



**FCC 47 CFR PART 15 SUBPART E**

**TEST REPORT**

**For**

**Tablet Computer**

**Model:**

**Satellite Click LX0W-C, Satellite Click10 LX0W-C, Satellite Click LX5W-C,  
Satellite Click10 LX5W-C, LX0W-C, LX5W-C, LX0-C, LX5-C, Encore  
LX0-C, Encore 10 LX0-C, Encore LX5-C, Encore 10 LX5-C, Encore 10K,  
Encore 10K LX0W-C, Encore 10K LX5W-C**

**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.**

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**Issued Date: May 27, 2015**



Testing Laboratory  
1309

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**Revision History**

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	May 27, 2015	Initial Issue	ALL	Doris Chu



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# 1. TEST RESULT CERTIFICATION

**Applicant:** Pegatron Corporation  
 5F., NO. 76, Ligong ST., Beitou District, Taipei City 112  
 Taiwan(R.O.C.)

**Equipment Under Test:** Tablet Computer

**Trade Name:** TOSHIBA

**Model:** Satellite Click LX0W-C, Satellite Click10 LX0W-C, Satellite Click LX5W-C, Satellite Click10 LX5W-C, LX0W-C, LX5W-C, LX0-C, LX5-C, Encore LX0-C, Encore 10 LX0-C, Encore LX5-C, Encore 10 LX5-C, Encore 10K, Encore 10K LX0W-C, Encore 10K LX5W-C

**Date of Test:** May 16 ~ 26, 2015

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

### We hereby certify that:

Compliance Certification Services Inc. tested the above equipment. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2009 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.407.

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

Approved by:

Reviewed by:

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Miller Lee  
 Manager  
 Compliance Certification Services Inc.

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Angel Cheng  
 Section Manager  
 Compliance Certification Services Inc.



## 2. EUT DESCRIPTION

<b>Product</b>	Tablet Computer				
<b>Trade Name</b>	TOSHIBA				
<b>Model Number</b>	Satellite Click LX0W-C, Satellite Click10 LX0W-C, Satellite Click LX5W-C, Satellite Click10 LX5W-C, LX0W-C, LX5W-C, LX0-C, LX5-C, Encore LX0-C, Encore 10 LX0-C, Encore LX5-C, Encore 10 LX5-C, Encore 10K, Encore 10K LX0W-C, Encore 10K LX5W-C				
<b>Model Discrepancy</b>	All the above models are just for marketing purpose only.				
<b>Received Date</b>	May 6, 2015				
<b>Module</b>	Broadcom / BCM43340(AW-AH640)				
<b>Power Supply</b>	<p>1. Powered from Adapter :</p> <p>PHIHONG / PSAC15R-050 I/P: 100-240Vac , 0.5A , 50~60Hz O/P: 5Vdc, 3A</p> <p>2. Powered from Battery :</p> <p>LG (Trademark: TOSHIBA) / PA5234U-1BRS Rating: 3.75Vdc, 21.8Wh, 5820mAh</p>				
<b>Operating Frequency Range &amp; Number of Channels</b>		<b>Mode</b>	<b>Frequency Range (MHz)</b>	<b>Number of Channels</b>	
	UNII Band I	IEEE 802.11a	5180 – 5240	4 Channels	
		IEEE 802.11n HT 20 MHz	5180 – 5240	4 Channels	
		IEEE 802.11n HT 40 MHz	5190 ~ 5230	2 Channels	
	UNII Band II	IEEE 802.11a	5260 - 5320	4 Channels	
		IEEE 802.11n HT 20 MHz	5260 - 5320	4 Channels	
		IEEE 802.11n HT 40 MHz	5270 ~ 5310	2 Channels	
	UNII Band III	IEEE 802.11a	5500 ~ 5700	11 Channels	
		IEEE 802.11n HT 20 MHz	5500 ~ 5700	11 Channels	
		IEEE 802.11n HT 40 MHz	5510 ~ 5670	5 Channels	
<b>Transmit Power</b>		<b>Mode</b>	<b>Frequency Range (MHz)</b>	<b>Output Power (dBm)</b>	<b>Output Power (w)</b>
	UNII Band I	IEEE 802.11a	5180 – 5240	8.86	0.0077
		IEEE 802.11n HT 20 MHz	5180 – 5240	8.90	0.0078
		IEEE 802.11n HT 40 MHz	5190 ~ 5230	9.77	0.0095
	UNII Band II	IEEE 802.11a	5260 - 5320	8.96	0.0079
		IEEE 802.11n HT 20 MHz	5260 - 5320	8.35	0.0068
		IEEE 802.11n HT 40 MHz	5270 ~ 5310	9.72	0.0094
	UNII Band III	IEEE 802.11a	5500 ~ 5700	8.90	0.0078
		IEEE 802.11n HT 20 MHz	5500 ~ 5700	8.91	0.0078
IEEE 802.11n HT 40 MHz		5510 ~ 5670	9.49	0.0089	
<b>Modulation Technique</b>	OFDM (QPSK, BPSK, 16-QAM, 64-QAM)				



<b>Transmit Data Rate</b>	IEEE 802.11a mode: 54, 48, 36, 24, 18, 12, 9, 6 Mbps IEEE 802.11n HT 20 mode: OFDM (6.5, 7.2, 13, 14.4, 14.44, 19.5, 21.7, 26, 28.89, 28.9, 39, 43.3, 43.33 52, 57.78, 57.8, 58.5, 65.0, 72.2, 78, 86.67, 104, 115.56, 117, 130, 144.44 Mbps) IEEE 802.11n HT 40 mode: OFDM (13.5, 15, 27, 30, 40.5, 45, 54, 60, 81, 90, 108, 120, 121.5, 135, 150, 162, 180, 216, 240, 243, 270, 300 Mbps)
<b>Antenna Specification</b>	Gain: 2.88dBi
<b>Antenna Designation</b>	Chip Antenna

**Remark:**

1. The sample selected for test was production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for FCC ID: **VUIPDALD10-C** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.



### **3. TEST METHODOLOGY**

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2009 Radiated testing was performed at an antenna to EUT distance 3 meters.

The tests documented in this report were performed in accordance with ANSI C63.10: 2009, FCC CFR 47 Part 15.207, 15.209, 15.407 and KDB 789033 D02 General UNII Test Procedures New Rules v01.

#### **3.1 EUT CONFIGURATION**

The EUT configuration for testing is installed for RF field strength measurement to meet the Commissions requirement, and is operated in a manner intended to generate the maximum emission in a continuous normal application.

#### **3.2 EUT EXERCISE**

The EUT is operated in the engineering mode to fix the Tx frequency for the purposes of measurement.

According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

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

##### **Conducted Emissions**

The EUT is placed on the turntable, which is positioned at 0.8 m above the ground plane. According to the requirements in ANSI C63.10: 2009, the conducted emission from the EUT is measured in the frequency range between 0.15 MHz and 30MHz, using the CISPR Quasi-Peak detector mode.

##### **Radiated Emissions**

The EUT is placed on the turntable, which is 1.5 m above the ground plane. The turntable is then rotated for 360 degrees to determine the proper orientation for the maximum emission level. The EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission level. And, each emission is to be maximized by changing the horizontal and vertical polarization of the receiving antenna. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in ANSI C63.10: 2009.



### 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 Click 10 LX0W-C) had been tested under operating condition.

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, which worst case was in normal link mode only.

#### **UNII Band I:**

##### **IEEE 802.11a for 5180 ~ 5240MHz:**

Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6Mbps data rate were chosen for full testing.

##### **IEEE 802.11n HT 20 MHz for 5180 ~ 5240MHz:**

Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6.5Mbps data rate were chosen for full testing.

##### **IEEE 802.11n HT 40 MHz Channel for 5190 ~ 5230MHz:**

Channel Low (5190MHz) and Channel High (5230MHz) with 13.5Mbps data rate were chosen for full testing.

#### **UNII Band II:**

##### **IEEE 802.11a for 5260 ~ 5320MHz:**

Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6Mbps data rate were chosen for full testing.

##### **IEEE 802.11n HT 20 MHz for 5260 ~ 5320MHz:**

Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6.5Mbps data rate were chosen for full testing.

##### **IEEE 802.11n HT 40 MHz for 5270 ~ 5310MHz:**

Channel Low (5270MHz) and Channel High (5310MHz) with 13.5Mbps data rate were chosen for full testing.



**UNII Band III:**

**IEEE 802.11a for 5500 ~ 5700MHz:**

Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6Mbps data rate were chosen for full testing.

**IEEE 802.11n HT 20 MHz for 5500 ~ 5700MHz:**

Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6.5Mbps data rate were chosen for full testing.

**IEEE 802.11n HT 40 MHz for 5510 ~ 5670MHz:**

Channel Low (5510MHz), Channel Mid (5590MHz) and Channel High (5670MHz) with 13.5Mbps data rate were chosen for full testing.

**For Conducted Emissions and Radiated Emissions**

The field strength of spurious emission was measured in the following position: The EUT has Notebook mode, stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

**For Powerline conducted emissions**

The field strength of spurious emission was measured in the following position: The EUT has Notebook mode, stand-up position (Z axis), lie-down position (X, Y axis). 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	06/06/2016
LISN	SCHWARZBECK	NSLK 8127	8127-541	11/25/2015
Capacitive Voltage Probe	FCC	F-CVP-1	100185	03/12/2016
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., Luchu Hsiang, Taoyuan Hsien 338, Taiwan

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

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10: 2009 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, ridged waveguide, horn and/or Loop. 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 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.



### 5.4 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	 Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	 IC 2324G-1 IC 2324G-2

\* 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 I for the actual connections between EUT and support equipment.

### 6.2 SUPPORT EQUIPMENT

No.	Device Type	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.*



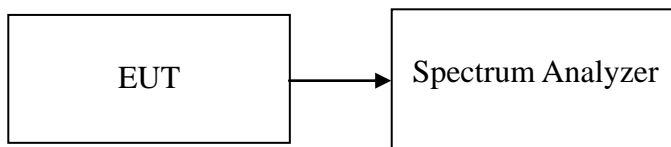
## 7. FCC PART 15 REQUIREMENTS

### 7.1 26 dB EMISSION BANDWIDTH

#### LIMIT

According to §15.303(c), for purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Compliance with the emissions limits is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

#### 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 > 1%EBW, VBW > RBW, Span >26dB bandwidth, and Sweep = auto.
4. Mark the peak frequency and -26dB (upper and lower) frequency.
5. Repeat until all the rest channels were investigated.

#### TEST RESULTS

*No non-compliance noted*





**Test Data**

**Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	23.573	16.8670
44	5220	27.216	16.9497
48	5240	27.962	16.9515

**Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	22.084	17.6501
44	5220	19.569	17.6350
48	5240	20.207	17.5722

**Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
38	5190	40.439	36.2218
46	5230	40.022	36.1393

**Test mode: IEEE 802.11a mode / 5260 ~ 5320MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
52	5260	27.629	16.9191
56	5280	29.508	17.0526
60	5300	28.779	17.0269
64	5320	26.720	17.0162

**Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
52	5260	21.287	17.6073
56	5280	22.847	17.6596
60	5300	23.718	17.6391
64	5320	23.283	17.6312

**Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
54	5270	41.228	36.0994
62	5310	43.828	36.0997



**Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
100	5500	29.289	17.1913
116	5580	27.830	17.1296
140	5700	35.426	18.1073

**Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
100	5500	27.828	17.7268
116	5580	25.283	17.6904
140	5700	27.813	17.7888

**Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz**

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
102	5510	40.163	36.1262
110	5550	50.612	36.4959
134	5670	47.467	36.1931



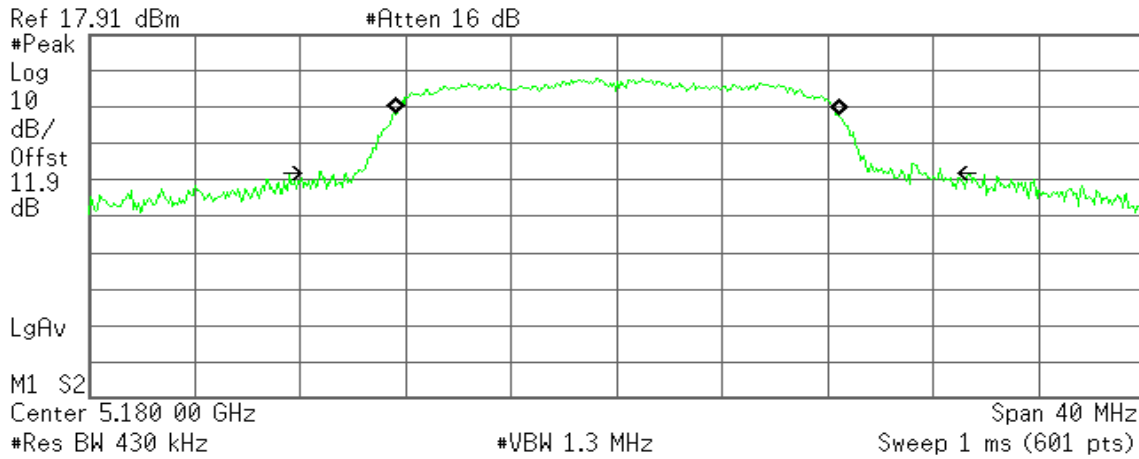
**Test Plot**

**IEEE 802.11a for 5180 ~ 5240MHz**

**5180MHz**

Agilent

R T



**Occupied Bandwidth**

**16.8670 MHz**

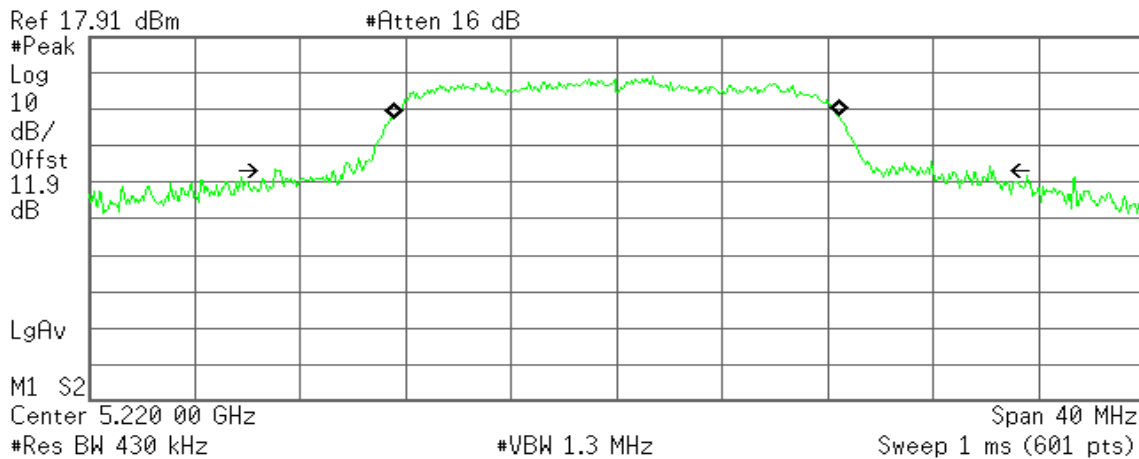
**Occ BW % Pwr 99.00 %**  
**x dB -26.00 dB**

**Transmit Freq Error 17.384 kHz**  
**x dB Bandwidth 23.573 MHz**

**5220MHz**

Agilent

R T



**Occupied Bandwidth**

**16.9497 MHz**

**Occ BW % Pwr 99.00 %**  
**x dB -26.00 dB**

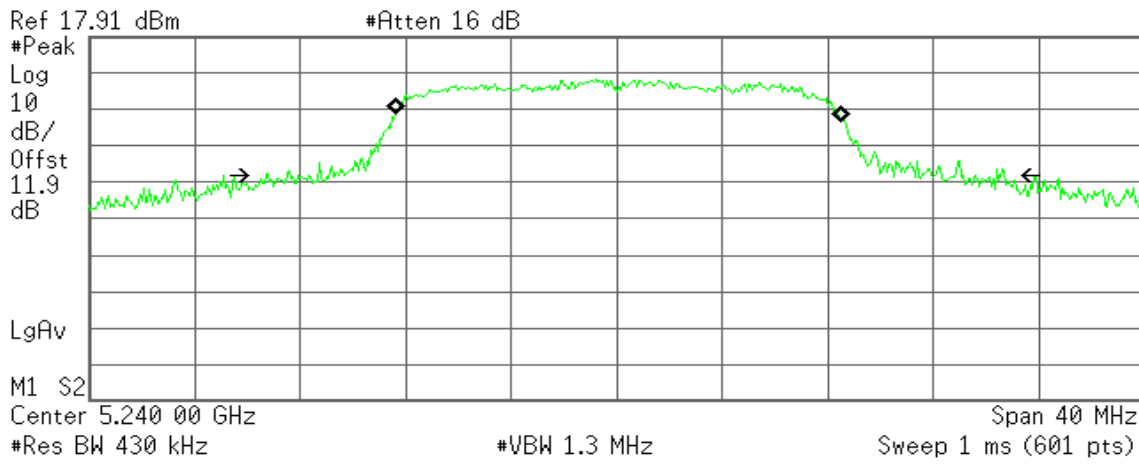
**Transmit Freq Error -11.274 kHz**  
**x dB Bandwidth 27.216 MHz**



5240MHz

Agilent

R T



Occupied Bandwidth  
16.9515 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 58.029 kHz  
x dB Bandwidth 27.962 MHz

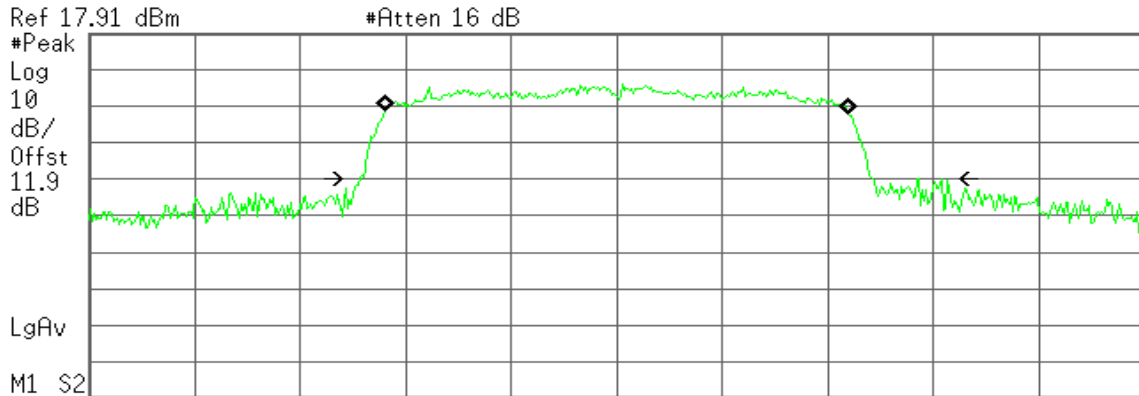


**IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz**

**5180MHz**

Agilent

R T



Center 5.180 00 GHz Span 40 MHz

#Res BW 430 kHz #VBW 1.3 MHz Sweep 1 ms (601 pts)

**Occupied Bandwidth**  
17.6501 MHz

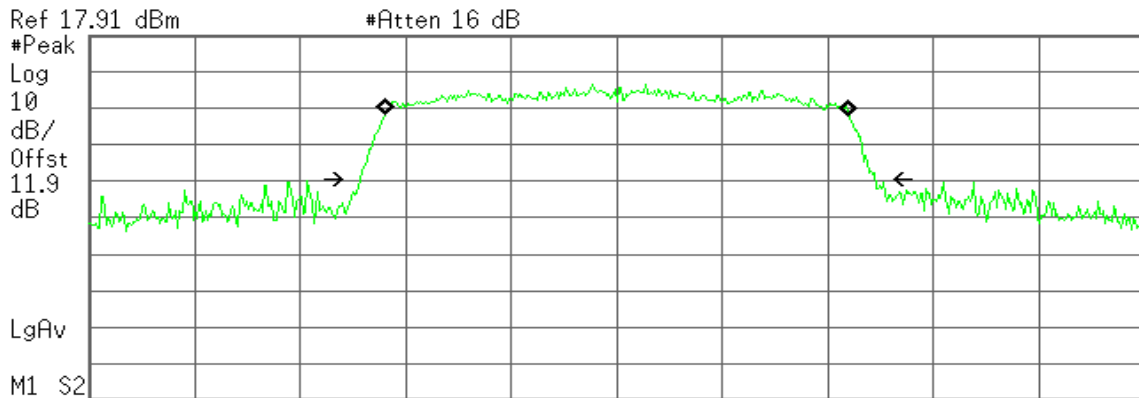
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 7.608 kHz  
**x dB Bandwidth** 22.084 MHz

**5220MHz**

Agilent

R T



Center 5.220 00 GHz Span 40 MHz

#Res BW 430 kHz #VBW 1.3 MHz Sweep 1 ms (601 pts)

**Occupied Bandwidth**  
17.6350 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

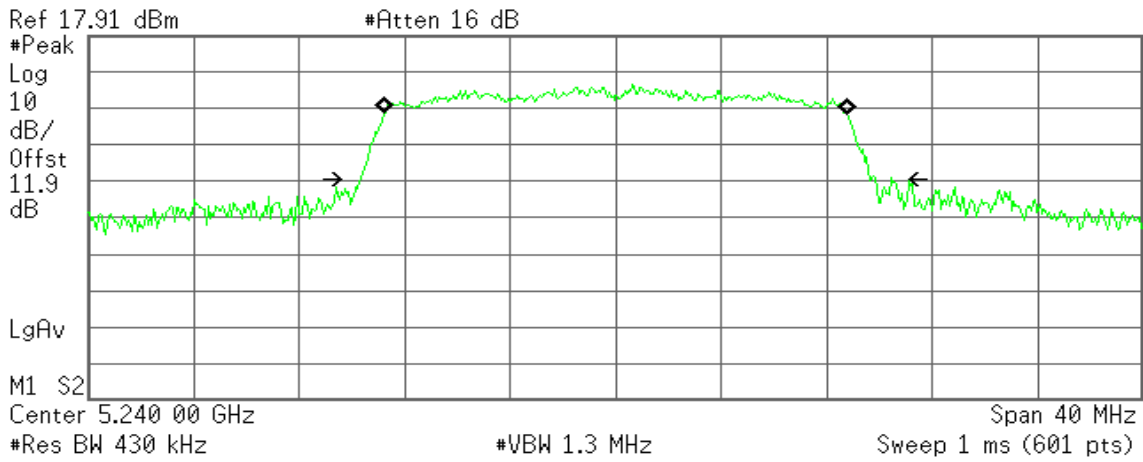
**Transmit Freq Error** 9.382 kHz  
**x dB Bandwidth** 19.569 MHz



### 5240MHz

Agilent

R T



**Occupied Bandwidth**  
**17.5722 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 4.192 kHz  
**x dB Bandwidth** 20.207 MHz

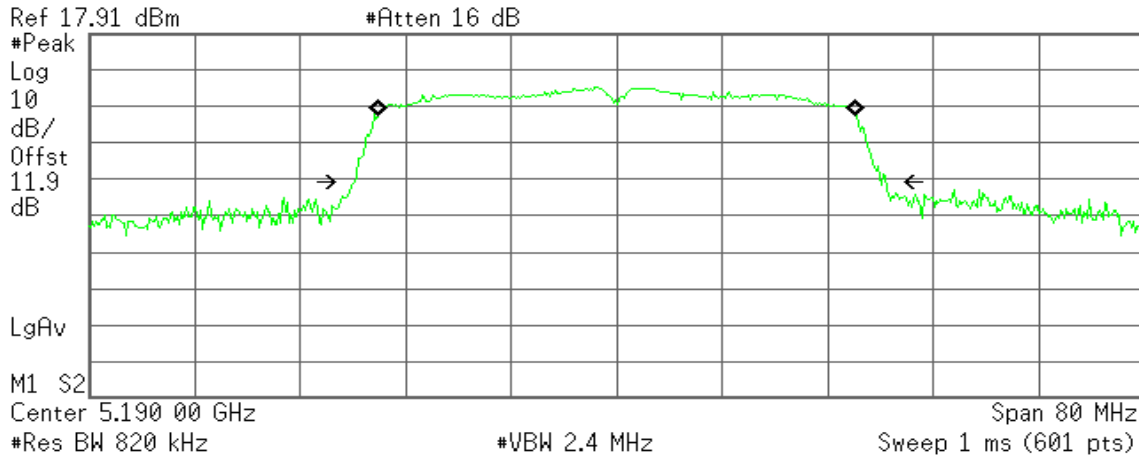


**IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz**

**5190MHz**

Agilent

R T



**Occupied Bandwidth**  
36.2218 MHz

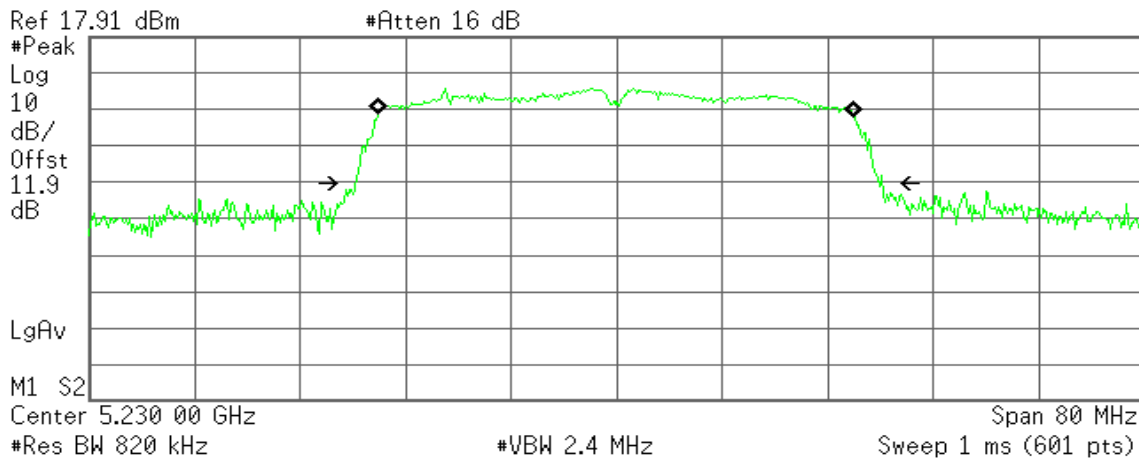
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -4.803 kHz  
**x dB Bandwidth** 40.439 MHz

**5230MHz**

Agilent

R T



**Occupied Bandwidth**  
36.1393 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -11.048 kHz  
**x dB Bandwidth** 40.022 MHz

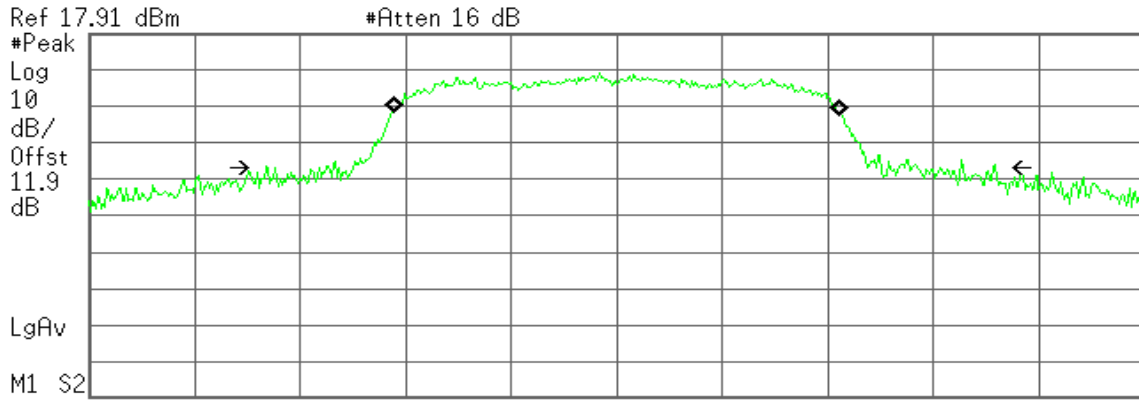


**IEEE 802.11a mode / 5260 ~ 5320MHz**

**5260MHz**

Agilent

R T



Center 5.260 00 GHz Span 40 MHz  
 #Res BW 430 kHz #VBW 1.3 MHz Sweep 1 ms (601 pts)

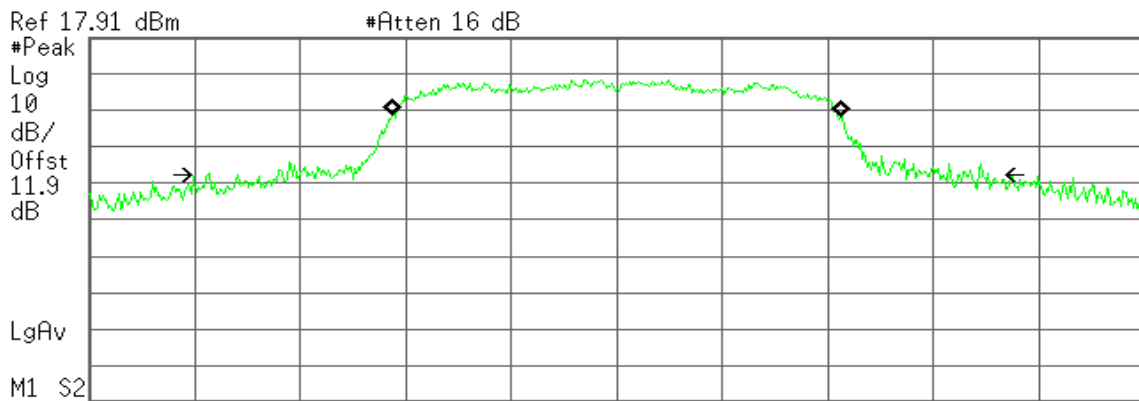
**Occupied Bandwidth** **16.9191 MHz** **Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 21.223 kHz  
**x dB Bandwidth** 27.629 MHz

**5280MHz**

Agilent

R T



Center 5.280 00 GHz Span 40 MHz  
 #Res BW 430 kHz #VBW 1.3 MHz Sweep 1 ms (601 pts)

**Occupied Bandwidth** **17.0526 MHz** **Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -2.614 kHz  
**x dB Bandwidth** 29.508 MHz

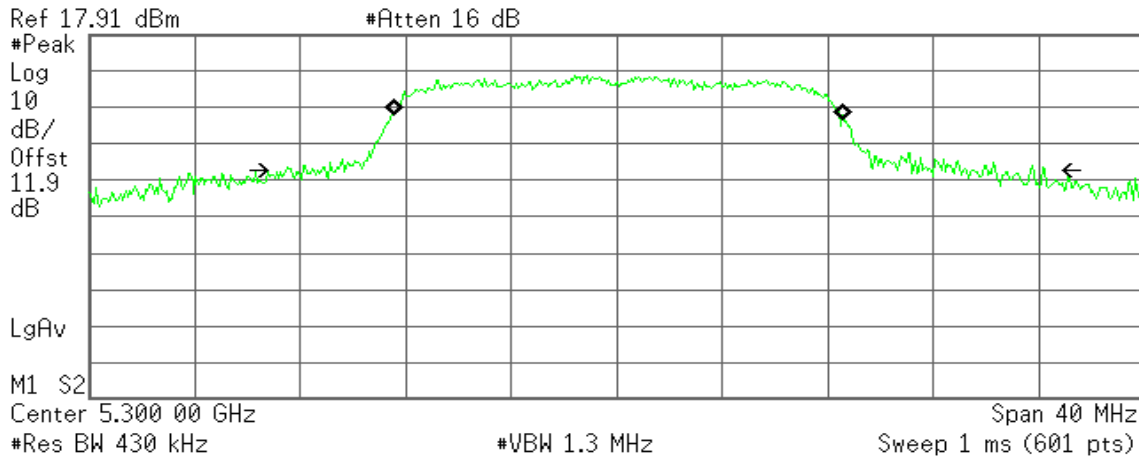




### 5300MHz

Agilent

R T



Occupied Bandwidth  
17.0269 MHz

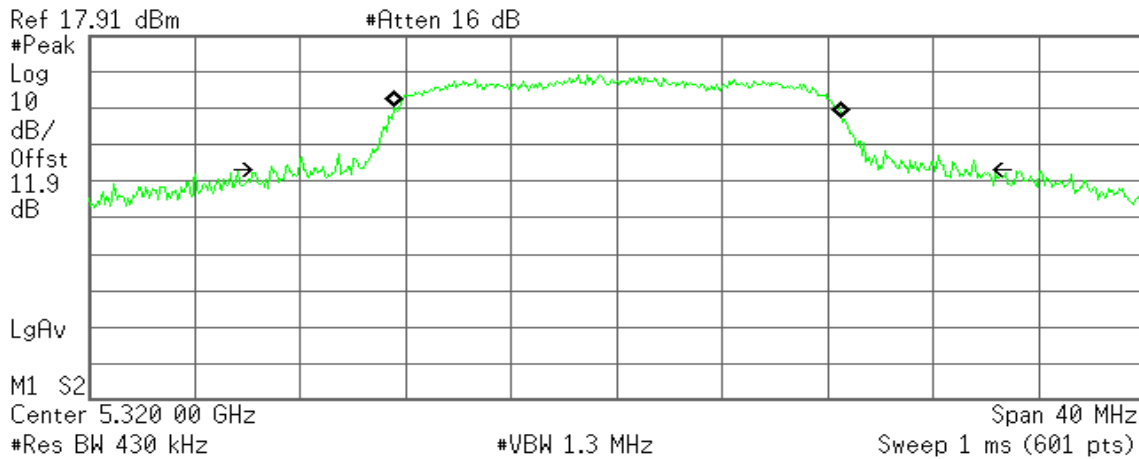
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 55.592 kHz  
x dB Bandwidth 28.779 MHz

