FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: BCM943602CDP

FCC ID: QDS-BRCM1089
IC: 4324A-BRCM1089

REPORT NUMBER: 15U20173-E4 Revision A

ISSUE DATE: MAY 13, 2015

Prepared for
BROADCOM CORPORATION
190 MATHILDA PLACE
SUNNYVALE, CA 94086, U.S.A.

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	04/14/15	Initial Issue	F. Ibrahim
--	05/13/15	Updated output power	H. Mustapha

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

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

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

MODEL: BCM943602CDP

SERIAL NUMBER: Conducted: FC84495000FR0V45
Radiated: FC84495000FR0V45

DATE TESTED: MARCH 24 – MAY 13, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex 8	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:

FRANK IBRAHIM
PROGRAM MANAGER
UL Verification Services Inc.

Tested By:

Lionel Lara
EMC ENGINEER
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, ANSI C63.10-2013, ANSI C63.4-2014, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

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

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

47173 Benicia Street	47266 Benicia Street
☒ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F
	☐ Chamber G
	☒ Chamber H

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 802.11b/g/n/a/ac 3X3 WLAN + Bluetooth PCI-E Custom Combination Card.

The radio module is manufactured by Broadcom.

5.2. MAXIMUM 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	12.30	16.982
2402 - 2480	Enhanced 8PSK	11.22	13.243

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The EUT utilizes an 802.11a/b/g/n/ac WLAN/BT antenna with a maximum gain of 6.56 dBi for BT.

5.4. SOFTWARE AND FIRMWARE

The EUT driver software installed in the Laptop equipment during testing was 5.6.0.9020.

The test utility software used during testing was Broadcom Bluetool, Ver. 1.8.4.7.

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, 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 J3 (WF1) was used for testing BT.

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

EUT has AFH mode for BT.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	HP	EliteBook 2730p	2CE8487Zmt	N/A
AC Adapter	HP	PPP014L-SA	W97950ELLVC685	N/A
Catalyst PCIe. Board	Enterprises Inc.	NA	NA	DoC

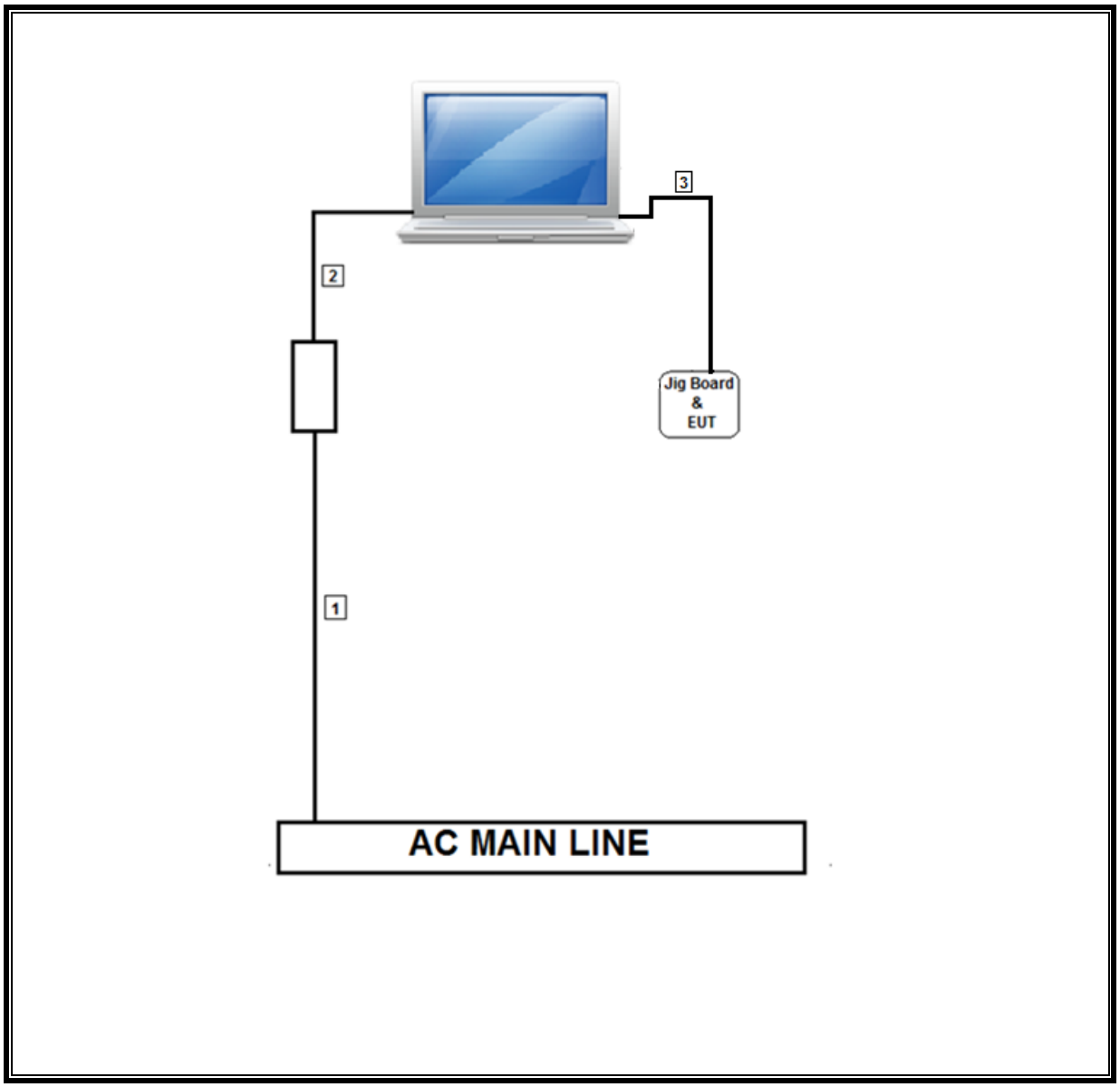
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	US115V	Unshielded	1	
2	DC	1	19Vdc	Unshielded	1.5	Ferrite on Laptop end
3	USB	1	USB	Unshielded	0.5	

TEST SETUP

The EUT is installed on a jig board and is connected to the laptop with a 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**	**T No.**	**Cal Date**	**Cal Due**
Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014		
Line Conducted Software	UL	UL EMC	Ver 9.5, May 17, 2012		
Bilog Antenna 30-1000MHz	Sunol	JB1	136	09/10/14	09/10/15
Horn Antenna 1-18GHz	ETS	3117	130	01/15/15	01/15/16
Horn Antenna 18-26GHz	ARA	SWH-28	125	05/09/14	05/09/15
Preamp 10kHz-1000MHz	Sonoma	310	300	11/01/14	11/01/15
Preamp 1-8GHz	Miteq	AMF-4D-01000800-30-29P	782	11/18/14	11/18/15
Preamp 1-18GHz	Miteq	AFS42-00101800-25-2-42	492	08/09/14	08/09/15
Preamp 1-26.5GHz	Agilent	8449B	404	04/06/15	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	04/07/14	04/07/15
EMI Test Receiver	Rohde & Schwarz	ECSI 7	212	08/14/14	08/14/15
Spectrum Analzer 3Hz to 44GHz	Agilent	E4440A	123	10/28/14	10/28/15
Power Meter	Agilent	N1911A	377	06/30/14	06/30/15
Power Sensor	Agilent	E9323A	399	05/02/14	05/02/15
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

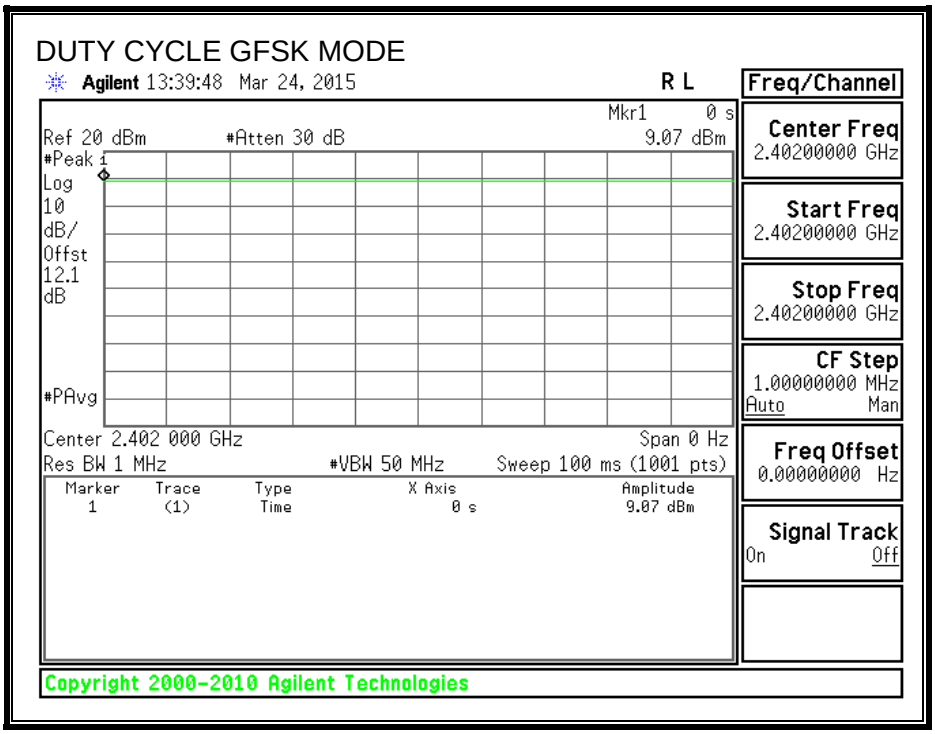
None; for reporting purposes only.

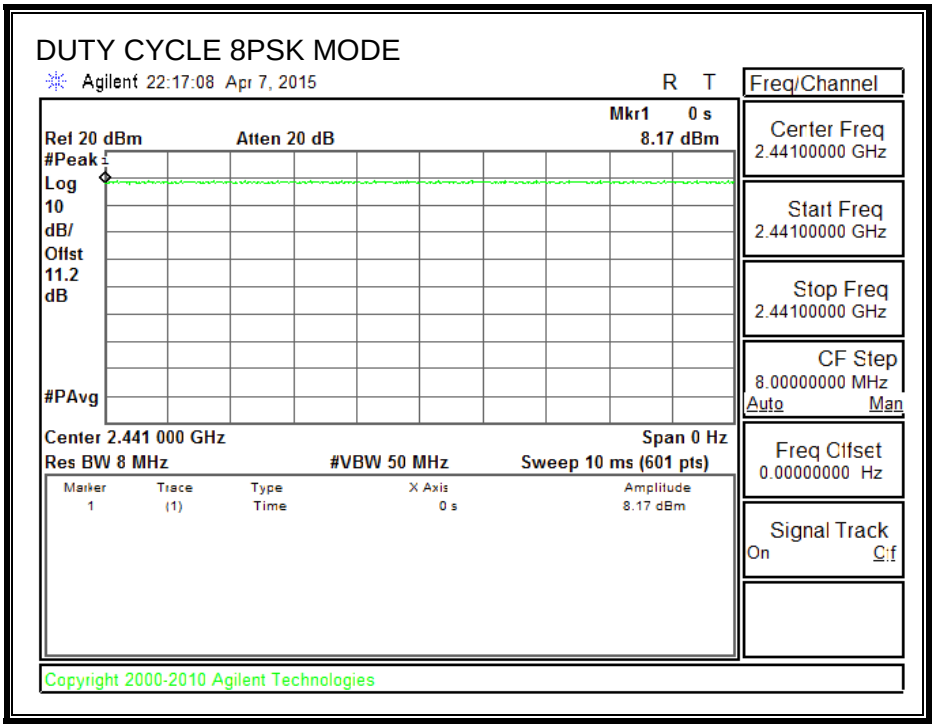
RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
2.4 GHz band (Hopping OFF)					
Bluetooth GFSK	100.000	100.000	1.000	100.00%	0.00
Bluetooth 8PSK	100.000	100.000	1.000	100.00%	0.00

DUTY CYCLE PLOTS

HOPPING OFF





8.2. BASIC DATA RATE GFSK MODULATION

8.2.1. 20 dB AND 99% BANDWIDTH

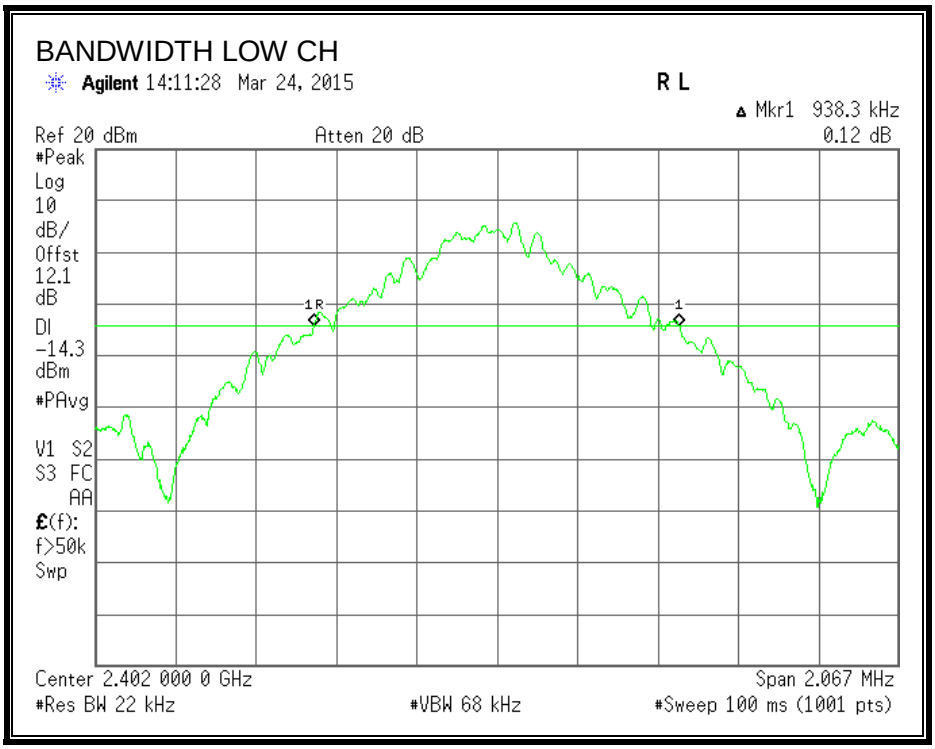
LIMIT

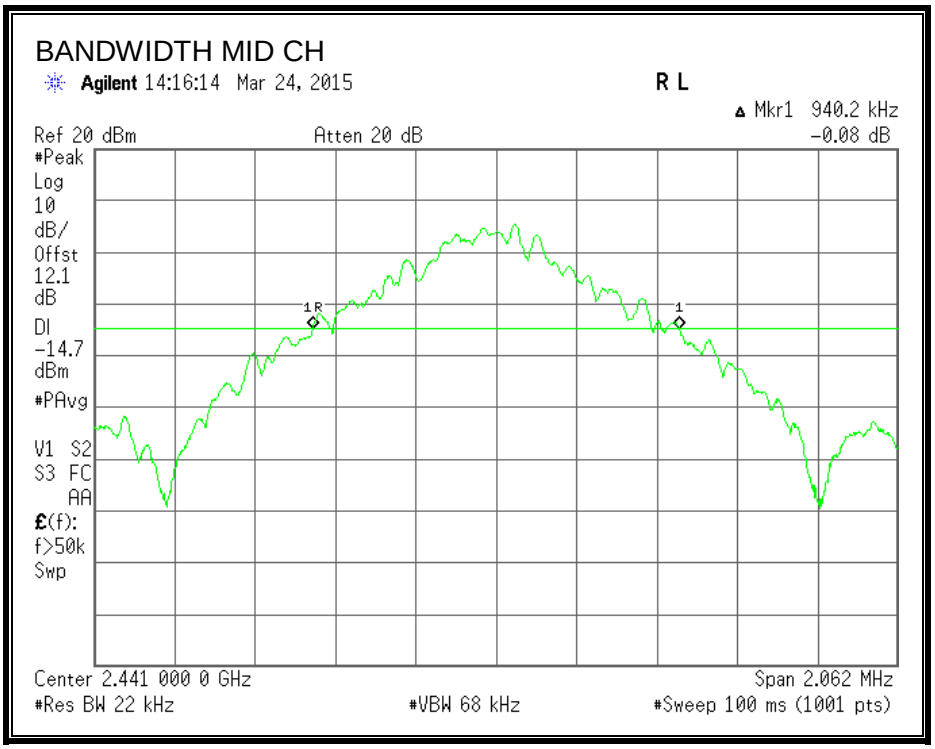
None; for reporting purposes only.

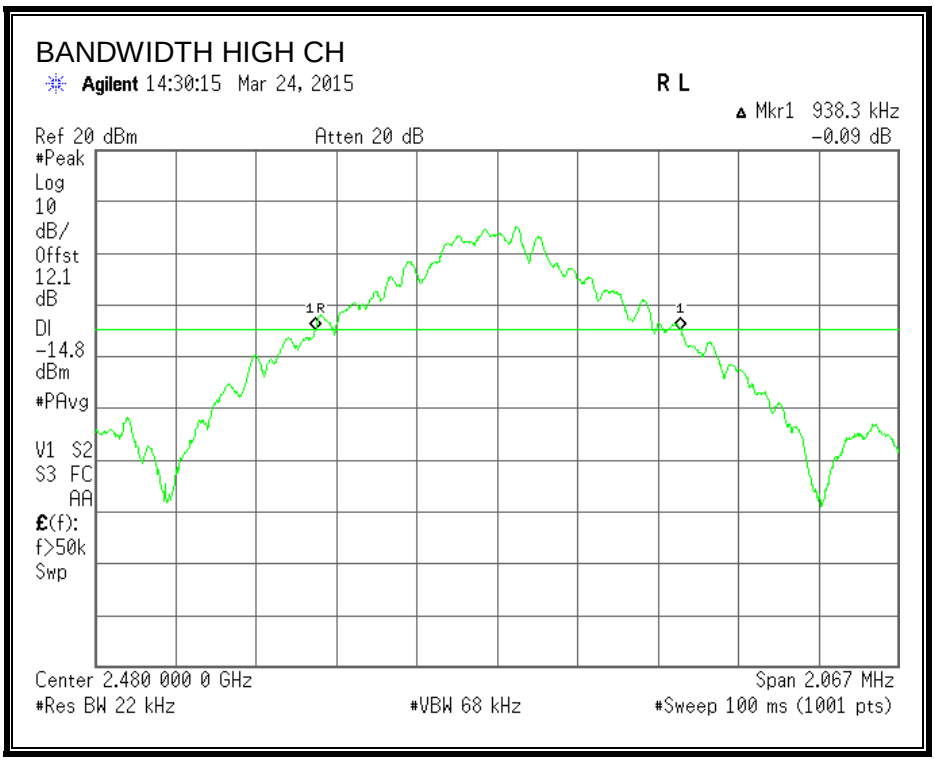
RESULTS

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	99% Bandwidth (kHz)
Low	2402	938.3	893.4926
Middle	2441	940.2	893.0204
High	2480	938.3	893.8132

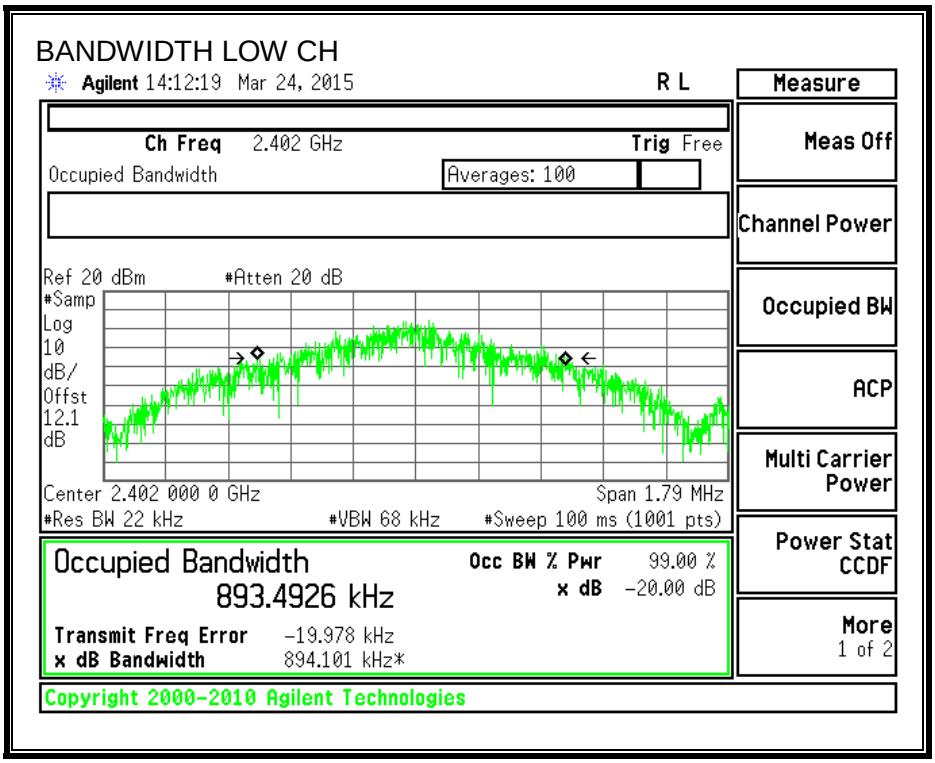
20 dB BANDWIDTH

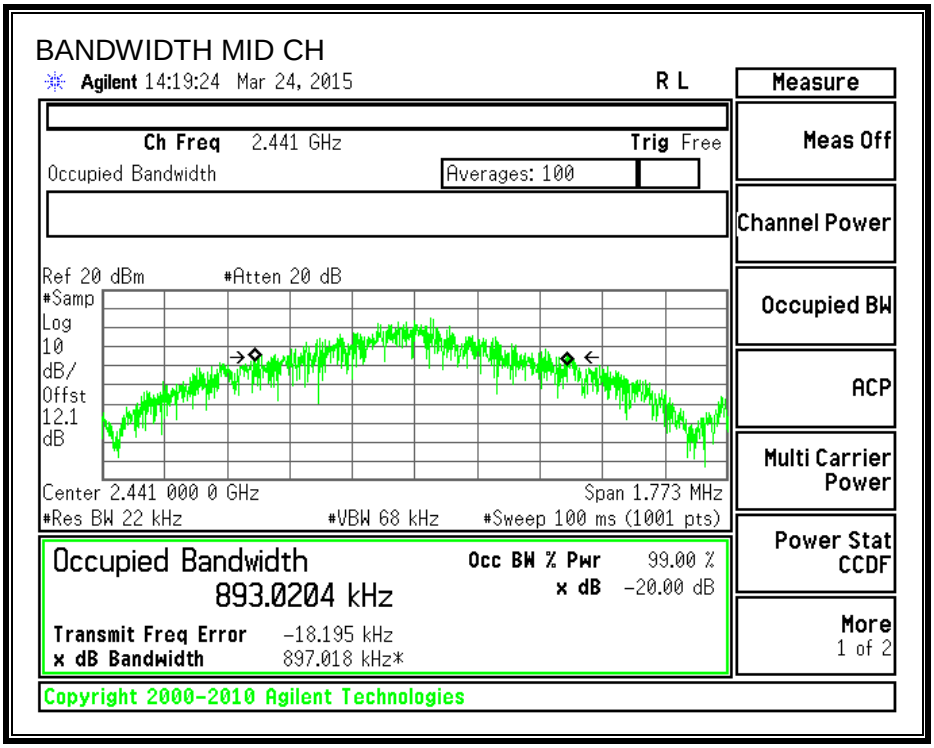


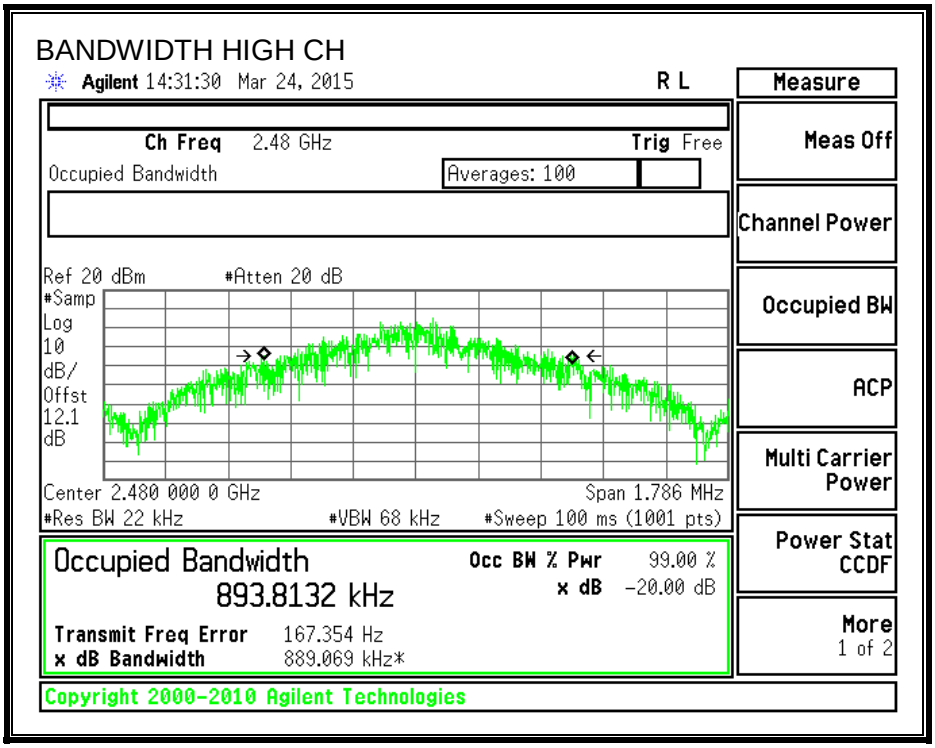




99% BANDWIDTH







8.2.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

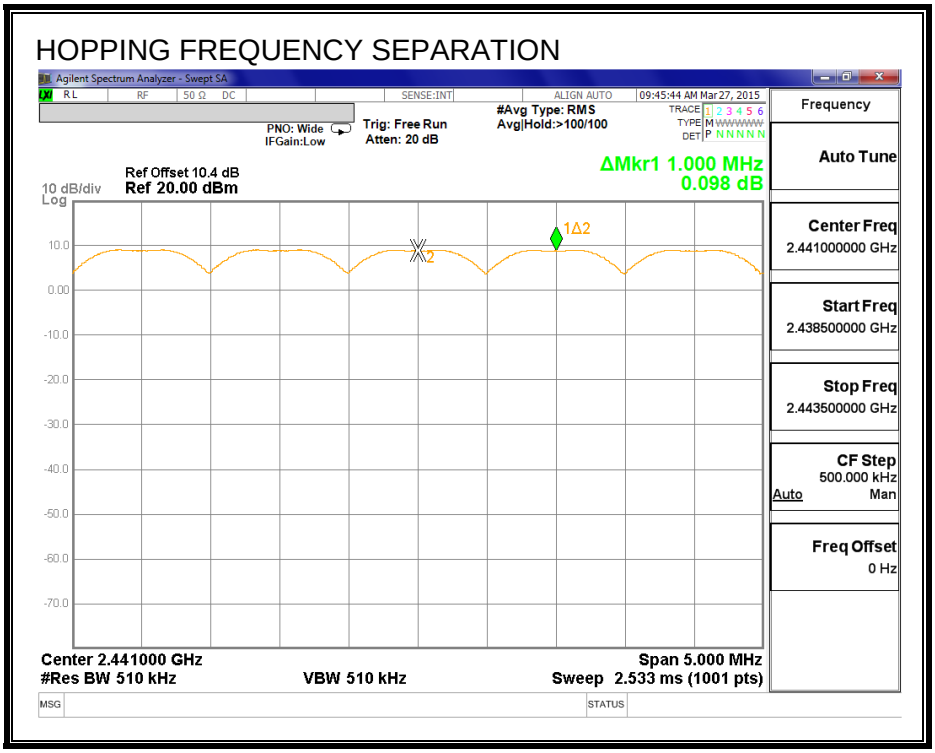
IC RSS-210 A8.1 (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hoping 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-210 A8.1 (d)

