



**FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-247 ISSUE 1**

CERTIFICATION TEST REPORT

FOR

802.11b/g/n/a/ac WLAN + Bluetooth PCI-E NGFF 2230 Card

MODEL NUMBER: BCM94350ZAE

FCC ID: QDS-BRCM1087

IC ID: 4324A-BRCM1087

REPORT NUMBER: 15U20280-E6 Revision A

ISSUE DATE: JULY 9, 2015

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	6/26/15	Initial Issue	H. Mustapha
A	7/9/15	Updated deviation statement in section 2 to indicate "ANSI 63.10-2013" Updated "DATE TESTED" in section 1 Updated results table and plots in section 8.2.5 Updated table in section 5.2	H. Mustapha

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: BROADCOM CORPORATION
190 MATHILDA PLACE
SUNNYVALE, CA 94086, U.S.A.

EUT DESCRIPTION: 802.11b/g/n/a/ac WLAN + Bluetooth PCI-E NGFF 2230 Card

MODEL: BCM94350ZAE

SERIAL NUMBER: P215 SN: 398 (Radiated Sample) and SN: 397 (Conducted Sample)

DATE TESTED: MAY 22 - JULY 9, 2015

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-247 Issue 1	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
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Tested By:

Huda Mustapha



HUDA MUSTAPHA
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UL Verification Services Inc.

Danny Vu
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PROGRAM MANAGER
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, RSS-GEN Issue 4, and RSS-247 Issue 1.

Deviation from the above cited ANSI C63.10-2013 standard: the EUT was test at 0.8 m height for all radiated testing.

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	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.52 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 802.11b/g/n/a/ac WLAN + Bluetooth PCI-E NGFF 2230 Card.

The radio module is manufactured by Broadcom.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	Basic GFSK	9.67	9.27
2402 - 2480	Enhanced 8PSK	8.38	6.89

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The EUT utilizes an 802.11a/b/g/n/ac WLAN/BT antenna with a maximum gain of 3.60 dBi for BT.

5.4. SOFTWARE AND DRIVER

The EUT driver software installed during testing was Broadcom, Ver. 5.6.0.9020.

The test utility software used during testing was Broadcom Bluetooth, Ver. 1.9.0.8.

5.5. WORST-CASE CONFIGURATION AND MODE

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

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

Chain J0 (WiFi 1) was used for testing BT.

Based on client's input, there is colocation between BT and 5GHz radios.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	G560	CB06123814	DoC
AC Adapter	Lenovo	PA1650-56LC	36001651	DoC
Catalyst PCIe. Board	Enterprises Inc.	NA	NA	N/A
Laptop	Dell	Latitude E6400	6MYFMJ1	DoC
AC Adapter	Dell	PA2 /CF745	CN-OCF745-48661	DoC
Catalyst PCIe. Board	Enterprises Inc.	NA	NA	N/A

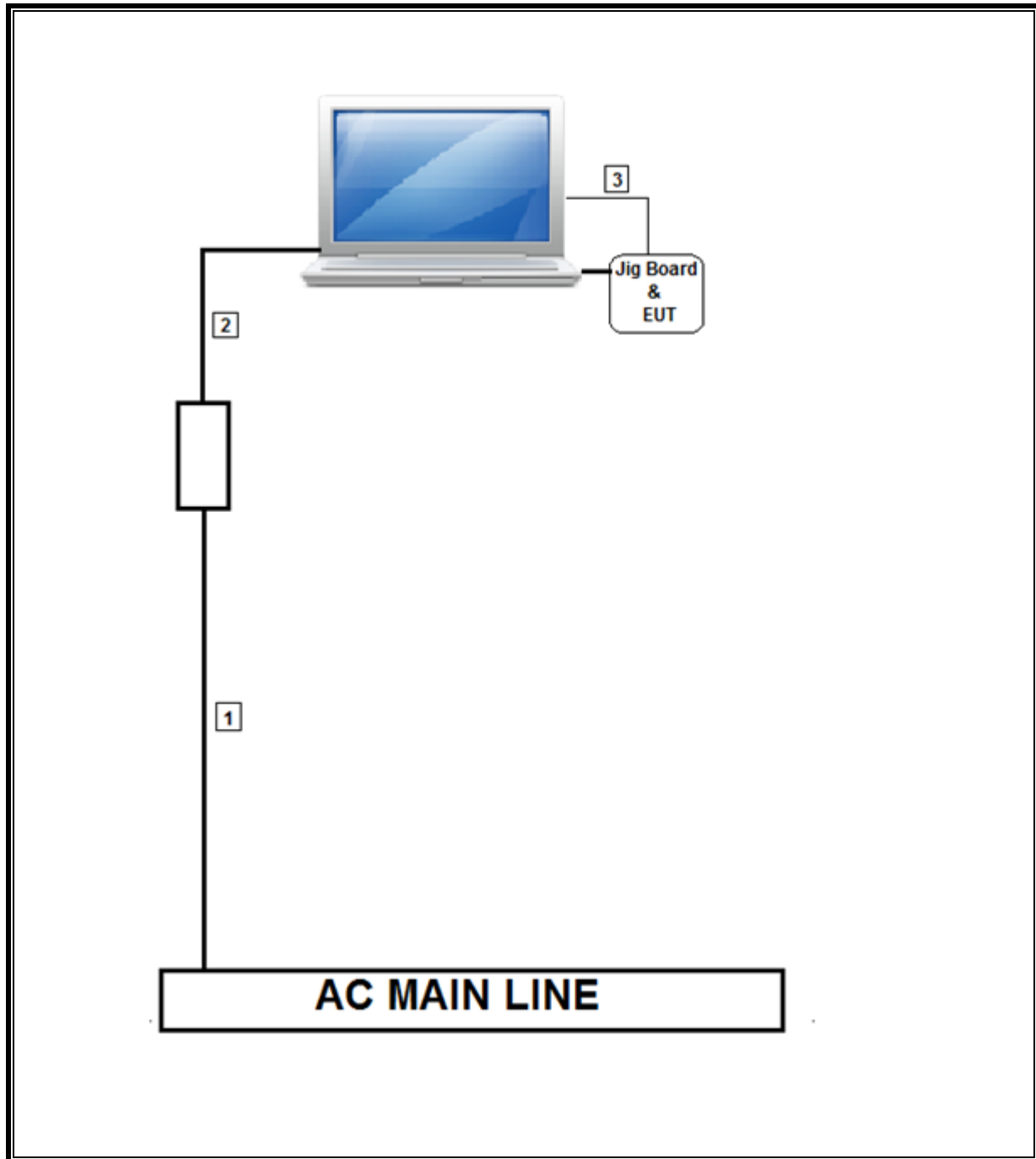
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	US 115V	Un-Shielded	1.0m	NA
2	DC	1	DC	Un-Shielded	0.8m	NA
3	USB	1	USB	Un-Shielded	0.8m	NA

TEST SETUP

The EUT was tested as an external module that installed on an USB to test JIG board connected to a host Laptop PC via USB cable. Test software exercised the radio card.

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	Asset	Cal Date	Cal Due
Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014		
Line Conducted Software	UL	UL EMC	Ver 9.5, May 17, 2012		
Bilog Antenna 30-1000MHz	Sunol	JB1	136	09/10/14	09/10/15
Horn Antenna 1-18GHz	ETS	3117	345	03/03/15	03/03/16
Preamp 1-26.5GHz	Agilent	8449B	404	04/13/15	04/03/16
Preamp 10kHz-1000MHz	Sonoma	310	300	11/01/14	11/01/15
Preamp 1-18GHz	Miteq	AMF-4D-01000800-30-29P	782	11/18/14	11/18/15
Preamp 1-18GHz	Miteq	AFS42-00101800-25-2-42	492	08/09/14	08/09/15
Preamp 1-26.5GHz	Agilent	8449B	404	04/06/15	04/06/16
Spectrum Analyzer 3kHz - 44GHz	Agilent	N9030A	908	09/05/14	09/05/15
Spectrum Analyzer 9kHz - 40GHz	HP	8564E	106	08/06/14	08/06/15
Coaxial Switchbox	Agilent	SP6T	927	09/15/14	09/15/15
3GHz HPF	Micro-Tronics	HPM17543	486	11/18/14	11/18/15
EMI Test Receiver	Rohde & Schwarz	ECSI 7	284	09/16/14	09/16/15
Spectrum Analyzer 3Hz to 44Ghz	Agilent	E4440A	123	10/18/14	10/18/15
Power Meter	Agilent	N1911A	377	06/30/14	06/30/15
Power Sensor	Agilent	E9327A	117	03/09/15	03/09/16
LISN for Conducted Emissions	FCC	50/250-25-2	24	01/16/15	01/16/16

7. MEASUREMENT METHODS

For FCC testing:

AC Power-line conducted emissions: ANSI C63.10-2009, Section 6.2.

Radiated emissions: ANSI C63.10-2009, Sections 6.5 and 6.6.

Conducted TX spurious emissions: ANSI C63.10-2009, Section 5.5, 5.6 & 7.7.10.

Occupied bandwidth (20 dB): ANSI C63.10-2009, Section 6.9.1.

Band-edge measurements for RF conducted emissions: ANSI C63.10-2009, Section 7.7.9

Carrier frequency separation: ANSI C63.10-2009, Section 7.7.2

Number of hopping frequencies: ANSI C63.10-2009, Section 7.7.3.

Average time of occupancy (dwell time): ANSI C63.10-2009, Section 7.7.4.

Peak output power: ANSI C63.10-2009, Section 6.10.1.

On time and duty cycle: KDB 558074, Section 6.0.

For IC testing:

AC Power-line conducted emissions: ANSI C63.10-2013, Section 6.2.

Radiated emissions: ANSI C63.10-2013, Sections 6.5 and 6.6.

Conducted TX spurious emissions: ANSI C63.10-2013, Sections 5.5, 5.6 & 7.8.8.

Conducted RX spurious emissions: ANSI C63.4-2014, Sections 12.2

Occupied bandwidth (20 dB): ANSI C63.10-2013, Sections 6.9.2.

Occupied bandwidth (99% dB): ANSI C63.10-2013, Sections 6.9.3.

Band-edge measurements for RF conducted emissions: ANSI C63.10-2013, Sections 6.10.

Carrier frequency separation: ANSI C63.10-2013, Sections 7.8.2.

Number of hopping frequencies: ANSI C63.10-2013, Sections 7.8.3.

Average time of occupancy (dwell time): ANSI C63.10-2013, Sections 7.8.4.

Peak output power: ANSI C63.10-2013, Sections 7.8.5.

On time and duty cycle: ANSI C63.10-2013, Section 11.6.

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

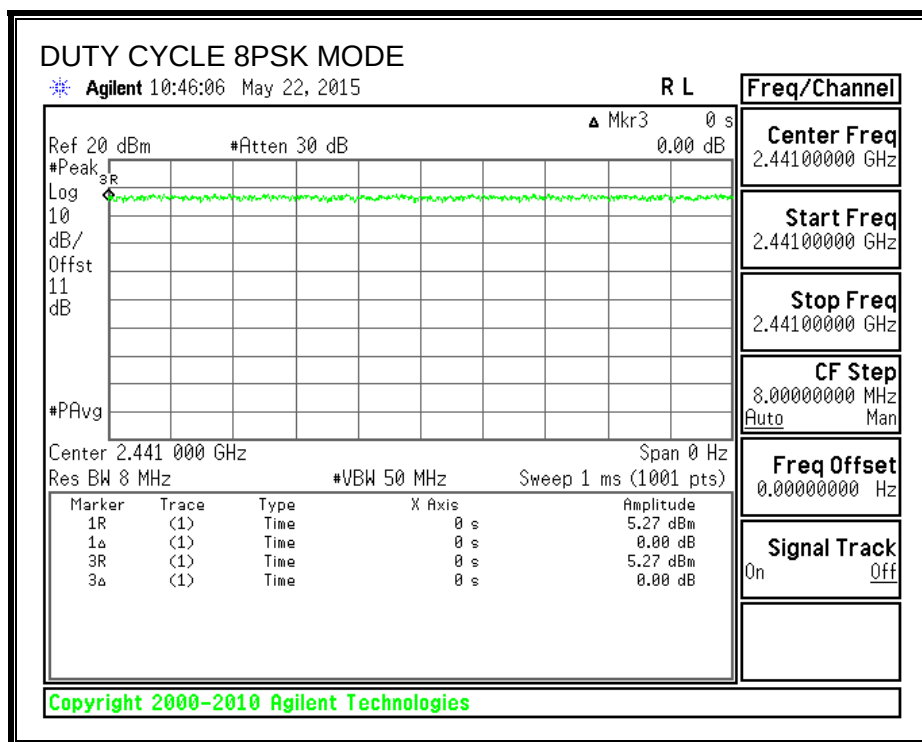
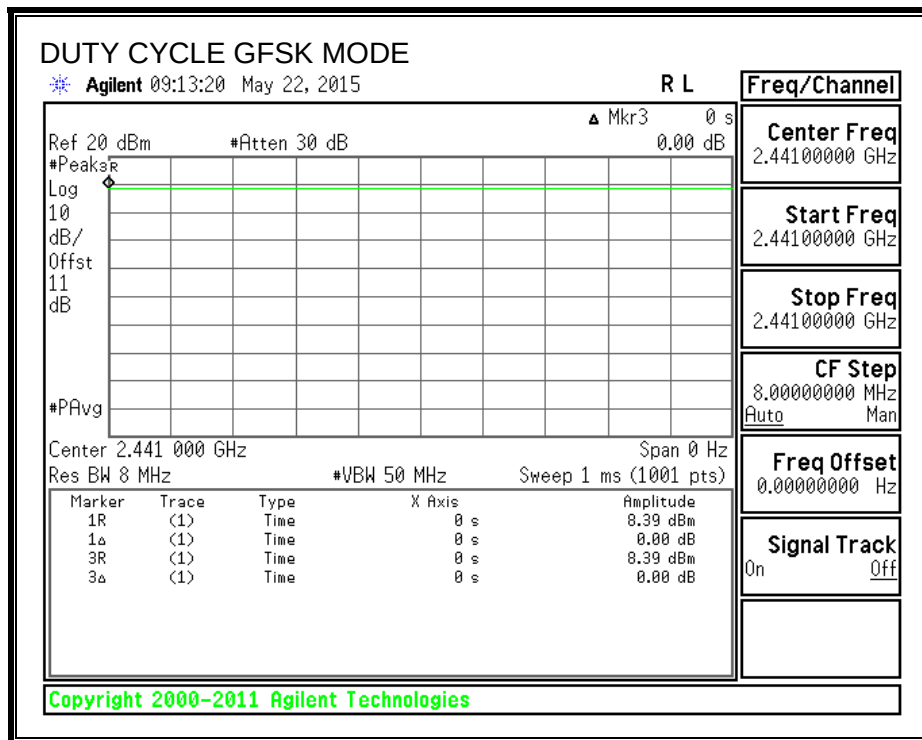
None; for reporting purposes only.

RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4 GHz band (Hopping OFF)						
Bluetooth GFSK	1.000	1.000	1.000	100.00%	0.00	0.010
Bluetooth 8PSK	1.000	1.000	1.000	100.00%	0.00	0.010

DUTY CYCLE PLOTS

HOPPING OFF



8.2. BASIC DATA RATE GFSK MODULATION

8.2.1. 20 dB AND 99% BANDWIDTH -

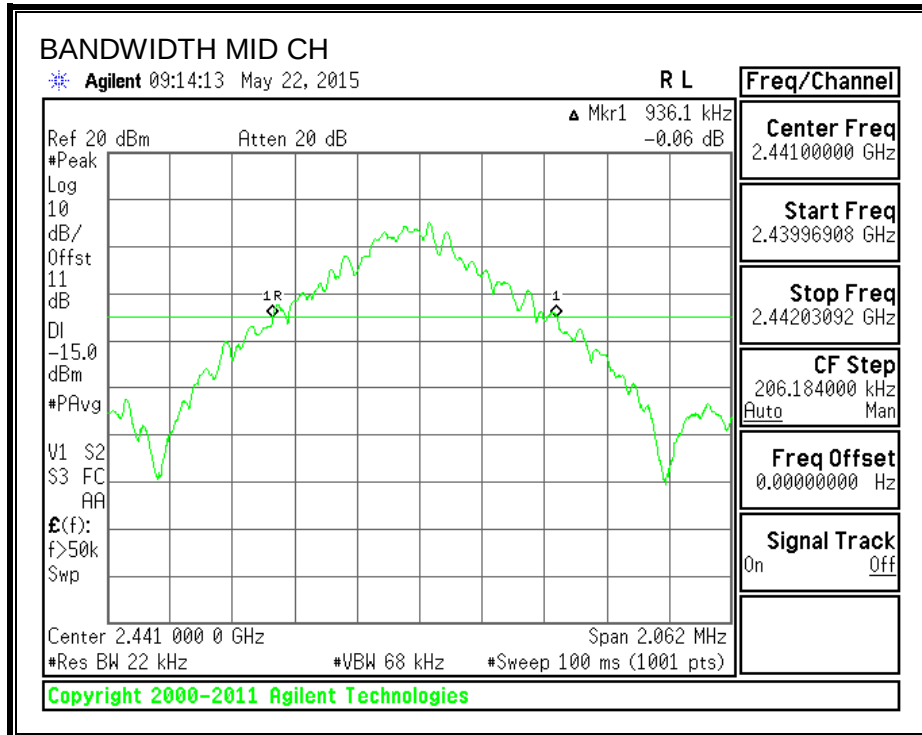
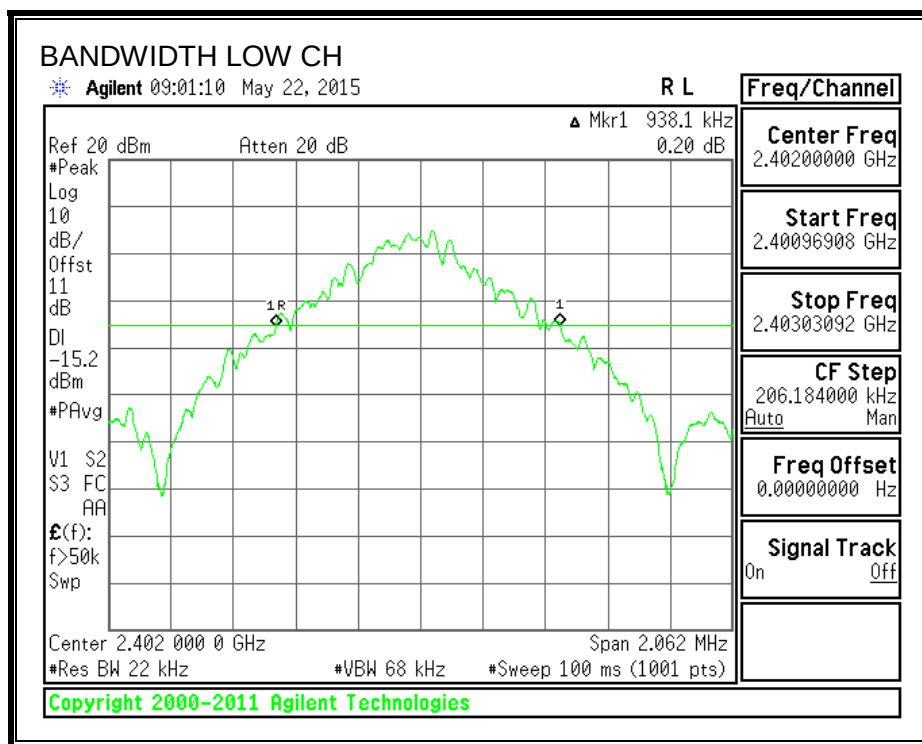
LIMIT

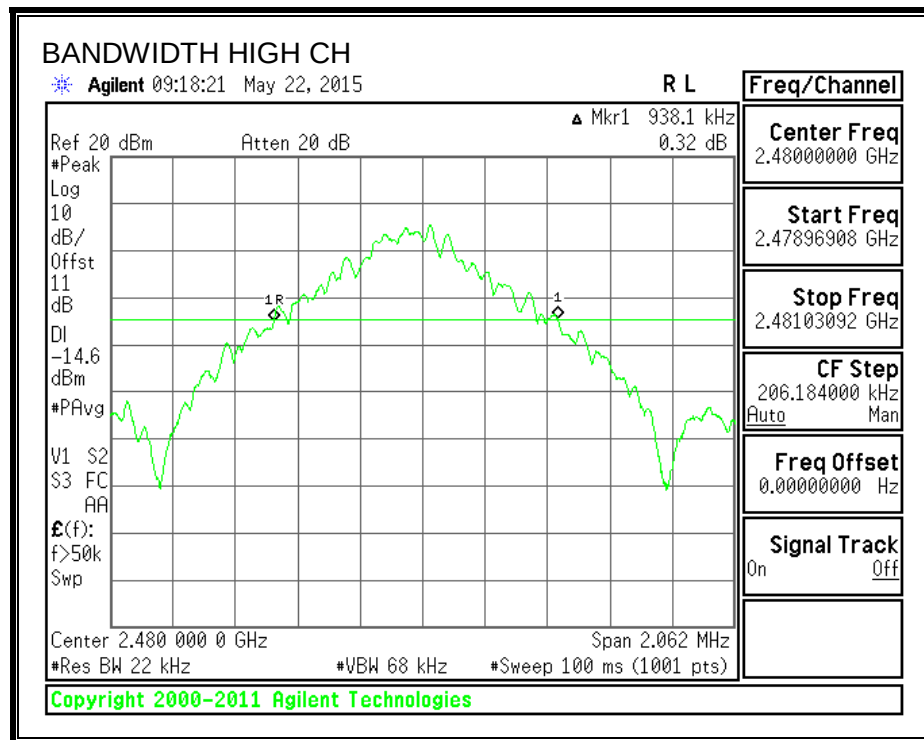
None; for reporting purposes only.

RESULTS

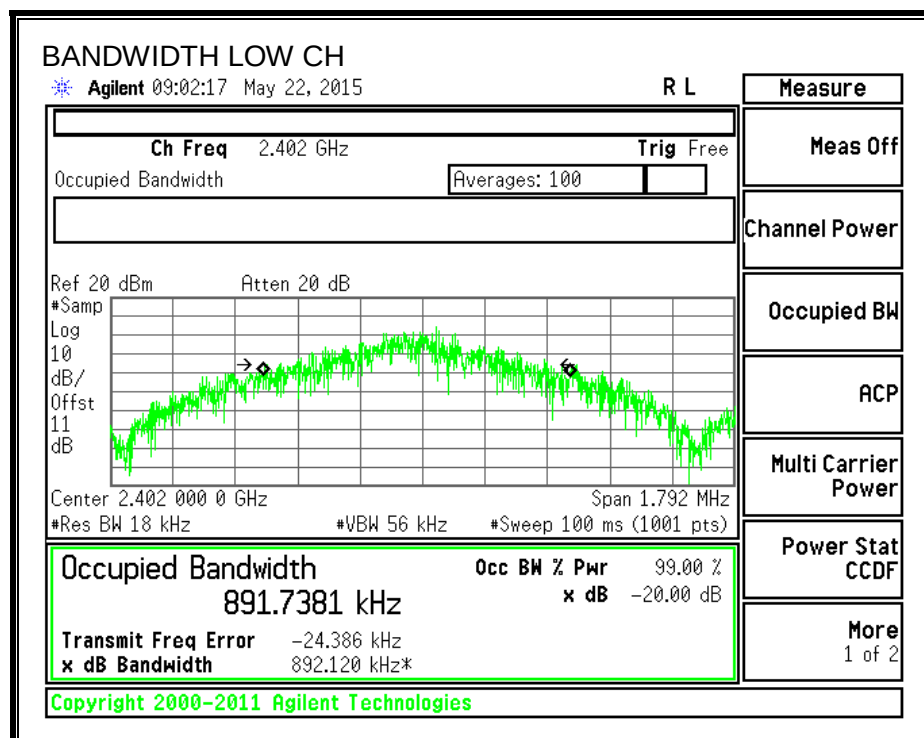
Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	99% Bandwidth (kHz)
Low	2402	938.1	891.7381
Middle	2441	936.1	892.1232
High	2480	938.1	894.8214

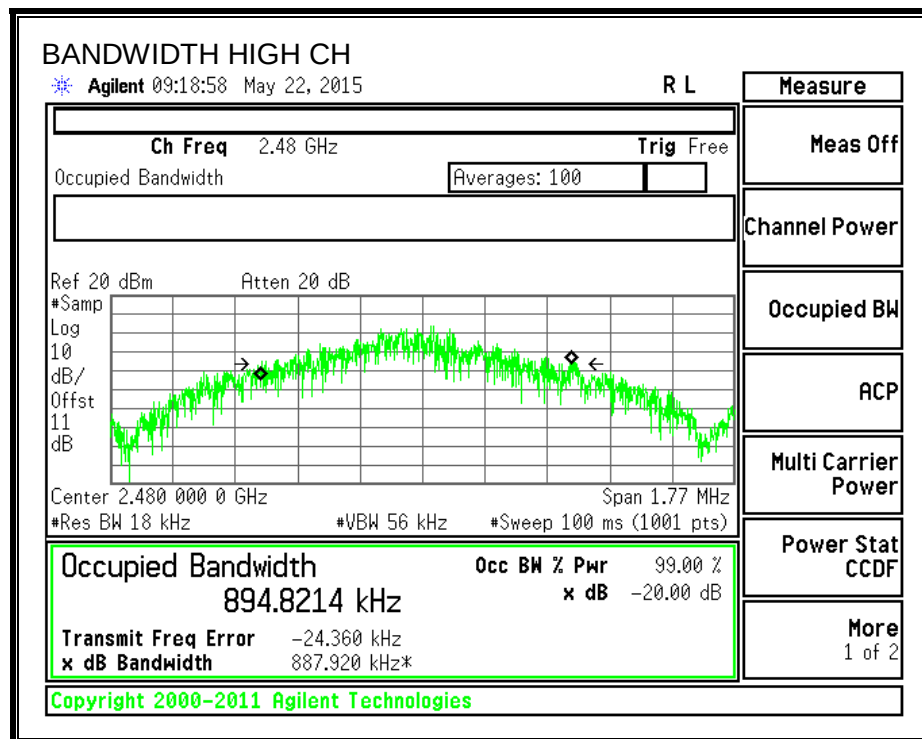
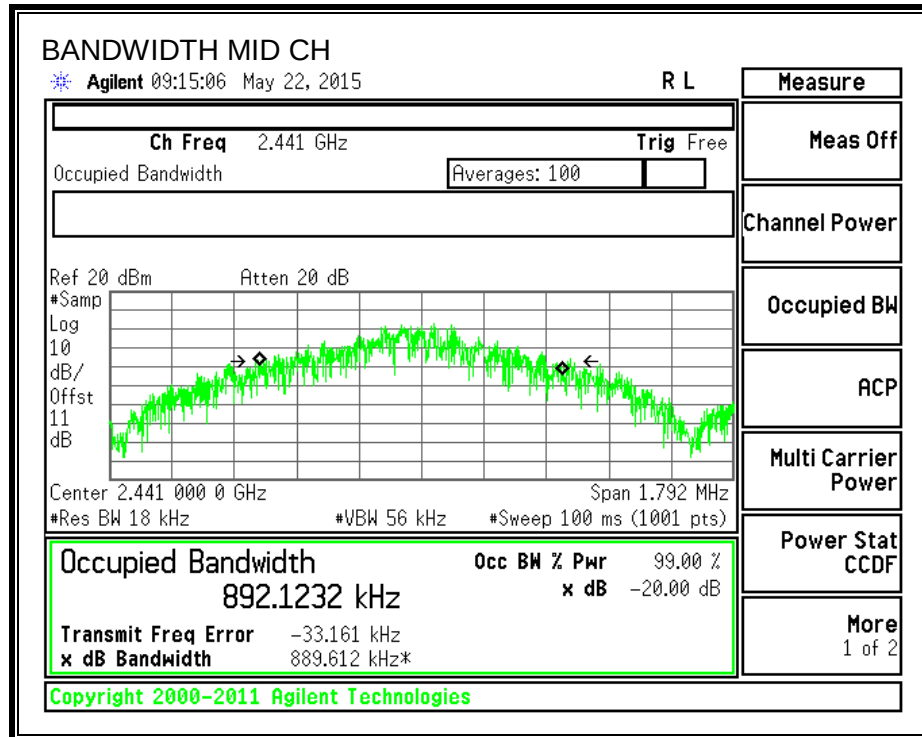
20 dB BANDWIDTH





