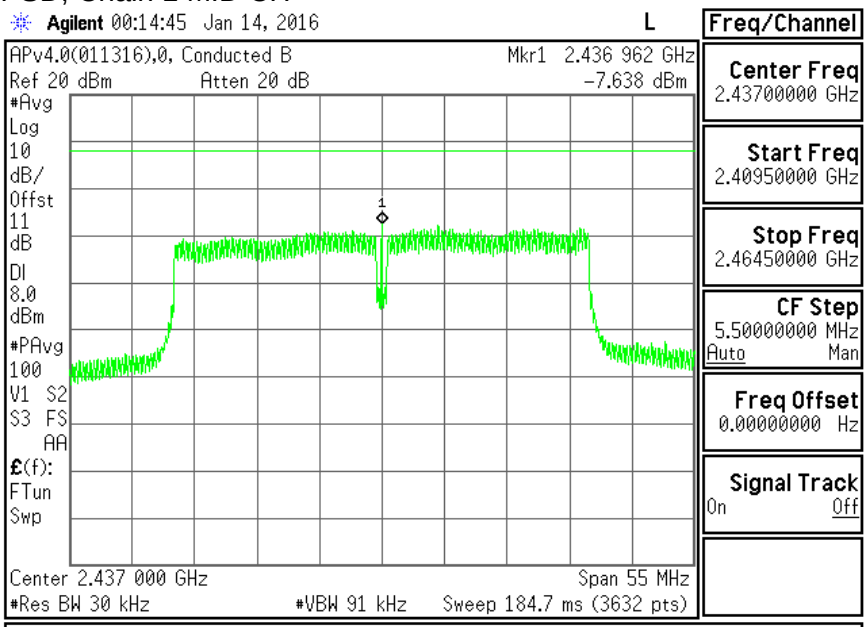


PSD, Chain 1

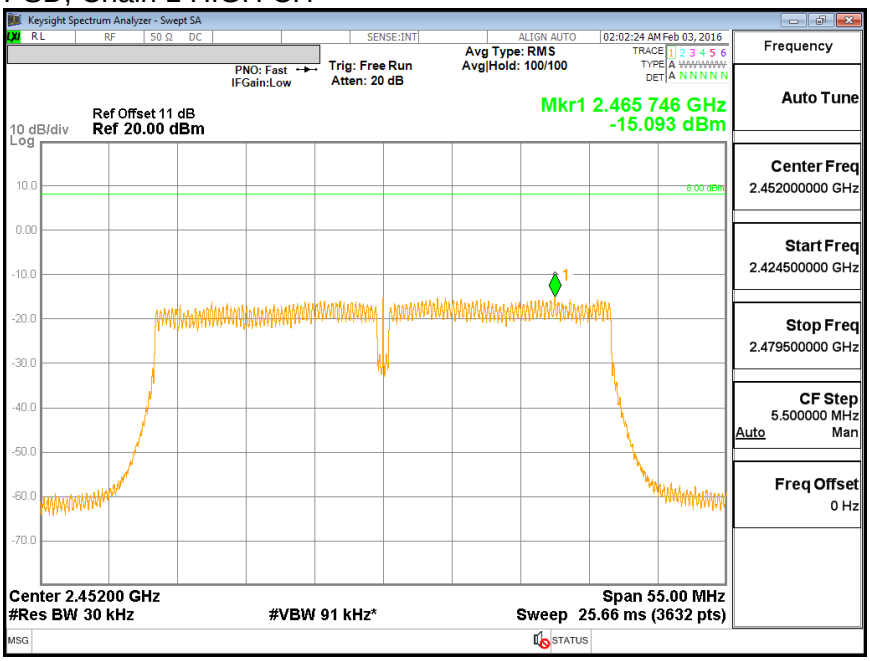
PSD, Chain 1 LOW CH



PSD, Chain 1 MID CH

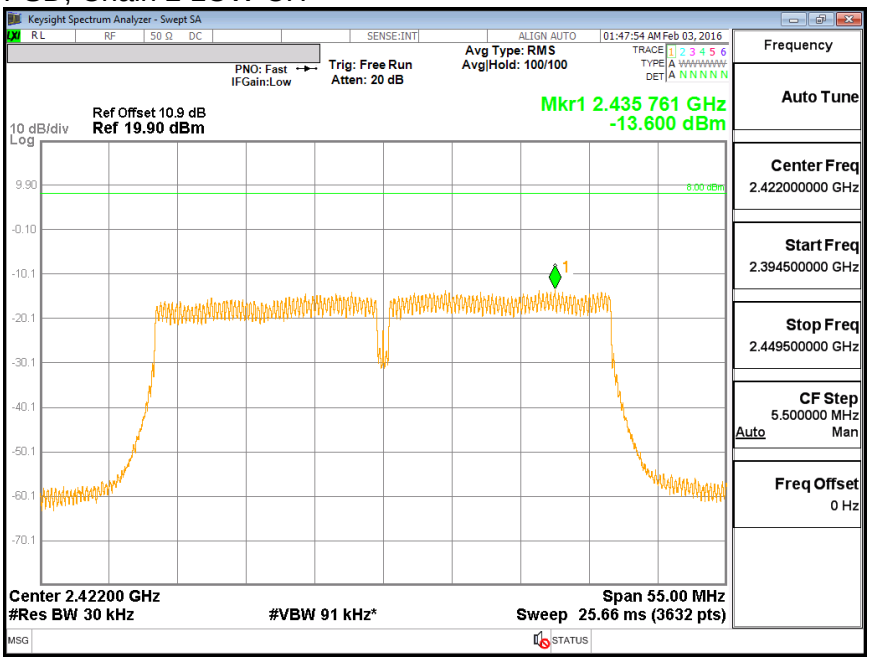


PSD, Chain 1 HIGH CH