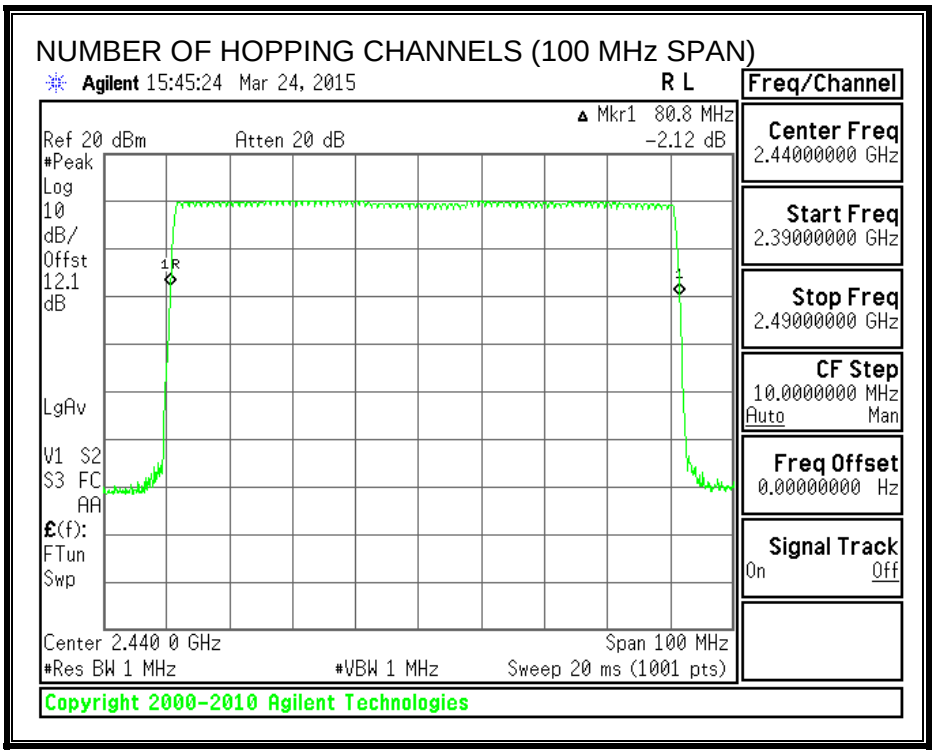
Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

RESULTS

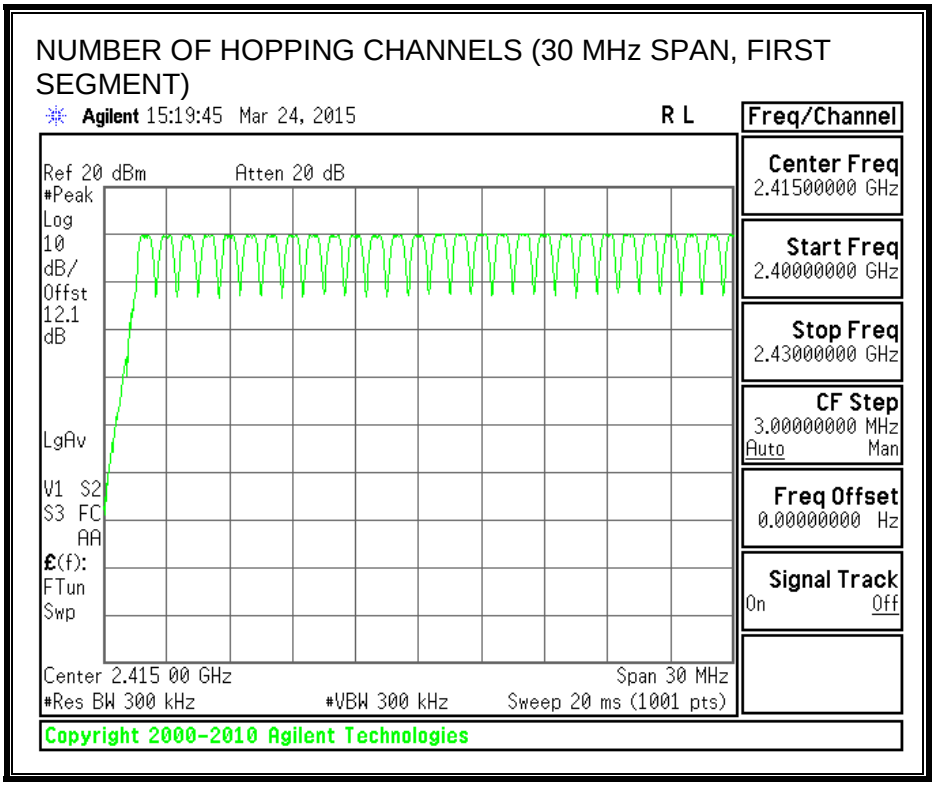
Normal Mode: 79 Channels observed.
AFH Mode: 20 Channels were declared by the client.

NUMBER OF HOPPING CHANNELS

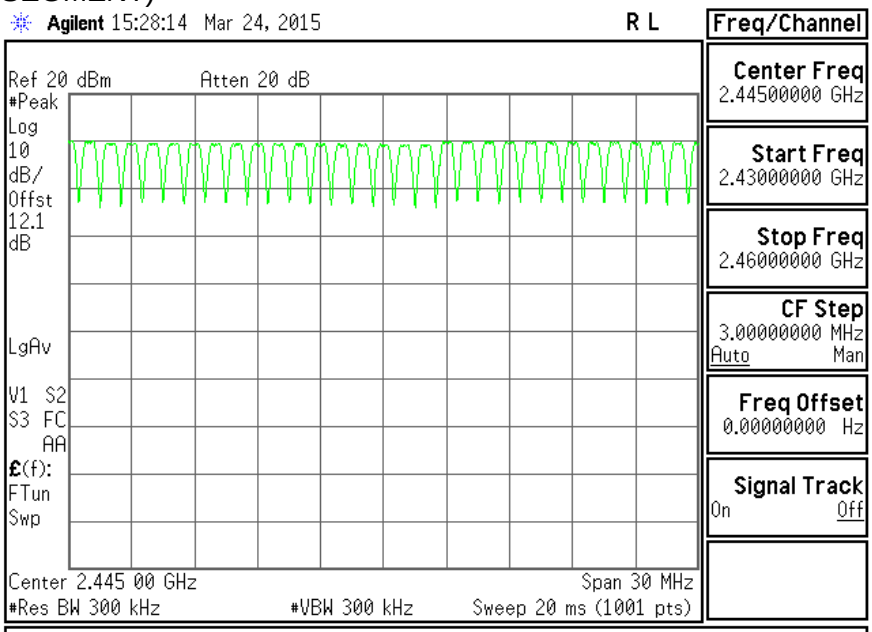
NUMBER OF HOPPING CHANNELS (100 MHz SPAN)



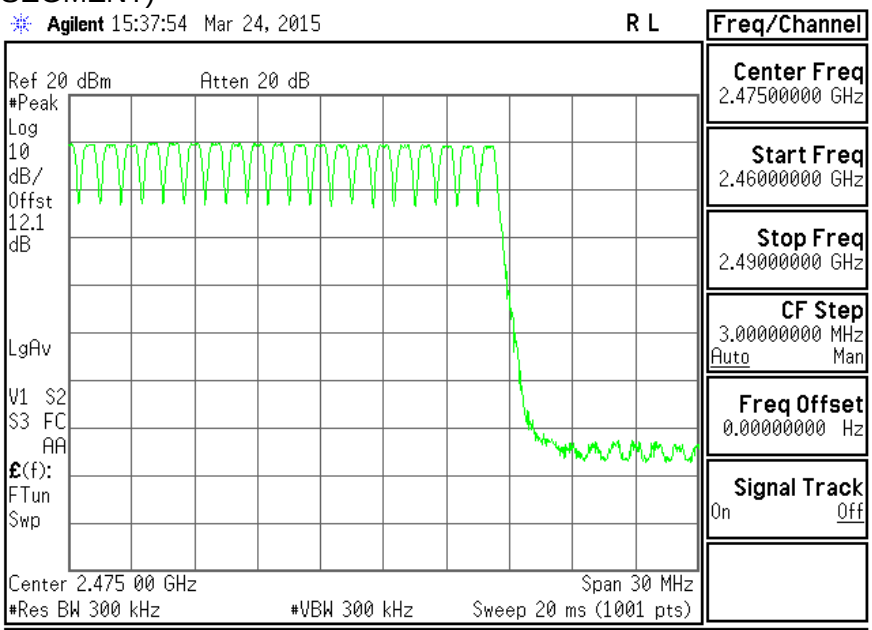
NUMBER OF HOPPING CHANNELS (30 MHz SPAN, FIRST SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHz SPAN, SECOND SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHz SPAN, THIRD SEGMENT)



8.2.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

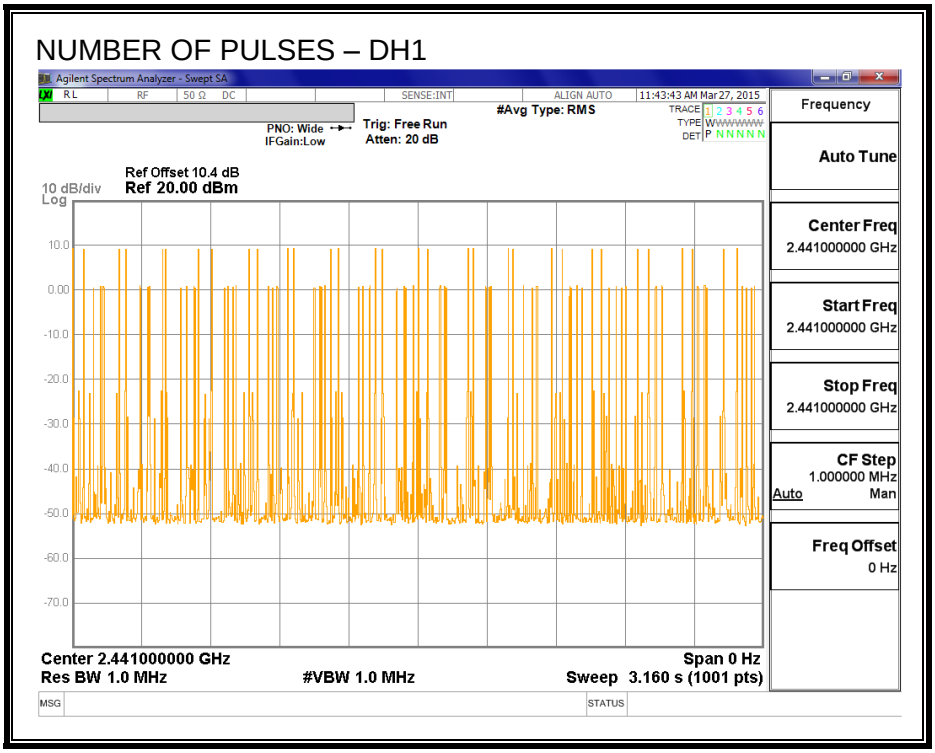
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

RESULTS

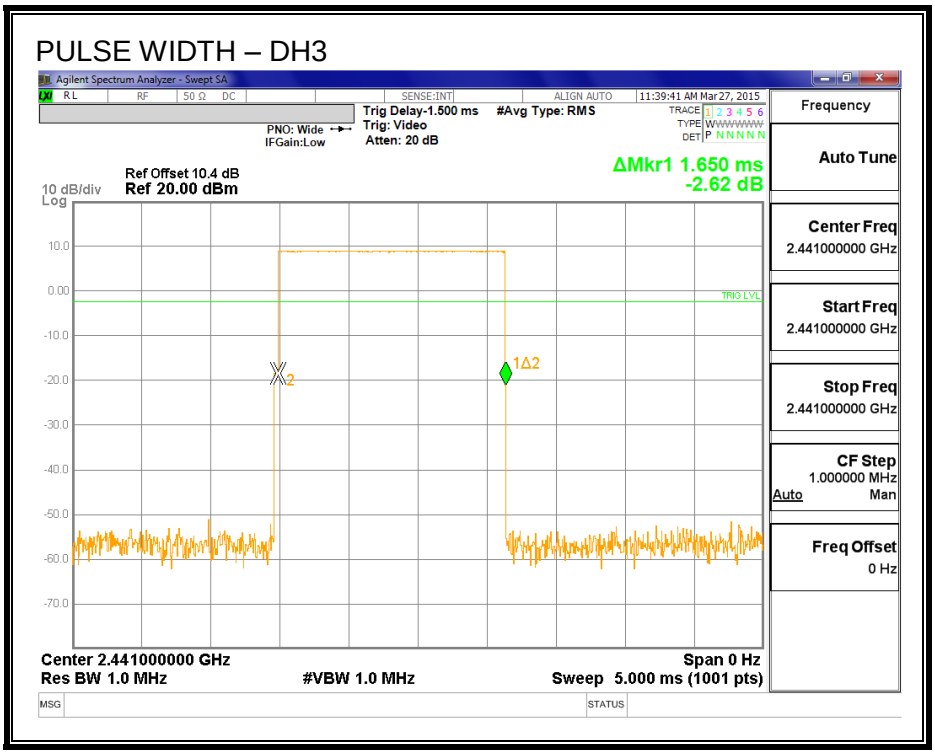
DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	0.388	32	0.124	0.4	-0.276
DH3	1.65	18	0.297	0.4	-0.103
DH5	2.92	10	0.292	0.4	-0.108
DH Packet	Pulse Width (msec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK AFH Mode					
DH1	0.388	8	0.031	0.4	-0.369
DH3	1.65	4.50	0.074	0.4	-0.326
DH5	2.92	2.5	0.073	0.4	-0.327

PULSE WIDTH - DH1

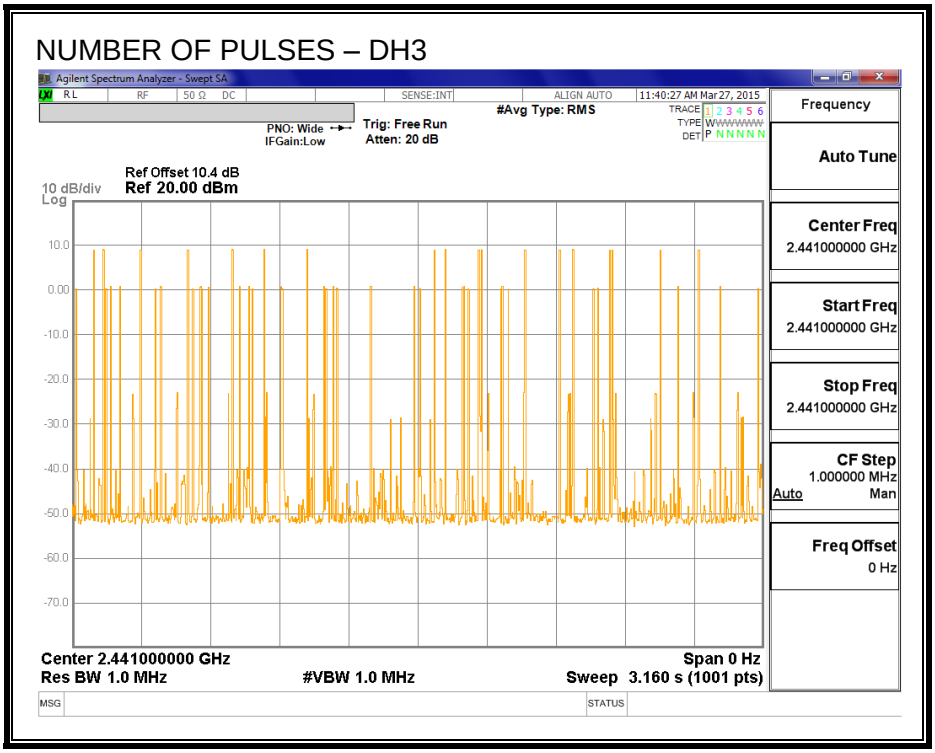
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



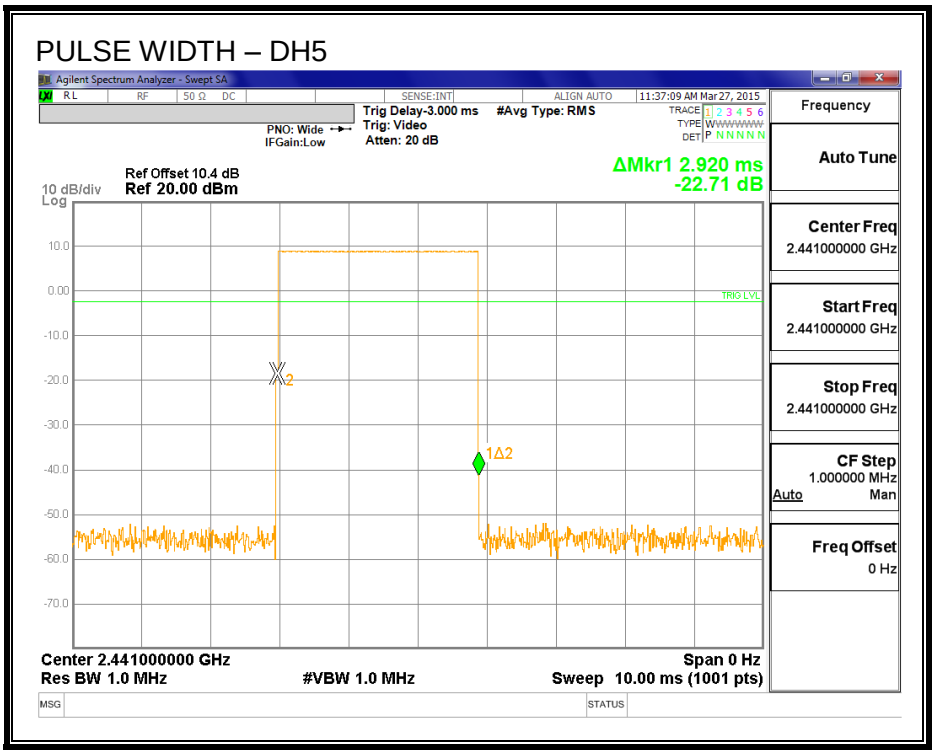
PULSE WIDTH – DH3



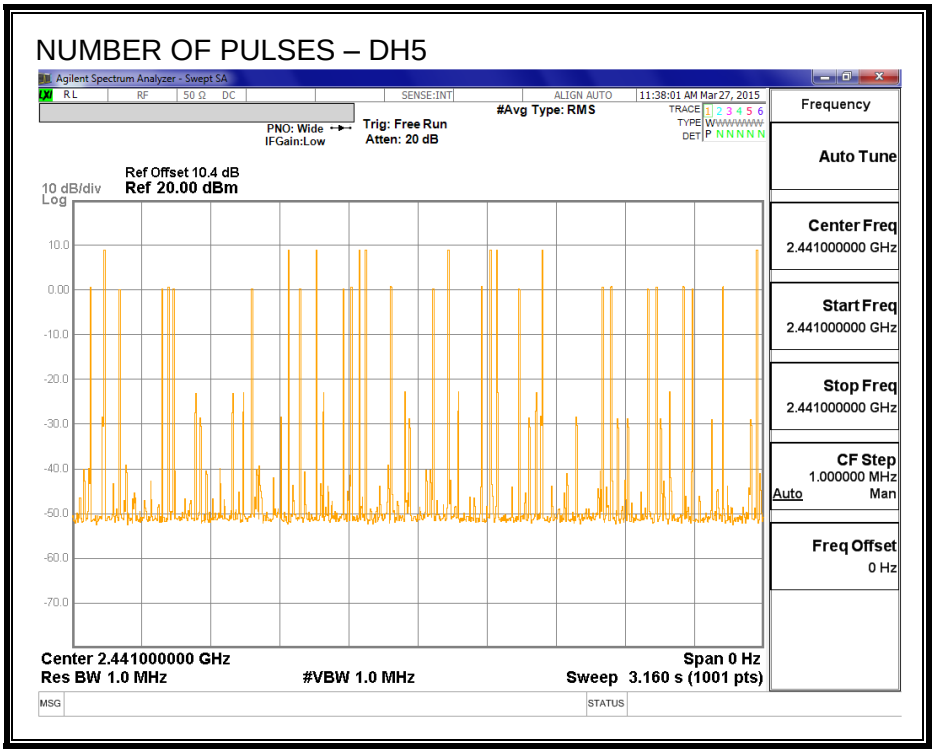
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5



8.2.5. PEAK OUTPUT POWER

LIMIT

§15.247 (b) (1)

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

RSS-210 Clause A8.4 (2)

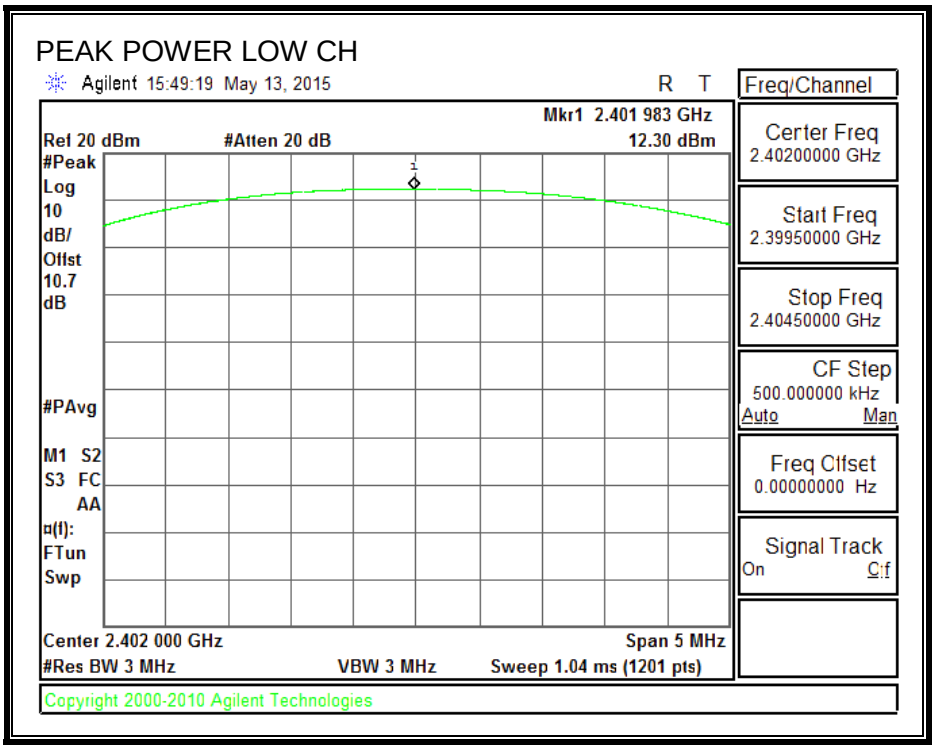
For frequency hopping systems operating in the band 2400-2483.5 MHz and employing at least 75 hopping channels, the maximum peak conducted output power shall not exceed 1 W; for all other frequency hopping systems in the band, the maximum peak conducted output power shall not exceed 0.125 W.