### 5320MHz

Agilent

R T



Occupied Bandwidth  
17.0162 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 41.911 kHz  
x dB Bandwidth 26.720 MHz

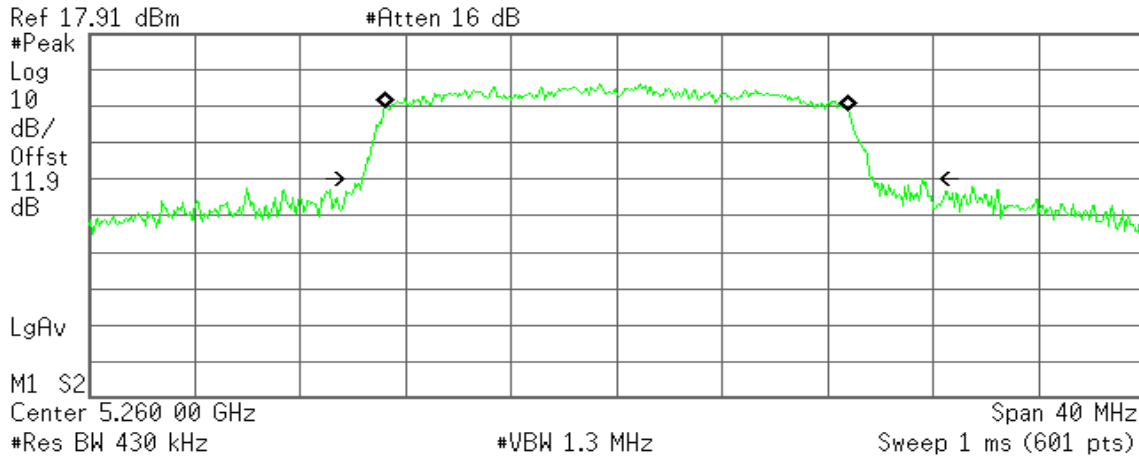


**IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz**

**5260MHz**

Agilent

R T



**Occupied Bandwidth**  
17.6073 MHz

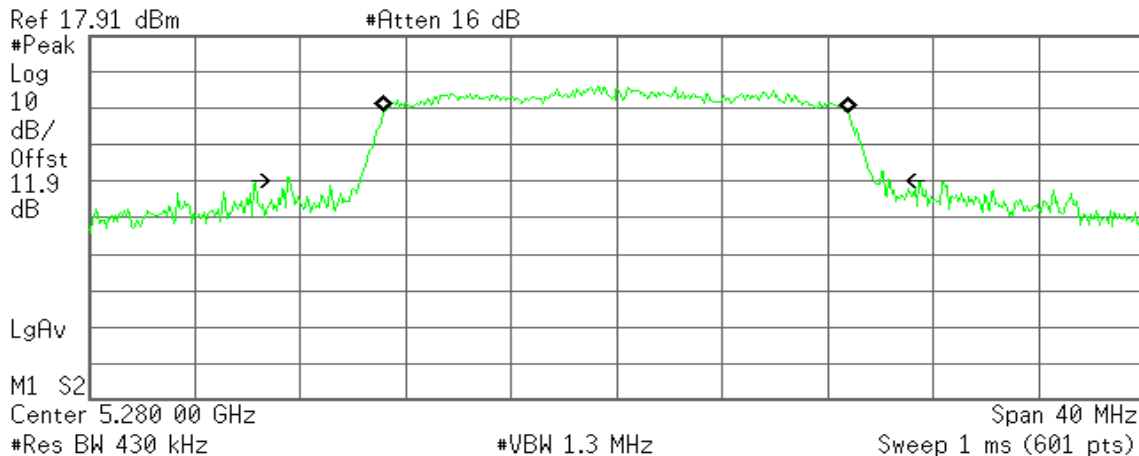
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -13.477 kHz  
**x dB Bandwidth** 21.287 MHz

**5280MHz**

Agilent

R T



**Occupied Bandwidth**  
17.6596 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

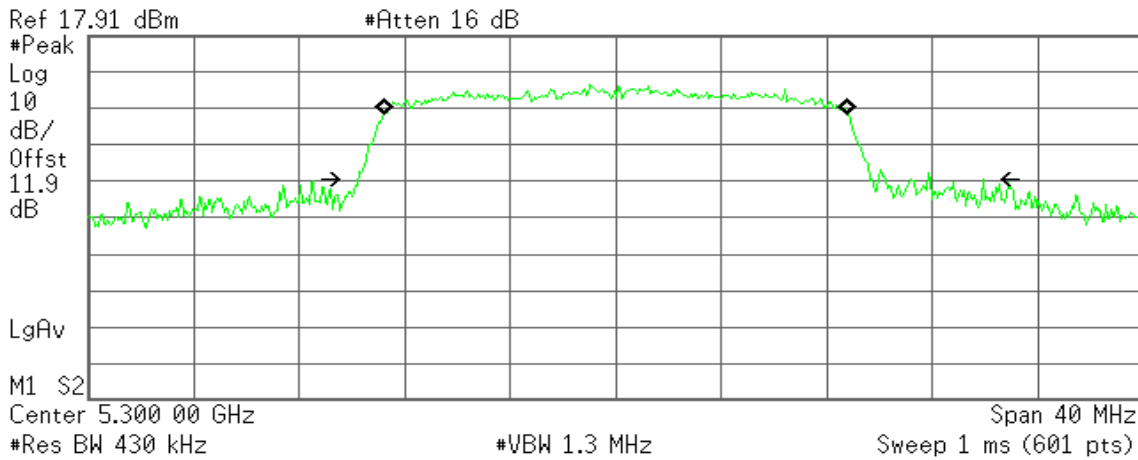
**Transmit Freq Error** -12.294 kHz  
**x dB Bandwidth** 22.847 MHz



### 5300MHz

Agilent

R T



Occupied Bandwidth  
17.6391 MHz

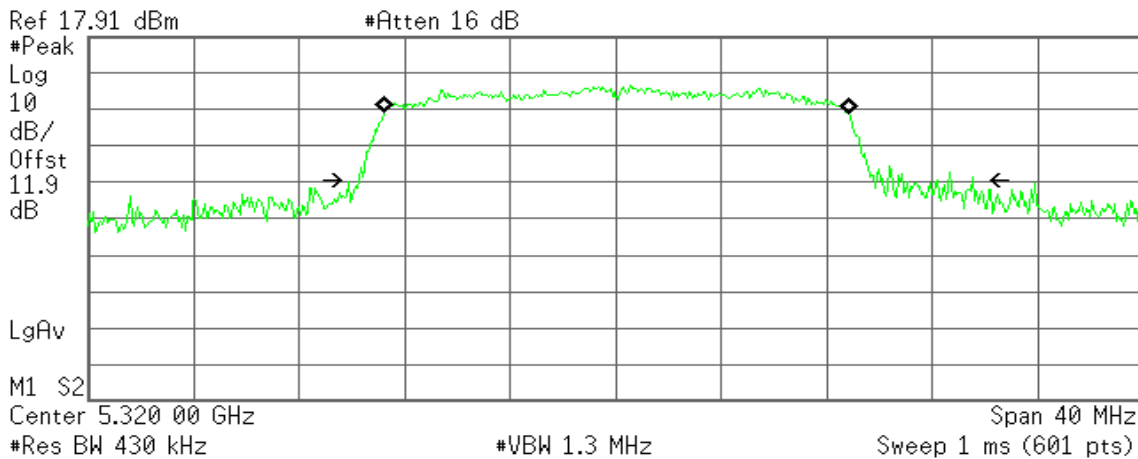
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error -45.539 Hz  
x dB Bandwidth 23.718 MHz

### 5320MHz

Agilent

R T



Occupied Bandwidth  
17.6312 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 26.305 kHz  
x dB Bandwidth 23.283 MHz

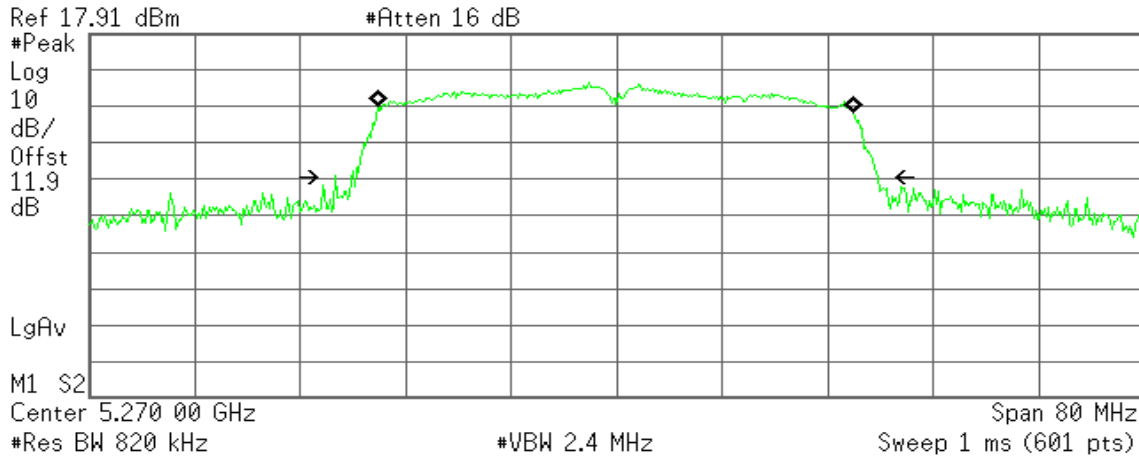


**IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz**

**5270MHz**

Agilent

R T



**Occupied Bandwidth**  
36.0994 MHz

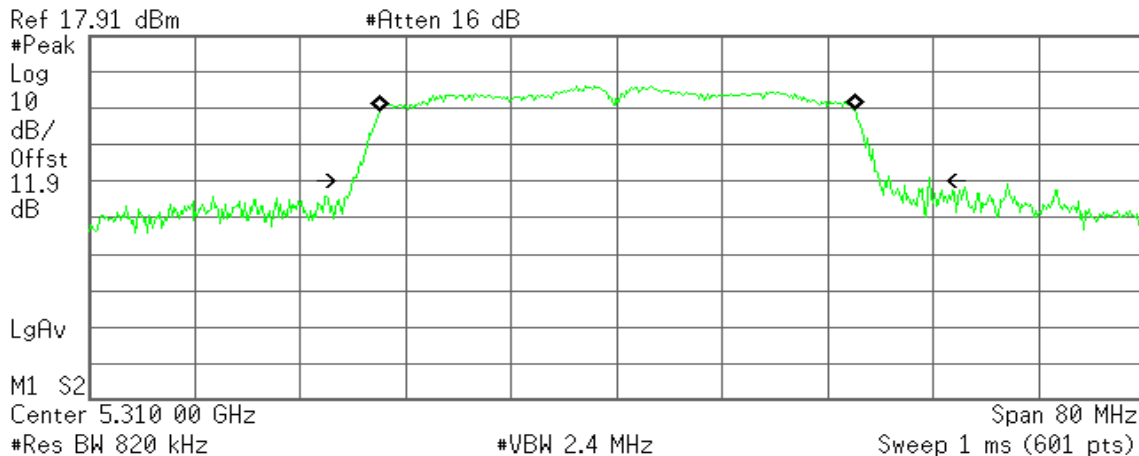
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -55.298 kHz  
**x dB Bandwidth** 41.228 MHz

**5310MHz**

Agilent

R T



**Occupied Bandwidth**  
36.0997 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 63.385 kHz  
**x dB Bandwidth** 43.828 MHz

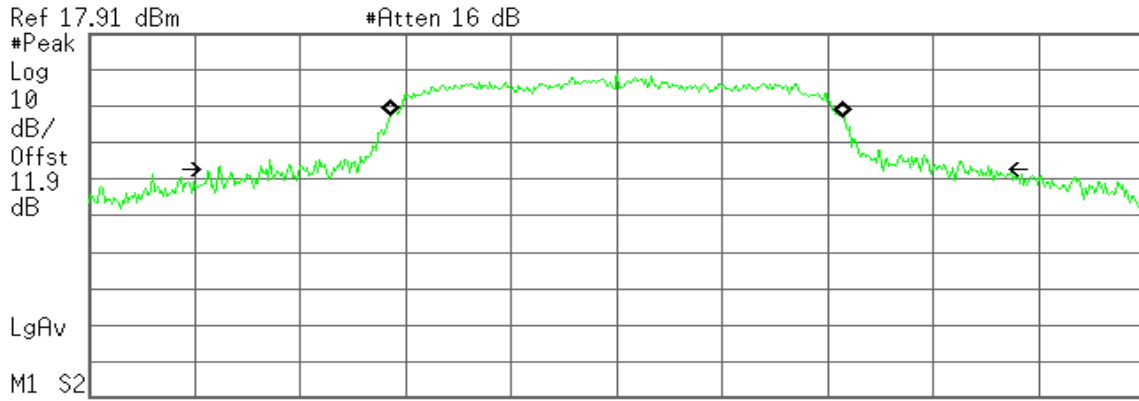


**Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz**

**5500MHz**

Agilent

R T



Center 5.500 00 GHz Span 40 MHz  
 #Res BW 430 kHz #VBW 1.3 MHz Sweep 1 ms (601 pts)

**Occupied Bandwidth**  
**17.1913 MHz**

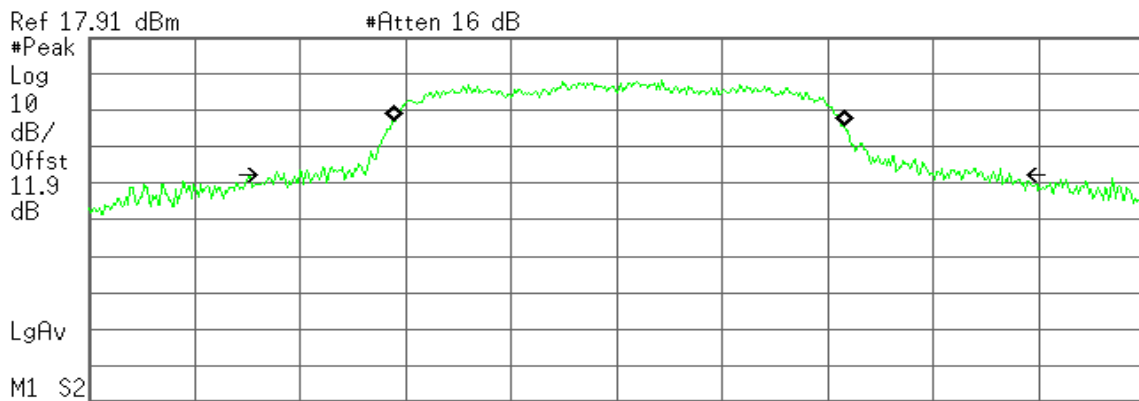
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** 25.773 kHz  
**x dB Bandwidth** 29.289 MHz

**5580MHz**

Agilent

R T



Center 5.580 00 GHz Span 40 MHz  
 #Res BW 430 kHz #VBW 1.3 MHz Sweep 1 ms (601 pts)

**Occupied Bandwidth**  
**17.1296 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

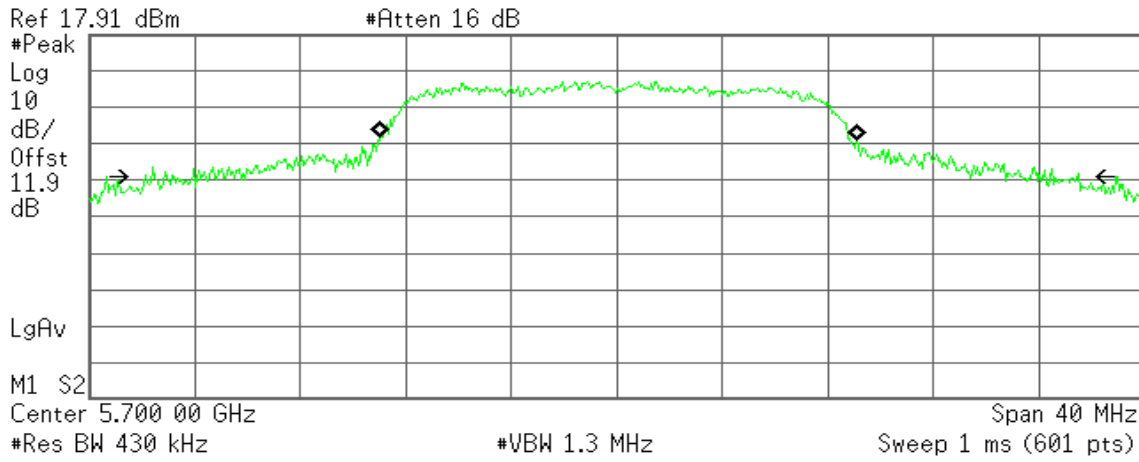
**Transmit Freq Error** 113.542 kHz  
**x dB Bandwidth** 27.830 MHz



5700MHz

Agilent

R T



Occupied Bandwidth  
18.1073 MHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Transmit Freq Error 85.474 kHz  
x dB Bandwidth 35.426 MHz

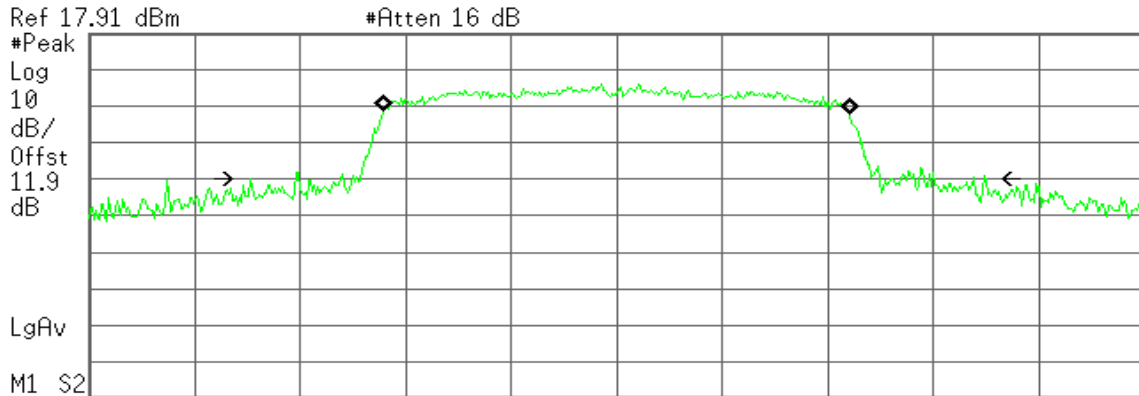


**IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz**

**5500MHz**

Agilent

R T



**Occupied Bandwidth**  
**17.7268 MHz**

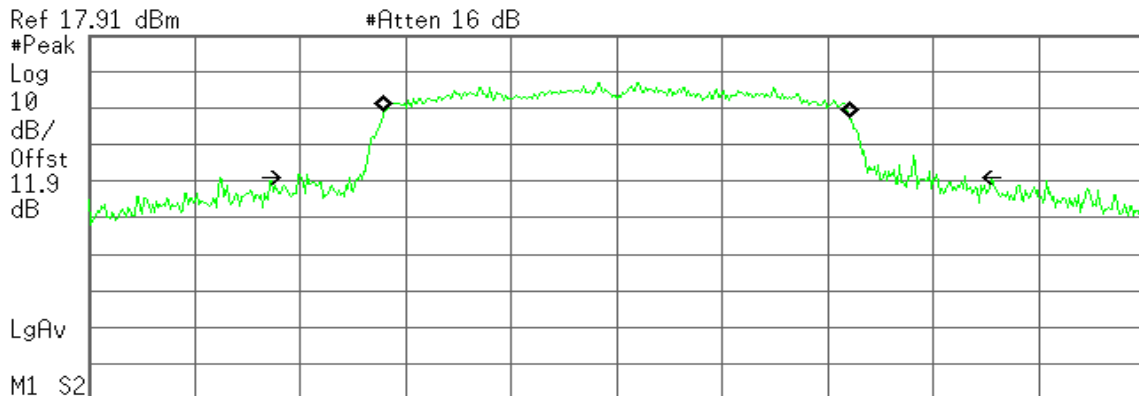
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -8.298 kHz  
**x dB Bandwidth** 27.828 MHz

**5580MHz**

Agilent

R T



**Occupied Bandwidth**  
**17.6904 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

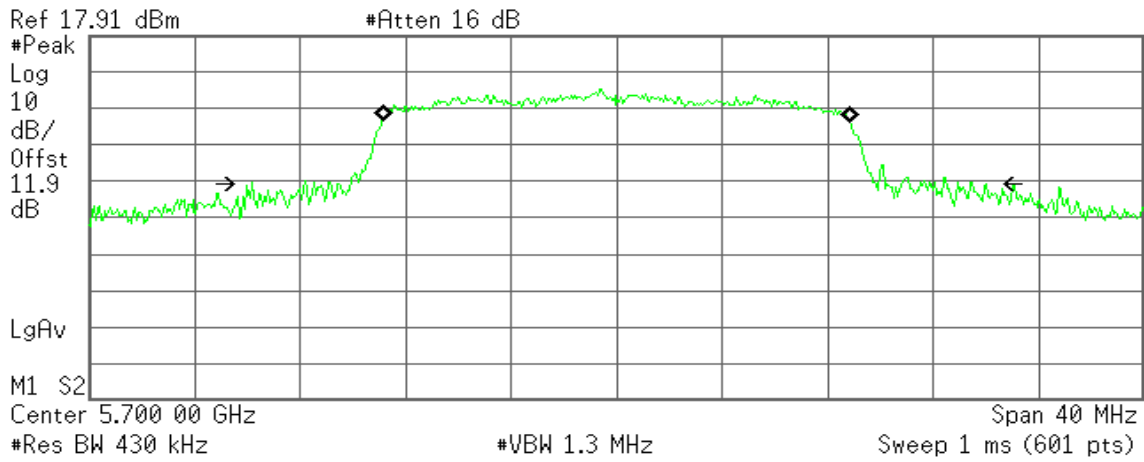
**Transmit Freq Error** 6.176 kHz  
**x dB Bandwidth** 25.283 MHz



### 5700MHz

Agilent

R T



**Occupied Bandwidth**  
**17.7888 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -2.497 kHz  
**x dB Bandwidth** 27.813 MHz



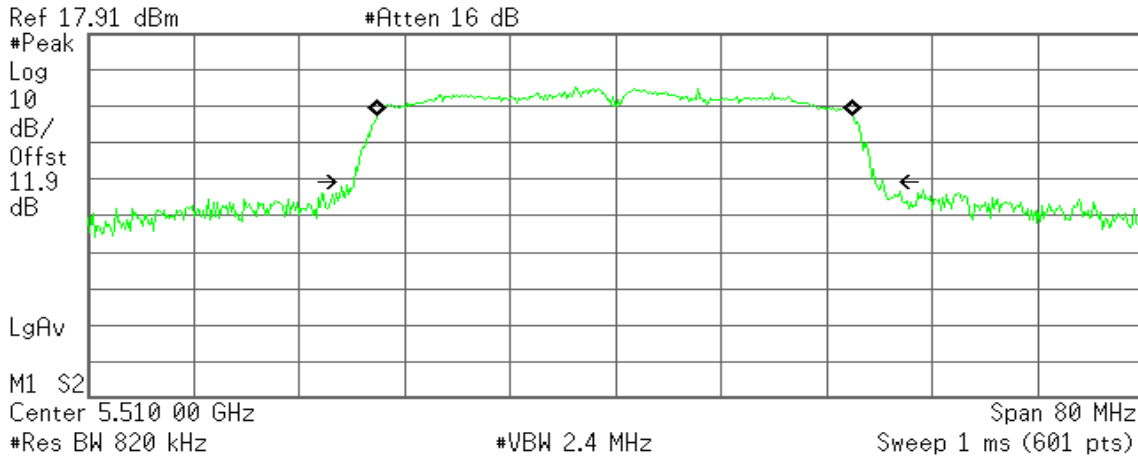


**IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz**

**5510MHz**

Agilent

R T



**Occupied Bandwidth**  
36.1262 MHz

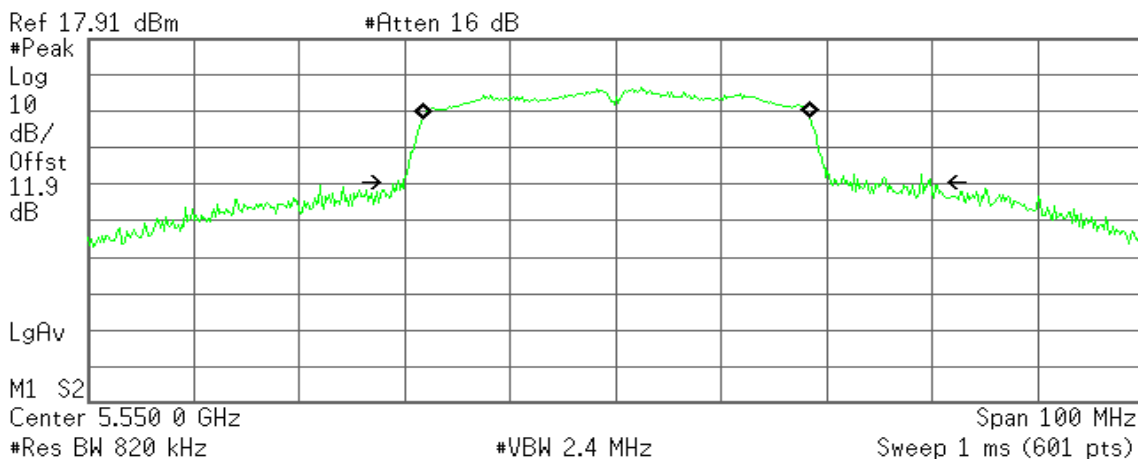
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -39.258 kHz  
**x dB Bandwidth** 40.163 MHz

**5550MHz**

Agilent

R T



**Occupied Bandwidth**  
36.4959 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

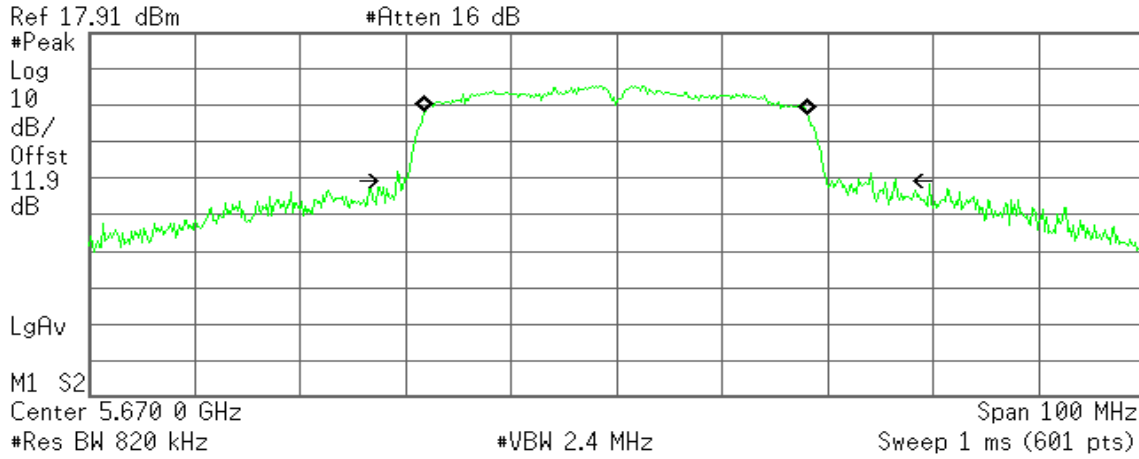
**Transmit Freq Error** 115.633 kHz  
**x dB Bandwidth** 50.612 MHz



### 5670MHz

Agilent

R T



**Occupied Bandwidth**  
**36.1931 MHz**

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -32.814 kHz  
**x dB Bandwidth** 47.467 MHz



## 7.2 MAXIMUM CONDUCTED OUTPUT POWER

### LIMIT

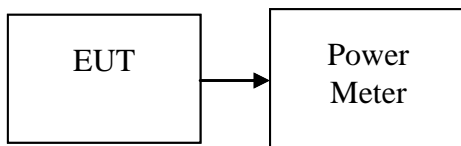
According to §15.407(a),

- (1) For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW, where B is the 26 dB emission bandwidth in MHz.
- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW, where B is the 26 dB emission bandwidth in MHz.

*If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.*

### Specified Limit of the Maximum Output Power Test Configuration

*The EUT was connected to a Power Meter through a 50Ω RF cable.*



### TEST PROCEDURE

The transmitter output is connected to the Power Meter. The Power Meter is set to the avg power detection. The EUT is configured to transmit continuously.

### TEST RESULTS

*No non-compliance noted*



**Test Data**

**Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz**

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
36	5180	8.36	24.00
44	5220	<b>*8.86</b>	24.00
48	5240	8.86	24.00

**Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz**

Channel	Frequency (MHz)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
36	5180	<b>*8.90</b>	24.00
44	5220	8.31	24.00
48	5240	8.30	24.00

**Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz**

Channel	Frequency (MHz)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
38	5190	<b>*9.77</b>	24.00
46	5230	9.65	24.00



**Test mode: IEEE 802.11a mode / 5260 ~ 5320MHz**

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
52	5260	8.87	24.00
56	5280	<b>*8.96</b>	24.00
60	5300	8.96	24.00
64	5320	8.86	24.00

**Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz**

Channel	Frequency (MHz)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
52	5260	8.25	24.00
56	5280	8.22	24.00
60	5300	8.32	24.00
64	5320	<b>*8.35</b>	24.00

**Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz**

Channel	Frequency (MHz)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
54	5270	9.71	24.00
62	5310	<b>*9.72</b>	24.00



**Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz**

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
100	5500	8.86	24.00
116	5580	8.50	24.00
140	5700	<b>*8.90</b>	24.00

**Test mode: IEEE 802.11n HT 20 MHz Channel mode/ 5500 ~ 5700MHz**

Channel	Frequency (MHz)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
100	5500	8.89	24.00
116	5580	8.55	24.00
140	5700	<b>*8.91</b>	24.00

**Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz**

Channel	Frequency (MHz)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
102	5510	9.46	24.00
110	5550	9.47	24.00
134	5670	<b>*9.49</b>	24.00



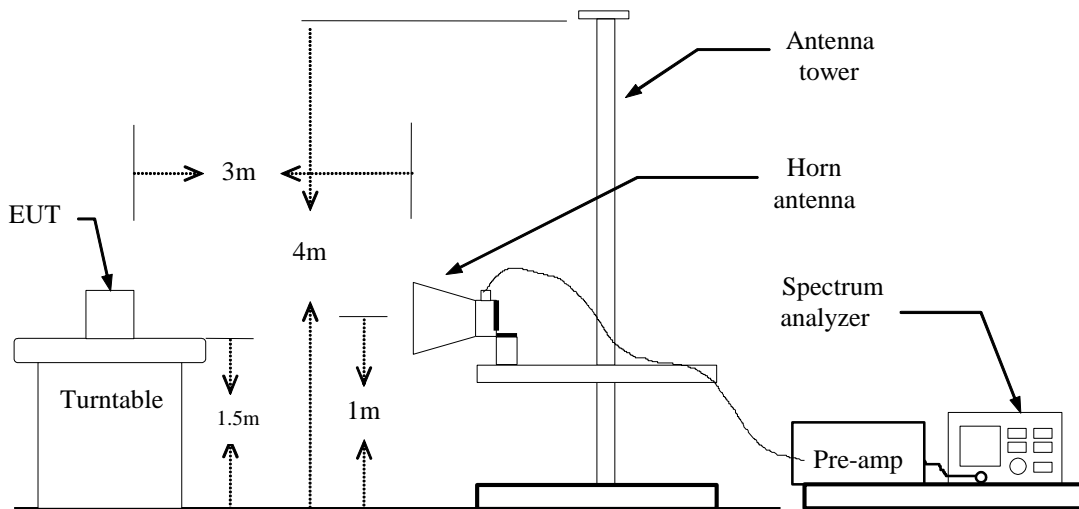
### 7.3 BAND EDGES MEASUREMENT

#### LIMIT

According to §15.407(b)

- (1) The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.
- (2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

#### Test Configuration



#### TEST PROCEDURE

1. The EUT is placed on a turntable, which is 1.5m 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=1MHz / VBW=3MHz / Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz,  
if duty cycle  $\geq 98\%$ , VBW=10Hz.  
if duty cycle  $< 98\%$  VBW=1/T.  
**IEEE 802.11a mode:** = 88%, VBW=510Hz  
**IEEE 802.11n HT 20 MHz mode:** = 87%, VBW=560Hz  
**IEEE 802.11n HT 40 MHz mode:** = 77%, VBW=1.1KHz
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

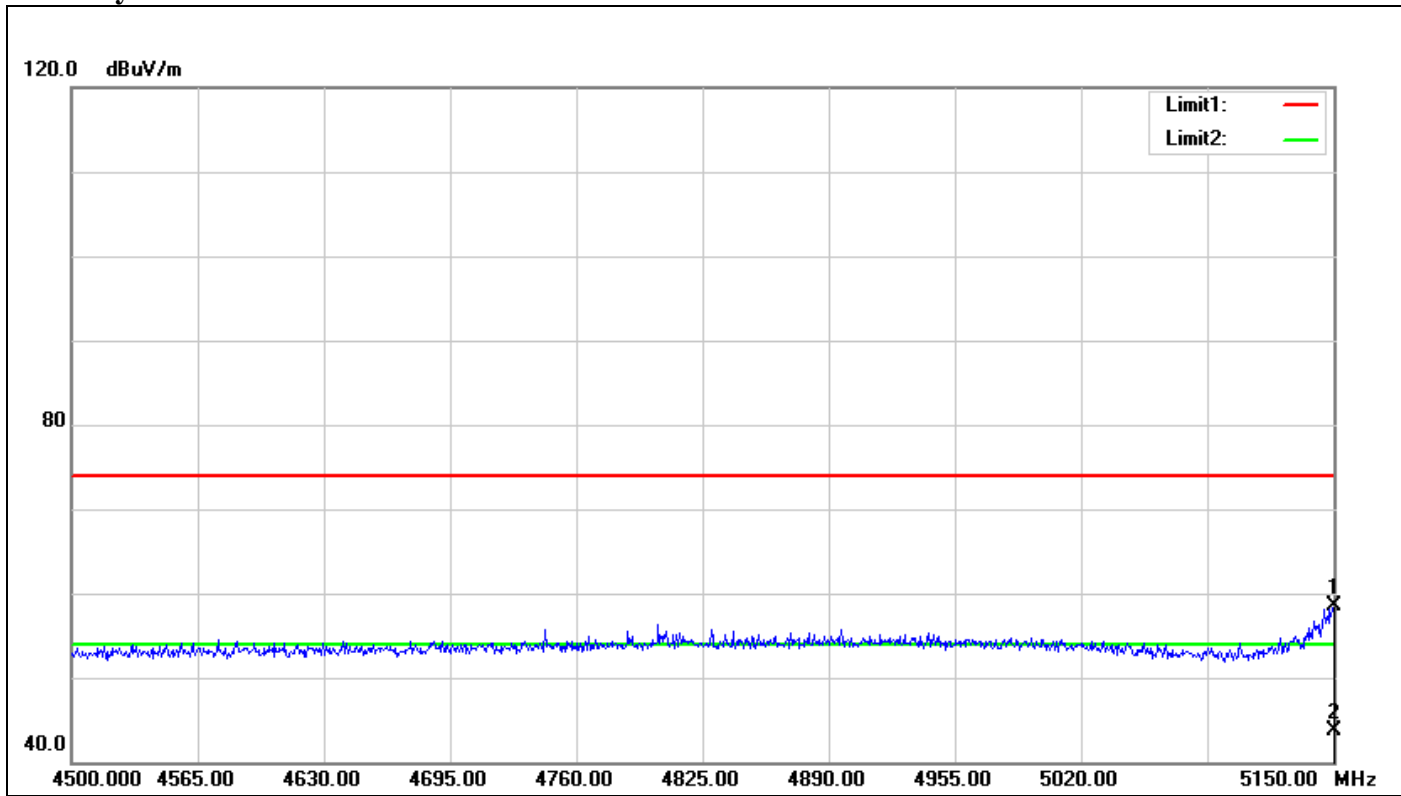
#### TEST RESULTS

Refer to attach spectrum analyzer data chart.



