



**FCC 47 CFR PART 15 SUBPART C**

**TEST REPORT**

**For**

**Notebook Computer**

**Model:**

Satellite S5\*\*\*\*\*-C\*\*\*\*\* , Satellite E5\*\*\*\*\*-C\*\*\*\*\* ,  
Satellite L5\*\*\*\*\*-C\*\*\*\*\* , Satellite P5\*\*\*\*\*-C\*\*\*\*\* ,

Satellite Radius L5\*\*\*\*\*-C\*\*\*\*\* ,

Satellite Radius P5\*\*\*\*\*-C\*\*\*\*\* ,

Satellite Fusion L5\*\*\*\*\*-C\*\*\*\*\* ,

(\* means 0-9; a-z; A-Z; / ; - ; no symbol, or blank for marketing purpose)

**Trade Name: TOSHIBA**

*Issued to*

**Pegatron Corporation**  
5F, NO. 76, LIGONG ST., BEITOU DISTRICT,  
TAIPEI CITY 112, TAIWAN (R.O.C.)

*Issued by*

**Compliance Certification Services Inc.**

No.11, Wugong 6th Rd., Wugu Dist.,  
New Taipei City 24891, Taiwan. (R.O.C.)

<http://www.ccsrf.com>

[service@ccsrf.com](mailto:service@ccsrf.com)

**Issued Date: March 29, 2015**



*Note: This report shall not be reproduced except in full, without the written approval of Compliance Certification Services Inc. This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document.*



**Revision History**

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	March 29, 2015	Initial Issue	ALL	Kelly Cheng



## **TABLE OF CONTENTS**

<b>1. TEST RESULT CERTIFICATION.....</b>	<b>4</b>
<b>2. EUT DESCRIPTION .....</b>	<b>5</b>
<b>3. TEST METHODOLOGY .....</b>	<b>6</b>
3.1 EUT CONFIGURATION .....	6
3.2 EUT EXERCISE.....	6
3.3 GENERAL TEST PROCEDURES.....	6
3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS.....	7
3.5 DESCRIPTION OF TEST MODES .....	8
<b>4. INSTRUMENT CALIBRATION.....</b>	<b>9</b>
4.1 MEASURING INSTRUMENT CALIBRATION .....	9
4.2 MEASUREMENT EQUIPMENT USED .....	9
4.3 MEASUREMENT UNCERTAINTY .....	10
<b>5. FACILITIES AND ACCREDITATIONS .....</b>	<b>11</b>
5.1 FACILITIES .....	11
5.2 EQUIPMENT.....	11
5.3 TABLE OF ACCREDITATIONS AND LISTINGS.....	12
<b>6. SETUP OF EQUIPMENT UNDER TEST .....</b>	<b>13</b>
6.1 SETUP CONFIGURATION OF EUT.....	13
6.2 SUPPORT EQUIPMENT .....	13
<b>7. FCC PART 15.247 REQUIREMENTS.....</b>	<b>14</b>
7.1 6DB BANDWIDTH.....	14
7.2 PEAK POWER.....	40
7.3 AVERAGE POWER .....	42
7.4 BAND EDGES MEASUREMENT .....	44
7.5 PEAK POWER SPECTRAL DENSITY.....	96
7.6 SPURIOUS EMISSIONS.....	122
7.7 RADIATED EMISSIONS .....	147
7.8 POWERLINE CONDUCTED EMISSIONS.....	172
<b>APPENDIX I PHOTOGRAPHS OF TEST SETUP.....</b>	<b>175</b>
<b>APPENDIX 1 - PHOTOGRAPHS OF EUT</b>	



# 1. TEST RESULT CERTIFICATION

**Applicant:** Pegatron Corporation  
5F, NO. 76, LIGONG ST., BEITOU DISTRICT, TAIPEI CITY  
112, TAIWAN (R.O.C.)

**Equipment Under Test:** Notebook Computer

**Trade Name:** TOSHIBA

**Model Number:** Satellite S5\*\*\*\*\*-C\*\*\*\*\* , Satellite E5\*\*\*\*\*-C\*\*\*\*\* ,  
Satellite L5\*\*\*\*\*-C\*\*\*\*\* , Satellite P5\*\*\*\*\*-C\*\*\*\*\* ,  
Satellite Radius L5\*\*\*\*\*-C\*\*\*\*\* ,  
Satellite Radius P5\*\*\*\*\*-C\*\*\*\*\* ,  
Satellite Fusion L5\*\*\*\*\*-C\*\*\*\*\* ,  
(\* means 0-9; a-z; A-Z; / ; - ; no symbol, or blank for marketing  
purpose)

**Date of Test:** February 10 ~ March 28, 2015

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15 Subpart C	No non-compliance noted

## We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

*Approved by:*

*Reviewed by:*

\_\_\_\_\_  
Miller Lee  
Section Manager  
Compliance Certification Services Inc.

\_\_\_\_\_  
Angel Cheng  
Section Manager  
Compliance Certification Services Inc.



## 2. EUT DESCRIPTION

<b>Product</b>	Notebook Computer		
<b>Trade Name</b>	TOSHIBA		
<b>Model Number</b>	Satellite S5*****-C*****; Satellite E5*****-C*****; Satellite L5*****-C*****; Satellite P5*****-C*****; Satellite Radius L5*****-C*****; Satellite Radius P5*****-C*****; Satellite Fusion L5*****-C*****; (* means 0-9; a-z; A-Z; / ; - ; no symbol, or blank for marketing purpose)		
<b>Model Discrepancy</b>	All the above models are identical except for the designation of model numbers. The suffix of “*” (*means 0-9; a-z; A-Z; / ; - ; no symbol, or blank for marketing purpose) on model number is just for marketing purpose only.		
<b>Received Date</b>	January 23, 2015		
<b>WLAN Manufacturer</b>	Intel	<b>Model</b>	7265NGW
<b>Power Adapter</b>	1. VDC from Power Adapter Liteon / Model: PA5178U-1ACA I/P: 100-240V, 50-60Hz, 1.7A O/P: 19V, 3.42A 2. Power from Battery TOSHIBA / PA5208U-1BRS Rating 10.8Vdc, 45Wh, 3860mAh		
<b>Frequency Range</b>	2412 ~ 2472 MHz		
<b>Transmit Power</b>	IEEE 802.11b mode: 18.02 dBm IEEE 802.11g mode: 20.11 dBm IEEE 802.11n HT 20 MHz mode: 23.84 dBm IEEE 802.11n HT 40 MHz mode: 24.01 dBm		
<b>Modulation Technique</b>	IEEE 802.11b mode: DSSS IEEE 802.11g mode: OFDM IEEE 802.11n HT 20 MHz mode: OFDM IEEE 802.11n HT 40 MHz mode: OFDM		
<b>Number of Channels</b>	IEEE 802.11b/g mode: 11 Channels IEEE 802.11n HT 20 MHz mode: 11 Channels IEEE 802.11n HT 40 MHz mode: 7 Channels		
<b>Antenna Specification</b>	1. PIFA Antenna / Yageo(Metal) ANTA0TP09551WLAN4 (TX1) / 0.32dBi(Worse) ANTA0TP09551WLAN3 (TX2) / 0.61dBi (Worse) 2. PIFA Antenna / Yageo(IMR) ANTA0TP09551WLAN2 (TX1) / -1.36dBi ANTA0TP09551WLAN1 (TX2) / -2.56dBi 3. PIFA Antenna / ACON(Metal) APP6Y-700301 (TX1) /-1.17dBi APP6Y-700302 (TX2) / -1.33dBi 4. PIFA Antenna / ACON(IMR) APP6Y-700249 (TX1) /-4.58dBi APP6Y-700250 (TX2) / -5.98dBi		

**-Remark:**

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for FCC ID: **VUI-THOR7265** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.



### **3. TEST METHODOLOGY**

The tests documented in this report were performed in accordance with ANSI C63.4: 2009 and FCC CFR 47 Part 15.207, 15.209, 15.247 and KDB558074.

#### **3.1 EUT CONFIGURATION**

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

#### **3.2 EUT EXERCISE**

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

#### **3.3 GENERAL TEST PROCEDURES**

##### **Conducted Emissions**

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

##### **Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4.



### 3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41	322 - 335.4		

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.



### 3.5 DESCRIPTION OF TEST MODES

The EUT (model: Satellite S50-C) comes with eight types of antenna (model: ANTA0TP09551WLAN4 (TX1) / ANTA0TP09551WLAN3 (TX2) / ANTA0TP09551WLAN2 (TX1) / ANTA0TP09551WLAN1 (TX2) / APP6Y-700301 (TX1) / APP6Y-700302 (TX2) / APP6Y-700249 (TX1) / APP6Y-700250 (TX2)) for sale. After the preliminary test, the antenna ANTA0TP09551WLAN4 (TX1) / ANTA0TP09551WLAN3 (TX2) were found to emit the worst emissions and therefore had been tested under operating condition.

The EUT is a IEEE802.11b/g is 1x1 SISO only, IEEE802.11n HT20/HT40 is 2x2 MIMO, 2x2 configuration spatial MIMO (2Tx & 2Rx) without beam forming function that operate in double TX chains and double RX chains. The 2x2 configuration is implemented with two outside TX & RX chains (Chain 0 and 1).

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

#### **IEEE 802.11b mode:**

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2472MHz) with 1Mbps data rate were chosen for full testing.

#### **IEEE 802.11g mode:**

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2472MHz) with 6Mbps data rate were chosen for full testing.

#### **IEEE 802.11n HT 20 MHz mode:**

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2472MHz) with 6.5Mbps data rate were chosen for full testing.

#### **IEEE 802.11n HT 40 MHz mode:**

Channel Low (2422MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 13.5Mbps data rate were chosen for full testing.

The field strength of spurious emission was measured in the following position: The EUT has Notebook mode, Flat mode, and Tent mode, Stand mode, Tablet X, Y and Z axis modes. The worst emission was found in Notebook mode and the worst case was recorded.





## 4. INSTRUMENT CALIBRATION

### 4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

### 4.2 MEASUREMENT EQUIPMENT USED

#### Equipment Used for Emissions Measurement

*Remark: Each piece of equipment is scheduled for calibration once a year and Loop Antenna is scheduled for calibration once three years.*

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	11/23/2015
Thermostatic/Hrgrosatic Chamber	TAICHY	MHG-150LF	930619	10/07/2015
AC Power Source	EXTECH	6205	1140845	N.C.R
DC Power Supply	ABM	8301HD	D011531	N.C.R
Power Meter	Anritsu	ML2495A	1012009	06/03/2015
Power Sensor	Anritsu	MA2411A	0917072	06/03/2015
Spectrum Analyzer	ROHDE&SCHWARZ	FSV40	101073	07/09/2015

Wugu 966 Chamber A				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510268	09/18/2015
EMI Test Receiver	R&S	ESCI	100064	05/30/2015
Bilog Antenna	Sunol Sciences	JB3	A030105	08/19/2015
Horn Antenna	EMCO	3117	00055165	01/26/2016
Horn Antenna	EMCO	3116	26370	12/25/2015
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Pre-Amplifier	MITEQ	1652-3000	1490939	08/09/2016
Pre-Amplifier	EMC	EMC 01265	4035	08/09/2016
Pre-Amplifier	MITEQ	AMF-6F-260400-4 0-8P	985646	12/25/2015
Coaxial Cable	Huber+Suhner	102	29212/2	12/25/2015
Coaxial Cable	Huber+Suhner	102	29406/2	12/25/2015
Test S/W	EZ-EMC (CCS-3A1RE)			

Conducted Emission room # B				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI	101073	09/18/2015
LISN	R&S	ENV216	101054	05/18/2015
LISN	SCHWARZBECK	NSLK 8127	8127-541	11/25/2015
Capacitive Voltage Probe	FCC	F-CVP-1	100185	03/08/2016
Test S/W	CCS-3A1-CE			



### 4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 1.2575
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

**Remark:** This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .



## **5. FACILITIES AND ACCREDITATIONS**

### **5.1 FACILITIES**

All measurement facilities used to collect the measurement data are located at

No.139, Wugong Rd., Wugu Dist., New Taipei City 24891, Taiwan (R.O.C.)

Tel: 886-2-2298-4086 / Fax: 886-2-2298-1470

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

No.81-1, Lane 210, Bade 2nd Rd., Lujhu Township, Taoyuan County 33841, TAIWAN, R.O.C.

Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

### **5.2 EQUIPMENT**

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.




Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."



### 5.3 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	 FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12.2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method -47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	

\* No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.



## 6. SETUP OF EQUIPMENT UNDER TEST

### 6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

### 6.2 SUPPORT EQUIPMENT

No	Equipment	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
	N/A						

**Remark:**

1. *All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
2. *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*



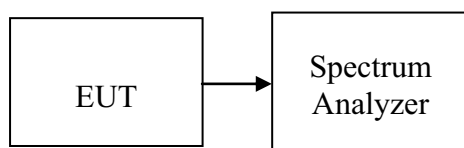
## 7. FCC PART 15.247 REQUIREMENTS

### 7.1 6DB BANDWIDTH

#### LIMIT

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500 kHz.

#### Test Configuration



#### TEST PROCEDURE

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 300 kHz, VBW = 1000 kHz, Sweep = auto.
4. Mark the peak frequency and -6dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

#### TEST RESULTS

*No non-compliance noted.*

**Test Data****Test mode: IEEE 802.11b mode**

Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
2412	10.3334	>500	PASS
2437	10.3334		PASS
2462	10.3334		PASS
2467	10.17		PASS
2472	10.17		PASS

**Test mode: IEEE 802.11g mode**

Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
2412	16.3334	>500	PASS
2437	16.3334		PASS
2462	16.3334		PASS
2467	16.08		PASS
2472	16.08		PASS

**Test mode: IEEE 802.11n HT 20 MHz mode / Chain 0**

Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
2412	17.5	>500	PASS
2437	17.5833		PASS
2462	17.5		PASS
2467	16.08		PASS
2472	17.42		PASS

**Test mode: IEEE 802.11n HT 20 MHz mode / Chain 1**

Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
2412	17.6666	>500	PASS
2437	17.5833		PASS
2462	17.5833		PASS
2467	17.50		PASS
2472	17.42		PASS

**Test mode: IEEE 802.11n HT 40 MHz mode / Chain 0**

Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
2422	36.1666	>500	PASS
2437	35.8334		PASS
2452	36.1666		PASS
2467	36.00		PASS
2472	36.08		PASS

**Test mode: IEEE 802.11n HT 40 MHz mode / Chain 1**

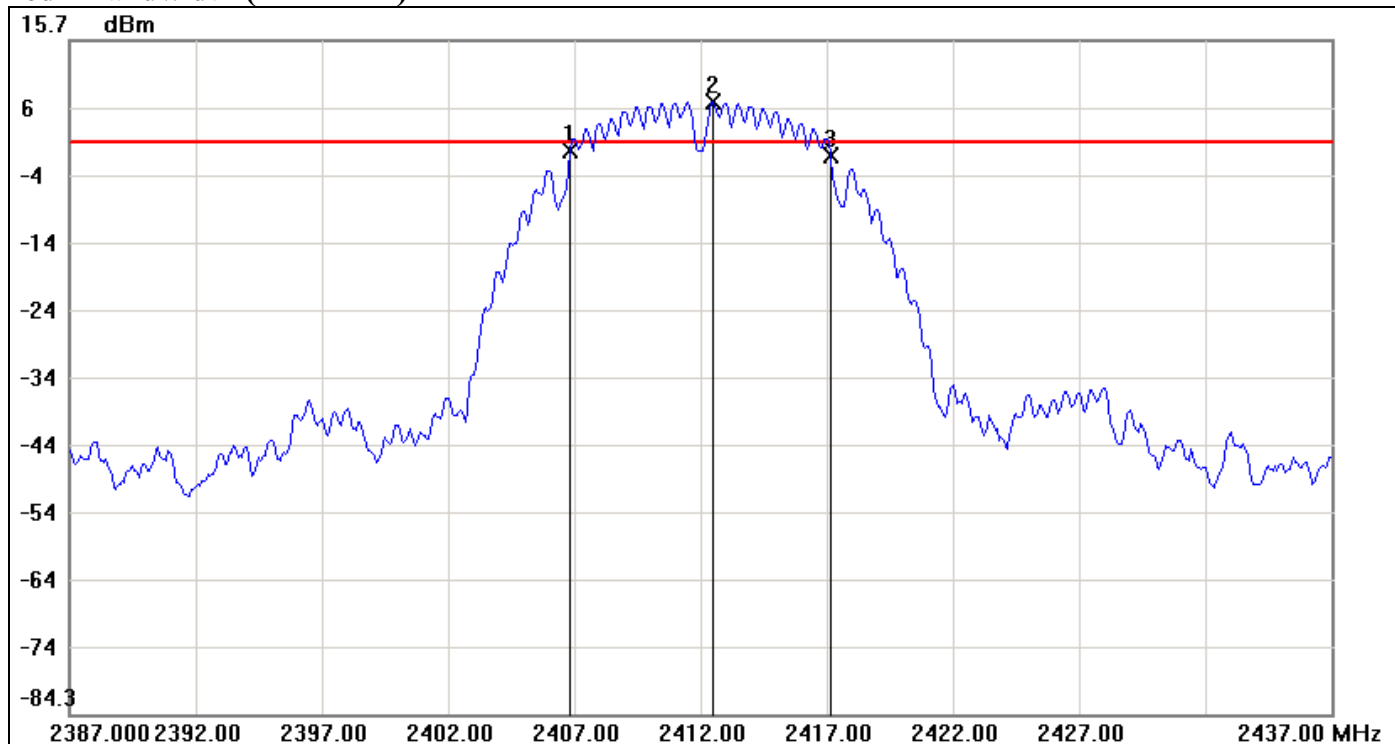
Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
2422	35.6666	>500	PASS
2437	35.6666		PASS
2452	35.6666		PASS
2467	35.58		PASS
2472	35.58		PASS



**Test Plot**

**IEEE 802.11b mode**

**6dB Bandwidth (2412 MHz)**



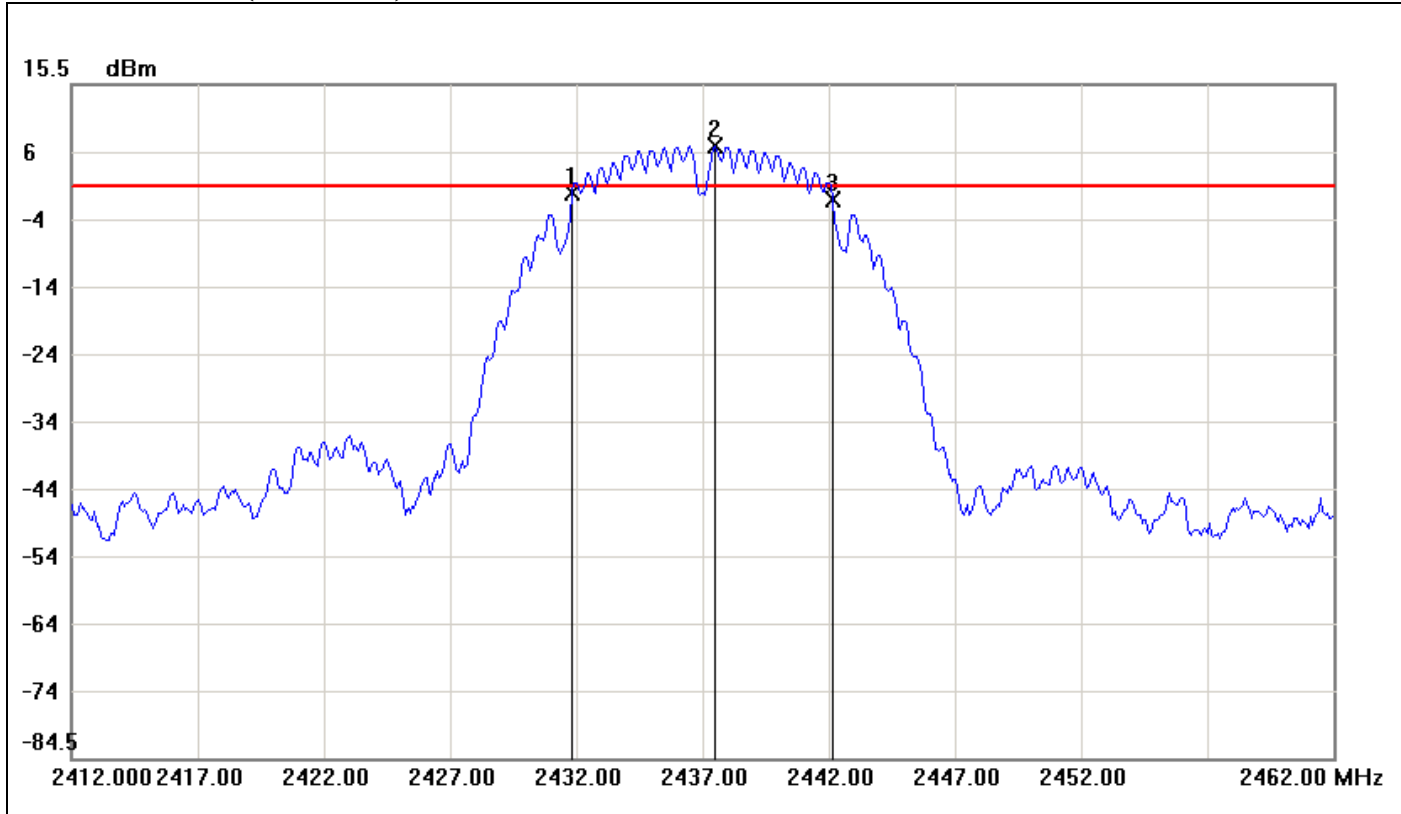
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2406.8333	-0.57	0.56	-1.13
2	2412.5000	6.56	0.56	6.00
3	2417.1667	-1.46	0.56	-2.02

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	10.3334	-0.89





**6dB Bandwidth (2437 MHz)**

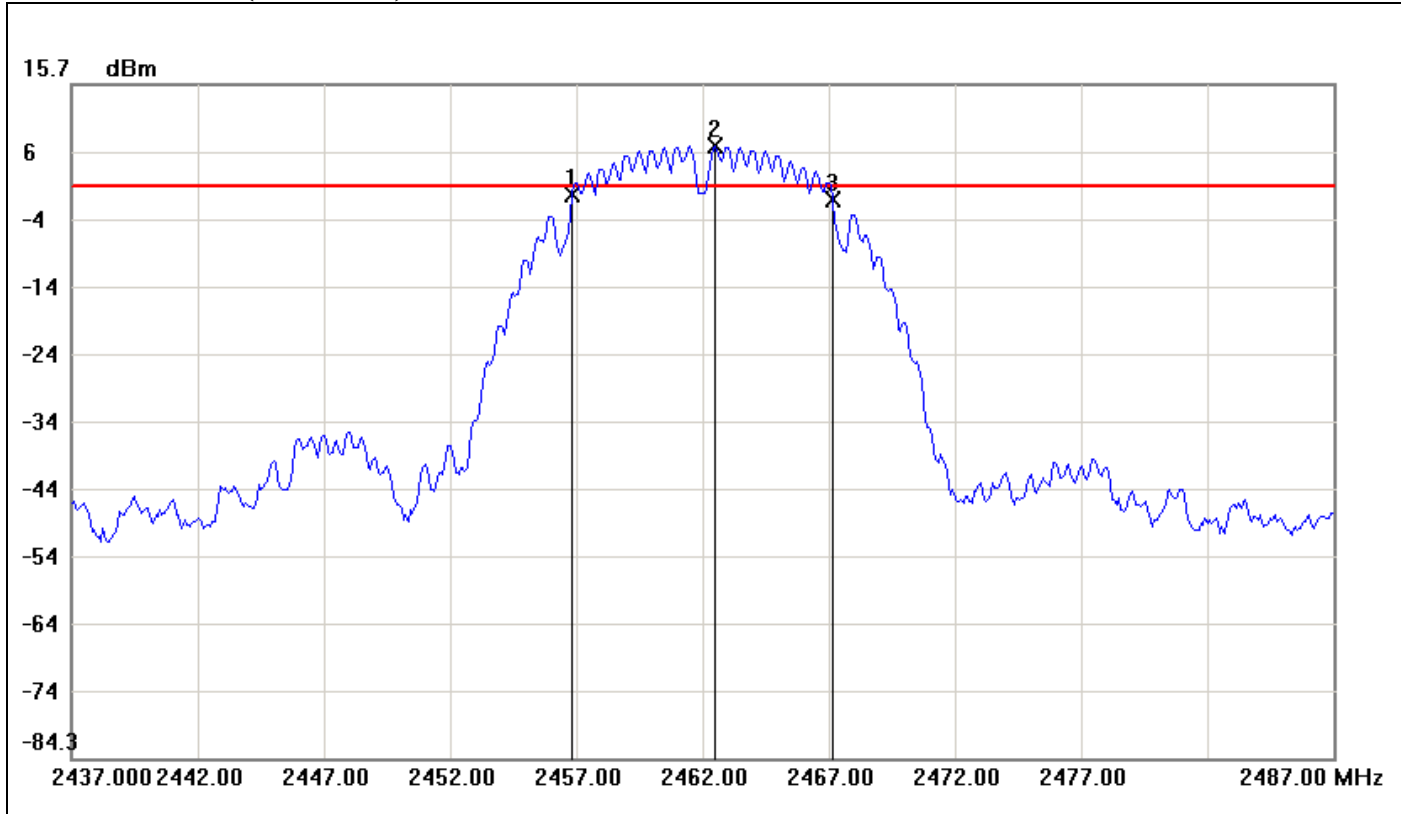


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2431.8333	-0.66	0.42	-1.08
2	2437.5000	6.42	0.42	6.00
3	2442.1667	-1.65	0.42	-2.07

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	10.3334	-0.99



**6dB Bandwidth (2462 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2456.8333	-0.65	0.62	-1.27
2	2462.5000	6.62	0.62	6.00
3	2467.1667	-1.47	0.62	-2.09

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	10.3334	-0.82

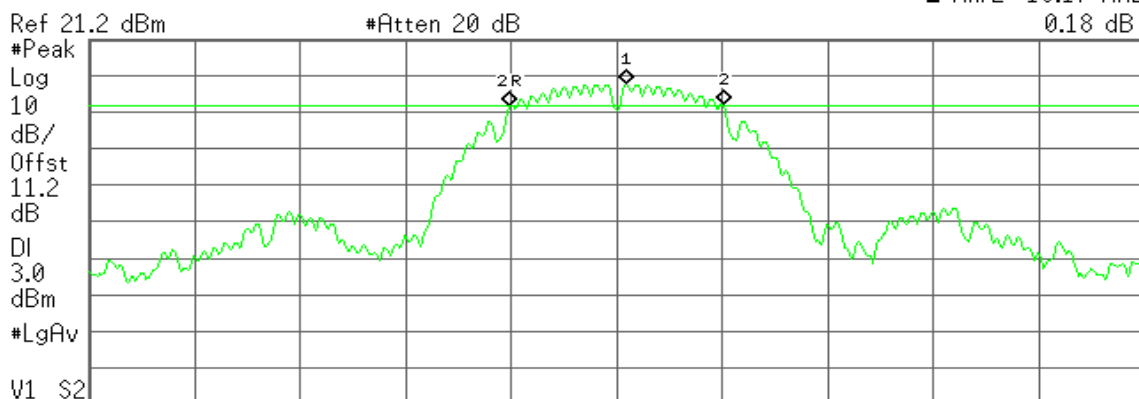


### 6dB Bandwidth (2467 MHz)

Agilent

R T

Mkr2 10.17 MHz  
0.18 dB



Center 2.467 00 GHz Span 50 MHz  
#Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts)

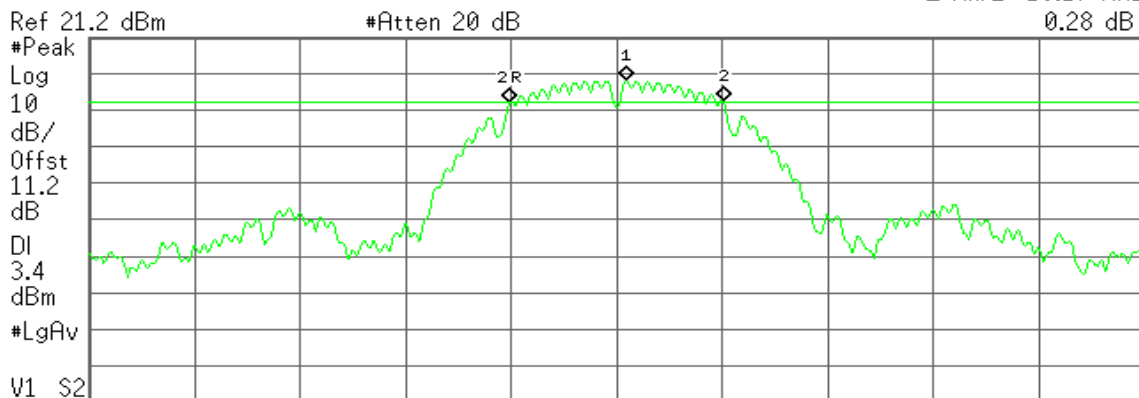
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.467 50 GHz	8.95 dBm
2R	(1)	Freq	2.461 92 GHz	3.11 dBm
2Δ	(1)	Freq	10.17 MHz	0.18 dB

### 6dB Bandwidth (2472 MHz)

Agilent

R T

Mkr2 10.17 MHz  
0.28 dB



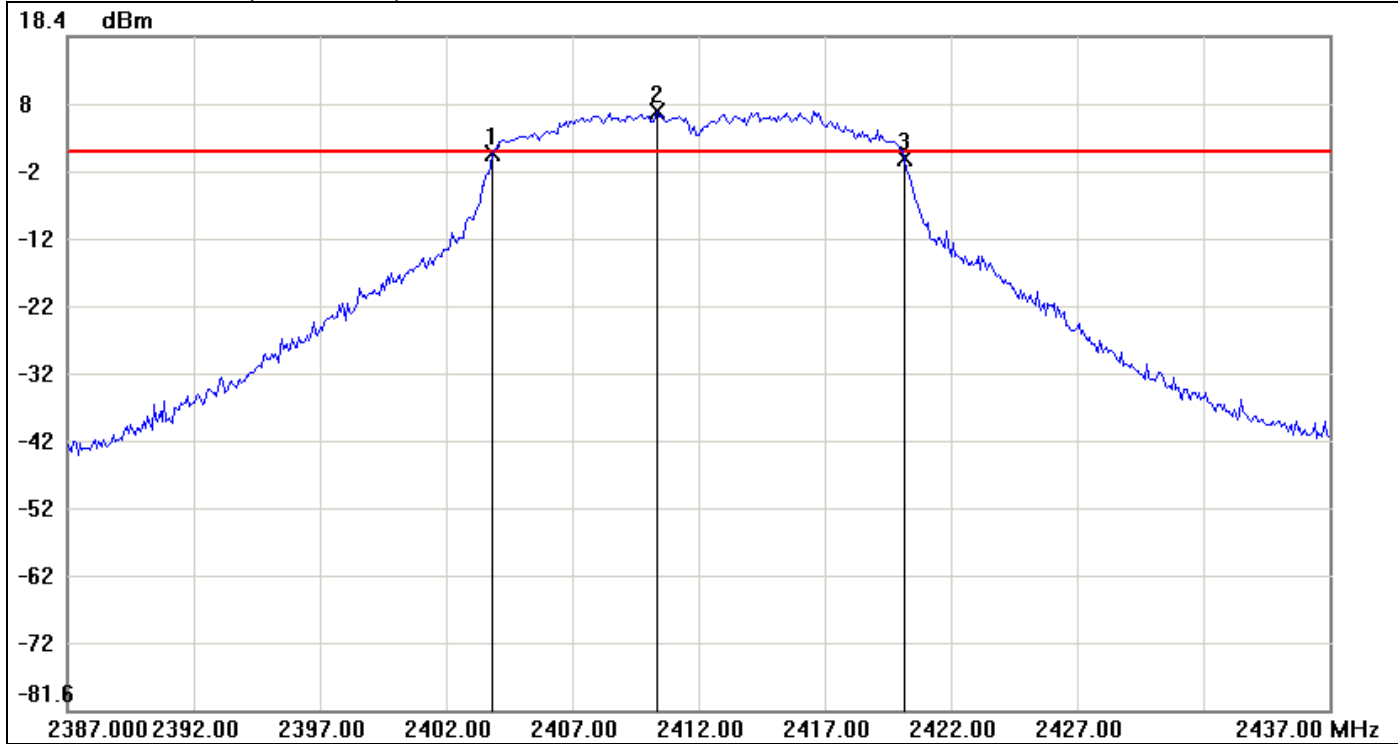
Center 2.472 00 GHz Span 50 MHz  
#Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.472 50 GHz	9.42 dBm
2R	(1)	Freq	2.466 92 GHz	3.54 dBm
2Δ	(1)	Freq	10.17 MHz	0.28 dB



**IEEE 802.11g mode**

**6dB Bandwidth (2412 MHz)**

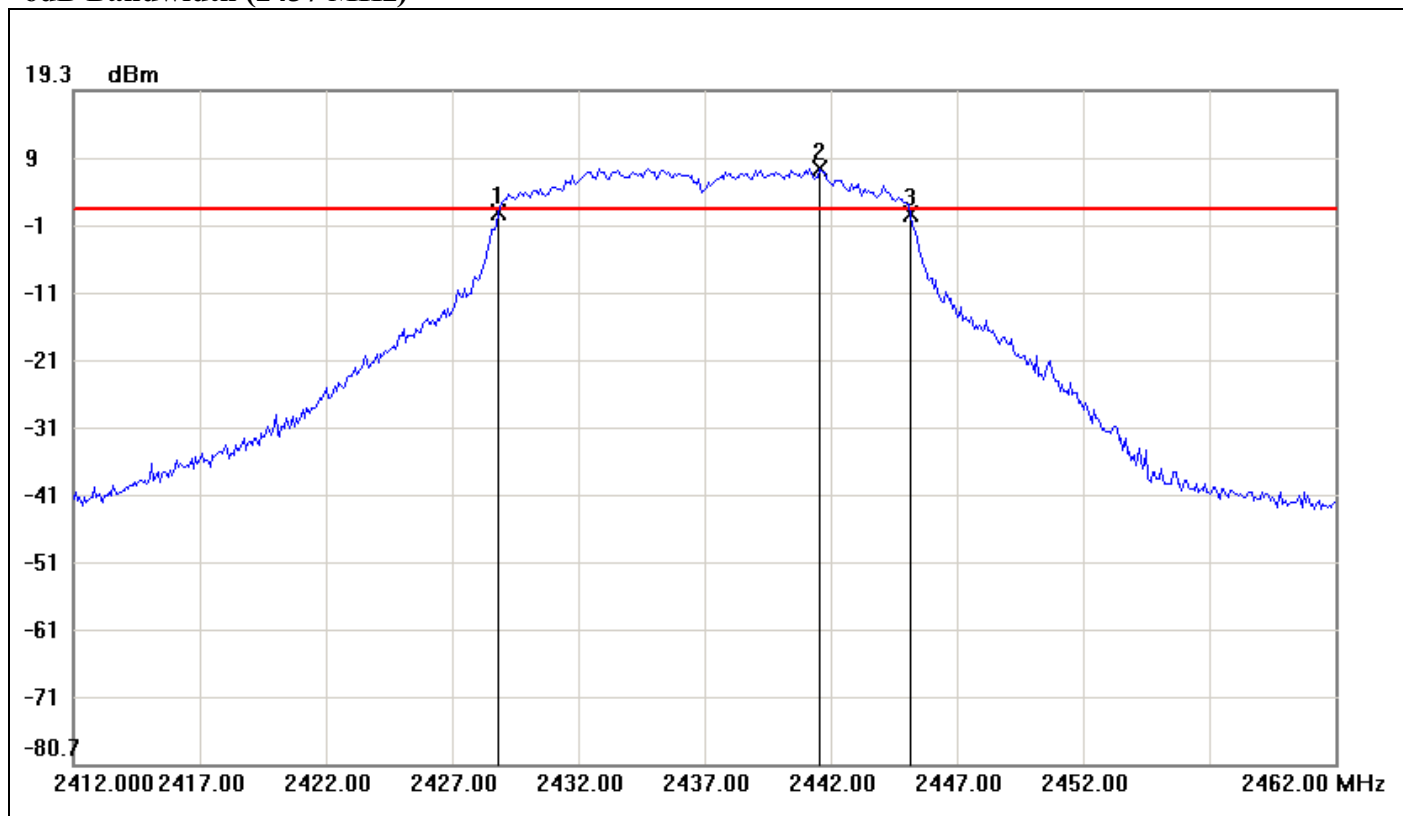


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2403.8333	1.03	1.26	-0.23
2	2410.3333	7.26	1.26	6.00
3	2420.1667	0.24	1.26	-1.02

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	16.3334	-0.79



**6dB Bandwidth (2437 MHz)**

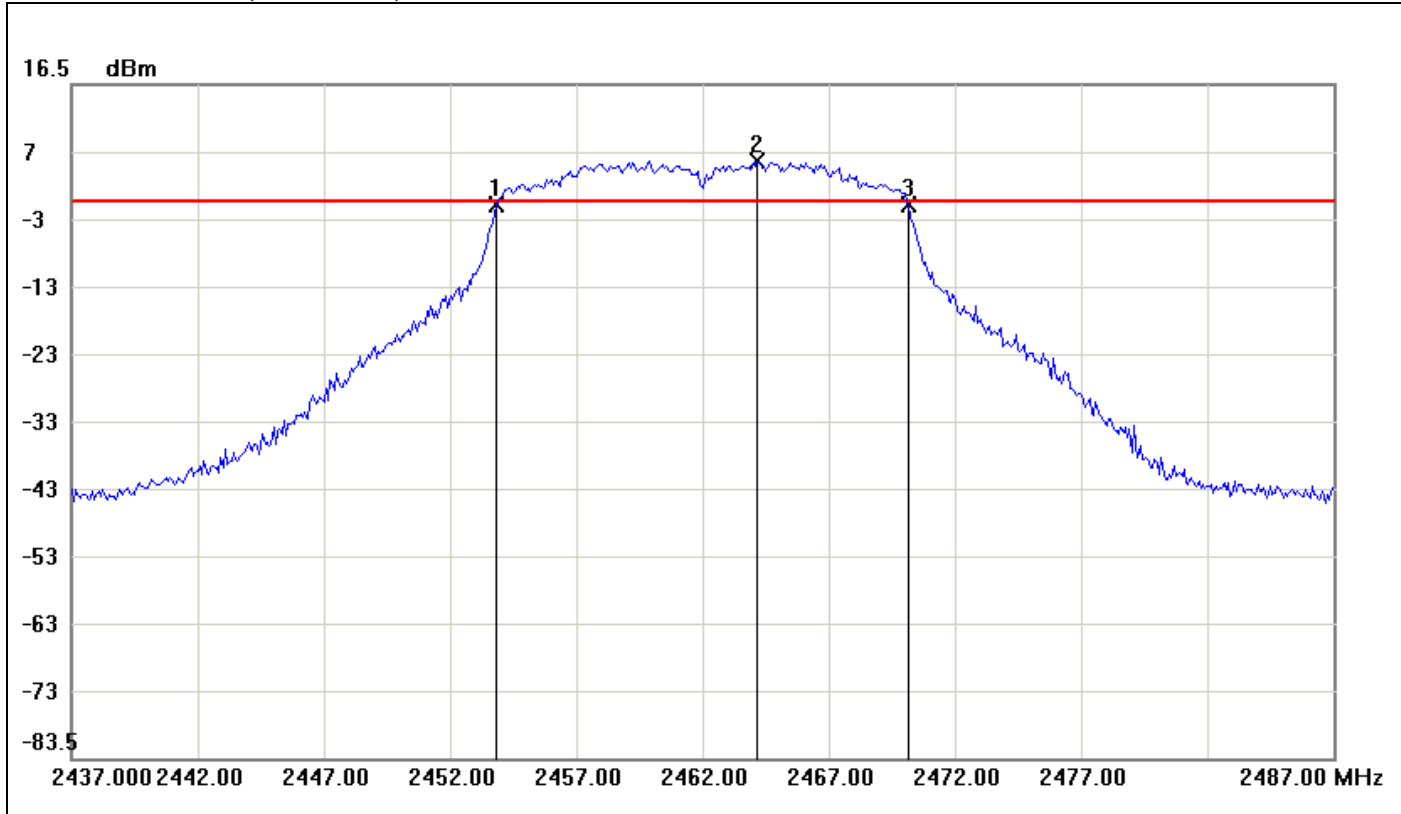


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2428.8333	1.26	1.76	-0.50
2	2441.5833	7.76	1.76	6.00
3	2445.1667	0.96	1.76	-0.80

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	16.3334	-0.3



**6dB Bandwidth (2462 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2453.8333	-1.47	-0.86	-0.61
2	2464.1667	5.14	-0.86	6.00
3	2470.1667	-1.46	-0.86	-0.60

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	16.3334	0.01

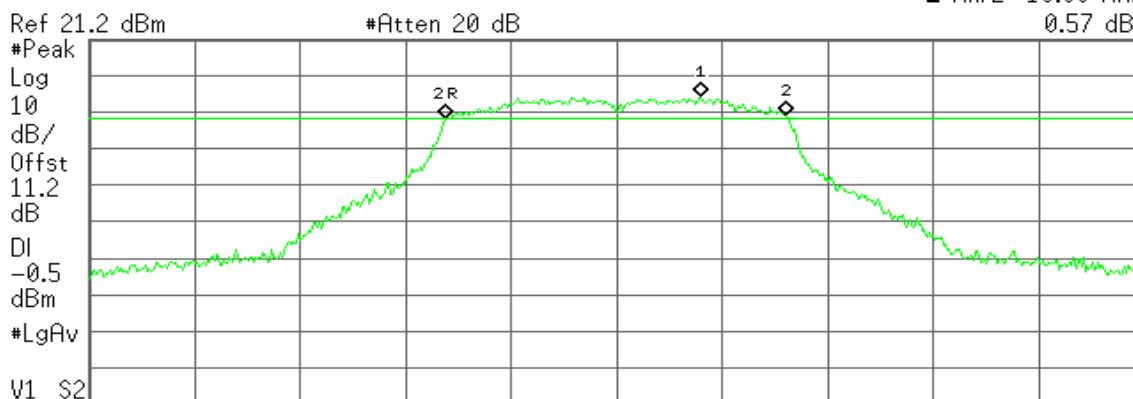


### 6dB Bandwidth (2467 MHz)

Agilent

R T

Mkr2 16.08 MHz  
0.57 dB



Center 2.467 00 GHz Span 50 MHz  
#Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts)

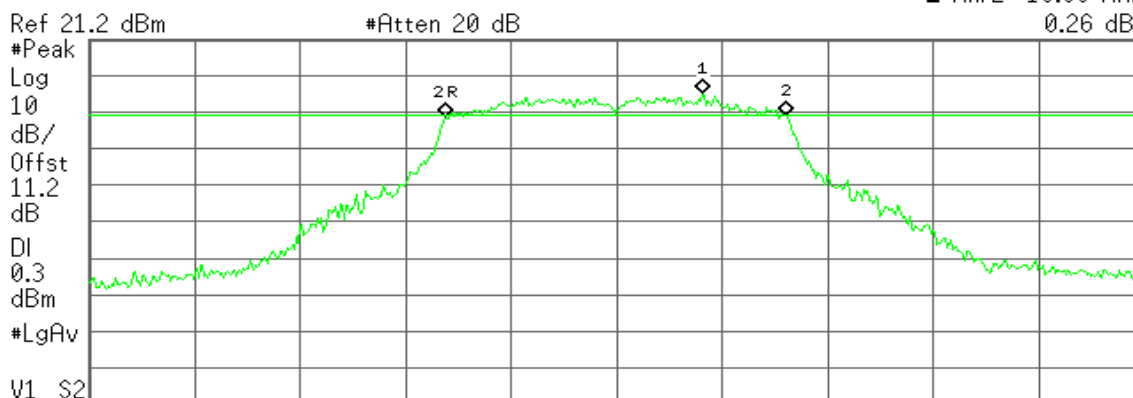
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.471 00 GHz	5.47 dBm
2R	(1)	Freq	2.458 92 GHz	-0.27 dBm
2Δ	(1)	Freq	16.08 MHz	0.57 dB

### 6dB Bandwidth (2472 MHz)

Agilent

R T

Mkr2 16.08 MHz  
0.26 dB



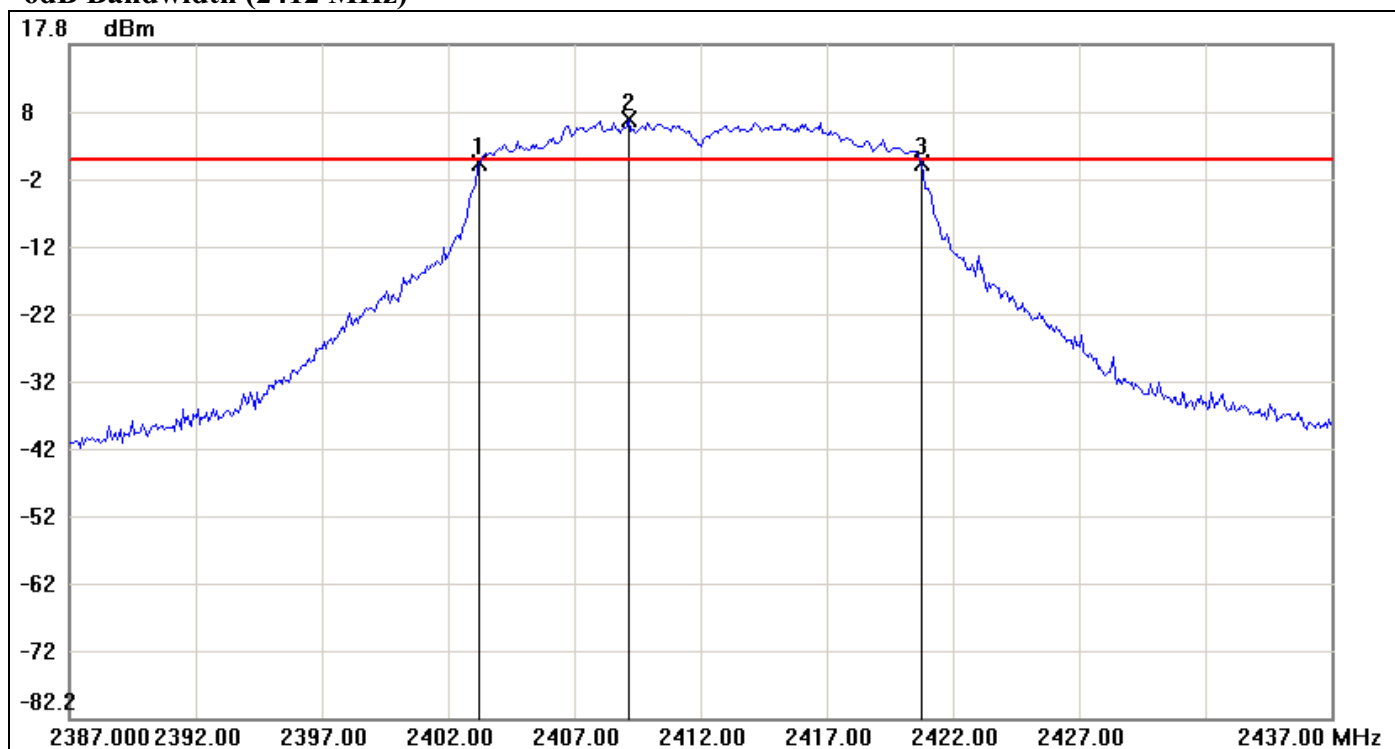
Center 2.472 00 GHz Span 50 MHz  
#Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.476 00 GHz	6.29 dBm
2R	(1)	Freq	2.463 92 GHz	0.16 dBm
2Δ	(1)	Freq	16.08 MHz	0.26 dB



**IEEE 802.11n HT 20 MHz mode / Chain 0**

**6dB Bandwidth (2412 MHz)**



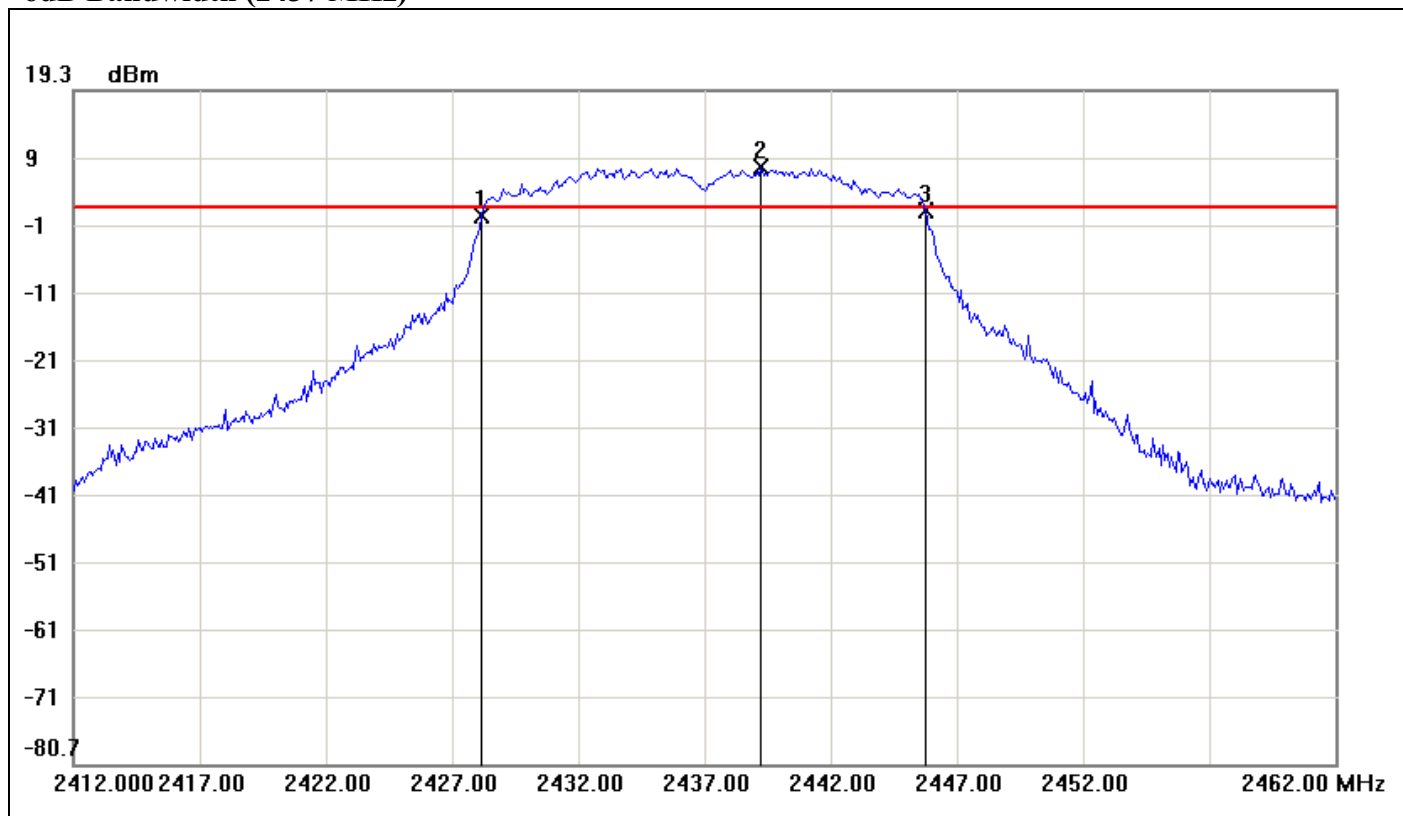
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2403.2500	0.21	0.67	-0.46
2	2409.1667	6.67	0.67	6.00
3	2420.7500	0.14	0.67	-0.53

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	17.5	-0.07





### 6dB Bandwidth (2437 MHz)

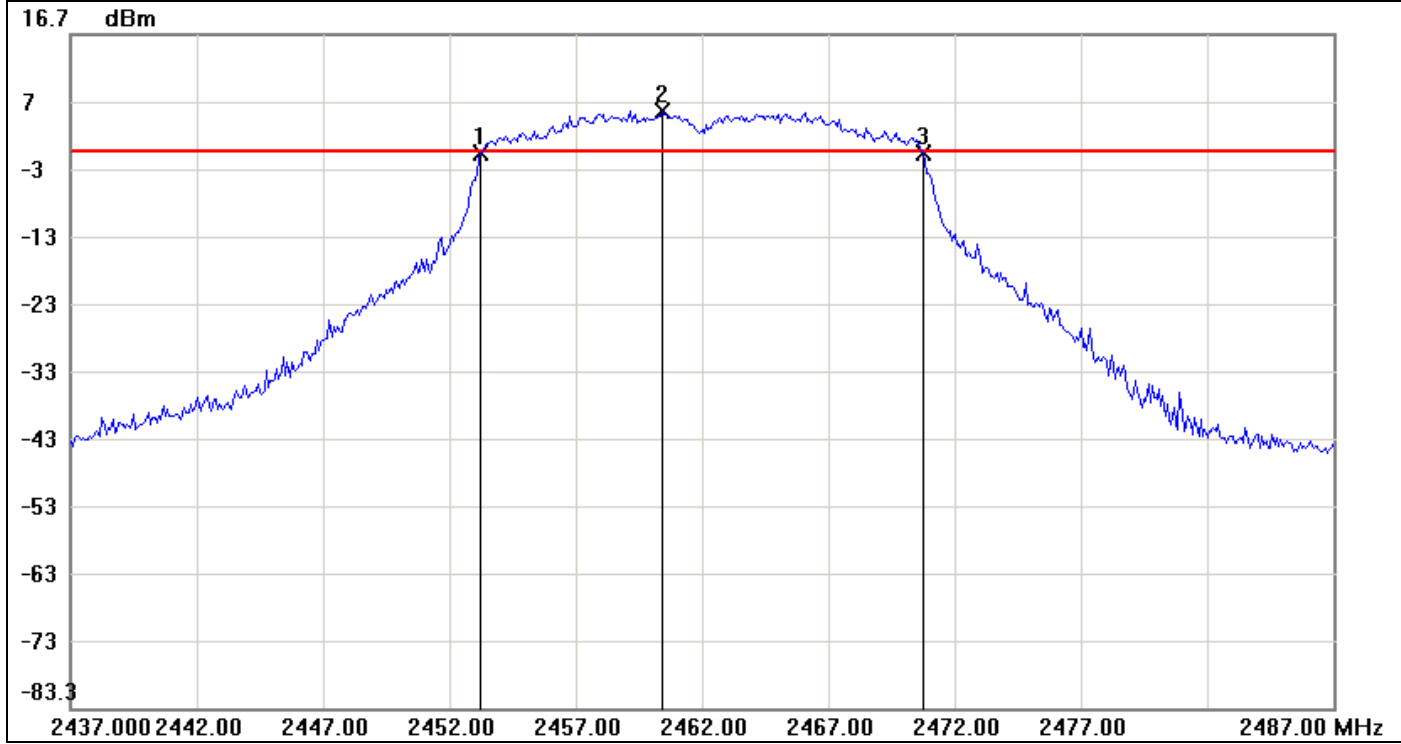


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2428.1667	0.71	1.79	-1.08
2	2439.2500	7.79	1.79	6.00
3	2445.7500	1.45	1.79	-0.34

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	17.5833	0.74



6dB Bandwidth (2462 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2453.2500	-0.79	-0.73	-0.06
2	2460.4167	5.27	-0.73	6.00
3	2470.7500	-1.00	-0.73	-0.27

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	17.5	-0.21



### 6dB Bandwidth (2467 MHz)

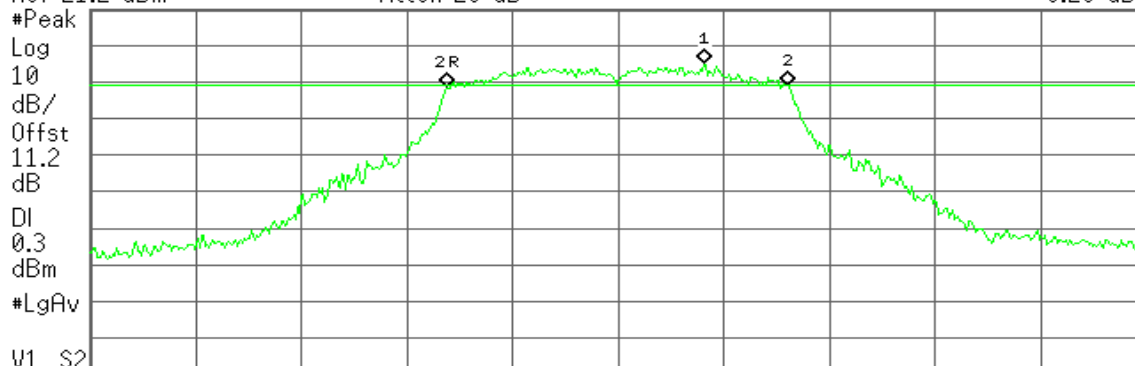
Agilent

R T

Mkr2 16.08 MHz  
0.26 dB

Ref 21.2 dBm

#Atten 20 dB



Center 2.472 00 GHz

Span 50 MHz

#Res BW 300 kHz

#VBW 1 MHz

Sweep 1 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.476 88 GHz	6.29 dBm
2R	(1)	Freq	2.463 92 GHz	0.16 dBm
2Δ	(1)	Freq	16.08 MHz	0.26 dB

### 6dB Bandwidth (2472 MHz)

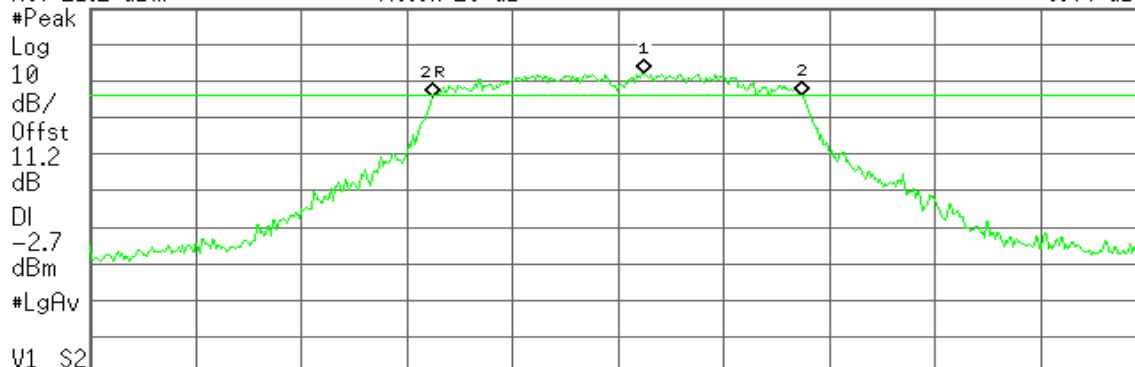
Agilent

R T

Mkr2 17.42 MHz  
0.44 dB

Ref 21.2 dBm

#Atten 20 dB



Center 2.472 00 GHz

Span 50 MHz

#Res BW 300 kHz

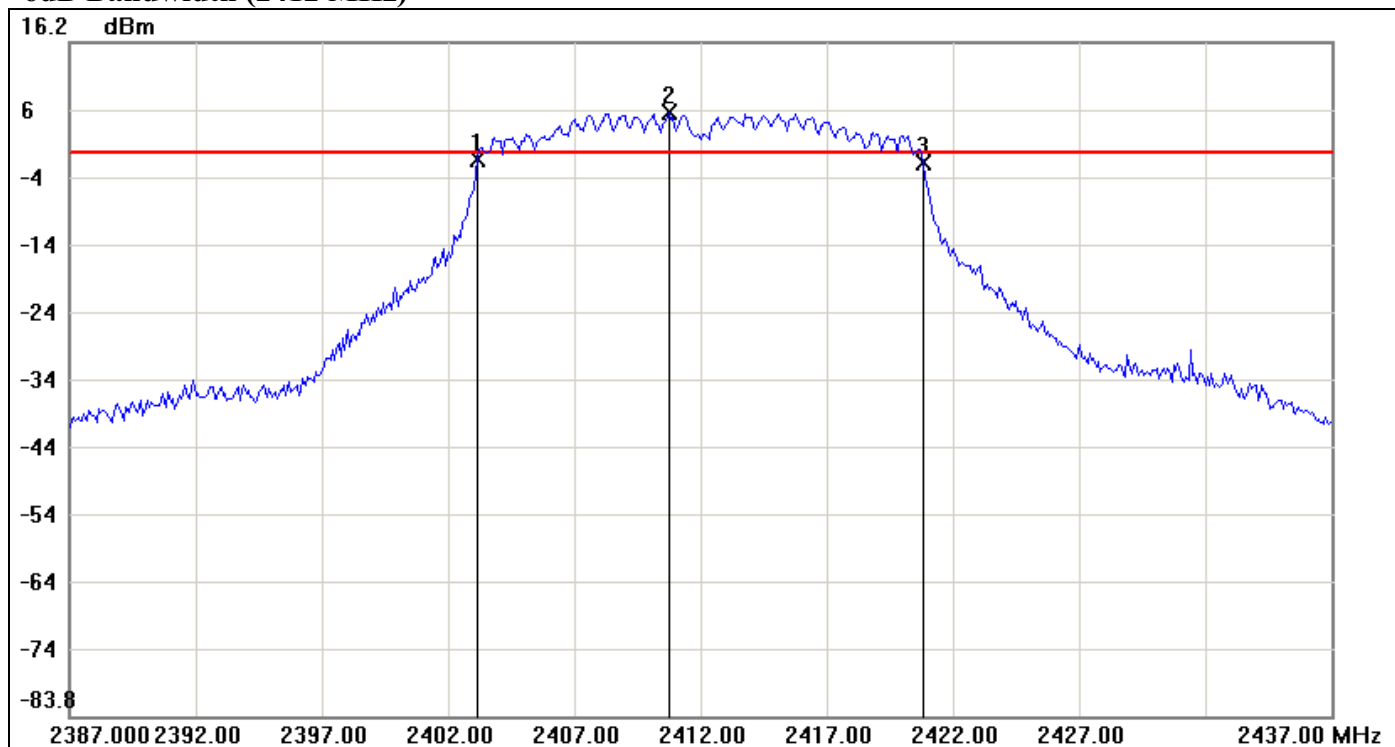
#VBW 1 MHz

Sweep 1 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.473 25 GHz	3.33 dBm
2R	(1)	Freq	2.463 25 GHz	-2.87 dBm
2Δ	(1)	Freq	17.42 MHz	0.44 dB