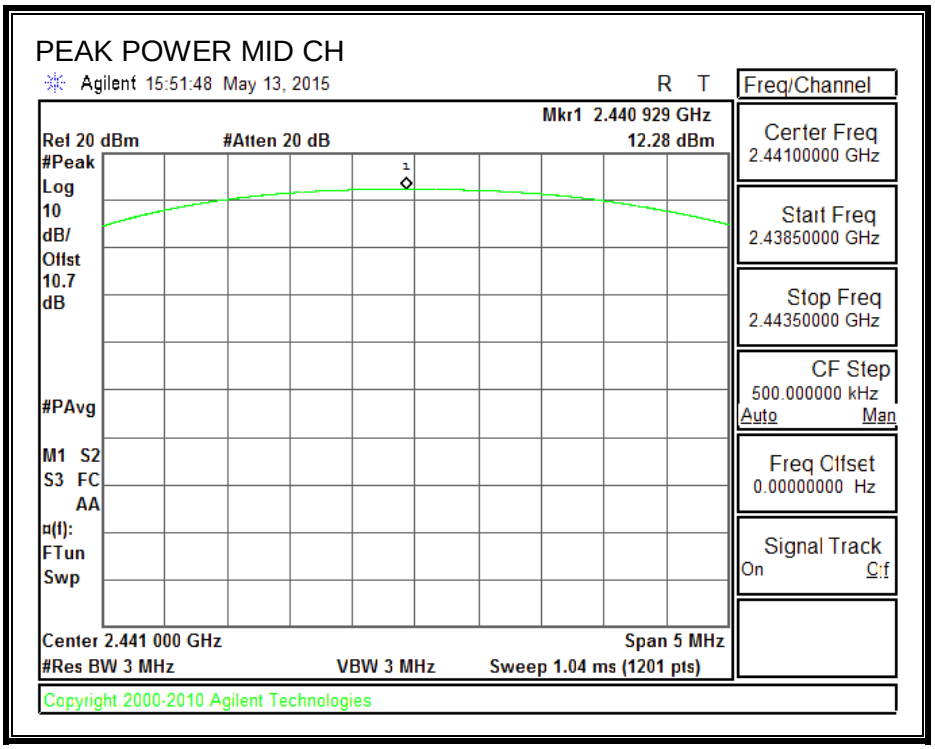
RESULTS

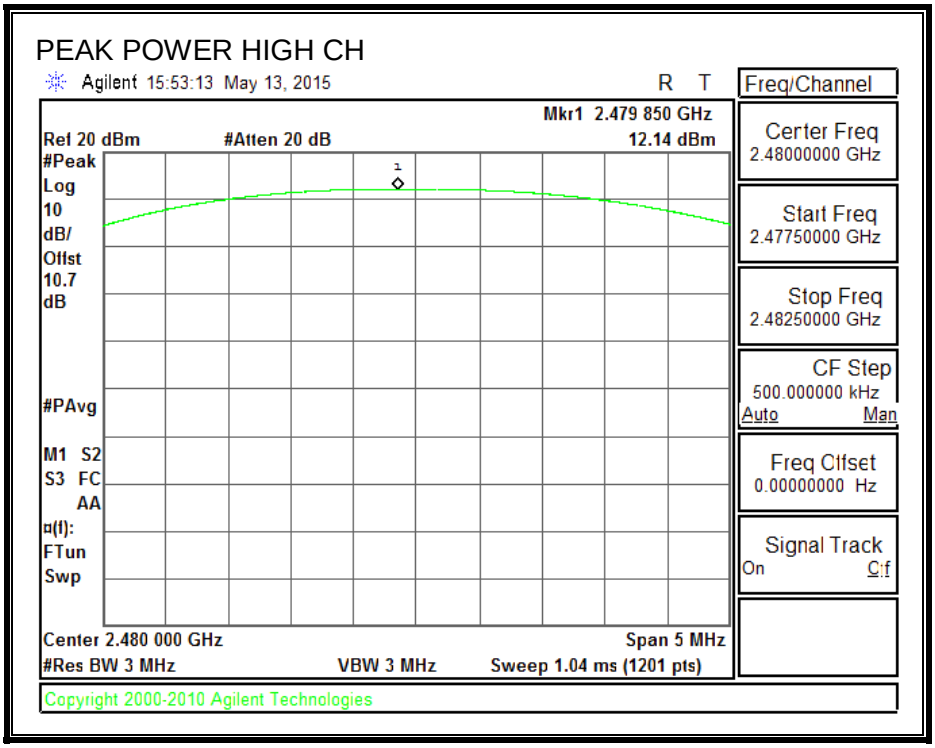
For 75 or more hopping channels

Channel	Frequency (MHz)	Output Power (dBm)	Directional Gain (dBi)	Limit (dBm)	Margin (dB)
Low	2402	12.30	6.56	29.44	-17.14
Middle	2441	12.28	6.56	29.44	-17.16
High	2480	12.14	6.56	29.44	-17.30

OUTPUT POWER







8.2.6. AVERAGE OUTPUT POWER

LIMIT

None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	12.24
Middle	2441	12.25
High	2480	12.10

8.2.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

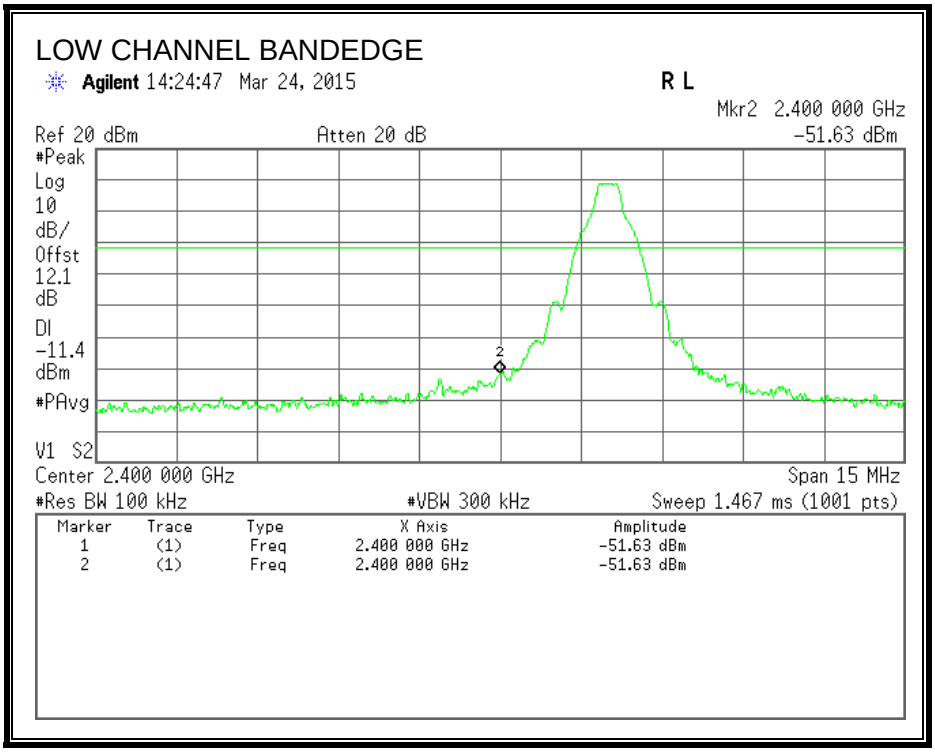
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

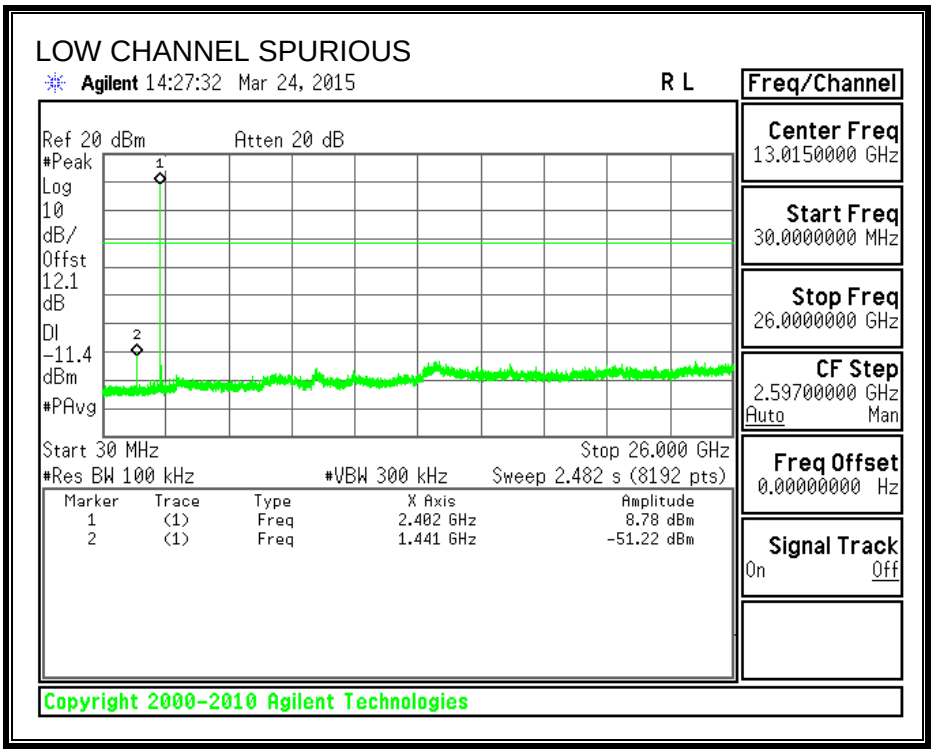
IC RSS-210 A8.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section A8.4 (4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

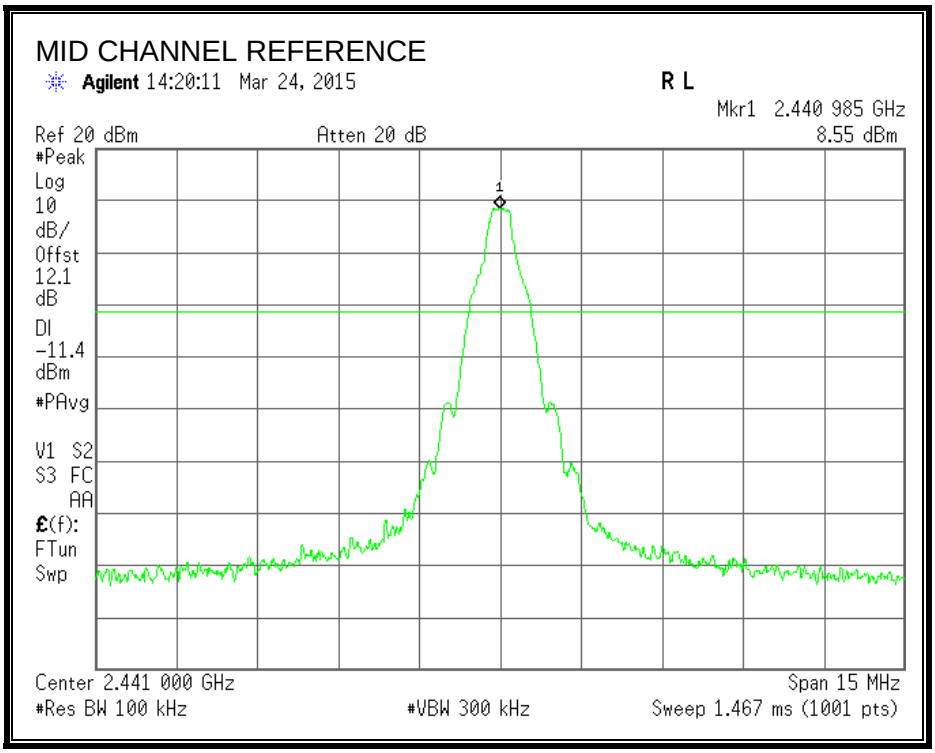
RESULTS

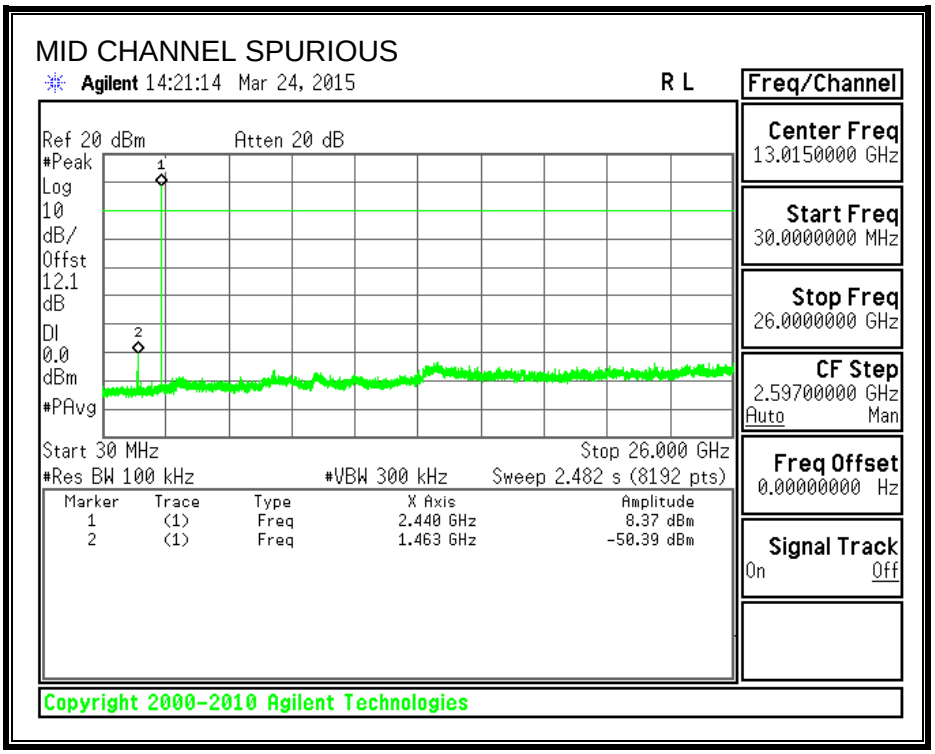
SPURIOUS EMISSIONS, LOW CHANNEL



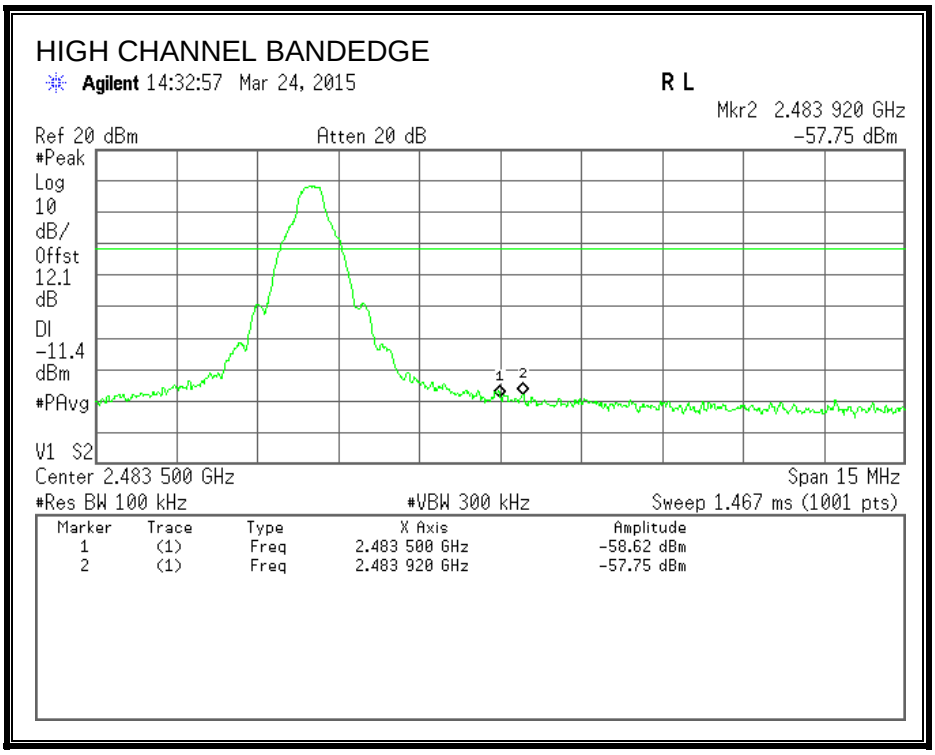


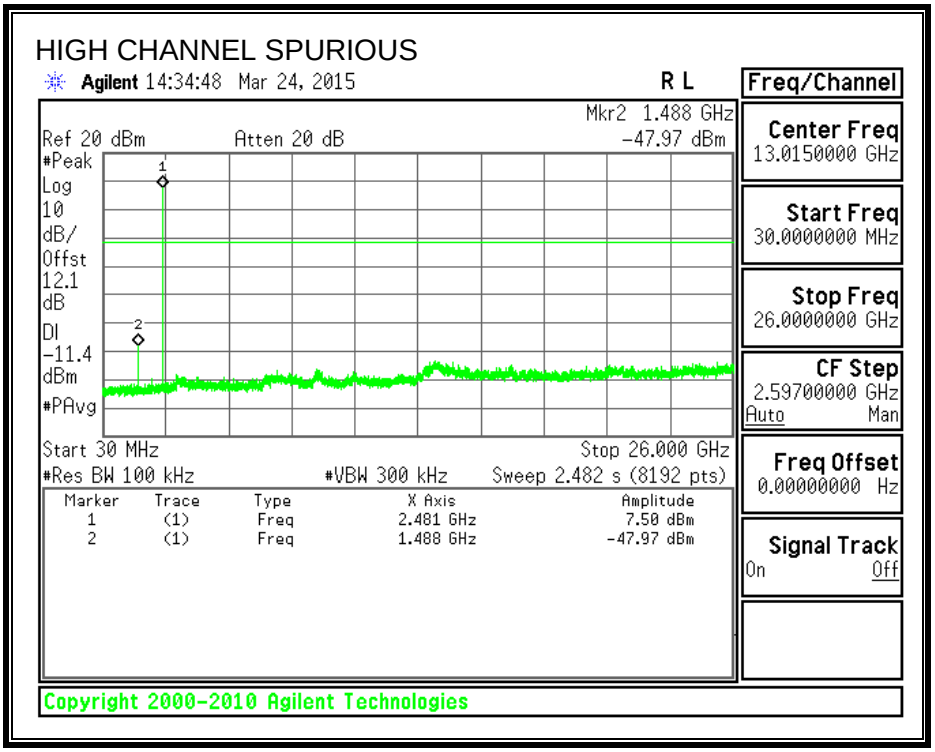
SPURIOUS EMISSIONS, MID CHANNEL





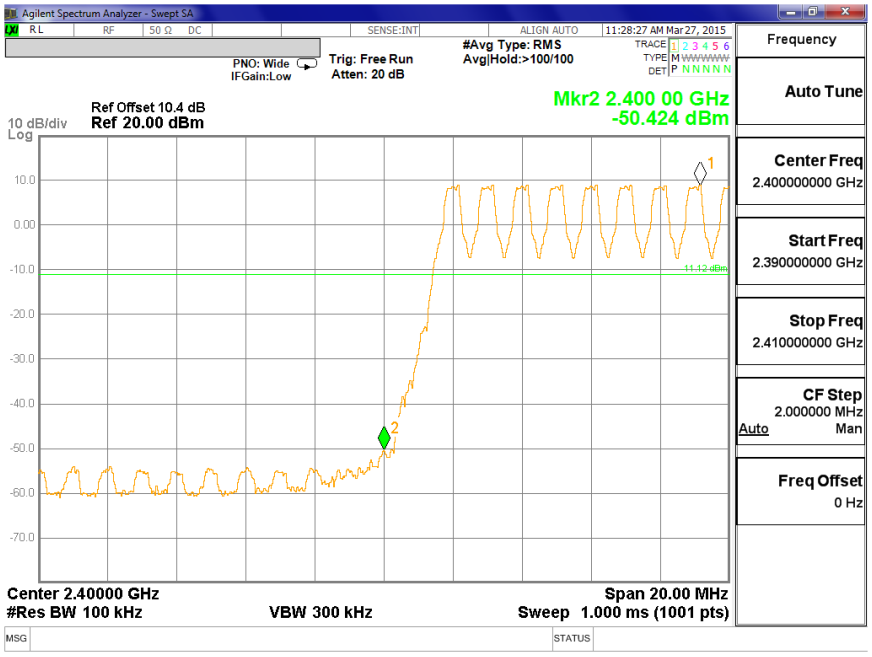
SPURIOUS EMISSIONS, HIGH CHANNEL



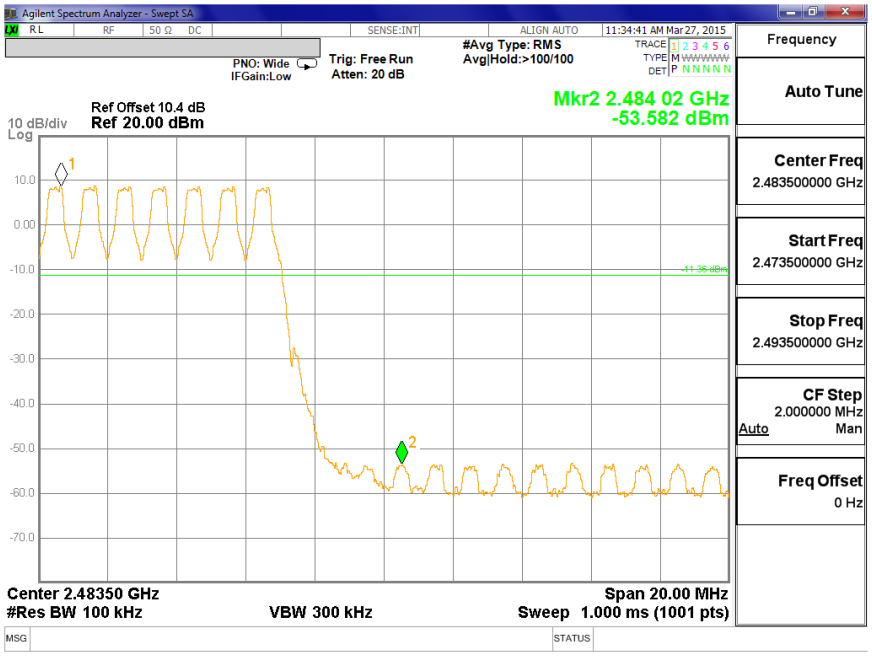


SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

LOW BANDEDGE WITH HOPPING ON



HIGH BANDEDGE WITH HOPPING ON



8.3. ENHANCED DATA RATE 8PSK MODULATION

8.3.1. 20 dB AND 99% BANDWIDTH

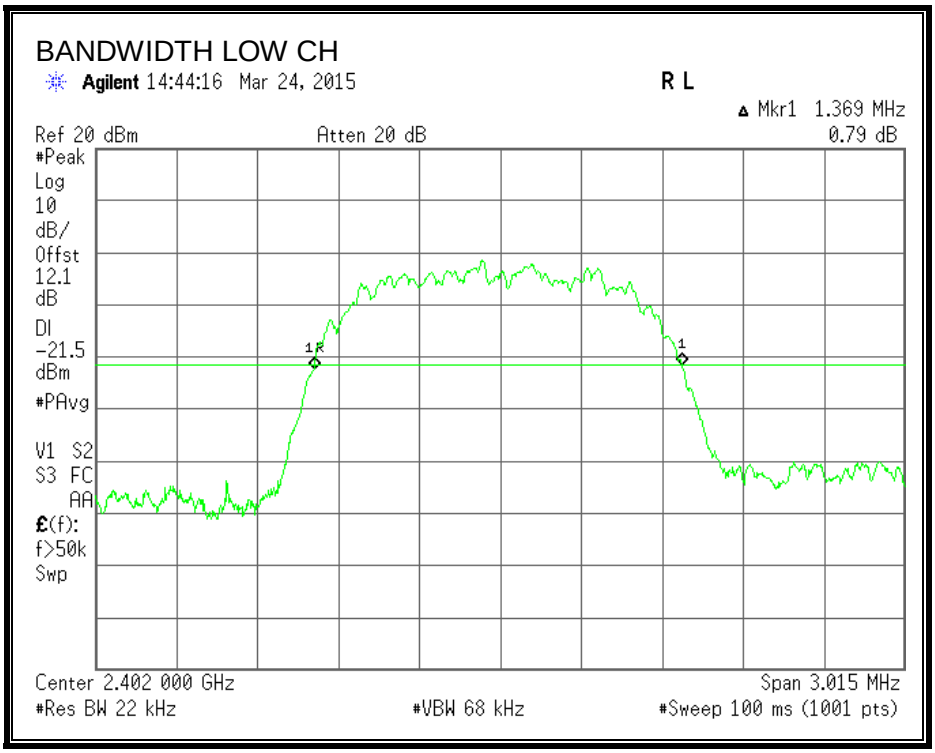
LIMIT

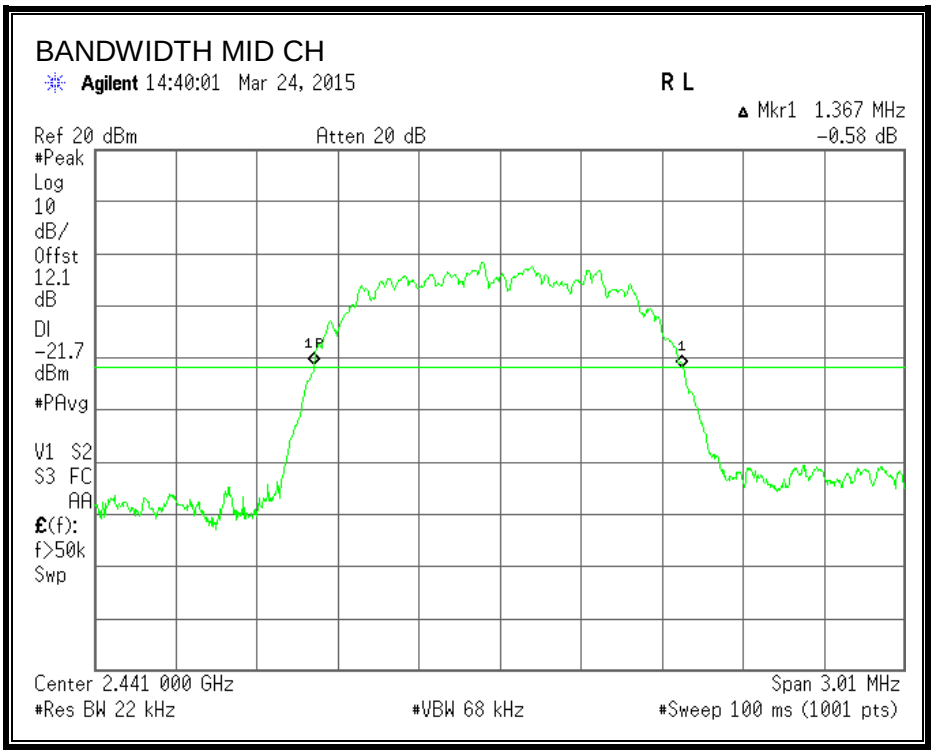
None; for reporting purposes only.

