

FCC Part 15E

Measurement and Test Report

For

E-matic

3435 Ocean Park Blvd#107 PMB\$444 Santa Monica CA 90405,
Los Angle, CA90405

FCC ID: XHWAGT418

FCC Rule(s): FCC Part 15.407

Product Description: OTT Set-top Box

Tested Model: AGT418

Report No.: STR18078179I-1

Sample Receipt Date: 2018-07-18

Tested Date: 2018-07-18 to 2018-08-03

Issued Date: 2018-08-06

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Jason Su
Silin Chen
Jandy So



Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM Test Technology Co., Ltd.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: E-matic
Address of applicant: 3435 Ocean Park Blvd#107 PMB\$444 Santa Monica CA
90405, Los Angle, CA90405

Manufacturer: Shenzhen SDMC Technology Co., Ltd
Address of manufacturer: 7/F, W2-A, Hi-Tech, Industrial Park, Nanshan District,
Shenzhen, China, 518027

General Description of EUT	
Product Name:	OTT Set-top Box
Brand Name:	Ematic
Model No.:	AGT418
Adding Model(s):	/
Rated Voltage:	DC 5V
Battery Capacity:	/
Power Adapter:	SA12V-050200U Input:AC120-240V~50/60Hz 0.4A Output:DC5V 2A
Software Version:	I3501_65u_l1_20160928175345
Hardware Version:	I3501-MB-V2
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Support Standards:	802.11a, 802.11n(HT20) , 802.11n-HT40, 802.11ac-VH80
Frequency Range:	5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz
RF Output Power:	10.06dBm (Conducted)
Type of Modulation:	QPSK, 16QAM, 64QAM
Data Rate:	6-54Mbps, up to 200Mbps
Quantity of Channels:	15
Type of Antenna:	Integral Antenna
Antenna Gain:	2dBi

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.407: General technical requirements.

ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

KDB789033 D02 v02r01: GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, KDB789033 D02 v02r01. The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Table for parameters of Test Software setting

Enter “3646631+=” into the calculator to enter the engineer mode, you can start to test. During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Mode	Test Frequency (MHz)												
	NCB: 20MHz												
	5180	5200	5240	5260	5300	5320	5500	5580	5700	5720	5745	5785	5825
802.11a 6Mbps	10	10	10	10	10	10	10	10	10	10	10	10	10
802.11n-HT20 MCS0	10	10	10	10	10	10	10	10	10	10	10	10	10
Mode	NCB: 40MHz												
	5190	5230	5270	5310	5510	5550	5670	5710	5755	5795			
802.11n-HT40 MCS0	10	10	10	10	10	10	10	10	10	10			
Mode	NCB: 80MHz												
	5210		5290		5530		5610		5690		5775		
802.11ac-VH80 MCS0/Nss2	10		10		10		10		10		10		

1.5 EUT Operating during test

EUT was programmed to be in continuously transmitting mode. During the test, EUT operation to normal function and programs under Android were executed.

1.6 Test Facility

FCC – Registration No.: 125990

Shenzhen SEM Test Technology Co., Ltd. Laboratory has been recognized to perform compliance testing on equipment subject to the Commissions Declaration Of Conformity (DOC). The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM. Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.7 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, with a duty cycle equal to 100%, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	802.11a	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz,5600MHz,5700MHz,5745MHz, 5785MHz,5825MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz,5600MHz,5700MHz,5745MHz, 5785MHz,5825MHz
TM3	802.11n-HT40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz,5590MHz,5670MHz,5755MHz,5795MHz
TM4	802.11ac-VH80	5210MHz,5290MHz,5530 MHz,5610 MHz,5775 MHz
Note: All test modes (different data rate and different modulation) are performed, but only the worst case is recorded in this report.		

Test Conditions	
Temperature:	22~25 °C
Relative humidity	50~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
DC Cable	1.2	Unshielded	Without Core
HDMI Cable	1.5	shielded	Without Core

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

1.8 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	$\pm 0.42\text{dB}$
Occupied Bandwidth	Conducted	$\pm 1.5\%$
Power Spectral Density	Conducted	$\pm 1.8\text{dB}$
Conducted Spurious Emission	Conducted	$\pm 2.17\text{dB}$
Conducted Emissions	Conducted	9-150kHz $\pm 3.74\text{dB}$
		0.15-30MHz $\pm 3.34\text{dB}$
Transmitter Spurious Emissions	Radiated	30-200MHz $\pm 4.52\text{dB}$
		0.2-1GHz $\pm 5.56\text{dB}$
		1-6GHz $\pm 3.84\text{dB}$
		6-18GHz $\pm 3.92\text{dB}$

1.9 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2018-05-22	2019-05-21
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2018-05-22	2019-05-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2018-05-22	2019-05-21
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2018-05-22	2019-05-21
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2018-05-22	2019-05-21
SEMT-1011	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2017-06-08	2020-06-07
SEMT-1042	Horn Antenna	ETS	3117	00086197	2017-06-08	2020-06-07
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2017-06-08	2020-06-07
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2017-06-08	2020-06-07
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2018-05-22	2019-05-21
SEMT-1003	L.I.S.N	Schwarz beck	NSLK8126	8126-224	2018-05-22	2019-05-21
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2018-05-22	2019-05-21
SEMT-1168	Pre-amplifier	Direction Systems Inc.	PAP-0126	14141-12838	2017-08-15	2018-08-14
SEMT-1169	Pre-amplifier	Direction Systems Inc.	PAP-2640	14145-14153	2018-05-22	2019-05-21
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2018-05-22	2019-05-21
SEMT-1170	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2018-05-22	2019-05-21
SEMT-1166	Power Limiter	Agilent	N9356B	MY45450376	2018-05-22	2019-05-21
SEMT-1048	RF Limiter	ATTEN	AT-BSF-2400~2500	/	2018-05-22	2019-05-21
SEMT-1076	RF Switcher	Top Precision	RCS03-A2	/	2018-05-22	2019-05-21
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	2018-03-19	2019-03-18
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	2018-03-19	2019-03-18
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	2018-03-19	2019-03-18
SEMT-C004	Cable	Zheng DI	2M0RFC	/	2018-03-19	2019-03-18
SEMT-C005	Cable	Zheng DI	1M0RFC	/	2018-03-19	2019-03-18
SEMT-C006	Cable	Zheng DI	1M0RFC	/	2018-03-19	2019-03-18

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.203; § 15.405	Antenna Requirement	Compliant
§ 15.207; § 15.407(b)(6)	Conducted Emission	Compliant
§ 15.407(a)(1),(2)	Power Spectral Density	Compliant
§ 15.407(e)	Emission Bandwidth and Occupied Bandwidth	Compliant
§ 15.407(a)(1),(2)	Maximum Conducted Output Power	Compliant
§ 15.407(b)(1),(2),(3)	Conducted Spurious Emission	Compliant
§ 15.205; § 15.407(b)(1),(2),(3)	Radiated Emission	Compliant
§ 15.407(g)	Frequency Stability	Compliant
§ 15.407(h)	Dynamic Frequency Selection (DFS)	Compliant

N/A: not applicable

3. RF Exposure

3.1 Standard Applicable

According to § 1.1307 and § 2.1093, the portable transmitter must comply the RF exposure requirements.

3.2 Test Result

This product complied with the requirement of the RF exposure, please see the MPE Report.

4. Antenna Requirement

4.1 Standard Applicable

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

4.2 Evaluation Information

This product has an integral antenna, fulfill the requirement of this section.

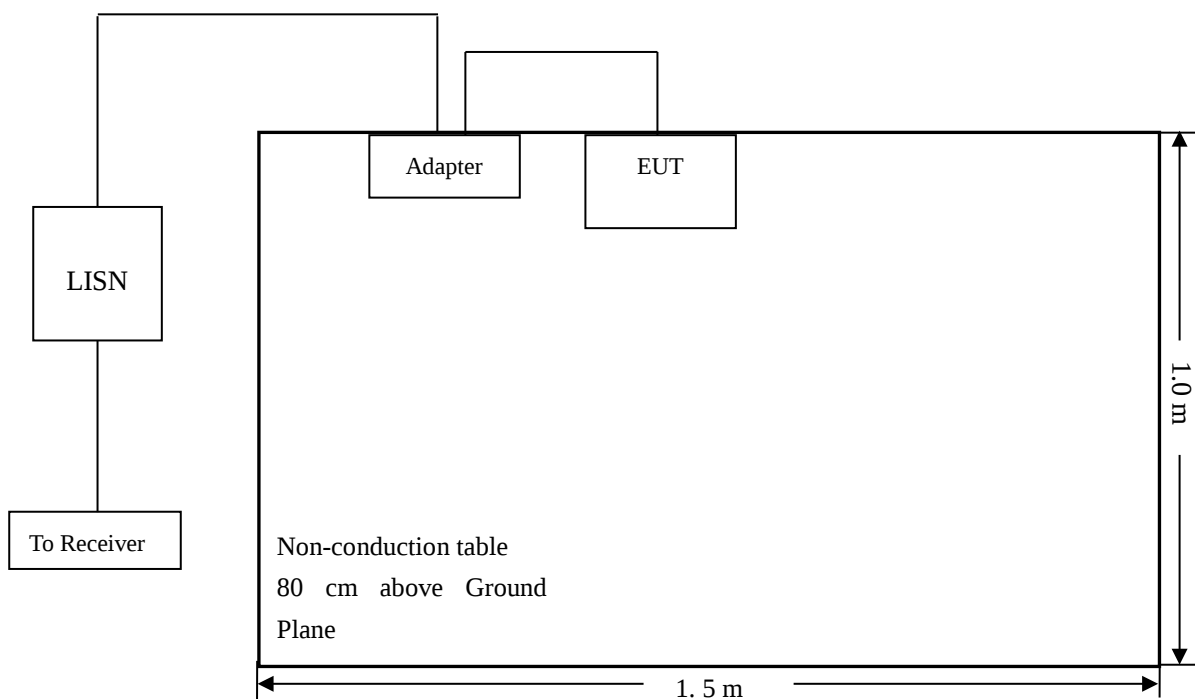
5. Conducted Emissions

5.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.

5.2 Basic Test Setup Block Diagram



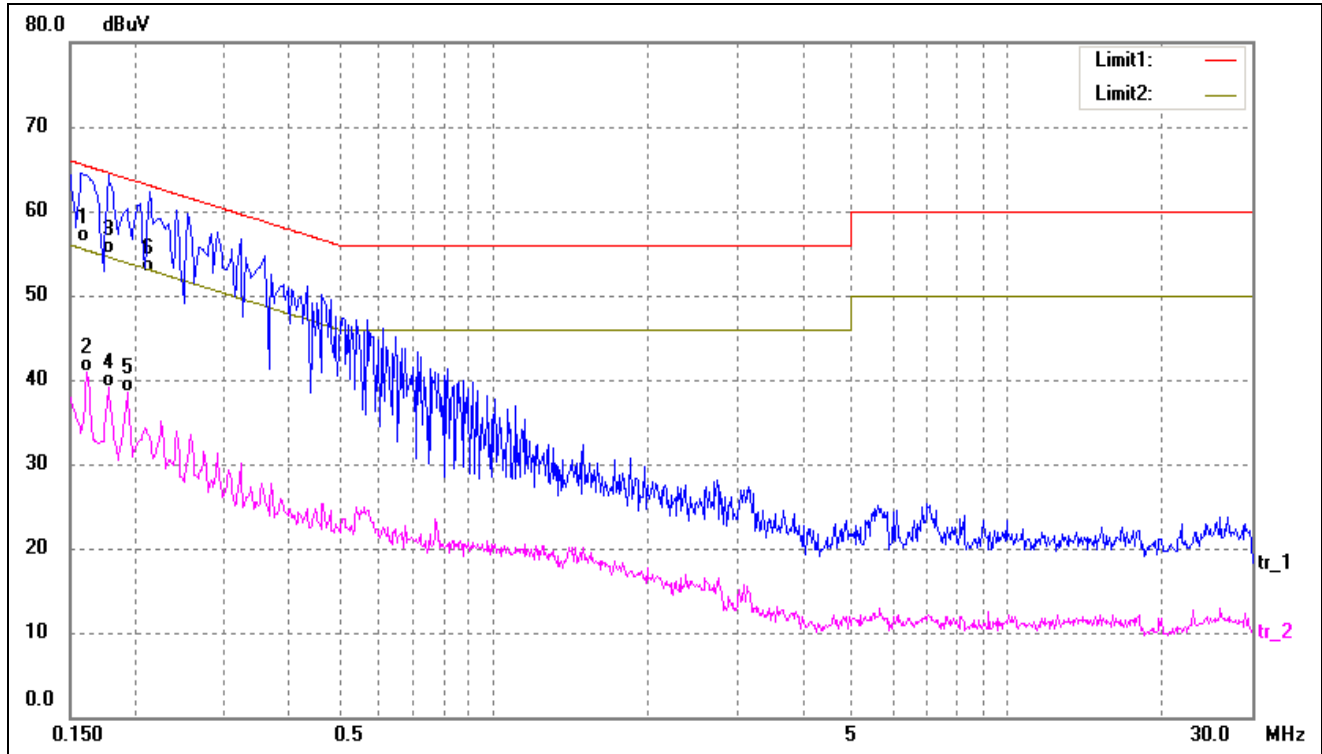
5.3 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency	150 kHz
Stop Frequency	30 MHz
Sweep Speed	Auto
IF Bandwidth.....	10 kHz
Quasi-Peak Adapter Bandwidth	9 kHz
Quasi-Peak Adapter Mode	Normal

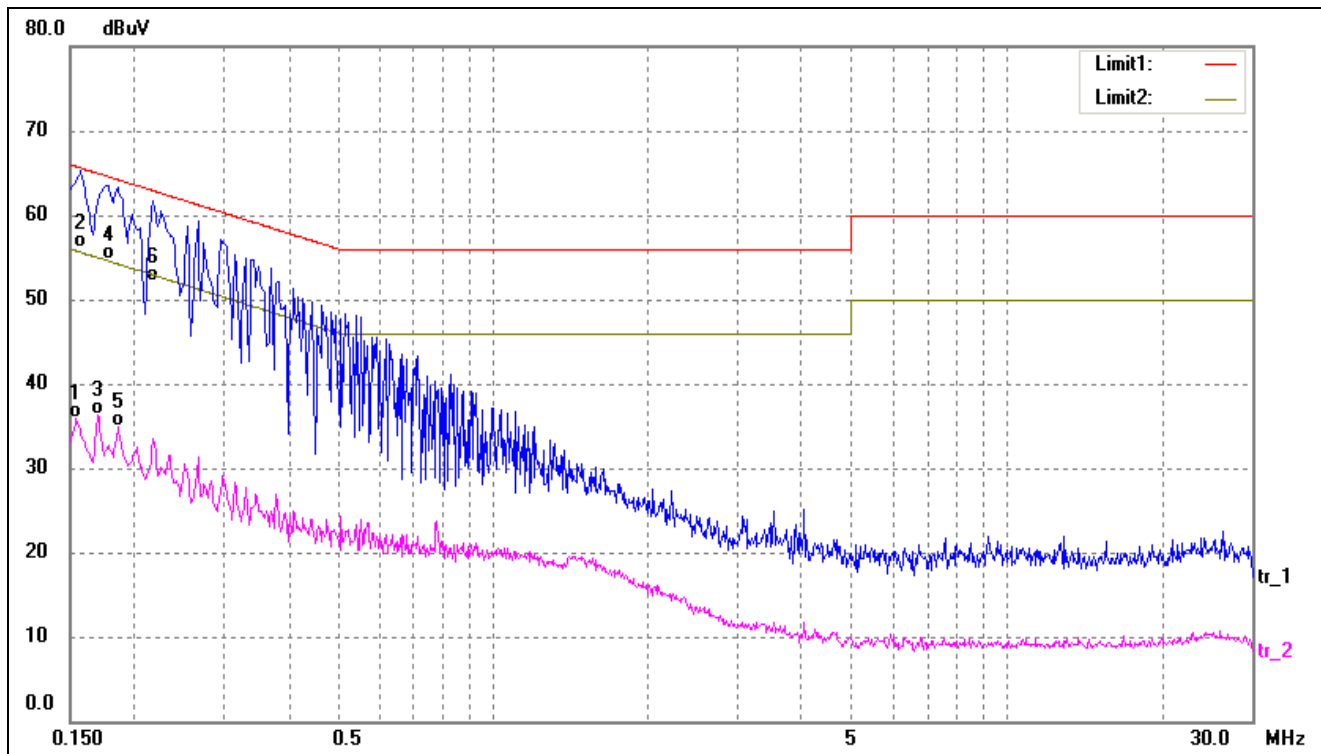
5.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1580	46.21	10.10	56.31	65.57	-9.26	QP
2	0.1620	30.76	10.10	40.86	55.36	-14.50	AVG
3	0.1780	44.75	10.11	54.86	64.58	-9.72	QP
4	0.1780	29.06	10.11	39.17	54.58	-15.41	AVG
5	0.1940	28.45	10.12	38.57	53.86	-15.29	AVG
6	0.2140	42.59	10.13	52.72	63.05	-10.33	QP

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
-----------	---------------	-------------	-----------	------



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1540	25.84	10.10	35.94	55.78	-19.84	AVG
2*	0.1580	46.10	10.10	56.20	65.57	-9.37	QP
3	0.1700	26.28	10.11	36.39	54.96	-18.57	AVG
4	0.1780	44.68	10.11	54.79	64.58	-9.79	QP
5	0.1860	24.78	10.11	34.89	54.21	-19.32	AVG
6	0.2180	41.96	10.13	52.09	62.89	-10.80	QP

6. Power Spectral Density

6.1 Standard Applicable

Section 15.407(a) Power limits:

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(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 or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

6.2 Test Procedure

According to 789033 D02 General UNII Test Procedures New Rules v02, the following is the measurement procedure.

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth ($< 1 \text{ MHz}$, or $< 500 \text{ kHz}$) and integrated over 1 MHz, or 500kHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.1.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas $RBW (< 500 \text{ kHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections 5.c) and 5.d) above, since $RBW=100 \text{ kHz}$ is available on nearly all spectrum analyzers.

6.3 Summary of Test Results/Plots

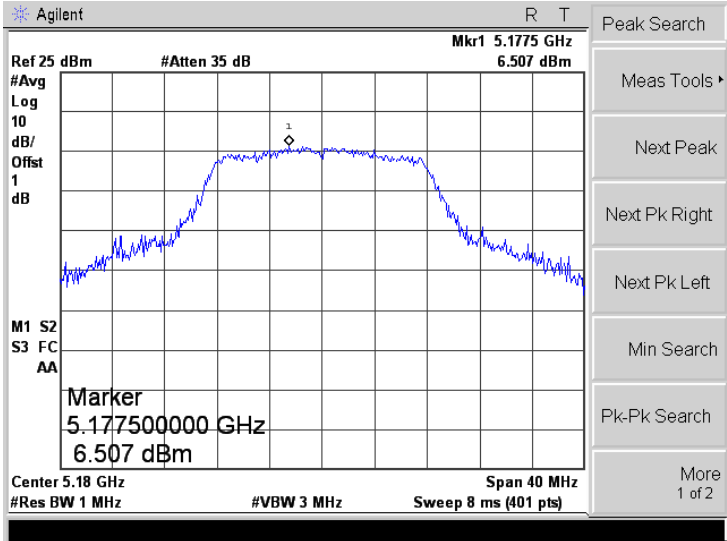
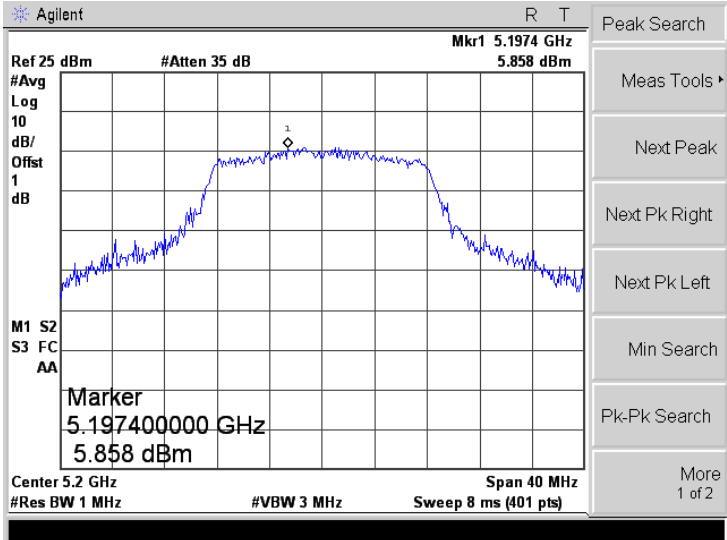
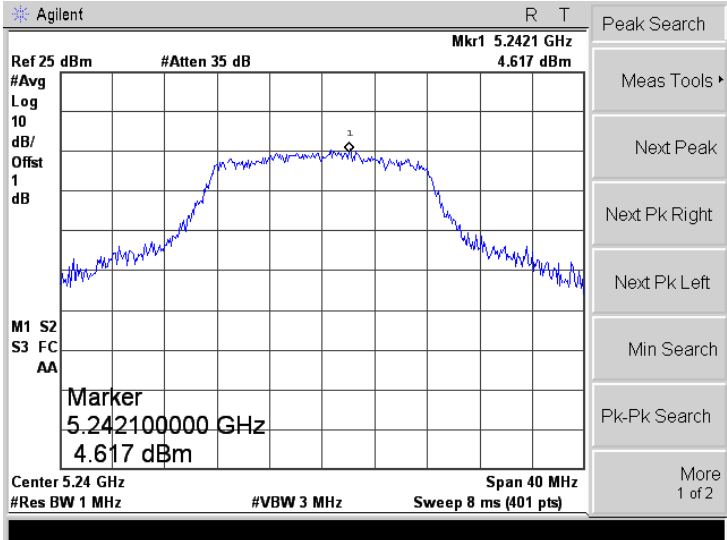
U-NII-1:5150-5250MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5180	6.507	11
	5200	5.858	11
	5240	4.617	11
802.11n-HT20	5180	6.884	11
	5200	5.517	11
	5240	5.223	11
802.11n-HT40	5190	2.640	11
	5230	1.804	11
802.11ac-HT80	5210	-0.320	11

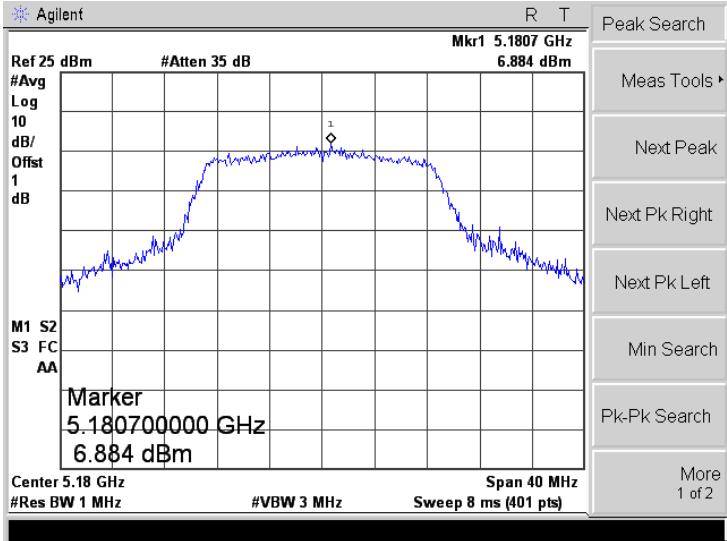
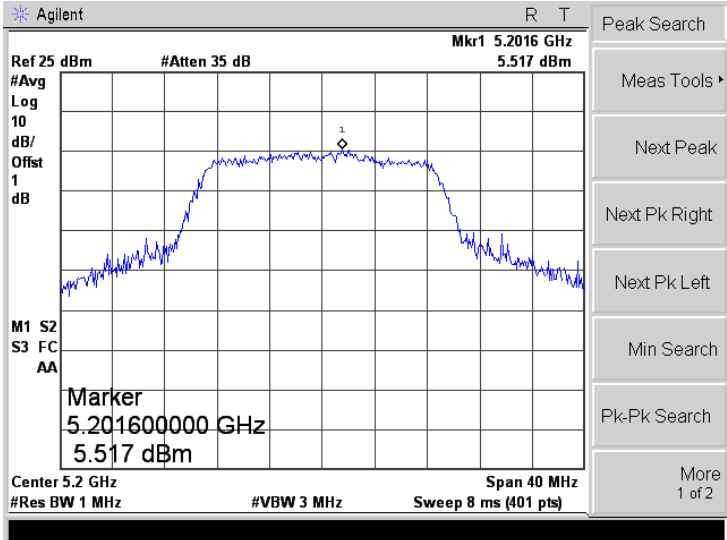
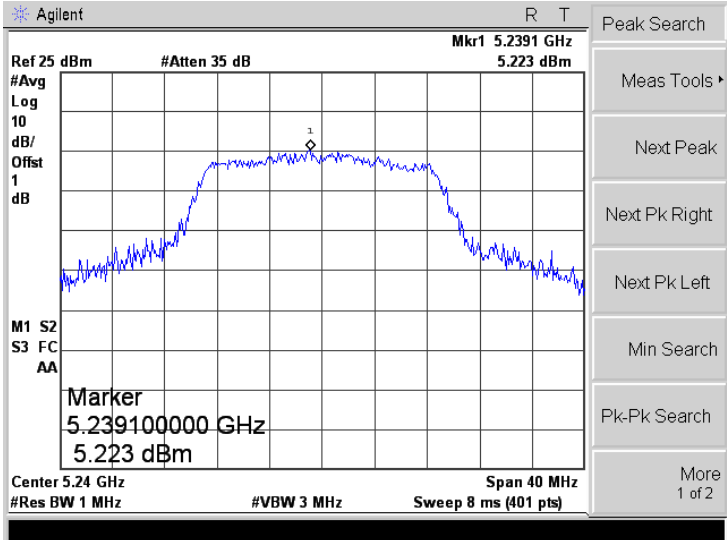
U-NII-2A: 5250-5350MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5260	6.374	11
	5280	6.239	11
	5320	5.925	11
802.11n-HT20	5260	5.783	11
	5280	5.057	11
	5320	5.076	11
802.11n-HT40	5270	2.342	11
	5310	2.320	11
802.11ac-HT80	5290	-0.801	11

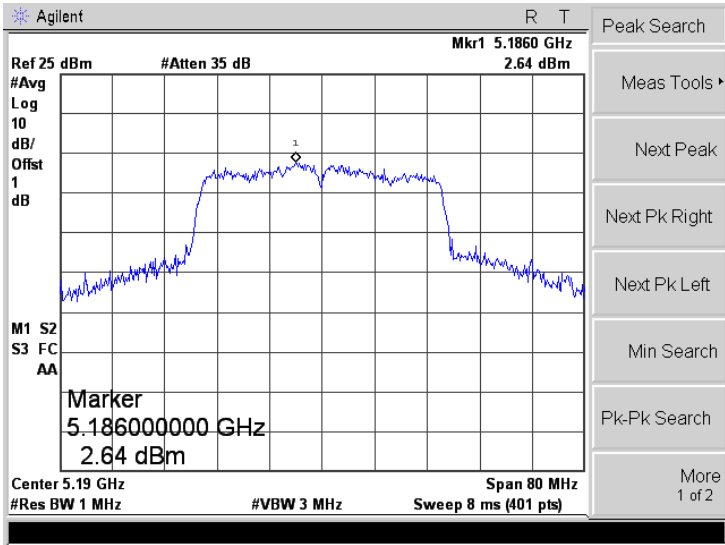
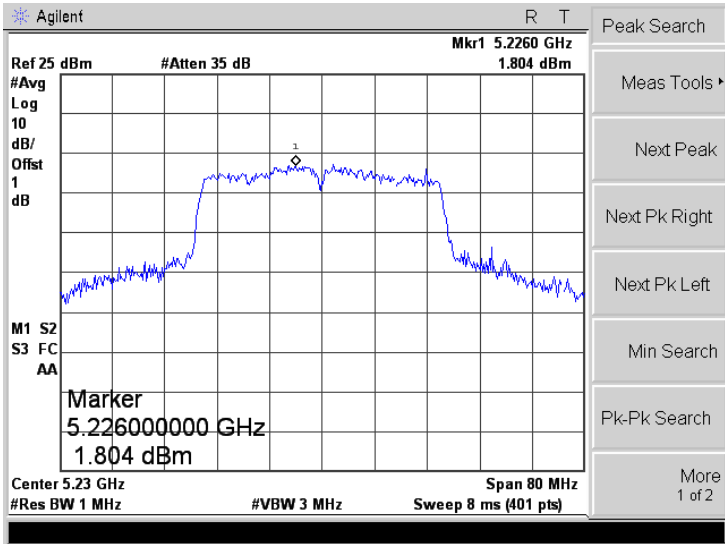
U-NII-2C: 5470-5725MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5500	4.532	11
	5600	5.118	11
	5700	5.423	11
802.11n-HT20	5500	3.785	11
	5600	5.850	11
	5700	5.128	11
802.11n-HT40	5510	1.163	11
	5590	1.706	11
	5670	2.651	11
802.11ac-HT80	5530	-2.026	11
	5610	-1.209	11

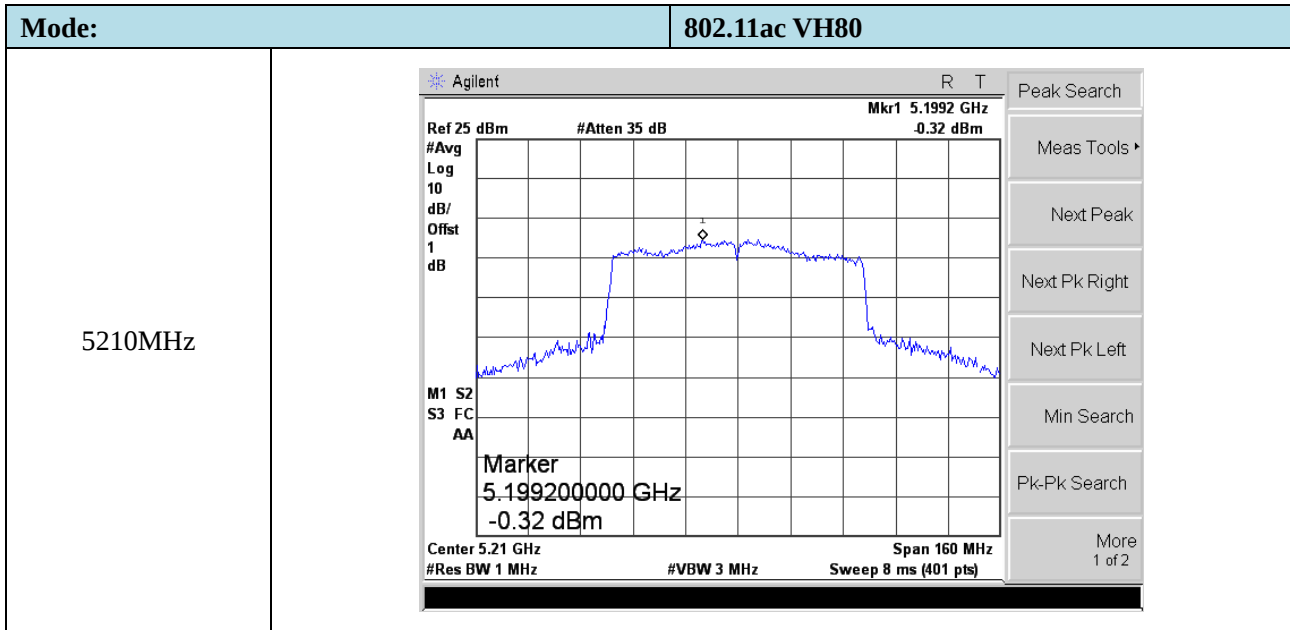
U-NII-3: 5725-5850MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit dBm/500kHz
802.11a	5745	2.955	11
	5785	2.515	11
	5825	2.254	11
802.11n-HT20	5745	3.030	11
	5785	2.683	11
	5825	2.649	11
802.11n-HT40	5755	0.054	11
	5795	-0.629	11
802.11ac-HT80	5775	-4.050	11

➤ 5150-5250MHz

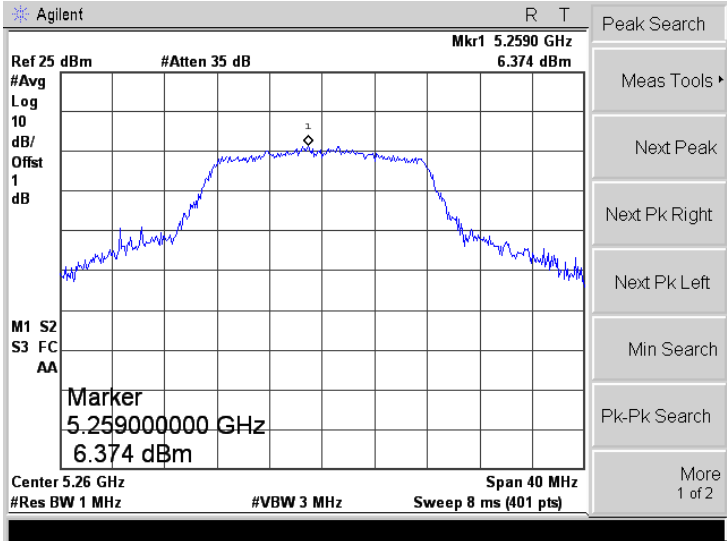
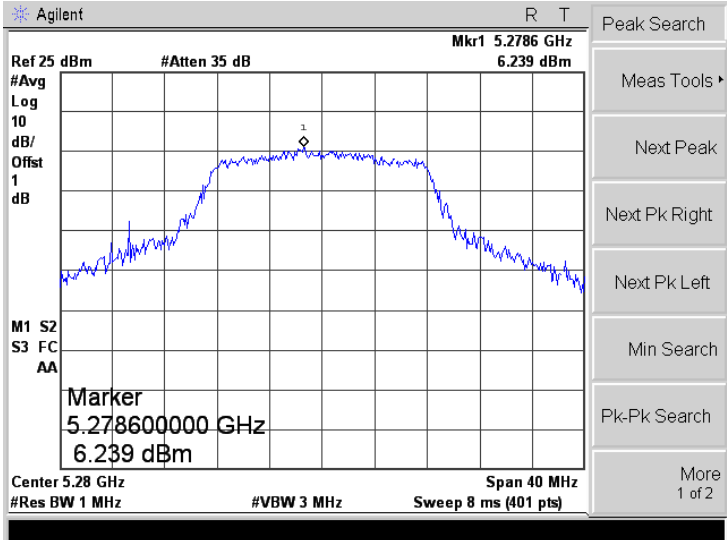
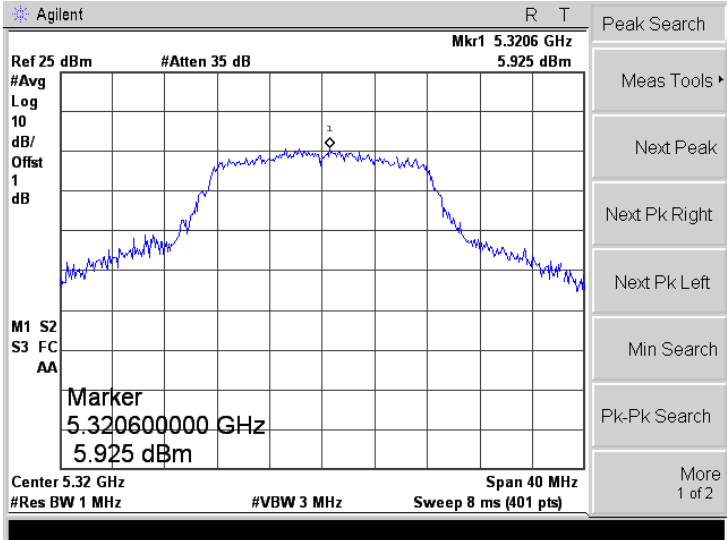
Mode:	802.11a
5180MHz	
5200MHz	
5240MHz	