**Band Edges (IEEE 802.11a mode / CH 5180 MHz)**

**Polarity: Vertical**

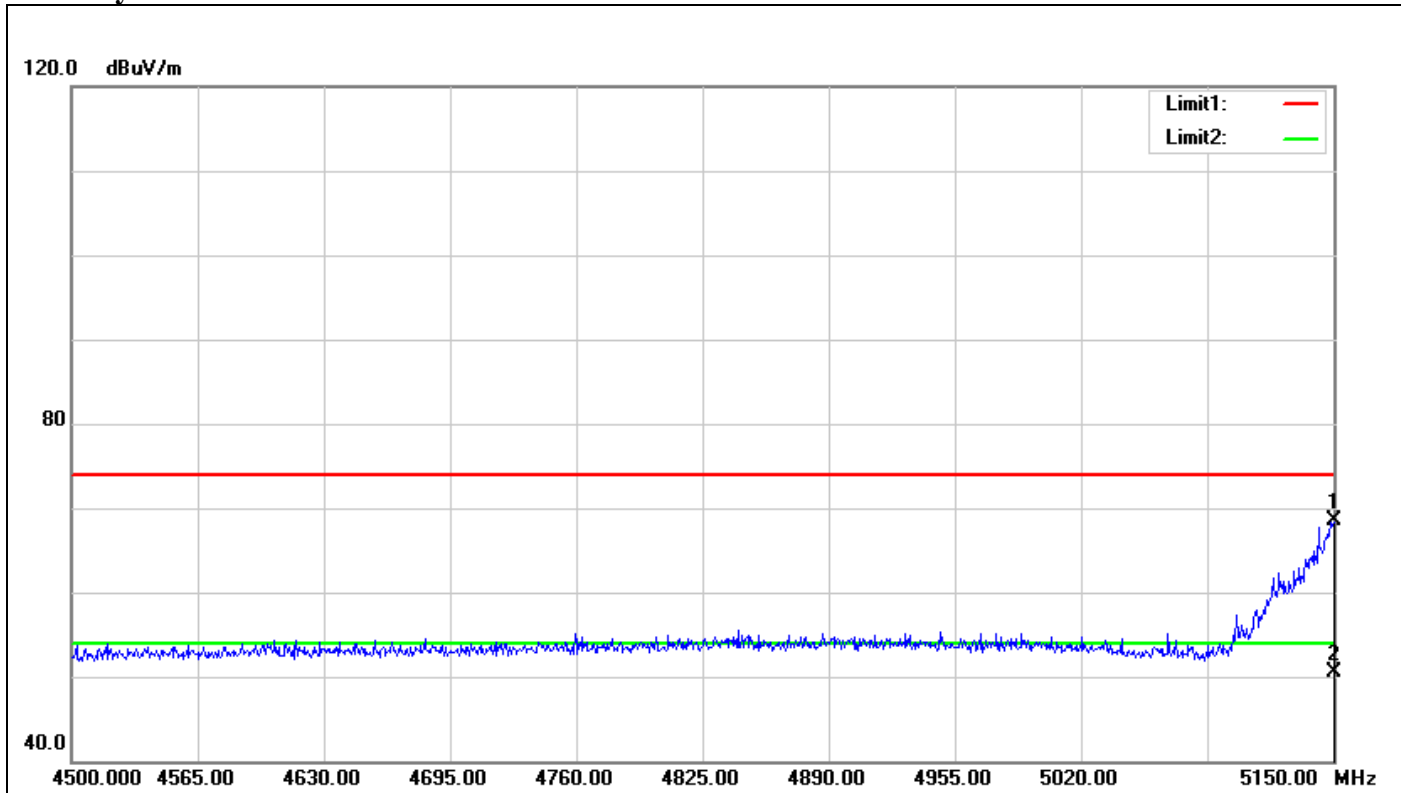


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5150.000	55.48	3.04	58.52	74.00	-15.48	100	303	peak
2	5150.000	40.69	3.04	43.73	54.00	-10.27	100	303	AVG





**Polarity: Horizontal**

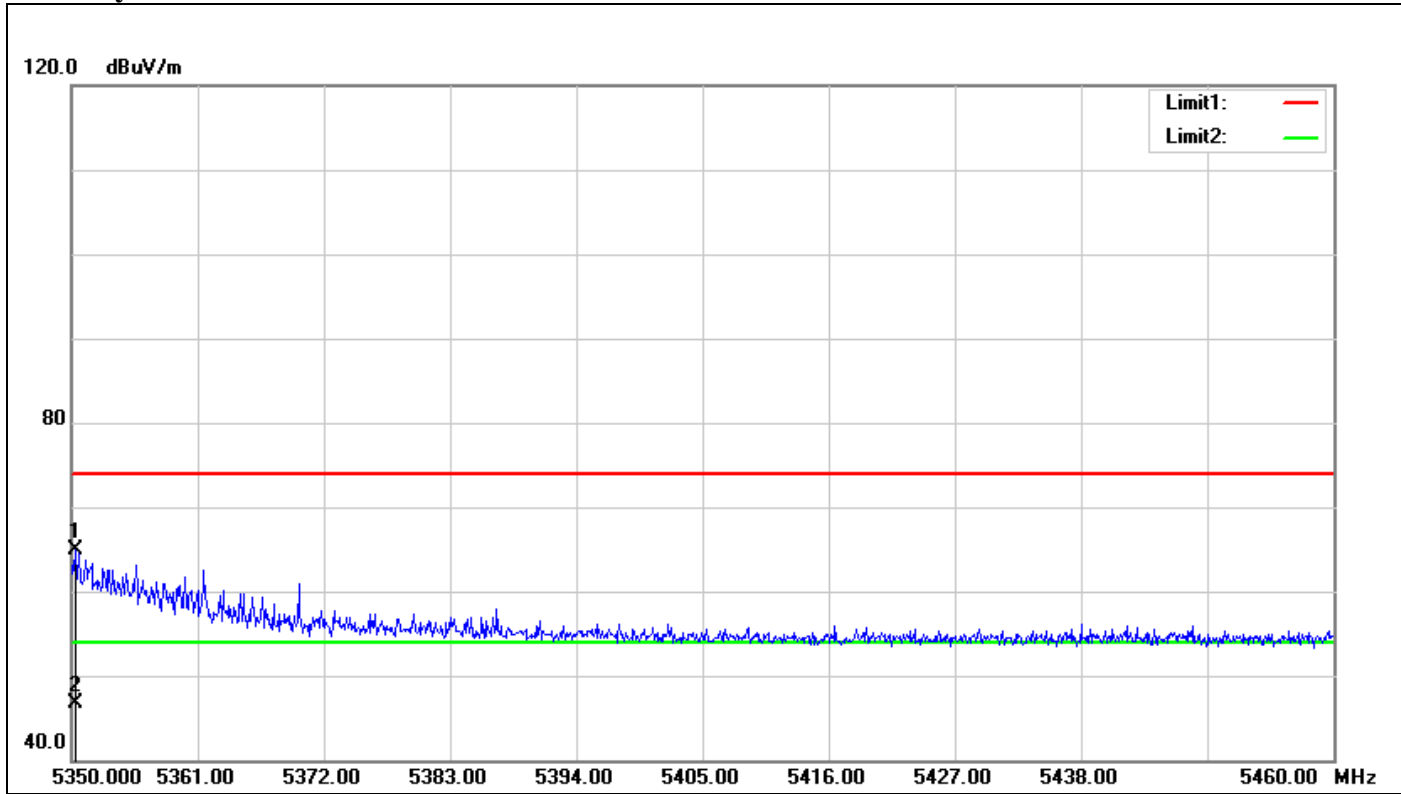


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5150.000	65.43	3.04	68.47	74.00	-5.53	100	17	peak
2	5150.000	47.37	3.04	50.41	54.00	-3.59	100	17	AVG



Band Edges (IEEE 802.11a mode / CH 5320 MHz)

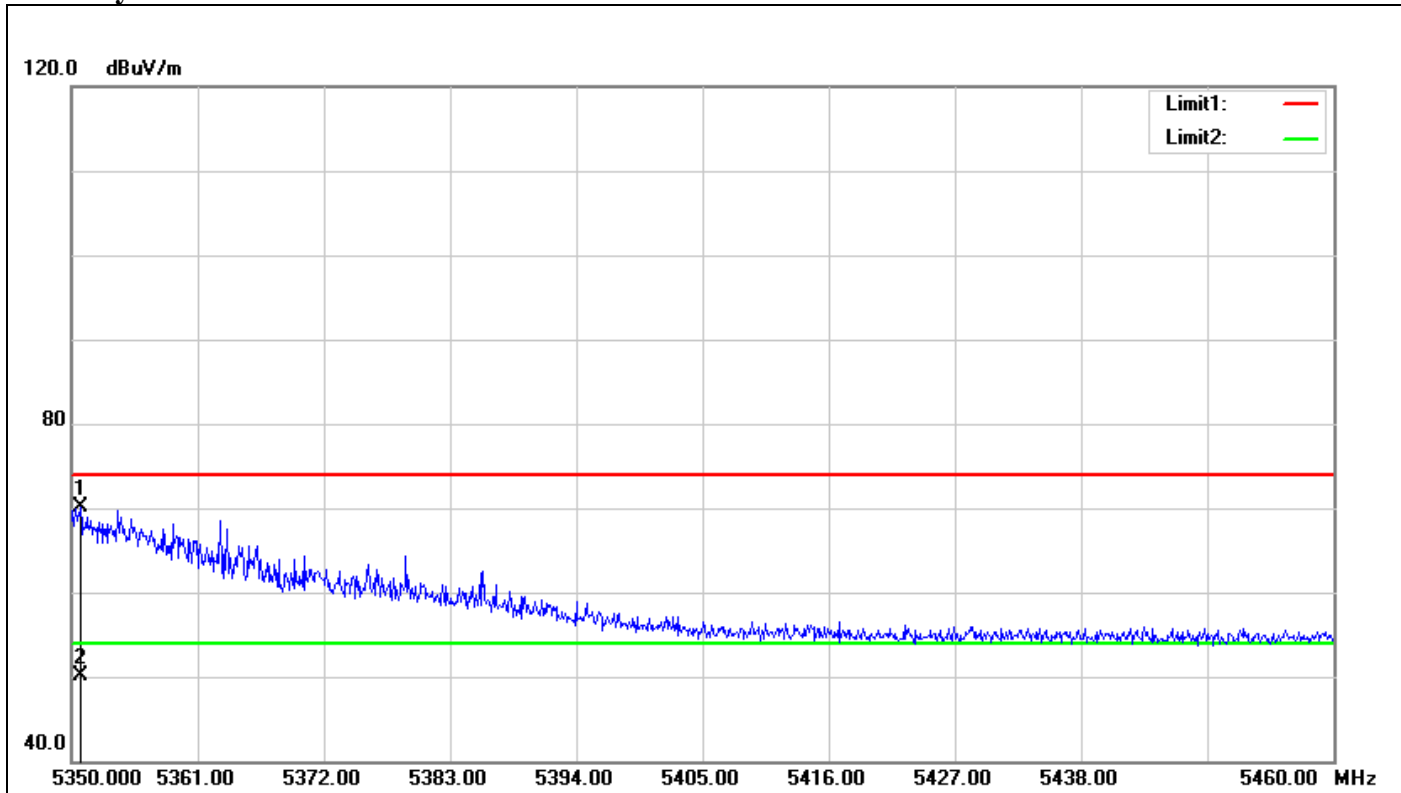
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5350.330	59.55	5.31	64.86	74.00	-9.14	100	82	peak
2	5350.330	41.32	5.31	46.63	54.00	-7.37	100	82	AVG



**Polarity: Horizontal**

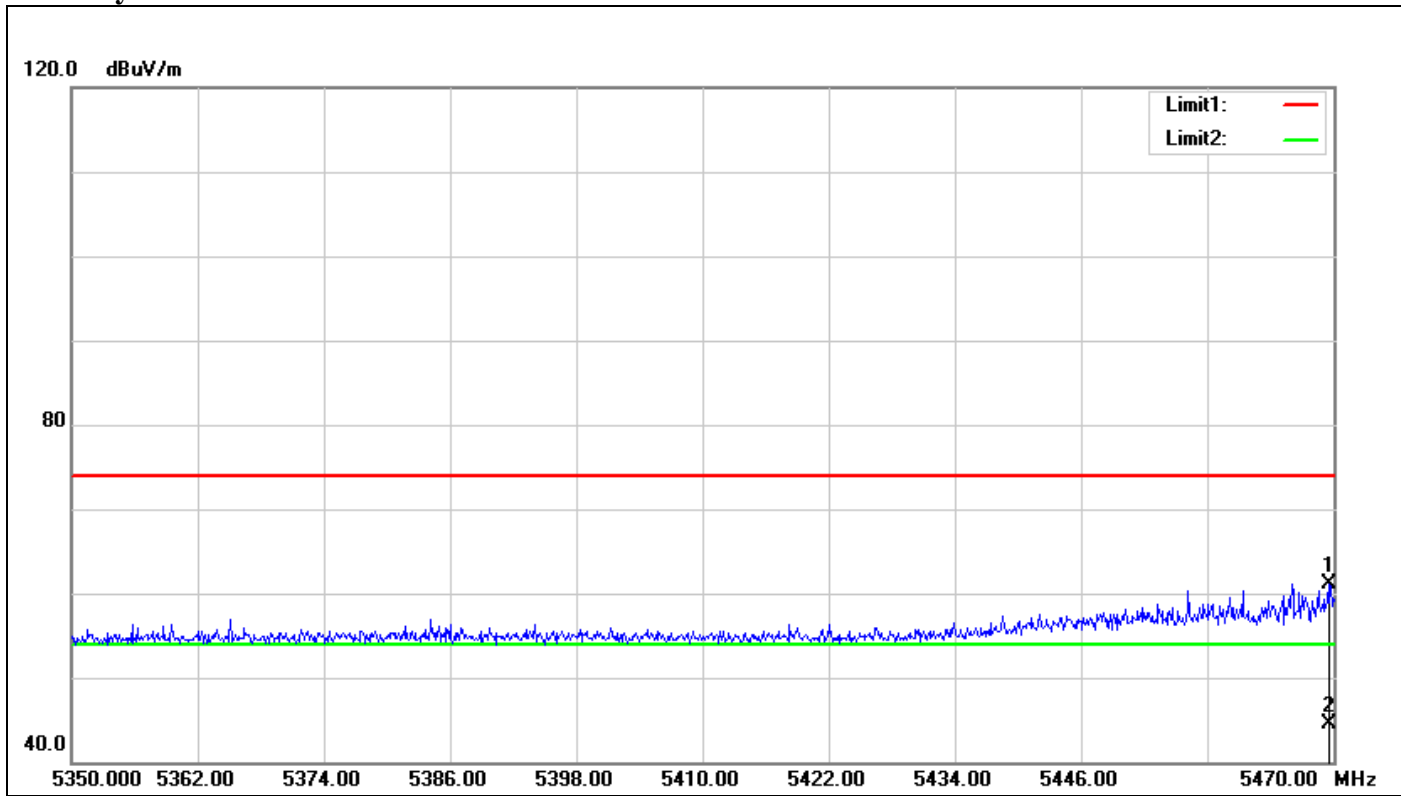


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5350.770	64.78	5.32	70.10	74.00	-3.90	100	45	peak
2	5350.770	44.87	5.32	50.19	54.00	-3.81	100	45	AVG



**Band Edges (IEEE 802.11a mode / CH 5500 MHz)**

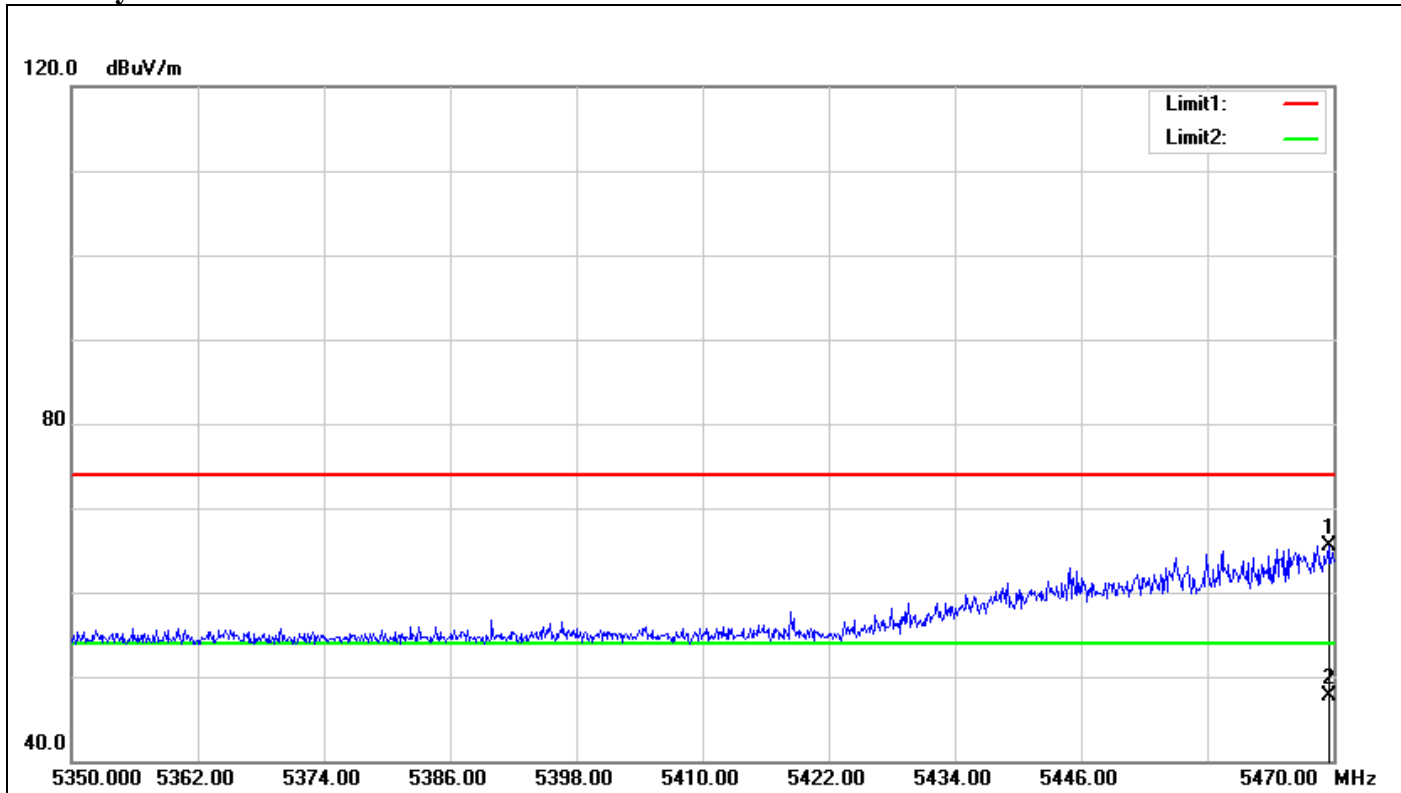
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5469.520	55.73	5.39	61.12	74.00	-12.88	100	42	peak
2	5469.520	39.17	5.39	44.56	54.00	-9.44	100	42	AVG



**Polarity: Horizontal**

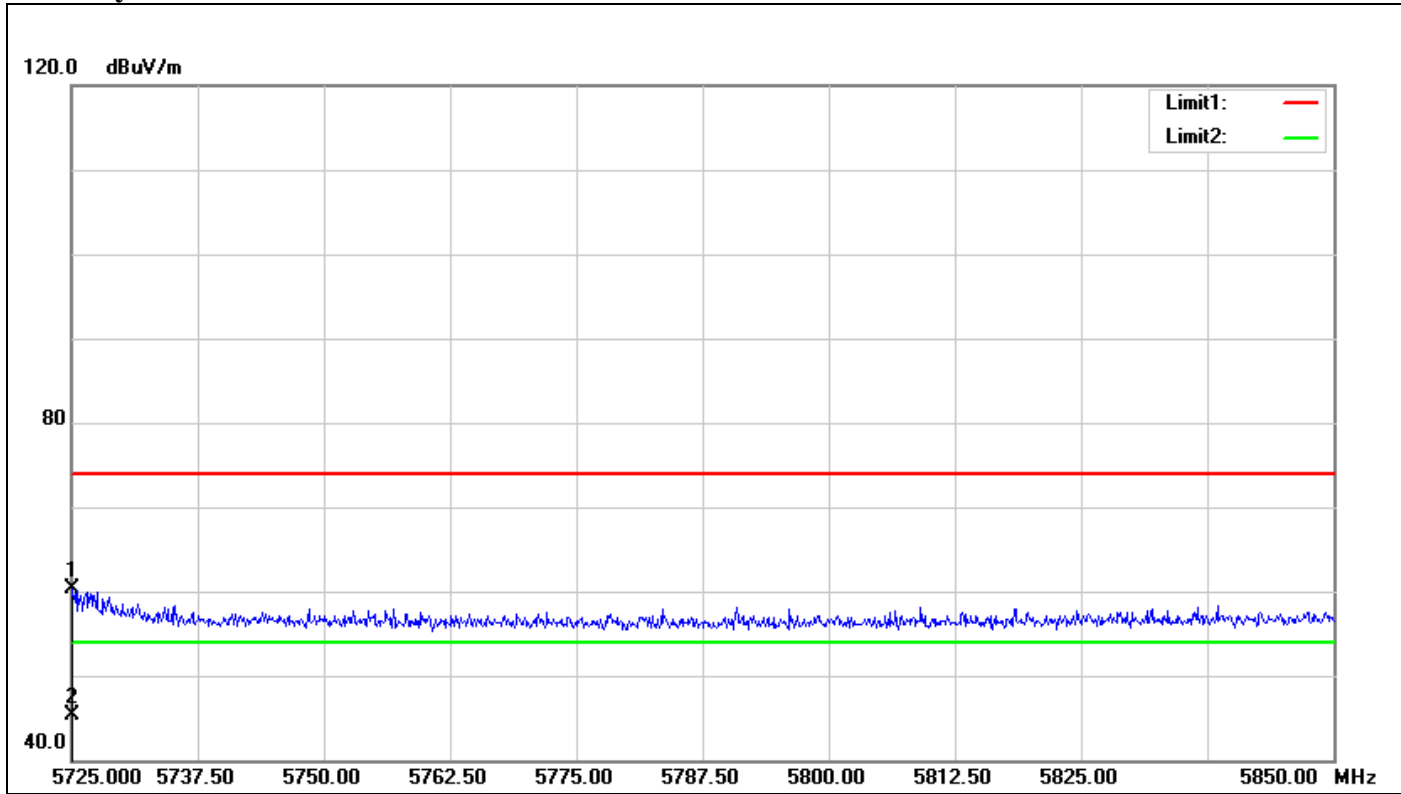


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5469.520	60.19	5.39	65.58	74.00	-8.42	100	53	peak
2	5469.520	42.22	5.39	47.61	54.00	-6.39	100	53	AVG



**Band Edges (IEEE 802.11a mode / CH 5700 MHz)**

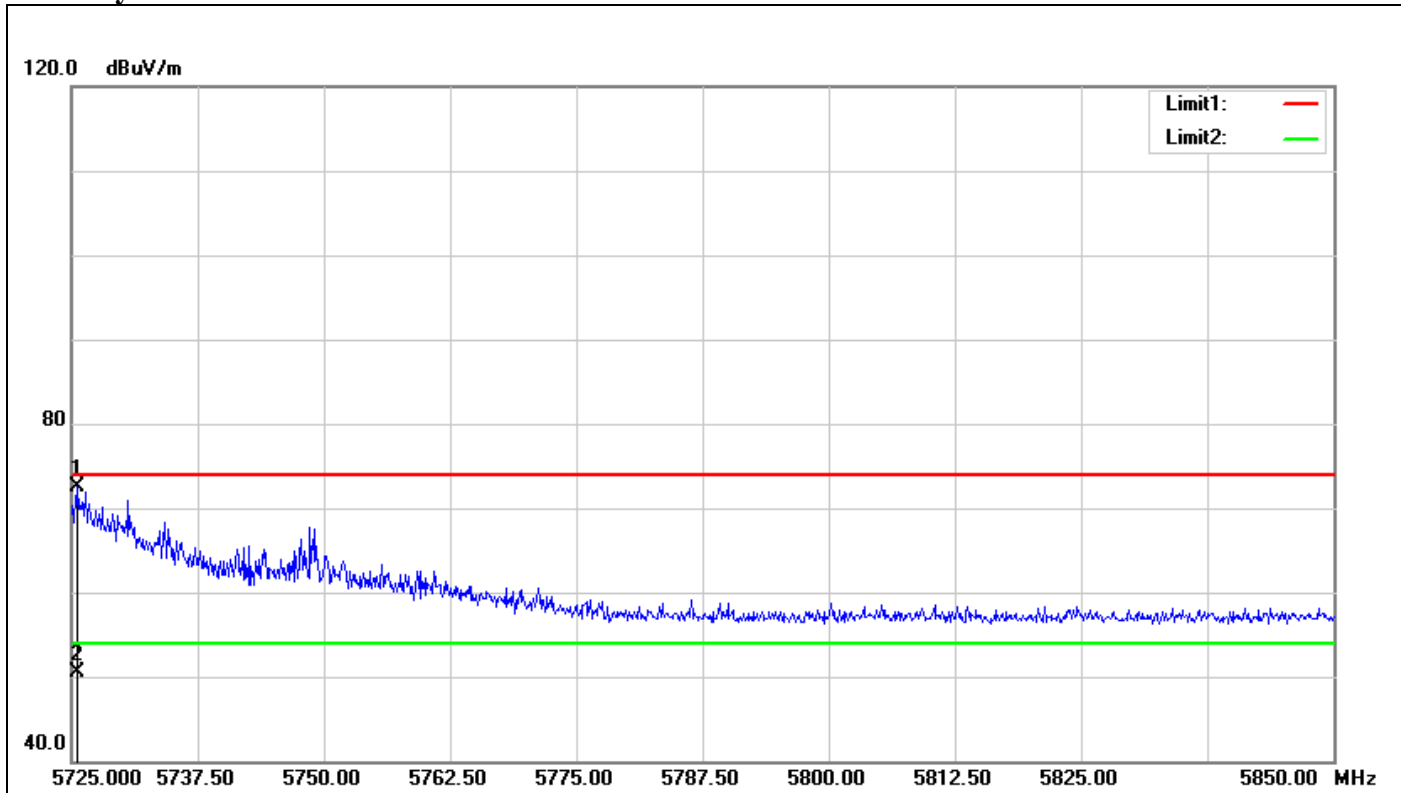
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5725.125	54.05	6.21	60.26	74.00	-13.74	100	30	peak
2	5725.125	39.06	6.21	45.27	54.00	-8.73	100	30	AVG



**Polarity: Horizontal**

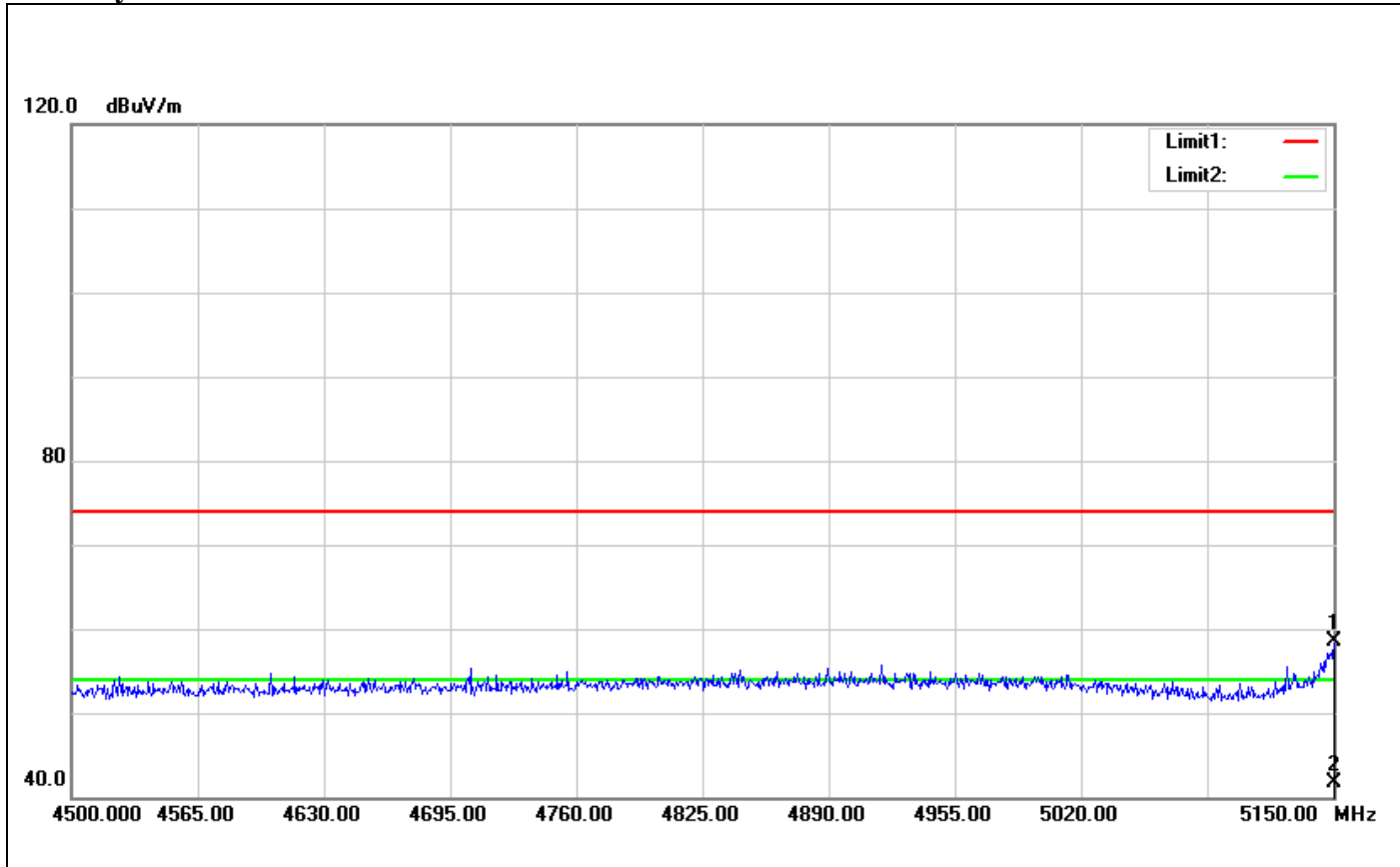


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5725.625	66.23	6.21	72.44	74.00	-1.56	100	8	peak
2	5725.625	44.29	6.21	50.50	54.00	-3.50	100	8	AVG



Band Edges (IEEE 802.11n HT 20 MHz Channel mode / CH 5180 MHz)