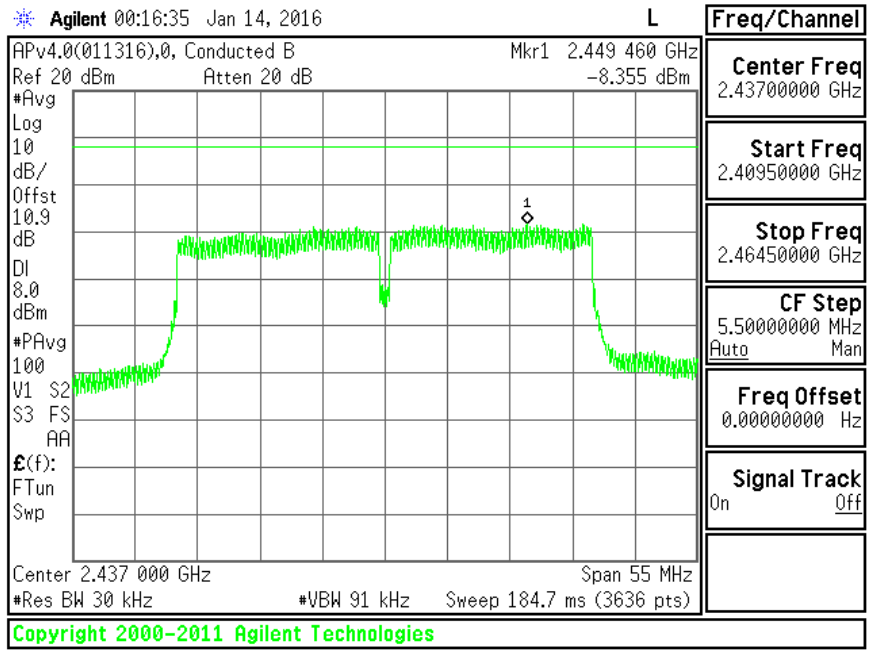


PSD, Chain 2

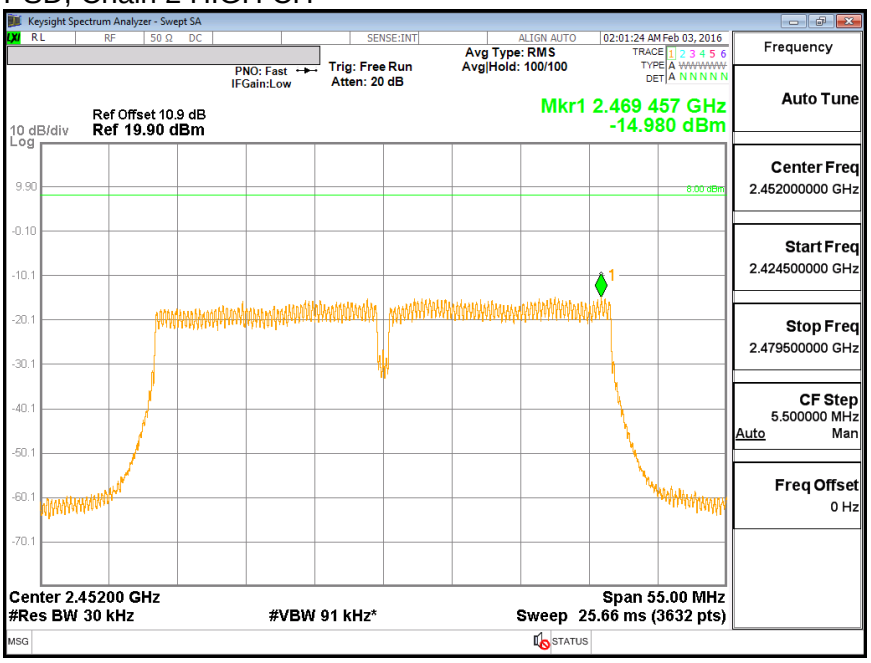
PSD, Chain 2 LOW CH



PSD, Chain 2 MID CH



PSD, Chain 2 HIGH CH



8.7.5. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