**IEEE 802.11n HT 20 MHz mode / Chain 1**  
**6dB Bandwidth (2412 MHz)**

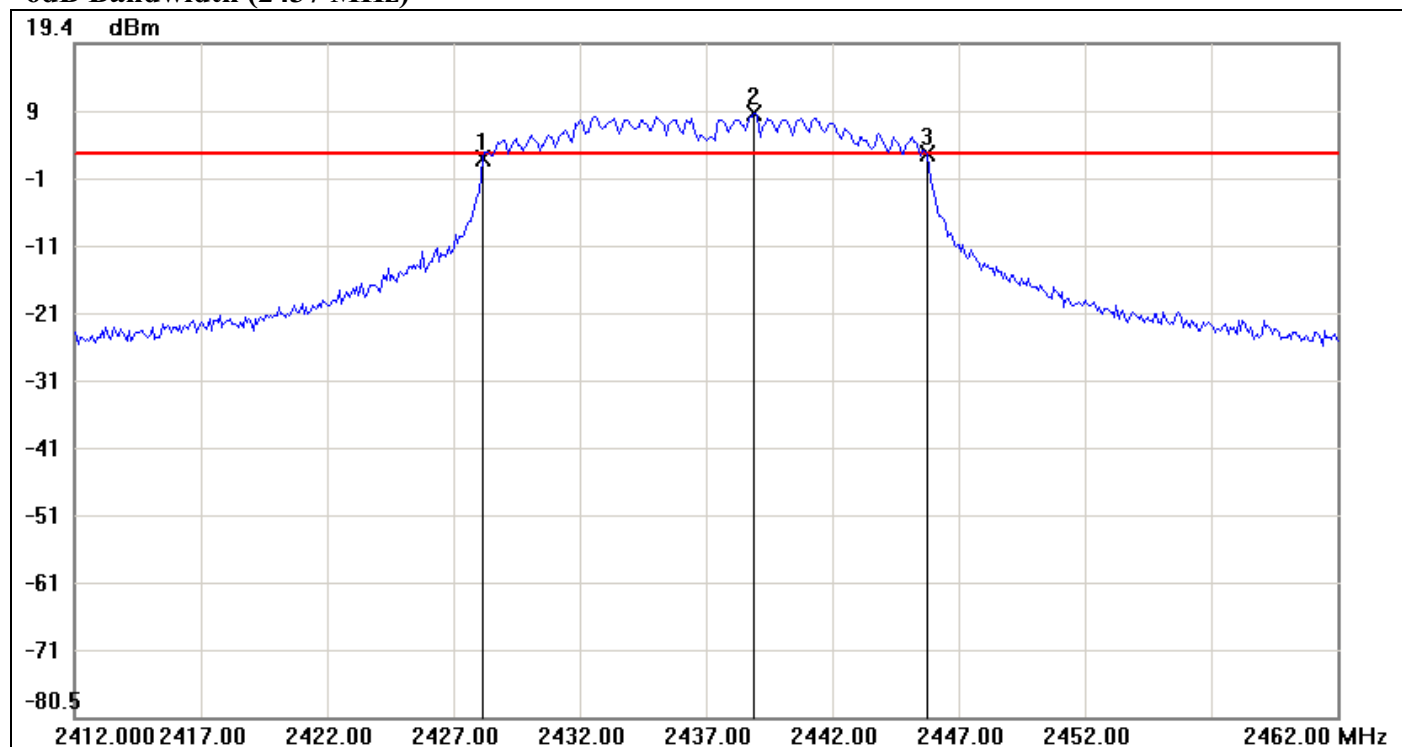


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2403.1667	-1.29	-0.24	-1.05
2	2410.7500	5.76	-0.24	6.00
3	2420.8333	-1.62	-0.24	-1.38

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	17.6666	-0.33



### 6dB Bandwidth (2437 MHz)

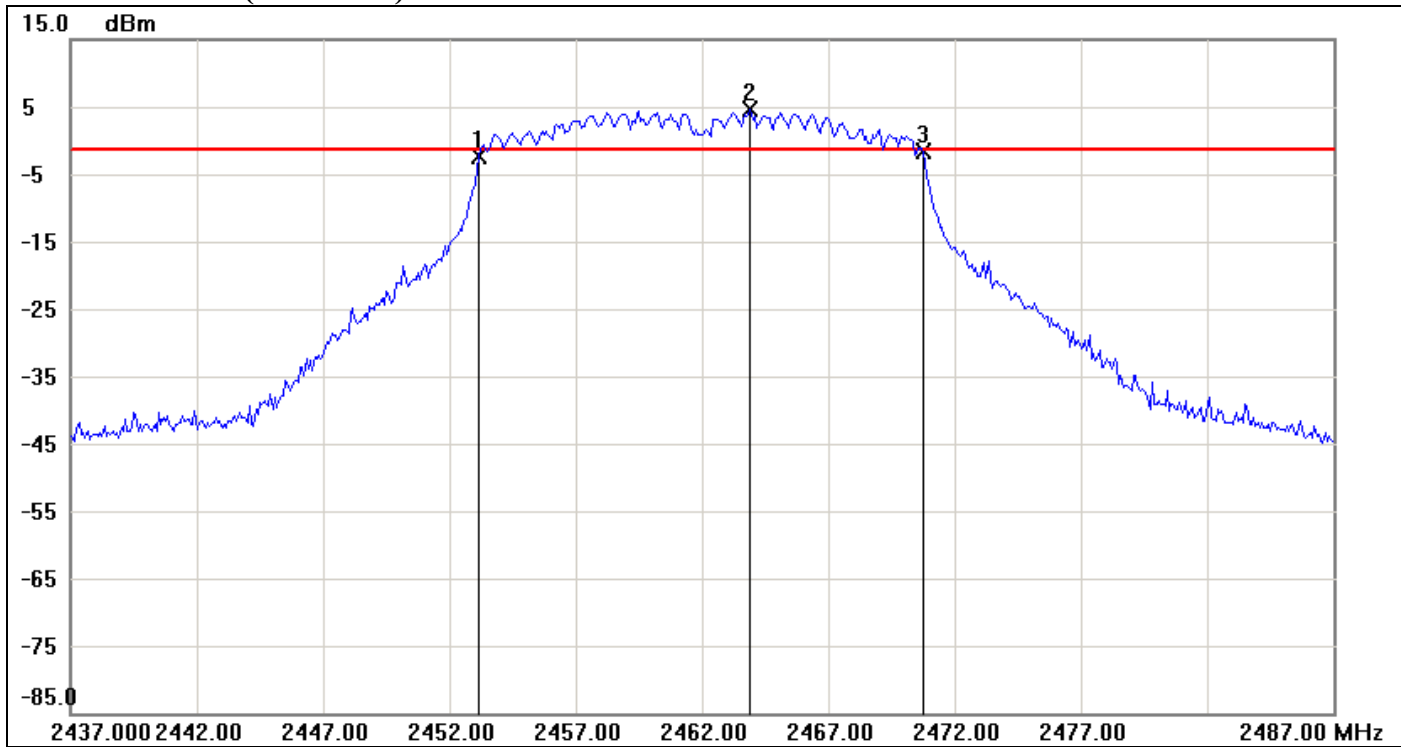


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2428.1667	2.41	3.17	-0.76
2	2438.9167	9.17	3.17	6.00
3	2445.7500	2.98	3.17	-0.19

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	17.5833	0.57



### 6dB Bandwidth (2462 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2453.1667	-2.47	-1.40	-1.07
2	2463.9167	4.60	-1.40	6.00
3	2470.7500	-1.49	-1.40	-0.09

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	17.5833	0.98

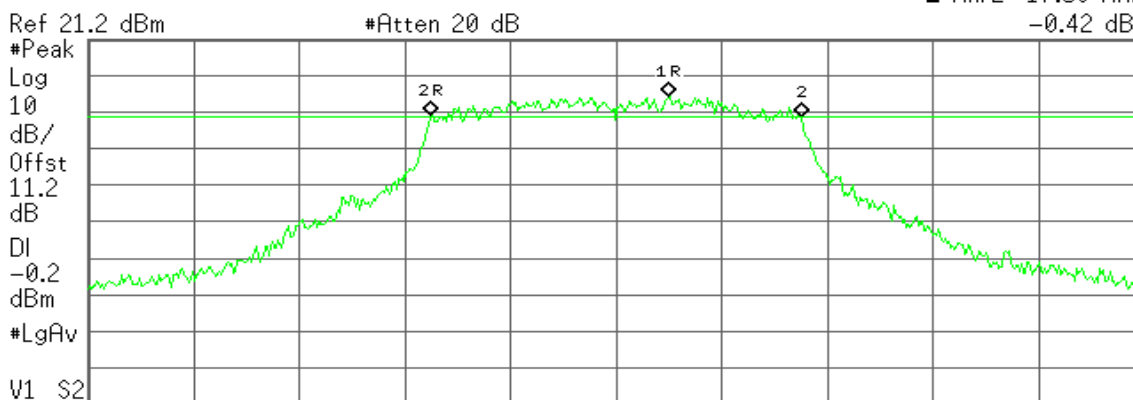


### 6dB Bandwidth (2467 MHz)

Agilent

R T

Mkr2 17.50 MHz  
-0.42 dB



Ref 21.2 dBm #Atten 20 dB  
#Peak Log 10 dB/Offst 11.2 dB DI -0.2 dBm #LgAv  
V1 S2  
Center 2.467 00 GHz Span 50 MHz  
#Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts)

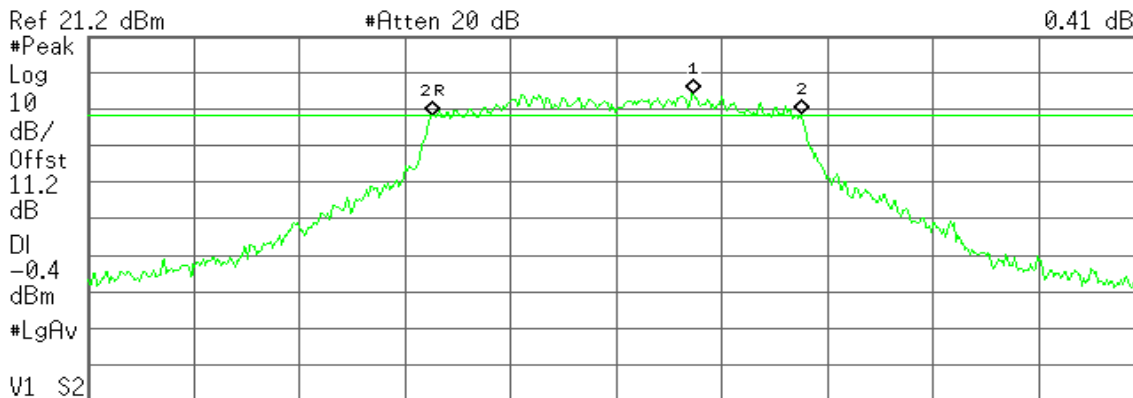
Marker	Trace	Type	X Axis	Amplitude
1R	(1)	Freq	2.469 58 GHz	5.79 dBm
1Δ	(1)	Freq	0 Hz	0.00 dB
2R	(1)	Freq	2.458 25 GHz	0.29 dBm
2Δ	(1)	Freq	17.50 MHz	-0.42 dB

### 6dB Bandwidth (2472 MHz)

Agilent

R T

Mkr2 17.42 MHz  
0.41 dB

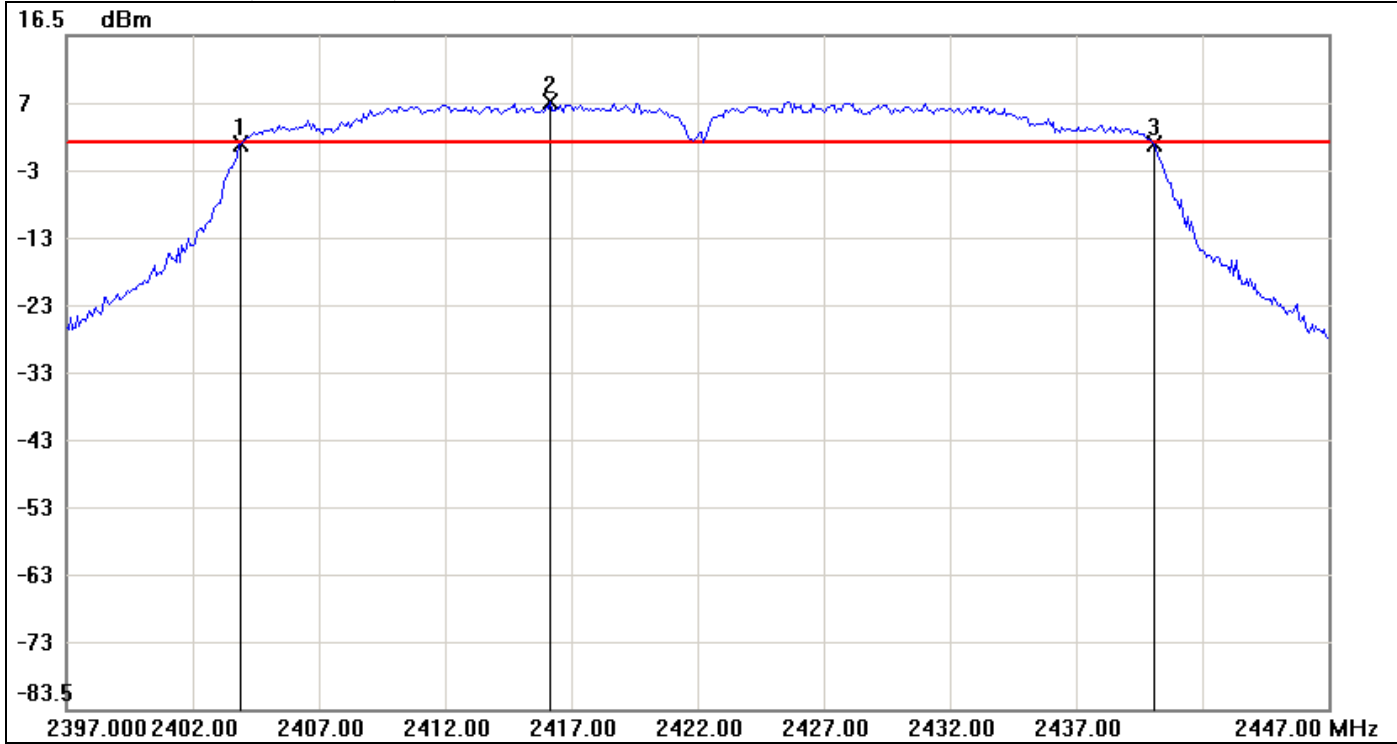


Ref 21.2 dBm #Atten 20 dB  
#Peak Log 10 dB/Offst 11.2 dB DI -0.4 dBm #LgAv  
V1 S2  
Center 2.472 00 GHz Span 50 MHz  
#Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.475 67 GHz	5.64 dBm
2R	(1)	Freq	2.463 33 GHz	-0.37 dBm
2Δ	(1)	Freq	17.42 MHz	0.41 dB



**IEEE 802.11n HT 40 MHz mode / Chain 0**  
**6dB Bandwidth (2422 MHz)**



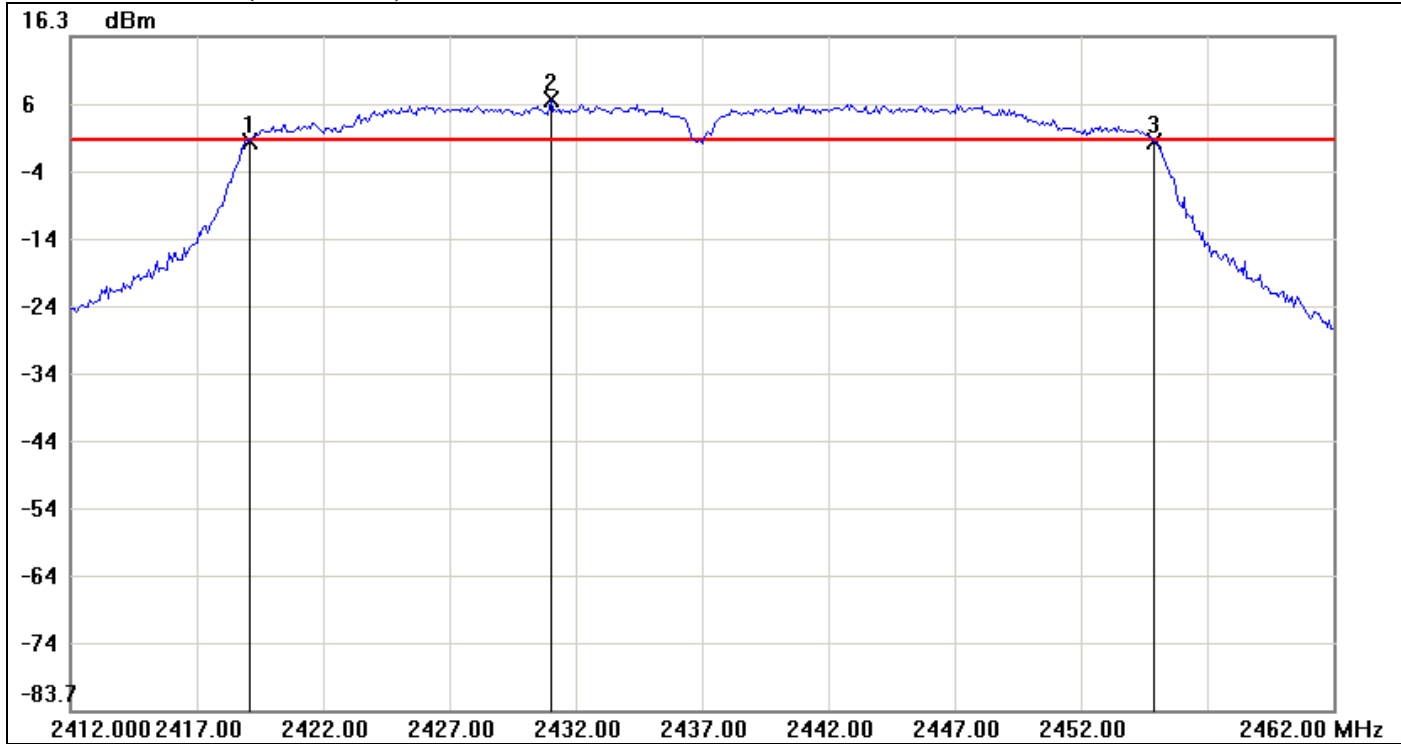
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2403.9167	0.45	0.70	-0.25
2	2416.1667	6.70	0.70	6.00
3	2440.0833	0.31	0.70	-0.39

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	36.1666	-0.14





**6dB Bandwidth (2437 MHz)**

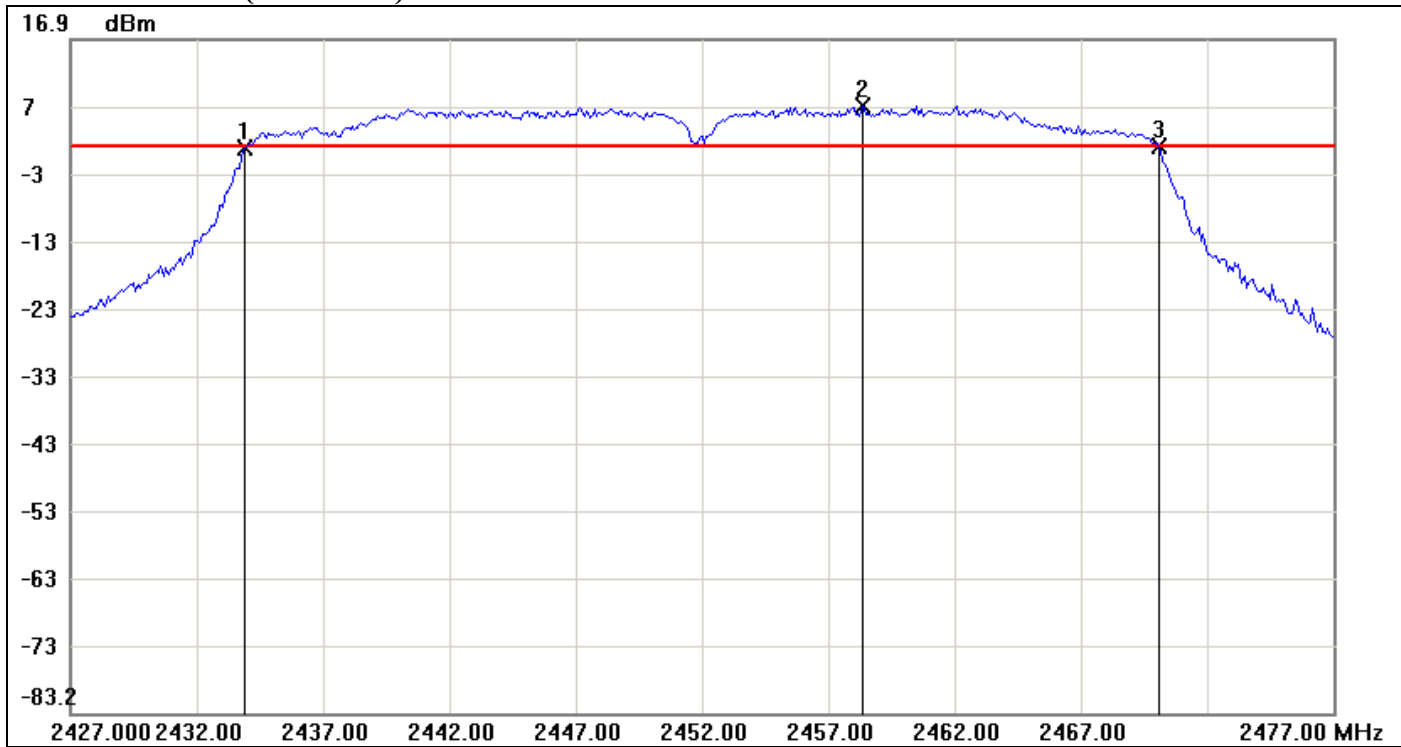


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2419.0833	0.76	0.78	-0.02
2	2431.0000	6.78	0.78	6.00
3	2454.9167	0.75	0.78	-0.03

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	35.8334	-0.01



**6dB Bandwidth (2452 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2433.9167	0.76	1.00	-0.24
2	2458.3333	7.00	1.00	6.00
3	2470.0833	0.88	1.00	-0.12

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	36.1666	0.12

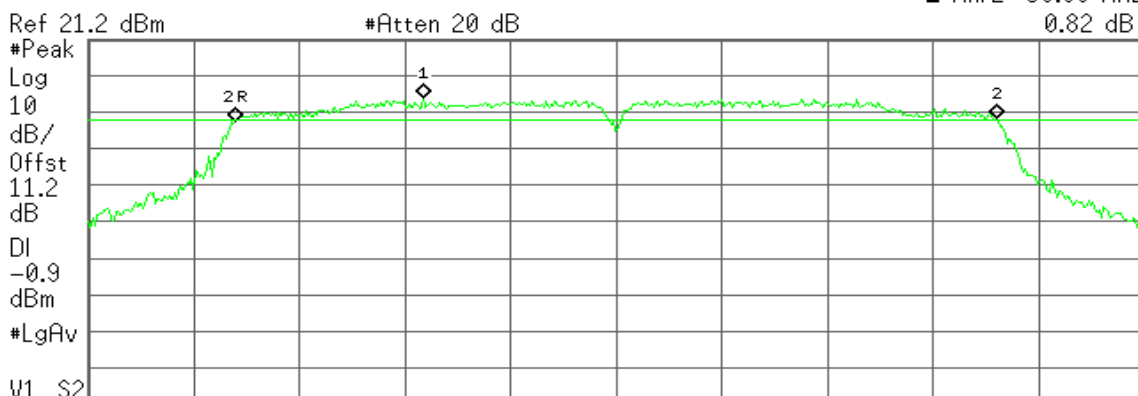


### 6dB Bandwidth (2467 MHz)

Agilent

R T

Mkr2 36.00 MHz  
0.82 dB



Center 2.457 00 GHz Span 50 MHz  
#Res BW 510 kHz #VBW 2 MHz Sweep 1 ms (601 pts)

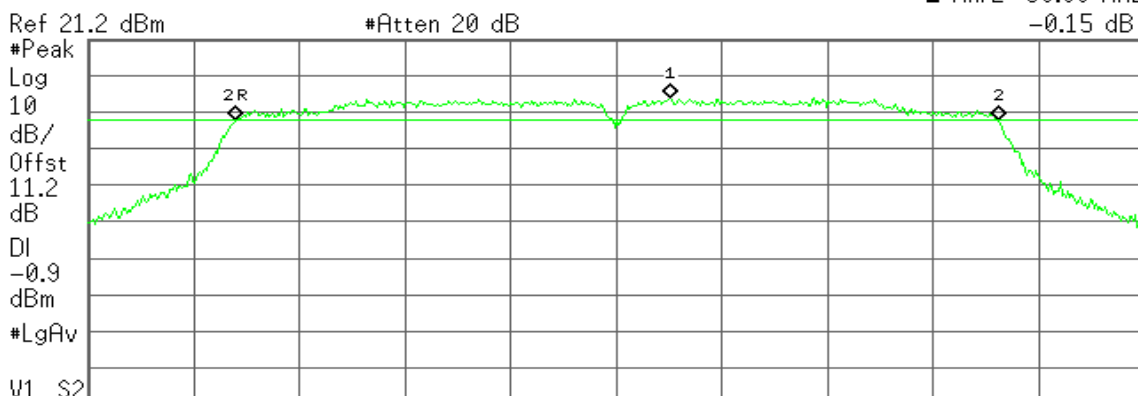
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.447 92 GHz	5.13 dBm
2R	(1)	Freq	2.439 00 GHz	-1.31 dBm
2Δ	(1)	Freq	36.00 MHz	0.82 dB

### 6dB Bandwidth (2472 MHz)

Agilent

R T

Mkr2 36.08 MHz  
-0.15 dB

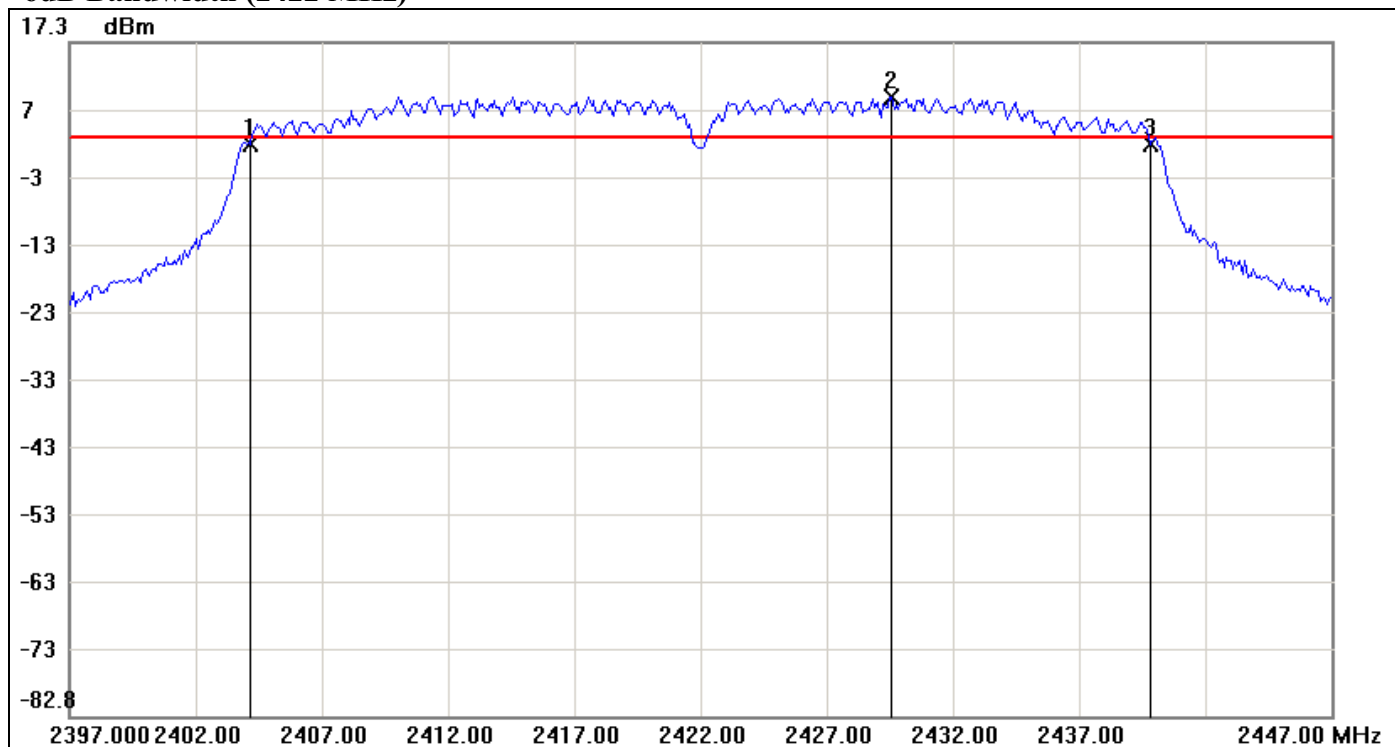


Center 2.462 00 GHz Span 50 MHz  
#Res BW 510 kHz #VBW 2 MHz Sweep 1 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.464 58 GHz	5.11 dBm
2R	(1)	Freq	2.444 00 GHz	-0.69 dBm
2Δ	(1)	Freq	36.08 MHz	-0.15 dB



**IEEE 802.11n HT 40 MHz mode / Chain 1**  
**6dB Bandwidth (2422 MHz)**

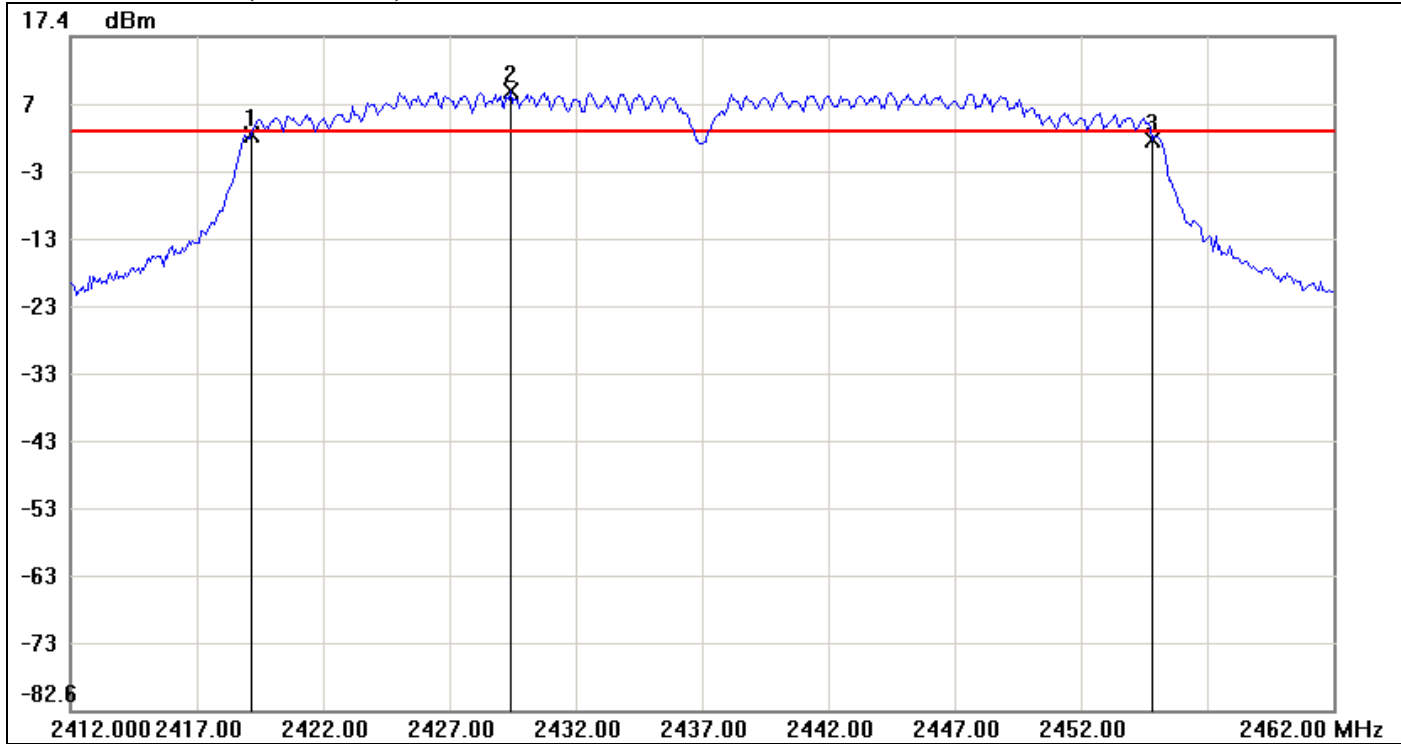


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2404.1667	2.10	3.24	-1.14
2	2429.5833	9.24	3.24	6.00
3	2439.8333	2.16	3.24	-1.08

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	35.6666	0.06



**6dB Bandwidth (2437 MHz)**

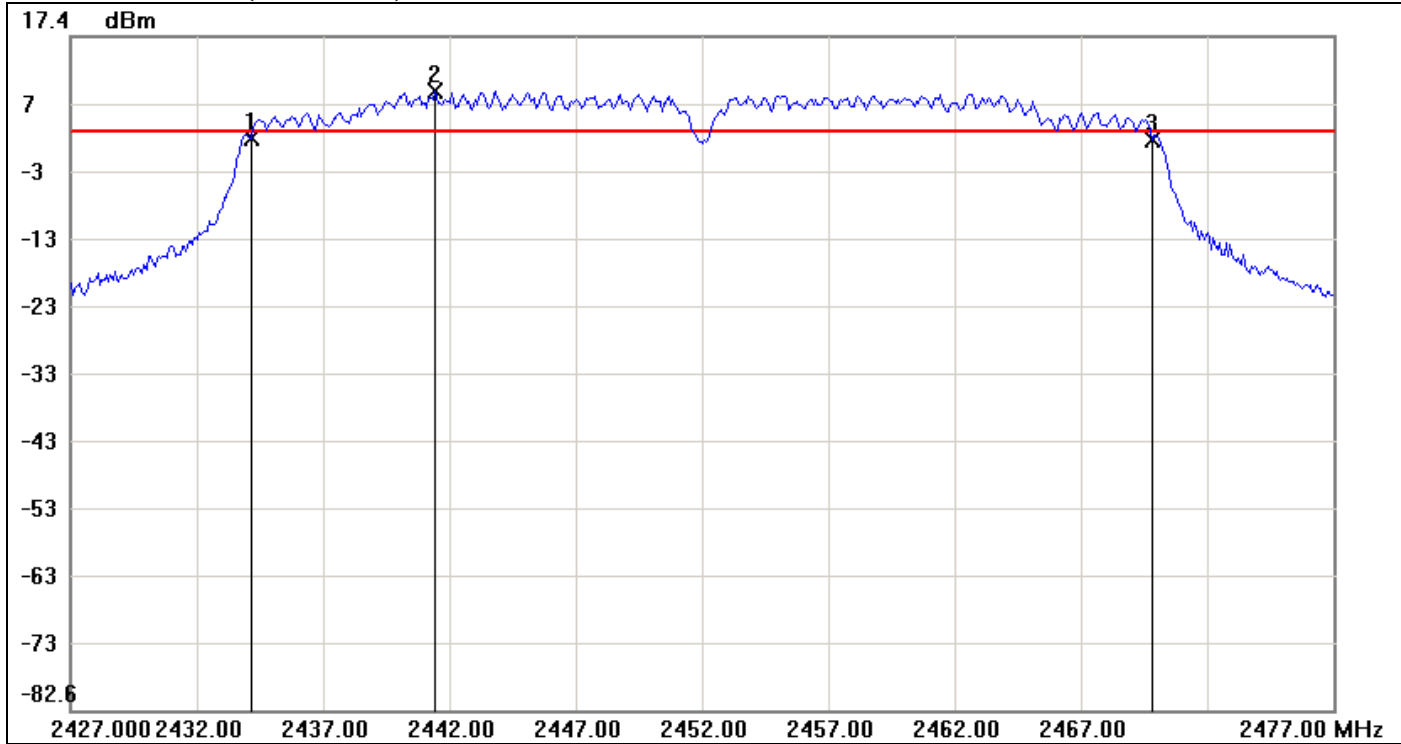


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2419.1667	2.70	3.33	-0.63
2	2429.4167	9.33	3.33	6.00
3	2454.8333	2.14	3.33	-1.19

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	35.6666	-0.56



### 6dB Bandwidth (2452 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2434.1667	2.38	3.40	-1.02
2	2441.4167	9.40	3.40	6.00
3	2469.8333	2.03	3.40	-1.37

No.		$\Delta$ Frequency(MHz)	$\Delta$ Level(dB)
1	mk3-mk1	35.6666	-0.35



### 6dB Bandwidth (2467 MHz)

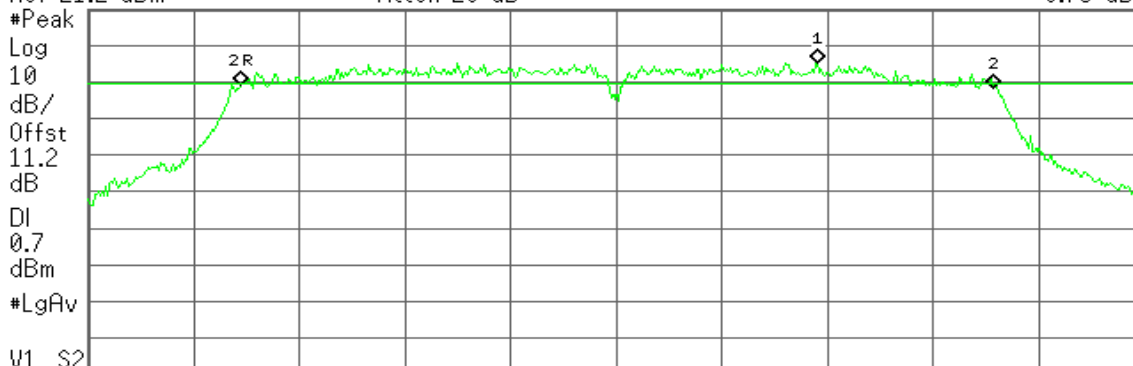
Agilent

R T

Mkr2 35.58 MHz  
-0.73 dB

Ref 21.2 dBm

#Atten 20 dB



V1 S2  
Center 2.457 00 GHz

Span 50 MHz

#Res BW 510 kHz

#VBW 2 MHz

Sweep 1 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.466 50 GHz	6.68 dBm
2R	(1)	Freq	2.439 25 GHz	0.31 dBm
2Δ	(1)	Freq	35.58 MHz	-0.73 dB

### 6dB Bandwidth (2472 MHz)

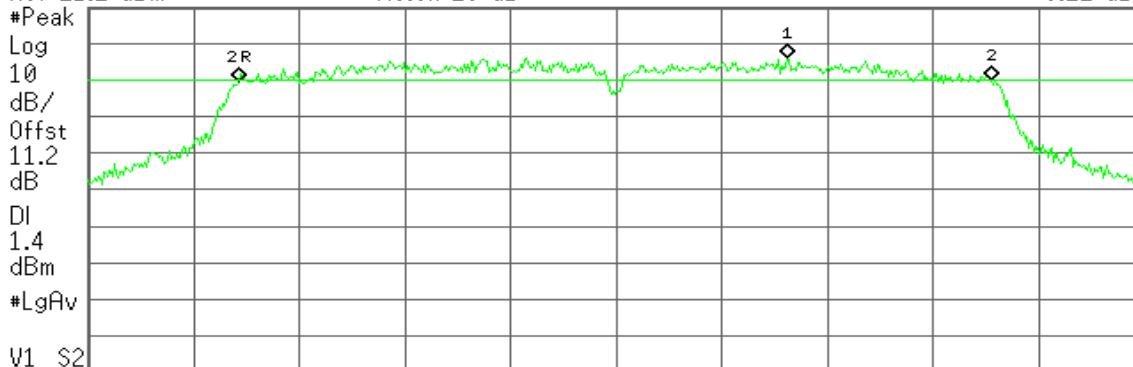
Agilent

R T

Mkr2 35.58 MHz  
0.22 dB

Ref 21.2 dBm

#Atten 20 dB



V1 S2  
Center 2.462 00 GHz

Span 50 MHz

#Res BW 510 kHz

#VBW 2 MHz

Sweep 1 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.470 00 GHz	7.36 dBm
2R	(1)	Freq	2.444 17 GHz	0.85 dBm
2Δ	(1)	Freq	35.58 MHz	0.22 dB



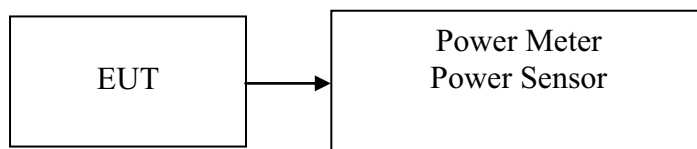
## 7.2 PEAK POWER

### LIMIT

The maximum peak output power of the intentional radiator shall not exceed the following:

1. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.
2. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### Test Configuration



### TEST PROCEDURE

The transmitter output is connected to the Power Meter. The Power Meter is set to the peak power detection.



**Test Data****Test mode: IEEE 802.11b mode**

Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limit (W)	Result
2412	17.61	0.0577	1.00	PASS
2442	17.93	0.0621		PASS
2462	<b>*18.02</b>	0.0634		PASS
2467	15	0.0316		PASS
2472	14.15	0.0260		PASS

**Test mode: IEEE 802.11g mode**

Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limit (W)	Result
2412	19.44	0.0879	1.00	PASS
2442	<b>*20.11</b>	0.1026		PASS
2462	17.54	0.0568		PASS
2467	15.43	0.0349		PASS
2472	15.06	0.0321		PASS

**Test mode: IEEE 802.11n HT 20 MHz mode**

Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Output Power (dBm)	Output Power (W)	Limit (W)	Result
2412	20.02	19.39	22.73	0.1875	1.00	PASS
2442	21.11	20.52	<b>*23.84</b>	0.2421		PASS
2462	18.73	19.52	22.15	0.1641		PASS
2467	15.41	15.94	18.69	0.0740		PASS
2472	15.33	15.33	18.34	0.0682		PASS

**Test mode: IEEE 802.11n HT 40 MHz mode**

Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Output Power (dBm)	Output Power (W)	Limit (W)	Result
2422	21.12	20.59	23.87	0.2438	1.00	PASS
2442	20.81	20.66	23.75	0.2371		PASS
2452	21.35	20.61	<b>*24.01</b>	0.2518		PASS
2457	15.33	15	18.18	0.0658		PASS
2462	15.55	14.77	18.19	0.0659		PASS

**Remark:**

1. Total Output Power (w) = Chain 0 (10<sup>^(Output Power /10)</sup>/1000)+ Chain 1 (10<sup>^(Output Power /10)</sup>/1000)

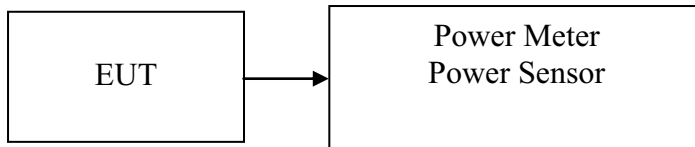


### 7.3 AVERAGE POWER

#### LIMIT

None; for reporting purposes only.

#### Test Configuration



#### TEST PROCEDURE

The transmitter output is connected to the Power Meter. The Power Meter is set to the avg power detection.

#### TEST RESULTS

*No non-compliance noted.*



**Test Data**

**Test mode: IEEE 802.11b mode**

Frequency (MHz)	Output Power (dBm)	Output Power (W)
2412	14.63	0.0290
2442	14.87	0.0307
2462	14.89	0.0308
2467	11.88	0.0154
2472	10.92	0.0124

**Test mode: IEEE 802.11g mode**

Frequency (MHz)	Output Power (dBm)	Output Power (W)
2412	14.41	0.0276
2442	14.95	0.0313
2462	12.38	0.0173
2467	9.87	0.0097
2472	9.37	0.0086

**Test mode: IEEE 802.11n HT 20 MHz mode**

Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Output Power (dBm)	Output Power (W)
2412	13.92	12.38	16.23	0.0420
2442	14.94	14.93	17.95	0.0624
2462	12.35	12.38	15.38	0.0345
2467	9.58	9.88	12.74	0.0188
2472	9.38	9.54	12.47	0.0177

**Test mode: IEEE 802.11n HT 40 MHz mode**

Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Output Power (dBm)	Output Power (W)
2422	14.93	14.93	17.94	0.0622
2442	14.38	14.96	17.69	0.0587
2452	14.95	14.86	17.92	0.0619
2457	9.83	9.77	12.81	0.0191
2462	9.93	9.26	12.62	0.0183

**Remark:** Total Output Power (w) = Chain 0 (10^(Output Power /10)/1000)+ Chain 1 (10^(Output Power /10)/1000)



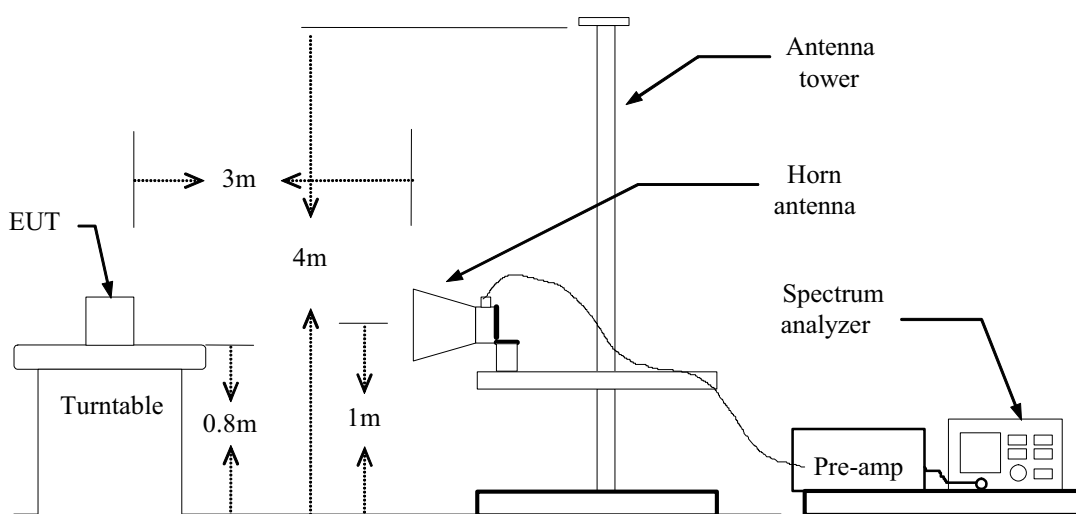
## 7.4 BAND EDGES MEASUREMENT

### LIMIT

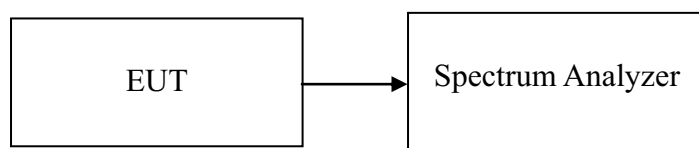
According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains 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. 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 Section 15.205(c)).

### Test Configuration

#### For Radiated



#### For Conducted





## **TEST PROCEDURE**

### **For Radiated**

1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
  - (a) PEAK: RBW=VBW=3MHz / Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz,  
if duty cycle  $\geq 98\%$ , VBW=10Hz.  
if duty cycle  $< 98\%$  VBW=1/T.  
**IEEE 802.11b mode:**  $\geq 98\%$ , VBW=10Hz  
**IEEE 802.11g mode:**  $\geq 98\%$ , VBW=10Hz  
**IEEE 802.11n HT 20 MHz mode:**  $\geq 98\%$ , VBW=10Hz  
**IEEE 802.11n HT 40 MHz mode:**  $96\%$ =VBW 2kHz
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

### **For Conducted**

Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 100 kHz.

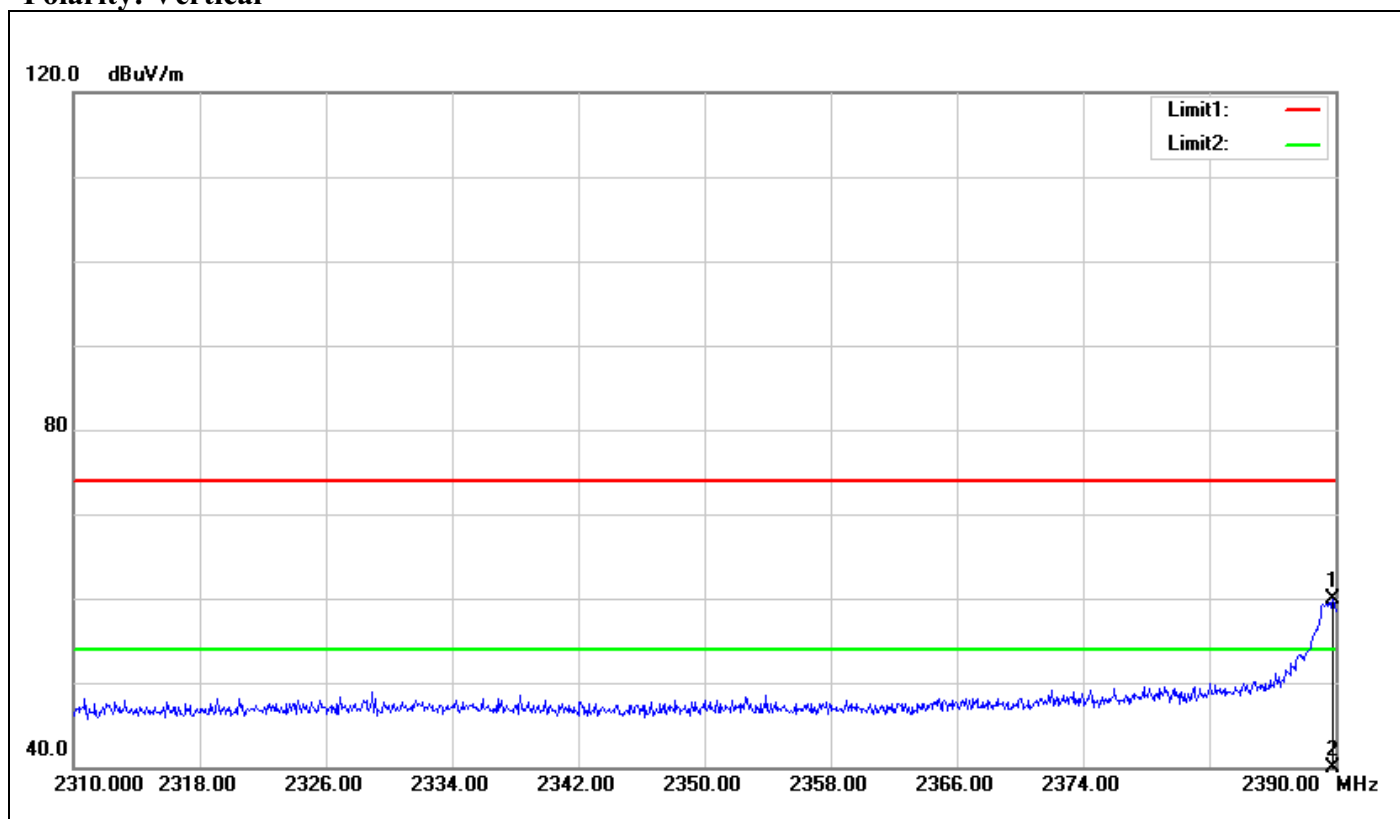
## **TEST RESULTS**

Refer to attach spectrum analyzer data chart.



### Band Edges (IEEE 802.11b mode / 2412 MHz)

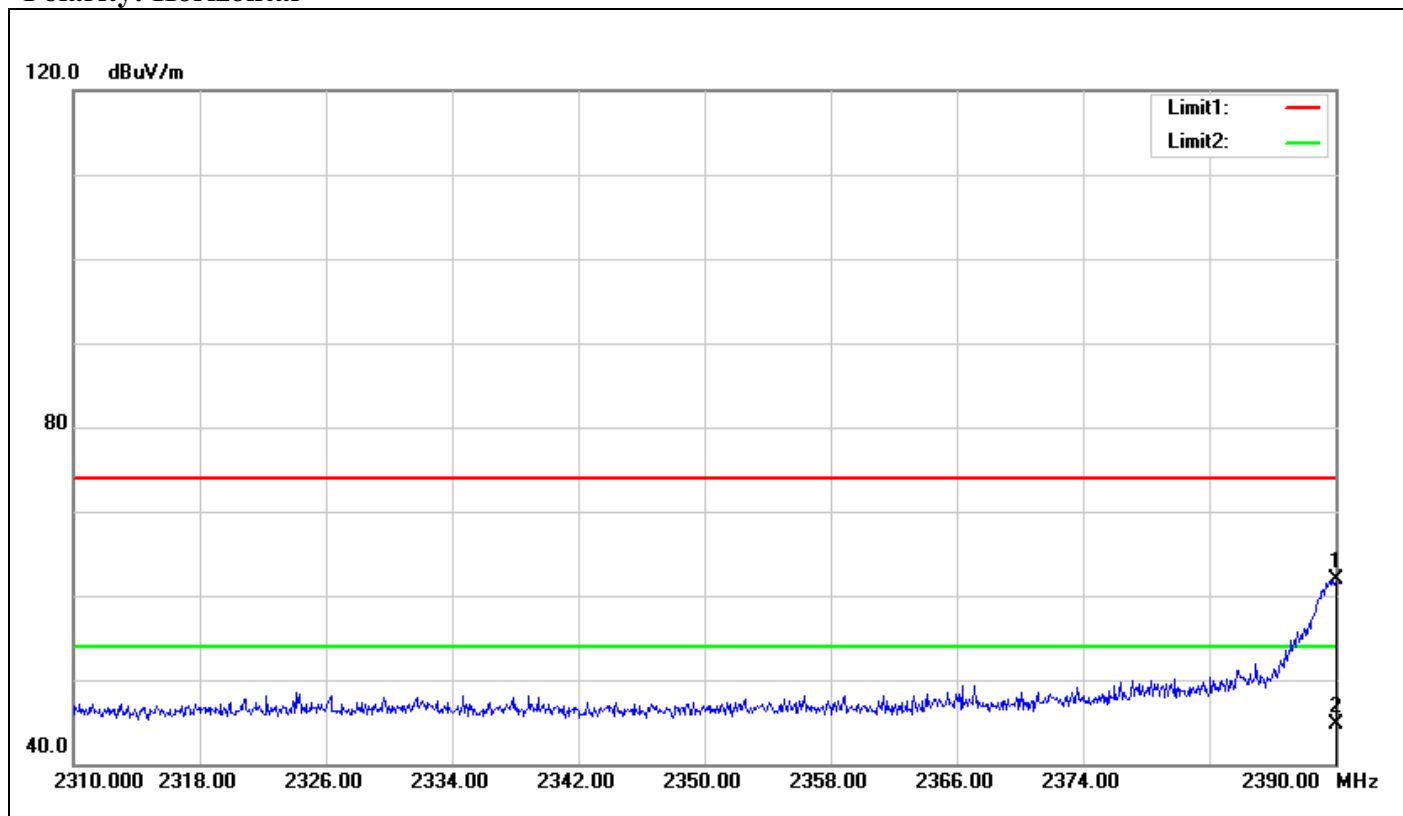
Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( ° )	
1	2389.840	63.61	-3.77	59.84	74.00	-14.16	100	284	peak
2	2389.840	43.16	-3.77	39.39	54.00	-14.61	100	284	AVG



**Polarity: Horizontal**

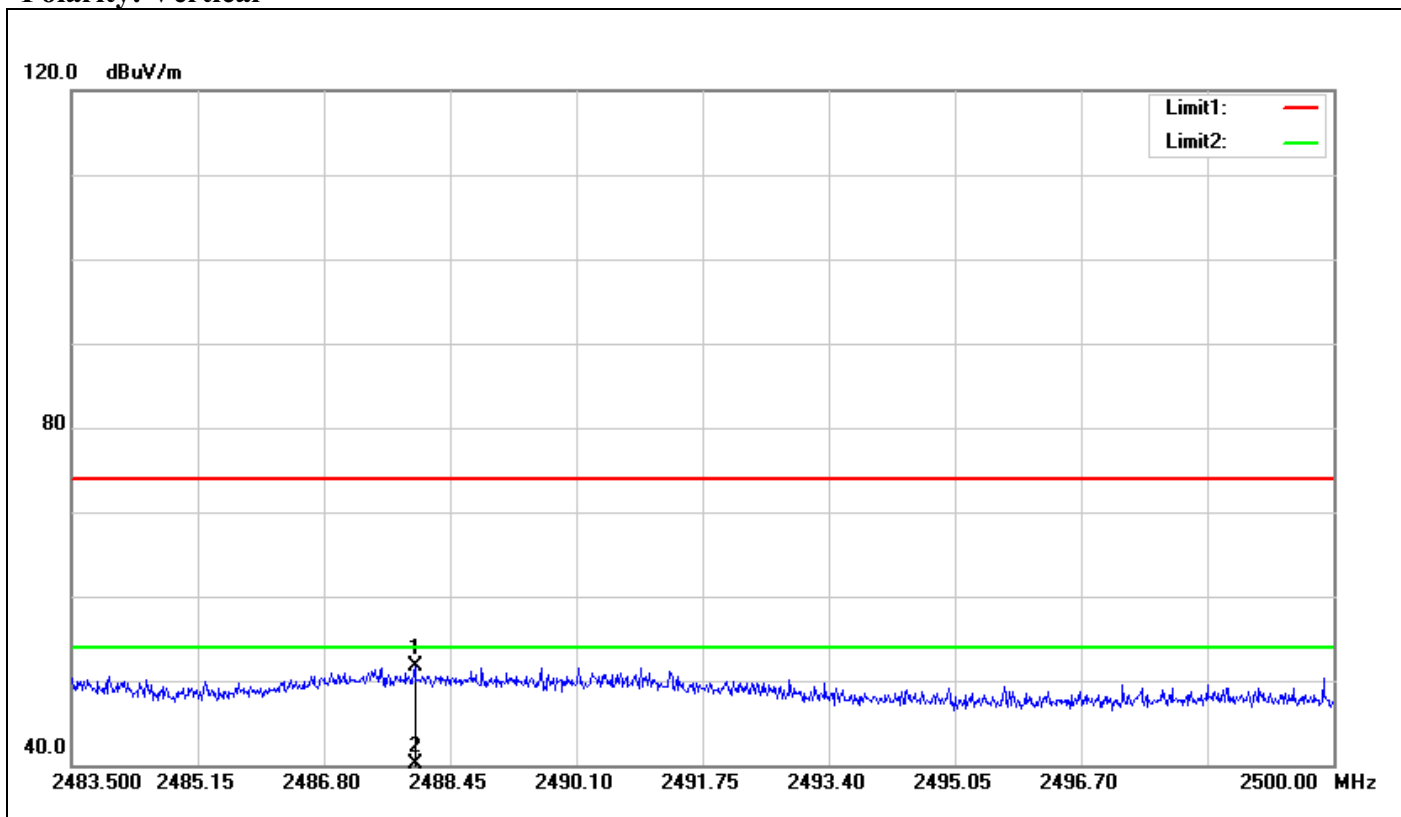


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2390.000	65.64	-3.77	61.87	74.00	-12.13	100	200	peak
2	2390.000	48.43	-3.77	44.66	54.00	-9.34	100	200	AVG



### Band Edges (IEEE 802.11b mode / 2462 MHz)

Polarity: Vertical

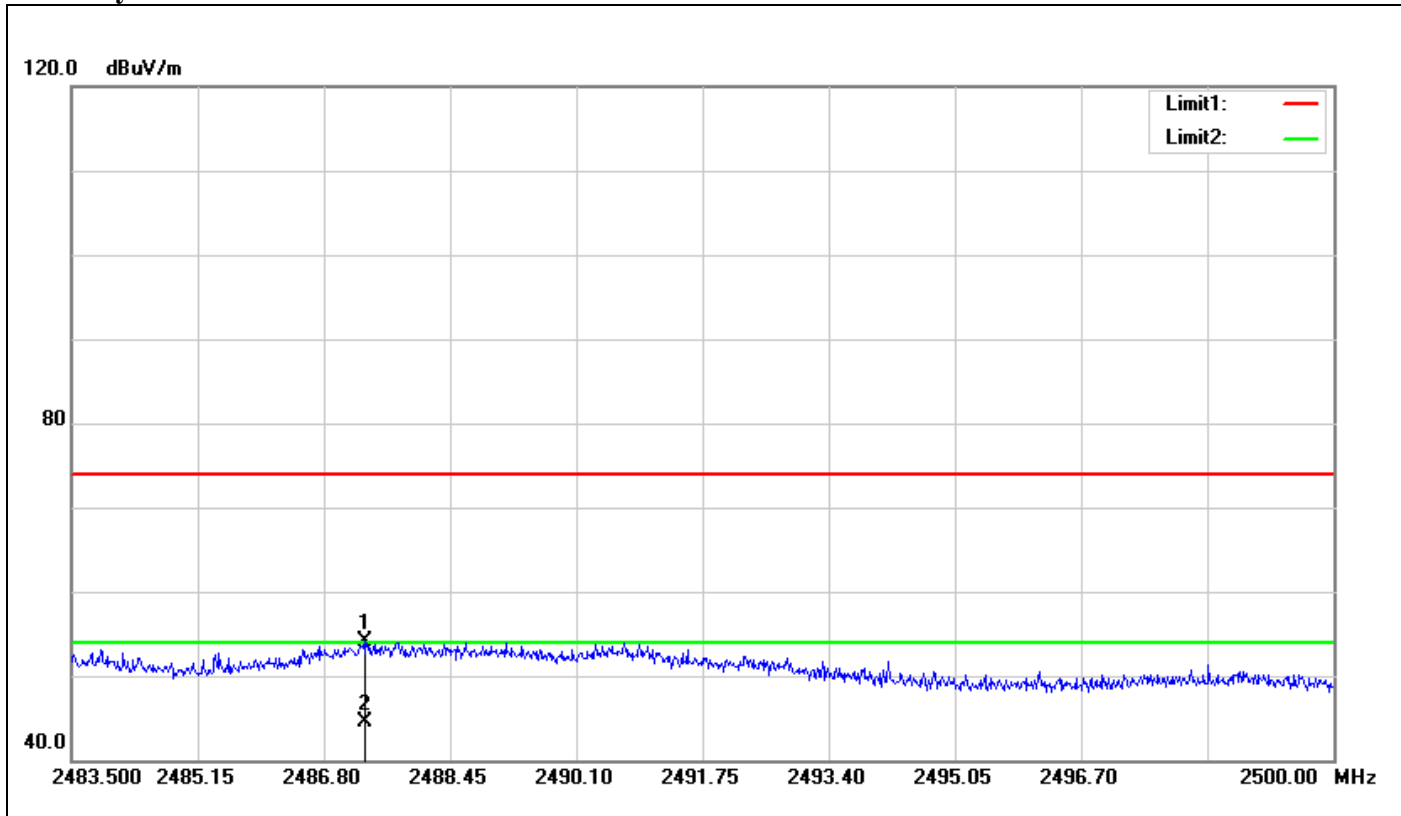


No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( ° )	
1	2487.988	54.83	-3.23	51.60	74.00	-22.40	100	336	peak
2	2487.988	43.24	-3.23	40.01	54.00	-13.99	100	336	AVG