Polarity: Vertical

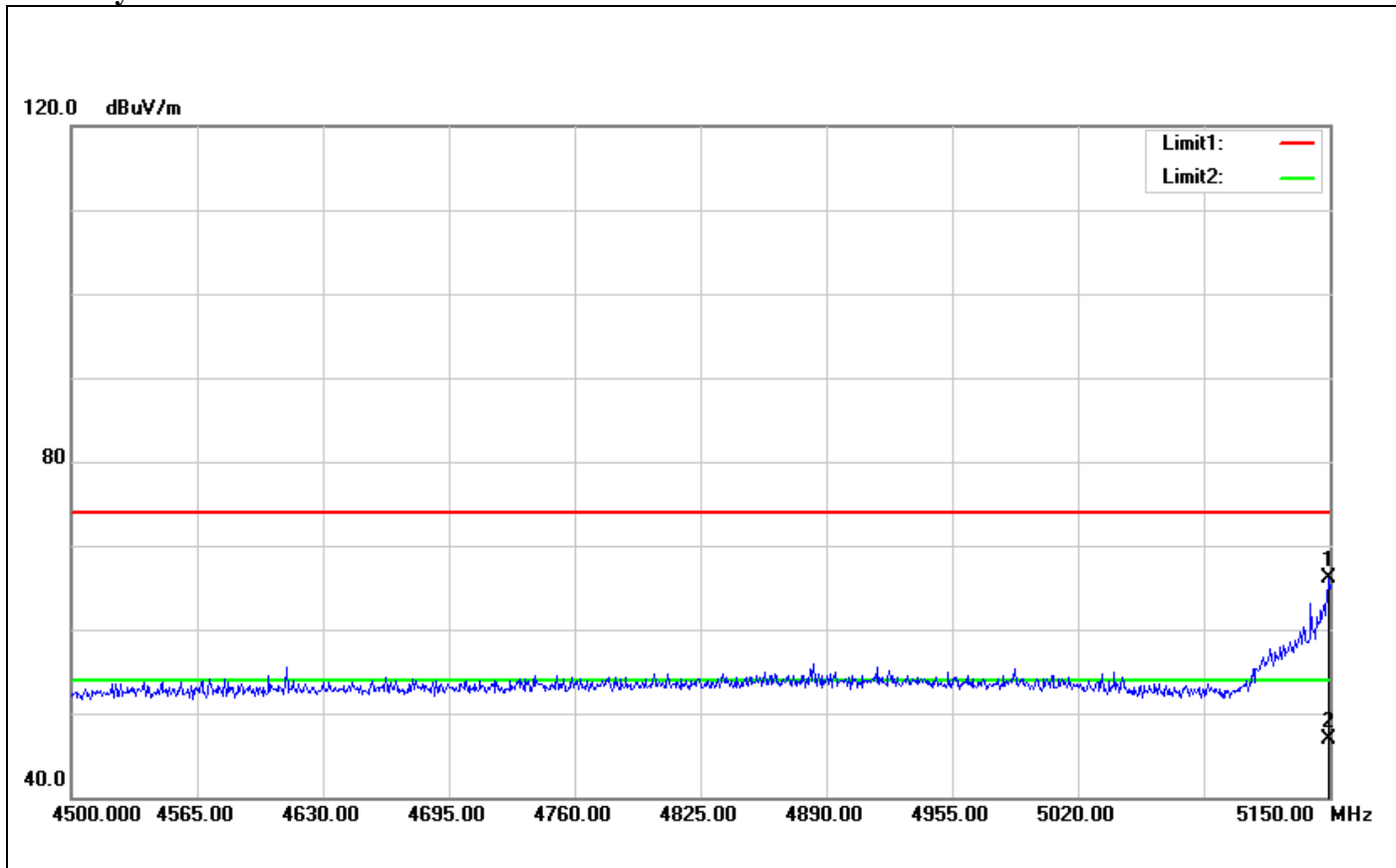


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5150.000	55.45	3.04	58.49	74.00	-15.51	100	0	peak
2	5150.000	38.65	3.04	41.69	54.00	-12.31	100	0	AVG





**Polarity: Horizontal**

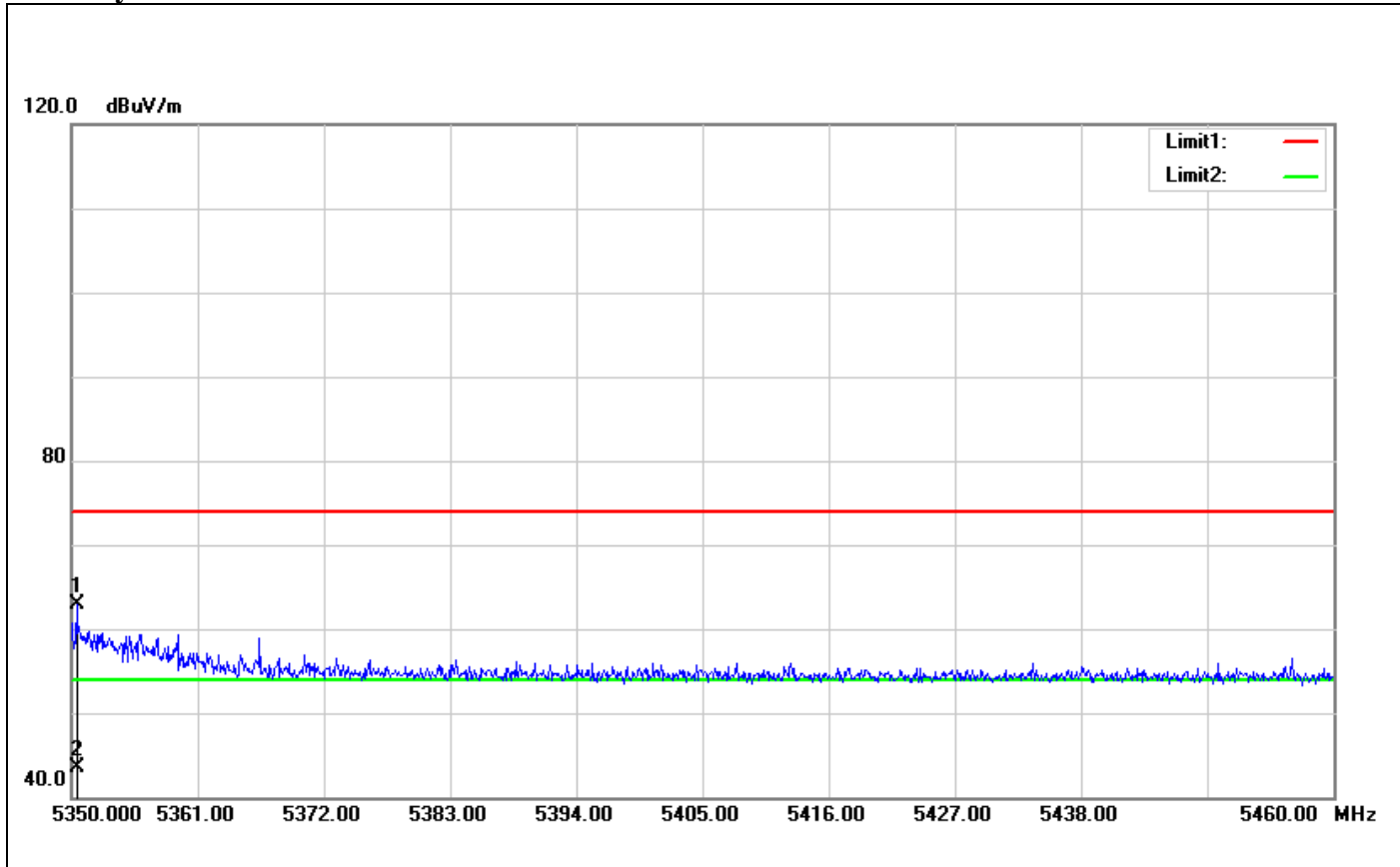


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5149.350	63.07	3.04	66.11	74.00	-7.89	100	189	peak
2	5149.350	43.83	3.04	46.87	54.00	-7.13	100	189	AVG



Band Edges (IEEE 802.11n HT 20 MHz Channel mode / CH 5320 MHz)

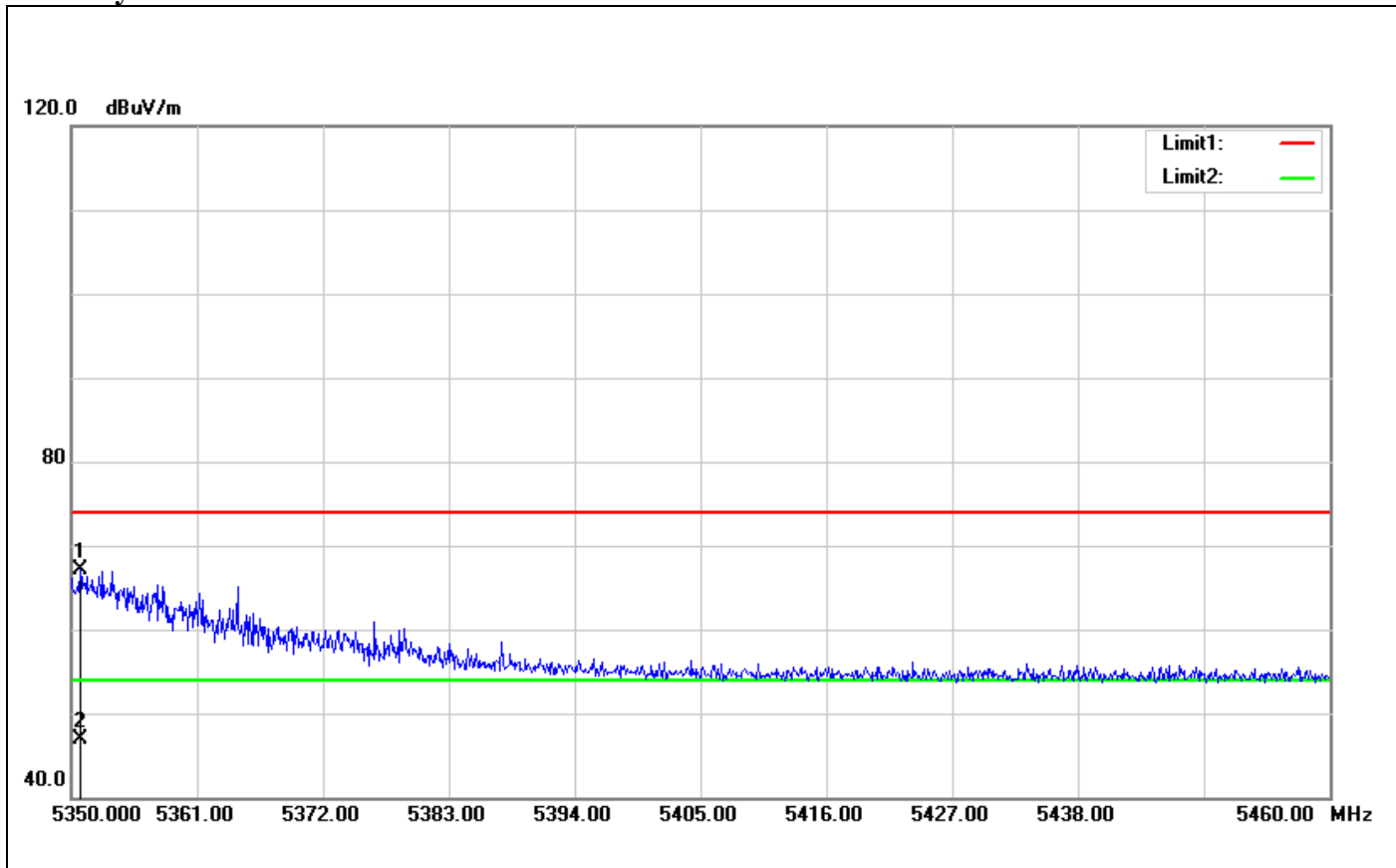
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5350.440	57.58	5.31	62.89	74.00	-11.11	100	119	peak
2	5350.440	38.28	5.31	43.59	54.00	-10.41	100	119	AVG



**Polarity: Horizontal**

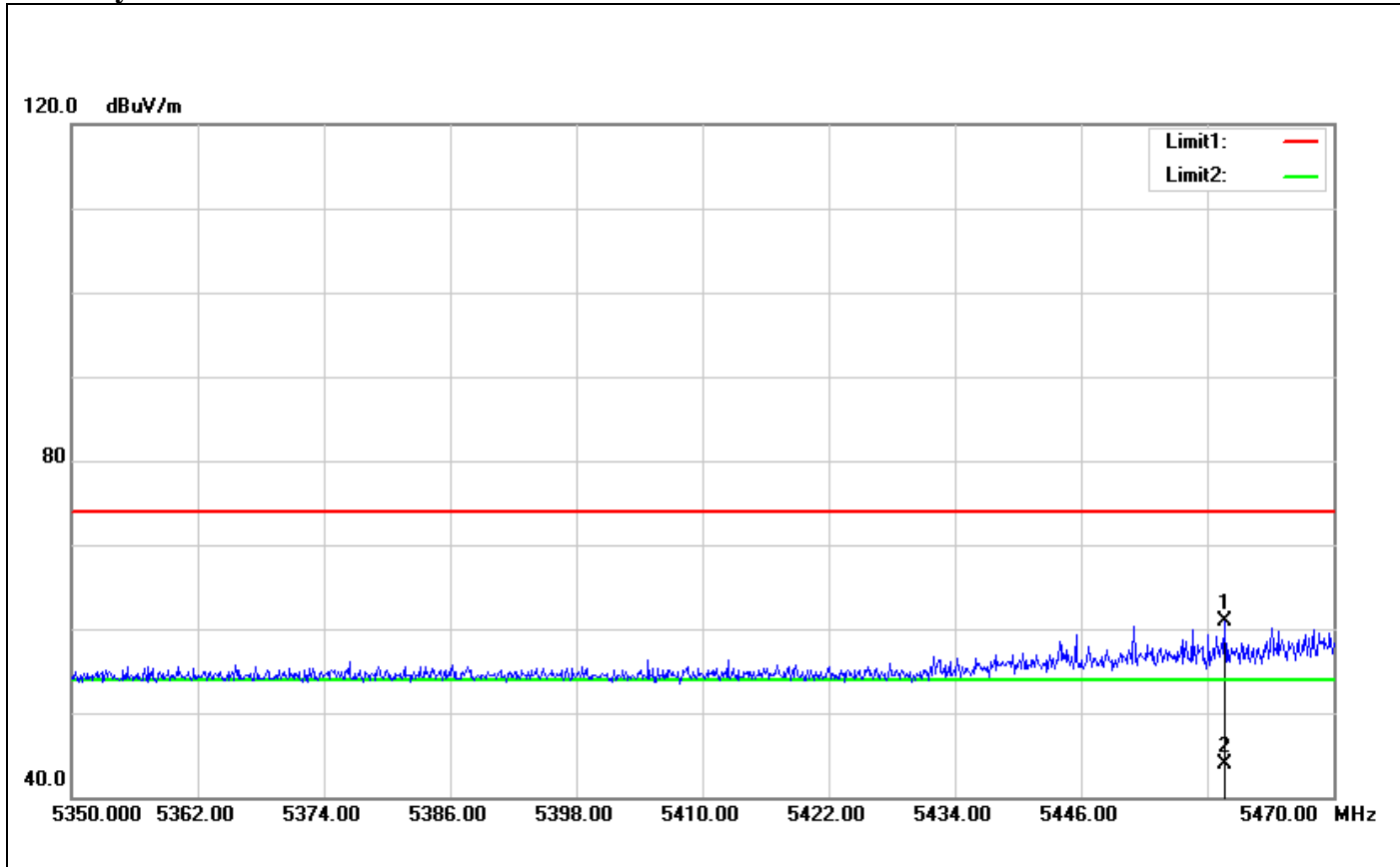


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5350.770	61.86	5.32	67.18	74.00	-6.82	100	204	peak
2	5350.770	41.64	5.32	46.96	54.00	-7.04	100	204	AVG



**Band Edges (IEEE 802.11n HT 20 MHz Channel mode / CH 5500 MHz)**

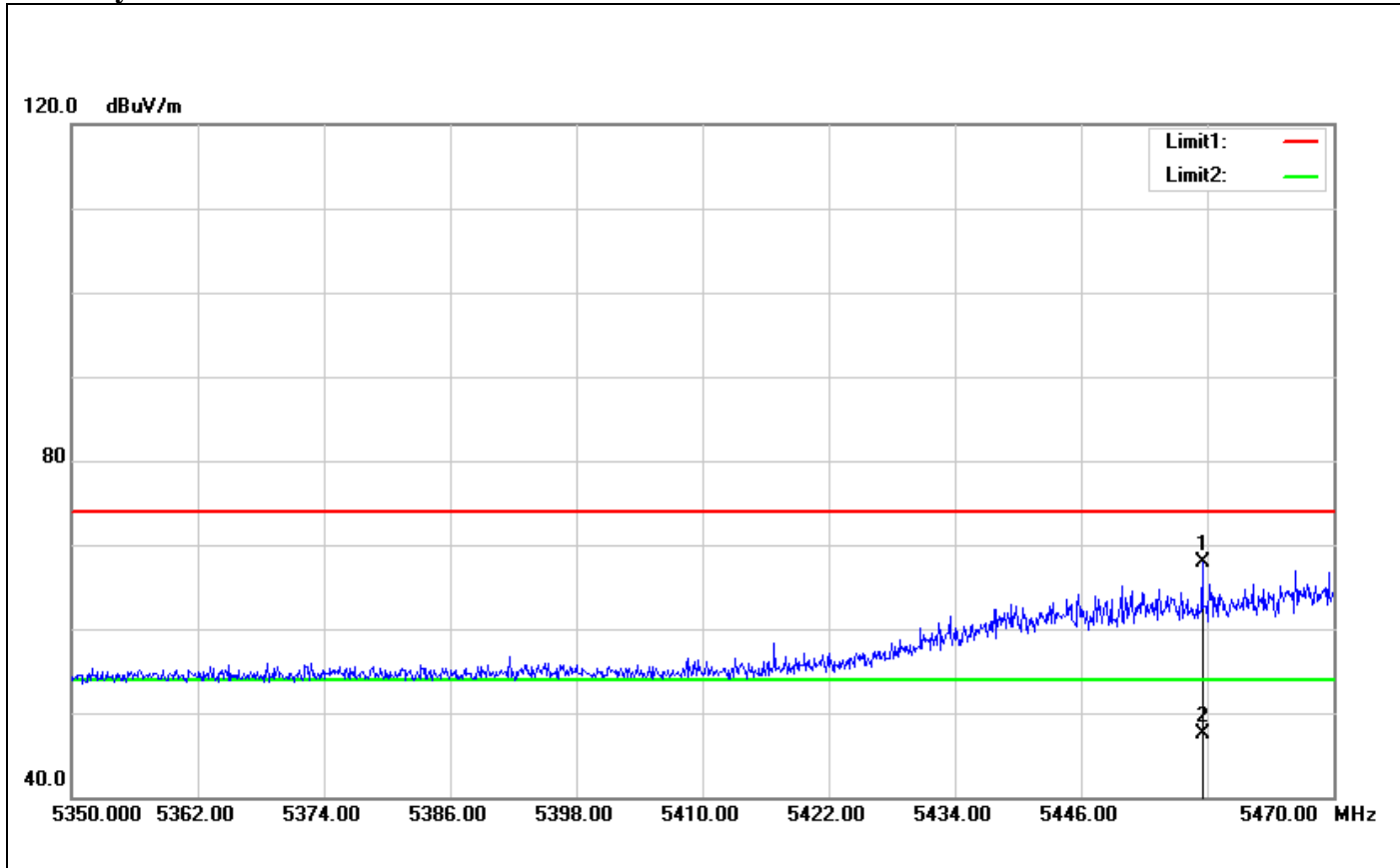
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5459.680	55.45	5.44	60.89	74.00	-13.11	100	79	peak
2	5459.680	38.38	5.44	43.82	54.00	-10.18	100	79	AVG



**Polarity: Horizontal**

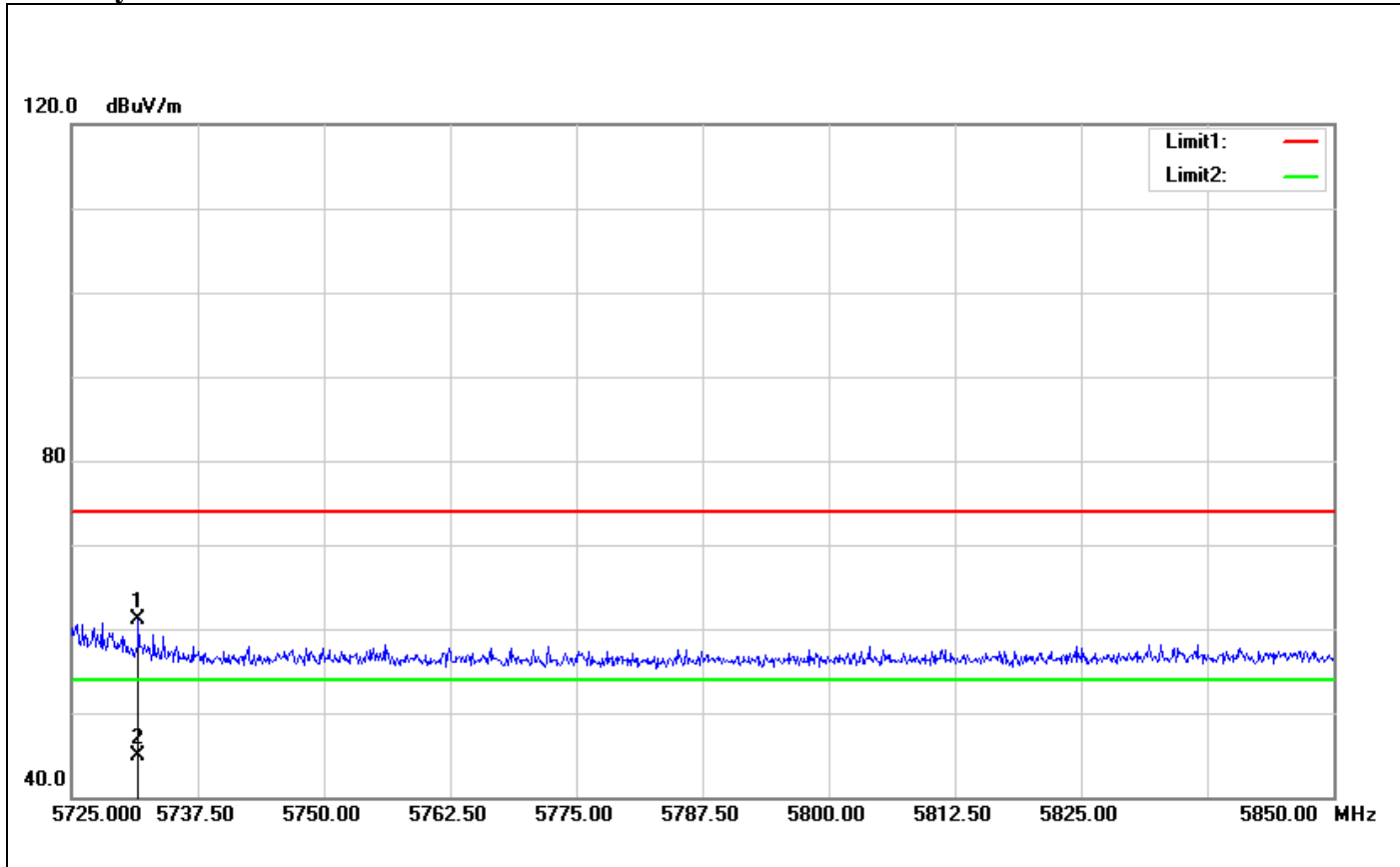


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5457.520	62.43	5.45	67.88	74.00	-6.12	100	40	peak
2	5457.520	42.02	5.45	47.47	54.00	-6.53	100	40	AVG



**Band Edges (IEEE 802.11n HT 20 MHz Channel mode / CH 5700 MHz)**

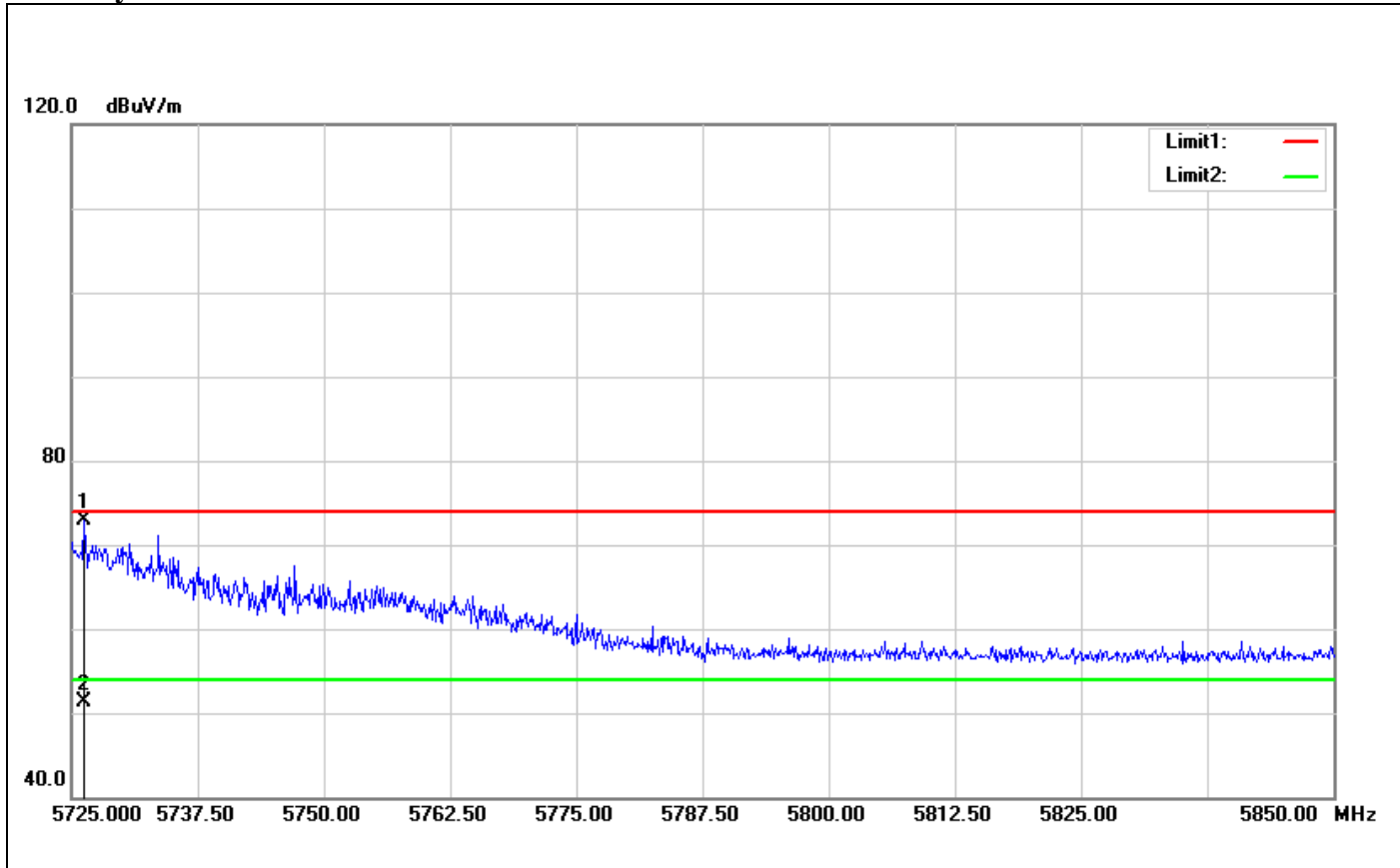
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	5731.625	54.79	6.24	61.03	74.00	-12.97	100	299	peak
2	5731.625	38.69	6.24	44.93	54.00	-9.07	100	299	AVG



**Polarity: Horizontal**

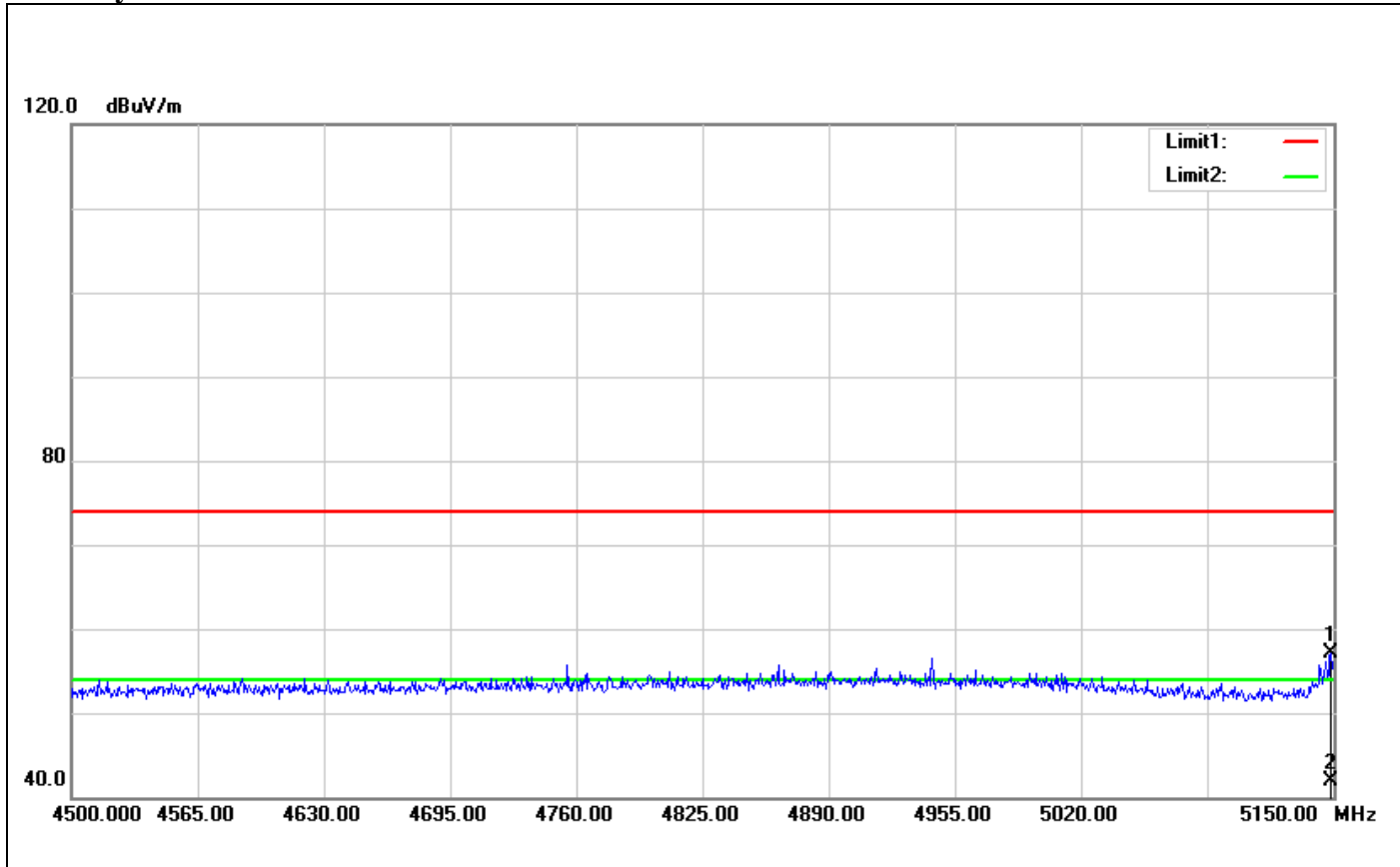


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	5726.250	66.72	6.21	72.93	74.00	-1.07	100	321	peak
2	5726.250	45.07	6.21	51.28	54.00	-2.72	100	321	AVG



Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5190 MHz)

Polarity: Vertical

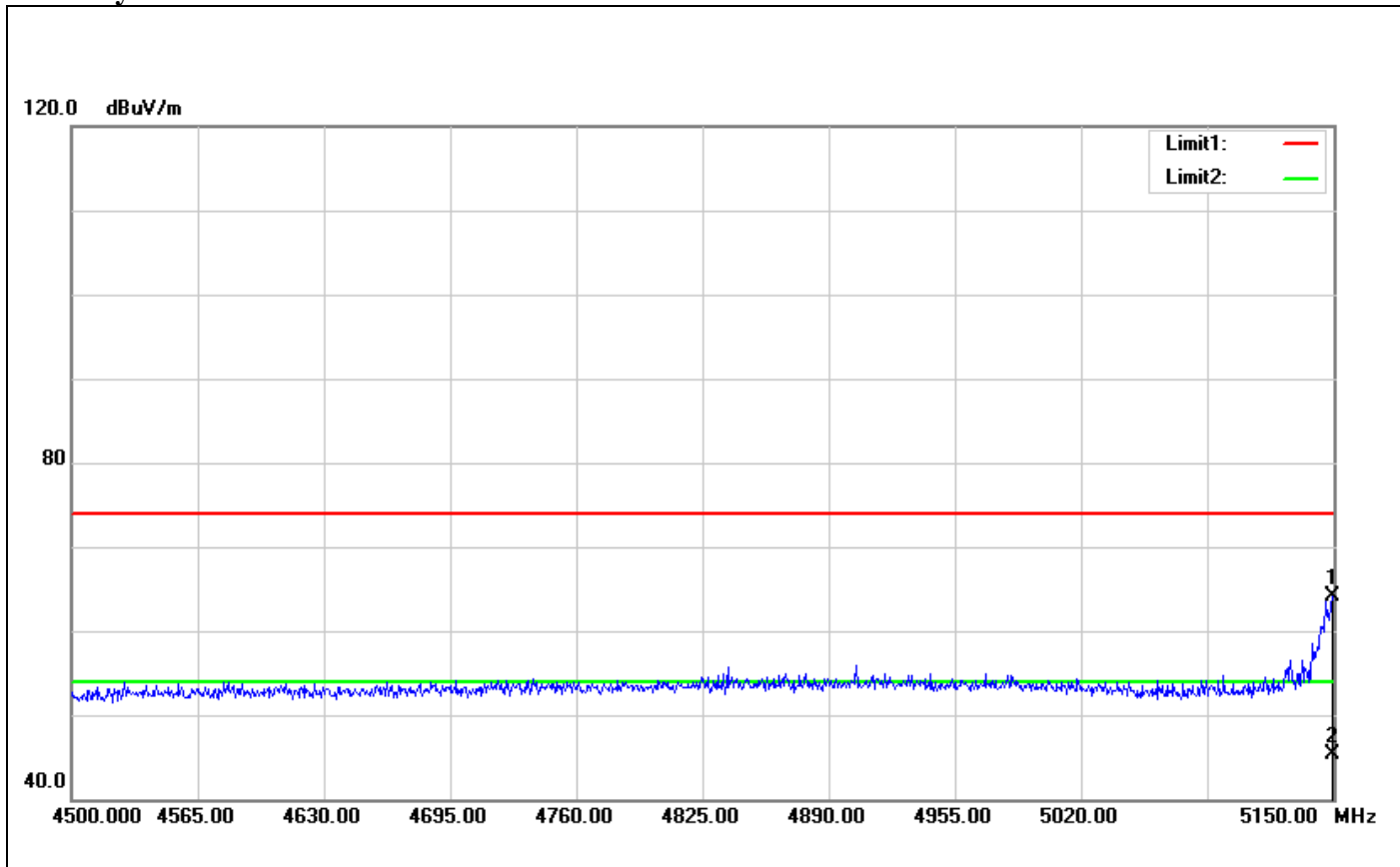


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5148.700	54.16	3.03	57.19	74.00	-16.81	100	259	peak
2	5148.700	38.80	3.03	41.83	54.00	-12.17	100	259	AVG