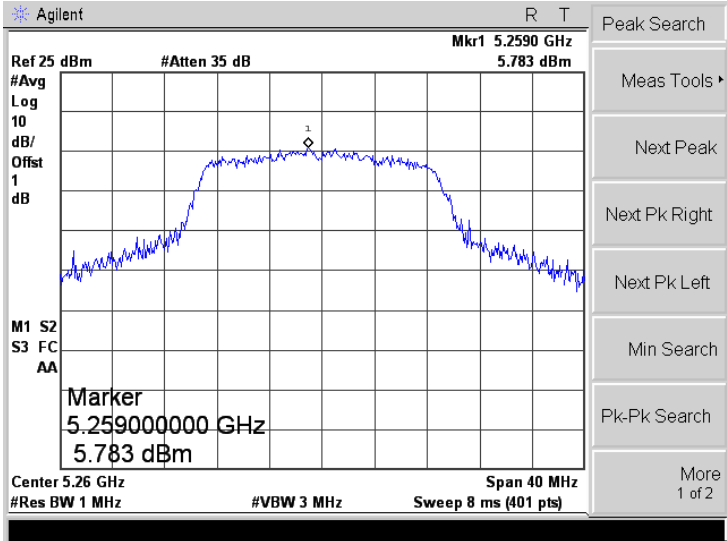
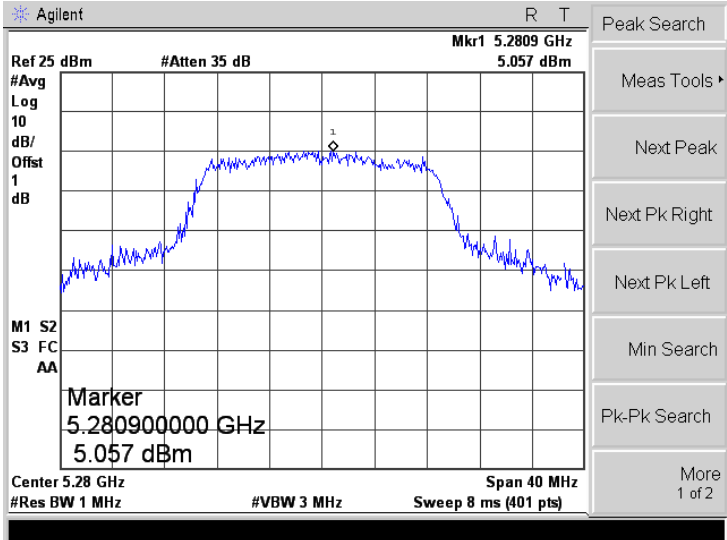
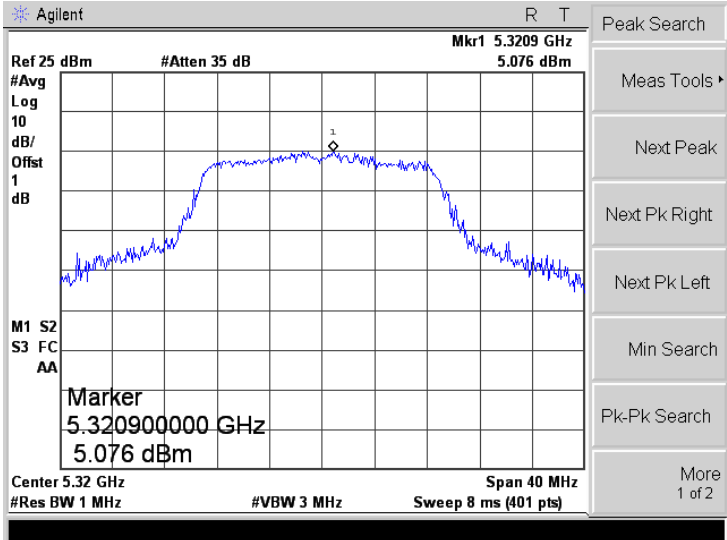
Mode:	802.11n-HT20
5180MHz	
5200MHz	
5240MHz	

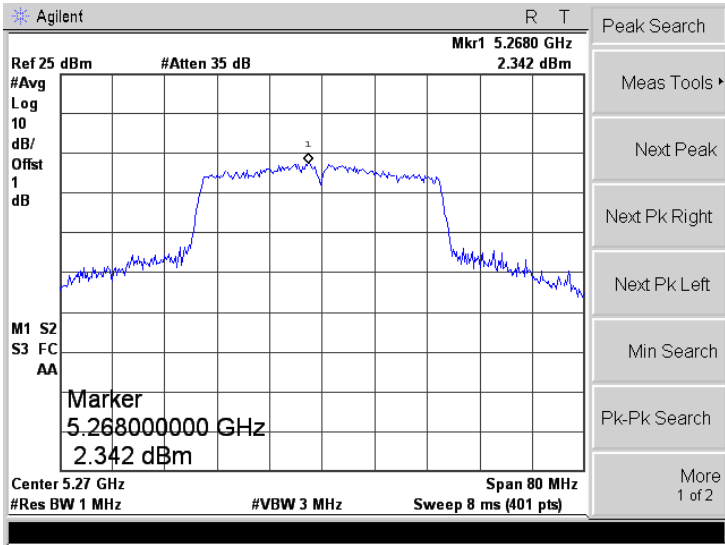
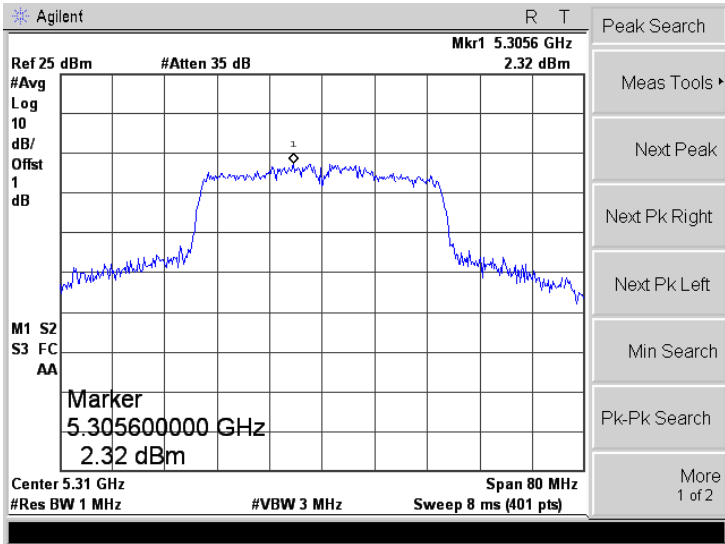
Mode:	802.11n-HT40
5190 MHz	
5230 MHz	

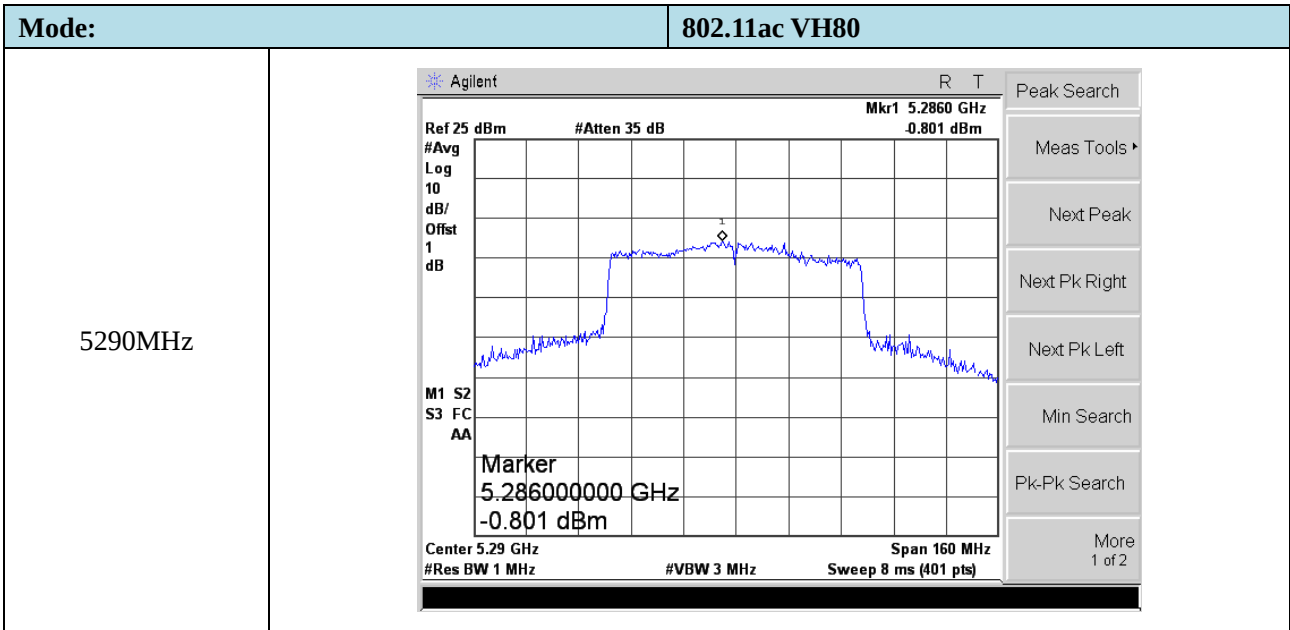


➤ 5250-5350MHz

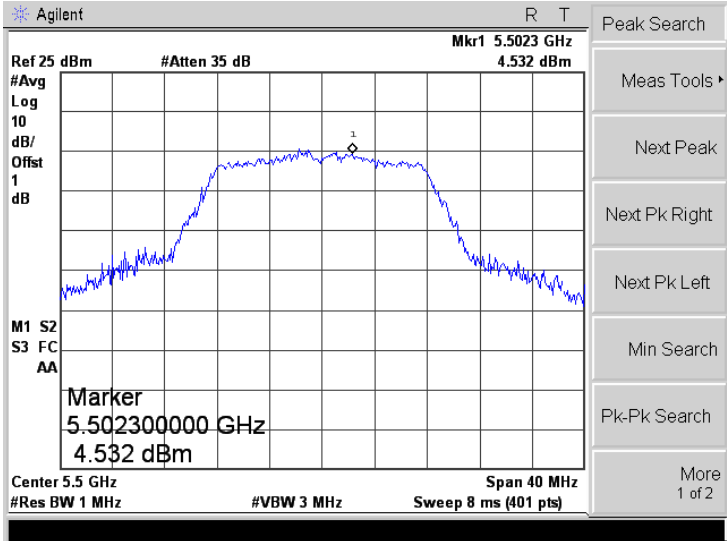
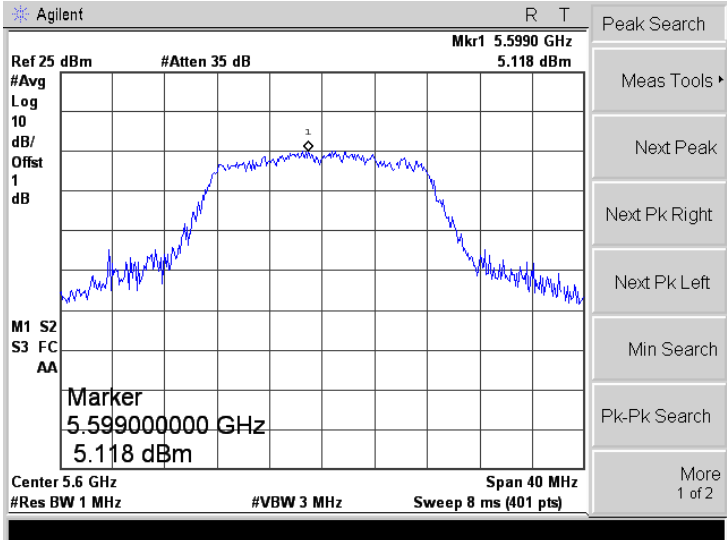
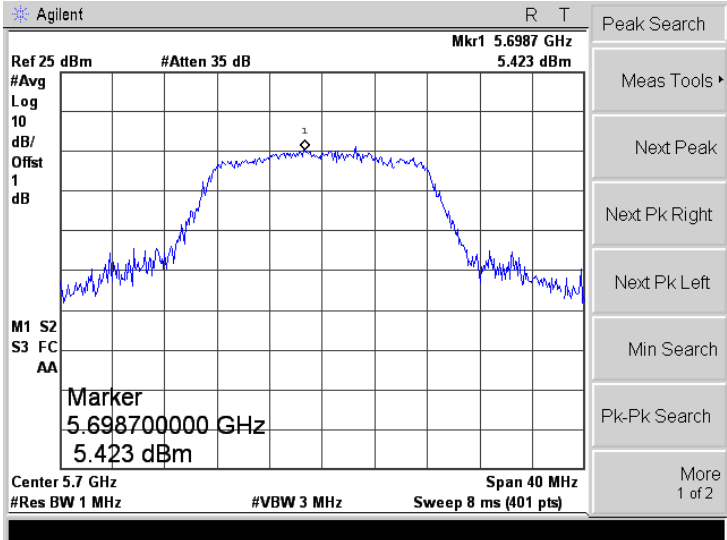
Mode:	802.11a
5260MHz	
5280MHz	
5320MHz	

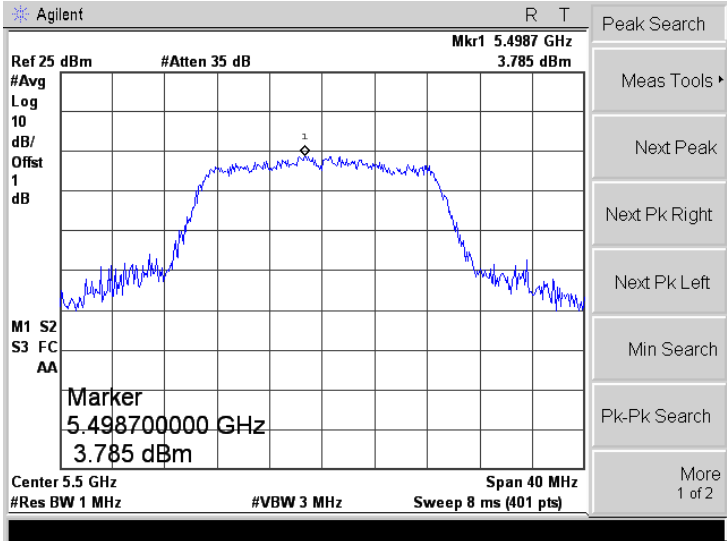
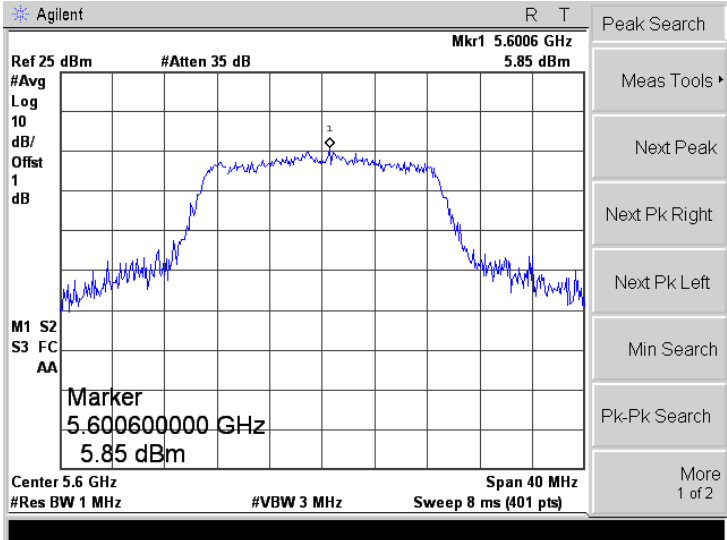
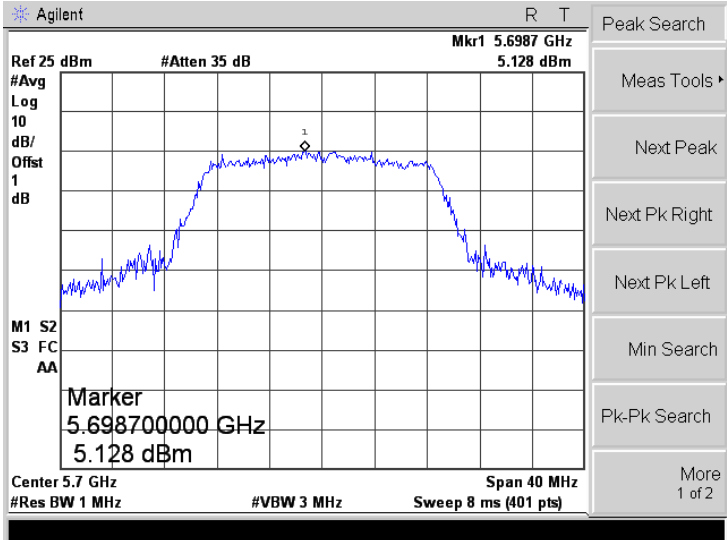
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5260MHz	
5280MHz	
5320MHz	

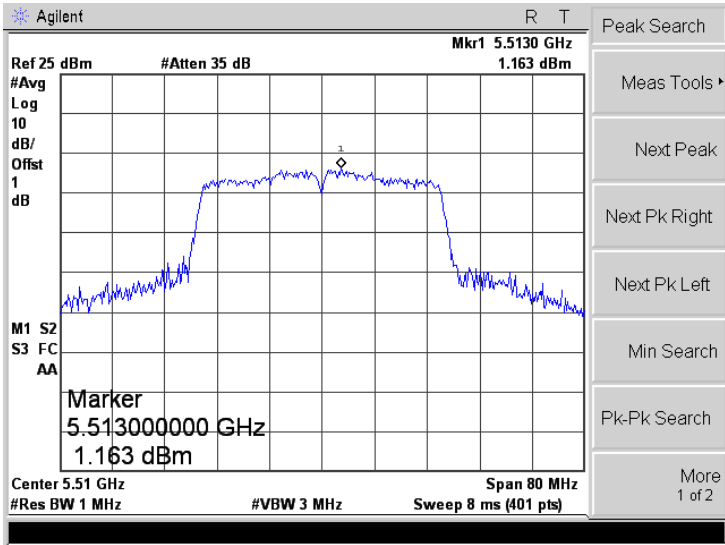
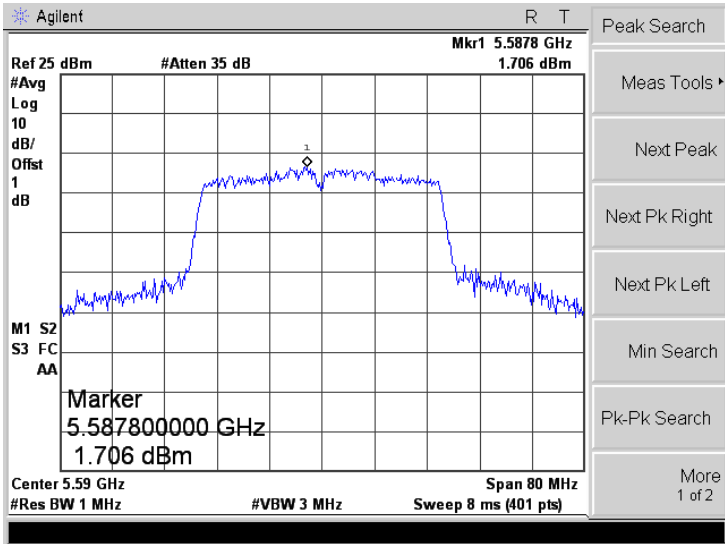
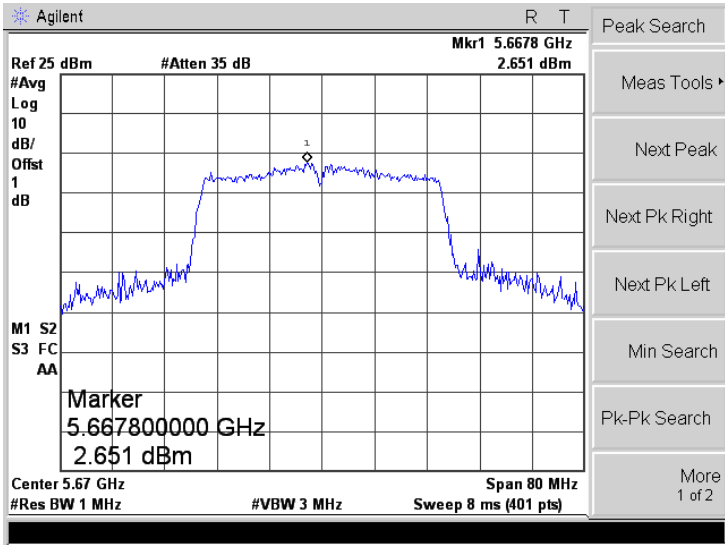
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5310MHz	

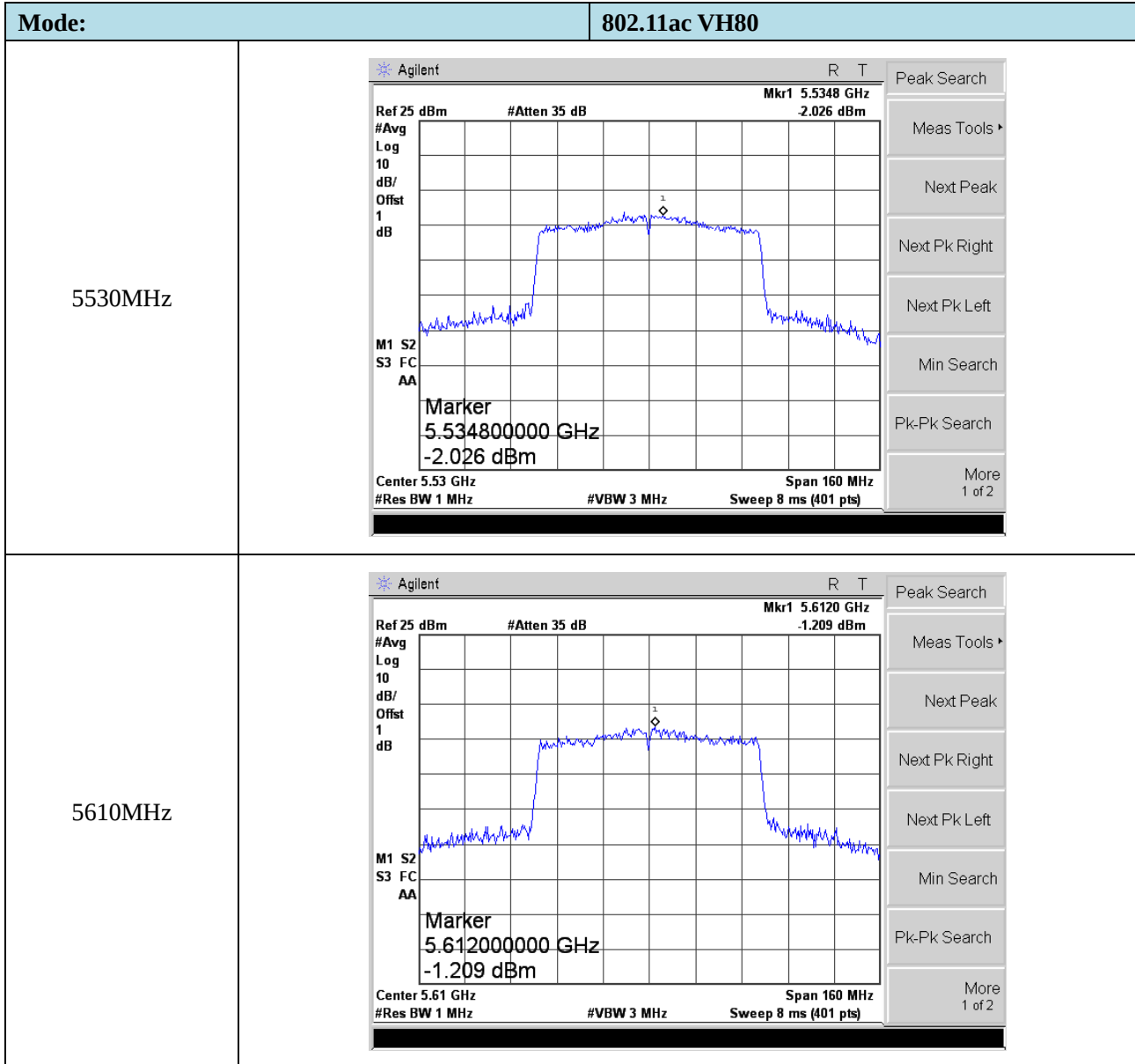


➤ 5470-5725MHz

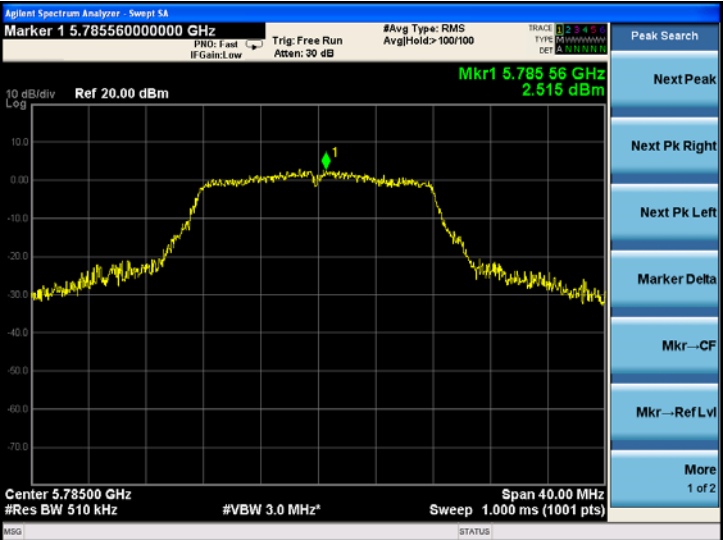
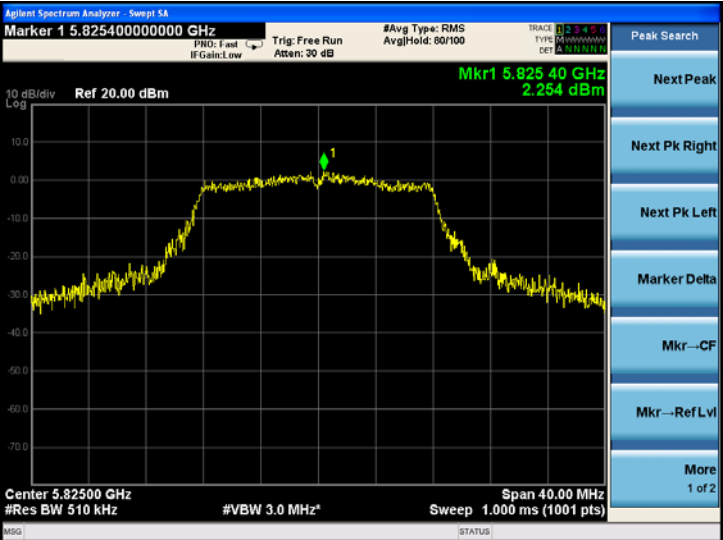
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5500MHz	
5600MHz	
5700MHz	

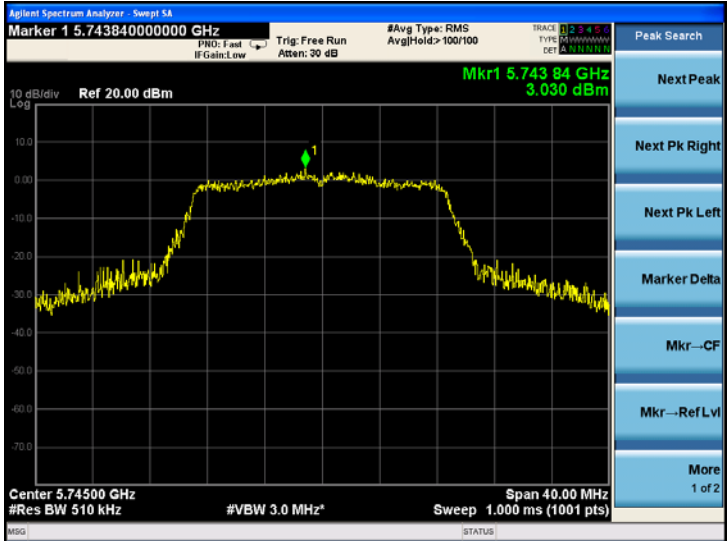
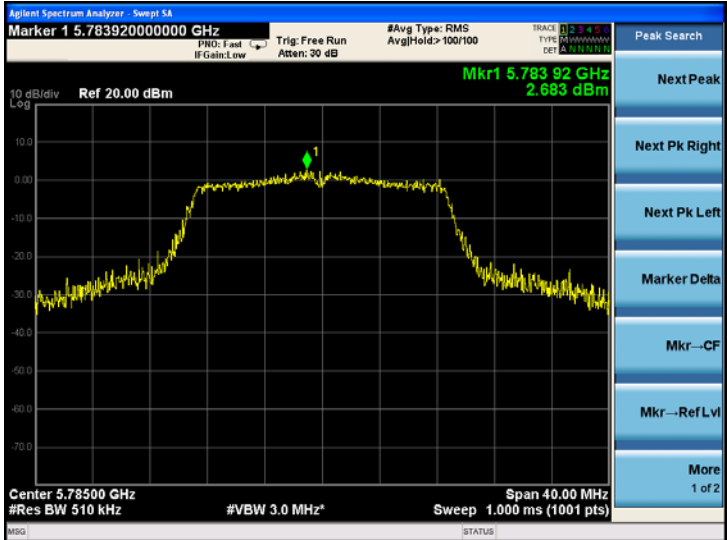
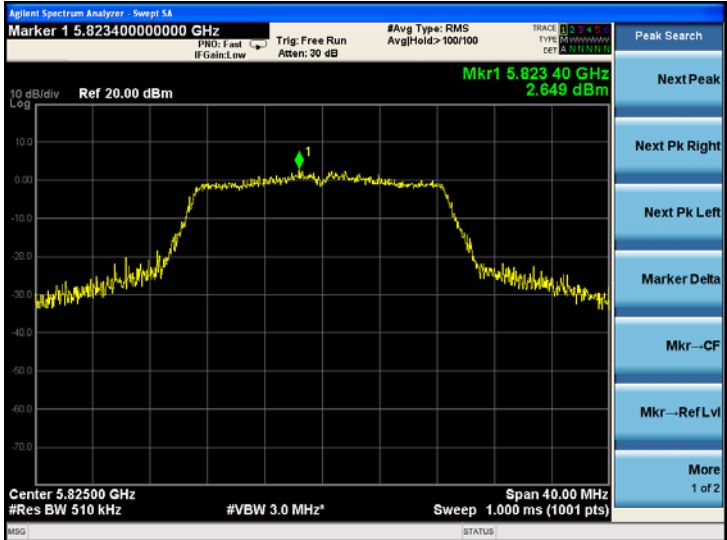
Mode:	802.11n-HT20
5500MHz	
5600MHz	
5700MHz	

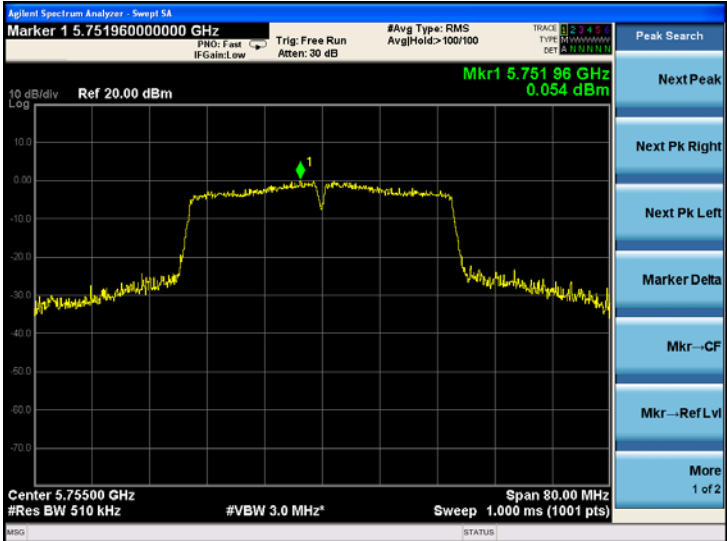
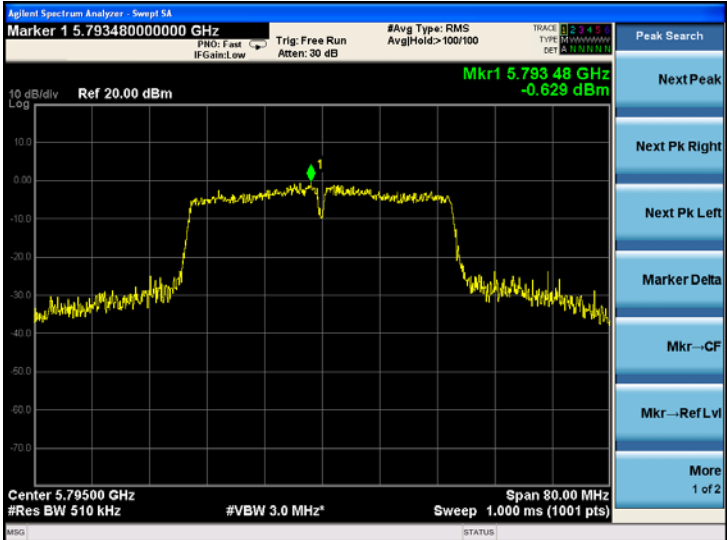
Mode:	802.11n-HT40
5510MHz	
5590MHz	
5670MHz	

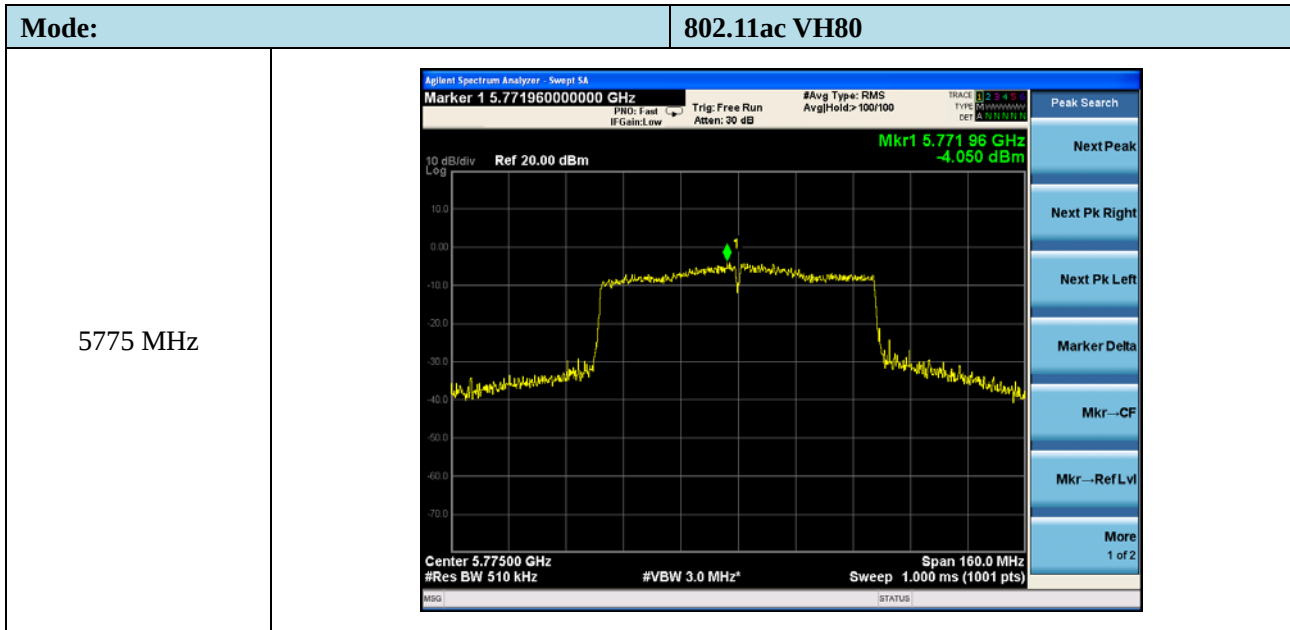


➤ 5725-5850MHz

Mode:	802.11a
5745MHz	
5785MHz	
5825MHz	

Mode:	802.11n-HT20
5745MHz	
5785MHz	
5825MHz	

Mode:	802.11n-HT40
5755 MHz	
5795 MHz	



7. Emission Bandwidth and Occupied Bandwidth

7.1 Standard Applicable

According to 15.407 (a) and (e)

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(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 or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(e) Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

7.2 Test Procedure

According to 789033 D02 v01r02 section C&D, the following is the measurement procedure.