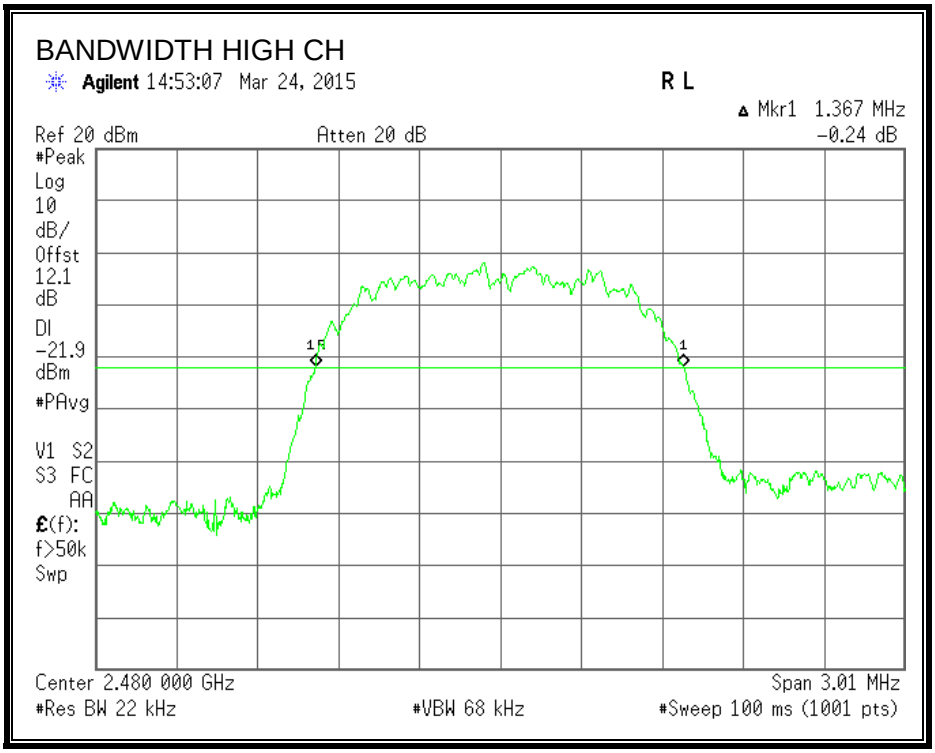
RESULTS

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	99% Bandwidth (kHz)
Low	2402	1369	1225.4
Middle	2441	1367	1229.6
High	2480	1367	1223.7

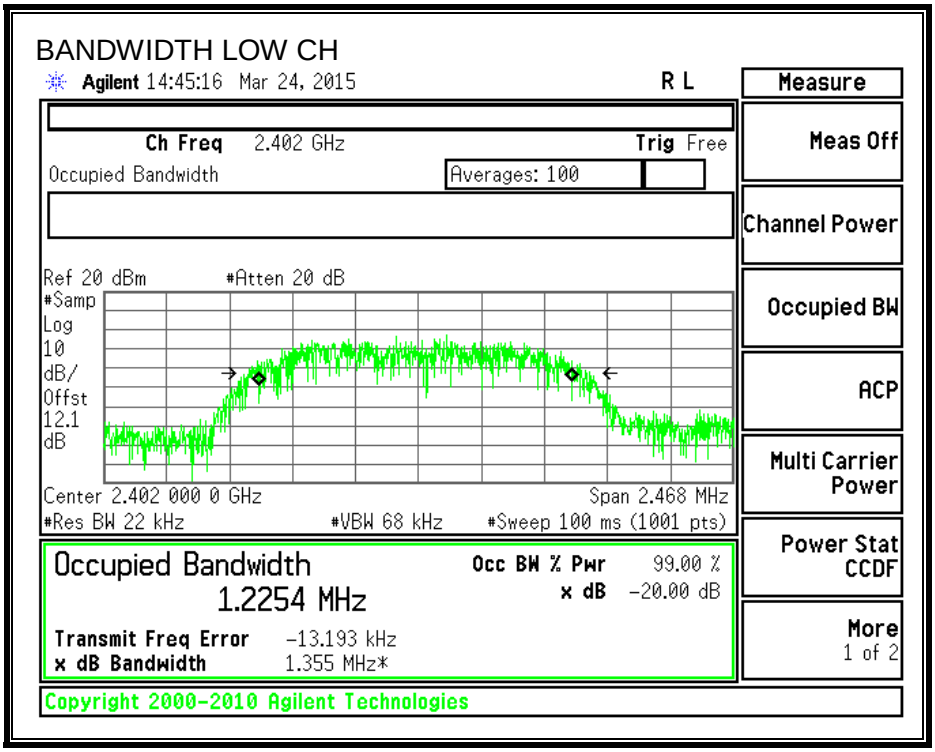
20 dB BANDWIDTH



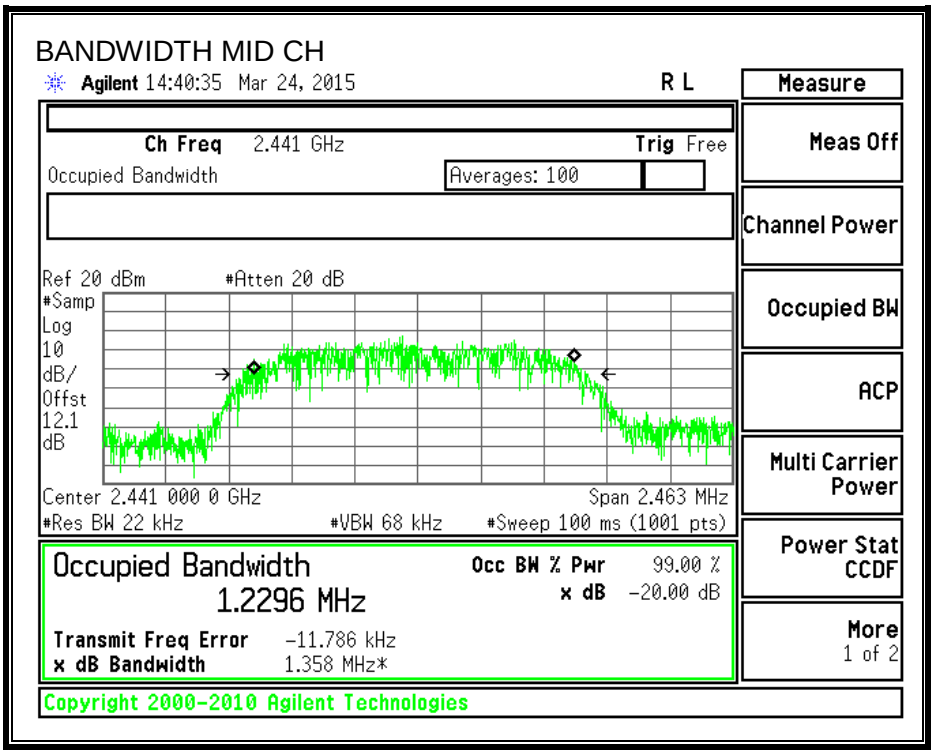




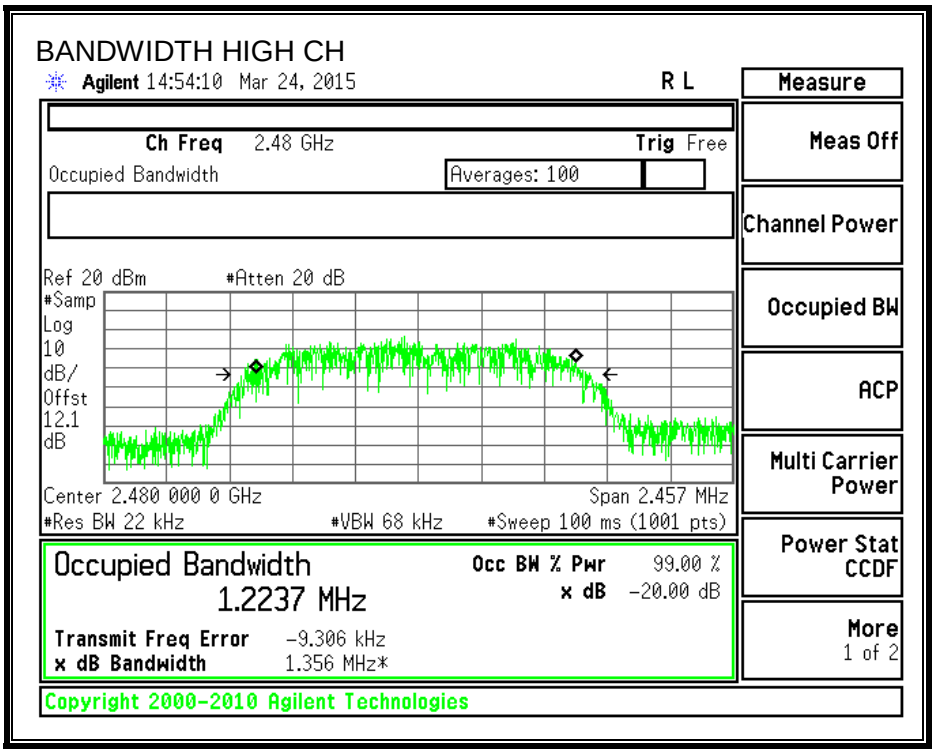
99% BANDWIDTH



BANDWIDTH MID CH



BANDWIDTH HIGH CH



8.3.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

IC RSS-210 A8.1 (b)

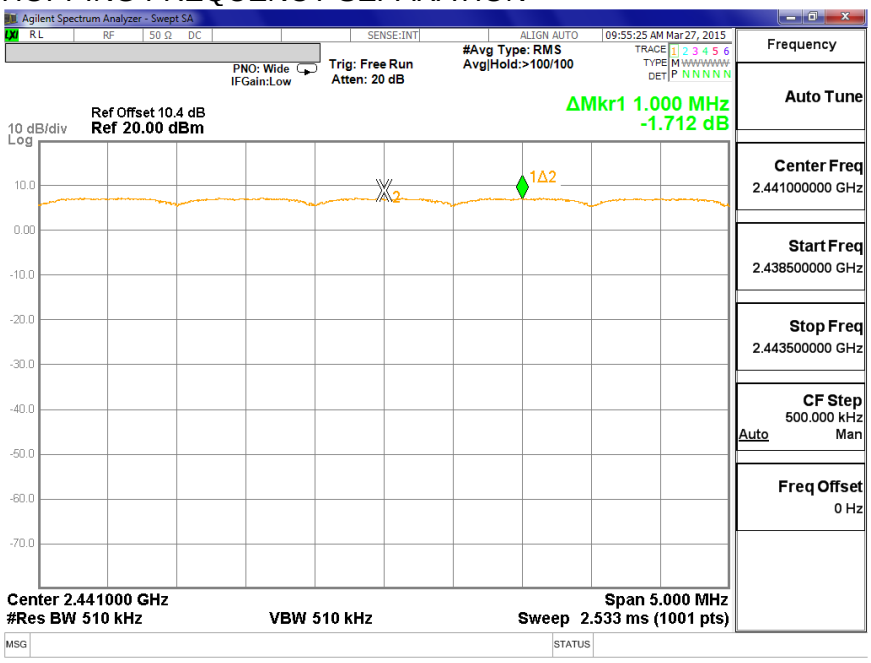
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hoping channel, whichever is greater.

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

HOPPING FREQUENCY SEPARATION



8.3.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

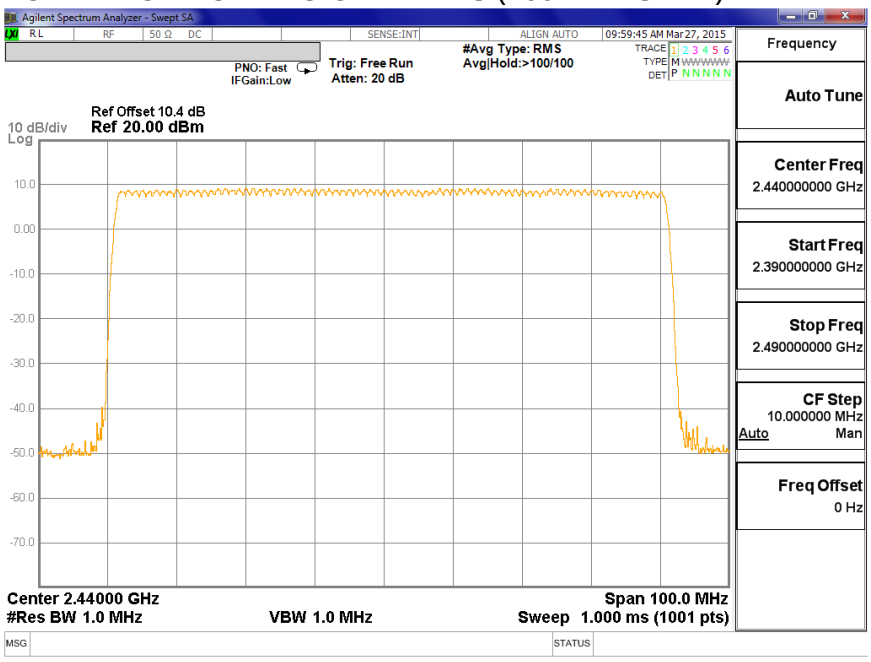
Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

RESULTS

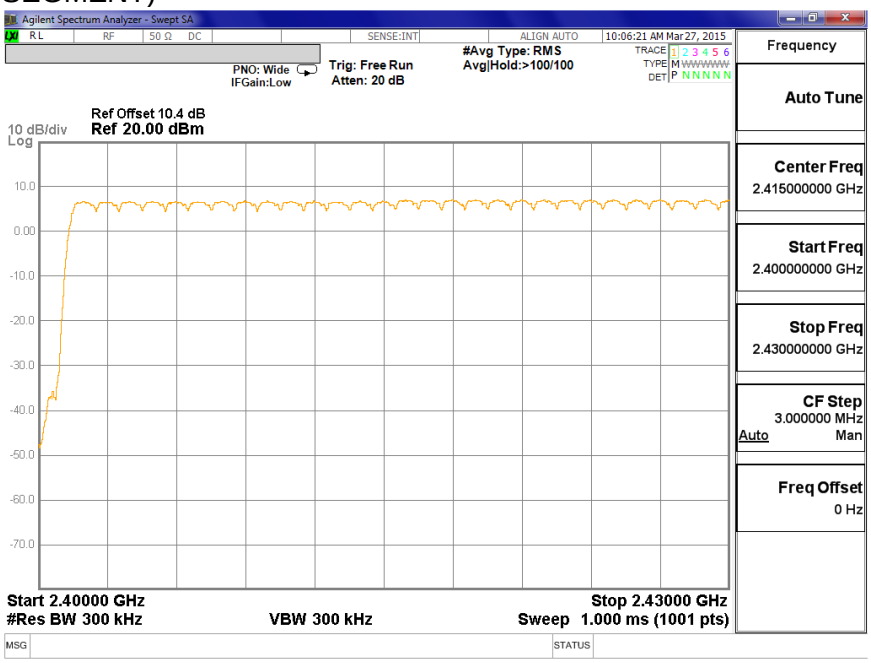
Normal Mode: 79 Channels observed.
AFH Mode: 20 channels were declared by the client.

NUMBER OF HOPPING CHANNELS

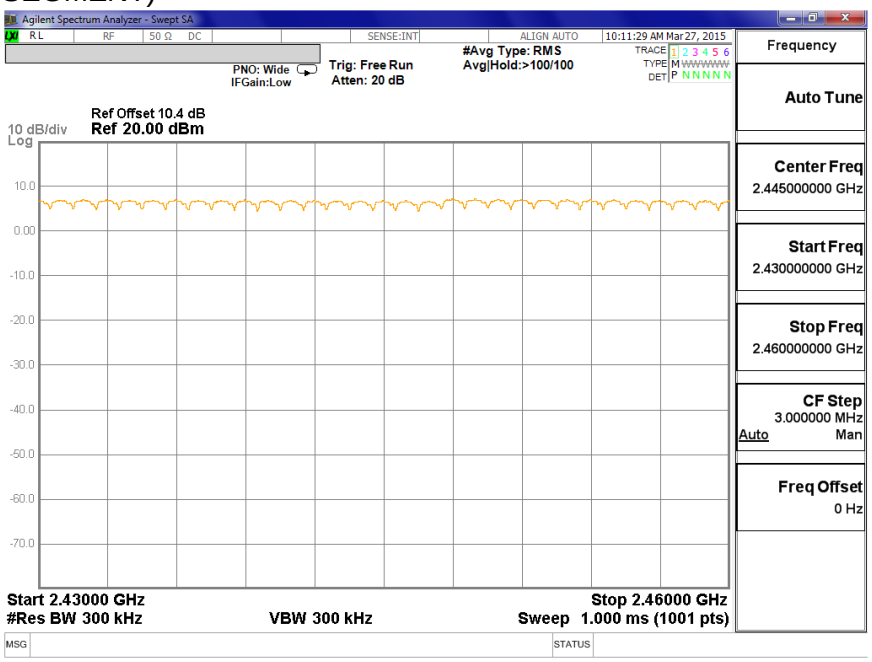
NUMBER OF HOPPING CHANNELS (100 MHZ SPAN)



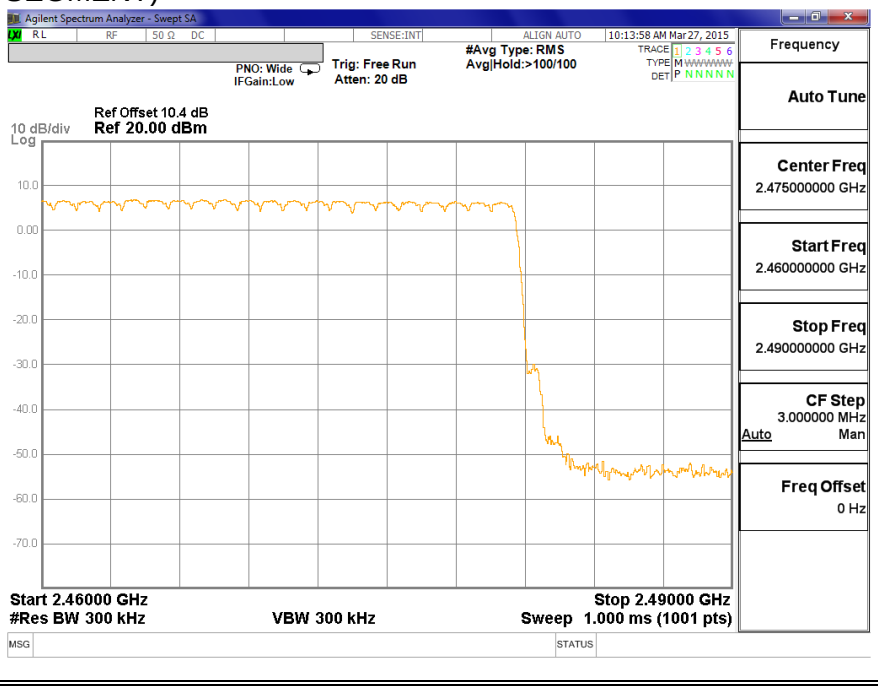
NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, FIRST SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, SECOND SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, THIRD SEGMENT)



8.3.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

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

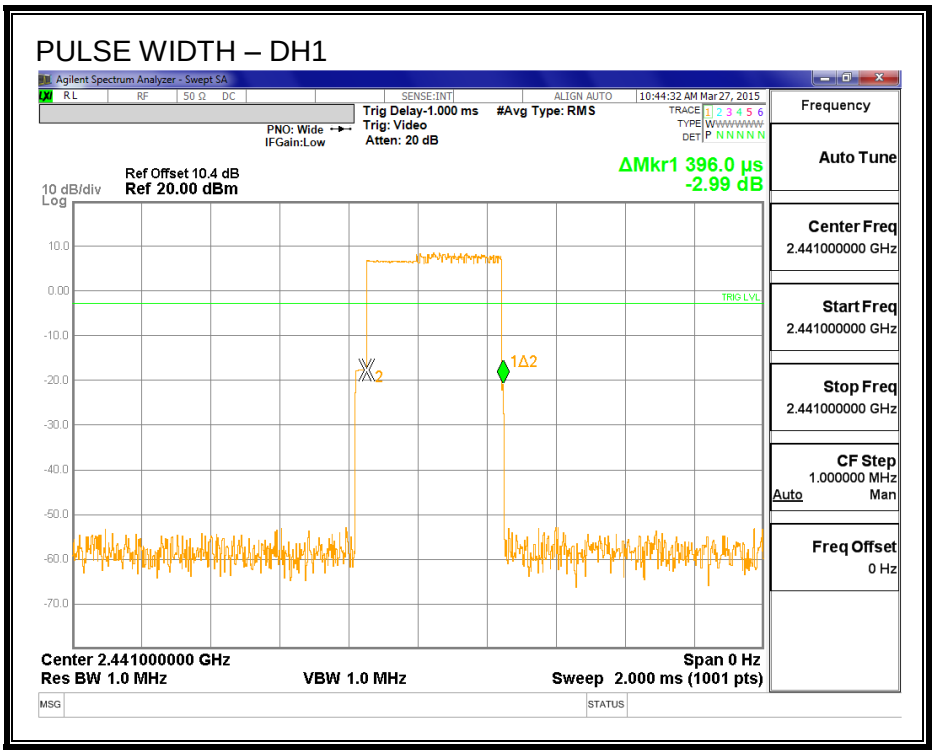
Time Of Occupancy = 10 * xx pulses * yy msec = zz msec

8PSK (EDR) Mode

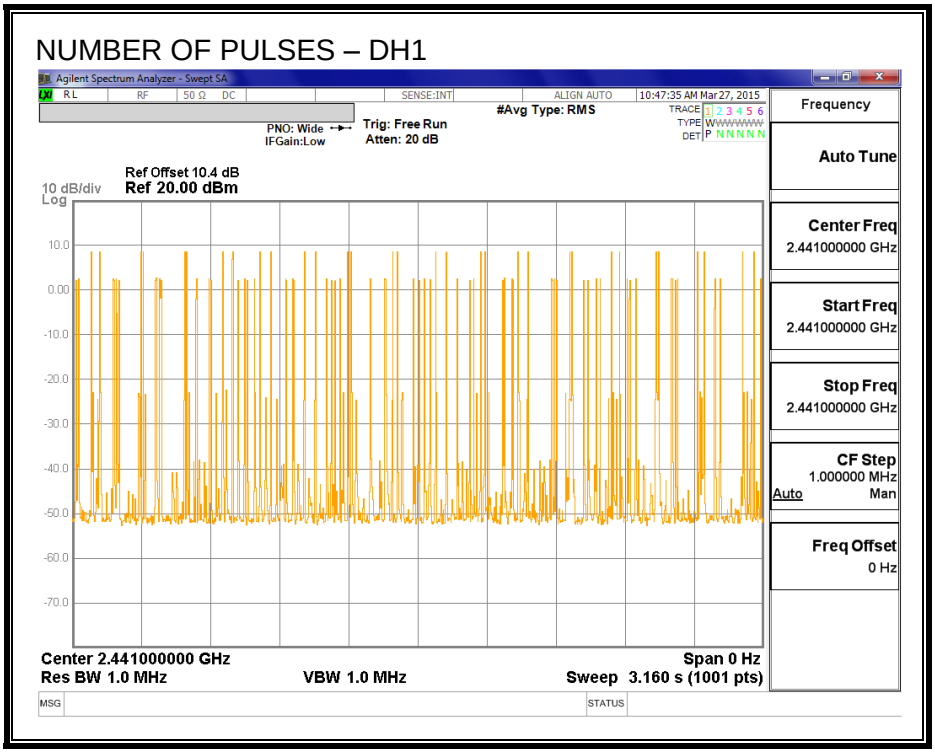
DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
DH1	0.396	31	0.123	0.4	-0.277
DH3	1.66	18	0.299	0.4	-0.101
DH5	2.93	10	0.293	0.4	-0.107

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 25 demonstrates compliance with channel occupancy when AFH is employed.