**Polarity: Horizontal**

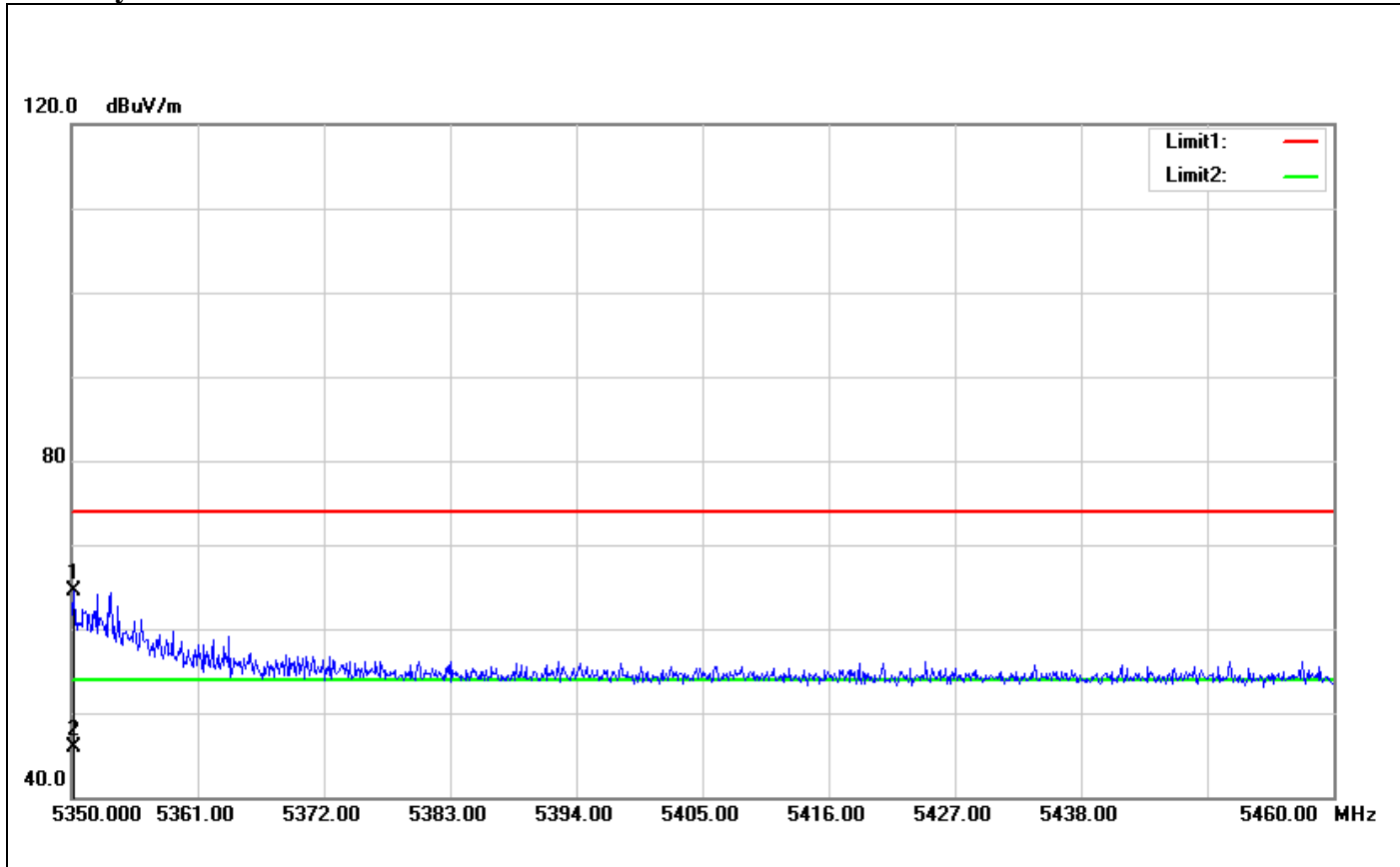


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5149.350	61.12	3.04	64.16	74.00	-9.84	100	229	peak
2	5149.350	42.25	3.04	45.29	54.00	-8.71	100	229	AVG



**Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5310 MHz)**

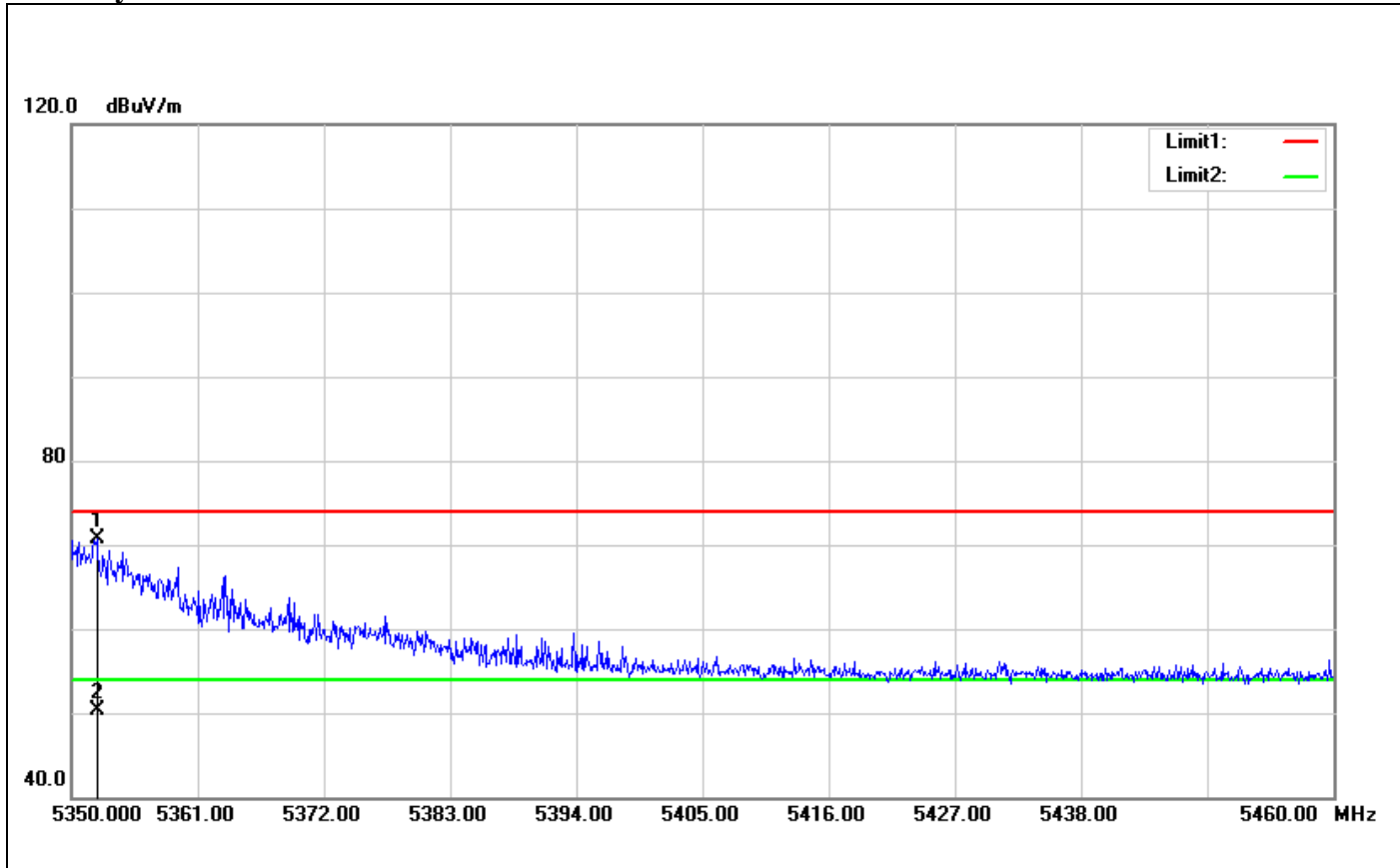
**Polarity: Vertical**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5350.220	59.27	5.31	64.58	74.00	-9.42	100	354	peak
2	5350.220	40.66	5.31	45.97	54.00	-8.03	100	354	AVG



**Polarity: Horizontal**

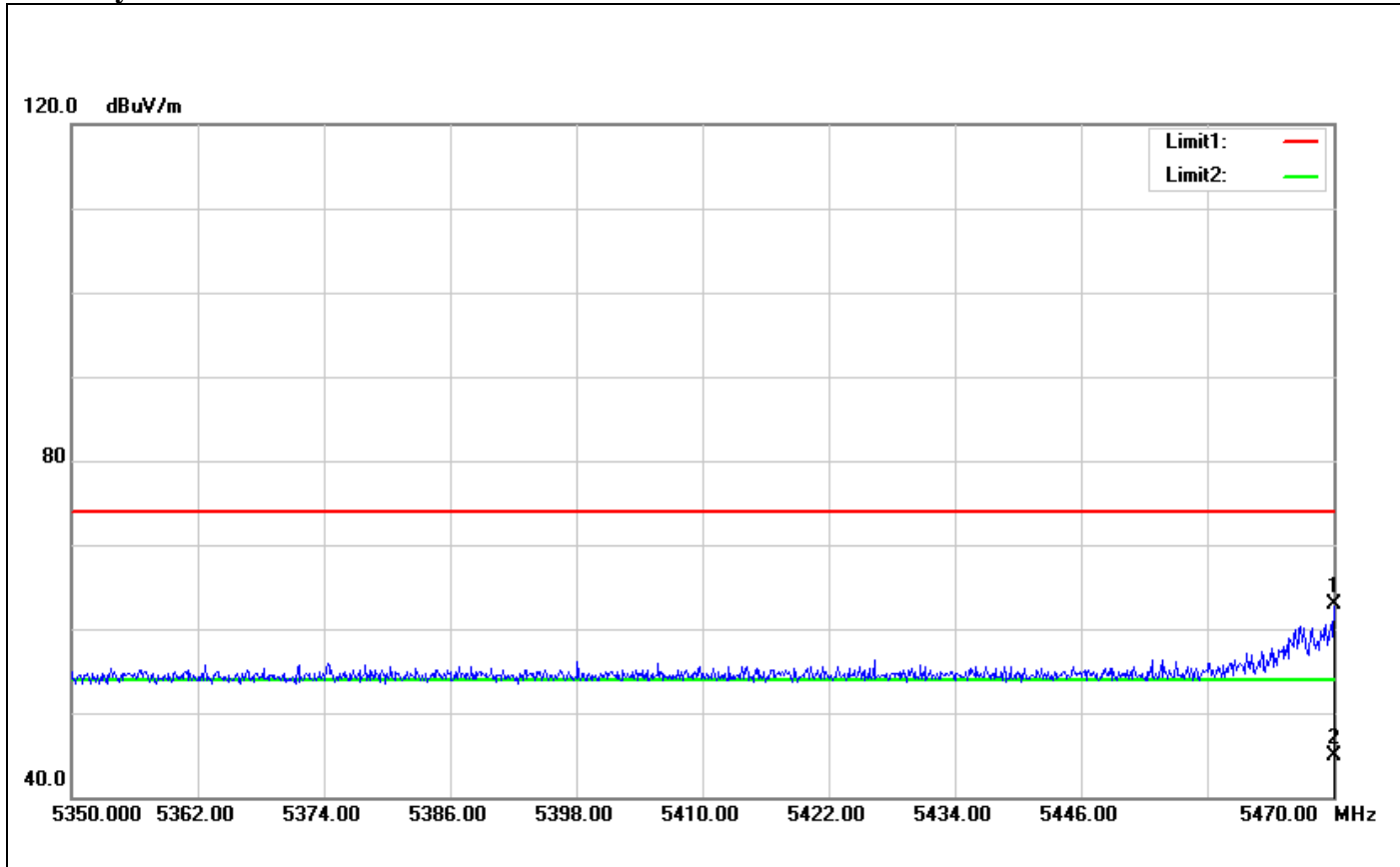


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5352.200	65.40	5.33	70.73	74.00	-3.27	100	270	peak
2	5352.200	44.99	5.33	50.32	54.00	-3.68	100	270	AVG



Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5510 MHz)

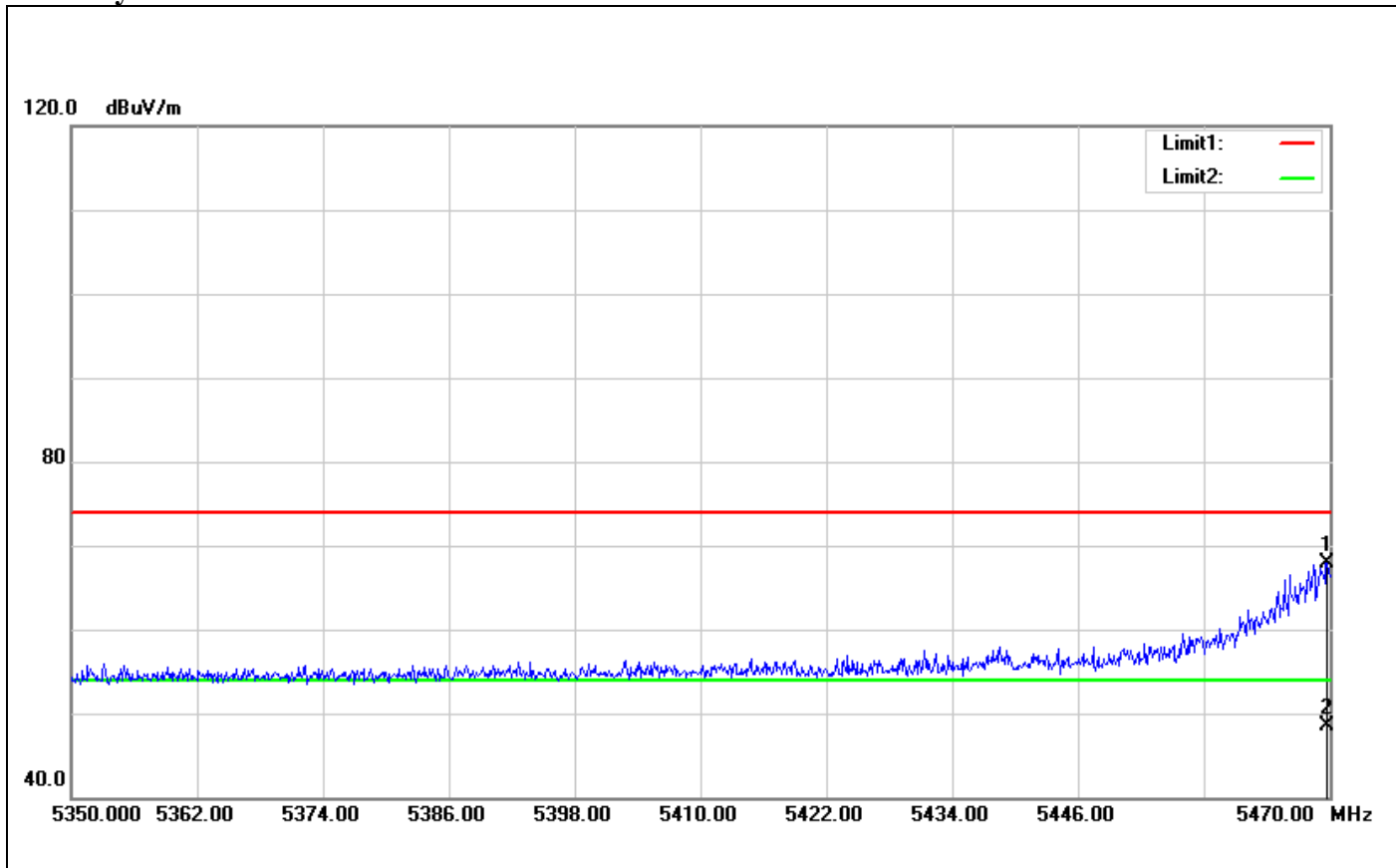
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5470.000	57.60	5.39	62.99	74.00	-11.01	100	97	peak
2	5470.000	39.61	5.39	45.00	54.00	-9.00	100	97	AVG



**Polarity: Horizontal**

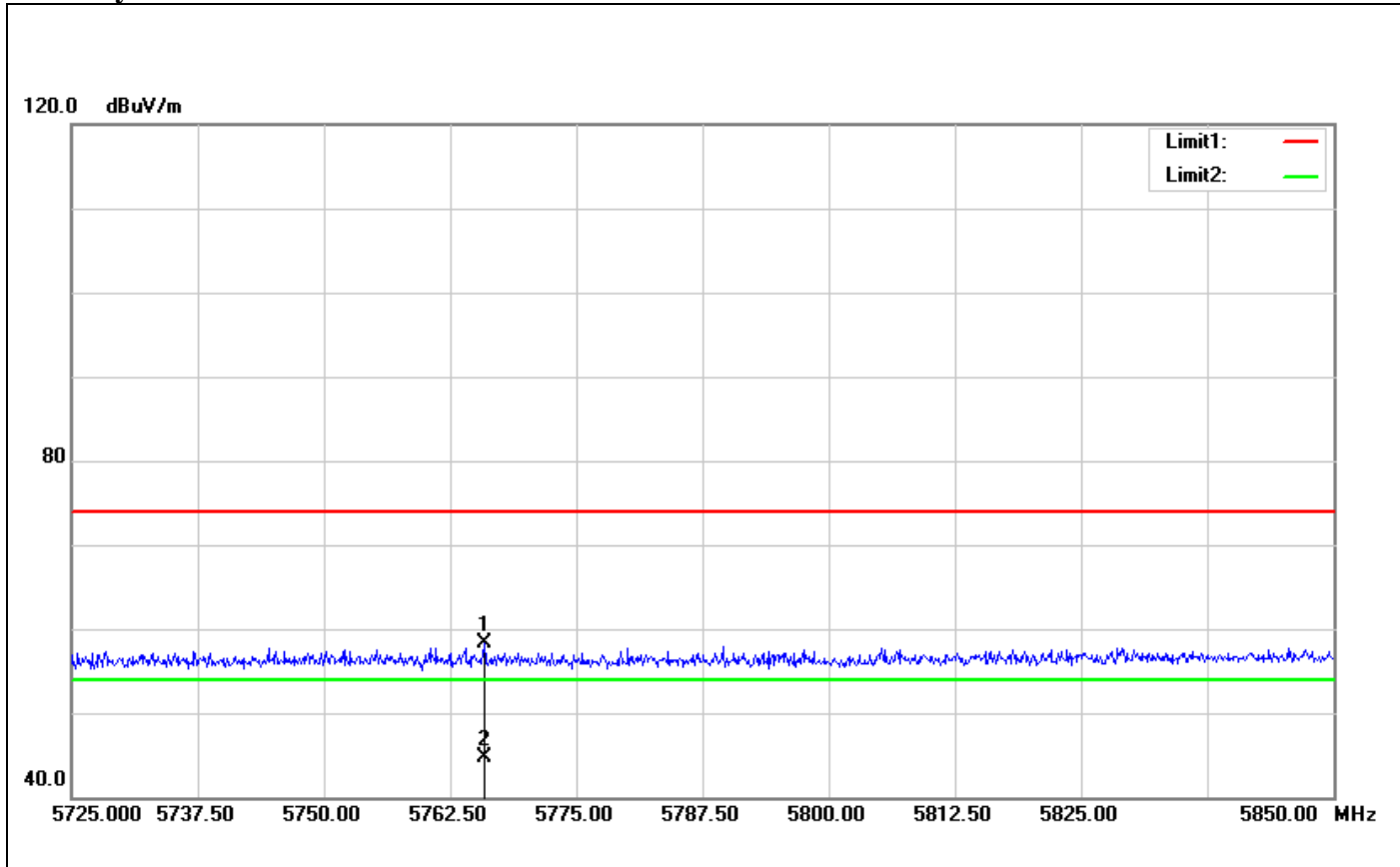


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( ° )	Remark
1	5469.760	62.58	5.39	67.97	74.00	-6.03	100	104	peak
2	5469.760	43.14	5.39	48.53	54.00	-5.47	100	104	AVG



Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5670 MHz)

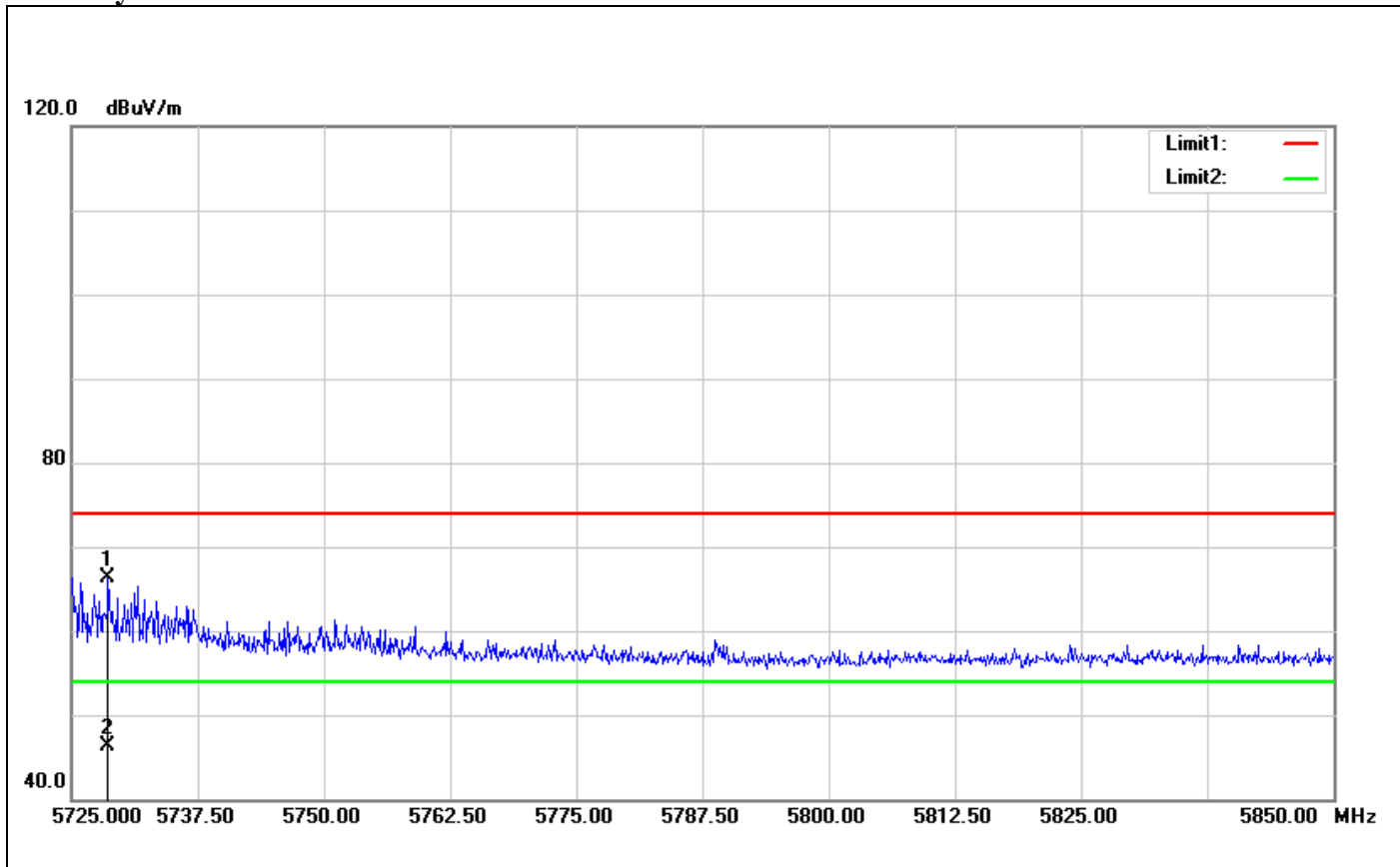
Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5765.875	51.96	6.38	58.34	74.00	-15.66	100	116	peak
2	5765.875	38.42	6.38	44.80	54.00	-9.20	100	116	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	5728.625	60.14	6.22	66.36	74.00	-7.64	100	336	peak
2	5728.625	40.08	6.22	46.30	54.00	-7.70	100	336	AVG



## 7.4 PEAK POWER SPECTRAL DENSITY

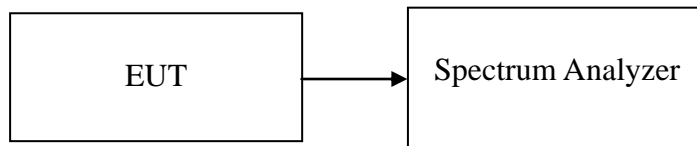
### LIMIT

According to §15.407(a)

- (1) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 11dBm in any 1MHz band.
- (2) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11dBm in any 1MHz band.

*If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.*

### Test Configuration



### TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.  
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as RBW = 1MHz, VBW = 3MHz, Span = Sweep= AUTO
3. Record the max. reading.
4. Repeat the above procedure until the measurements for all frequencies are completed

### TEST RESULTS

*No non-compliance noted*





**Test Data**

**Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
36	5180	0.94	11.00	-10.06	PASS
44	5220	1.52	11.00	-9.48	PASS
48	5240	1.75	11.00	-9.25	PASS

**Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
36	5180	-0.31	11.00	-11.31	PASS
44	5220	-0.37	11.00	-11.37	PASS
48	5240	-0.15	11.00	-11.15	PASS

**Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
38	5190	-4.26	11.00	-15.26	PASS
46	5230	-3.98	11.00	-14.98	PASS



**Test mode: IEEE 802.11a mode/ 5260 ~ 5320MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
52	5260	1.73	11.00	-9.27	PASS
56	5280	1.50	11.00	-9.5	PASS
60	5300	1.92	11.00	-9.08	PASS
64	5320	2.37	11.00	-8.63	PASS

**Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
52	5260	-0.18	11.00	-11.18	PASS
56	5280	-0.38	11.00	-11.38	PASS
60	5300	0.01	11.00	-10.99	PASS
64	5320	0.50	11.00	-10.5	PASS

**Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
54	5270	-3.94	11.00	-14.94	PASS
62	5310	-3.46	11.00	-14.46	PASS



**Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
100	5500	1.13	11.00	-9.87	PASS
116	5580	2.02	11.00	-8.98	PASS
140	5700	0.53	11.00	-10.47	PASS

**Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
100	5500	-0.23	11.00	-11.23	PASS
116	5580	0.11	11.00	-10.89	PASS
140	5700	-0.92	11.00	-11.92	PASS

**Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin	Result
102	5510	-4.72	11.00	-15.72	PASS
110	5550	-4.70	11.00	-15.7	PASS
134	5670	-4.26	11.00	-15.26	PASS



**Test Plot**

**IEEE 802.11a mode / 5180 ~ 5240MHz**

**5180MHz**

Agilent

R T

Mkr1 5.179 00 GHz

0.94 dBm

Ref 31.91 dBm

#Atten 30 dB

#PAvg

Log

10

dB/

Offst

11.9

dB

DI

17.0

dBm

#PAvg

W1 S2

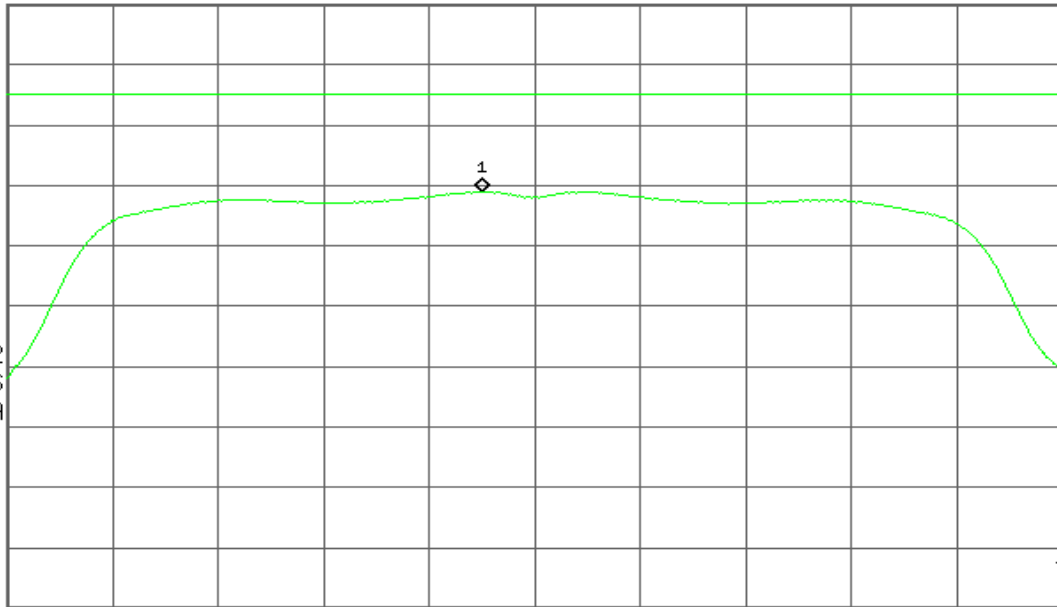
S3 FS

AA

£(f):

FTun

Swp



Center 5.180 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

Span 20 MHz

#Sweep 6 s (601 pts)

**5220MHz**

Agilent

R T

Mkr1 5.218 93 GHz

1.52 dBm

Ref 31.91 dBm

#Atten 30 dB

#PAvg

Log

10

dB/

Offst

11.9

dB

DI

17.0

dBm

#PAvg

W1 S2

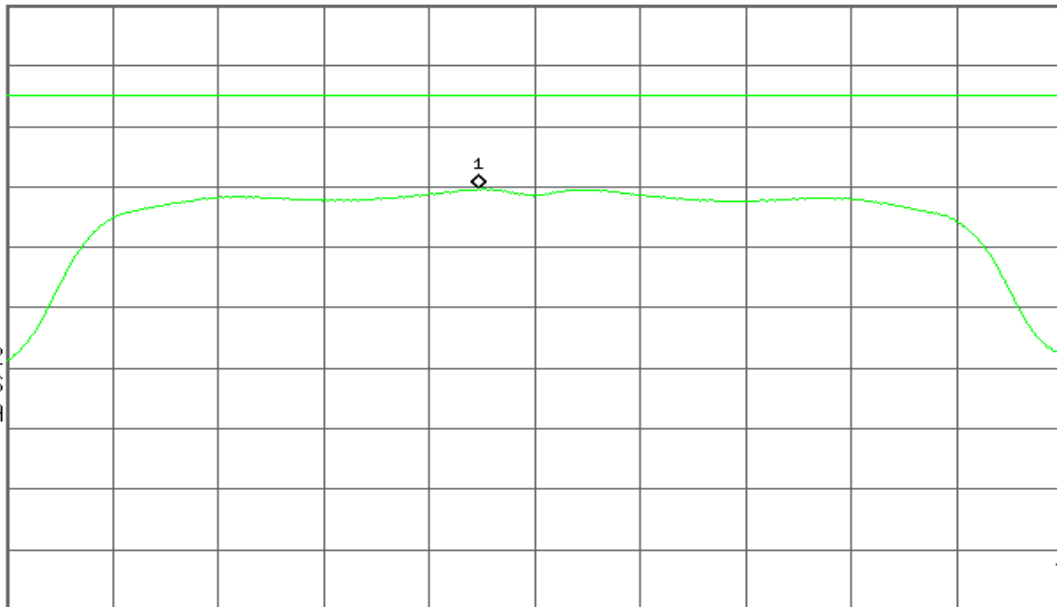
S3 FS

AA

£(f):

FTun

Swp



Center 5.220 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

Span 20 MHz

#Sweep 6 s (601 pts)