99% BANDWIDTH





8.2.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

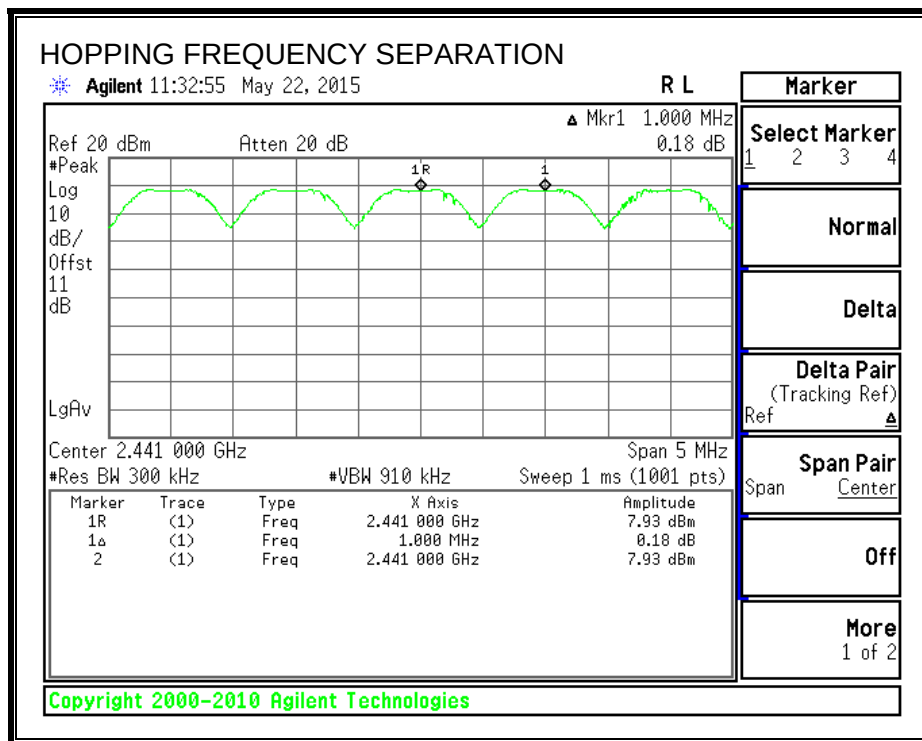
IC RSS-247 Clause 5.1 (2)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

RESULTS

HOPPING FREQUENCY SEPARATION



8.2.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-247 Clause 5.1(4)

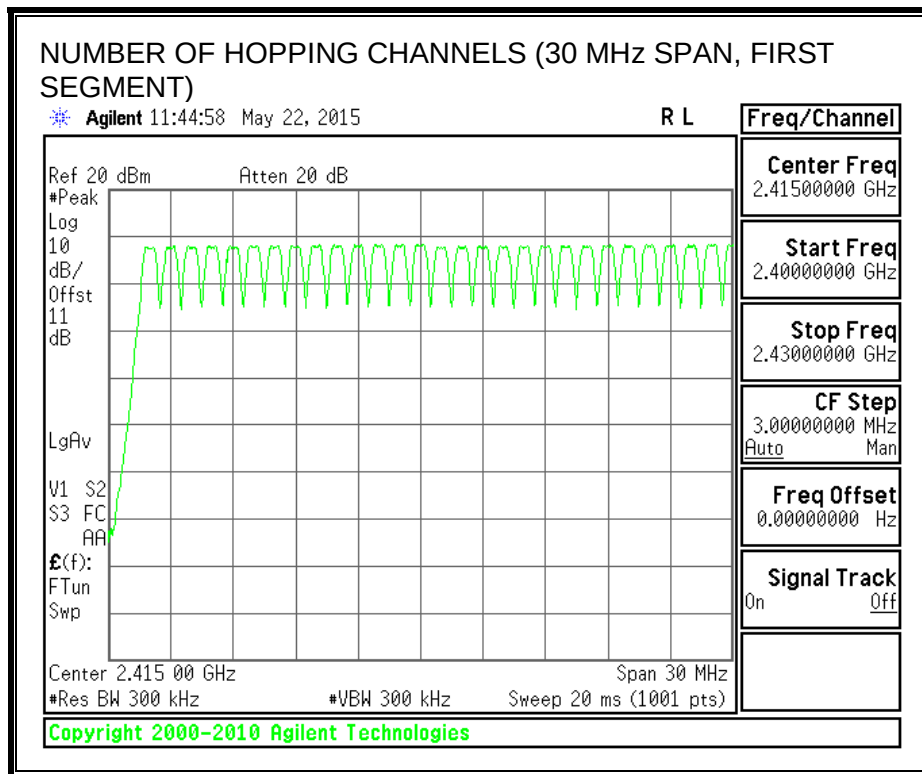
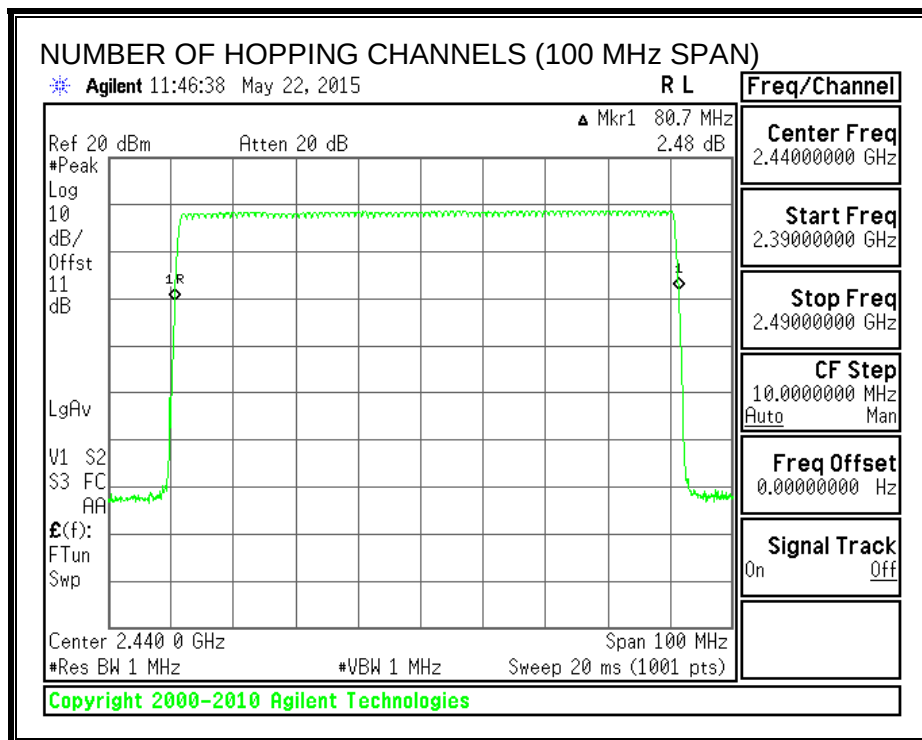
Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

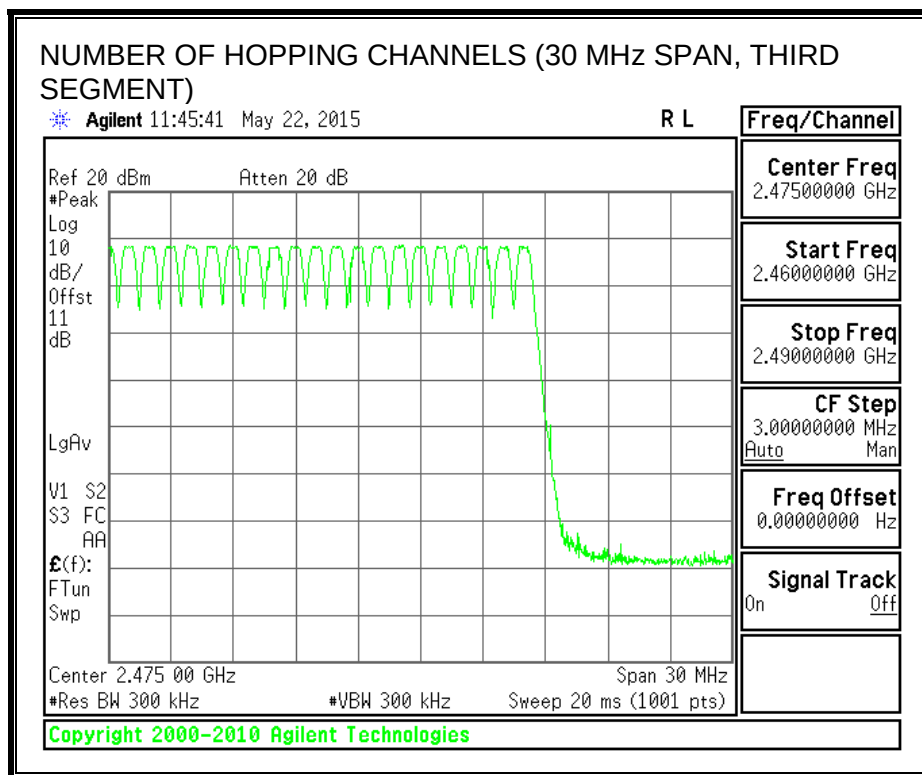
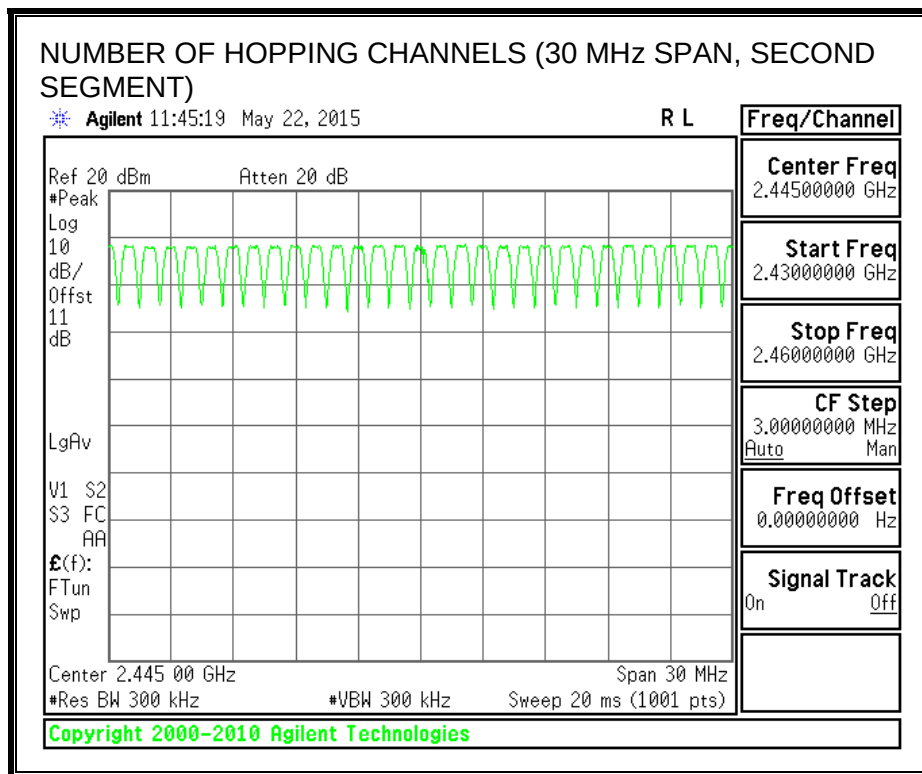
RESULTS

Normal Mode: 79 Channels were observed.

AFH Mode: 20 Channels were declared by the client.

NUMBER OF HOPPING CHANNELS





8.2.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

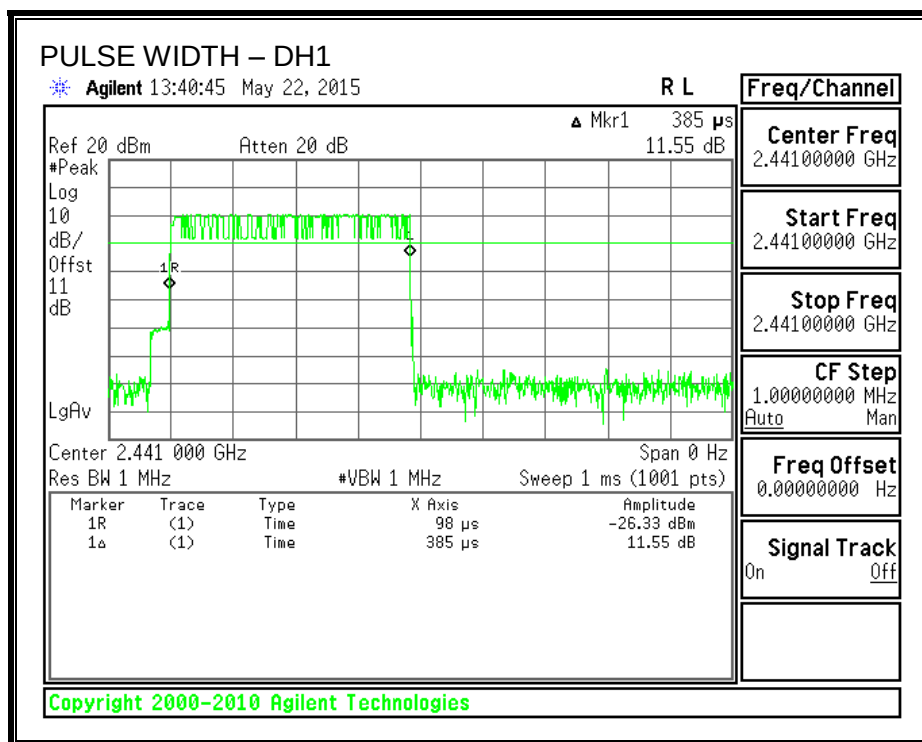
IC RSS-247 Clause 5.1(4)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

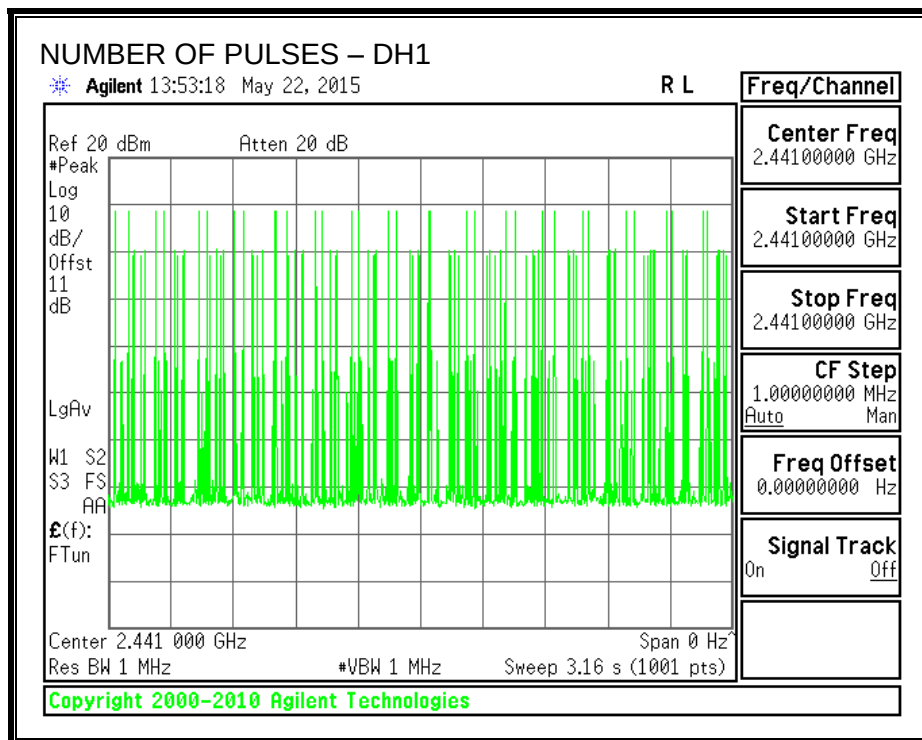
RESULTS

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	0.3850	32.00	0.123	0.4	-0.2768
DH3	1.6470	16.00	0.264	0.4	-0.1365
DH5	2.9000	13.00	0.377	0.4	-0.0230
DH Packet	Pulse Width (msec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK AFH Mode					
DH1	0.3850	8.00	0.031	0.4	-0.3692
DH3	1.6470	4.00	0.066	0.4	-0.3341
DH5	2.9000	3.25	0.094	0.4	-0.3058

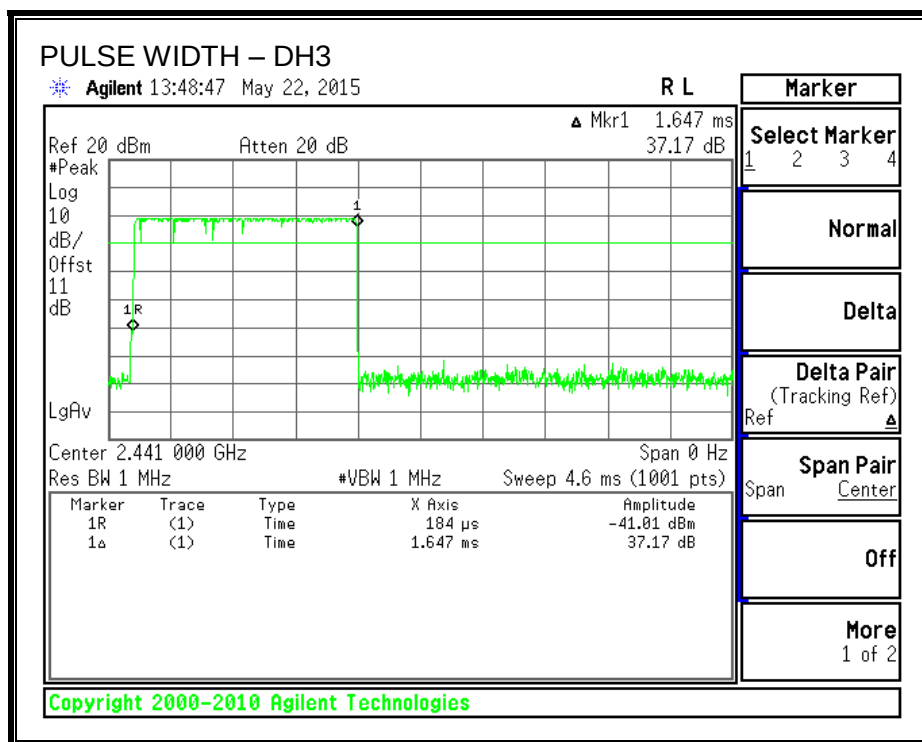
PULSE WIDTH - DH1



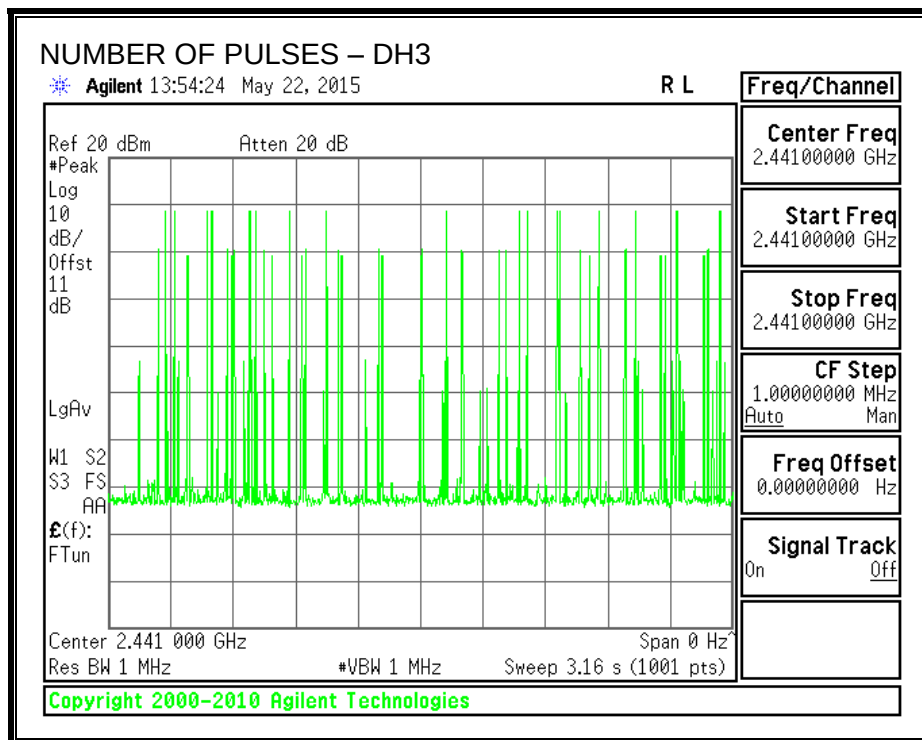
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



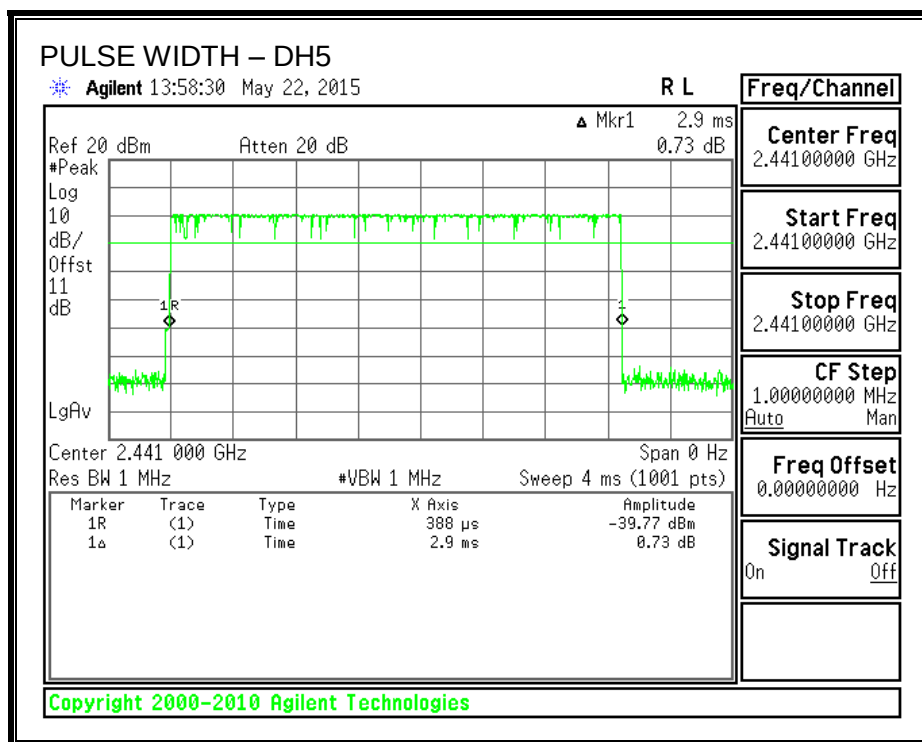
PULSE WIDTH – DH3



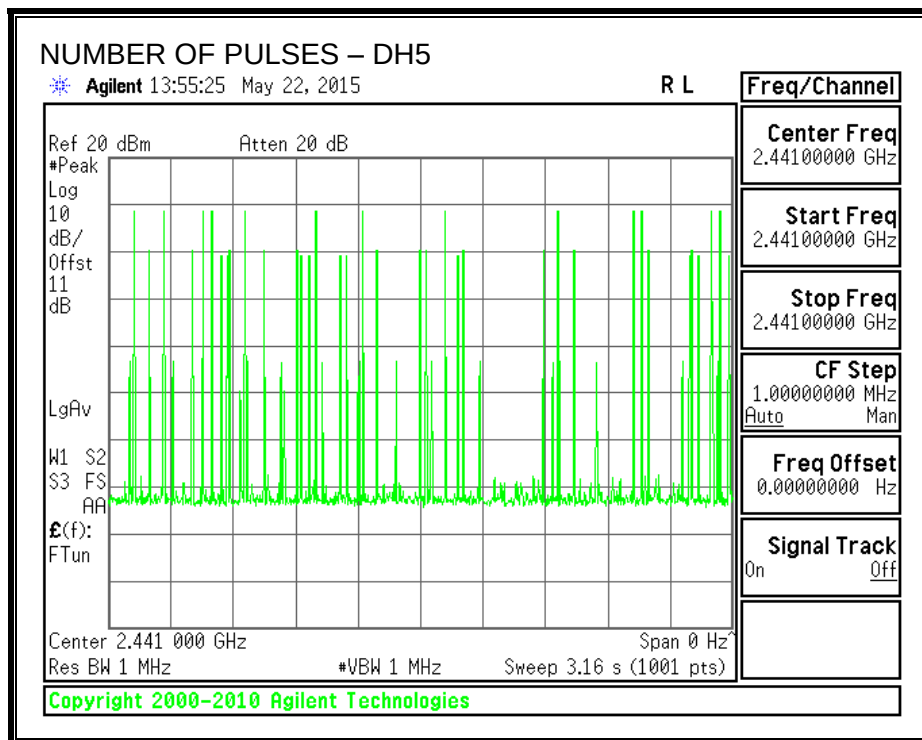
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5



8.2.5. PEAK OUTPUT POWER

LIMIT

§15.247 (b) (1)

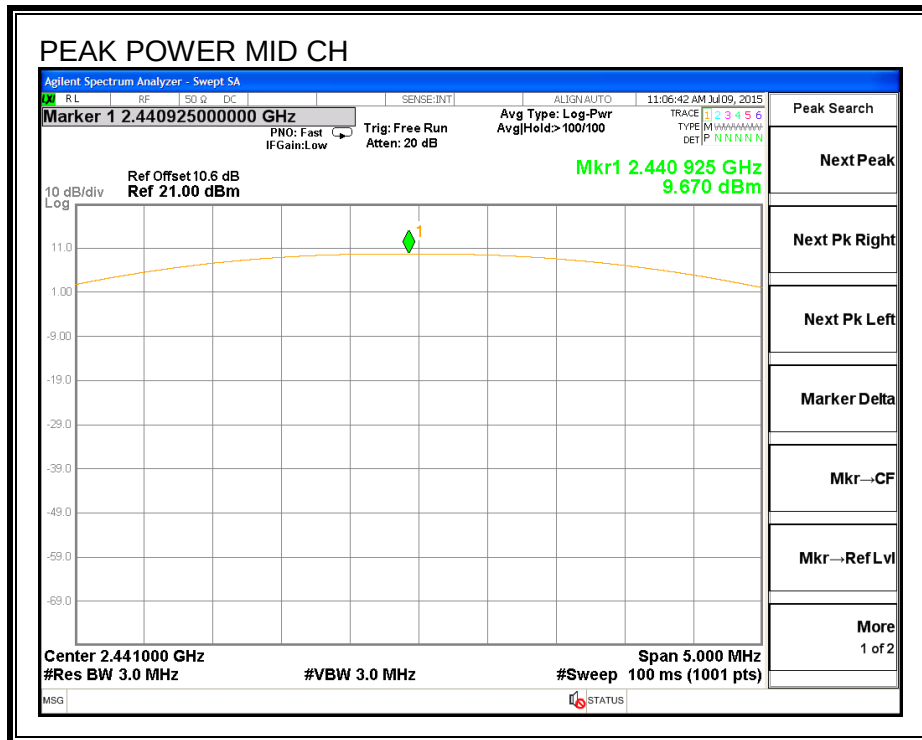
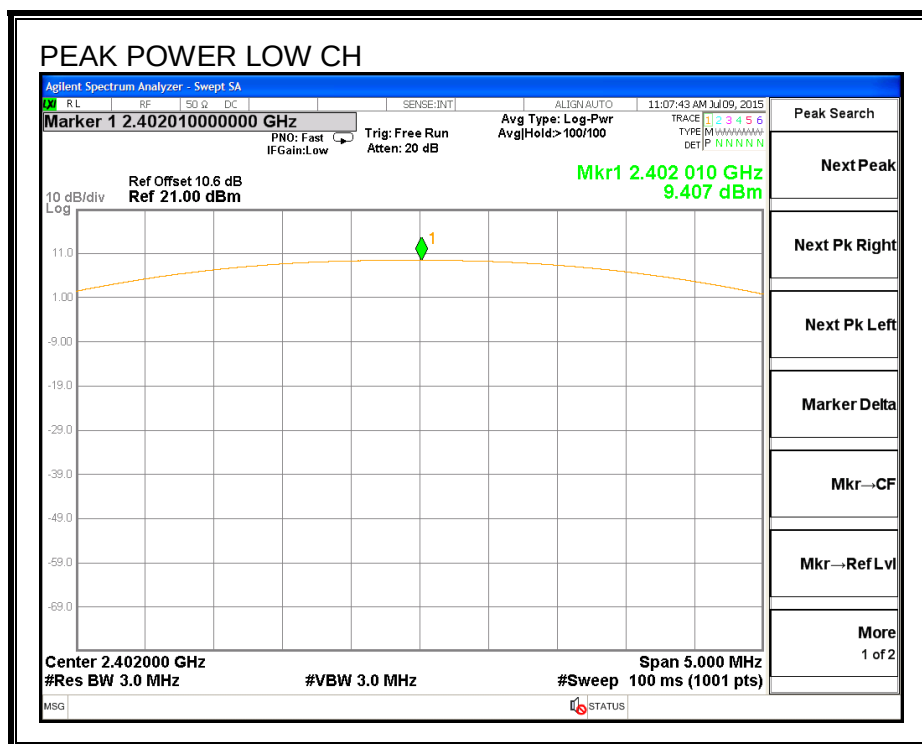
RSS-247 Clause 5.4(2)

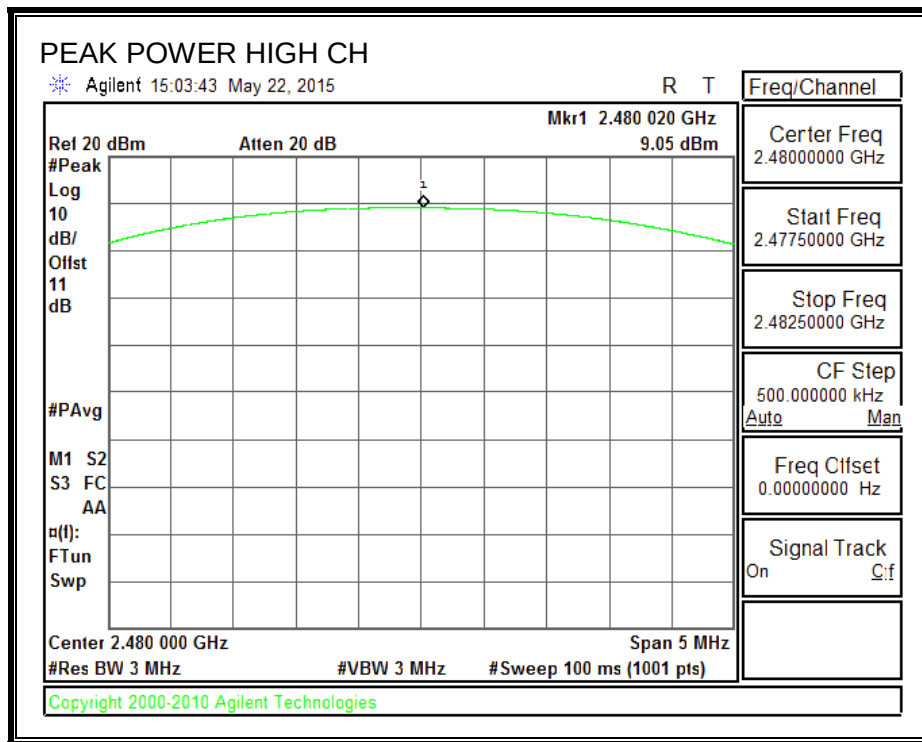
The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm.