PULSE WIDTH - DH1

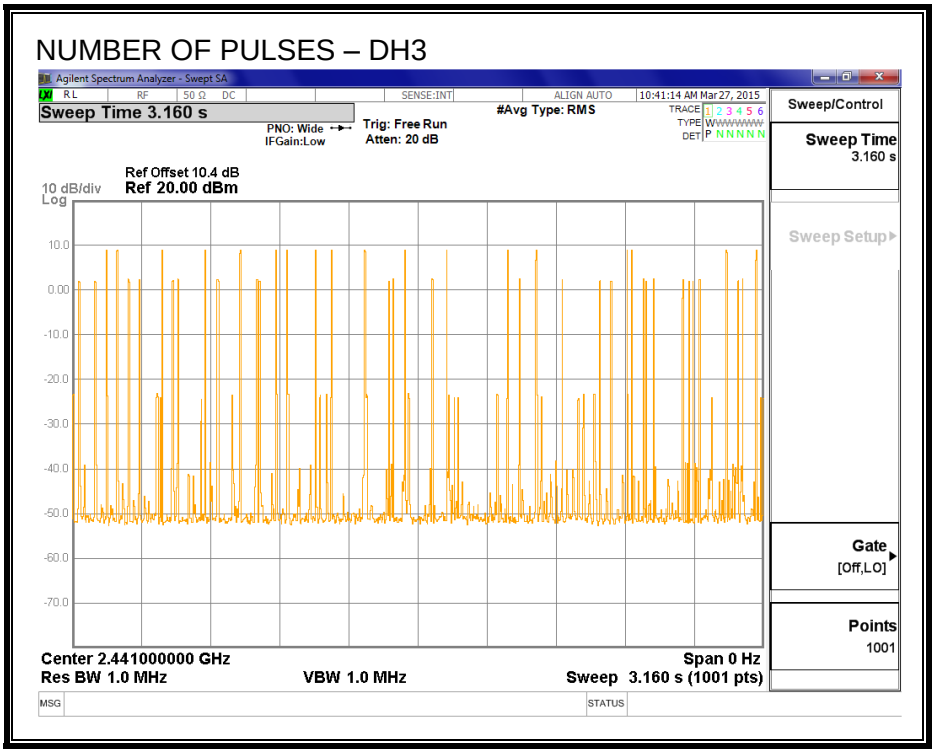


NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1

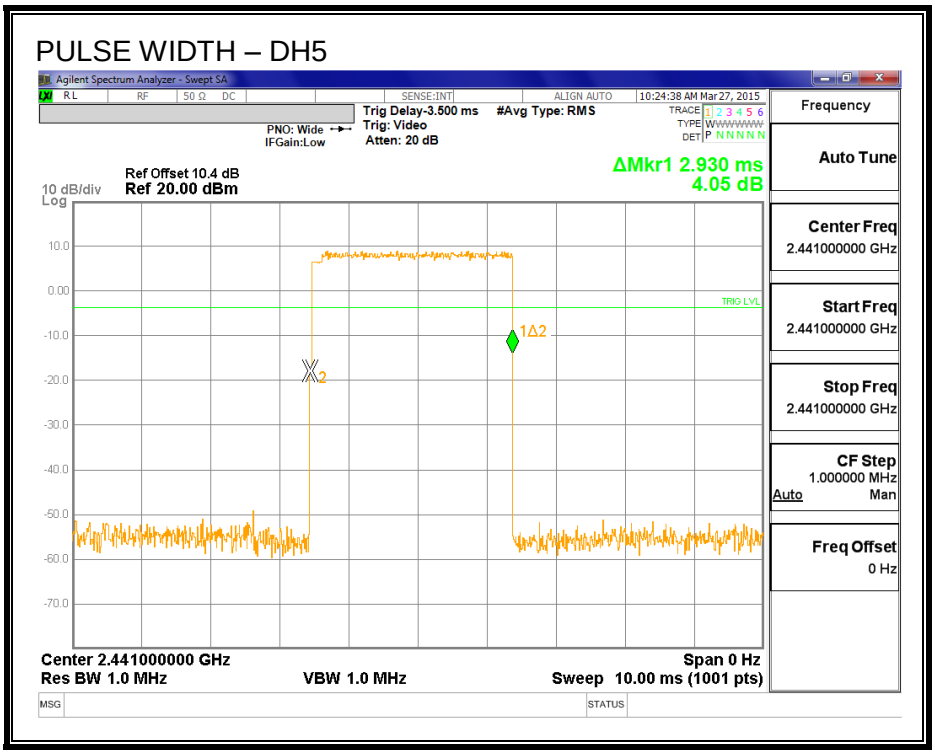


PULSE WIDTH – DH3

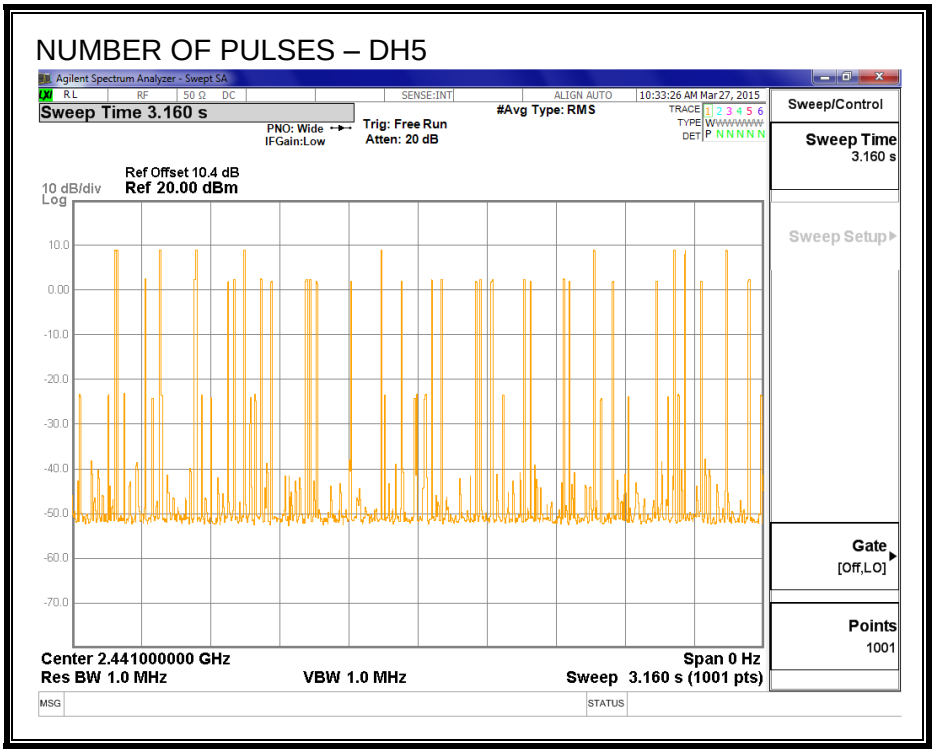
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5



8.3.5. PEAK OUTPUT POWER

LIMIT

§15.247 (b) (1)

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

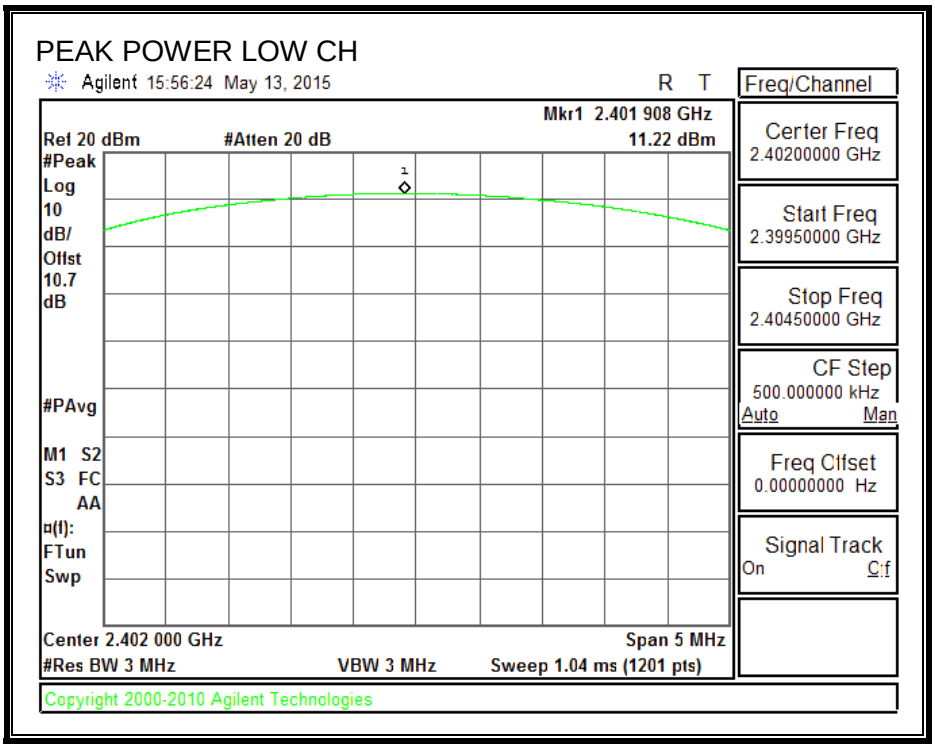
RSS-210 Clause A8.4 (2)

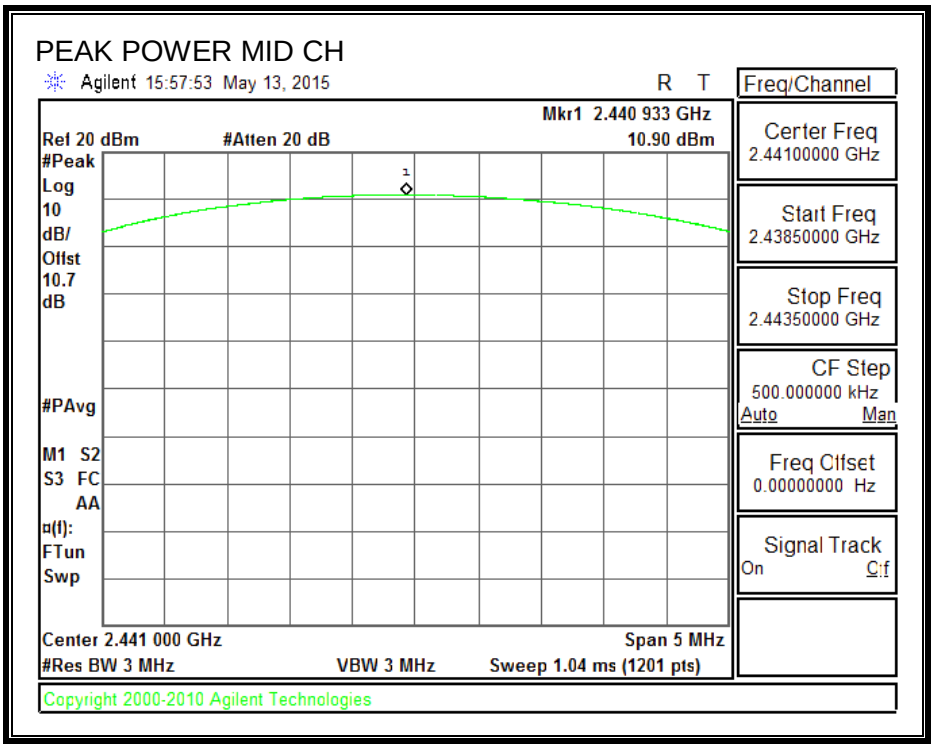
For frequency hopping systems operating in the band 2400-2483.5 MHz and employing at least 75 hopping channels, the maximum peak conducted output power shall not exceed 1 W; for all other frequency hopping systems in the band, the maximum peak conducted output power shall not exceed 0.125 W.

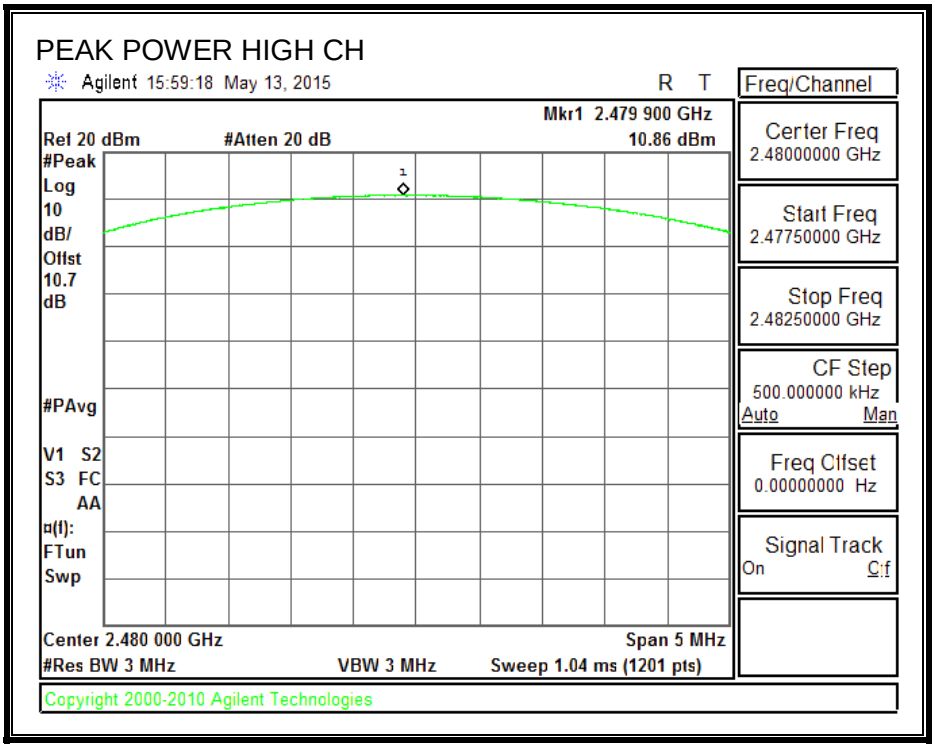
RESULTS

Channel	Frequency (MHz)	Output Power (dBm)	Directional Gain (dBi)	Limit (dBm)	Margin (dB)
Low	2402	11.22	6.56	20.409	-9.189
Middle	2441	10.90	6.56	20.409	-9.509
High	2480	10.86	6.56	20.409	-9.549

OUTPUT POWER







8.3.6. AVERAGE OUTPUT POWER

LIMIT

None; for reporting purposes only.

RESULTS

The cable assembly insertion loss of 10.50 dB (including 10 dB pad and 0.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	8.80
Middle	2441	8.40
High	2480	8.35

8.3.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

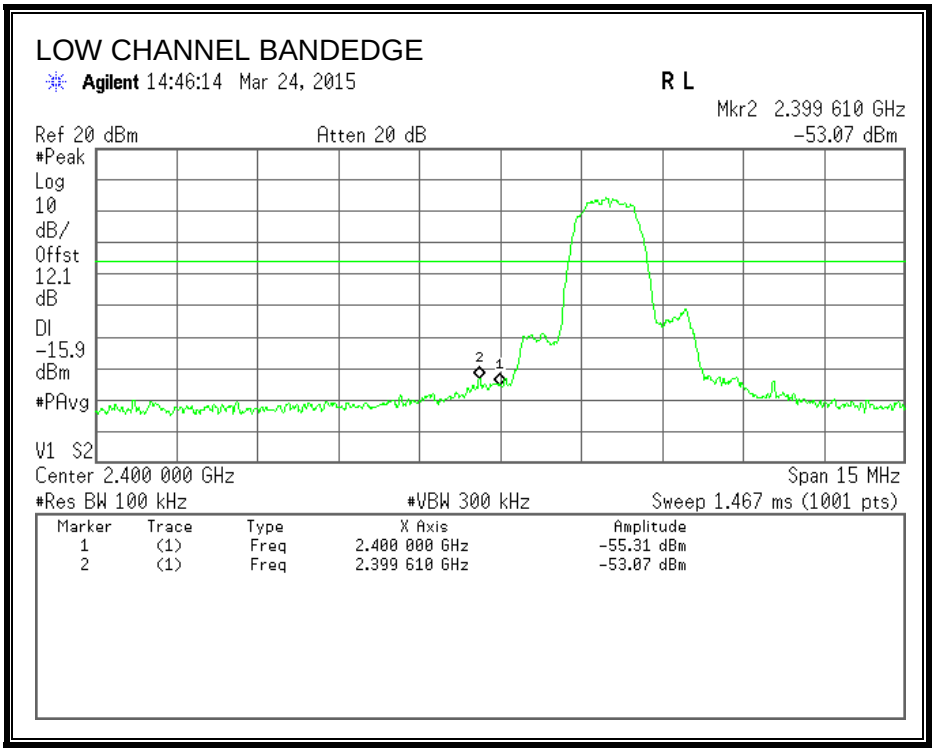
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

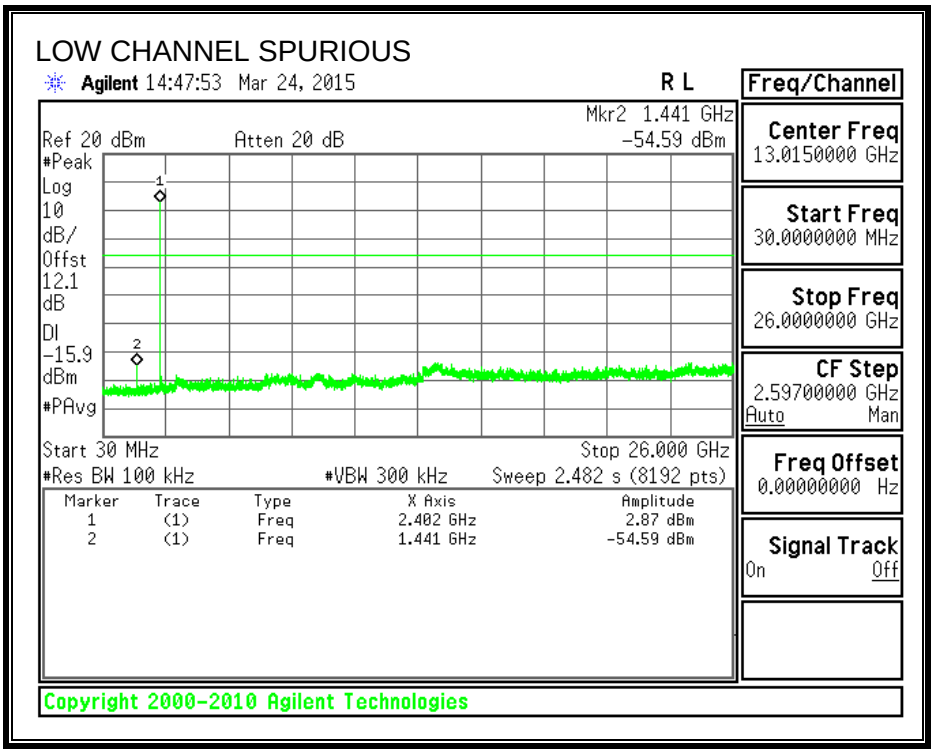
IC RSS-210 A8.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section A8.4 (4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