5240MHz

Agilent

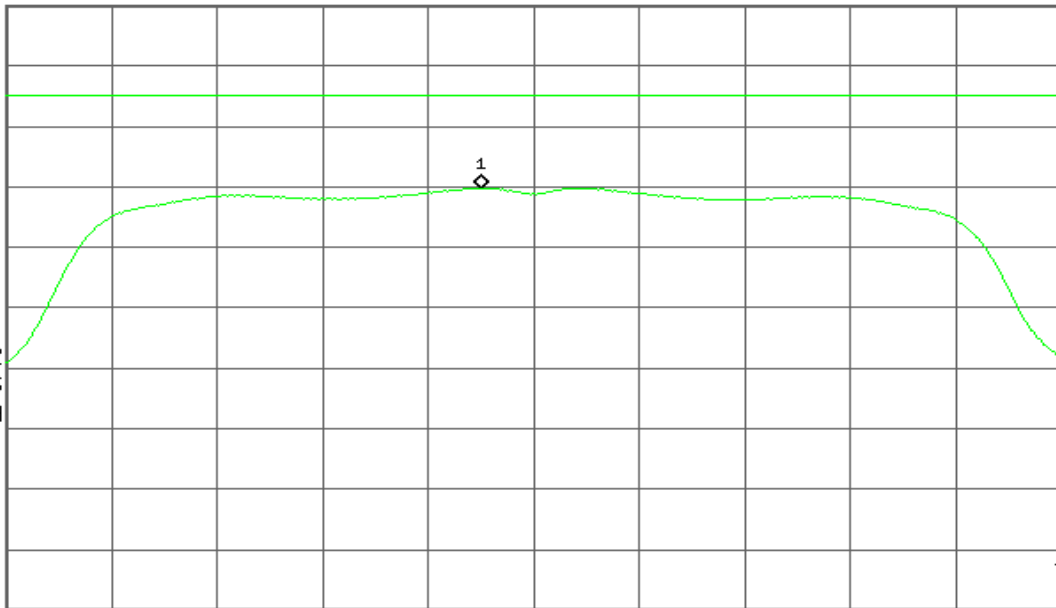
R T

Mkr1 5.239 00 GHz  
1.75 dBm

Ref 31.91 dBm

#Atten 30 dB

#Avg  
Log  
10  
dB/  
Offst  
11.9  
dB  
DI  
17.0  
dBm  
#PAvg  
W1 S2  
S3 FS  
AA  
£(f):  
FTun  
Swp



Center 5.240 00 GHz

Span 20 MHz

#Res BW 1 MHz

#VBW 3 MHz

#Sweep 6 s (601 pts)



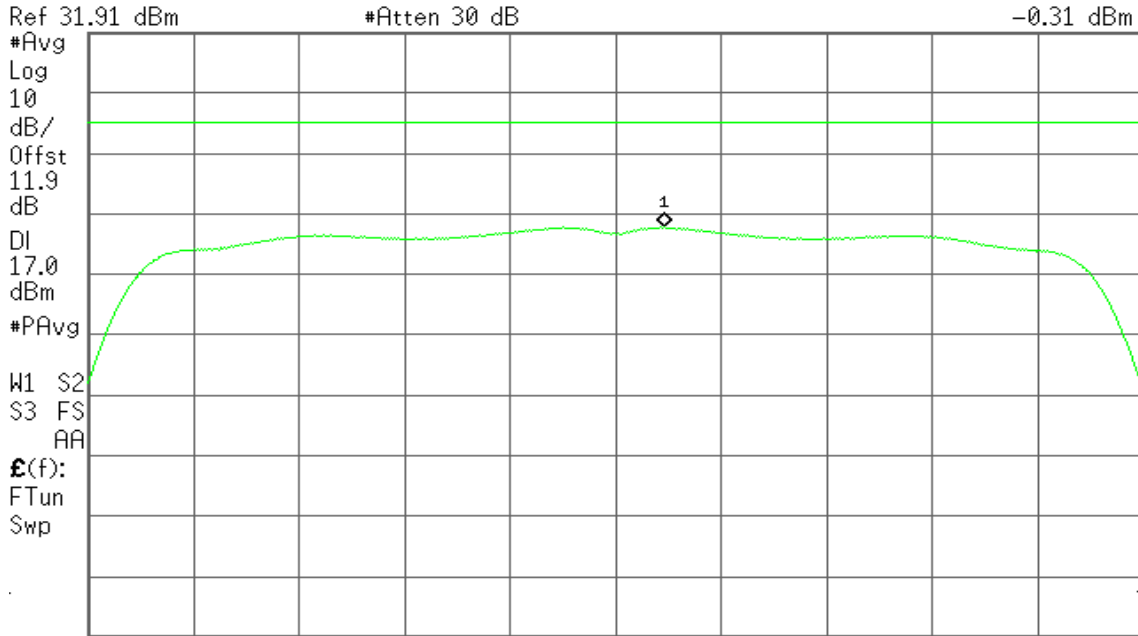
**IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz**

**5180MHz**

Agilent

R T

Mkr1 5.180 93 GHz  
-0.31 dBm



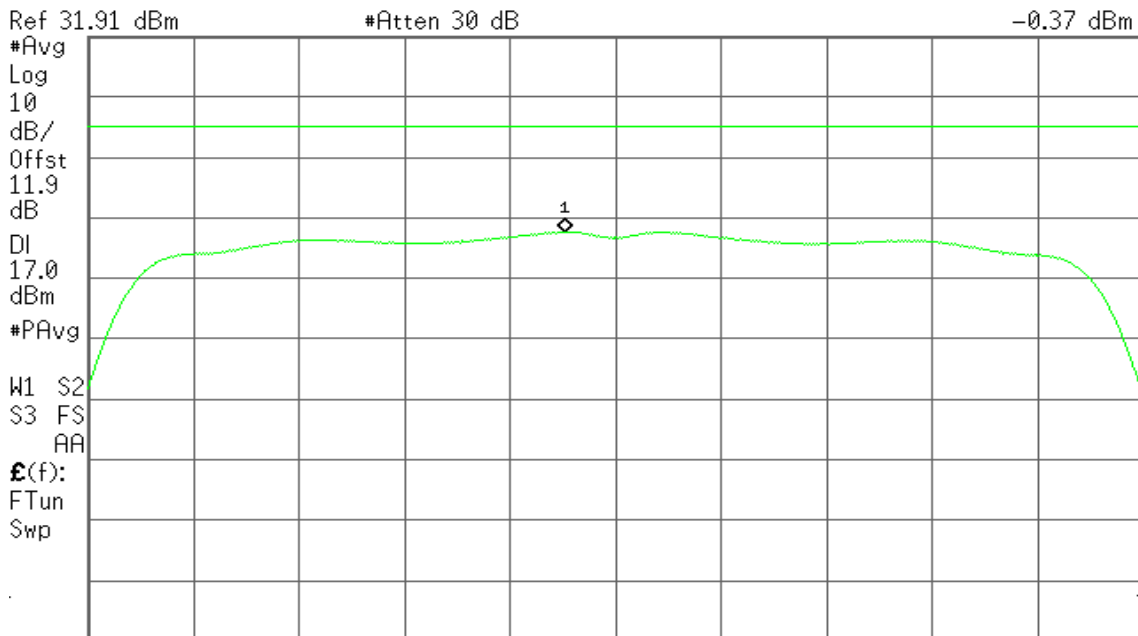
Center 5.180 00 GHz Span 20 MHz  
#Res BW 1 MHz #VBW 3 MHz #Sweep 6 s (601 pts)

**5220MHz**

Agilent

R T

Mkr1 5.219 03 GHz  
-0.37 dBm



Center 5.220 00 GHz Span 20 MHz  
#Res BW 1 MHz #VBW 3 MHz #Sweep 6 s (601 pts)

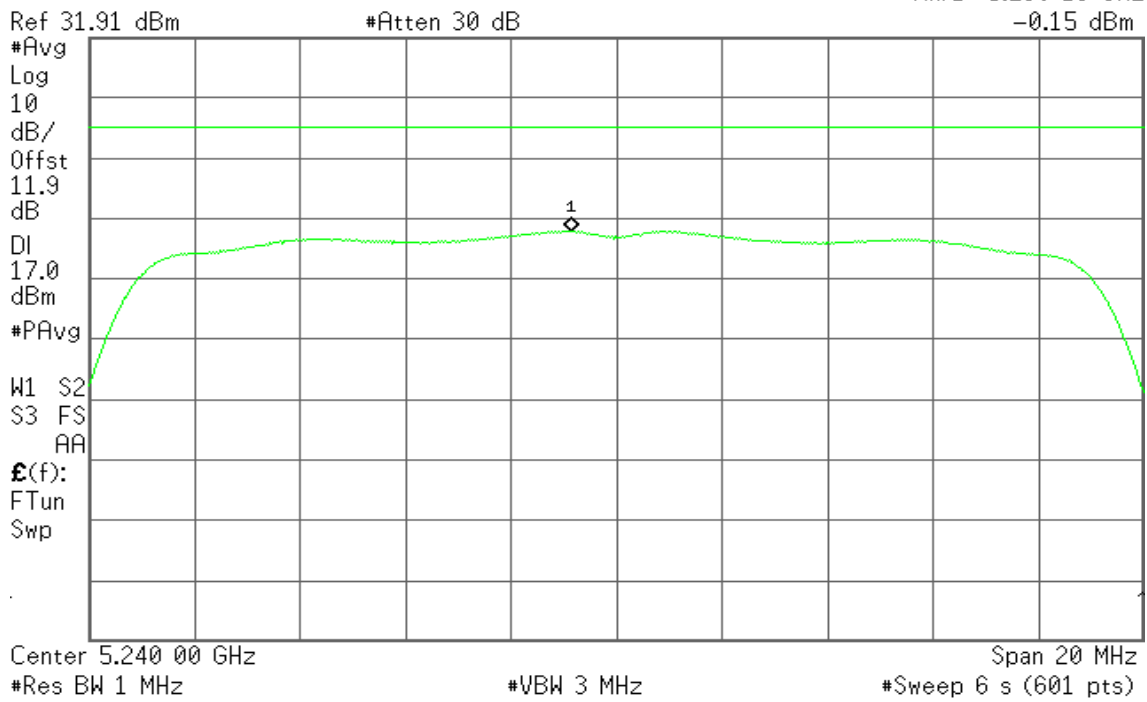


5240MHz

Agilent

R T

Mkr1 5.239 13 GHz  
-0.15 dBm





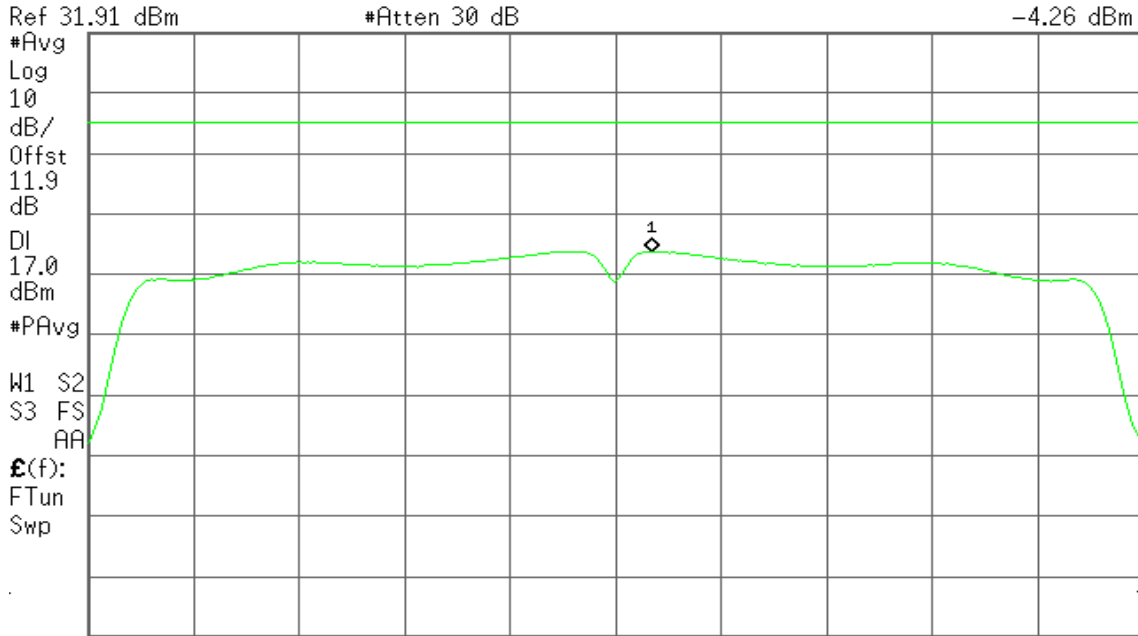
**IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz**

**5190MHz**

Agilent

R T

Mkr1 5.191 40 GHz  
-4.26 dBm



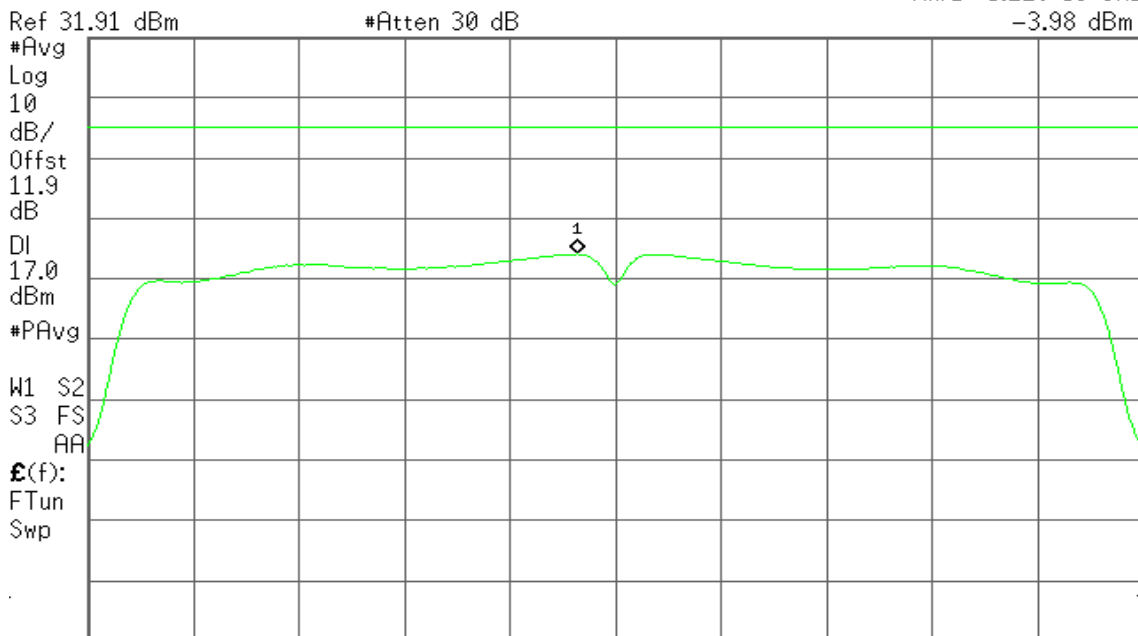
Center 5.190 00 GHz Span 40 MHz  
#Res BW 1 MHz #VBW 3 MHz #Sweep 6 s (601 pts)

**5230MHz**

Agilent

R T

Mkr1 5.228 53 GHz  
-3.98 dBm



Center 5.230 00 GHz Span 40 MHz  
#Res BW 1 MHz #VBW 3 MHz #Sweep 6 s (601 pts)





**IEEE 802.11a mode / 5260 ~ 5320MHz**

**5260MHz**

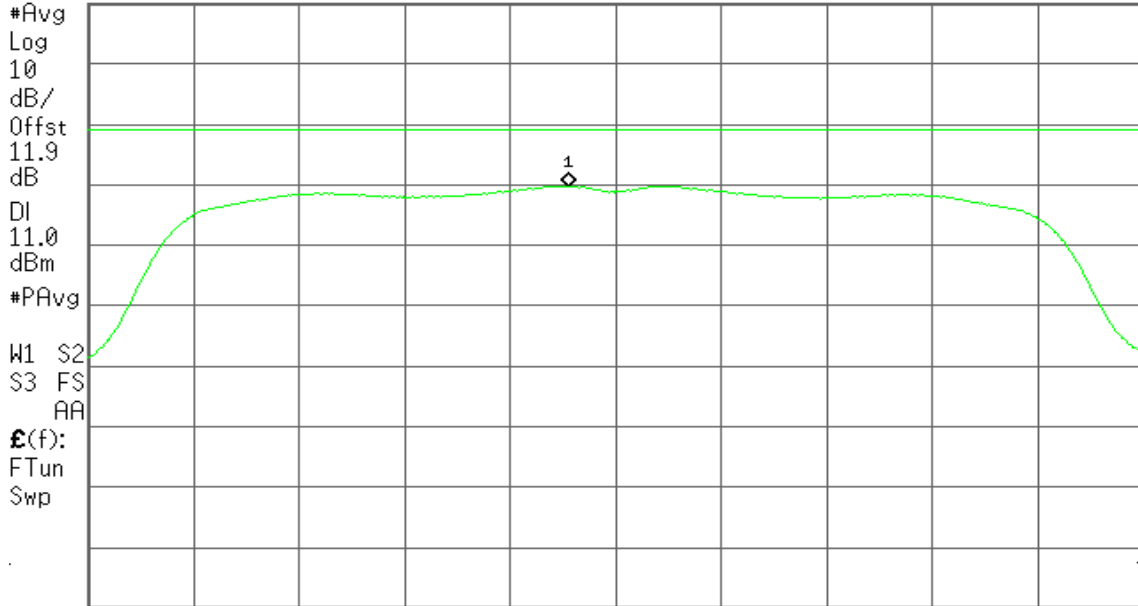
Agilent

R T

Mkr1 5.259 10 GHz  
1.73 dBm

Ref 31.91 dBm

#Atten 30 dB



Center 5.260 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

Span 20 MHz

#Sweep 6 s (601 pts)

**5280MHz**

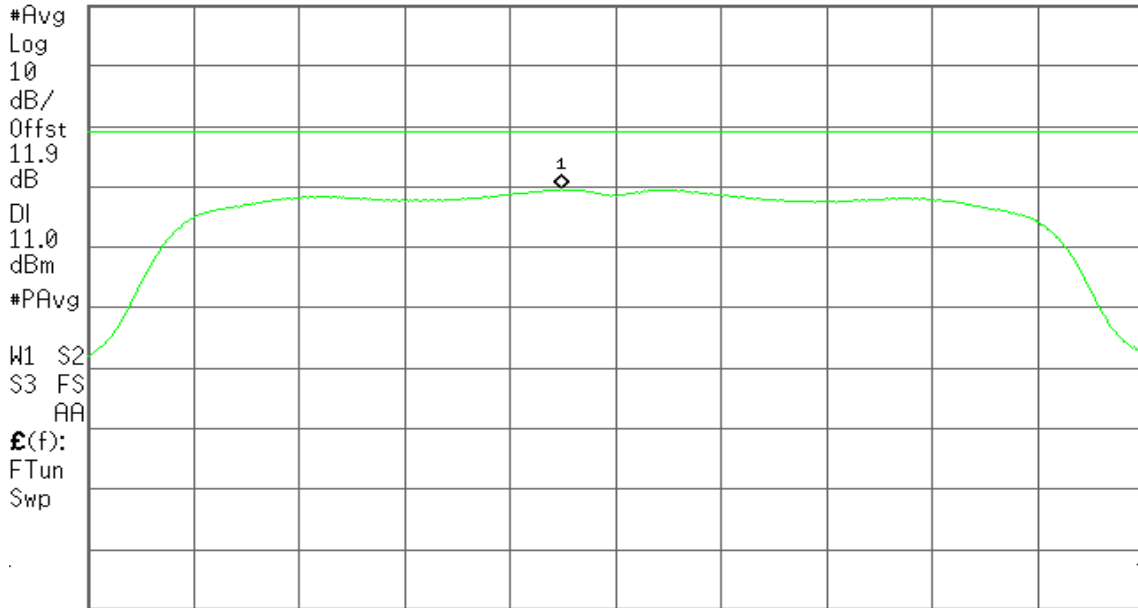
Agilent

R T

Mkr1 5.278 97 GHz  
1.50 dBm

Ref 31.91 dBm

#Atten 30 dB



Center 5.280 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

Span 20 MHz

#Sweep 6 s (601 pts)



### 5300MHz

Agilent

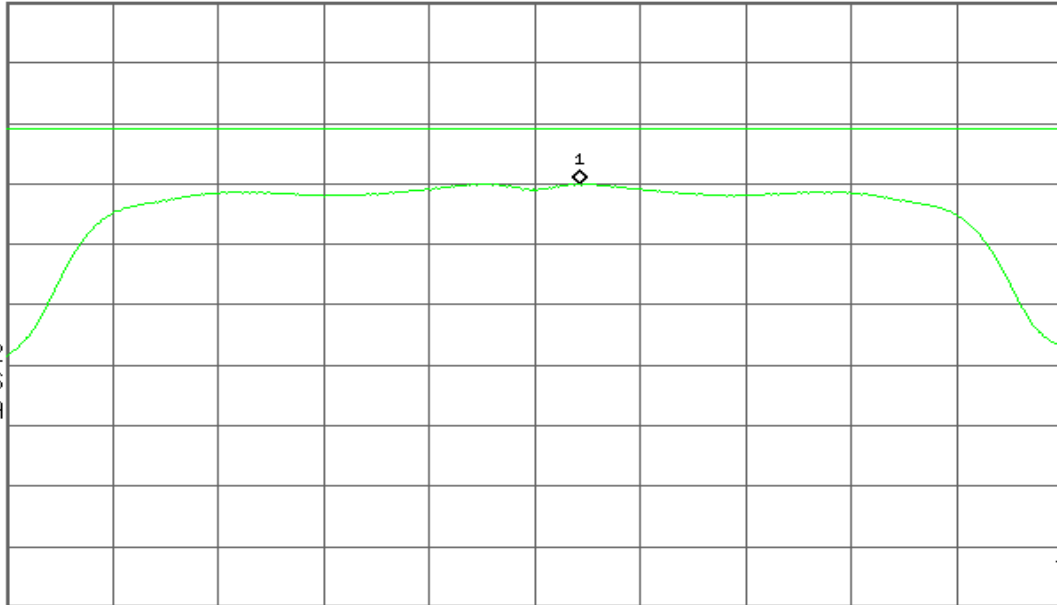
R T

Mkr1 5.300 87 GHz  
1.92 dBm

Ref 31.91 dBm

#Atten 30 dB

#Avg  
Log  
10  
dB/  
Offst  
11.9  
dB  
DI  
11.0  
dBm  
#PAvg  
W1 S2  
S3 FS  
AA  
£(f):  
FTun  
Swp



Center 5.300 00 GHz

Span 20 MHz

#Res BW 1 MHz

#VBW 3 MHz

#Sweep 6 s (601 pts)

### 5320MHz

Agilent

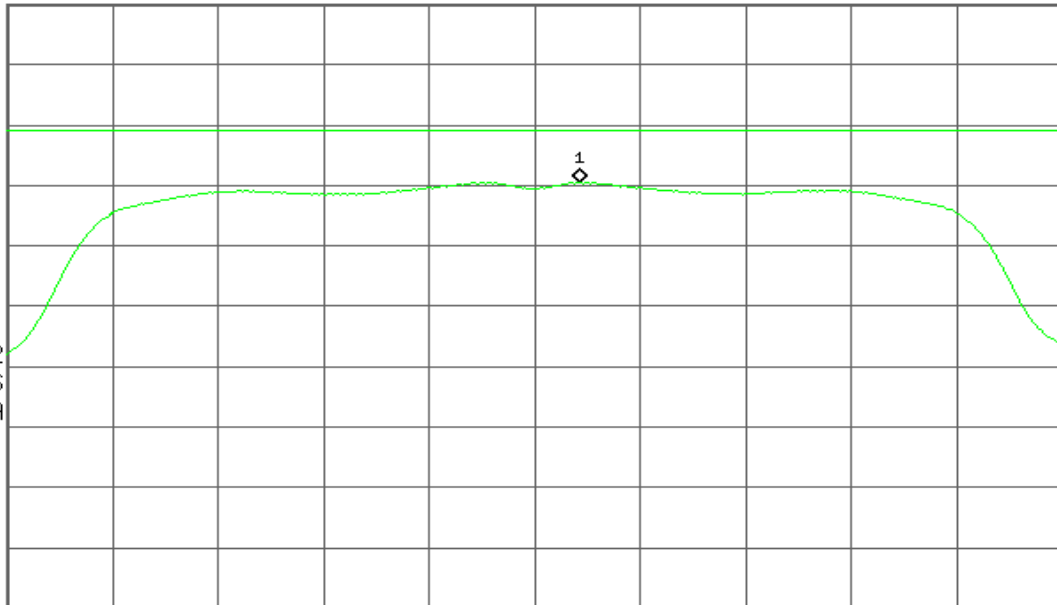
R T

Mkr1 5.320 87 GHz  
2.37 dBm

Ref 31.91 dBm

#Atten 30 dB

#Avg  
Log  
10  
dB/  
Offst  
11.9  
dB  
DI  
11.0  
dBm  
#PAvg  
W1 S2  
S3 FS  
AA  
£(f):  
FTun  
Swp



Center 5.320 00 GHz

Span 20 MHz

#Res BW 1 MHz

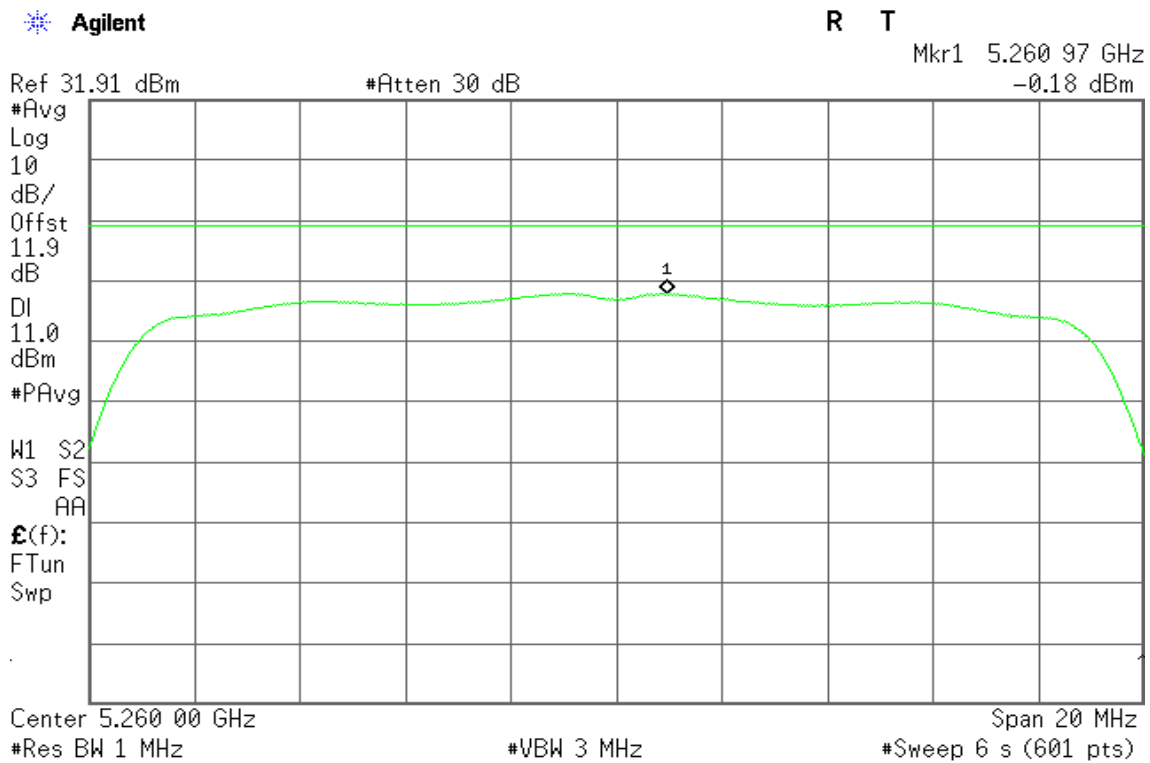
#VBW 3 MHz

#Sweep 6 s (601 pts)

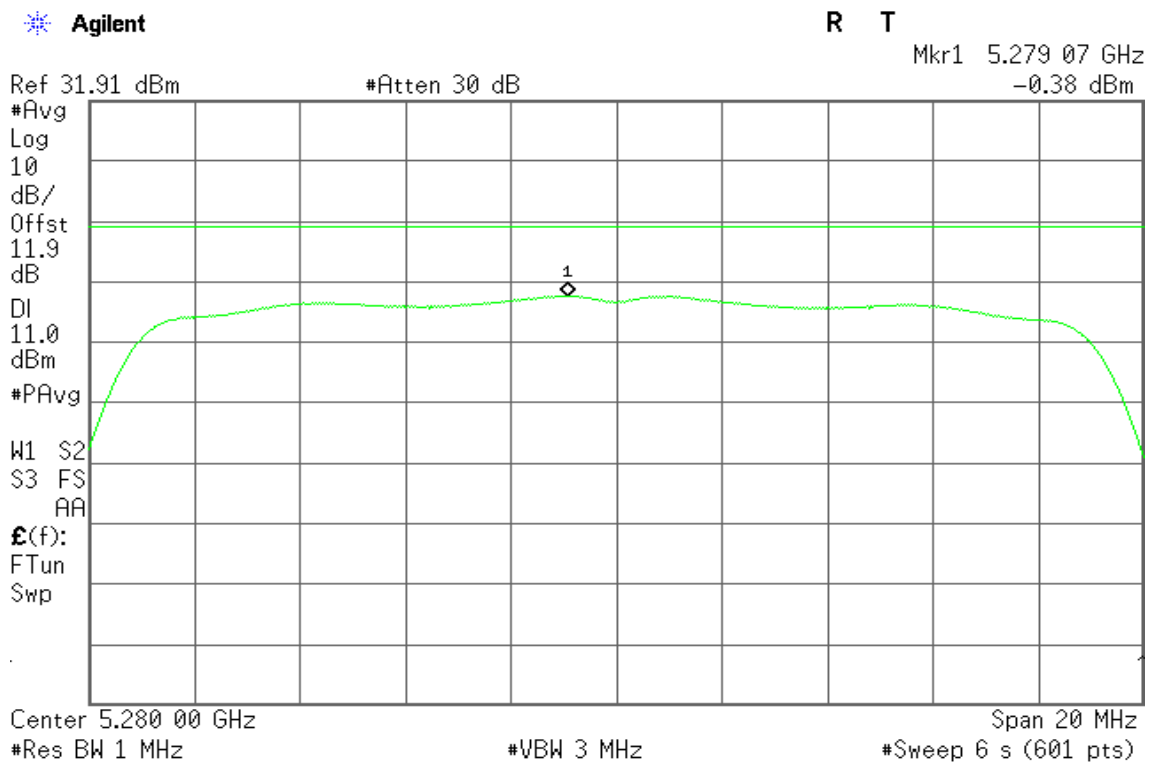


**IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz**

**5260MHz**



**5280MHz**



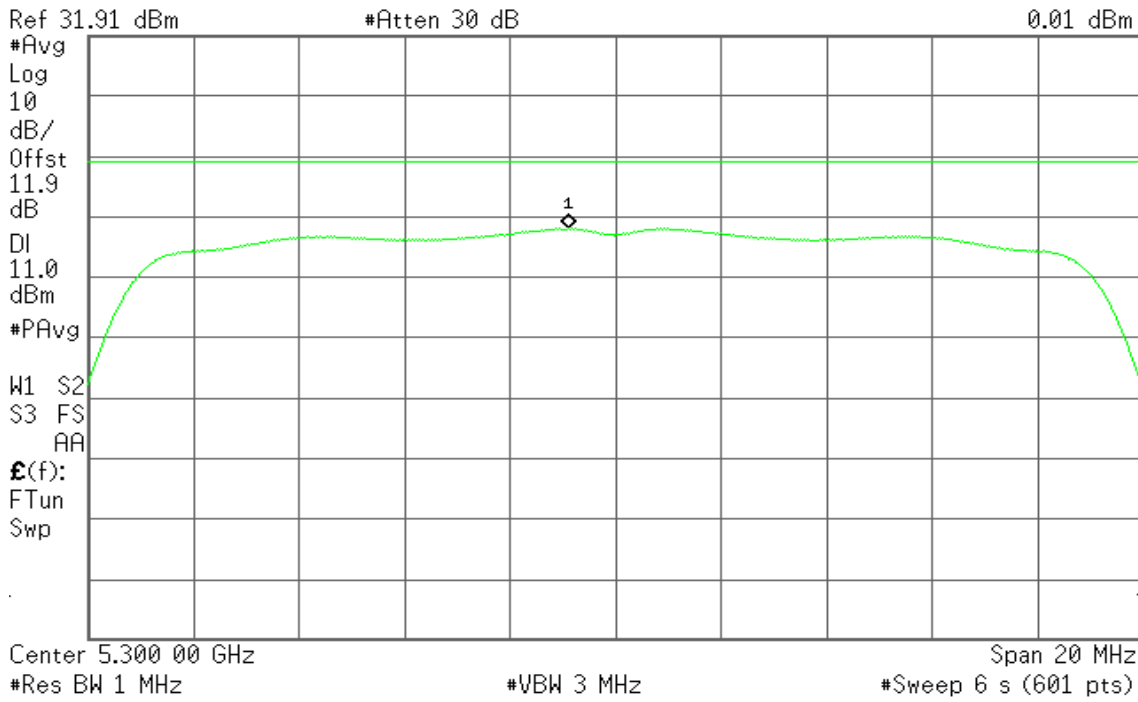


### 5300MHz

Agilent

R T

Mkr1 5.299 10 GHz  
0.01 dBm

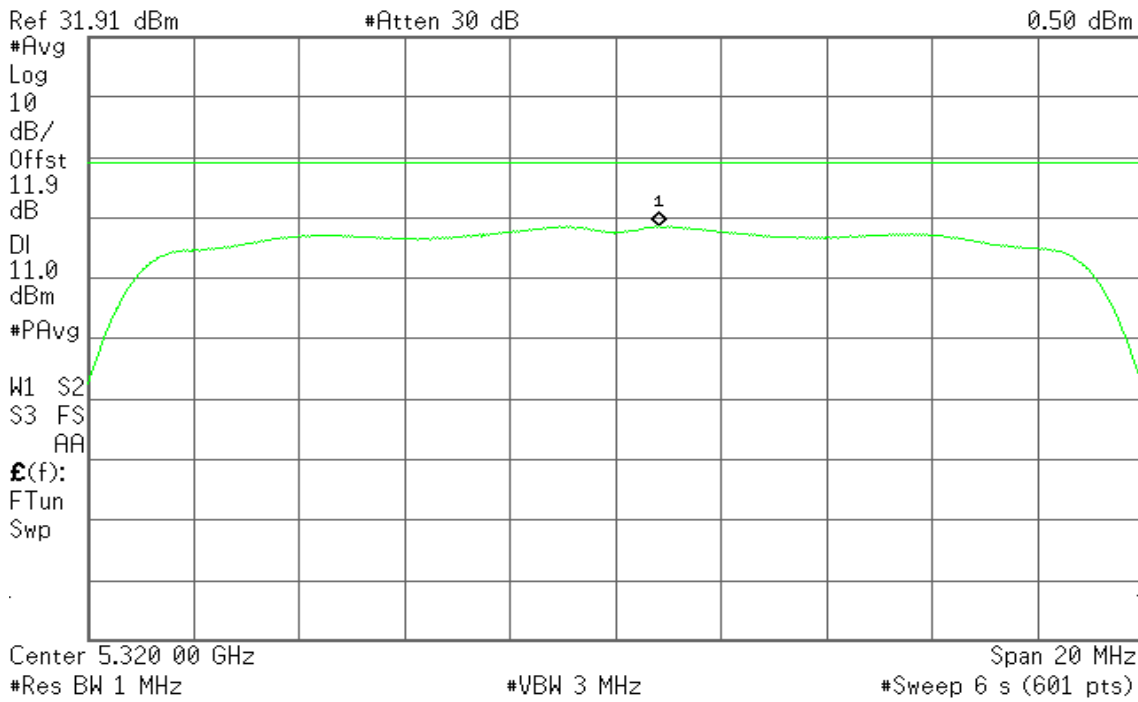


### 5320MHz

Agilent

R T

Mkr1 5.320 83 GHz  
0.50 dBm





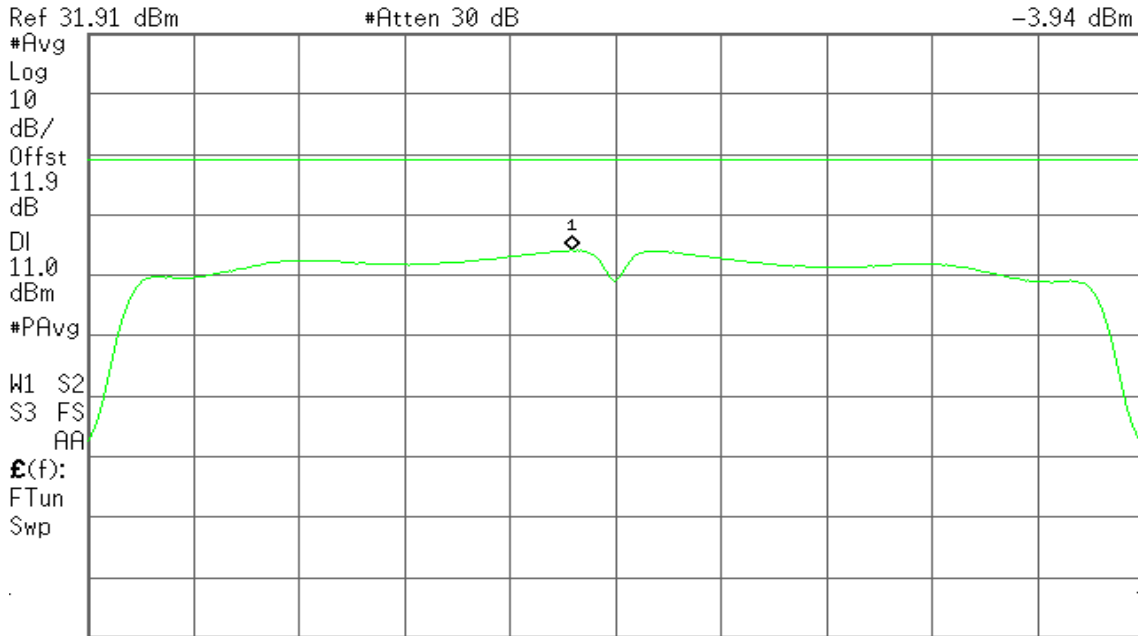
**IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz**