RESULTS

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	9.407	30	-20.59
Middle	2441	9.670	30	-20.33
High	2480	9.050	30	-20.95

OUTPUT POWER





8.2.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	8.73
Middle	2441	8.06
High	2480	7.34

8.2.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

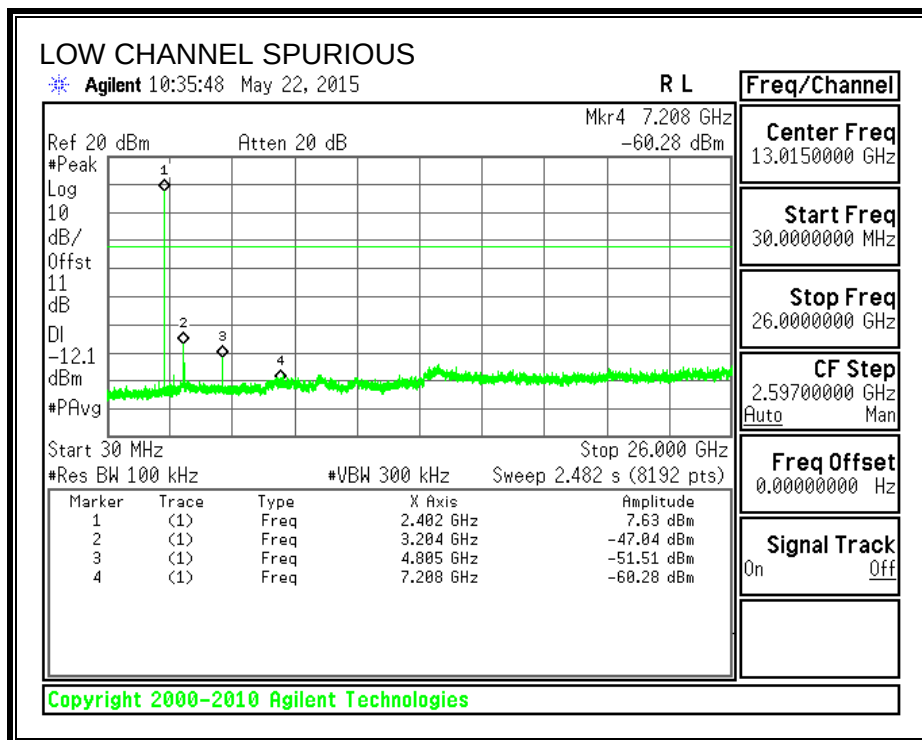
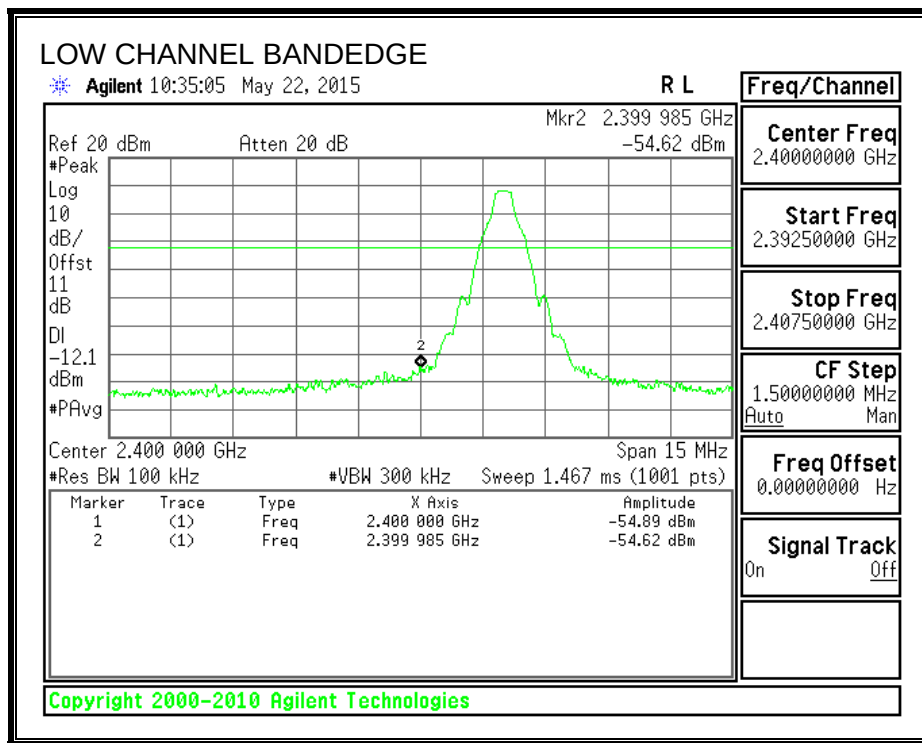
FCC §15.247 (d)

IC RSS-247 Clause 5.5

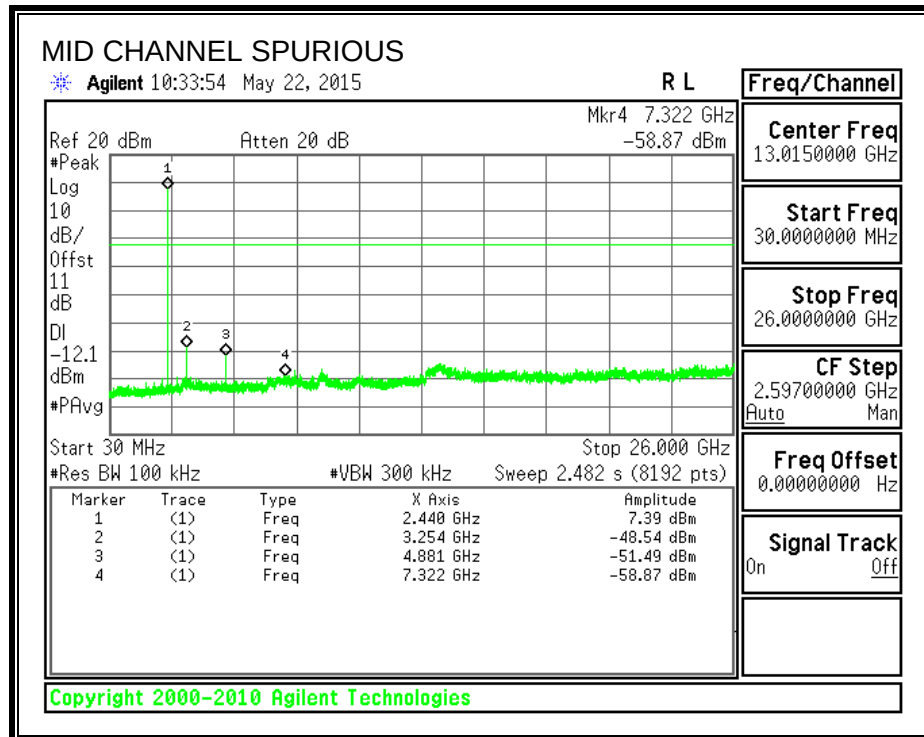
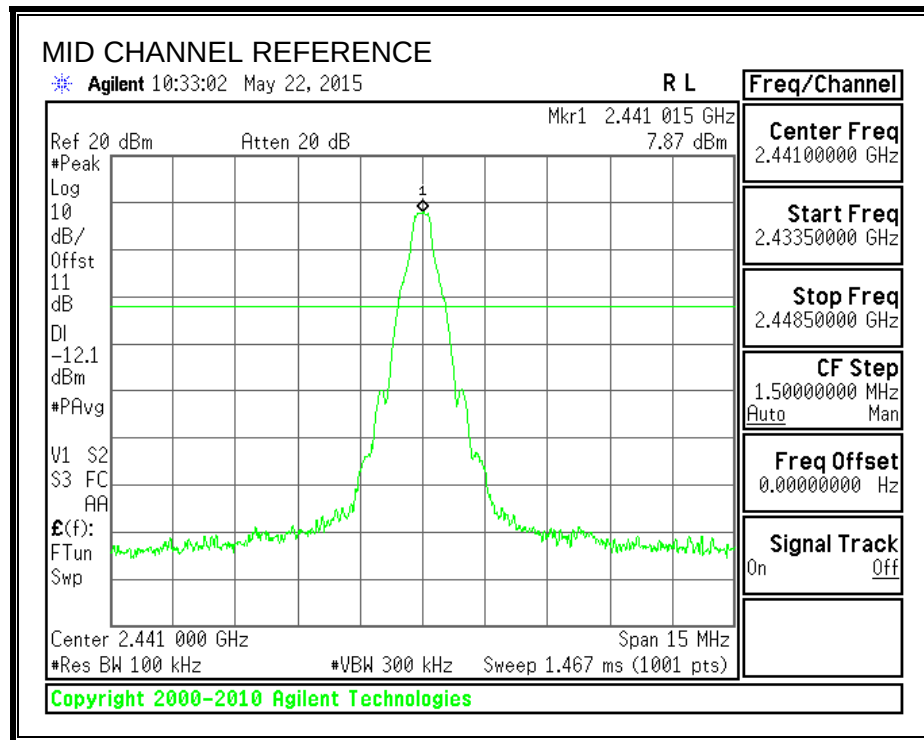
Limit = -20 dBc

RESULTS

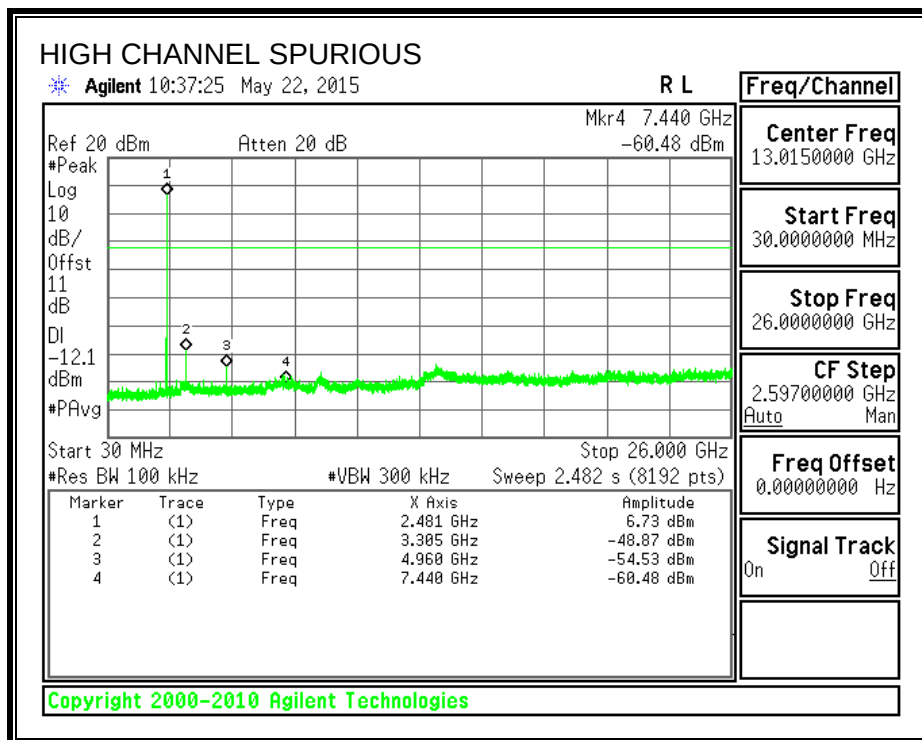
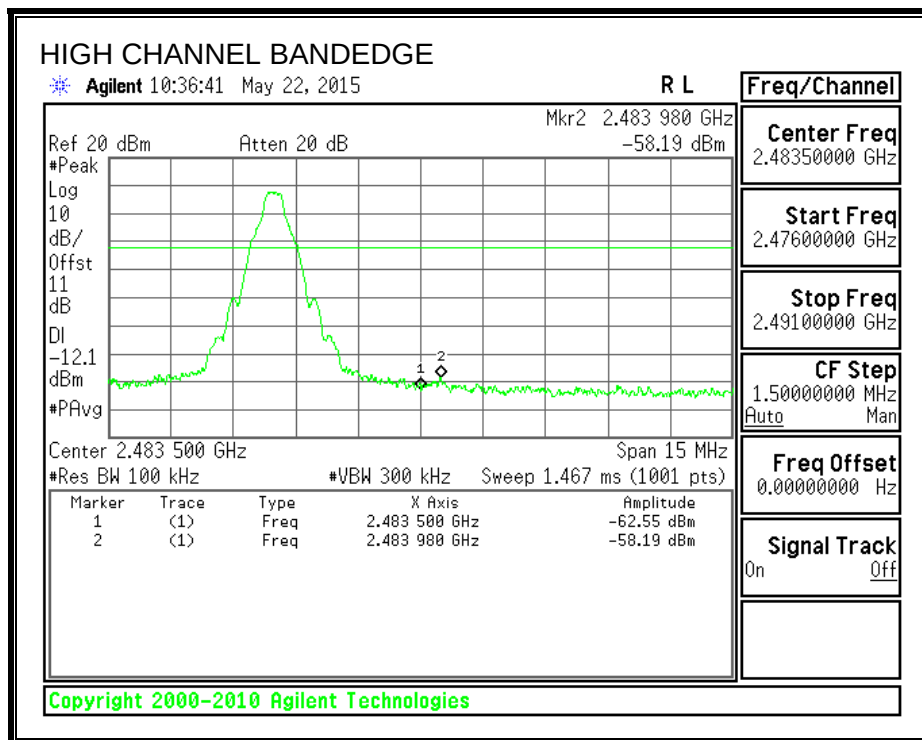
SPURIOUS EMISSIONS, LOW CHANNEL



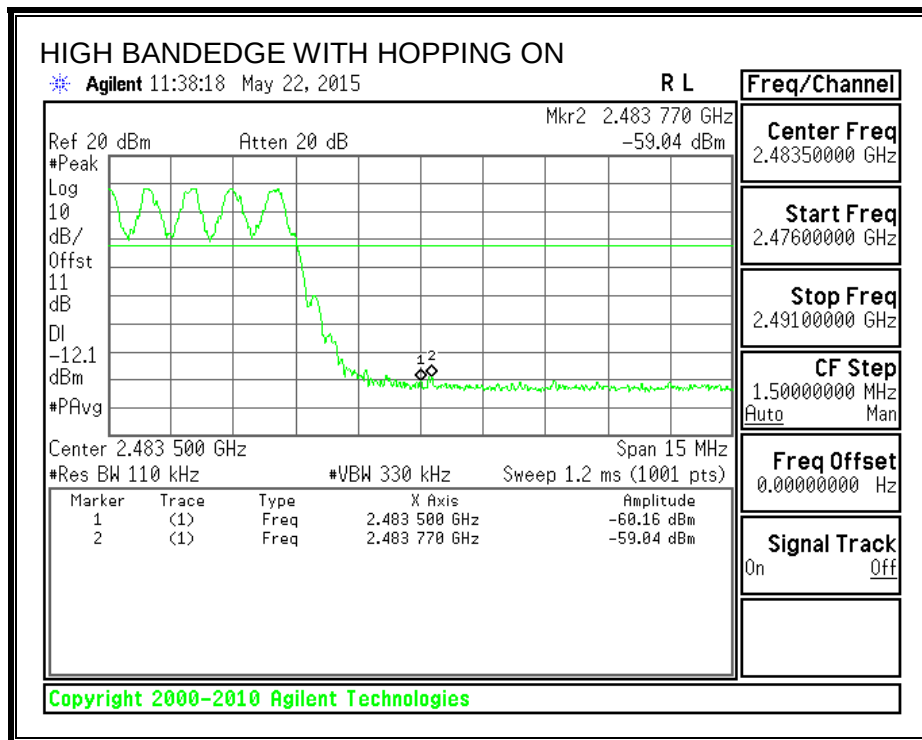
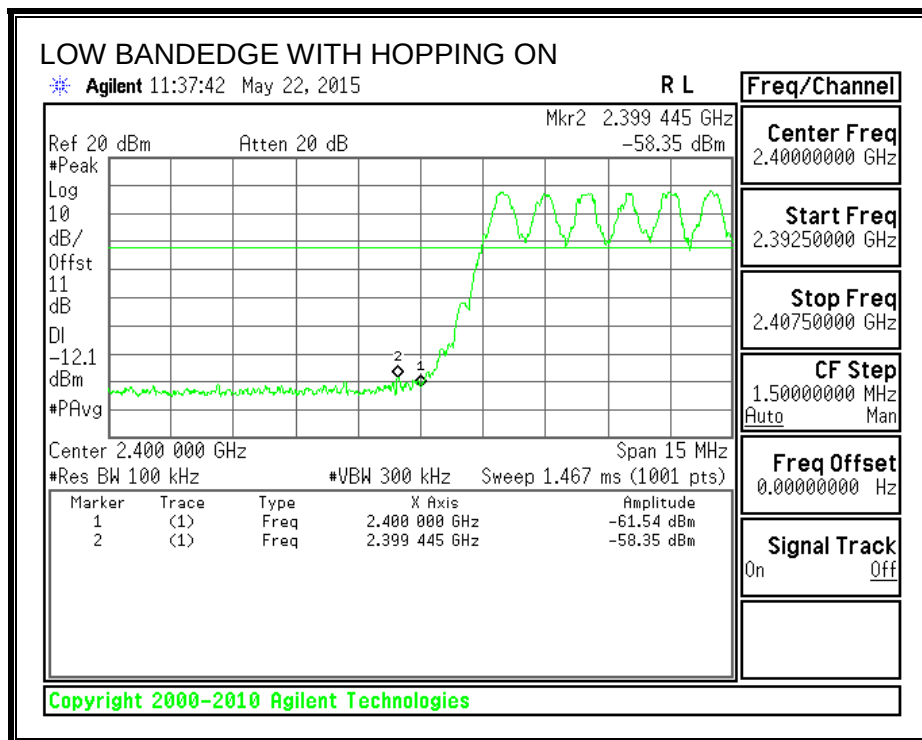
SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



8.3. ENHANCED DATA RATE 8PSK MODULATION

8.3.1. 20 dB AND 99% BANDWIDTH

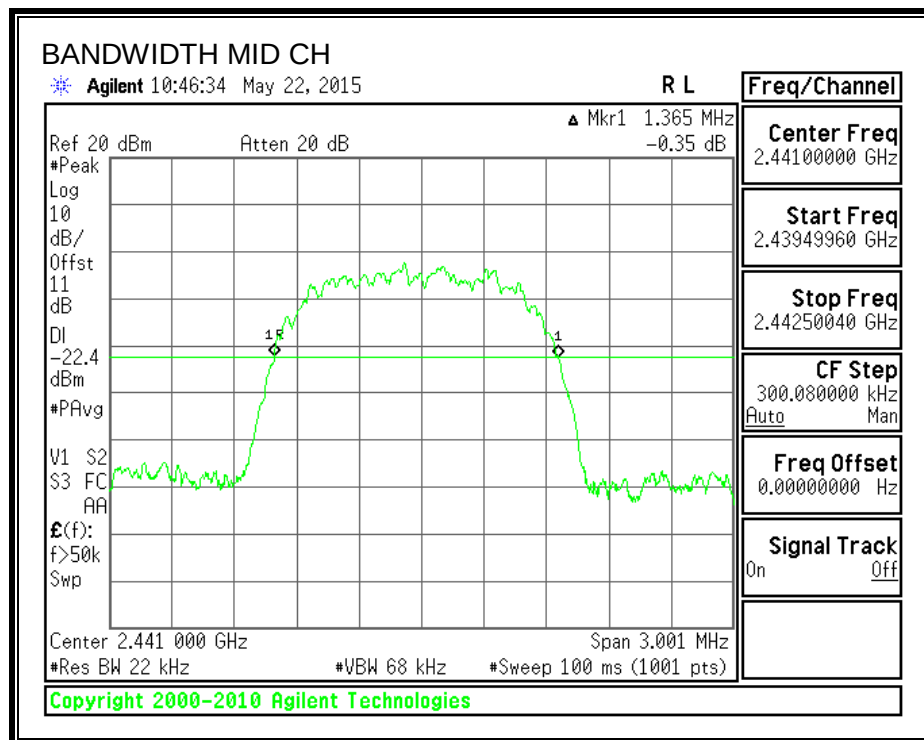
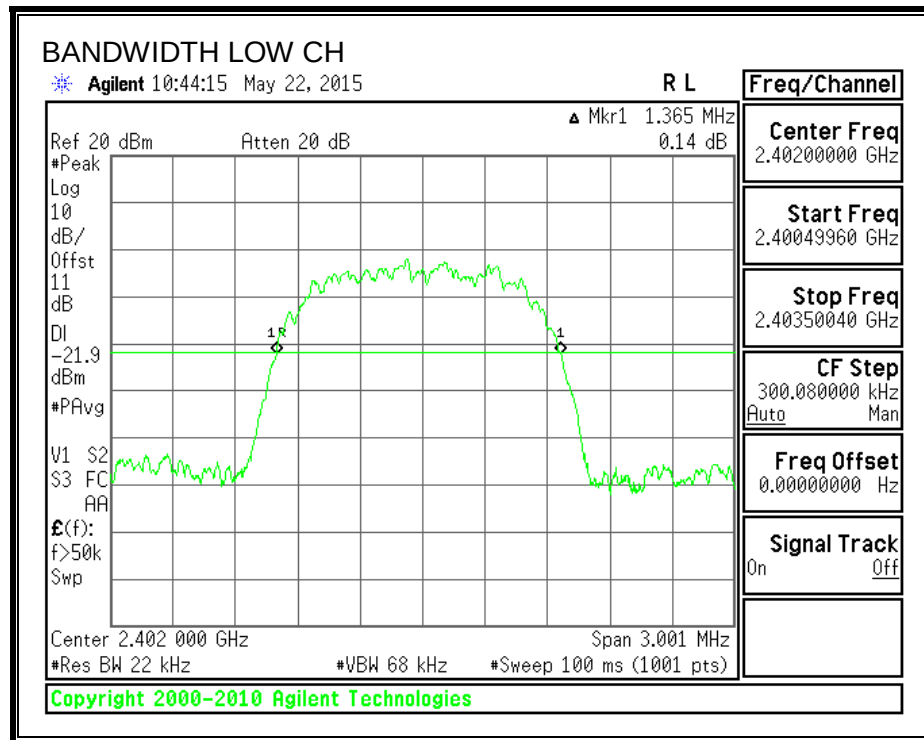
LIMIT

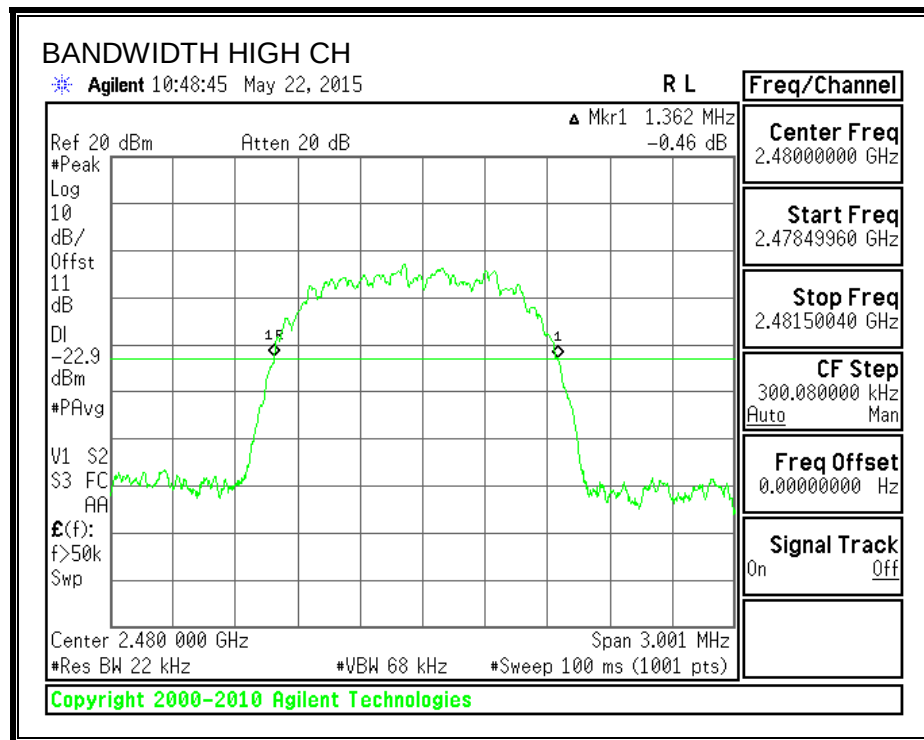
None; for reporting purposes only.