1. Emission Bandwidth (EBW)

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare

this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

2. Minimum Emission Bandwidth for the band 5.725-5.85 GHz

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

D. 99 Percent Occupied Bandwidth

The 99-percent occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99-percent occupied bandwidth is required only as a condition for using the optional band-edge measurement techniques described in section II.G.3.d). Measurements of 99-percent occupied bandwidth may also optionally be used in lieu of the EBW to 789033 D02 v01r02 General UNII Test Procedures New Rules v01 define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in section II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW $\geq 3 \times$ RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

7.3 Summary of Test Results/Plots

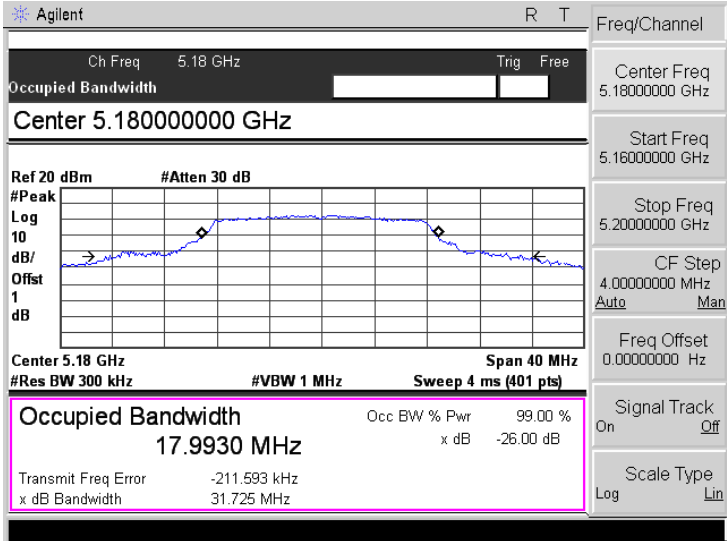
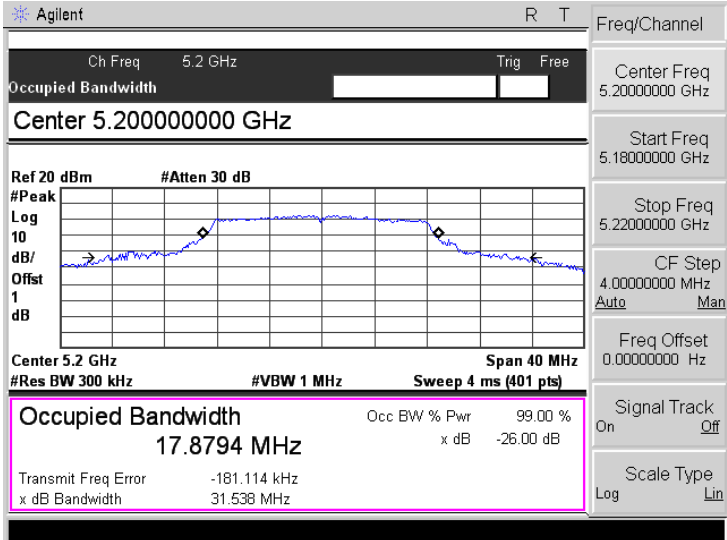
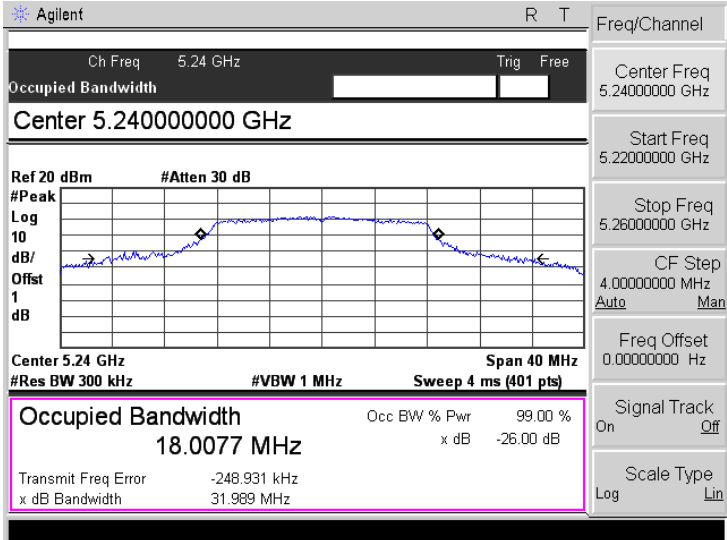
U-NII-1:5150-5250MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5180	31.725	17.9930	Pass
	5200	31.538	17.8794	Pass
	5240	31.989	18.0077	Pass
802.11n-HT20	5180	29.361	18.3942	Pass
	5200	32.026	18.5928	Pass
	5240	31.759	18.5922	Pass
802.11n-HT40	5190	72.220	37.4709	Pass
	5230	60.411	37.0555	Pass
802.11ac-HT80	5210	113.237	76.0413	Pass

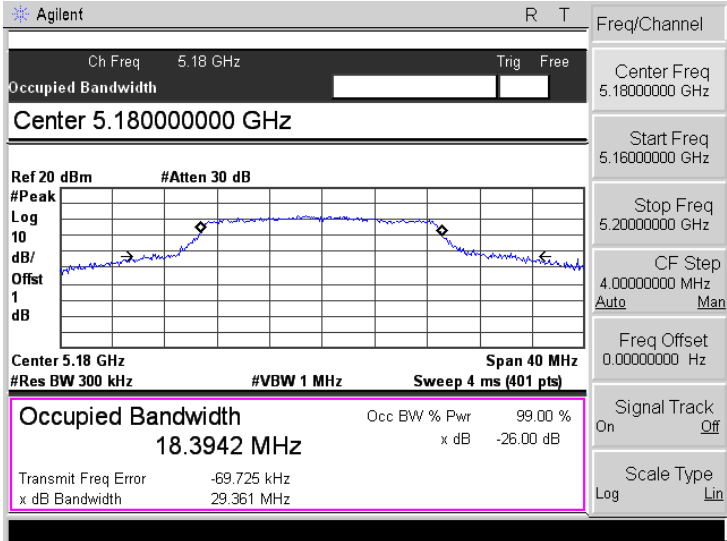
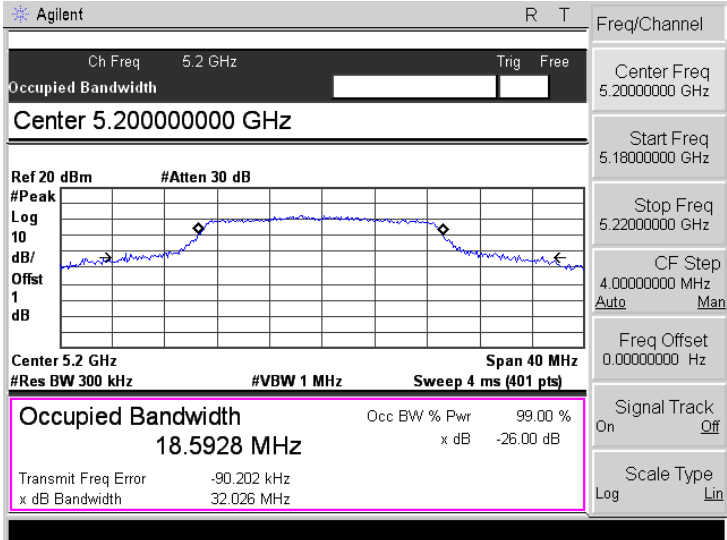
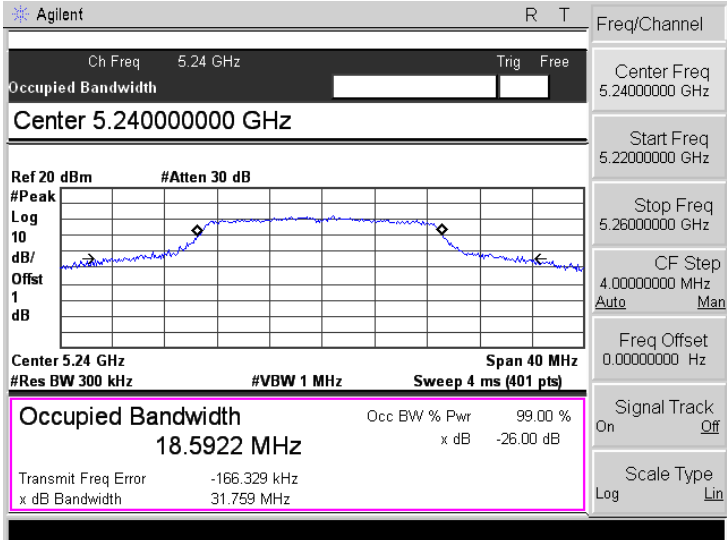
U-NII-2A: 5250-5350MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5260	33.020	18.7155	Pass
	5280	33.218	18.8080	Pass
	5320	31.782	18.0944	Pass
802.11n-HT20	5260	33.411	18.7496	Pass
	5280	30.513	18.5550	Pass
	5320	33.347	18.5966	Pass
802.11n-HT40	5270	69.213	37.6636	Pass
	5310	67.171	37.4079	Pass
802.11ac-HT80	5290	128.076	76.2536	Pass

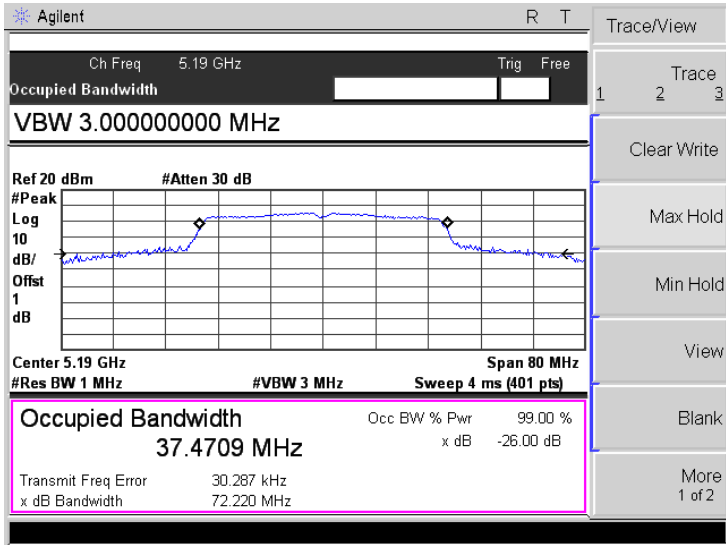
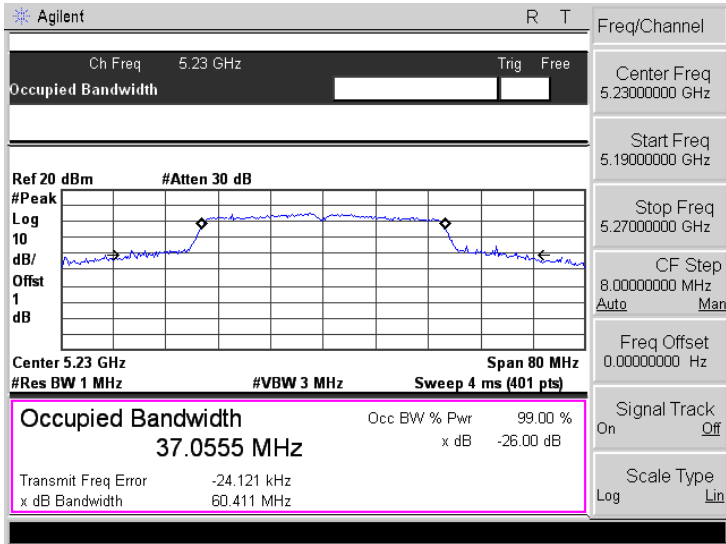
U-NII-2C: 5470-5725MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5500	27.159	17.3202	Pass
	5600	27.353	17.2421	Pass
	5700	22.129	17.2641	Pass
802.11n-HT20	5500	25.329	18.2300	Pass
	5600	25.084	18.2260	Pass
	5700	25.194	18.1395	Pass
802.11n-HT40	5510	57.156	36.9600	Pass
	5590	56.153	36.8798	Pass
	5670	58.702	36.8961	Pass
802.11ac-HT80	5530	113.884	75.9531	Pass
	5610	93.492	75.7492	Pass

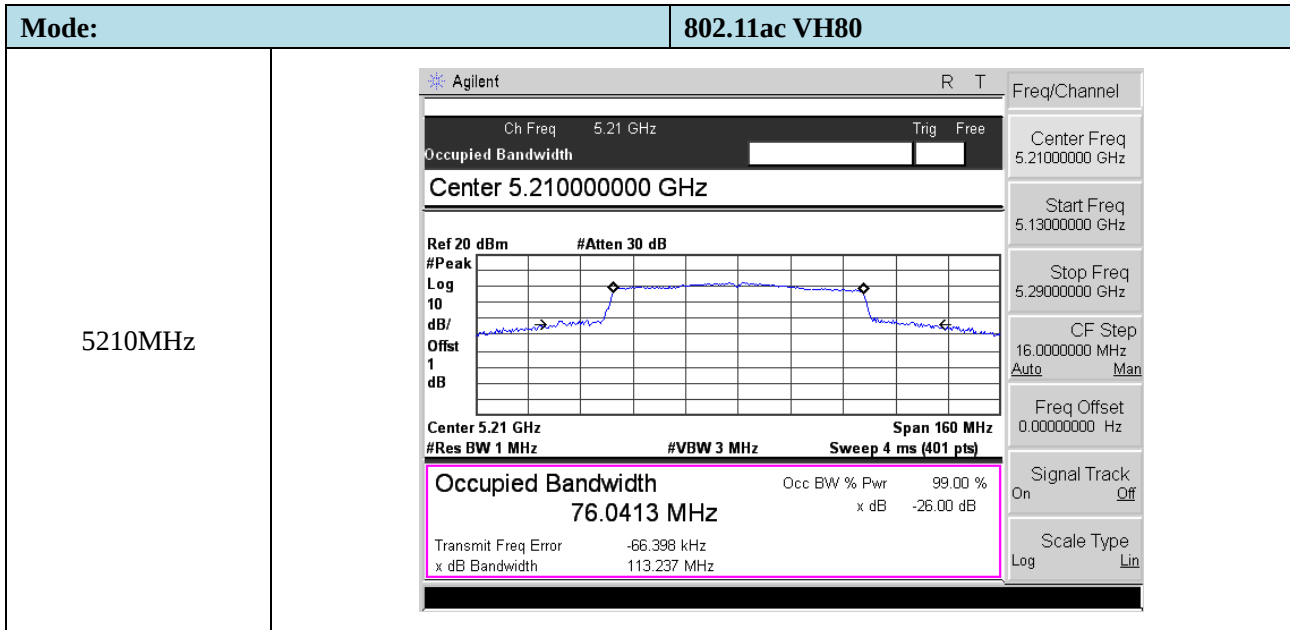
U-NII-3: 5725-5850MHz				
Test Mode	Test Channel MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5745	16.446	17.4903	≥ 500
	5785	16.285	17.3787	≥ 500
	5825	16.405	17.3531	≥ 500
802.11n-HT20	5745	17.622	18.3246	≥ 500
	5785	17.531	18.2650	≥ 500
	5825	17.578	18.2648	≥ 500
802.11n-HT40	5755	36.46	36.943	≥ 500
	5795	36.45	36.691	≥ 500
802.11ac VH80	5775	75.908	76.0660	≥ 500

➤ 5150-5250MHz

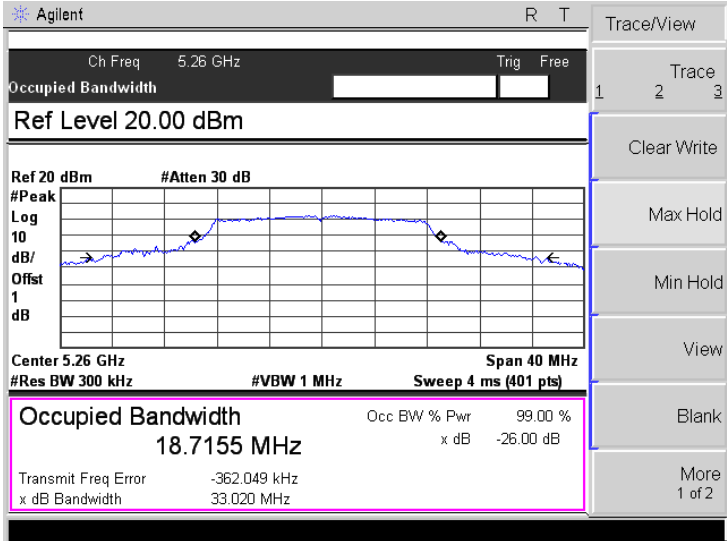
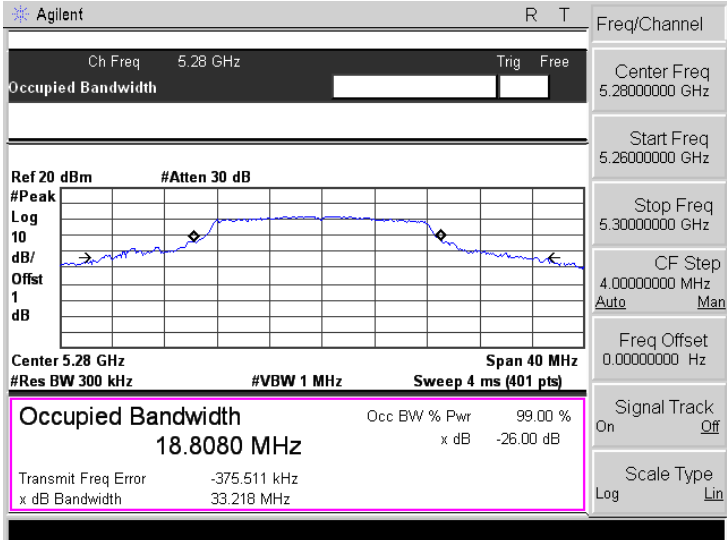
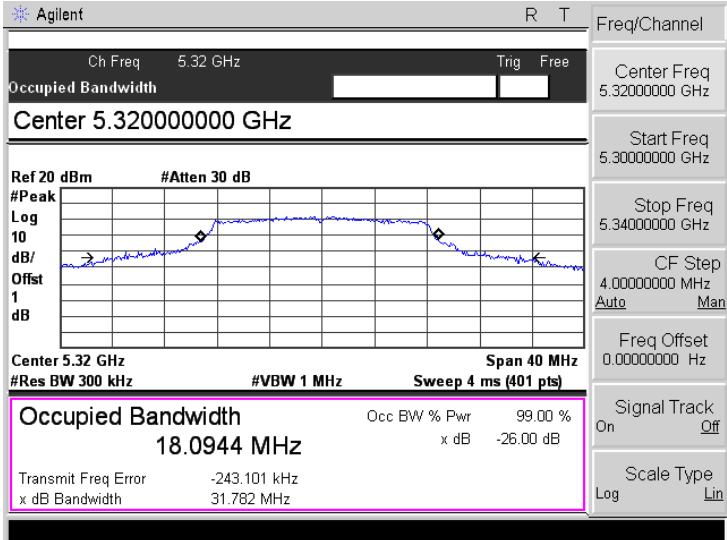
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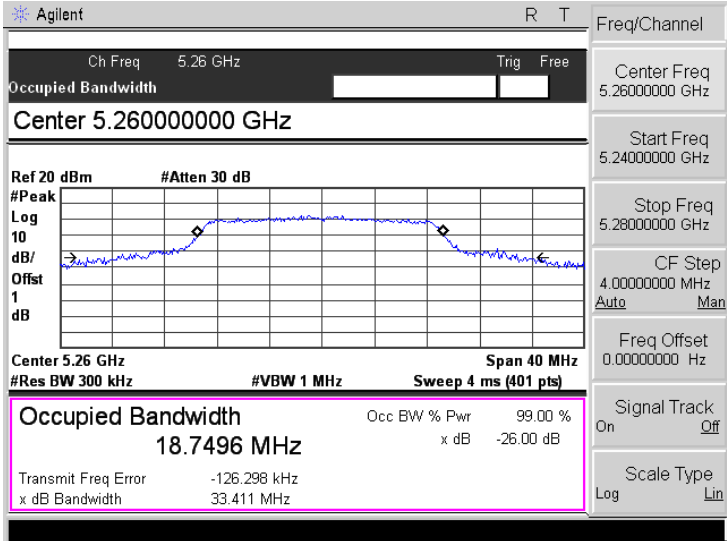
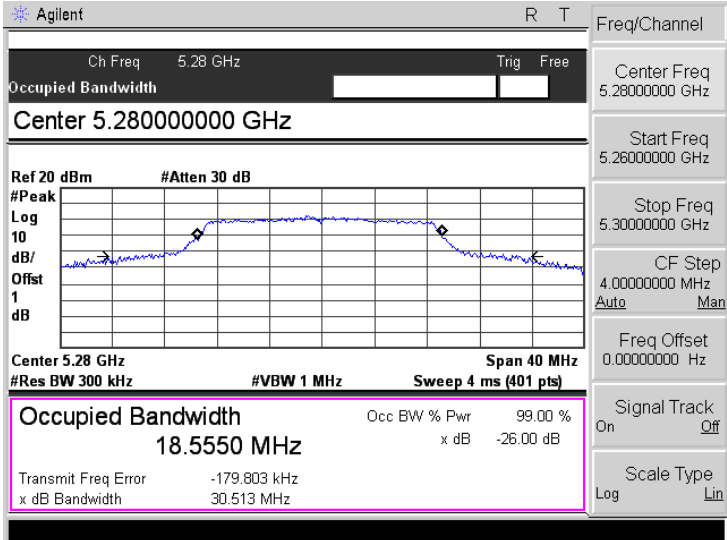
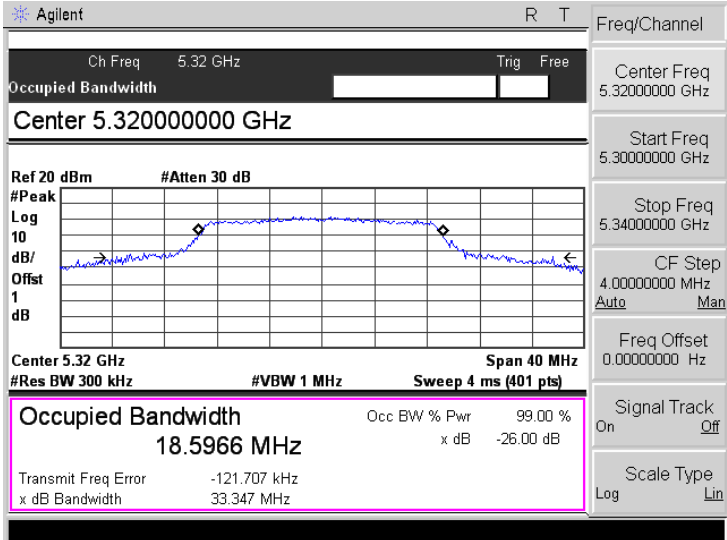
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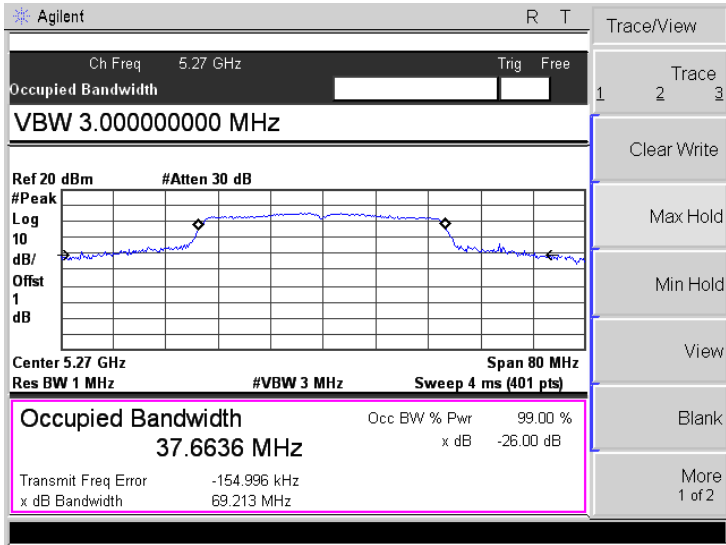
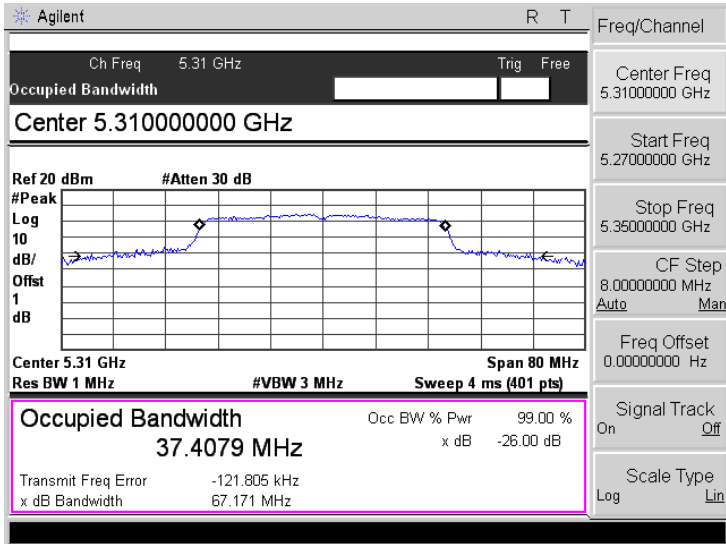
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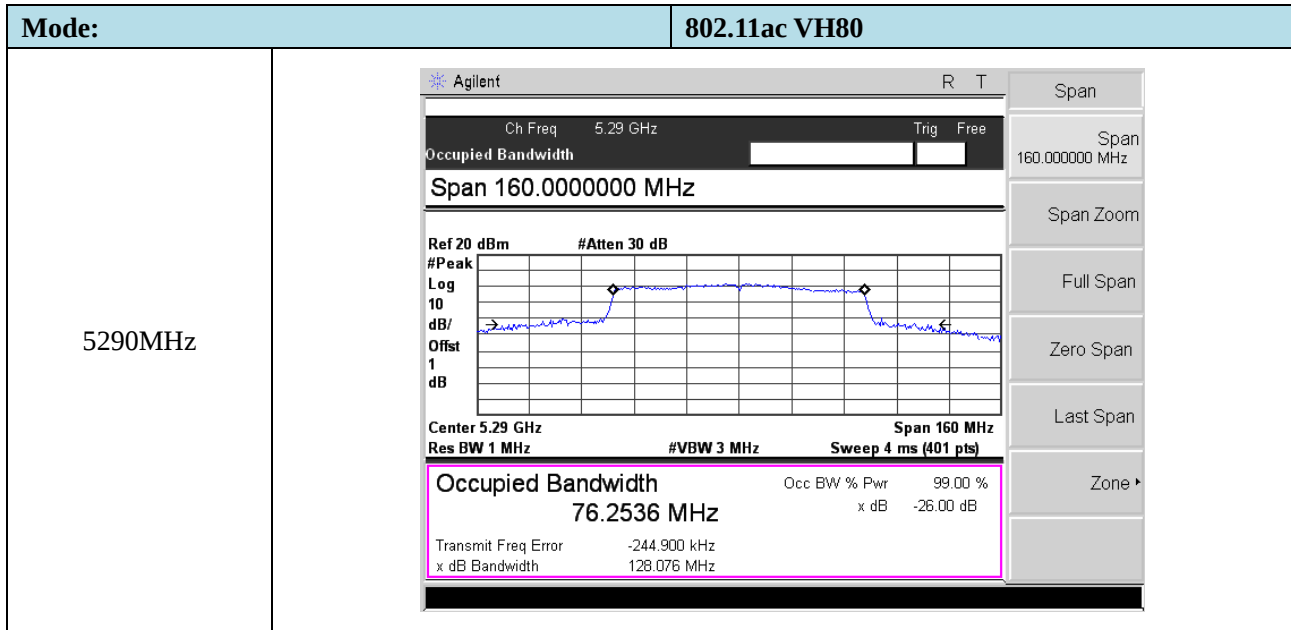


➤ 5250-5350MHz

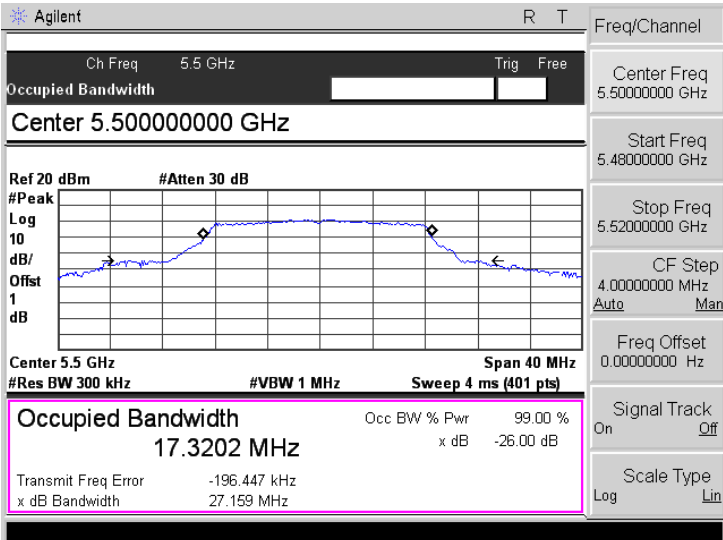
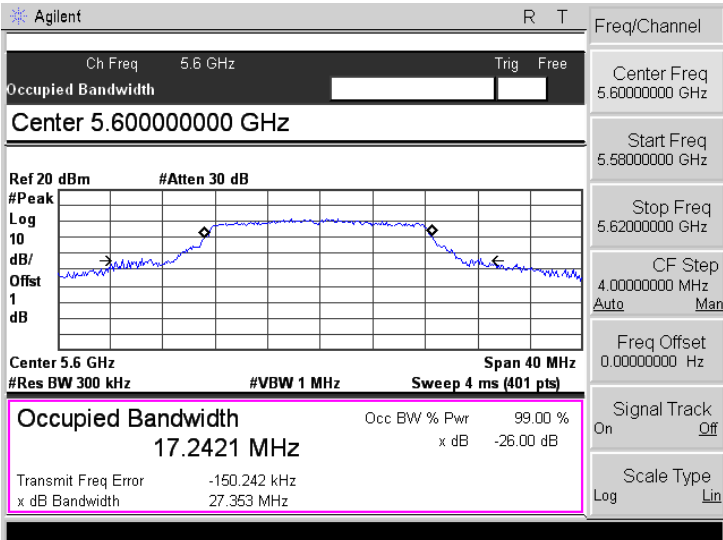
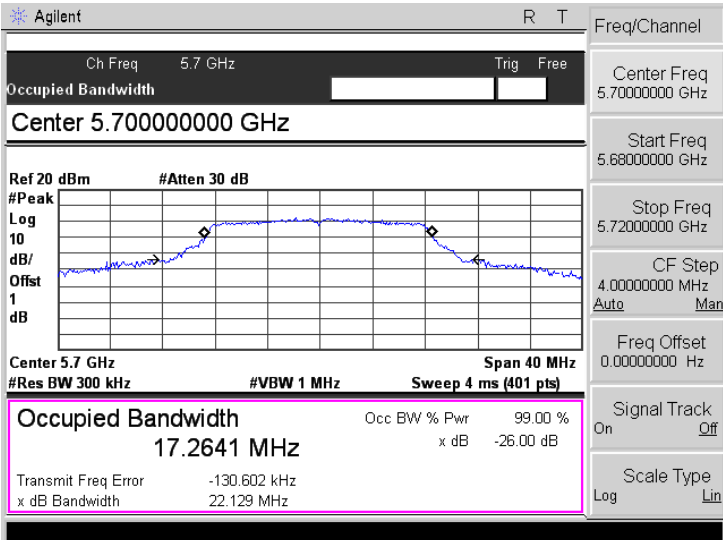
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5320MHz	

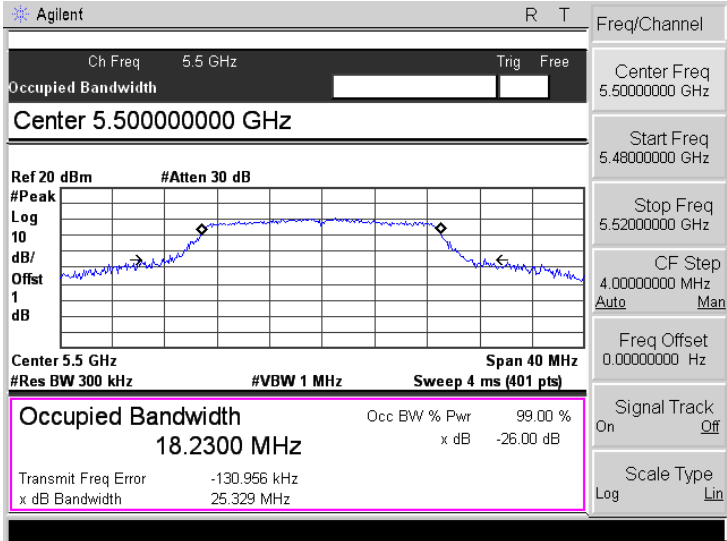
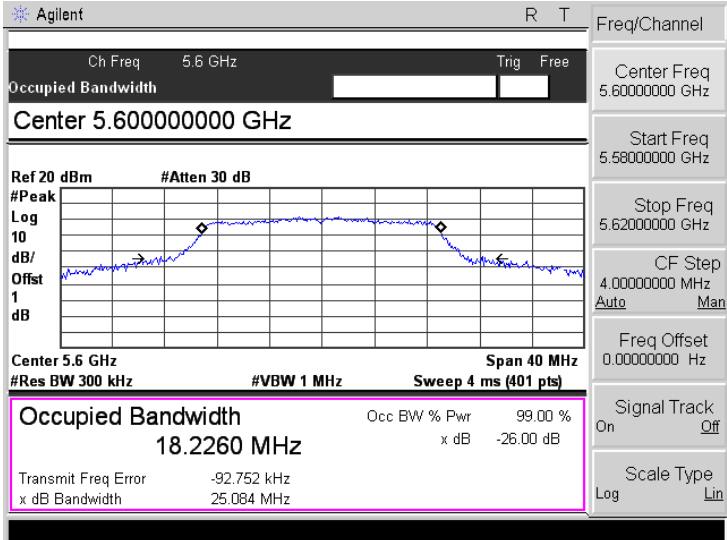
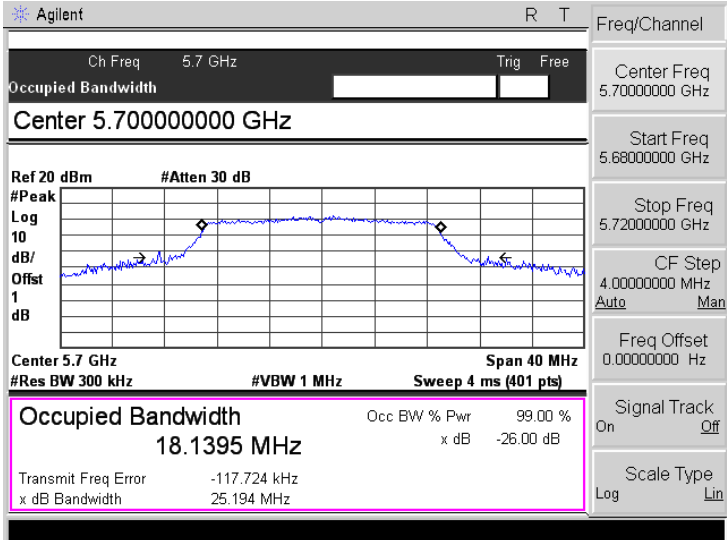
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5280MHz	 Agilent R T Ch Freq 5.28 GHz Trig Free Occupied Bandwidth Center 5.28000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 1 dB Center 5.28 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 18.5550 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -179.803 kHz x dB Bandwidth 30.513 MHz Freq/Channel Center Freq 5.28000000 GHz Start Freq 5.26000000 GHz Stop Freq 5.30000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5320MHz	 Agilent R T Ch Freq 5.32 GHz Trig Free Occupied Bandwidth Center 5.32000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 1 dB Center 5.32 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 18.5966 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -121.707 kHz x dB Bandwidth 33.347 MHz Freq/Channel Center Freq 5.32000000 GHz Start Freq 5.30000000 GHz Stop Freq 5.34000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin

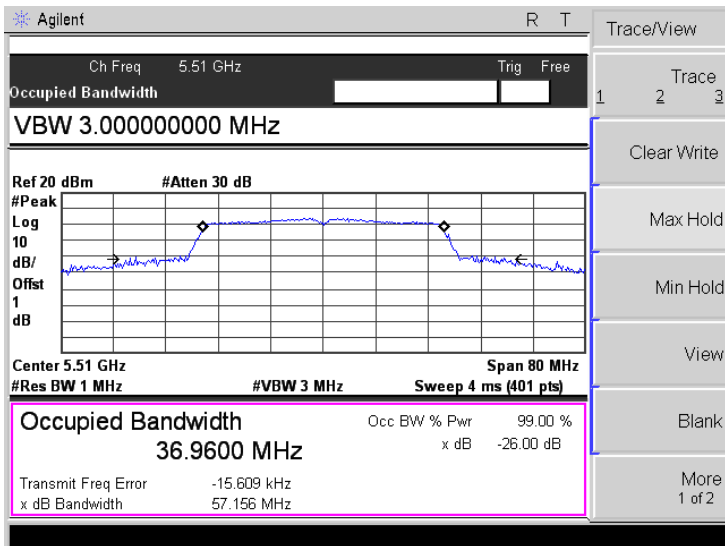
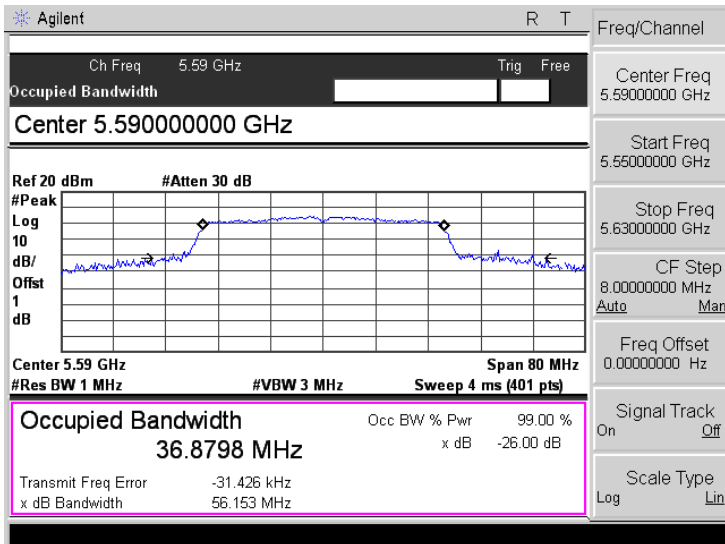
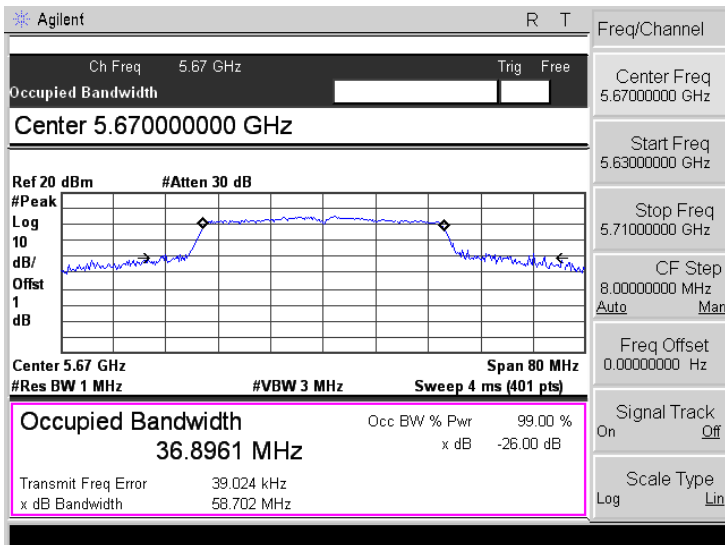
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5310MHz	

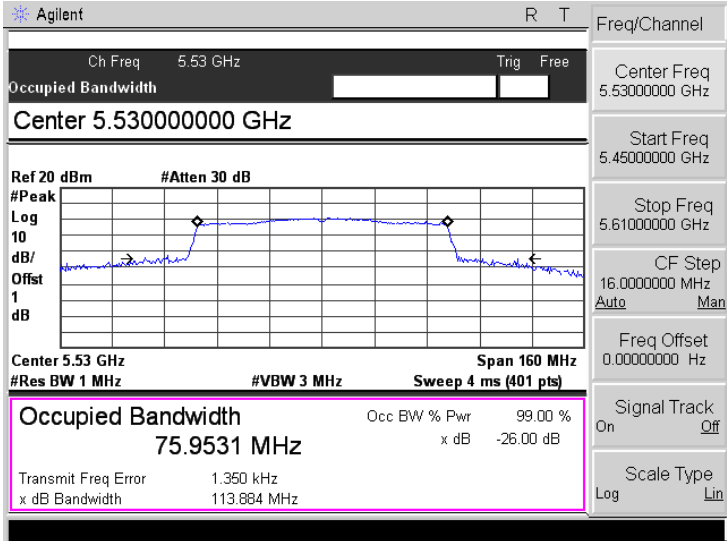
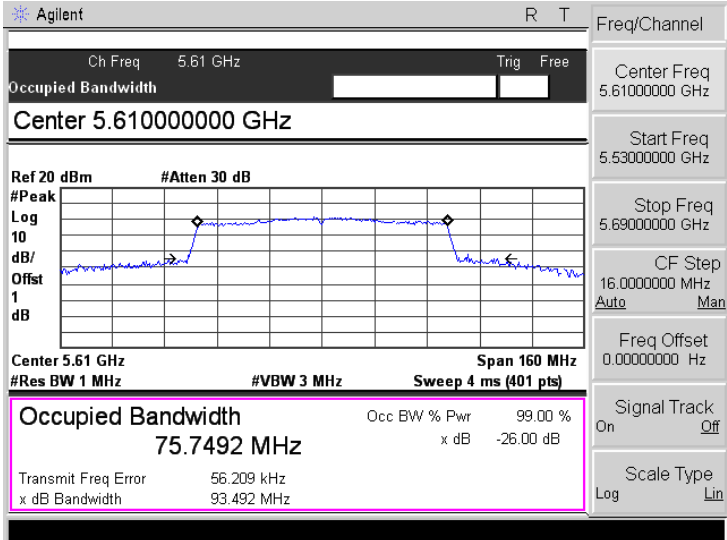


➤ 5470-5725MHz

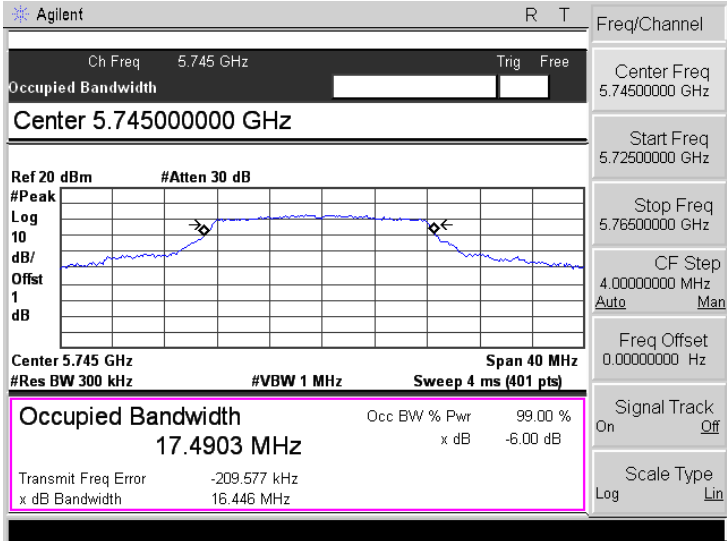
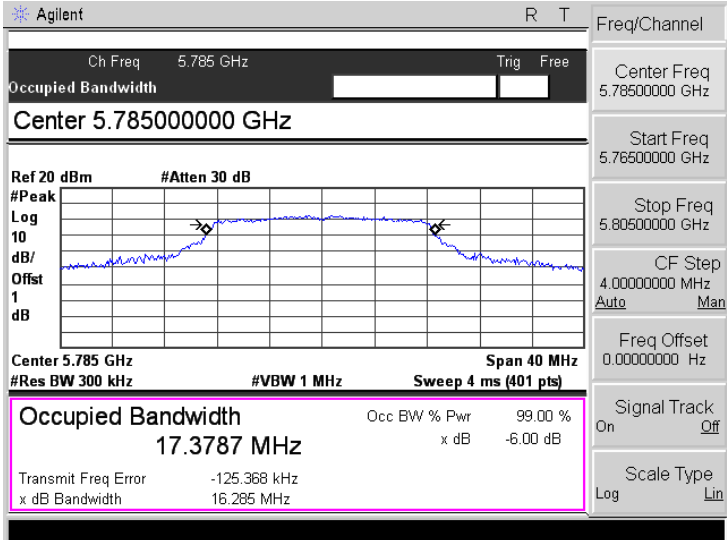
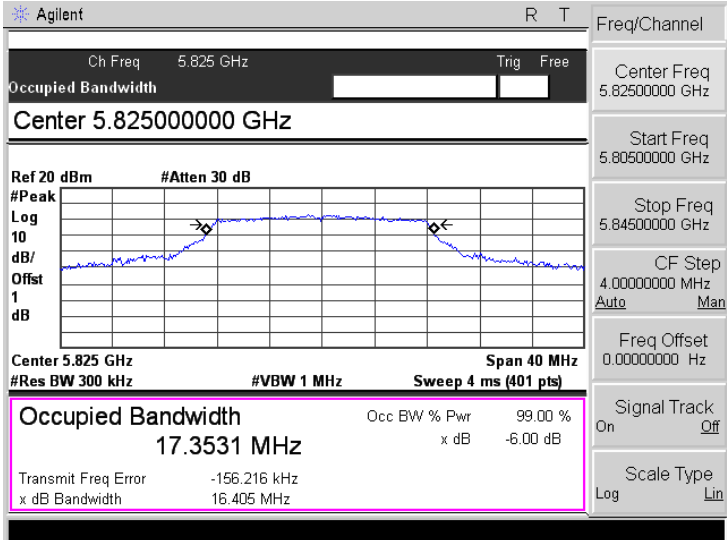
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5500MHz	 Agilent R T Ch Freq 5.5 GHz Trig Free Occupied Bandwidth Center 5.50000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/Offst 1 dB Center 5.5 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.3202 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -196.447 kHz x dB Bandwidth 27.159 MHz Freq/Channel Center Freq 5.50000000 GHz Start Freq 5.48000000 GHz Stop Freq 5.52000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5600MHz	 Agilent R T Ch Freq 5.6 GHz Trig Free Occupied Bandwidth Center 5.60000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/Offst 1 dB Center 5.6 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.2421 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -150.242 kHz x dB Bandwidth 27.353 MHz Freq/Channel Center Freq 5.60000000 GHz Start Freq 5.58000000 GHz Stop Freq 5.62000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5700MHz	 Agilent R T Ch Freq 5.7 GHz Trig Free Occupied Bandwidth Center 5.70000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/Offst 1 dB Center 5.7 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.2641 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -130.602 kHz x dB Bandwidth 22.129 MHz Freq/Channel Center Freq 5.70000000 GHz Start Freq 5.68000000 GHz Stop Freq 5.72000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin

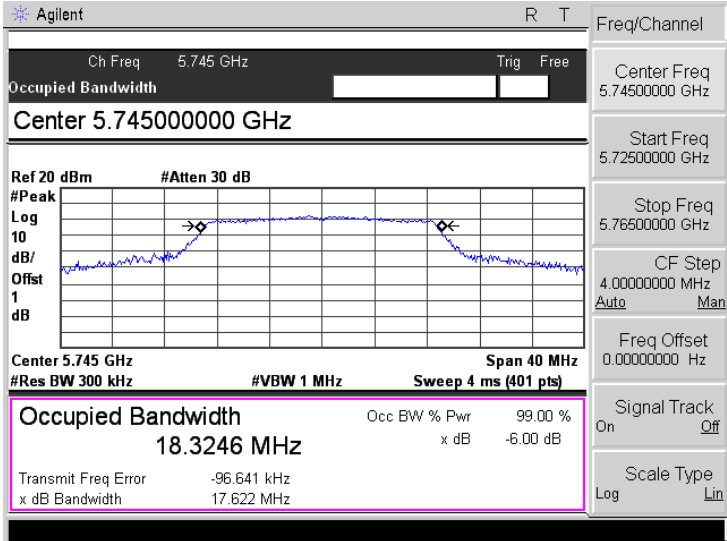
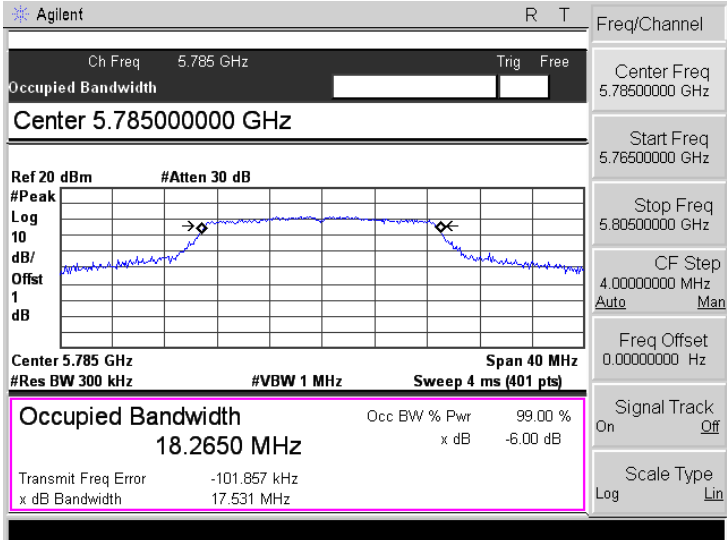
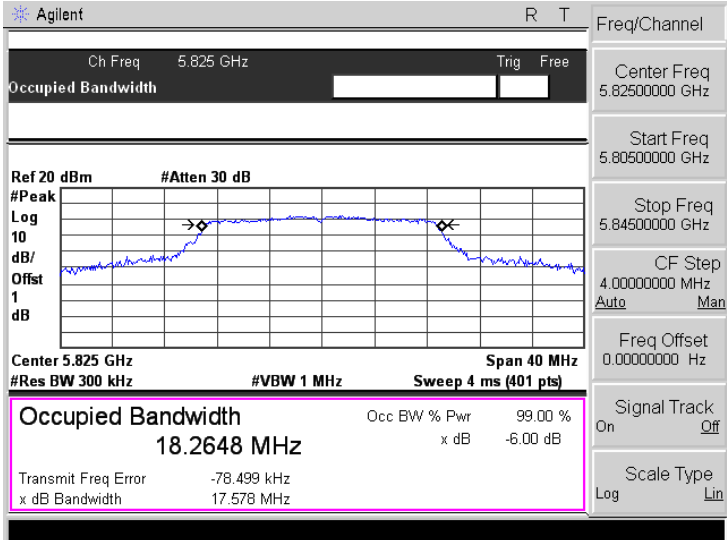
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5600MHz	
5700MHz	

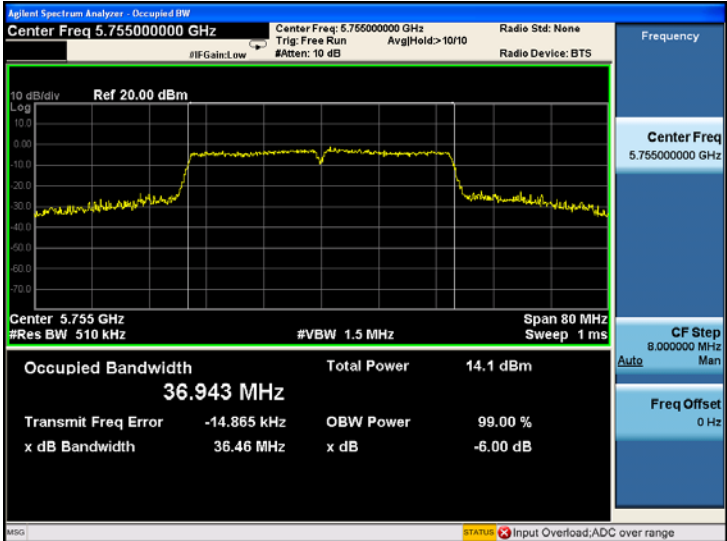
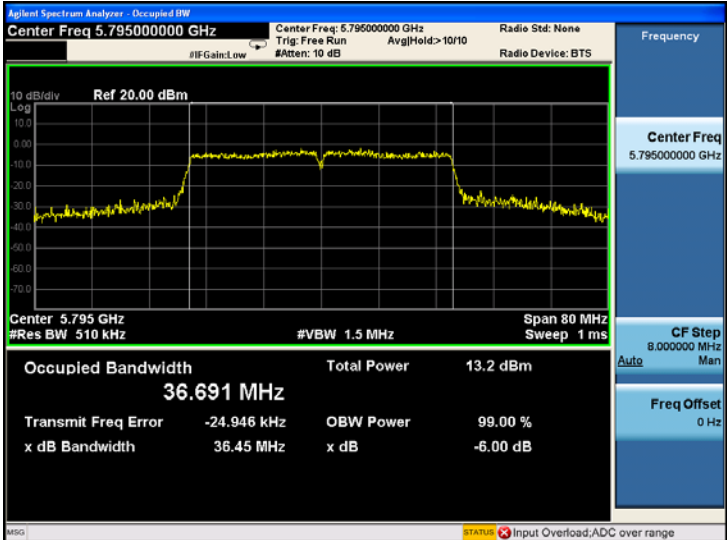
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5510MHz	 Agilent R T Ch Freq 5.51 GHz Trig Free Occupied Bandwidth VBW 3.00000000 MHz Ref 20 dBm #Atten 30 dB #Peak Log dB/ Offst 1 dB Center 5.51 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 36.9600 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -15.609 kHz x dB Bandwidth 57.156 MHz Trace/View 1 2 3 Trace Clear Write Max Hold Min Hold View Blank More 1 of 2
5590MHz	 Agilent R T Ch Freq 5.59 GHz Trig Free Occupied Bandwidth Center 5.59000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log dB/ Offst 1 dB Center 5.59 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 36.8798 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -31.426 kHz x dB Bandwidth 56.153 MHz Freq/Channel Center Freq 5.59000000 GHz Start Freq 5.55000000 GHz Stop Freq 5.63000000 GHz CF Step 8.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5670MHz	 Agilent R T Ch Freq 5.67 GHz Trig Free Occupied Bandwidth Center 5.67000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log dB/ Offst 1 dB Center 5.67 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 36.8961 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 39.024 kHz x dB Bandwidth 58.702 MHz Freq/Channel Center Freq 5.67000000 GHz Start Freq 5.63000000 GHz Stop Freq 5.71000000 GHz CF Step 8.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin

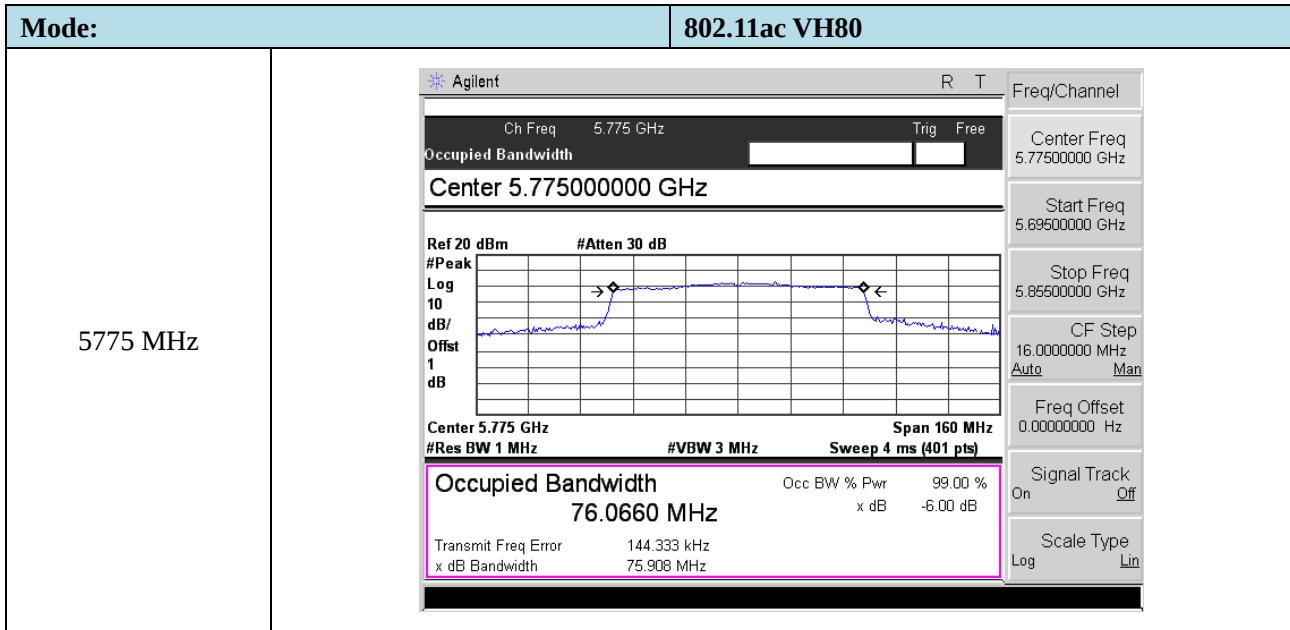
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5530MHz	 Agilent R T Ch Freq 5.53 GHz Trig Free Occupied Bandwidth Center 5.53000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 1 dB Center 5.53 GHz Span 160 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 75.9531 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 1.350 kHz x dB Bandwidth 113.884 MHz Freq/Channel Center Freq 5.53000000 GHz Start Freq 5.45000000 GHz Stop Freq 5.61000000 GHz CF Step 16.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5610MHz	 Agilent R T Ch Freq 5.61 GHz Trig Free Occupied Bandwidth Center 5.61000000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 1 dB Center 5.61 GHz Span 160 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 75.7492 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 56.209 kHz x dB Bandwidth 93.492 MHz Freq/Channel Center Freq 5.61000000 GHz Start Freq 5.53000000 GHz Stop Freq 5.69000000 GHz CF Step 16.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin

➤ 5725-5850MHz

Mode:	802.11a
5745MHz	 Agilent R T Ch Freq 5.745 GHz Trig Free Occupied Bandwidth Center 5.74500000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 1 dB Center 5.745 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.4903 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -209.577 kHz x dB Bandwidth 16.446 MHz Freq/Channel Center Freq 5.74500000 GHz Start Freq 5.72500000 GHz Stop Freq 5.76500000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5785MHz	 Agilent R T Ch Freq 5.785 GHz Trig Free Occupied Bandwidth Center 5.78500000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 1 dB Center 5.785 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.3787 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -125.368 kHz x dB Bandwidth 16.285 MHz Freq/Channel Center Freq 5.78500000 GHz Start Freq 5.76500000 GHz Stop Freq 5.80500000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5825MHz	 Agilent R T Ch Freq 5.825 GHz Trig Free Occupied Bandwidth Center 5.82500000 GHz Ref 20 dBm #Atten 30 dB #Peak Log 10 dB/ Offst 1 dB Center 5.825 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.3531 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -156.216 kHz x dB Bandwidth 16.405 MHz Freq/Channel Center Freq 5.82500000 GHz Start Freq 5.80500000 GHz Stop Freq 5.84500000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin

Mode:	802.11n-HT20
5745MHz	
5785MHz	
5825MHz	

Mode:	802.11n-HT40
5755 MHz	 Agilent Spectrum Analyzer - Occupied BW Center Freq 5.755000000 GHz Center Freq: 5.755000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS #IF Gain: Low #Atten: 10 dB Ref 20.00 dBm 10 dB/div Log Center 5.755 GHz #Res BW 510 kHz #VBW 1.5 MHz Span 80 MHz Sweep 1 ms Occupied Bandwidth 36.943 MHz Total Power 14.1 dBm Transmit Freq Error -14.865 kHz OBW Power 99.00 % x dB Bandwidth 36.46 MHz x dB -6.00 dB STATUS Input Overload: ADC over range
5795 MHz	 Agilent Spectrum Analyzer - Occupied BW Center Freq 5.795000000 GHz Center Freq: 5.795000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS #IF Gain: Low #Atten: 10 dB Ref 20.00 dBm 10 dB/div Log Center 5.795 GHz #Res BW 510 kHz #VBW 1.5 MHz Span 80 MHz Sweep 1 ms Occupied Bandwidth 36.691 MHz Total Power 13.2 dBm Transmit Freq Error -24.946 kHz OBW Power 99.00 % x dB Bandwidth 36.45 MHz x dB -6.00 dB STATUS Input Overload: ADC over range



8. Maximum Conducted Output Power

8.1 Standard Applicable

Section 15.407(a) Power limits:

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(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 or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

8.2 Test Procedure

According to KDB789033 D02 v01r02 section E, the following is the measurement procedure.

- (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (ii) Set RBW = 1 MHz.
- (iii) Set VBW ≥ 3 MHz.
- (iv) Number of points in sweep $\geq 2 \text{ Span} / \text{RBW}$. (This ensures that bin-to-bin spacing is $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
- (v) Sweep time = auto.

- (vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- (vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.
- (viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- (ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

8.3 Summary of Test Results/Plots

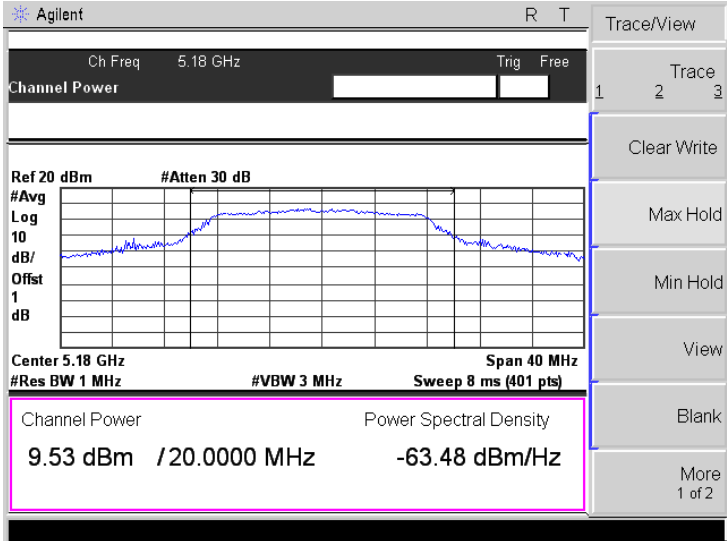
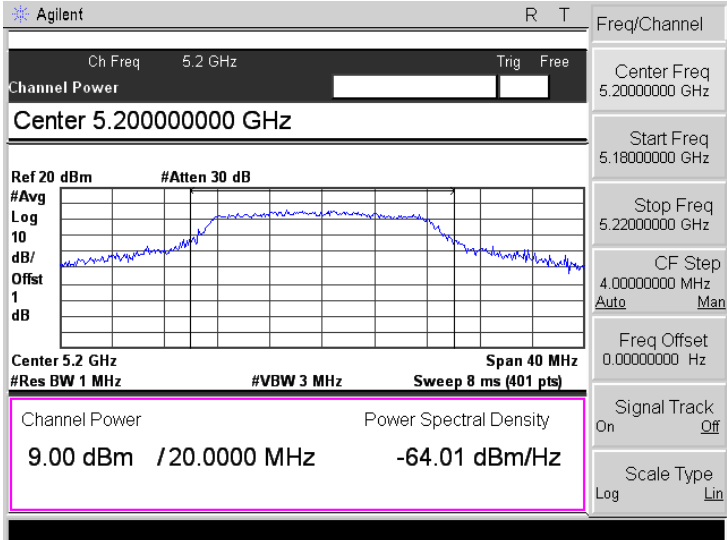
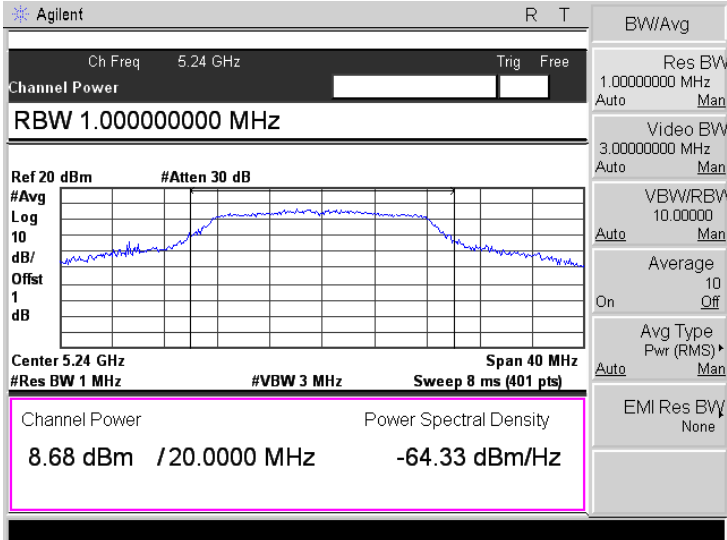
U-NII-1:5150-5250MHz				
Test mode	Frequency MHz	Output Power dBm	Output Power mW	Limit mW
802.11a	5180	9.53	8.974	250
	5200	9.00	7.943	250
	5240	8.68	7.379	250
802.11n-HT20	5180	9.22	8.356	250
	5200	9.71	9.354	250
	5240	8.91	7.780	250
802.11n-HT40	5190	9.55	9.016	250
	5230	8.68	7.379	250
802.11ac VH80	5210	8.26	6.699	250

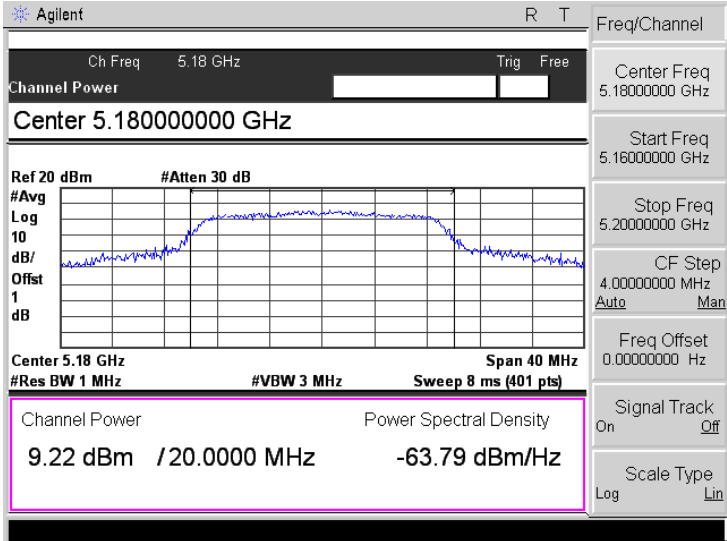
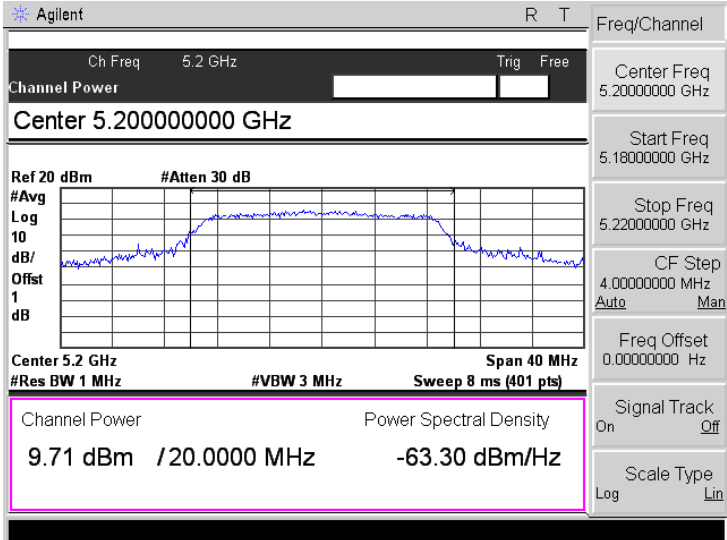
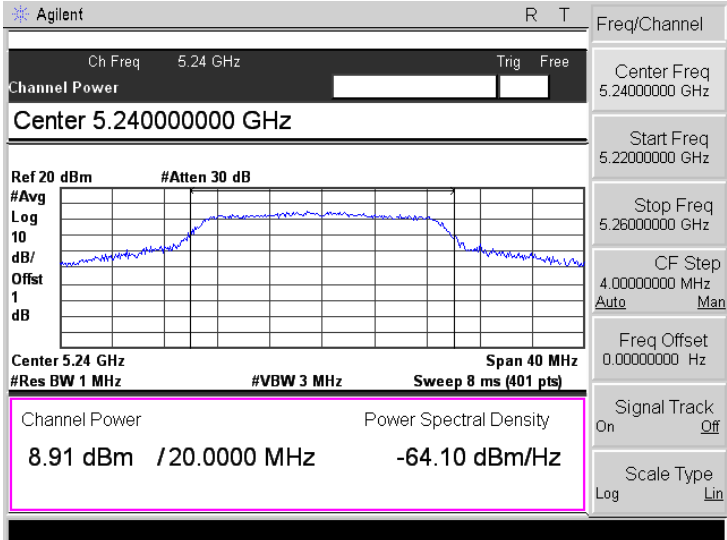
U-NII-1: 5250-5350MHz				
Test mode	Frequency MHz	Output Power dBm	Output Power mW	Limit mW
802.11a	5260	9.05	8.035	250
	5280	8.62	7.278	250
	5320	8.67	7.362	250
802.11n-HT20	5260	9.13	8.185	250
	5280	8.89	7.745	250
	5320	8.97	7.889	250
802.11n-HT40	5270	8.90	7.762	250
	5310	8.12	6.486	250
802.11ac VH80	5290	8.31	6.776	250