**5270MHz**

Agilent

R T

Mkr1 5.268 33 GHz  
-3.94 dBm

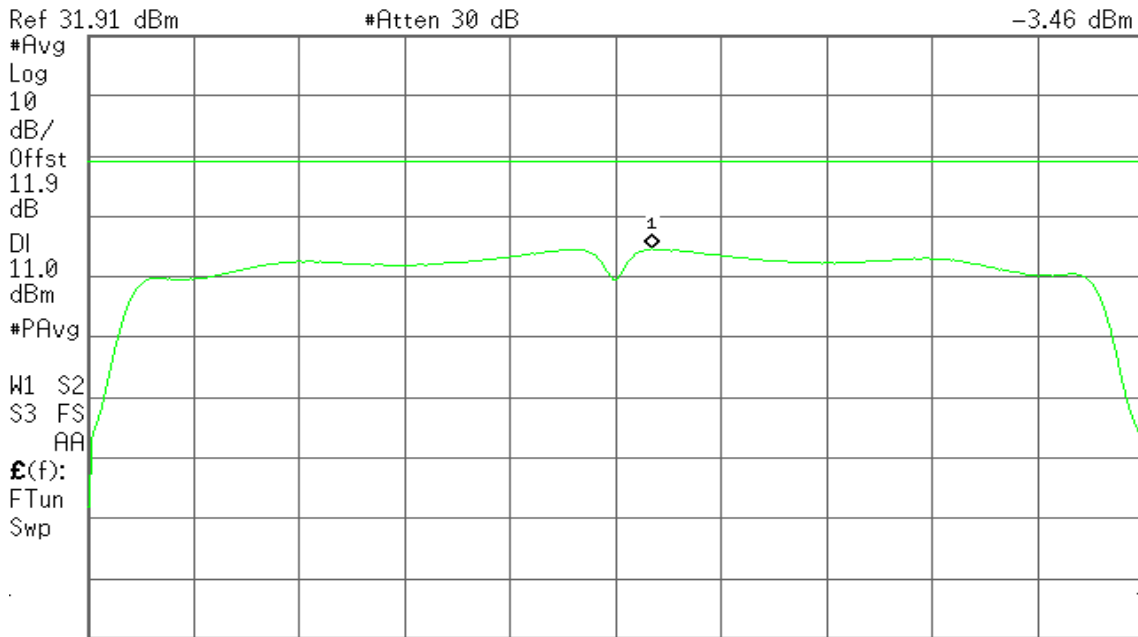


**5310MHz**

Agilent

R T

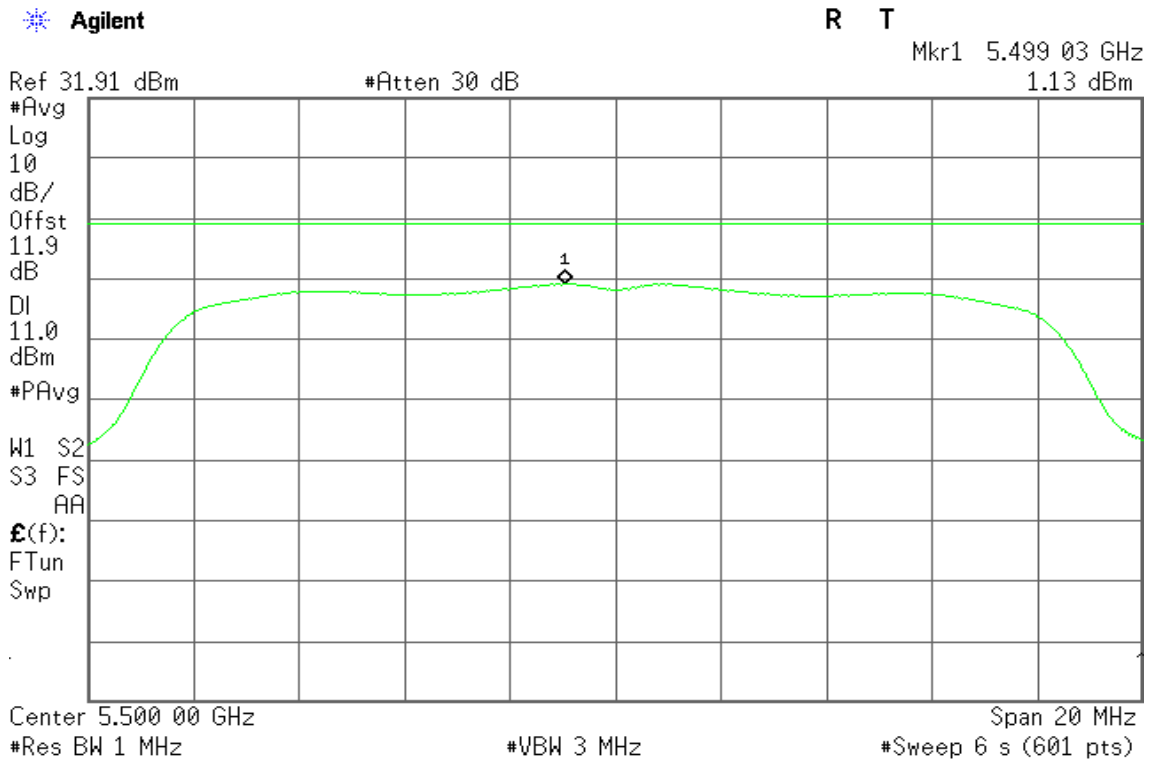
Mkr1 5.311 40 GHz  
-3.46 dBm



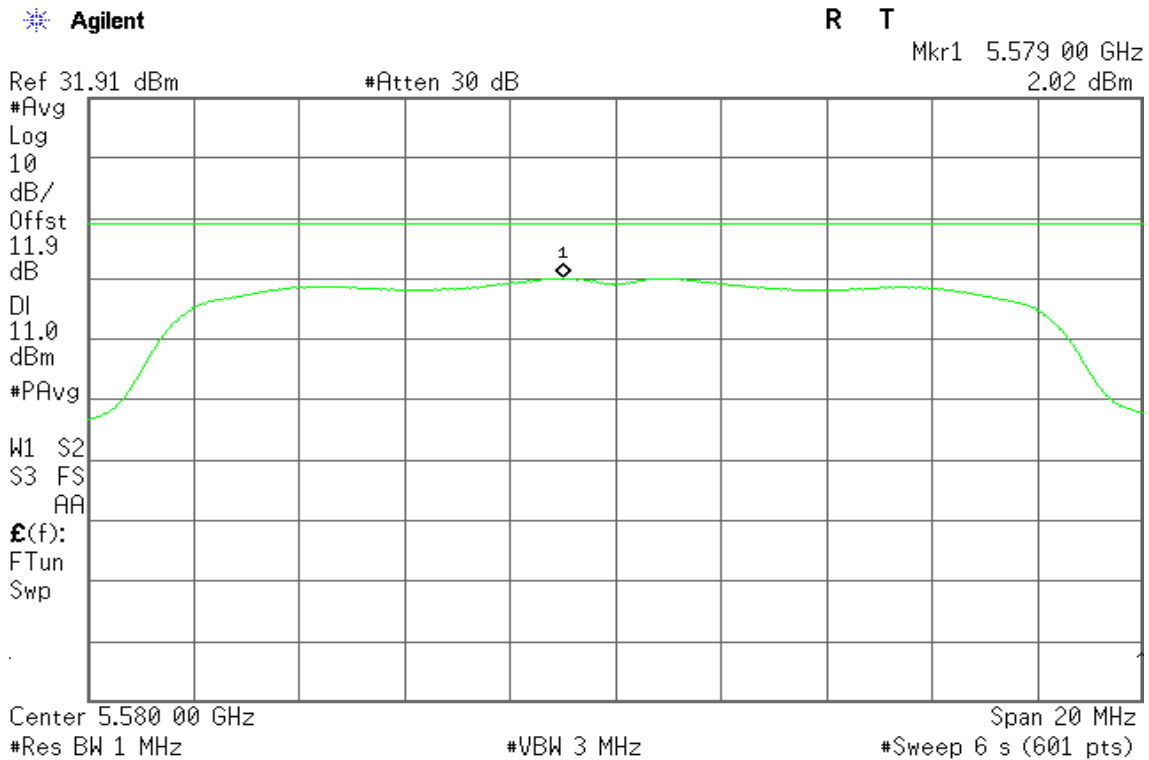


**Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz**

**5500MHz**



**5580MHz**





### 5700MHz

Agilent

R T

Mkr1 5.698 97 GHz  
0.53 dBm

Ref 31.91 dBm

#Atten 30 dB

#Avg

Log

10

dB/

Offst

11.9

dB

DI

11.0

dBm

#PAvg

W1 S2

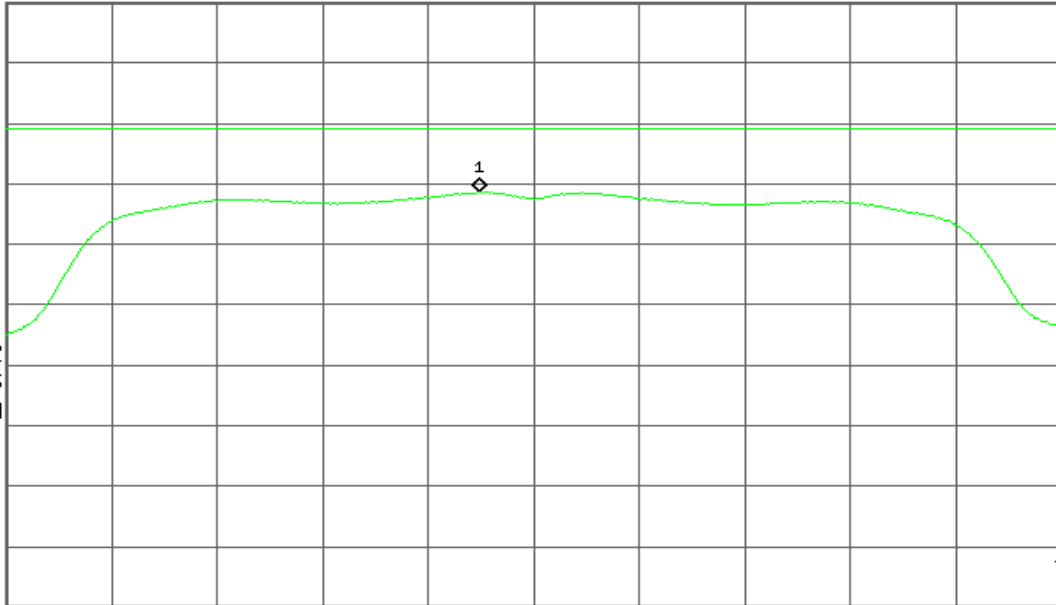
S3 FS

AA

£(f):

FTun

Swp



Center 5.700 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

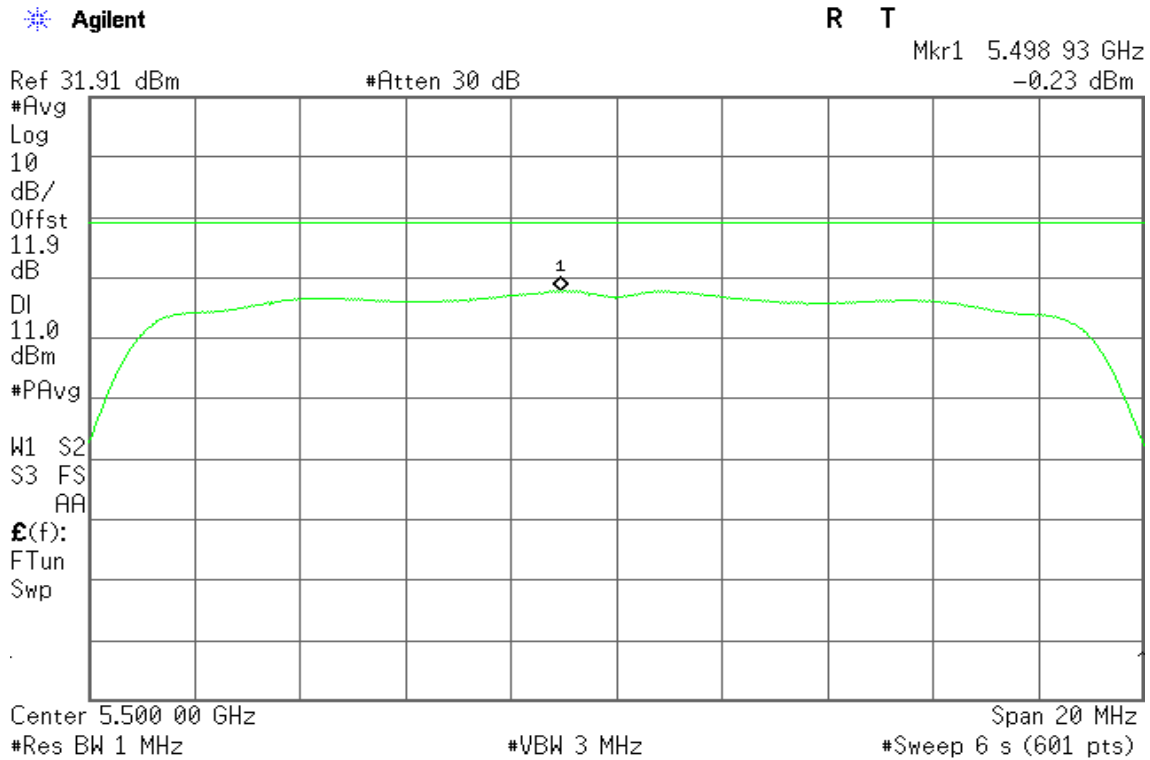
Span 20 MHz

#Sweep 6 s (601 pts)

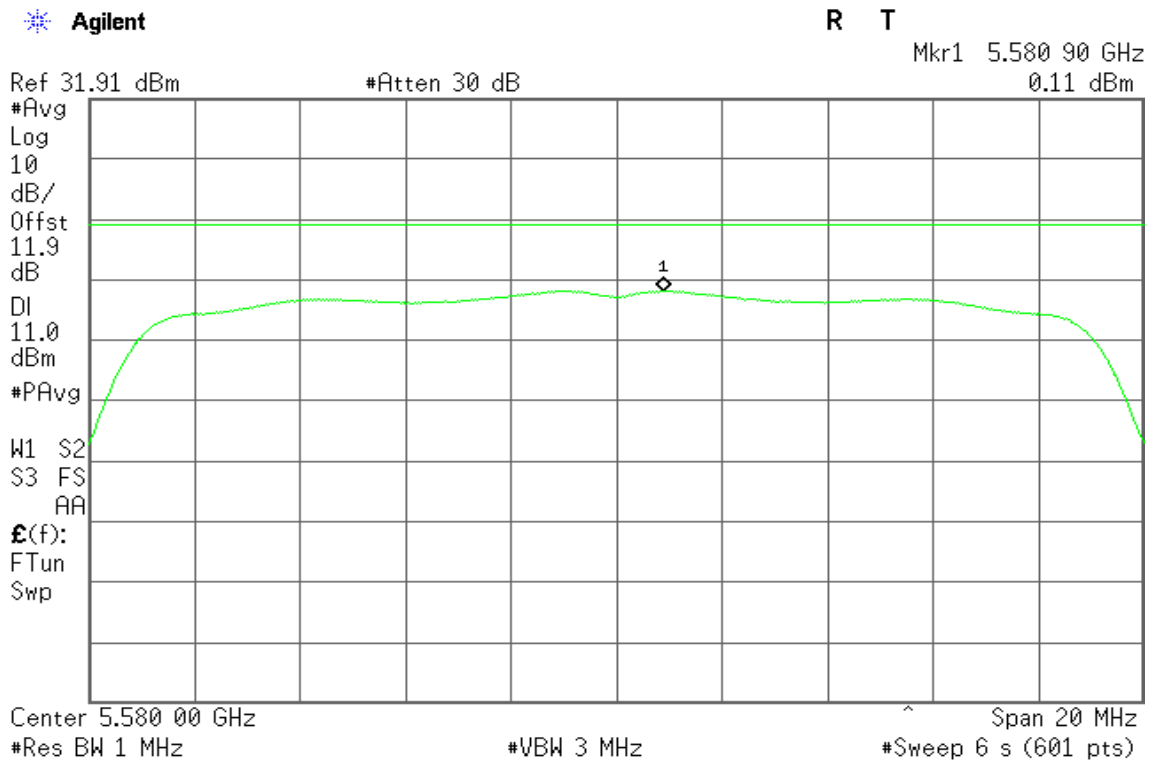


**IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz**

**5500MHz**



**5580MHz**





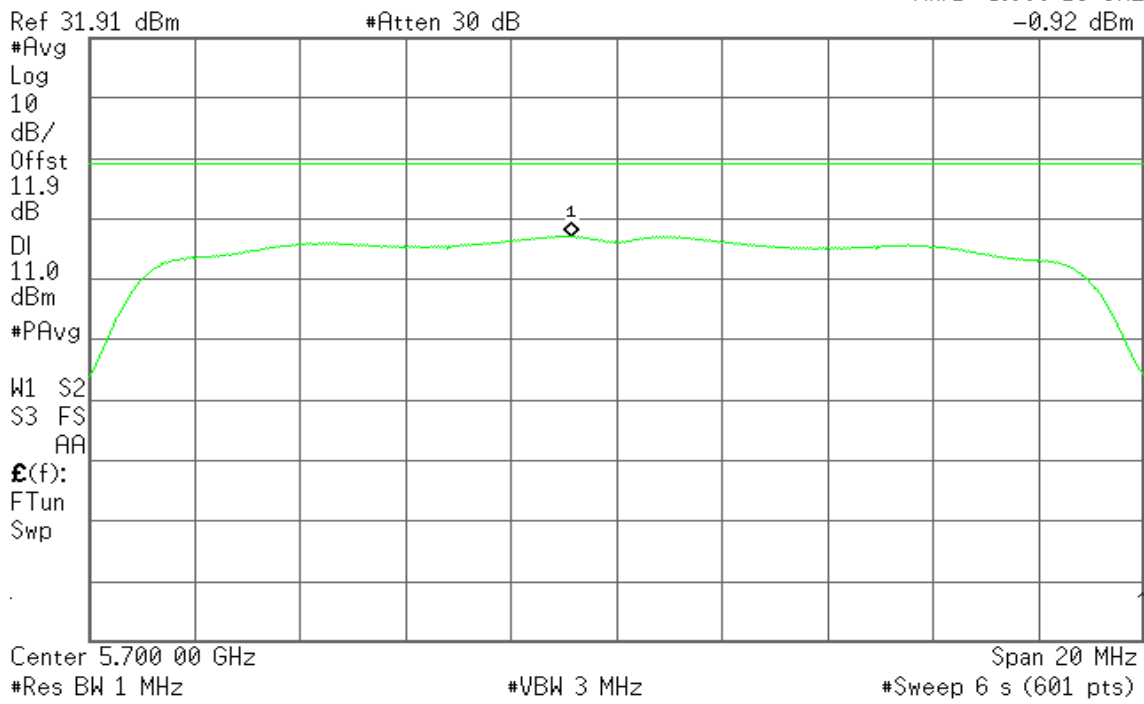


### 5700MHz

Agilent

R T

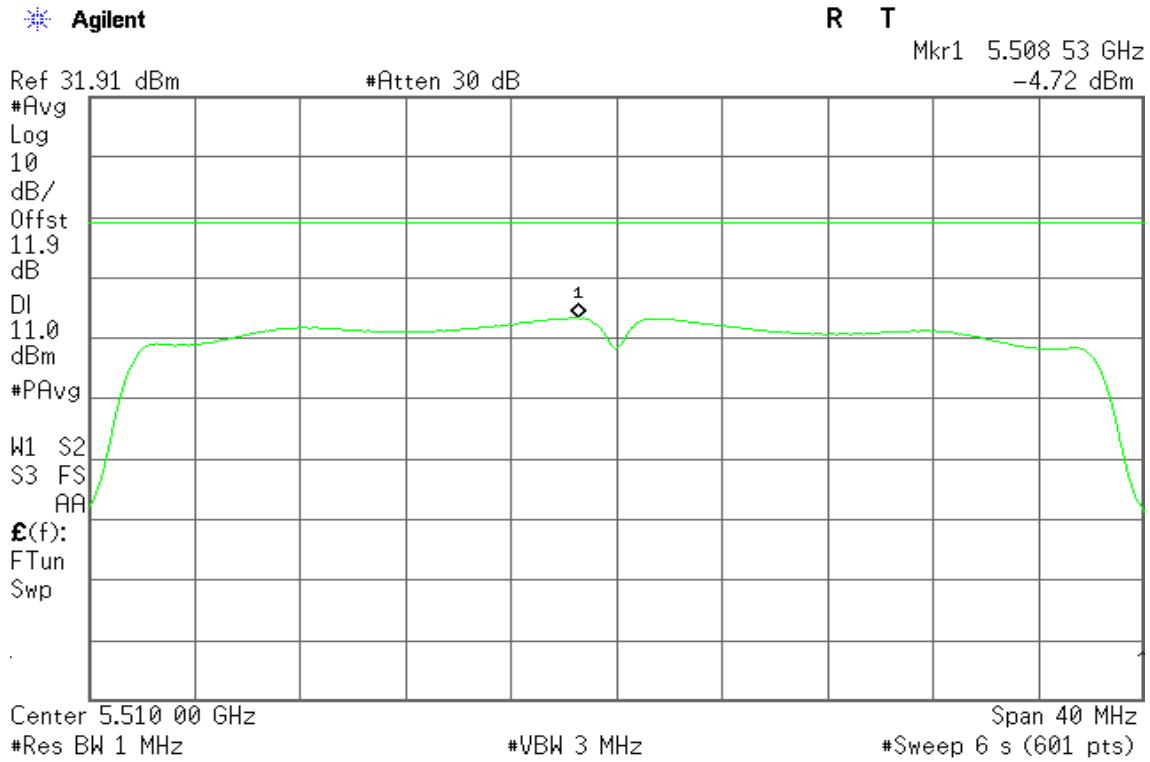
Mkr1 5.699 13 GHz  
-0.92 dBm



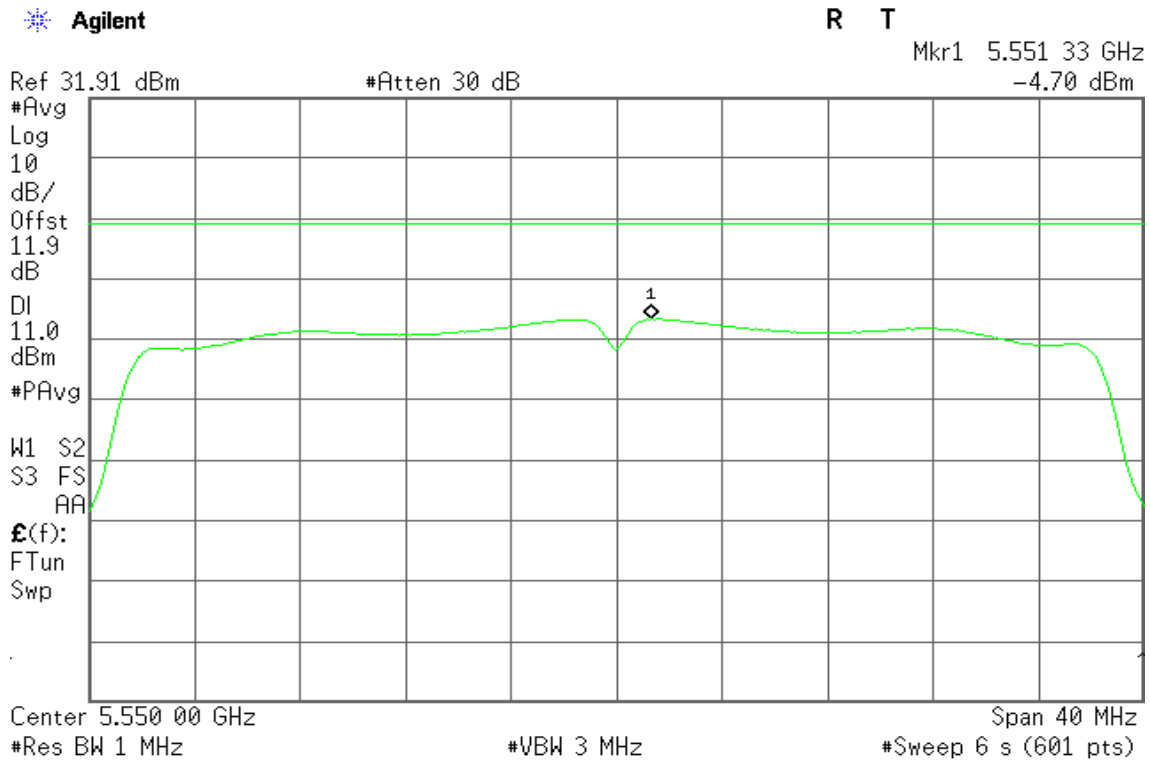


**IEEE 802.11n HT 40 MHz mode / 5530 ~ 5690MHz**

**5510MHz**



**5550MHz**





### 5670MHz

Agilent

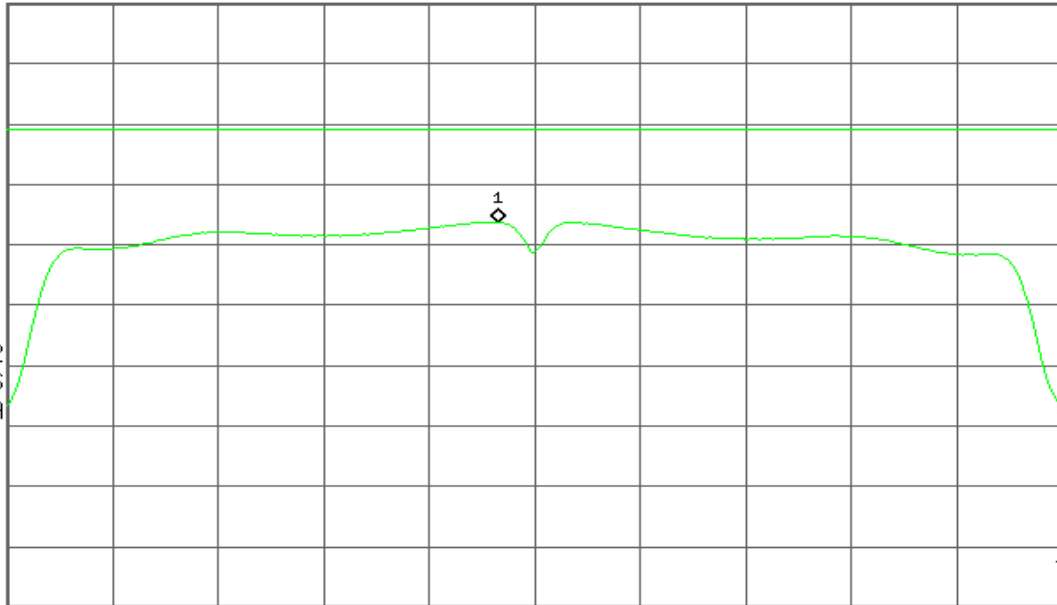
R T

Mkr1 5.668 60 GHz  
-4.26 dBm

Ref 31.91 dBm

#Atten 30 dB

#Avg  
Log  
10  
dB/  
Offst  
11.9  
dB  
DI  
11.0  
dBm  
#PAvg  
W1 S2  
S3 FS  
AA  
£(f):  
FTun  
Swp



Center 5.670 00 GHz

#Res BW 1 MHz

#VBW 3 MHz

Span 40 MHz

#Sweep 6 s (601 pts)



### 7.5 RADIATED UNDESIRABLE EMISSION

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 (µV/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.

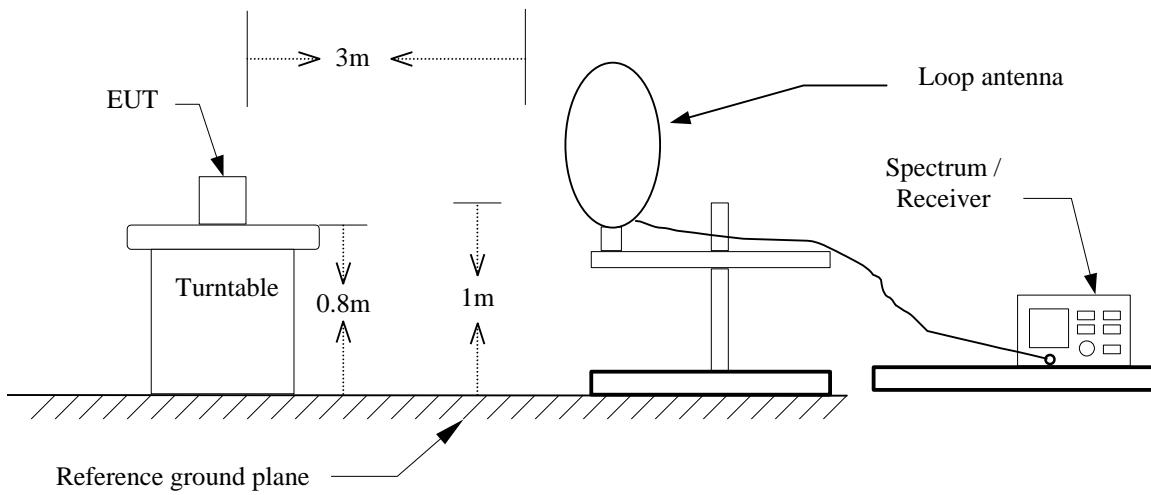
2. In the emission table above, the tighter limit applies at the band edges.