RESULTS

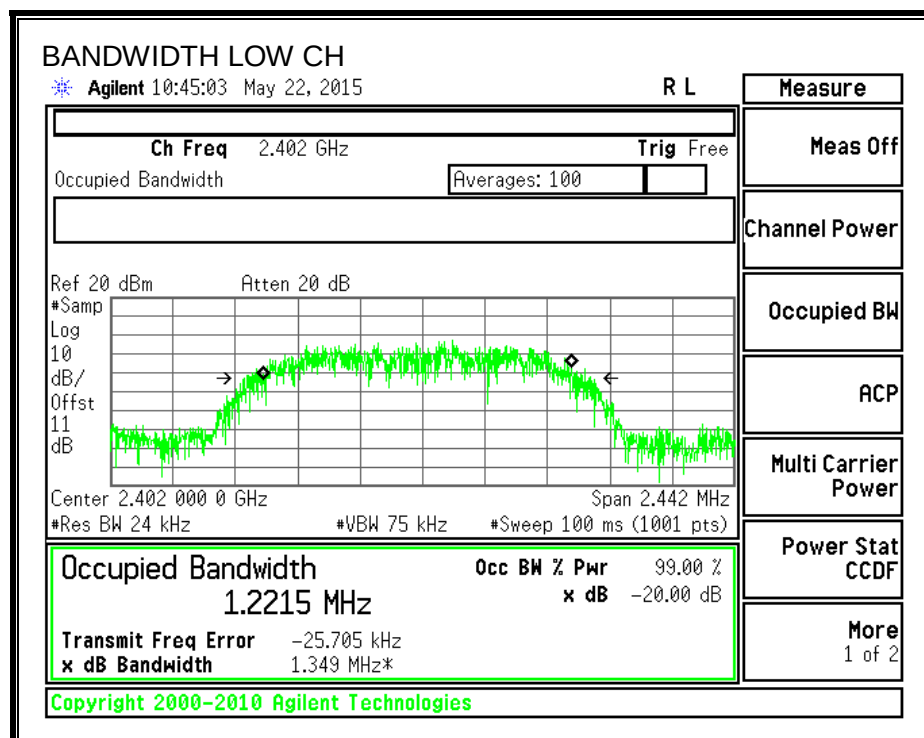
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.365	1.2215
Middle	2441	1.365	1.2187
High	2480	1.362	1.2236

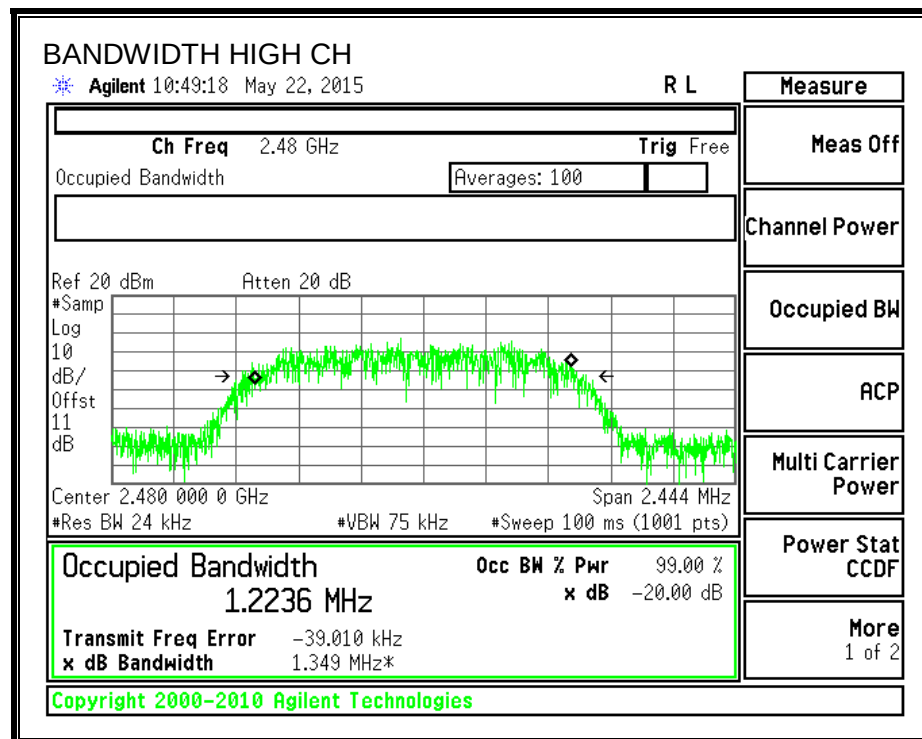
20 dB BANDWIDTH





99% BANDWIDTH





8.3.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

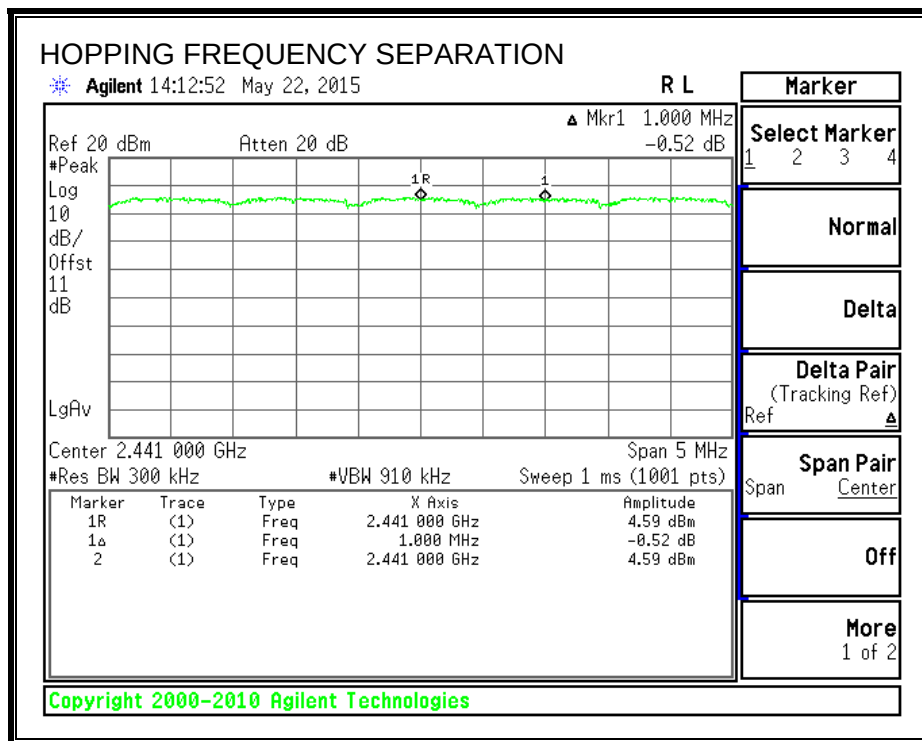
IC RSS-247 Clause 5.1(2)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

RESULTS

HOPPING FREQUENCY SEPARATION



8.3.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-247 Clause 5.1(4)

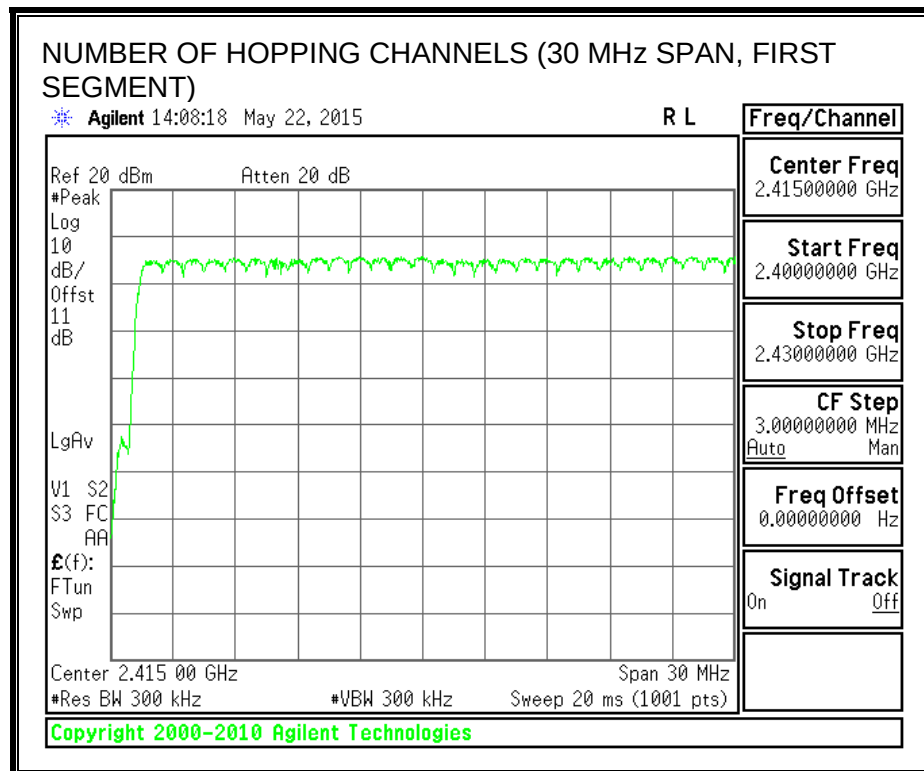
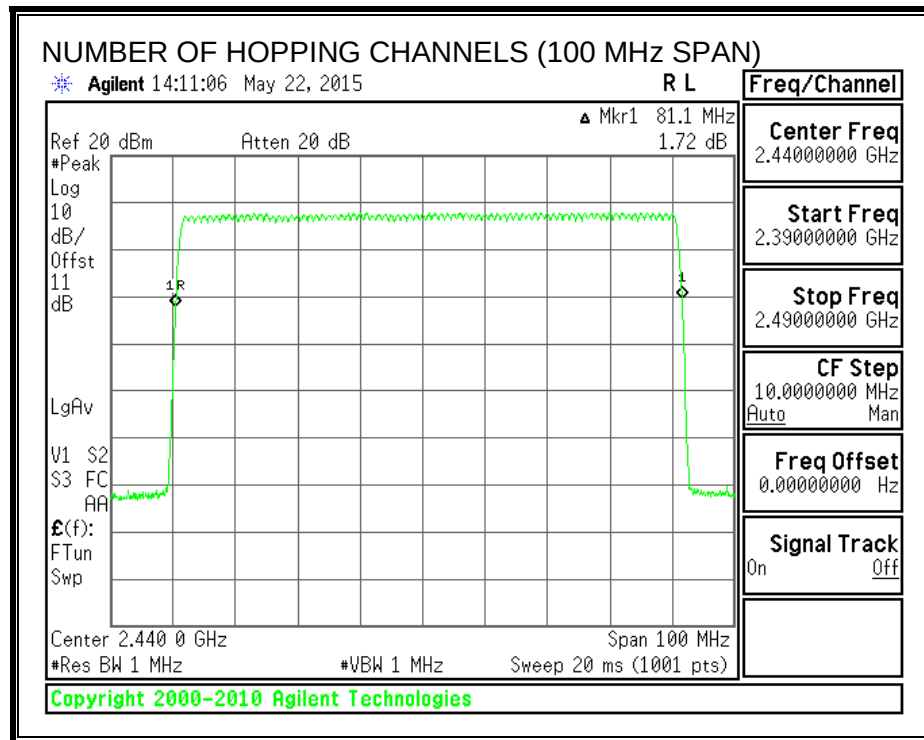
Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

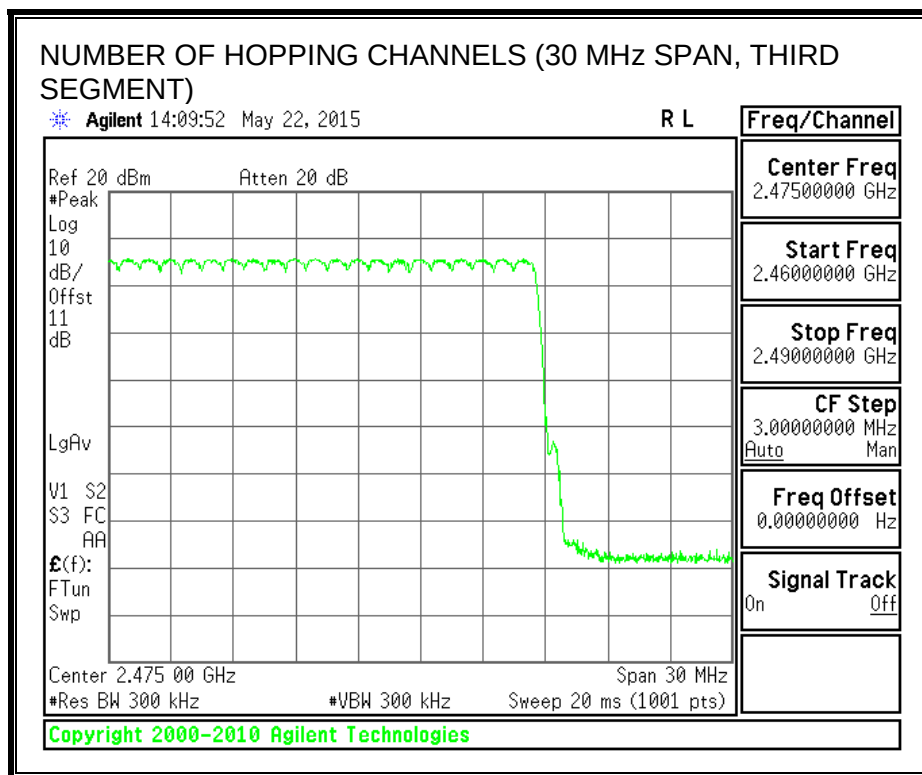
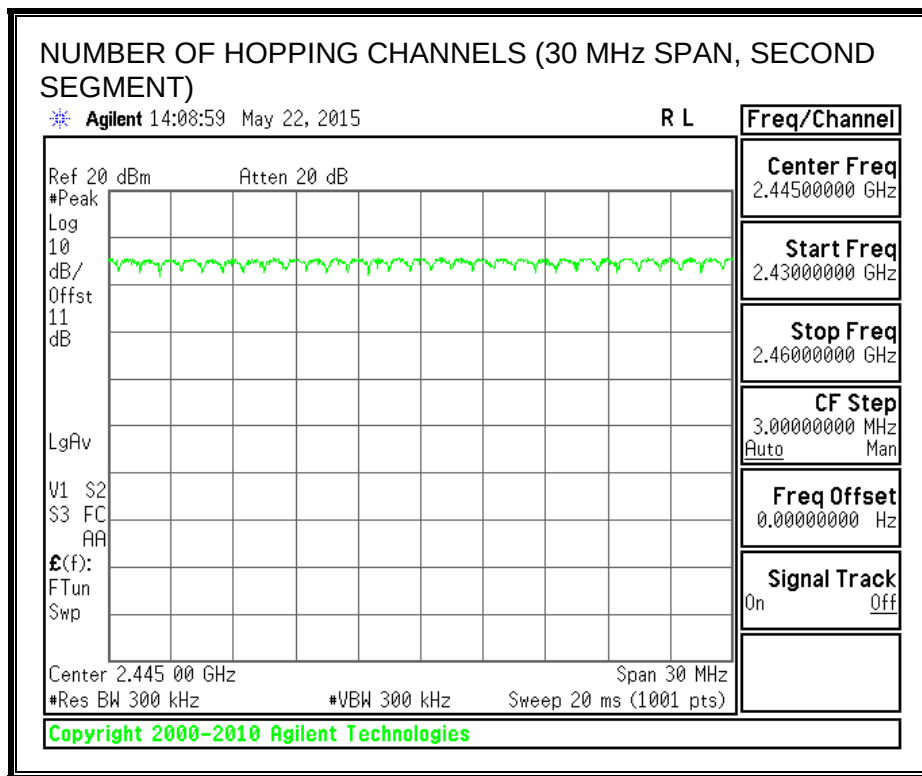
RESULTS

Normal Mode: 79 Channels were observed.

AFH Mode: 20 channels were declared by the client.

NUMBER OF HOPPING CHANNELS





8.3.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-247 Clause 5.1(4)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

RESULTS

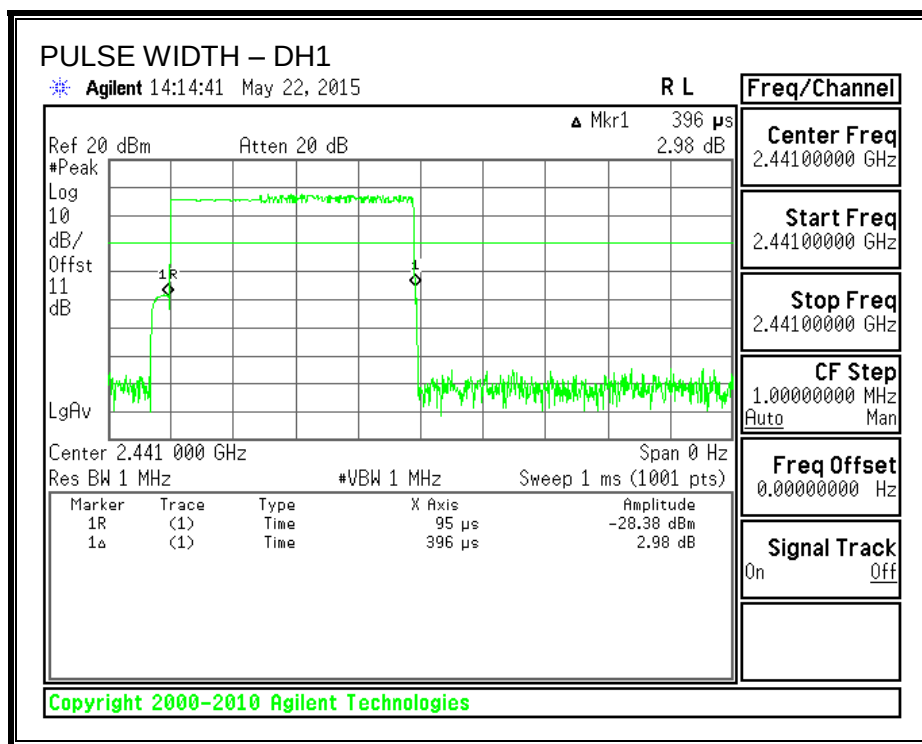
Time Of Occupancy = 10 * xx pulses * yy msec = zz msec

8PSK (EDR) Mode

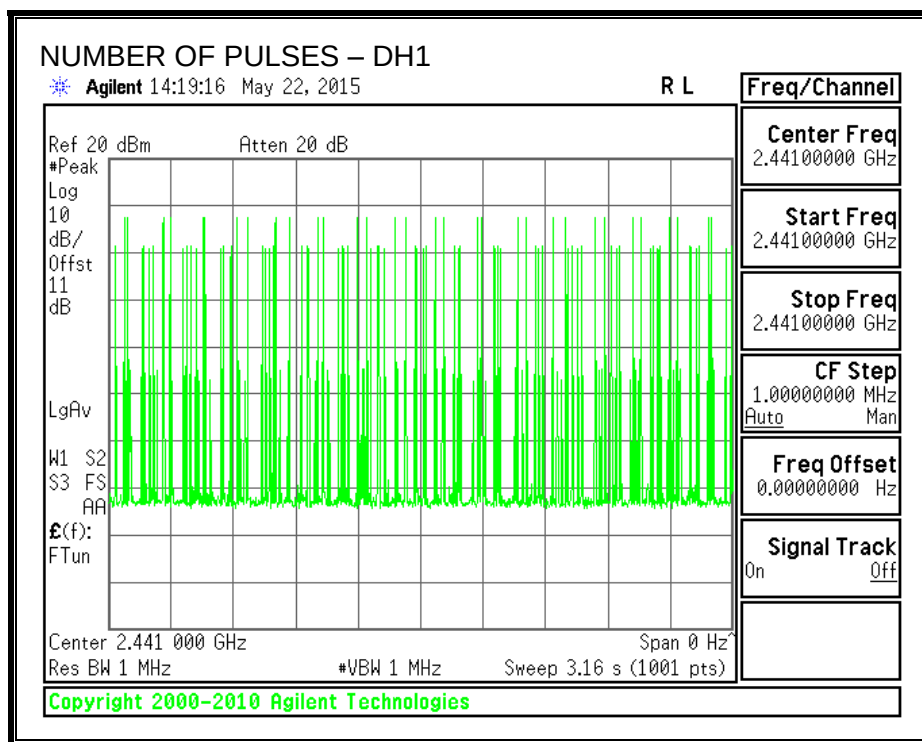
DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of (sec)	Limit (sec)	Margin (sec)
DH1	0.396	28	0.111	0.4	-0.2891
DH3	1.634	17	0.278	0.4	-0.1222
DH5	2.912	11	0.320	0.4	-0.0797

Note: for AFH (8PSK) mode, please refer to the results of AFH (GFSK) mode; the channel selection and hopping rate are the same for both EDR and Basic Rate operation, data for Basic Rate on page 23 demonstrates compliance with channel occupancy when AFH is employed.

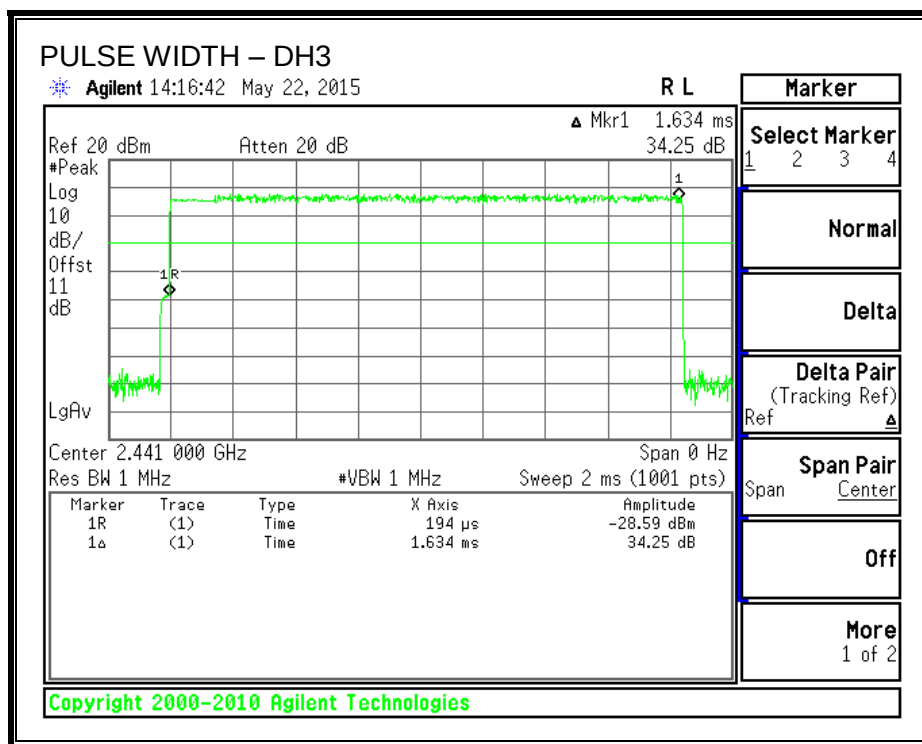
PULSE WIDTH - DH1



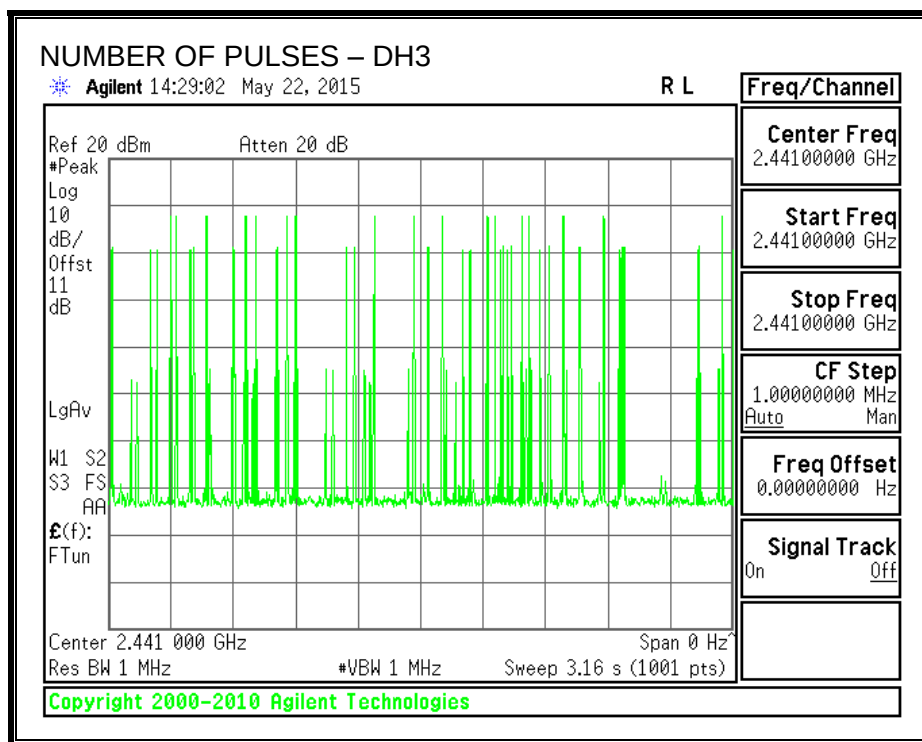
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



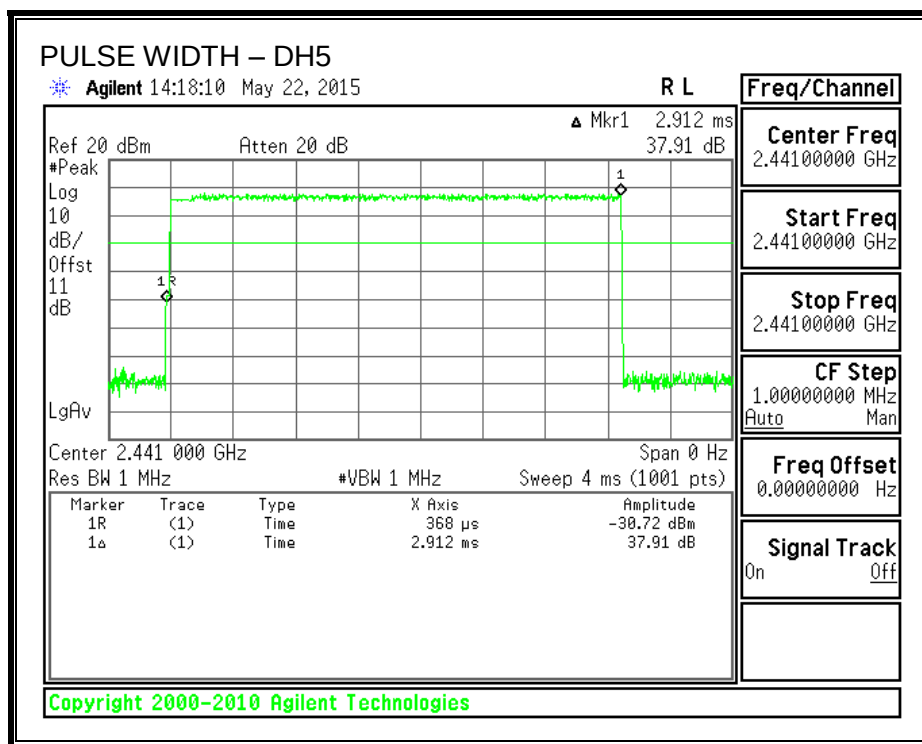
PULSE WIDTH – DH3



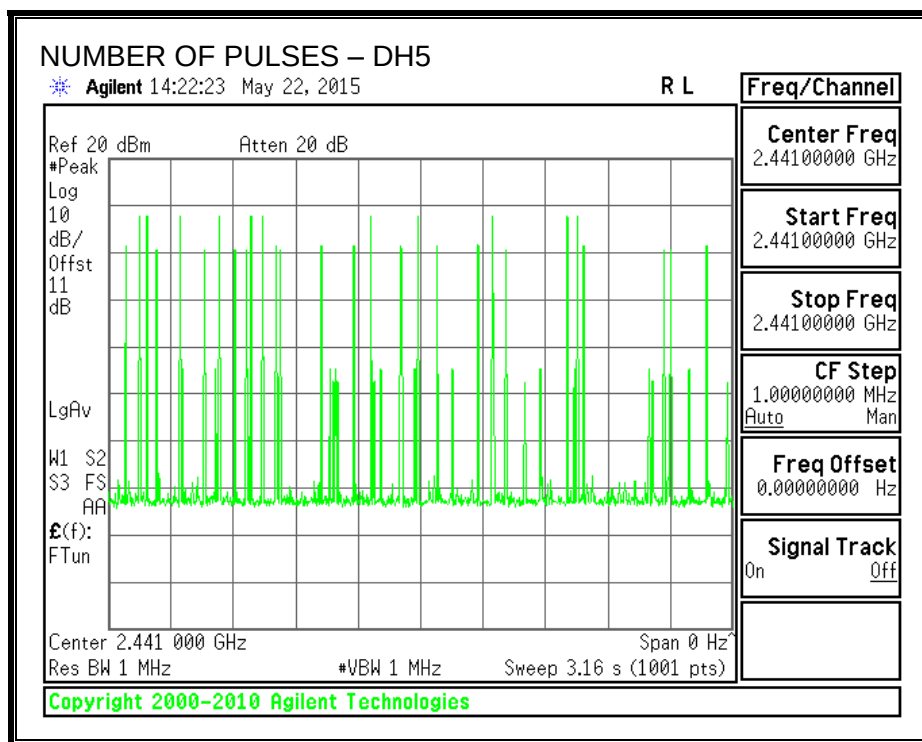
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5



8.3.5. PEAK OUTPUT POWER

LIMIT

§15.247 (b) (1)

