CERTIFICATION TEST REPORT

Report Number. : 11633253-E3V1

Applicant	:	FITBIT INC. 405 HOWARD STREET, SUITE 550 SAN FRANCISCO, CA 94105, U.S.A
Model	:	FB503
FCC ID	:	XRAFB503
IC	:	8542A-FB503
EUT Description	:	Smart Watch
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C INDUSTRY CANADA RSS - 247 ISSUE 2 INDUSTRY CANADA RSS-GEN ISSUE 4

Date Of Issue:
March 27, 2017

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	03/27/17	Initial Issue	C. Vergonio

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UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701J
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: FITBIT INC.
405 HOWARD STREET, SUITE 550
SAN FRANCISCO, CA 94105, U.S.A

EUT DESCRIPTION: Smart Watch

MODEL: FB503

SERIAL NUMBER: 0x00001BA532AE3029 (Radiated Sample)
0x00001B8B472E4029 (Conducted Sample)

DATE TESTED: February 7 to March 30, 2017

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-247 Issue 2	Pass
INDUSTRY CANADA RSS-GEN Issue 4	Pass

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

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

Approved & Released For
UL Verification Services Inc. By:

WiSE Project Lead
UL VERIFICATION SERVICES INC.

Tested By:

Jason Qian
WiSE Lab Engineer
UL VERIFICATION SERVICES INC.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, KDB 558074 D01 v03r05, ANSI C63.10-2013, RSS-GEN Issue 4, and RSS-247 Issue 2.

3. FACILITIES AND ACCREDITATION

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

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

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

4.3. MEASUREMENT UNCERTAINTY

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

Parameter	Uncertainty
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.45 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.24 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Smart Watch.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2472	802.11b	19.83	96.16
2412 - 2472	802.11g	19.63	91.83
2412 - 2472	802.11n HT20	19.74	94.19

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The EUT utilizes a monopole antenna with maximum gain of -3.01dBi across operation frequency 2.4GHz band.

5.4. SOFTWARE AND FIRMWARE

The test utility software used during testing was Tera Term Ver 4.79.
The firmware installed in the EUT during testing was Version 27.20.11.4.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated bandedge, harmonics, and spurious emissions from 1 GHz to 18GHz were performed. The EUT was set to transmit at the Low/Middle/High channels with designed (target) output powers.

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

The fundamental of the EUT was investigated in three orthogonal orientations X/Y/Z, it was determined that X orientation was worst-case orientation. Therefore, all final radiated testing was performed with the EUT in X orientation.

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

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

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC/DC Adapter	Lenovo	ADLX65NLC2A	11S36200283ZZ10051KU2U	NA
Laptop	Lenovo	T460	PC0C3DUA	NA
USB Adapter	Apple	A1385	D292312F0HADHLHBS	NA
Test Fixture	Fitbit	Compton 4	N/A	D0C

I/O CABLES (CONDUCTED TEST)

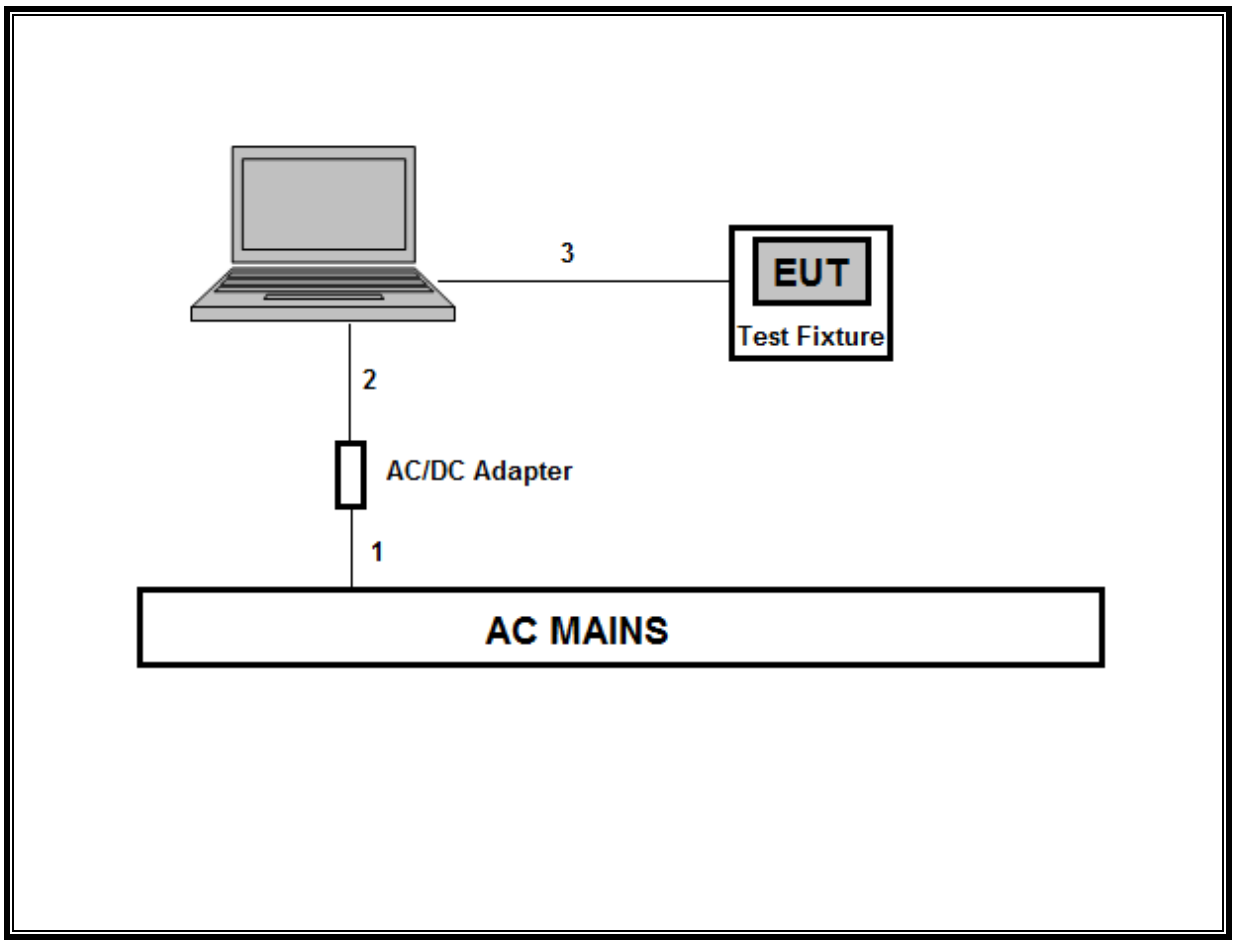
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Unshielded	1	AC Mains to AC/DC Adapter
2	DC	1	DC	Unshielded	1.5	AC/DC Adapter to Laptop
3	USB	1	USB	Shielded	1	Laptop to EUT

I/O CABLES (RADIATED TEST)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	USB	Unshielded	1	EUT to AC Adapter

SETUP DIAGRAM

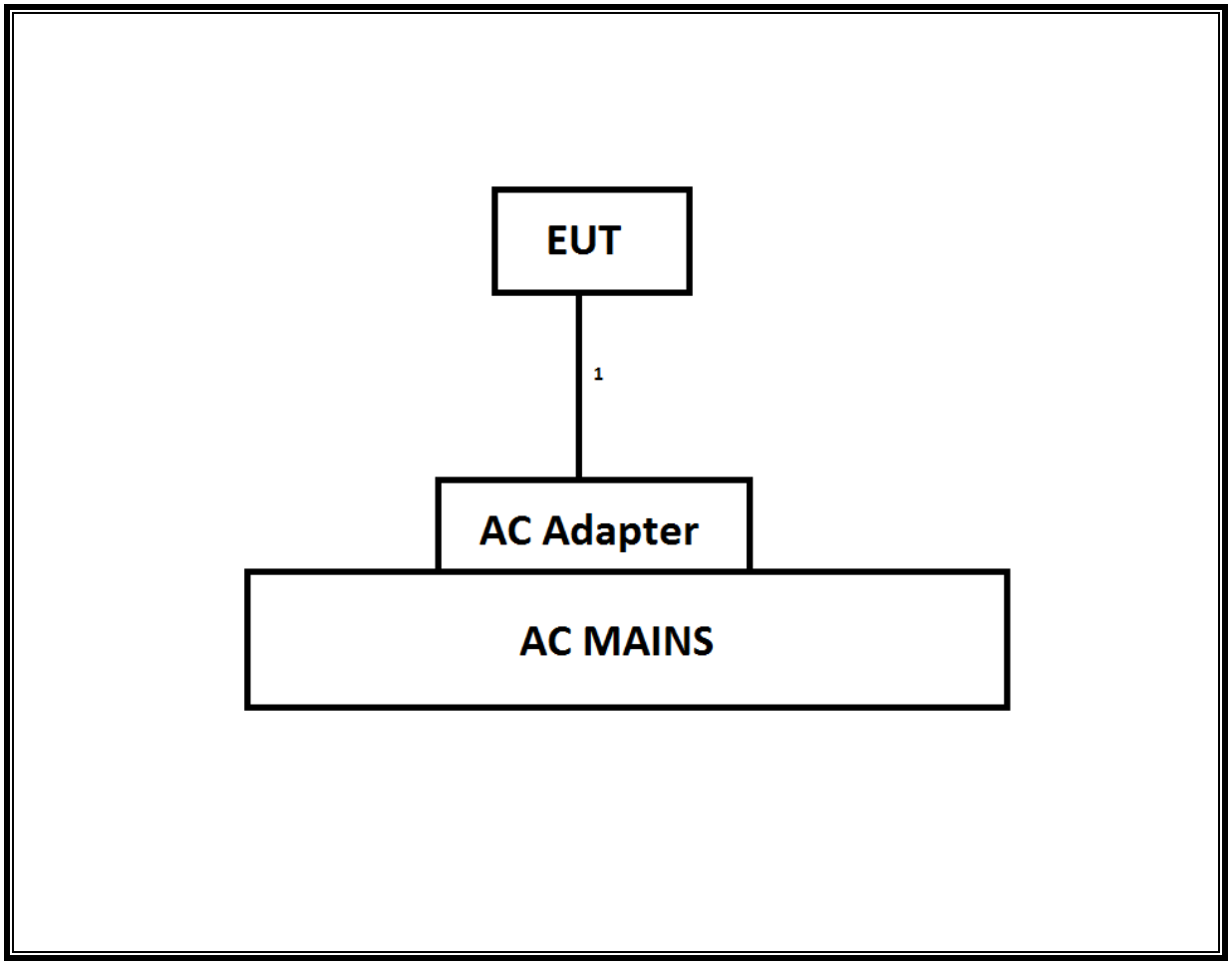
CONDUCTED



TEST SETUP

The EUT was connected to a test fixture which connected to a laptop via USB cable. Test software exercised the EUT.

RADIATED



TEST SETUP

The EUT was installed on a test fixture which connected to a laptop via USB cable to program the parameters such as modes, channels, output powers, & data rates.

After programed, the EUT was connected to an AC/DC adapter and tested without the test fixture and the laptop.

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 Date**	**Cal Due**
PSA Series Spectrum Analyzer, 3Hz - 26.5GHz	Agilent	E4440A	199	07/22/16	07/22/17
PXA Spectrum Analyzer, 3Hz to 44GHz	Agilent	N9030A	908	04/13/16	04/13/17
Horn Antenna, 18 - 26.5 GHz	Seavey Division	MWH-1826/B	449	05/26/16	05/26/17
Horn Antenna, 1-18GHz	ETS Lindgren	3117	711	01/30/17	01/30/18
Antenna, Broadband Hybrid 30MHz to 2000MHz	Sunol Sciences	JB1	130	09/23/16	09/23/17
Loop Antenna	EMCO	6502	1616	12/12/16	12/12/17
Amplifier, 1-26.5GHz	Miteq	AFS42-00101800-25-S-42	1165	08/01/16	08/01/17
Amplifier, 1 to 8GHz	Miteq	AMF-4D-01000800-30-29P	1170	04/28/16	04/28/17
Amplifier, 10KHz to 1GHz, 32dB	Keysight	8447D	15	08/26/16	08/26/17
EMI Receiver	Rohde & Schwarz	ESR-EMI	1436	12/19/16	12/19/17
LISN	FISCHER	FCC-LISN-50/250-25-2-01	1310	06/08/16	06/08/17

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Ver 9.5, Apr 26, 2016
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015

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

7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 558074 D01 v03r05, Section 6.

6 dB BW: KDB 558074 D01 v03r05, Section 8.1.

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

Output Power: KDB 558074 D01 v03r05, Section 9.2.3.2.

Power Spectral Density: KDB 558074 D01 v03r05, Section 10.3.

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v03r05, Section 11.0.

Out-of-band emissions in restricted bands: KDB 558074 D01 v03r05, Section 12.1.

Band-edge: KDB 558074 D01 v03r05, Section 12.1.

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

8. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	RSS-247 5.2.1	Occupied Band width (6dB)	>500KHz	Conducted	Pass
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-30dBc		Pass
15.247	RSS-247 5.4.4	TX conducted output power	<30dBm		Pass
15.247	RSS-247 5.2.2	PSD	<8dBm		Pass
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass
15.205, 15.209, 15.247(d)	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass

9. ON TIME AND DUTY CYCLE MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

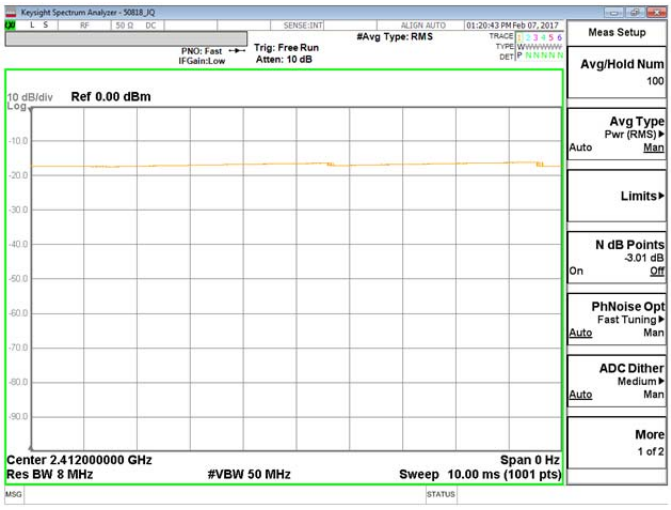
PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

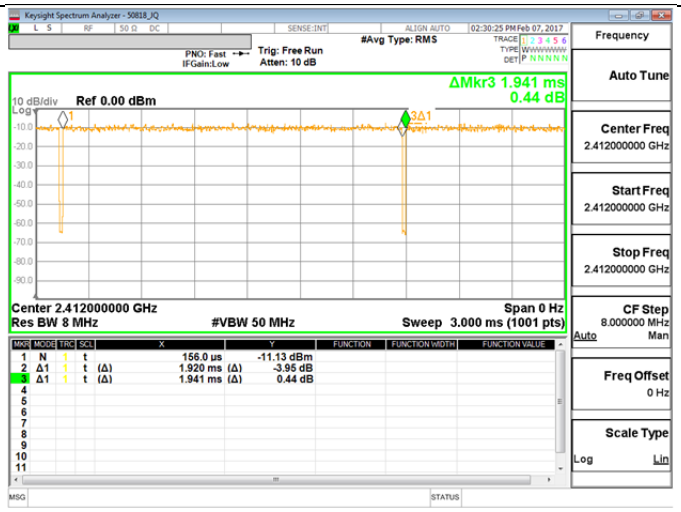
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11b	10.000	10.000	1.000	100.00%	0.00	0.010
802.11g	2.064	2.085	0.990	98.99%	0.00	0.010
802.11n HT20	1.920	1.941	0.989	98.92%	0.00	0.010

DUTY CYCLE 802.11b



DUTY CYCLE 802.11g

DUTY CYCLE 802.11n HT20



10. ANTENNA PORT TEST RESULTS

10.1. 11b MODE IN THE 2.4GHz BAND

10.1.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-247 (5.2) (a)

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

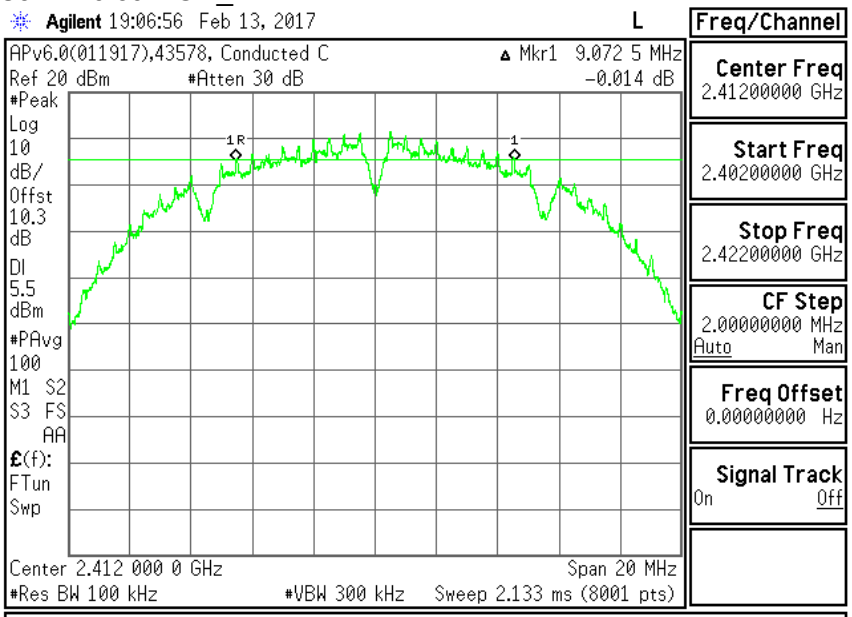
TEST PROCEDURE

KDB 58074 D01 v03r05 Section 8.1

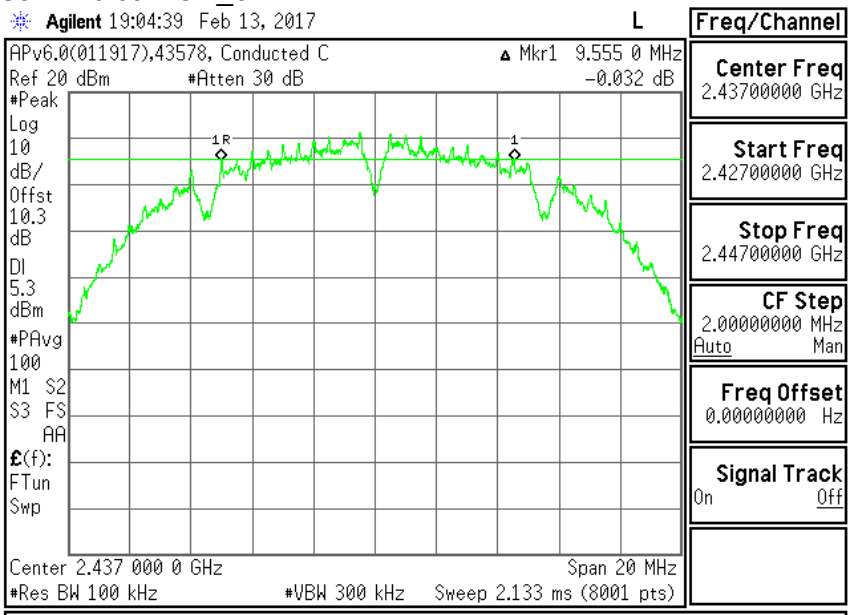
RESULTS

Channel	Frequency (MHz)	6 dB BW (MHz)	Minimum Limit (MHz)
CH1	2412	9.0725	0.5
CH6	2437	9.5550	0.5
CH11	2462	9.4925	0.5
CH12	2467	10.0075	0.5
CH13	2472	10.0025	0.5

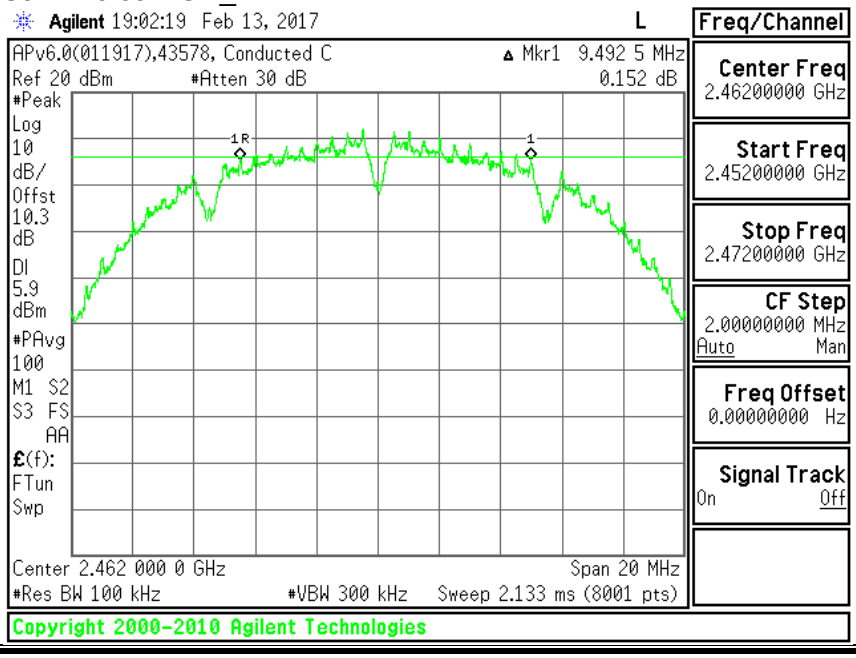
802.11b 6dB CH_1



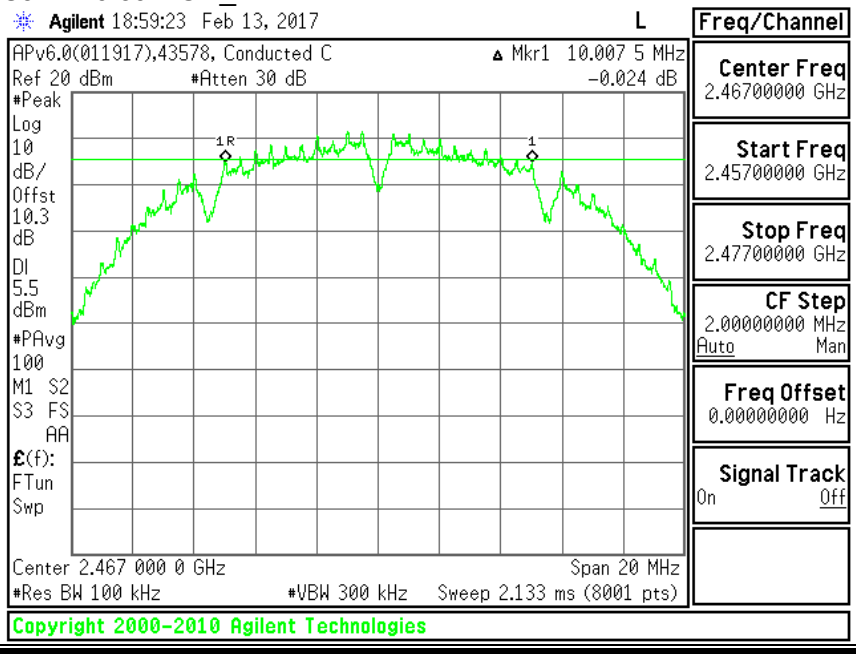
802.11b 6dB CH_6

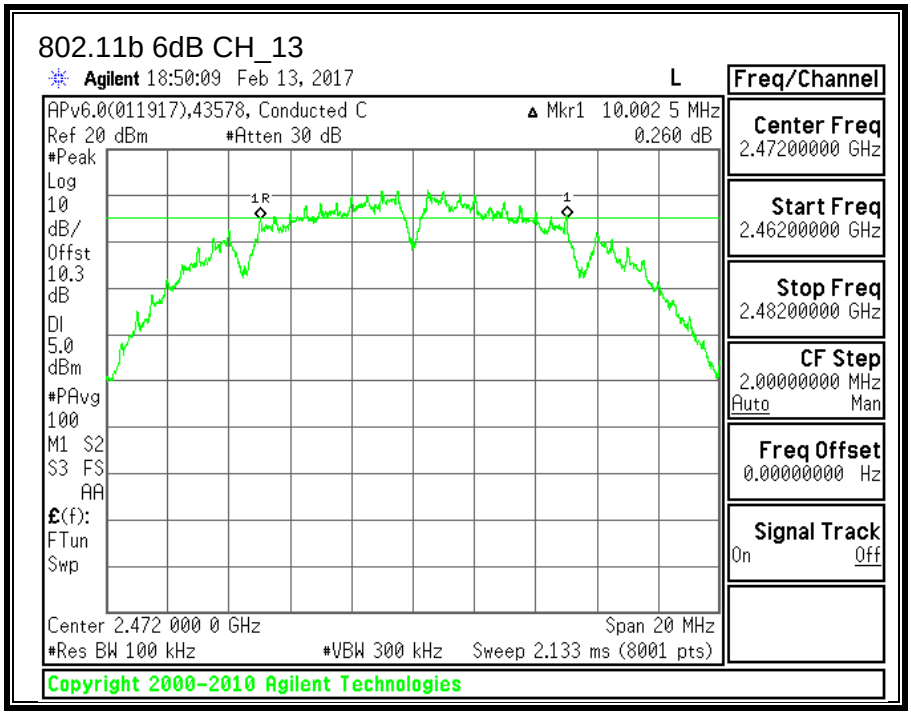


802.11b 6dB CH_11



802.11b 6dB CH_12





10.1.2. 99% BANDWIDTH

LIMITS

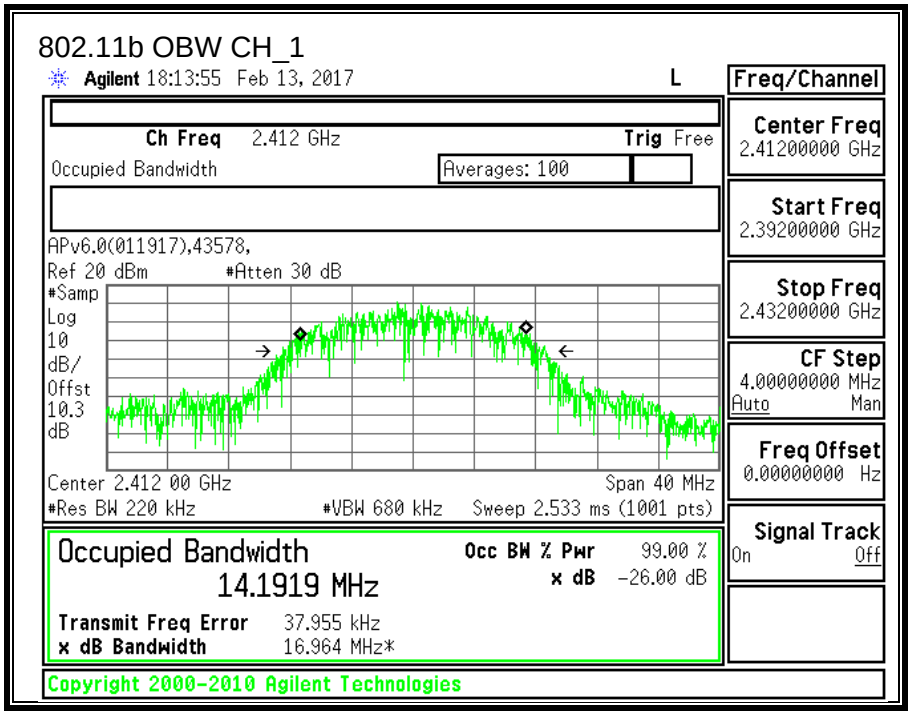
None; for reporting purposes only.