**Polarity: Horizontal**

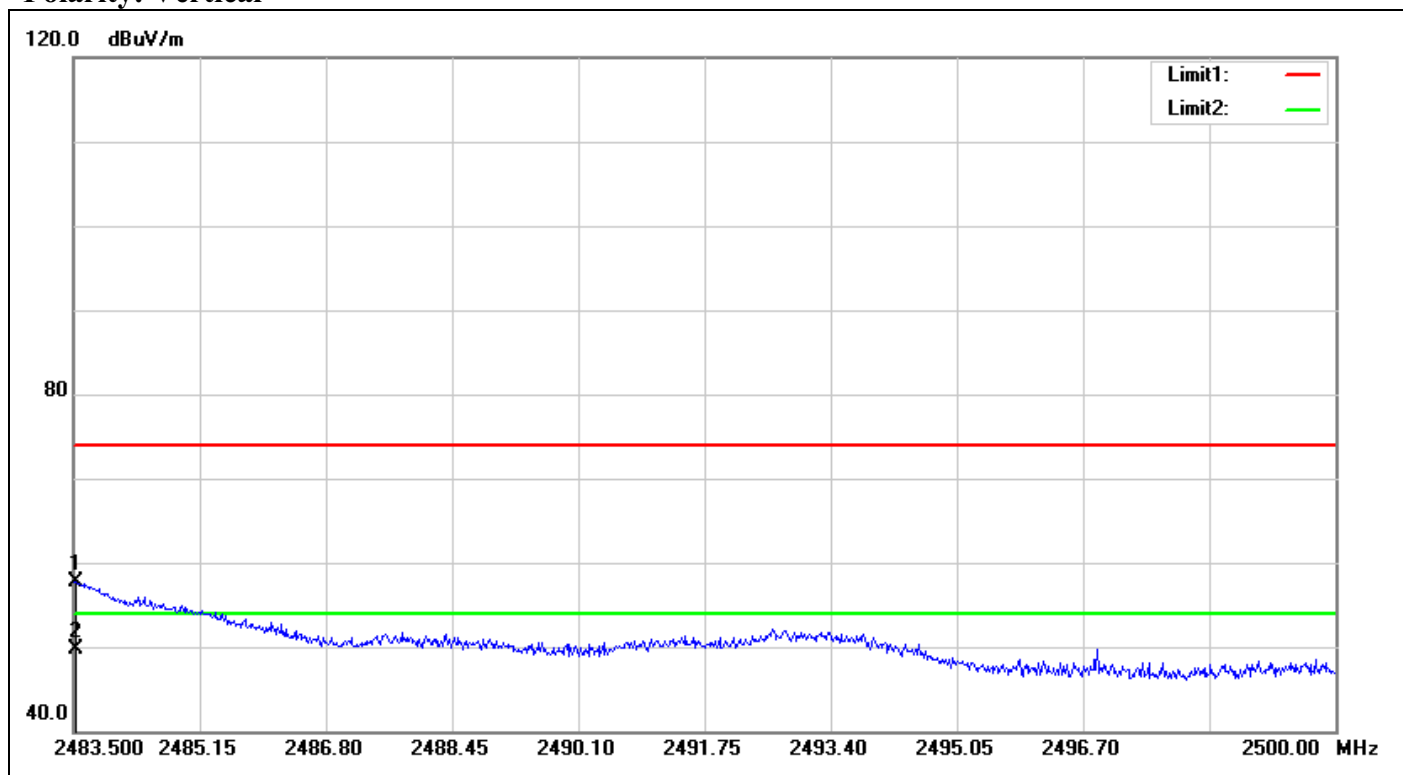


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2487.328	57.41	-3.24	54.17	74.00	-19.83	100	320	peak
2	2487.328	47.74	-3.24	44.50	54.00	-9.50	100	320	AVG



**Band Edges (IEEE 802.11b mode / 2467 MHz)**

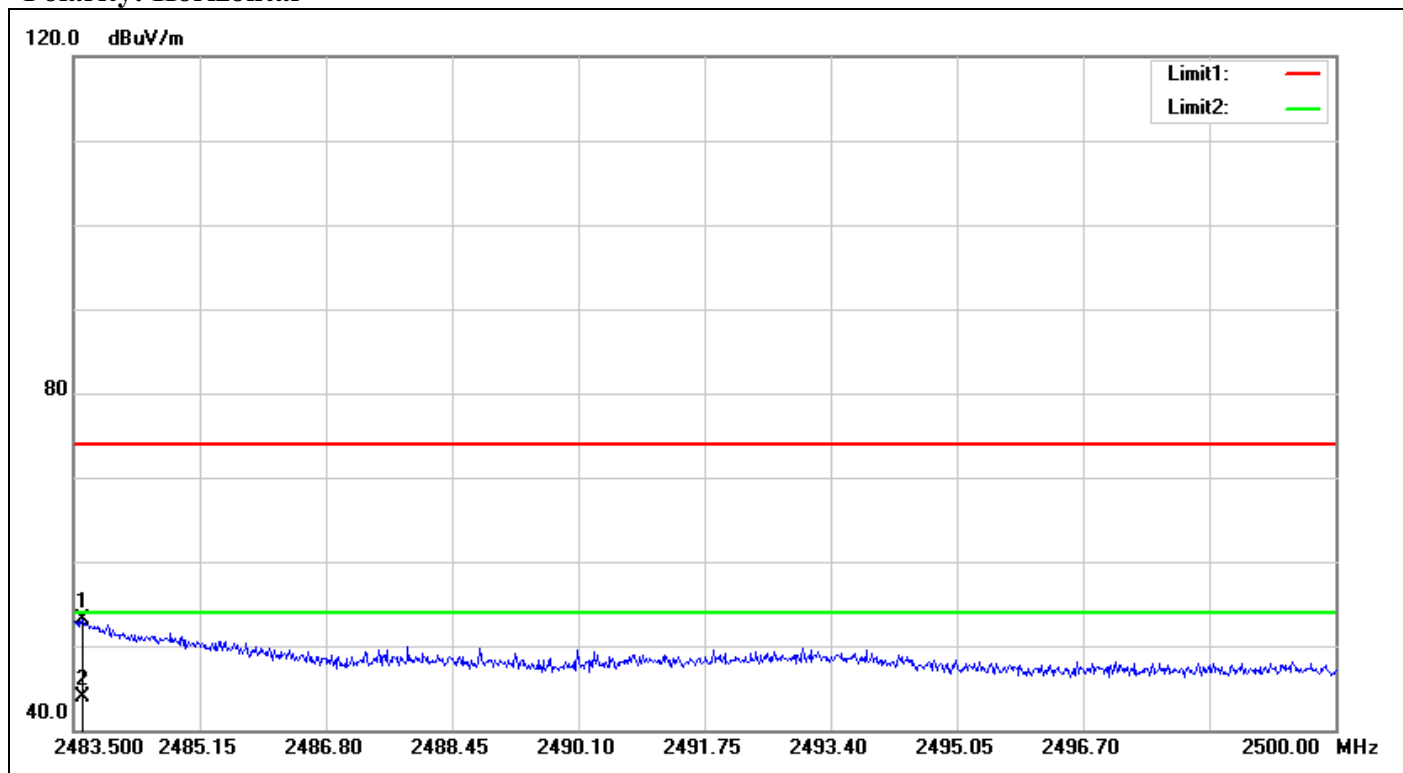
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2483.533	61.07	-3.27	57.80	74.00	-16.20	100	2	peak
2	2483.533	52.91	-3.27	49.64	54.00	-4.36	100	2	AVG



**Polarity: Horizontal**

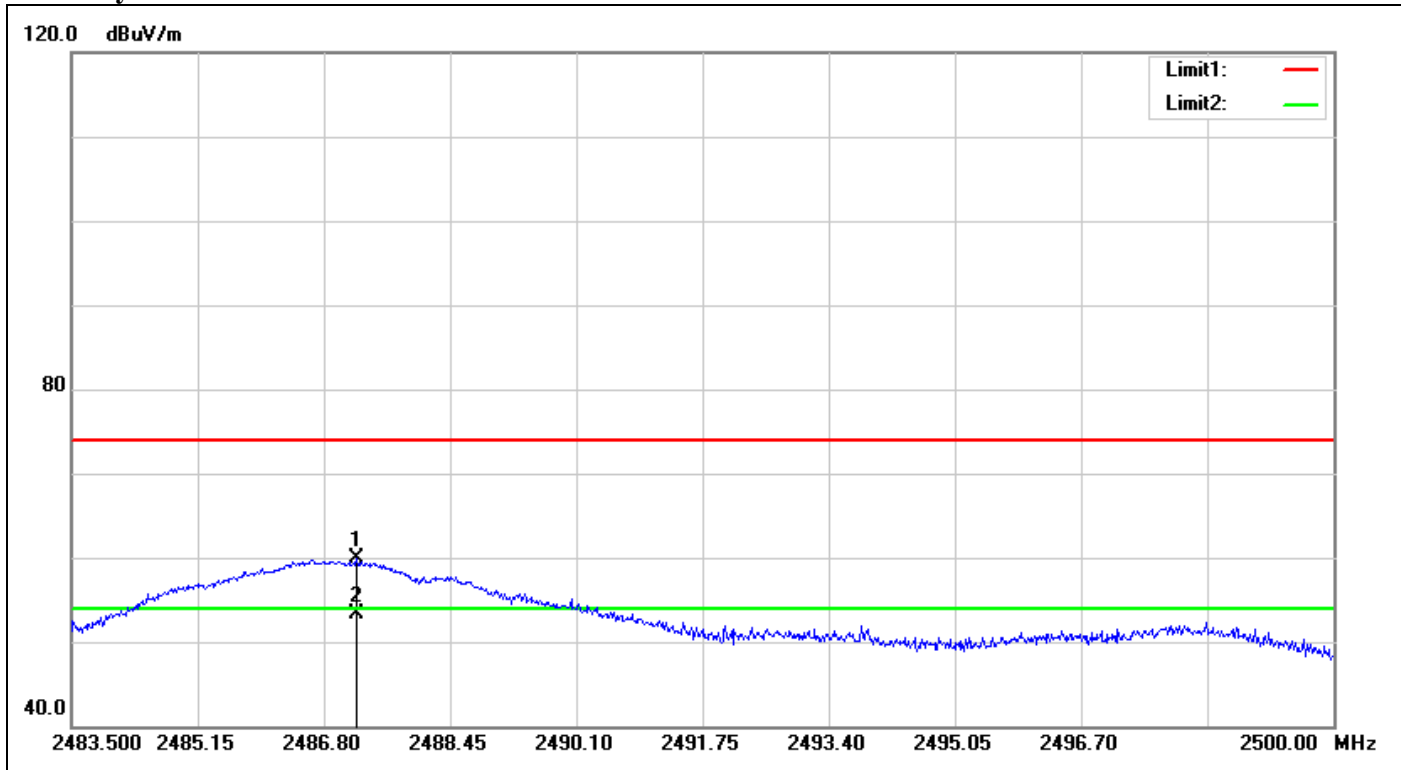


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2483.615	56.42	-3.27	53.15	74.00	-20.85	100	162	peak
2	2483.615	47.19	-3.27	43.92	54.00	-10.08	100	162	AVG



**Band Edges (IEEE 802.11b mode / 2472 MHz)**

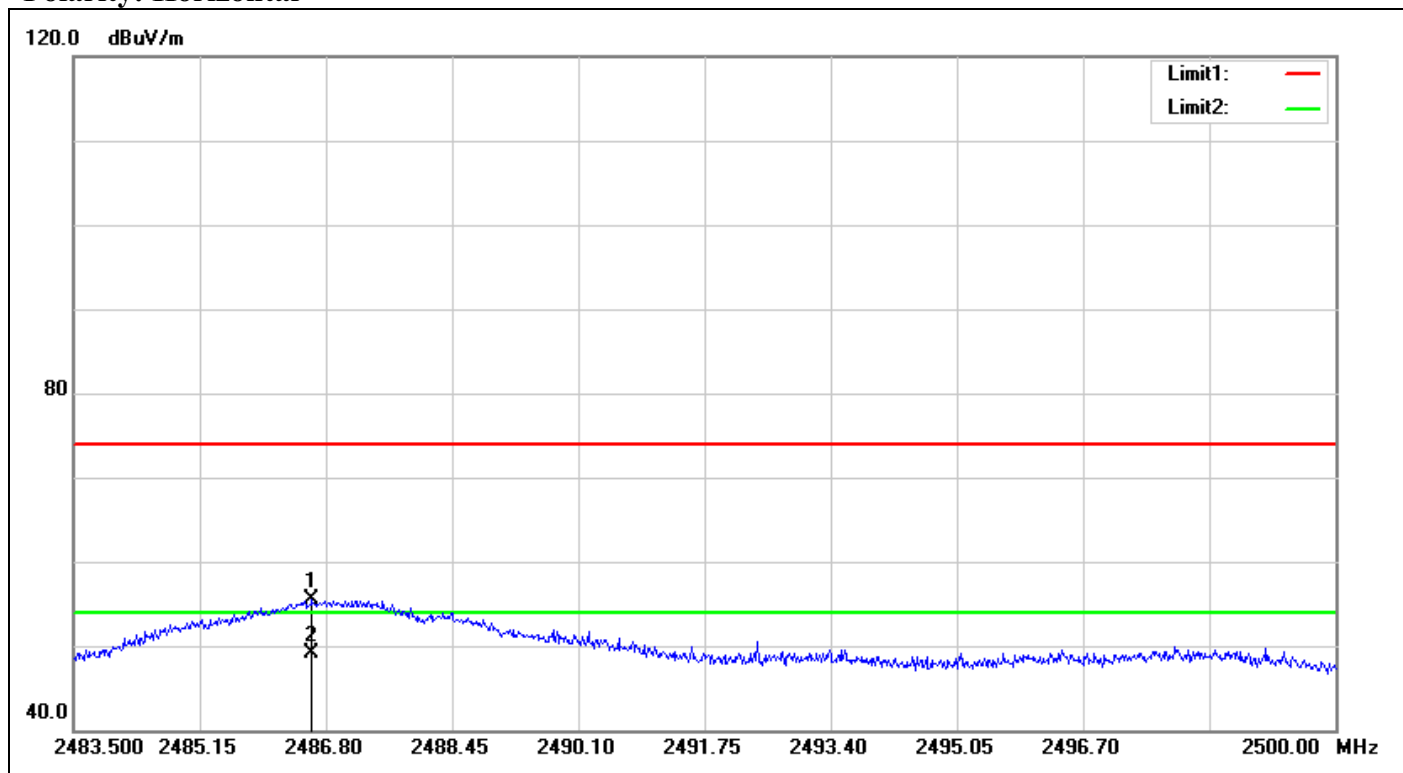
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2487.229	63.07	-3.24	59.83	74.00	-14.17	100	103	peak
2	2487.229	56.53	-3.24	53.29	54.00	-0.71	100	103	AVG



**Polarity: Horizontal**

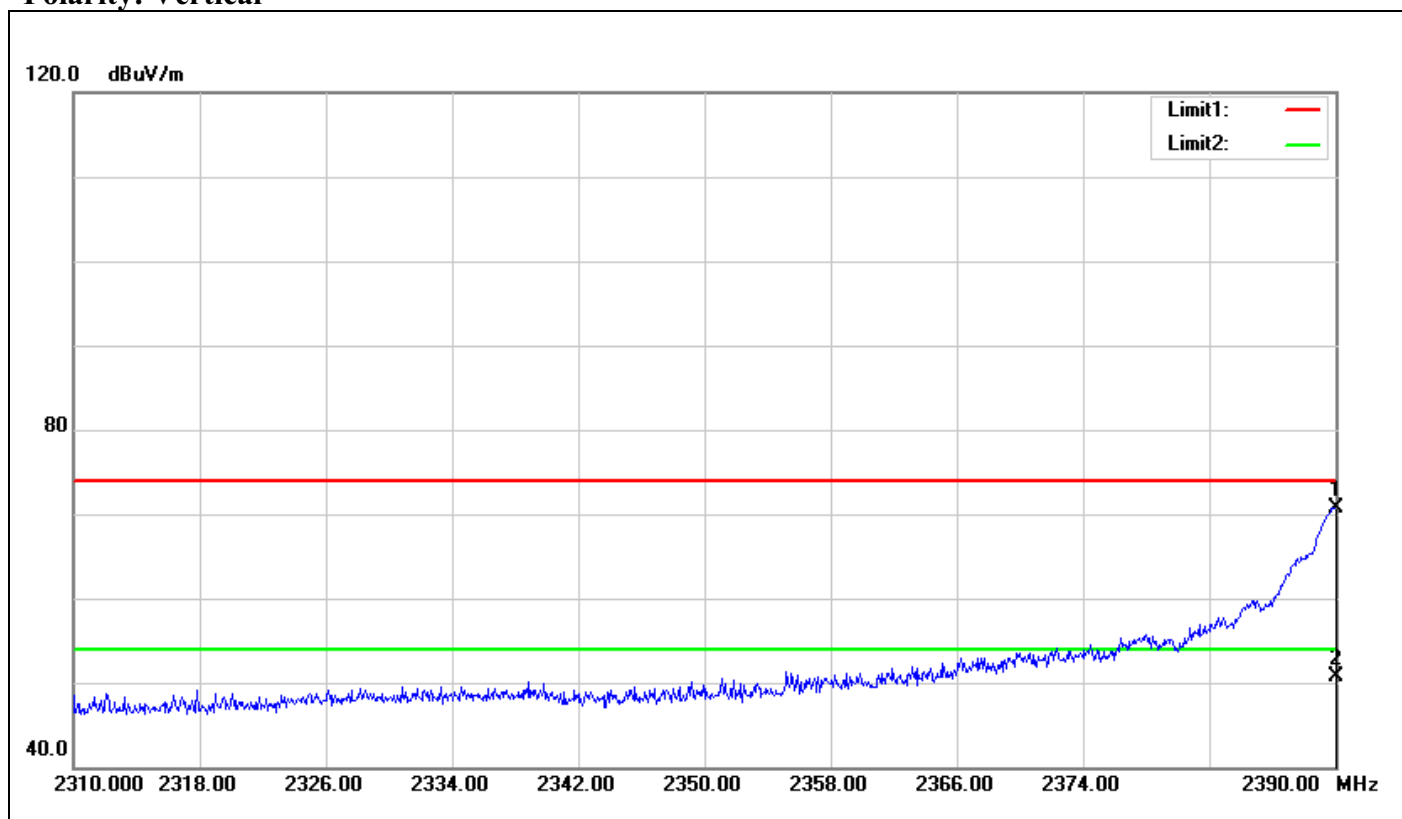


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2486.619	58.76	-3.24	55.52	74.00	-18.48	100	262	peak
2	2486.619	52.38	-3.24	49.14	54.00	-4.86	100	262	AVG



### Band Edges (IEEE 802.11g mode / 2412 MHz)

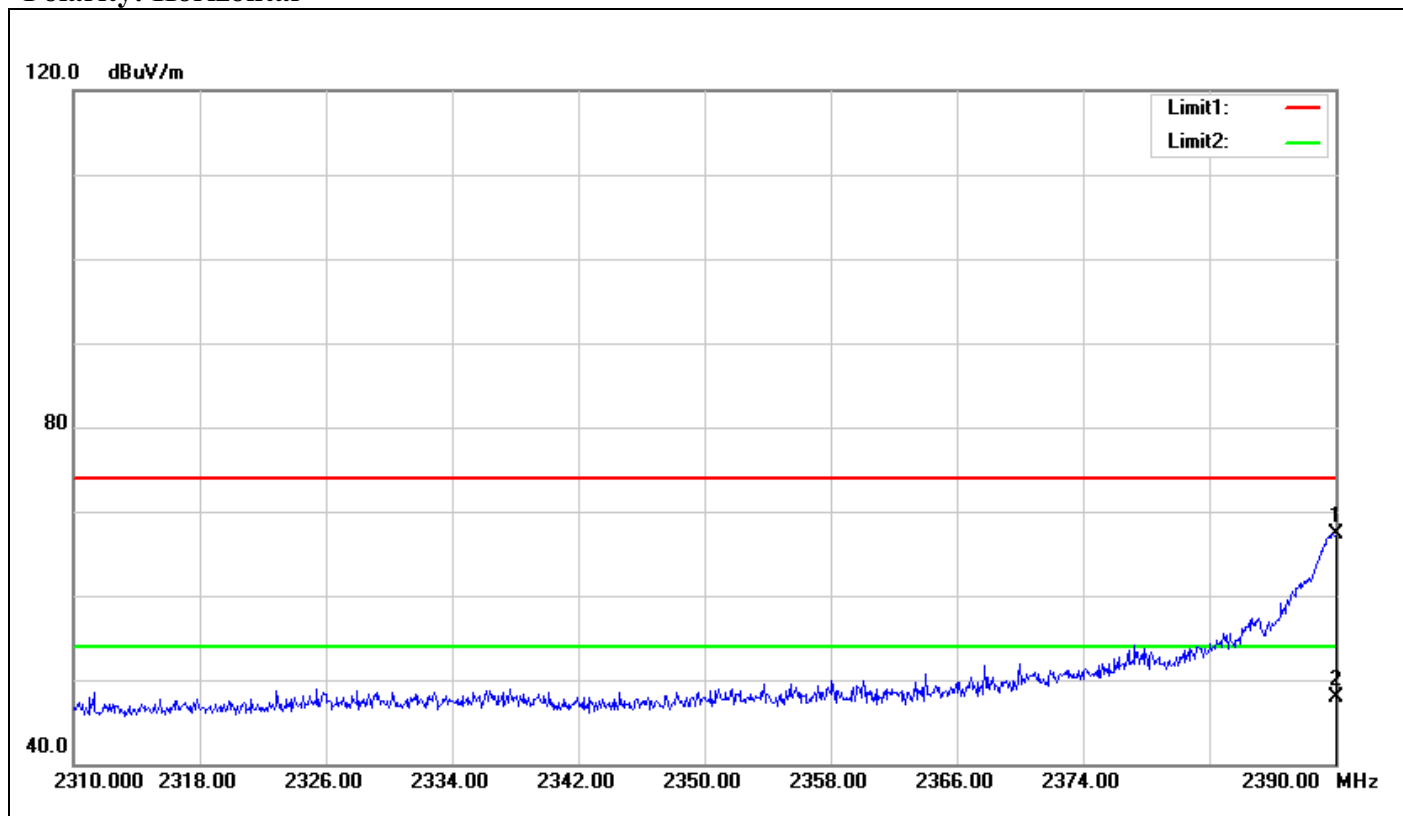
Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( ° )	
1	2390.000	74.54	-3.77	70.77	74.00	-3.23	100	266	peak
2	2390.000	54.57	-3.77	50.80	54.00	-3.20	100	266	AVG



**Polarity: Horizontal**

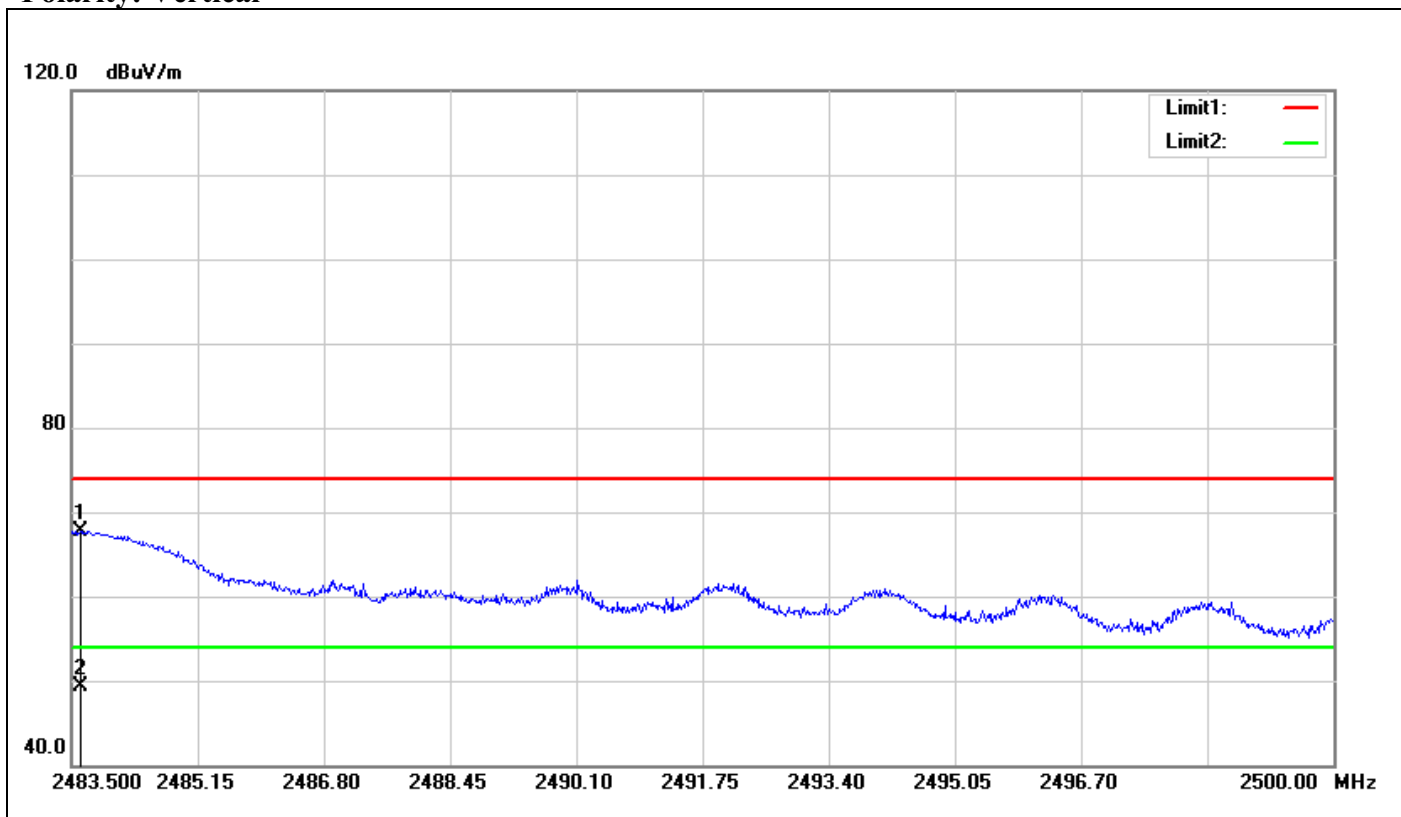


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2390.000	71.15	-3.77	67.38	74.00	-6.62	100	344	peak
2	2390.000	51.65	-3.77	47.88	54.00	-6.12	100	344	AVG



**Band Edges (IEEE 802.11g mode / 2462 MHz)**

**Polarity: Vertical**

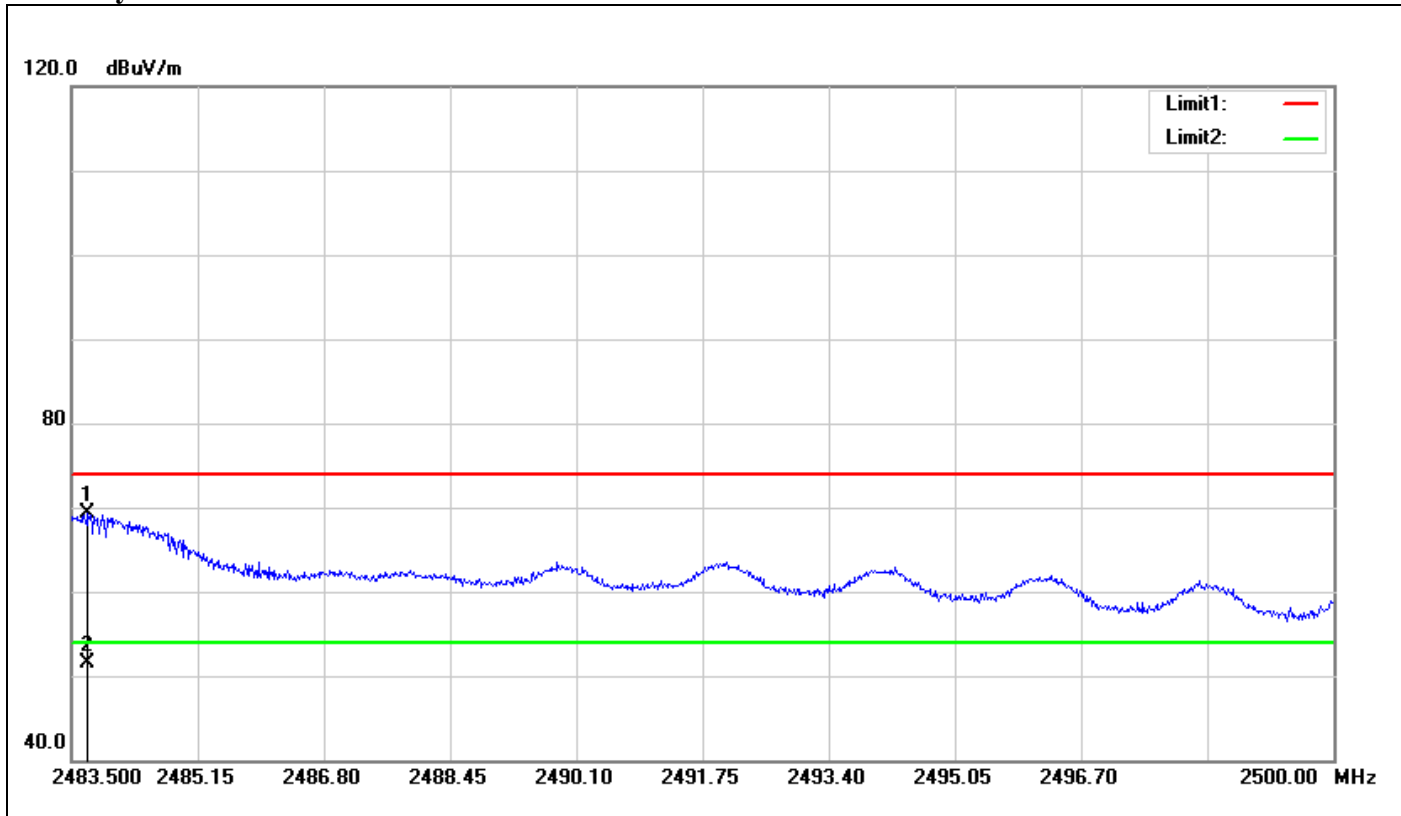


No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( ° )	
1	2483.615	71.07	-3.27	67.80	74.00	-6.20	100	247	peak
2	2483.615	52.50	-3.27	49.23	54.00	-4.77	100	247	AVG





**Polarity: Horizontal**

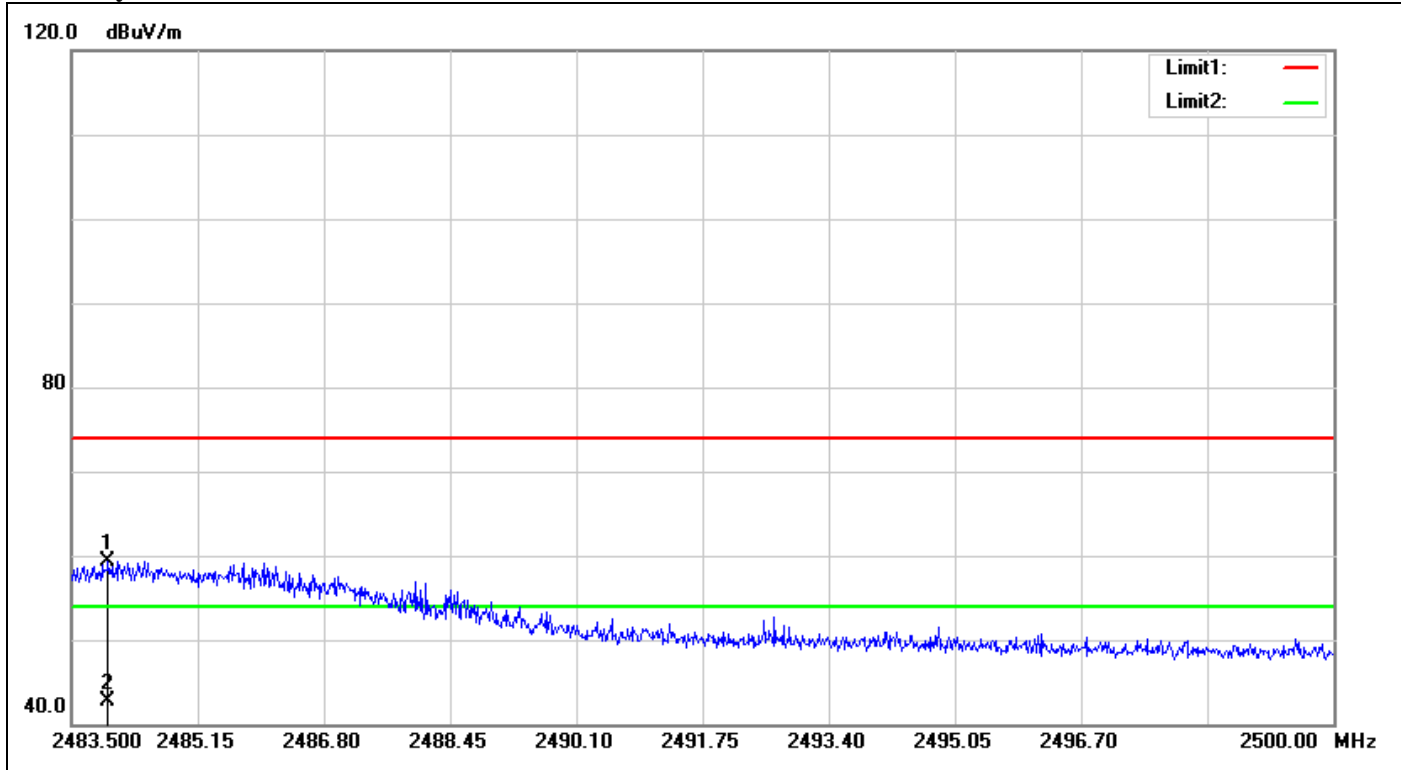


No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	2483.715	72.55	-3.27	69.28	74.00	-4.72	100	196	peak
2	2483.715	54.70	-3.27	51.43	54.00	-2.57	100	196	AVG



**Band Edges (IEEE 802.11g mode / 2467 MHz)**

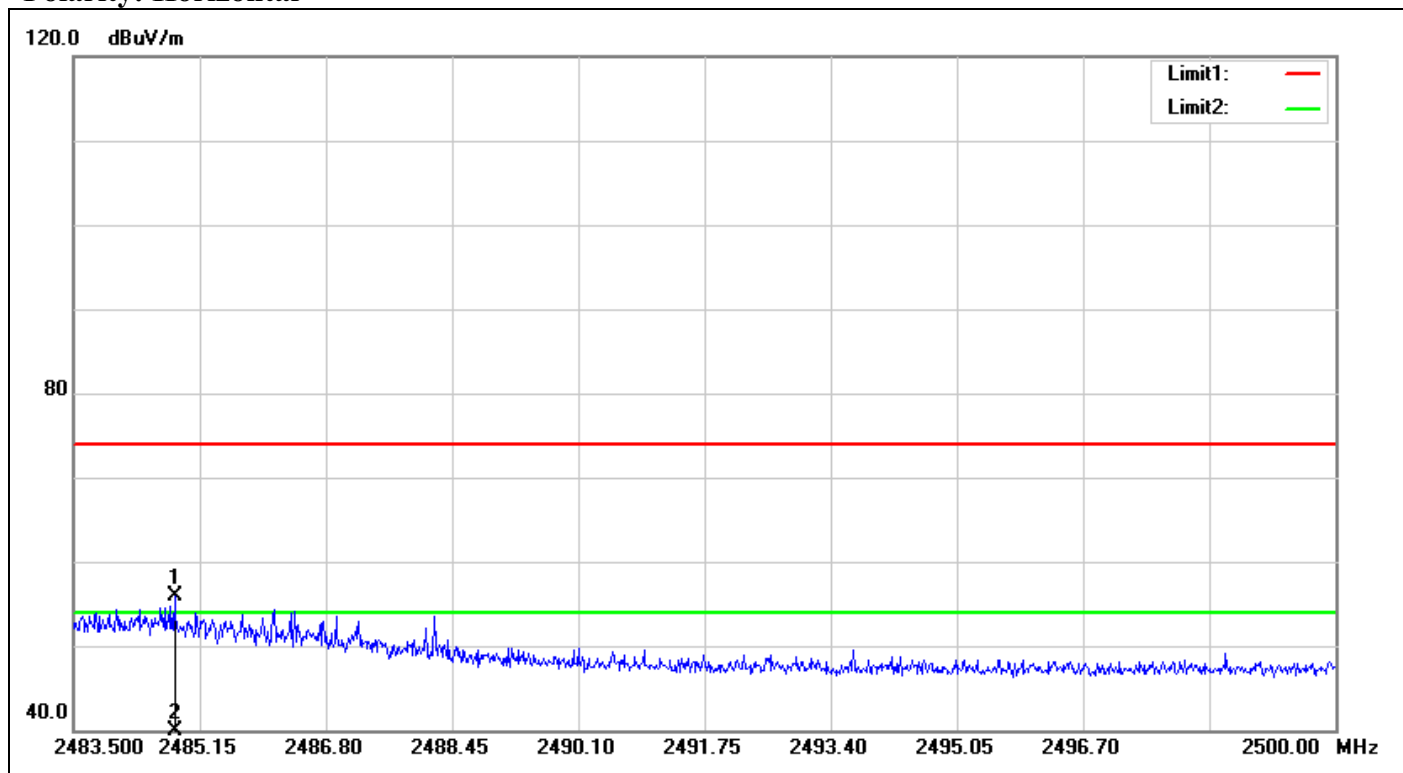
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2483.979	62.60	-3.27	59.33	74.00	-14.67	100	56	peak
2	2483.979	46.01	-3.27	42.74	54.00	-11.26	100	56	AVG



**Polarity: Horizontal**

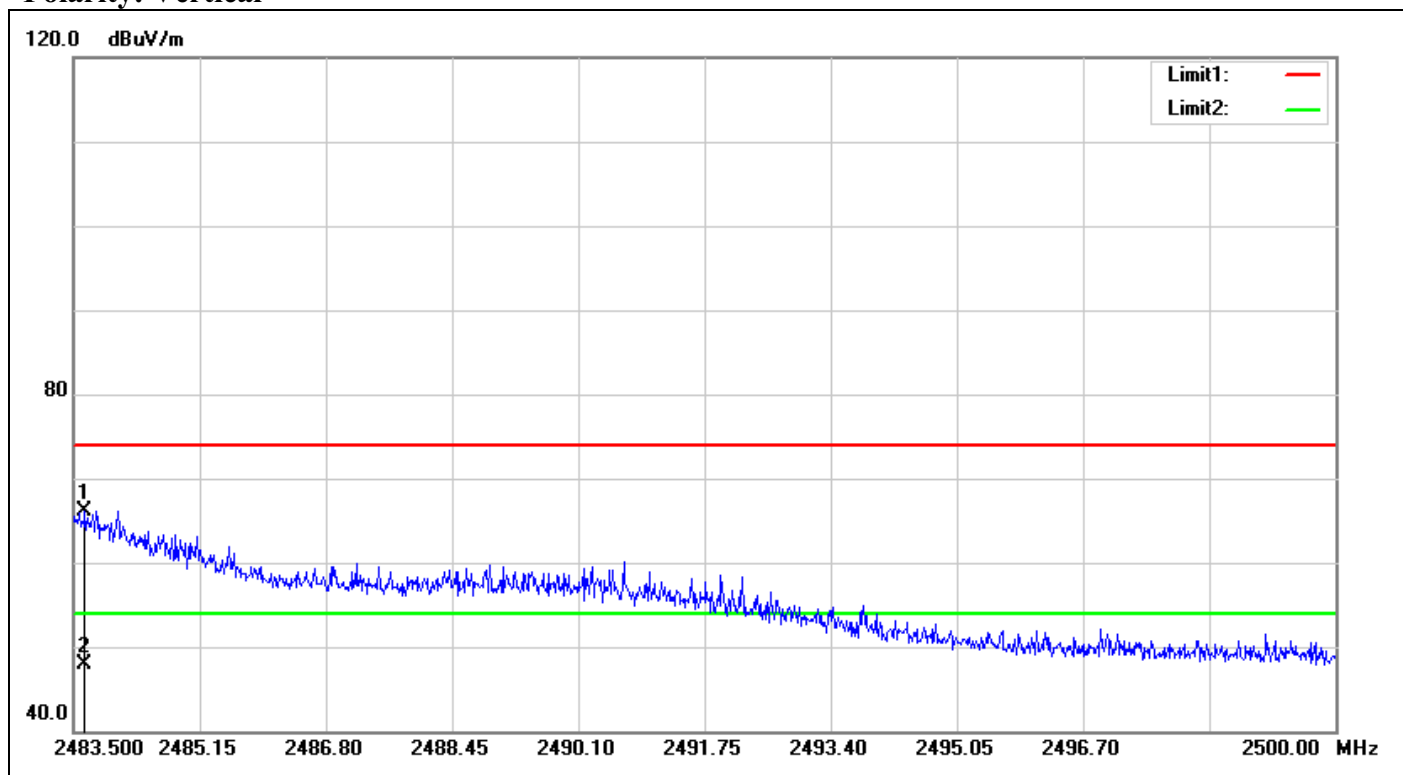


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2484.820	59.24	-3.26	55.98	74.00	-18.02	100	126	peak
2	2484.820	42.86	-3.26	39.60	54.00	-14.40	100	126	AVG



**Band Edges (IEEE 802.11g mode / 2472 MHz)**

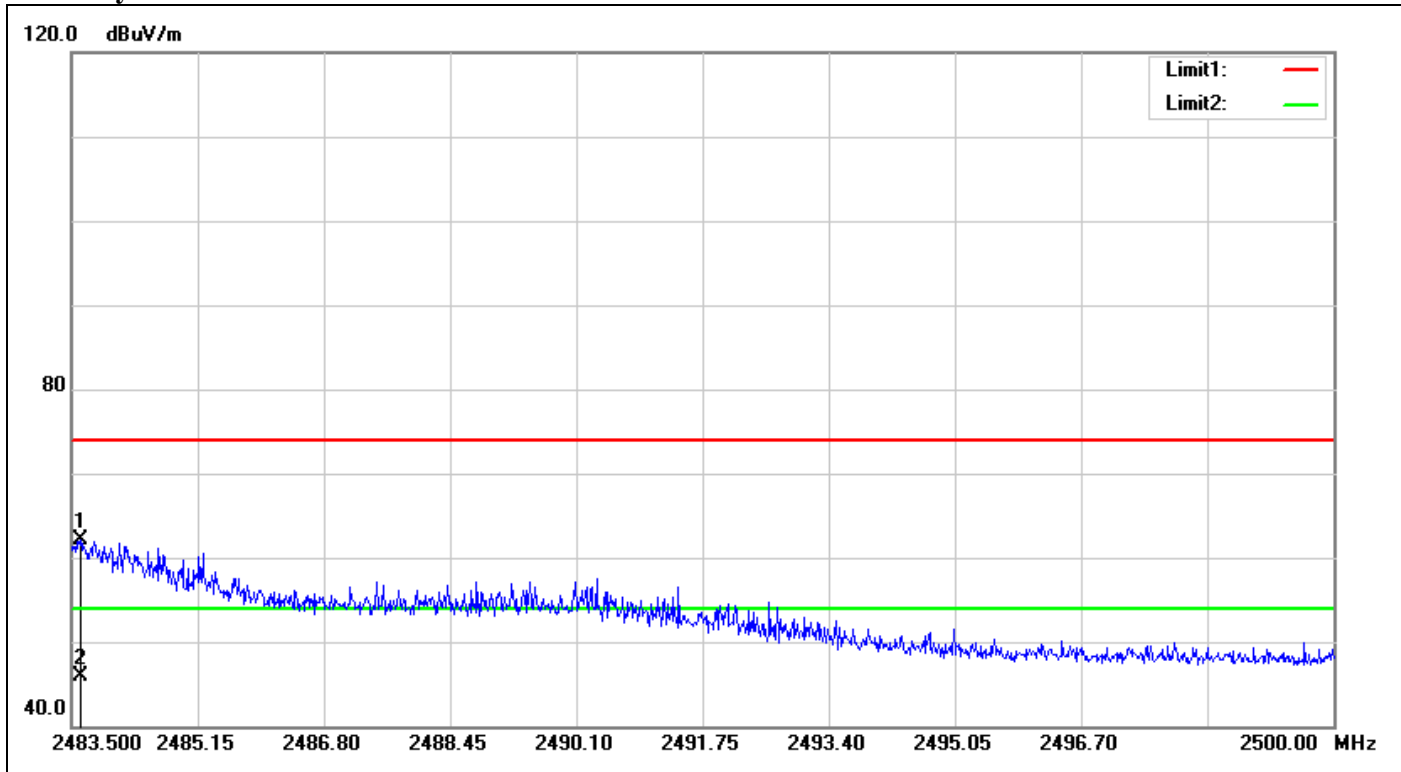
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2483.648	69.34	-3.27	66.07	74.00	-7.93	100	104	peak
2	2483.648	51.17	-3.27	47.90	54.00	-6.10	100	104	AVG



**Polarity: Horizontal**

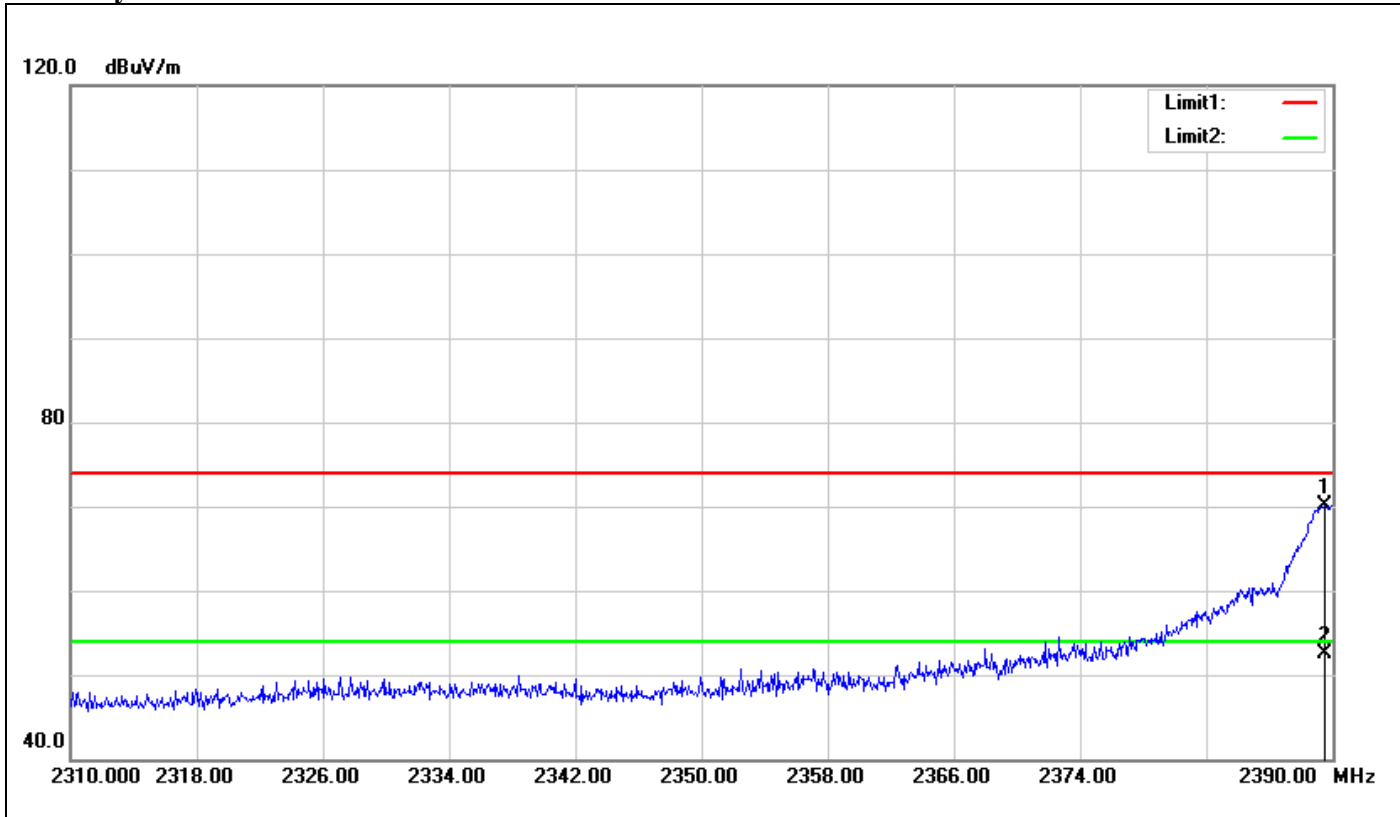


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2483.615	65.37	-3.27	62.10	74.00	-11.90	100	135	peak
2	2483.615	49.24	-3.27	45.97	54.00	-8.03	100	135	AVG



**Band Edges (IEEE 802.11n HT 20 MHz mode / 2412 MHz)**

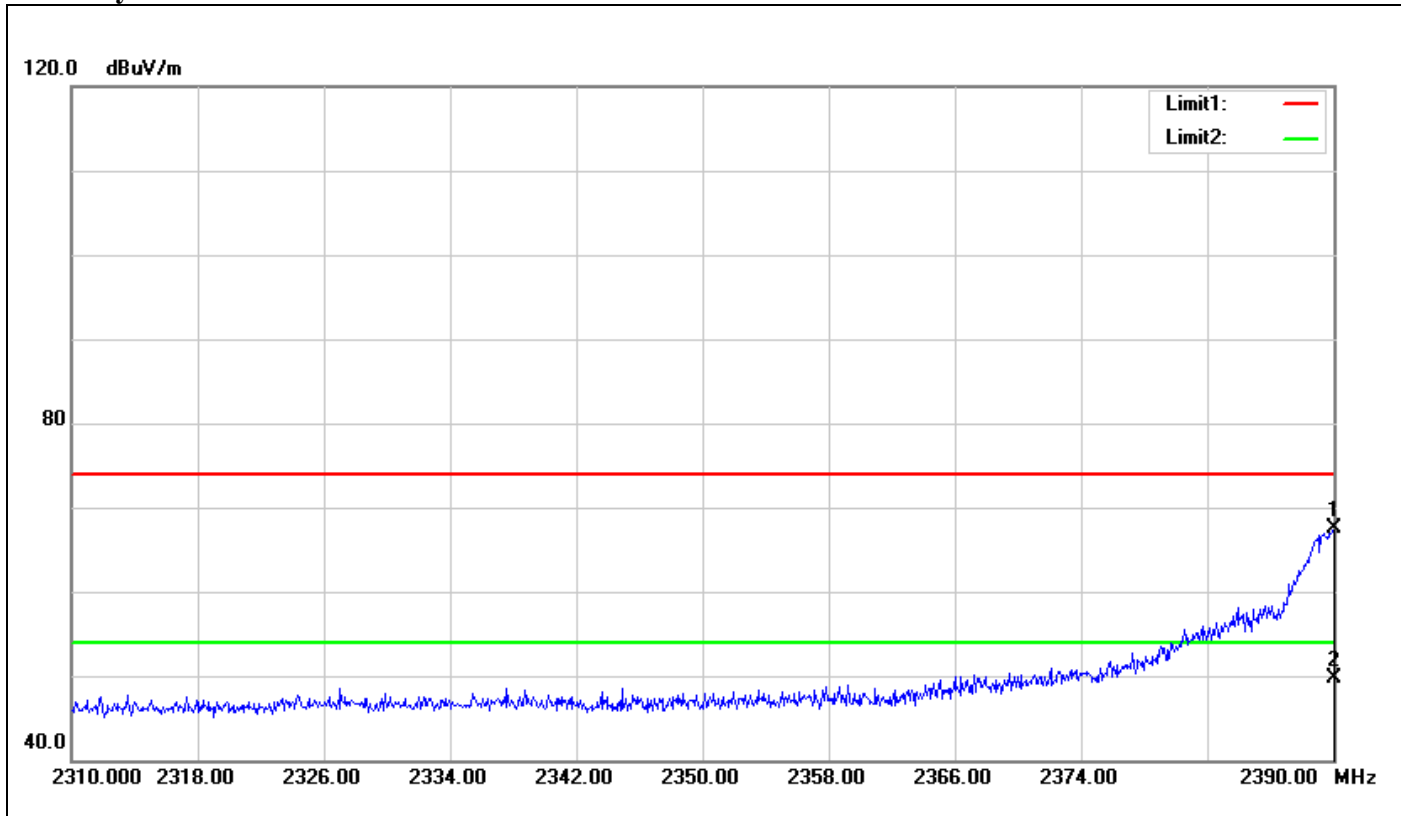
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2389.520	73.94	-3.77	70.17	74.00	-3.83	100	203	peak
2	2389.520	56.30	-3.77	52.53	54.00	-1.47	100	203	AVG



**Polarity: Horizontal**

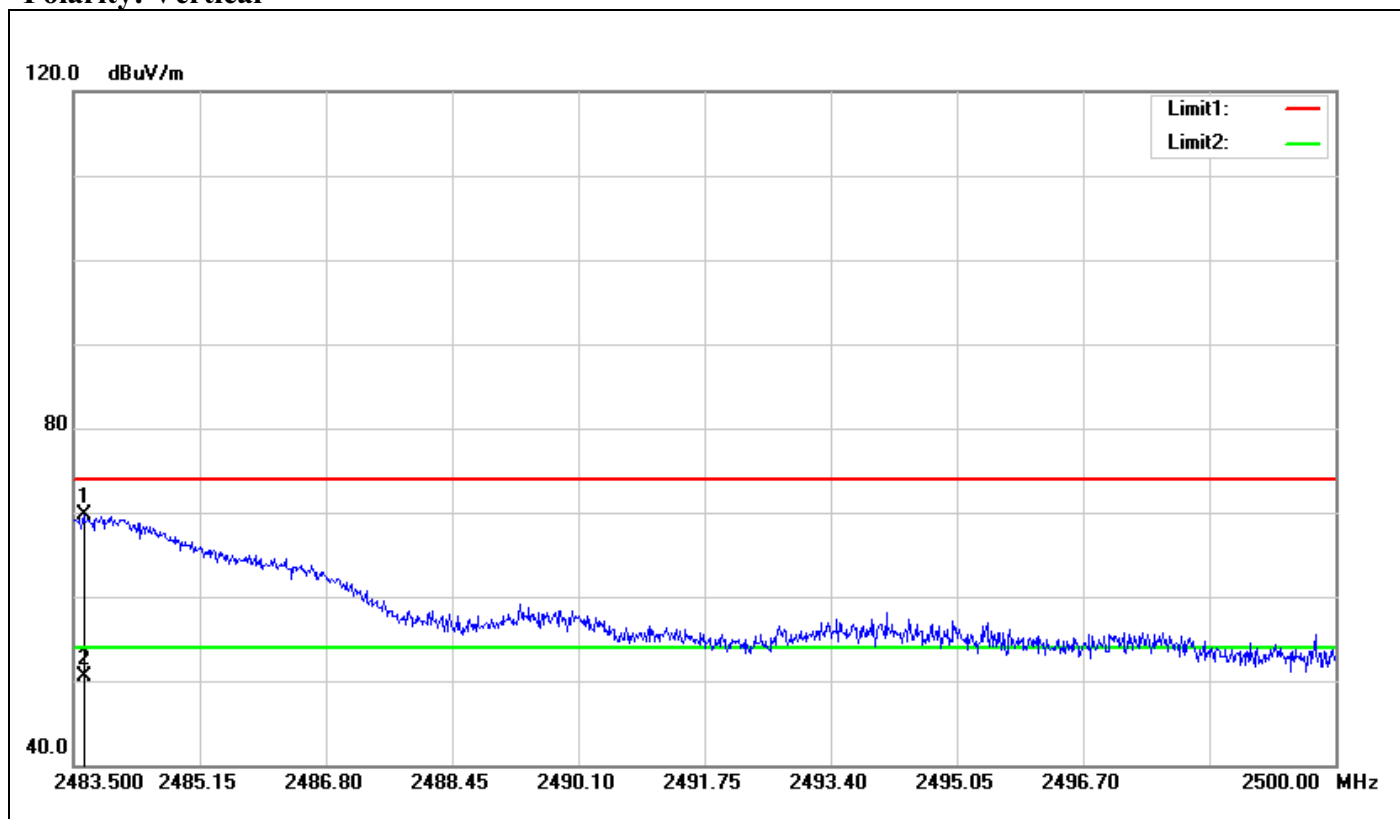


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2390.000	71.19	-3.77	67.42	74.00	-6.58	100	100	peak
2	2390.000	53.52	-3.77	49.75	54.00	-4.25	100	100	AVG



**Band Edges (IEEE 802.11n HT 20 MHz mode / 2462 MHz)**

**Polarity: Vertical**

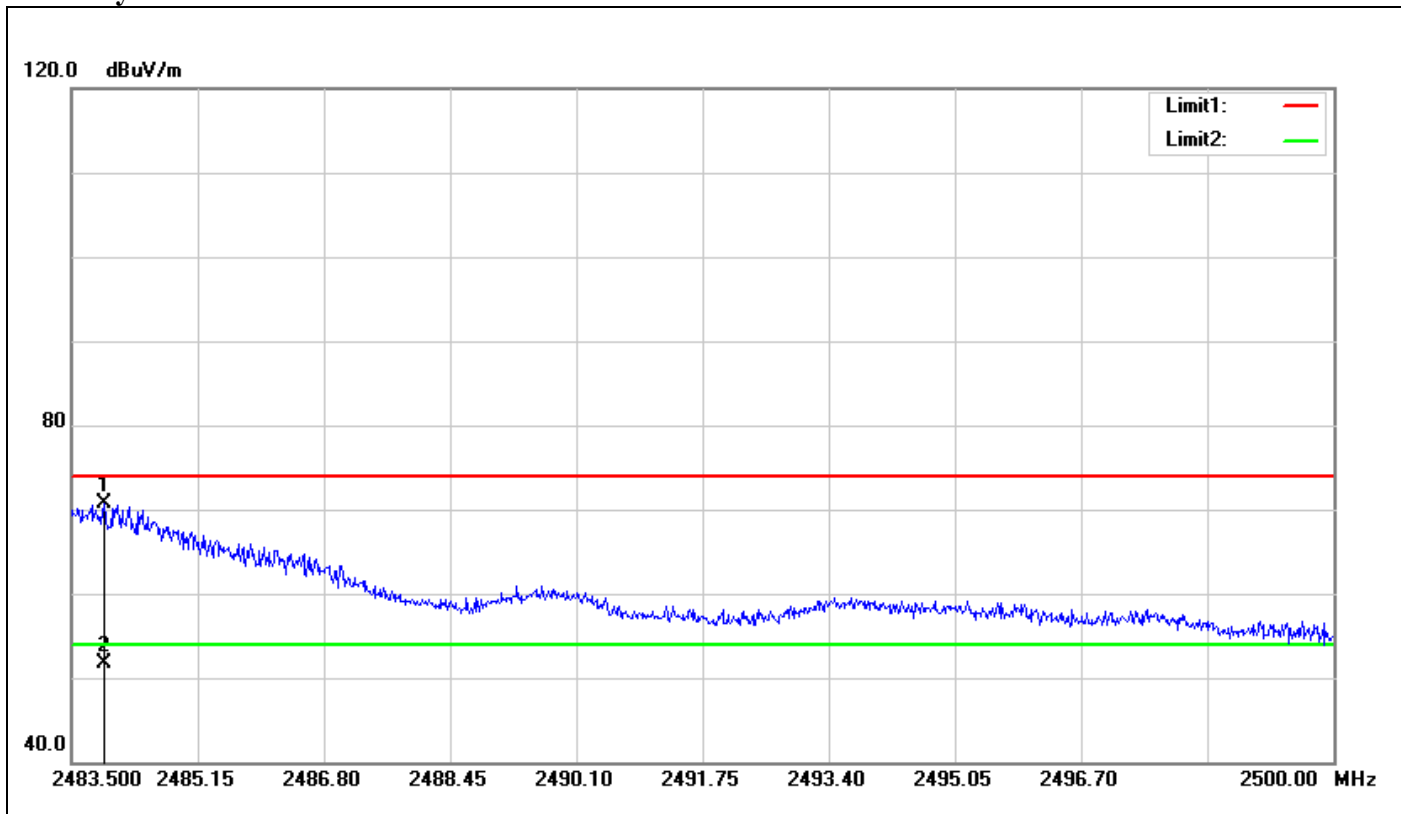


No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( ° )	
1	2483.632	72.92	-3.27	69.65	74.00	-4.35	100	255	peak
2	2483.632	53.78	-3.27	50.51	54.00	-3.49	100	255	AVG





**Polarity: Horizontal**

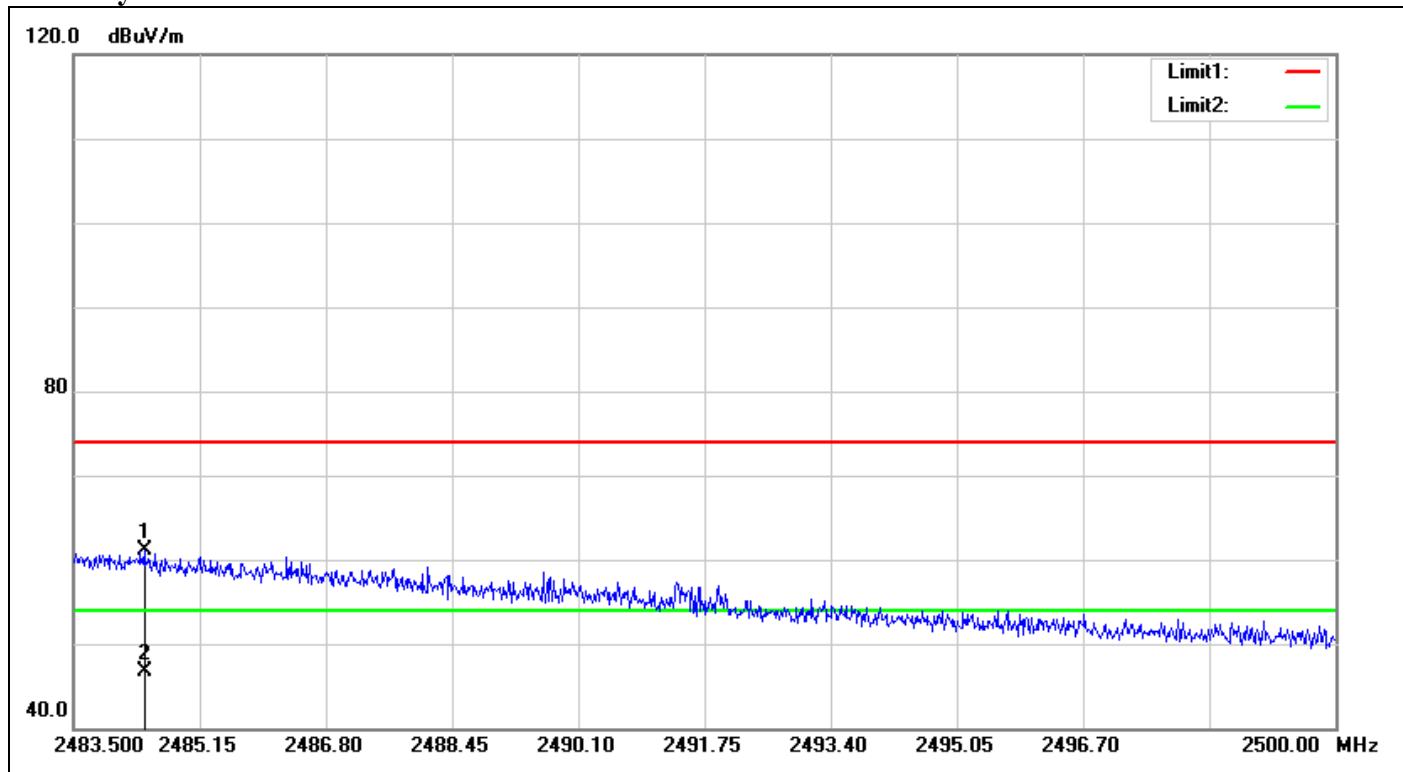


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2483.929	73.98	-3.27	70.71	74.00	-3.29	100	258	peak
2	2483.929	54.95	-3.27	51.68	54.00	-2.32	100	258	AVG