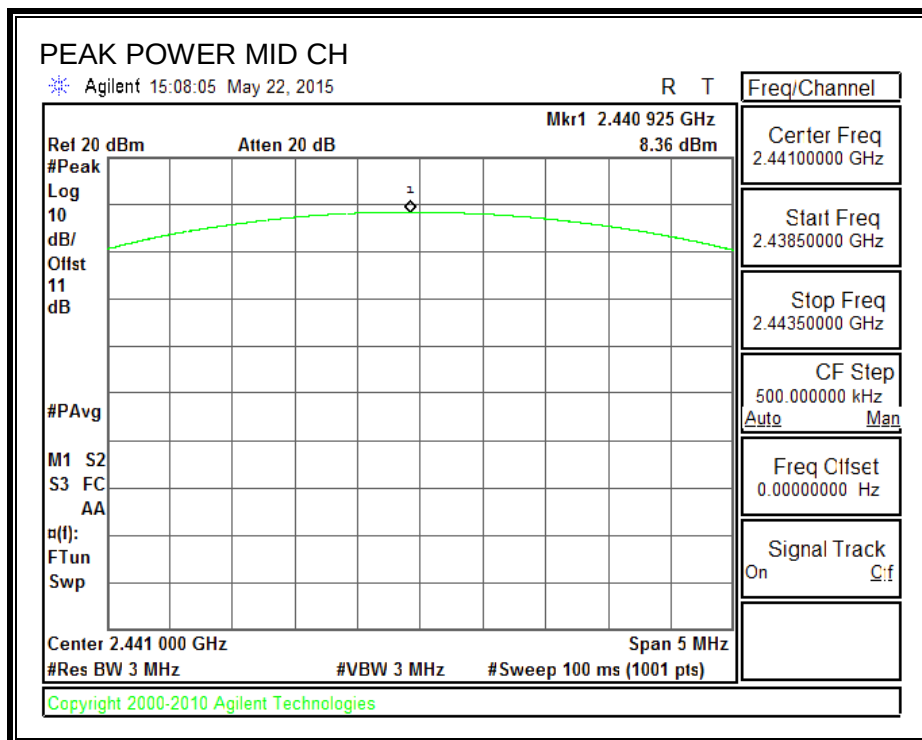
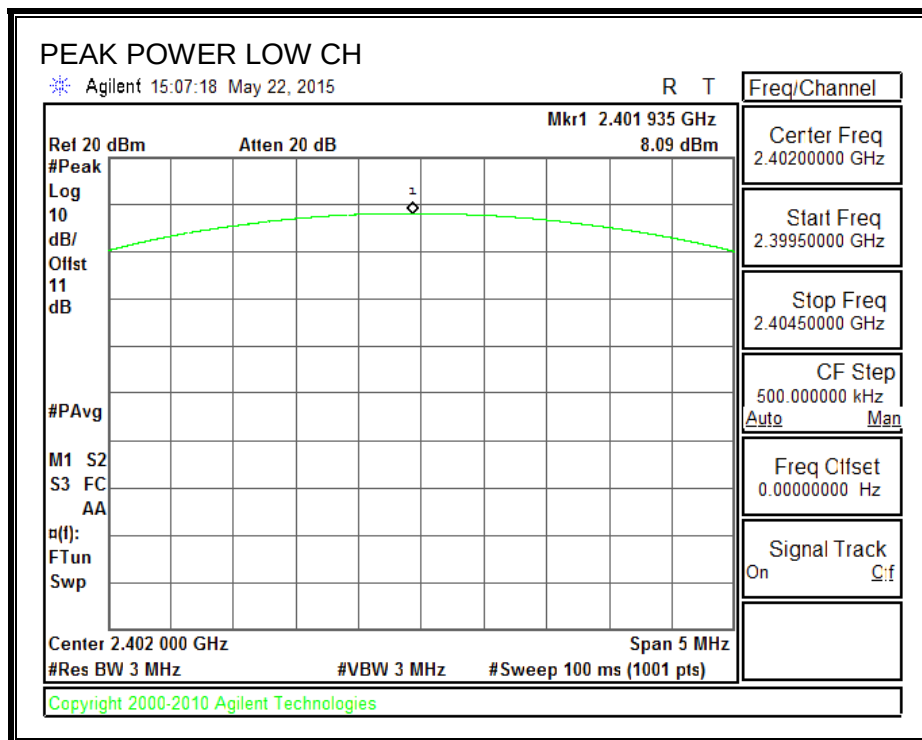
RSS-247 Clause 5.4

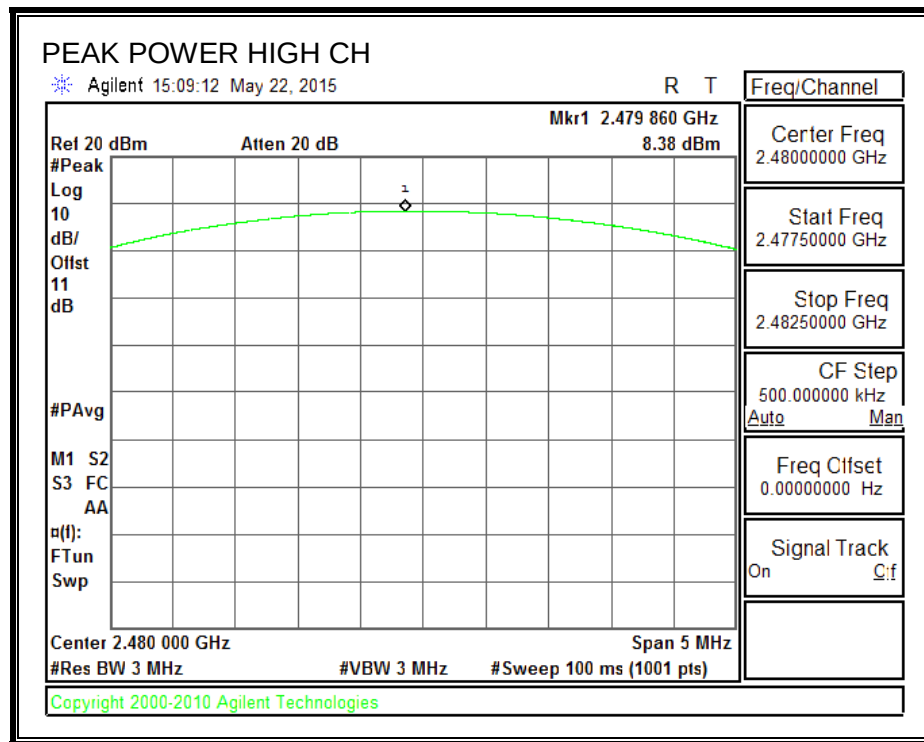
The maximum antenna gain is less than 6 dBi, therefore the limit is 20.97 dBm.

RESULTS

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	8.09	20.97	-12.88
Middle	2441	8.36	20.97	-12.61
High	2480	8.38	20.97	-12.59

OUTPUT POWER





8.3.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	5.34
Middle	2441	4.66
High	2480	3.93

8.3.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

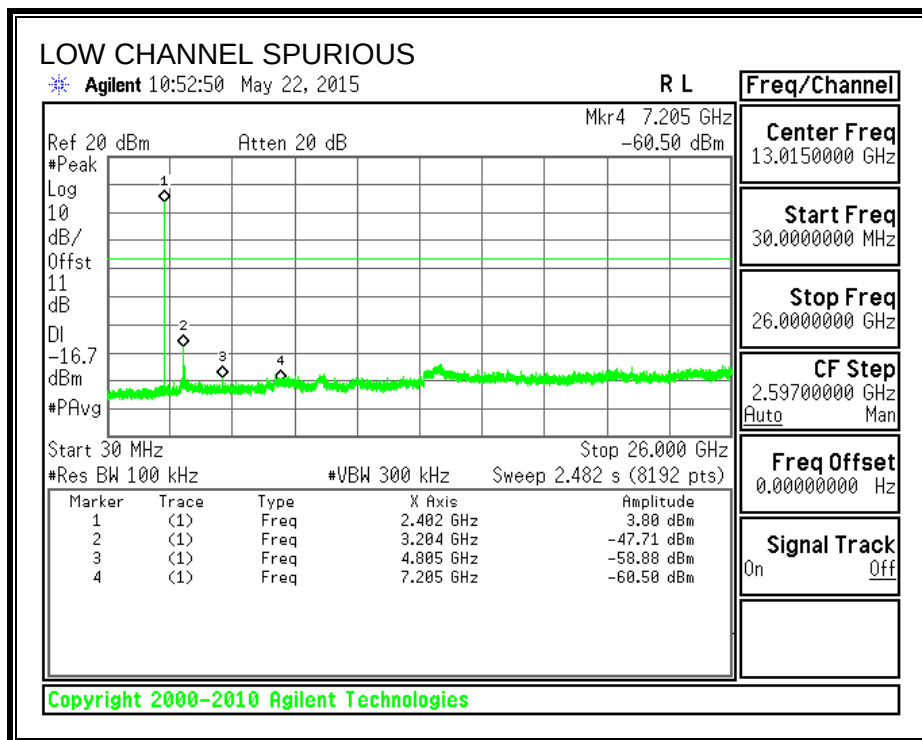
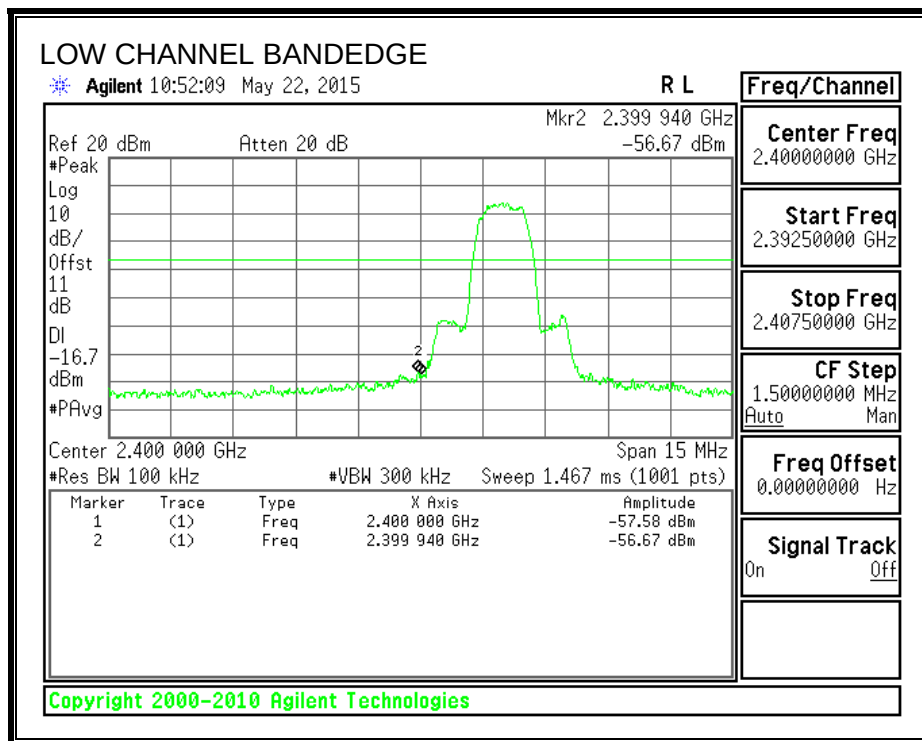
FCC §15.247 (d)

IC RSS-247 Clause 5.5

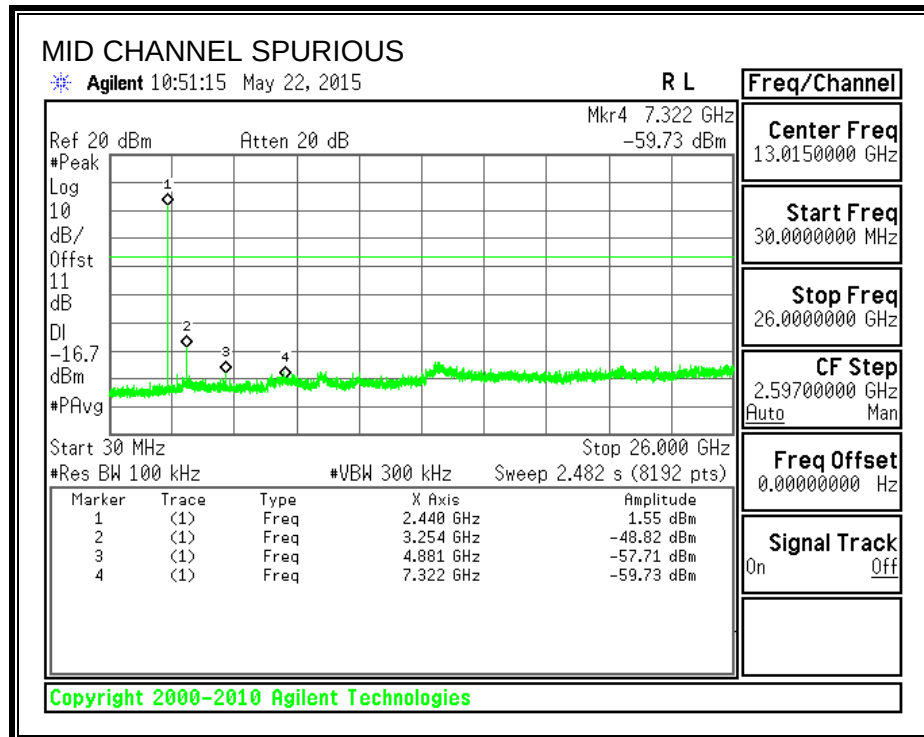
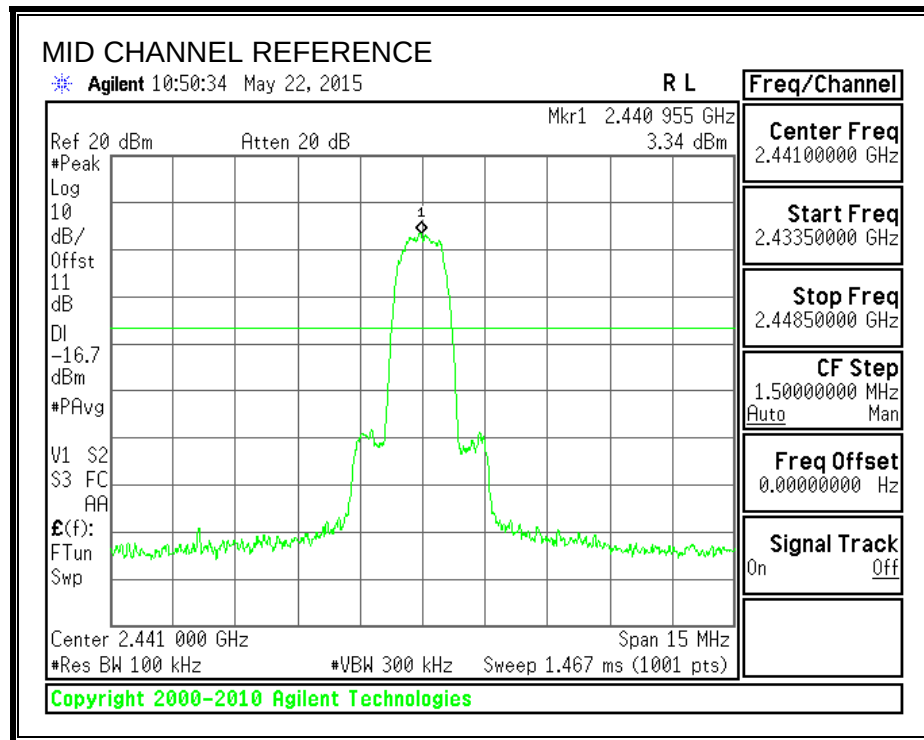
Limit = -20 dBc

RESULTS

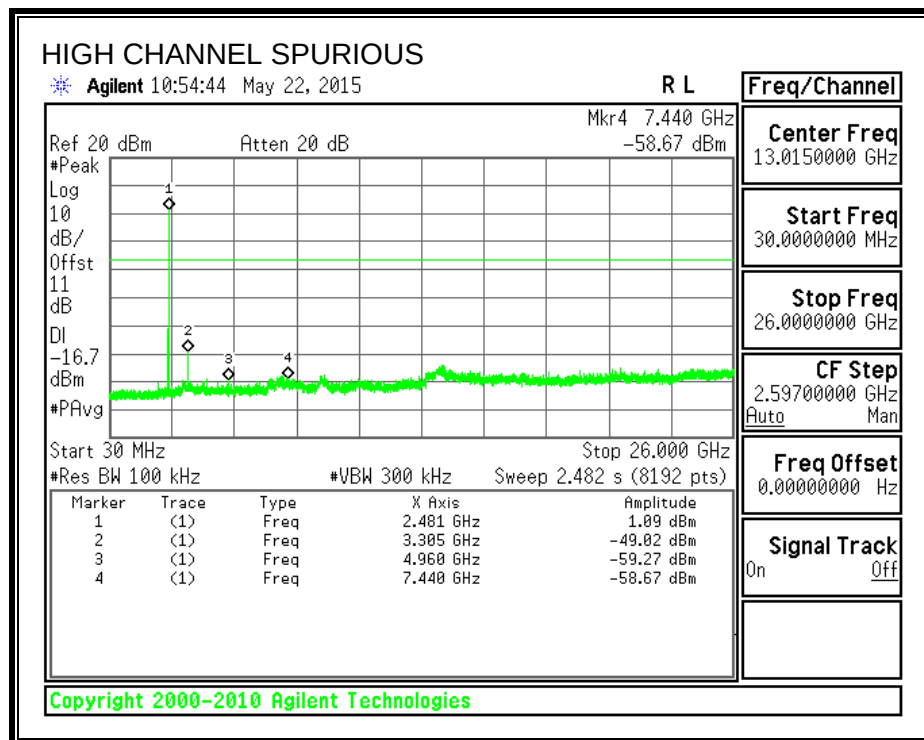
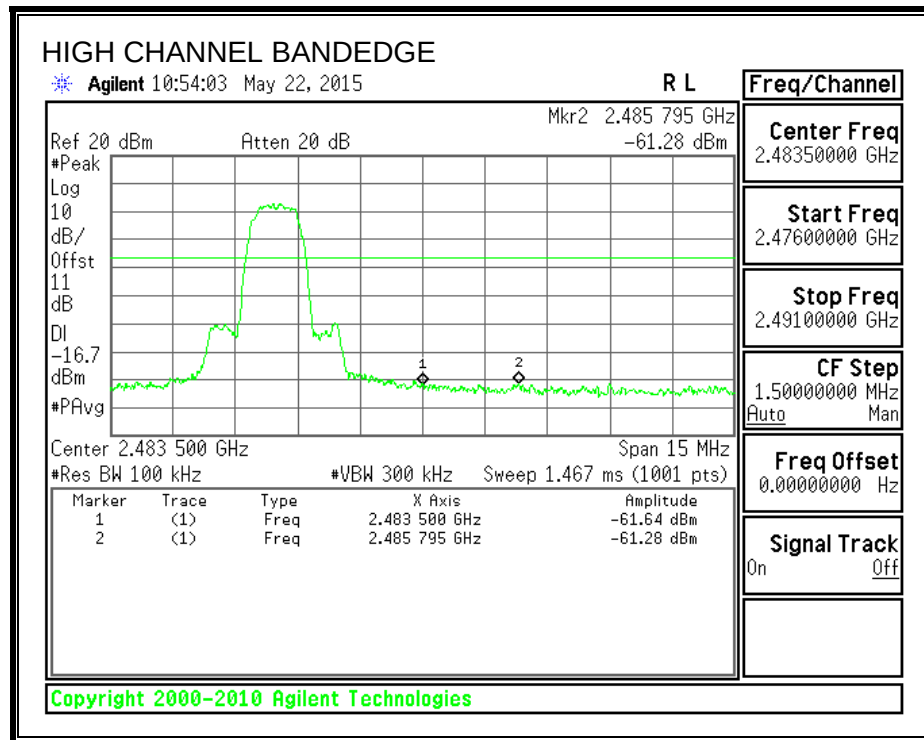
SPURIOUS EMISSIONS, LOW CHANNEL



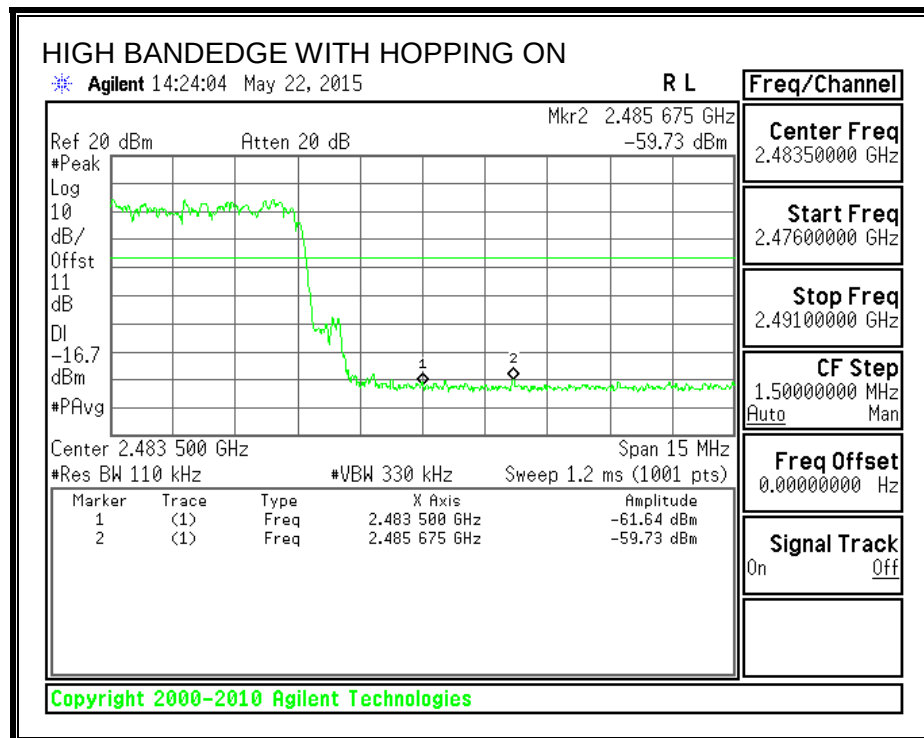
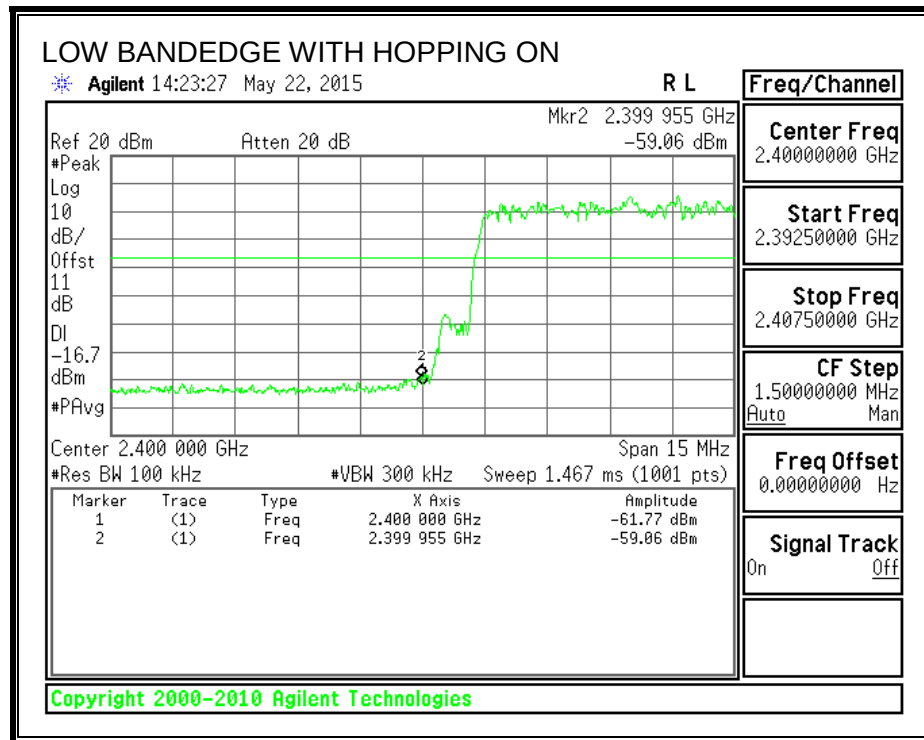
SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

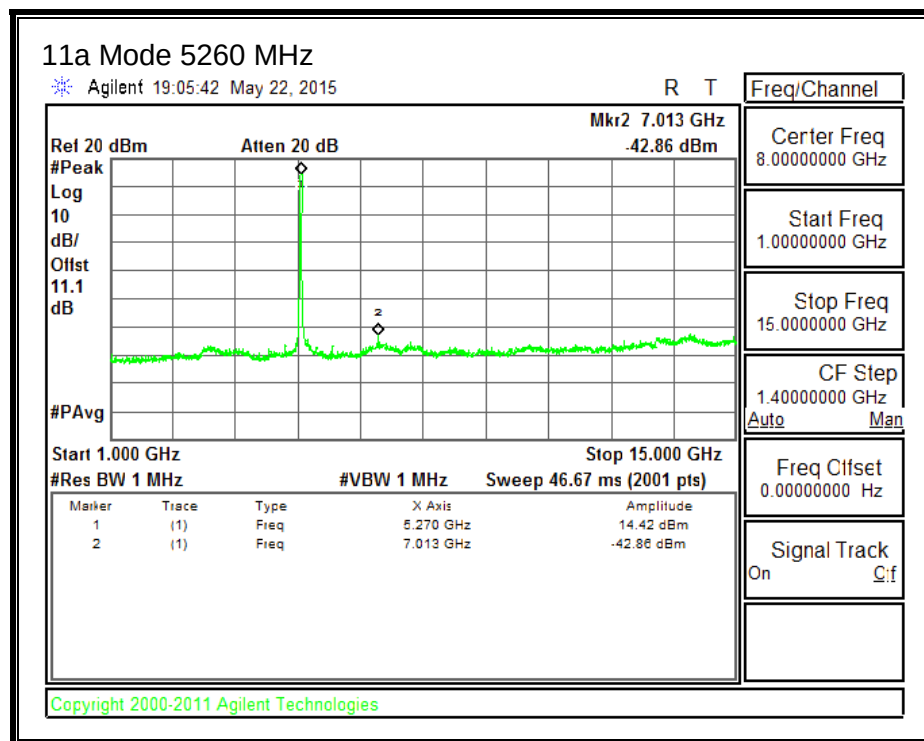
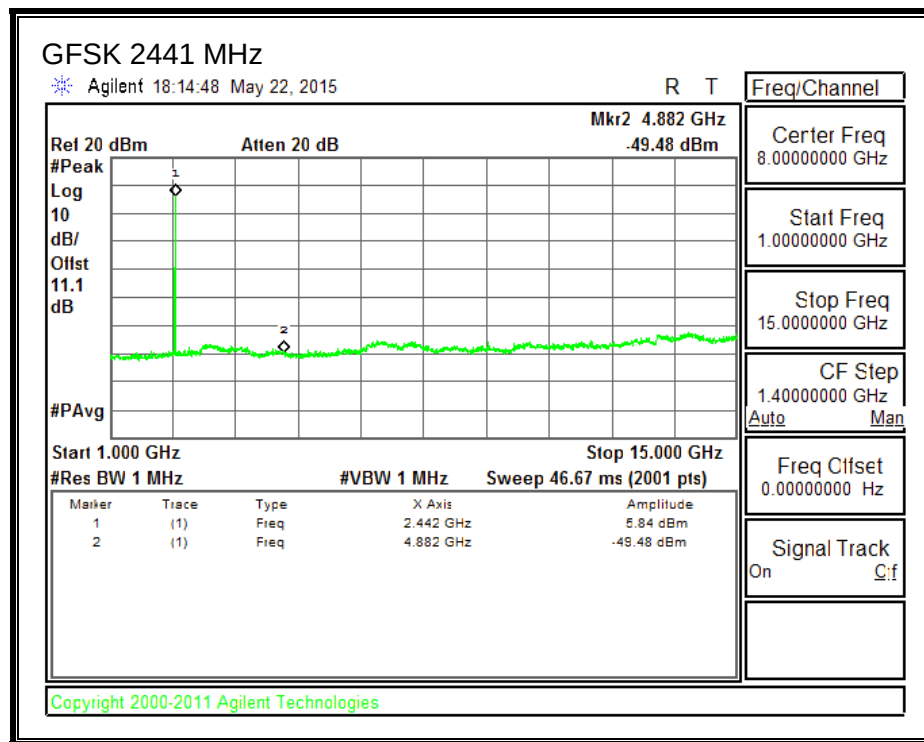


8.4. COLOCATION

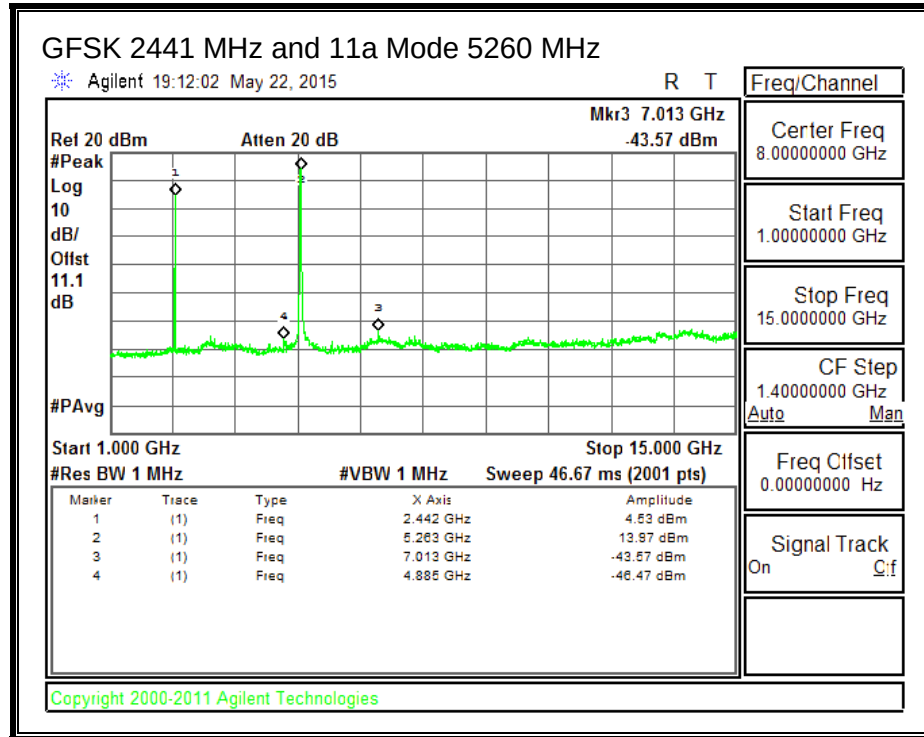
The below table shows potential intermodulation frequencies due to Bluetooth and 5GHz WLAN simultaneous transmission.