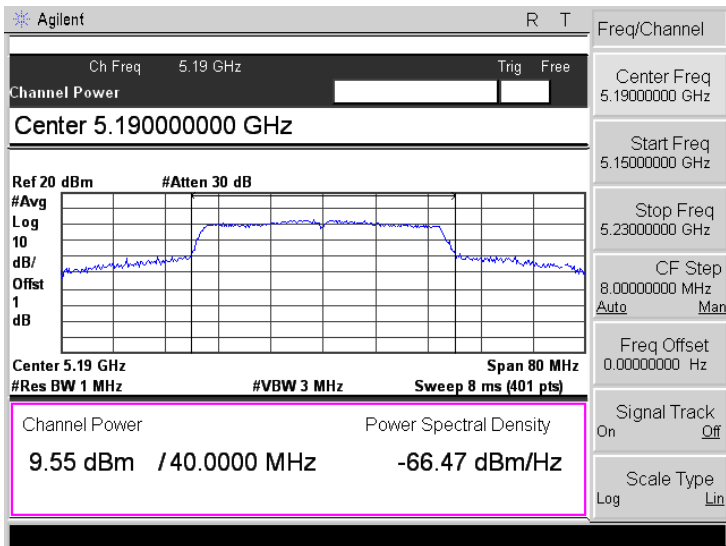
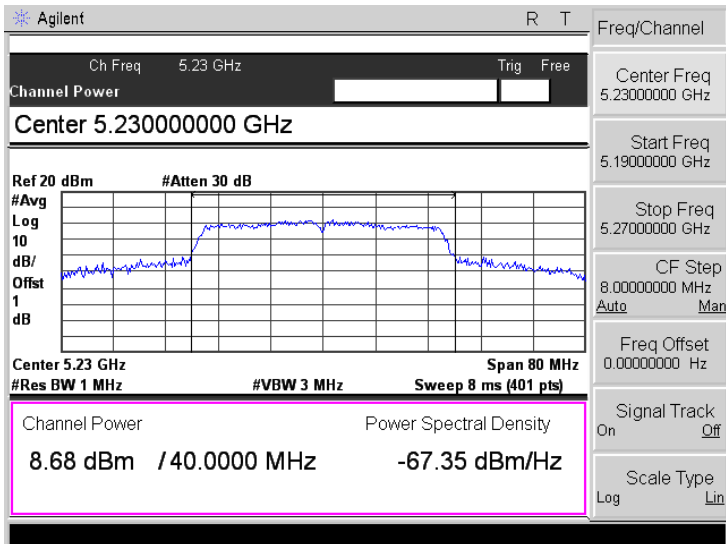
U-NII-1: 5470-5725MHz				
Test mode	Frequency MHz	Output Power dBm	Output Power mW	Limit mW
802.11a	5500	7.57	5.715	250
	5600	9.21	8.337	250
	5700	8.77	7.534	250
802.11n-HT20	5500	7.71	5.902	250
	5600	8.10	6.457	250
	5700	8.88	7.727	250
802.11n-HT40	5510	7.61	5.768	250
	5590	8.02	6.339	250
	5670	8.64	7.311	250
802.11ac VH80	5530	7.35	5.433	250
	5610	7.69	5.875	250

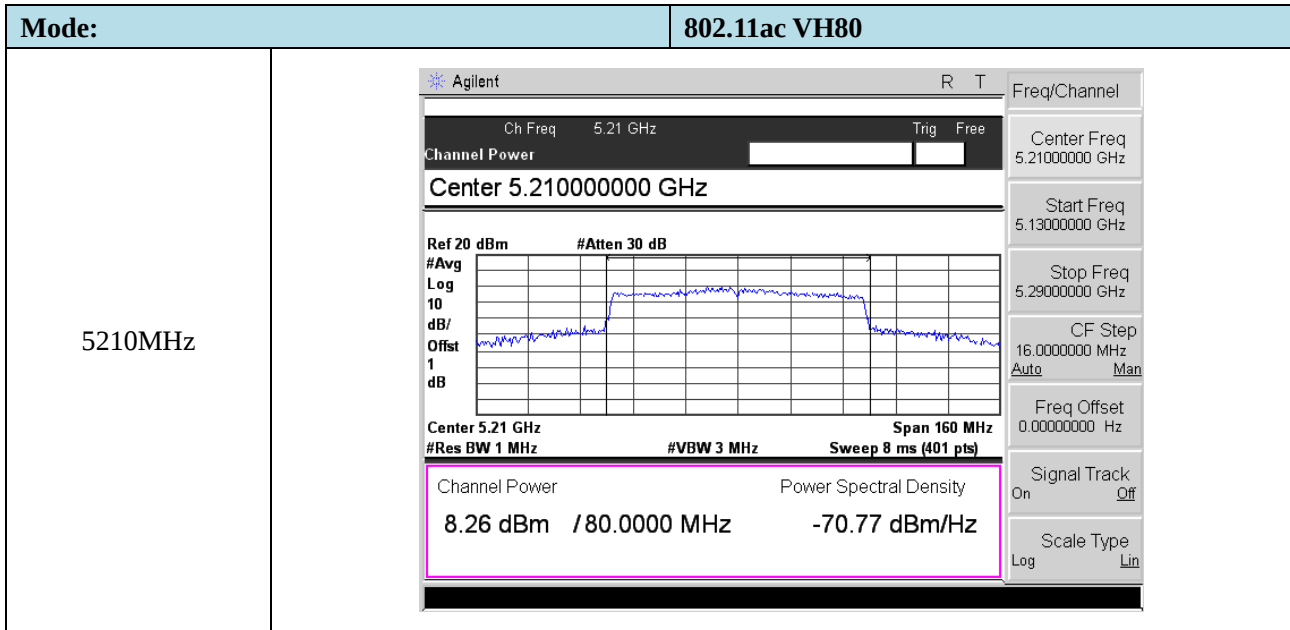
U-NII-3: 5725-5850MHz				
Test mode	Frequency MHz	Output Power dBm	Output Power mW	Limit mW
802.11a	5745	9.93	9.840	1000
	5785	9.80	9.550	1000
	5825	10.06	10.139	1000
802.11n-HT20	5745	9.09	8.110	1000
	5785	9.25	8.414	1000
	5825	9.82	9.594	1000
802.11n-HT40	5755	9.75	9.441	1000
	5795	9.29	9.016	1000
802.11ac VH80	5775	8.41	6.934	1000

➤ 5150-5250MHz

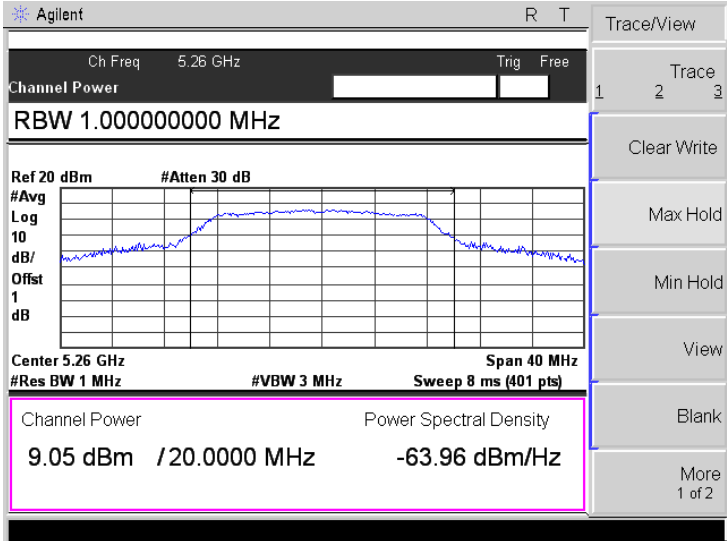
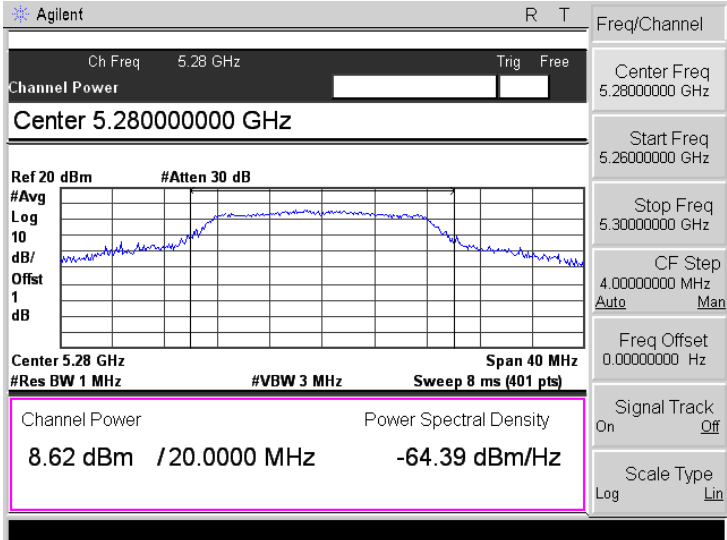
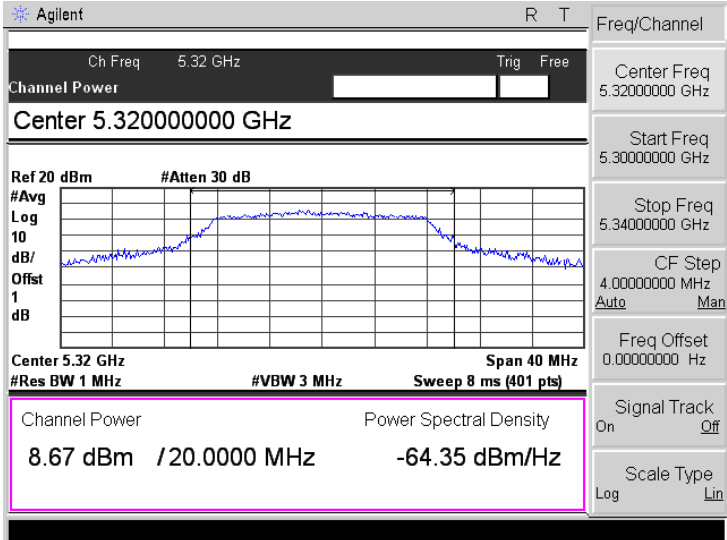
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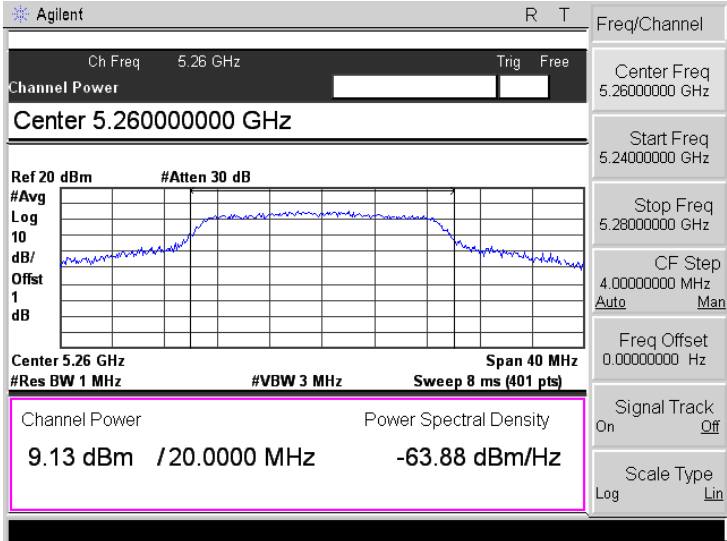
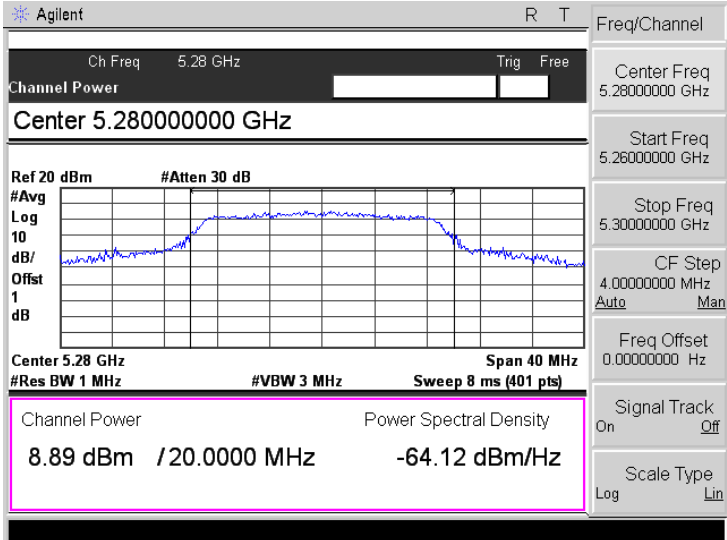
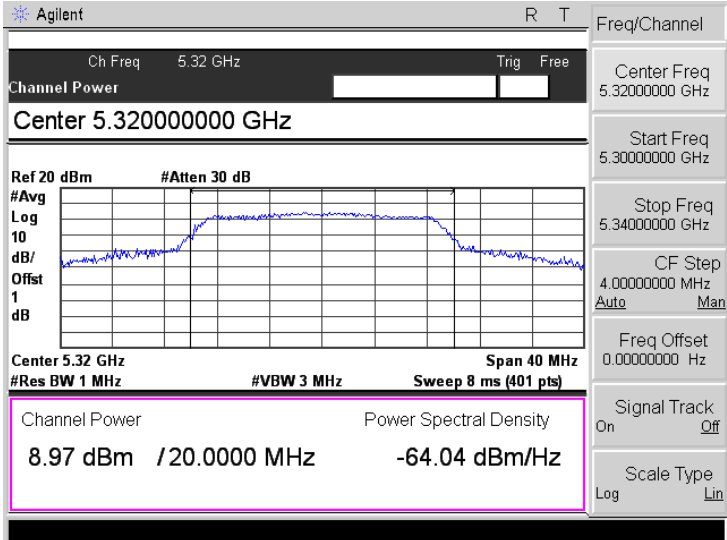
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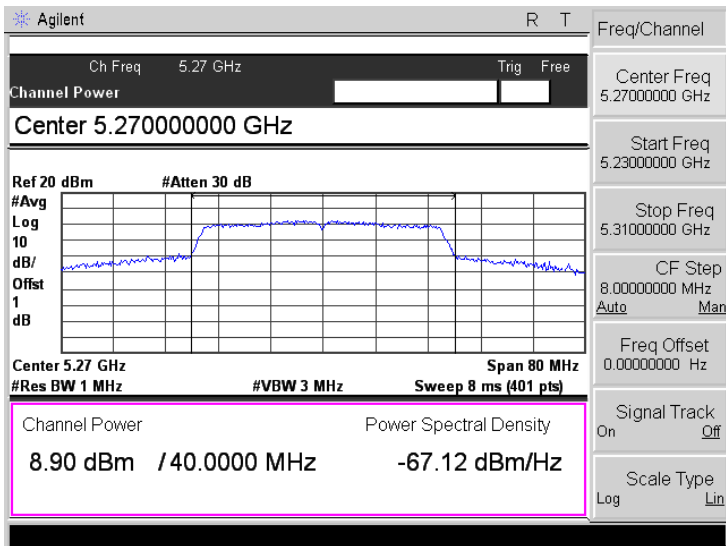
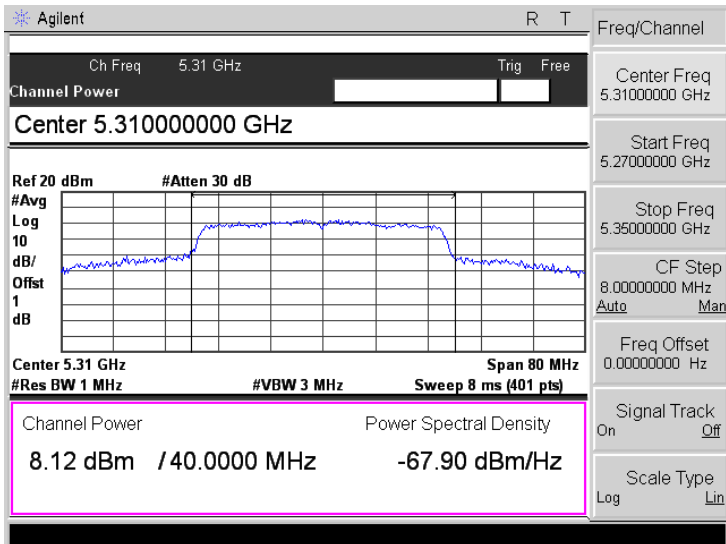
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5190 MHz	 Agilent R T Freq/Channel Ch Freq 5.19 GHz Trig Free Channel Power Center 5.190000000 GHz Ref 20 dBm #Atten 30 dB #Avg Log 10 dB/ Offst 1 dB Center 5.19 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts) Channel Power Power Spectral Density 9.55 dBm / 40.0000 MHz -66.47 dBm/Hz Freq/Channel Center Freq 5.19000000 GHz Start Freq 5.15000000 GHz Stop Freq 5.23000000 GHz CF Step 8.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5230 MHz	 Agilent R T Freq/Channel Ch Freq 5.23 GHz Trig Free Channel Power Center 5.230000000 GHz Ref 20 dBm #Atten 30 dB #Avg Log 10 dB/ Offst 1 dB Center 5.23 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts) Channel Power Power Spectral Density 8.68 dBm / 40.0000 MHz -67.35 dBm/Hz Freq/Channel Center Freq 5.23000000 GHz Start Freq 5.19000000 GHz Stop Freq 5.27000000 GHz CF Step 8.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin

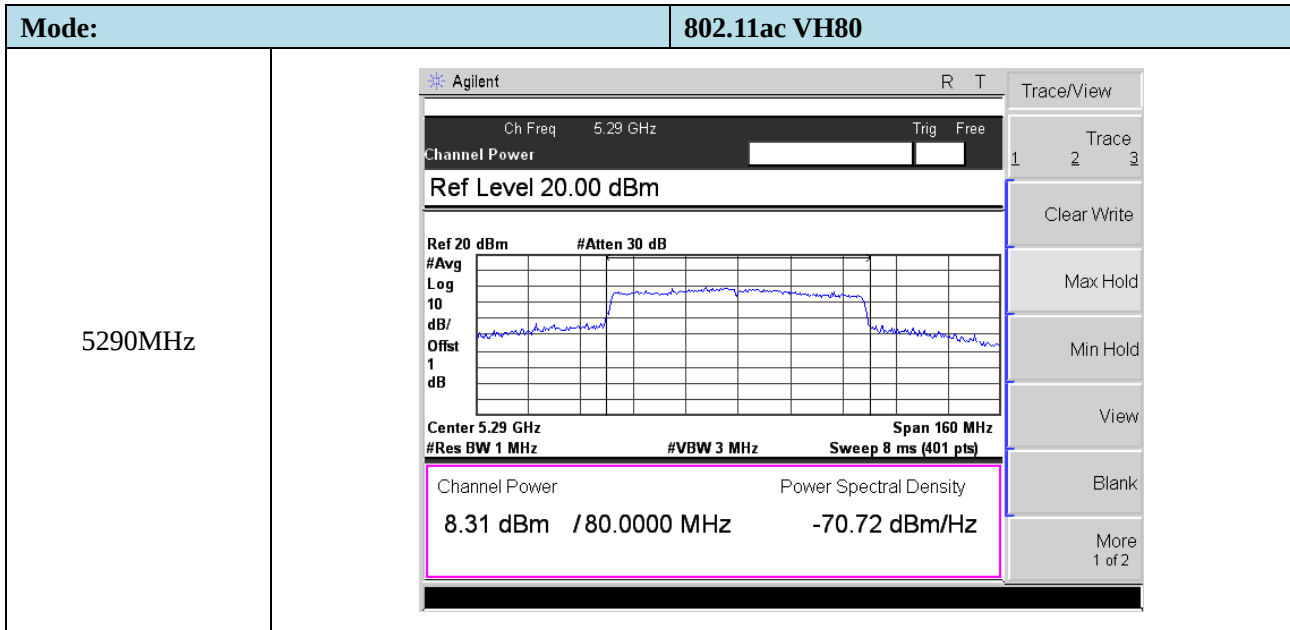


➤ 5250-5350MHz

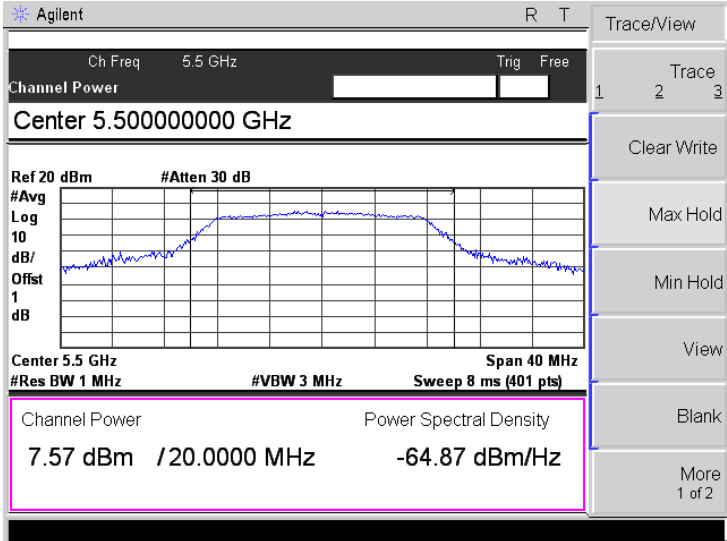
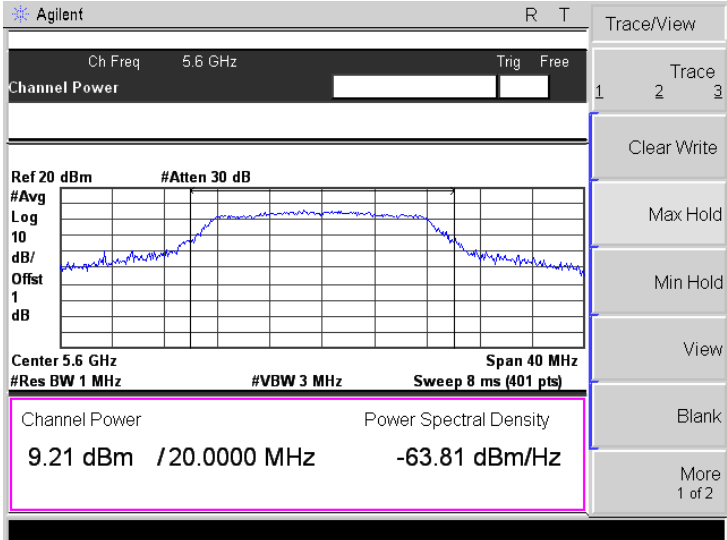
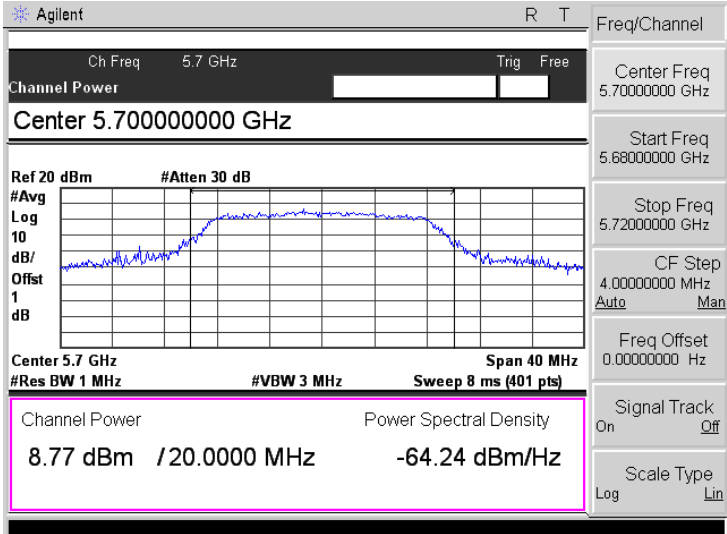
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5320MHz	

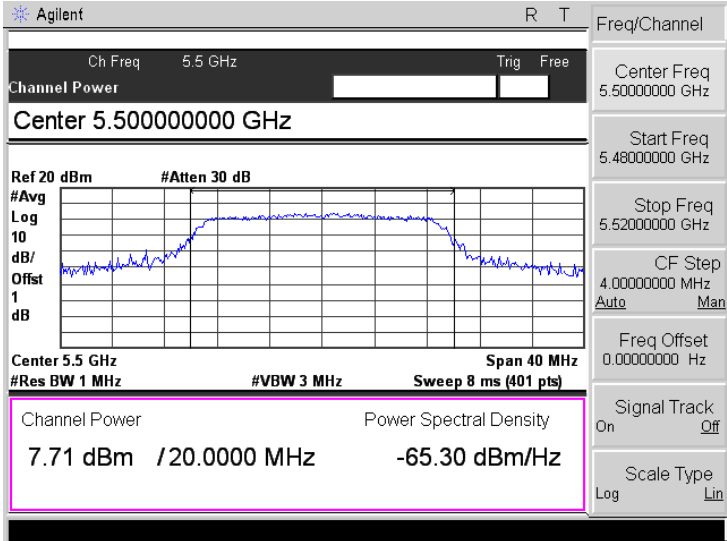
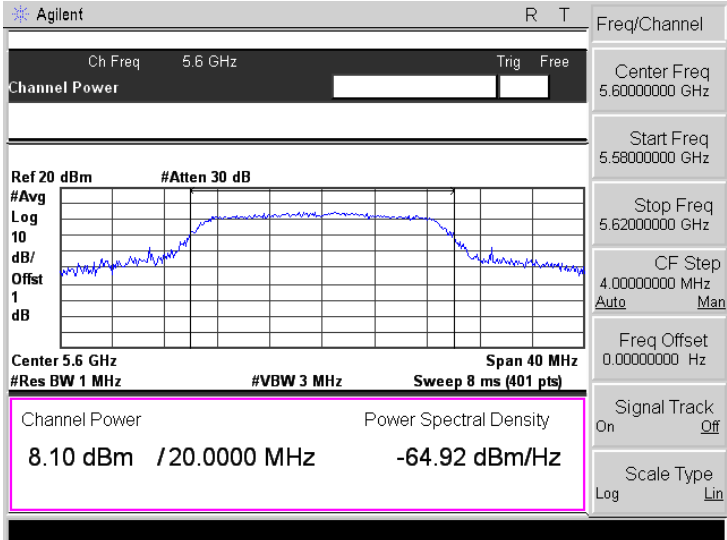
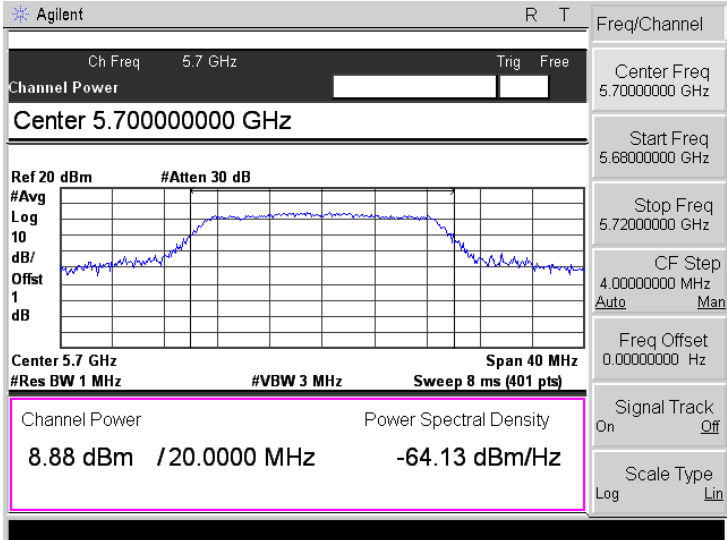
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5280MHz	
5320MHz	

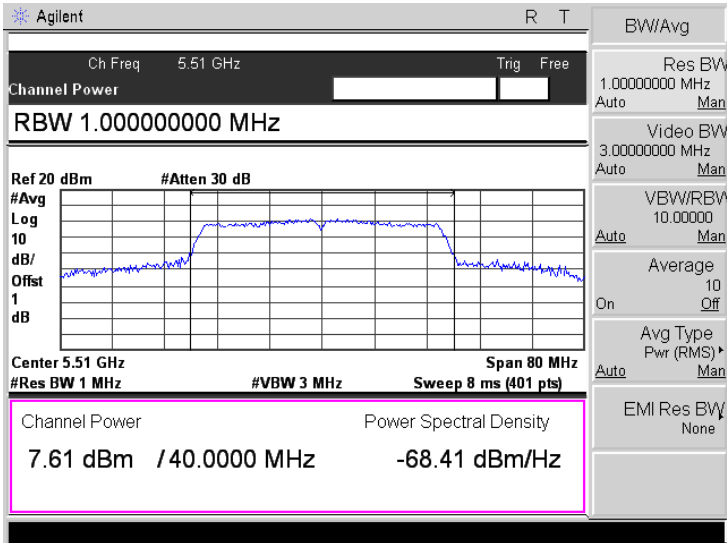
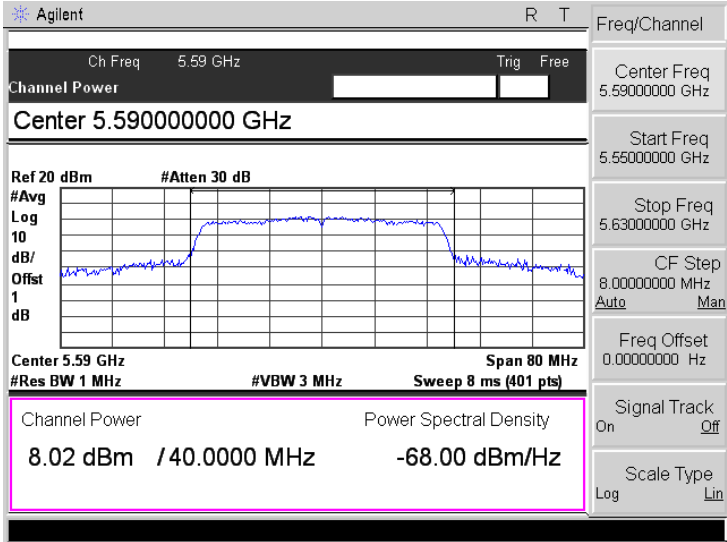
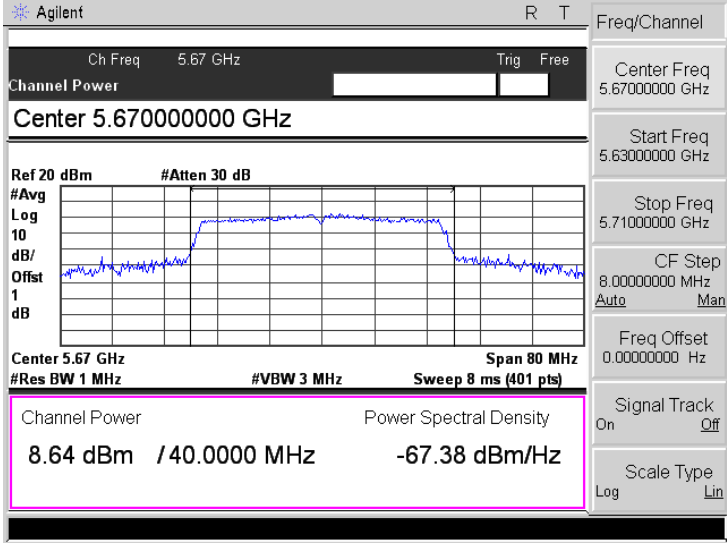
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5310MHz	

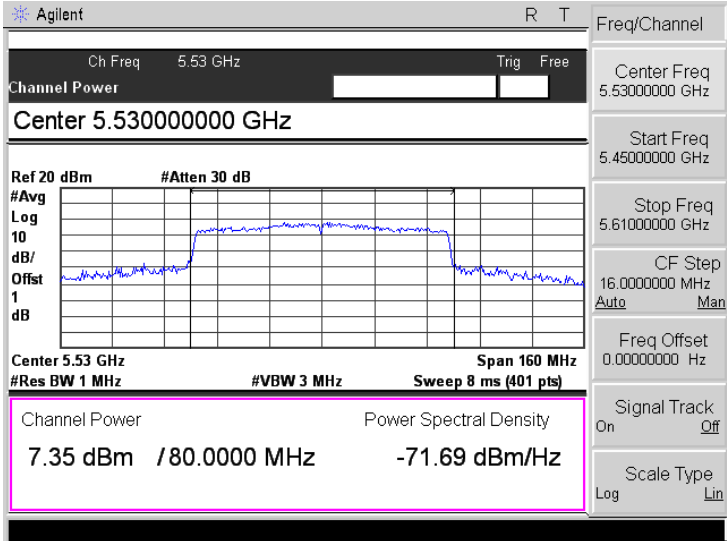
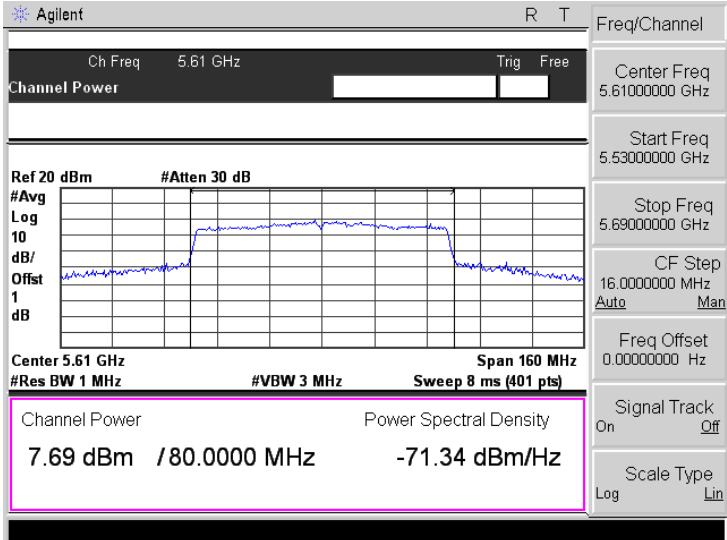


➤ 5470-5725MHz

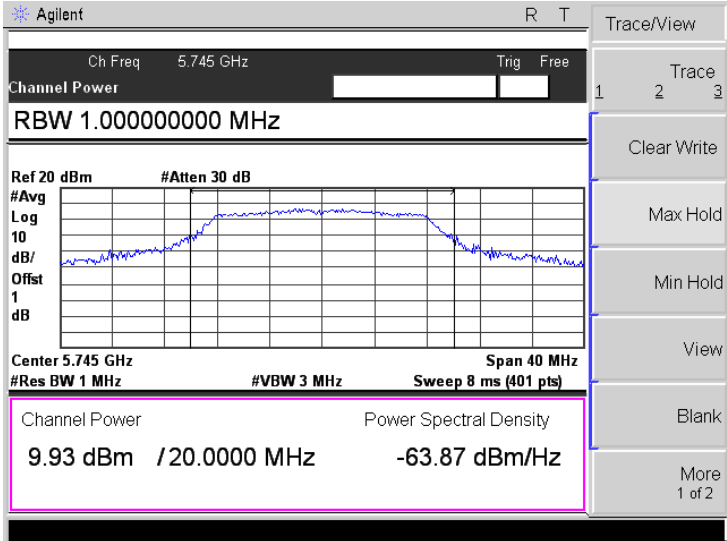
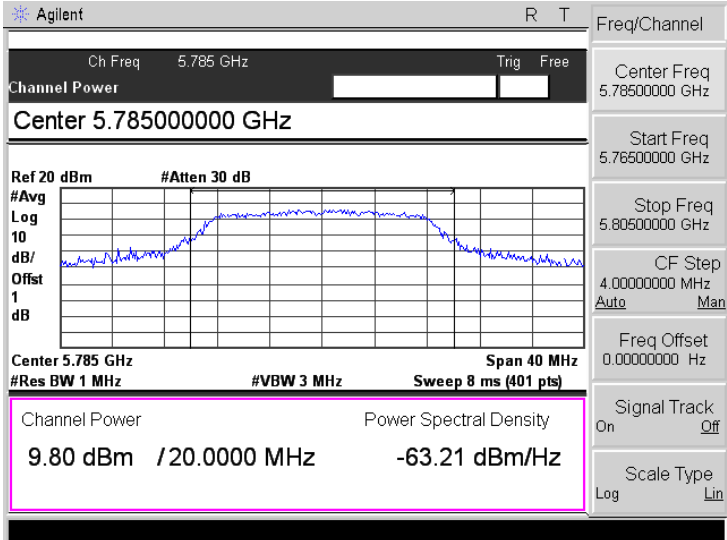
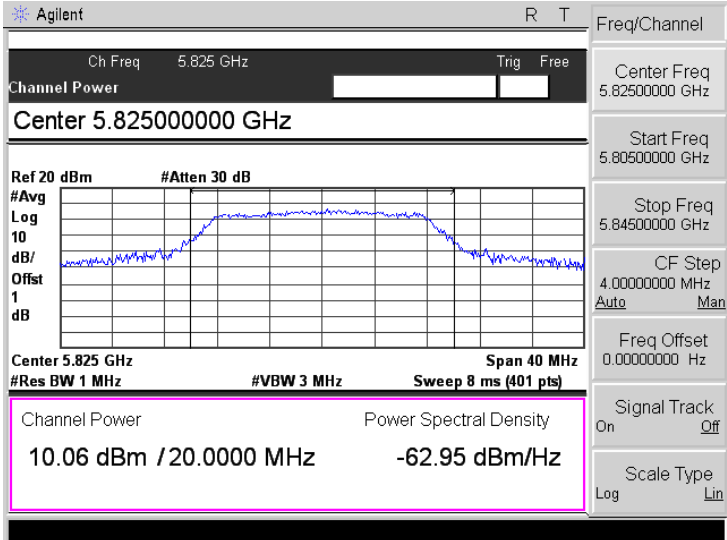
Mode:	802.11a
5500MHz	
5600MHz	
5700MHz	