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

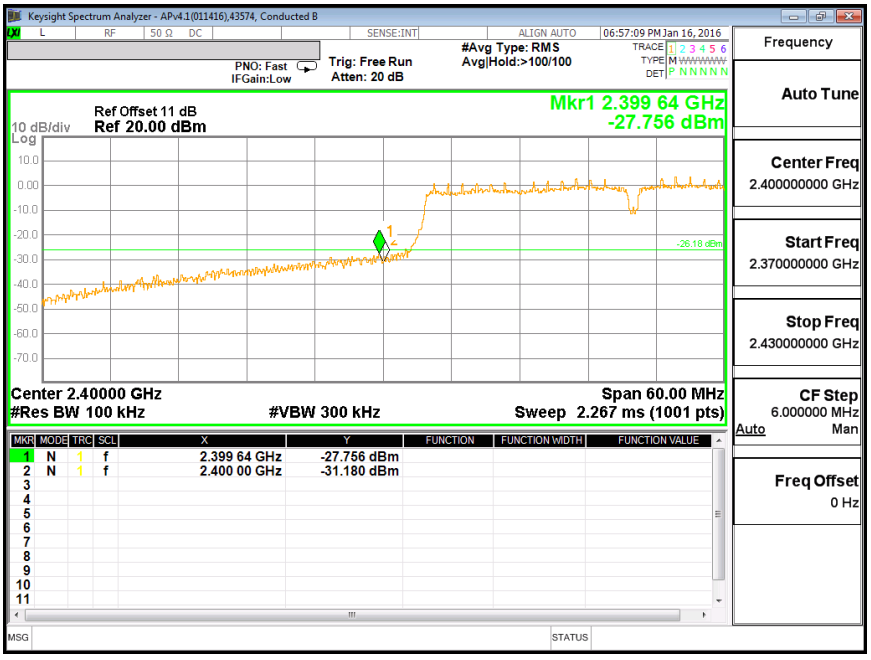
RESULTS

IN-BAND REFERENCE LEVEL, Chain 0

REFERENCE LEVEL Chain 0 MID CH

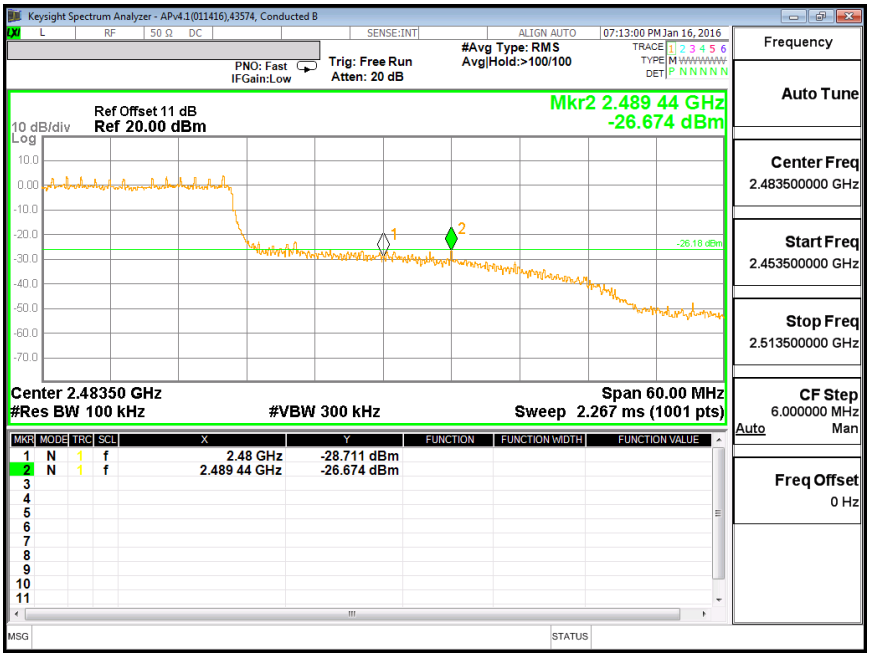