Modes	A	B	A + B	A - B	2A + B	A + 2B	A - 2B
GFSK + 11a 5.3 band	2441	5260	7701	2819	10142	12961	8079
GFSK + 11a 5.6 band	2441	5580	8021	3139	10462	13601	8719
GFSK + 11a 5.8 band	2441	5785	8226	3344	10667	14011	9129

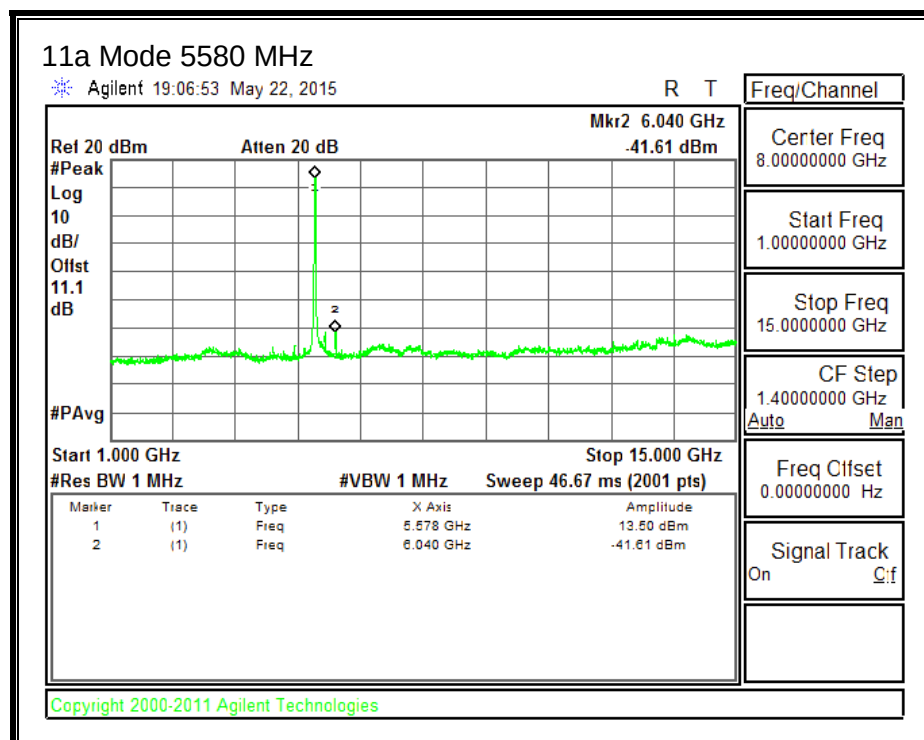
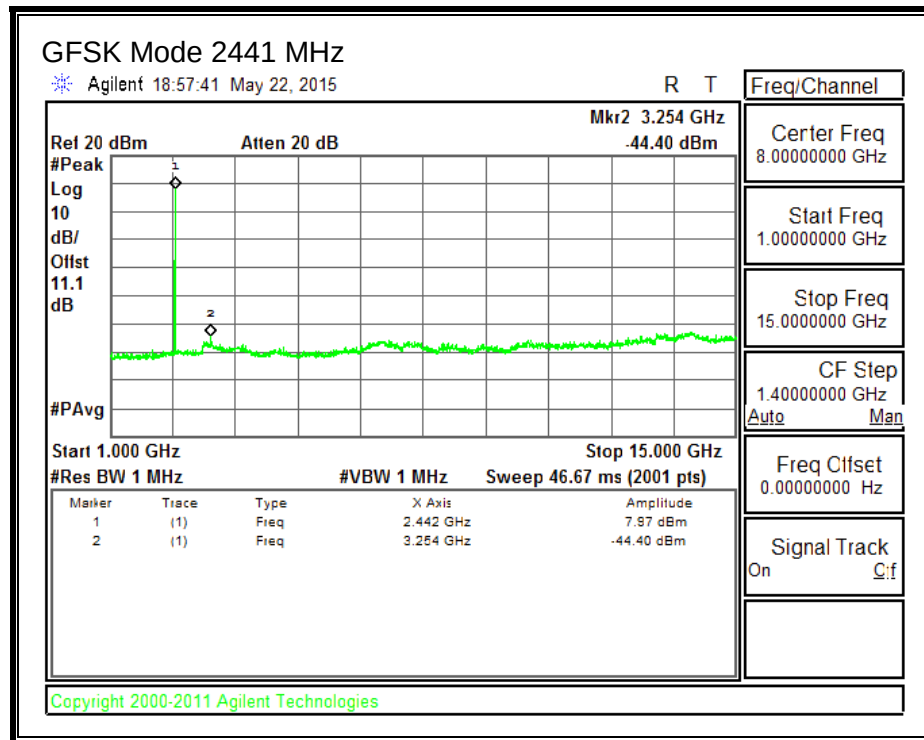
GFSK and 802.11a Mode 5.3 GHz



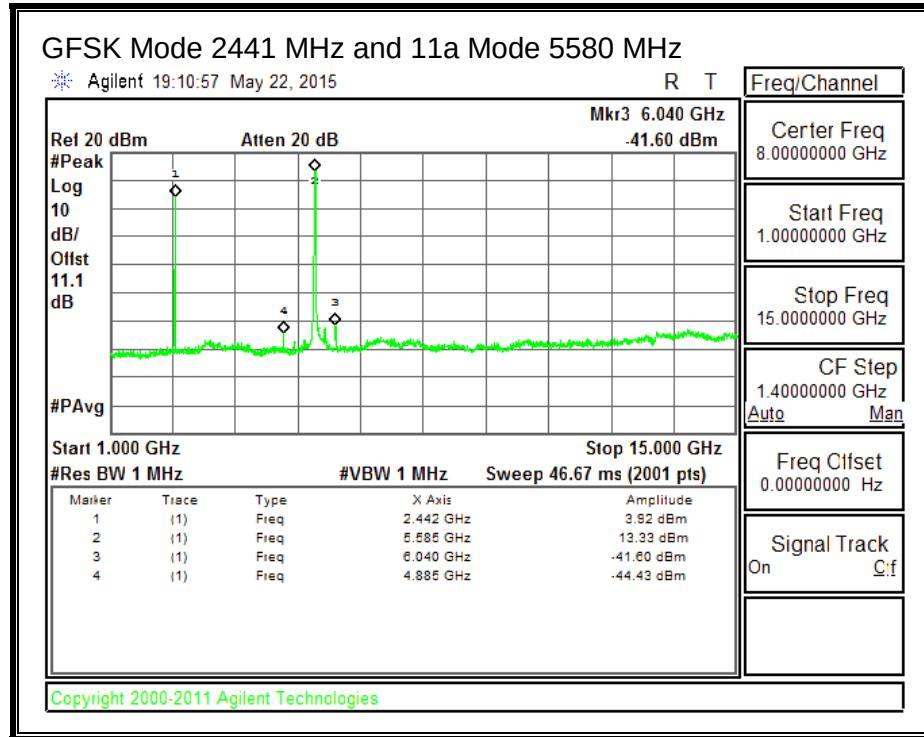
Colocation



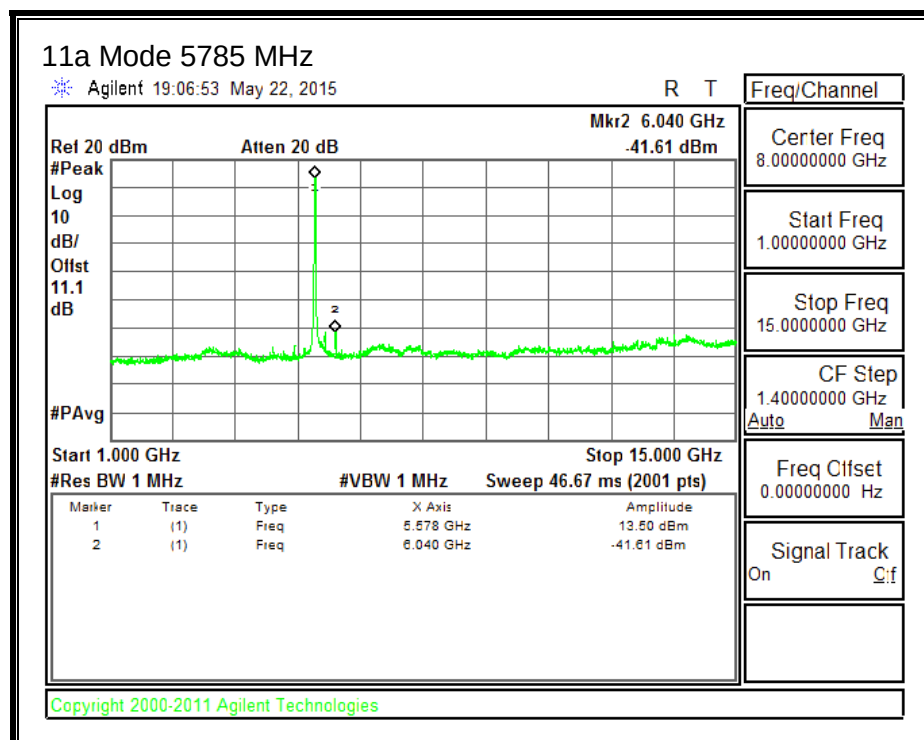
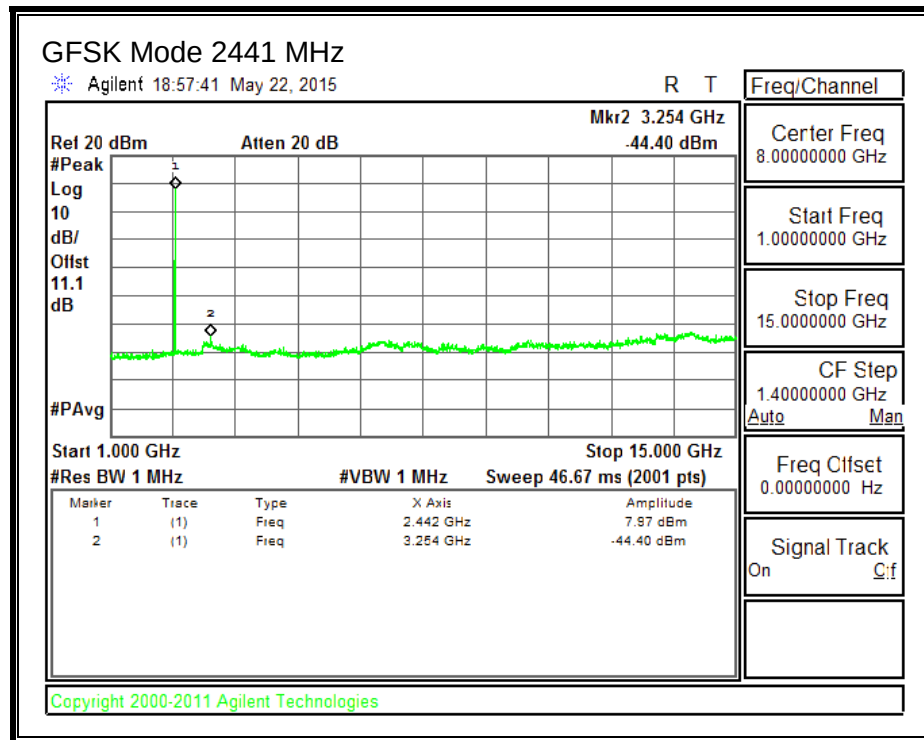
GFSK Mode and 802.11a Mode 5.6 GHz



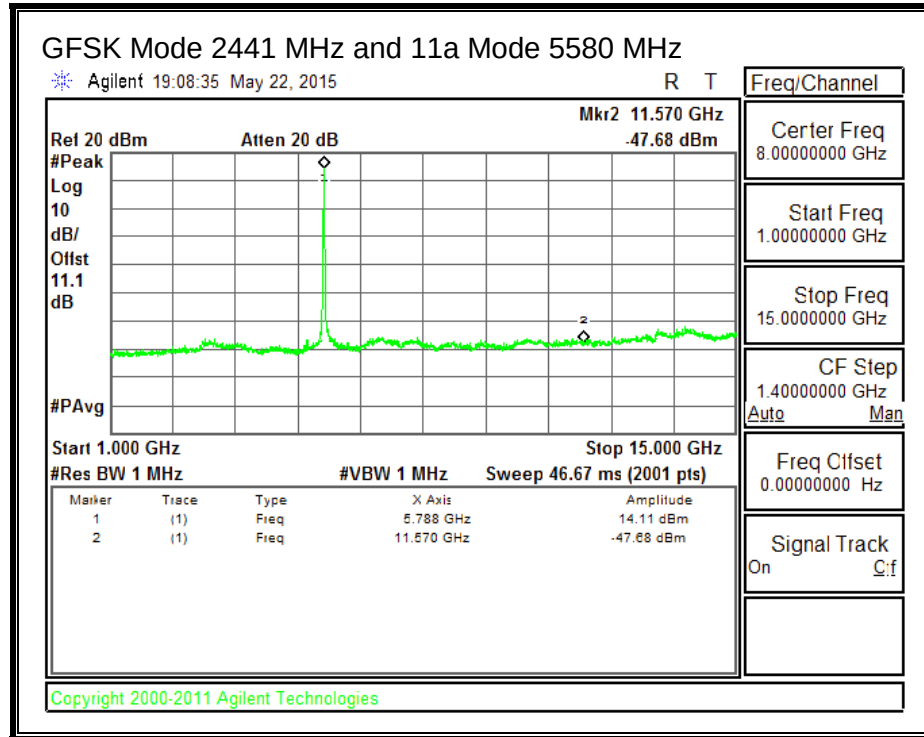
Colocation



GFSK Mode and 11a Mode 5.8 GHz



Colocation



For the co-located test, no other emissions were found after having been investigated from the conducted measurement with all different combination frequencies between BT & 5GHz bands.

9. RADIATED TEST RESULTS

9.1. LIMITS

LIMITS

FCC §15.205 and §15.209

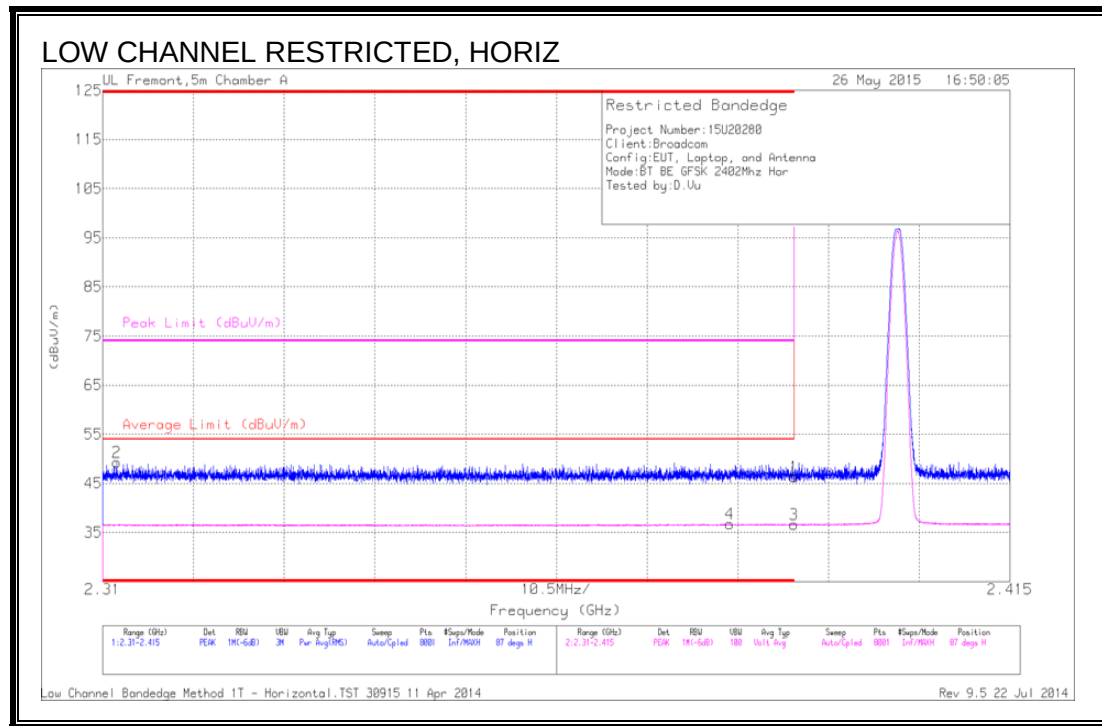
IC RSS-GEN Clause 8.9 (Transmitter)

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

9.2. TRANSMITTER ABOVE 1 GHz

9.2.1. BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)



Trace Markers

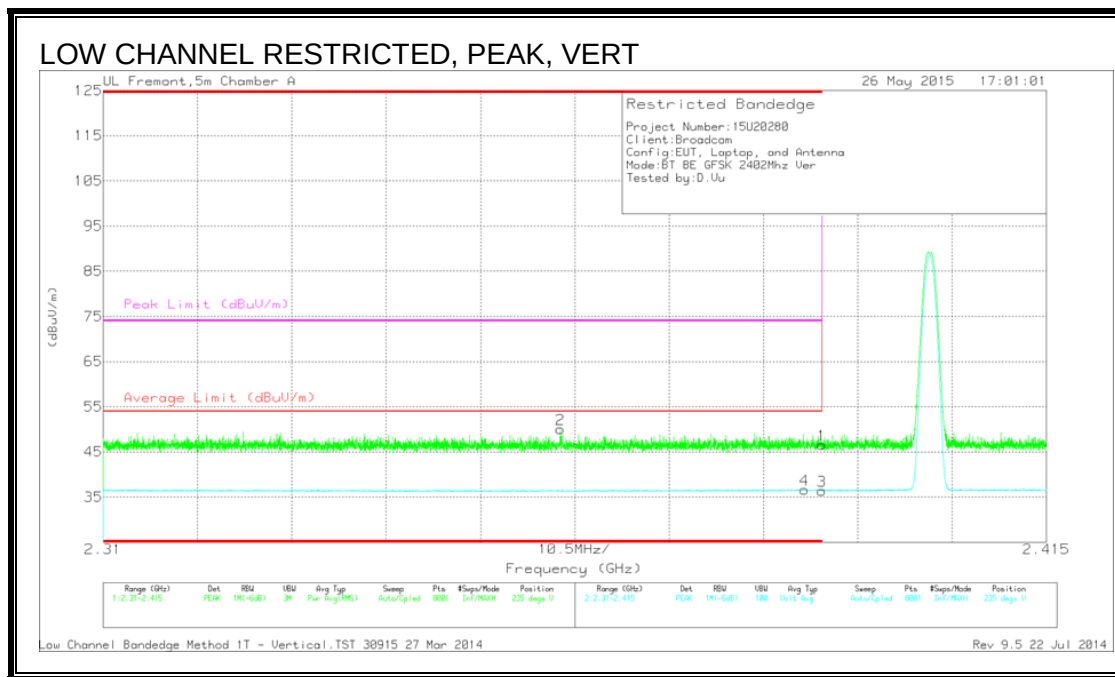
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.21	PK	32	-24.9	0	46.31	-	-	74	-27.69	87	110	H
2	* 2.312	42.27	PK	31.9	-24.9	0	49.27	-	-	74	-24.73	87	110	H
3	* 2.39	29.54	VB1T	32	-24.9	0	36.64	54	-17.36	-	-	87	110	H
4	* 2.383	29.72	VB1T	31.9	-24.9	0	36.72	54	-17.28	-	-	87	110	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



Trace Markers

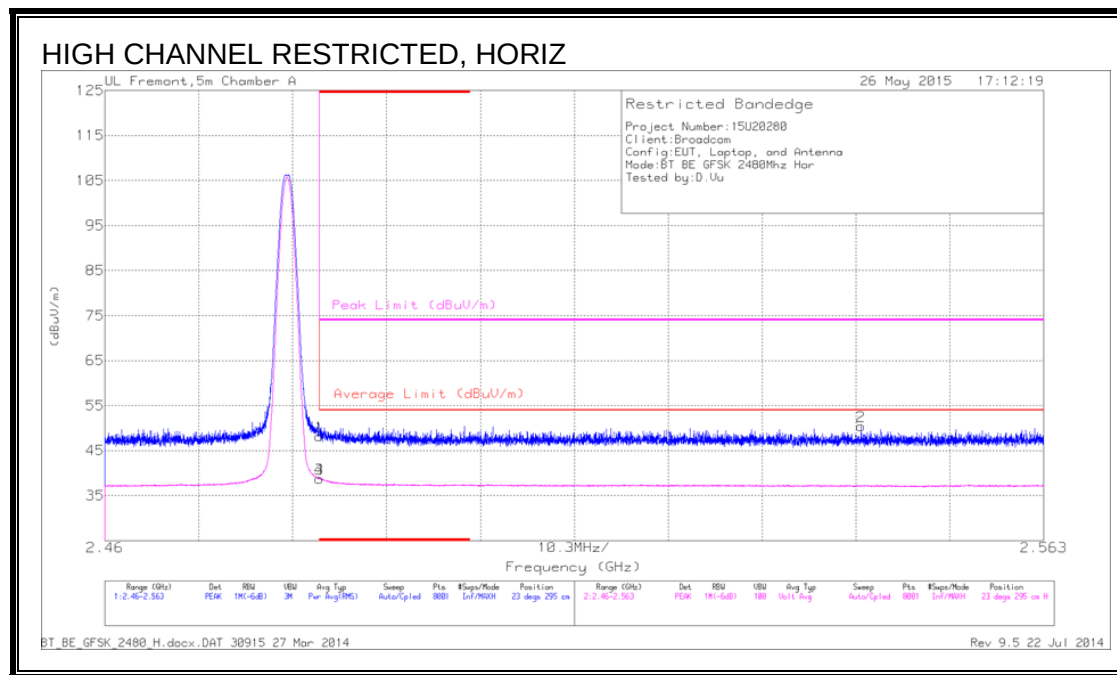
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.45	PK	32	-24.9	0	46.55	-	-	74	-27.45	235	257	V
2	* 2.361	43.12	PK	31.9	-25	0	50.02	-	-	74	-23.98	235	257	V
3	* 2.39	29.33	VB1T	32	-24.9	0	36.43	54	-17.57	-	-	235	257	V
4	* 2.388	29.53	VB1T	32	-24.9	0	36.63	54	-17.37	-	-	235	257	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



Trace Markers

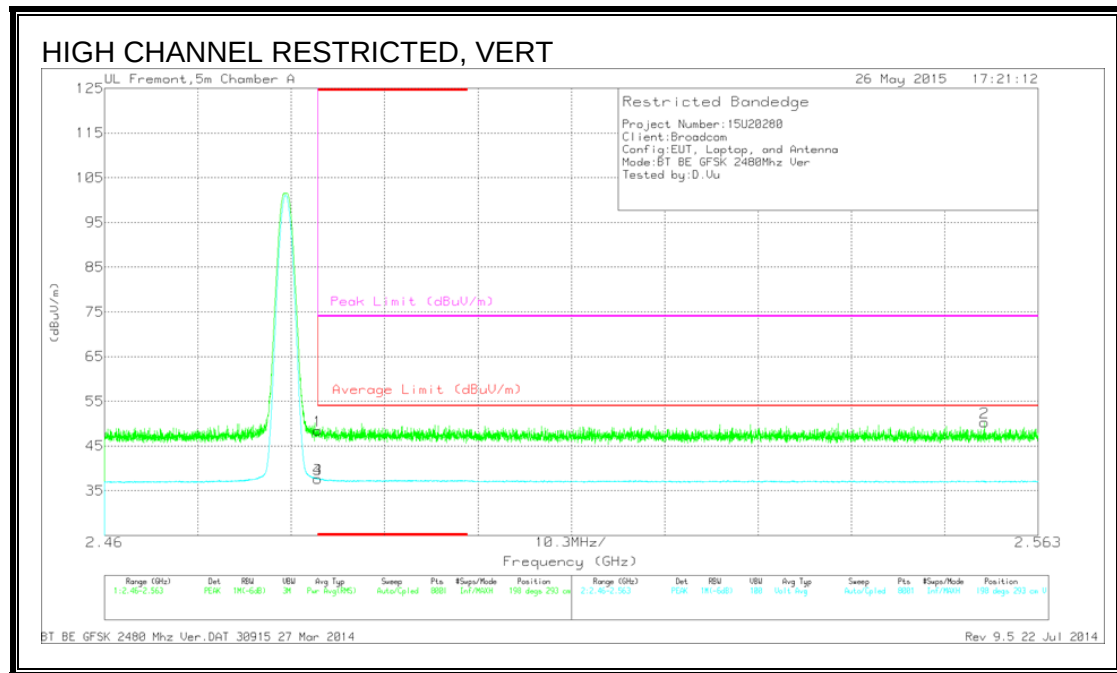
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.89	PK	32.1	-24.8	0	48.19	-	-	74	-25.81	23	295	H
3	* 2.484	31.46	VB1T	32.1	-24.8	0	38.76	54	-15.24	-	-	23	295	H
4	* 2.484	31.46	VB1T	32.1	-24.8	0	38.76	54	-15.24	-	-	23	295	H
2	2.543	42.93	PK	32.2	-24.7	0	50.43	-	-	74	-23.57	23	295	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.45	PK	32	-24.9	46.55	-	-	74	-27.45	235	257	V
2	* 2.361	43.12	PK	31.9	-25	50.02	-	-	74	-23.98	235	257	V
3	* 2.39	29.33	VB1T	32	-24.9	36.43	54	-17.57	-	-	235	257	V
4	* 2.388	29.53	VB1T	32	-24.9	36.63	54	-17.37	-	-	235	257	V

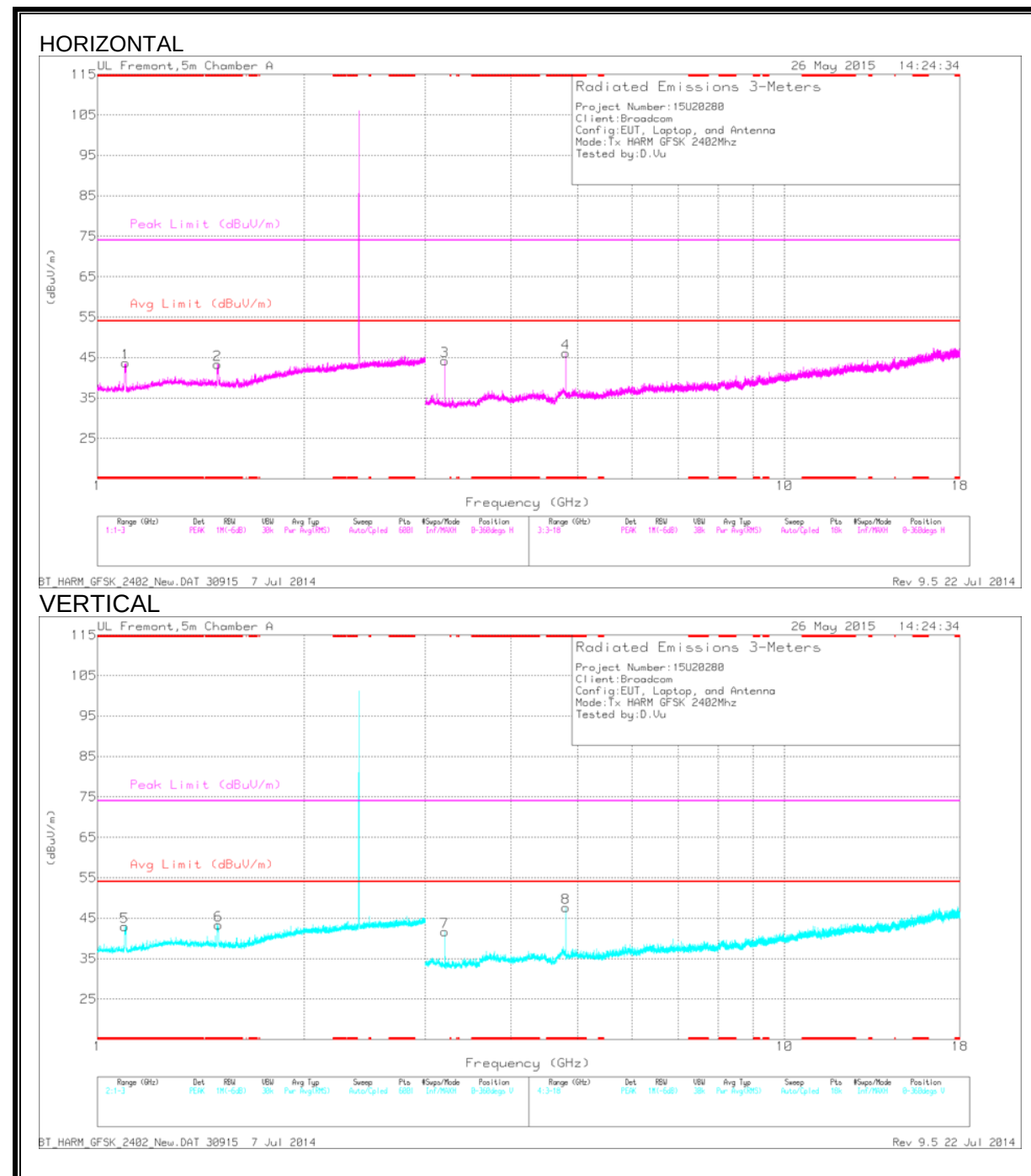
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