Frequency (MHz)	Field Strength (µV/m at 3-meter)	Field Strength (dBµV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

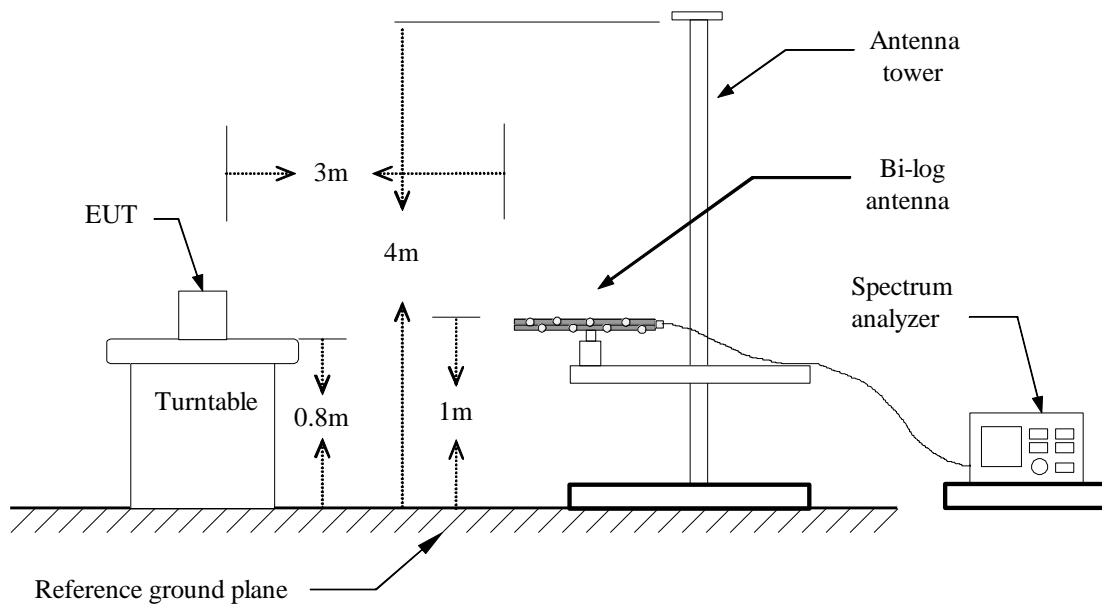


### Test Configuration

#### 9kHz ~ 30MHz

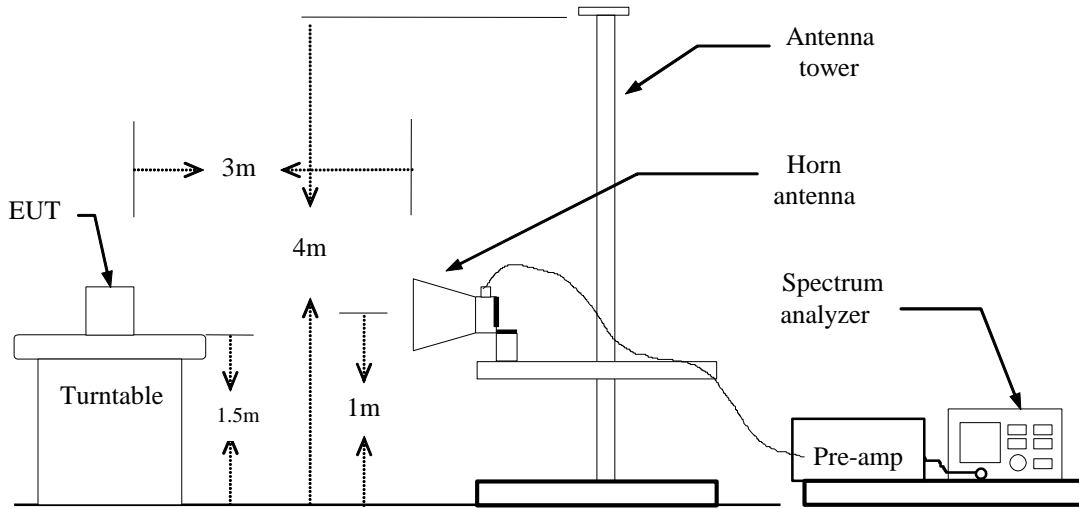


#### 30MHz ~ 1GHz





Above 1 GHz





## TEST PROCEDURE

1. The EUT is placed on a turntable, which is 1.5m 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=1MHz / VBW=3MHz / Sweep=AUTO

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

**IEEE 802.11a mode:** = 88%, VBW=510Hz

**IEEE 802.11n HT 20 MHz mode:** = 87%, VBW=560Hz

**IEEE 802.11n HT 40 MHz mode:** = 77%, VBW=1.1KHz

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

**TEST RESULTS****Below 1 GHz****Operation Mode:** Normal Link**Test Date:** May 18, 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 *Measuring frequencies from 30 MHz to the 1GHz.*
- 2 *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*
- 3 *Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.*
- 4 *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.*
- 5 *Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).*





**Above 1 GHz**

**Operation Mode:** Tx / IEEE 802.11a mode / 5180MHz

**Test Date:** May 15, 2015

**Temperature:** 27°C

**Tested by:** Andy Shi

**Humidity:** 53% RH

**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3240.000	52.67	-1.53	51.14	74.00	-22.86	peak	V
10360.000	42.75	16.52	59.27	74.00	-14.73	peak	V
10360.000	32.39	16.52	48.91	54.00	-5.09	AVG	V
N/A							
4094.000	49.80	1.59	51.39	74.00	-22.61	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.
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 802.11a mode / 5220MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2372.000	50.22	-3.92	46.30	74.00	-27.70	peak	V
10440.000	43.78	16.89	60.67	74.00	-13.33	peak	V
10440.000	33.38	16.89	50.27	54.00	-3.73	AVG	V
N/A							
2687.000	49.71	-2.74	46.97	74.00	-27.03	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.
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 802.11a mode / 5240MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2428.000	50.39	-3.58	46.81	74.00	-27.19	peak	V
10480.000	42.29	17.07	59.36	74.00	-14.64	peak	V
10480.000	33.62	17.07	50.69	54.00	-3.31	AVG	V
N/A							
2715.000	50.03	-2.69	47.34	74.00	-26.66	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.
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 Channel mode / 5180MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2645.000	50.72	-2.83	47.89	74.00	-26.11	peak	V
10360.000	39.72	16.52	56.24	74.00	-17.76	peak	V
10360.000	31.00	16.52	47.52	54.00	-6.48	AVG	V
N/A							
2155.000	49.33	-4.68	44.65	74.00	-29.35	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.
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 Channel mode / 5220MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2715.000	51.06	-2.69	48.37	74.00	-25.63	peak	V
10440.000	41.36	16.89	58.25	74.00	-15.75	peak	V
10440.000	30.68	16.89	47.57	54.00	-6.43	AVG	V
N/A							
2554.000	49.45	-3.01	46.44	74.00	-27.56	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.
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 Channel mode / 5240MHz **Test Date:** May 15, 2015  
**Temperature:** 27°C **Tested by:** Andy Shi  
**Humidity:** 53% RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2582.000	50.43	-2.95	47.48	74.00	-26.52	peak	V
10480.000	41.70	17.07	58.77	74.00	-15.23	peak	V
10480.000	32.29	17.07	49.36	54.00	-4.64	AVG	V
N/A							
2519.000	50.96	-3.08	47.88	74.00	-26.12	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.
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 / 5190MHz  
Temperature: 27°C  
Humidity: 53% RH

Test Date: May 15, 2015  
Tested by: Andy Shi  
Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2673.000	50.33	-2.77	47.56	74.00	-26.44	peak	V
10390.000	37.15	16.66	53.81	74.00	-20.19	peak	V
10390.000	29.55	16.66	46.21	54.00	-7.79	AVG	V
N/A							
1959.000	53.83	-5.10	48.73	74.00	-25.27	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.
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 / 5230MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2428.000	49.91	-3.58	46.33	74.00	-27.67	peak	V
10460.000	37.39	16.98	54.37	74.00	-19.63	peak	V
10460.000	32.64	16.98	49.62	54.00	-4.38	AVG	V
N/A							
2477.000	49.77	-3.32	46.45	74.00	-27.55	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.
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 802.11a mode / 5260MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3065.000	51.72	-1.95	49.77	74.00	-24.23	peak	V
10520.000	43.96	17.14	61.10	74.00	-12.90	peak	V
10520.000	32.22	17.14	49.36	54.00	-4.64	AVG	V
N/A							
2442.000	50.18	-3.48	46.70	74.00	-27.30	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.
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 802.11a mode / 5280MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1917.000	49.76	-5.32	44.44	74.00	-29.56	peak	V
10560.000	45.56	17.11	62.67	74.00	-11.33	peak	V
10560.000	35.07	17.11	52.18	54.00	-1.82	AVG	V
N/A							
2869.000	49.57	-2.37	47.20	74.00	-26.80	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.
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 802.11a mode / 5300MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1798.000	52.41	-5.95	46.46	74.00	-27.54	peak	V
N/A							
2645.000	50.25	-2.83	47.42	74.00	-26.58	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.
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 802.11a mode / 5320MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2337.000	51.22	-4.23	46.99	74.00	-27.01	peak	V
10640.000	42.87	17.04	59.91	74.00	-14.09	peak	V
10640.000	33.03	17.04	50.07	54.00	-3.93	AVG	V
N/A							
2631.000	49.59	-2.86	46.73	74.00	-27.27	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.
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 Channel mode / 5260MHz  
Temperature: 27°C  
Humidity: 53% RH

Test Date: May 15, 2015  
Tested by: Andy Shi  
Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2561.000	50.17	-3.00	47.17	74.00	-26.83	peak	V
10520.000	41.46	17.14	58.60	74.00	-15.40	peak	V
10520.000	31.10	17.14	48.24	54.00	-5.76	AVG	V
N/A							
2750.000	50.34	-2.62	47.72	74.00	-26.28	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.
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 Channel mode / 5280MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2372.000	49.38	-3.92	45.46	74.00	-28.54	peak	V
10560.000	41.72	17.11	58.83	74.00	-15.17	peak	V
10560.000	32.40	17.11	49.51	54.00	-4.49	AVG	V
N/A							
							V
2743.000	50.04	-2.63	47.41	74.00	-26.59	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.
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 Channel mode / 5300MHz **Test Date:** May 15, 2015  
**Temperature:** 27°C **Tested by:** Andy Shi  
**Humidity:** 53% RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2169.000	49.56	-4.60	44.96	74.00	-29.04	peak	V
N/A							
2547.000	49.74	-3.03	46.71	74.00	-27.29	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.
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 Channel mode / 5320MHz **Test Date:** May 15, 2015  
**Temperature:** 27°C **Tested by:** Andy Shi  
**Humidity:** 53% RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1952.000	51.15	-5.13	46.02	74.00	-27.98	peak	V
10640.000	40.81	17.04	57.85	74.00	-16.15	peak	V
10640.000	32.07	17.04	49.11	54.00	-4.89	AVG	V
N/A							
2554.000	50.45	-3.01	47.44	74.00	-26.56	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.
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 / 5270MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2631.000	50.19	-2.86	47.33	74.00	-26.67	peak	V
10530.000	38.06	17.13	55.19	74.00	-18.81	peak	V
10530.000	33.33	17.13	50.46	54.00	-3.54	AVG	V
N/A							
2575.000	49.70	-2.97	46.73	74.00	-27.27	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.
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 / 5310MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2813.000	49.66	-2.49	47.17	74.00	-26.83	peak	V
10620.000	38.52	17.06	55.58	74.00	-18.42	peak	V
10620.000	29.00	17.06	46.06	54.00	-7.94	AVG	V
N/A							
3233.000	52.29	-1.55	50.74	74.00	-23.26	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.
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 802.11a mode / 5500MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2526.000	49.76	-3.07	46.69	74.00	-27.31	peak	V
N/A							
2757.000	50.71	-2.60	48.11	74.00	-25.89	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 802.11a mode / 5580MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2701.000	49.95	-2.71	47.24	74.00	-26.76	peak	V
N/A							
2428.000	50.45	-3.58	46.87	74.00	-27.13	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 802.11a mode / 5700MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
3037.000	49.57	-2.02	47.55	74.00	-26.45	peak	V
11400.000	34.40	16.77	51.17	74.00	-22.83	peak	V
N/A							
2855.000	49.41	-2.40	47.01	74.00	-26.99	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 Channel mode / 5500MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2925.000	50.16	-2.26	47.90	74.00	-26.10	peak	V
N/A							
2645.000	50.31	-2.83	47.48	74.00	-26.52	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 Channel mode / 5580MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2540.000	49.59	-3.04	46.55	74.00	-27.45	peak	V
11170.000	35.27	16.75	52.02	74.00	-21.98	peak	V
N/A							
2512.000	49.73	-3.10	46.63	74.00	-27.37	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 Channel mode / 5700MHz

Test Date: May 15, 2015

Temperature: 27°C

Tested by: Andy Shi

Humidity: 53% RH

Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2428.000	49.97	-3.58	46.39	74.00	-27.61	peak	V
11400.000	38.15	16.77	54.92	74.00	-19.08	peak	V
11400.000	31.87	16.77	48.64	54.00	-5.36	AVG	V
N/A							
1945.000	50.94	-5.17	45.77	74.00	-28.23	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 / 5510MHz  
**Temperature:** 27°C  
**Humidity:** 53% RH

**Test Date:** May 15, 2015  
**Tested by:** Andy Shi  
**Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2540.000	49.98	-3.04	46.94	74.00	-27.06	peak	V
N/A							
2540.000	50.88	-3.04	47.84	74.00	-26.16	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 / 5550MHz  
Temperature: 27°C  
Humidity: 53% RH

Test Date: May 15, 2015  
Tested by: Andy Shi  
Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2603.000	50.17	-2.91	47.26	74.00	-26.74	peak	V
N/A							
2610.000	50.29	-2.90	47.39	74.00	-26.61	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 / 5670MHz  
Temperature: 27°C  
Humidity: 53% RH

Test Date: May 15, 2015  
Tested by: Andy Shi  
Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2533.000	50.27	-3.05	47.22	74.00	-26.78	peak	V
N/A							
2211.000	49.23	-4.41	44.82	74.00	-29.18	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).



## 7.6 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:** May 26, 2015  
**Temperature:** 26°C                                      **Tested by:** David Shu  
**Humidity:** 60% 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
0.2020	42.69	36.07	0.19	42.88	36.26	63.53	53.53	-20.65	-17.27	L1
0.2980	45.75	35.82	0.19	45.94	36.01	60.30	50.30	-14.36	-14.29	L1
0.4020	36.67	26.52	0.20	36.87	26.72	57.81	47.81	-20.94	-21.09	L1
0.5940	33.29	24.80	0.20	33.49	25.00	56.00	46.00	-22.51	-21.00	L1
0.7140	34.76	24.42	0.21	34.97	24.63	56.00	46.00	-21.03	-21.37	L1
1.7620	29.58	17.89	0.15	29.73	18.04	56.00	46.00	-26.27	-27.96	L1
0.1940	41.70	34.78	0.10	41.80	34.88	63.86	53.86	-22.06	-18.98	L2
0.2987	45.50	33.22	0.10	45.60	33.32	60.28	50.28	-14.68	-16.96	L2
0.4140	38.78	27.51	0.10	38.88	27.61	57.57	47.57	-18.69	-19.96	L2
0.6020	35.75	25.21	0.10	35.85	25.31	56.00	46.00	-20.15	-20.69	L2
0.9940	27.04	19.61	0.10	27.14	19.71	56.00	46.00	-28.86	-26.29	L2
2.4580	28.87	16.29	0.00	28.87	16.29	56.00	46.00	-27.13	-29.71	L2

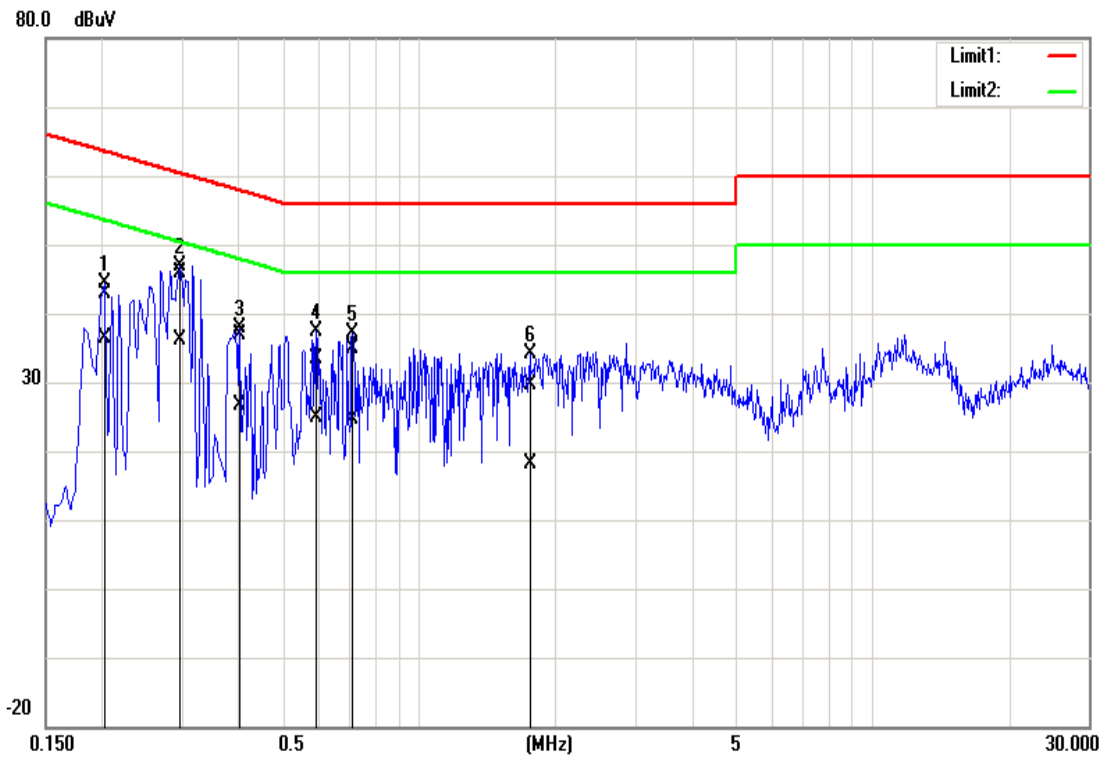
### **Remark:**

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 to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;
4. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)

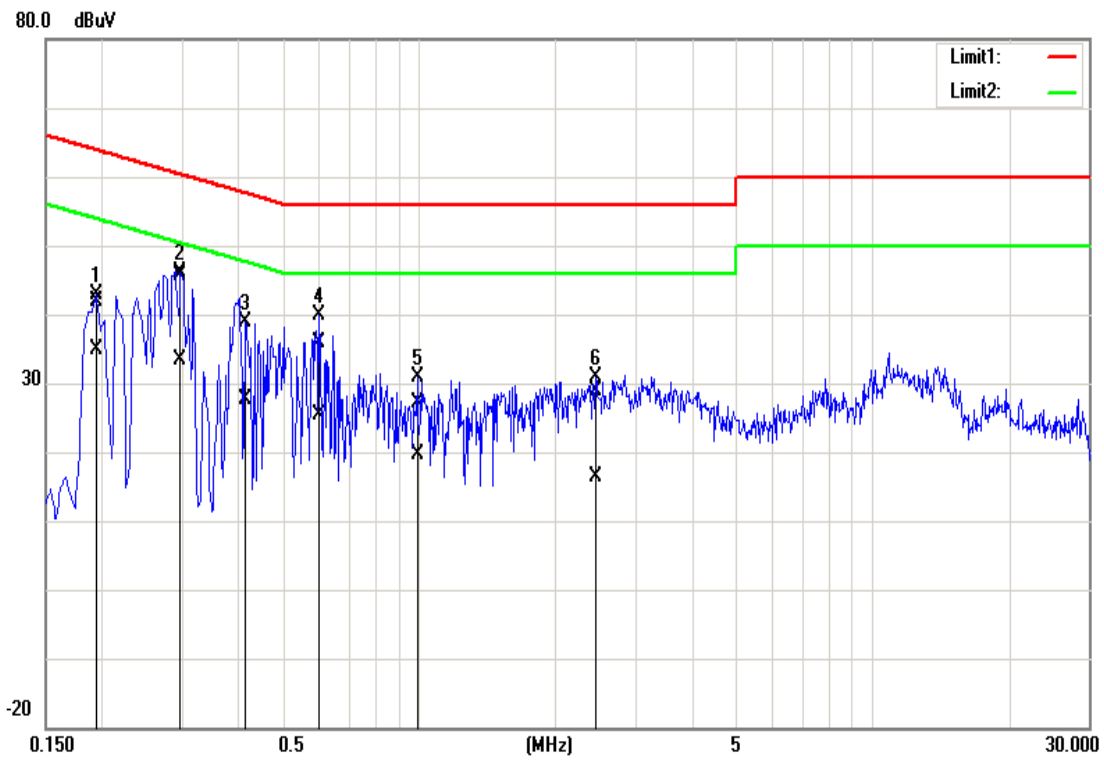


**Test Plots**

**Conducted emissions (Line 1)**



**Conducted emissions (Line 2)**



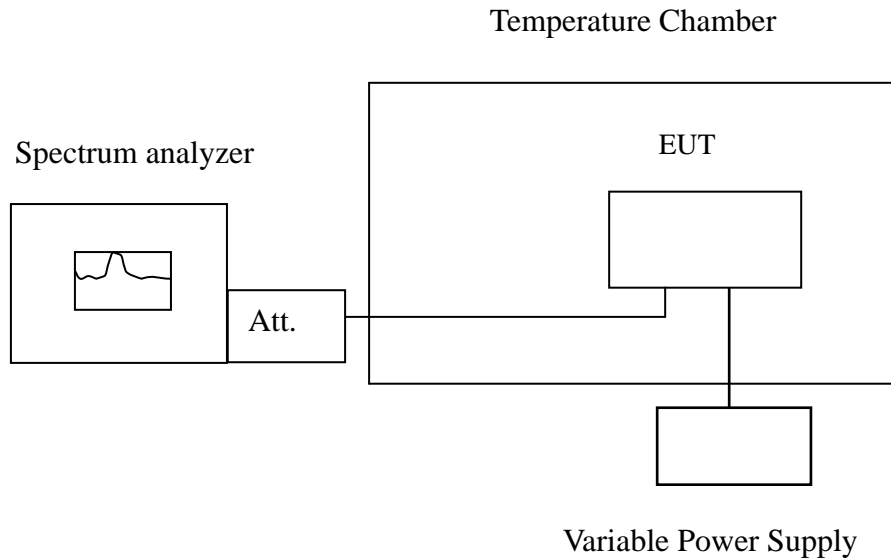


## 7.7 FREQUENCY STABILITY

### LIMIT

According to §15.407(g), manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the operational description.

### Test Configuration



**Remark:** Measurement setup for testing on Antenna connector



### TEST PROCEDURE

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

### TEST RESULTS

*No non-compliance noted.*

#### **IEEE 802.11a mode / 5180 ~ 5240 MHz:**

##### CH Low

<b>Operating Frequency: 5180 MHz</b>				
<b>Environment Temperature (°C)</b>	<b>Voltage (V)</b>	<b>Measured Frequency (MHz)</b>	<b>Limit Range</b>	<b>Test Result</b>
50	110	5180.006174	5150~5250	Pass
40	110	5179.995499	5150~5250	Pass
30	110	5179.992201	5150~5250	Pass
20	110	5179.991456	5150~5250	Pass
10	110	5180.008873	5150~5250	Pass
0	110	5180.005180	5150~5250	Pass
-10	110	5179.994454	5150~5250	Pass
-20	110	5179.995282	5150~5250	Pass

<b>Operating Frequency: 5180 MHz</b>				
<b>Environment Temperature (°C)</b>	<b>Voltage (V)</b>	<b>Measured Frequency (MHz)</b>	<b>Limit Range</b>	<b>Test Result</b>
20	93.5	5179.995807	5150~5250	Pass
	110	5180.009328	5150~5250	Pass
	126.5	5180.007362	5150~5250	Pass





**CH High**

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5240.006393	5150~5250	Pass
40	110	5240.005438	5150~5250	Pass
30	110	5239.993049	5150~5250	Pass
20	110	5240.010258	5150~5250	Pass
10	110	5239.995791	5150~5250	Pass
0	110	5240.000439	5150~5250	Pass
-10	110	5239.999021	5150~5250	Pass
-20	110	5240.004088	5150~5250	Pass

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5240.002869	5150~5250	Pass
	110	5239.998318	5150~5250	Pass
	126.5	5240.00529	5150~5250	Pass



**IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240 MHz:**

**CH Low**

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5179.999762	5150~5250	Pass
40	110	5180.010689	5150~5250	Pass
30	110	5180.010375	5150~5250	Pass
20	110	5180.003284	5150~5250	Pass
10	110	5179.992167	5150~5250	Pass
0	110	5180.001613	5150~5250	Pass
-10	110	5180.007390	5150~5250	Pass
-20	110	5180.001559	5150~5250	Pass

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5179.99834	5150~5250	Pass
	110	5179.999556	5150~5250	Pass
	126.5	5180.01083	5150~5250	Pass



**CH High**

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5240.006451	5150~5250	Pass
40	110	5239.994094	5150~5250	Pass
30	110	5239.998862	5150~5250	Pass
20	110	5240.005506	5150~5250	Pass
10	110	5239.999494	5150~5250	Pass
0	110	5240.006891	5150~5250	Pass
-10	110	5240.009705	5150~5250	Pass
-20	110	5240.009698	5150~5250	Pass

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5240.003722	5150~5250	Pass
	110	5240.005902	5150~5250	Pass
	126.5	5240.000986	5150~5250	Pass



**IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230 MHz:**

**CH Low**

Operating Frequency: 5190 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5190.000175	5150~5250	Pass
40	110	5190.007834	5150~5250	Pass
30	110	5189.997015	5150~5250	Pass
20	110	5190.007198	5150~5250	Pass
10	110	5190.007972	5150~5250	Pass
0	110	5189.994442	5150~5250	Pass
-10	110	5189.998157	5150~5250	Pass
-20	110	5189.993790	5150~5250	Pass

Operating Frequency: 5190 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5190.003279	5150~5250	Pass
	110	5189.993168	5150~5250	Pass
	126.5	5189.992679	5150~5250	Pass



**CH High**

Operating Frequency: 5230 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5230.003329	5150~5250	Pass
40	110	5229.995892	5150~5250	Pass
30	110	5230.003506	5150~5250	Pass
20	110	5229.993593	5150~5250	Pass
10	110	5229.997859	5150~5250	Pass
0	110	5229.999117	5150~5250	Pass
-10	110	5229.998183	5150~5250	Pass
-20	110	5230.005526	5150~5250	Pass

Operating Frequency: 5230 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5229.992236	5150~5250	Pass
	110	5230.008823	5150~5250	Pass
	126.5	5230.002902	5150~5250	Pass



**IEEE 802.11a mode / 5260 ~ 5320 MHz:**

**CH Low**

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5259.992877	5250~5350	Pass
40	110	5259.992174	5250~5350	Pass
30	110	5260.001885	5250~5350	Pass
20	110	5259.996853	5250~5350	Pass
10	110	5259.997275	5250~5350	Pass
0	110	5260.000644	5250~5350	Pass
-10	110	5260.004114	5250~5350	Pass
-20	110	5259.997706	5250~5350	Pass

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5259.997931	5250~5350	Pass
	110	5260.003818	5250~5350	Pass
	126.5	5259.991381	5250~5350	Pass



**CH High**

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5319.992919	5250~5350	Pass
40	110	5320.002222	5250~5350	Pass
30	110	5320.006381	5250~5350	Pass
20	110	5320.005144	5250~5350	Pass
10	110	5320.010285	5250~5350	Pass
0	110	5320.004194	5250~5350	Pass
-10	110	5320.006798	5250~5350	Pass
-20	110	5319.993123	5250~5350	Pass

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5319.99443	5250~5350	Pass
	110	5319.998066	5250~5350	Pass
	126.5	5320.006631	5250~5350	Pass



**IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320 MHz:**

**CH Low**

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5259.999744	5250~5350	Pass
40	110	5259.994760	5250~5350	Pass
30	110	5259.995188	5250~5350	Pass
20	110	5260.009017	5250~5350	Pass
10	110	5259.992750	5250~5350	Pass
0	110	5260.004209	5250~5350	Pass
-10	110	5260.007311	5250~5350	Pass
-20	110	5260.004598	5250~5350	Pass

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5260.004502	5250~5350	Pass
	110	5260.00816	5250~5350	Pass
	126.5	5259.997205	5250~5350	Pass





**CH High**

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5319.994919	5250~5350	Pass
40	110	5320.005634	5250~5350	Pass
30	110	5320.003328	5250~5350	Pass
20	110	5319.997766	5250~5350	Pass
10	110	5320.008824	5250~5350	Pass
0	110	5319.992556	5250~5350	Pass
-10	110	5319.993099	5250~5350	Pass
-20	110	5320.009234	5250~5350	Pass

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5319.99818	5250~5350	Pass
	110	5319.993566	5250~5350	Pass
	126.5	5319.995988	5250~5350	Pass



**IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310 MHz:**

**CH Low**

Operating Frequency: 5270 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5269.997687	5250~5350	Pass
40	110	5270.010662	5250~5350	Pass
30	110	5269.995418	5250~5350	Pass
20	110	5270.002405	5250~5350	Pass
10	110	5270.006935	5250~5350	Pass
0	110	5270.005183	5250~5350	Pass
-10	110	5270.004171	5250~5350	Pass
-20	110	5269.993536	5250~5350	Pass

Operating Frequency: 5270 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5269.993833	5250~5350	Pass
	110	5270.002951	5250~5350	Pass
	126.5	5269.998241	5250~5350	Pass



**CH High**

Operating Frequency: 5310 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5309.990779	5250~5350	Pass
40	110	5310.001669	5250~5350	Pass
30	110	5309.997304	5250~5350	Pass
20	110	5309.998882	5250~5350	Pass
10	110	5310.003460	5250~5350	Pass
0	110	5310.002927	5250~5350	Pass
-10	110	5310.008453	5250~5350	Pass
-20	110	5310.004334	5250~5350	Pass

Operating Frequency: 5310 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5309.998987	5250~5350	Pass
	110	5310.006943	5250~5350	Pass
	126.5	5310.002517	5250~5350	Pass



**IEEE 802.11a mode / 5500 ~ 5700 MHz:**

**CH Low**

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5499.994346	5470~5725	Pass
40	110	5499.991694	5470~5725	Pass
30	110	5500.005844	5470~5725	Pass
20	110	5499.996062	5470~5725	Pass
10	110	5500.008994	5470~5725	Pass
0	110	5500.000229	5470~5725	Pass
-10	110	5500.007314	5470~5725	Pass
-20	110	5499.991977	5470~5725	Pass

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5499.998549	5470~5725	Pass
	110	5500.010155	5470~5725	Pass
	126.5	5499.991704	5470~5725	Pass



**CH High**

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5699.996873	5470~5725	Pass
40	110	5699.994034	5470~5725	Pass
30	110	5699.994697	5470~5725	Pass
20	110	5700.000279	5470~5725	Pass
10	110	5700.004505	5470~5725	Pass
0	110	5700.005000	5470~5725	Pass
-10	110	5699.991654	5470~5725	Pass
-20	110	5700.005565	5470~5725	Pass

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5700.006607	5470~5725	Pass
	110	5700.001365	5470~5725	Pass
	126.5	5700.001522	5470~5725	Pass



**IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700 MHz:**

**CH Low**

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5500.000373	5470~5725	Pass
40	110	5499.997138	5470~5725	Pass
30	110	5499.999588	5470~5725	Pass
20	110	5500.001617	5470~5725	Pass
10	110	5500.009439	5470~5725	Pass
0	110	5500.005694	5470~5725	Pass
-10	110	5499.995229	5470~5725	Pass
-20	110	5499.992316	5470~5725	Pass

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5499.996864	5470~5725	Pass
	110	5499.992541	5470~5725	Pass
	126.5	5499.998161	5470~5725	Pass



**CH High**

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5699.998859	5470~5725	Pass
40	110	5700.005678	5470~5725	Pass
30	110	5699.996399	5470~5725	Pass
20	110	5699.992868	5470~5725	Pass
10	110	5699.999755	5470~5725	Pass
0	110	5700.006359	5470~5725	Pass
-10	110	5700.010135	5470~5725	Pass
-20	110	5699.990517	5470~5725	Pass

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	99	5700.003691	5470~5725	Pass
	110	5700.003679	5470~5725	Pass
	121	5700.010058	5470~5725	Pass



**IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670 MHz:**

**CH Low**

Operating Frequency: 5510 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5510.007844	5470~5725	Pass
40	110	5509.999324	5470~5725	Pass
30	110	5510.008744	5470~5725	Pass
20	110	5510.001453	5470~5725	Pass
10	110	5509.999386	5470~5725	Pass
0	110	5510.000716	5470~5725	Pass
-10	110	5510.006424	5470~5725	Pass
-20	110	5509.991847	5470~5725	Pass

Operating Frequency: 5510 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5509.992608	5470~5725	Pass
	110	5510.001117	5470~5725	Pass
	126.5	5510.005858	5470~5725	Pass





**CH High**

Operating Frequency: 5670 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5669.999797	5470~5725	Pass
40	110	5670.009884	5470~5725	Pass
30	110	5669.992259	5470~5725	Pass
20	110	5669.997600	5470~5725	Pass
10	110	5670.000847	5470~5725	Pass
0	110	5669.998280	5470~5725	Pass
-10	110	5669.997897	5470~5725	Pass
-20	110	5670.002233	5470~5725	Pass

Operating Frequency: 5670 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5669.996361	5470~5725	Pass
	110	5670.008148	5470~5725	Pass
	126.5	5669.992037	5470~5725	Pass