LOW CHANNEL BANDEDGE, Chain 0

AUTHORIZED BAND EDGE Chain 0 LOW CH



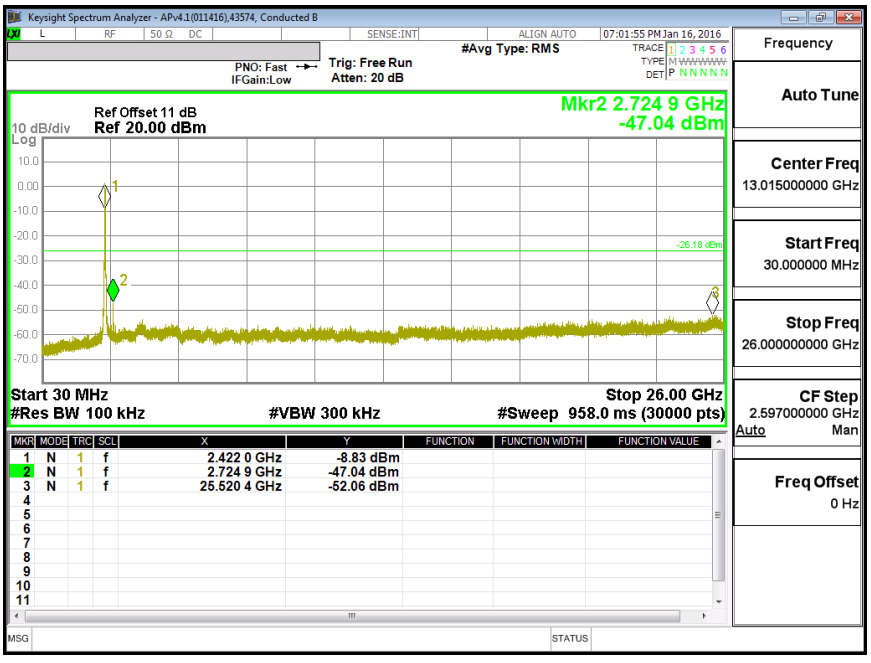
HIGH CHANNEL BANDEDGE, Chain 0

AUTHORIZED BAND EDGE Chain 0 HIGH CH

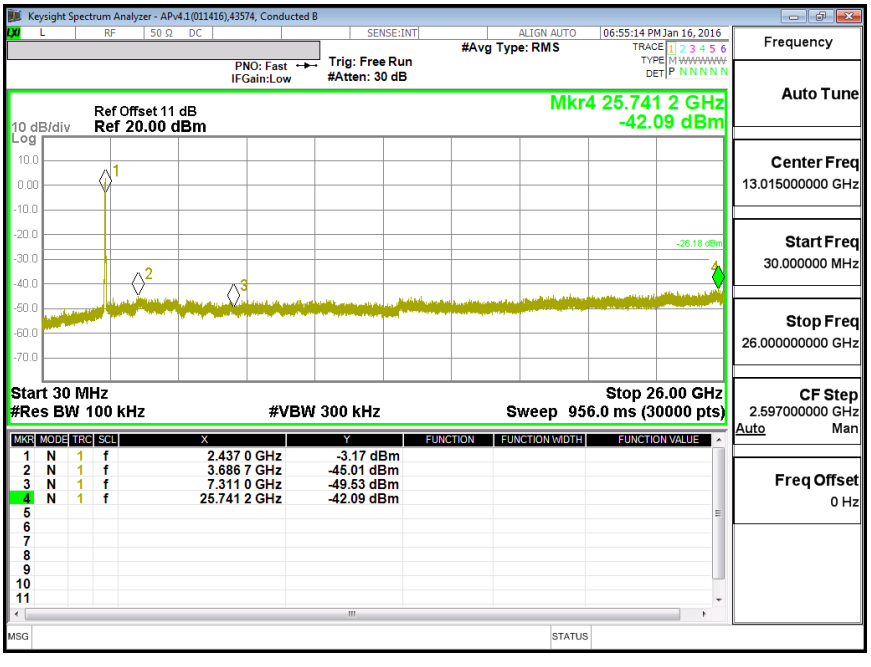