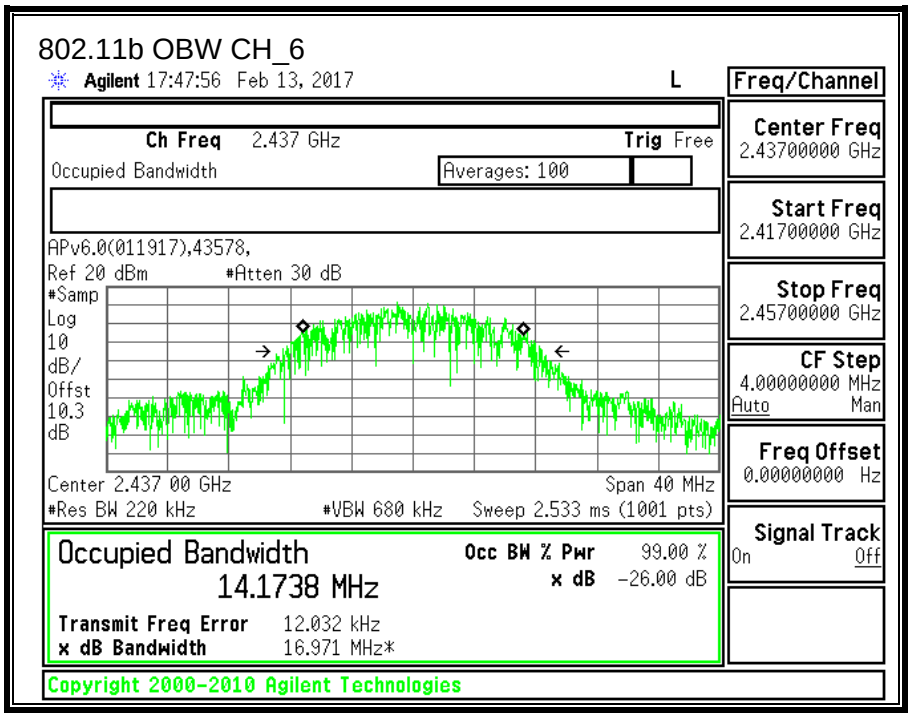
TEST PROCEDURE

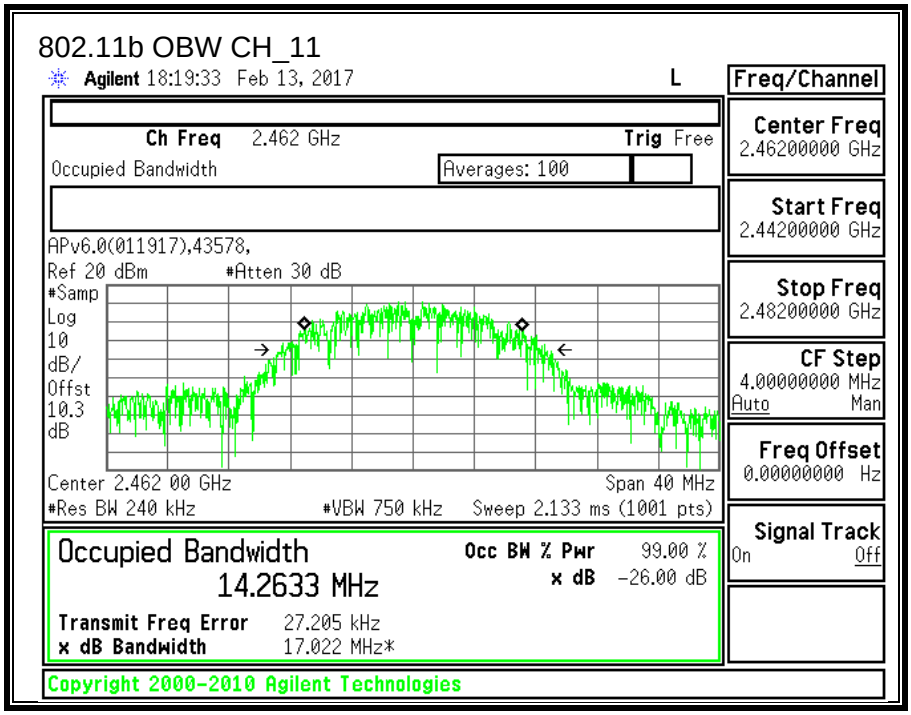
ANSI C63.10: 2013 Section 6.9.3

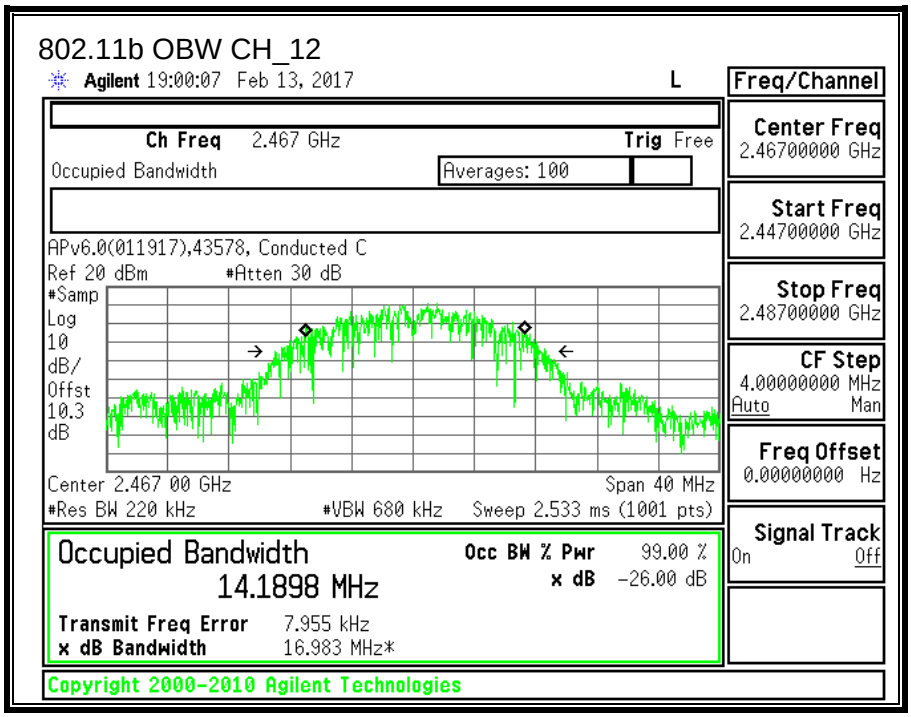
RESULTS

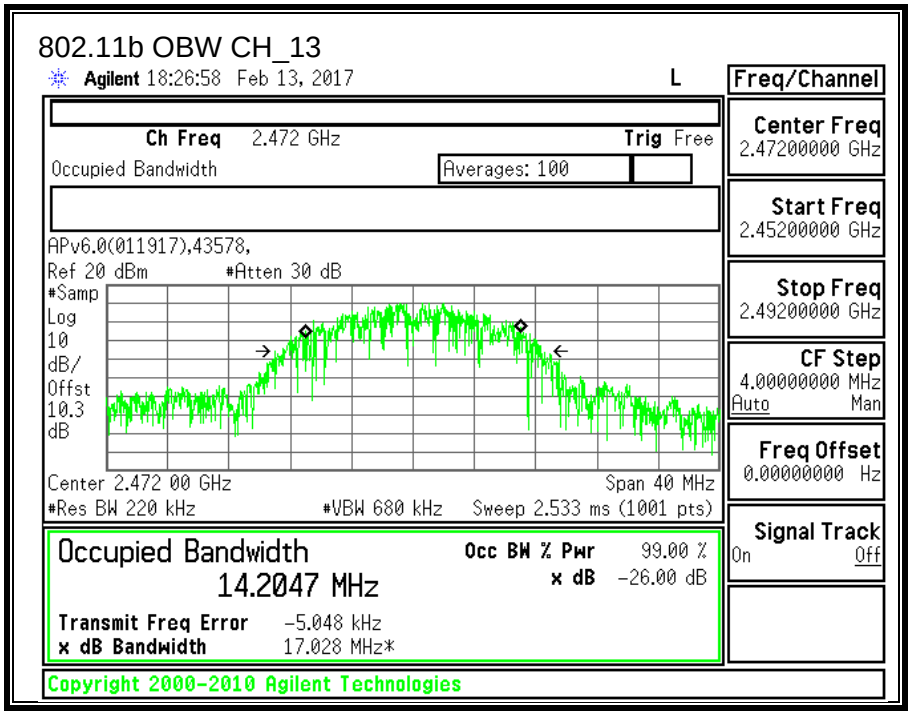
Channel	Frequency (MHz)	99% Bandwidth Chain 0 (MHz)
CH1	2412	14.1919
CH6	2437	14.1738
CH11	2462	14.2633
CH12	2467	14.1898
CH13	2472	14.2047











10.1.3. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-247 (5.4) (d)

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

DIRECTIONAL ANTENNA GAIN

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

TEST PROCEDURE

KDB 58074 D01 v03r05 Section 9.2.3.2

RESULTS

TEST ENGINEER ID:	50818	Date:	02/13/2017

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
CH1	2412	-3.01	30.00	30	36	30.00
CH6	2437	-3.01	30.00	30	36	30.00
CH11	2462	-3.01	30.00	30	36	30.00
CH12	2467	-3.01	30.00	30	36	30.00
CH13	2472	-3.01	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
CH1	2412	19.41	30.00	-10.59
CH6	2437	19.64	30.00	-10.36
CH11	2462	19.83	30.00	-10.17
CH12	2467	19.82	30.00	-10.18
CH13	2472	13.31	30.00	-16.69

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.

10.1.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

IC RSS-247 (5.2) (b)

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.

TEST PROCEDURE

KDB 58074 D01 v03r05 Section 10.3

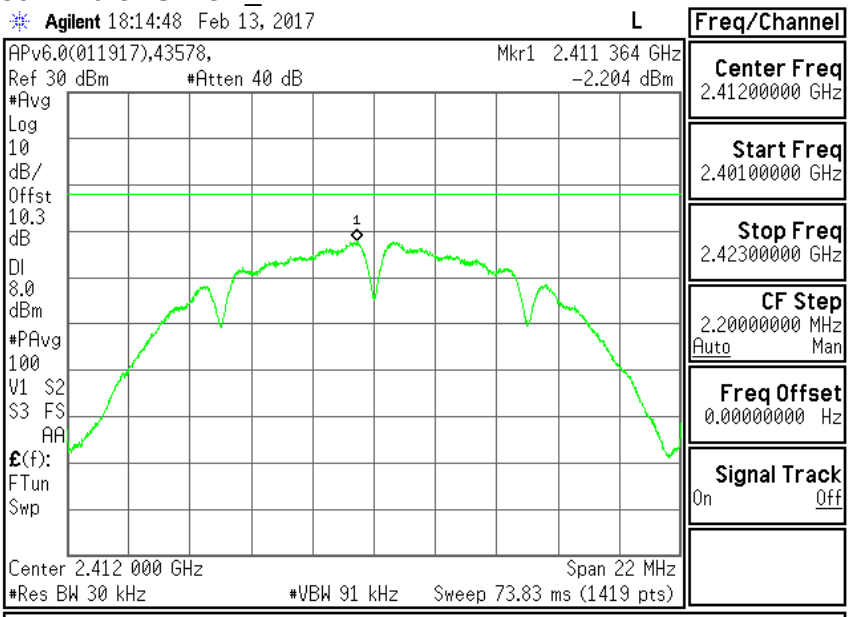
RESULTS

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

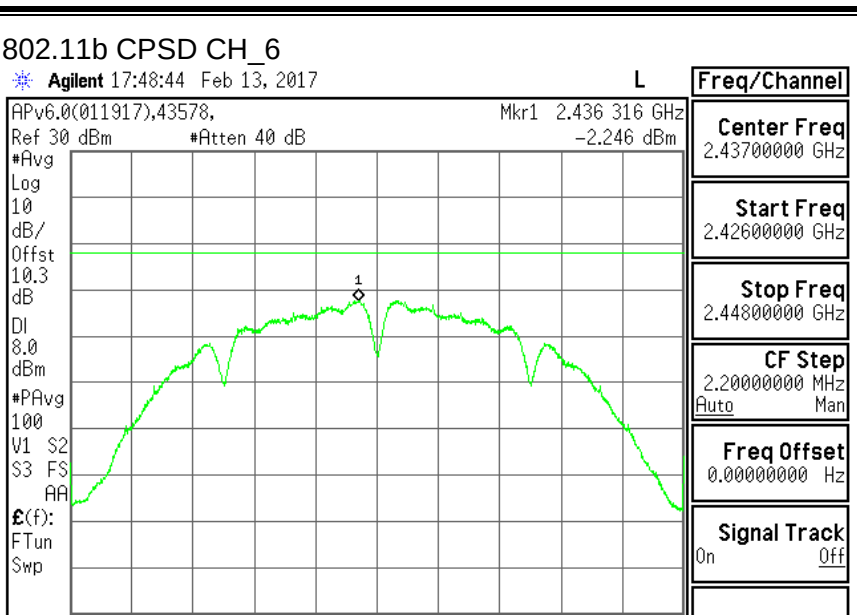
PSD Results

Channel	Frequency (MHz)	Measured (dBm)	Limit (dBm)	Margin (dB)
CH1	2412	-2.204	8.0	-10.2
CH6	2437	-2.246	8.0	-10.2
CH11	2462	-1.861	8.0	-9.9
CH12	2467	-1.788	8.0	-9.8
CH13	2472	-7.986	8.0	-16.0

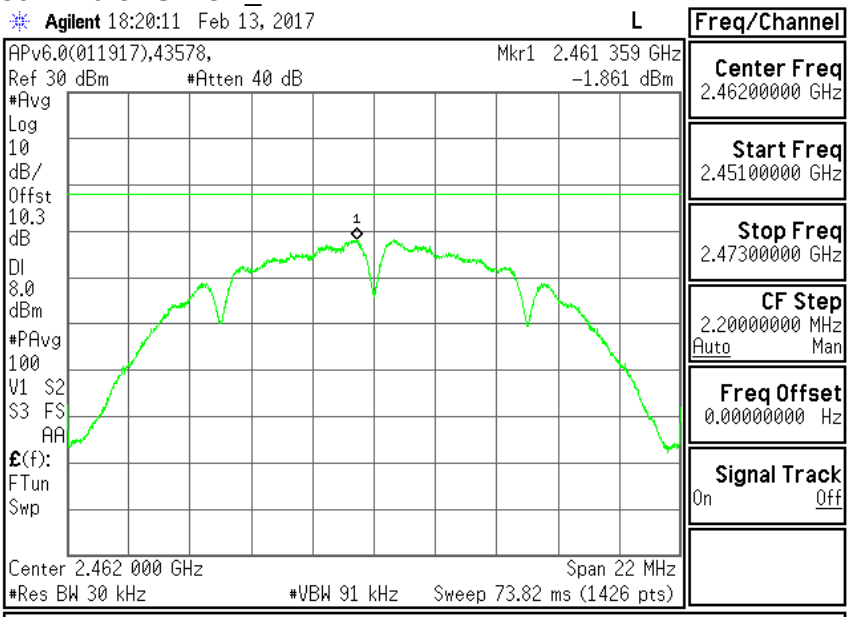
802.11b CPSD CH_1



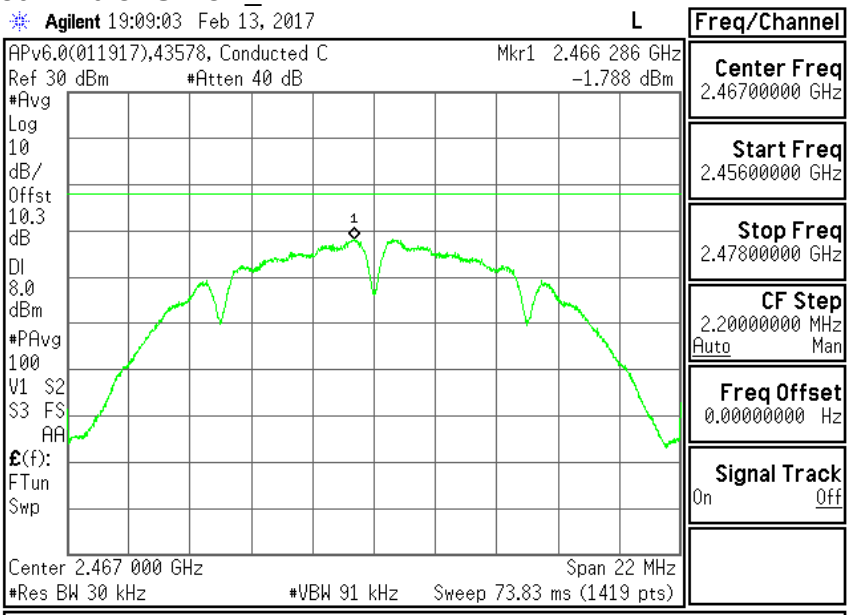
802.11b CPSD CH_6

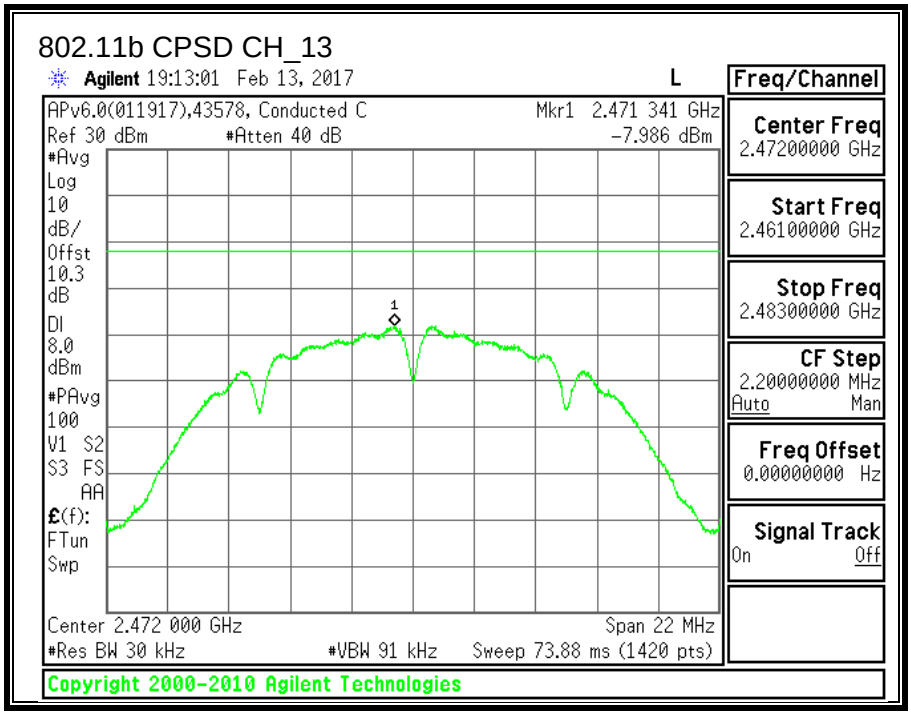


802.11b CPSD CH_11



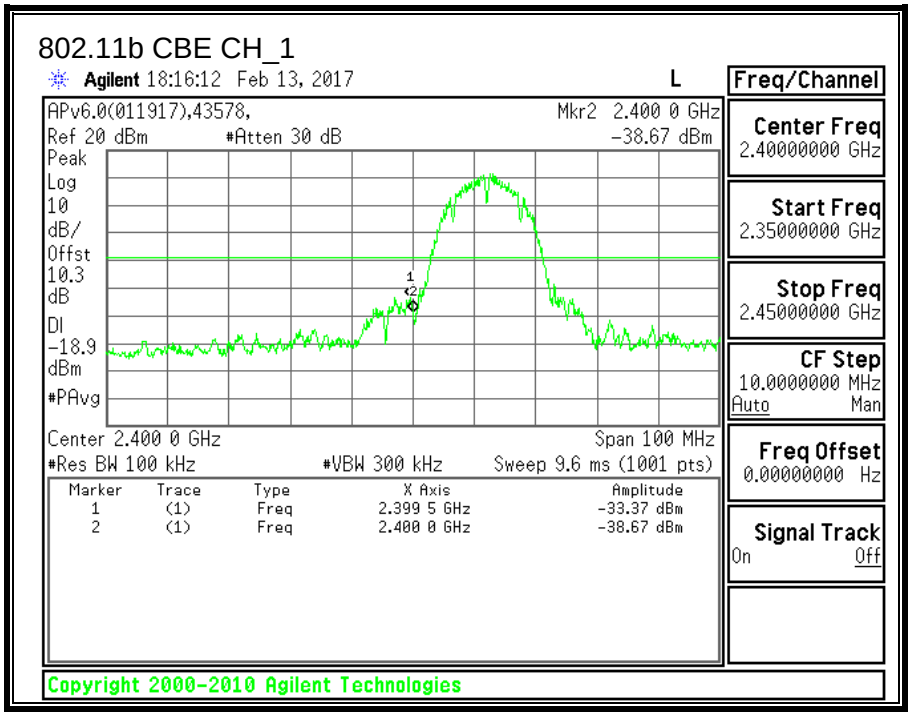
802.11b CPSD CH_12





10.1.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

802.11b CBE CH_1



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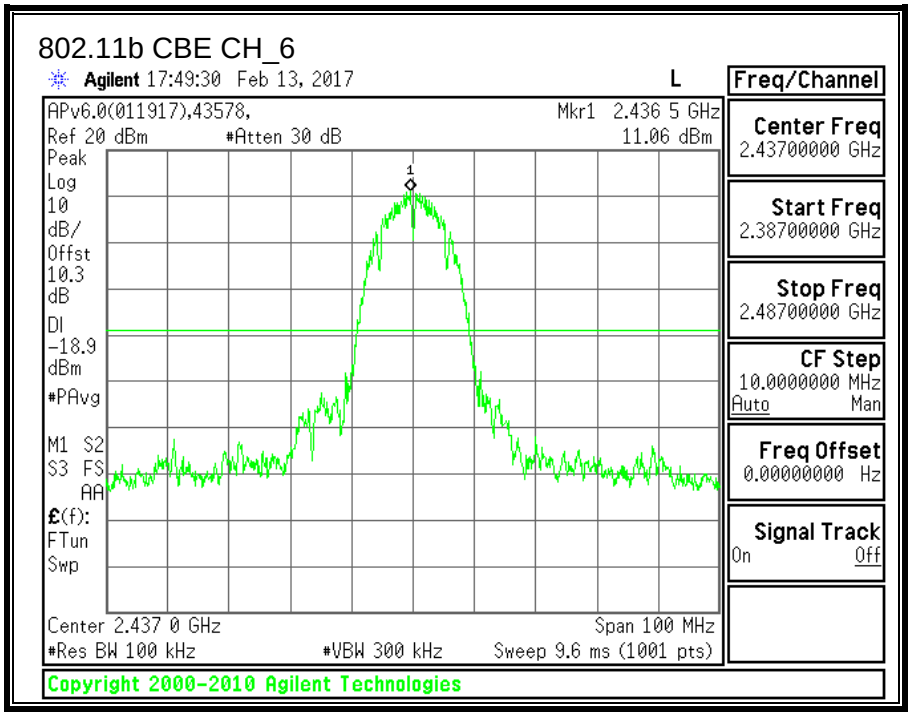

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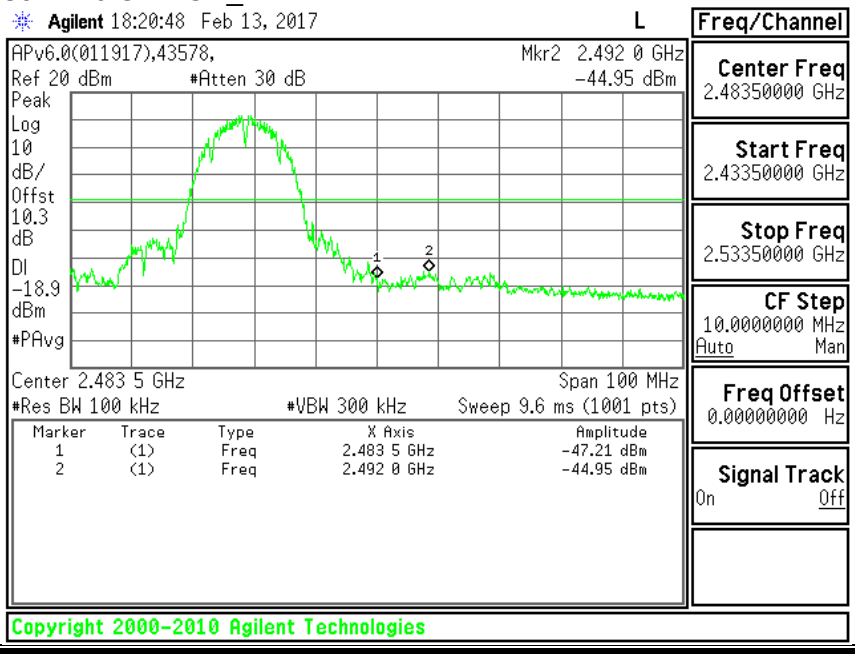

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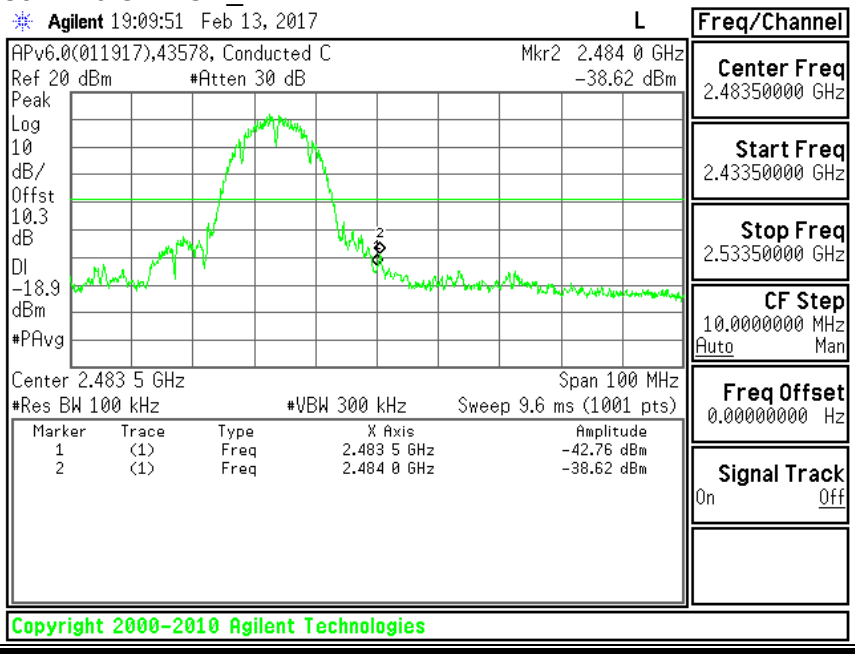
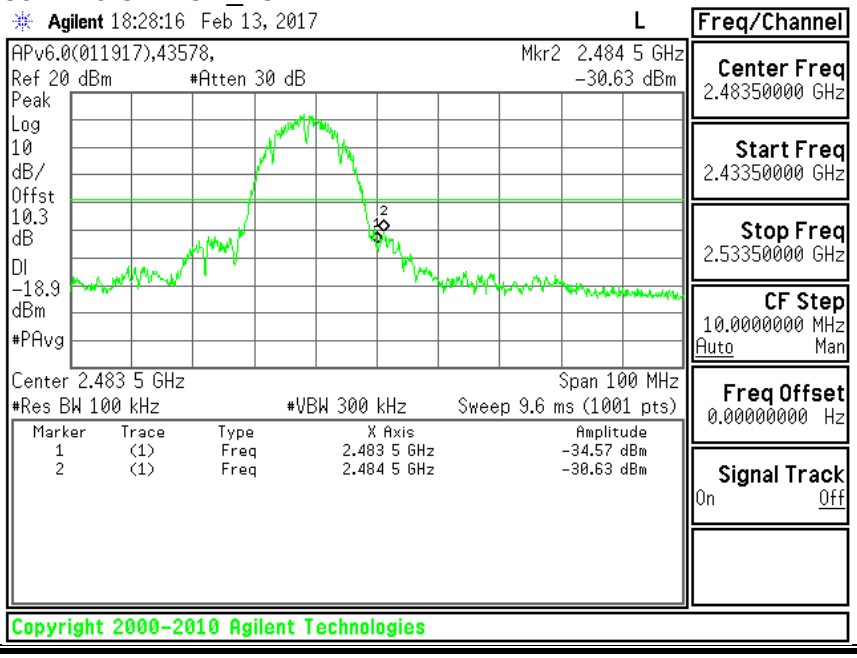
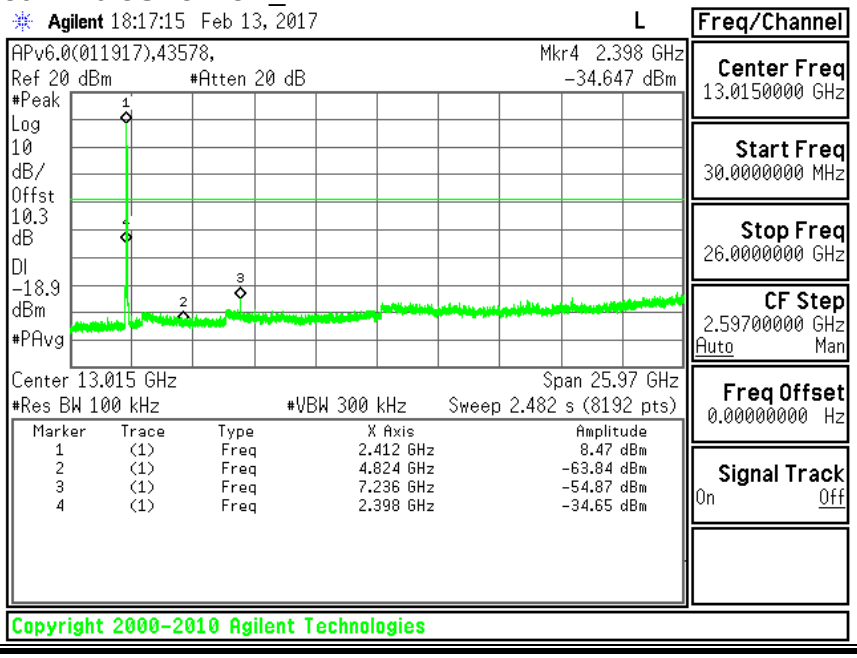


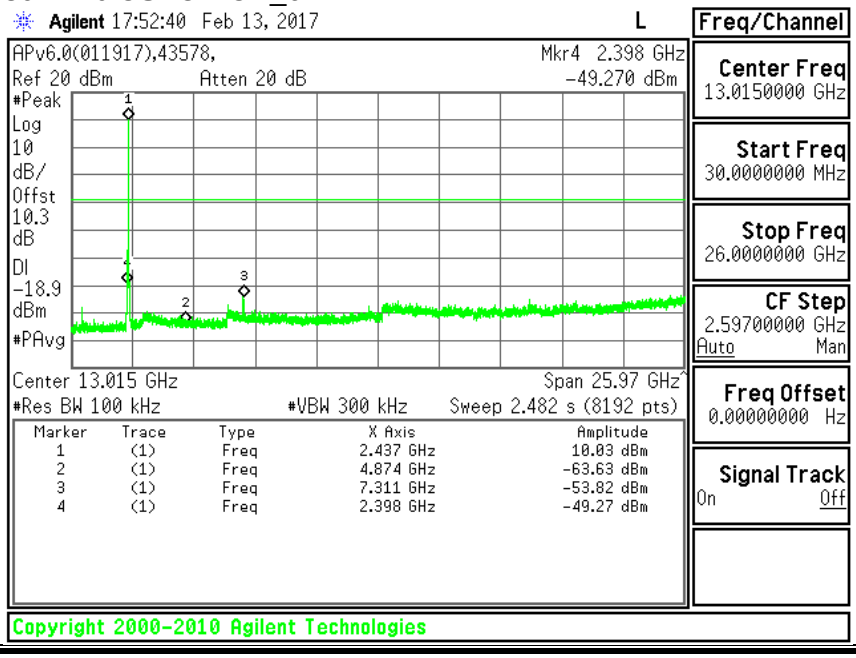
802.11b CBE CH_13



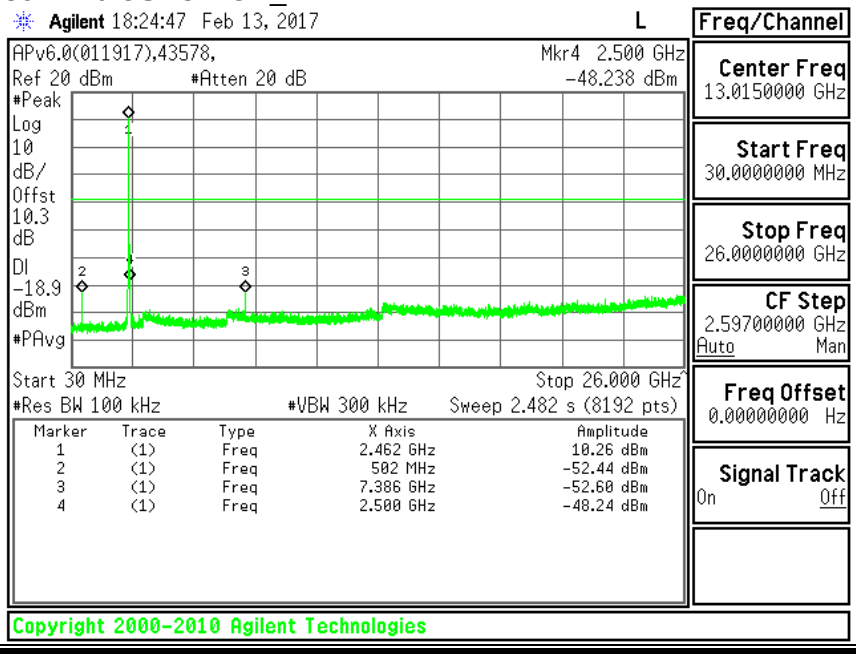
802.11b CSPUR CH_1



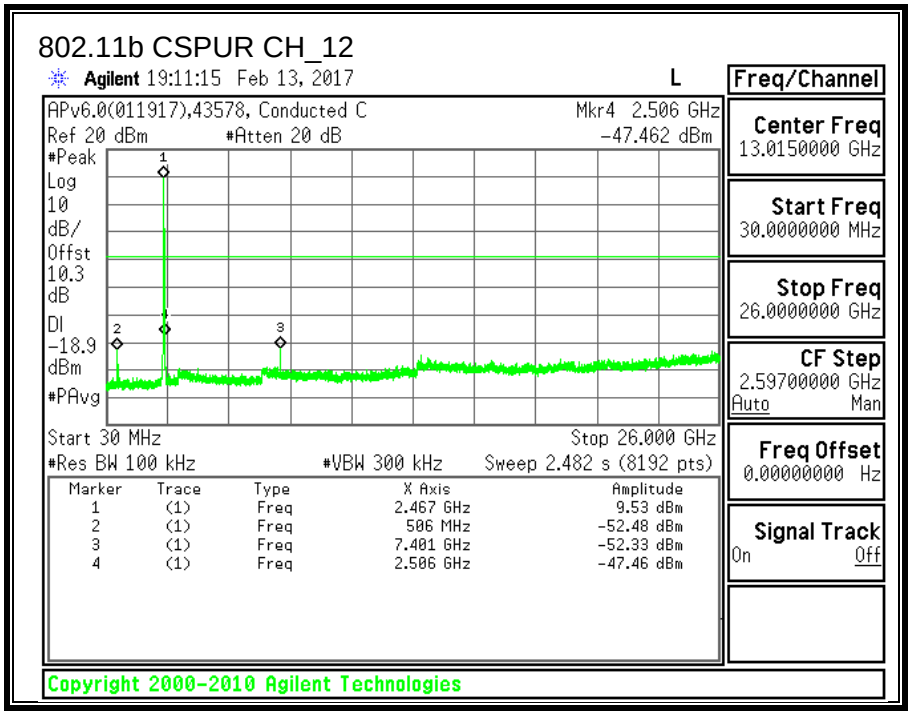
802.11b CSPUR CH_6



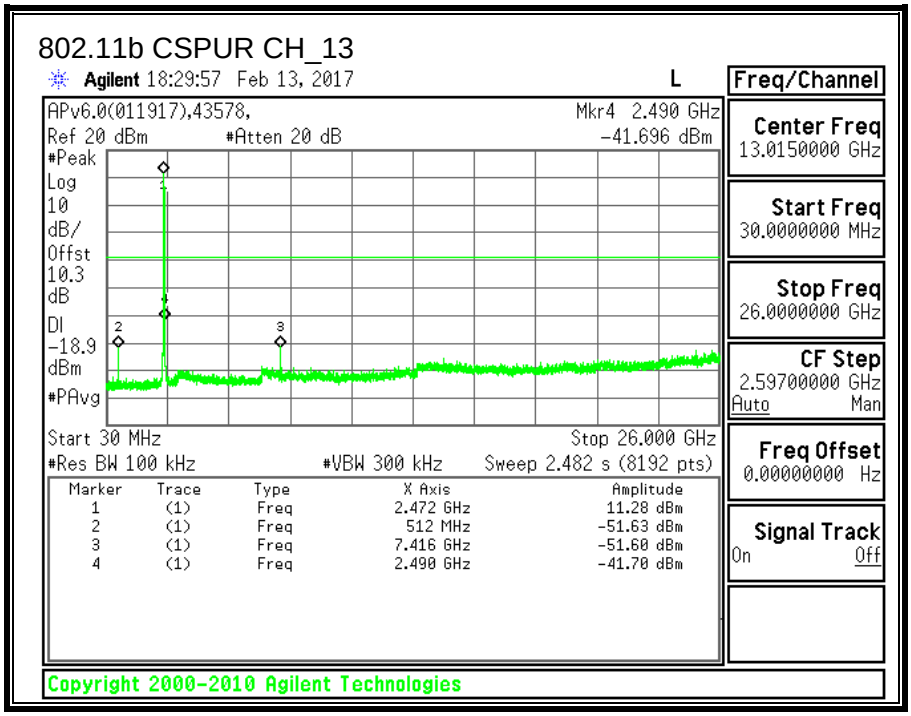
802.11b CSPUR CH_11



802.11b CSPUR CH_12



802.11b CSPUR CH_13



10.2. 11g MODE IN THE 2.4GHz BAND

10.2.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-247 (5.2) (a)