HARMONICS AND SPURIOUS EMISSIONS

GFSK, LOW CHANNEL – 2402 MHz



GFSK, LOW CHANNEL – 2402 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.098	49.89	PK2	27.2	-26.2	0	50.89	-	-	74	-23.11	119	136	H
	* 1.098	39.29	MAv1	27.2	-26.2	0	40.29	54	-13.71	-	-	119	136	H
2	* 1.496	49.34	PK2	28.1	-25.9	0	51.54	-	-	74	-22.46	178	232	H
	* 1.497	37.2	MAv1	28.1	-25.9	0	39.4	54	-14.6	-	-	178	232	H
5	* 1.096	45.53	PK2	27.2	-26.2	0	46.53	-	-	74	-22.46	178	232	V
	* 1.094	35.82	MAv1	27.2	-26.2	0	36.82	54	-17.18	-	-	178	232	V
6	* 1.496	45.41	PK2	28.1	-25.9	0	47.61	-	-	74	-22.46	178	232	V
	* 1.497	33.2	MAv1	28.1	-25.9	0	35.4	54	-18.6	-	-	178	232	V
4	* 4.804	47.29	PK2	34	-31.1	0	50.19	-	-	74	-23.81	177	391	H
	* 4.804	42.19	MAv1	34	-31.1	0	45.09	54	-8.91	-	-	177	391	H
8	* 4.804	48	PK2	34	-31.1	0	50.9	-	-	74	-23.1	88	305	V
	* 4.804	44.05	MAv1	34	-31.1	0	46.95	54	-7.05	-	-	88	305	V
3	3.202	44.75	PK	32.7	-33.2	0	44.25	-	-	-	-	0-360	201	H
7	3.202	42.21	PK	32.7	-33.2	0	41.71	-	-	-	-	0-360	201	V

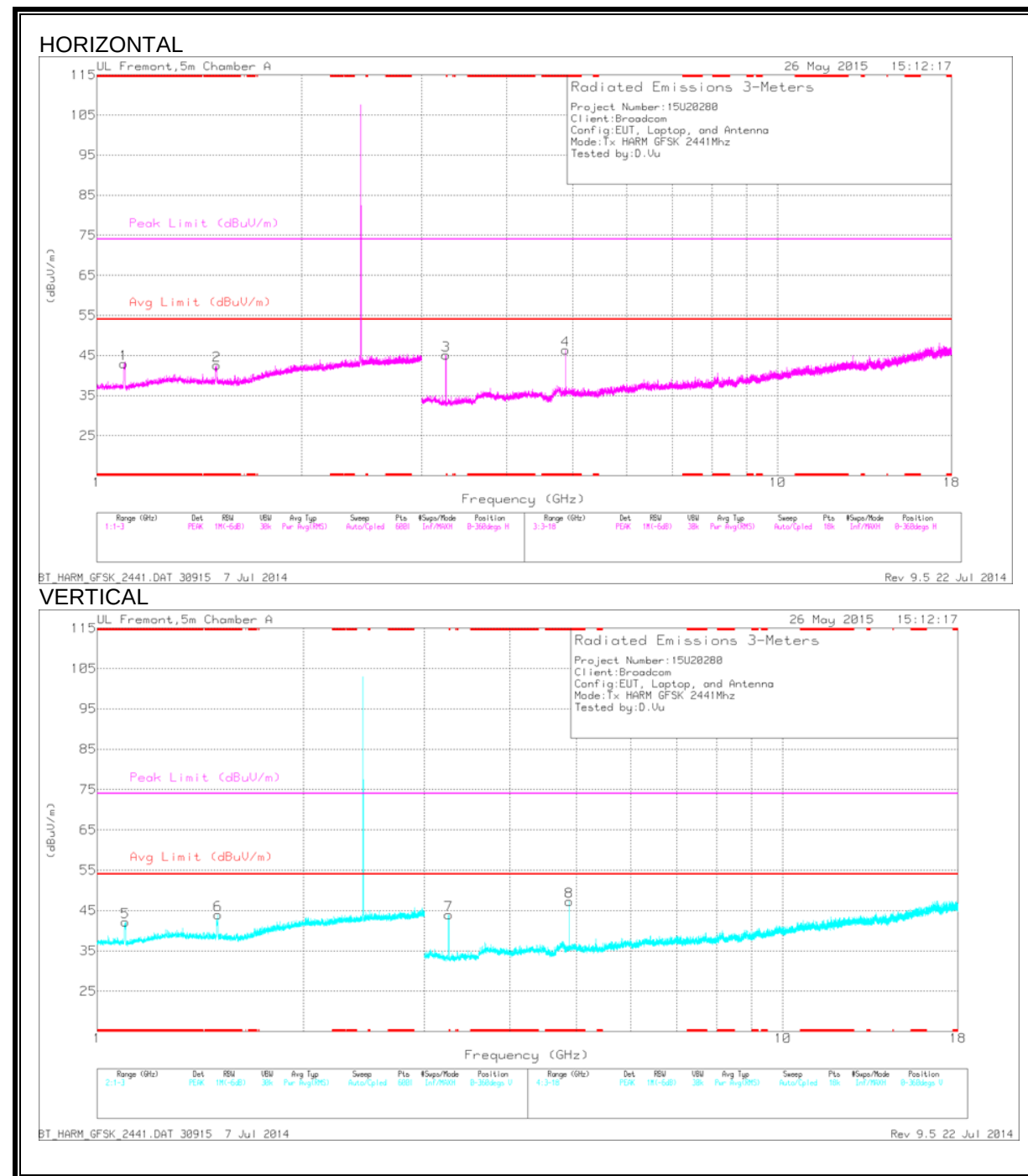
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

GFSK, MID CHANNEL – 2441 MHZ



GFSK, MID CHANNEL – 2441 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.096	49.57	PK2	27.2	-26.2	0	50.57	-	-	74	-23.43	118	135	H
	* 1.097	39.35	MAv1	27.2	-26.2	0	40.35	54	-13.65	-	-	118	135	H
2	* 1.498	47.65	PK2	28.1	-25.9	0	49.85	-	-	74	-24.15	359	100	H
	* 1.499	35.12	MAv1	28.1	-25.9	0	37.32	54	-16.68	-	-	359	100	H
5	* 1.099	45.98	PK2	27.2	-26.2	0	46.98	-	-	74	-27.02	359	202	V
	* 1.098	34.07	MAv1	27.2	-26.2	0	35.07	54	-18.93	-	-	359	202	V
6	* 1.498	48.22	PK2	28.1	-25.9	0	50.42	-	-	74	-23.58	360	201	V
	* 1.499	35.47	MAv1	28.1	-25.9	0	37.67	54	-16.33	-	-	360	201	V
4	* 4.882	43.06	PK2	33.9	-30	0	46.96	-	-	74	-27.04	359	202	H
	* 4.882	36	MAv1	33.9	-30	0	39.9	54	-14.1	-	-	359	202	H
8	* 4.882	41.55	PK2	33.9	-30	0	45.45	-	-	74	-28.55	359	202	V
	* 4.882	32.72	MAv1	33.9	-30	0	36.62	54	-17.38	-	-	359	202	V
3	3.255	45.66	PK	32.8	-33.4	0	45.06	-	-	-	-	0-360	201	H
7	3.255	44.55	PK	32.8	-33.4	0	43.95	-	-	-	-	0-360	201	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

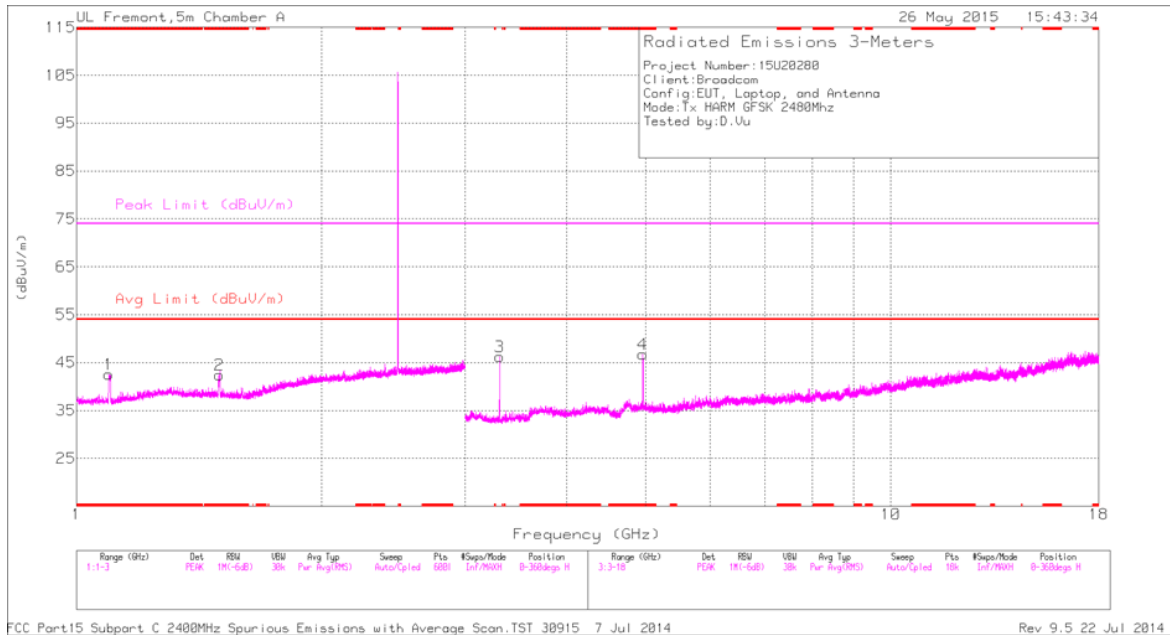
PK - Peak detector

PK2 - KDB558074 Method: Maximum Peak

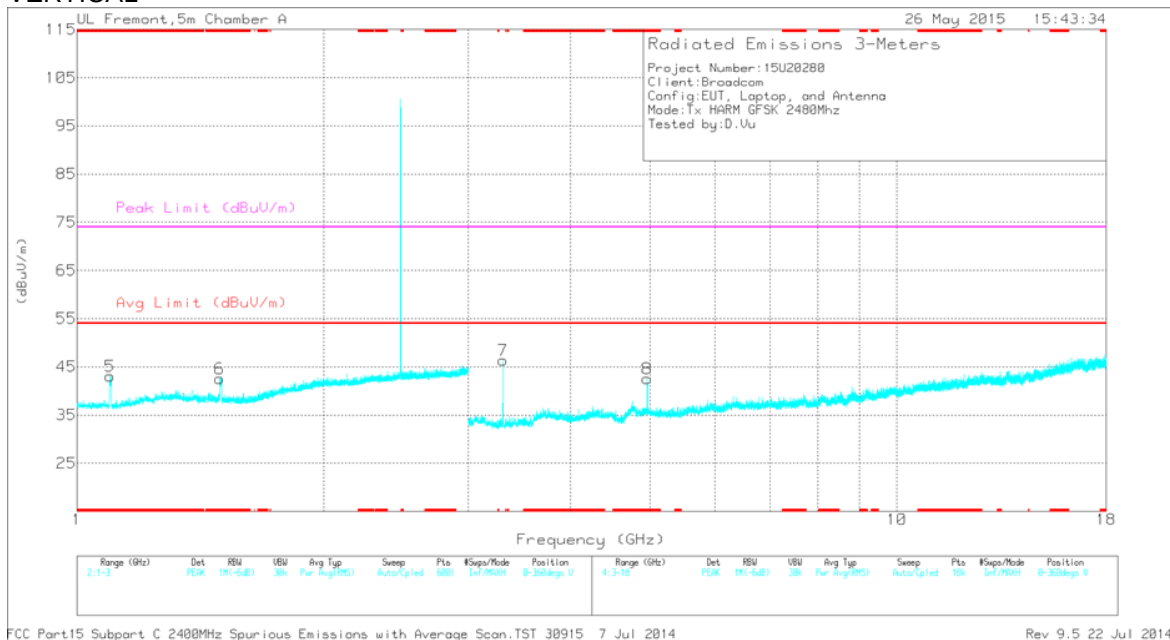
MAv1 - KDB558074 Option 1 Maximum RMS Average

GFSK, HIGH CHANNEL – 2480 MHz

HORIZONTAL



VERTICAL



GFSK, HIGH CHANNEL – 2480 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.099	45.85	PK2	27.2	-26.2	0	46.85	-	-	74	-27.15	359	202	V
	* 1.098	34.28	MAv1	27.2	-26.2	0	35.28	54	-18.72	-	-	359	202	V
2	* 1.498	45.96	PK2	28.1	-25.9	0	48.16	-	-	74	-25.84	359	202	V
	* 1.497	33.86	MAv1	28.1	-25.9	0	36.06	54	-17.94	-	-	359	202	V
5	* 1.096	47.49	PK2	27.2	-26.2	0	48.49	-	-	74	-25.51	143	381	V
	* 1.097	35.78	MAv1	27.2	-26.2	0	36.78	54	-17.22	-	-	143	381	V
6	* 1.494	47.57	PK2	28.1	-25.9	0	49.77	-	-	74	-24.23	348	207	V
	* 1.495	35.74	MAv1	28.1	-25.9	0	37.94	54	-16.06	-	-	348	207	V
4	* 4.96	47.25	PK2	33.9	-29.9	0	51.25	-	-	74	-22.75	26	215	H
	* 4.96	42.9	MAv1	33.9	-29.9	0	46.9	54	-7.1	-	-	26	215	H
8	* 4.96	43.05	PK2	33.9	-29.9	0	47.05	-	-	74	-26.95	359	202	V
	* 4.96	35.26	MAv1	33.9	-29.9	0	39.26	54	-14.74	-	-	359	202	V
3	3.307	46.49	PK	32.8	-33	0	46.29	-	-	-	-	0-360	201	H
7	3.307	46.57	PK	32.8	-33	0	46.37	-	-	-	-	0-360	201	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

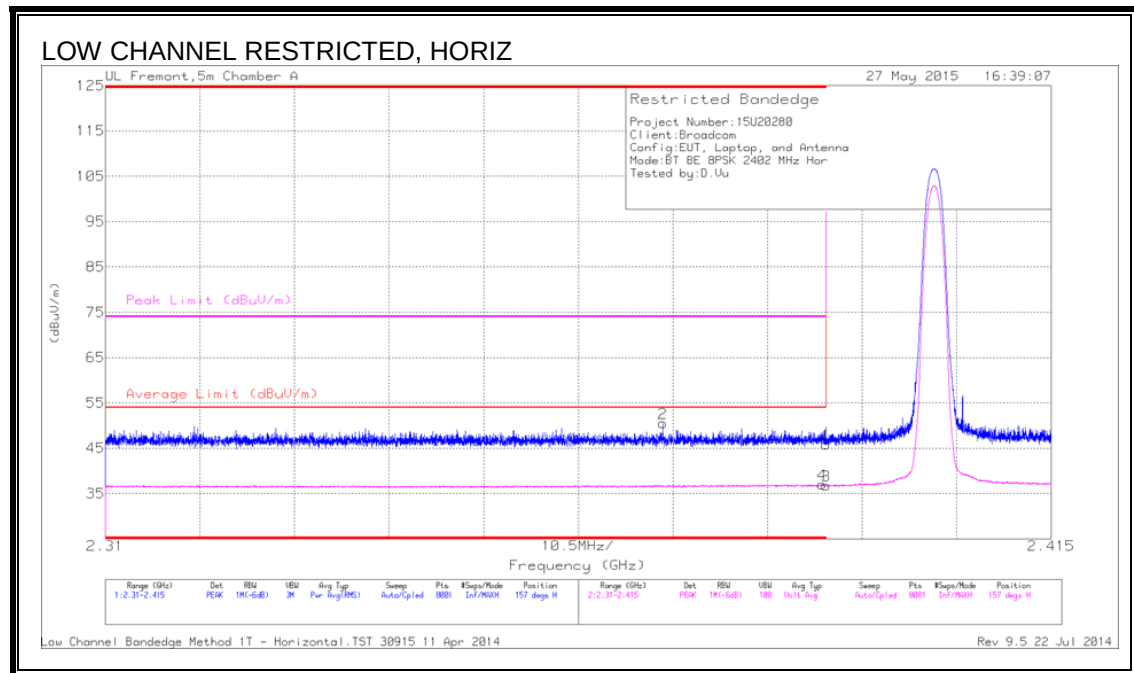
PK - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.2.2. ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



Trace Markers

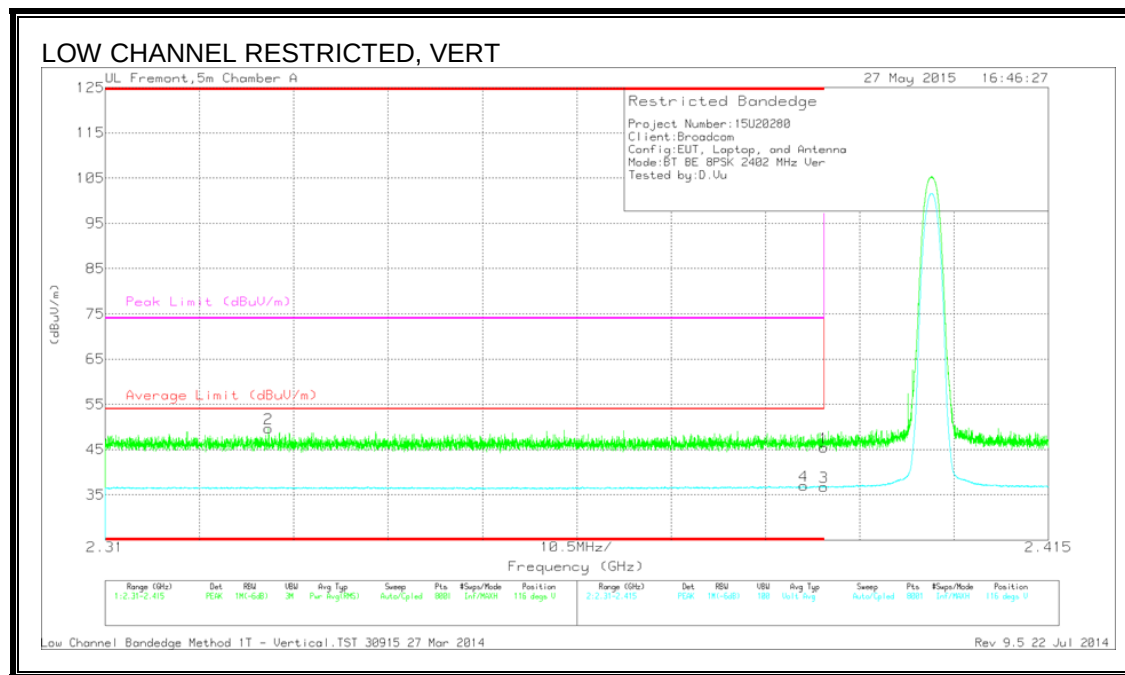
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.68	PK	32	-24.9	0	45.78	-	-	74	-28.22	157	331	H
2	* 2.372	43.65	PK	31.9	-25	0	50.55	-	-	74	-23.45	157	331	H
3	* 2.39	29.63	VB1T	32	-24.9	0	36.73	54	-17.27	-	-	157	331	H
4	* 2.39	29.85	VB1T	32	-24.9	0	36.95	54	-17.05	-	-	157	331	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



Trace Markers

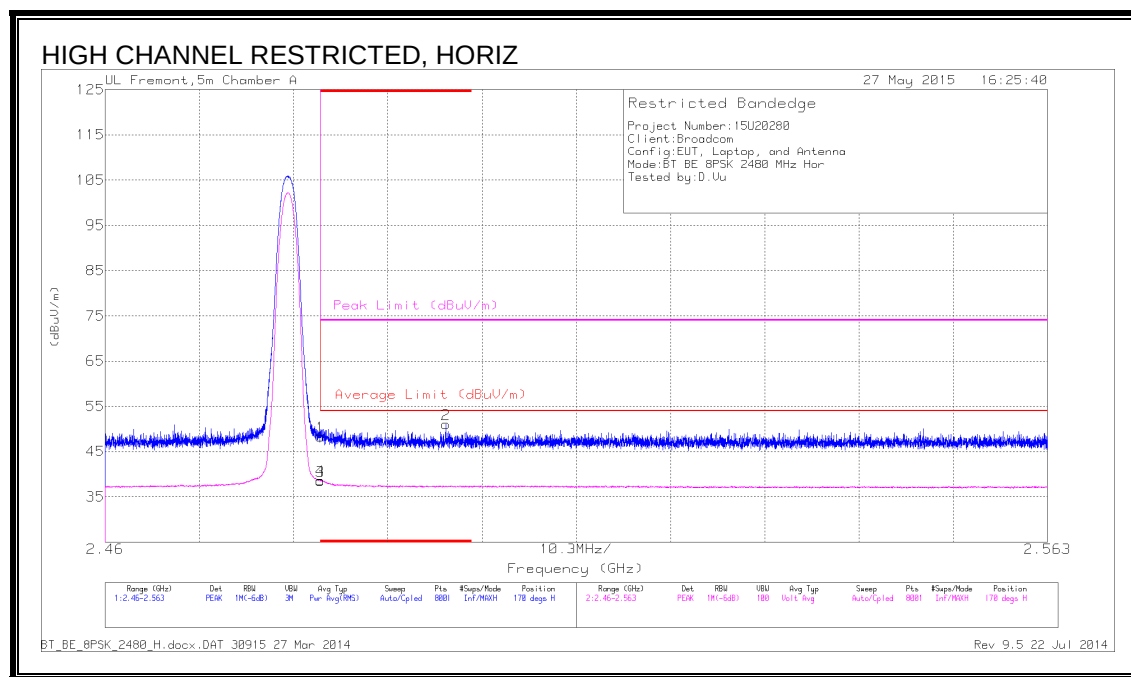
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.38	PK	32	-24.9	0	45.48	-	-	74	-28.52	116	342	V
2	* 2.328	42.81	PK	31.9	-25	0	49.71	-	-	74	-24.29	116	342	V
3	* 2.39	29.68	VB1T	32	-24.9	0	36.78	54	-17.22	-	-	116	342	V
4	* 2.388	29.85	VB1T	32	-24.9	0	36.95	54	-17.05	-	-	116	342	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



Trace Markers

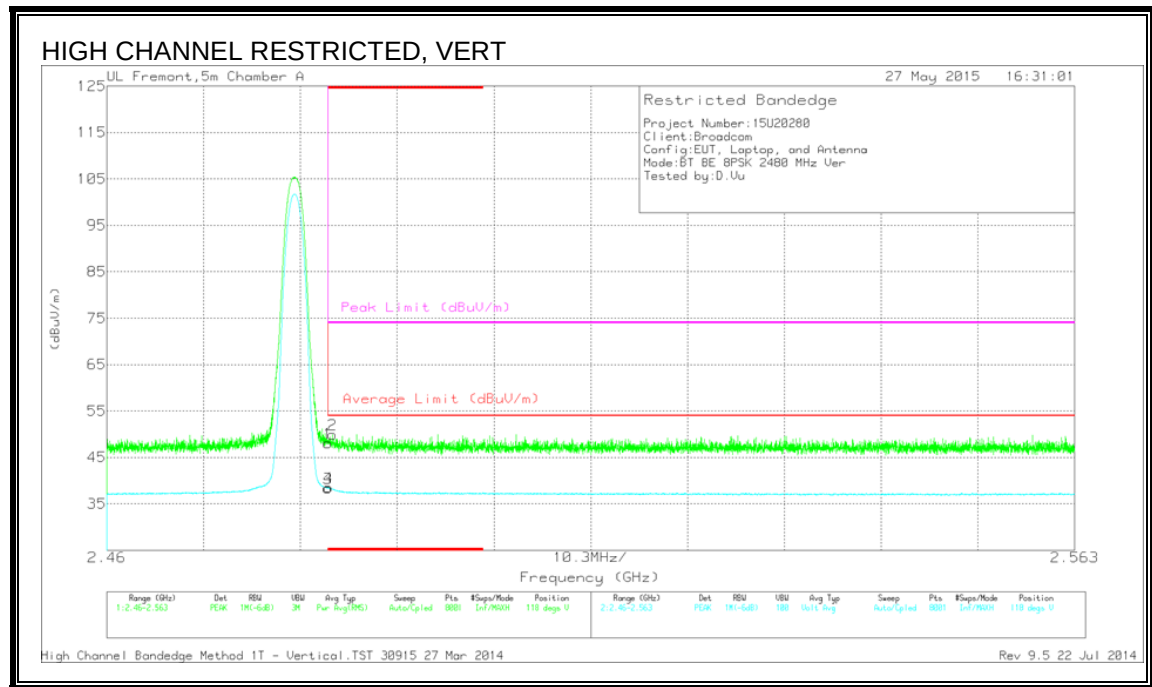
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.99	PK	32.1	-24.8	0	48.29	-	-	74	-25.71	170	316	H
2	* 2.497	43.64	PK	32.1	-24.7	0	51.04	-	-	74	-22.96	170	316	H
3	* 2.484	31.25	VB1T	32.1	-24.8	0	38.55	54	-15.45	-	-	170	316	H
4	* 2.484	31.34	VB1T	32.1	-24.8	0	38.64	54	-15.36	-	-	170	316	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.79	PK	32.1	-24.8	0	48.09	-	-	74	-25.91	118	327	V
2	* 2.484	42.62	PK	32.1	-24.8	0	49.92	-	-	74	-24.08	118	327	V
3	* 2.484	31.11	VB1T	32.1	-24.8	0	38.41	54	-15.59	-	-	118	327	V
4	* 2.484	31.15	VB1T	32.1	-24.8	0	38.45	54	-15.55	-	-	118	327	V

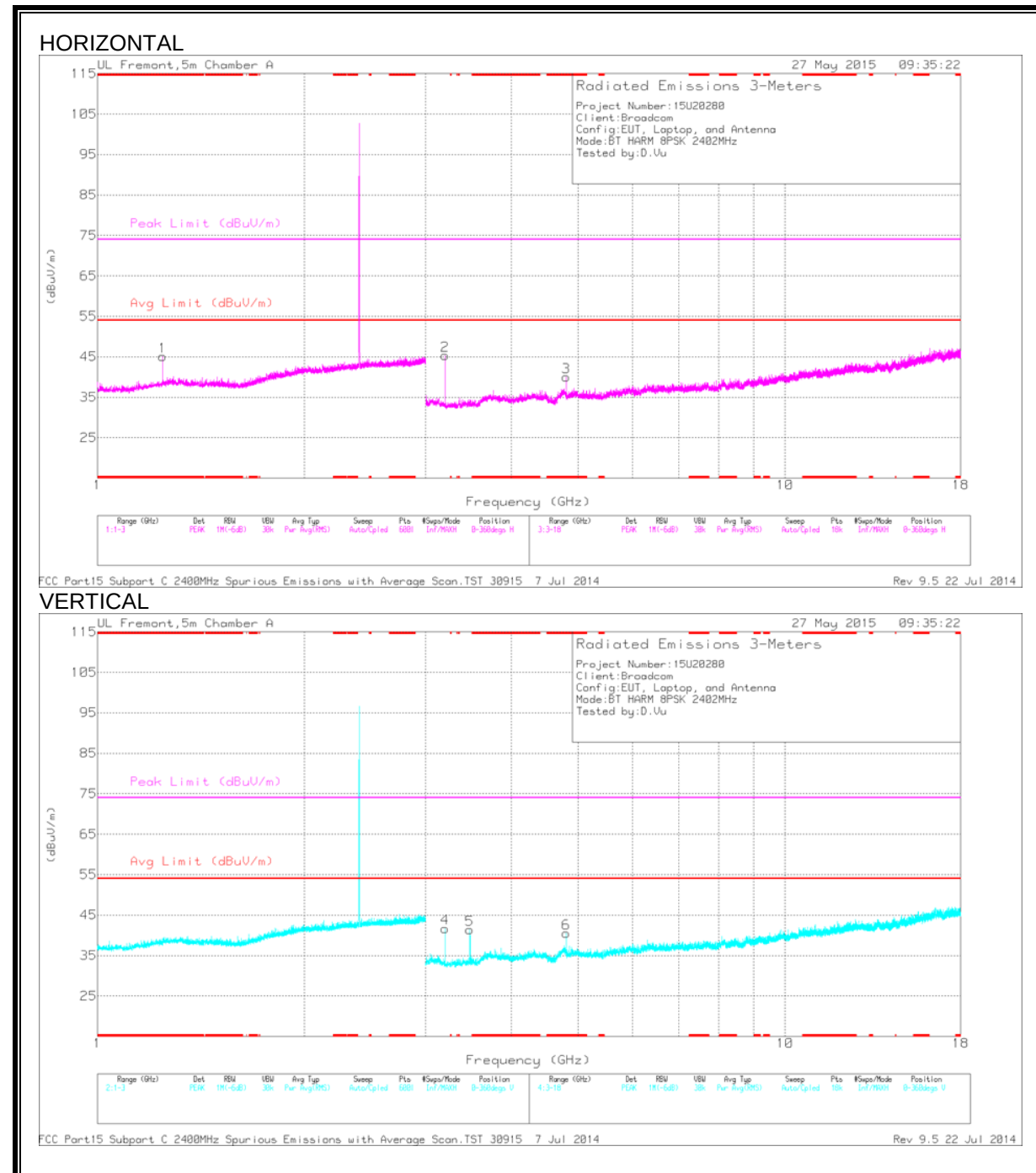
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