**Band Edges (IEEE 802.11n HT 20 MHz mode / 2467 MHz)**

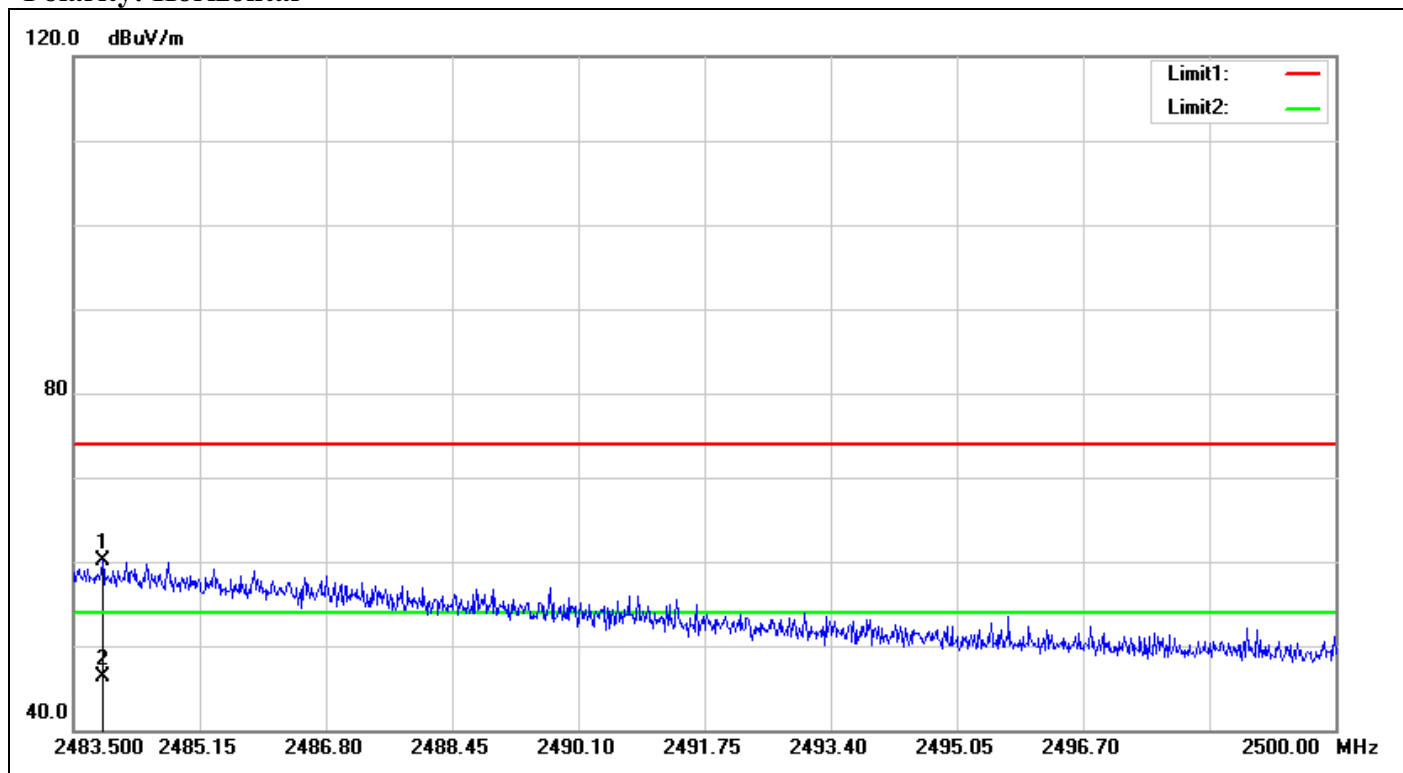
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2484.424	64.31	-3.27	61.04	74.00	-12.96	100	251	peak
2	2484.424	49.97	-3.27	46.70	54.00	-7.30	100	251	AVG



**Polarity: Horizontal**

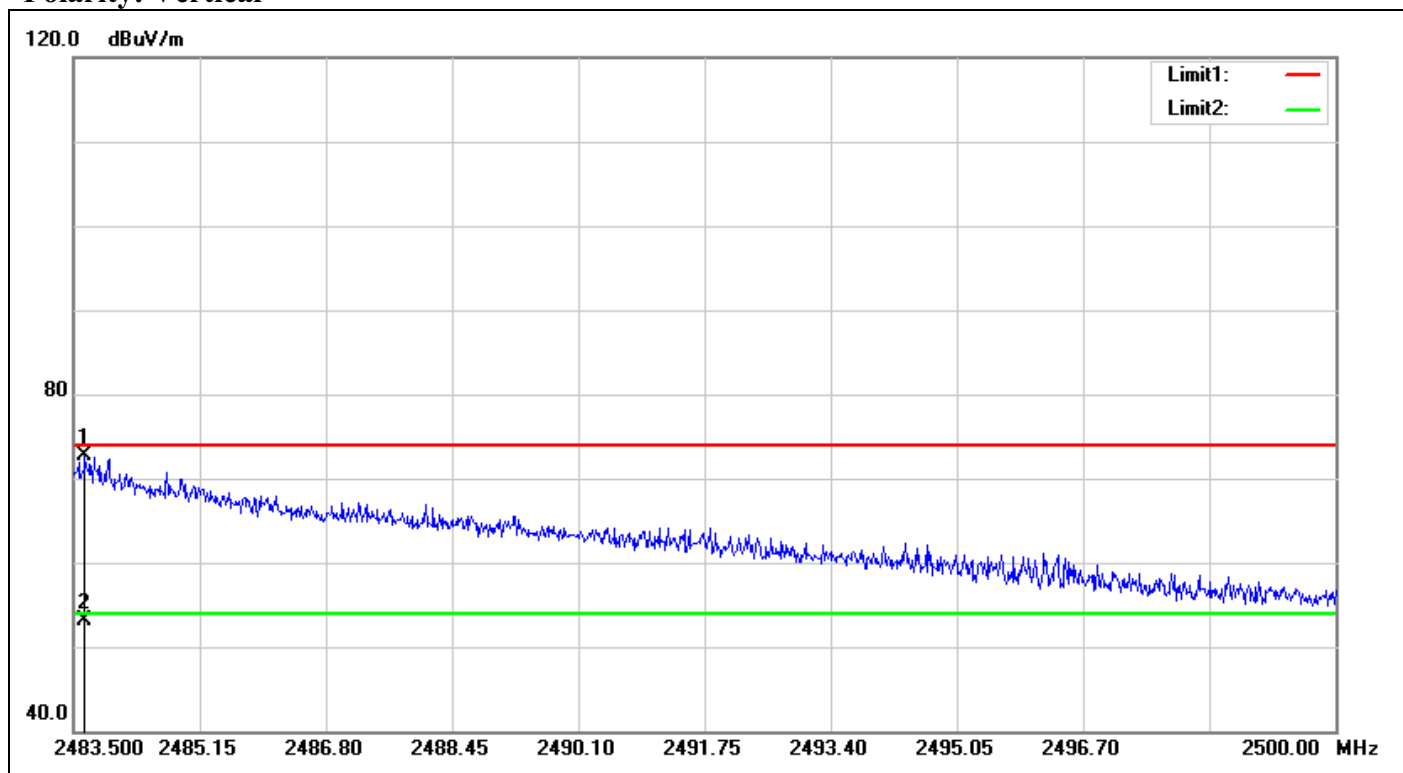


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2483.880	63.32	-3.27	60.05	74.00	-13.95	100	49	peak
2	2483.880	49.51	-3.27	46.24	54.00	-7.76	100	49	AVG



### Band Edges (IEEE 802.11n HT 20 MHz mode / 2472 MHz)

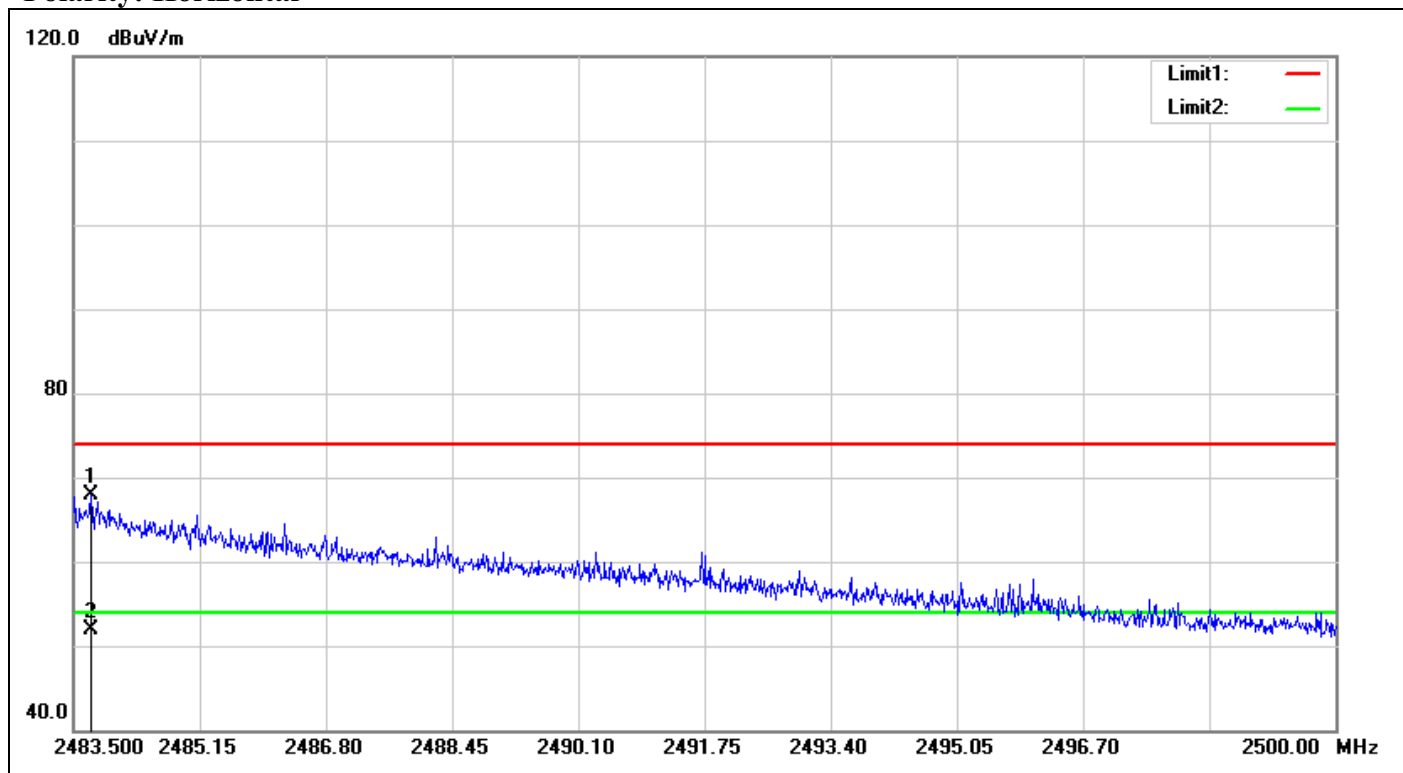
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2483.648	76.05	-3.27	72.78	74.00	-1.22	100	322	peak
2	2483.648	56.34	-3.27	53.07	54.00	-0.93	100	322	AVG



**Polarity: Horizontal**

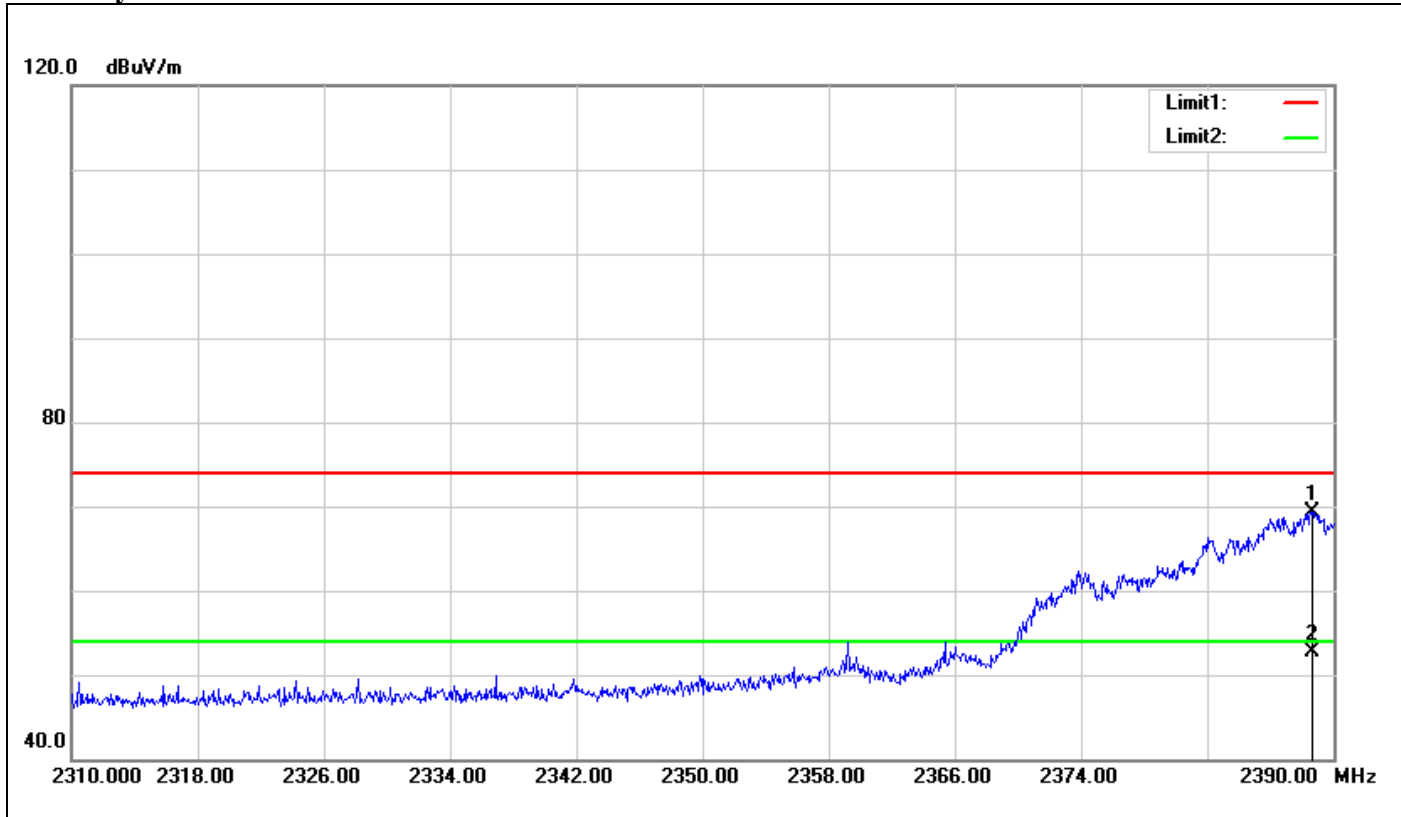


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2483.731	71.14	-3.27	67.87	74.00	-6.13	100	71	peak
2	2483.731	55.26	-3.27	51.99	54.00	-2.01	100	71	AVG



**Band Edges (IEEE 802.11n HT 40 MHz mode / 2422 MHz)**

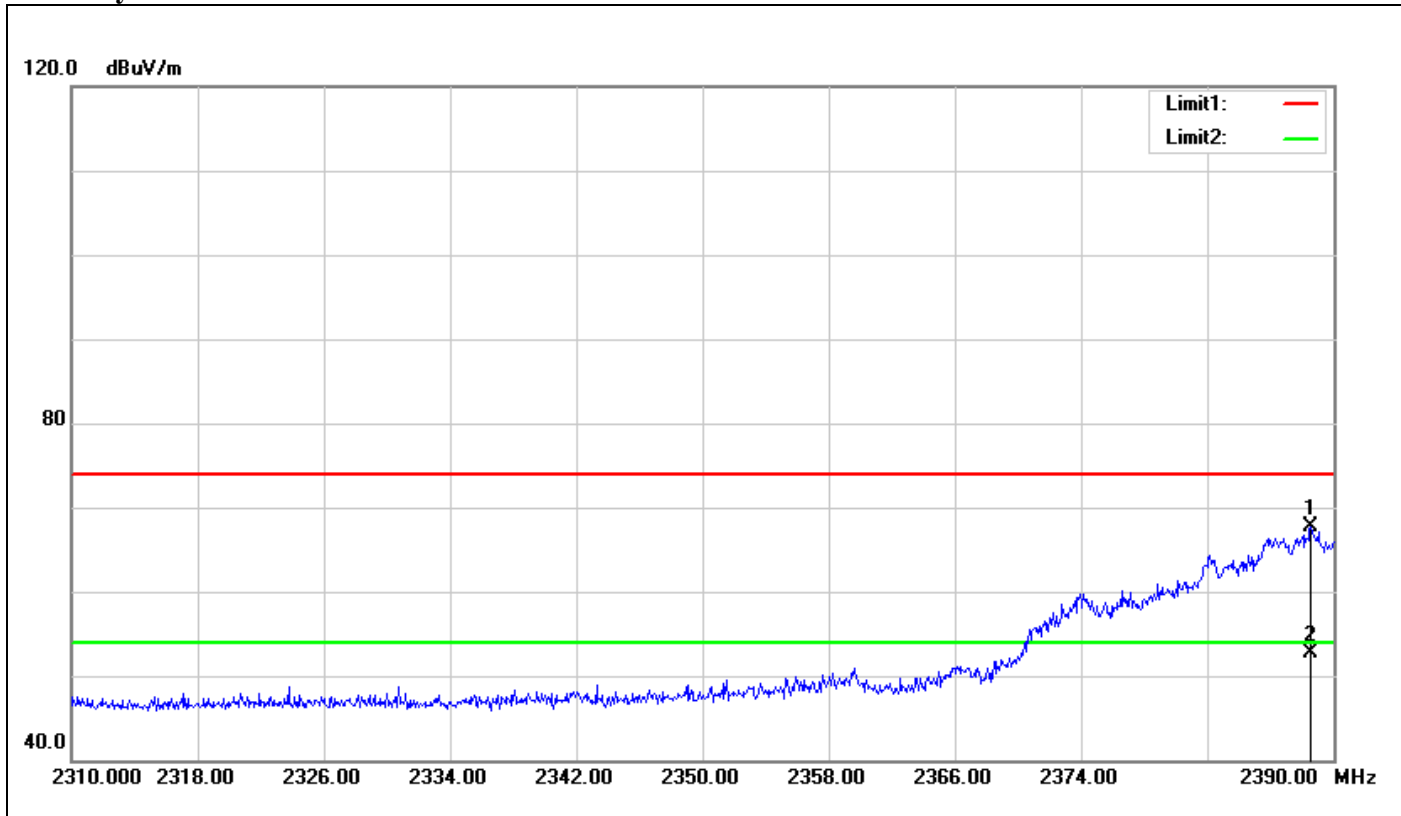
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2388.640	73.10	-3.78	69.32	74.00	-4.68	100	178	peak
2	2388.640	56.58	-3.78	52.80	54.00	-1.20	100	178	AVG



**Polarity: Horizontal**

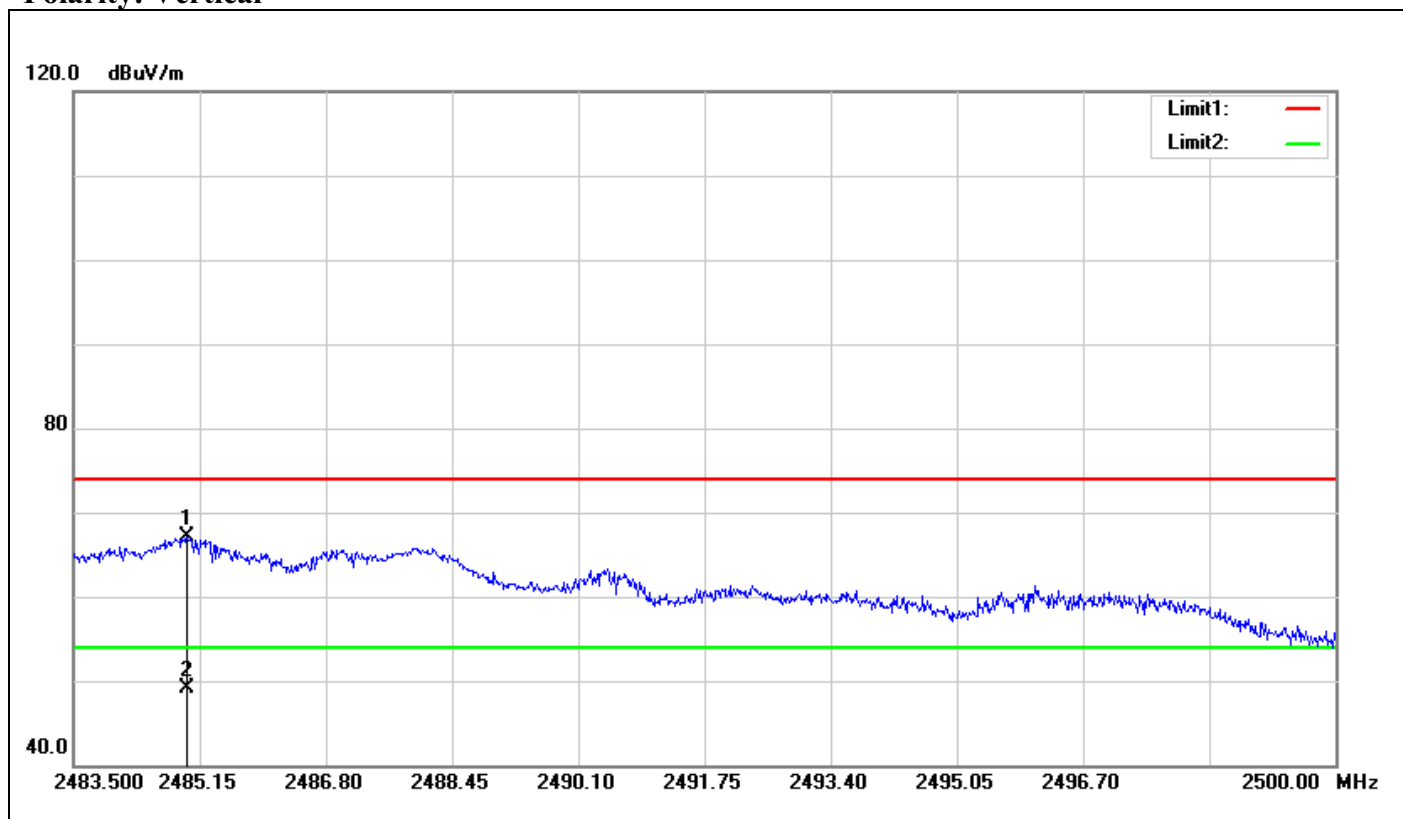


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2388.560	71.45	-3.78	67.67	74.00	-6.33	100	61	peak
2	2388.560	56.51	-3.78	52.73	54.00	-1.27	100	61	AVG



**Band Edges (IEEE 802.11n HT 40 MHz mode / 2452 MHz)**

**Polarity: Vertical**

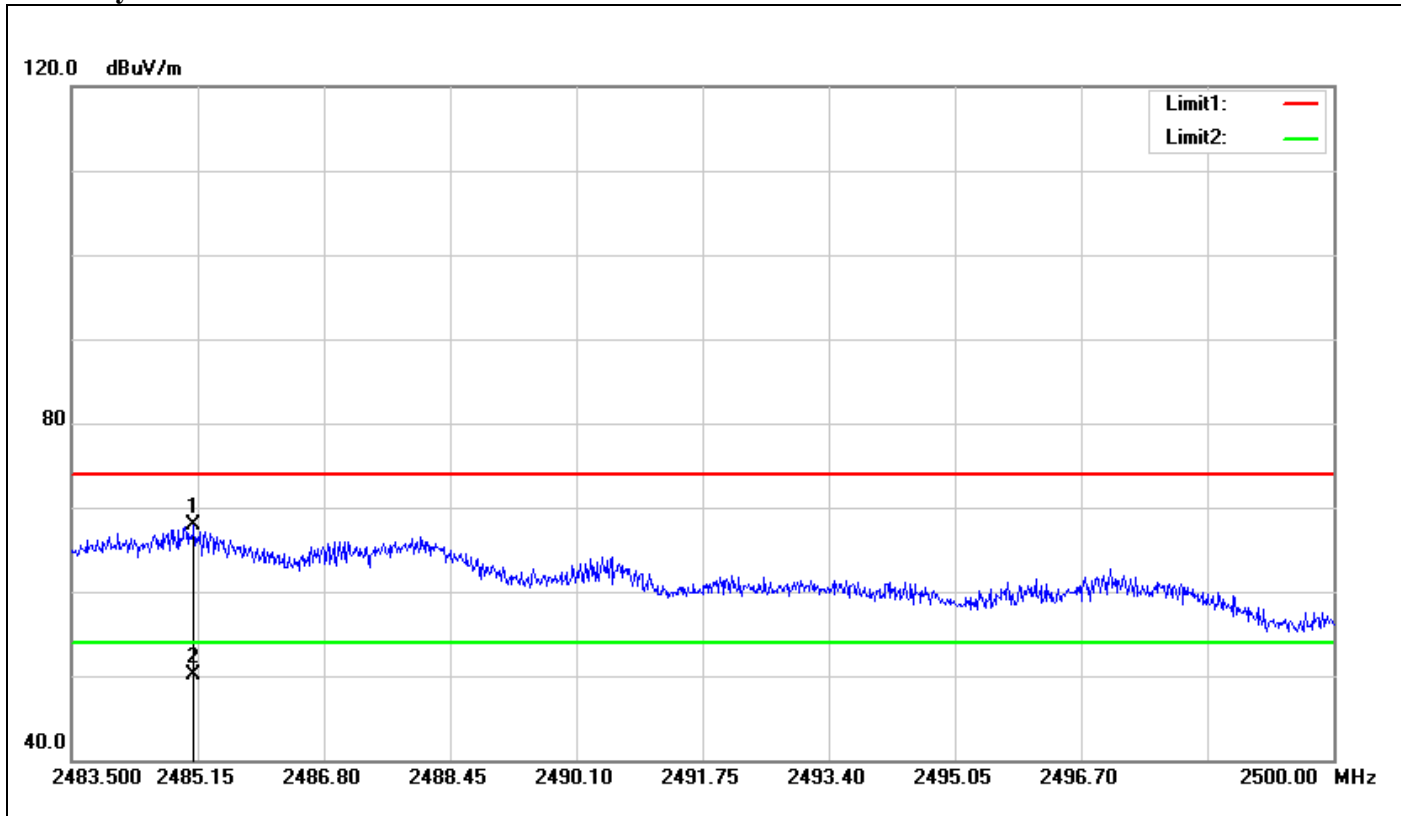


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2484.985	70.44	-3.26	67.18	74.00	-6.82	100	359	peak
2	2484.985	52.29	-3.26	49.03	54.00	-4.97	100	359	AVG





**Polarity: Horizontal**

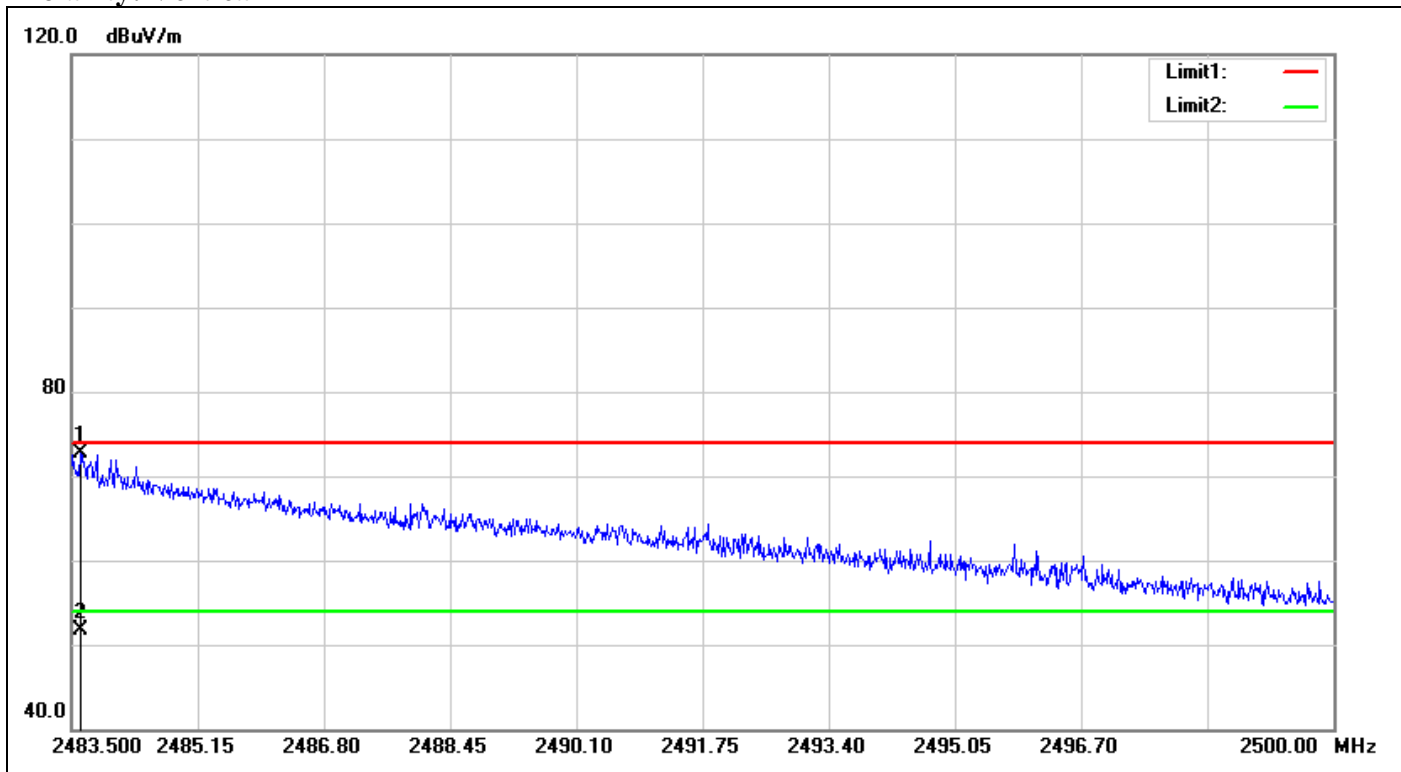


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2485.101	71.20	-3.26	67.94	74.00	-6.06	100	50	peak
2	2485.101	53.34	-3.26	50.08	54.00	-3.92	100	50	AVG



### Band Edges (IEEE 802.11n HT 40 MHz mode / 2457 MHz)

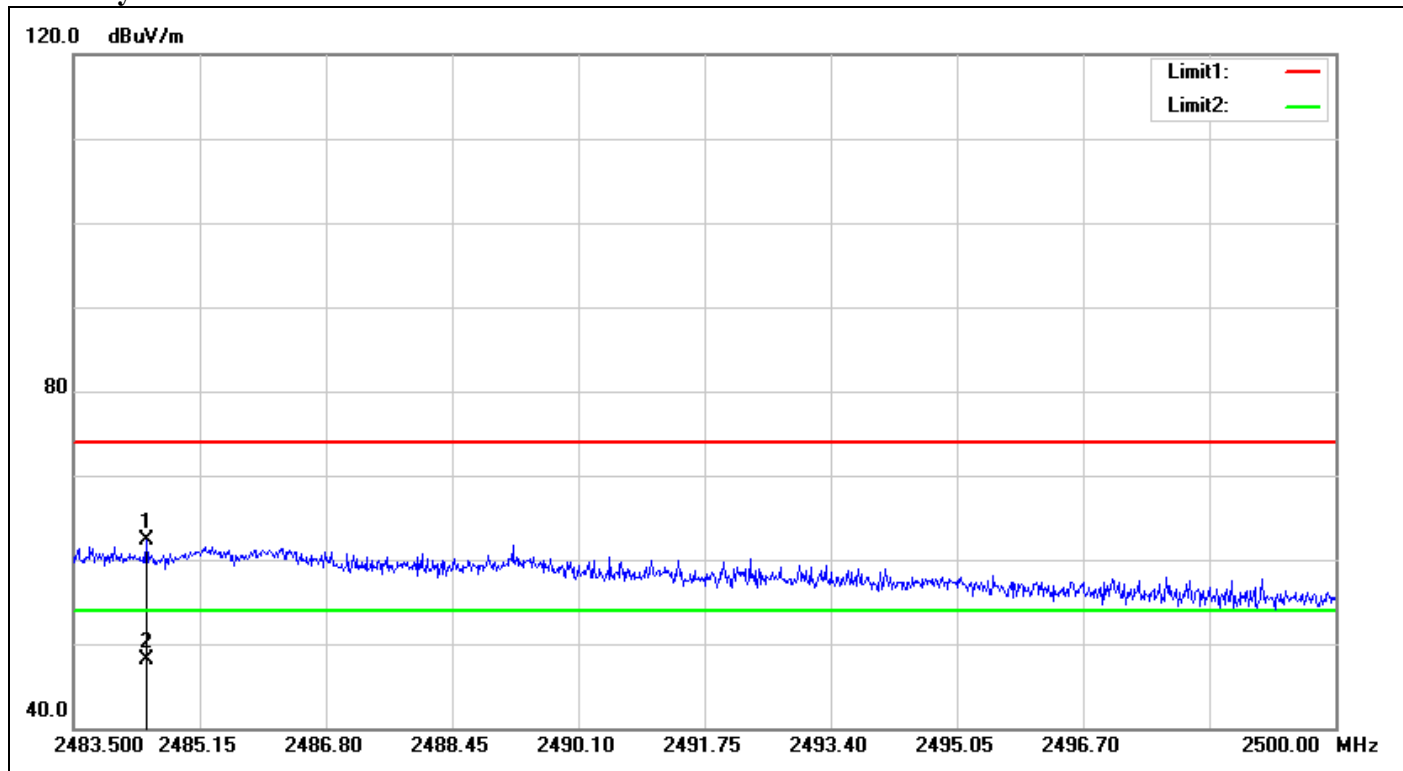
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2483.615	75.97	-3.27	72.70	74.00	-1.30	100	3	peak
2	2483.615	55.03	-3.27	51.76	54.00	-2.24	100	3	AVG



**Polarity: Horizontal**

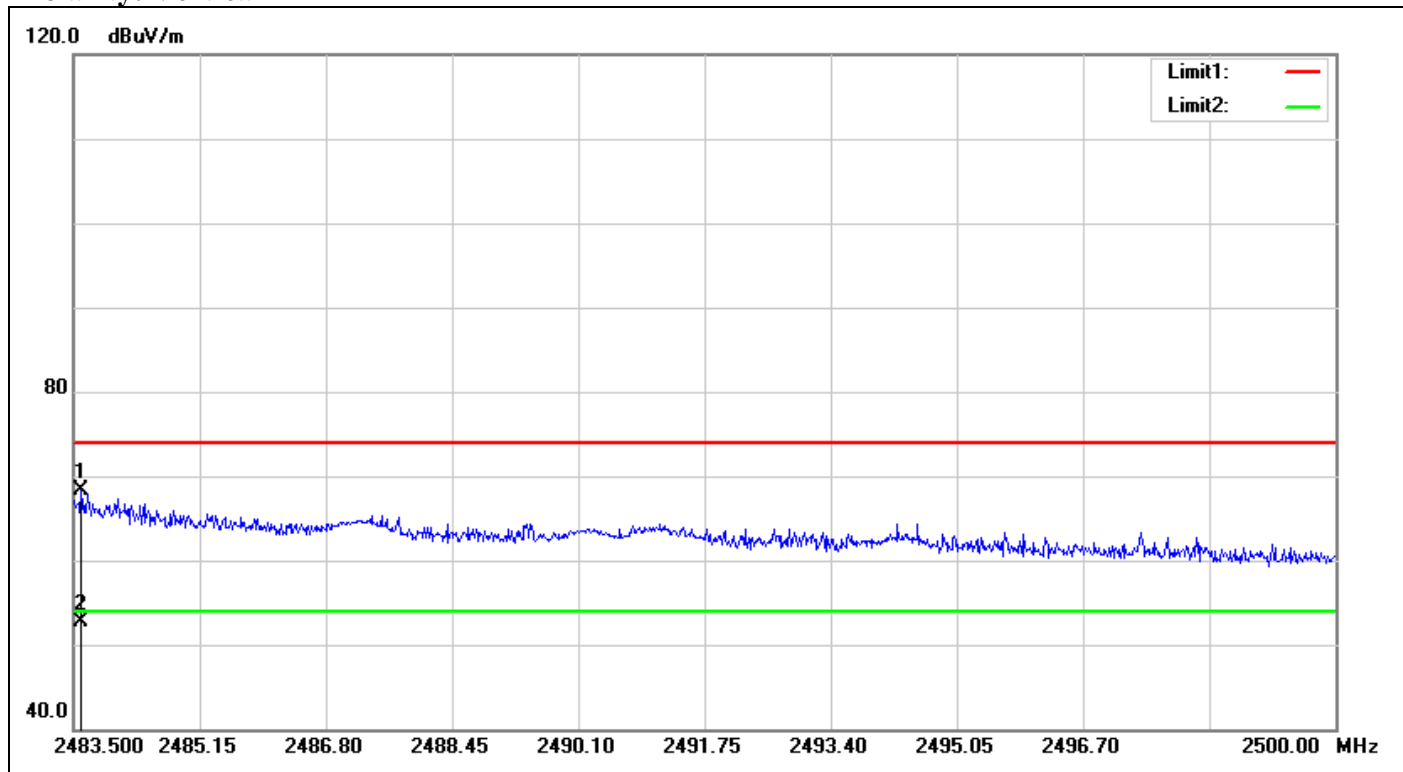


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2484.457	65.48	-3.27	62.21	74.00	-11.79	100	30	peak
2	2484.457	51.42	-3.27	48.15	54.00	-5.85	100	30	AVG



### Band Edges (IEEE 802.11n HT 40 MHz mode / 2462MHz)

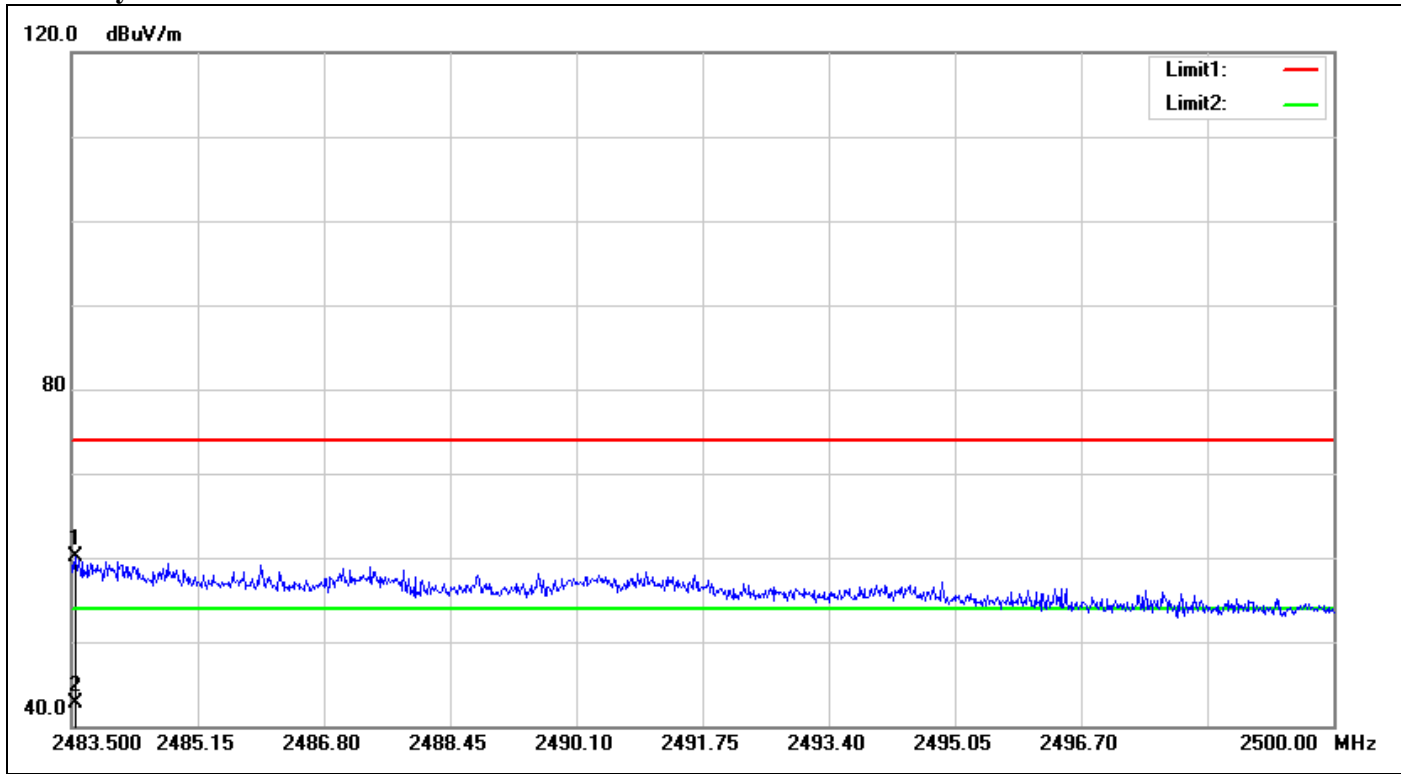
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	2483.599	71.60	-3.27	68.33	74.00	-5.67	100	215	peak
2	2483.599	56.04	-3.27	52.77	54.00	-1.23	100	215	AVG



**Polarity: Horizontal**

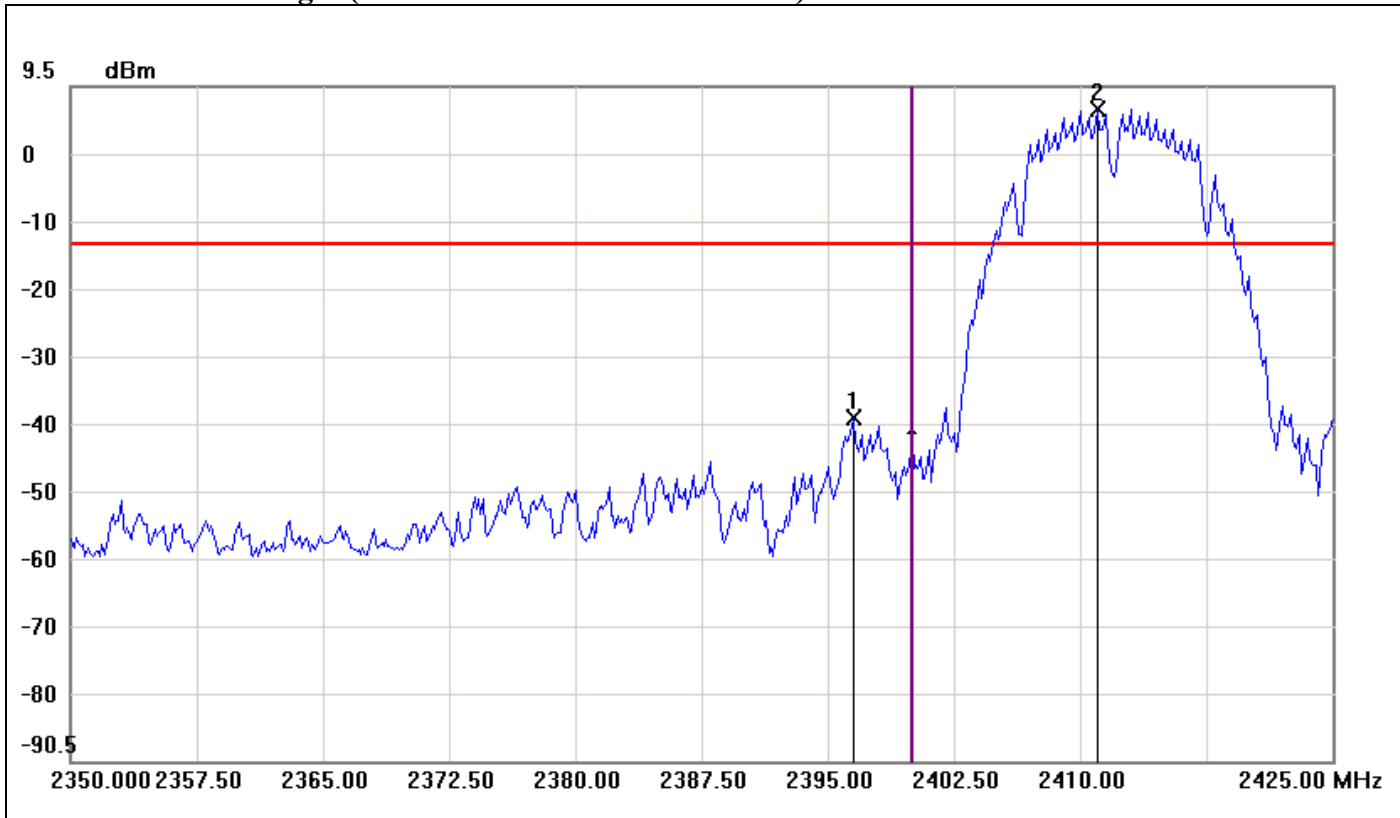


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	2483.550	63.36	-3.27	60.09	74.00	-13.91	100	76	peak
2	2483.550	46.03	-3.27	42.76	54.00	-11.24	100	76	AVG



**Test Plot**

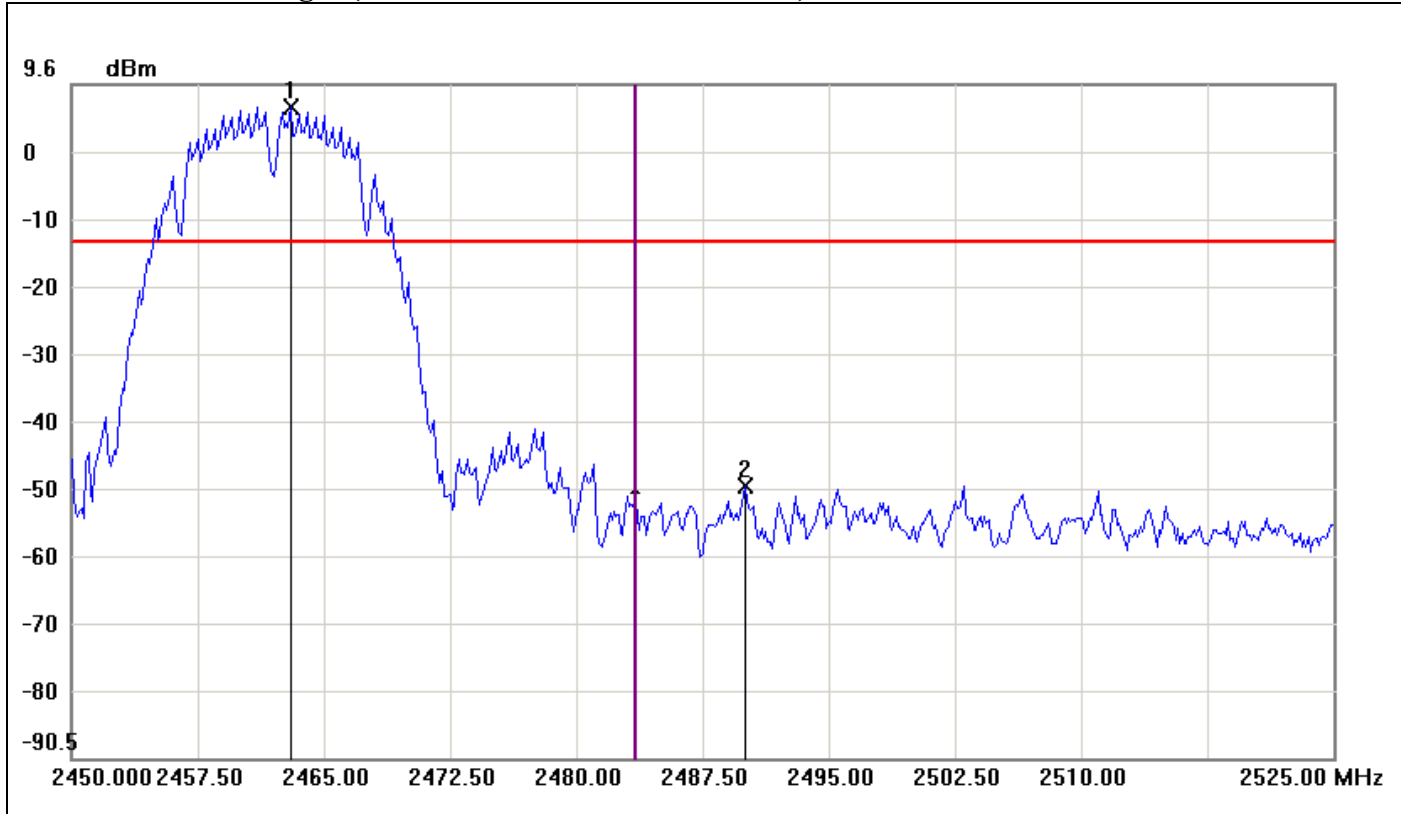
**Conducted Band Edges (IEEE 802.11b mode / 2412 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2396.5000	-39.70	-13.83	-25.87
2	2411.0000	6.17	-13.83	20.00



Conducted Band Edges (IEEE 802.11b mode / 2462 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2463.0000	6.23	-13.77	20.00
2	2490.0000	-50.08	-13.77	-36.31

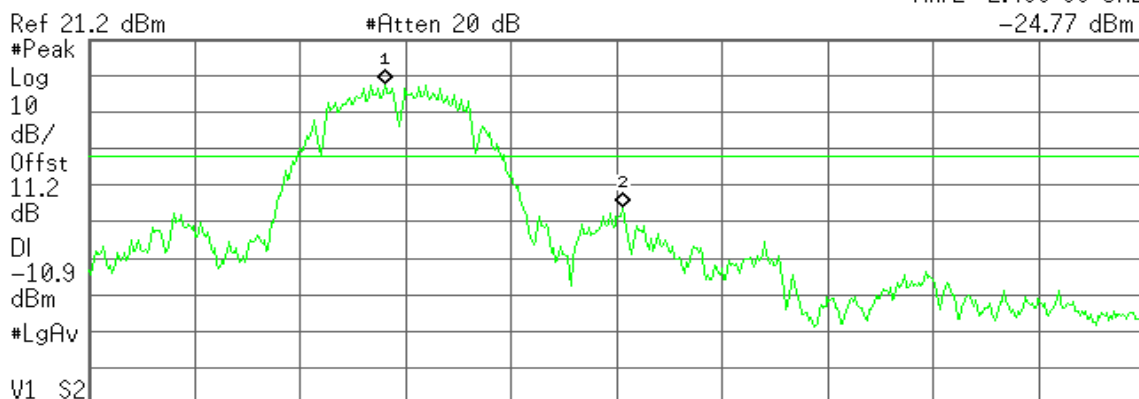


### Conducted Band Edges (IEEE 802.11b mode / 2467 MHz)

Agilent

R T

Mkr2 2.488 00 GHz  
-24.77 dBm



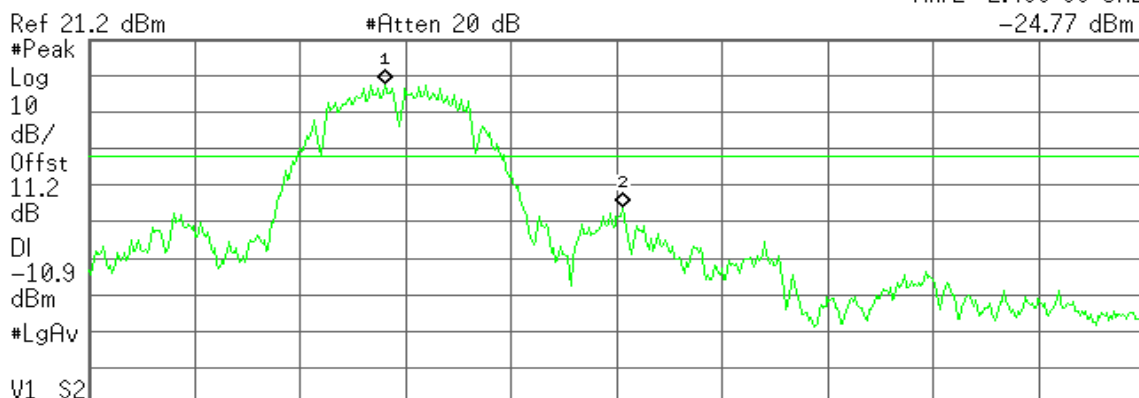
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.471 00 GHz	9.14 dBm
2	(1)	Freq	2.488 00 GHz	-24.77 dBm

### Conducted Band Edges (IEEE 802.11b mode / 2472 MHz)

Agilent

R T

Mkr2 2.488 00 GHz  
-24.77 dBm

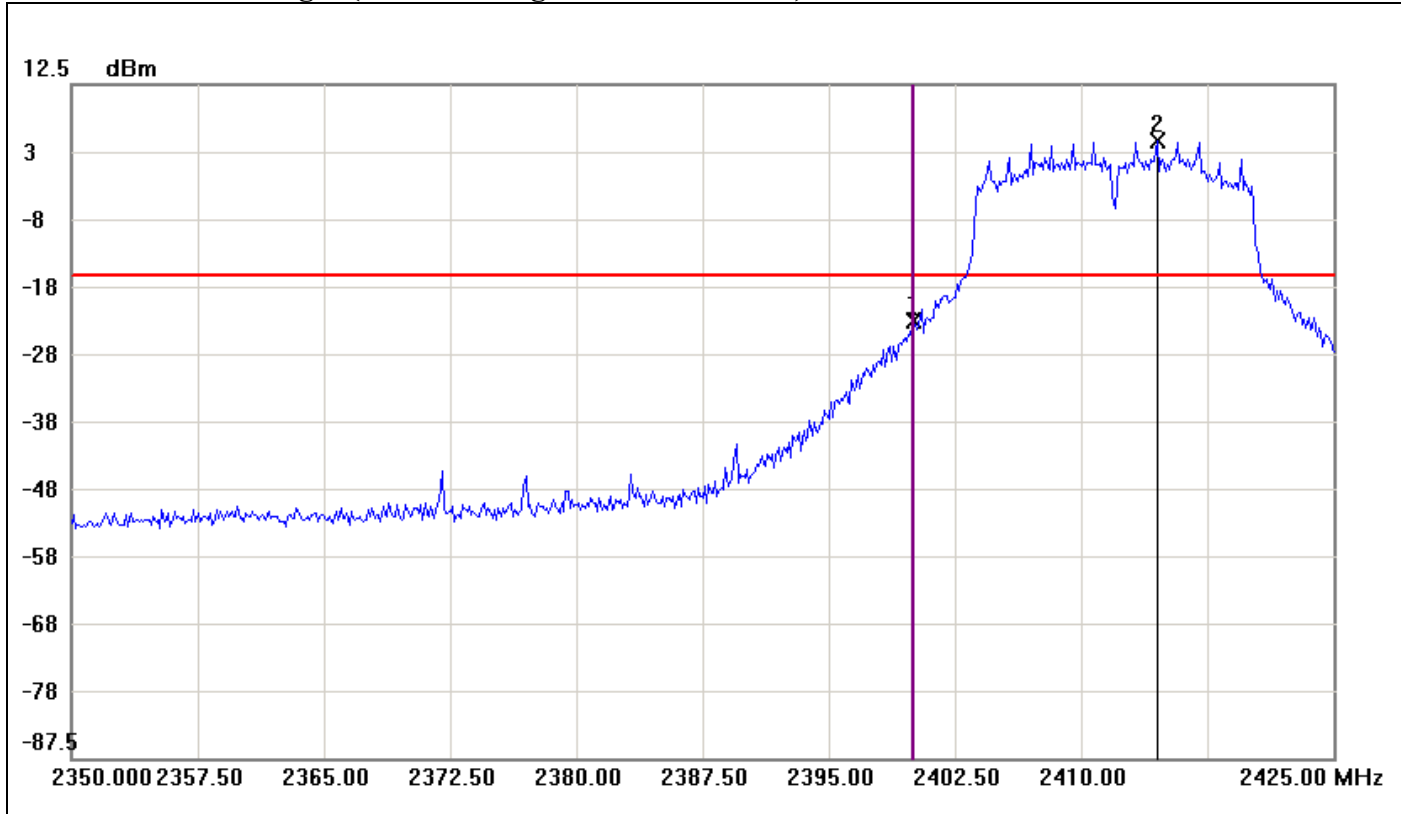


Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.471 00 GHz	9.14 dBm
2	(1)	Freq	2.488 00 GHz	-24.77 dBm





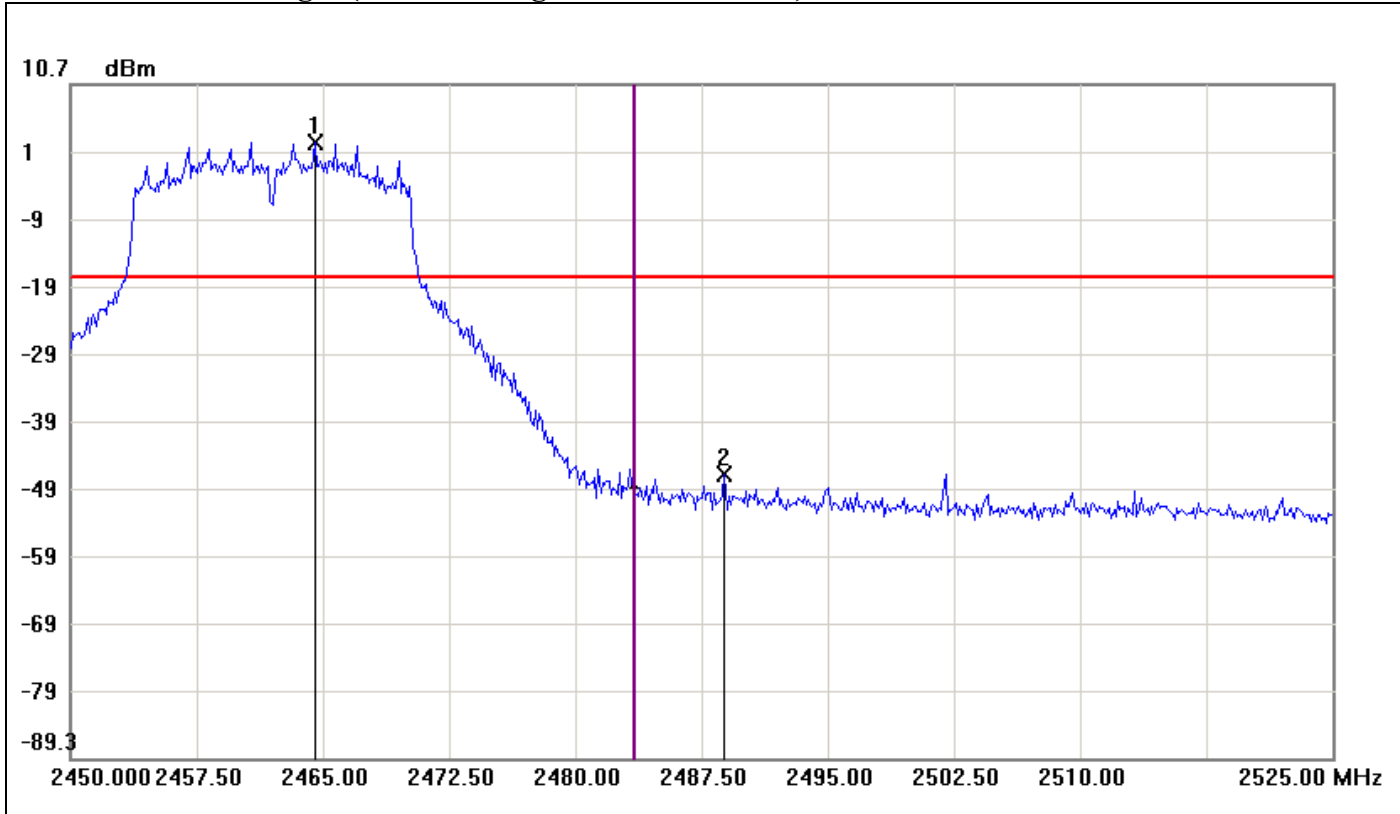
Conducted Band Edges (IEEE 802.11g mode / 2412 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2400.0000	-22.74	-15.96	-6.78
2	2414.5000	4.04	-15.96	20.00



Conducted Band Edges (IEEE 802.11g mode / 2462 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2464.5000	2.18	-17.82	20.00
2	2488.8750	-47.11	-17.82	-29.29



### Conducted Band Edges (IEEE 802.11g mode / 2467 MHz)

Agilent

R T

Mkr2 2.483 50 GHz  
-40.80 dBm



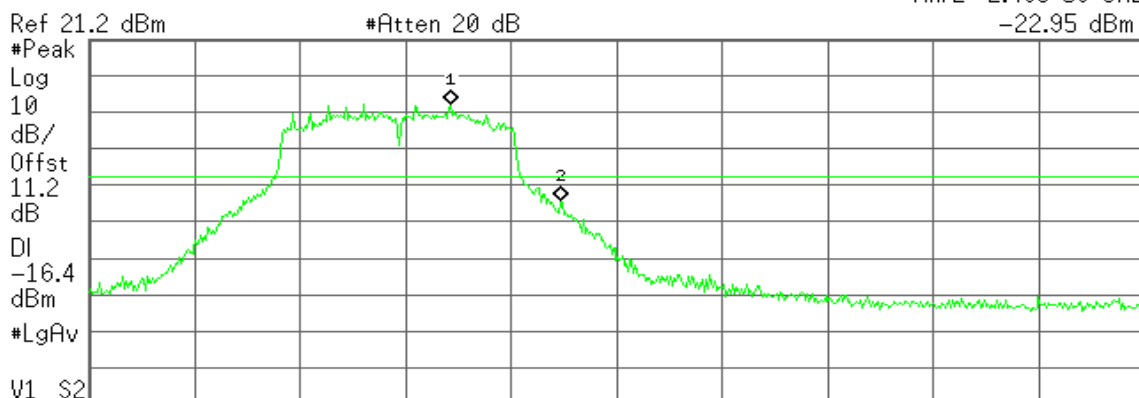
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.469 50 GHz	3.75 dBm
2	(1)	Freq	2.483 50 GHz	-40.80 dBm