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

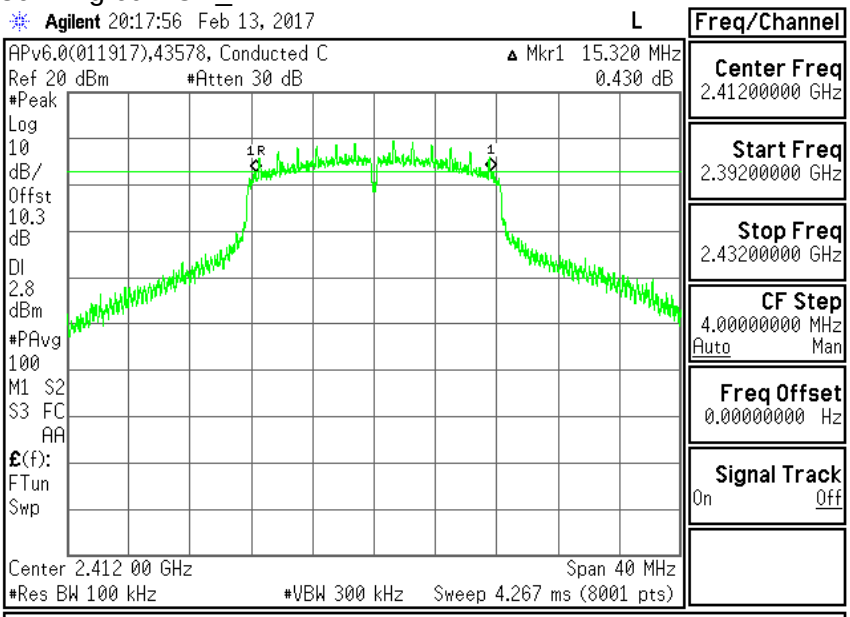
TEST PROCEDURE

KDB 58074 D01 v03r05 Section 8.1

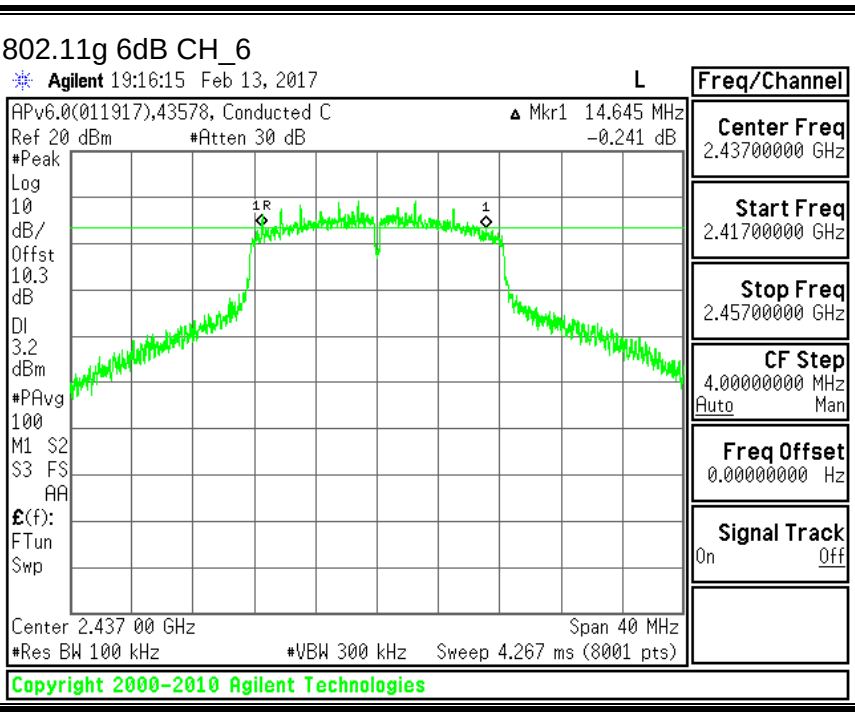
RESULTS

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	Minimum Limit (MHz)
CH1	2412	15.320	0.5
CH6	2437	14.645	0.5
CH11	2462	15.135	0.5
CH12	2467	15.085	0.5
CH13	2472	15.085	0.5

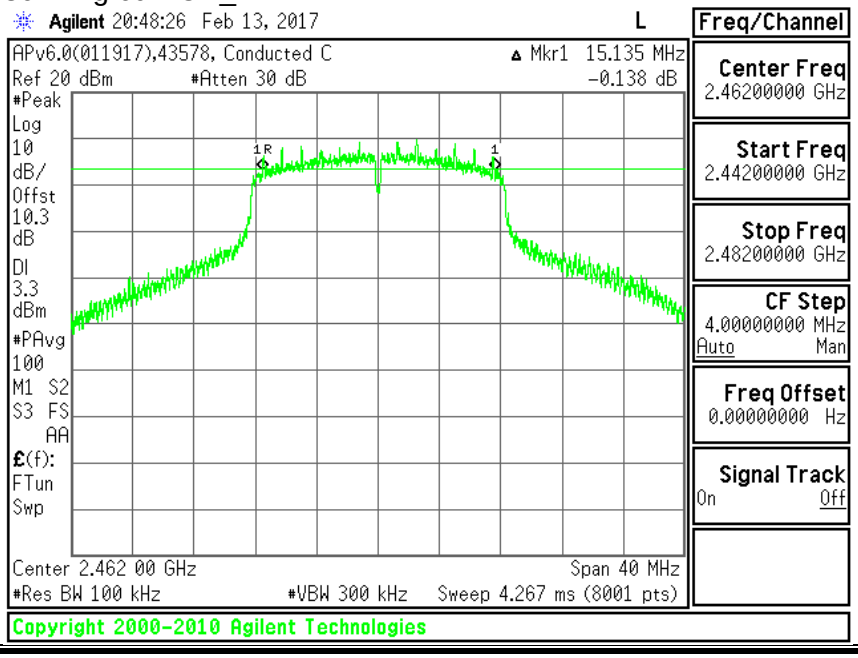
802.11g 6dB CH_1



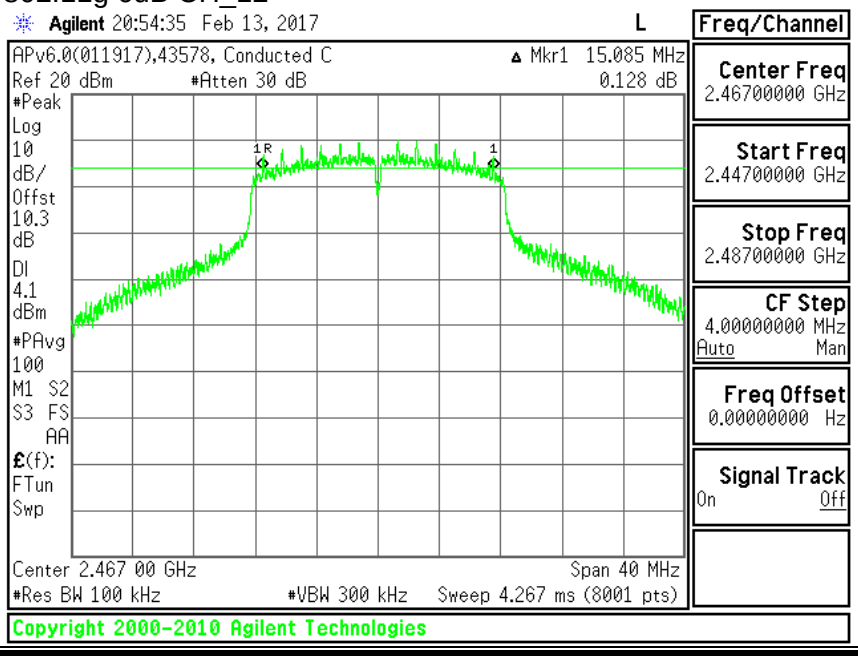
802.11g 6dB CH_6

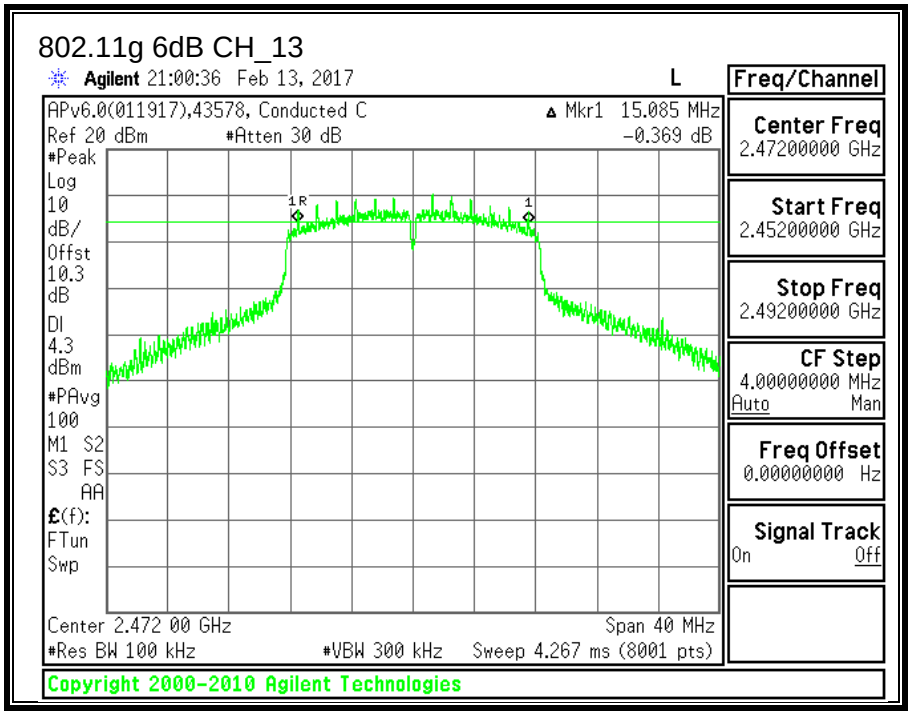


802.11g 6dB CH_11



802.11g 6dB CH_12





10.2.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

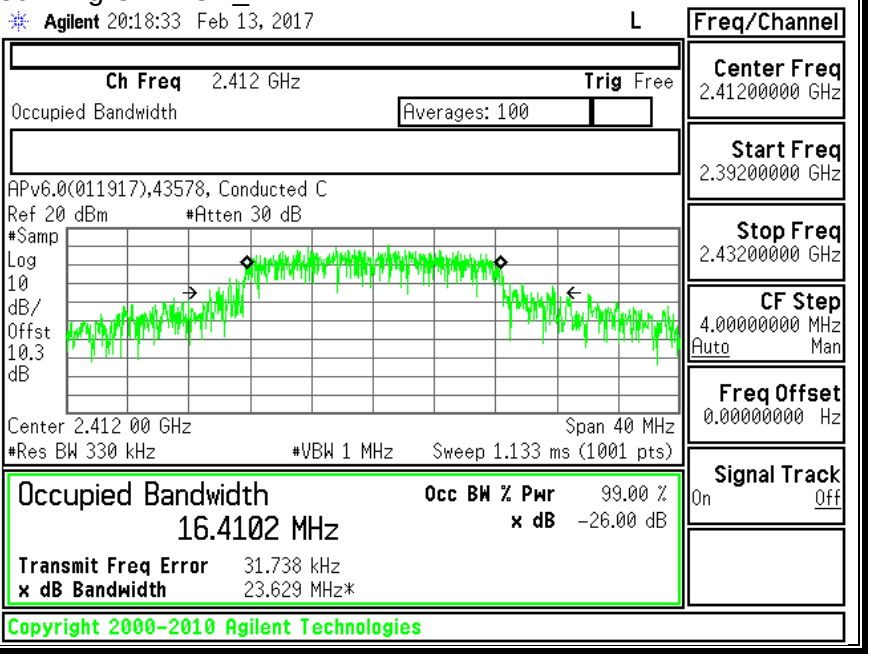
TEST PROCEDURE

ANSI C63.10: 2013 Section 6.9.3

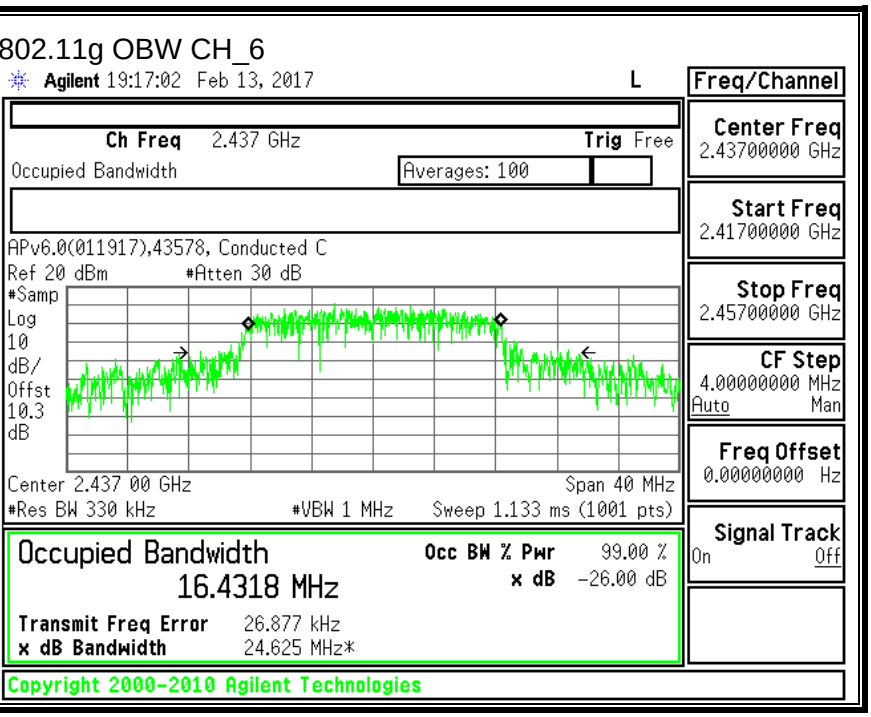
RESULTS

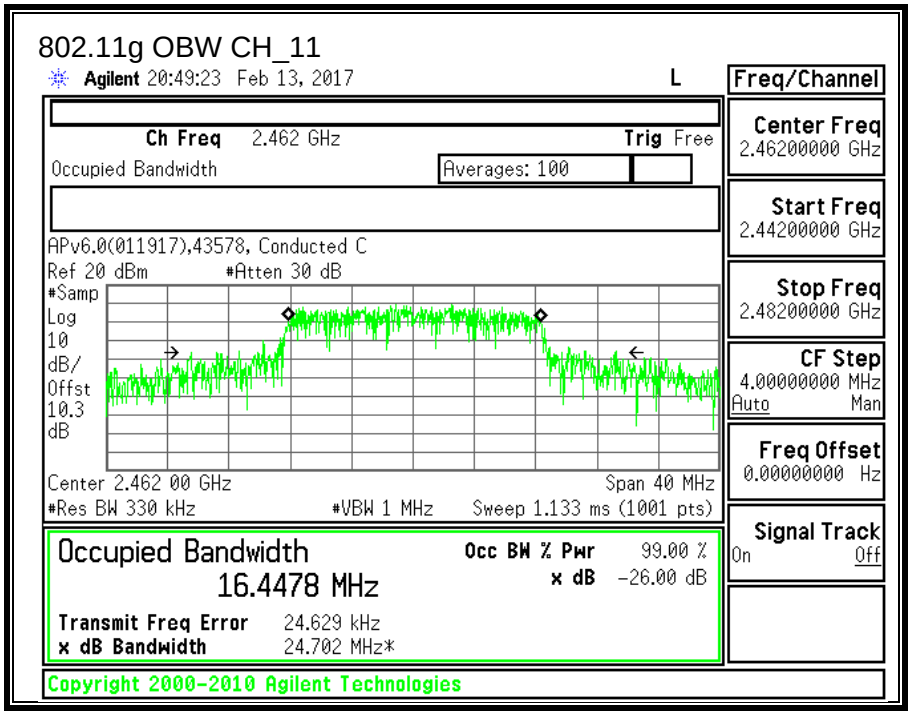
Channel	Frequency (MHz)	99% Bandwidth Chain 0 (MHz)
CH1	2412	16.4102
CH6	2437	16.4318
CH11	2462	16.4478
CH12	2467	16.2846
CH13	2472	16.3190

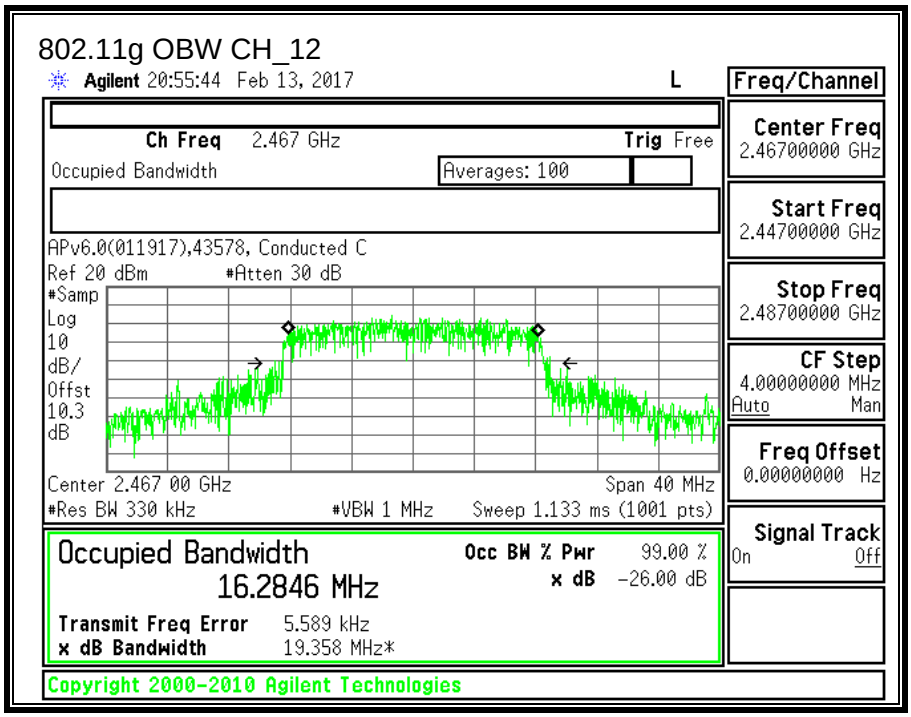
802.11g OBW CH_1

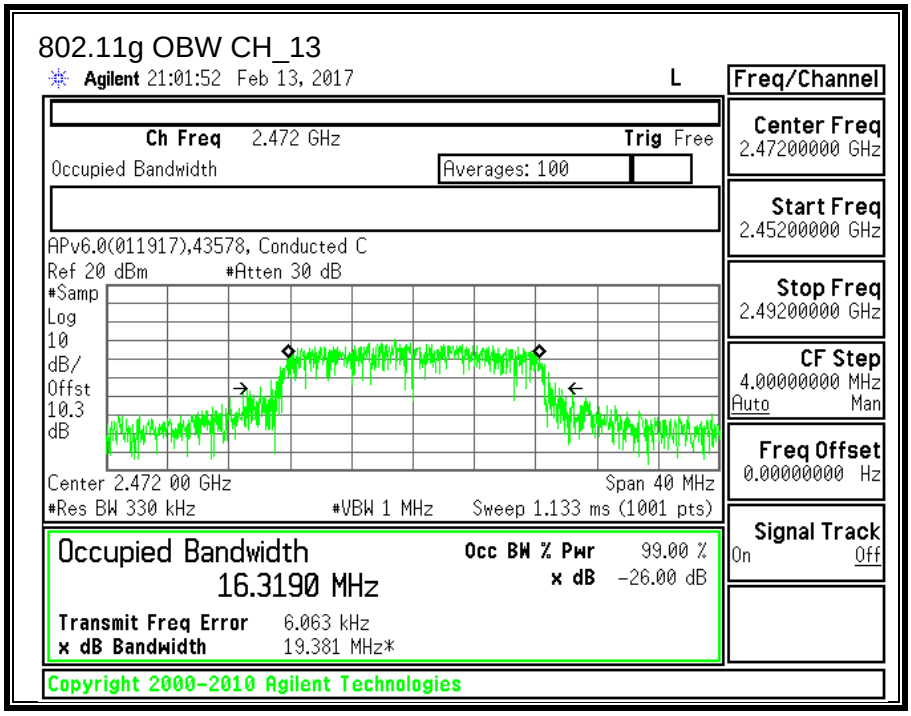


802.11g OBW CH_6









10.2.3. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-247 (5.4) (d)

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

DIRECTIONAL ANTENNA GAIN

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

TEST PROCEDURE

KDB 58074 D01 v03r05 Section 9.2.3.2

RESULTS

TEST ENGINEER ID:	50818	Date:	02/13/2017

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
CH1	2412	-3.01	30.00	30	36	30.00
CH2	2417	-3.01	30.00	30	36	30.00
CH3	2422	-3.01	30.00	30	36	30.00
CH6	2437	-3.01	30.00	30	36	30.00
CH9	2452	-3.01	30.00	30	36	30.00
CH10	2457	-3.01	30.00	30	36	30.00
CH12	2467	-3.01	30.00	30	36	30.00
CH13	2472	-3.01	30.00	30	36	30.00

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

Results

Channel	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
CH1	2412	16.22	30.00	-13.78
CH2	2417	18.43	30.00	-11.57
CH3	2422	19.35	30.00	-10.65
CH6	2437	19.51	30.00	-10.49
CH9	2452	19.63	30.00	-10.37
CH10	2457	17.57	30.00	-12.43
CH11	2462	16.58	30.00	-13.42
CH12	2467	13.84	30.00	-16.16
CH13	2472	1.04	30.00	-28.96

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.

10.2.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

IC RSS-247 (5.2) (d)

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.

TEST PROCEDURE

KDB 58074 D01 v03r05 Section 10.3

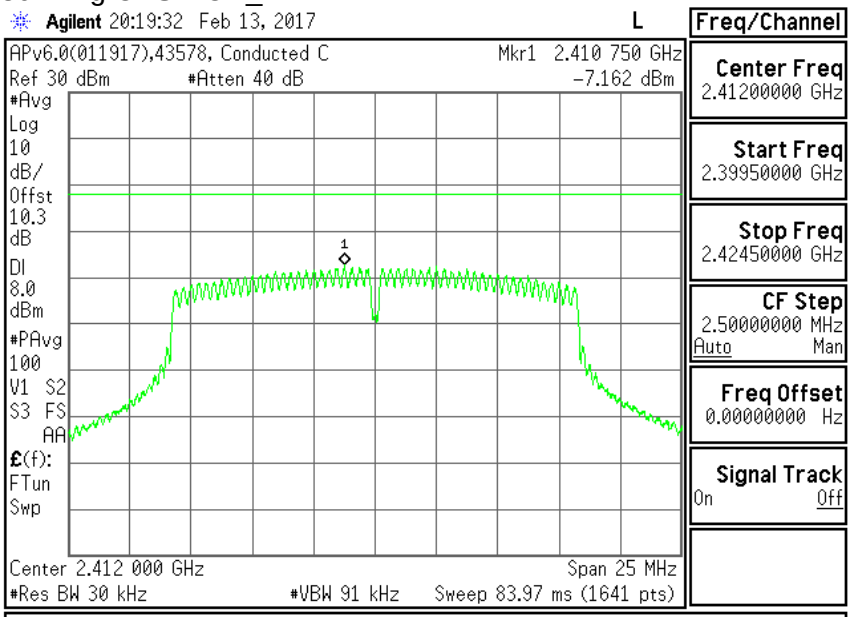
RESULTS

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

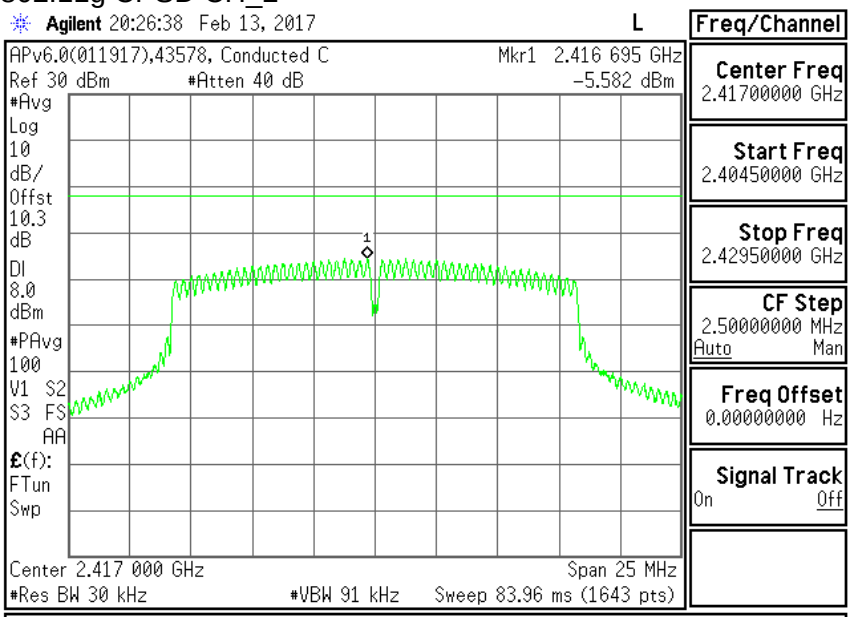
PSD Results

Channel	Frequency (MHz)	Measured (dBm)	Limit (dBm)	Margin (dB)
CH1	2412	-7.162	8.0	-15.2
CH2	2417	-5.582	8.0	-13.6
CH3	2422	-4.526	8.0	-12.5
CH6	2437	-3.963	8.0	-12.0
CH9	2452	-4.333	8.0	-12.3
CH10	2457	-6.265	8.0	-14.3
CH11	2462	-7.306	8.0	-15.3
CH12	2467	-9.772	8.0	-17.8
CH13	2472	-23.771	8.0	-31.8