HARMONICS AND SPURIOUS EMISSIONS

8PSK, LOW CHANNEL – 2402 MHz



8PSK, LOW CHANNEL - 2402 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.245	47.87	PK2	28.4	-26.1	0	50.17	-	-	74	-23.83	323	240	H
	* 1.245	33.33	MAv1	28.4	-26.1	0	35.63	54	-18.37	-	-	323	240	H
3	* 4.804	45.45	PK2	34	-31.1	0	48.35	-	-	74	-25.65	2	230	H
	* 4.804	37.67	MAv1	34	-31.1	0	40.57	54	-13.43	-	-	2	230	H
6	* 4.804	45.5	PK2	34	-31.1	0	48.4	-	-	74	-25.6	41	221	V
	* 4.804	37.39	MAv1	34	-31.1	0	40.29	54	-13.71	-	-	41	221	V
2	3.202	45.86	PK	32.7	-33.2	0	45.36	-	-	-	-	0-360	201	H
4	3.202	42.23	PK	32.7	-33.2	0	41.73	-	-	-	-	0-360	201	V
5	3.48	40.77	PK	33.1	-32.4	0	41.47	-	-	-	-	0-360	201	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

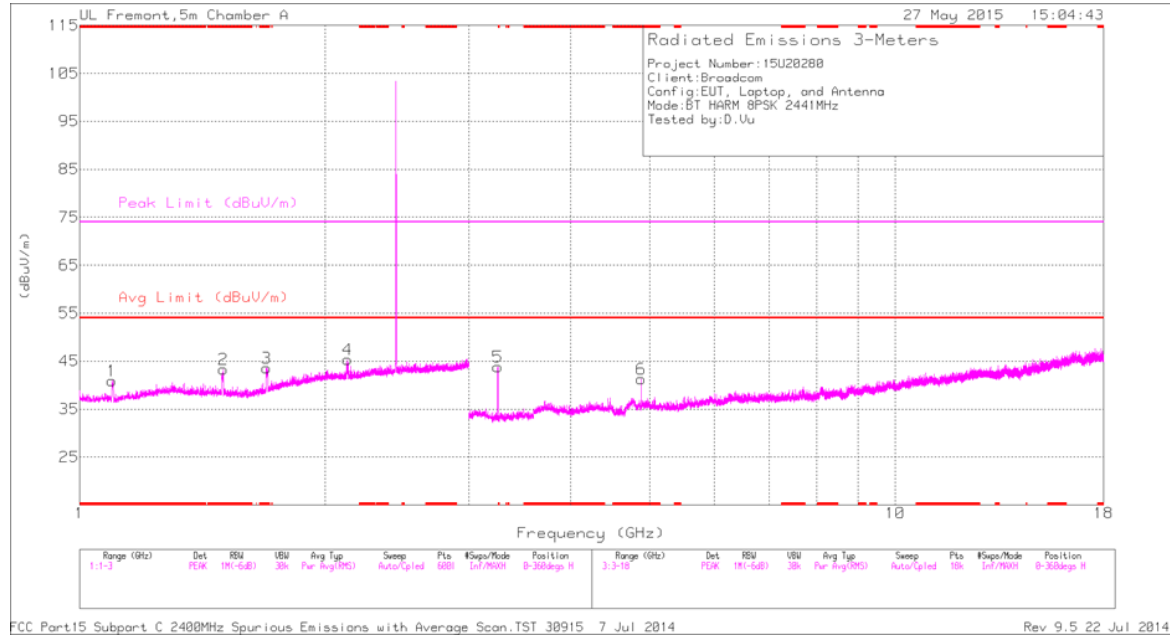
PK - Peak detector

PK2 - KDB558074 Method: Maximum Peak

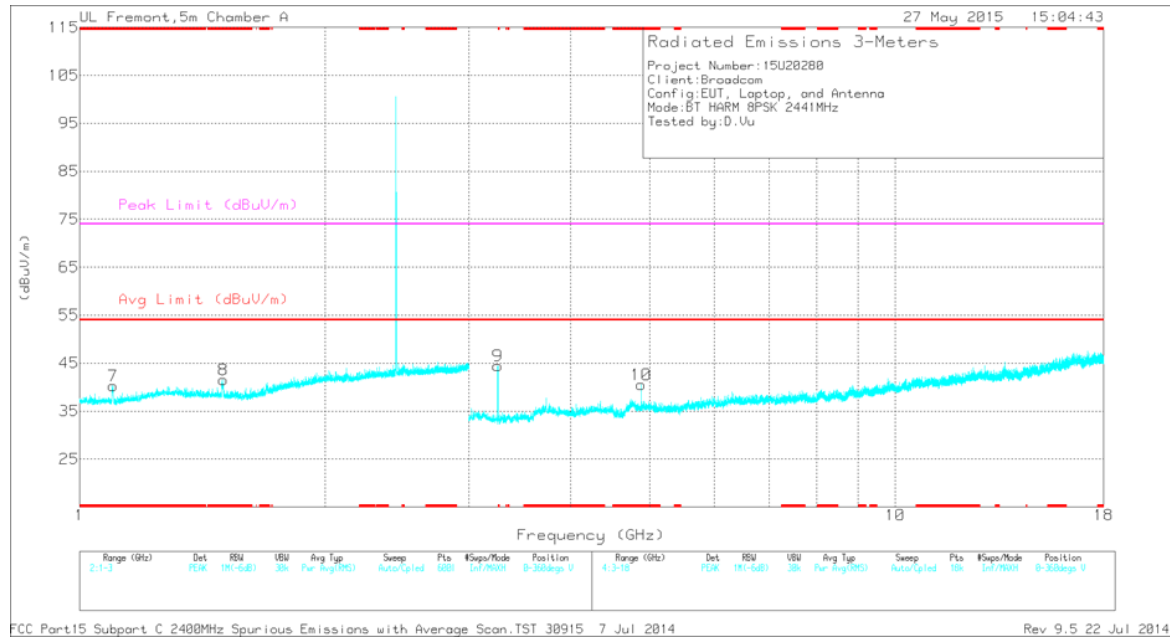
MAv1 - KDB558074 Option 1 Maximum RMS Average

8PSK, MID CHANNEL – 2441MHz

HORIZONTAL



VERTICAL



8PSK, MID CHANNEL – 2441MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.096	47.91	PK2	27.2	-26.2	0	48.91	-	-	74	-25.09	182	119	H
	* 1.096	36.51	MAv1	27.2	-26.2	0	37.51	54	-16.49	-	-	182	119	H
2	* 1.499	48.21	PK2	28.1	-25.9	0	50.41	-	-	74	-23.59	129	139	H
	* 1.498	36.45	MAv1	28.1	-25.9	0	38.65	54	-15.35	-	-	129	139	H
3	* 1.697	49.33	PK2	28.6	-25.6	0	52.33	-	-	74	-21.67	10	260	H
	* 1.694	37.15	MAv1	28.6	-25.6	0	40.15	54	-13.85	-	-	10	260	H
7	* 1.099	45.85	PK2	27.2	-26.2	0	46.85	-	-	74	-27.15	359	202	V
	* 1.098	34.28	MAv1	27.2	-26.2	0	35.28	54	-18.72	-	-	359	202	V
8	* 1.498	45.96	PK2	28.1	-25.9	0	48.16	-	-	74	-25.84	359	202	V
	* 1.497	33.86	MAv1	28.1	-25.9	0	36.06	54	-17.94	-	-	359	202	V
6	* 4.882	43.41	PK2	33.9	-30	0	47.31	-	-	74	-26.69	208	192	H
	* 4.882	34.94	MAv1	33.9	-30	0	38.84	54	-15.16	-	-	208	192	H
10	* 4.882	40.61	PK2	33.9	-30	0	44.51	-	-	74	-29.49	359	202	V
	* 4.882	30.21	MAv1	33.9	-30	0	34.11	54	-19.89	-	-	359	202	V
4	2.132	39.26	PK	31.4	-25.3	0	45.36	-	-	-	-	0-360	201	H
5	3.255	44.44	PK	32.8	-33.4	0	43.84	-	-	-	-	0-360	201	H
9	3.255	45.08	PK	32.8	-33.4	0	44.48	-	-	-	-	0-360	201	V

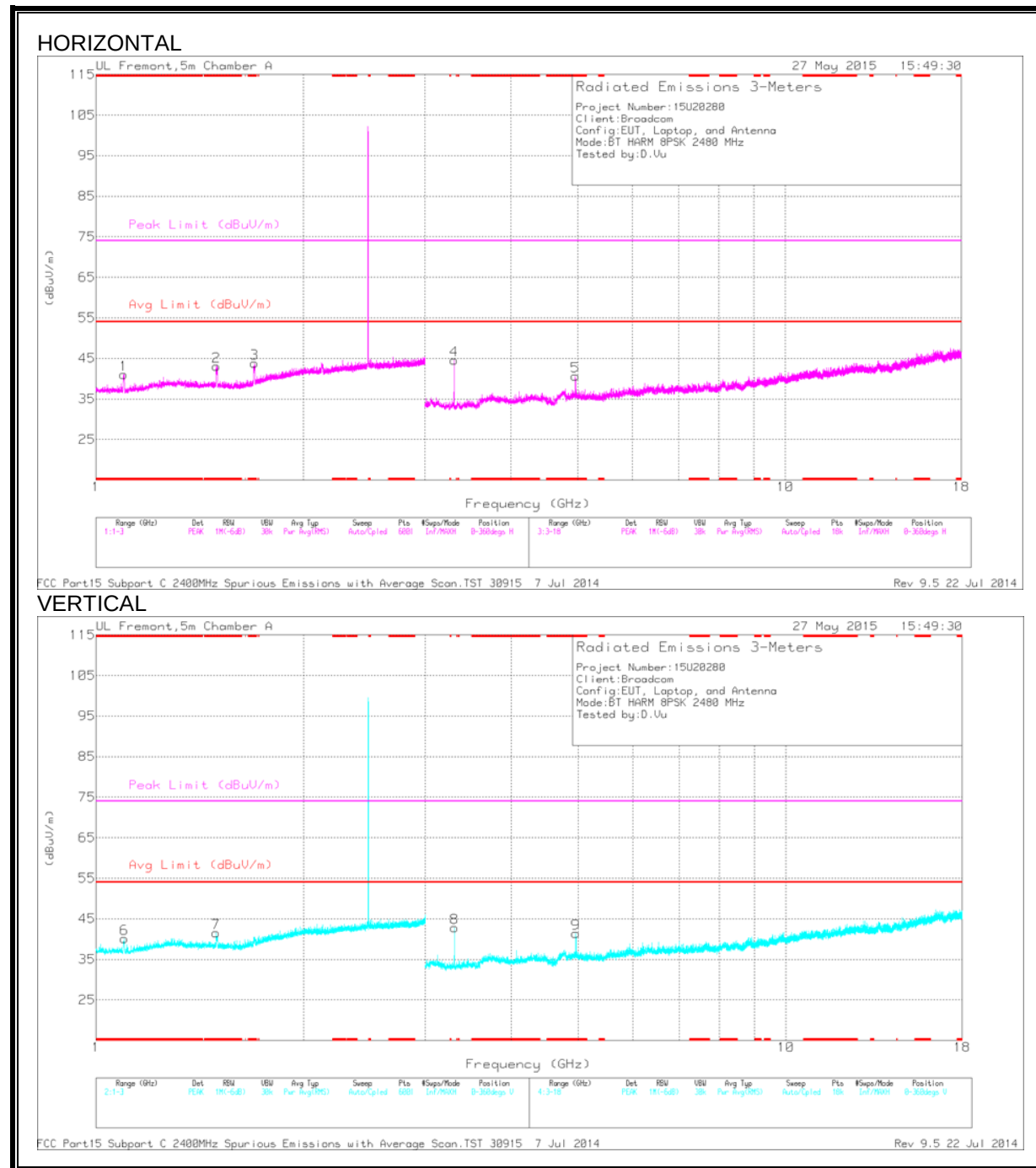
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

8PSK, HIGH CHANNEL – 2480 MHz



8PSK, HIGH CHANNEL – 2480 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.096	48.44	PK2	27.2	-26.2	0	49.44	-	-	74	-24.56	122	117	H
	* 1.096	37.13	MAv1	27.2	-26.2	0	38.13	54	-15.87	-	-	122	117	H
2	* 1.493	47.65	PK2	28.1	-25.9	0	49.85	-	-	74	-24.15	145	307	H
	* 1.494	35.92	MAv1	28.1	-25.9	0	38.12	54	-15.88	-	-	145	307	H
3	* 1.699	48.65	PK2	28.6	-25.6	0	51.65	-	-	74	-22.35	23	255	H
	* 1.698	36.82	MAv1	28.6	-25.6	0	39.82	54	-14.18	-	-	23	255	H
6	* 1.099	45.85	PK2	27.2	-26.2	0	46.85	-	-	74	-27.15	359	202	V
	* 1.098	34.28	MAv1	27.2	-26.2	0	35.28	54	-18.72	-	-	359	202	V
7	* 1.498	45.96	PK2	28.1	-25.9	0	48.16	-	-	74	-25.84	359	202	V
	* 1.497	33.86	MAv1	28.1	-25.9	0	36.06	54	-17.94	-	-	359	202	V
5	* 4.96	41.11	PK2	33.9	-29.9	0	45.11	-	-	74	-28.89	359	202	H
	* 4.96	30.41	MAv1	33.9	-29.9	0	34.41	54	-19.59	-	-	359	202	H
9	* 4.96	44.39	PK2	33.9	-29.9	0	48.39	-	-	74	-25.61	349	249	V
	* 4.96	36.09	MAv1	33.9	-29.9	0	40.09	54	-13.91	-	-	349	249	V
4	3.307	44.84	PK	32.8	-33	0	44.64	-	-	-	-	0-360	201	H
8	3.307	43.02	PK	32.8	-33	0	42.82	-	-	-	-	0-360	201	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

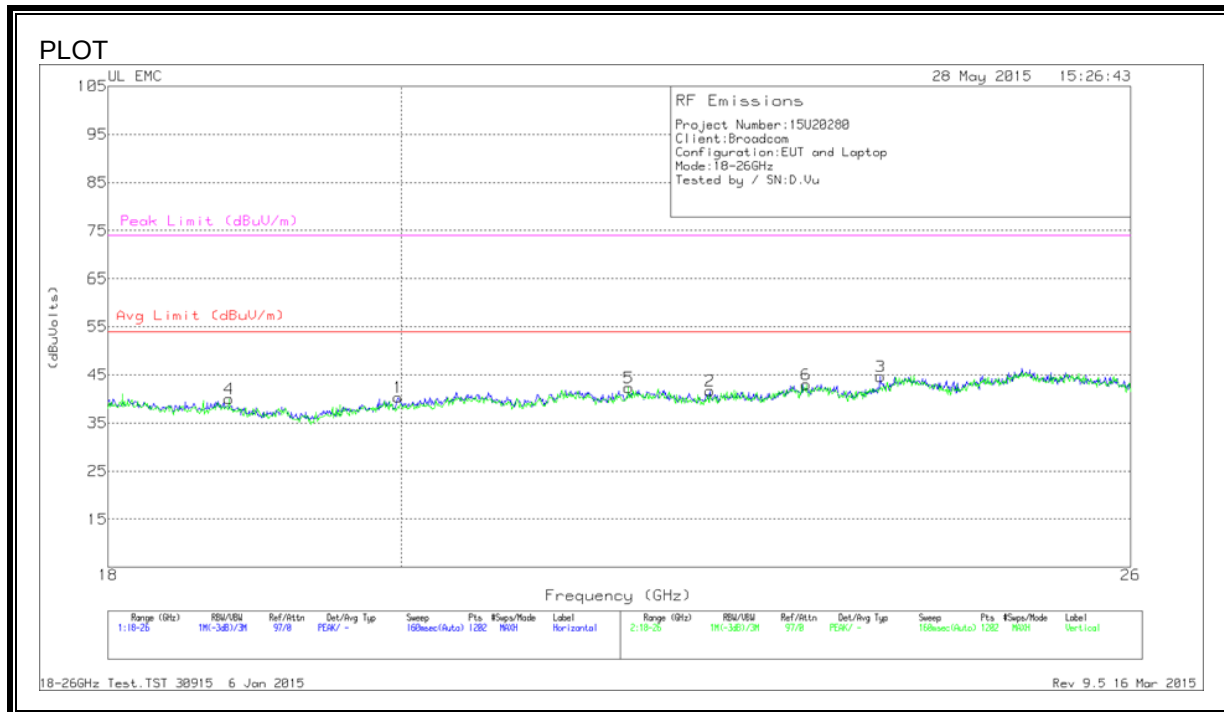
PK - Peak detector

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.3. WORST-CASE 18 to 26 GHz

SPURIOUS EMISSIONS 18 TO 26 GHz (WORST-CASE CONFIGURATION)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.978	41.03	Pk	33.0	-24.2	-9.5	40.3	54	-13.7	74	-33.7
2	22.35	41.67	Pk	33.0	-23.5	-9.5	41.7	54	-12.3	74	-32.3
3	23.762	43.27	Pk	33.8	-22.9	-9.5	44.7	54	-9.3	74	-29.3
4	18.799	41.30	Pk	32.5	-24.3	-9.5	40.0	54	-14.0	74	-34.0
5	21.704	42.13	Pk	33.3	-23.6	-9.5	42.3	54	-11.7	74	-31.7
6	23.136	42.10	Pk	33.5	-23.1	-9.5	43.0	54	-11.0	74	-31.0

Pk - Peak detector

9.4. WORST-CASE BELOW 1 GHz

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

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 166.5525	55.95	PK	11.7	-30.2	37.45	43.52	-6.07	0-360	200	H
4	* 266.4	48.14	PK	12.6	-29.6	31.14	46.02	-14.88	0-360	101	H
8	65.6575	47.4	PK	8	-30.8	24.6	40	-15.4	0-360	101	V
1	105.0975	41.36	PK	11.6	-30.5	22.46	43.52	-21.06	0-360	200	H
9	149.8075	52.21	PK	12.7	-30.2	34.71	43.52	-8.81	0-360	101	V
3	196.94	51.95	PK	12.2	-30	34.15	43.52	-9.37	0-360	100	H
5	299.4	59.44	PK	13.4	-29.4	43.44	46.02	-2.58	0-360	101	H
10	346.5	41.6	PK	14.1	-29.2	26.5	46.02	-19.52	0-360	200	V
6	415.7	44.33	PK	15.8	-29	31.13	46.02	-14.89	0-360	200	H
11	415.7	39.98	PK	15.8	-29	26.78	46.02	-19.24	0-360	200	V
12	692.9	40.29	PK	20	-28.2	32.09	46.02	-13.93	0-360	101	V
13	762.1	35.48	PK	20.8	-28.3	27.98	46.02	-18.04	0-360	200	V
14	897.7	38.23	PK	22.3	-27.4	33.13	46.02	-12.89	0-360	200	V
7	898.4	39.01	PK	22.3	-27.4	33.91	46.02	-12.11	0-360	300	H

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
299.5784	39.33	QP	13.4	-29.4	23.33	46.02	-22.69	138	112	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

QP - Quasi-Peak detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

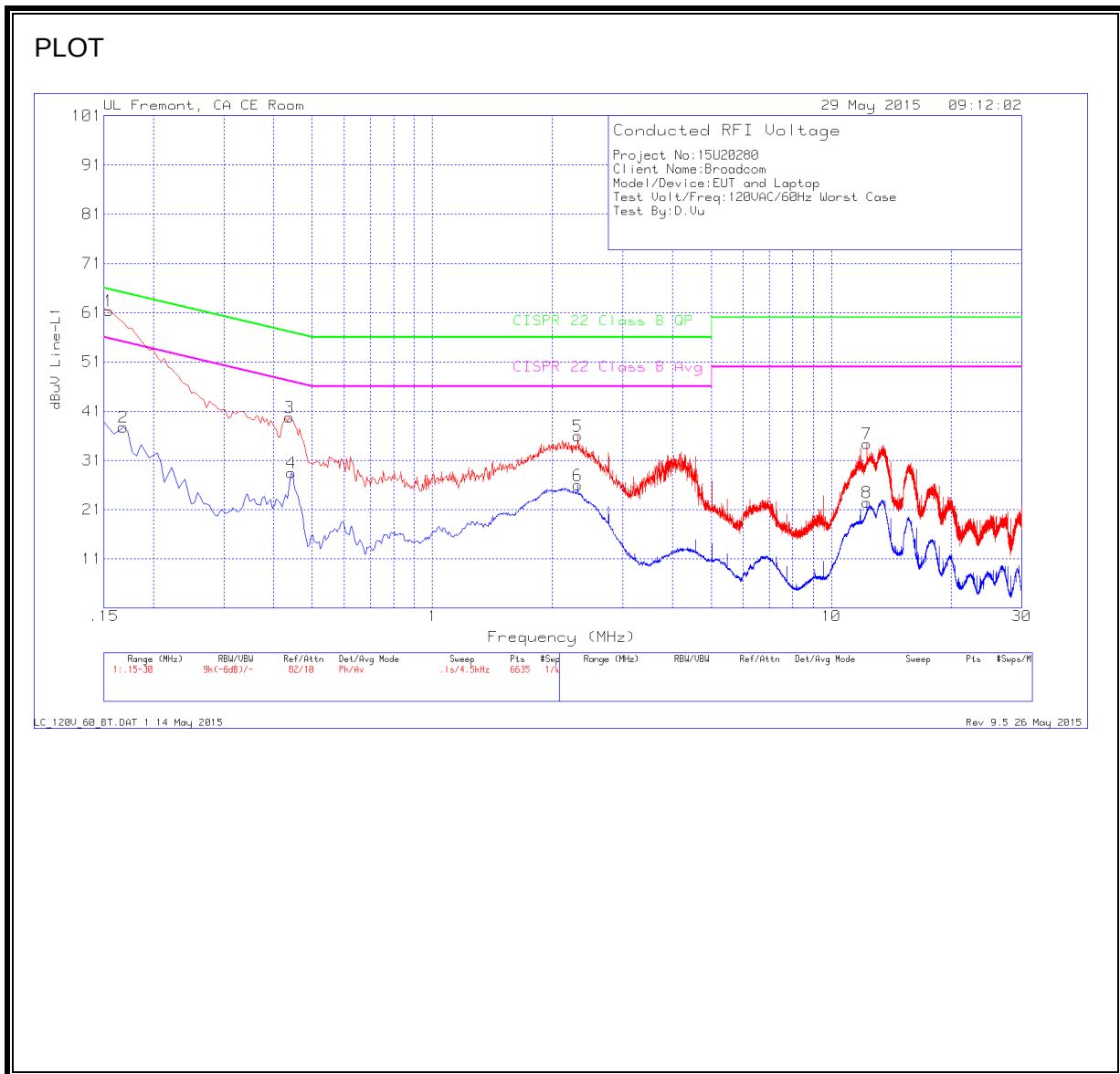
RSS-GEN Clause 8.8

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

* Decreases with the logarithm of the frequency.

6 WORST EMISSIONS

LINE 1 RESULTS



Trace Markers

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1545	60.08	Pk	1.3	0	61.38	65.75	-4.37	-	-
2	.168	36.55	Av	1.2	0	37.75	-	-	55.06	-17.31
3	.438	39.35	Pk	.4	0	39.75	57.1	-17.35	47.1	-7.35
4	.4425	28.07	Av	.4	0	28.47	-	-	47.01	-18.54
5	2.3145	35.64	Pk	.2	.1	35.94	56	-20.06	46	-10.06
6	2.3145	25.64	Av	.2	.1	25.94	-	-	46	-20.06
7	12.273	33.96	Pk	.2	.2	34.36	60	-25.64	50	-15.64
8	12.273	22.06	Av	.2	.2	22.46	-	-	50	-27.54

Range 1: Line-L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.15563	36.83	Ca	1.3	0	38.13	-	-	55.69	-17.56
.15563	55.93	Qp	1.3	0	57.23	65.69	-8.46	-	-

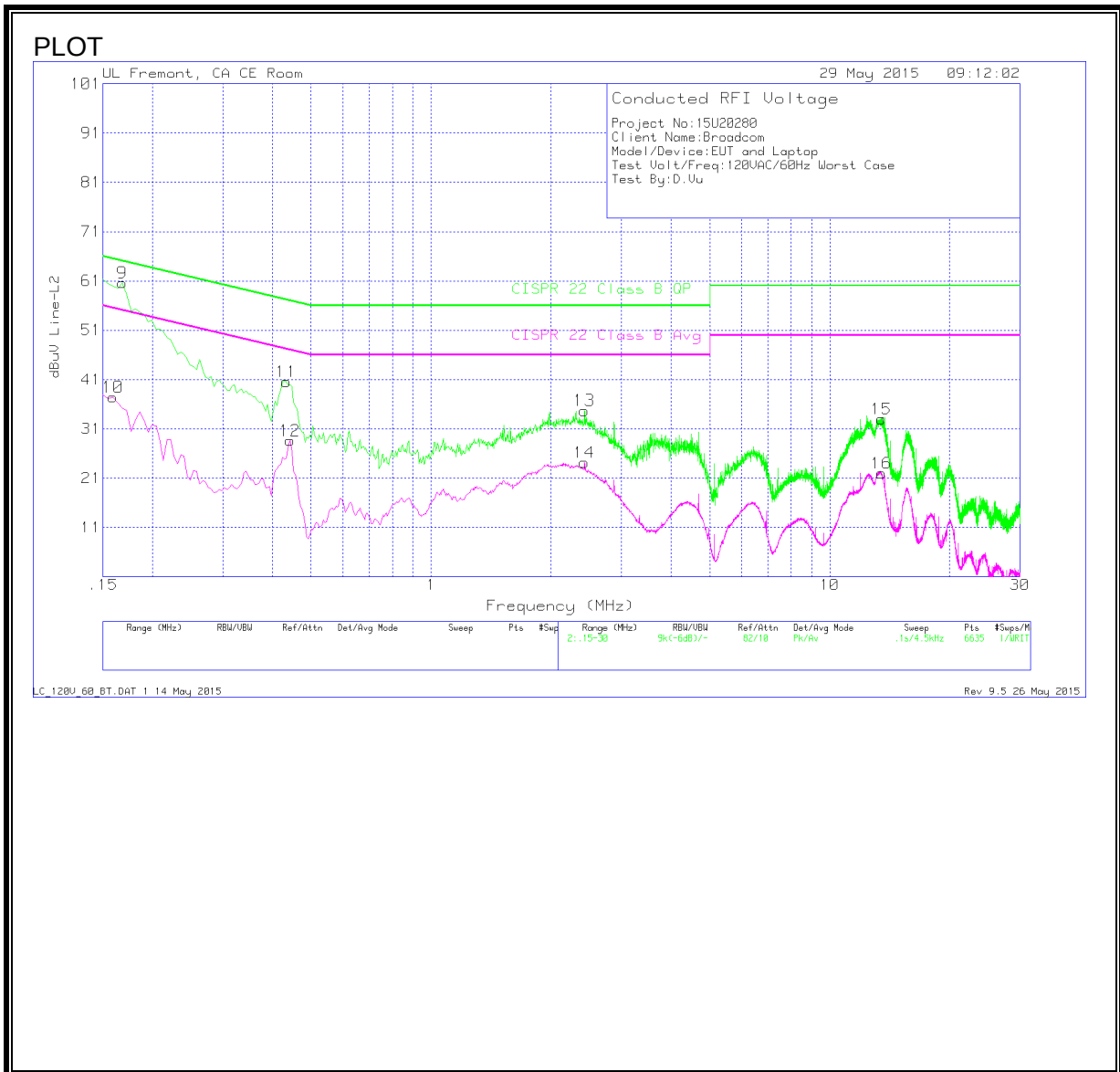
Pk - Peak detector

Av - Average detection

Ca - CISPR average detection

Qp - Quasi-Peak detector

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
9	.168	59.32	Pk	1.3	0	60.62	65.06	-4.44	-	-
10	.159	36.03	Av	1.4	0	37.43	-	-	55.52	-18.09
11	.4335	40.21	Pk	.4	0	40.61	57.19	-16.58	47.19	-6.58
12	.4425	28.22	Av	.4	0	28.62	-	-	47.01	-18.39
13	2.4225	34.43	Pk	.2	.1	34.73	56	-21.27	46	-11.27
14	2.4225	23.9	Av	.2	.1	24.2	-	-	46	-21.8
15	13.47	32.61	Pk	.2	.2	33.01	60	-26.99	50	-16.99
16	13.479	21.63	Av	.2	.2	22.03	-	-	50	-27.97

Range 2: Line-L2 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.16778	36.47	Ca	1.3	0	37.77	-	-	55.07	-17.3
.16778	54.09	Qp	1.3	0	55.39	65.07	-9.68	-	-

Pk - Peak detector

Av - Average detection

Ca - CISPR average detection

Qp - Quasi-Peak detector