### Conducted Band Edges (IEEE 802.11g mode / 2472 MHz)

Agilent

R T

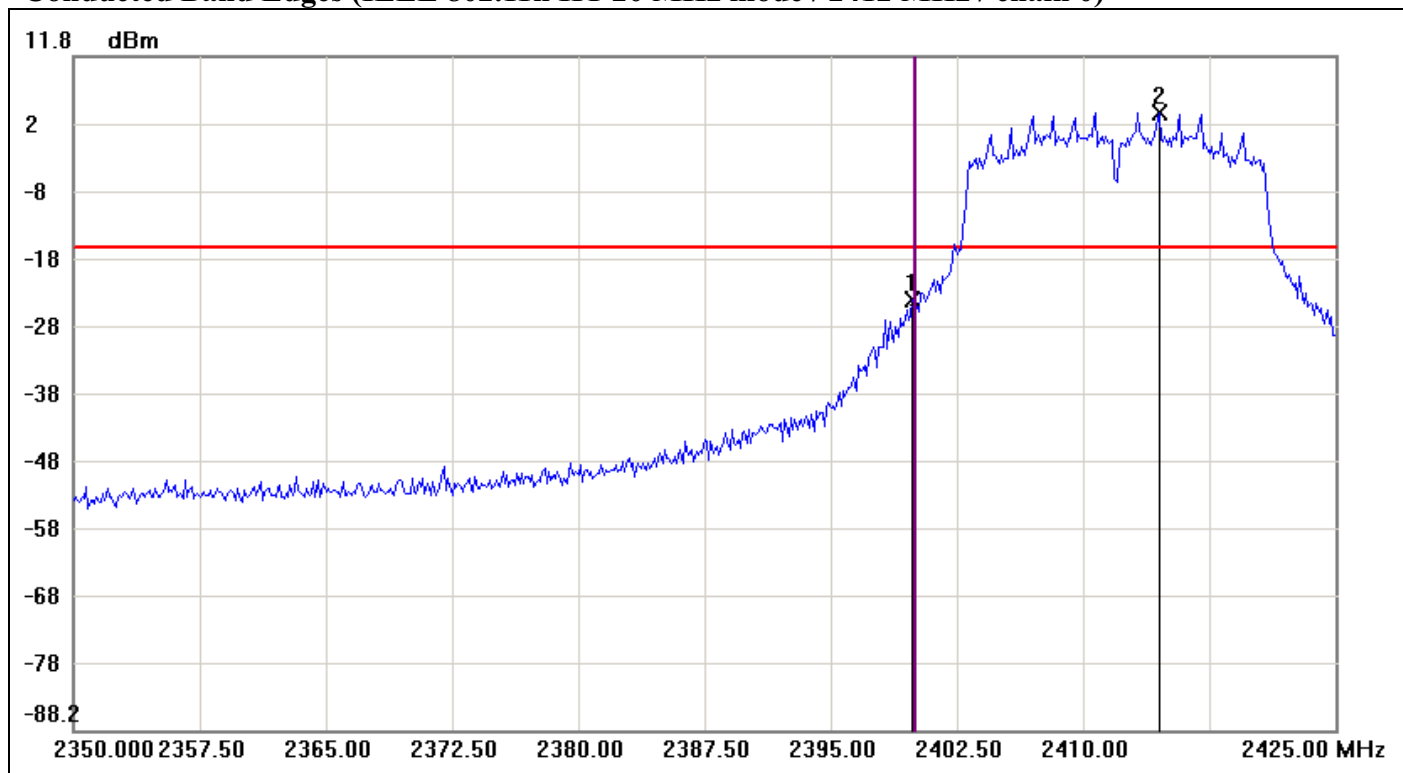
Mkr2 2.483 50 GHz  
-22.95 dBm



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.475 75 GHz	3.60 dBm
2	(1)	Freq	2.483 50 GHz	-22.95 dBm



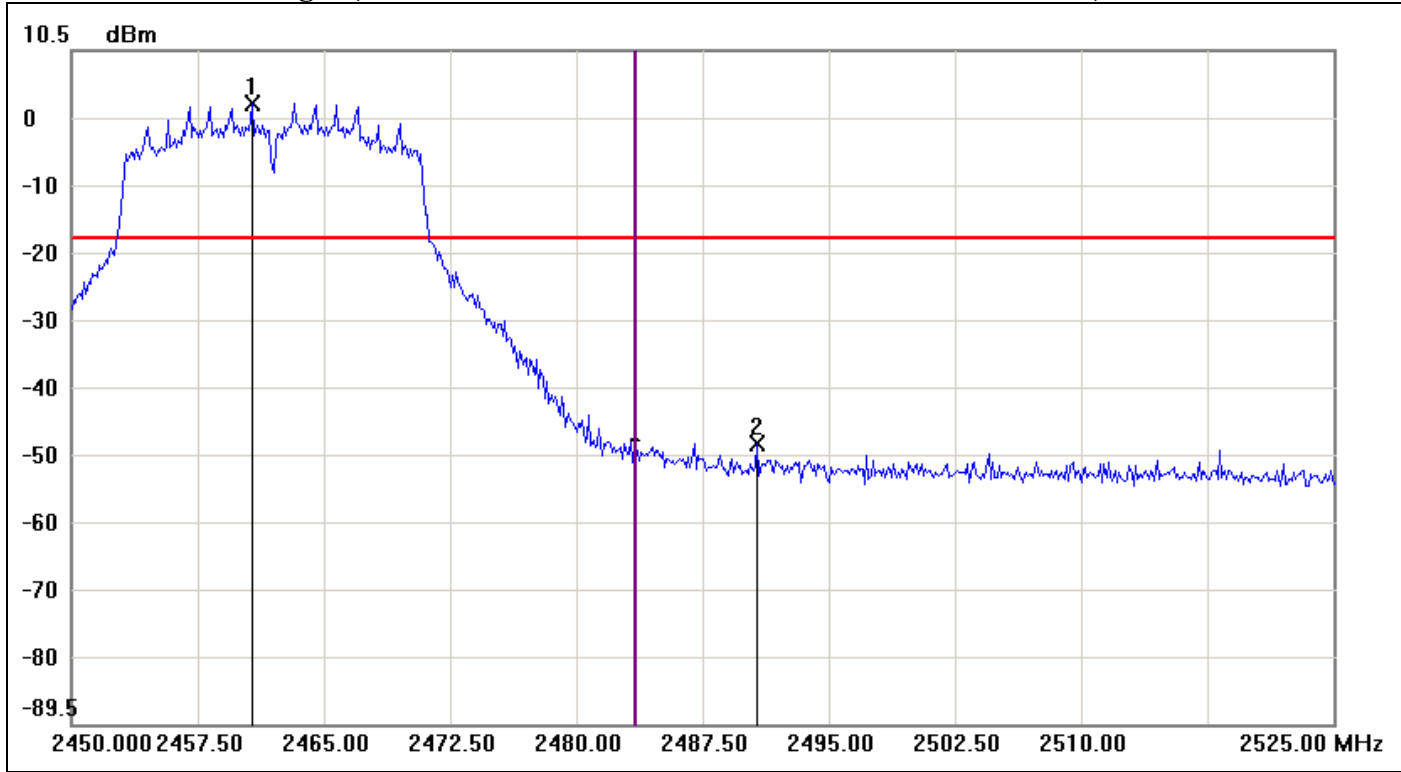
**Conducted Band Edges (IEEE 802.11n HT 20 MHz mode / 2412 MHz / chain 0)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.8750	-24.33	-16.50	-7.83
2	2414.5000	3.50	-16.50	20.00



**Conducted Band Edges (IEEE 802.11n HT 20 MHz mode / 2462 MHz / chain 0)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2460.7500	2.66	-17.34	20.00
2	2490.7500	-47.87	-17.34	-30.53



### Conducted Band Edges (IEEE 802.11n HT 20 MHz mode / 2467MHz / chain 0)

Agilent

R T

Mkr2 2.486 88 GHz  
-41.57 dBm



Start 2.450 00 GHz Stop 2.525 00 GHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 7.2 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.468 25 GHz	2.65 dBm
2	(1)	Freq	2.486 88 GHz	-41.57 dBm

### Conducted Band Edges (IEEE 802.11n HT 20 MHz mode / 2472MHz / chain 0)

Agilent

R T

Mkr2 2.483 50 GHz  
-28.31 dBm

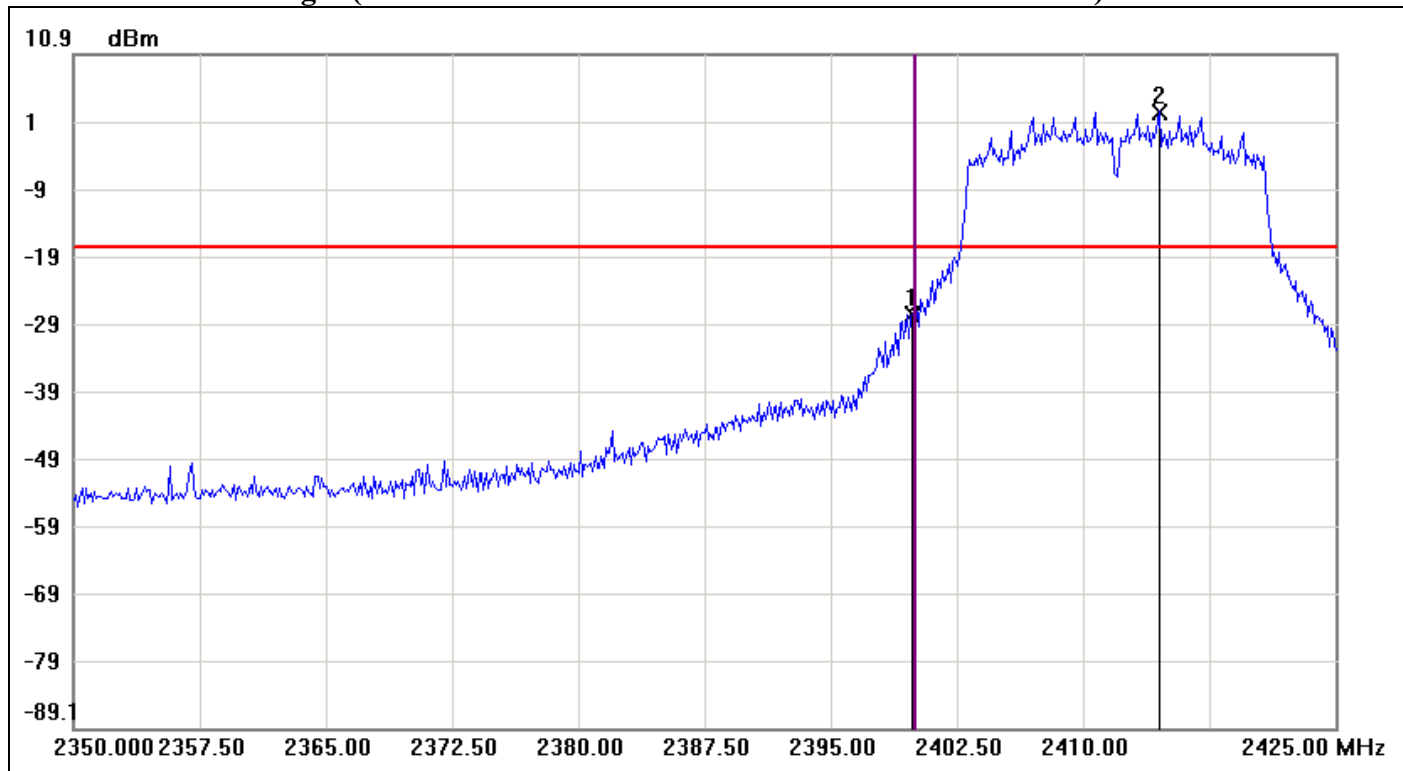


Start 2.450 00 GHz Stop 2.525 00 GHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 7.2 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.478 75 GHz	2.23 dBm
2	(1)	Freq	2.483 50 GHz	-28.31 dBm



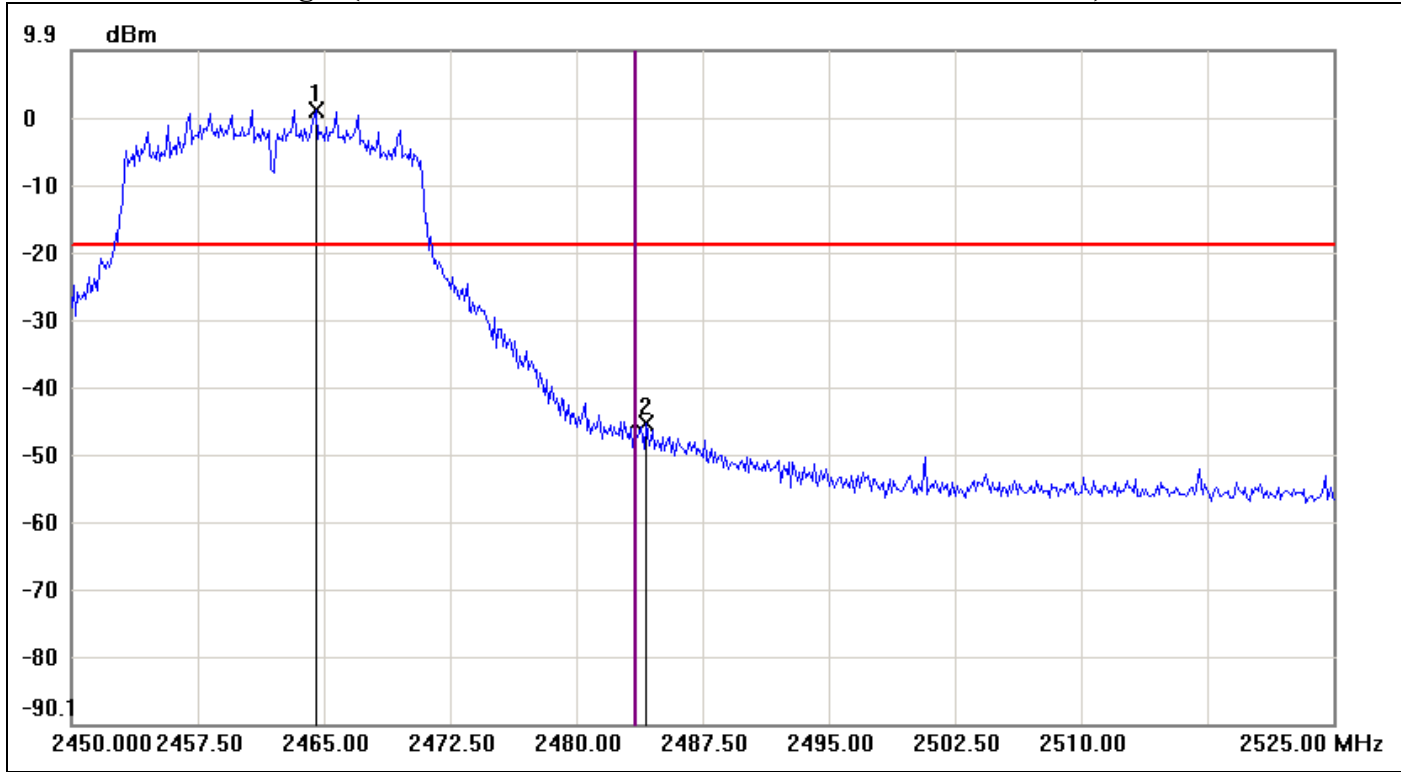
**Conducted Band Edges (IEEE 802.11n HT 20 MHz mode / 2412 MHz / chain 1)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.8750	-27.71	-17.56	-10.15
2	2414.5000	2.44	-17.56	20.00



**Conducted Band Edges (IEEE 802.11n HT 20 MHz mode / 2462 MHz / chain 1)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2464.5000	1.13	-18.87	20.00
2	2484.1250	-45.58	-18.87	-26.71



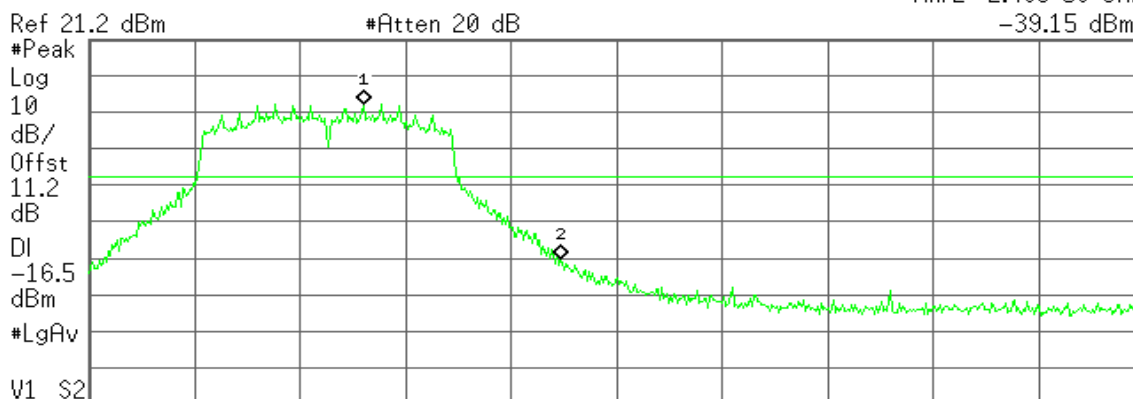


### Conducted Band Edges (IEEE 802.11n HT 20 MHz mode / 2467MHz / chain 1)

Agilent

R T

Mkr2 2.483 50 GHz  
-39.15 dBm



Start 2.450 00 GHz Stop 2.525 00 GHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 7.2 ms (601 pts)

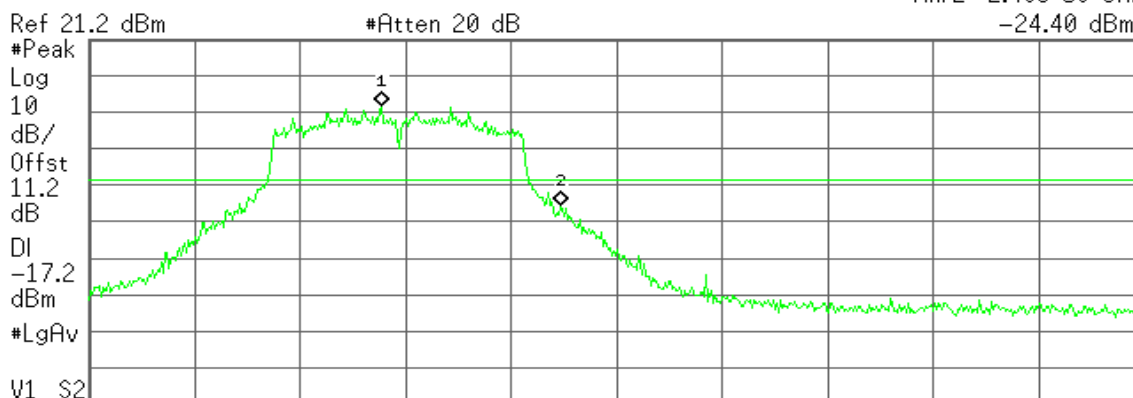
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.469 50 GHz	3.48 dBm
2	(1)	Freq	2.483 50 GHz	-39.15 dBm

### Conducted Band Edges (IEEE 802.11n HT 20 MHz mode / 2472MHz / chain 1)

Agilent

R T

Mkr2 2.483 50 GHz  
-24.40 dBm

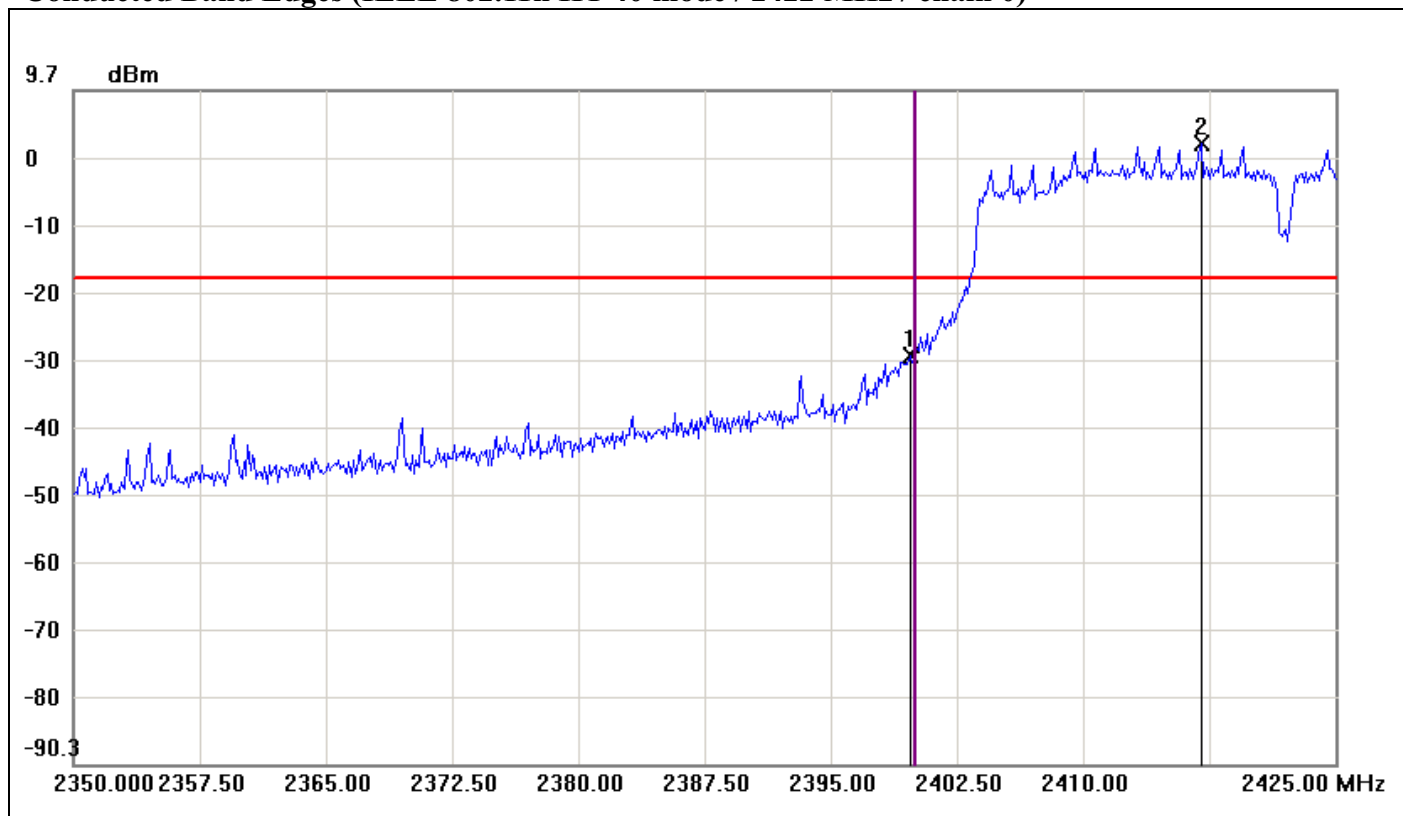


Start 2.450 00 GHz Stop 2.525 00 GHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 7.2 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.470 75 GHz	2.83 dBm
2	(1)	Freq	2.483 50 GHz	-24.40 dBm



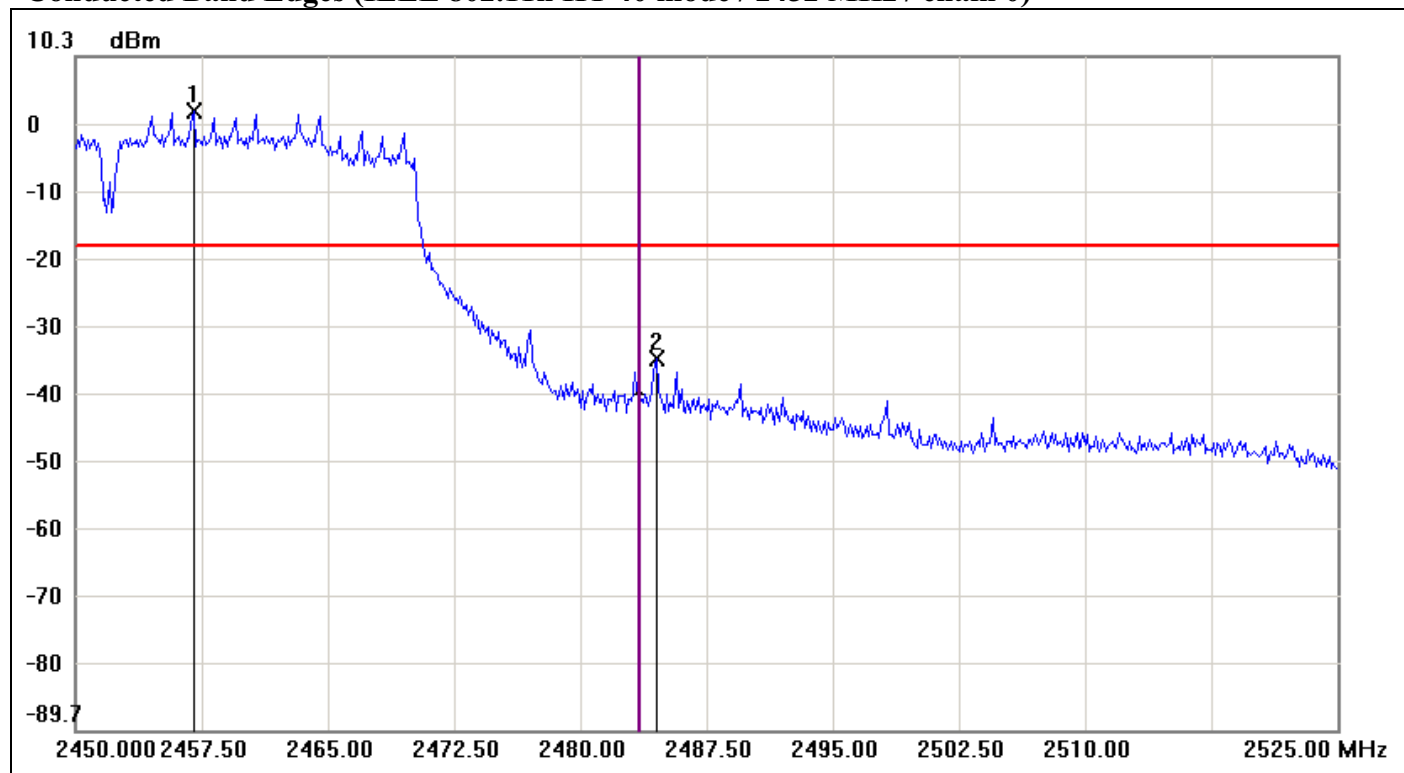
**Conducted Band Edges (IEEE 802.11n HT 40 mode / 2422 MHz / chain 0)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.7500	-29.71	-18.26	-11.45
2	2417.0000	1.74	-18.26	20.00



**Conducted Band Edges (IEEE 802.11n HT 40 mode / 2452 MHz / chain 0)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2457.0000	2.13	-17.87	20.00
2	2484.5000	-34.53	-17.87	-16.66

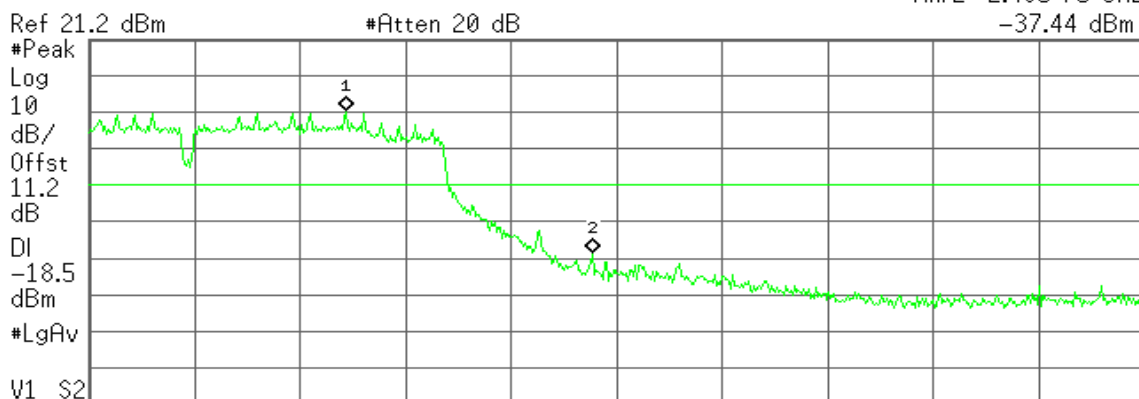


### Conducted Band Edges (IEEE 802.11n HT 40 mode / 2467MHz / chain 0)

Agilent

R T

Mkr2 2.485 75 GHz  
-37.44 dBm



Start 2.450 00 GHz Stop 2.525 00 GHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 7.2 ms (601 pts)

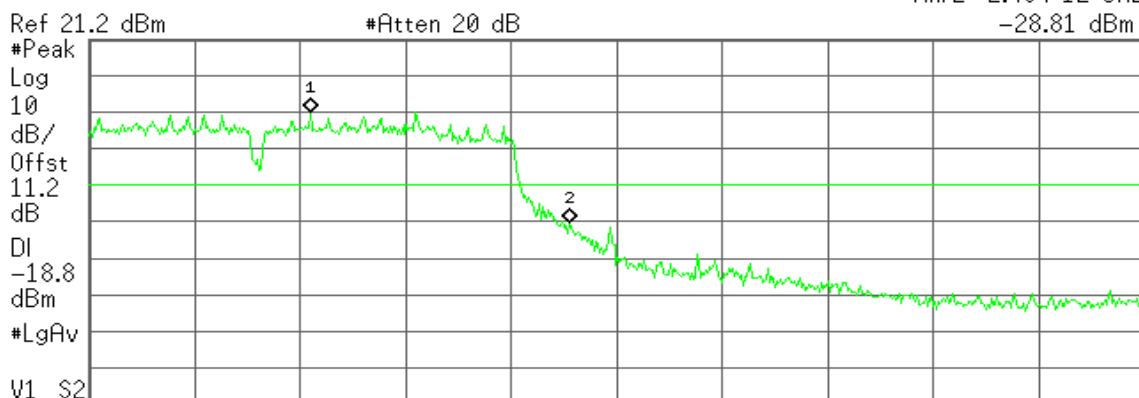
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.468 25 GHz	1.52 dBm
2	(1)	Freq	2.485 75 GHz	-37.44 dBm

### Conducted Band Edges (IEEE 802.11n HT 40 mode / 2472MHz / chain 0)

Agilent

R T

Mkr2 2.484 12 GHz  
-28.81 dBm

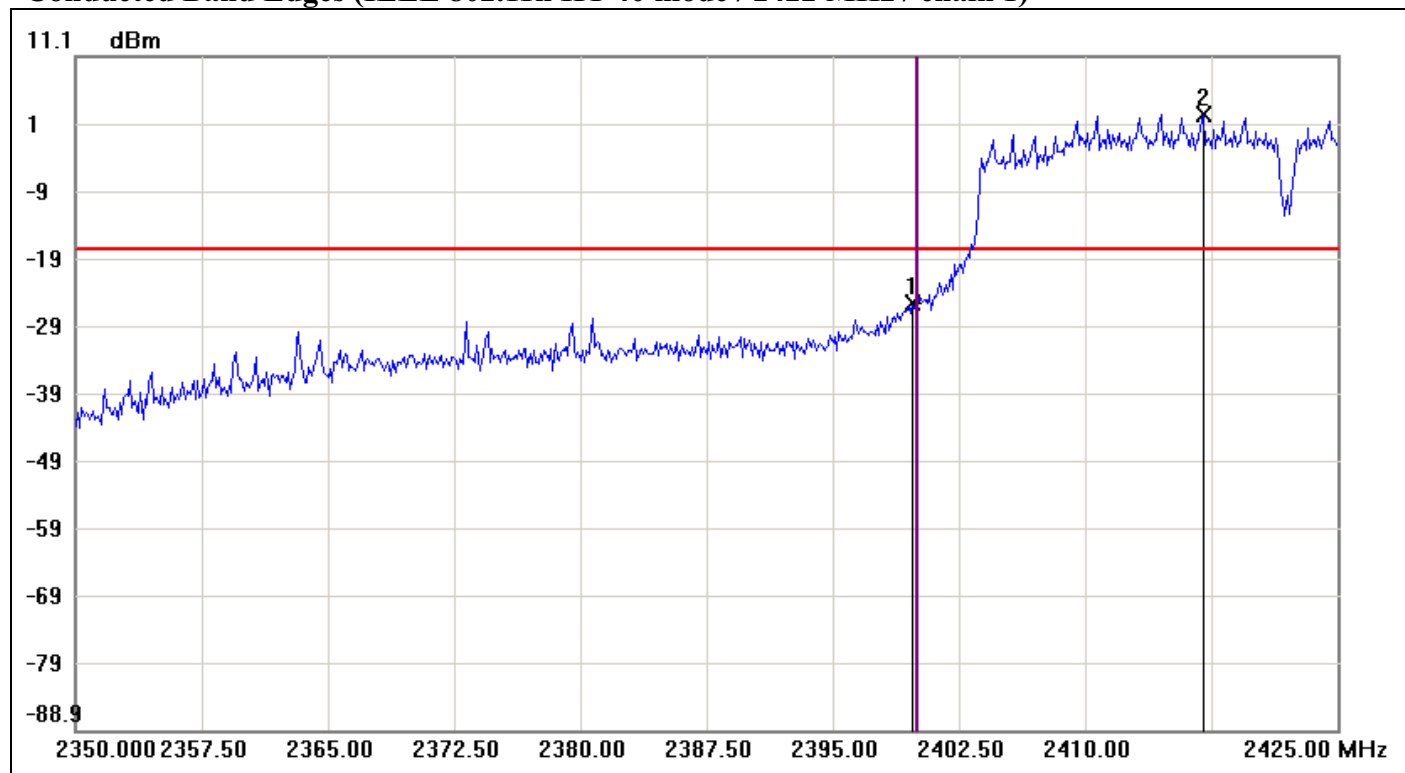


Start 2.450 00 GHz Stop 2.525 00 GHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 7.2 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.465 75 GHz	1.23 dBm
2	(1)	Freq	2.484 12 GHz	-28.81 dBm



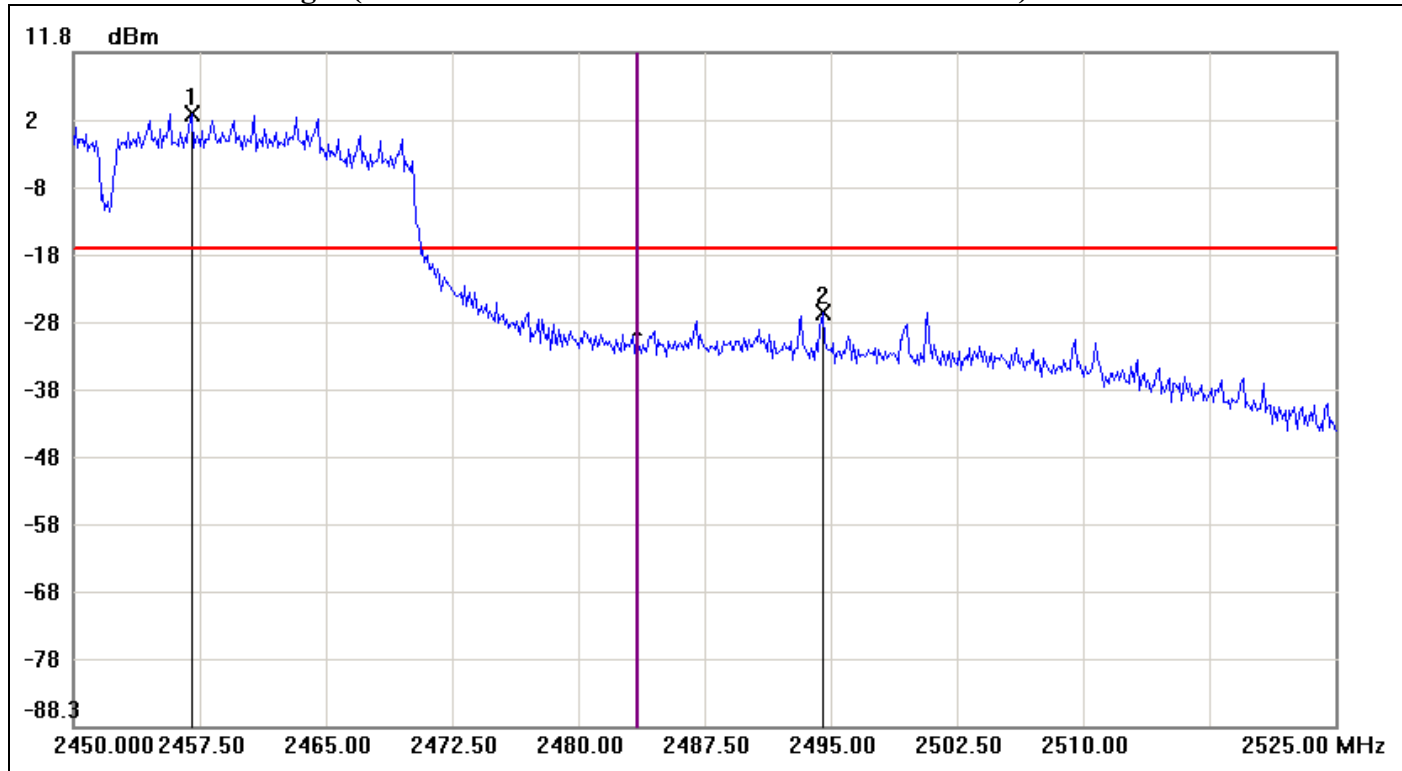
Conducted Band Edges (IEEE 802.11n HT 40 mode / 2422 MHz / chain 1)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.7500	-25.60	-17.56	-8.04
2	2417.0000	2.44	-17.56	20.00



Conducted Band Edges (IEEE 802.11n HT 40 mode / 2452 MHz / chain 1)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2457.0000	2.57	-17.43	20.00
2	2494.5000	-26.92	-17.43	-9.49

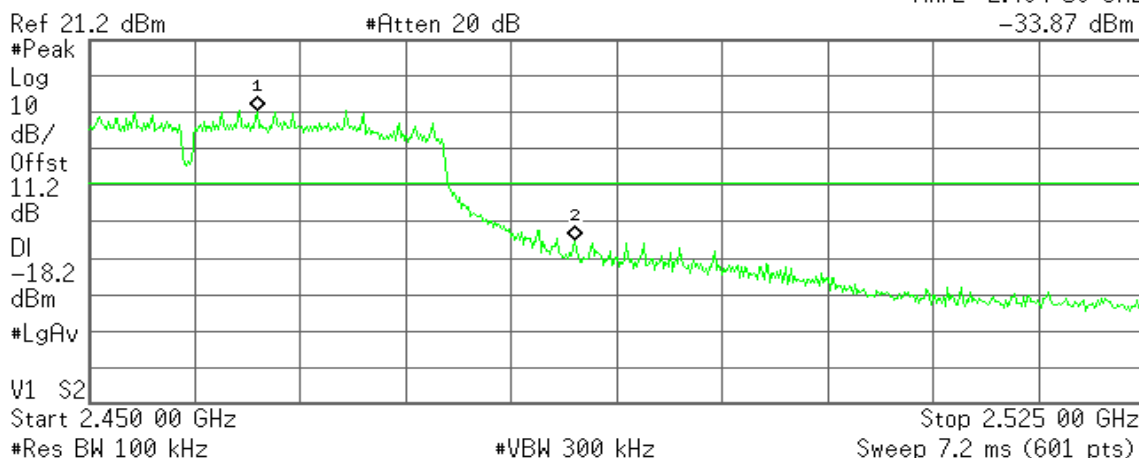


### Conducted Band Edges (IEEE 802.11n HT 40 mode / 2467MHz / chain 1)

Agilent

R T

Mkr2 2.484 50 GHz  
-33.87 dBm



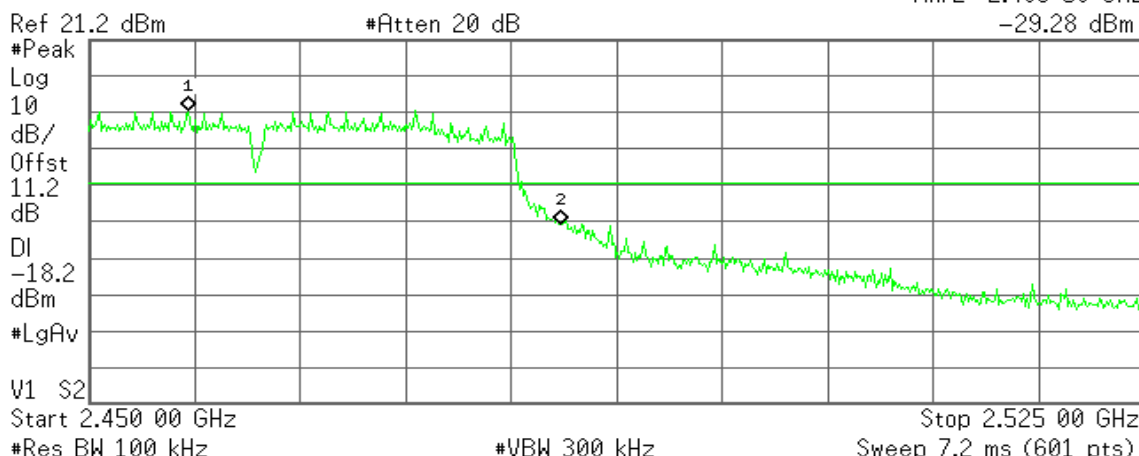
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.462 00 GHz	1.80 dBm
2	(1)	Freq	2.484 50 GHz	-33.87 dBm

### Conducted Band Edges (IEEE 802.11n HT 40 mode / 2472MHz / chain 1)

Agilent

R T

Mkr2 2.483 50 GHz  
-29.28 dBm



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.457 00 GHz	1.77 dBm
2	(1)	Freq	2.483 50 GHz	-29.28 dBm

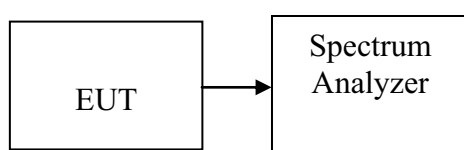


## 7.5 PEAK POWER SPECTRAL DENSITY

### LIMIT

1. According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
2. According to §15.247(f), the digital modulation operation of the hybrid system, with the frequency hopping turned off, shall comply with the power density requirements of paragraph (d) of this section.

### Test Configuration



### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. Set the RBW = 3 kHz, VBW = 10 kHz, span to 1.5 times the DTS bandwidth, Detector = peak, Trace mode = max hold, Sweep = auto couple. Use the peak marker function to determine the maximum amplitude level within the RBW.

### TEST RESULTS

*No non-compliance noted.*



**Test Data****Test mode: IEEE 802.11b mode**

Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
2412	-0.18	8.00	PASS
2437	-0.18		PASS
2462	-0.05		PASS
2467	2.55		PASS
2472	2.71		PASS

**Test mode: IEEE 802.11g mode**

Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
2412	-4.01	8.00	PASS
2437	-2.81		PASS
2462	-6.40		PASS
2467	-5.18		PASS
2472	-5.64		PASS

**Test mode: IEEE 802.11n HT 20 MHz mode**

Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
2412	-5.02	-6.45	-2.67	8.00	PASS
2437	-3.21	-3.29	-0.24		PASS
2462	-6.31	-6.45	-3.37		PASS
2467	-6.73	-5.19	-2.88		PASS
2472	-6.70	-5.20	-2.88		PASS

**nTest mode: IEEE 802.11n HT 40 MHz mode**

Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
2422	-6.72	-4.71	-2.59	8.00	PASS
2437	-7.68	-5.28	-3.31		PASS
2452	-6.67	-4.72	-2.58		PASS
2457	-7.72	-6.86	-4.26		PASS
2462	-8.32	-6.46	-4.28		PASS

**Remark:**

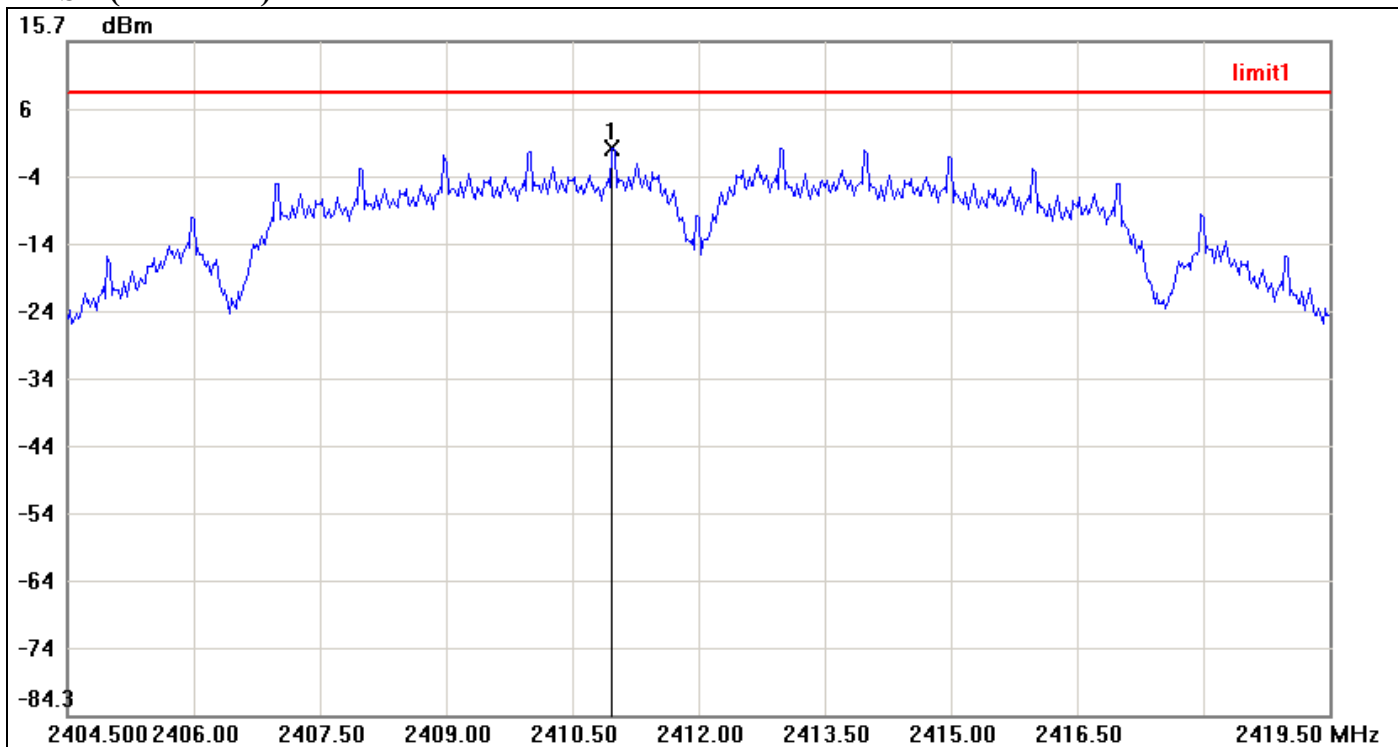
1. Total PPSD (dBm) =  $10 * \text{LOG}(10^{(\text{Chain 0 PPSD} / 10)} + 10^{(\text{Chain 1 PPSD} / 10)})$



**Test Plot**

**IEEE 802.11b mode**

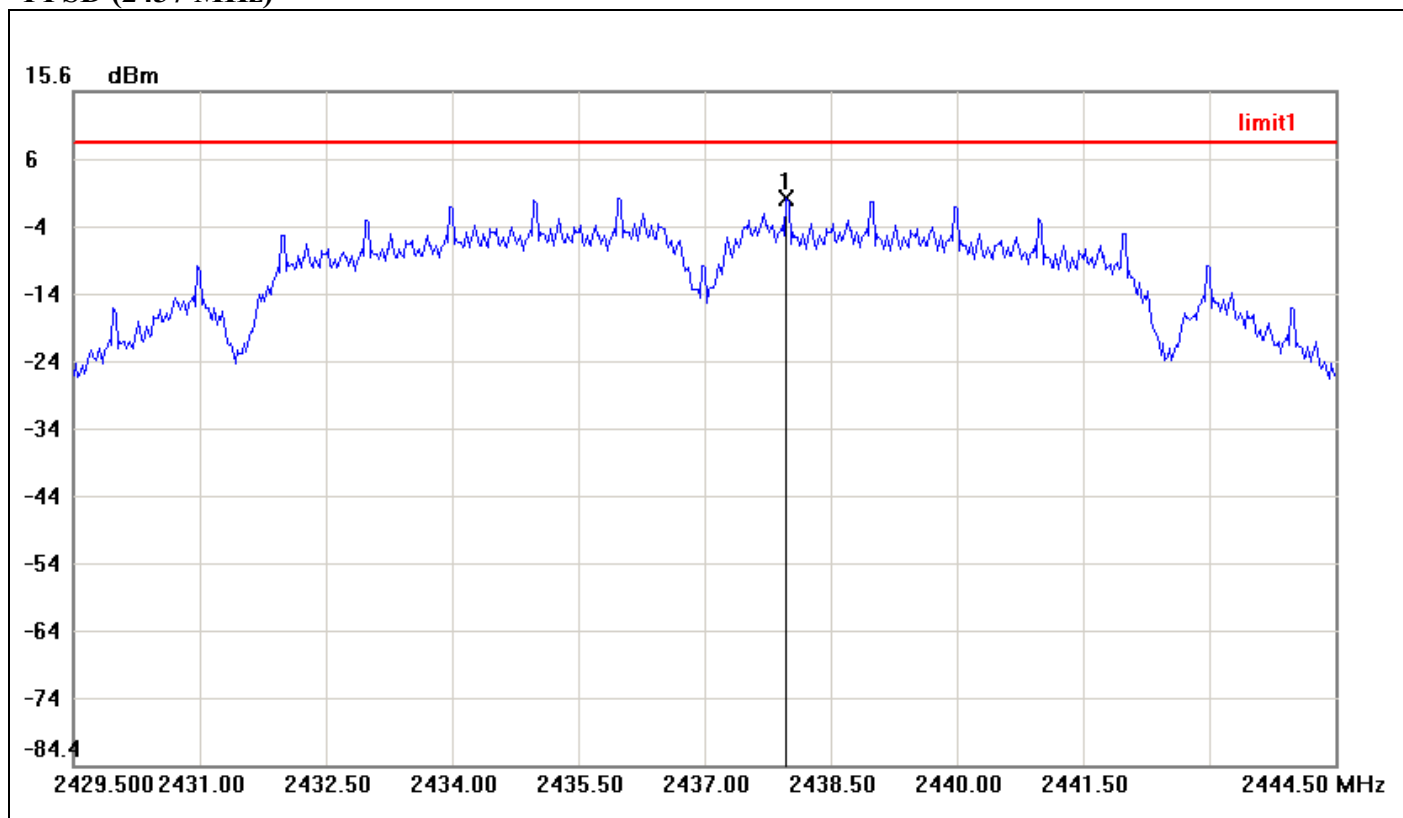
**PPSD (2412 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2410.9750	-0.18	8.00	-8.18



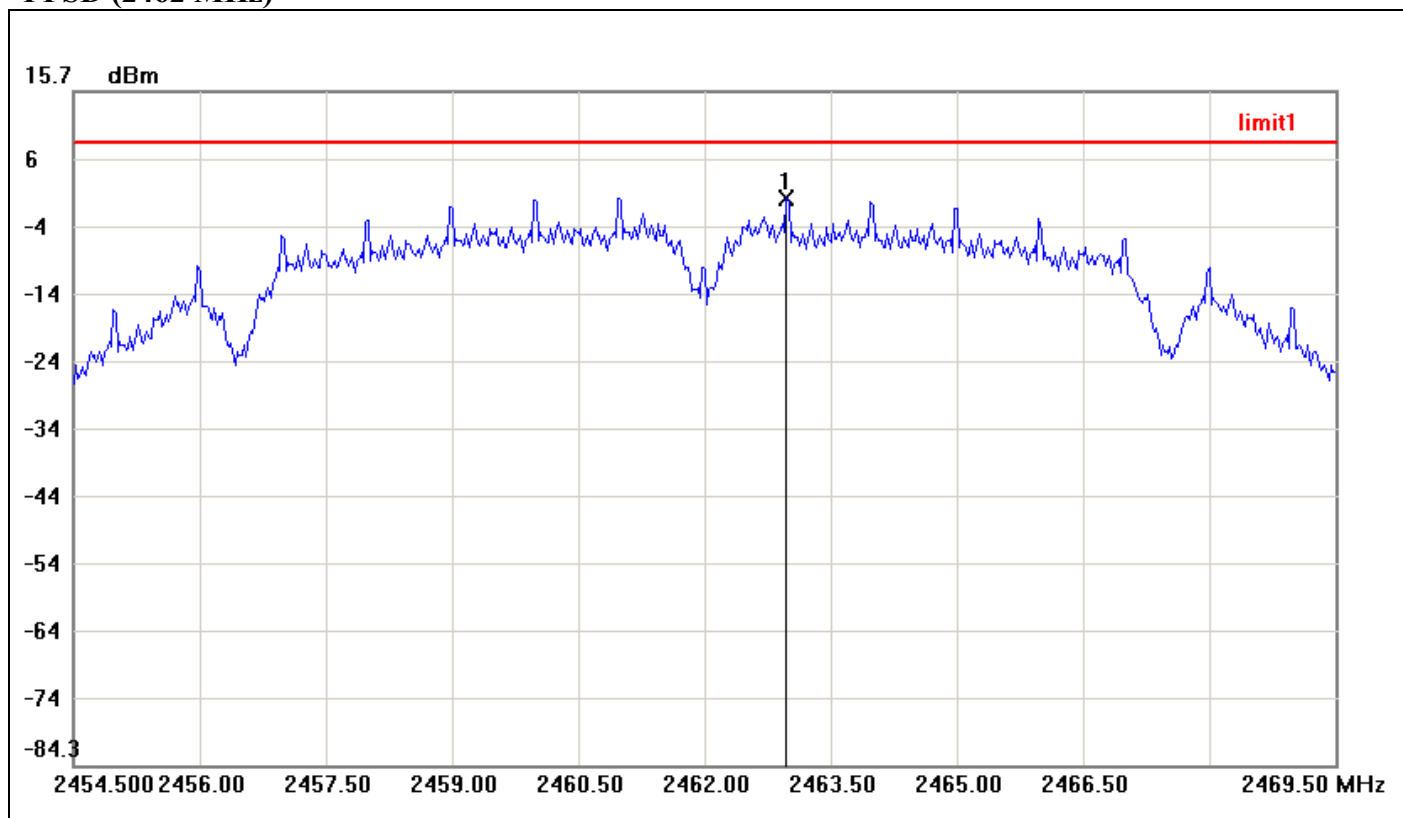
### PPSD (2437 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2437.9750	-0.18	8.00	-8.18



### PPSD (2462 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2462.9750	-0.05	8.00	-8.05

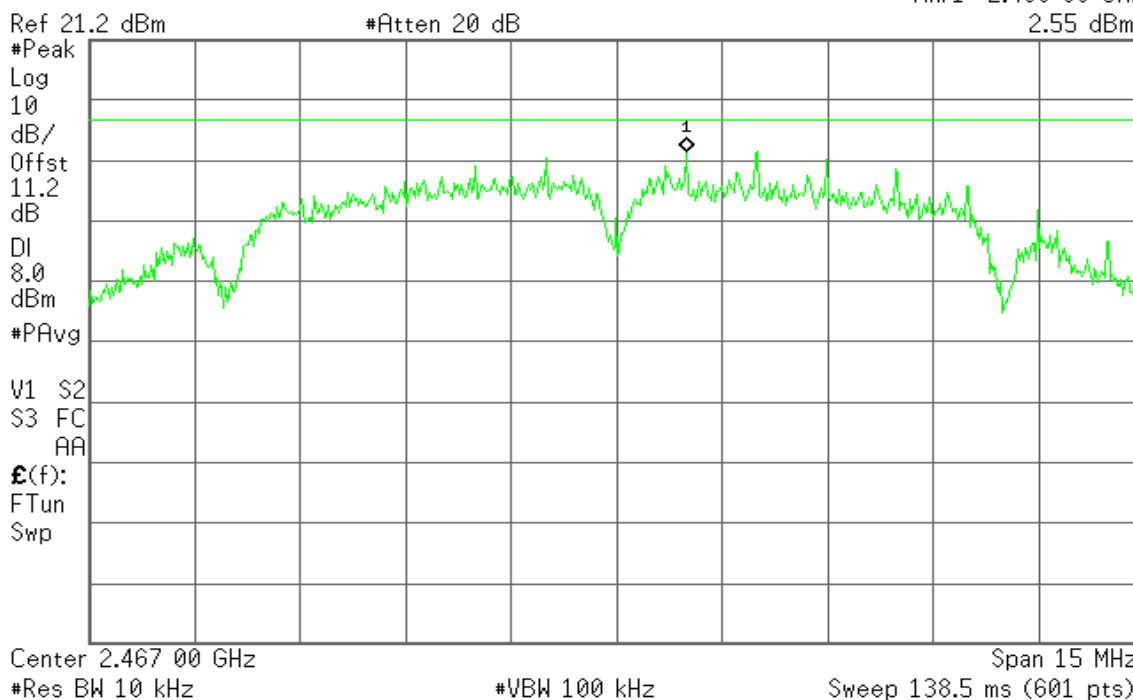


### PPSD (2467 MHz)

Agilent

R T

Mkr1 2.468 00 GHz  
2.55 dBm

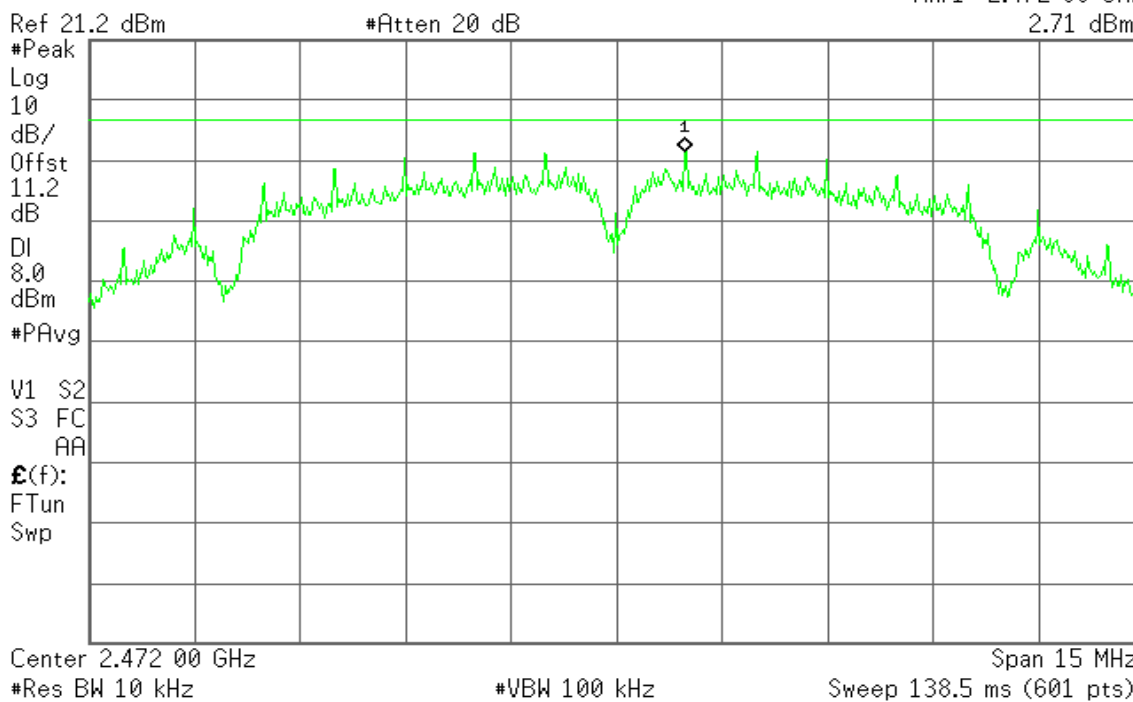


### PPSD (2472 MHz)

Agilent

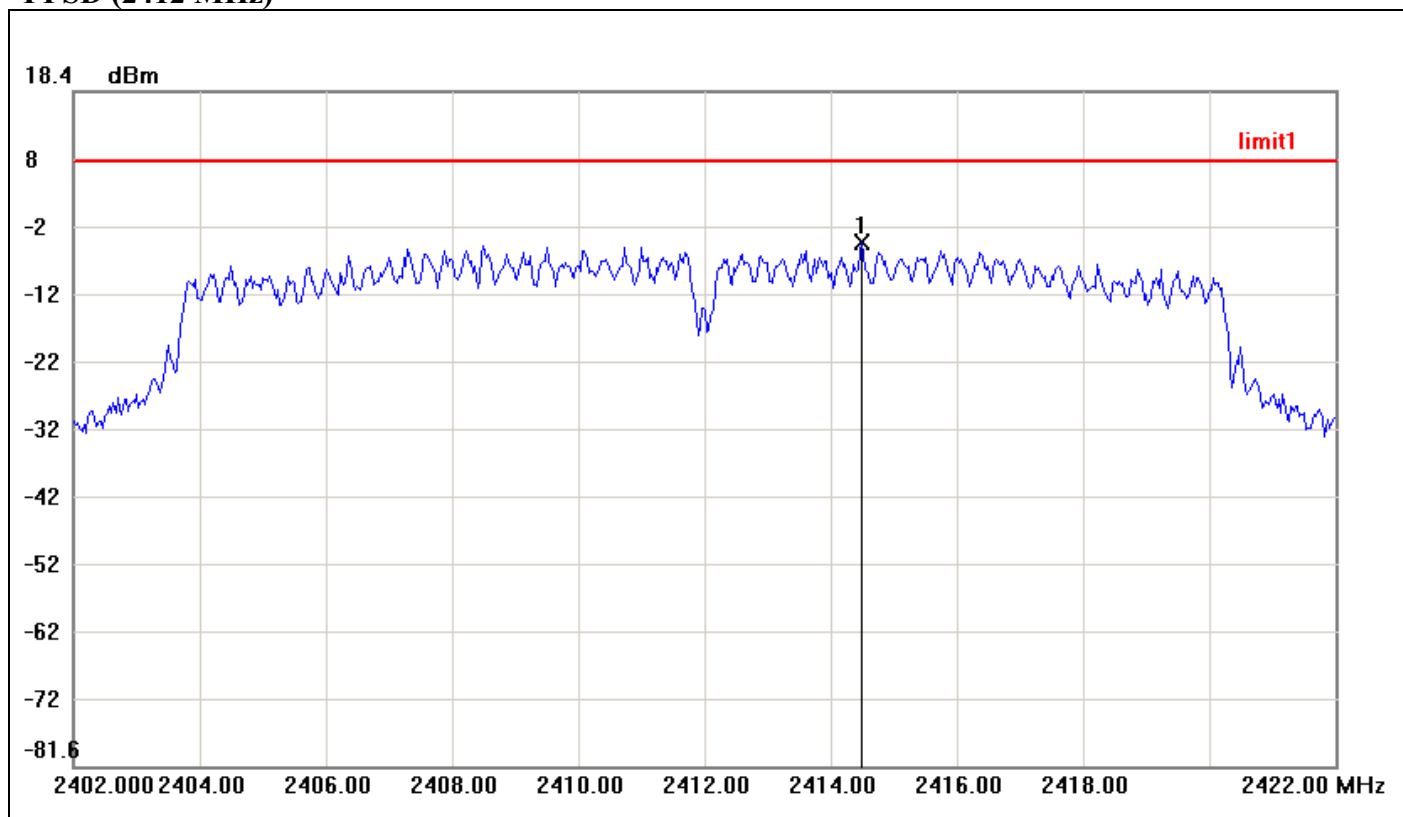
R T

Mkr1 2.472 98 GHz  
2.71 dBm





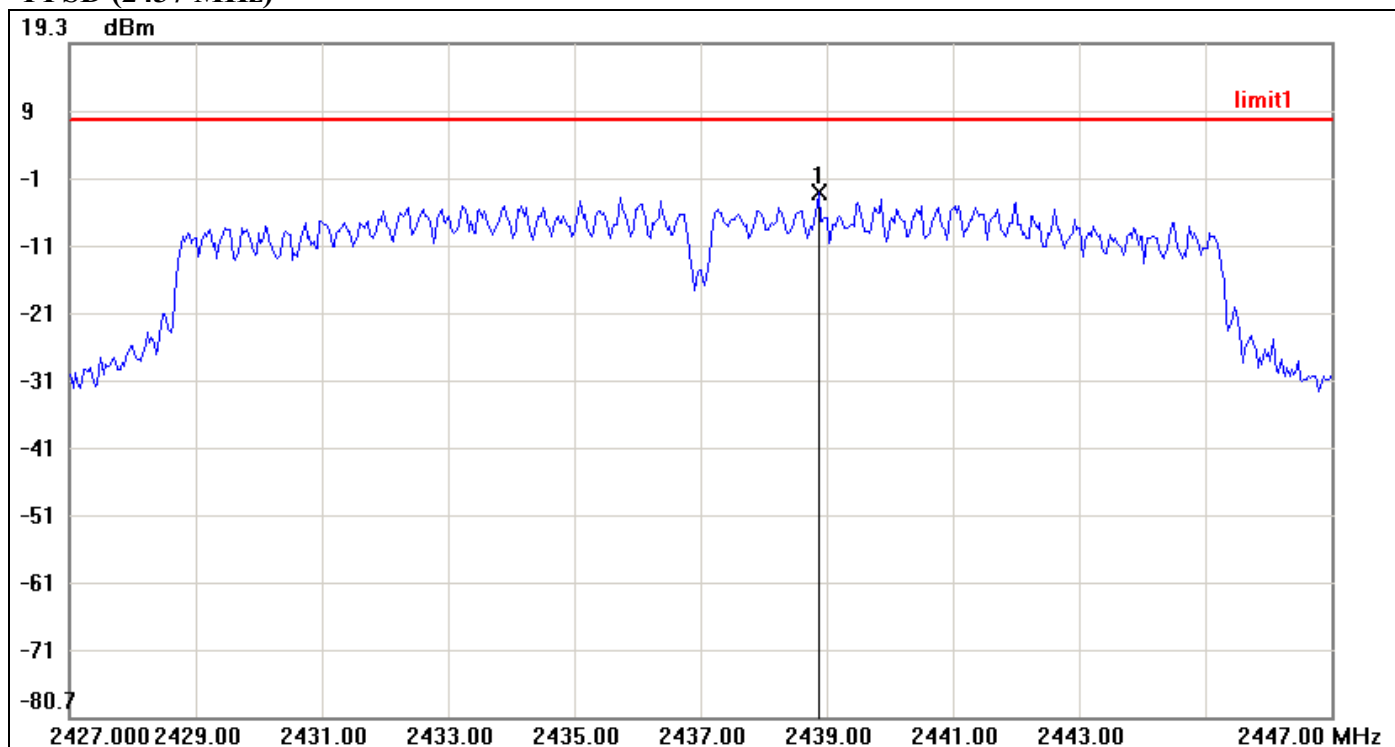
**IEEE 802.11g mode**  
**PPSD (2412 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2414.5000	-4.01	8.00	-12.01