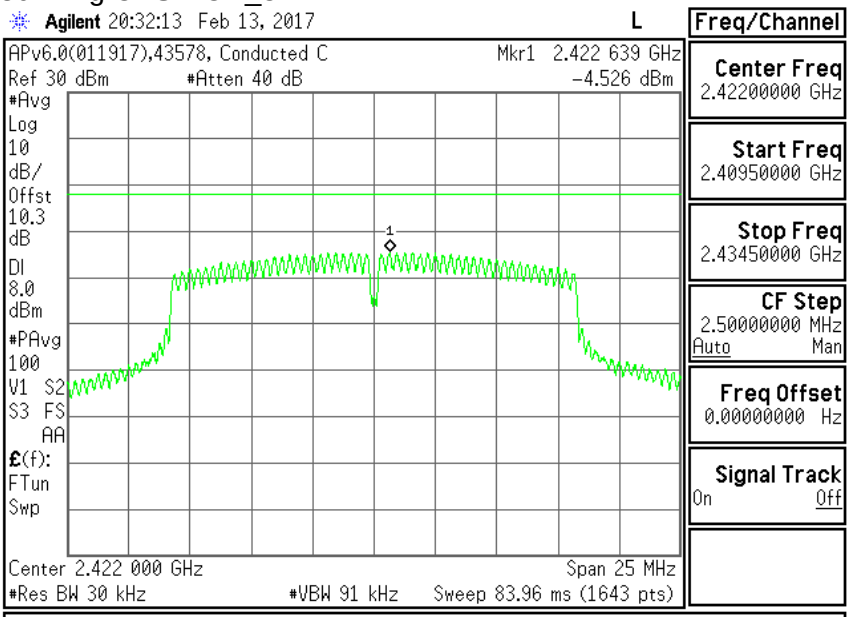
802.11g CPSD CH_1



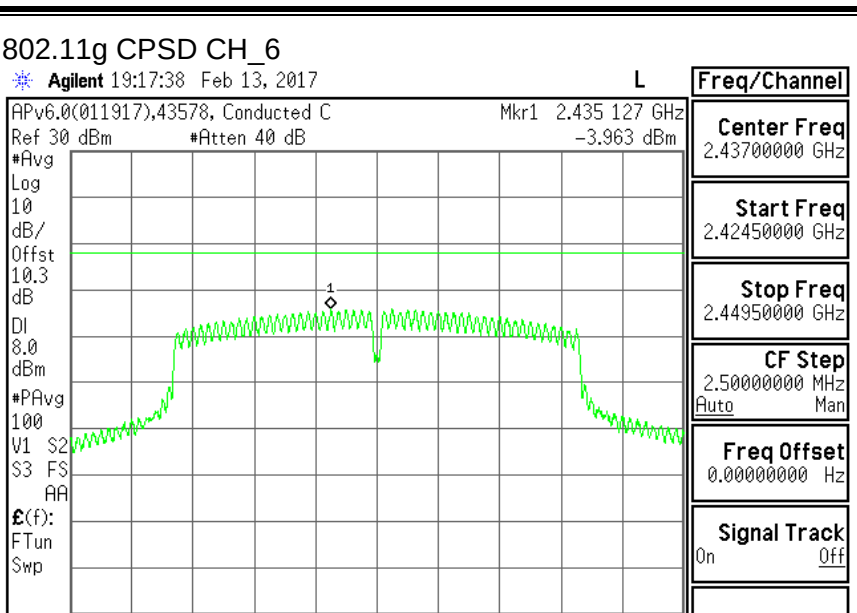
802.11g CPSD CH_2



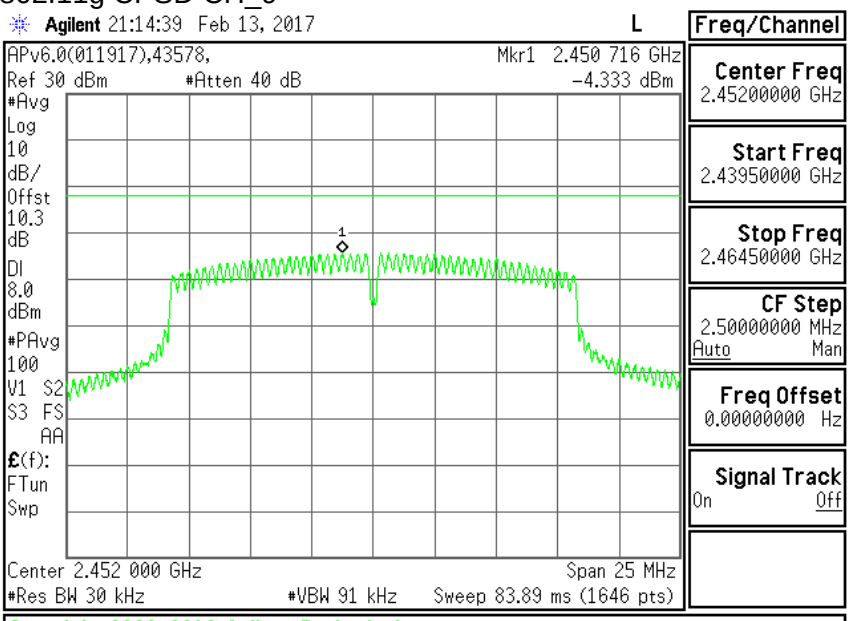
802.11g CPSD CH_3



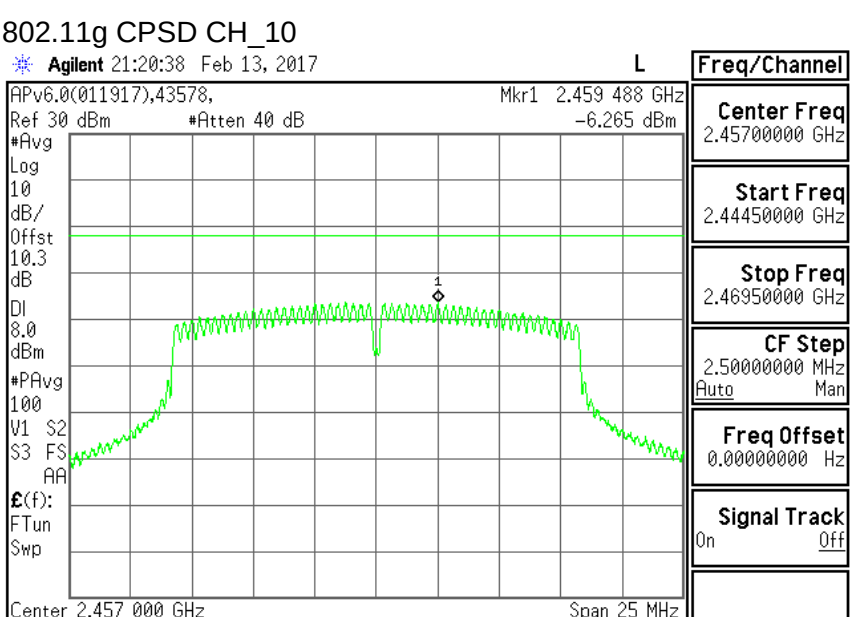
802.11g CPSD CH_6



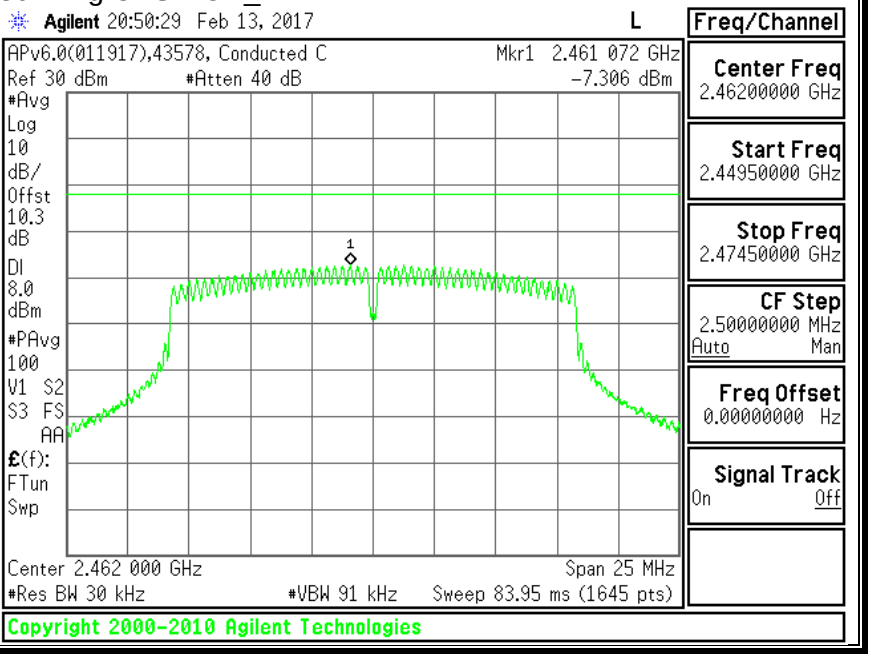
802.11g CPSD CH_9



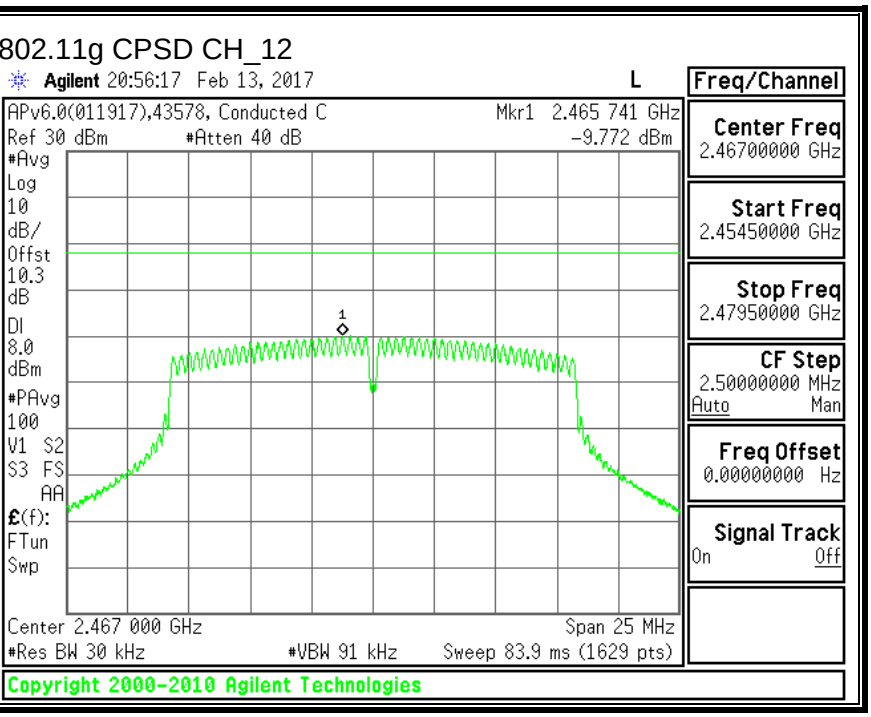
802.11g CPSD CH_10

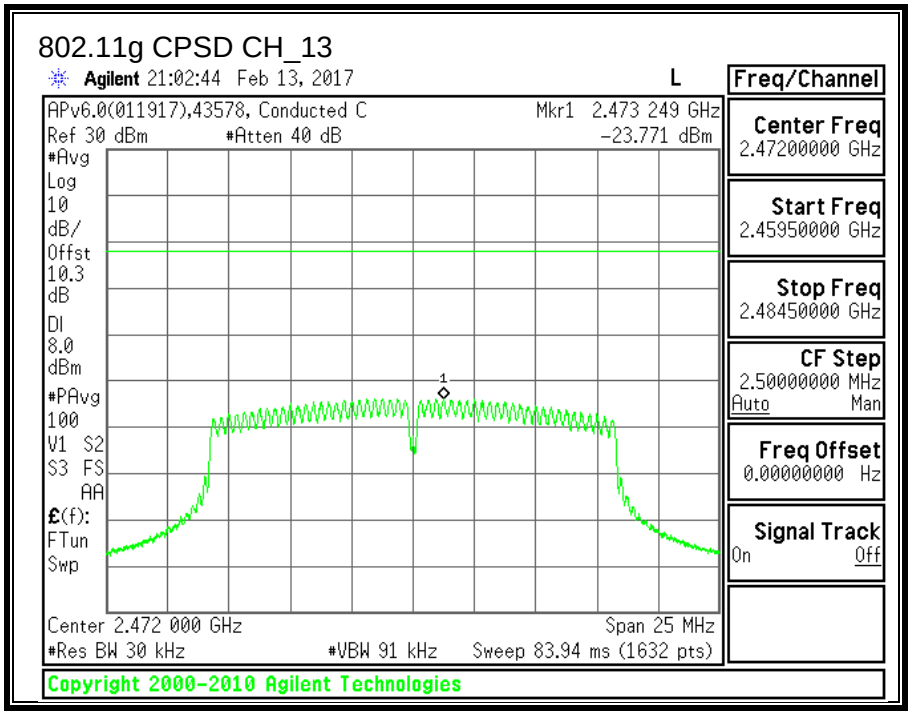


802.11g CPSD CH_11



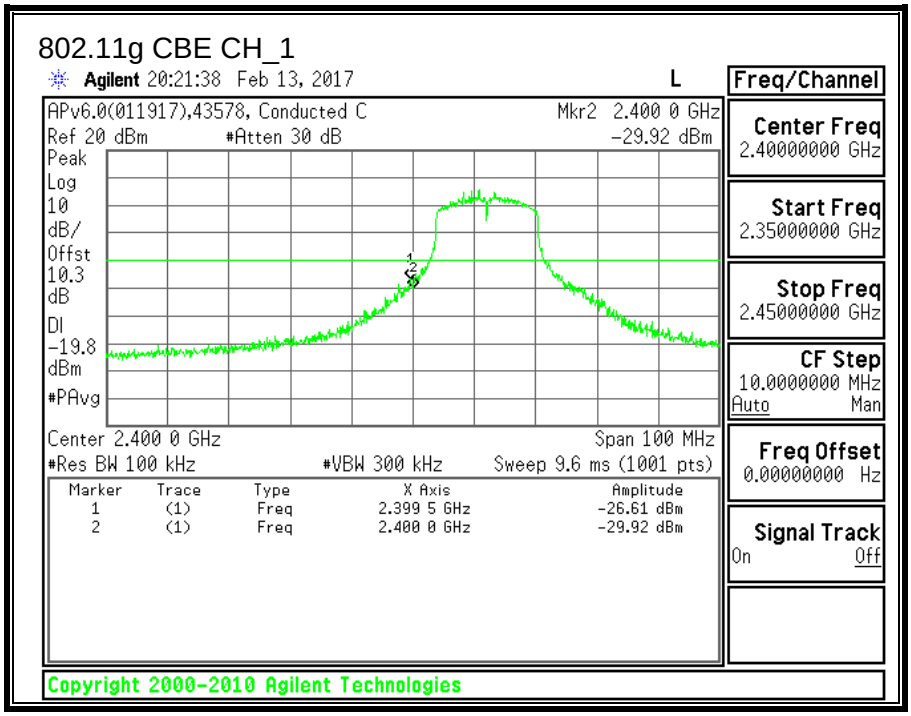
802.11g CPSD CH_12



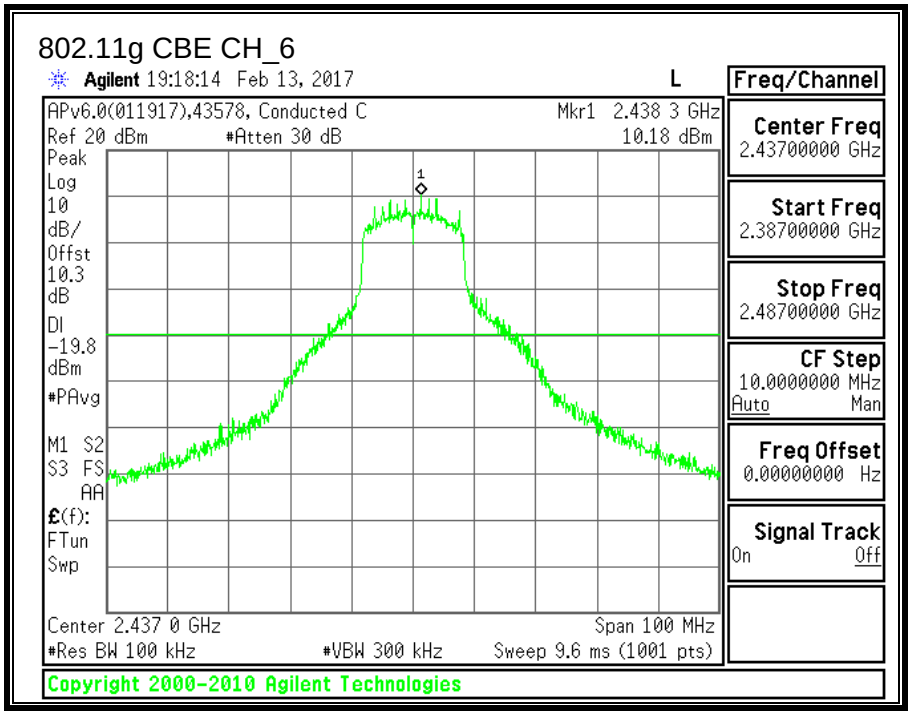


10.2.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

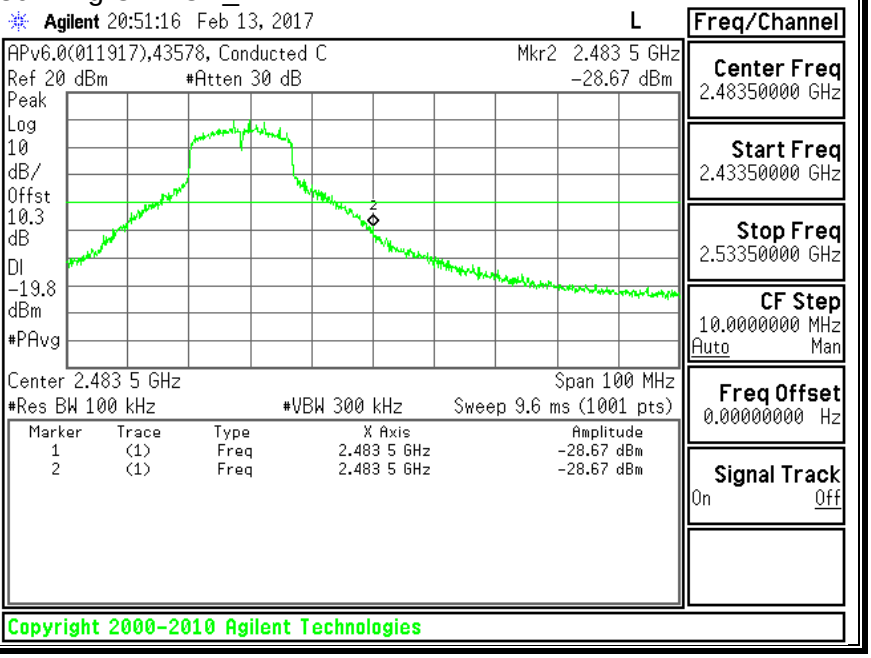
802.11g CBE CH_1



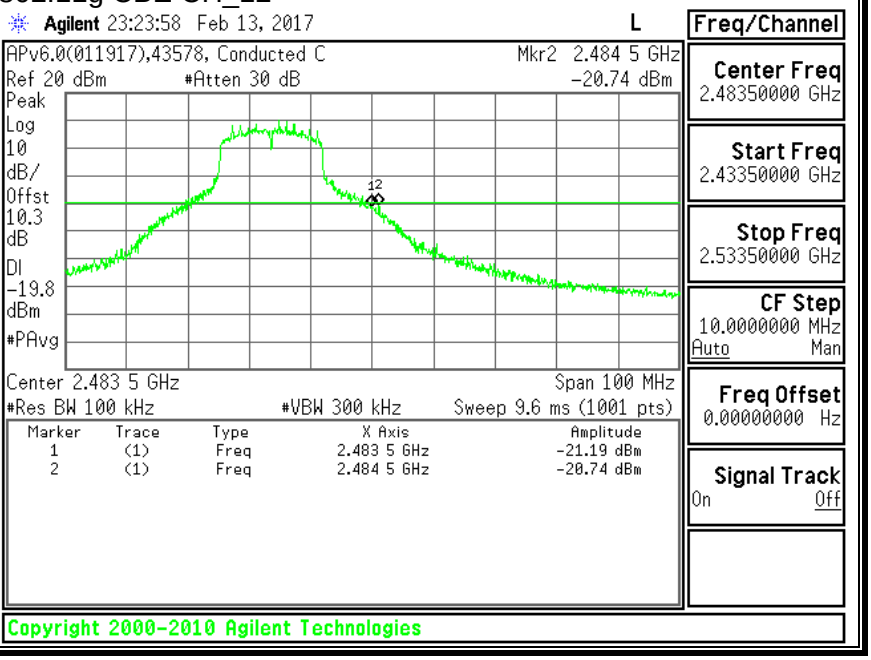
802.11g CBE CH_6



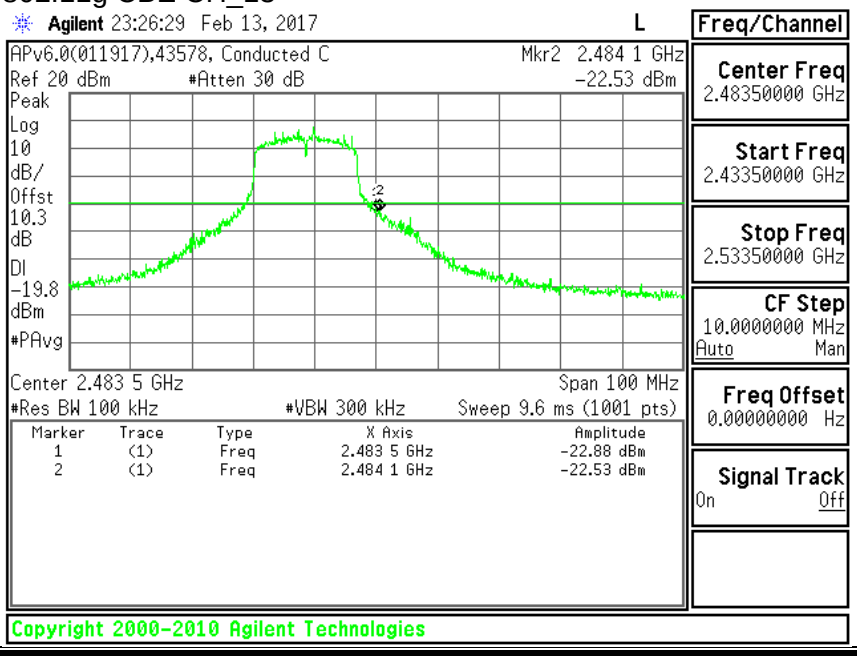
802.11g CBE CH_11



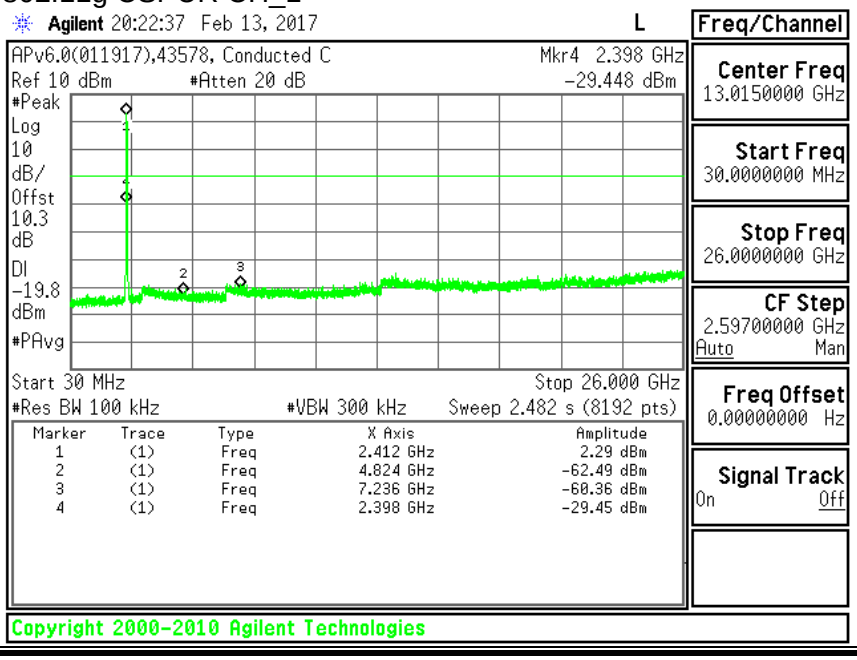
802.11g CBE CH_12



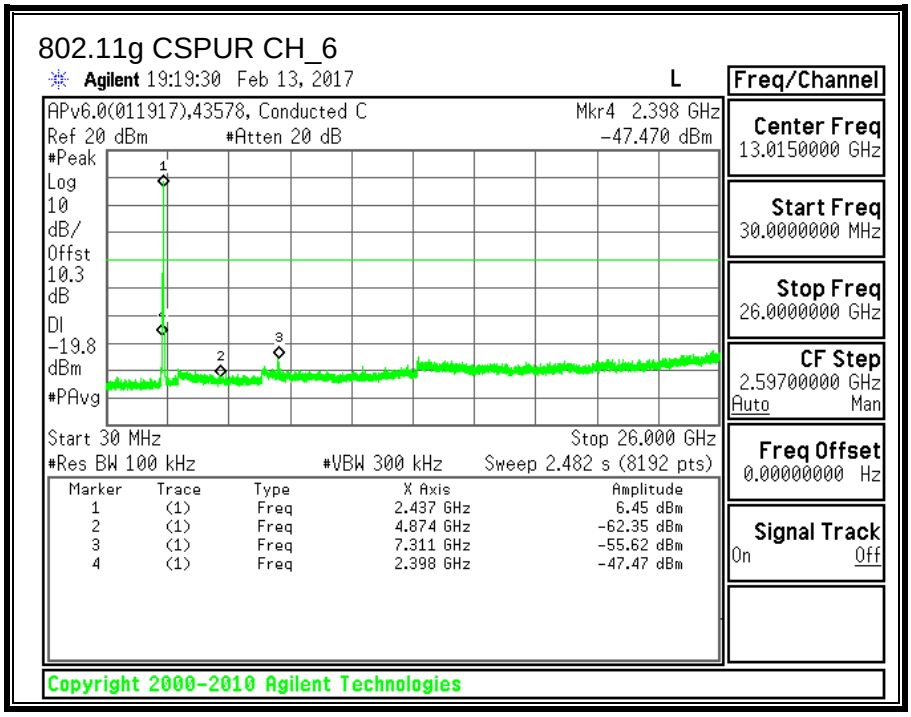
802.11g CBE CH_13



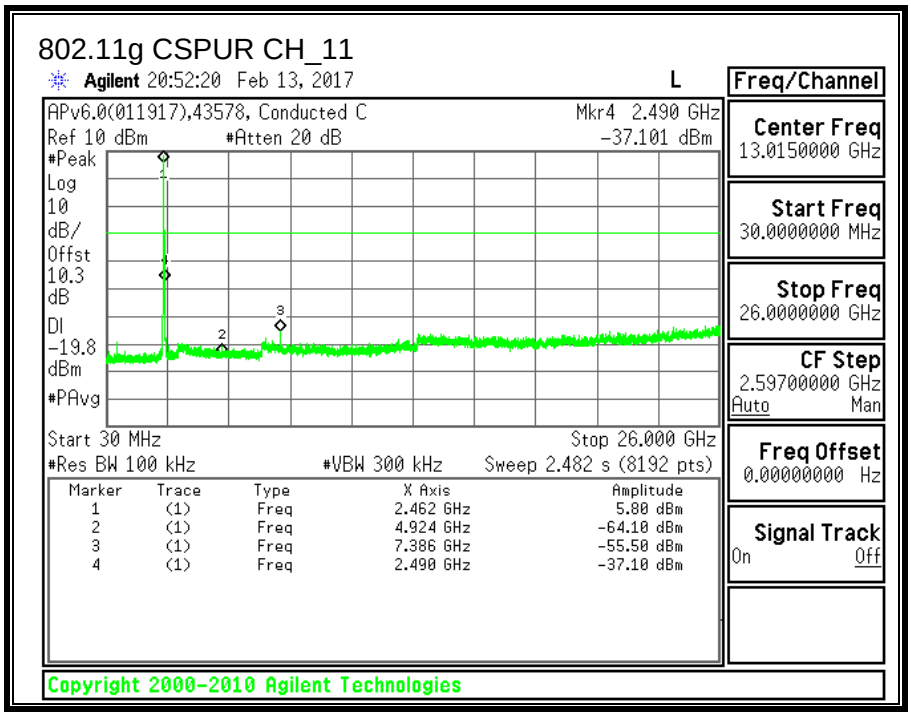
802.11g CSPUR CH_1



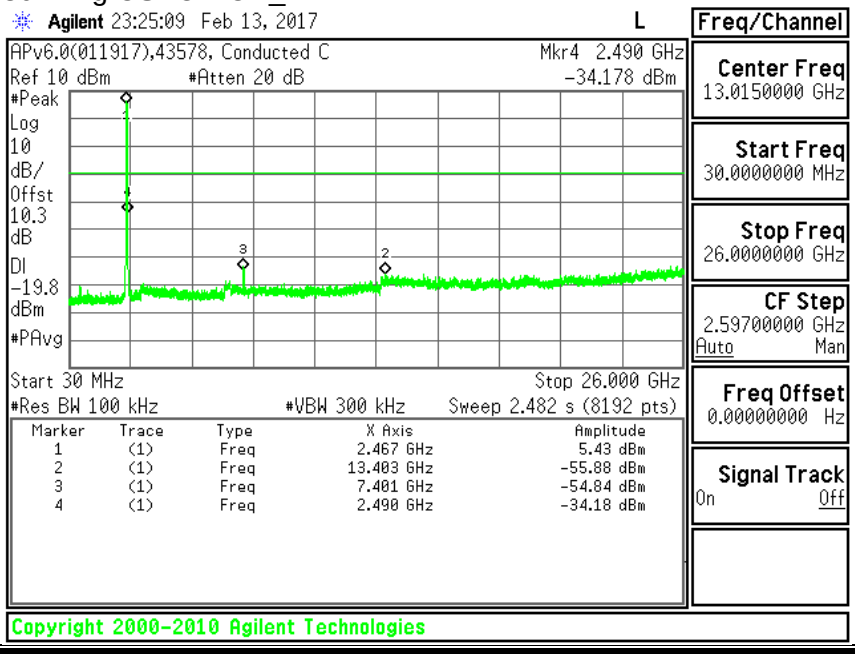
802.11g CSPUR CH_6



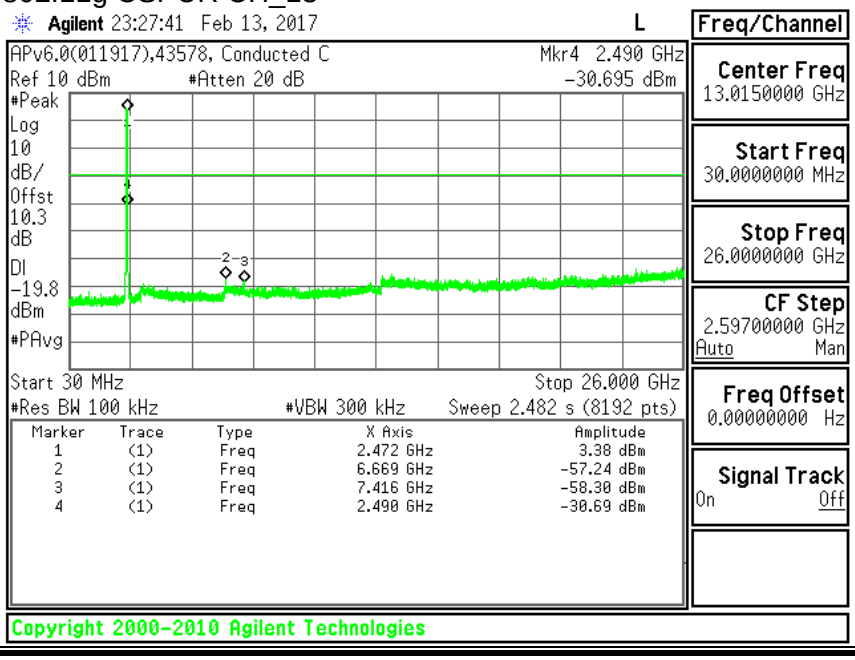
802.11g CSPUR CH_11



802.11g CSPUR CH_12



802.11g CSPUR CH_13



10.3. 11n HT20 MODE IN THE 2.4GHz BAND

10.3.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-247 (5.2) (a)

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

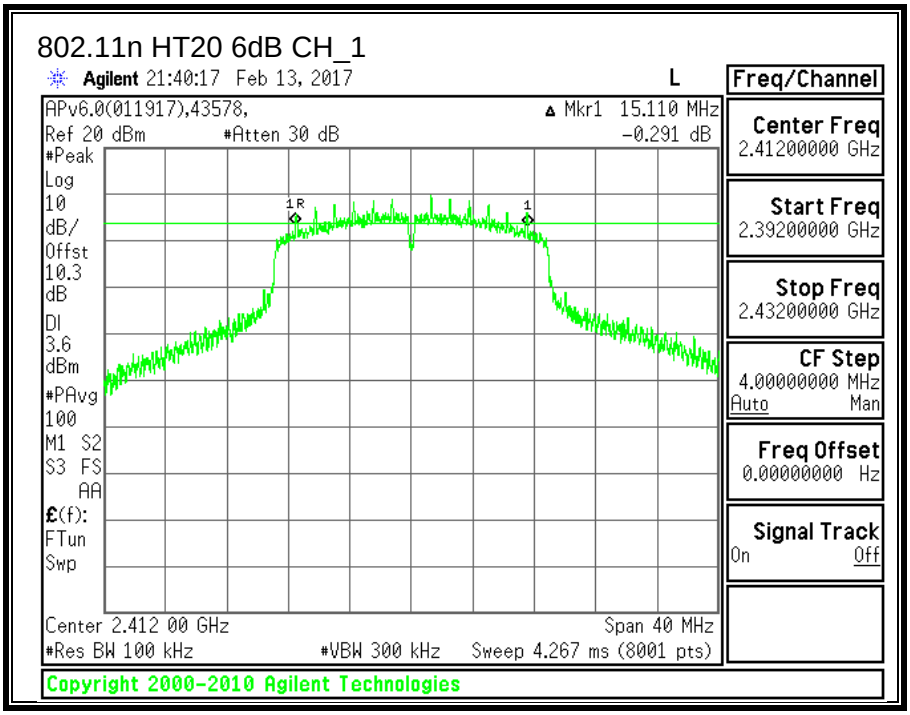
TEST PROCEDURE

KDB 58074 D01 v03r05 Section 8.1

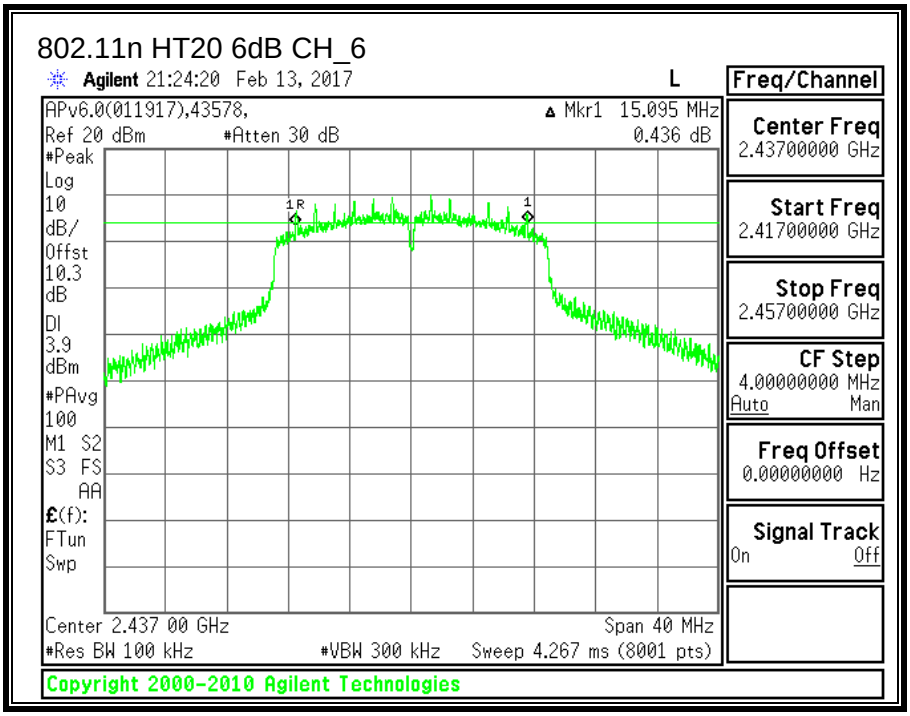
RESULTS

Channel	Frequency (MHz)	6 dB BW (MHz)	Minimum Limit (MHz)
CH1	2412	15.110	0.5
CH6	2437	15.095	0.5
CH11	2462	15.115	0.5
CH12	2467	15.100	0.5
CH13	2472	15.095	0.5