OUT-OF-BAND EMISSIONS, Chain 0

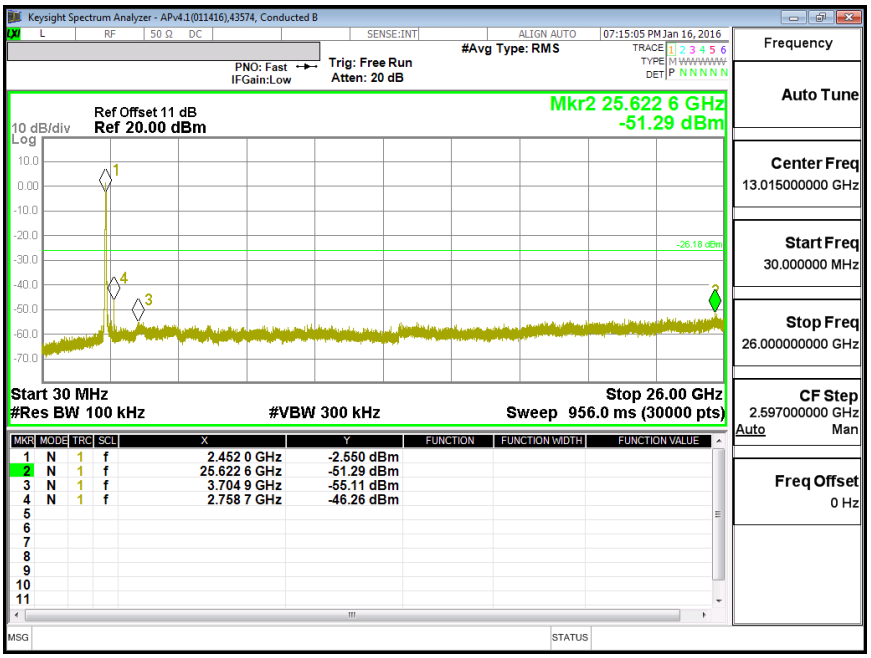
OUT OF BAND Chain 0 LOW CH



OUT OF BAND Chain 0 MID CH

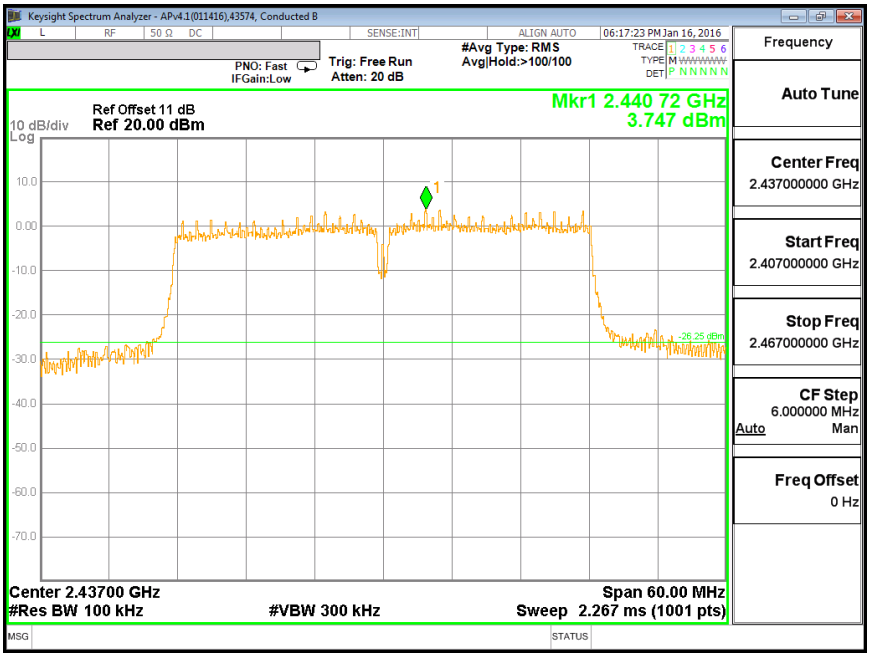


OUT OF BAND Chain 0 HIGH CH