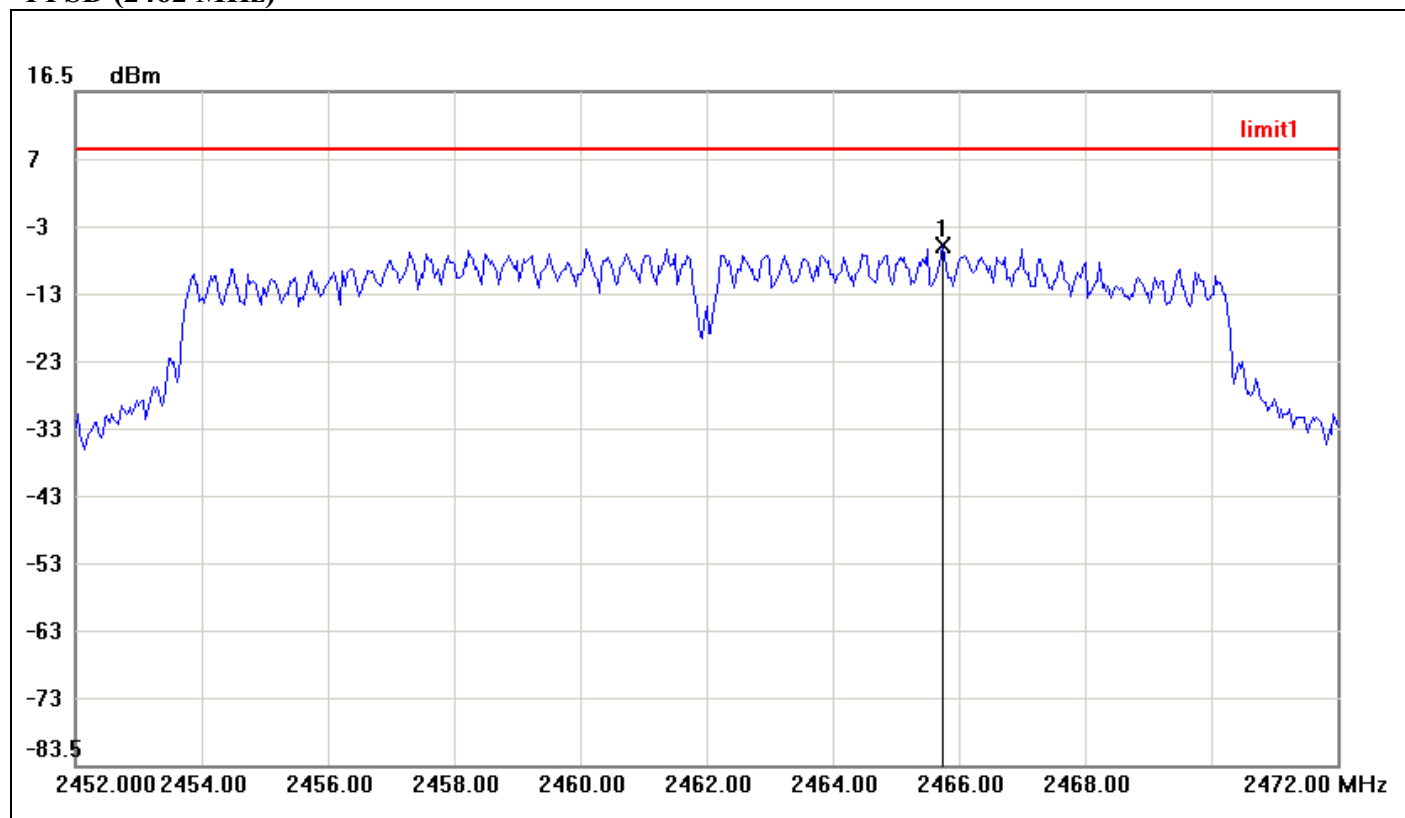
### PPSD (2437 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2438.8667	-2.81	8.00	-10.81



### PPSD (2462 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2465.7333	-6.40	8.00	-14.40



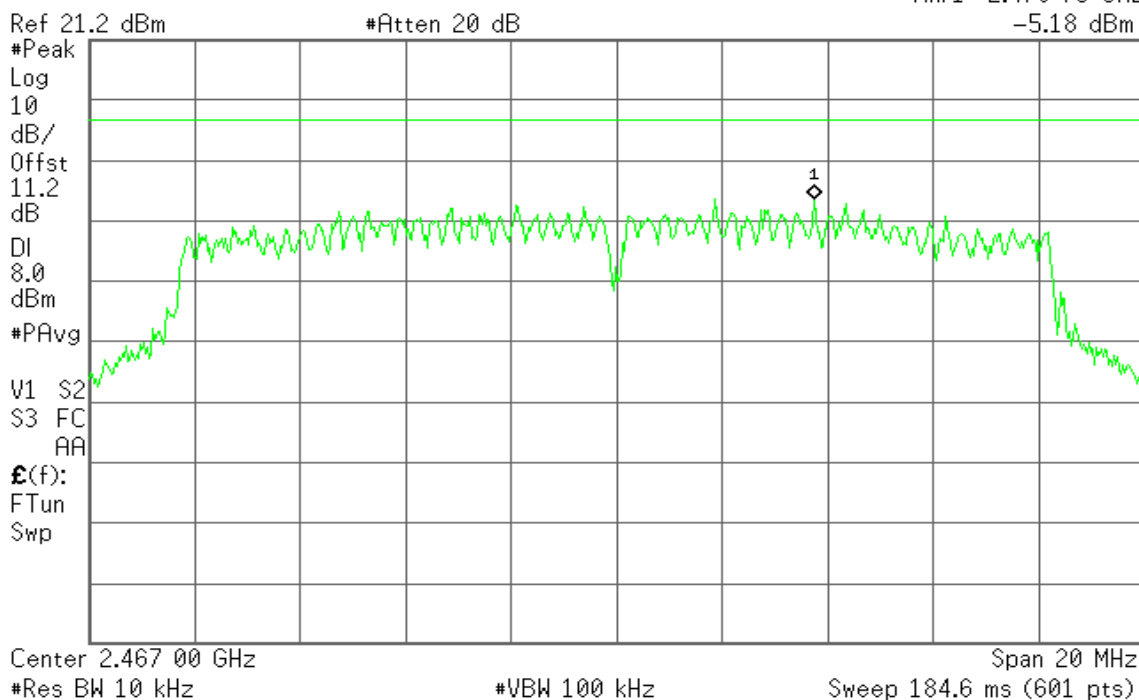


### PPSD (2467 MHz)

Agilent

R T

Mkr1 2.470 73 GHz  
-5.18 dBm

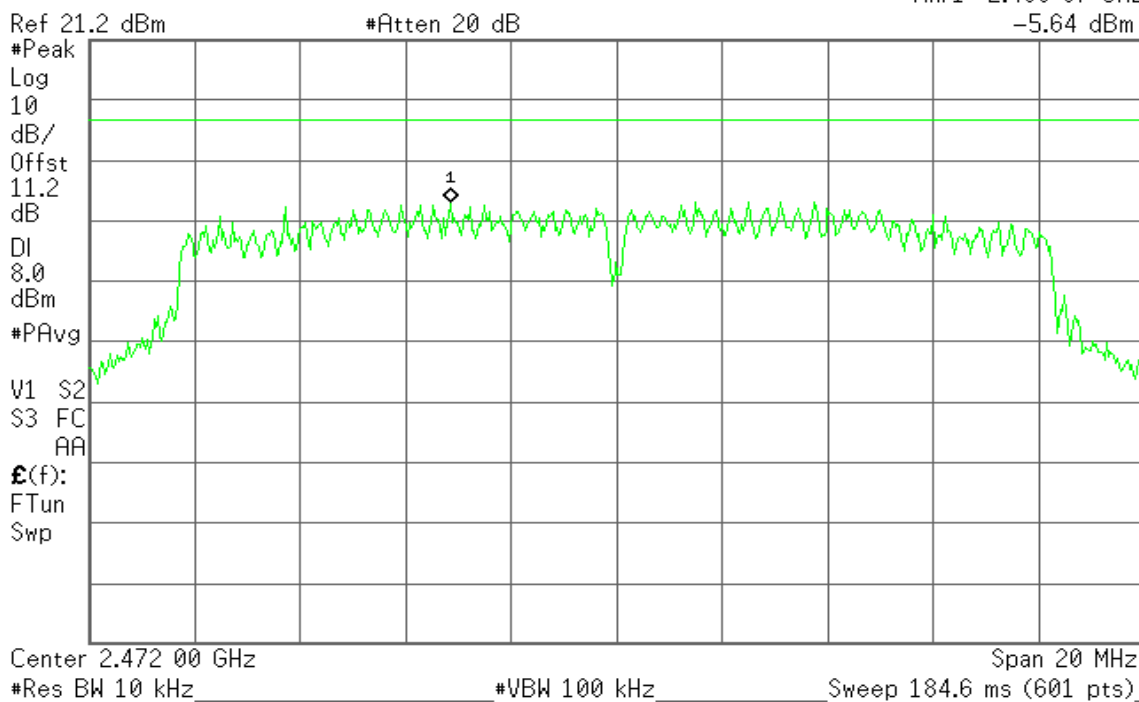


### PPSD (2472 MHz)

Agilent

R T

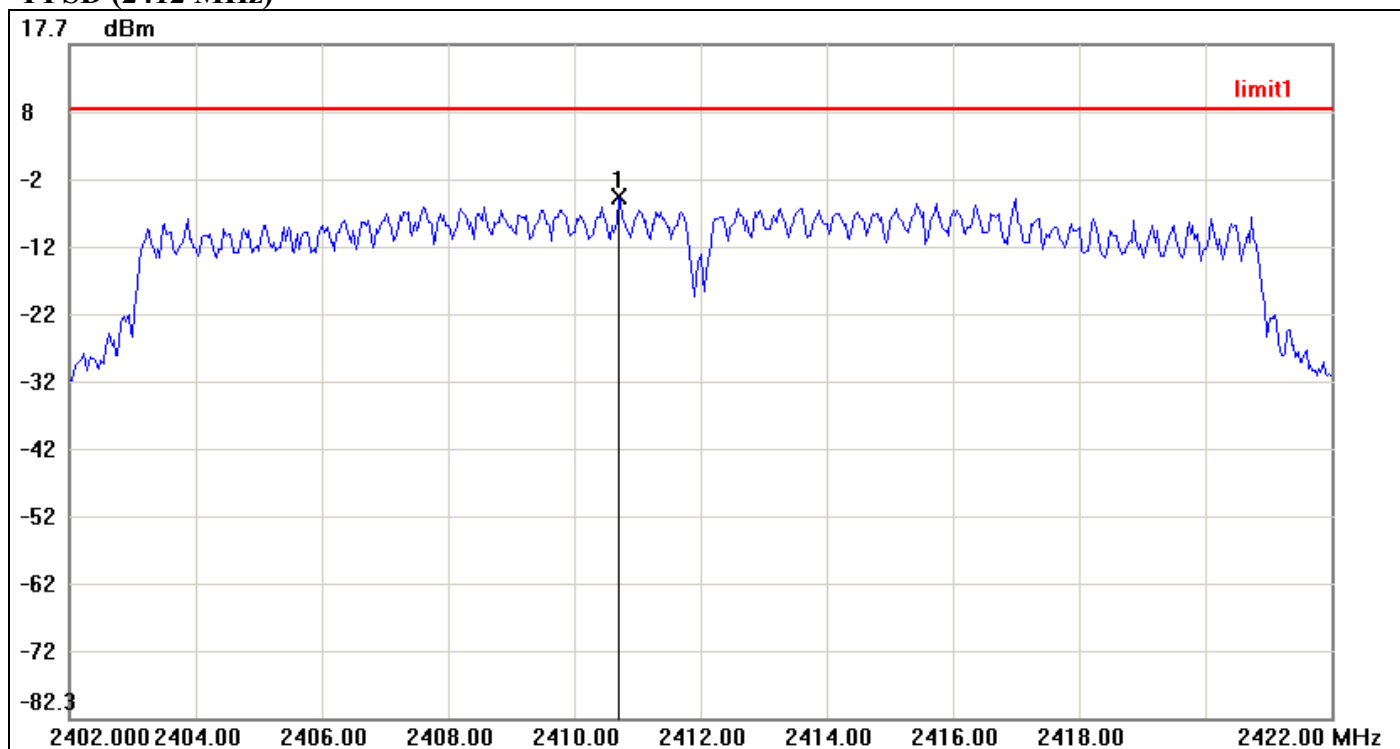
Mkr1 2.468 87 GHz  
-5.64 dBm





**IEEE 802.11n HT 20 MHz mode / Chain 0**

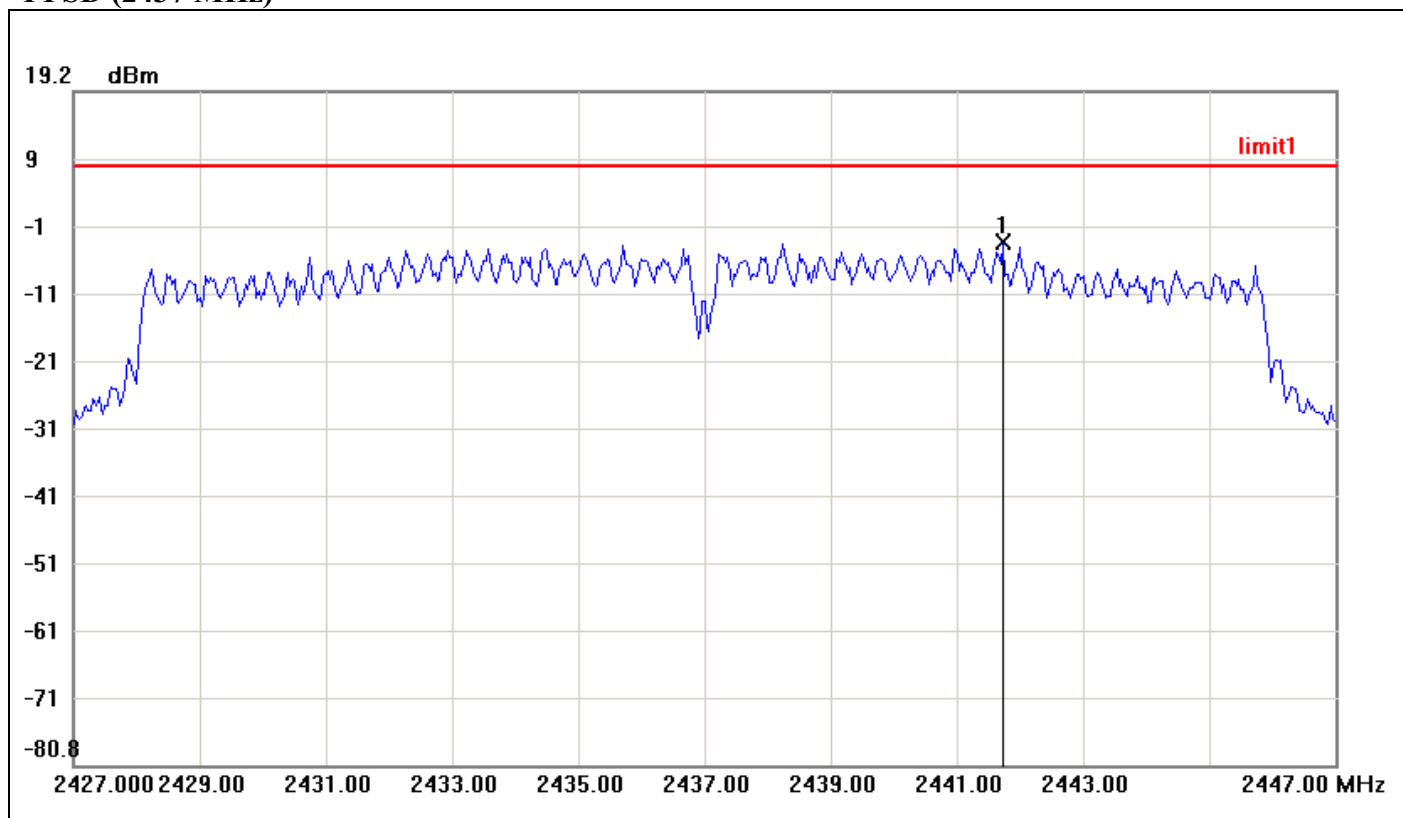
**PPSD (2412 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2410.7000	-5.02	8.00	-13.02



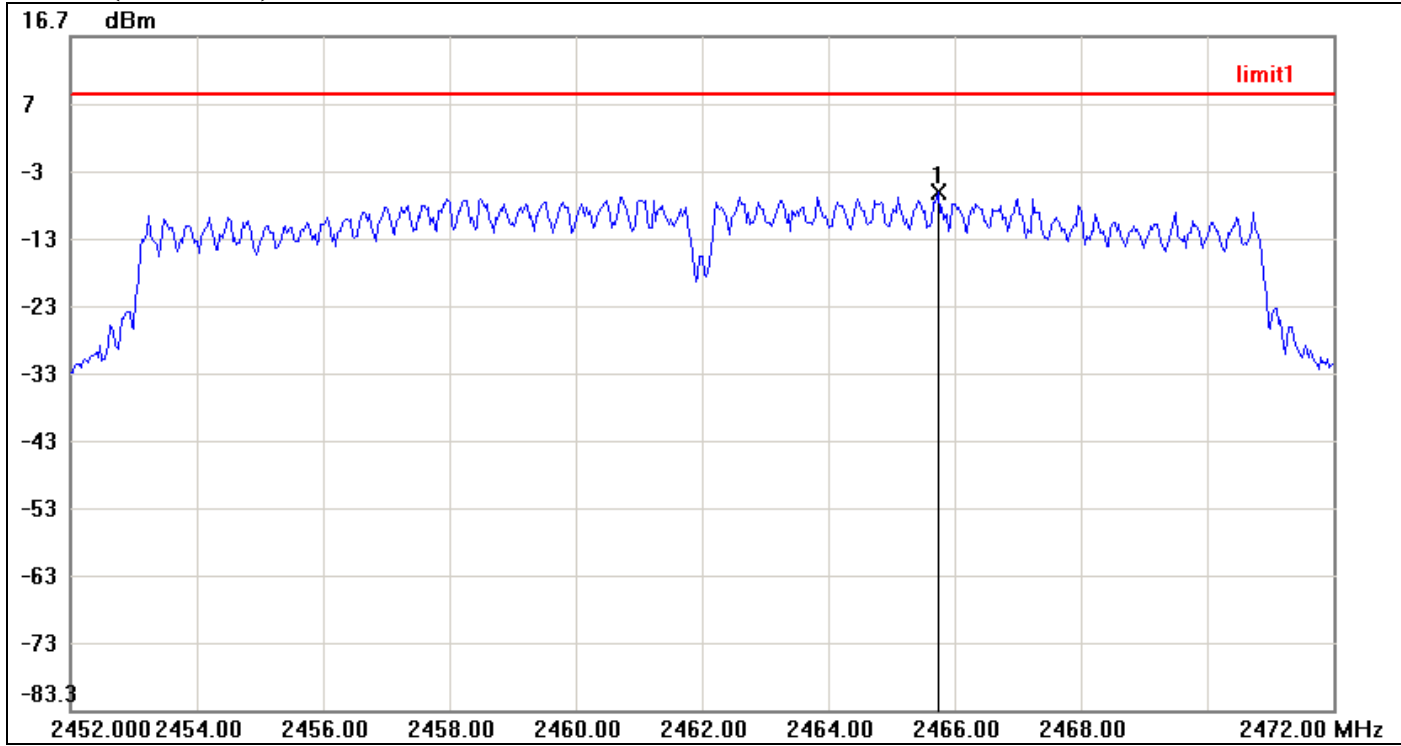
PPSD (2437 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2441.7333	-3.21	8.00	-11.21



PPSD (2462 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2465.7333	-6.31	8.00	-14.31

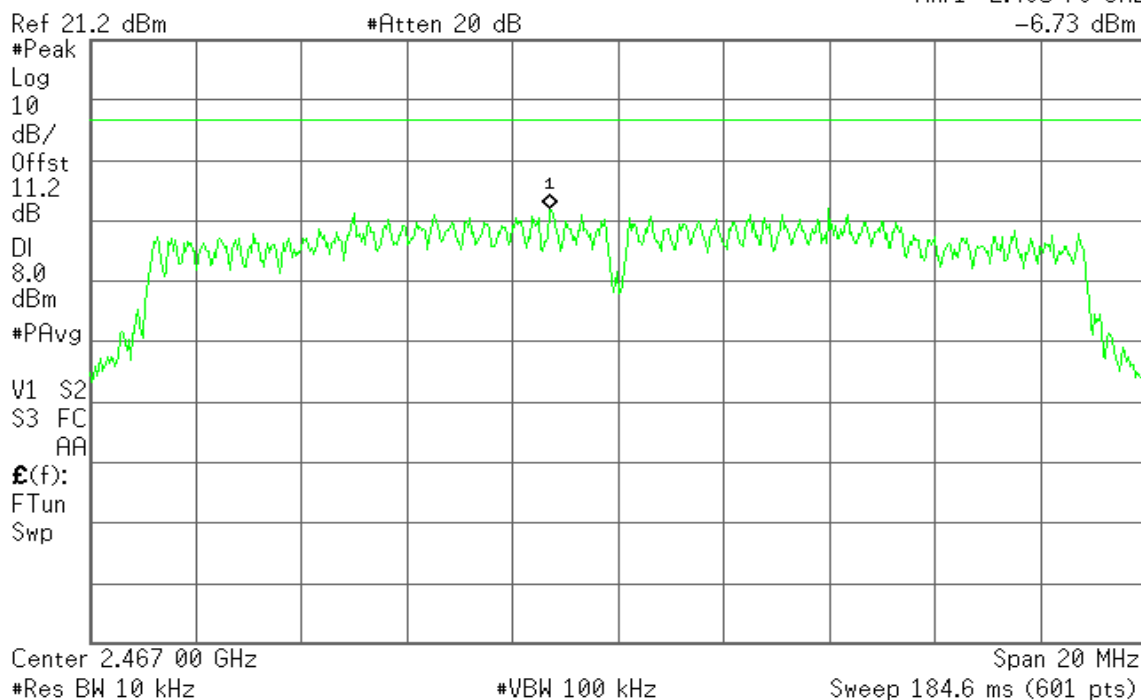


### PPSD (2467 MHz)

Agilent

R T

Mkr1 2.465 70 GHz  
-6.73 dBm

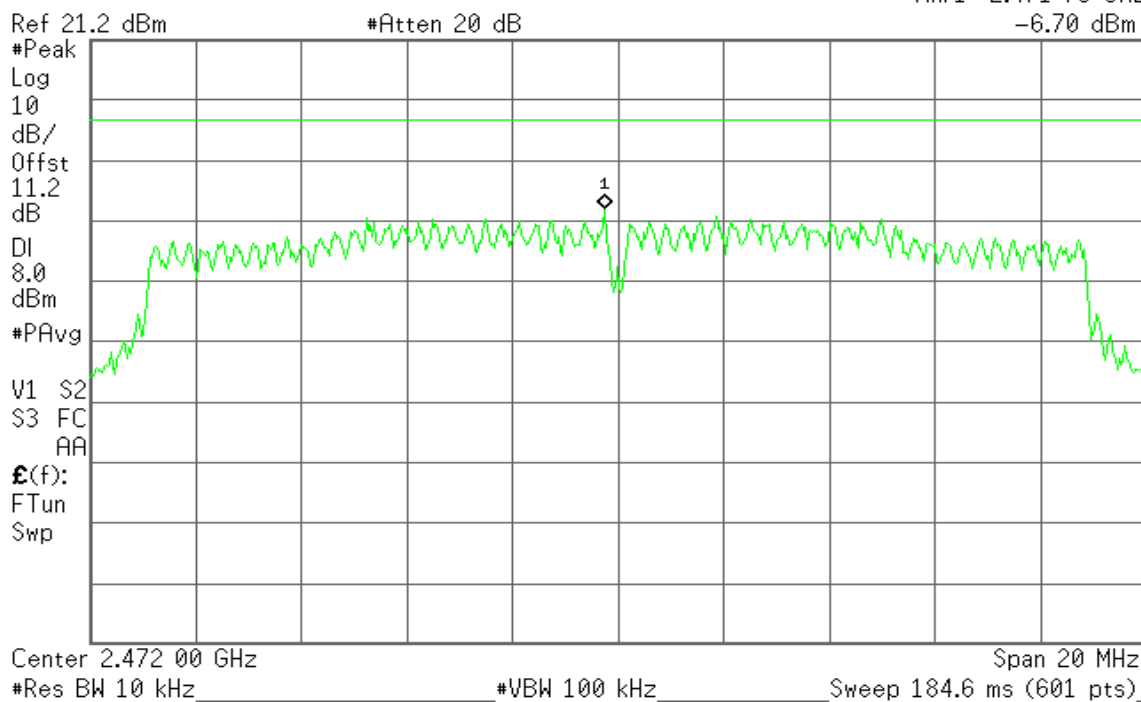


### PPSD (2472 MHz)

Agilent

R T

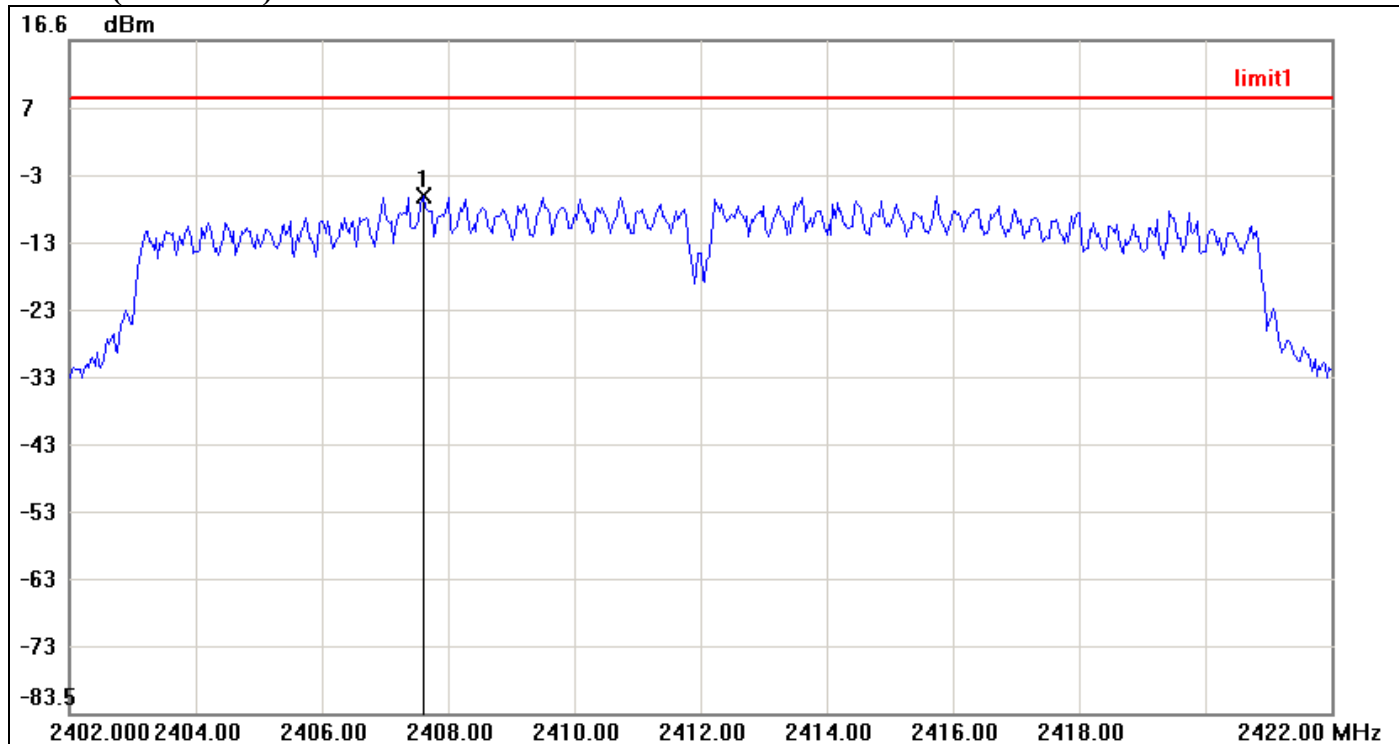
Mkr1 2.471 73 GHz  
-6.70 dBm





**IEEE 802.11n HT 20 MHz mode / Chain 1**

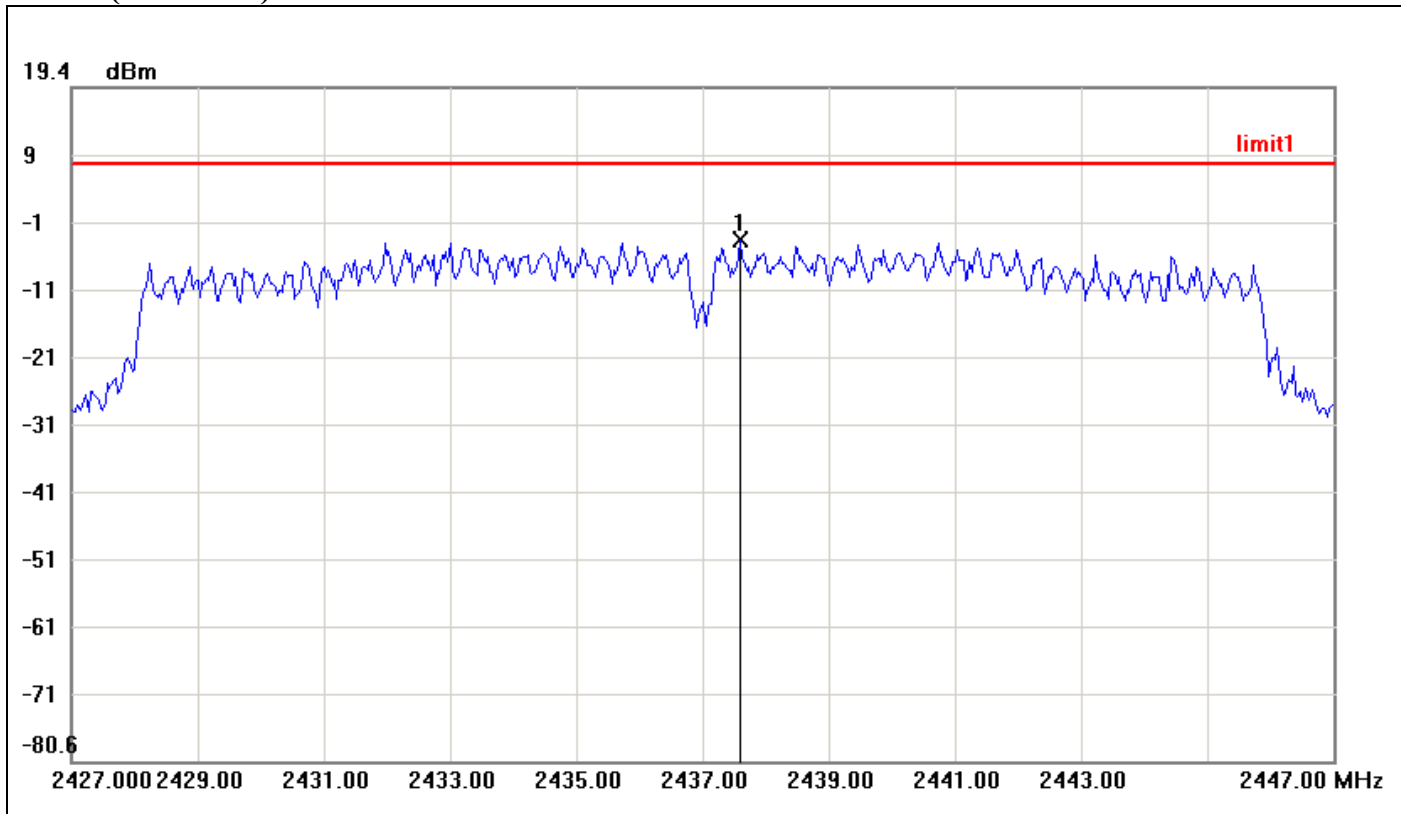
**PPSD (2412 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2407.6000	-6.45	8.00	-14.45



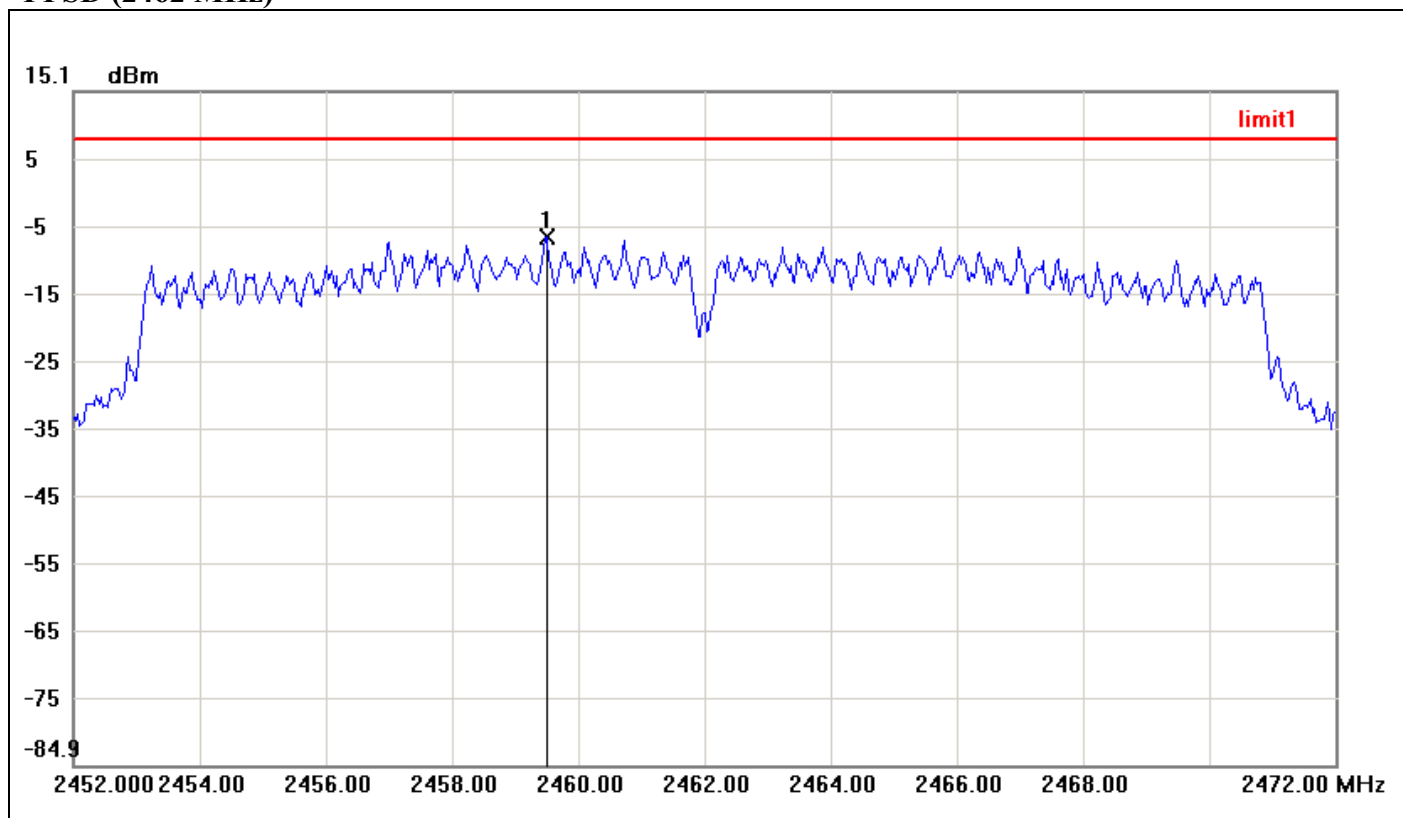
PPSD (2437 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2437.6000	-3.29	8.00	-11.29



### PPSD (2462 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2459.5000	-6.45	8.00	-14.45



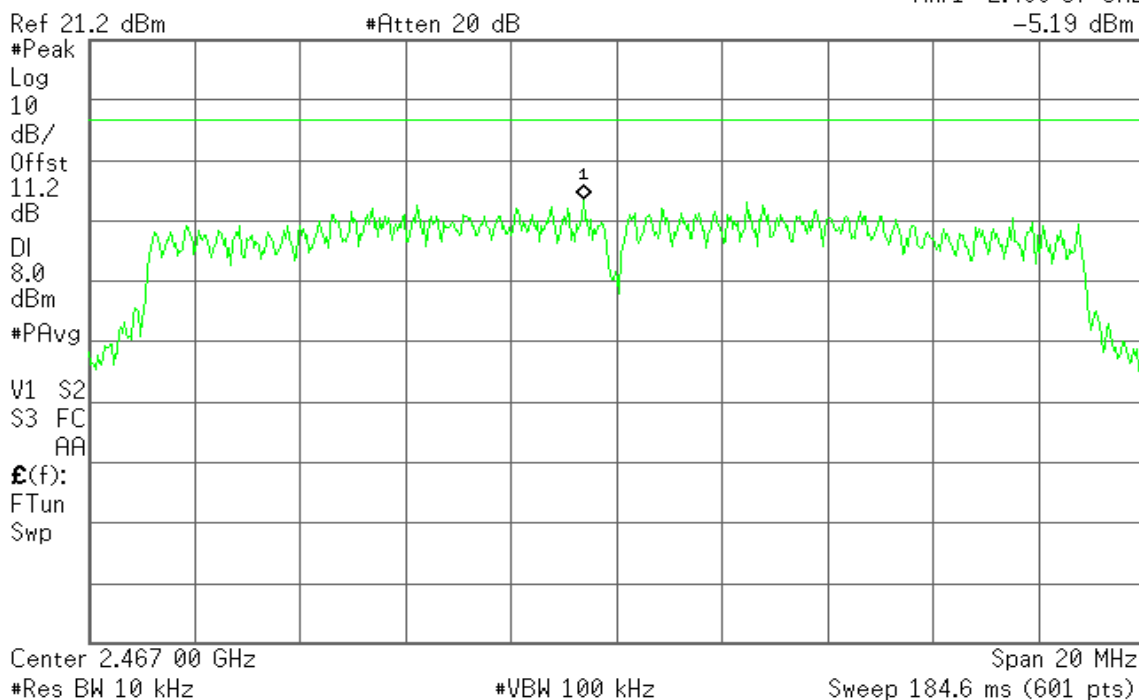


### PPSD (2467 MHz)

Agilent

R T

Mkr1 2.466 37 GHz  
-5.19 dBm

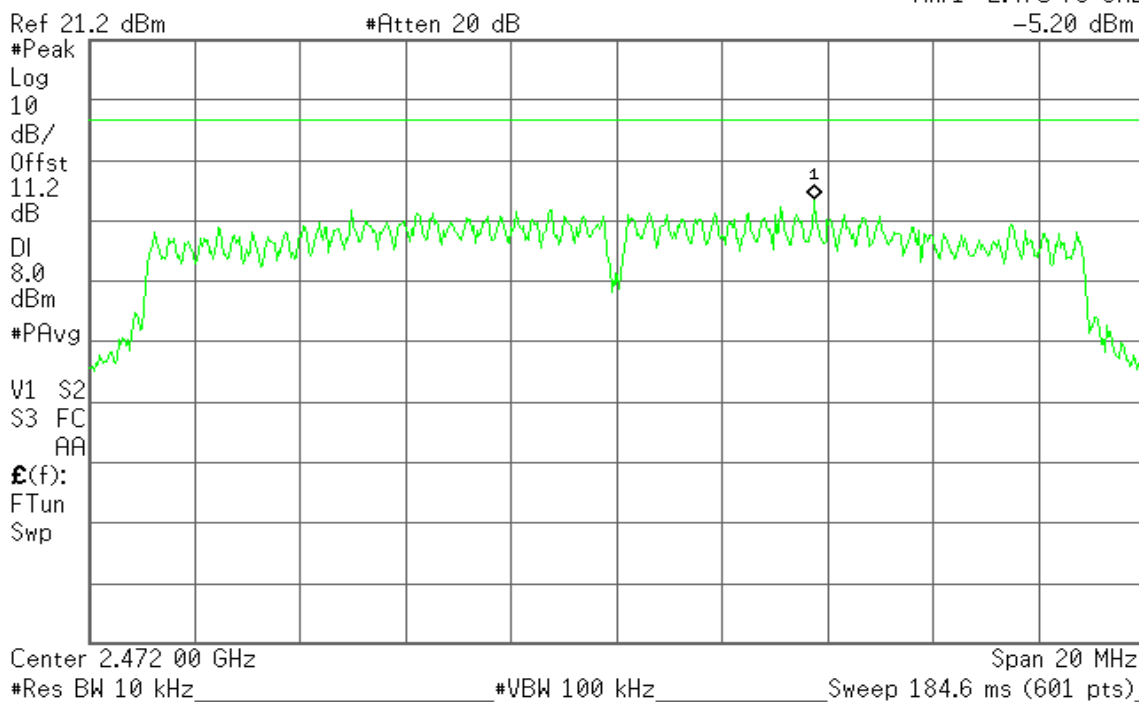


### PPSD (2472 MHz)

Agilent

R T

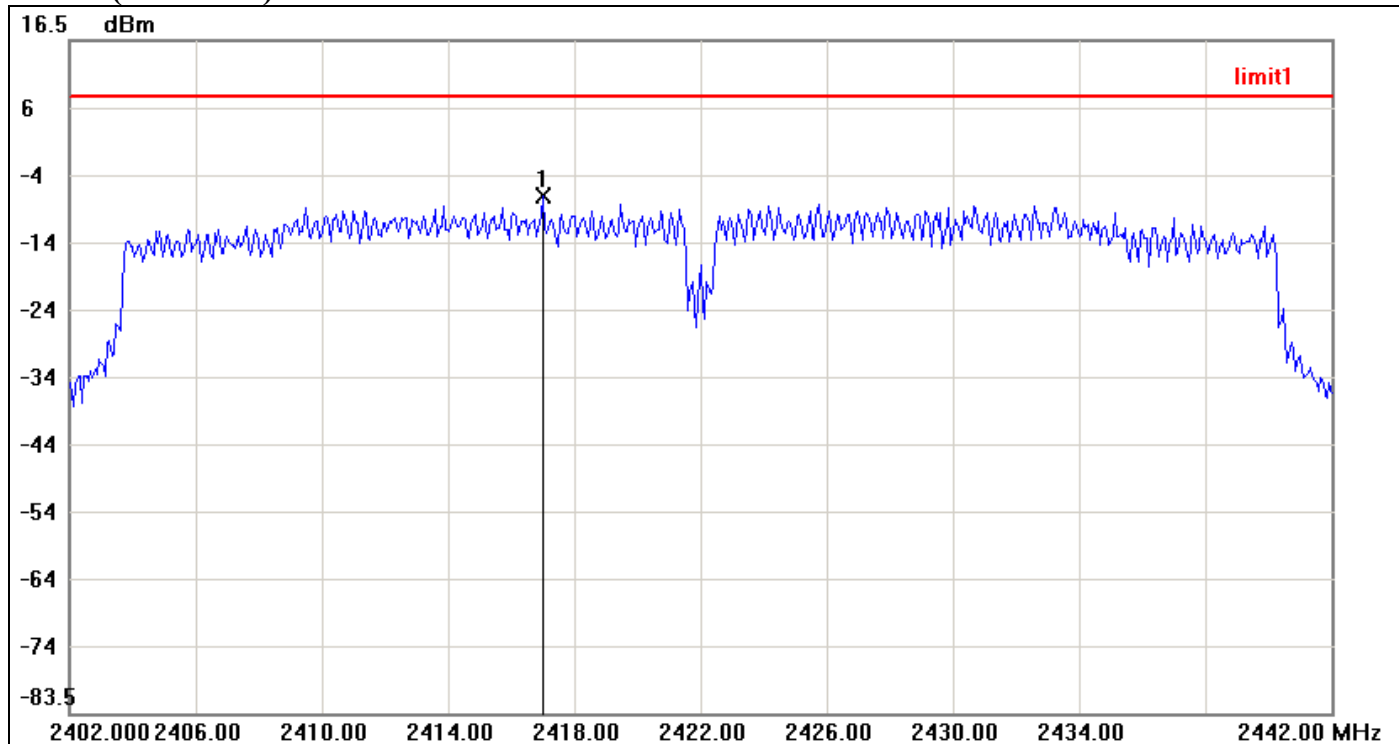
Mkr1 2.475 73 GHz  
-5.20 dBm





**IEEE 802.11n HT 40 MHz mode / Chain 0**

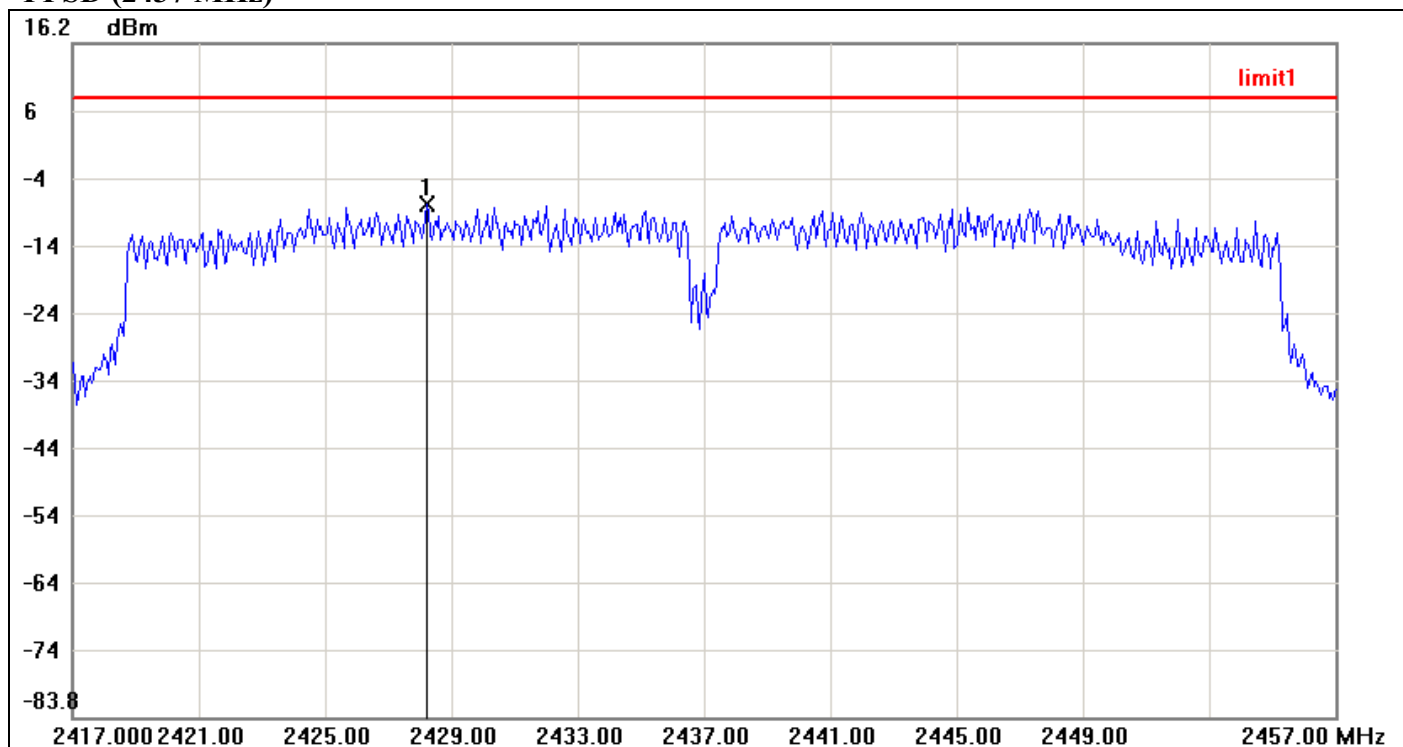
**PPSD (2422 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2417.0000	-6.72	8.00	-14.72



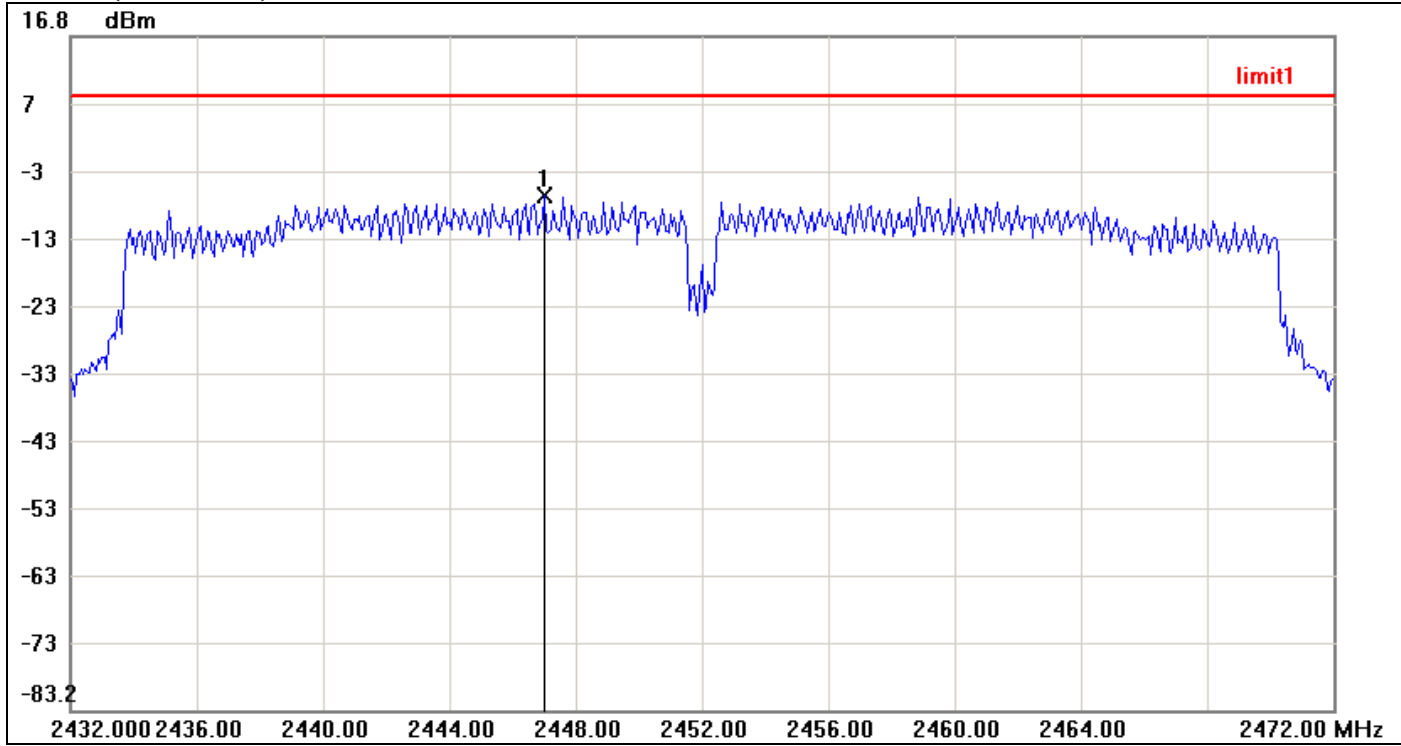
PPSD (2437 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2428.2000	-7.68	8.00	-15.68



PPSD (2452 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2447.0000	-6.67	8.00	-14.67

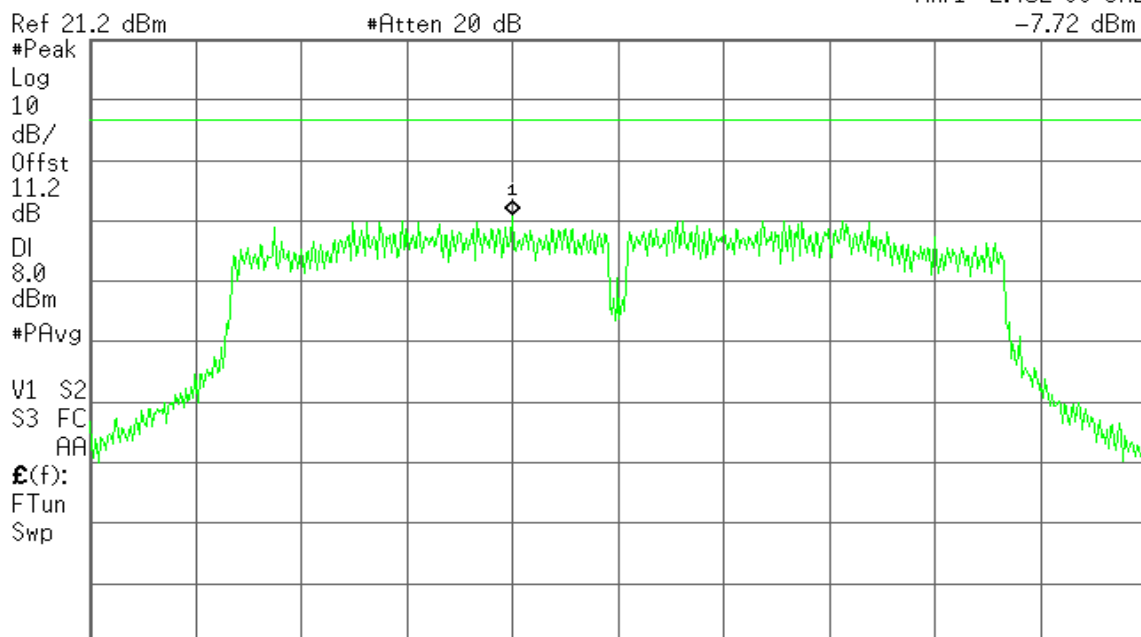


### PPSD (2467 MHz)

Agilent

R T

Mkr1 2.452 00 GHz  
-7.72 dBm



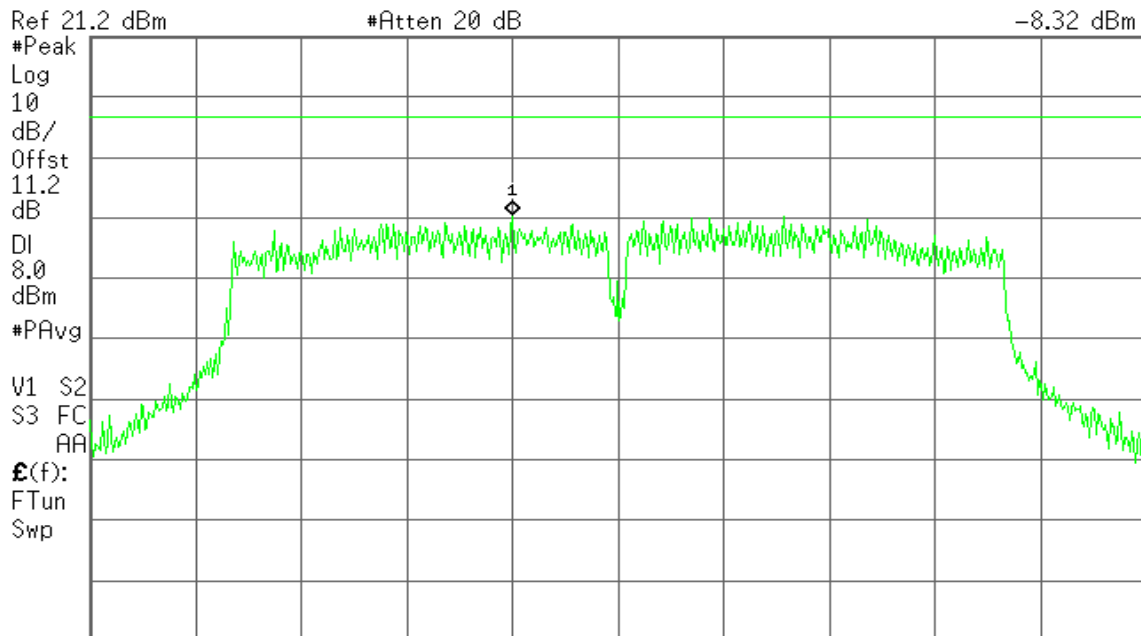
Center 2.457 00 GHz Span 50 MHz  
#Res BW 10 kHz #VBW 100 kHz Sweep 461.5 ms (601 pts)

### PPSD (2472 MHz)

Agilent

R T

Mkr1 2.457 00 GHz  
-8.32 dBm

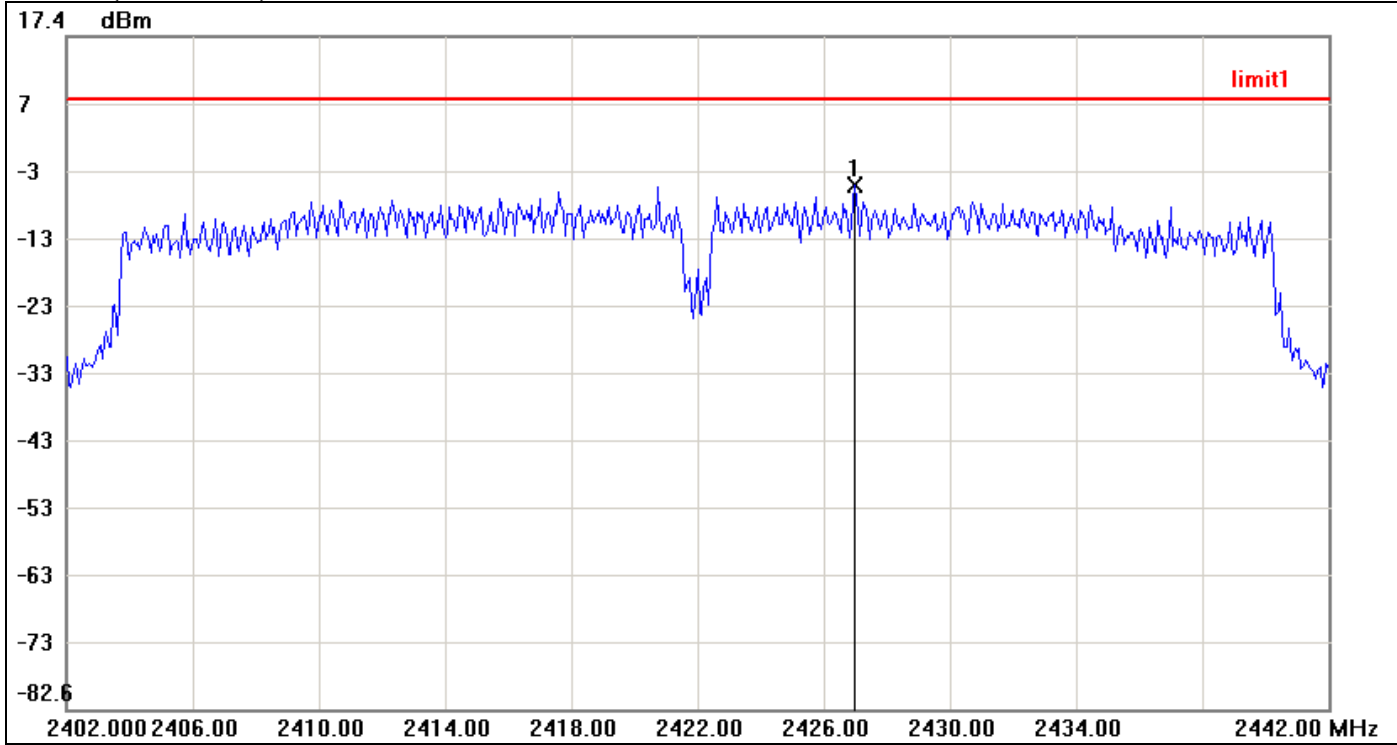


Center 2.462 00 GHz Span 50 MHz  
#Res BW 10 kHz #VBW 100 kHz Sweep 461.5 ms (601 pts)