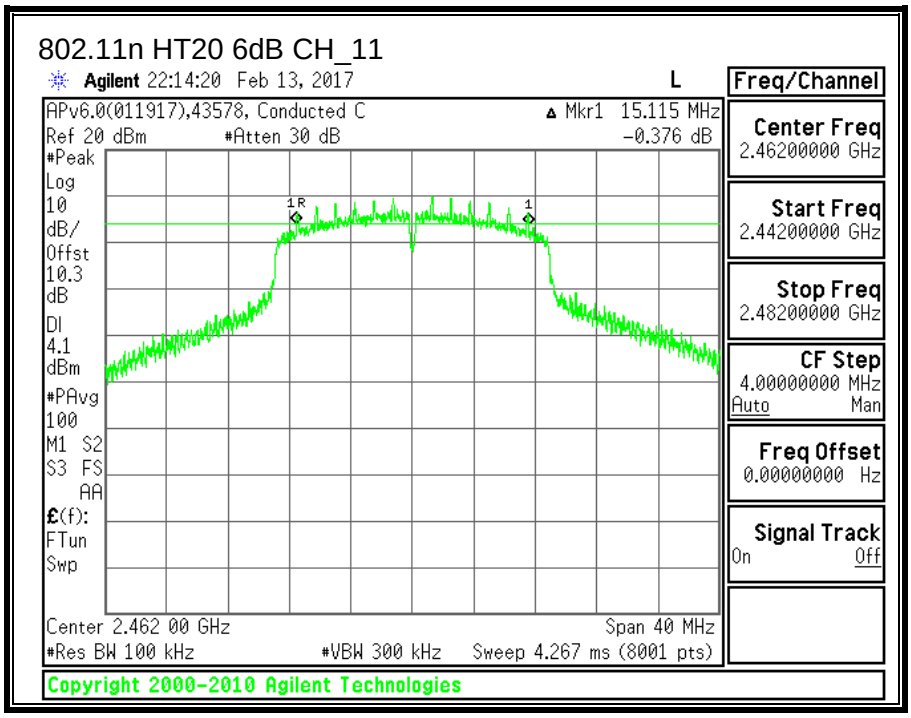
802.11n HT20 6dB CH_1



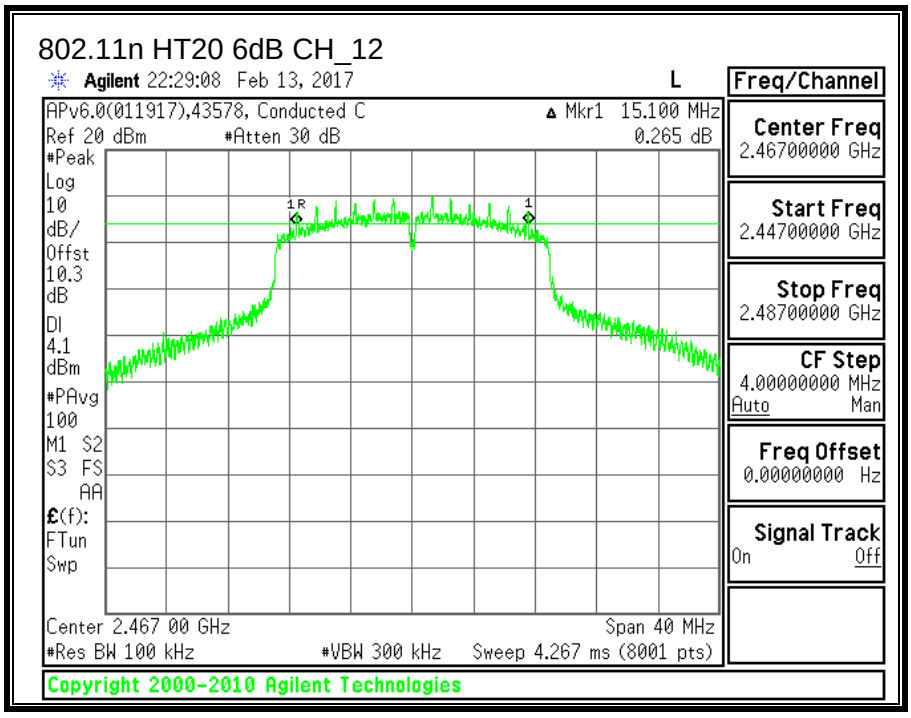
802.11n HT20 6dB CH_6



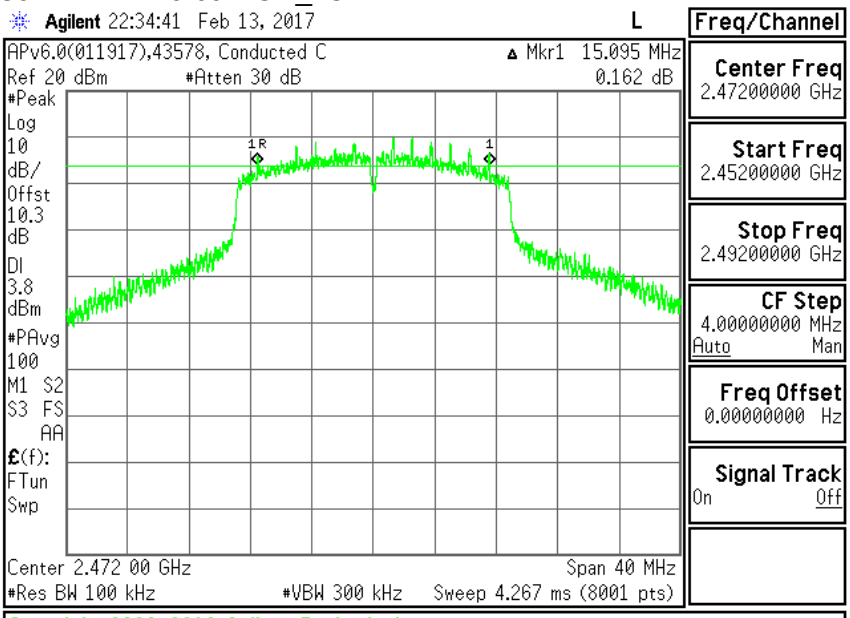
802.11n HT20 6dB CH_11



802.11n HT20 6dB CH_12



802.11n HT20 6dB CH_13



10.3.2. 99% BANDWIDTH

LIMITS

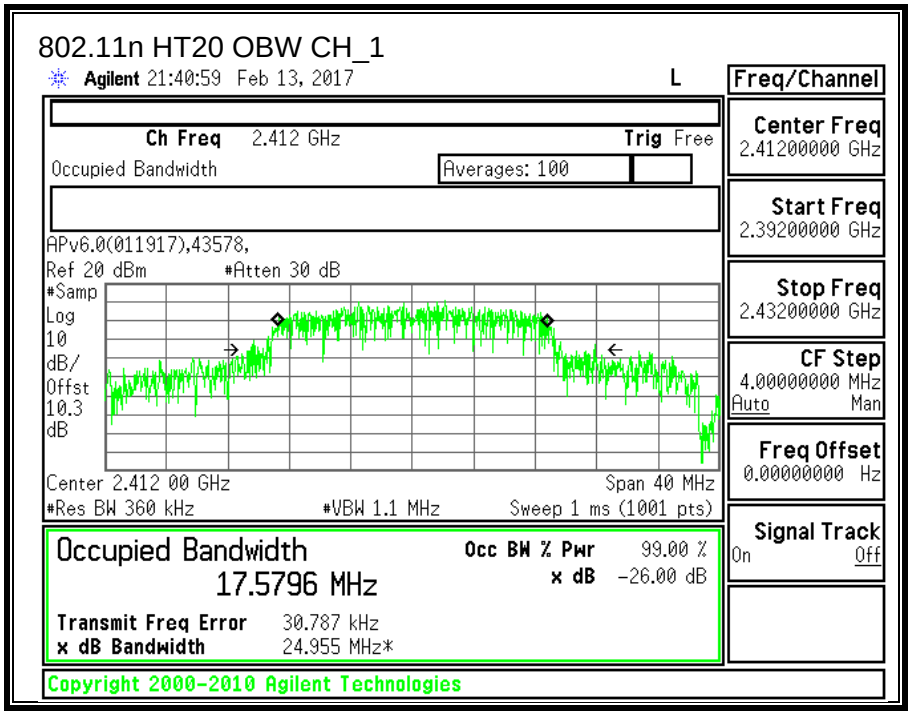
None; for reporting purposes only.

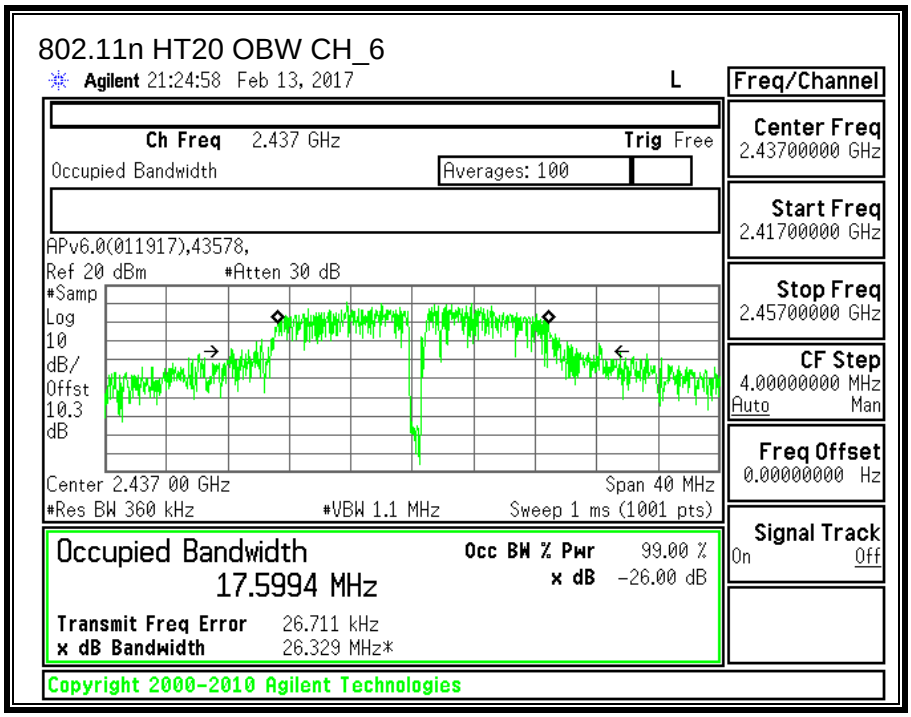
TEST PROCEDURE

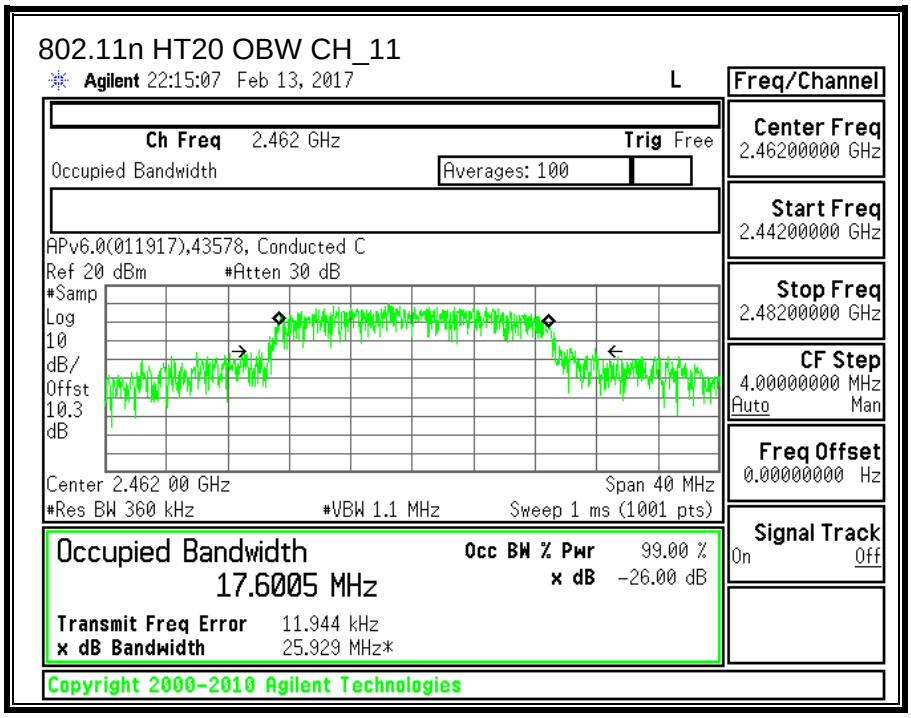
ANSI C63.10: 2013 Section 6.9.3

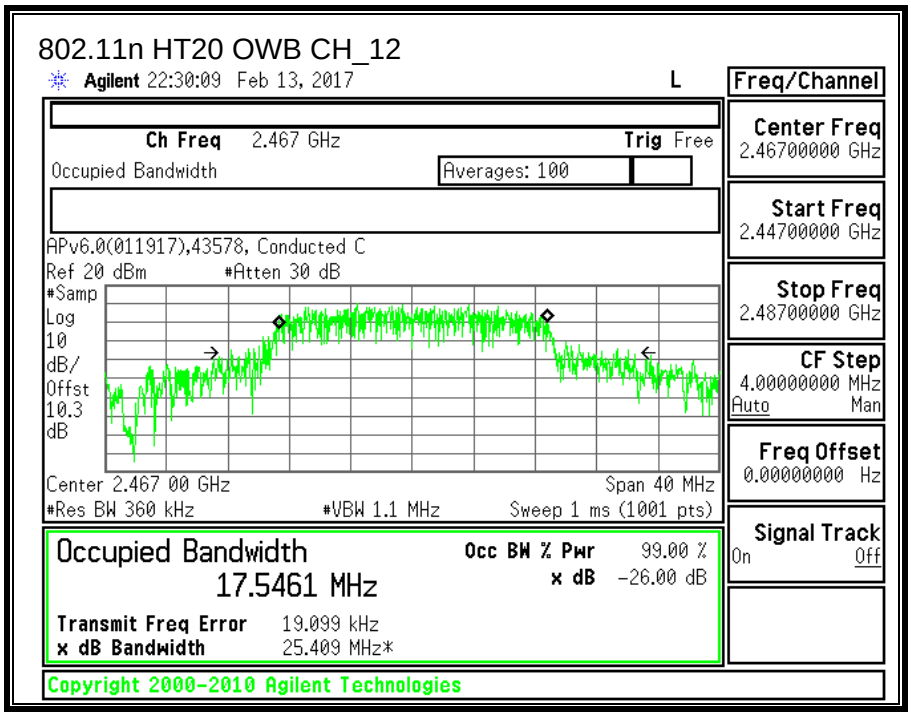
RESULTS

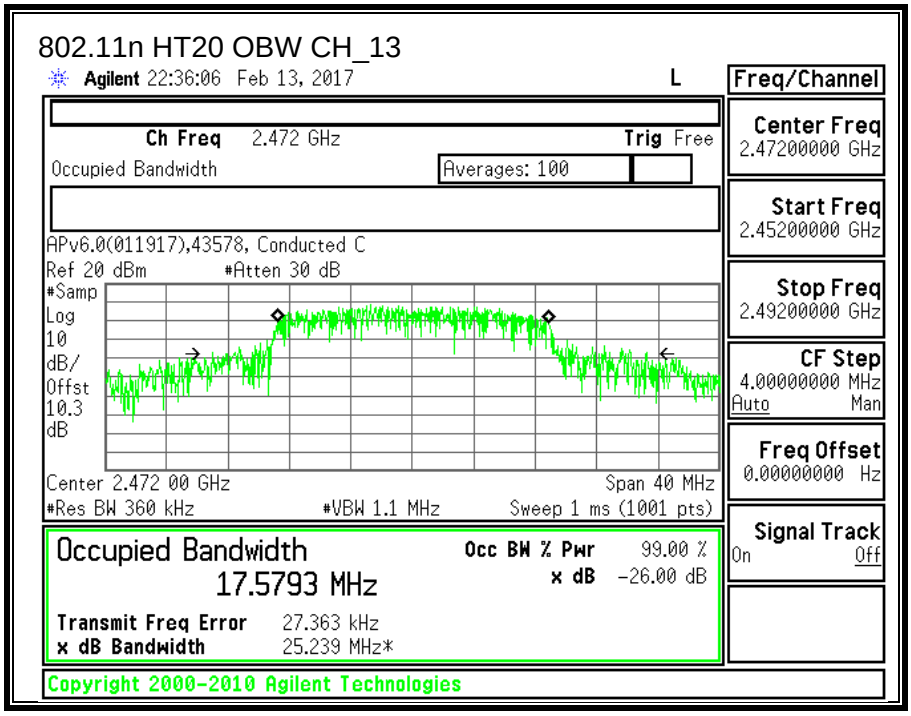
Channel	Frequency (MHz)	99% Bandwidth (MHz)
CH1	2412	17.5796
CH6	2437	17.5994
CH11	2462	17.6005
CH12	2467	17.5461
CH13	2472	17.5793











10.3.3. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-247 (5.4) (d)

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

DIRECTIONAL ANTENNA GAIN

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

TEST PROCEDURE

KDB 58074 D01 v03r05 Section 9.2.3.2

RESULTS

TEST ENGINEER ID:	50818	Date:	02/11/2017

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
CH1	2412	-3.01	30.00	30	36	30.00
CH2	2417	-3.01	30.00	30	36	30.00
CH3	2422	-3.01	30.00	30	36	30.00
CH6	2437	-3.01	30.00	30	36	30.00
CH8	2447	-3.01	30.00	30	36	30.00
CH9	2452	-3.01	30.00	30	36	30.00
CH10	2457	-3.01	30.00	30	36	30.00
CH11	2462	-3.01	30.00	30	36	30.00
CH12	2467	-3.01	30.00	30	36	30.00
CH13	2472	-3.01	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Measured Power (dBm)	Power Limit (dBm)	Margin (dB)
CH1	2412	16.16	30.00	-13.84
CH2	2417	18.06	30.00	-11.94
CH3	2422	19.29	30.00	-10.71
CH6	2437	19.41	30.00	-10.59
CH8	2447	19.74	30.00	-10.26
CH9	2452	18.46	30.00	-11.54
CH10	2457	17.42	30.00	-12.58
CH11	2462	15.69	30.00	-14.31
CH12	2467	13.88	30.00	-16.12
CH13	2472	1.81	30.00	-28.19

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.

10.3.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247

IC RSS-247 (5.2) (b)

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.

TEST PROCEDURE

KDB 58074 D01 v03r05 Section 10.3

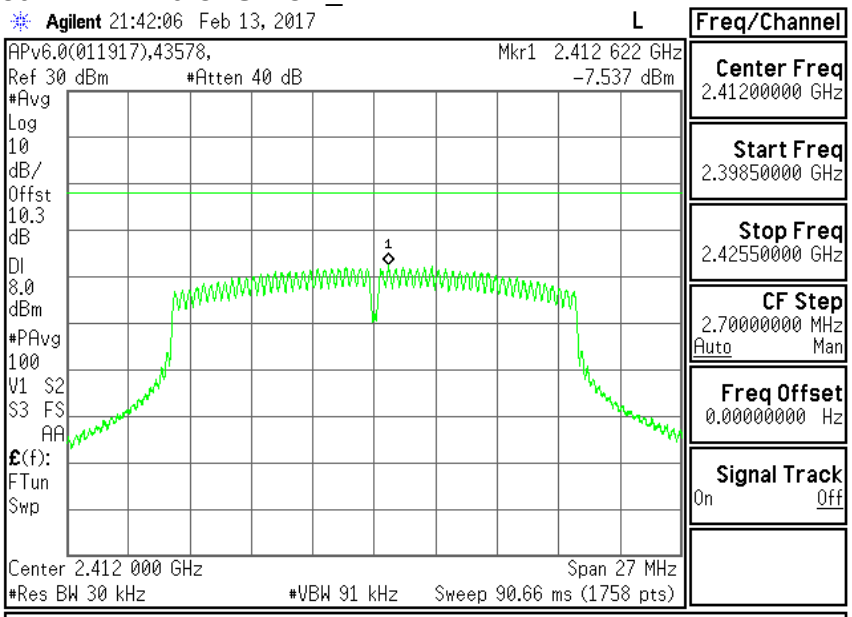
RESULTS

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

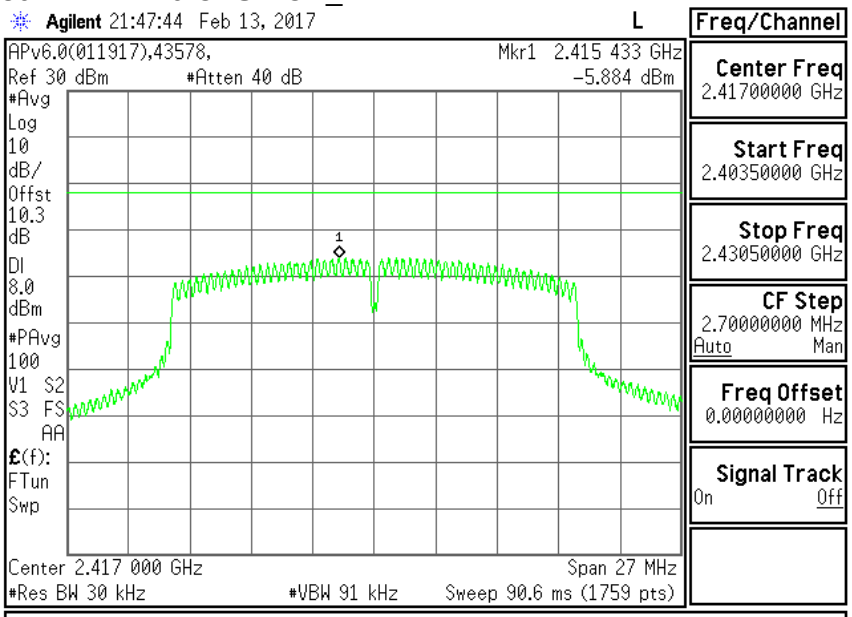
PSD Results

Channel	Frequency (MHz)	Measured (dBm)	Limit (dBm)	Margin (dB)
CH1	2412	-7.537	8.0	-15.5
CH2	2417	-5.884	8.0	-13.9
CH3	2422	-4.746	8.0	-12.7
CH6	2437	-4.185	8.0	-12.2
CH8	2447	-4.491	8.0	-12.5
CH9	2452	-5.433	8.0	-13.4
CH10	2457	-6.478	8.0	-14.5
CH11	2462	-8.276	8.0	-16.3
CH12	2467	-10.239	8.0	-18.2
CH13	2472	-23.111	8.0	-31.1

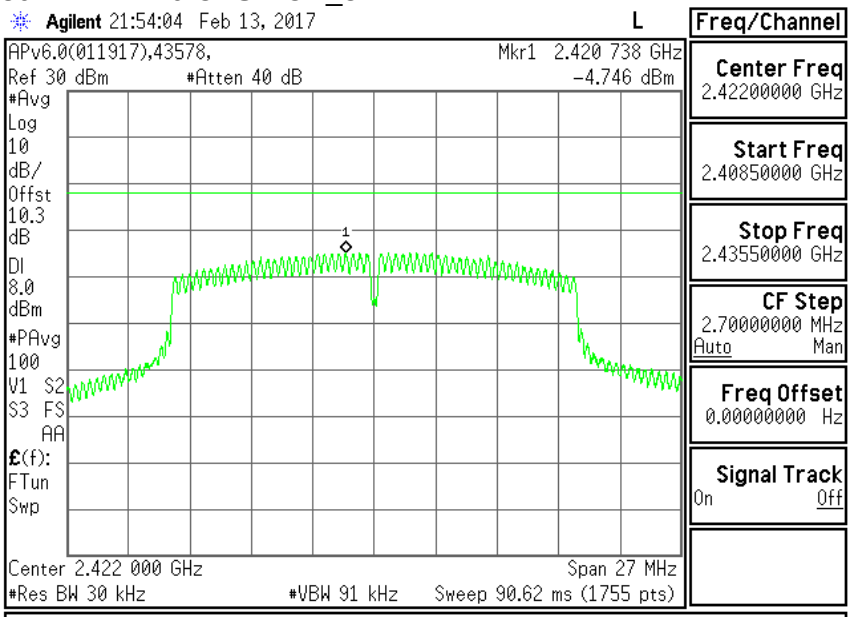
802.11n HT20 CPSD CH_1



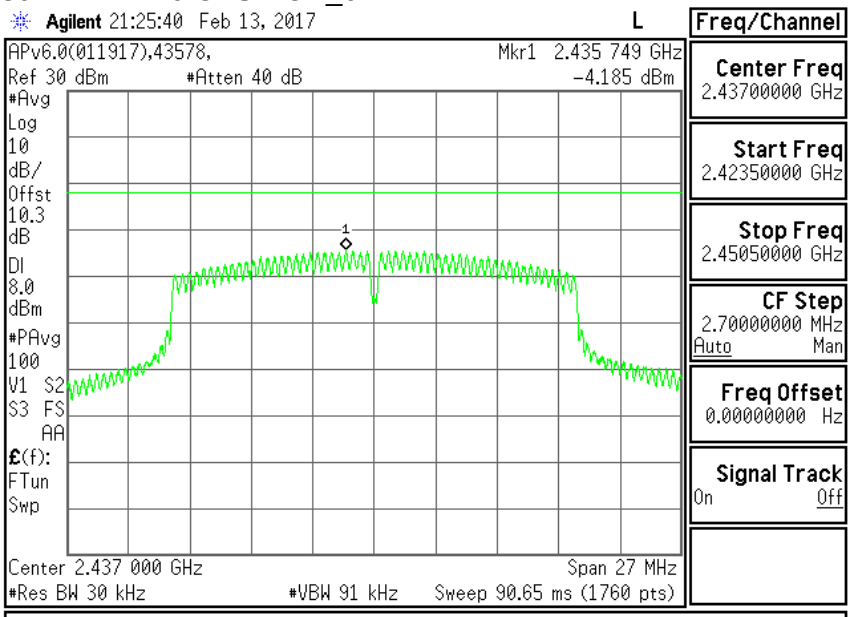
802.11n HT20 CPSD CH_2



802.11n HT20 CPSD CH_3



802.11n HT20 CPSD CH_6



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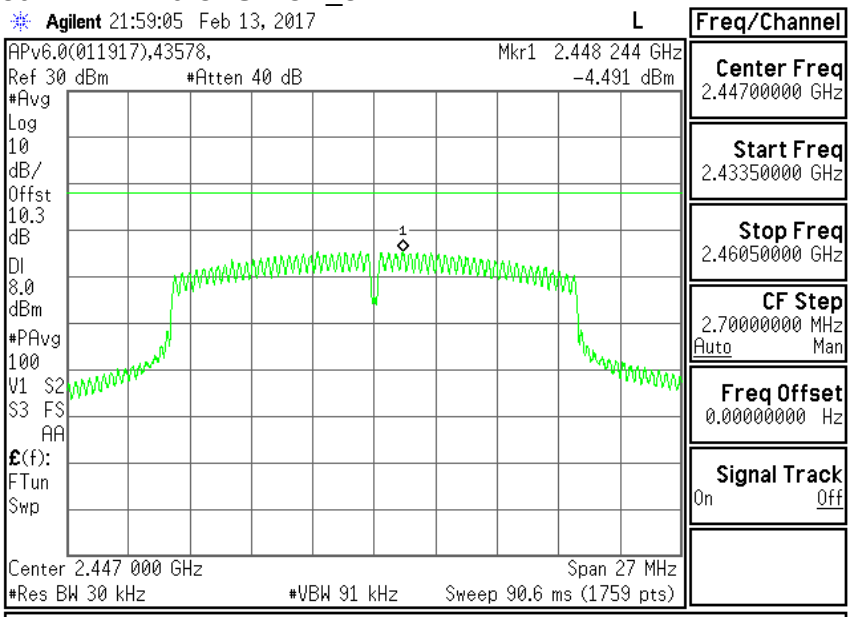
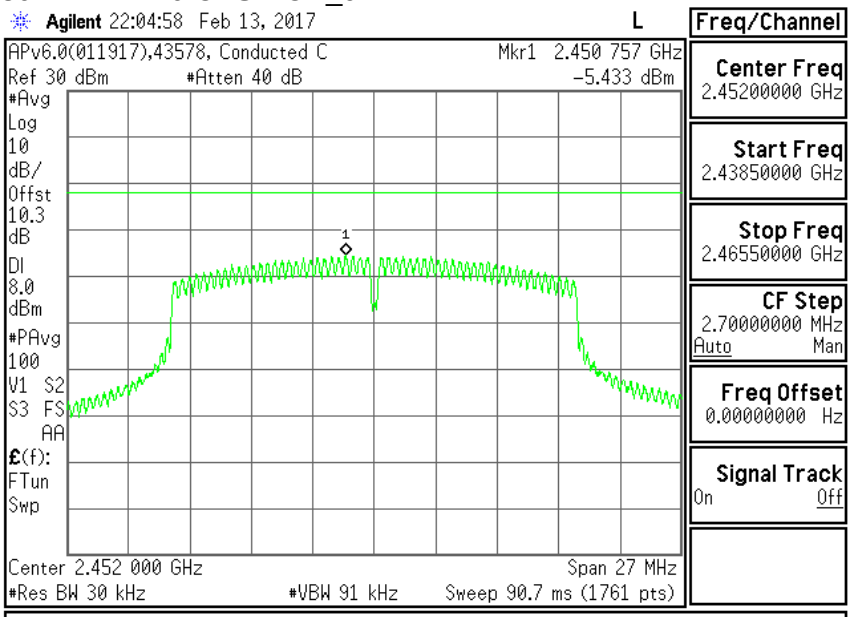
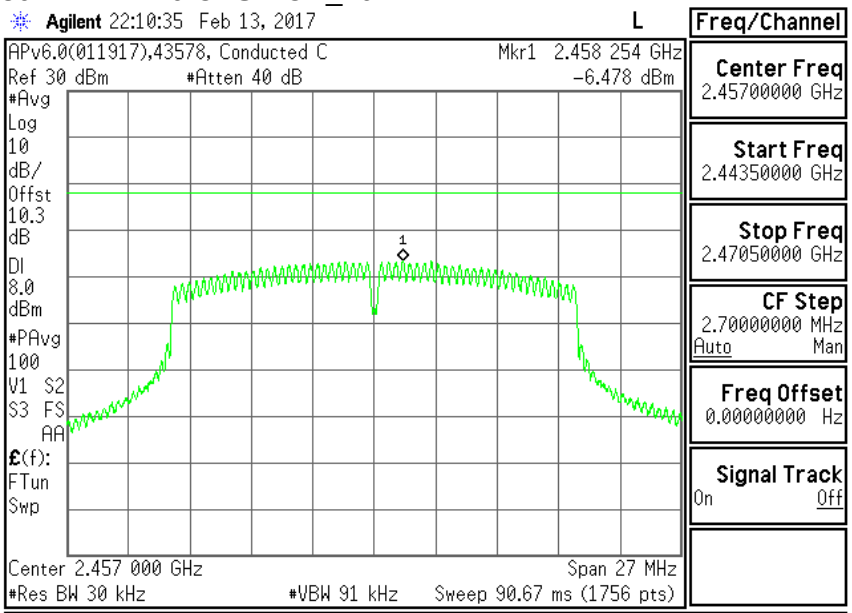