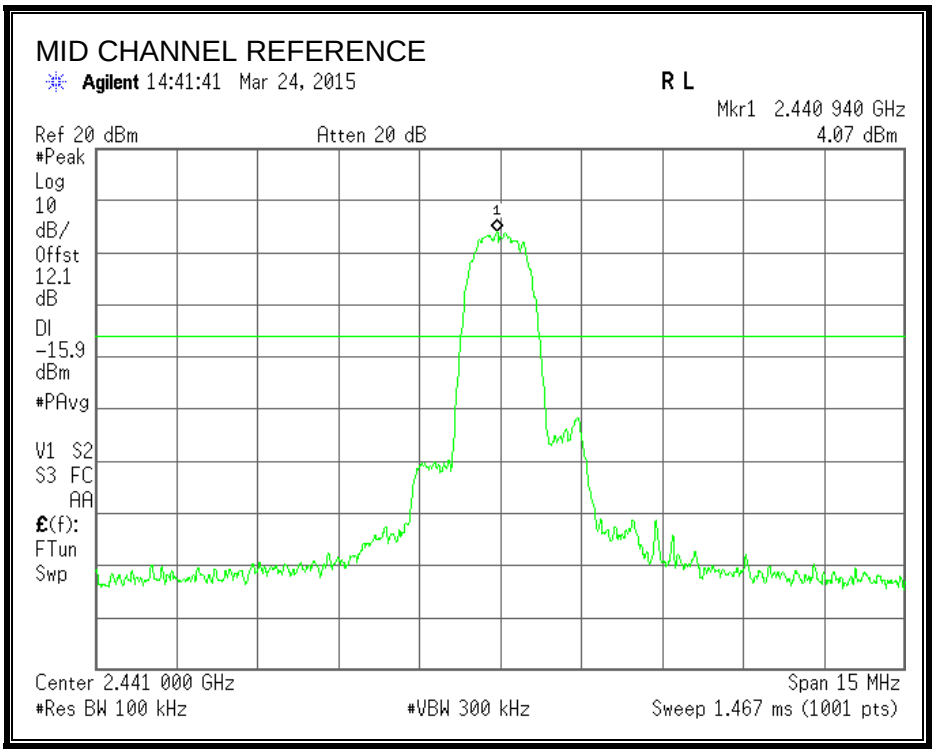
RESULTS

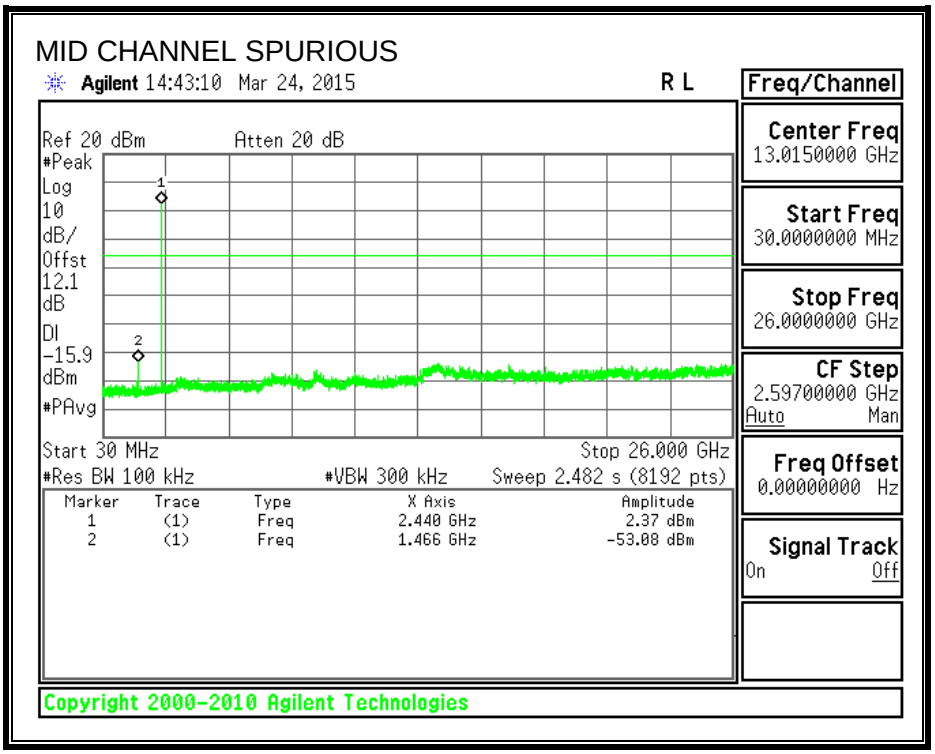
SPURIOUS EMISSIONS, LOW CHANNEL



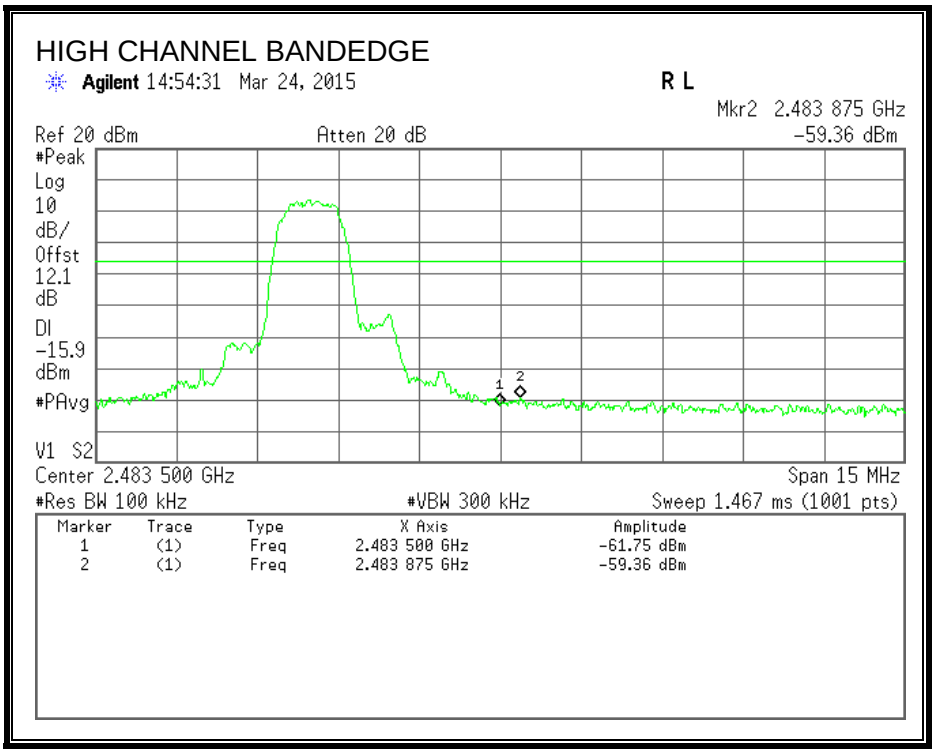


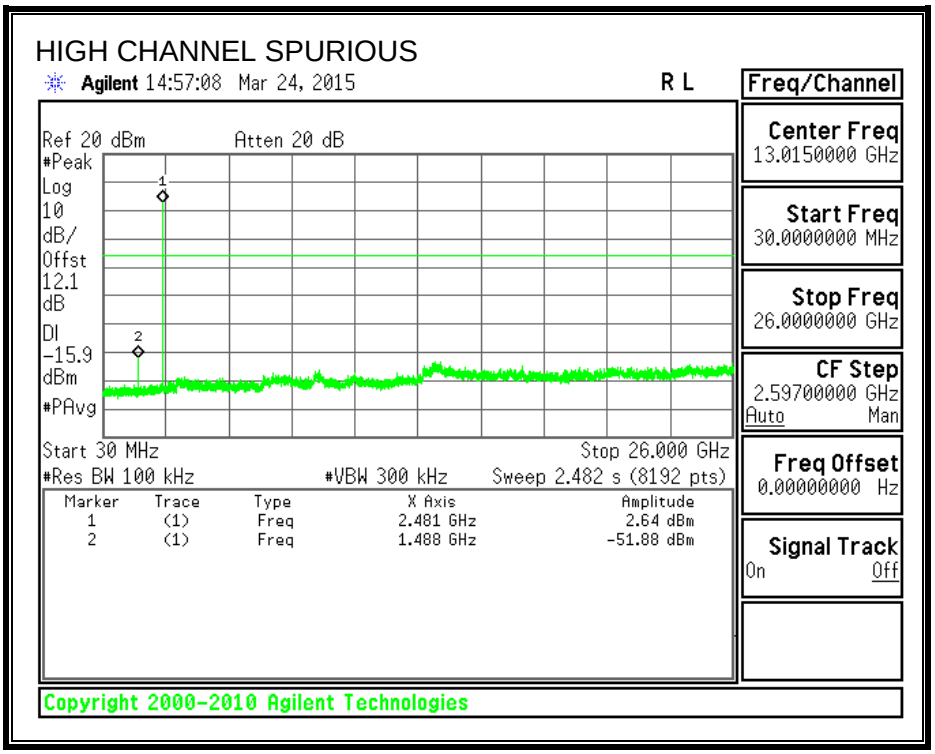
SPURIOUS EMISSIONS, MID CHANNEL





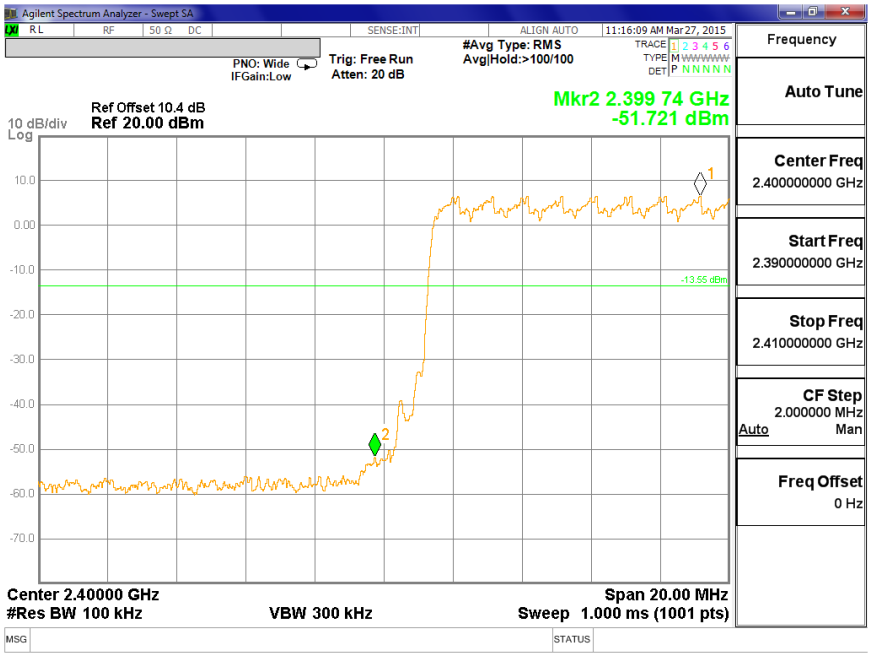
SPURIOUS EMISSIONS, HIGH CHANNEL



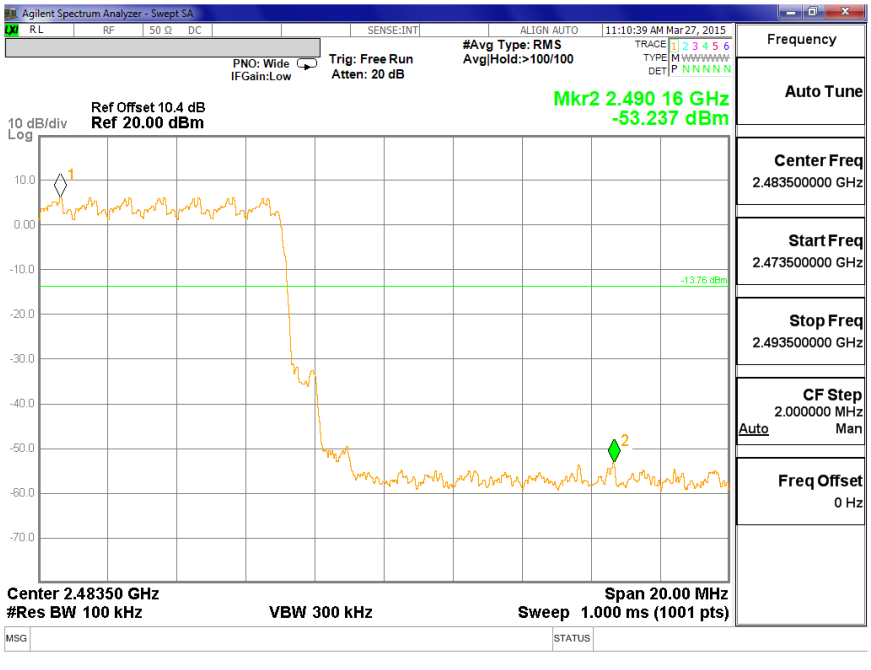


SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

LOW BANDEDGE WITH HOPPING ON



HIGH BANDEDGE WITH HOPPING ON



8.4. CONDUCTED RX SPURIOUS EMISSIONS

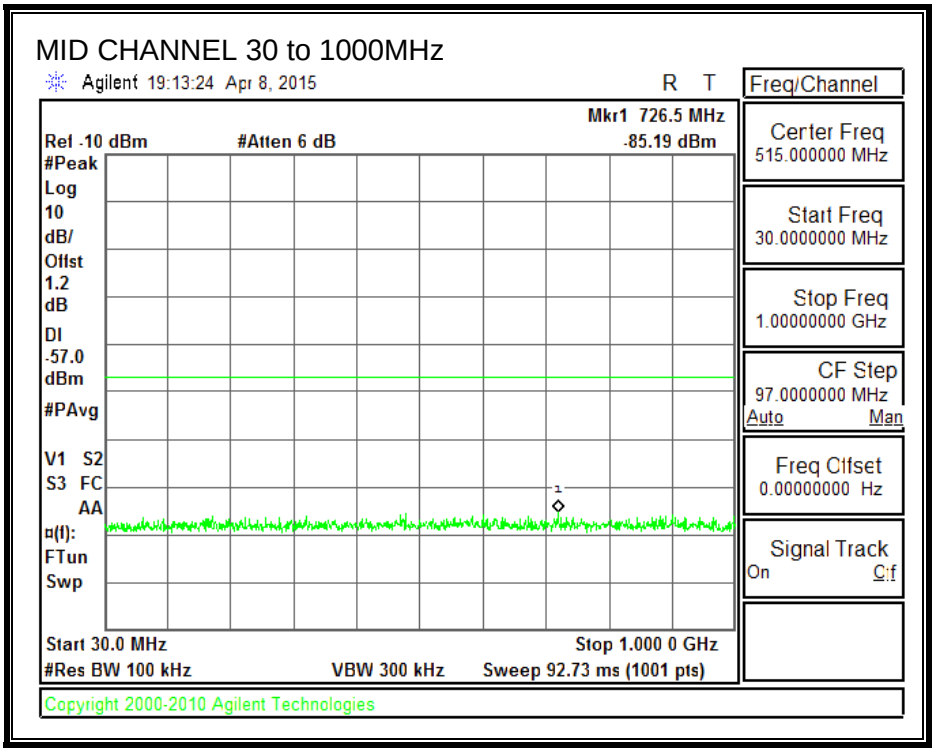
LIMITS

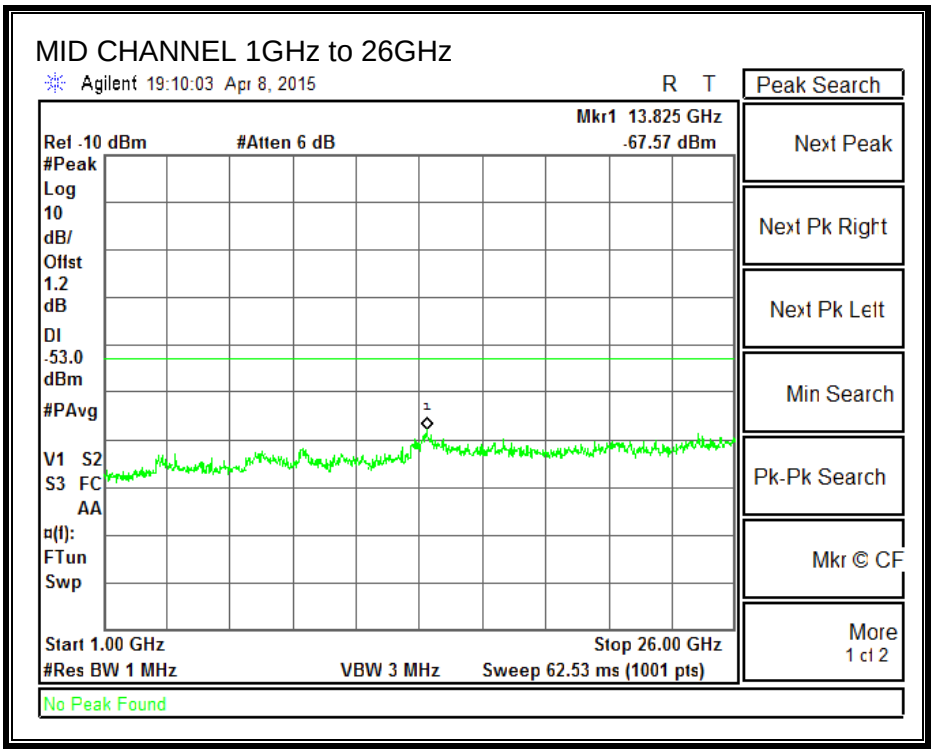
IC RSS GEN Issue 4, Section 7.1.3

Receiver-spurious emissions at any discrete frequency shall not exceed 2 nW in the band 30-1000 MHz, nor 5 nW above 1000MHz.

RESULTS

RX SPURIOUS EMISSIONS, MID CHANNEL





9. RADIATED TEST RESULTS

9.1. LIMITS

LIMITS

FCC §15.205 and §15.209

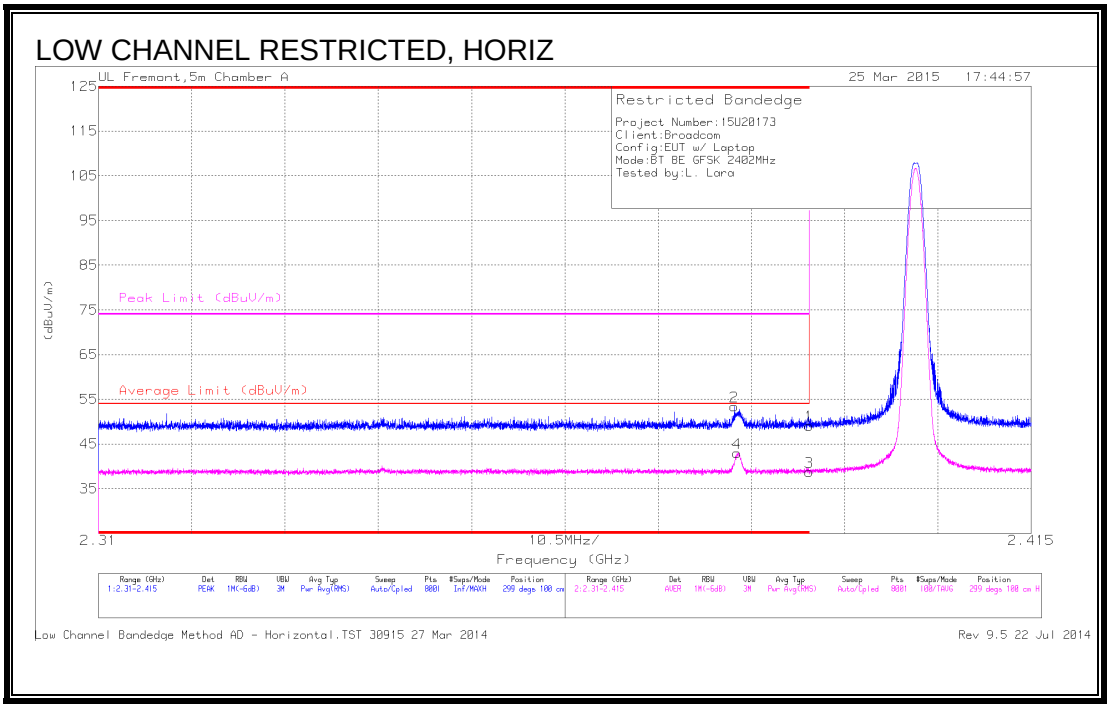
IC RSS-GEN Clause 8.9 (Transmitter)

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)



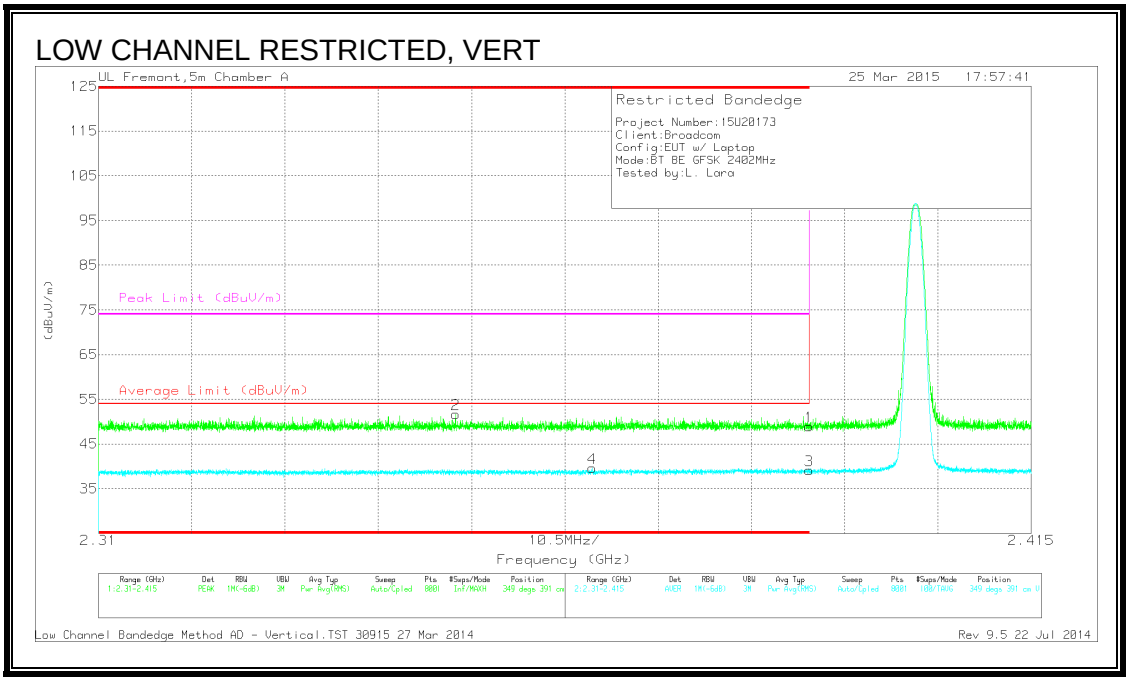
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.31	PK	32	-22.2	49.11	-	-	74	-24.89	299	100	H
2	* 2.382	43.74	PK	31.9	-22.3	53.34	-	-	74	-20.66	299	100	H
3	* 2.39	28.92	RMS	32	-22.2	38.72	54	-15.28	-	-	299	100	H
4	* 2.382	33.41	RMS	31.9	-22.3	43.01	54	-10.99	-	-	299	100	H

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

PK - Peak detector
RMS – RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



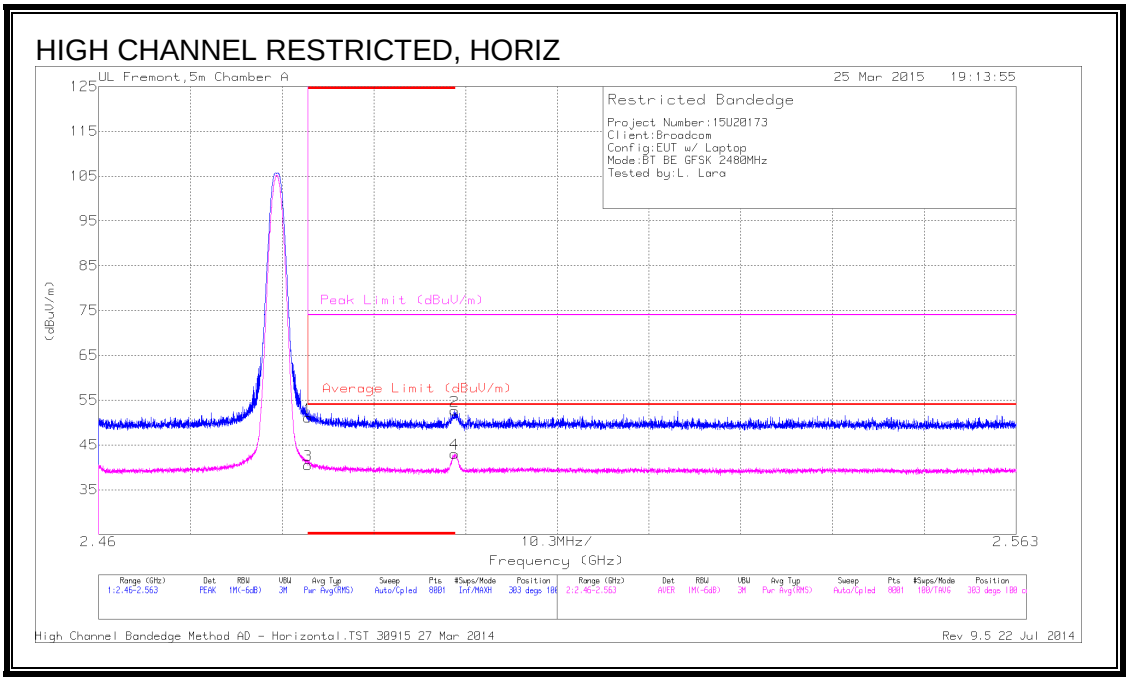
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.35	42.08	PK	31.9	-22.3	51.68	-	-	74	-22.32	349	391	V
4	* 2.366	29.92	RMS	31.9	-22.2	39.62	54	-14.38	-	-	349	391	V
1	* 2.39	39.1	PK	32	-22.2	48.9	-	-	74	-25.1	349	391	V
3	* 2.39	29.28	RMS	32	-22.2	39.08	54	-14.92	-	-	349	391	V

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

PK - Peak detector
RMS – RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



Trace Markers

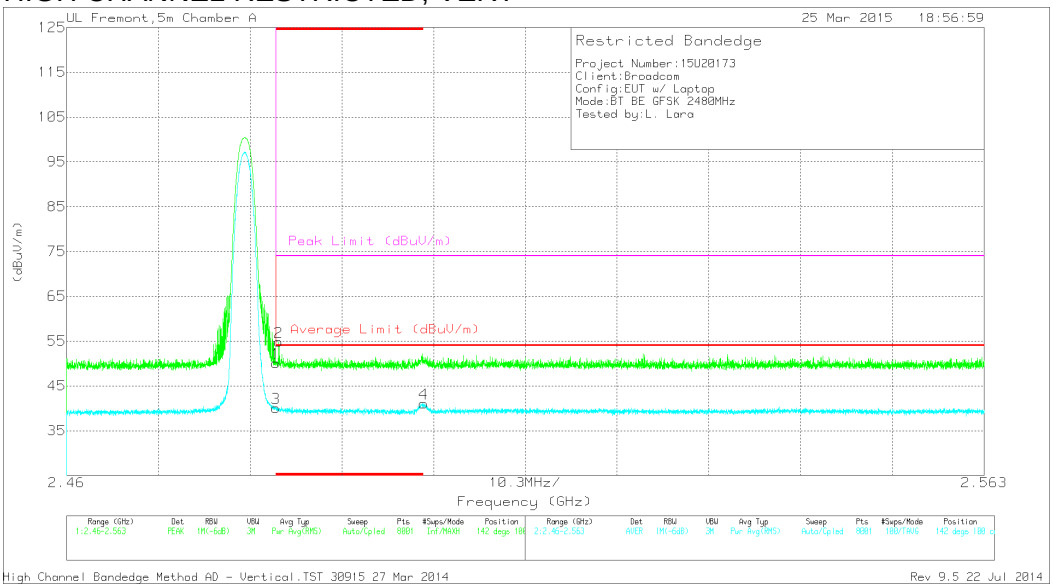
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.84	PK	32.1	-21.9	51.04	-	-	74	-22.96	303	100	H
3	* 2.484	30.3	RMS	32.1	-21.9	40.5	54	-13.5	-	-	303	100	H
2	* 2.5	42.56	PK	32.1	-22	52.66	-	-	74	-21.34	303	100	H
4	* 2.5	32.94	RMS	32.1	-22	43.04	54	-10.96	-	-	303	100	H

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

PK - Peak detector
RMS – RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

HIGH CHANNEL RESTRICTED, VERT



Trace Markers

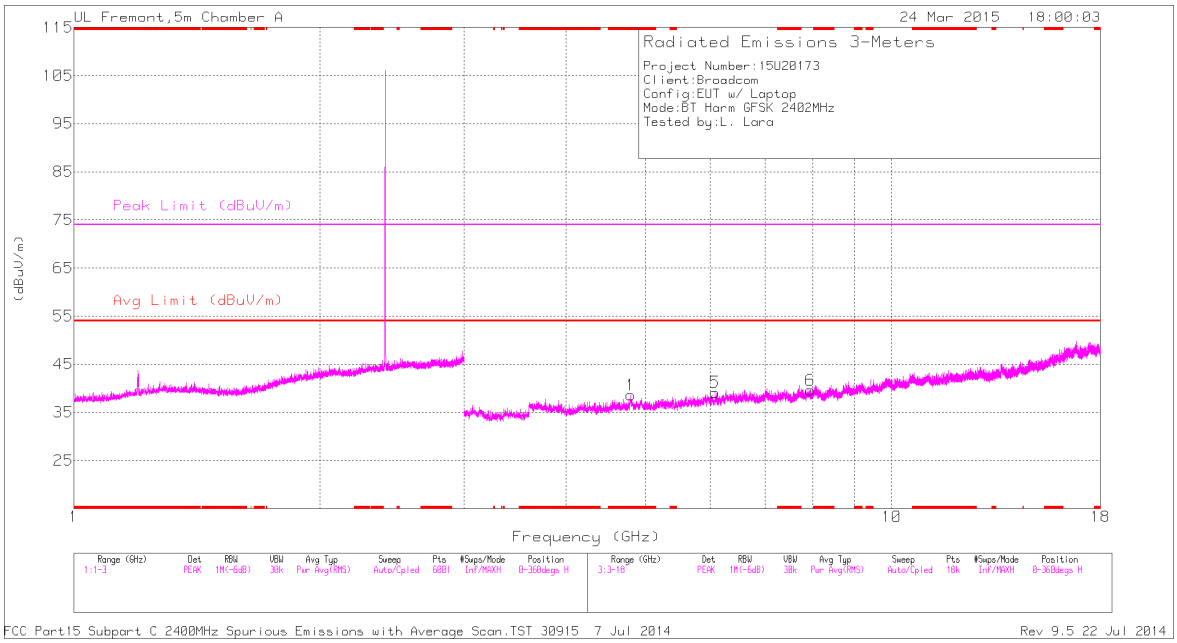
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.93	PK	32.1	-21.9	50.13	-	-	74	-23.87	142	100	V
2	* 2.484	44.62	PK	32.1	-21.9	54.82	-	-	74	-19.18	142	100	V
3	* 2.484	29.89	RMS	32.1	-21.9	40.09	54	-13.91	-	-	142	100	V
4	2.5	30.99	RMS	32.1	-22	41.09	54	-12.91	-	-	142	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
RMS – RMS detection

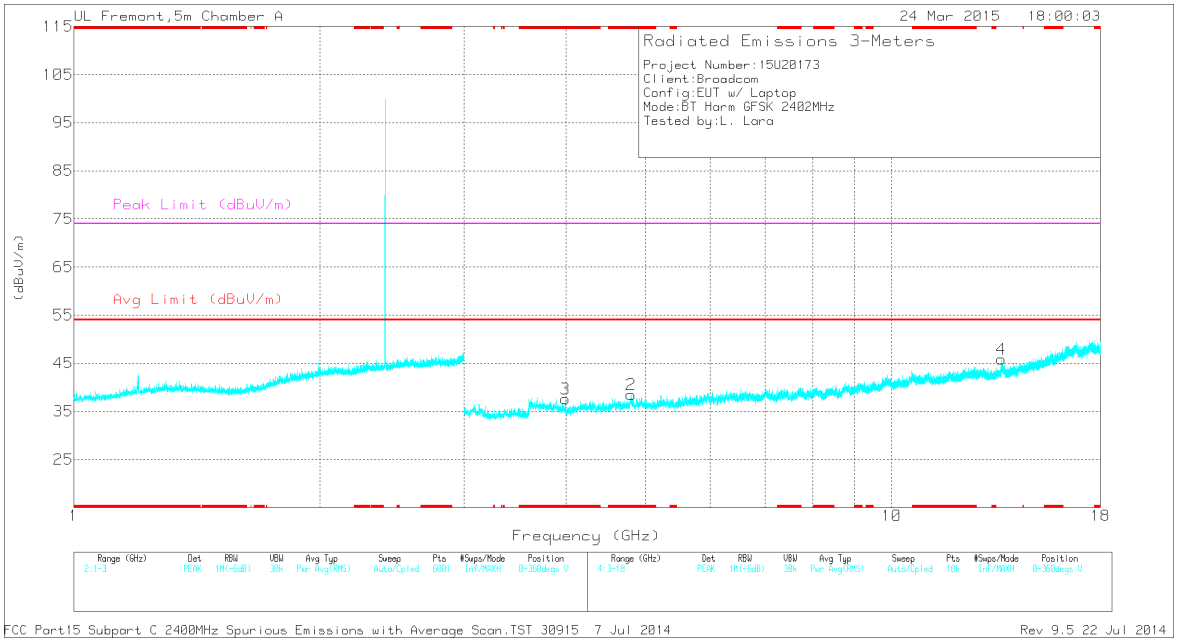
HARMONICS AND SPURIOUS EMISSIONS

GFSK, LOW CHANNEL – 2402 MHz

HORIZONTAL



VERTICAL



GFSK, LOW CHANNEL – 2402 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.797	40.53	PK3	34	-28.4	46.13	-	-	74	-27.87	63	346	H
	* 4.797	29.16	MAv1	34	-28.4	34.76	54	-19.24	-	-	63	346	H
2	* 4.802	40.75	PK3	34	-28.4	46.35	-	-	74	-27.65	346	271	V
	* 4.799	29.08	MAv1	34	-28.4	34.68	54	-19.32	-	-	346	271	V
3	* 3.988	42.34	PK3	33.3	-29.6	46.04	-	-	74	-27.96	266	276	V
	* 3.99	28.56	MAv1	33.3	-29.6	32.26	54	-21.74	-	-	266	276	V
5	6.084	31.79	PK	35.4	-28	39.19	-	-	-	-	0-360	201	H
6	7.954	29.49	PK	35.7	-25.5	39.69	-	-	-	-	0-360	100	H
4	13.615	28.11	PK	38.9	-21.2	45.81	-	-	-	-	0-360	201	V