**IEEE 802.11n HT 40 MHz mode / Chain 1**

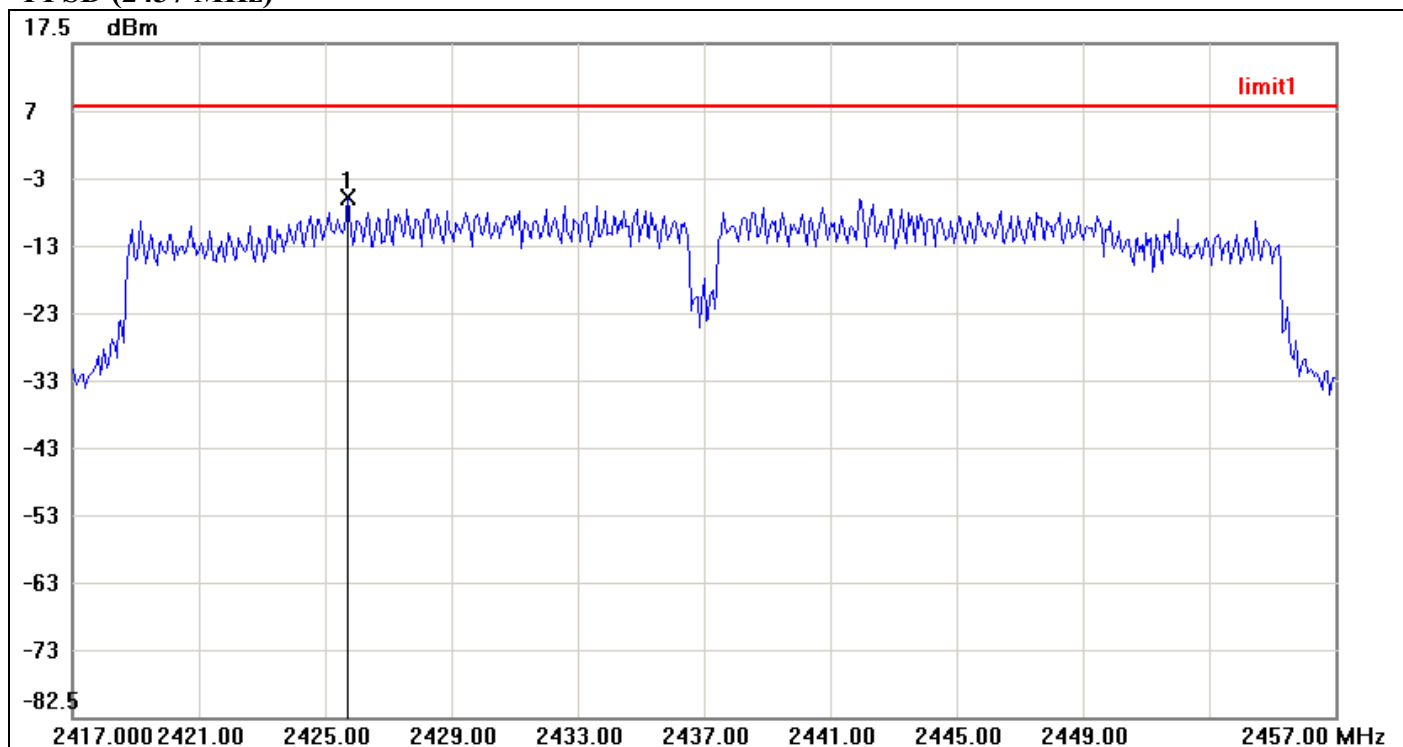
**PPSD (2422 MHz)**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2427.0000	-4.71	8.00	-12.71



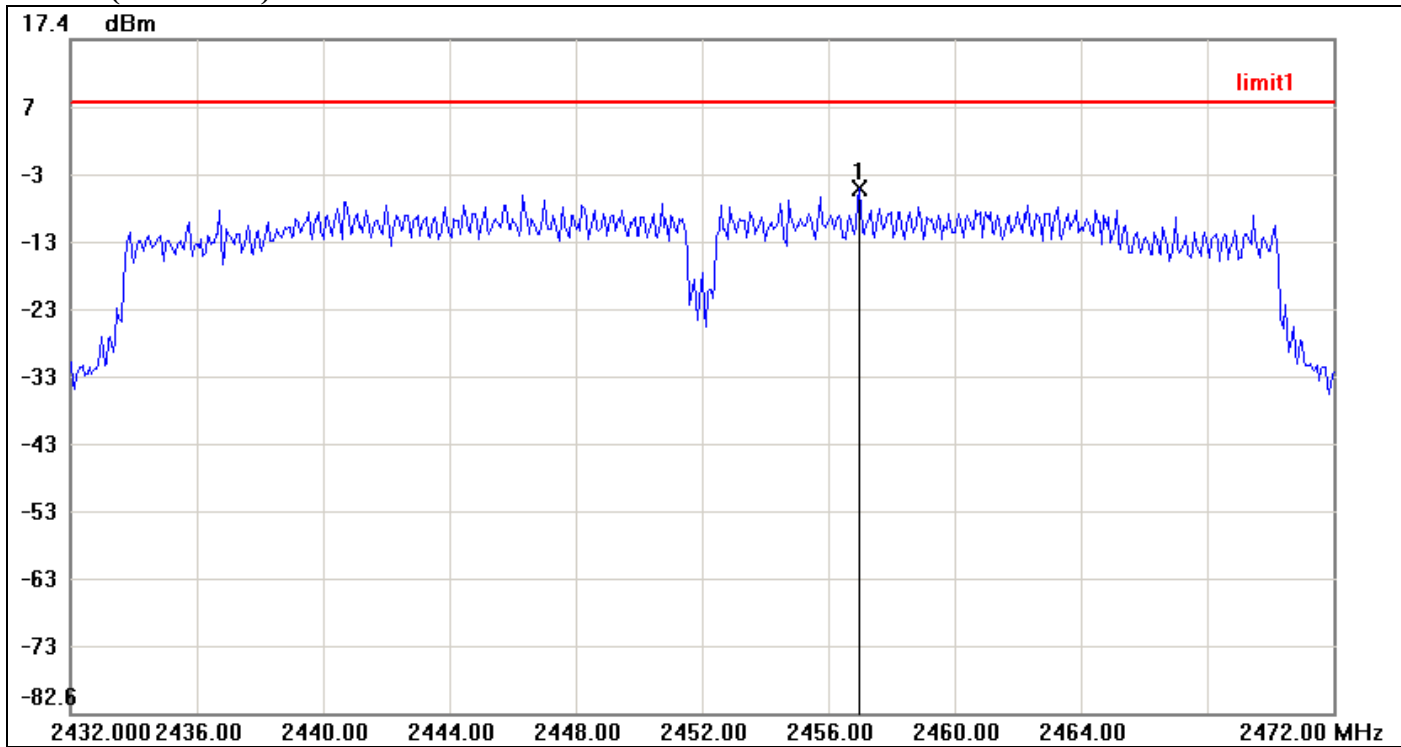
PPSD (2437 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2425.7333	-5.28	8.00	-13.28



PPSD (2452 MHz)



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2457.0000	-4.72	8.00	-12.72



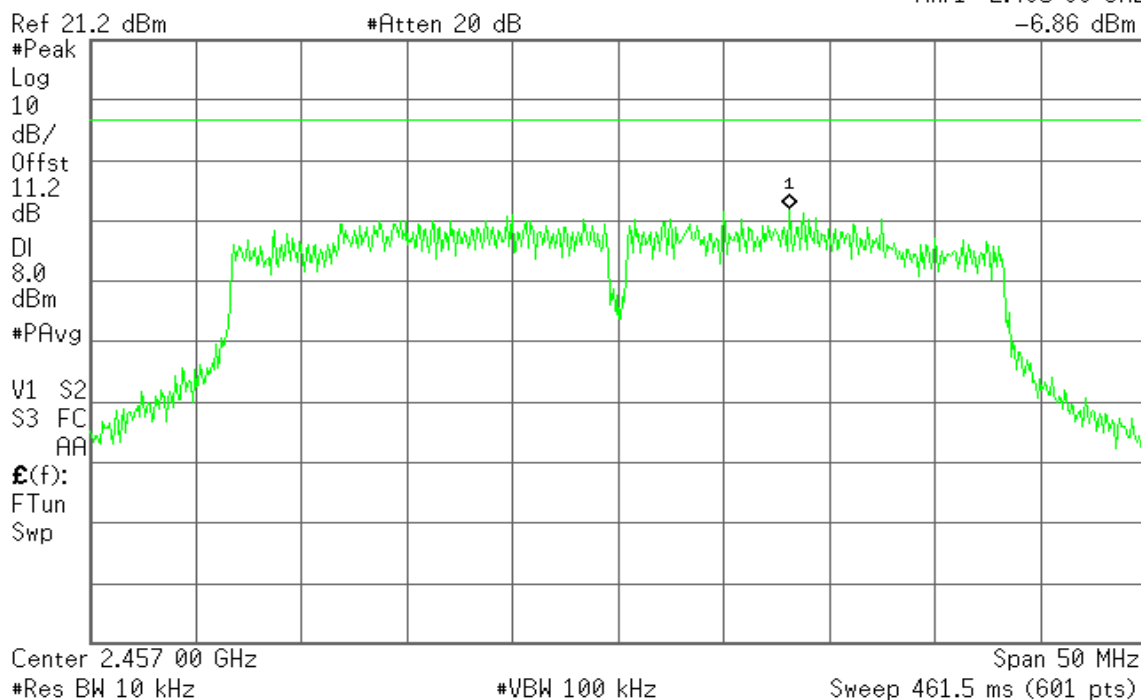


### PPSD (2467 MHz)

Agilent

R T

Mkr1 2.465 08 GHz  
-6.86 dBm

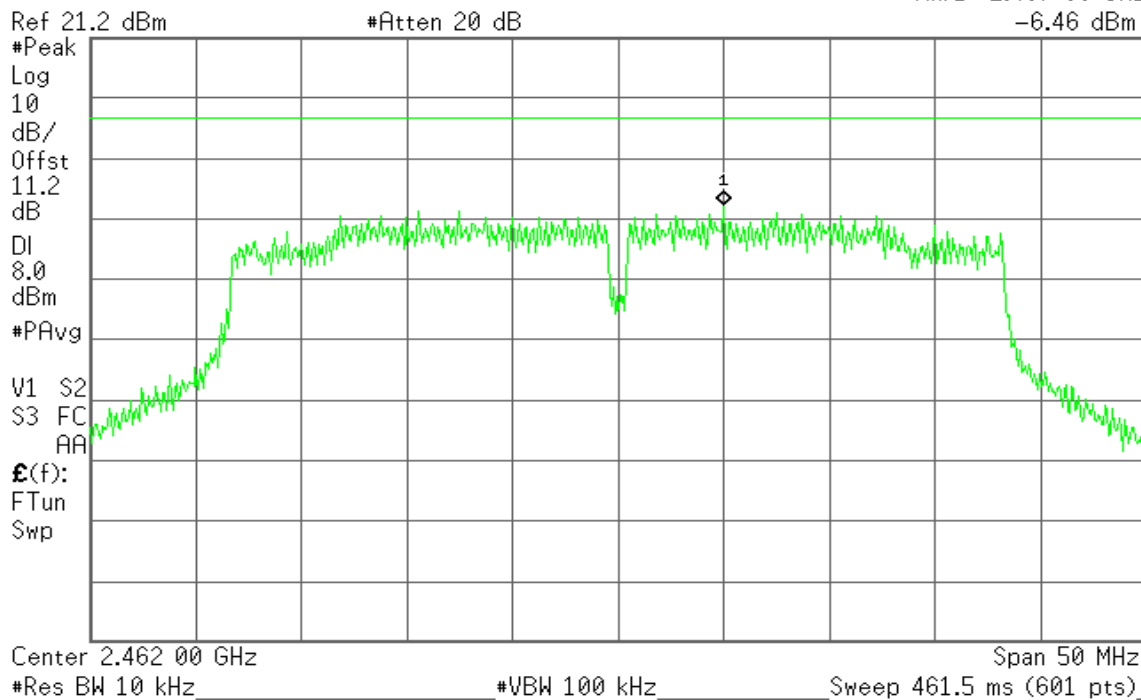


### PPSD (2472 MHz)

Agilent

R T

Mkr1 2.467 00 GHz  
-6.46 dBm





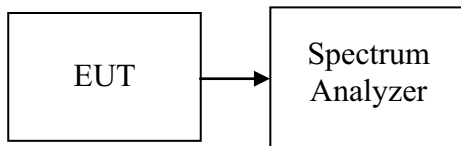
## 7.6 SPURIOUS EMISSIONS

### 7.6.1 Conducted Measurement

#### **LIMIT**

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum 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. 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 Section 15.205(c)).

#### **Test Configuration**



#### **TEST PROCEDURE**

Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 100 kHz.

Measurements are made over the 30MHz to 25GHz range with the transmitter set to the lowest, middle, and highest channels.

#### **TEST RESULTS**

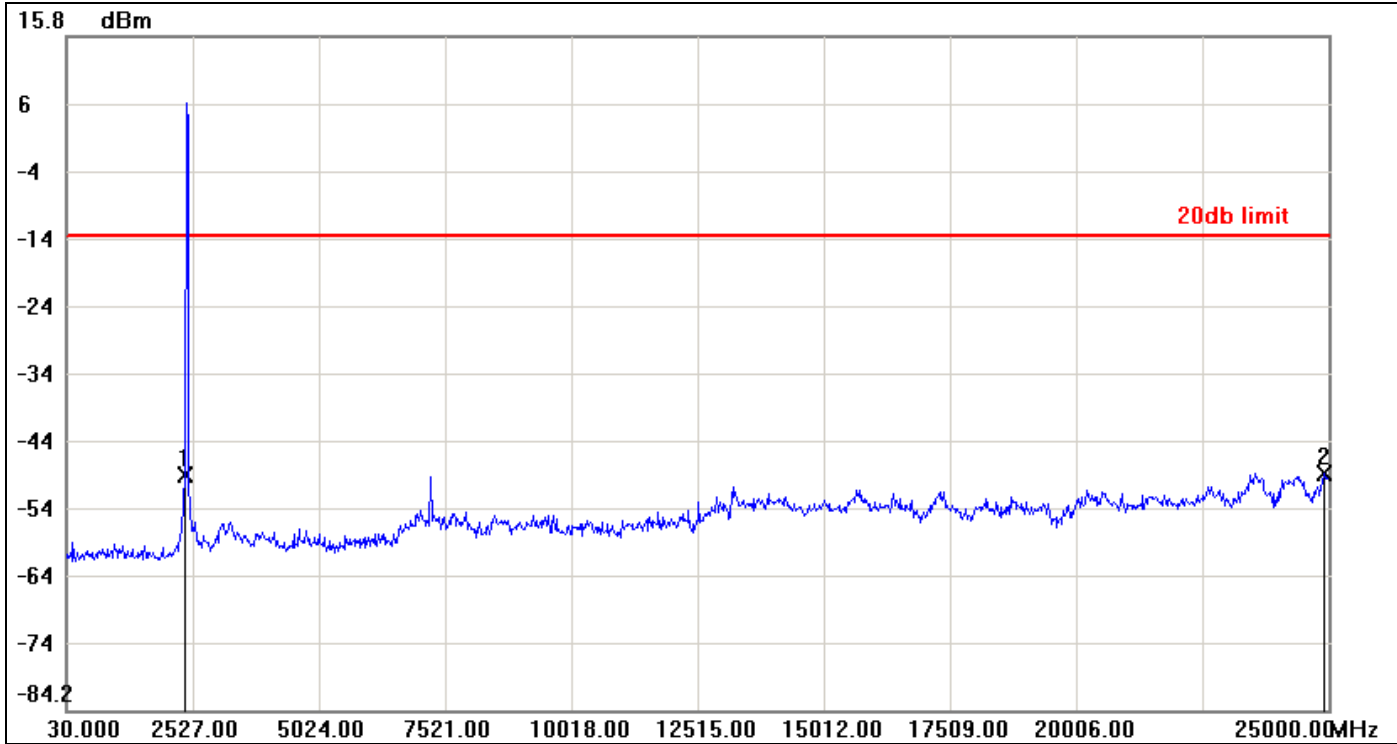
*No non-compliance noted.*



**Test Plot**

**IEEE 802.11b mode**

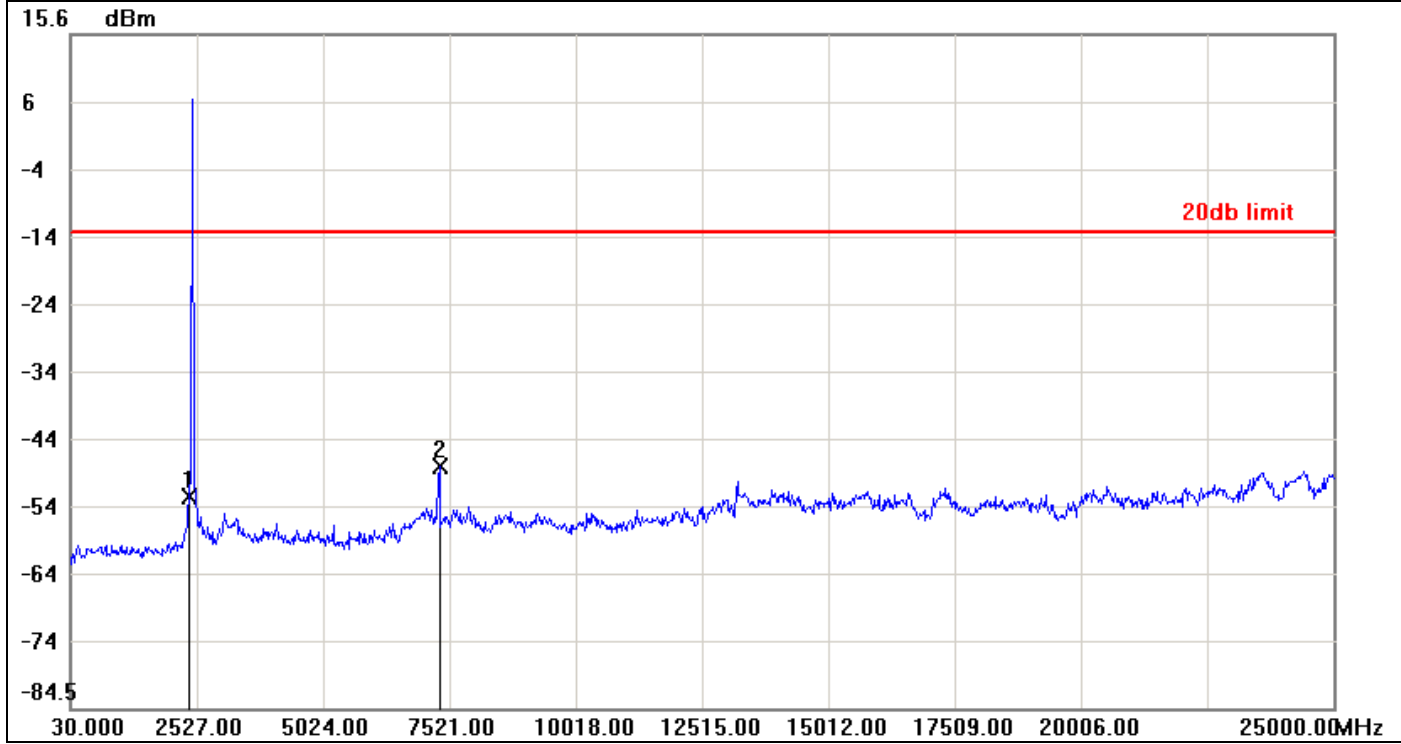
**2412 MHz**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-49.29	-13.74	-35.55
2	24925.0900	-49.01	-13.74	-35.27



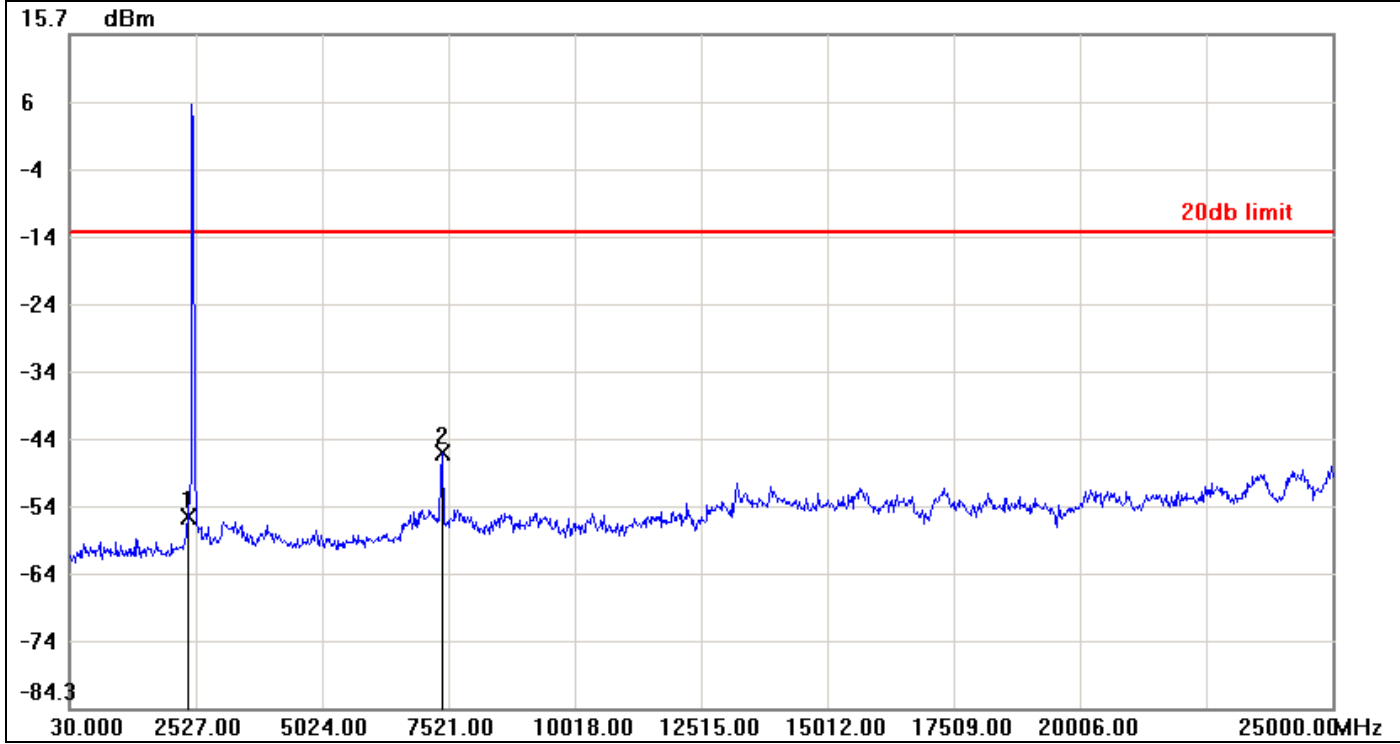
2437 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-53.11	-13.88	-39.23
2	7321.2400	-48.49	-13.88	-34.61



2462 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-55.93	-13.68	-42.25
2	7396.1500	-46.51	-13.68	-32.83

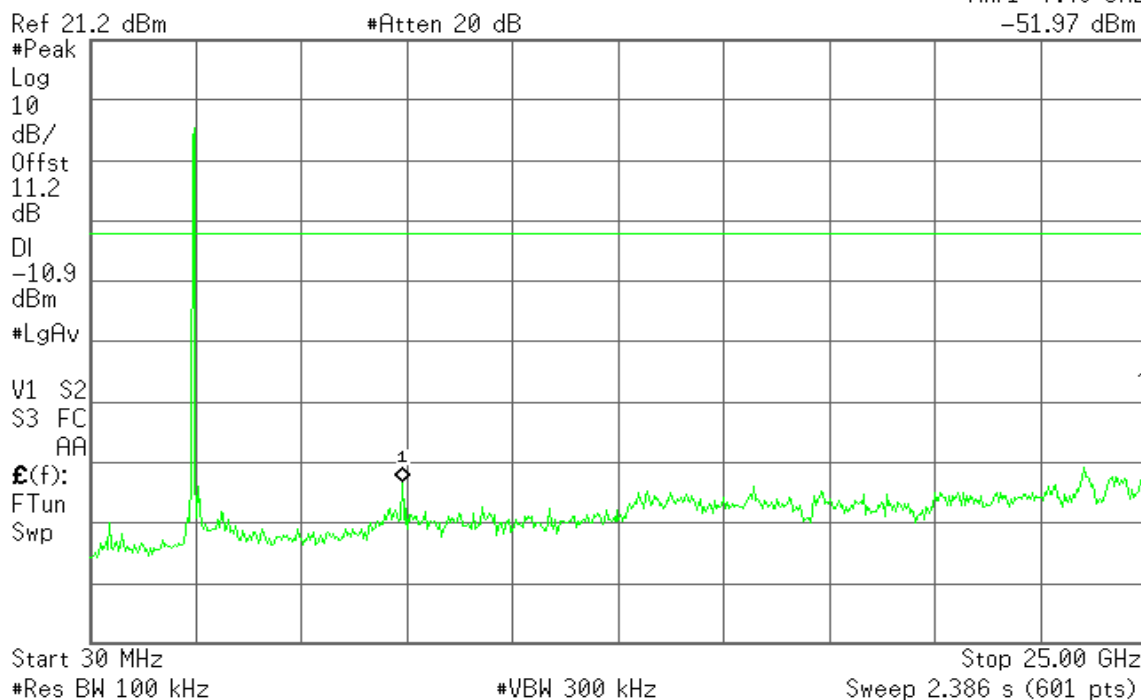


### 2467 MHz

Agilent

R T

Mkr1 7.40 GHz  
-51.97 dBm

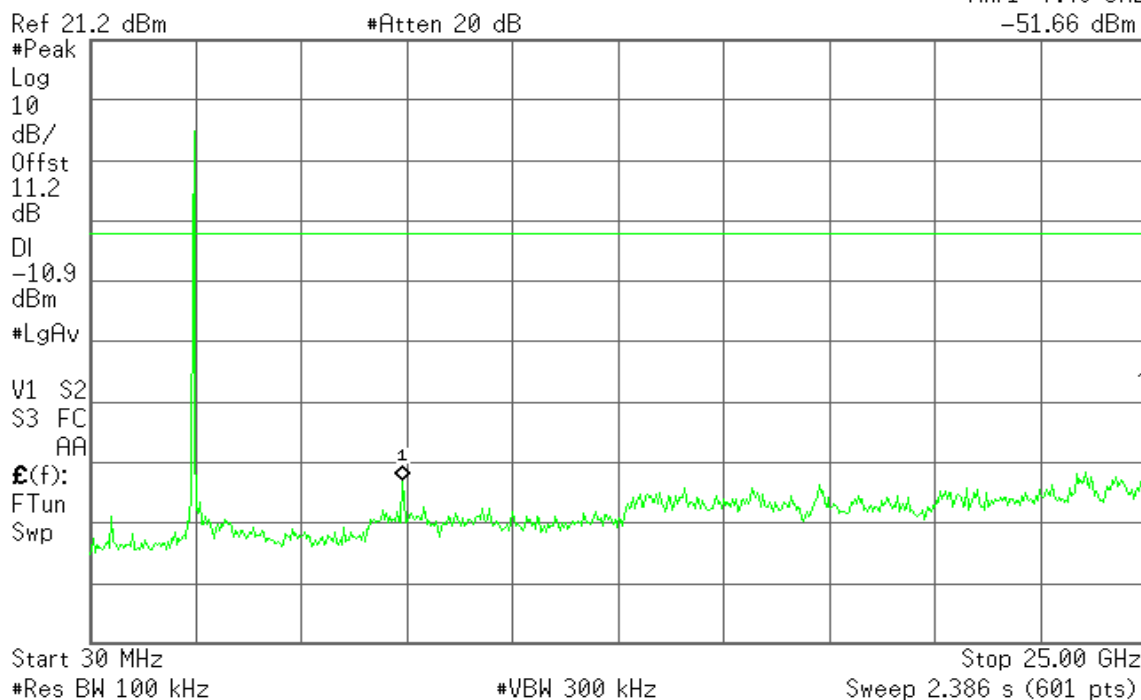


### 2472 MHz

Agilent

R T

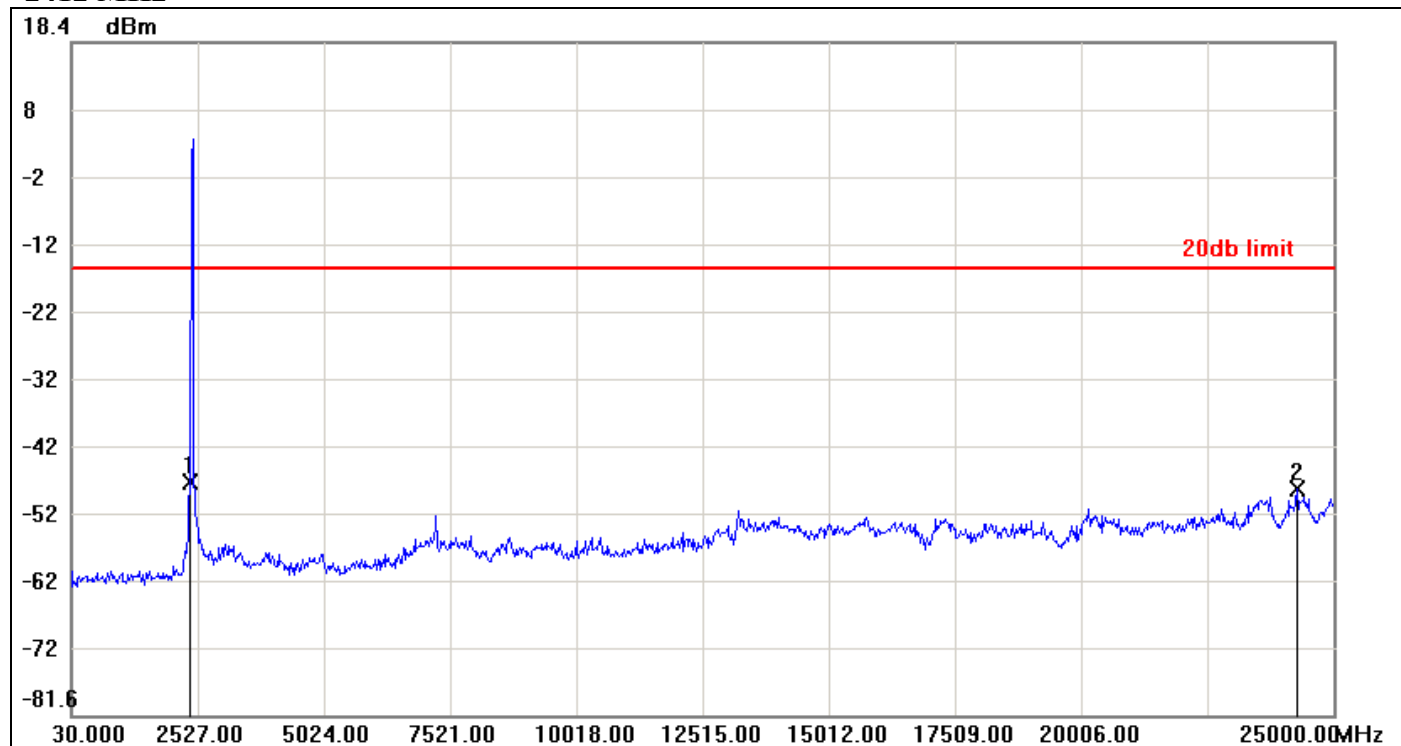
Mkr1 7.40 GHz  
-51.66 dBm





**IEEE 802.11g mode**

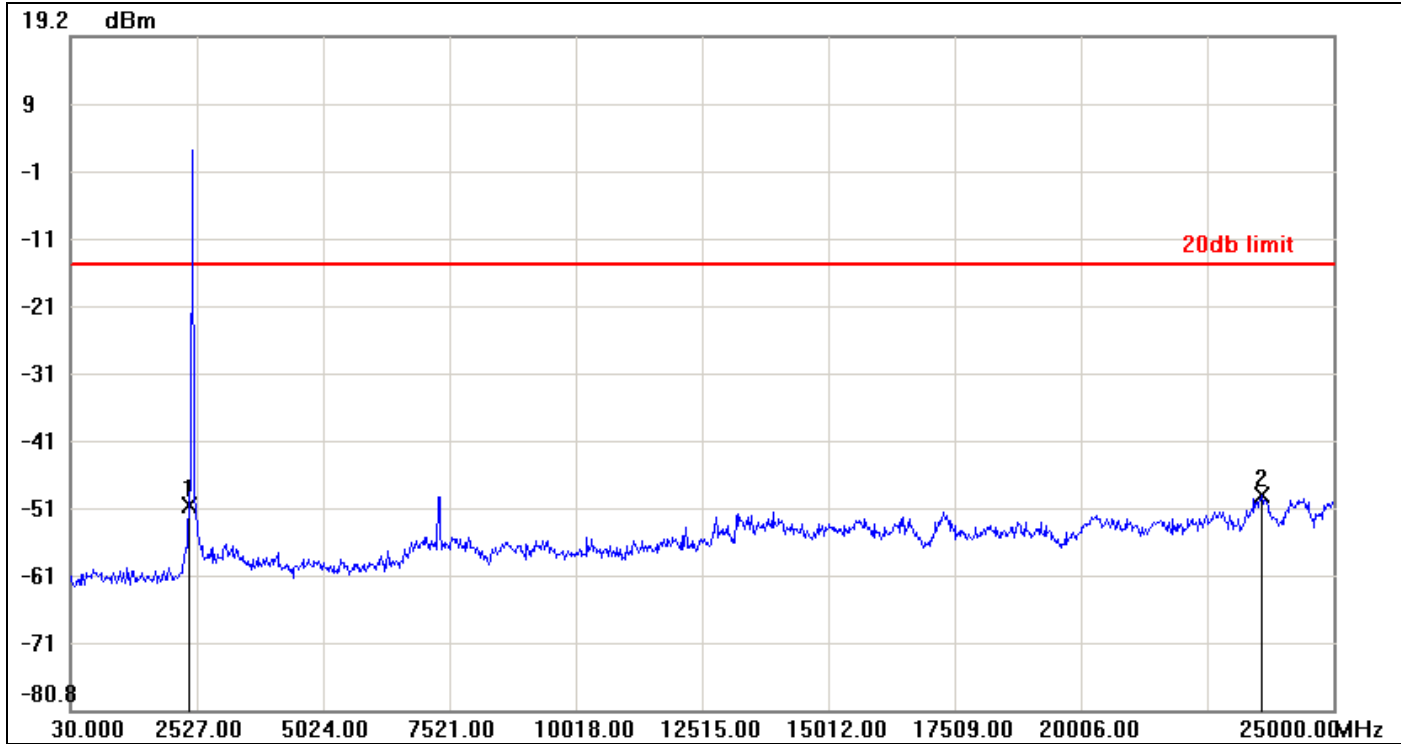
**2412 MHz**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-46.91	-15.16	-31.75
2	24275.8700	-47.93	-15.16	-32.77



2437 MHz

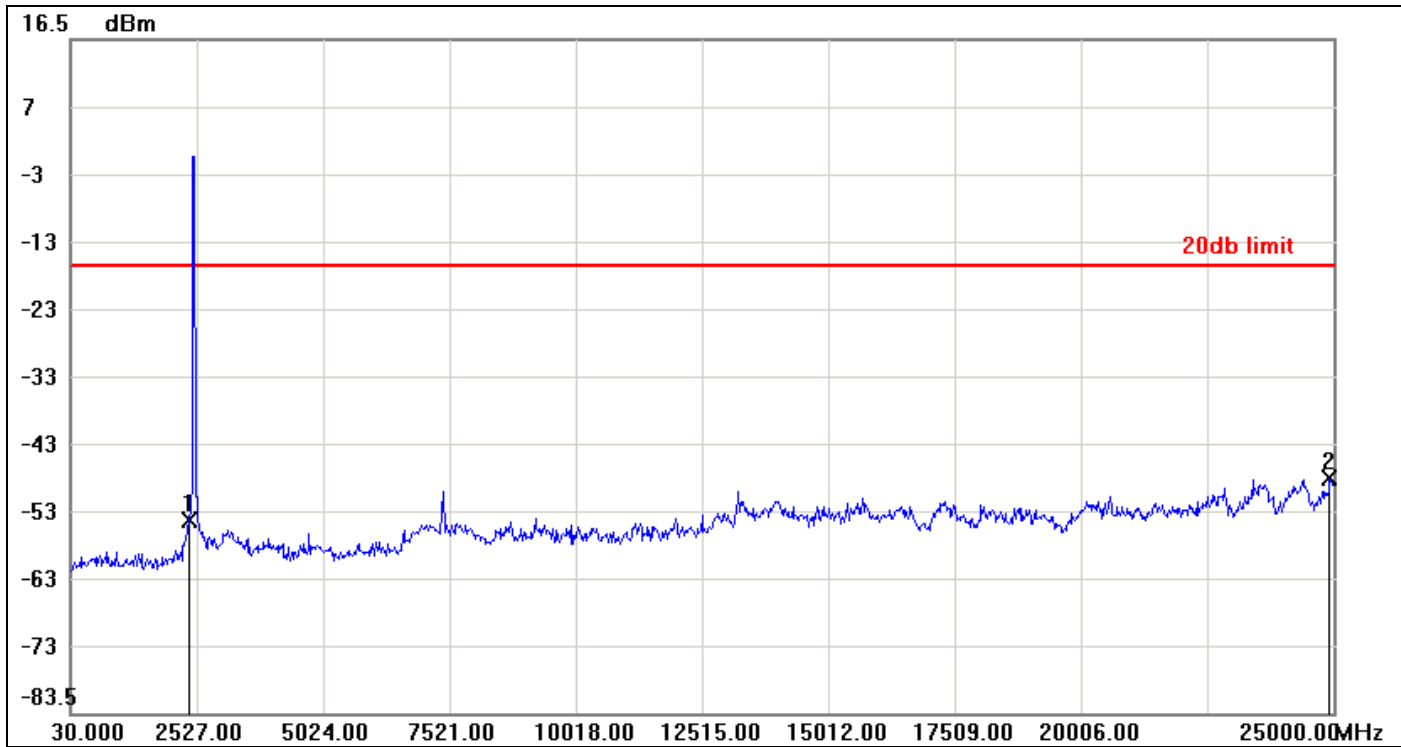


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-50.41	-14.60	-35.81
2	23576.7100	-48.89	-14.60	-34.29





### 2462 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-54.93	-17.19	-37.74
2	24925.0900	-48.63	-17.19	-31.44

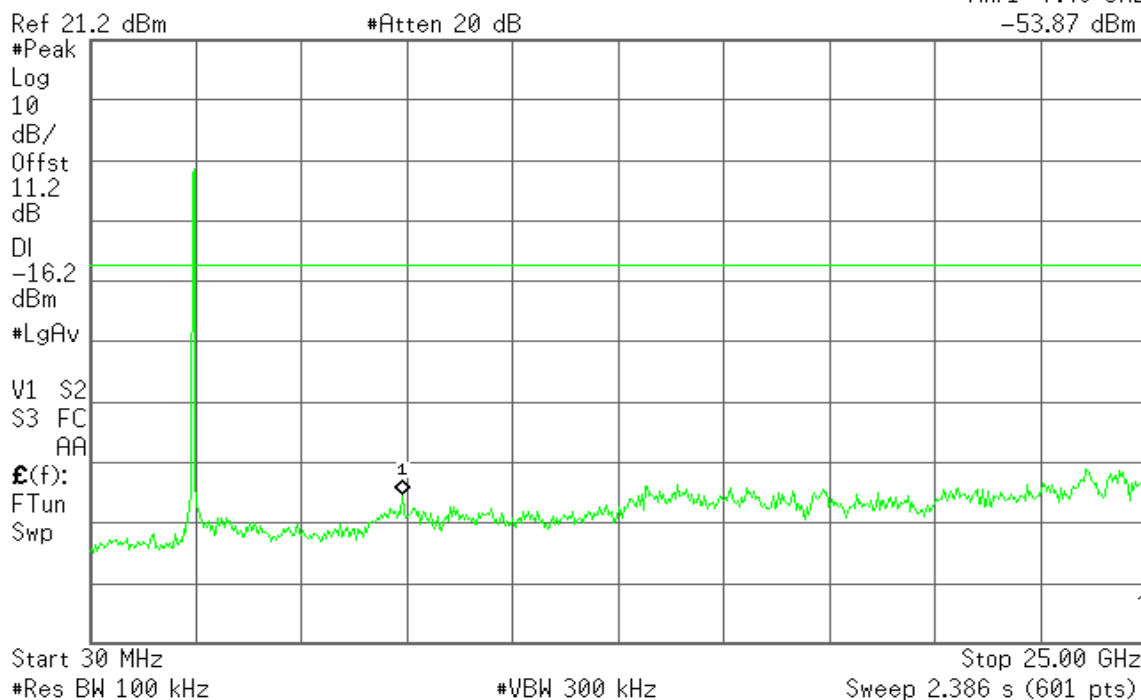


### 2467 MHz

Agilent

R T

Mkr1 7.40 GHz  
-53.87 dBm

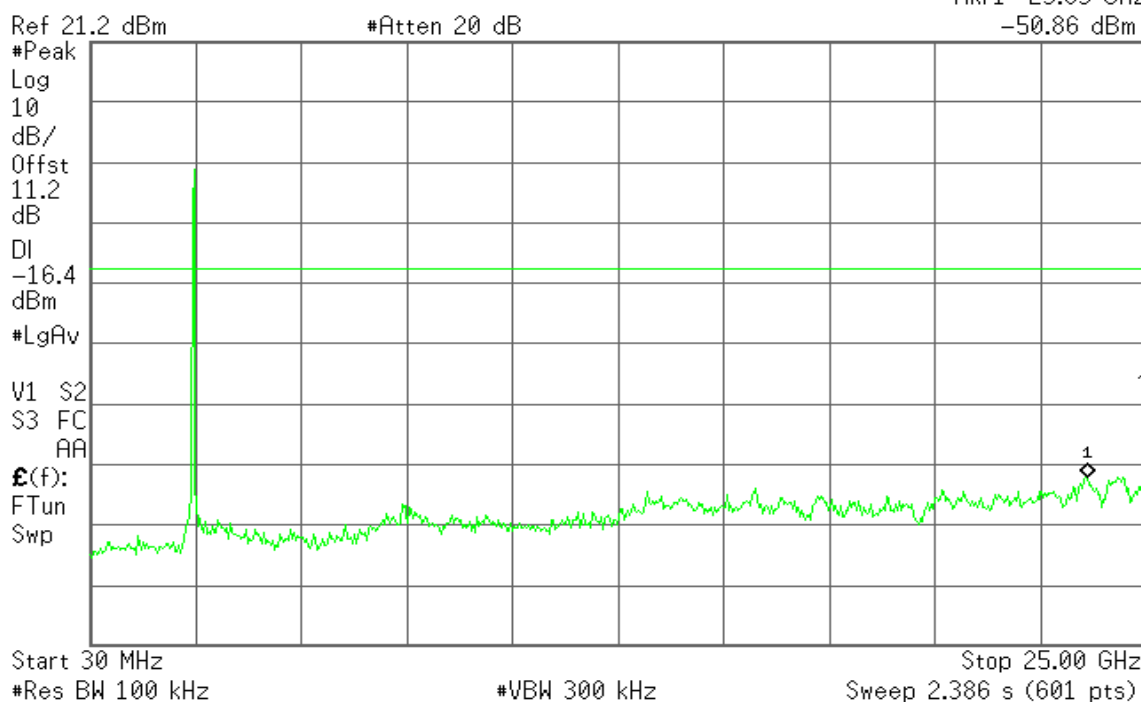


### 2472 MHz

Agilent

R T

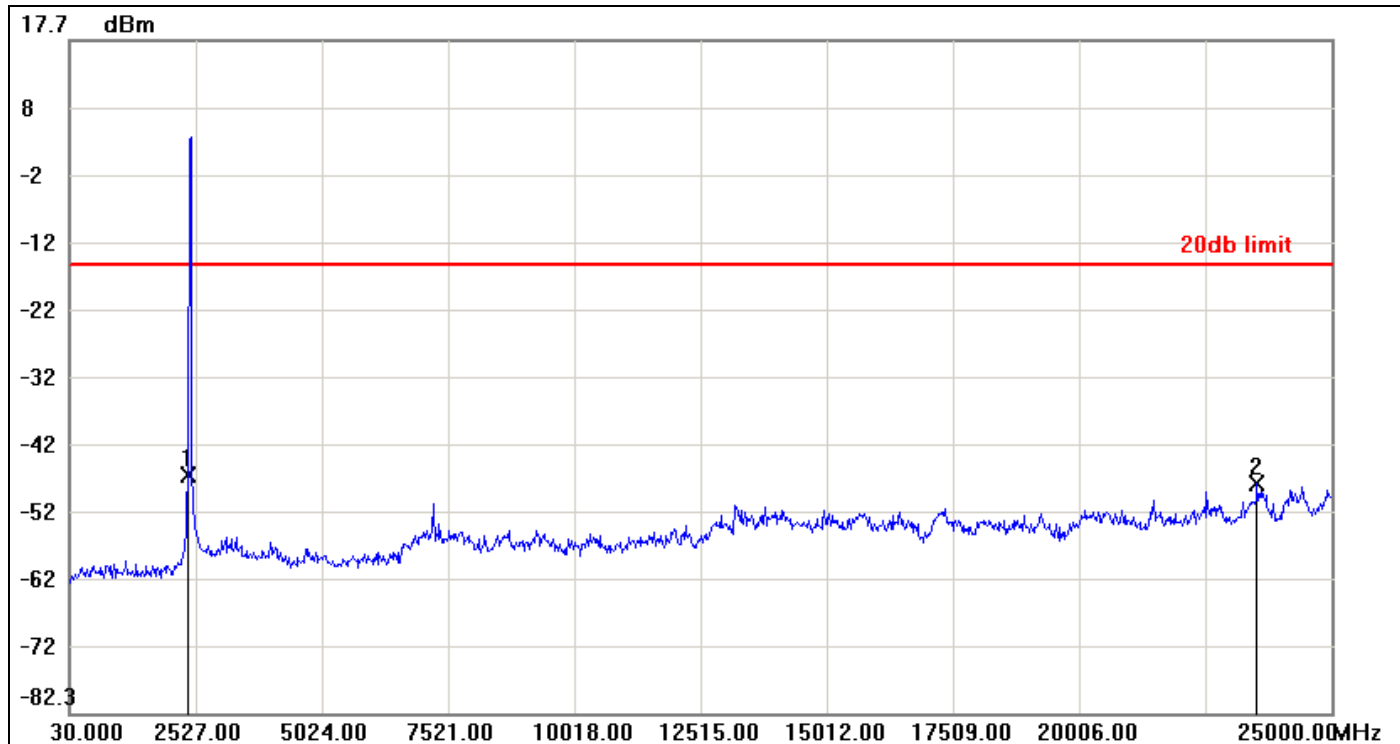
Mkr1 23.63 GHz  
-50.86 dBm





**IEEE 802.11n HT 20 MHz mode / Chain 0**

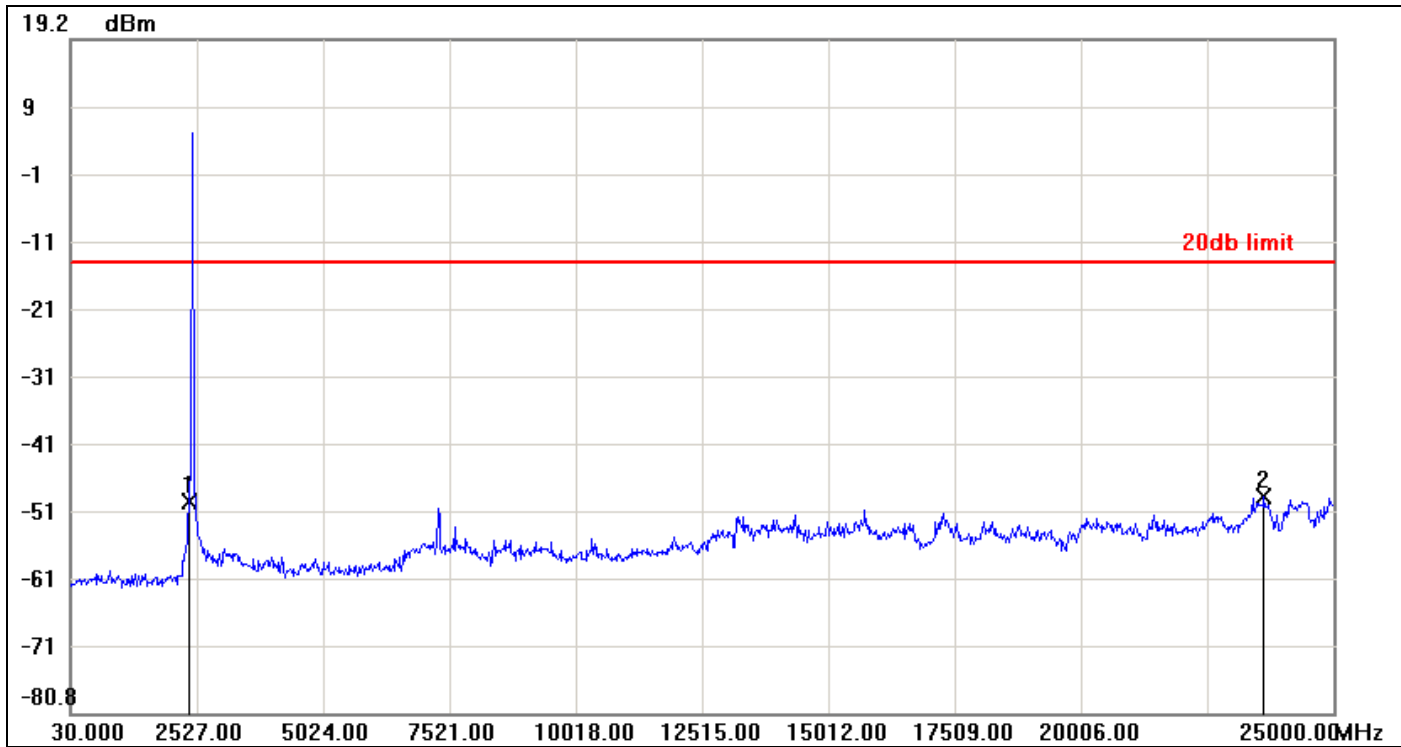
**2412 MHz**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-46.96	-15.68	-31.28
2	23526.7700	-48.09	-15.68	-32.41



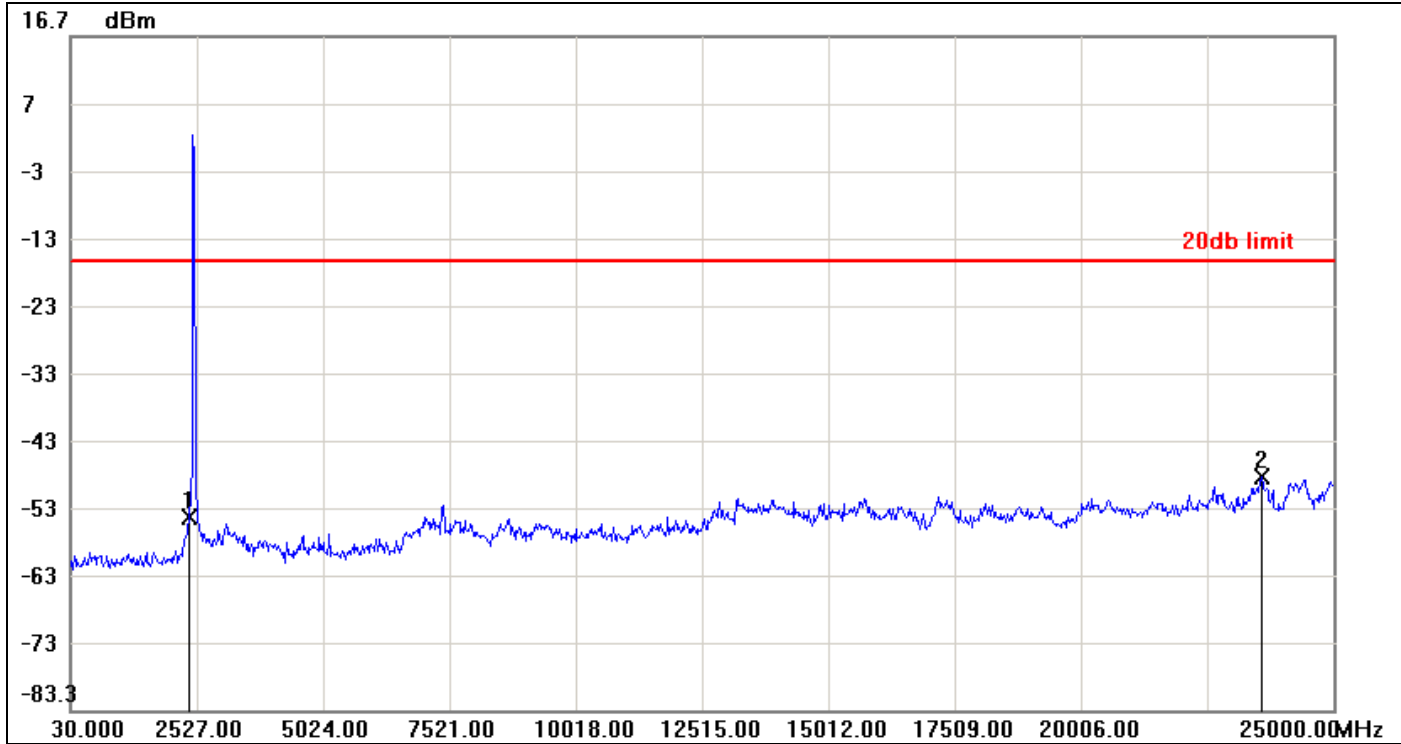
2437 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-49.51	-14.00	-35.51
2	23626.6500	-48.67	-14.00	-34.67



2462 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-54.77	-16.60	-38.17
2	23576.7100	-48.59	-16.60	-31.99

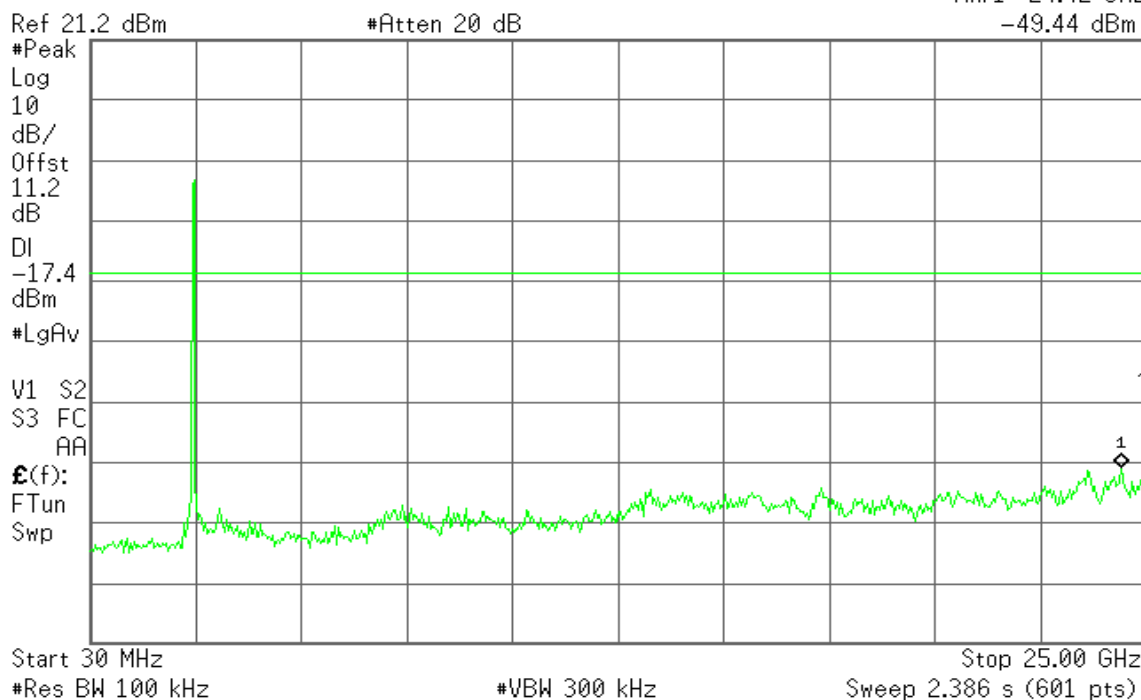


### 2467 MHz

Agilent

R T

Mkr1 24.42 GHz  
-49.44 dBm

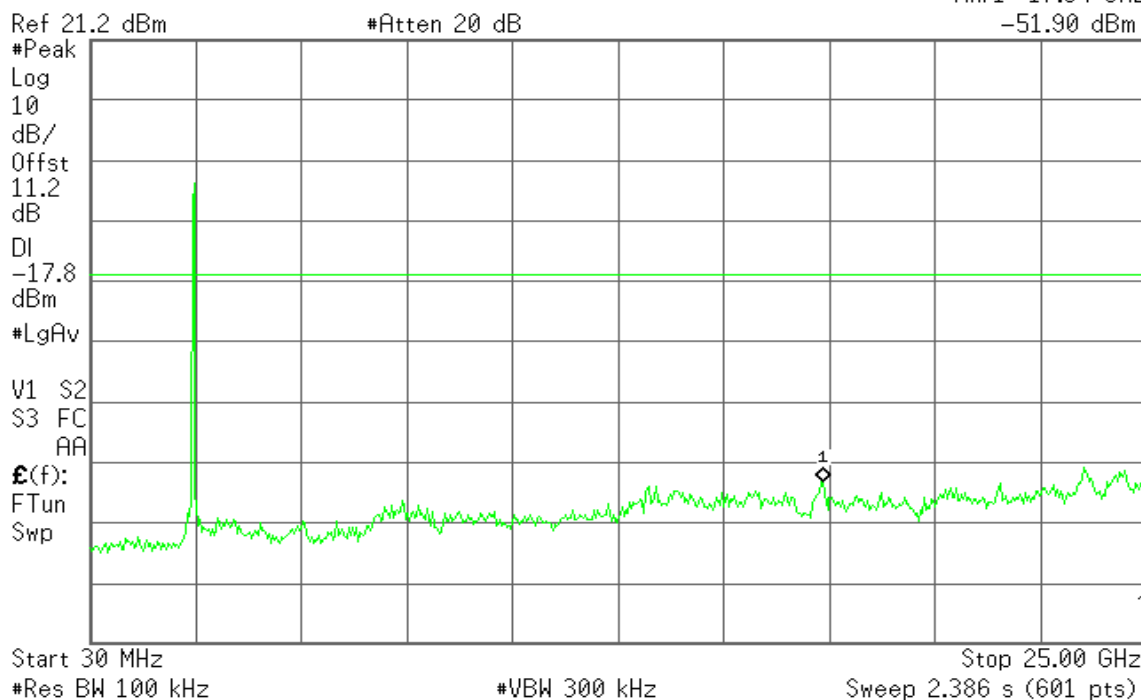


### 2472 MHz

Agilent

R T

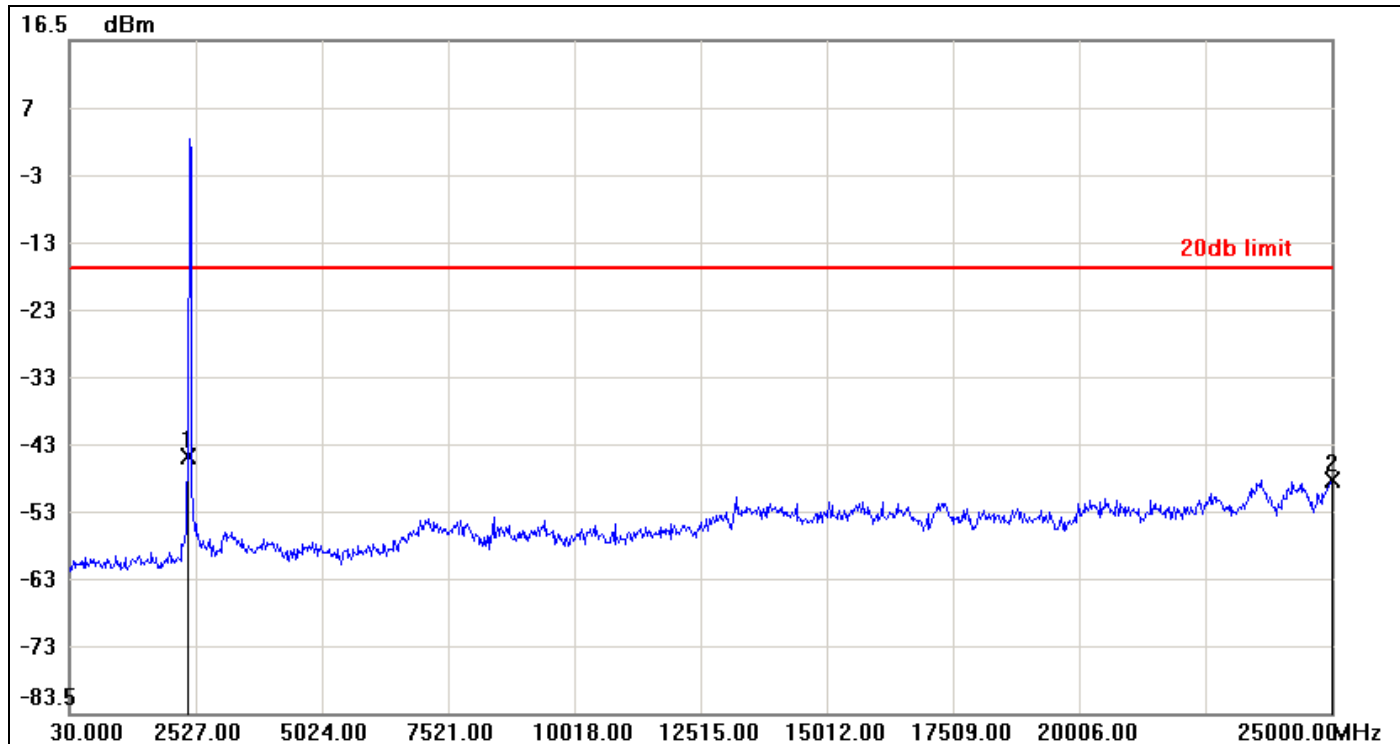
Mkr1 17.34 GHz  
-51.90 dBm





**IEEE 802.11n HT 20 MHz mode / Chain 1**

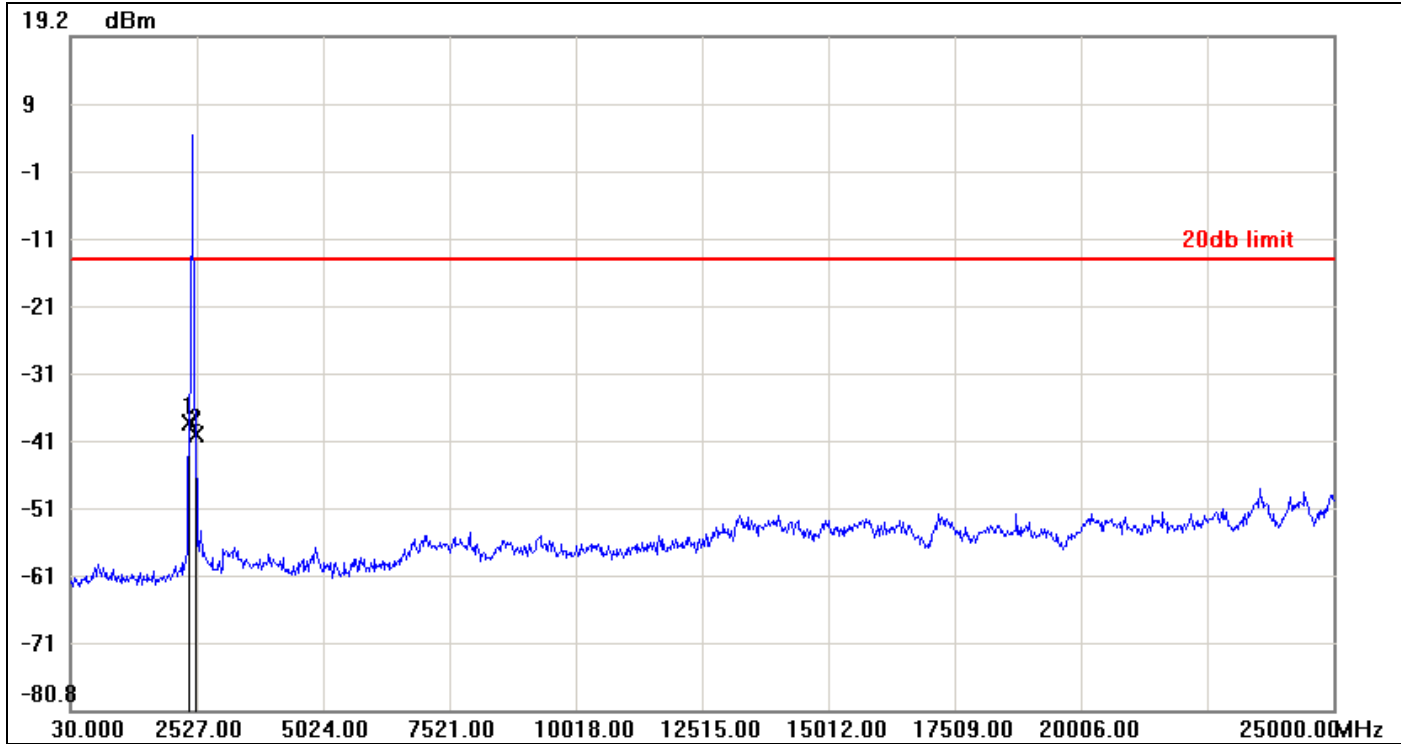
**2412 MHz**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-45.44	-17.42	-28.02
2	25000.0000	-48.85	-17.42	-31.43