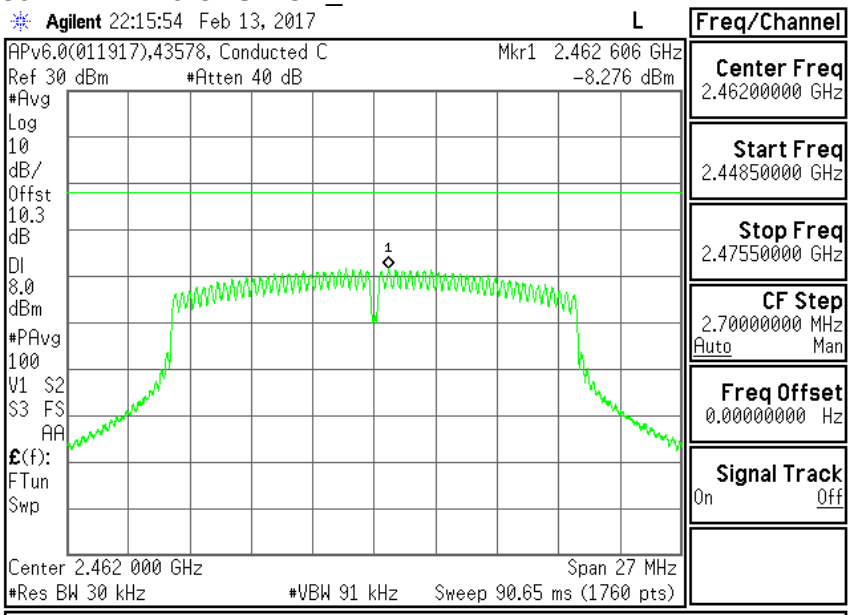
802.11n HT20 CPSD CH_9



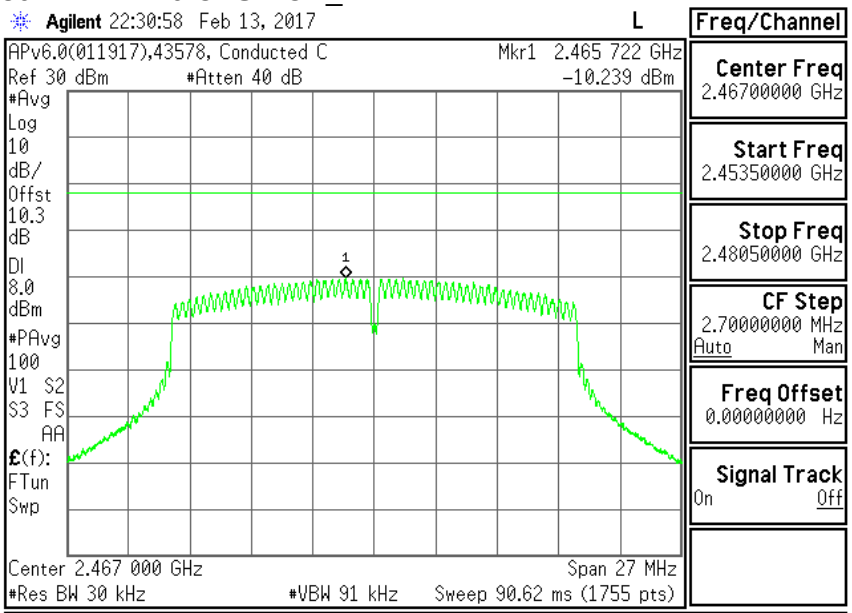
802.11n HT20 CPSD CH_10



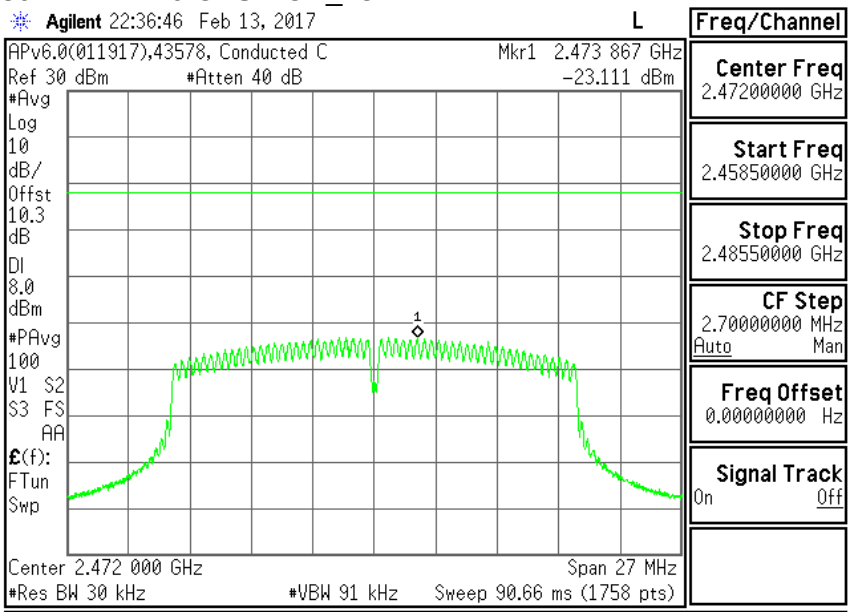
802.11n HT20 CPSD CH_11



802.11n HT20 CPSD CH_12

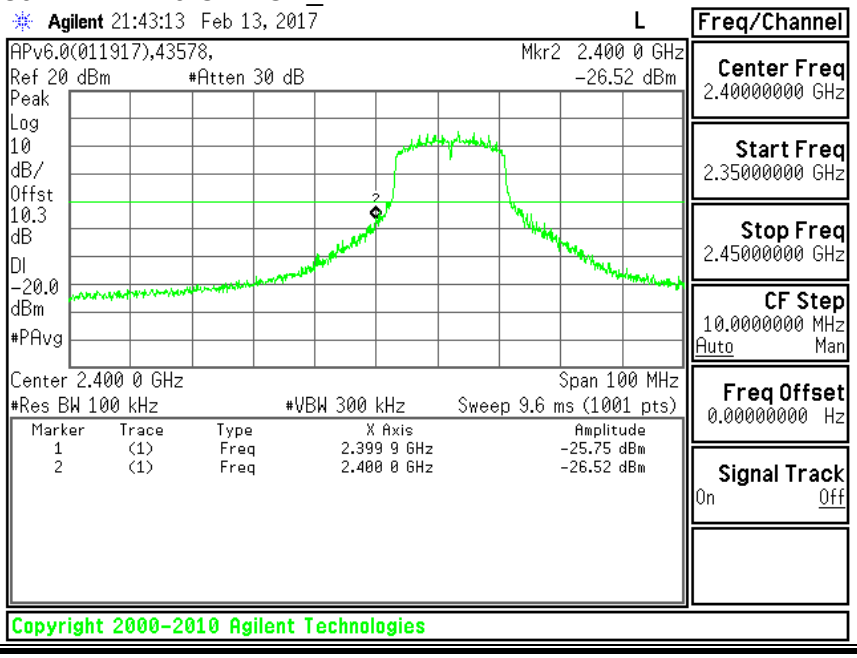


802.11n HT20 CPSD CH_13

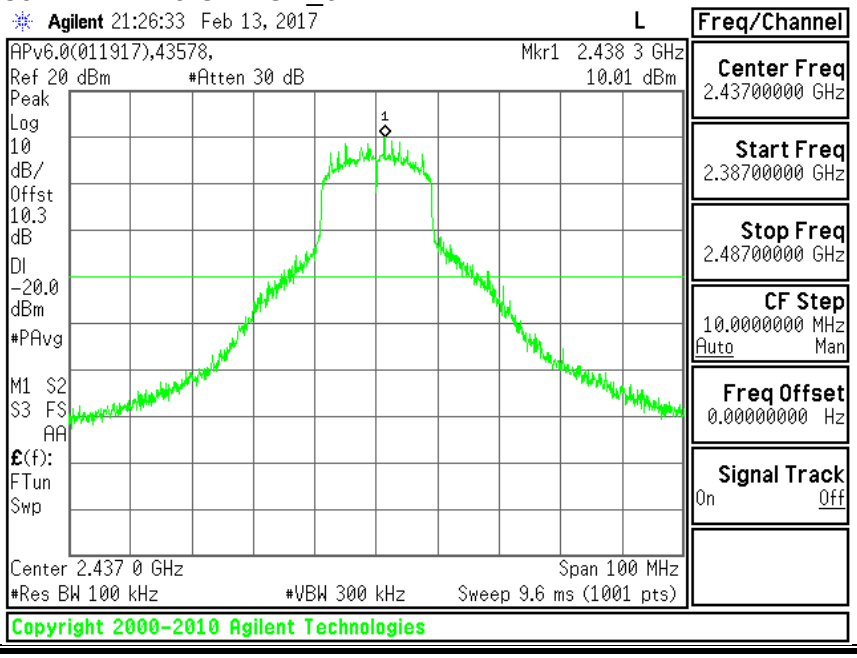


10.3.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

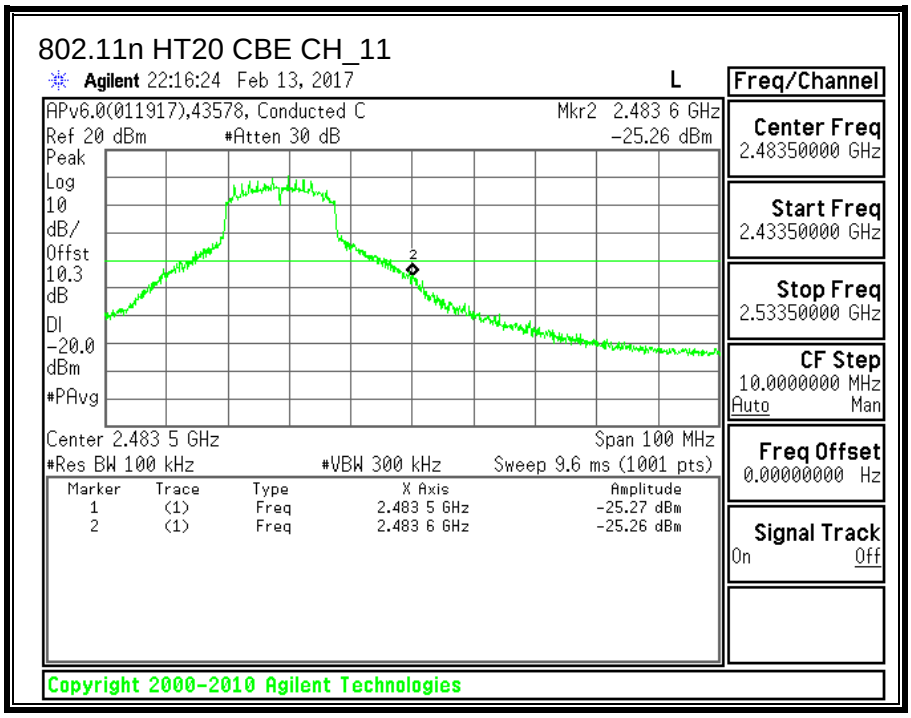
802.11n HT20 CBE CH_1



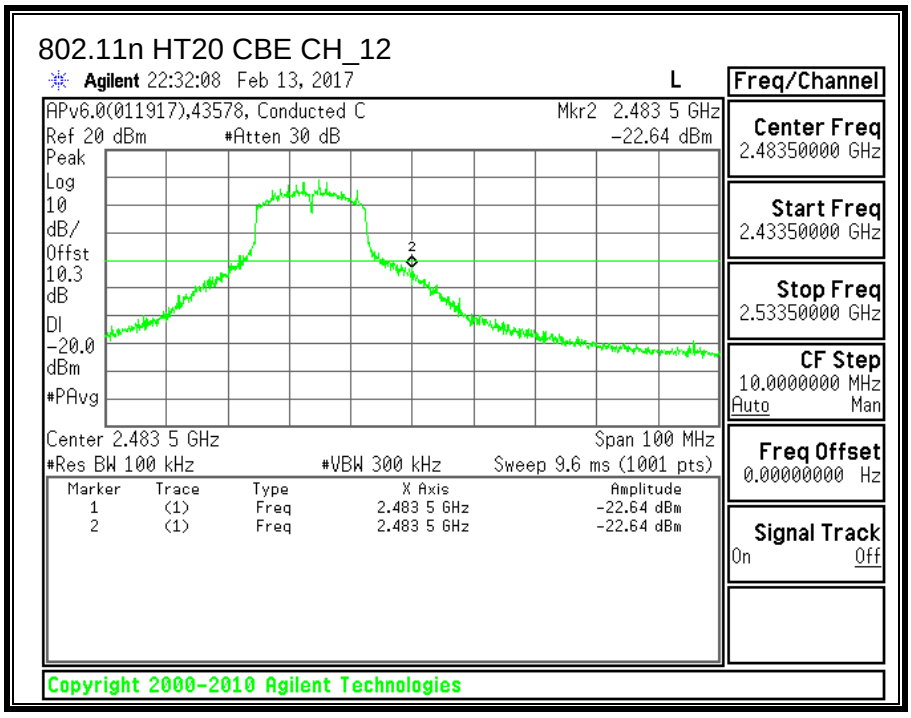
802.11n HT20 CBE CH_6

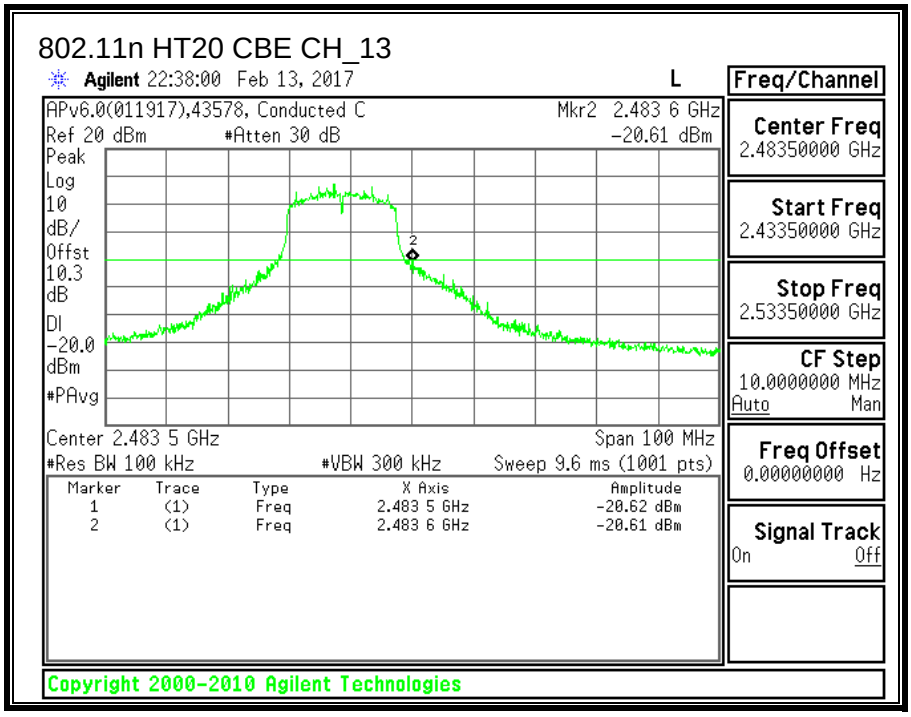


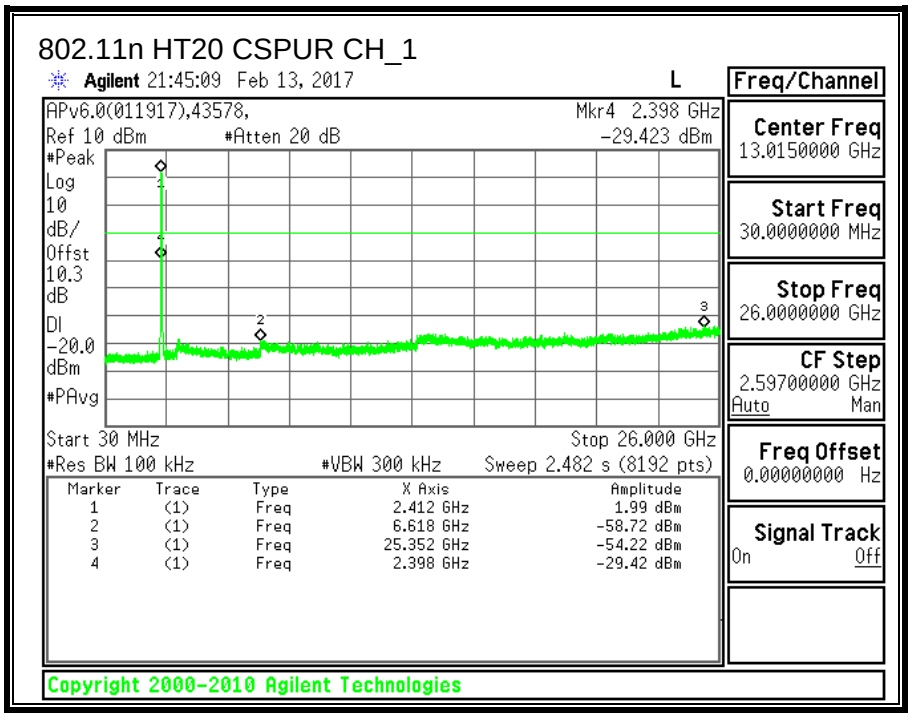
802.11n HT20 CBE CH_11

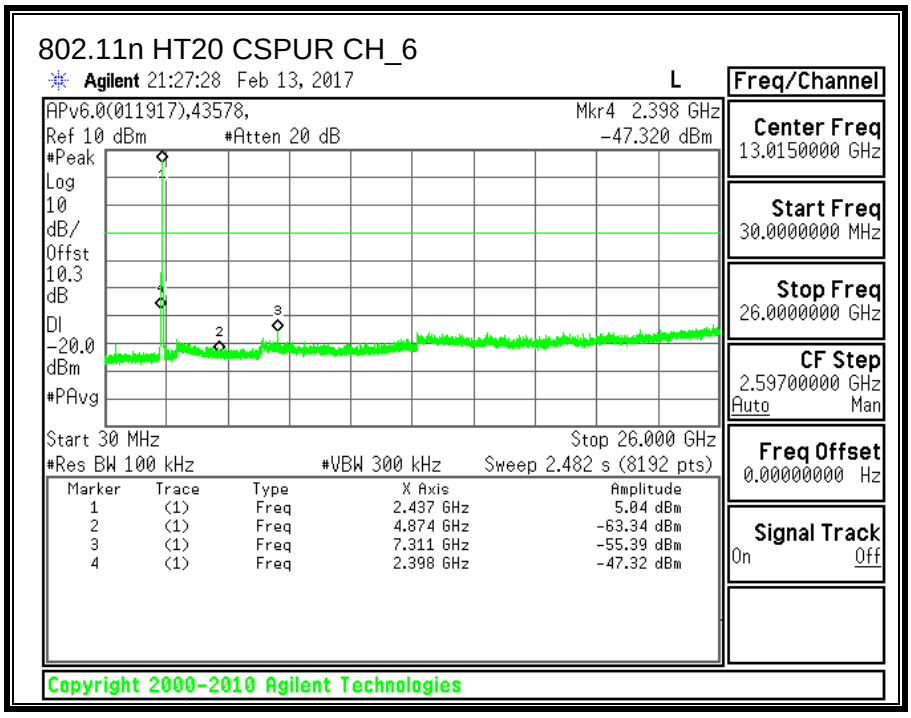


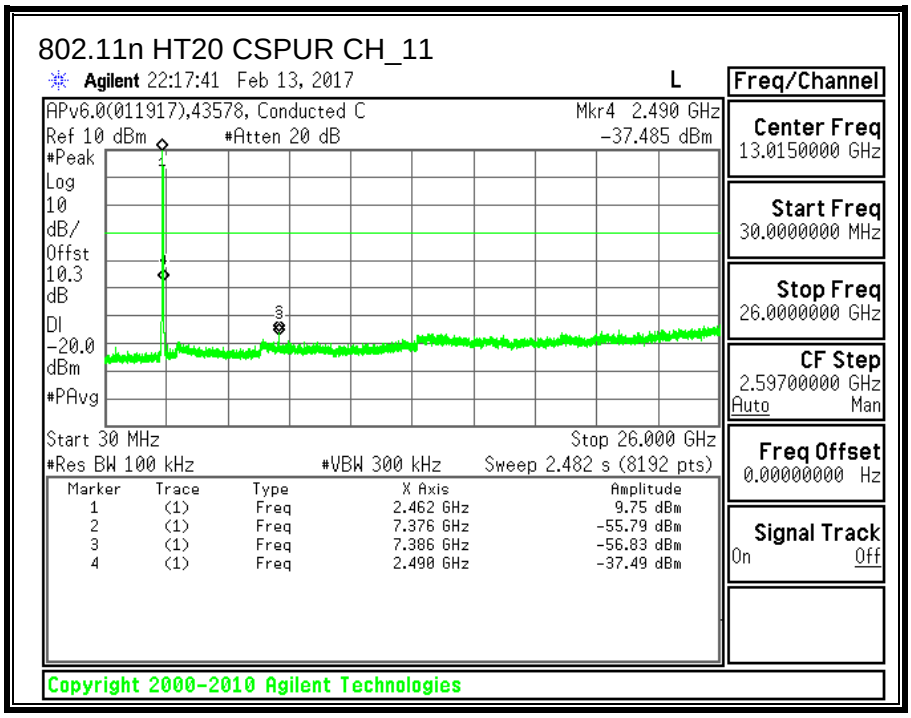
802.11n HT20 CBE CH_12

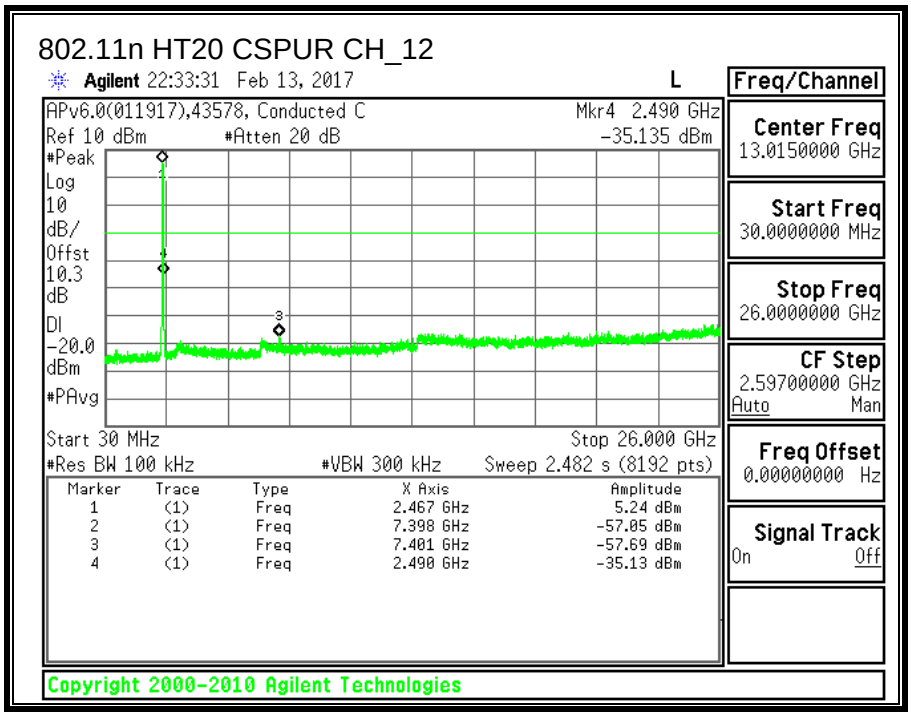


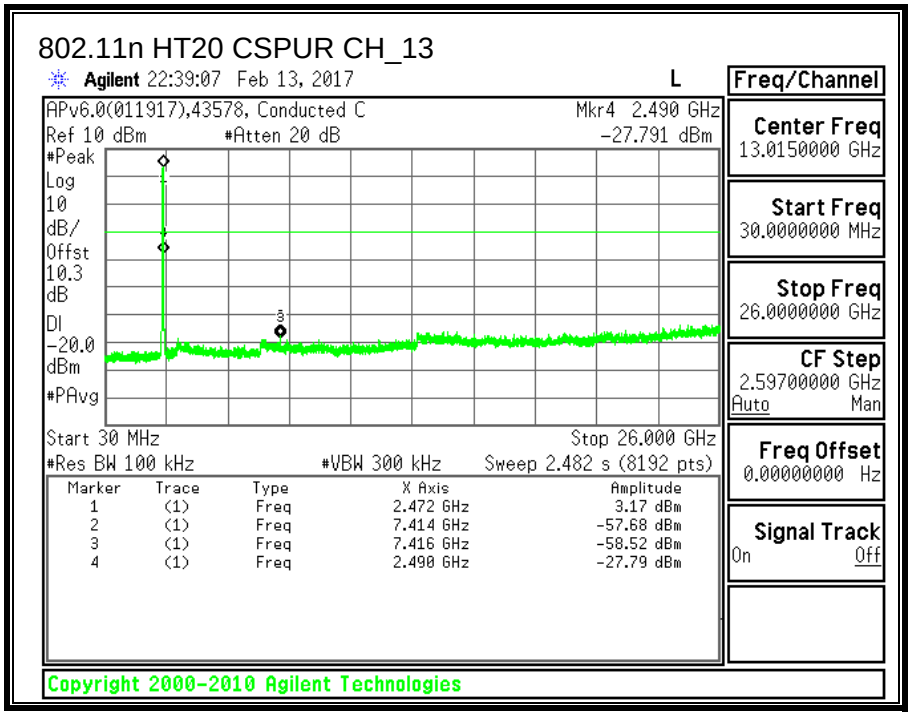












11. RADIATED TEST RESULTS

11.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300m	2400/F(kHz) @ 300m
0.490-1.705	24000/F(kHz) @ 30m	24000/F(kHz) @ 30m
1.705-30.0	30 @ 30m	30 @ 30m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.
Note: The pre-scan measurements above 1GHz the VBW is set to 30 kHz.

For 2.4 GHz band, the spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

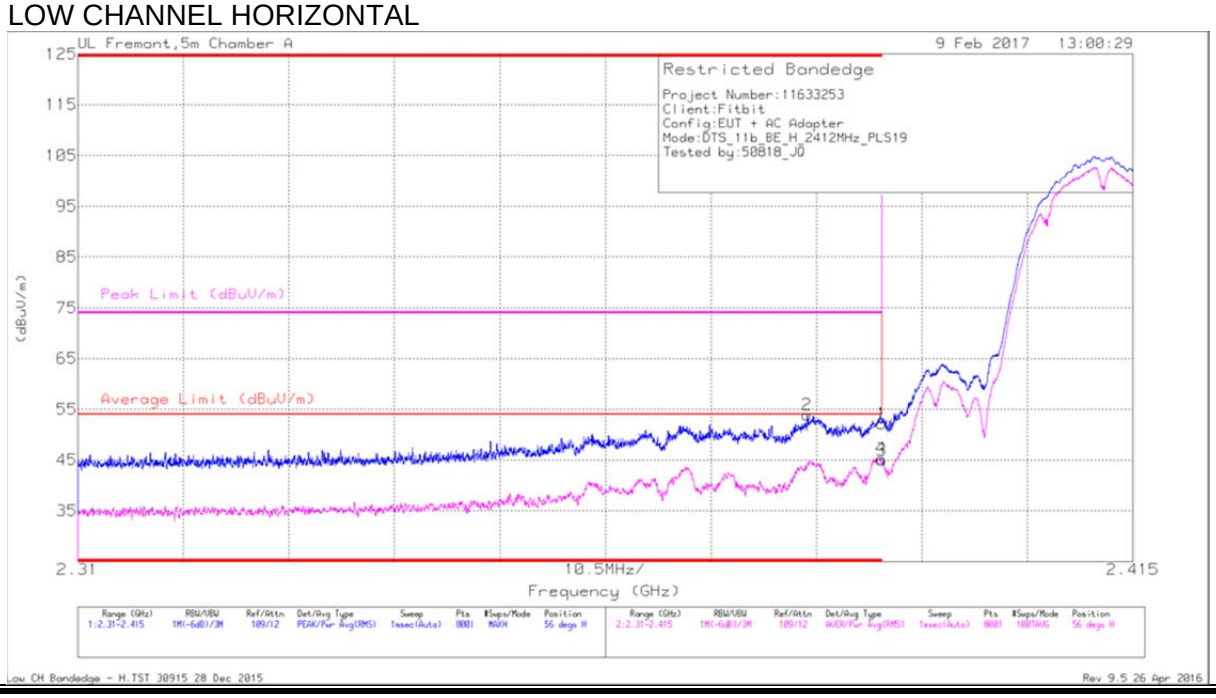
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions

11.2. TRANSMITTER ABOVE 1 GHz

11.2.1. 802.11b MODE IN THE 2.4 GHz BAND

AUTHORIZED BANDEDGE (LOW CHANNEL, CH 1)

LOW CHANNEL HORIZONTAL

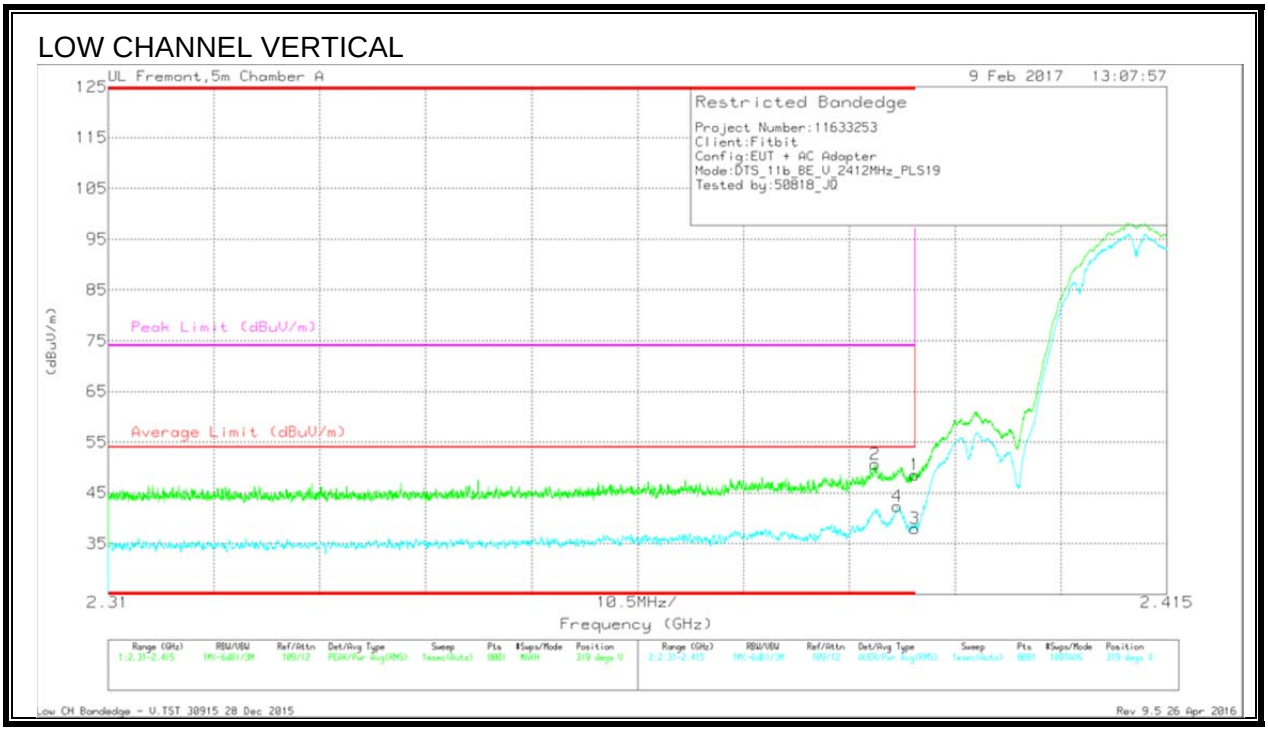


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	* 2.383	45.43	Pk	32.2	-23.7	0	53.93	-	-	74	-20.07	56	296	H
1	* 2.39	43.5	Pk	32.3	-23.7	0	52.1	-	-	74	-21.9	56	296	H
3	* 2.39	36.41	RMS	32.3	-23.7	0	45.01	54	-8.99	-	-	56	296	H
4	* 2.39	36.72	RMS	32.3	-23.7	0	45.32	54	-8.68	-	-	56	296	H

* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

LOW CHANNEL VERTICAL



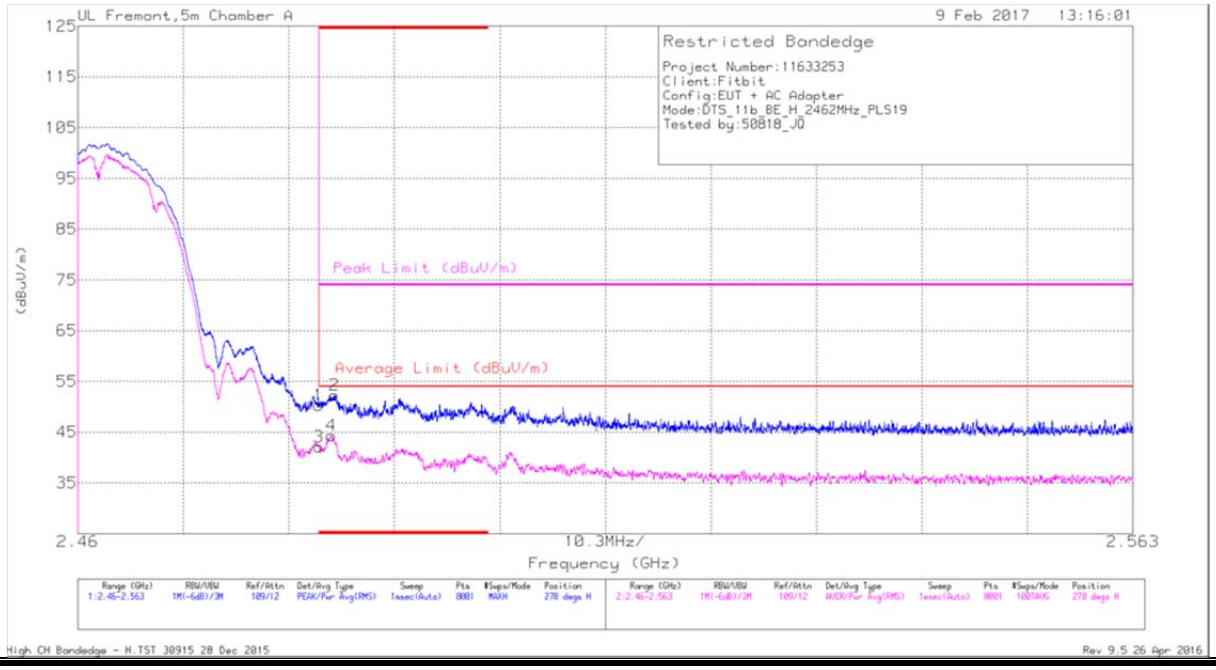
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	* 2.386	42.16	Pk	32.2	-23.7	0	50.66	-	-	74	-23.34	319	381	V
4	* 2.388	33.74	RMS	32.3	-23.7	0	42.34	54	-11.66	-	-	319	381	V
1	* 2.39	39.97	Pk	32.3	-23.7	0	48.57	-	-	74	-25.43	319	381	V
3	* 2.39	29.35	RMS	32.3	-23.7	0	37.95	54	-16.05	-	-	319	381	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL, CH 11)

HIGH CHANNEL HORIZONTAL

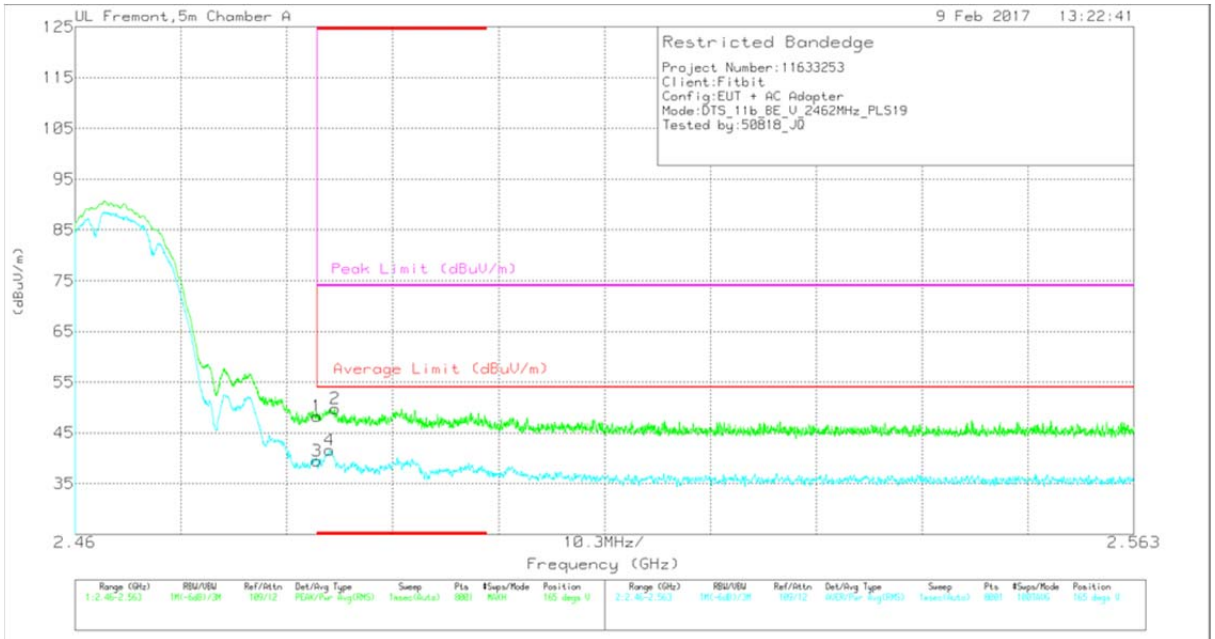


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	41.48	Pk	32.4	-23.6	0	50.28	-	-	74	-23.72	278	342	H
3	* 2.484	33.33	RMS	32.4	-23.6	0	42.13	54	-11.87	-	-	278	342	H
2	* 2.485	43.57	Pk	32.4	-23.7	0	52.27	-	-	74	-21.73	278	342	H
4	* 2.485	35.66	RMS	32.4	-23.7	0	44.36	54	-9.64	-	-	278	342	H

* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

HIGH CHANNEL VERTICAL



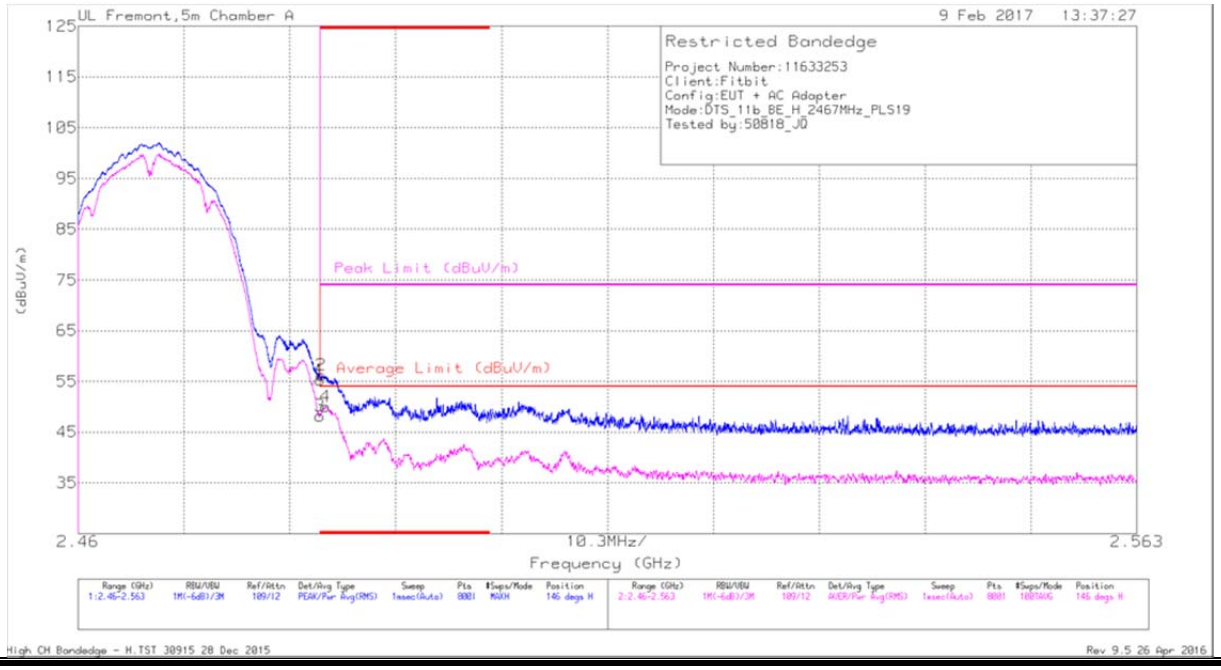
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	39.5	Pk	32.4	-23.6	0	48.3	-	-	74	-25.7	165	376	V
3	* 2.484	30.73	RMS	32.4	-23.6	0	39.53	54	-14.47	-	-	165	376	V
2	* 2.485	41.12	Pk	32.4	-23.7	0	49.82	-	-	74	-24.18	165	376	V
4	* 2.485	32.91	RMS	32.4	-23.7	0	41.61	54	-12.39	-	-	165	376	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL, CH 12)

HIGH CHANNEL HORIZONTAL

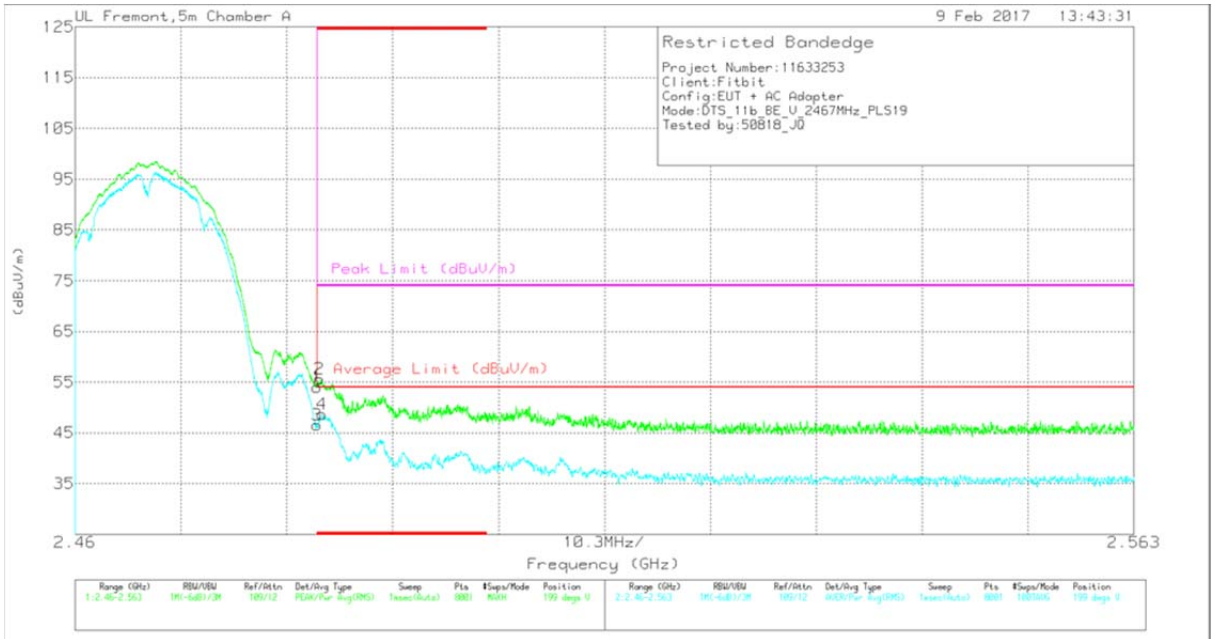


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	46.43	Pk	32.4	-23.6	0	55.23	-	-	74	-18.77	146	345	H
2	* 2.484	47.42	Pk	32.4	-23.6	0	56.22	-	-	74	-17.78	146	345	H
3	* 2.484	39.44	RMS	32.4	-23.6	0	48.24	54	-5.76	-	-	146	345	H
4	* 2.484	41.25	RMS	32.4	-23.6	0	50.05	54	-3.95	-	-	146	345	H

* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

HIGH CHANNEL VERTICAL



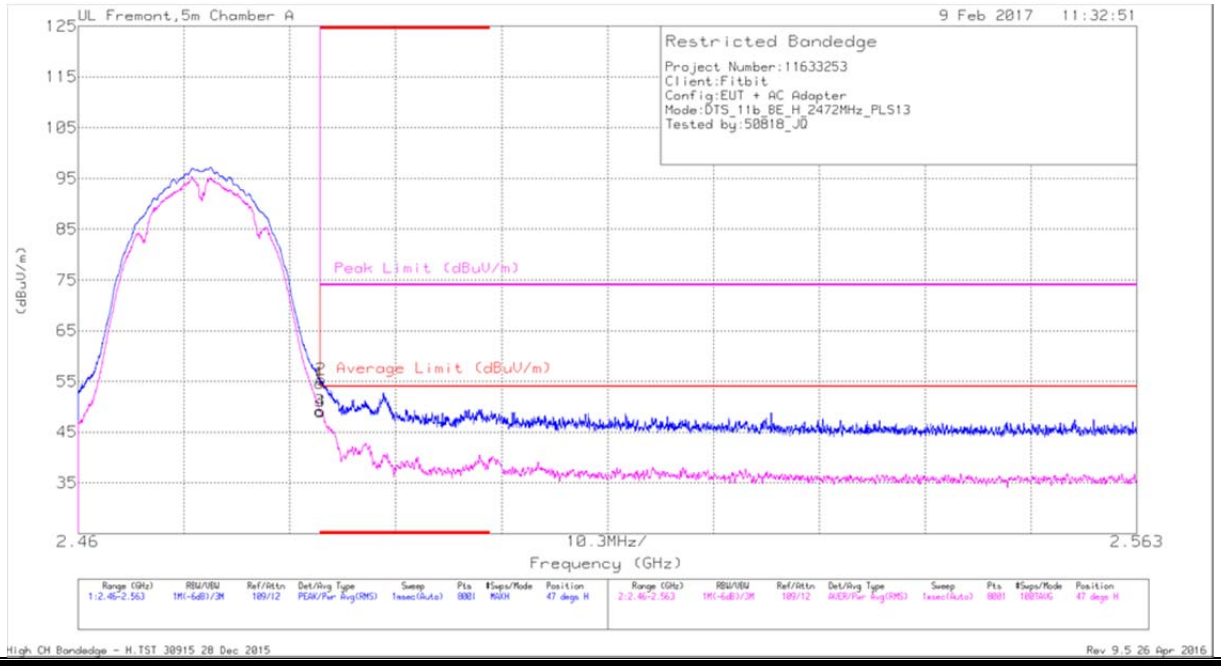
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	45.21	Pk	32.4	-23.6	0	54.01	-	-	74	-19.99	199	393	V
2	* 2.484	46.79	Pk	32.4	-23.6	0	55.59	-	-	74	-18.41	199	393	V
3	* 2.484	37.8	RMS	32.4	-23.6	0	46.6	54	-7.4	-	-	199	393	V
4	* 2.484	39.92	RMS	32.4	-23.6	0	48.72	54	-5.28	-	-	199	393	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL, CH 13)

HIGH CHANNEL HORIZONTAL

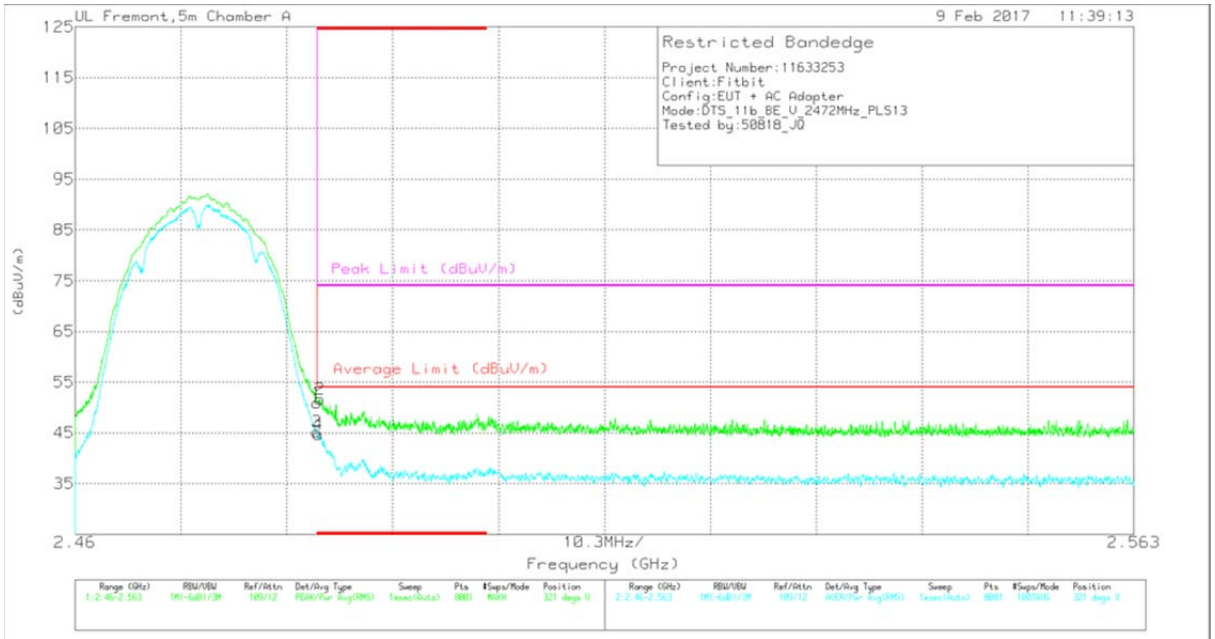


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	45.81	Pk	32.4	-23.6	0	54.61	-	-	74	-19.39	47	313	H
2	* 2.484	46.58	Pk	32.4	-23.6	0	55.38	-	-	74	-18.62	47	313	H
3	* 2.484	40.42	RMS	32.4	-23.6	0	49.22	54	-4.78	-	-	47	313	H
4	* 2.484	40.22	RMS	32.4	-23.6	0	49.02	54	-4.98	-	-	47	313	H

* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

HIGH CHANNEL VERTICAL



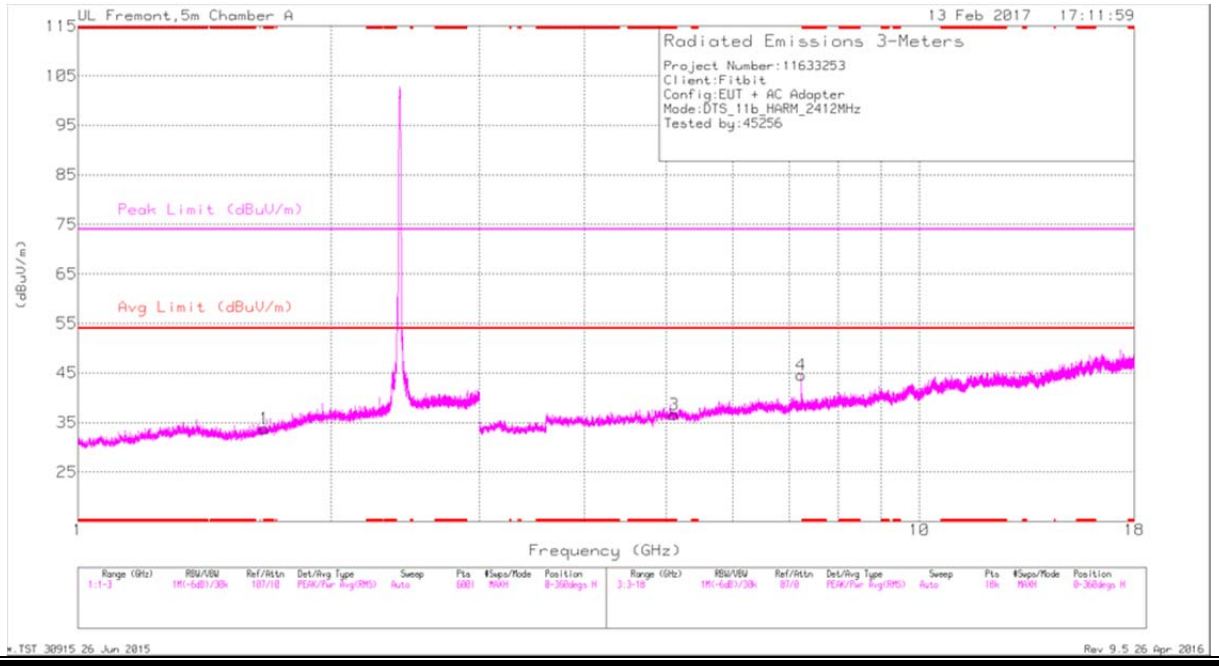
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	42.12	Pk	32.4	-23.6	0	50.92	-	-	74	-23.08	321	397	V
2	* 2.484	42.87	Pk	32.4	-23.6	0	51.67	-	-	74	-22.33	321	397	V
3	* 2.484	36.37	RMS	32.4	-23.6	0	45.17	54	-8.83	-	-	321	397	V
4	* 2.484	35.86	RMS	32.4	-23.6	0	44.66	54	-9.34	-	-	321	397	V

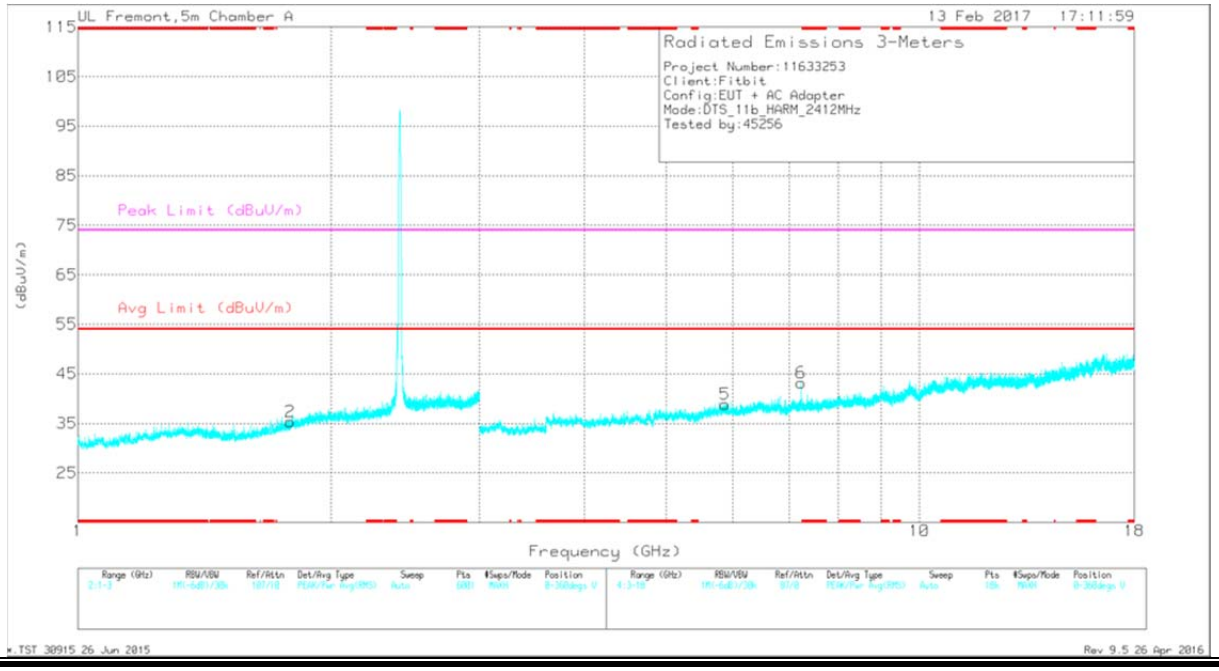
* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS LOW CHANNEL, CH 1)

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	* 1.666	28.56	Pk	28.9	-23.7	0	33.76	-	-	74	-40.24	0-360	297	H
3	* 5.113	30.83	Pk	34.1	-28.3	0	36.63	-	-	74	-37.37	0-360	199	H
2	1.788	28.81	Pk	30.2	-23.7	0	35.31	-	-	-	-	0-360	101	V
5	5.875	30.4	Pk	34.9	-26.4	0	38.9	-	-	-	-	0-360	101	V
4	7.236	34.04	Pk	35.5	-24.9	0	44.64	-	-	-	-	0-360	101	H
6	7.237	32.56	Pk	35.5	-24.9	0	43.16	-	-	-	-	0-360	101	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector

Radiated Emissions

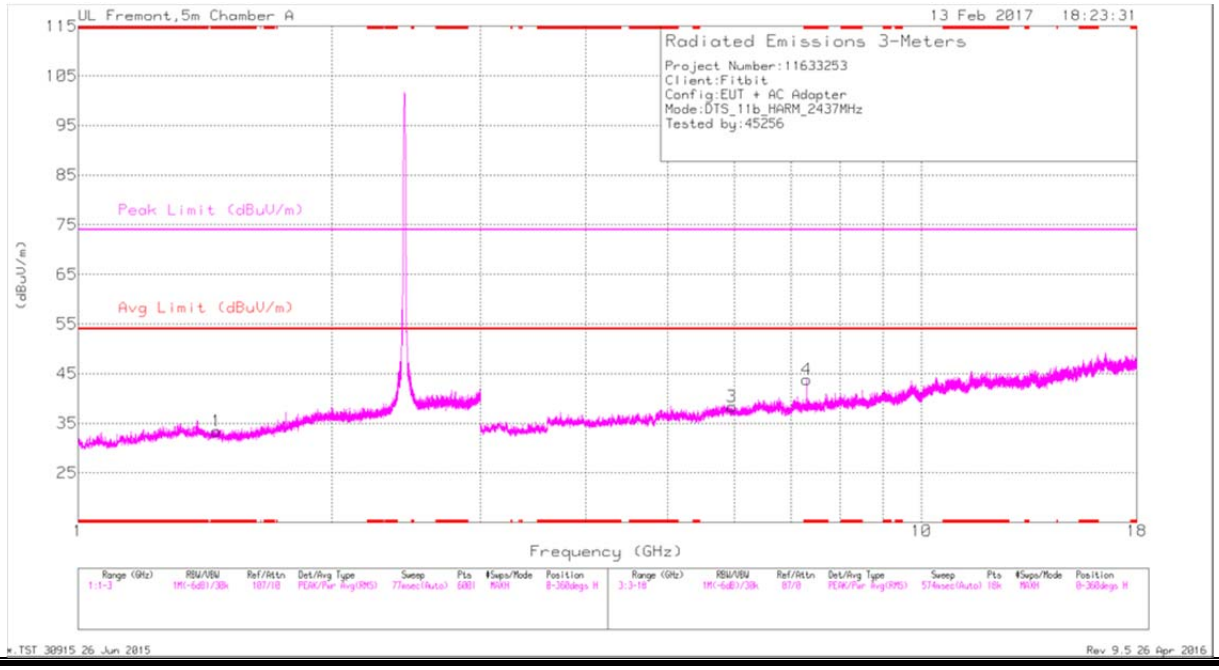
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.667	35.24	PK2	28.9	-23.7	0	40.44	-	-	74	-33.56	203	304	H
* 1.666	21.48	MAv1	28.9	-23.7	0	26.68	54	-27.32	-	-	203	304	H
* 5.114	37.07	PK2	34.1	-28.3	0	42.87	-	-	74	-31.13	15	354	H
* 5.113	25.88	MAv1	34.1	-28.3	0	31.68	54	-22.32	-	-	15	354	H
1.788	20.62	MAv1	30.2	-23.7	0	27.12	-	-	-	-	210	344	V
1.79	35.59	PK2	30.2	-23.7	0	42.09	-	-	-	-	210	344	V
5.873	36.05	PK2	34.9	-26.4	0	44.55	-	-	-	-	143	161	V
5.876	24.52	MAv1	34.9	-26.3	0	33.12	-	-	-	-	143	161	V
7.235	33.36	MAv1	35.5	-24.9	0	43.96	-	-	-	-	280	101	H
7.236	40.07	PK2	35.5	-24.9	0	50.67	-	-	-	-	280	101	H
7.237	38.87	PK2	35.5	-24.9	0	49.47	-	-	-	-	108	119	V
7.237	32.26	MAv1	35.5	-24.9	0	42.86	-	-	-	-	108	119	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
-Compliance for emissions in non-restricted bands is shown in conducted out of band testing.