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

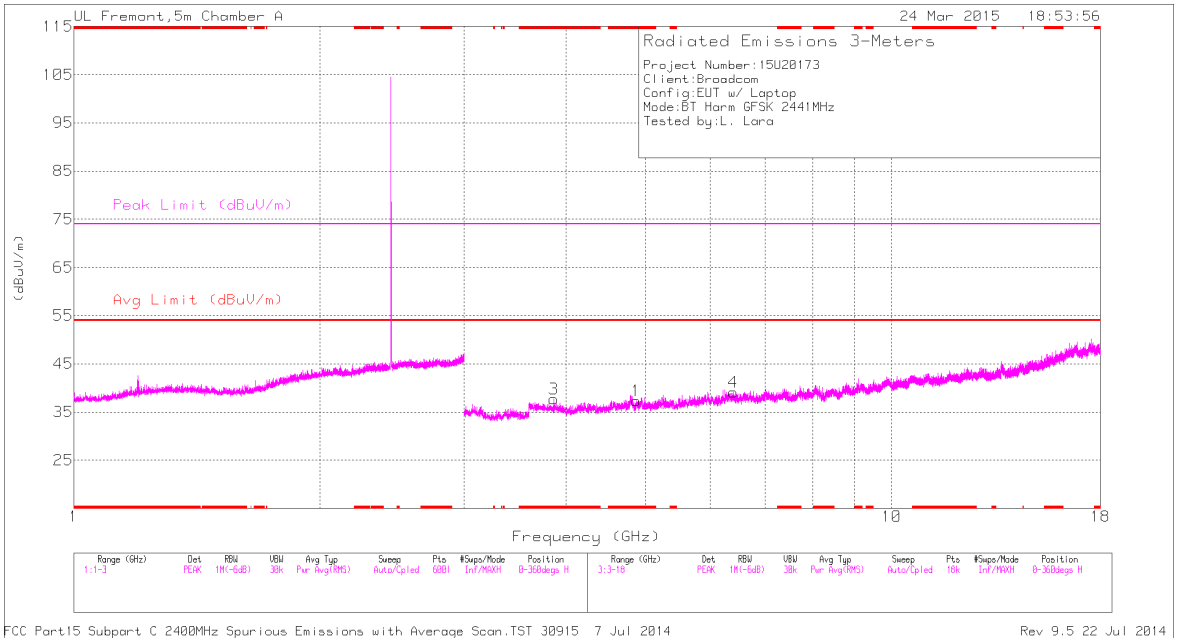
PK - Peak detector

PK3 - FHSS Method: Maximum Peak

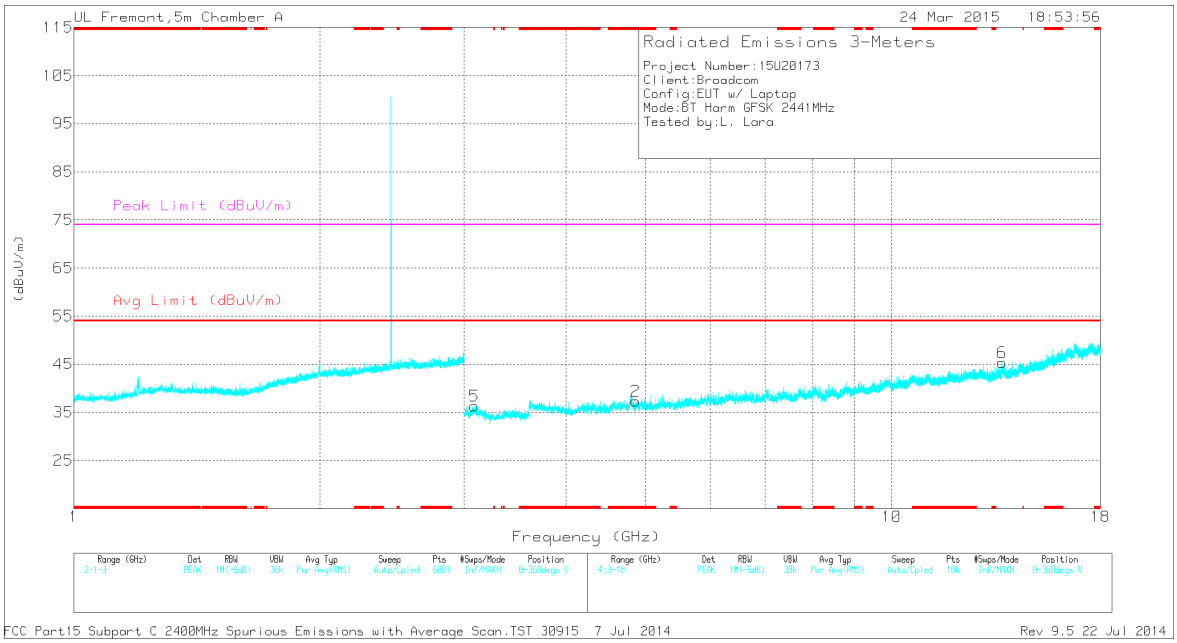
MAv1 - KDB558074 Option 1 Maximum RMS Average

GFSK, MID CHANNEL – 2441 MHz

HORIZONTAL



VERTICAL



GFSK, MID CHANNEL – 2441 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.871	38.38	PK3	33.9	-27.8	44.48	-	-	74	-29.52	89	301	H
	* 4.87	27.09	MAv1	33.9	-27.8	33.19	54	-20.81	-	-	89	301	H
3	* 3.861	40.87	PK3	33.4	-29.6	44.67	-	-	74	-29.33	40	144	H
	* 3.861	29.18	MAv1	33.4	-29.6	32.98	54	-21.02	-	-	40	144	H
2	* 4.865	38.56	PK3	33.9	-27.9	44.56	-	-	74	-29.44	93	343	V
	* 4.868	27.11	MAv1	33.9	-27.8	33.21	54	-20.79	-	-	93	343	V
5	3.087	32.35	PK	32.9	-28.9	36.35	-	-	-	-	0-360	100	V
4	6.4	30.91	PK	35.5	-27.3	39.11	-	-	-	-	0-360	100	H
6	13.654	27.48	PK	38.8	-20.9	45.38	-	-	-	-	0-360	100	V

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

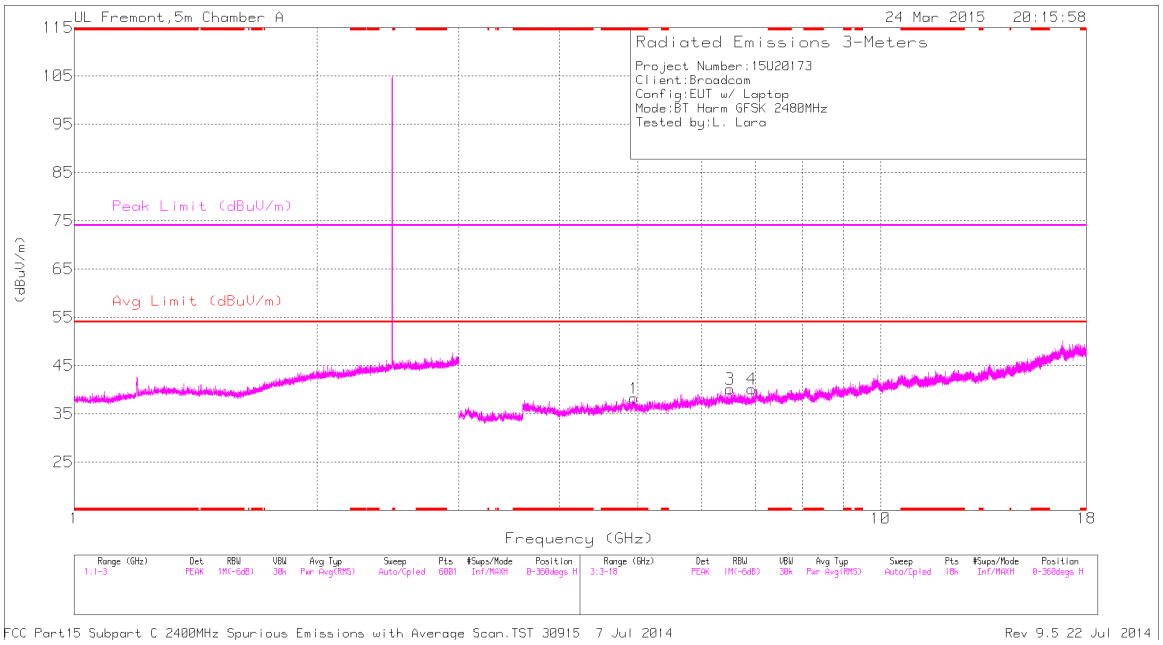
PK - Peak detector

PK3 - FHSS Method: Maximum Peak

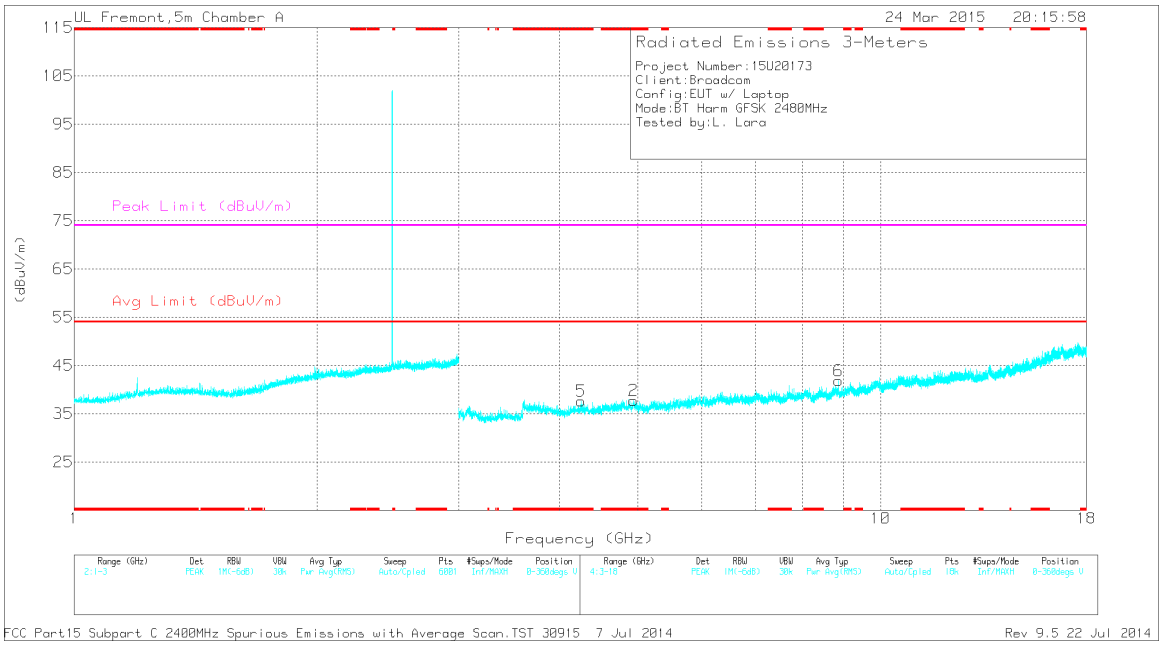
MAv1 - KDB558074 Option 1 Maximum RMS Average

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/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.96	38.86	PK3	33.9	-28	44.76	-	-	74	-29.24	34	163	H
	* 4.96	28.27	MAv1	33.9	-28	34.17	54	-19.83	-	-	34	163	H
2	* 4.961	38.63	PK3	33.9	-28	44.53	-	-	74	-29.47	4	272	V
	* 4.958	27.21	MAv1	33.9	-28	33.11	54	-20.89	-	-	4	272	V
5	* 4.254	41.37	PK3	33.4	-28.8	45.97	-	-	74	-28.03	189	199	V
	* 4.255	28.66	MAv1	33.4	-28.8	33.26	54	-20.74	-	-	189	199	V
3	6.507	31.93	PK	35.5	-27.3	40.13	-	-	-	-	0-360	201	H
4	6.926	30.94	PK	35.6	-26.4	40.14	-	-	-	-	0-360	201	H
6	8.866	29.36	PK	36	-23.5	41.86	-	-	-	-	0-360	100	V

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

PK - Peak detector

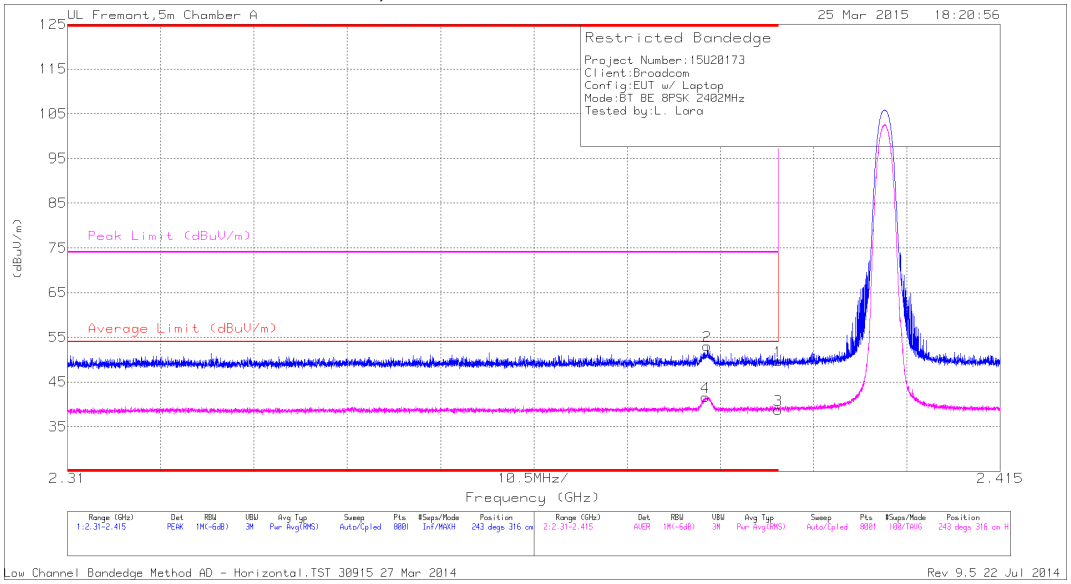
PK3 - FHSS Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.2.2. ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

LOW CHANNEL RESTRICTED, HORIZ



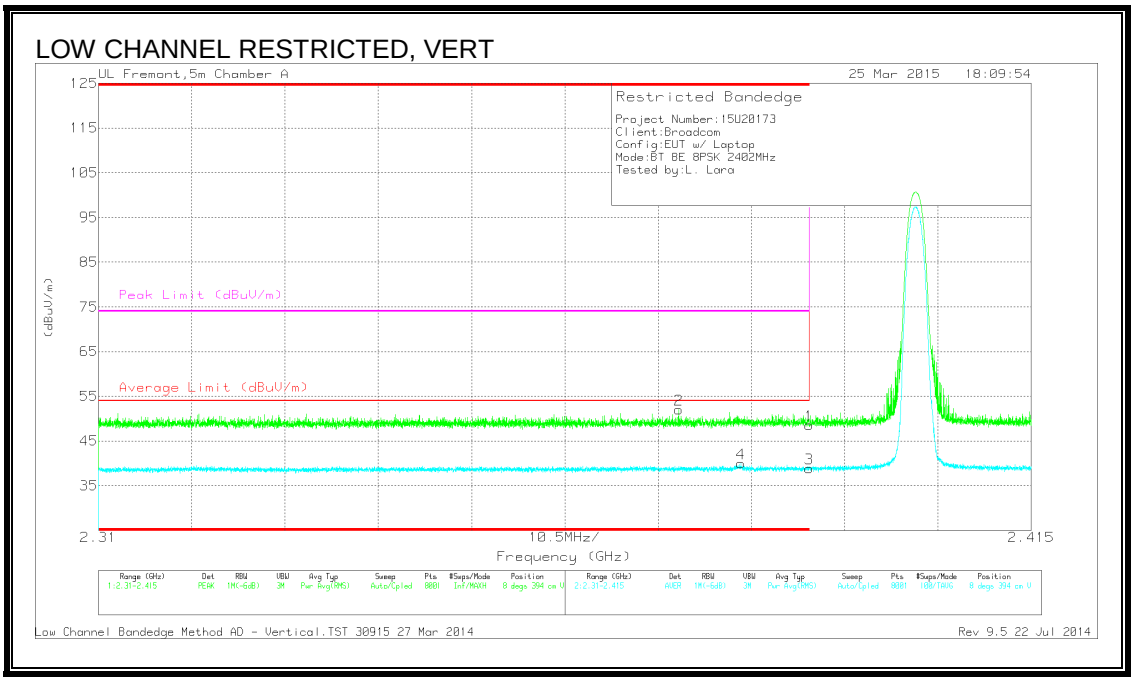
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.382	43.37	PK	31.9	-22.3	52.97	-	-	74	-21.03	243	316	H
4	* 2.382	31.98	RMS	31.9	-22.3	41.58	54	-12.42	-	-	243	316	H
1	* 2.39	39.87	PK	32	-22.2	49.67	-	-	74	-24.33	243	316	H
3	* 2.39	28.97	RMS	32	-22.2	38.77	54	-15.23	-	-	243	316	H

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



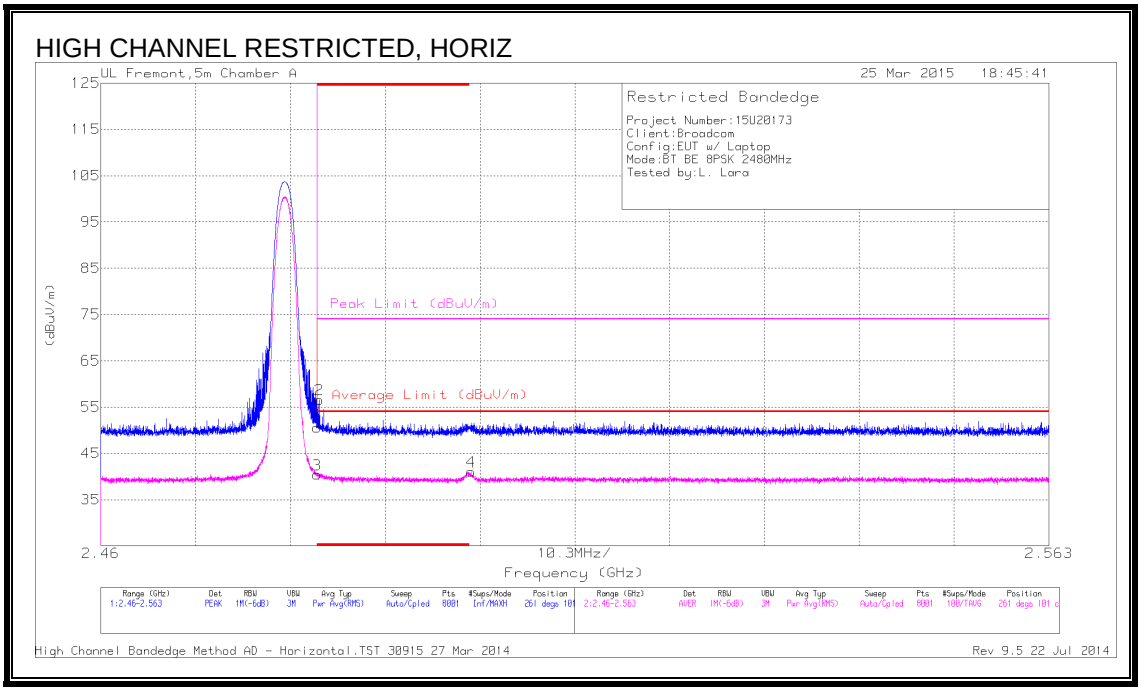
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.375	42.29	PK	31.9	-22.2	51.99	-	-	74	-22.01	8	394	V
4	* 2.382	30.33	RMS	31.9	-22.3	39.93	54	-14.07	-	-	8	394	V
1	* 2.39	38.7	PK	32	-22.2	48.5	-	-	74	-25.5	8	394	V
3	* 2.39	29.09	RMS	32	-22.2	38.89	54	-15.11	-	-	8	394	V

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



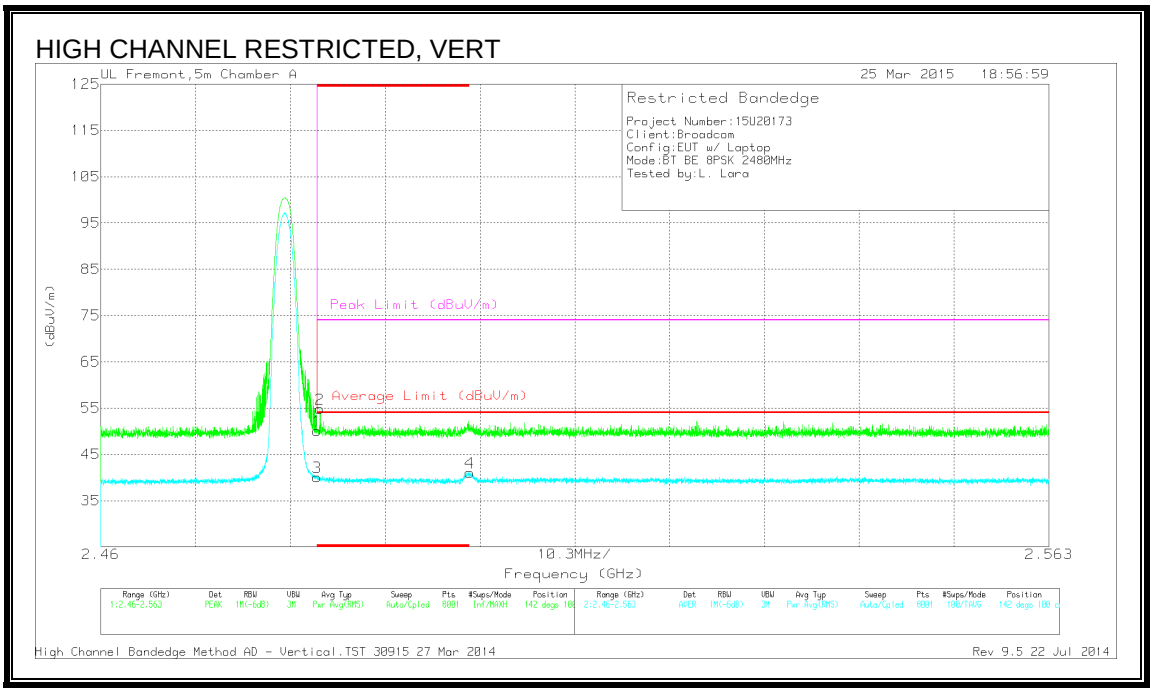
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.37	PK	32.1	-21.9	50.57	-	-	74	-23.43	261	101	H
2	* 2.484	46.42	PK	32.1	-21.9	56.62	-	-	74	-17.38	261	101	H
3	* 2.484	30.21	RMS	32.1	-21.9	40.41	54	-13.59	-	-	261	101	H
4	2.5	30.99	RMS	32.1	-22	41.09	54	-12.91	-	-	261	101	H

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

PK - Peak detector
RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.93	PK	32.1	-21.9	50.13	-	-	74	-23.87	142	100	V
2	* 2.484	44.62	PK	32.1	-21.9	54.82	-	-	74	-19.18	142	100	V
3	* 2.484	29.89	RMS	32.1	-21.9	40.09	54	-13.91	-	-	142	100	V
4	2.5	30.99	RMS	32.1	-22	41.09	54	-12.91	-	-	142	100	V

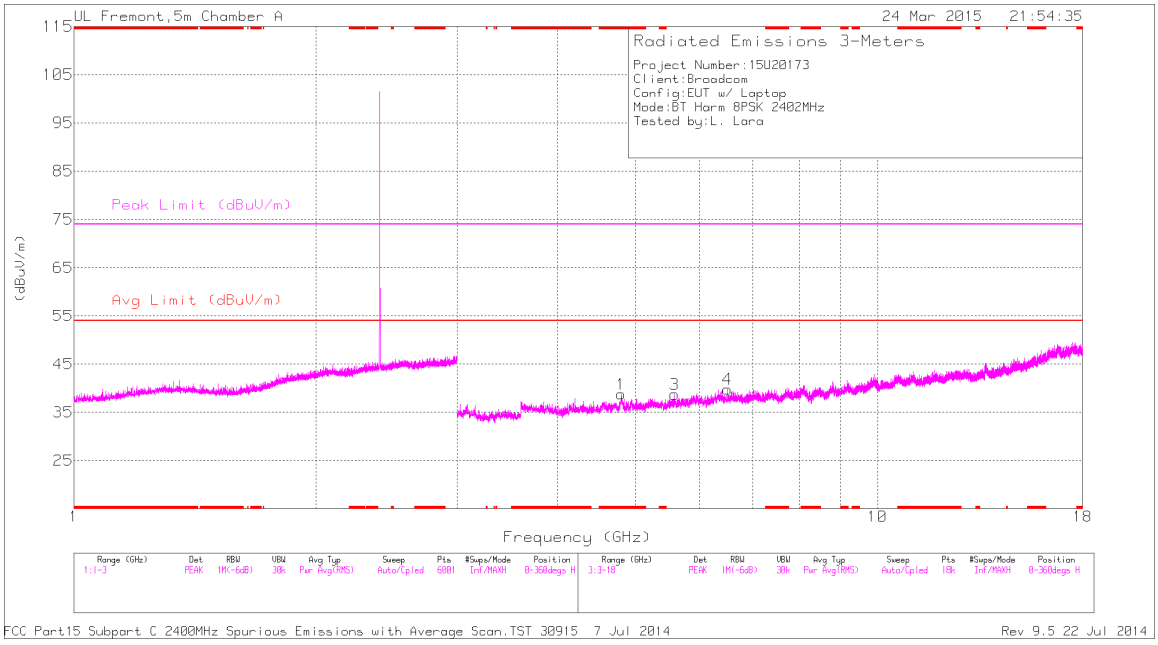
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector
RMS - RMS detection

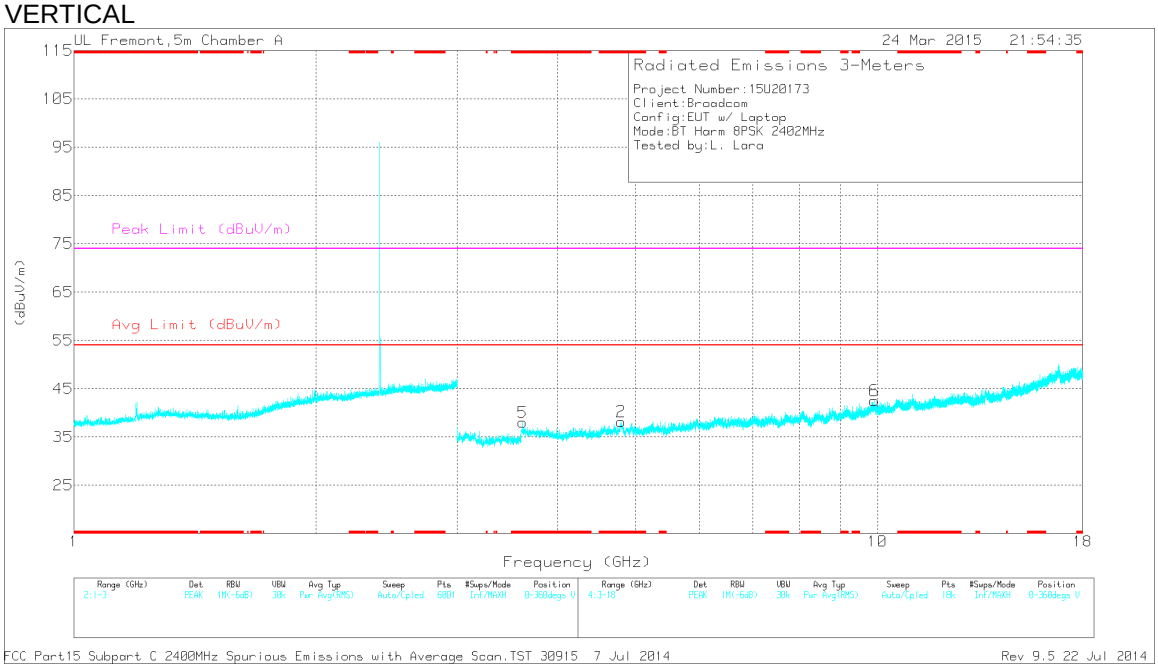
HARMONICS AND SPURIOUS EMISSIONS

8PSK, LOW CHANNEL – 2402 MHz

HORIZONTAL



VERTICAL



8PSK, LOW CHANNEL - 2402 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.803	39.9	PK3	34	-28.4	45.5	-	-	74	-28.5	358	234	H
	* 4.802	28.92	MAv1	34	-28.4	34.52	54	-19.48	-	-	358	234	H
2	* 4.801	40.39	PK3	34	-28.4	45.99	-	-	74	-28.01	219	119	V
	* 4.8	28.95	MAv1	34	-28.4	34.55	54	-19.45	-	-	219	119	V
5	* 3.618	40.56	PK3	33.1	-29.9	43.76	-	-	74	-30.24	68	322	V
	* 3.616	28.99	MAv1	33.1	-30	32.09	54	-21.91	-	-	68	322	V
3	5.592	32.03	PK	34.5	-27.8	38.73	-	-	-	-	0-360	100	H
4	6.511	31.6	PK	35.5	-27.3	39.8	-	-	-	-	0-360	201	H
6	9.912	26.86	PK	37	-21.3	42.56	-	-	-	-	0-360	100	V