2437 MHz

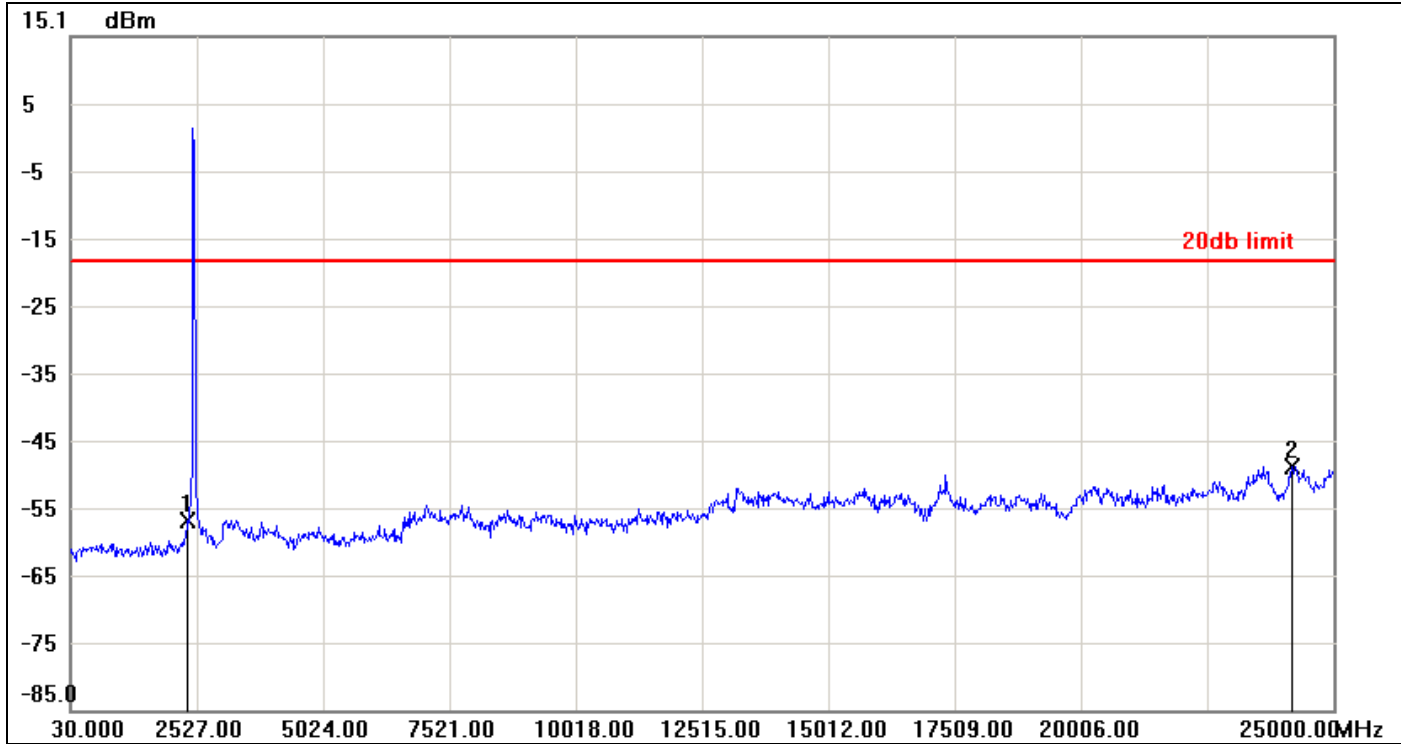


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-38.11	-13.92	-24.19
2	2502.0300	-39.91	-13.92	-25.99





2462 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2352.2100	-56.92	-18.44	-38.48
2	24175.9900	-48.76	-18.44	-30.32

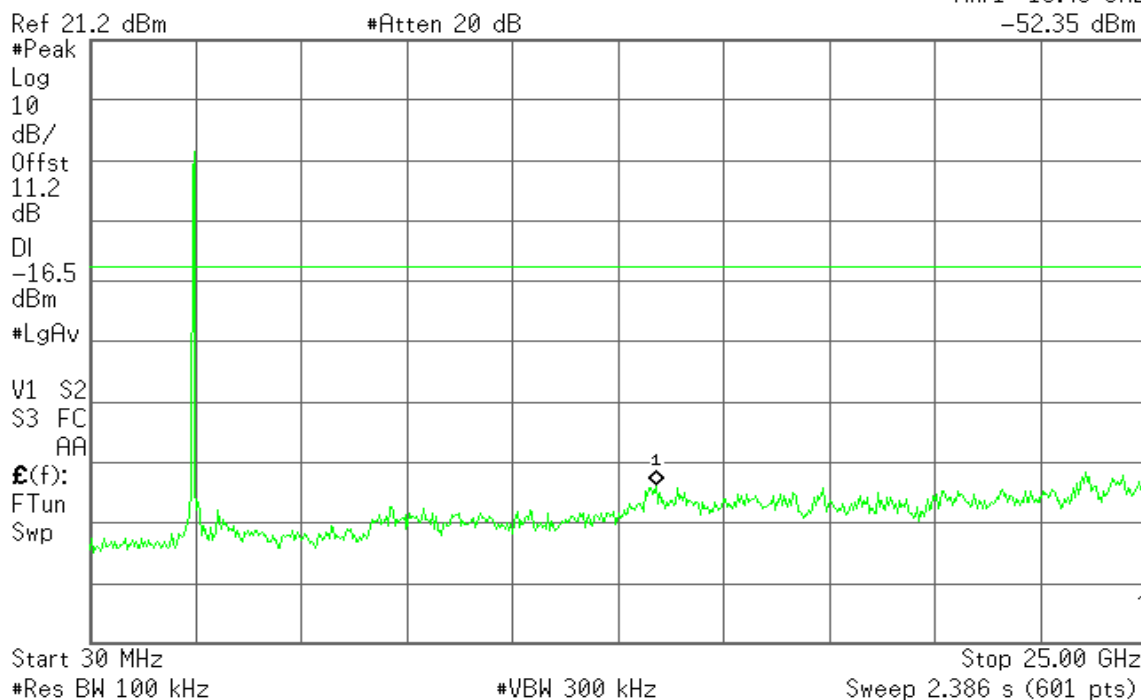


### 2467 MHz

Agilent

R T

Mkr1 13.43 GHz  
-52.35 dBm

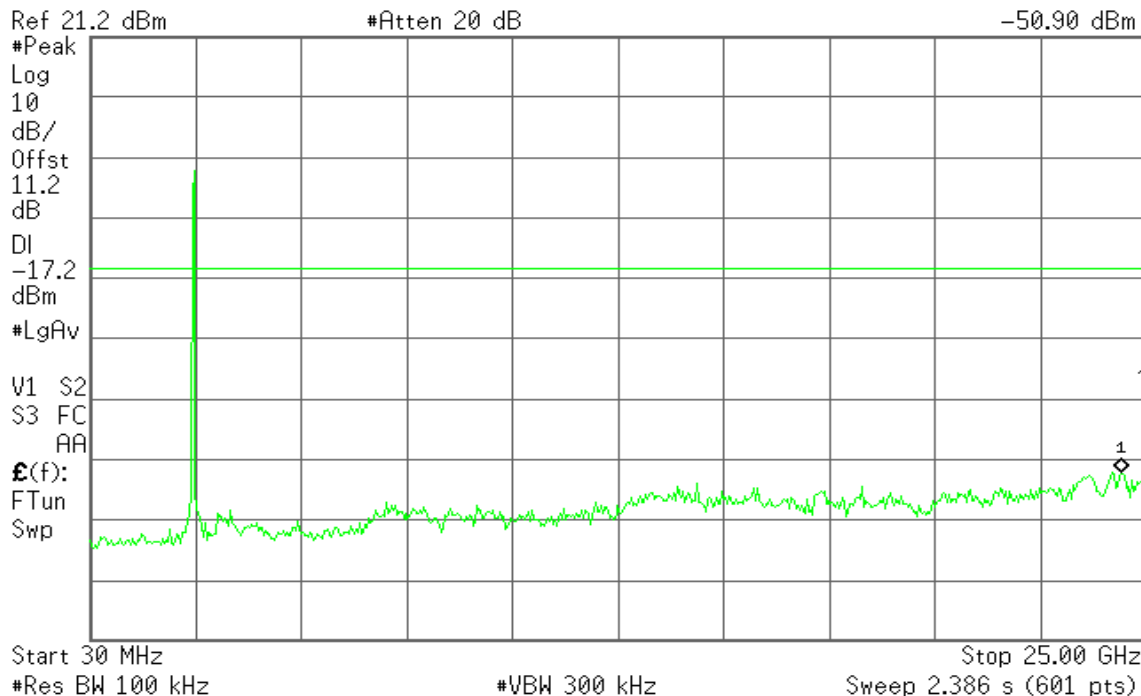


### 2472 MHz

Agilent

R T

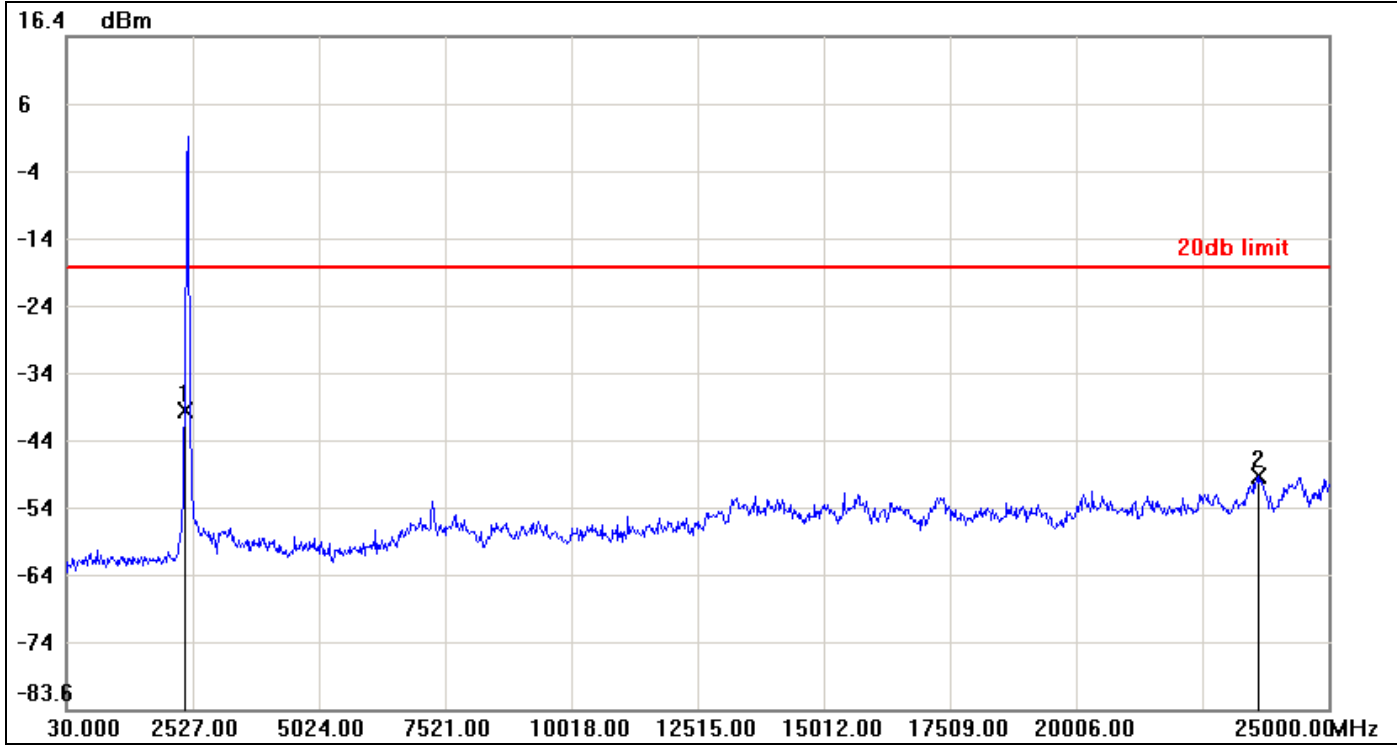
Mkr1 24.42 GHz  
-50.90 dBm





**IEEE 802.11n HT 40 MHz mode / Chain 0**

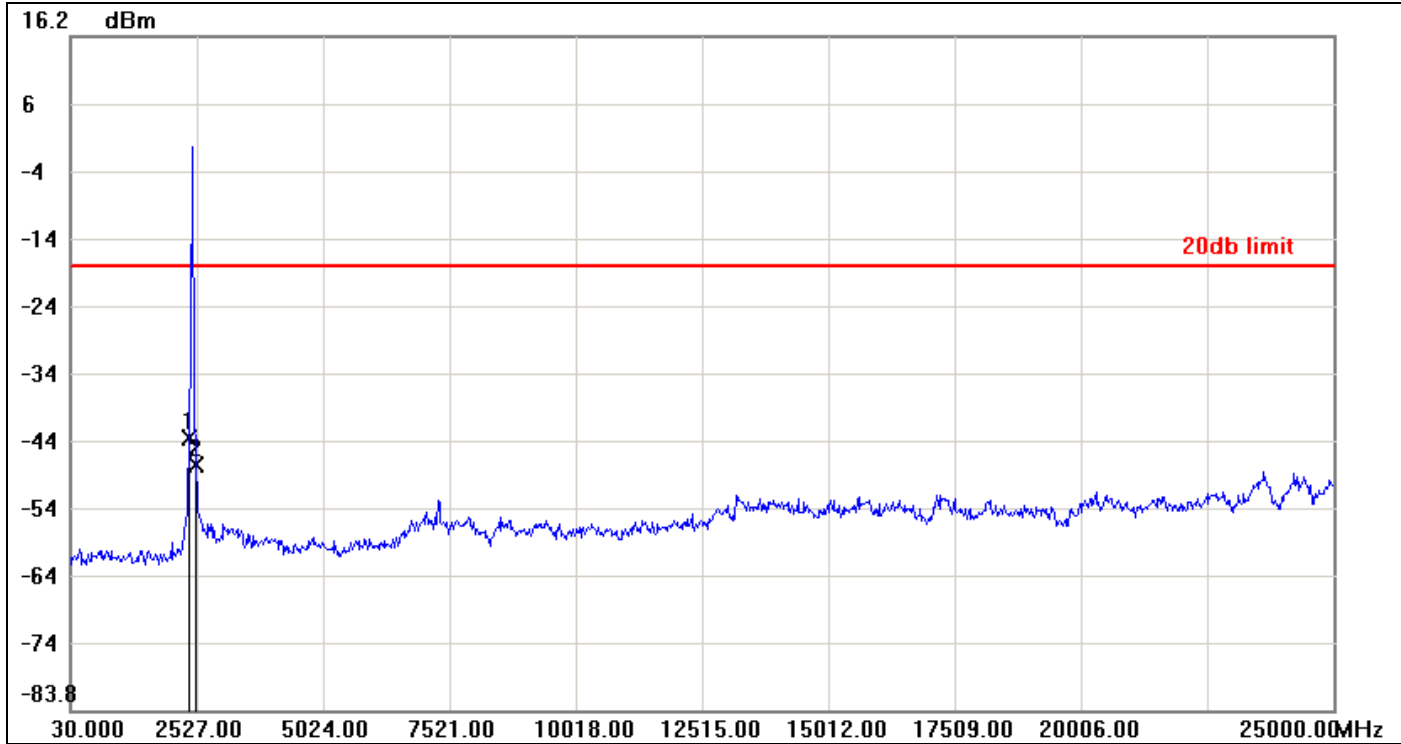
**2422 MHz**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-39.29	-17.93	-21.36
2	23626.6500	-49.01	-17.93	-31.08



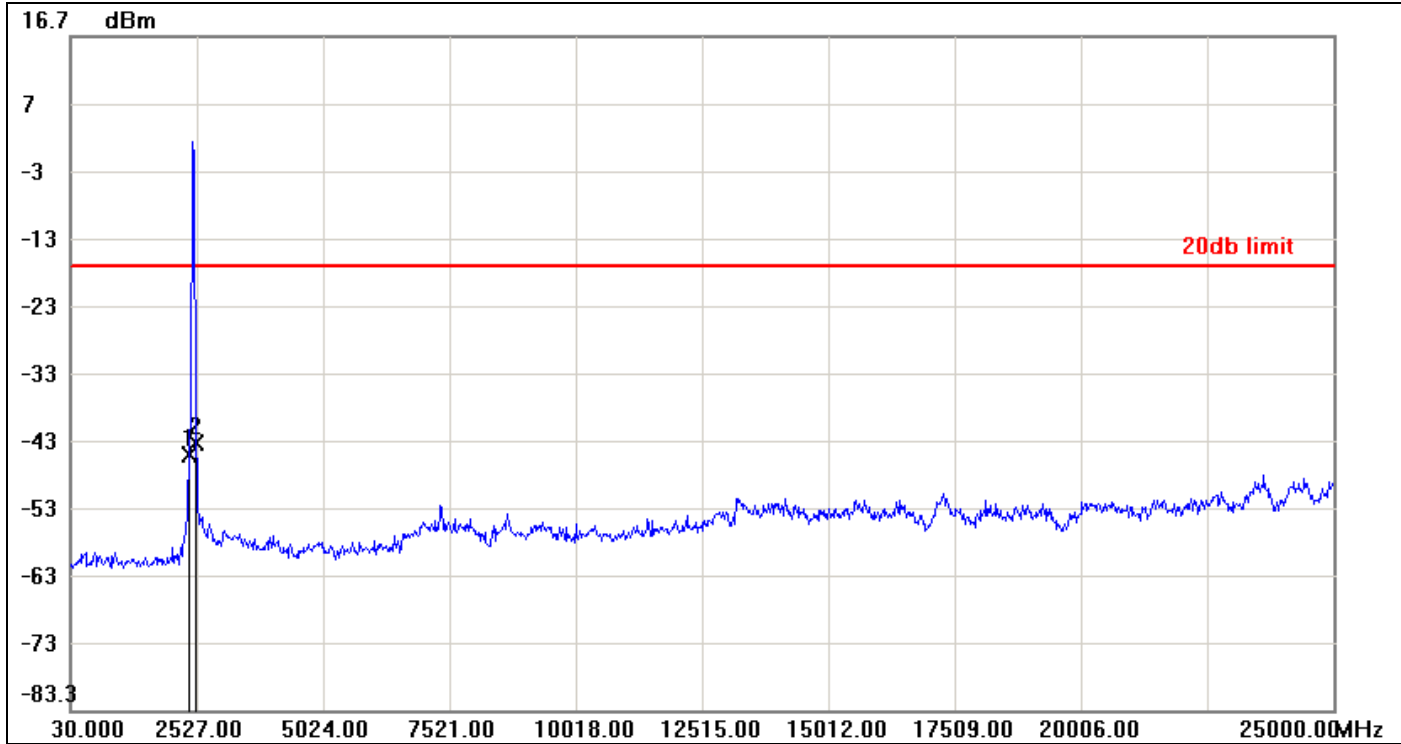
2437 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-43.46	-18.05	-25.41
2	2502.0300	-47.37	-18.05	-29.32



2452 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-45.40	-17.53	-27.87
2	2502.0300	-43.62	-17.53	-26.09

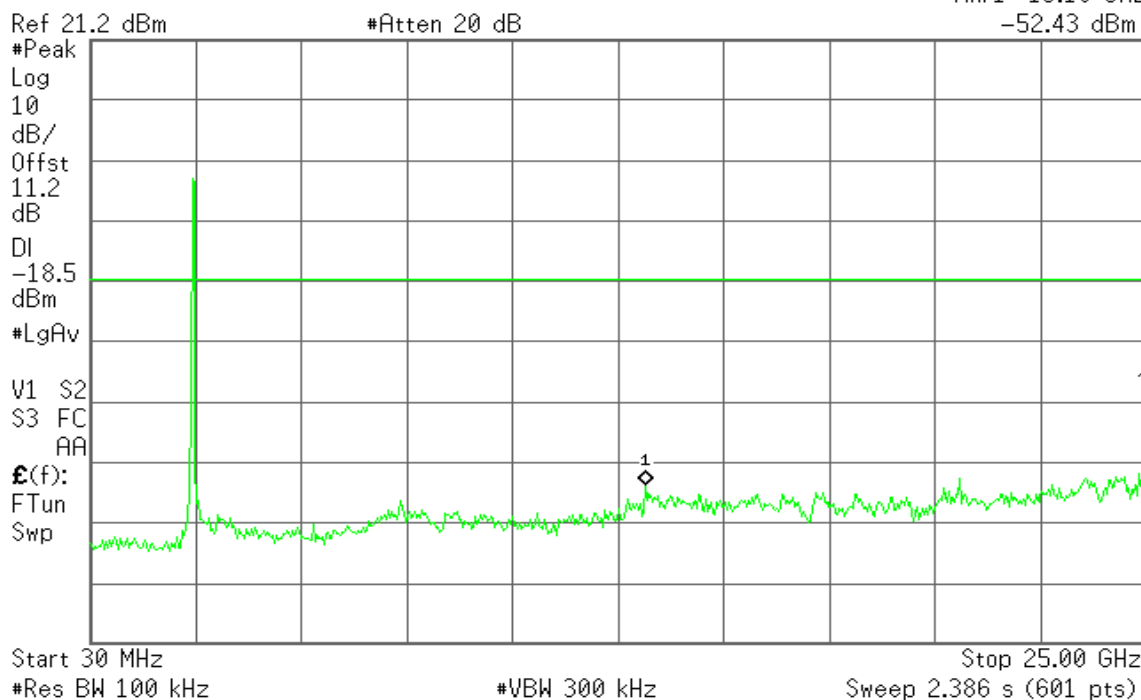


### 2467 MHz

Agilent

R T

Mkr1 13.18 GHz  
-52.43 dBm

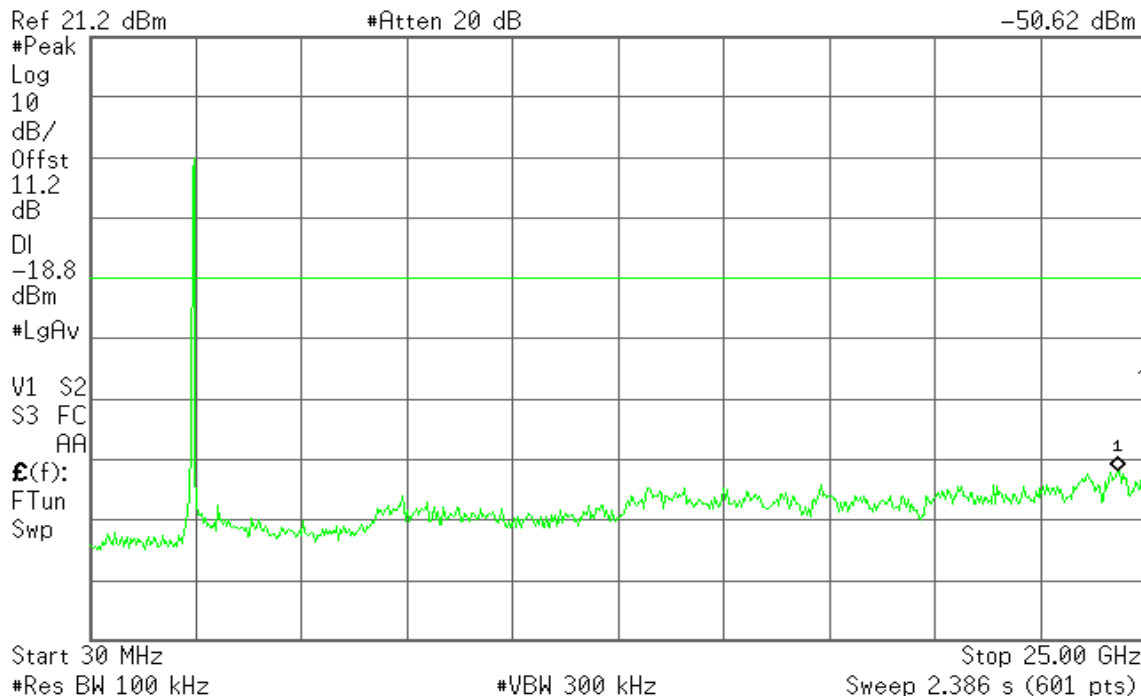


### 2472 MHz

Agilent

R T

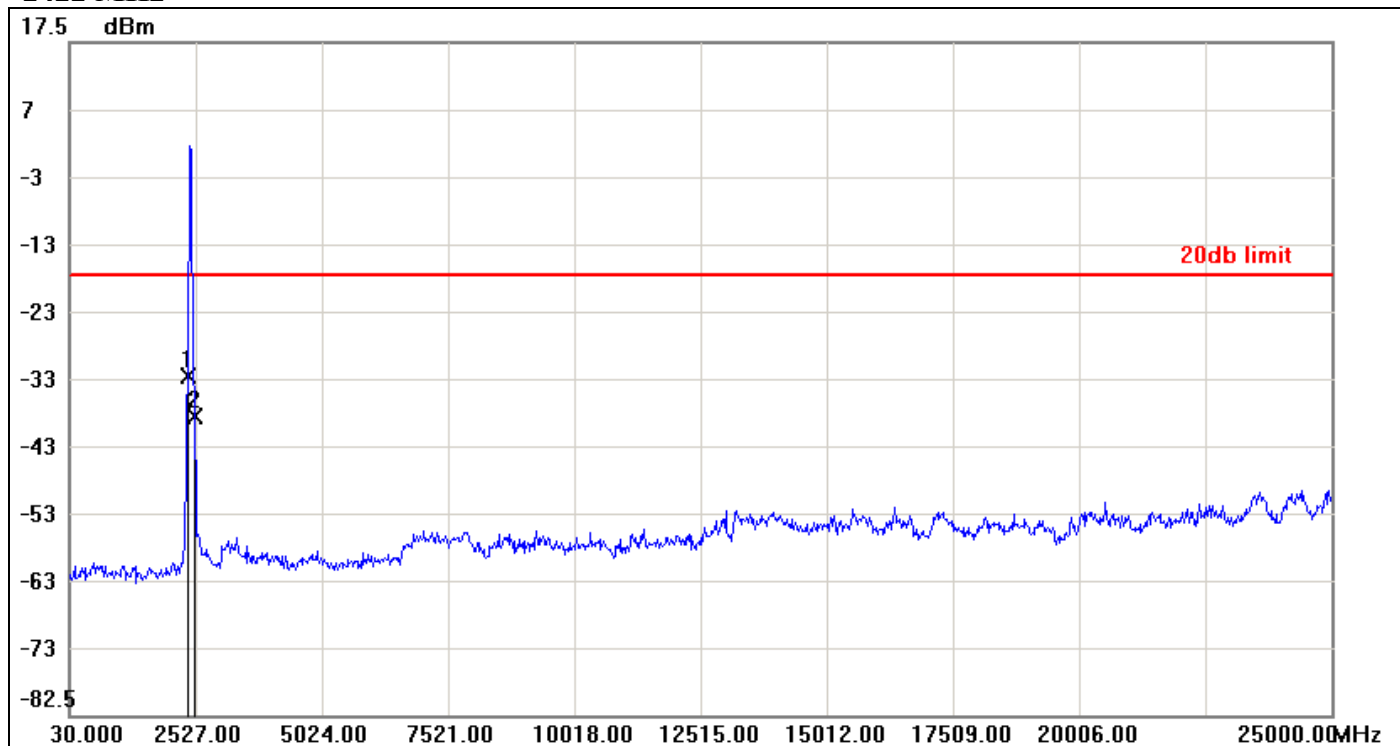
Mkr1 24.33 GHz  
-50.62 dBm





**IEEE 802.11n HT 40 MHz mode / Chain 1**

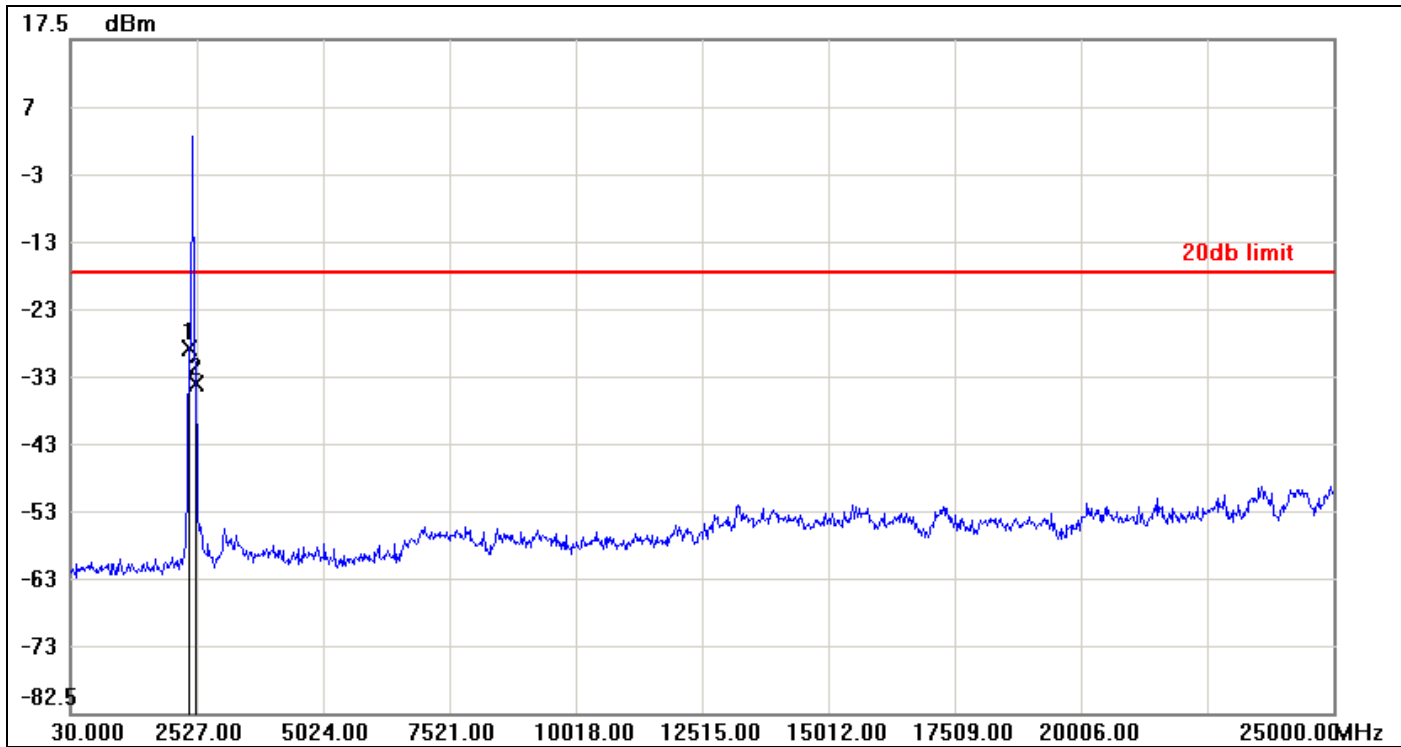
**2422 MHz**



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-32.16	-17.09	-15.07
2	2502.0300	-38.24	-17.09	-21.15



2437 MHz

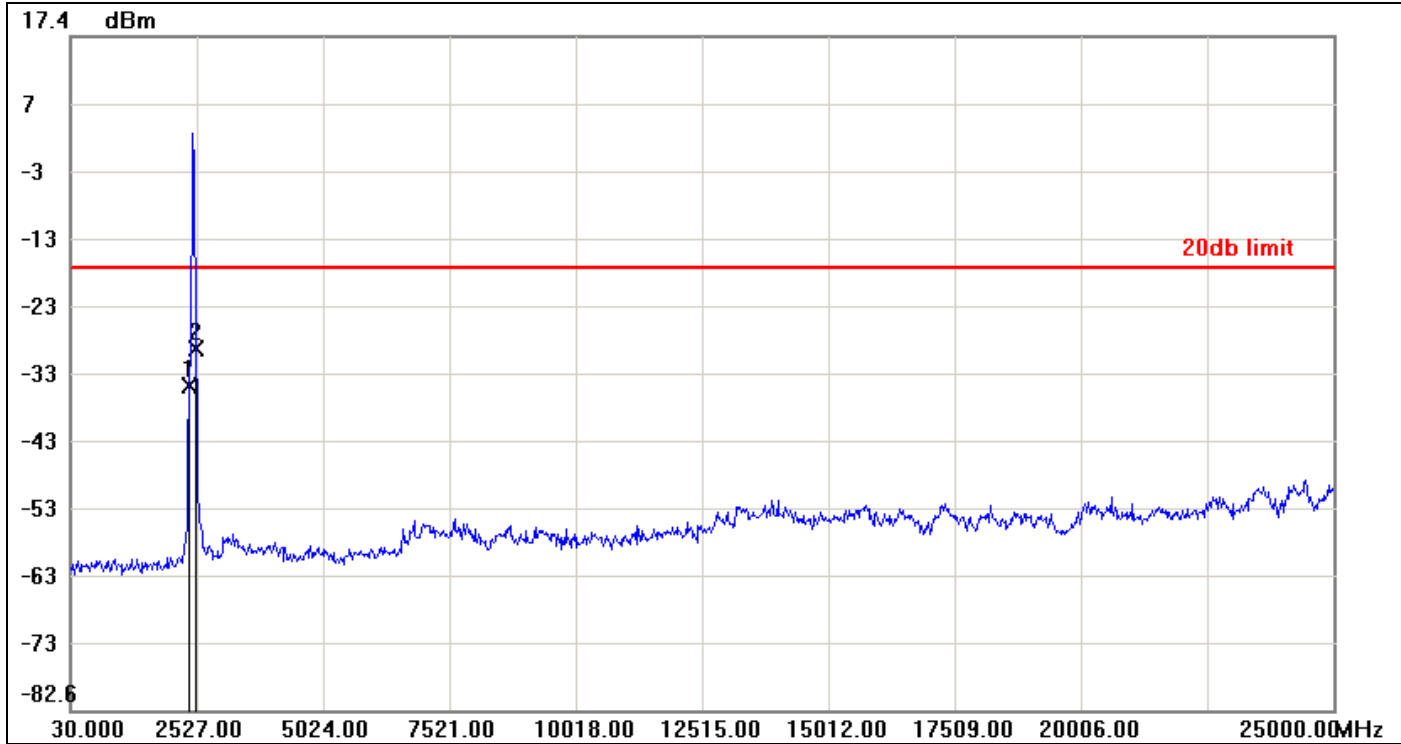


No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-28.45	-17.07	-11.38
2	2502.0300	-33.72	-17.07	-16.65





2452 MHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-34.59	-17.12	-17.47
2	2502.0300	-29.09	-17.12	-11.97

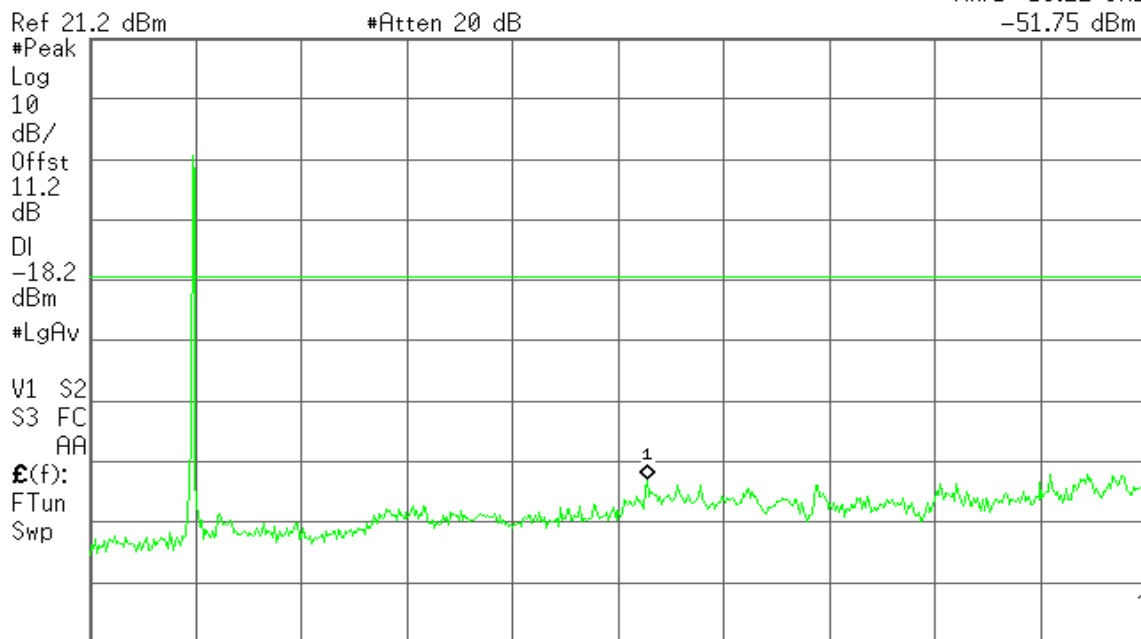


### 2467 MHz

Agilent

R T

Mkr1 13.22 GHz  
-51.75 dBm



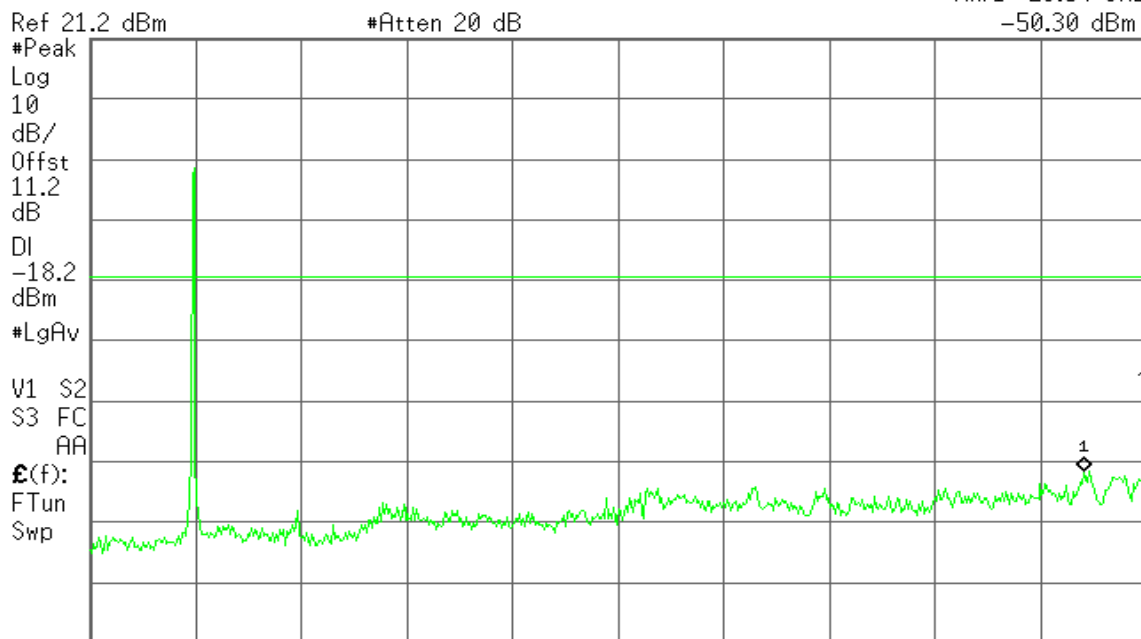
Start 30 MHz Stop 25.00 GHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)

### 2472 MHz

Agilent

R T

Mkr1 23.54 GHz  
-50.30 dBm



Start 30 MHz Stop 25.00 GHz  
#Res BW 100 kHz #VBW 300 kHz Sweep 2.386 s (601 pts)



## 7.7 RADIATED EMISSIONS

### LIMIT

1. According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ( $\mu\text{V}/\text{m}$ )	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

*Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.*

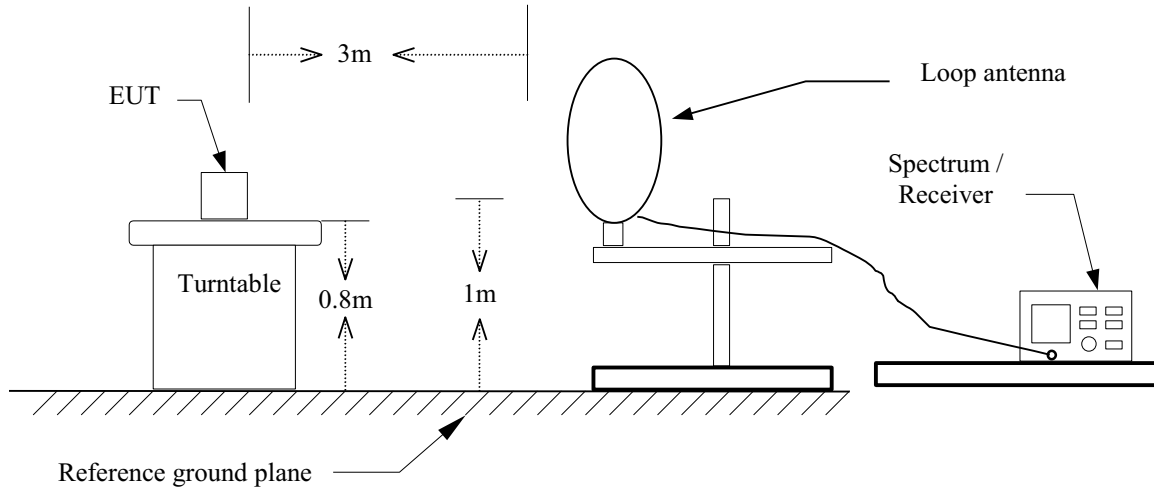
2. In the emission table above, the tighter limit applies at the band edges.

Frequency (MHz)	Field Strength ( $\mu\text{V}/\text{m}$ at 3-meter)	Field Strength (dB $\mu\text{V}/\text{m}$ at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

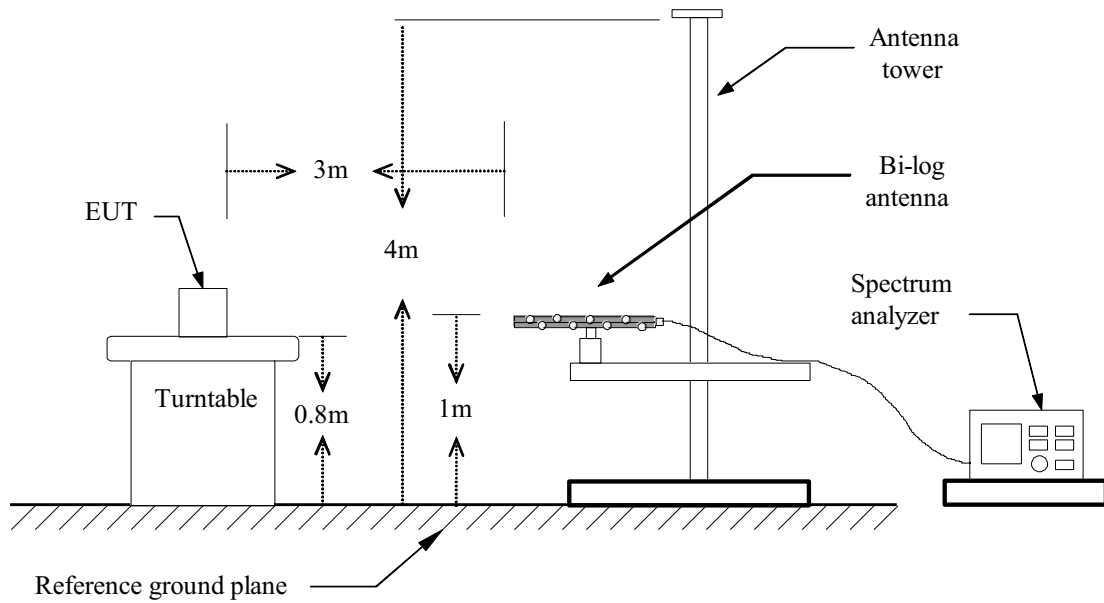


**Test Configuration**

**9kHz ~ 30MHz**

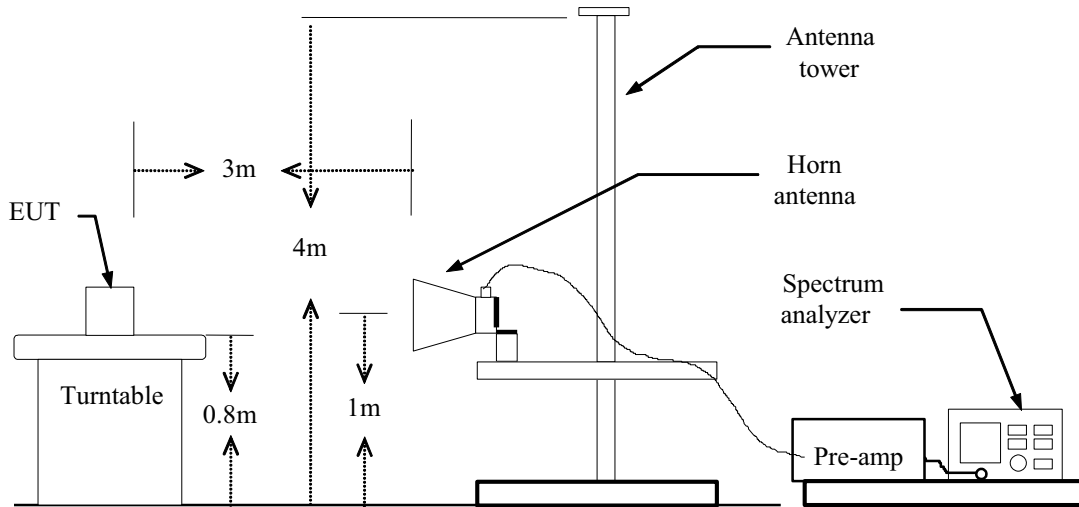


**30MHz ~ 1GHz**





Above 1 GHz





## TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

Below 1GHz:

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz:

(a) PEAK: RBW=VBW=10MHz / Sweep=AUTO

(b) AVERAGE: RBW=10Hz,  
if duty cycle  $\geq 98\%$ , VBW=1Hz.  
if duty cycle  $< 98\%$  VBW=1/T.

**IEEE 802.11b mode:**  $\geq 98\%$ , VBW=10Hz

**IEEE 802.11g mode:**  $\geq 98\%$ , VBW=10Hz

**IEEE 802.11n HT 20 MHz mode:**  $\geq 98\%$ , VBW=10Hz

**IEEE 802.11n HT 40 MHz mode:**  $96\% = \text{VBW } 2\text{kHz}$

7. Repeat above procedures until the measurements for all frequencies are complete.

## TEST RESULTS

*No non-compliance noted.*

**Below 1GHz****Operation Mode:** Normal Link**Test Date:** February 13, 2015**Temperature:** 27°C**Tested by:** Andy Shi**Humidity:** 53% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
36.7900	47.36	-14.85	32.51	40.00	-7.49	Peak	V
76.5600	52.10	-22.90	29.20	40.00	-10.80	Peak	V
259.8900	33.28	-17.68	15.60	46.00	-30.40	Peak	V
449.0400	35.30	-12.69	22.61	46.00	-23.39	Peak	V
668.2600	30.21	-9.12	21.09	46.00	-24.91	Peak	V
852.5600	28.68	-6.75	21.93	46.00	-24.07	Peak	V
36.7900	45.81	-14.85	30.96	40.00	-9.04	peak	H
76.5600	48.48	-22.90	25.58	40.00	-14.42	peak	H
320.0300	42.28	-15.92	26.36	46.00	-19.64	peak	H
533.4300	33.23	-11.28	21.95	46.00	-24.05	peak	H
749.7400	29.90	-7.88	22.02	46.00	-23.98	peak	H
893.3000	29.30	-6.24	23.06	46.00	-22.94	peak	H

**Remark:**

1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz)
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
4.  $Margin (dB) = Result (dBuV/m) - Limit (dBuV/m)$ .



**Above 1 GHz**

**Operation Mode:** TX / IEEE 802.11b / 2412 MHz

**Test Date:** February 10, 2015

**Temperature:** 27°C

**Tested by:** Dennis Li

**Humidity:** 53 % RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1438.000	51.42	-7.80	43.62	74.00	-30.38	peak	V
N/A							
2000.000	51.00	-4.88	46.12	74.00	-27.88	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).





Operation Mode: TX / IEEE 802.11b / 2437 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1998.000	50.83	-4.89	45.94	74.00	-28.06	peak	V
N/A							
1390.000	51.10	-8.01	43.09	74.00	-30.91	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / 2462 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1196.000	55.15	-8.87	46.28	74.00	-27.72	peak	V
N/A							
1222.000	52.25	-8.75	43.50	74.00	-30.50	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / 2467 MHz

Test Date: March 28, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1792.000	58.51	-5.98	52.53	74.00	-21.47	peak	V
3195.000	46.53	-1.64	44.89	74.00	-29.11	peak	V
4935.000	48.33	3.91	52.24	74.00	-21.76	peak	V
N/A							
2070.000	52.16	-4.95	47.21	74.00	-26.79	peak	H
4935.000	46.95	3.91	50.86	74.00	-23.14	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / 2472 MHz

Test Date: March 28, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1896.000	54.02	-5.43	48.59	74.00	-25.41	peak	V
3195.000	44.22	-1.64	42.58	74.00	-31.42	peak	V
4945.000	47.93	3.92	51.85	74.00	-22.15	peak	V
N/A							
2242.000	52.95	-4.37	48.58	74.00	-25.42	peak	H
4945.000	43.73	3.92	47.65	74.00	-26.35	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / 2412 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1196.000	53.05	-8.87	44.18	74.00	-29.82	peak	V
N/A							
1398.000	52.00	-7.98	44.02	74.00	-29.98	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / 2437 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1396.000	53.18	-7.99	45.19	74.00	-28.81	peak	V
N/A							
1476.000	50.34	-7.64	42.70	74.00	-31.30	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



**Operation Mode:** TX / IEEE 802.11g / 2462 MHz

**Test Date:** February 10, 2015

**Temperature:** 27°C

**Tested by:** Dennis Li

**Humidity:** 53 % RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1442.000	50.24	-7.79	42.45	74.00	-31.55	peak	V
N/A							
1596.000	50.05	-7.02	43.03	74.00	-30.97	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / 2467 MHz

Test Date: March 28, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1798.000	57.59	-5.95	51.64	74.00	-22.36	peak	V
3185.000	46.75	-1.67	45.08	74.00	-28.92	peak	V
4930.000	44.01	3.90	47.91	74.00	-26.09	peak	V
N/A							
2000.000	51.58	-4.88	46.70	74.00	-27.30	peak	H
4935.000	38.81	3.91	42.72	74.00	-31.28	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).





Operation Mode: TX / IEEE 802.11g / 2472 MHz

Test Date: March 28, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1796.000	55.90	-5.96	49.94	74.00	-24.06	peak	V
3200.000	47.49	-1.63	45.86	74.00	-28.14	peak	V
4940.000	42.56	3.91	46.47	74.00	-27.53	peak	V
N/A							
1792.000	51.87	-5.98	45.89	74.00	-28.11	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 20 MHz mode / 2412 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1724.000	49.44	-6.34	43.10	74.00	-30.90	peak	V
N/A							
1396.000	52.92	-7.99	44.93	74.00	-29.07	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 20 MHz mode / 2437 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1196.000	52.28	-8.87	43.41	74.00	-30.59	peak	V
N/A							
1796.000	49.15	-5.96	43.19	74.00	-30.81	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 20 MHz mode / 2472 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1198.000	55.56	-8.86	46.70	74.00	-27.30	peak	V
N/A							
1264.000	52.06	-8.57	43.49	74.00	-30.51	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 20 MHz mode / 2467 MHz

Test Date: March 28, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1796.000	57.66	-5.96	51.70	74.00	-22.30	peak	V
4940.000	43.35	3.91	47.26	74.00	-26.74	peak	V
7395.000	38.75	10.80	49.55	74.00	-24.45	peak	V
N/A							
1792.000	53.53	-5.98	47.55	74.00	-26.45	peak	H
N/A							

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 20 MHz mode / 2472 MHz

Test Date: March 28, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1792.000	57.62	-5.98	51.64	74.00	-22.36	peak	V
4945.000	43.58	3.92	47.50	74.00	-26.50	peak	V
7420.000	38.86	10.82	49.68	74.00	-24.32	peak	V
N/A							
1996.000	50.85	-4.90	45.95	74.00	-28.05	peak	H
3195.000	43.96	-1.64	42.32	74.00	-31.68		
4940.000	39.88	3.91	43.79	74.00	-30.21	peak	H
N/A							

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 40 MHz mode / 2422 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1396.000	52.01	-7.99	44.02	74.00	-29.98	peak	V
N/A							
1400.000	51.75	-7.97	43.78	74.00	-30.22	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 40 MHz mode / 2437 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1400.000	51.63	-7.97	43.66	74.00	-30.34	peak	V
N/A							
1396.000	52.88	-7.99	44.89	74.00	-29.11	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).





Operation Mode: TX / IEEE 802.11n HT 40 MHz mode / 2452 MHz

Test Date: February 10, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1324.000	51.20	-8.30	42.90	74.00	-31.10	peak	V
N/A							
1394.000	51.86	-8.00	43.86	74.00	-30.14	peak	H
N/A							

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 40 MHz mode / 2467 MHz

Test Date: March 28, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1500.000	52.21	-7.53	44.68	74.00	-29.32	peak	V
3200.000	45.26	-1.63	43.63	74.00	-30.37	peak	V
4910.000	47.03	3.89	50.92	74.00	-23.08	peak	V
N/A							
1594.000	57.88	-7.03	50.85	74.00	-23.15	peak	H
4910.000	41.56	3.89	45.45	74.00	-28.55	peak	H
N/A							

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT 40 MHz mode / 2472 MHz

Test Date: March 28, 2015

Temperature: 27°C

Tested by: Dennis Li

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant. Pol. (H/V)
1798.000	56.09	-5.95	50.14	74.00	-23.86	peak	V
4920.000	45.67	3.90	49.57	74.00	-24.43	peak	V
N/A							
1800.000	53.84	-5.94	47.90	74.00	-26.10	peak	H
4925.000	41.33	3.90	45.23	74.00	-28.77	peak	H
N/A							

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



## 7.8 POWERLINE CONDUCTED EMISSIONS

### LIMIT

According to §15.207(a), except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

\* Decreases with the logarithm of the frequency.

### Test Configuration

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

### TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.



### TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

#### Test Data

**Operation Mode:** Normal Link                      **Test Date:** February 14, 2015  
**Temperature:** 24°C                                      **Tested by:** Ken Tsai  
**Humidity:** 50% RH

Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB/m)	QP Result (dBuV/m)	AV Result (dBuV/m)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.2678	33.00	31.98	9.58	42.58	41.56	61.18	51.19	-18.60	-9.63	L1
0.4876	22.71	16.02	9.58	32.29	25.60	56.21	46.21	-23.92	-20.61	L1
0.5197	36.26	27.46	9.58	45.84	37.04	56.00	46.00	-10.16	-8.96	L1
0.7229	28.38	17.64	9.59	37.97	27.23	56.00	46.00	-18.03	-18.77	L1
0.8562	28.61	17.66	9.59	38.20	27.25	56.00	46.00	-17.80	-18.75	L1
2.5752	26.91	16.17	9.60	36.51	25.77	56.00	46.00	-19.49	-20.23	L1
0.2679	32.58	31.73	9.63	42.21	41.36	61.18	51.18	-18.97	-9.82	L2
0.5039	28.72	19.06	9.63	38.35	28.69	56.00	46.00	-17.65	-17.31	L2
0.5917	26.90	17.19	9.63	36.53	26.82	56.00	46.00	-19.47	-19.18	L2
0.7316	22.93	13.73	9.64	32.57	23.37	56.00	46.00	-23.43	-22.63	L2
1.4299	18.52	11.75	9.64	28.16	21.39	56.00	46.00	-27.84	-24.61	L2
2.5111	20.16	12.60	9.65	29.81	22.25	56.00	46.00	-26.19	-23.75	L2

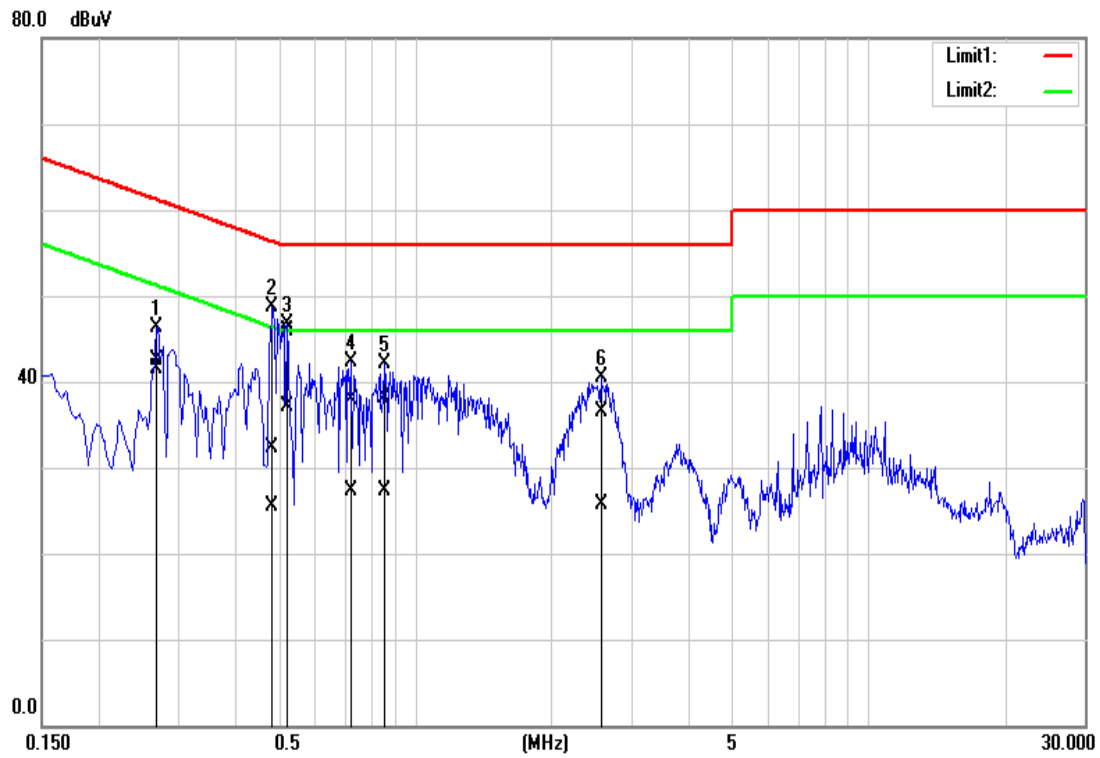
**Remark:**

1. Measuring frequencies from 0.15 MHz to 30MHz.
2. The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.
3. The IF bandwidth of SPA between 0.15MHz and 30MHz was 10 kHz; the IF bandwidth of Test Receiver between 0.15MHz and 30MHz was 9 kHz;
4. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)



### Test Plots

#### Conducted emissions (Line 1)



#### Conducted emissions (Line 2)