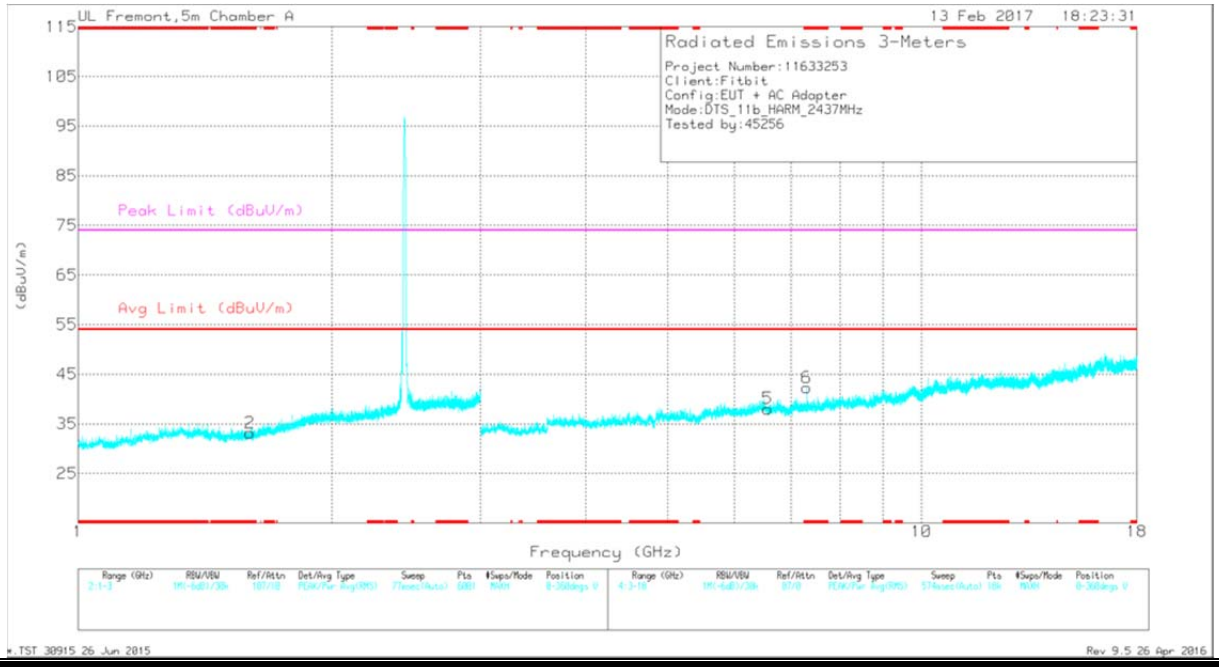
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

HARMONICS AND SPURIOUS EMISSIONS MID CHANNEL, CH 6)

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	* 1.459	28.5	Pk	28.6	-23.7	0	33.4	-	-	74	-40.6	0-360	101	H
2	* 1.598	28.59	Pk	28.2	-23.6	0	33.19	-	-	74	-40.81	0-360	199	V
4	* 7.311	33.36	Pk	35.5	-25	0	43.86	-	-	74	-30.14	0-360	101	H
6	* 7.31	31.83	Pk	35.5	-25	0	42.33	-	-	74	-31.67	0-360	101	V
3	5.96	30.4	Pk	35.1	-27.1	0	38.4	-	-	-	-	0-360	199	H
5	6.572	28.45	Pk	35.6	-26	0	38.05	-	-	-	-	0-360	199	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector

Radiated Emissions

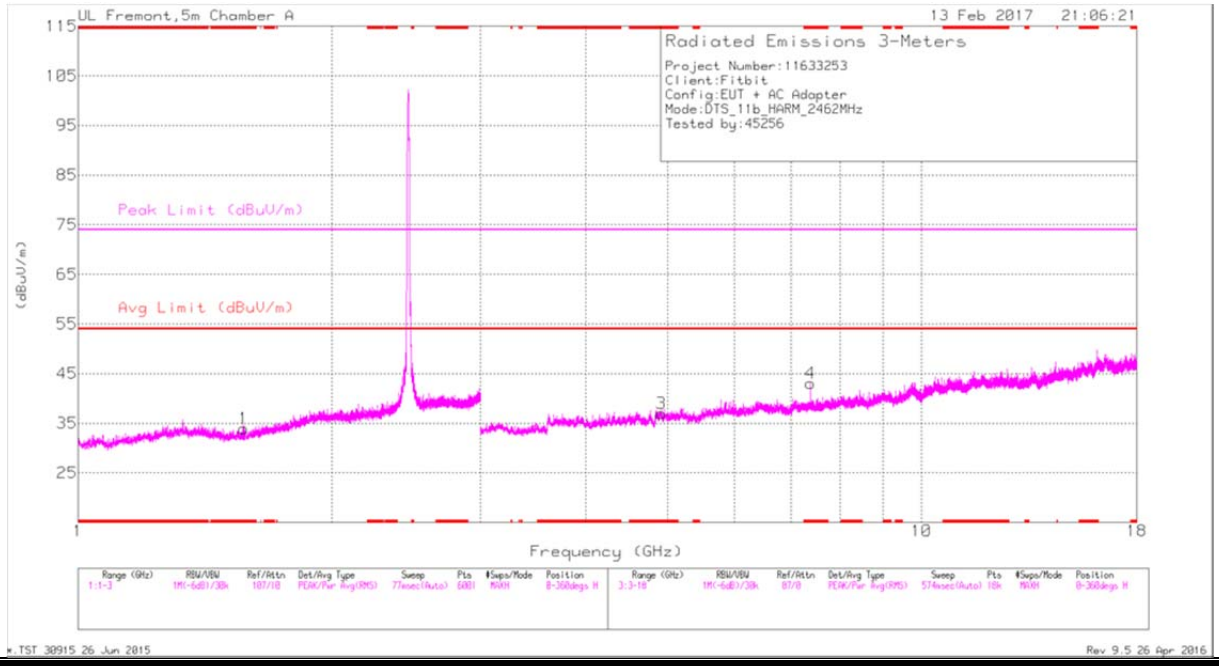
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.46	35.57	PK2	28.6	-23.7	0	40.47	-	-	74	-33.53	98	279	H
* 1.458	21.01	MAv1	28.6	-23.7	0	25.91	54	-28.09	-	-	98	279	H
* 1.599	36.01	PK2	28.2	-23.6	0	40.61	-	-	74	-33.39	25	265	V
* 1.599	21.17	MAv1	28.2	-23.6	0	25.77	54	-28.23	-	-	25	265	V
* 7.313	35.34	PK2	35.5	-25	0	45.84	-	-	74	-28.16	140	230	H
* 7.31	23.01	MAv1	35.5	-25	0	33.51	54	-20.49	-	-	140	230	H
* 7.311	34.04	PK2	35.5	-25	0	44.54	-	-	74	-29.46	325	356	V
* 7.309	22.9	MAv1	35.5	-25	0	33.4	54	-20.6	-	-	325	356	V
5.961	36.52	PK2	35.1	-27.1	0	44.52	-	-	-	-	95	180	H
5.961	25.06	MAv1	35.1	-27.1	0	33.06	-	-	-	-	95	180	H
6.571	23.77	MAv1	35.6	-26	0	33.37	-	-	-	-	264	155	V
6.573	35.16	PK2	35.6	-26	0	44.76	-	-	-	-	264	155	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
-Compliance for emissions in non-restricted bands is shown in conducted out of band testing.

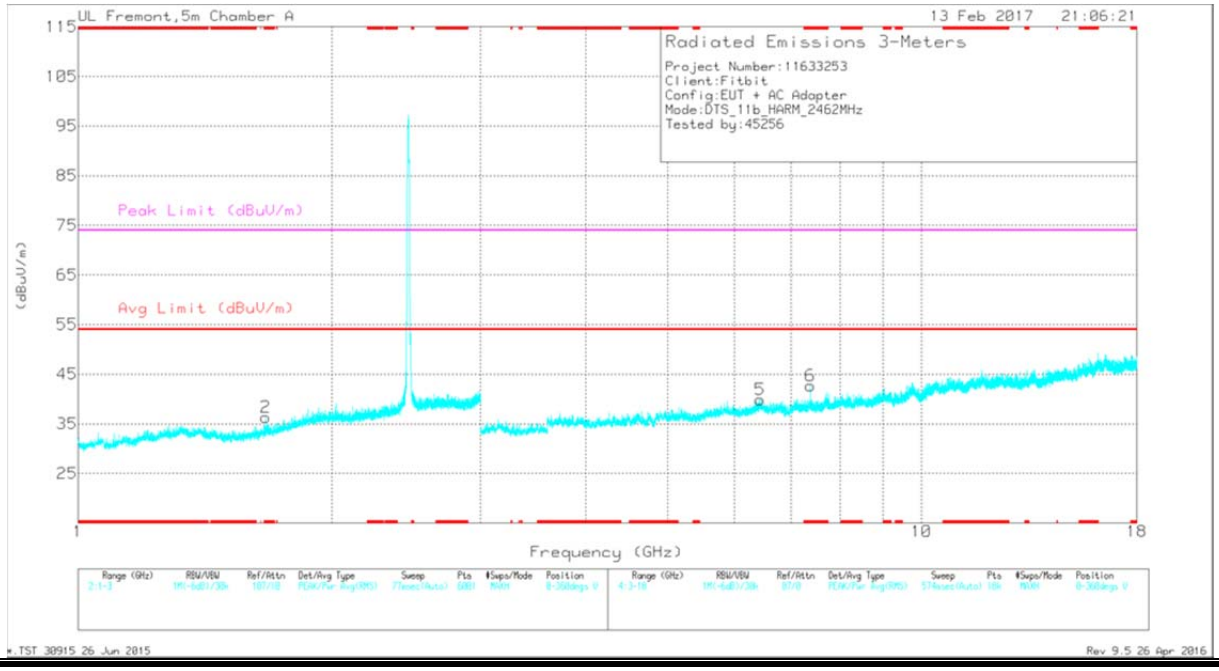
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

HARMONICS AND SPURIOUS EMISSIONS HIGH CHANNEL, CH 11)

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	* 1.571	29.37	Pk	28.2	-23.7	0	33.87	-	-	74	-40.13	0-360	255	H
2	* 1.669	31.09	Pk	28.9	-23.6	0	36.39	-	-	74	-37.61	0-360	101	V
3	* 4.915	30.69	Pk	34	-27.7	0	36.99	-	-	74	-37.01	0-360	101	H
4	* 7.386	31.51	Pk	35.5	-23.9	0	43.11	-	-	74	-30.89	0-360	101	H
6	* 7.387	31.03	Pk	35.5	-23.9	0	42.63	-	-	74	-31.37	0-360	101	V
5	6.436	29.61	Pk	35.5	-25.2	0	39.91	-	-	-	-	0-360	101	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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
* 1.572	35.4	PK2	28.2	-23.7	0	39.9	-	-	74	-34.1	238	245	H
* 1.571	20.79	MAv1	28.2	-23.7	0	25.29	54	-28.71	-	-	238	245	H
* 1.667	35.87	PK2	28.9	-23.7	0	41.07	-	-	74	-32.93	269	343	V
* 1.668	20.52	MAv1	28.9	-23.6	0	25.82	54	-28.18	-	-	269	343	V
* 4.913	36.69	PK2	34	-27.7	0	42.99	-	-	74	-31.01	170	183	H
* 4.914	25.89	MAv1	34	-27.7	0	32.19	54	-21.81	-	-	170	183	H
* 7.387	33.92	PK2	35.5	-23.9	0	45.52	-	-	74	-28.48	202	290	H
* 7.388	22.29	MAv1	35.5	-23.9	0	33.89	54	-20.11	-	-	202	290	H
* 7.386	34.71	PK2	35.5	-23.9	0	46.31	-	-	74	-27.69	129	315	V
* 7.388	22.61	MAv1	35.5	-23.9	0	34.21	54	-19.79	-	-	129	315	V
6.435	23.98	MAv1	35.5	-25.1	0	34.38	-	-	-	-	330	181	V
6.436	34.83	PK2	35.5	-25.2	0	45.13	-	-	-	-	330	181	V

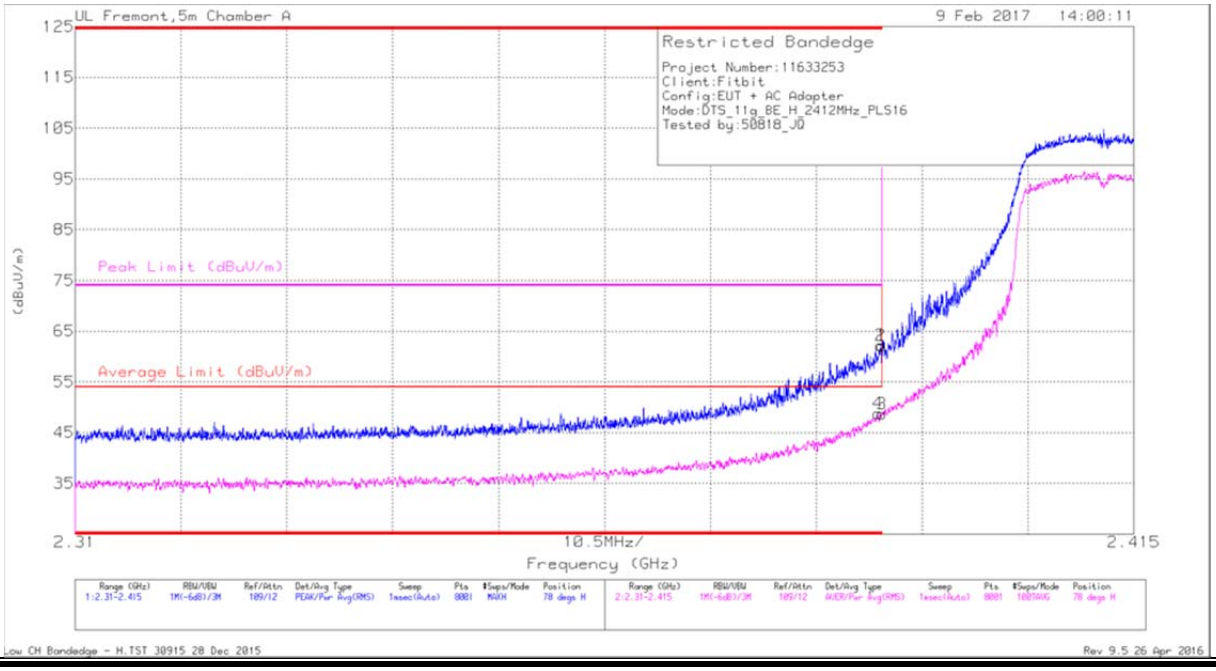
* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
-Compliance for emissions in non-restricted bands is shown in conducted out of band testing.

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

11.2.2. 802.11g MODE IN THE 2.4 GHz BAND

AUTHORIZED BANDEDGE (LOW CHANNEL, CH 1)

LOW CHANNEL HORIZONTAL

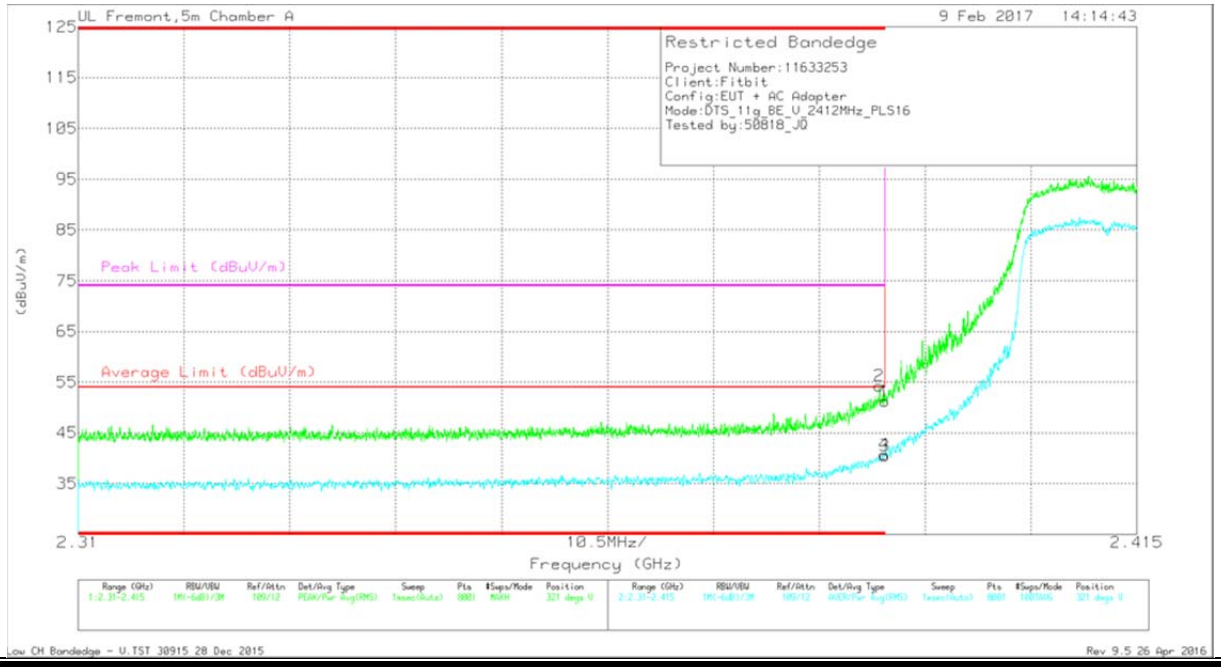


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	53.54	Pk	32.3	-23.7	0	62.14	-	-	74	-11.86	78	329	H
2	* 2.39	53.64	Pk	32.3	-23.7	0	62.24	-	-	74	-11.76	78	329	H
3	* 2.39	40.03	RMS	32.3	-23.7	0	48.63	54	-5.37	-	-	78	329	H
4	* 2.39	40.15	RMS	32.3	-23.7	0	48.75	54	-5.25	-	-	78	329	H

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector
RMS - RMS detection

LOW CHANNEL VERTICAL



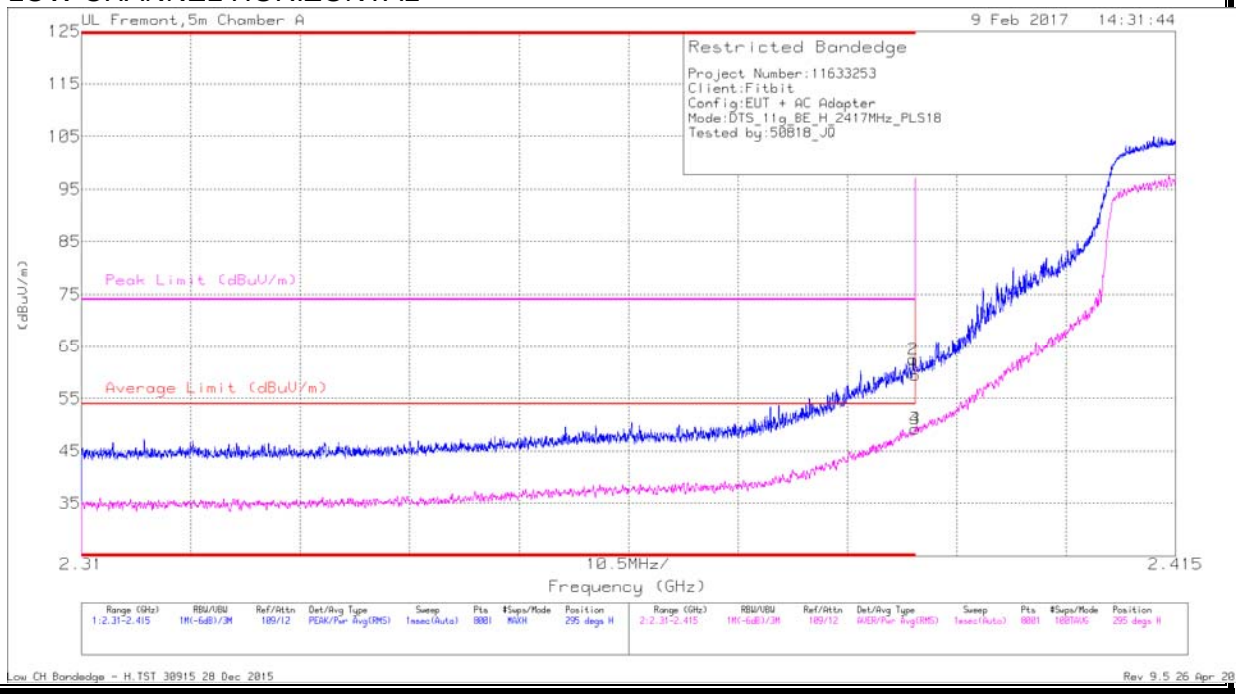
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	45.61	Pk	32.3	-23.7	0	54.21	-	-	74	-19.79	321	168	V
1	* 2.39	42.69	Pk	32.3	-23.7	0	51.29	-	-	74	-22.71	321	168	V
3	* 2.39	31.83	RMS	32.3	-23.7	0	40.43	54	-13.57	-	-	321	168	V
4	* 2.39	32.14	RMS	32.3	-23.7	0	40.74	54	-13.26	-	-	321	168	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (LOW CHANNEL, CH 2)

LOW CHANNEL HORIZONTAL

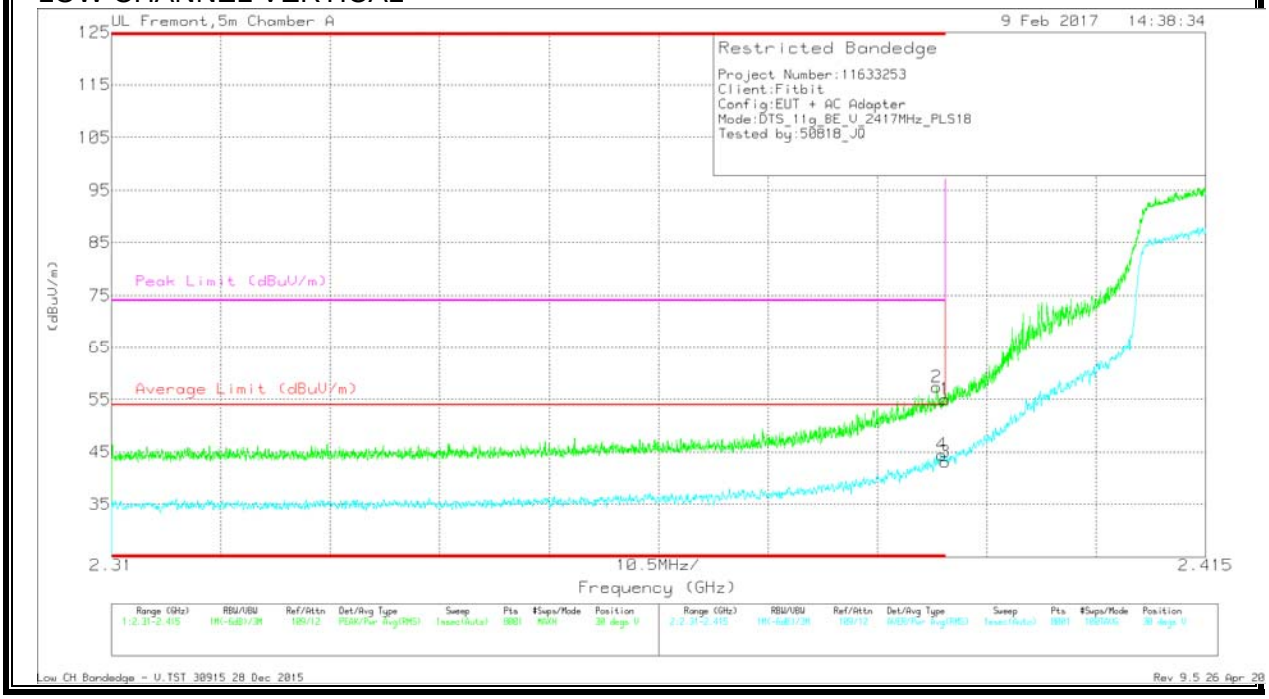


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	50.93	Pk	32.3	-23.7	0	59.53	-	-	74	-14.47	295	256	H
2	* 2.39	53.82	Pk	32.3	-23.7	0	62.42	-	-	74	-11.58	295	256	H
3	* 2.39	40.52	RMS	32.3	-23.7	0	49.12	54	-4.88	-	-	295	256	H
4	* 2.39	40.54	RMS	32.3	-23.7	0	49.14	54	-4.86	-	-	295	256	H

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector
RMS - RMS detection

LOW CHANNEL VERTICAL



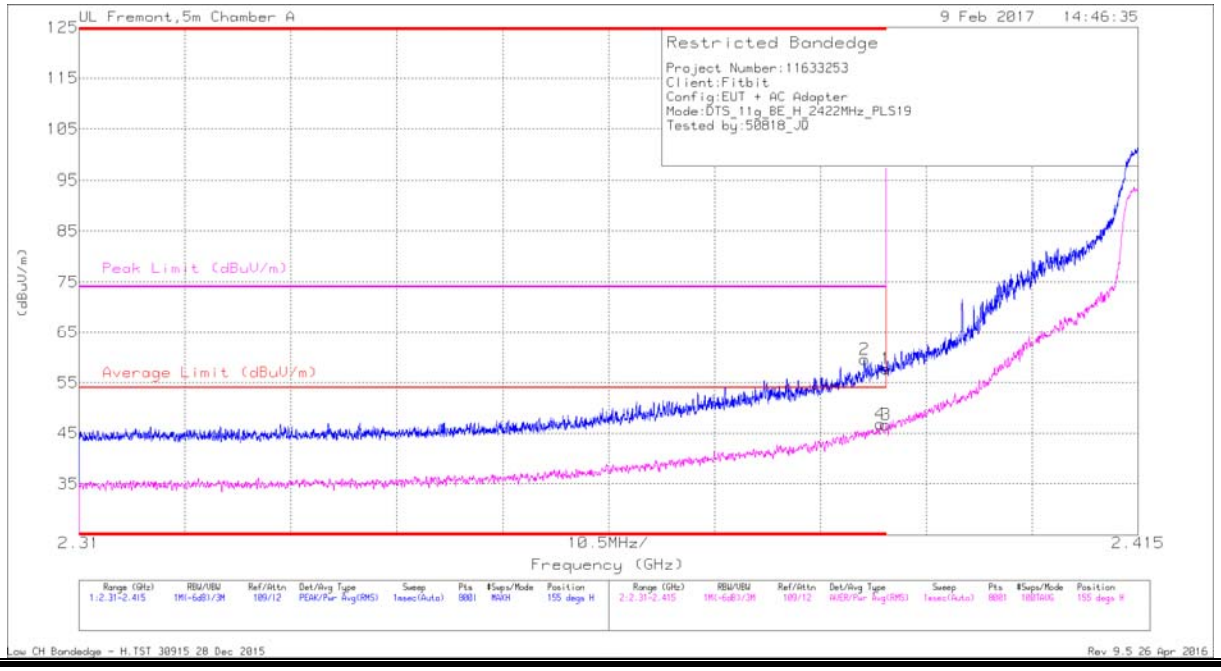
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	48.81	Pk	32.3	-23.7	0	57.41	-	-	74	-16.59	30	334	V
1	* 2.39	46.44	Pk	32.3	-23.7	0	55.04	-	-	74	-18.96	30	334	V
3	* 2.39	34.52	RMS	32.3	-23.7	0	43.12	54	-10.88	-	-	30	334	V
4	* 2.39	35.85	RMS	32.3	-23.7	0	44.45	54	-9.55	-	-	30	334	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (LOW CHANNEL, CH 3)

LOW CHANNEL HORIZONTAL

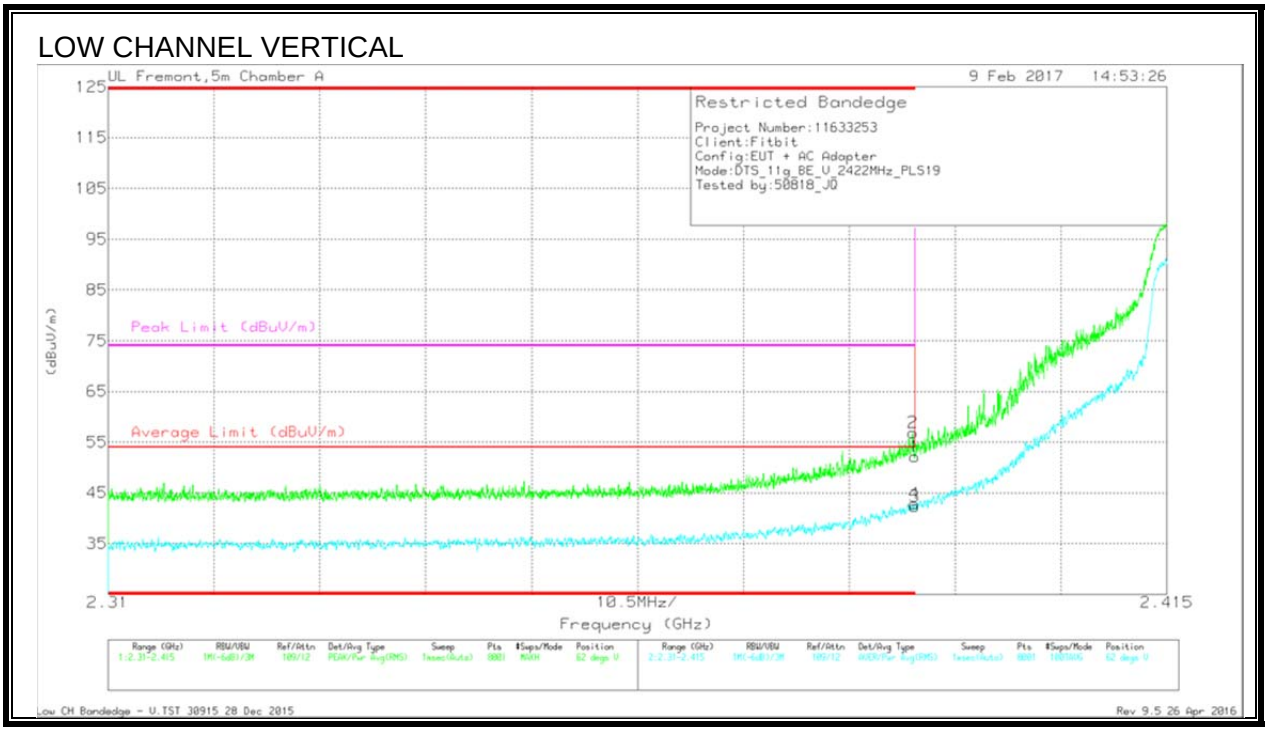


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	* 2.388	51.01	Pk	32.3	-23.7	0	59.61	-	-	74	-14.39	155	335	H
4	* 2.389	38.26	RMS	32.3	-23.7	0	46.86	54	-7.14	-	-	155	335	H
1	* 2.39	49.09	Pk	32.3	-23.7	0	57.69	-	-	74	-16.31	155	335	H
3	* 2.39	38.05	RMS	32.3	-23.7	0	46.65	54	-7.35	-	-	155	335	H

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector
RMS - RMS detection

LOW CHANNEL VERTICAL



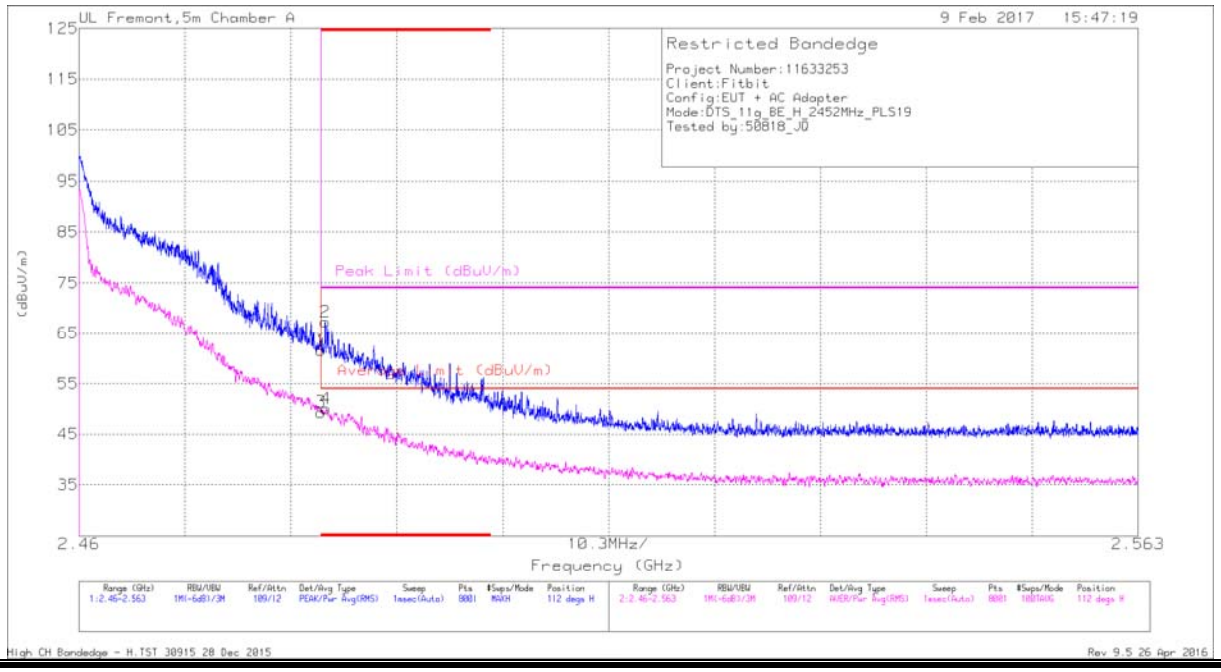
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	43.61	Pk	32.3	-23.7	0	52.21	-	-	74	-21.79	62	374	V
2	* 2.39	48.27	Pk	32.3	-23.7	0	56.87	-	-	74	-17.13	62	374	V
3	* 2.39	33.77	RMS	32.3	-23.7	0	42.37	54	-11.63	-	-	62	374	V
4	* 2.39	34.28	RMS	32.3	-23.7	0	42.88	54	-11.12	-	-	62	374	V

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector
RMS - RMS detection

AUTHORIZED BANDEDGE (LOW CHANNEL, CH 9)

LOW CHANNEL HORIZONTAL



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T346 (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	52.75	Pk	32.4	-23.6	0	61.55	-	-	74	-12.45	112	312	H
2	* 2.484	58.51	Pk	32.4	-23.6	0	67.31	-	-	74	-6.69	112	312	H
3	* 2.484	40.56	RMS	32.4	-23.6	0	49.36	54	-4.64	-	-	112	312	H
4	* 2.484	41.26	RMS	32.4	-23.6	0	50.06	54	-3.94	-	-	112	312	H

* - indicates frequency in CFR15.205/RSS-Gen 8.10 -Restricted Band
Pk - Peak detector
RMS - RMS detection