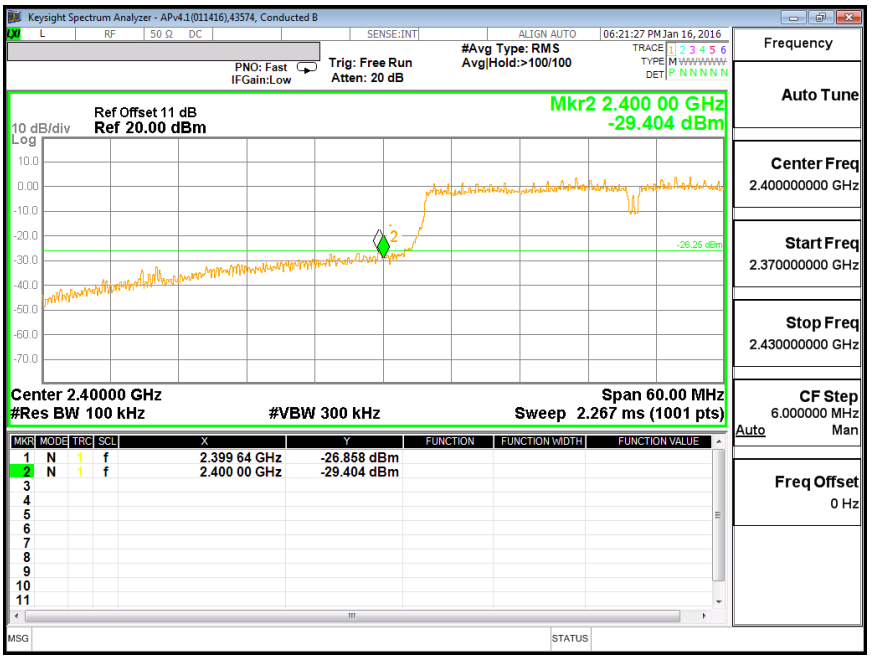
IN-BAND REFERENCE LEVEL, Chain 1

REFERENCE LEVEL Chain 1 MID CH



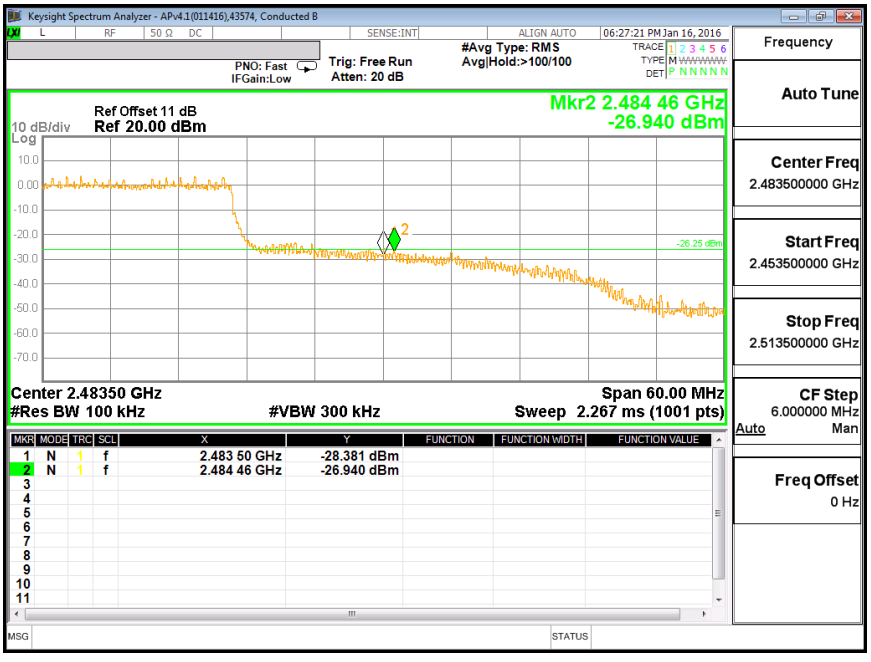
LOW CHANNEL BANDEDGE, Chain 1

AUTHORIZED BAND EDGE Chain 1 LOW CH