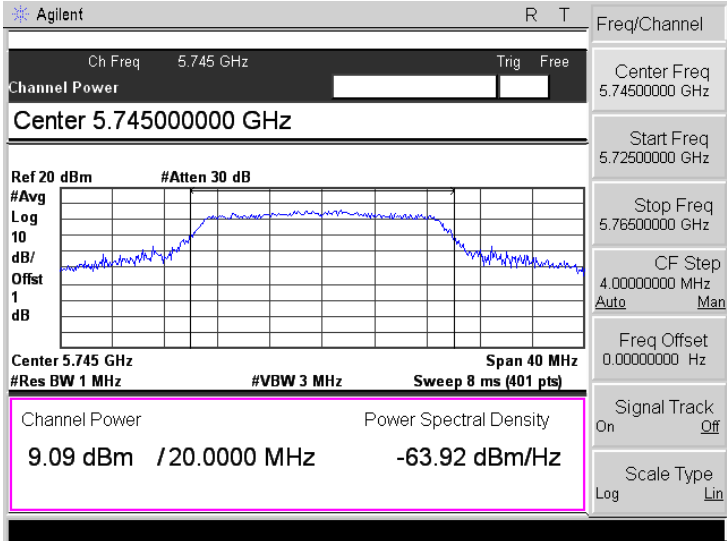
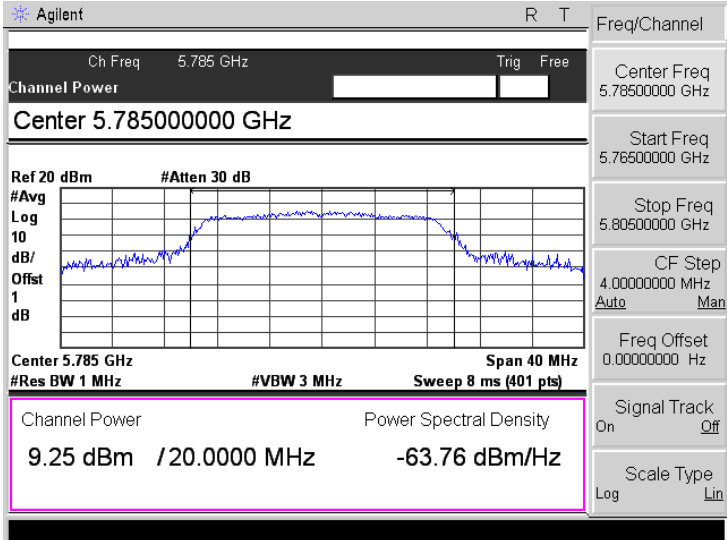
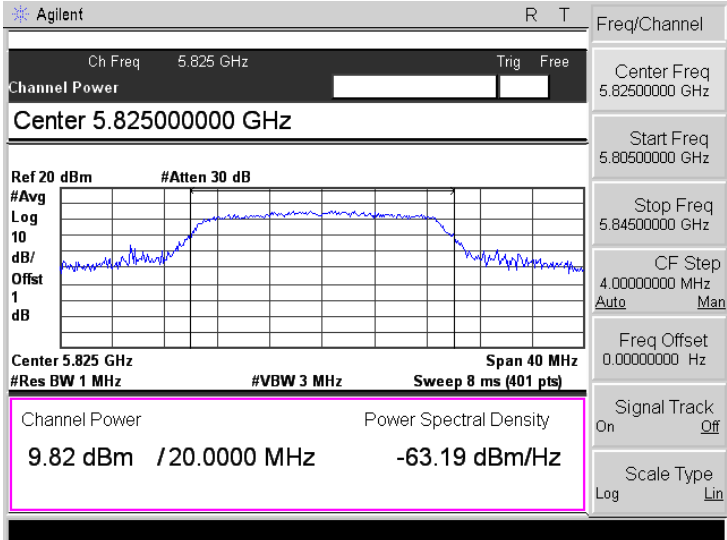
Mode:	802.11n-HT20
5500MHz	
5600MHz	
5700MHz	

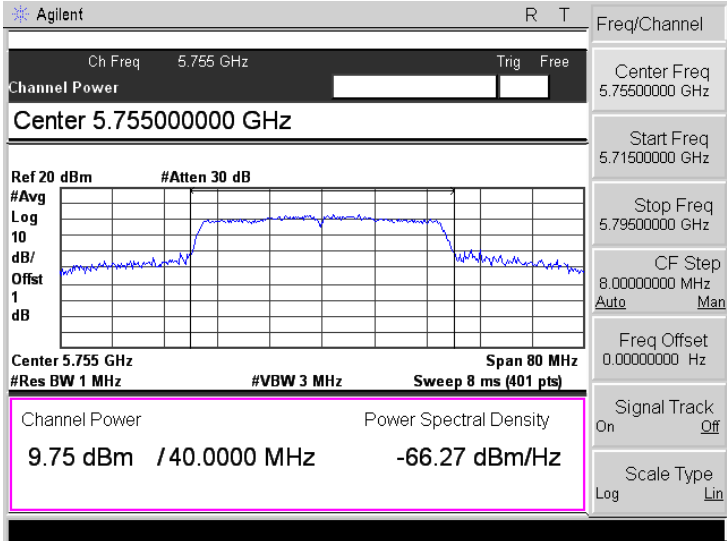
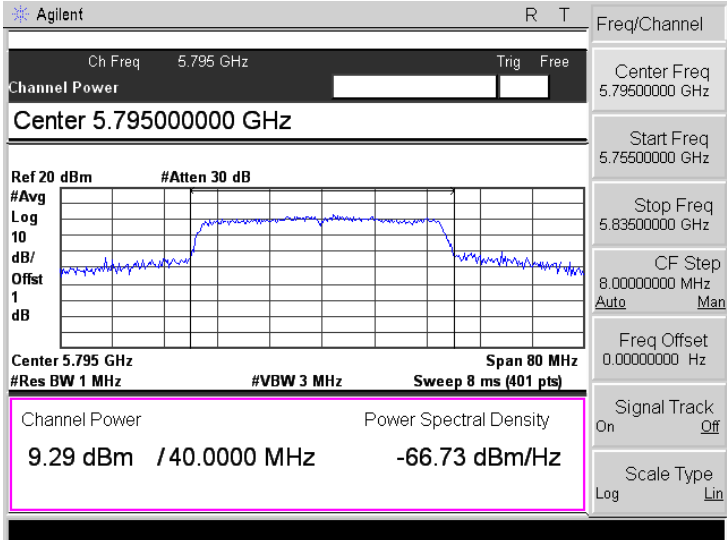
Mode:	802.11n-HT40
5510MHz	
5590MHz	
5670MHz	

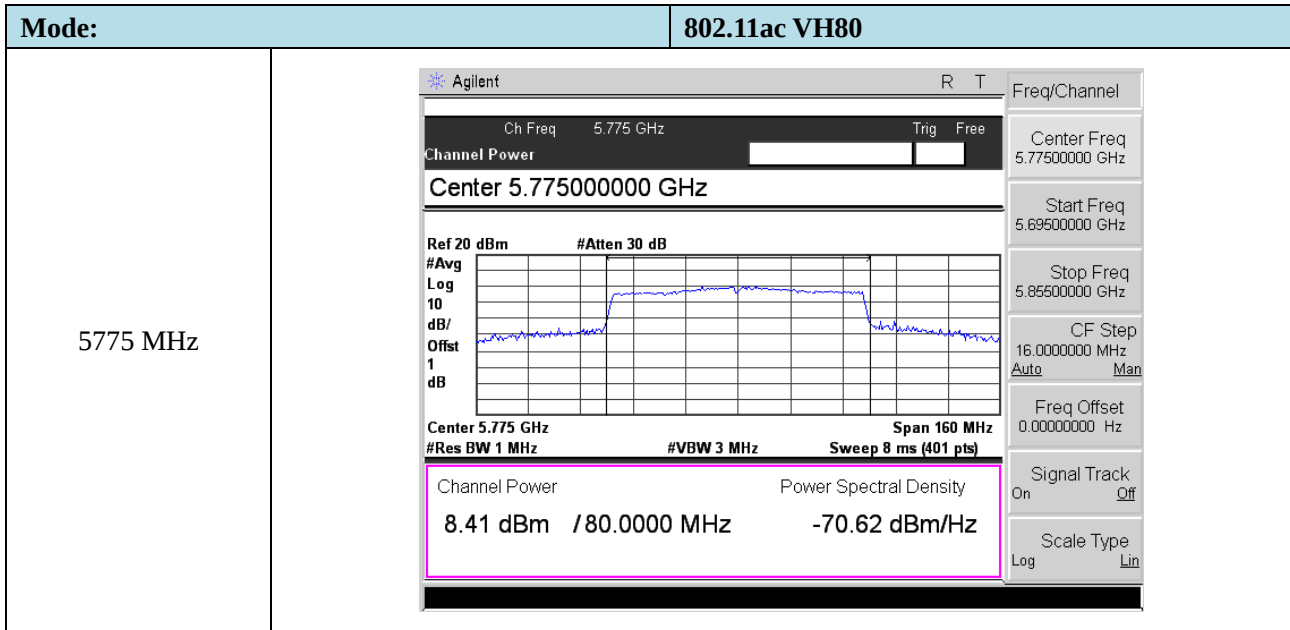
Mode:	802.11ac VH80
5530MHz	 Agilent R T Ch Freq 5.53 GHz Trig Free Channel Power Center 5.53000000 GHz Ref 20 dBm #Atten 30 dB #Avg Log 10 dB/ Offst 1 dB Center 5.53 GHz Span 160 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts) Channel Power Power Spectral Density 7.35 dBm /80.0000 MHz -71.69 dBm/Hz Freq/Channel Center Freq 5.53000000 GHz Start Freq 5.45000000 GHz Stop Freq 5.61000000 GHz CF Step 16.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
5610MHz	 Agilent R T Ch Freq 5.61 GHz Trig Free Channel Power Center 5.61000000 GHz Ref 20 dBm #Atten 30 dB #Avg Log 10 dB/ Offst 1 dB Center 5.61 GHz Span 160 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 8 ms (401 pts) Channel Power Power Spectral Density 7.69 dBm /80.0000 MHz -71.34 dBm/Hz Freq/Channel Center Freq 5.61000000 GHz Start Freq 5.53000000 GHz Stop Freq 5.69000000 GHz CF Step 16.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin

➤ 5725-5850MHz

Mode:	802.11a
5745MHz	
5785MHz	
5825MHz	

Mode:	802.11n-HT20
5745MHz	
5785MHz	
5825MHz	

Mode:	802.11n-HT40
5755 MHz	
5795 MHz	



9. Radiated Spurious Emissions

9.1 Standard Applicable

According to §15.407(b)(6), Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209.

According to §15.407(b)(7), The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

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If radiated measurements are performed, field strength is then converted to EIRP as follows:

$$\text{EIRP} = ((E \cdot d)^2) / 30$$

where:

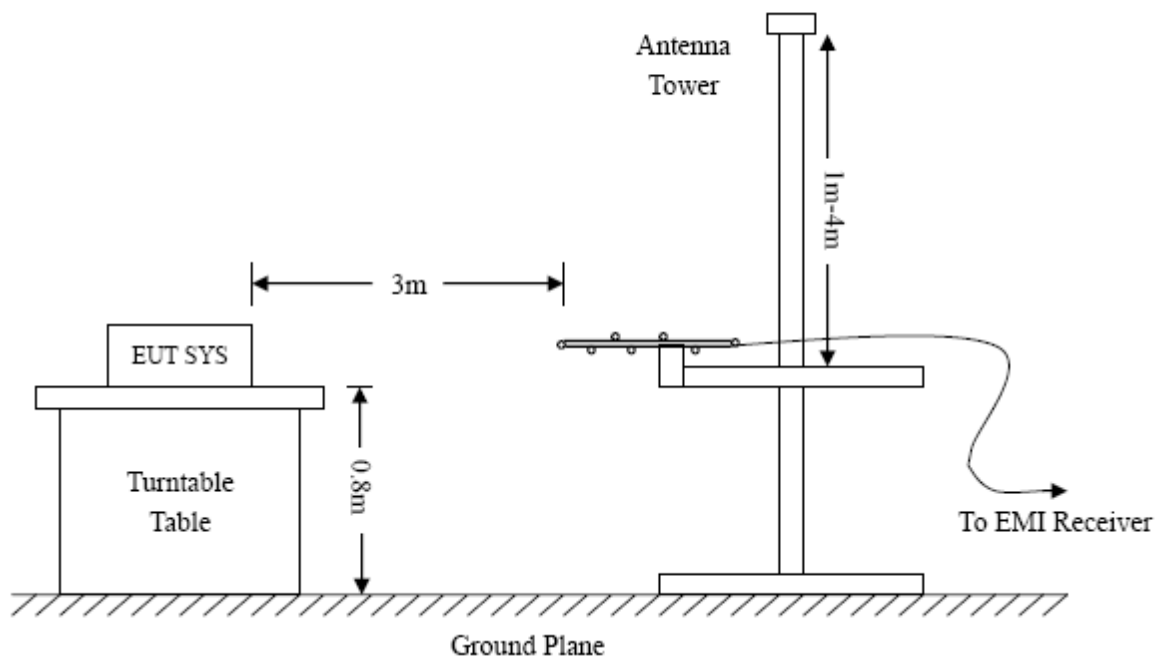
- E is the field strength in V/m;
- d is the measurement distance in meters;
- EIRP is the equivalent isotropically radiated power in watts.

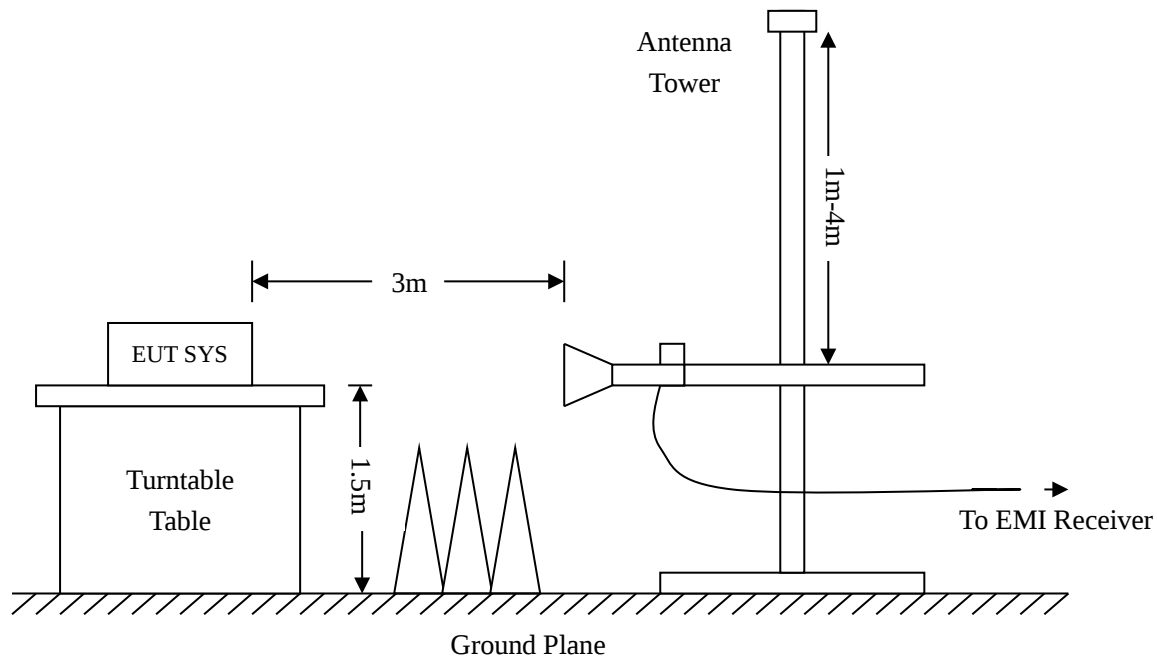
9.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.407(b)(6) and FCC Part 15.209 Limit..

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.





9.3 Test Receiver Setup

During the radiated emission test for above 1GHz, the test receiver was set with the following configurations:

For peak detector:

RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:

RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

9.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

9.5 Summary of Test Results/Plots

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

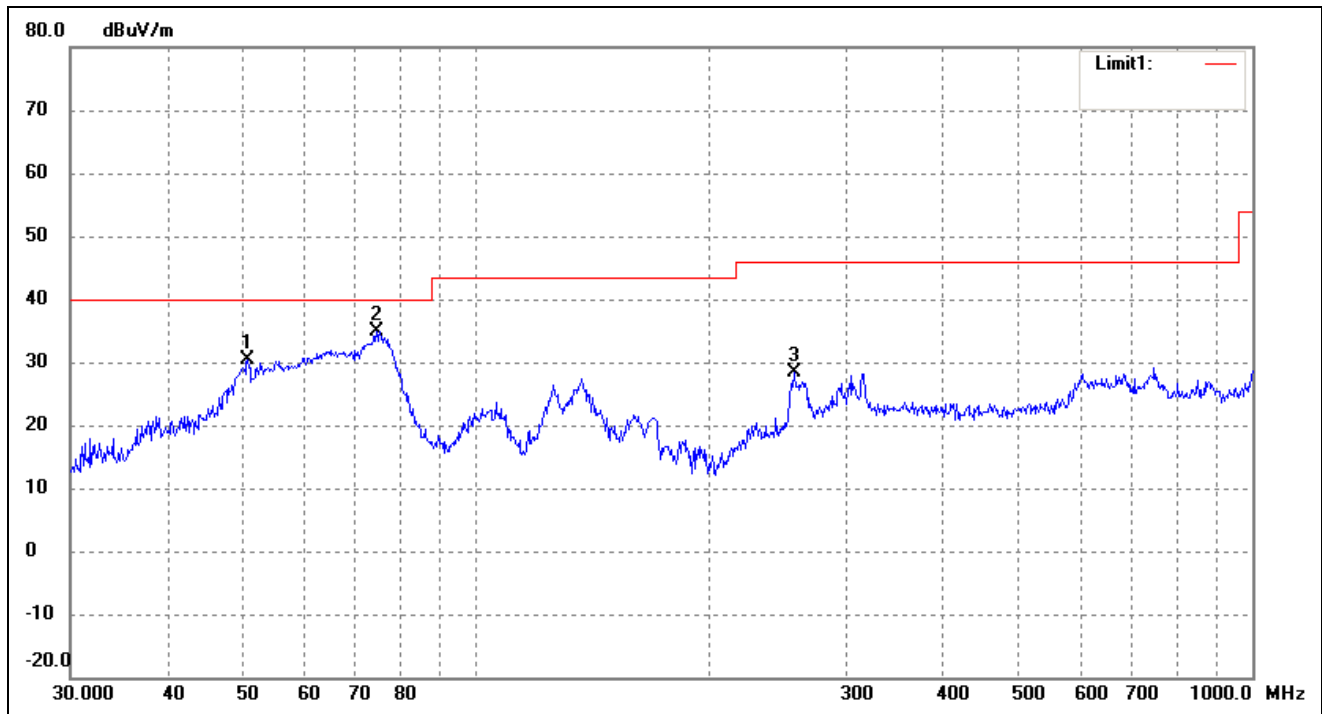
- Spurious Emission From 30 MHz to 1 GHz
- 5150-5250MHz

802.11a			
Test Channel	5180MHz	Polarity:	Horizontal



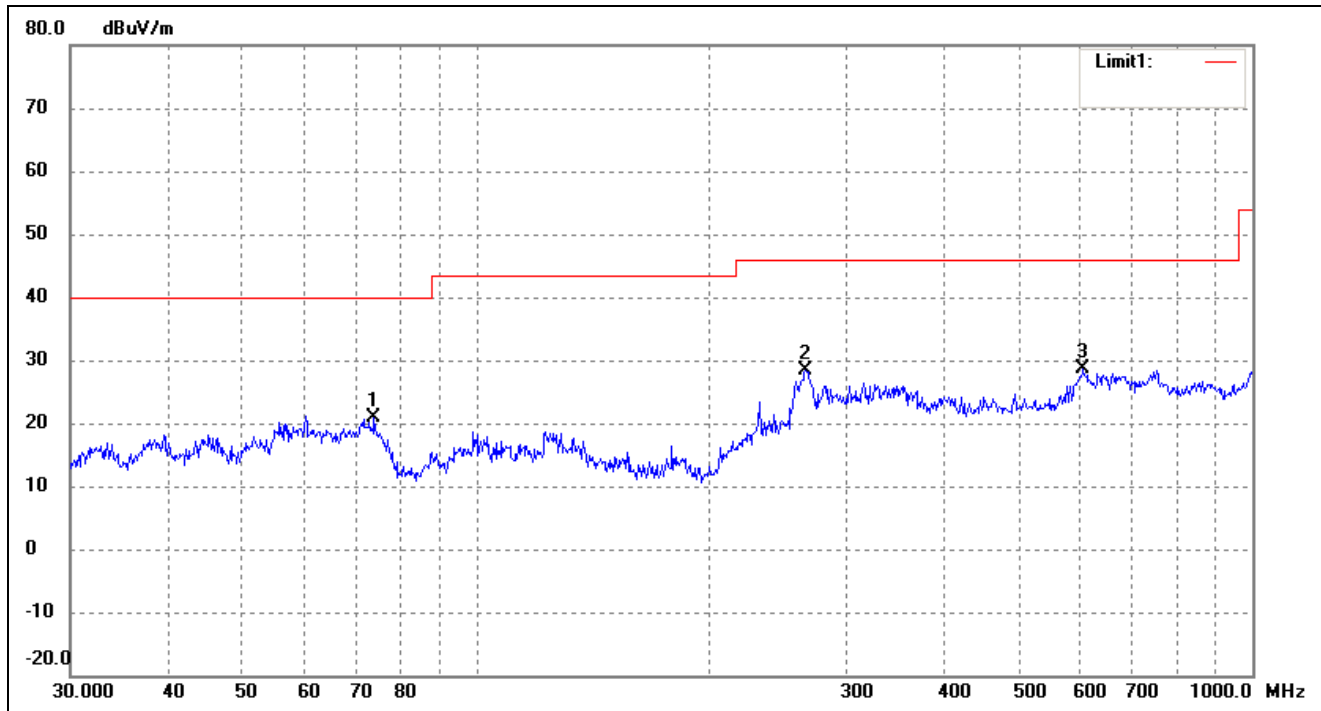
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	74.3955	40.53	-18.07	22.46	40.00	-17.54	292	100	peak
2	265.6757	40.46	-6.81	33.65	46.00	-12.35	97	100	peak
3	296.1836	34.51	-4.50	30.01	46.00	-15.99	53	100	peak
4	599.3212	27.18	1.79	28.97	46.00	-17.03	99	100	peak

802.11a			
Test Channel	5180MHz	Polarity:	Vertical



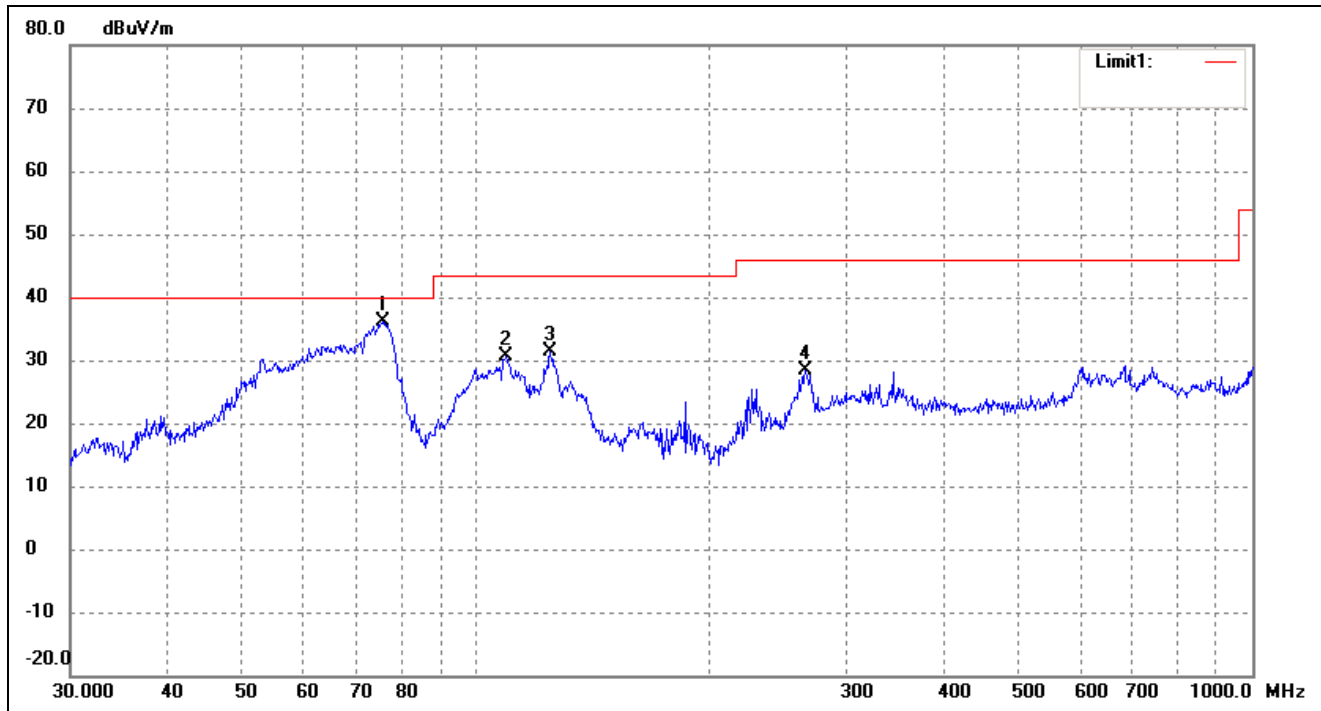
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.7637	46.00	-15.71	30.29	40.00	-9.71	98	100	peak
2	74.3955	52.99	-18.07	34.92	40.00	-5.08	314	100	peak
3	256.5211	35.78	-7.47	28.31	46.00	-17.69	80	100	peak

802.11a			
Test Channel	5200MHz	Polarity:	Horizontal



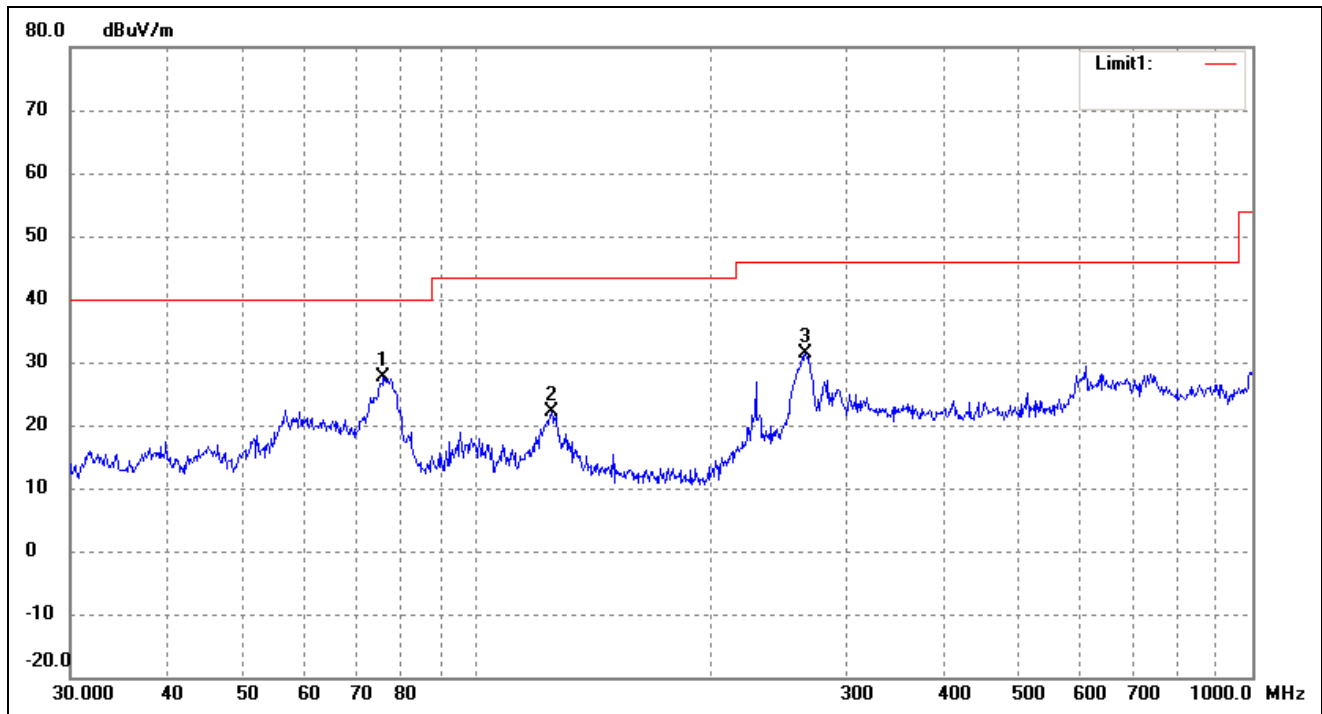
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	73.8756	39.00	-18.01	20.99	40.00	-19.01	183	100	peak
2	265.6757	35.09	-6.81	28.28	46.00	-17.72	134	100	peak
3	605.6592	27.11	1.51	28.62	46.00	-17.38	52	100	peak

802.11a			
Test Channel	5200MHz	Polarity:	Vertical



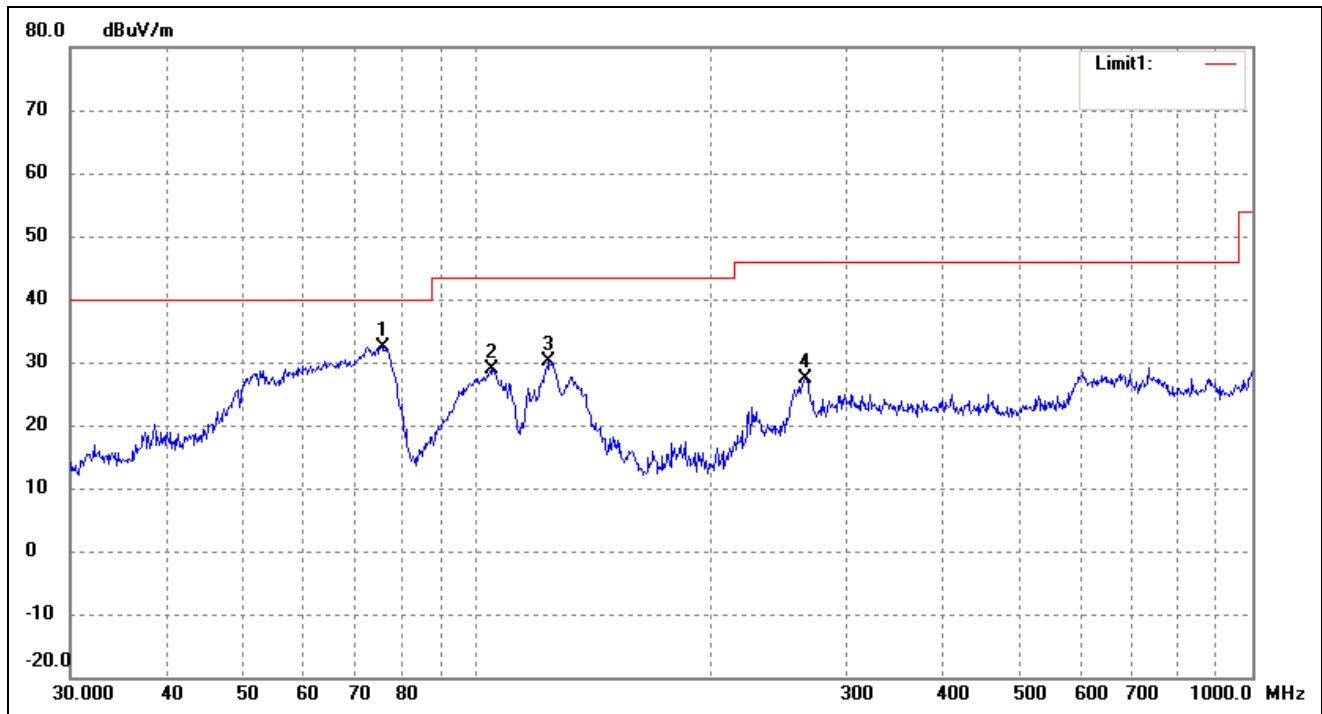
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	54.35	-18.24	36.11	40.00	-3.89	52	100	peak
2	109.4116	45.60	-14.92	30.68	43.50	-12.82	118	100	peak
3	124.5690	46.40	-15.06	31.34	43.50	-12.16	64	100	peak
4	265.6757	35.23	-6.81	28.42	46.00	-17.58	137	100	peak