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

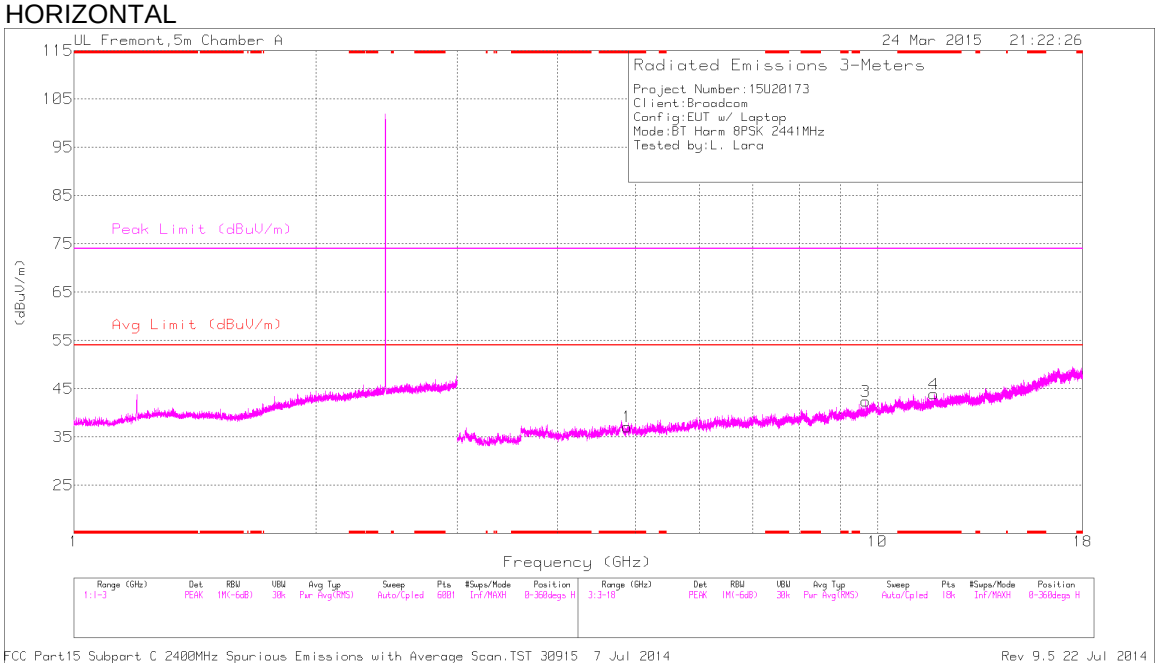
PK - Peak detector

PK3 - FHSS Method: Maximum Peak

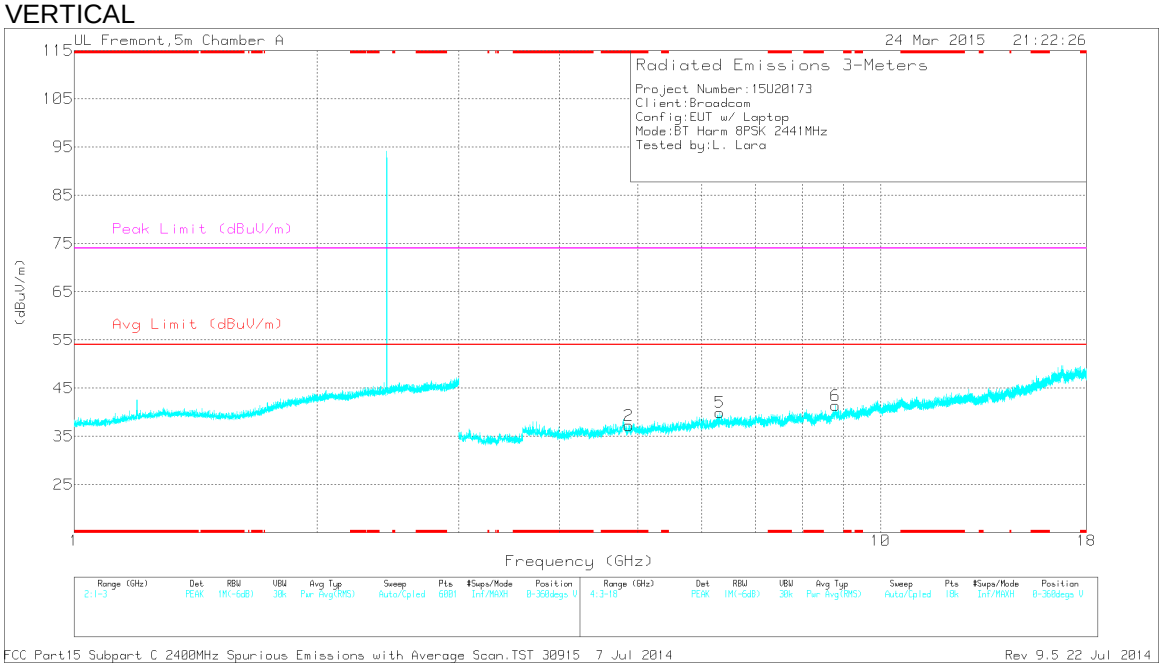
MAv1 - KDB558074 Option 1 Maximum RMS Average

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/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.884	38.77	PK3	33.9	-27.7	44.97	-	-	74	-29.03	304	363	H
	* 4.882	27.14	MAv1	33.9	-27.7	33.34	54	-20.66	-	-	304	363	H
4	* 11.756	33.3	PK3	38.3	-21.1	50.5	-	-	74	-23.5	105	352	H
	* 11.756	21.98	MAv1	38.3	-21.1	39.18	54	-14.82	-	-	105	352	H
2	* 4.881	38.6	PK3	33.9	-27.7	44.8	-	-	74	-29.2	55	330	V
	* 4.882	27.41	MAv1	33.9	-27.7	33.61	54	-20.39	-	-	55	330	V
5	6.319	31.27	PK	35.5	-26.8	39.97	-	-	-	-	0-360	100	V
6	8.795	27.89	PK	36	-22.5	41.39	-	-	-	-	0-360	201	V
3	9.674	29.07	PK	36.8	-23.5	42.37	-	-	-	-	0-360	100	H

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

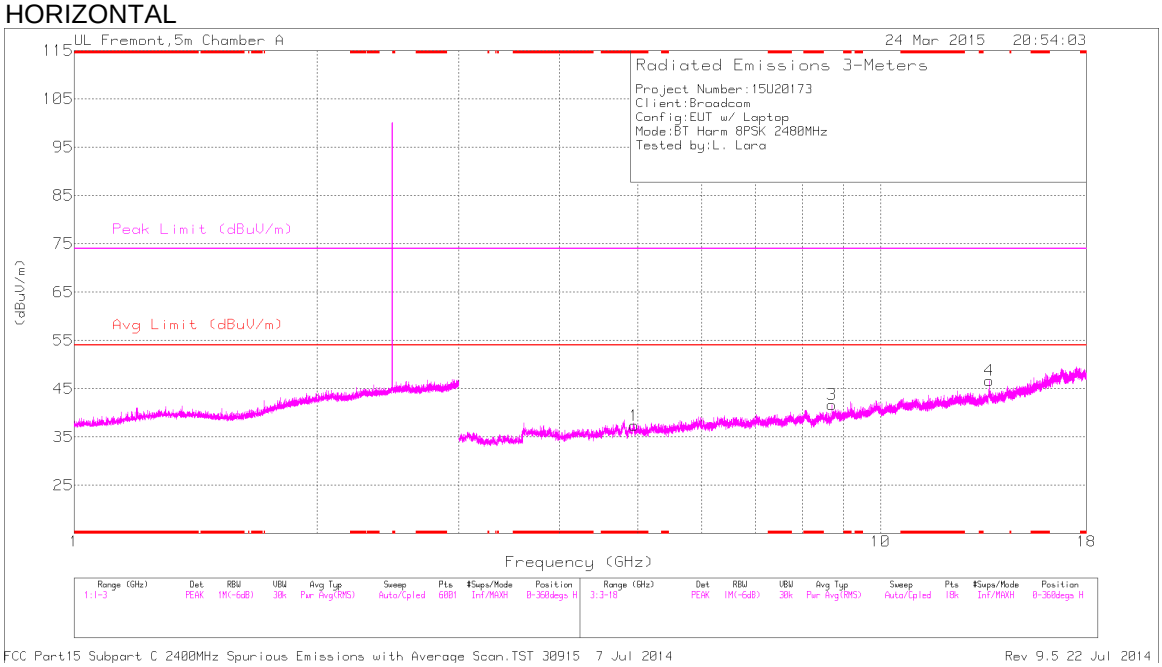
PK - Peak detector

PK3 - FHSS Method: Maximum Peak

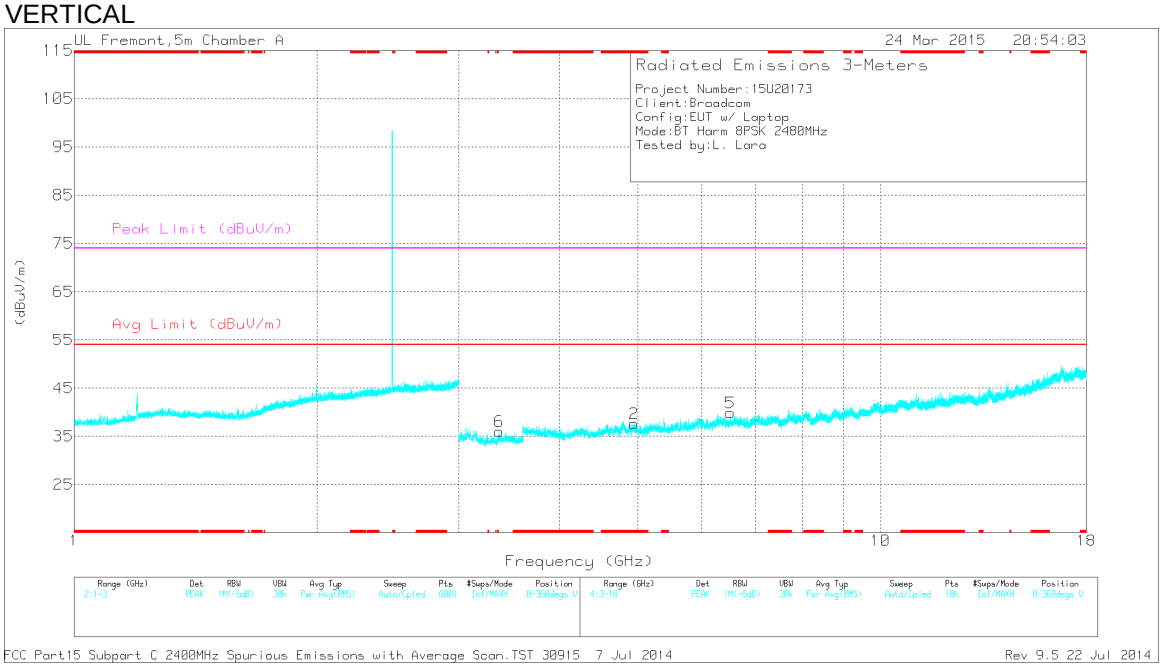
MAv1 - KDB558074 Option 1 Maximum RMS Average

8PSK, HIGH CHANNEL – 2480 MHz

HORIZONTAL



VERTICAL



8PSK, HIGH CHANNEL – 2480 MHz, DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.96	38.42	PK3	33.9	-28	44.32	-	-	74	-29.68	85	350	H
	* 4.96	27.33	MAv1	33.9	-28	33.23	54	-20.77	-	-	85	350	H
2	* 4.961	38.68	PK3	33.9	-28	44.58	-	-	74	-29.42	32	347	V
	* 4.96	27.37	MAv1	33.9	-28	33.27	54	-20.73	-	-	32	347	V
6	3.367	32.32	PK	32.9	-29.2	36.02	-	-	-	-	0-360	201	V
5	6.512	31.69	PK	35.5	-27.3	39.89	-	-	-	-	0-360	100	V
3	8.707	29.72	PK	35.9	-23.9	41.72	-	-	-	-	0-360	201	H
4	13.645	29.01	PK	38.8	-21.1	46.71	-	-	-	-	0-360	100	H

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

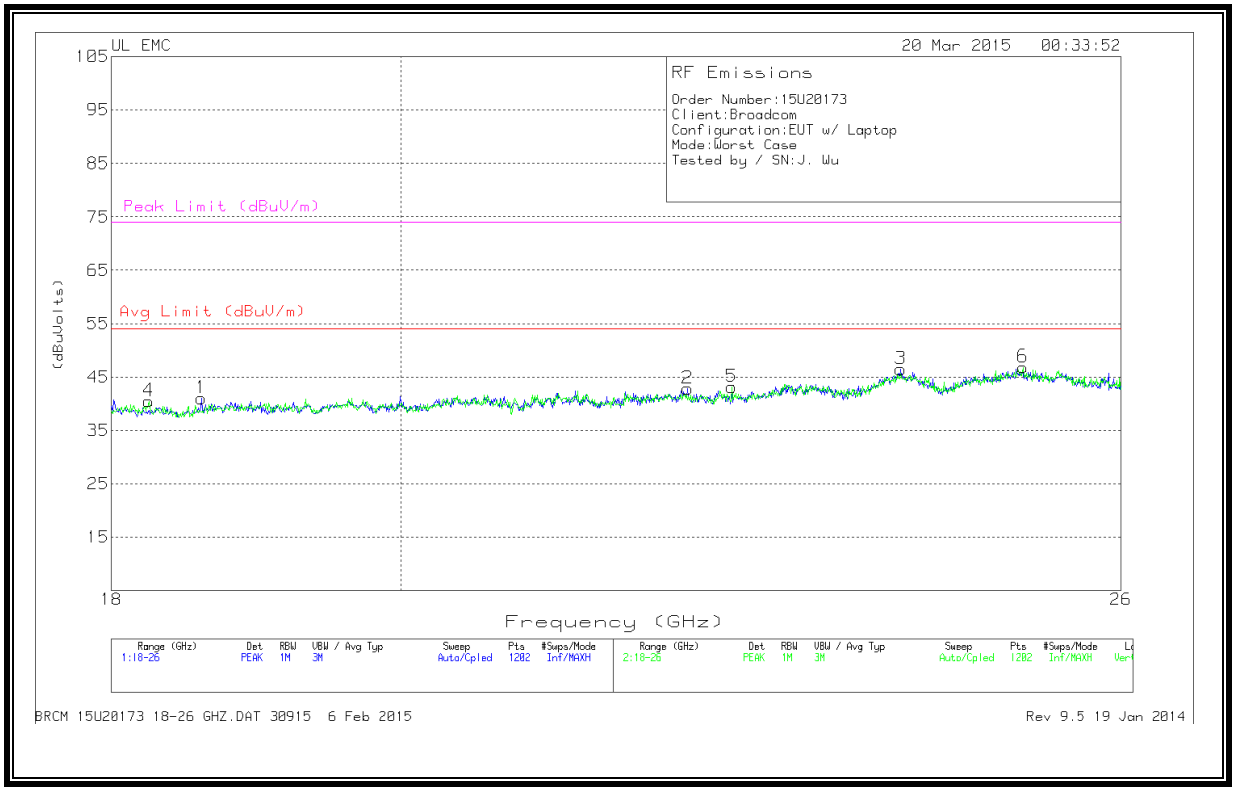
PK - Peak detector

PK3 - FHSS Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.3. WORST-CASE 18-26 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	18.6	42.4	PK	32.6	-24.5	-9.5	41	54	-13	74	-33
2	22.203	41.83	PK	33.7	-23.2	-9.5	42.83	54	-11.17	74	-31.17
3	23.995	44.5	PK	34.2	-22.7	-9.5	46.5	54	-7.5	74	-27.5
4	18.246	42	PK	32.6	-24.6	-9.5	40.5	54	-13.5	74	-33.5
5	22.563	42.47	PK	33.7	-23.5	-9.5	43.17	54	-10.83	74	-30.83
6	25.087	44.73	PK	34.5	-22.9	-9.5	46.83	54	-7.17	74	-27.177

PK - Peak detector

9.4. WORST-CASE BELOW 1 GHz

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

EMISSIONS DATA

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
1	60.005	56.3	PK	7.6	-30.9	33	40	-7	0-360	400	H
4	60.0475	53.68	PK	7.6	-30.9	30.38	40	-9.62	0-360	101	V
5	173.31	45.58	PK	11.6	-30.1	27.08	43.52	-16.44	0-360	101	V
2	174.0325	50.41	PK	11.6	-30.1	31.91	43.52	-11.61	0-360	100	H
3	353.5	45.85	PK	14.3	-29.2	30.95	46.02	-15.07	0-360	101	H
6	486	38.49	PK	17.7	-28.6	27.59	46.02	-18.43	0-360	200	V

PK - Peak detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen Clause 8.8

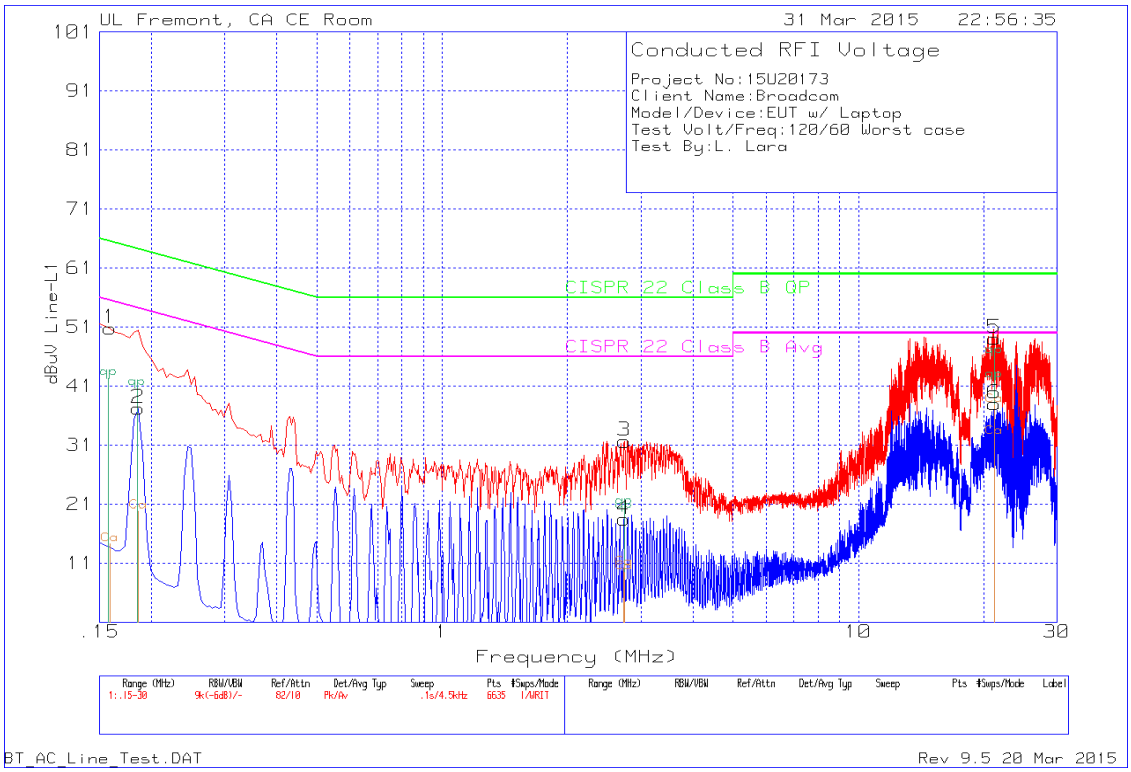
Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

6 WORST EMISSIONS

LINE 1 RESULTS

PLOT



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)
.15788	41.06	Qp	1.3	0	42.36	-	-	55.57	-13.21
.18488	39.72	Qp	1	0	40.72	-	-	54.26	-13.54
2.73863	19.51	Qp	.2	.1	19.81	-	-	46	-26.19
2.73413	20.24	Qp	.2	.1	20.54	-	-	46	-25.46
21.2201	41.51	Qp	.3	.2	42.01	-	-	50	-7.99
21.2089	45.61	Qp	.3	.2	46.11	-	-	50	-3.89

Qp - Quasi-Peak detector

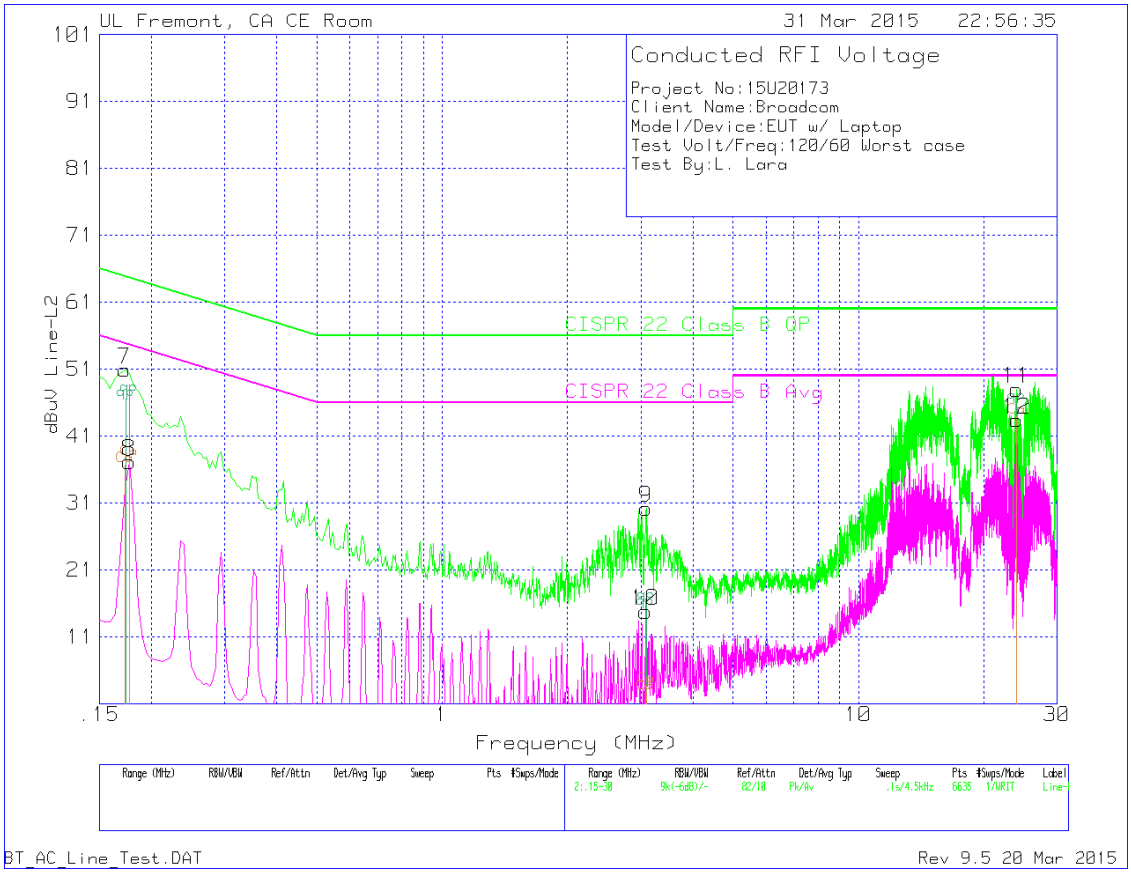
Range 1: Line-L1 .15 - 30MHz

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)
.15788	12.93	Ca	1.3	0	14.23	-	-	55.57	-41.34
.18488	18.8	Ca	1	0	19.8	-	-	54.26	-34.46
2.73863	9.12	Ca	.2	.1	9.42	-	-	46	-36.58
2.73413	9.9	Ca	.2	.1	10.2	-	-	46	-35.8
21.2201	31.89	Ca	.3	.2	32.39	-	-	50	-17.61
21.2089	37.3	Ca	.3	.2	37.8	-	-	50	-12.2

Ca - CISPR average detection

LINE 2 RESULTS

PLOT



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)
.17363	45.32	Qp	1.2	0	46.52	-	-	54.78	-8.26
.17678	46.08	Qp	1.2	0	47.28	-	-	54.64	-7.36
3.08918	15.98	Qp	.2	.1	16.28	-	-	46	-29.72
3.07928	14.99	Qp	.2	.1	15.29	-	-	46	-30.71
23.9989	45.52	Qp	.3	.2	46.02	-	-	50	-3.98

Qp - Quasi-Peak detector

Range 2: Line-L2 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
.17363	35.43	Ca	1.2	0	36.63	-	-	54.78	-18.15
.17678	36.41	Ca	1.2	0	37.61	-	-	54.64	-17.03
3.08918	3.32	Ca	.2	.1	3.62	-	-	46	-42.38
3.07928	2.27	Ca	.2	.1	2.57	-	-	46	-43.43
23.9989	43.38	Ca	.3	.2	43.88	-	-	50	-6.12

Ca - CISPR average detection