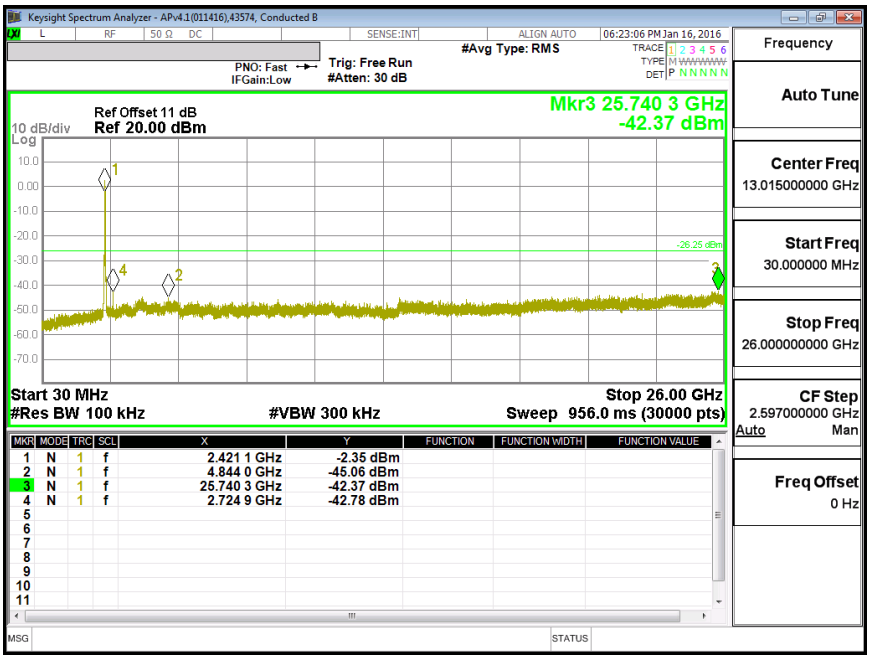
HIGH CHANNEL BANDEDGE, Chain 1

AUTHORIZED BAND EDGE Chain 1 HIGH CH



OUT-OF-BAND EMISSIONS, Chain 1

OUT OF BAND Chain 1 LOW CH



OUT OF BAND Chain 1 MID CH