802.11a			
Test Channel	5240MHz	Polarity:	Horizontal



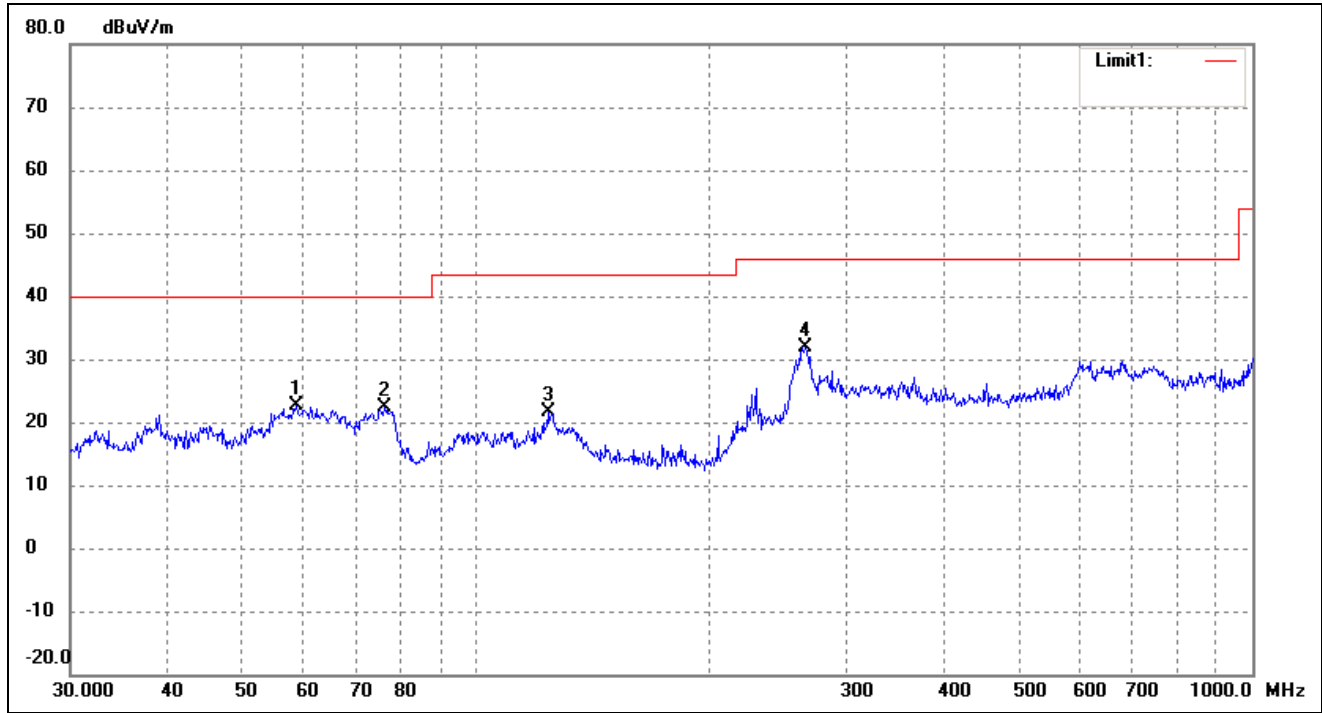
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	45.76	-18.24	27.52	40.00	-12.48	120	100	peak
2	125.0066	37.14	-15.08	22.06	43.50	-21.44	125	100	peak
3	265.6757	38.24	-6.81	31.43	46.00	-14.57	63	100	peak

802.11a			
Test Channel	5240MHz	Polarity:	Vertical



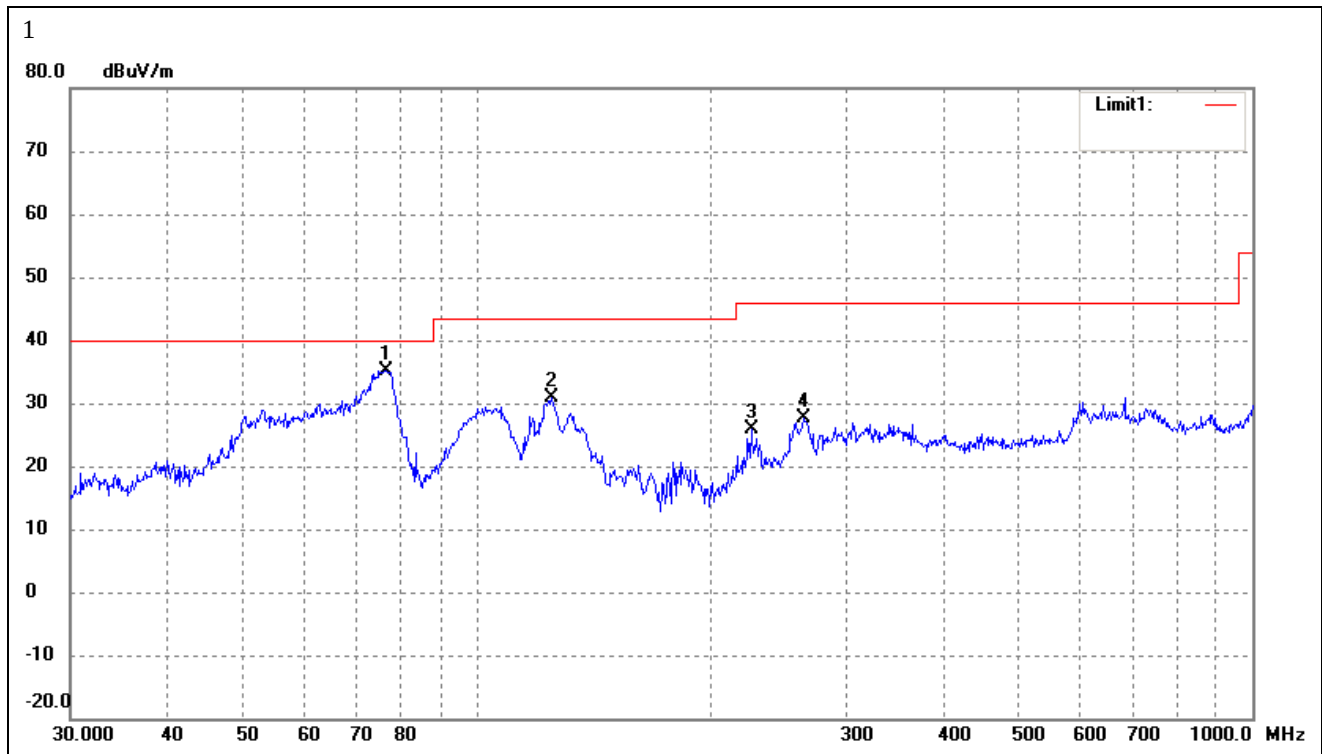
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.7114	50.62	-18.21	32.41	40.00	-7.59	324	100	peak
2	104.5361	43.91	-15.01	28.90	43.50	-14.60	92	100	peak
3	124.1330	45.05	-15.03	30.02	43.50	-13.48	190	100	peak
4	265.6757	34.10	-6.81	27.29	46.00	-18.71	112	100	peak

802.11n-HT20			
Test Channel	5180MHz	Polarity:	Horizontal



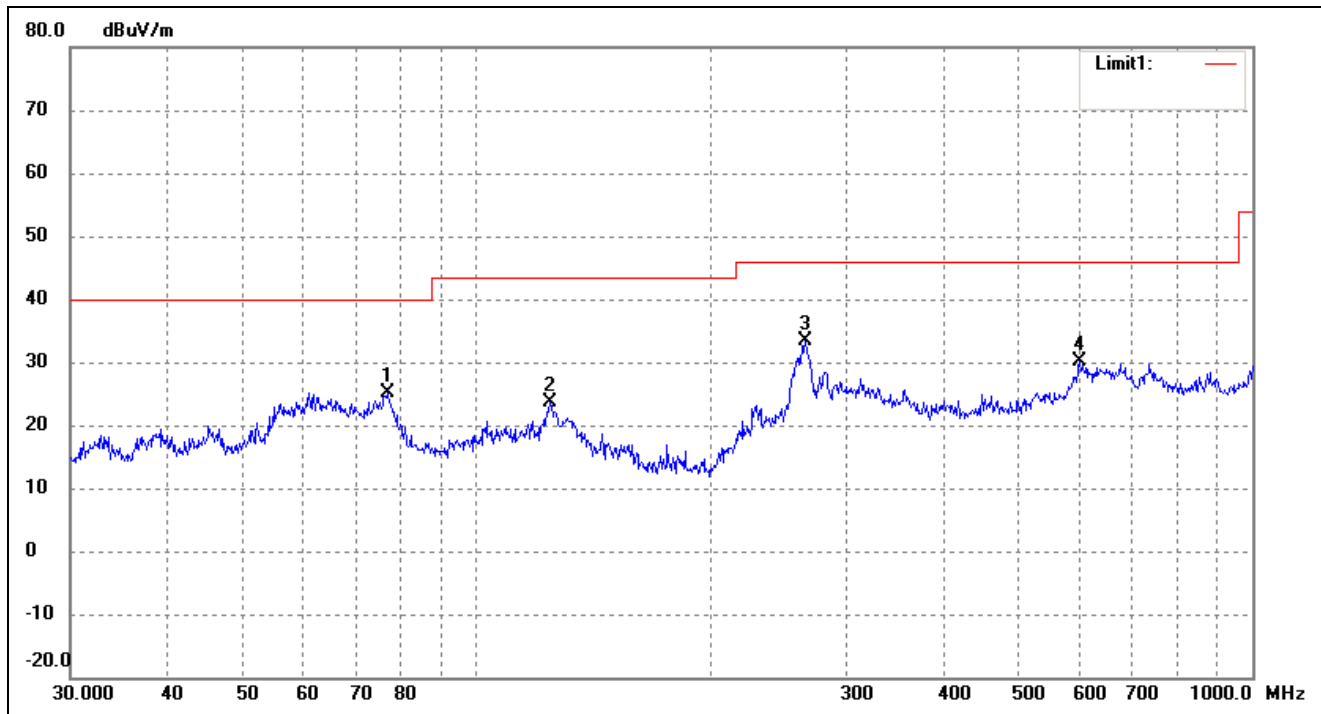
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	58.6126	38.12	-15.52	22.60	40.00	-17.40	356	100	peak
2	76.2442	40.58	-18.27	22.31	40.00	-17.69	97	100	peak
3	123.6985	36.63	-15.00	21.63	43.50	-21.87	250	100	peak
4	265.6757	38.77	-6.81	31.96	46.00	-14.04	118	100	peak

802.11n-HT20			
Test Channel	5180MHz	Polarity:	Vertical



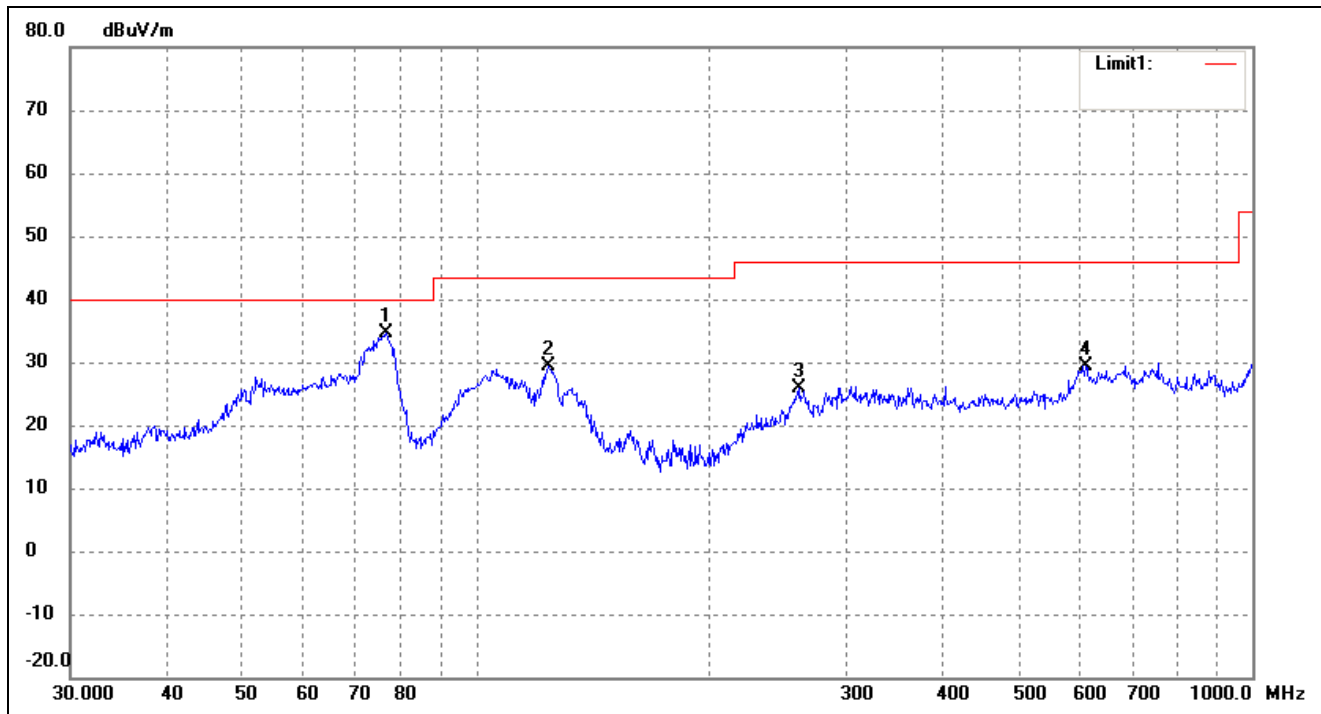
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.5121	53.51	-18.30	35.21	40.00	-4.79	308	100	peak
2	125.0066	45.98	-15.08	30.90	43.50	-12.60	196	100	peak
3	226.0994	35.32	-9.42	25.90	46.00	-20.10	98	100	peak
4	263.8190	34.52	-6.97	27.55	46.00	-18.45	341	100	peak

802.11n-HT20			
Test Channel	5200MHz	Polarity:	Horizontal



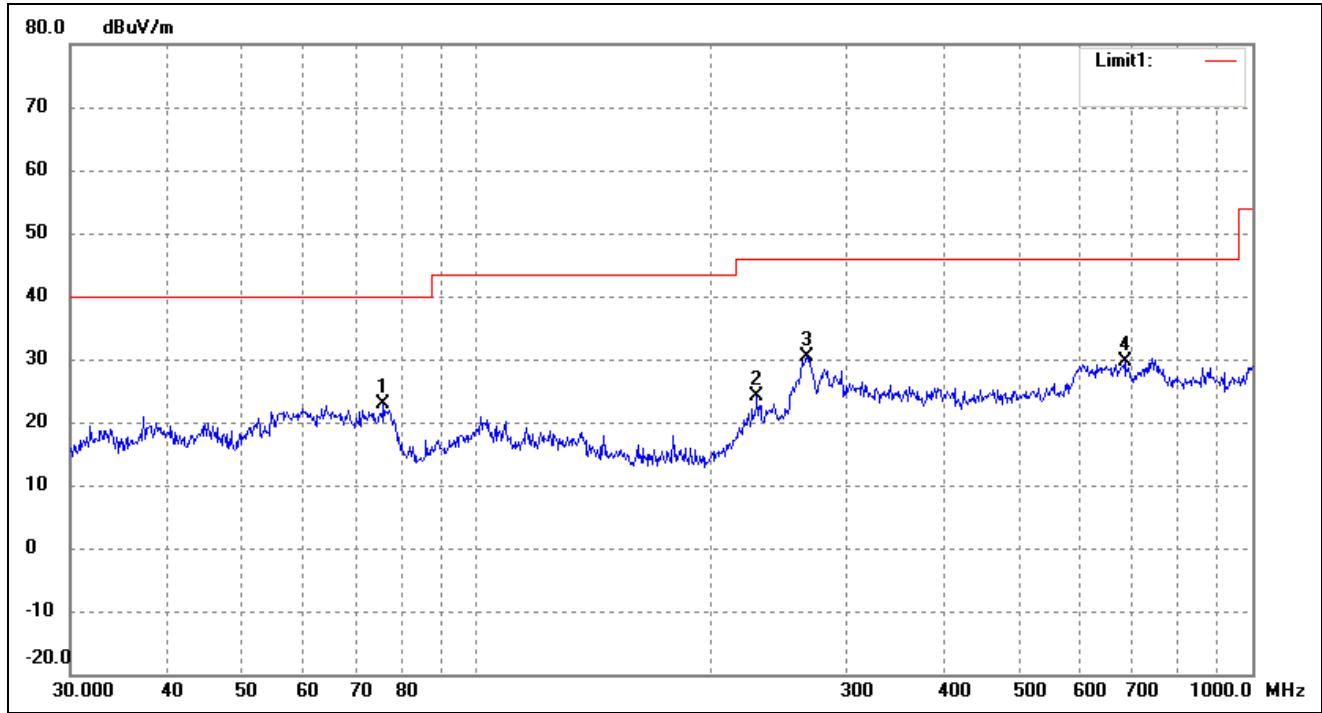
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.7808	43.40	-18.33	25.07	40.00	-14.93	282	100	peak
2	124.5690	38.58	-15.06	23.52	43.50	-19.98	160	100	peak
3	265.6757	40.15	-6.81	33.34	46.00	-12.66	84	100	peak
4	599.3213	28.29	1.79	30.08	46.00	-15.92	194	100	peak

802.11n-HT20			
Test Channel	5200MHz	Polarity:	Vertical



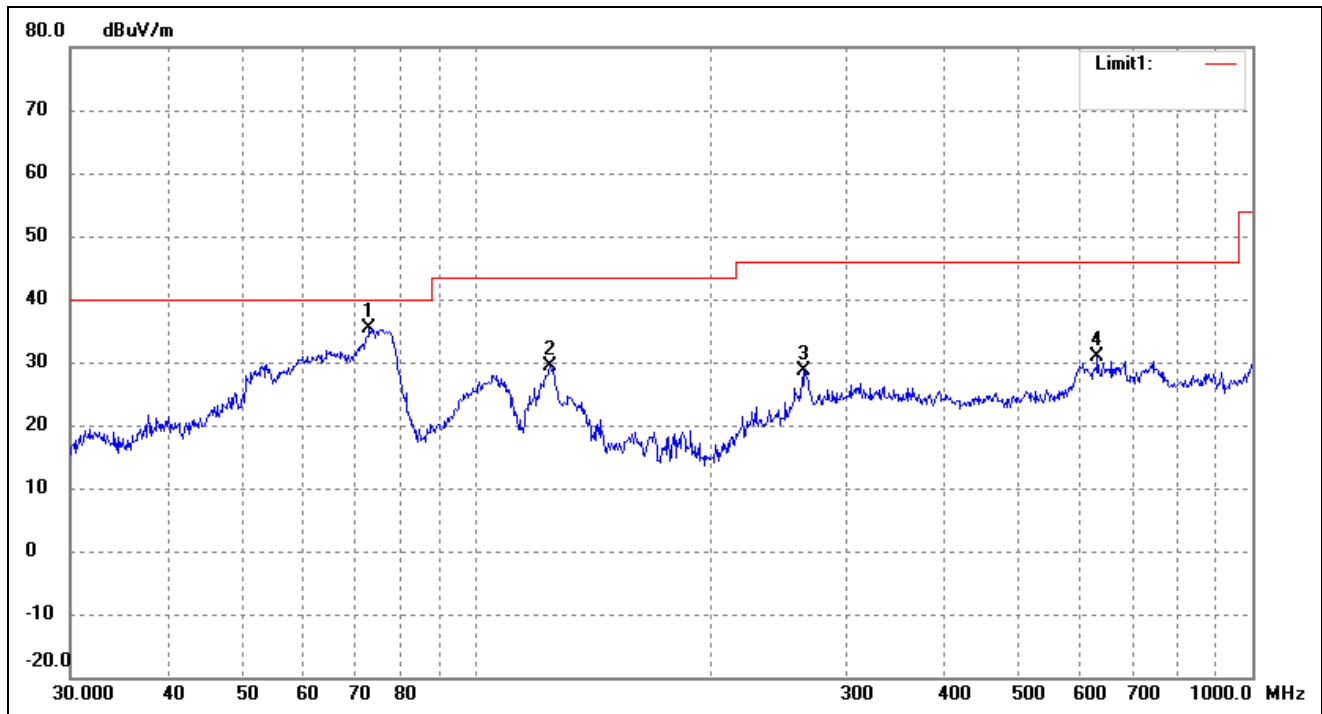
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.5121	53.01	-18.30	34.71	40.00	-5.29	343	100	peak
2	123.6985	44.43	-15.00	29.43	43.50	-14.07	102	100	peak
3	261.0583	33.17	-7.20	25.97	46.00	-20.03	124	100	peak
4	609.9217	28.07	1.21	29.28	46.00	-16.72	131	100	peak

802.11n-HT20			
Test Channel	5240MHz	Polarity:	Horizontal



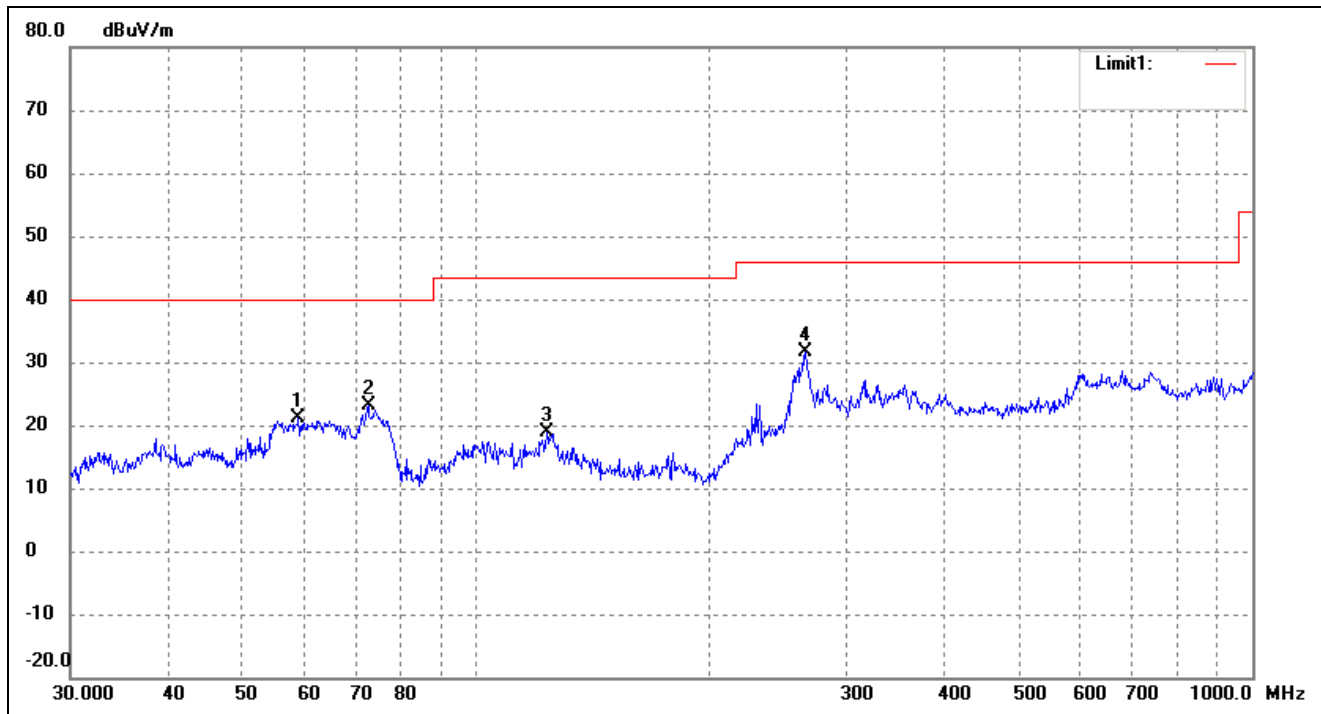
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	41.13	-18.24	22.89	40.00	-17.11	96	100	peak
2	230.0985	33.36	-9.11	24.25	46.00	-21.75	120	100	peak
3	266.6089	37.03	-6.73	30.30	46.00	-15.70	98	100	peak
4	684.7454	27.86	1.76	29.62	46.00	-16.38	91	100	peak

802.11n-HT20			
Test Channel	5240MHz	Polarity:	Vertical



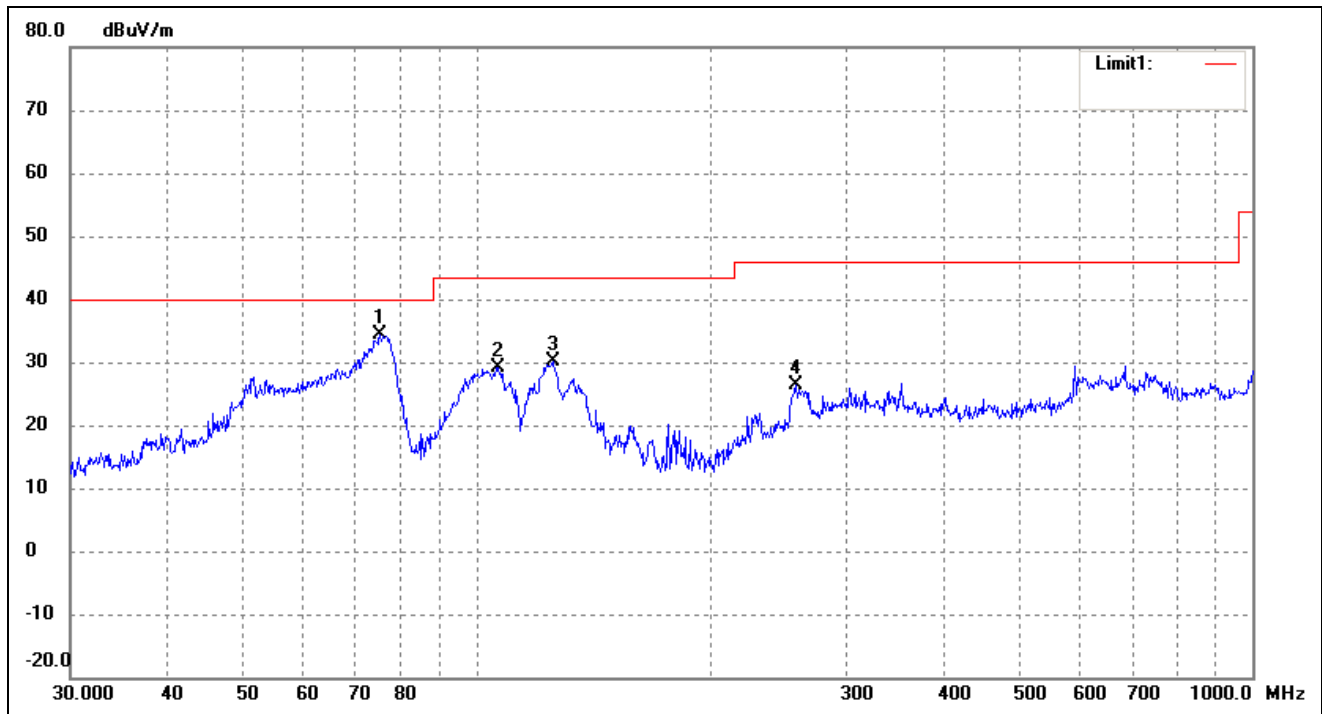
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	72.8465	53.25	-17.88	35.37	40.00	-4.63	43	100	peak
2	124.5690	44.45	-15.06	29.39	43.50	-14.11	193	100	peak
3	264.7456	35.64	-6.89	28.75	46.00	-17.25	143	100	peak
4	631.6884	29.92	0.89	30.81	46.00	-15.19	107	100	peak

802.11n-HT40			
Test Channel	5190MHz	Polarity:	Horizontal



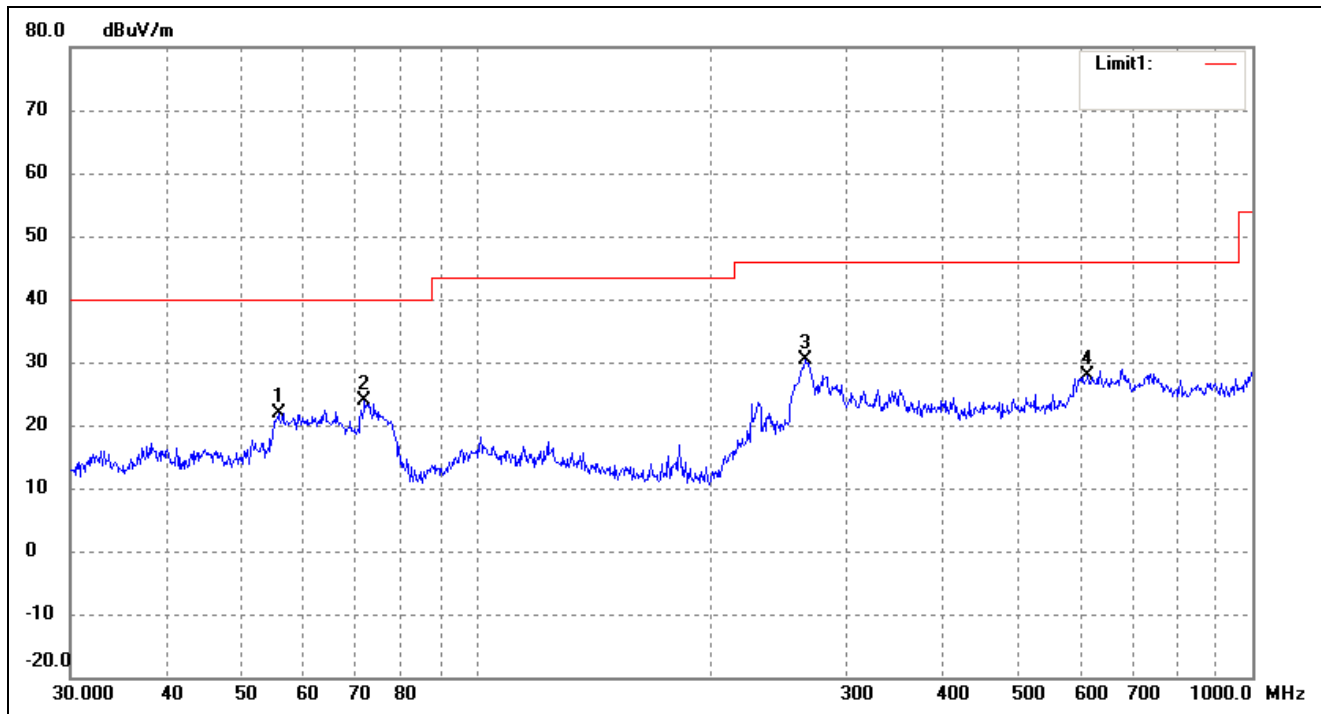
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	59.0251	36.63	-15.52	21.11	40.00	-18.89	175	100	peak
2	72.5917	40.97	-17.85	23.12	40.00	-16.88	148	100	peak
3	123.2655	33.90	-14.97	18.93	43.50	-24.57	90	100	peak
4	265.6757	38.39	-6.81	31.58	46.00	-14.42	175	100	peak

802.11n-HT40			
Test Channel	5190MHz	Polarity:	Vertical



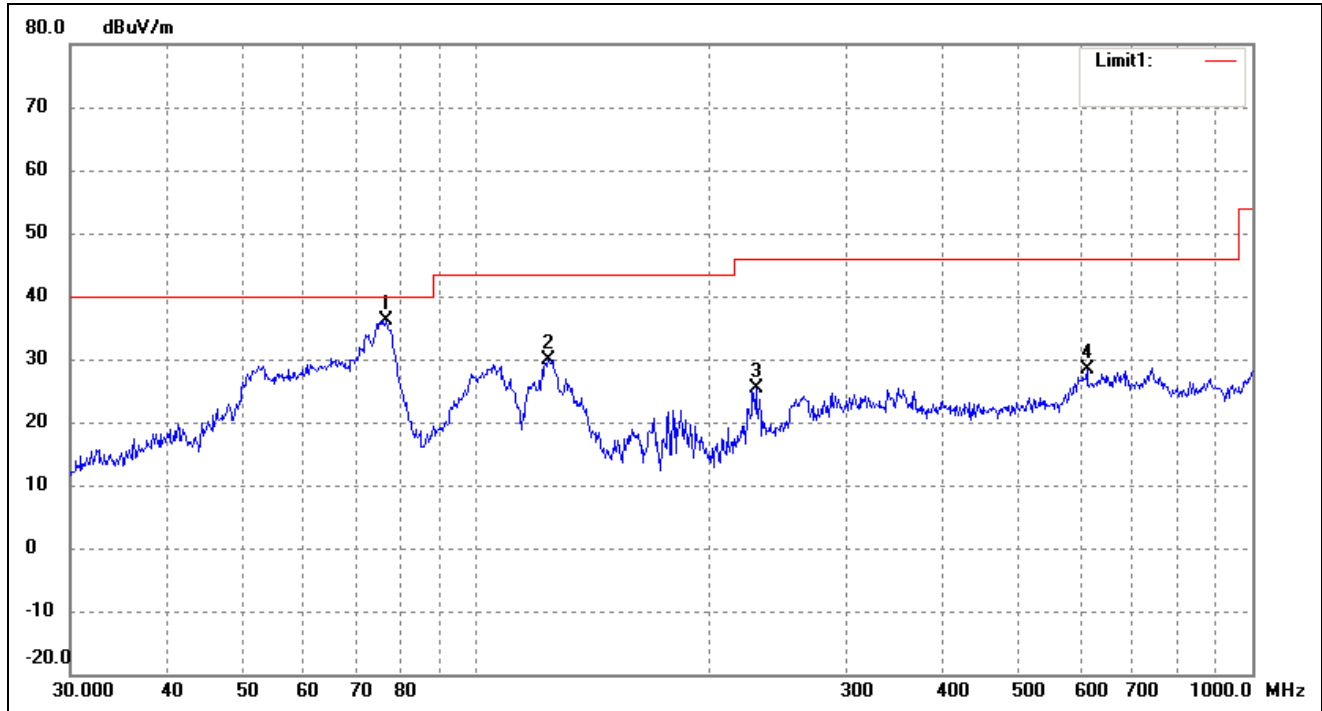
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.1823	52.62	-18.15	34.47	40.00	-5.53	242	100	peak
2	106.7587	44.18	-14.97	29.21	43.50	-14.29	319	100	peak
3	125.4457	45.23	-15.10	30.13	43.50	-13.37	52	100	peak
4	258.3264	33.86	-7.38	26.48	46.00	-19.52	294	100	peak

802.11n-HT40			
Test Channel	5230MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.6094	37.45	-15.59	21.86	40.00	-18.14	200	100	peak
2	71.8320	41.54	-17.77	23.77	40.00	-16.23	132	100	peak
3	265.6757	37.08	-6.81	30.27	46.00	-15.73	70	100	peak
4	614.2142	27.06	0.91	27.97	46.00	-18.03	156	100	peak

802.11n-HT40			
Test Channel	5230MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.5121	54.39	-18.30	36.09	40.00	-3.91	262	100	peak
2	123.6985	44.89	-15.00	29.89	43.50	-13.61	99	100	peak
3	229.2931	34.48	-9.17	25.31	46.00	-20.69	351	100	peak
4	612.0642	27.29	1.06	28.35	46.00	-17.65	113	100	peak

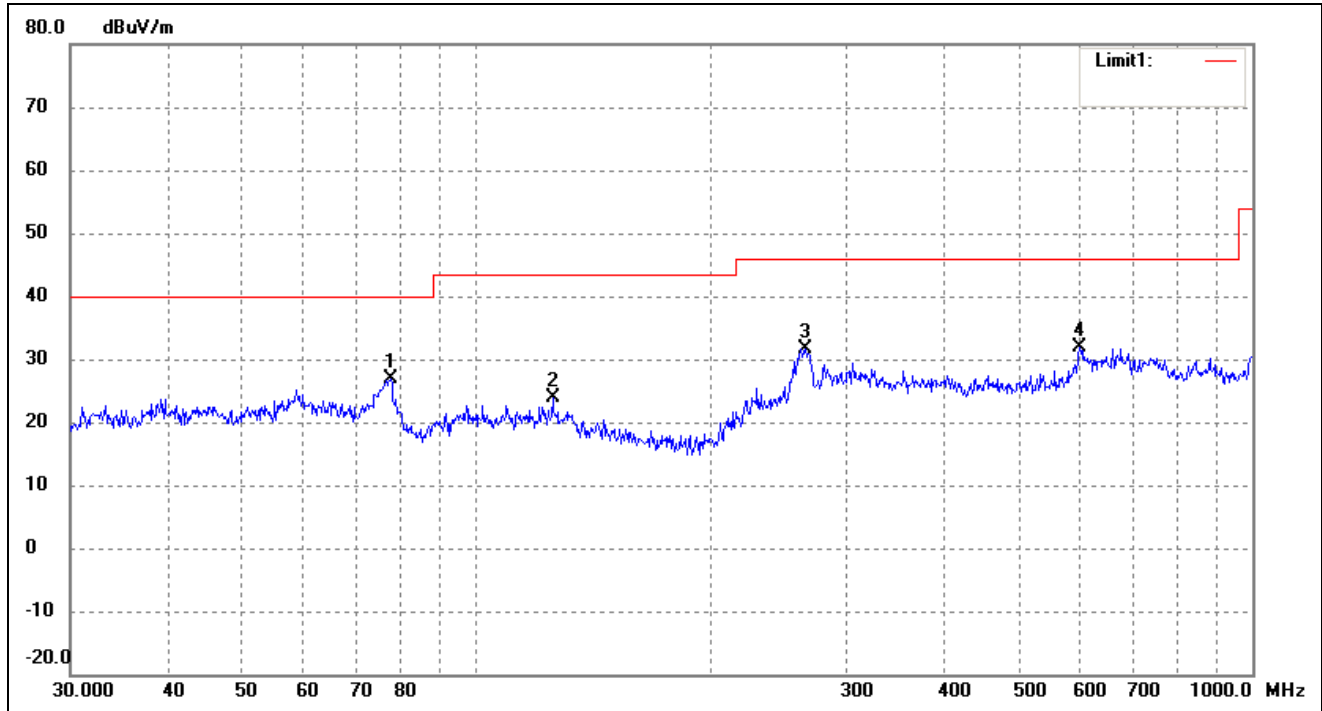
802.11ac-HT80

Test Channel

5210MHz

Polarity:

Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	77.5928	45.27	-18.43	26.84	40.00	-13.16	208	100	peak
2	125.4457	38.88	-15.10	23.78	43.50	-19.72	99	100	peak
3	265.6757	38.50	-6.81	31.69	46.00	-14.31	67	100	peak
4	599.3213	30.03	1.79	31.82	46.00	-14.18	116	100	peak

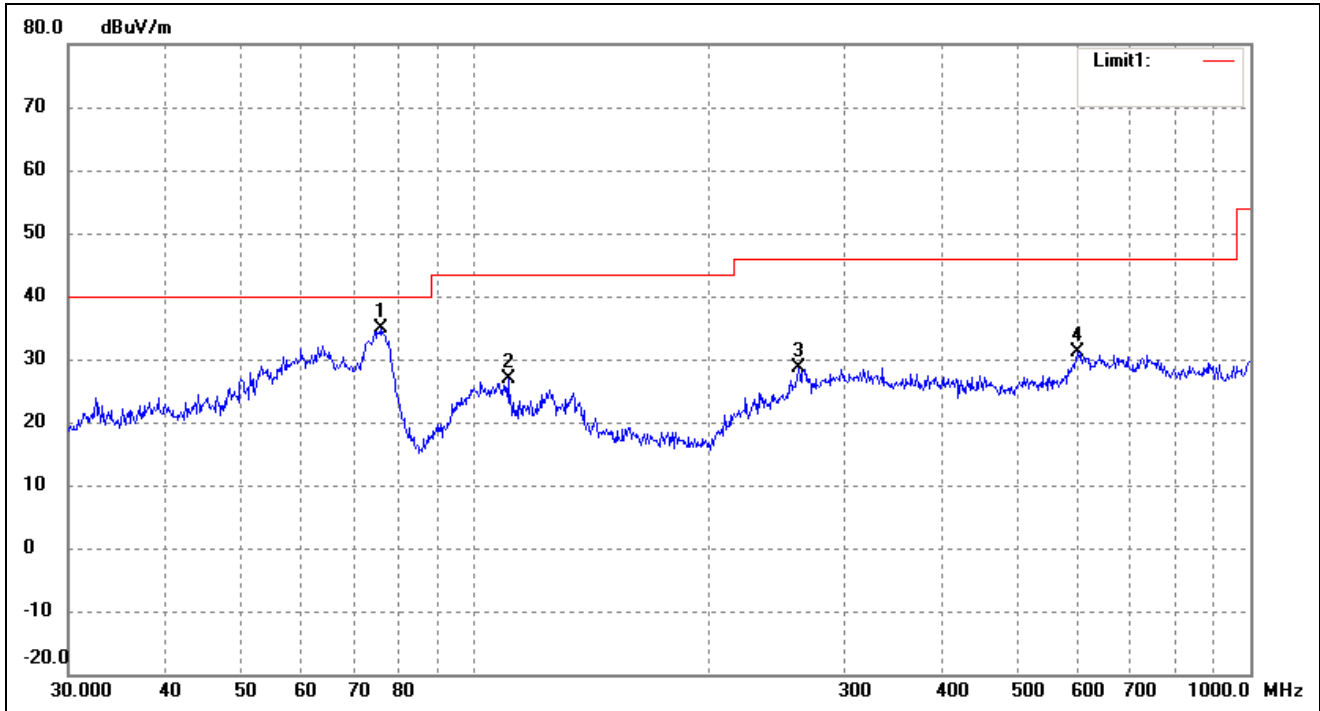
802.11ac-HT80

Test Channel

5210MHz

Polarity:

Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	53.05	-18.24	34.81	40.00	-5.19	242	100	peak
2	110.5687	41.87	-14.91	26.96	43.50	-16.54	97	100	peak
3	261.9753	35.84	-7.12	28.72	46.00	-17.28	329	100	peak
4	599.3213	29.28	1.79	31.07	46.00	-14.93	109	100	peak

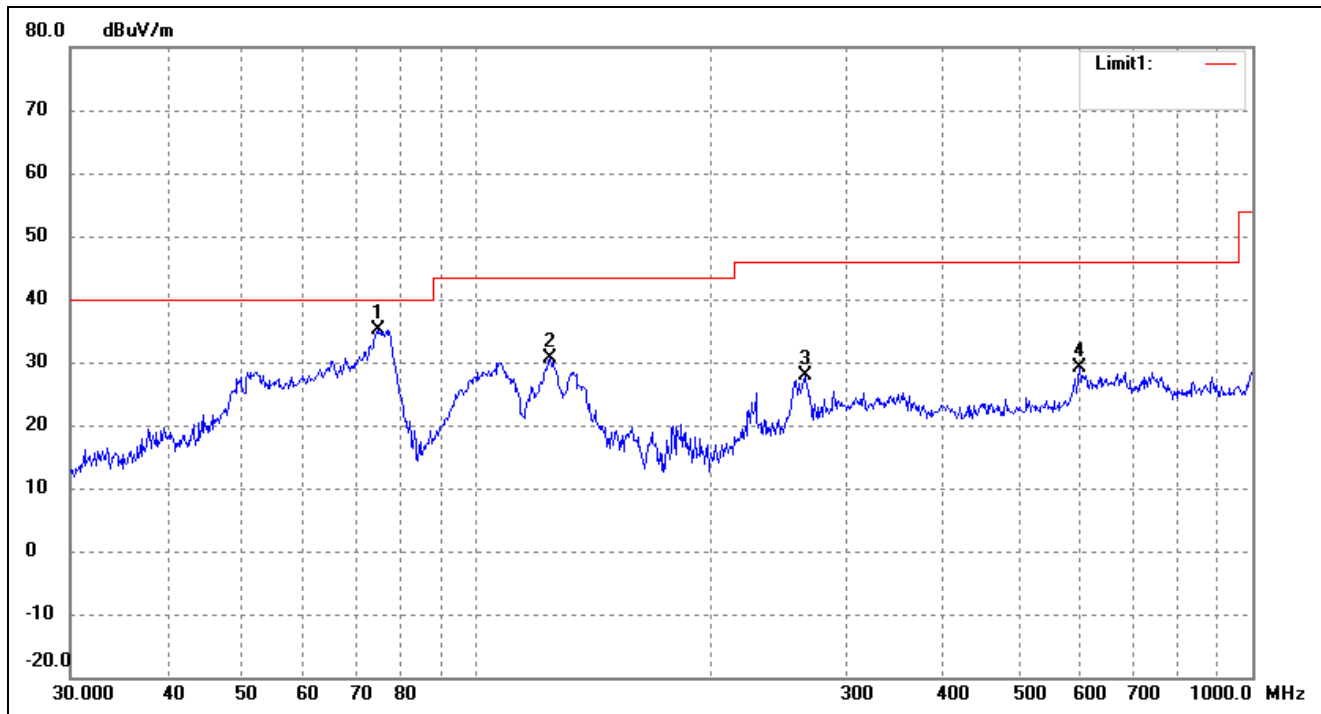
➤ 5250-5350MHz

802.11a			
Test Channel	5260MHz	Polarity:	Horizontal



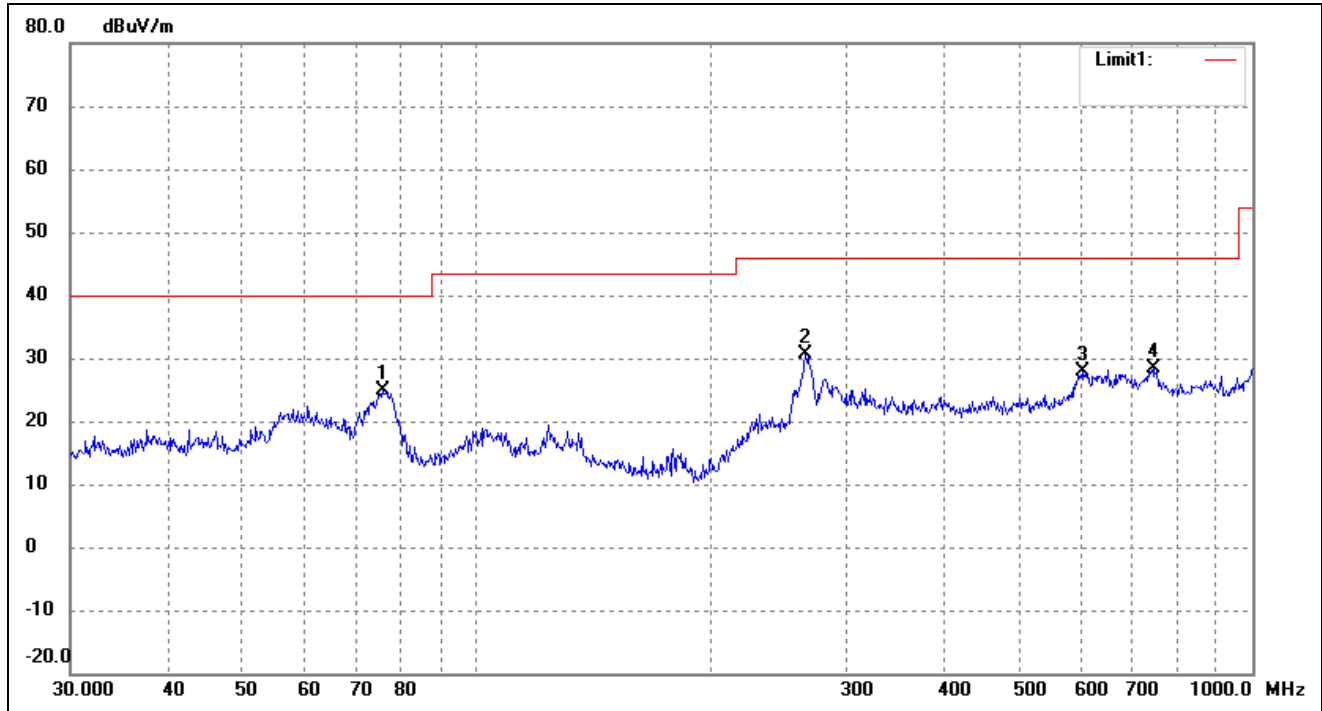
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	73.3593	41.54	-17.94	23.60	40.00	-16.40	301	100	peak
2	232.5318	33.33	-8.92	24.41	46.00	-21.59	90	100	peak
3	265.6757	38.23	-6.81	31.42	46.00	-14.58	201	100	peak
4	599.3213	26.87	1.79	28.66	46.00	-17.34	100	100	peak

802.11a			
Test Channel	5260MHz	Polarity:	Vertical



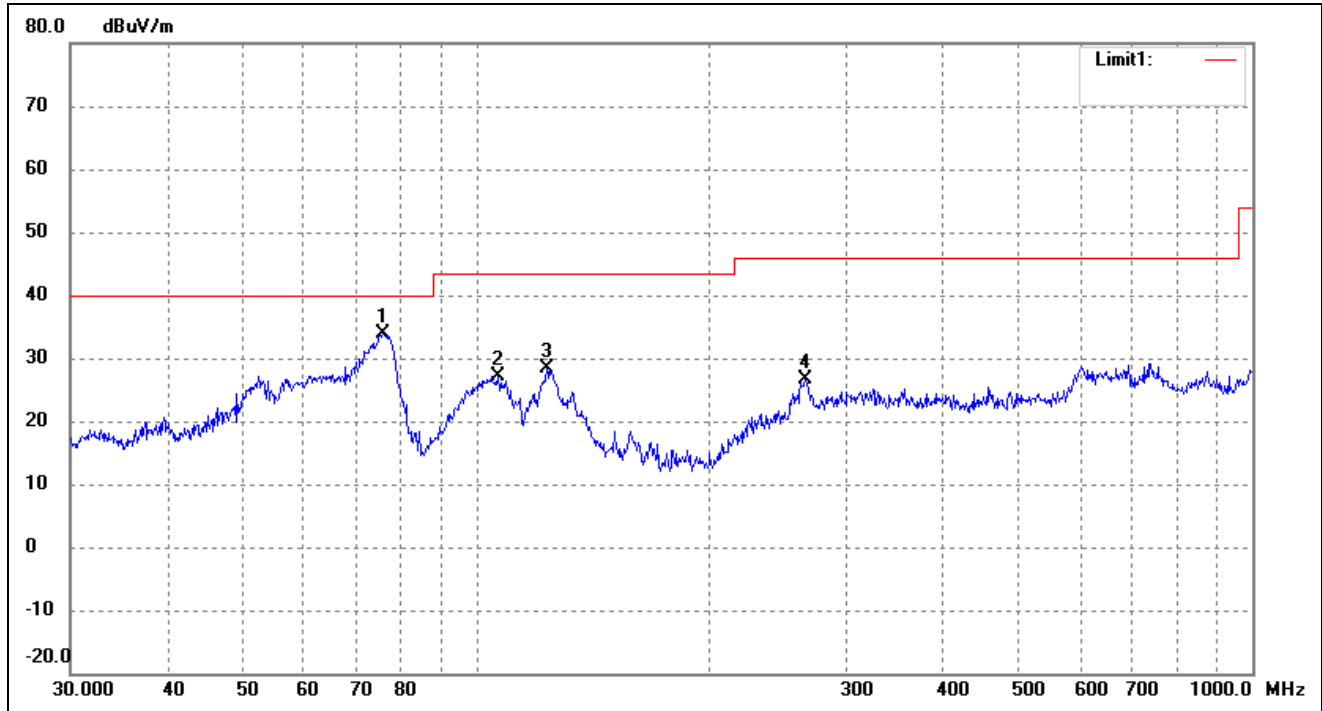
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	74.9191	53.26	-18.13	35.13	40.00	-4.87	193	100	peak
2	124.5690	45.74	-15.06	30.68	43.50	-12.82	300	100	peak
3	265.6757	34.79	-6.81	27.98	46.00	-18.02	58	100	peak
4	599.3213	27.41	1.79	29.20	46.00	-16.80	205	100	peak

802.11a			
Test Channel	5280MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.7114	42.98	-18.21	24.77	40.00	-15.23	208	100	peak
2	265.6757	37.33	-6.81	30.52	46.00	-15.48	343	100	peak
3	603.5392	26.21	1.66	27.87	46.00	-18.13	82	100	peak
4	744.8661	26.05	2.24	28.29	46.00	-17.71	217	100	peak

802.11a			
Test Channel	5280MHz	Polarity:	Vertical



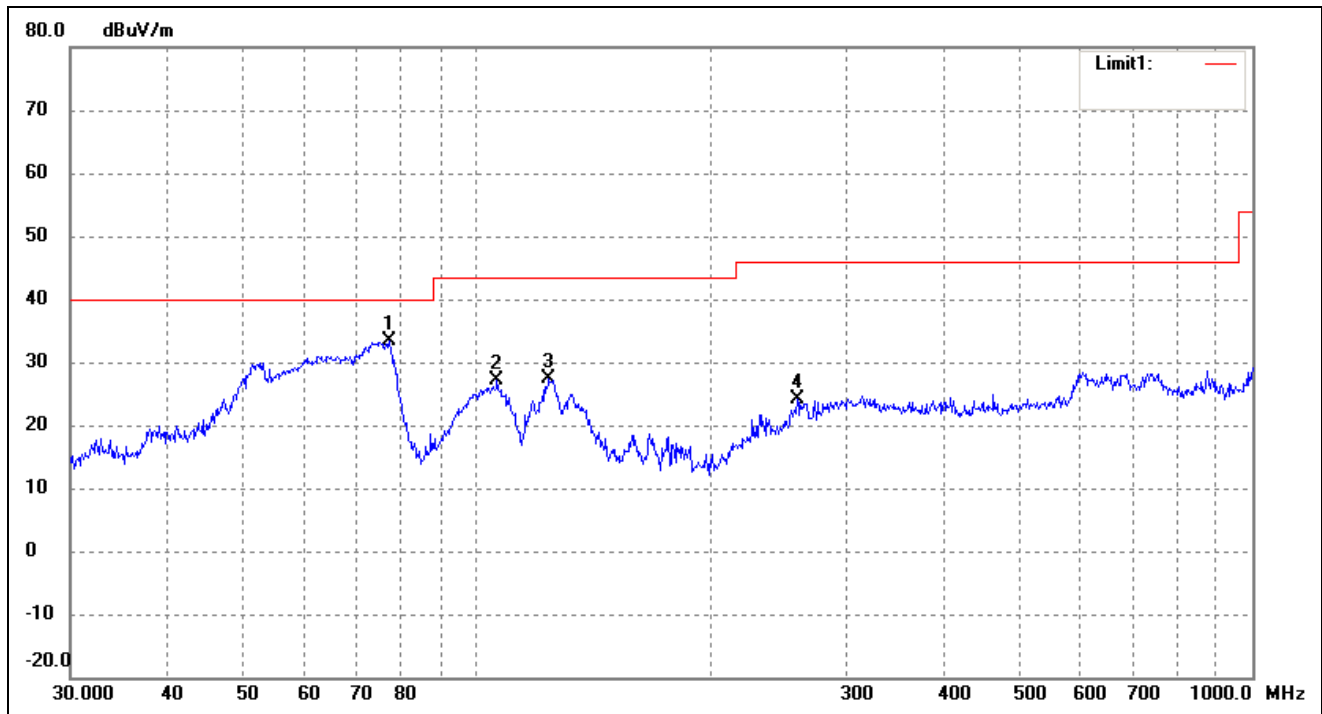
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.7114	52.18	-18.21	33.97	40.00	-6.03	144	100	peak
2	106.7587	42.00	-14.97	27.03	43.50	-16.47	173	100	peak
3	123.2655	43.46	-14.97	28.49	43.50	-15.01	144	100	peak
4	265.6757	33.40	-6.81	26.59	46.00	-19.41	137	100	peak

802.11a			
Test Channel	5320MHz	Polarity:	Horizontal



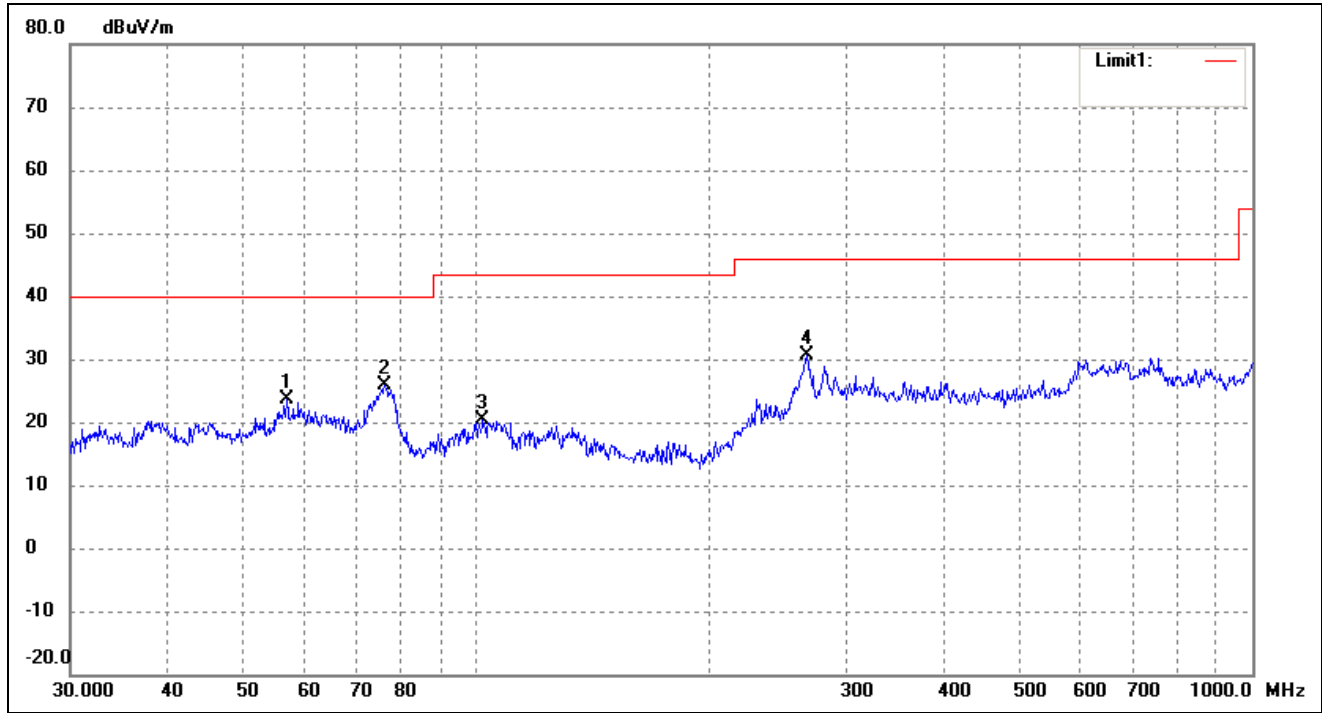
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	58.6126	38.71	-15.52	23.19	40.00	-16.81	62	100	peak
2	125.0066	36.73	-15.08	21.65	43.50	-21.85	130	100	peak
3	262.8955	38.83	-7.05	31.78	46.00	-14.22	55	100	peak
4	599.3213	27.10	1.79	28.89	46.00	-17.11	133	100	peak

802.11a			
Test Channel	5320MHz	Polarity:	Vertical



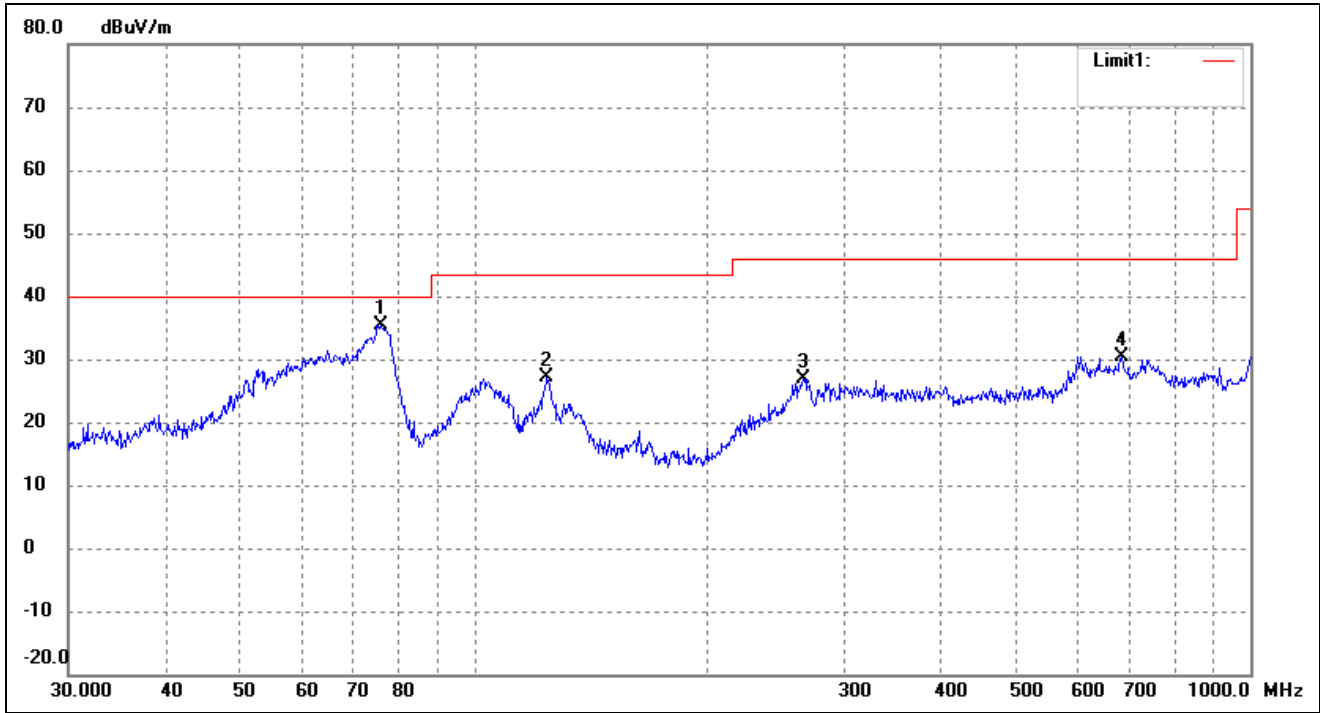
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	77.3212	51.85	-18.40	33.45	40.00	-6.55	202	100	peak
2	106.3850	42.04	-14.96	27.08	43.50	-16.42	92	100	peak
3	124.1330	42.29	-15.03	27.26	43.50	-16.24	72	100	peak
4	259.2338	31.41	-7.32	24.09	46.00	-21.91	106	100	peak

802.11n-HT20			
Test Channel	5260MHz	Polarity:	Horizontal



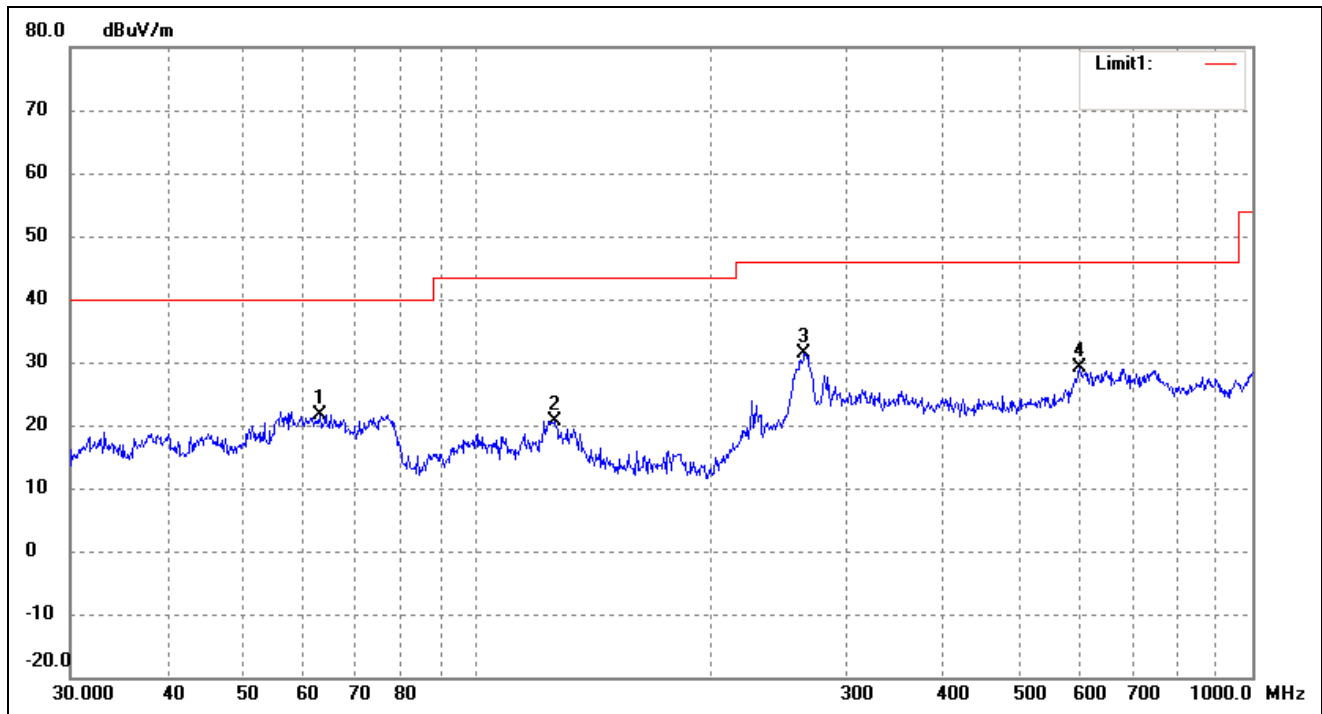
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	56.9912	39.27	-15.57	23.70	40.00	-16.30	255	100	peak
2	76.2442	44.23	-18.27	25.96	40.00	-14.04	96	100	peak
3	102.0014	35.38	-15.03	20.35	43.50	-23.15	209	100	peak
4	266.6089	37.48	-6.73	30.75	46.00	-15.25	104	100	peak

802.11n-HT20			
Test Channel	5260MHz	Polarity:	Vertical



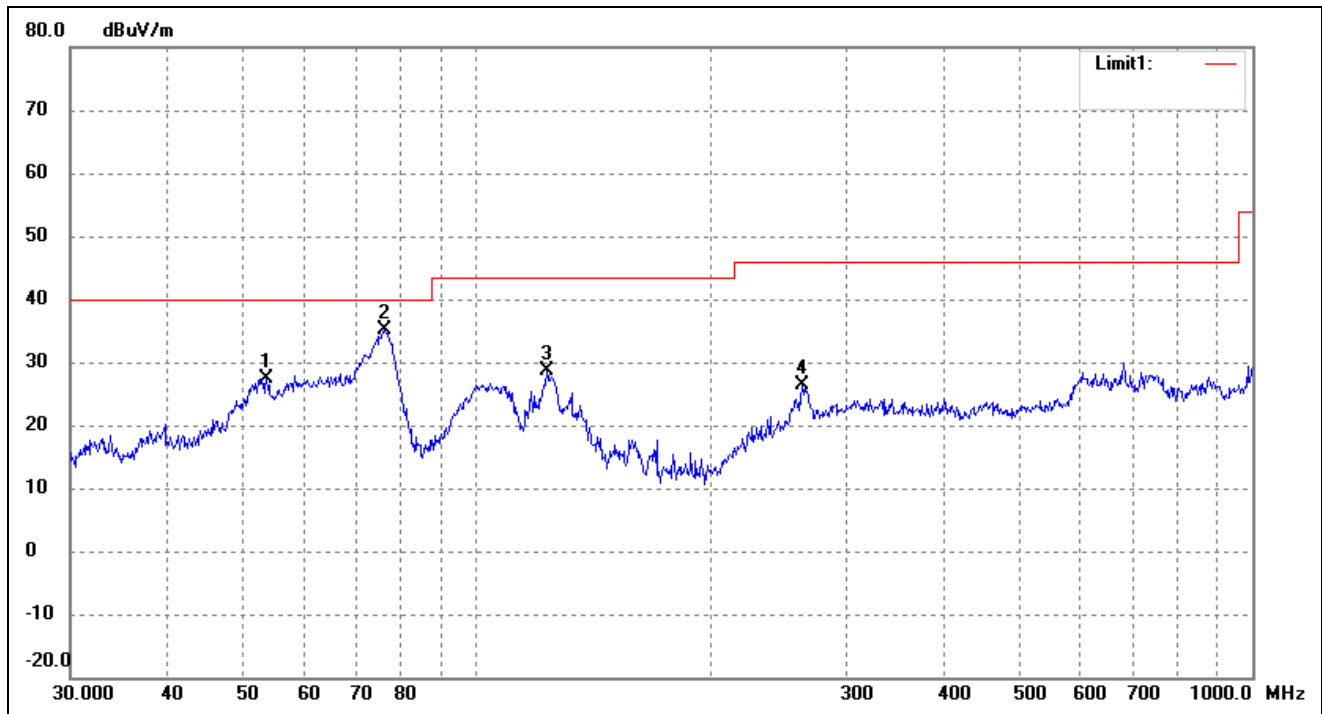
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.7114	53.64	-18.21	35.43	40.00	-4.57	162	100	peak
2	124.1330	42.12	-15.03	27.09	43.50	-16.41	321	100	peak
3	265.6757	33.79	-6.81	26.98	46.00	-19.02	61	100	peak
4	682.3485	28.54	1.91	30.45	46.00	-15.55	340	100	peak

802.11n-HT20			
Test Channel	5280MHz	Polarity:	Horizontal



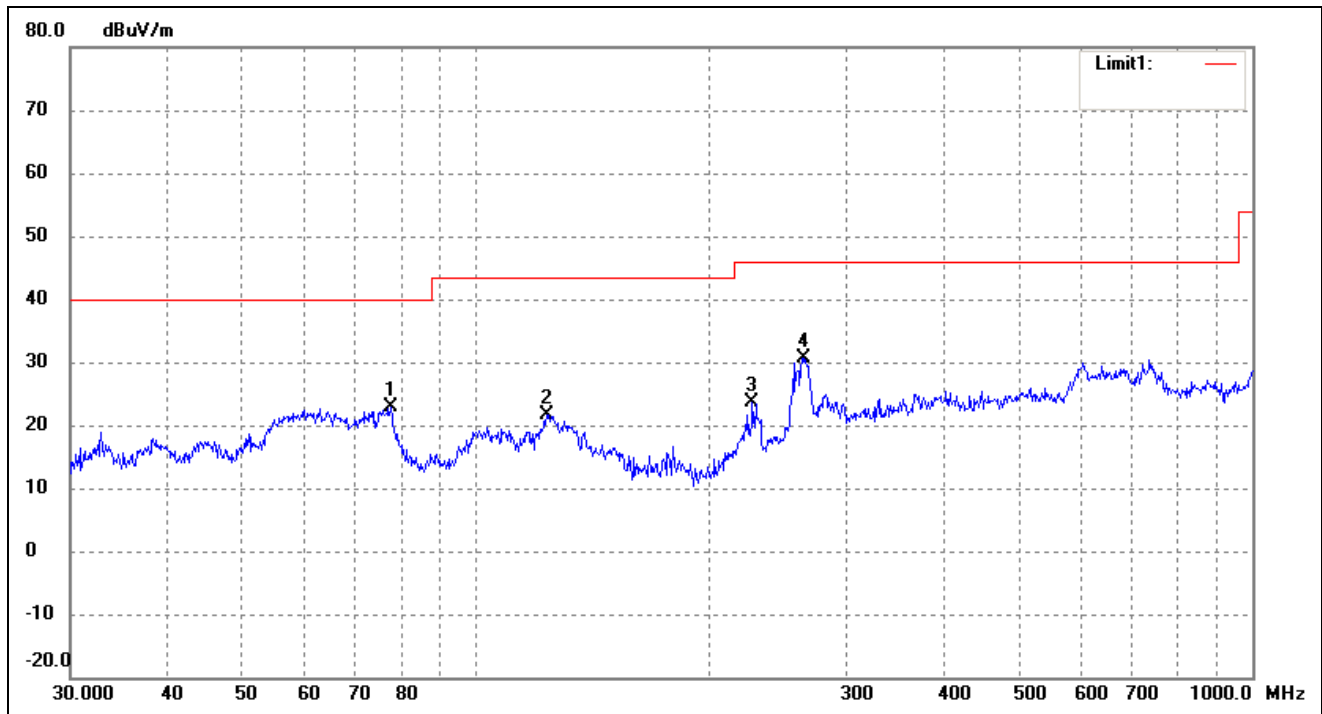
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	62.8708	37.75	-16.09	21.66	40.00	-18.34	158	100	peak
2	126.3286	35.85	-15.17	20.68	43.50	-22.82	298	100	peak
3	264.7457	38.39	-6.89	31.50	46.00	-14.50	87	100	peak
4	599.3213	27.35	1.79	29.14	46.00	-16.86	268	100	peak

802.11n-HT20			
Test Channel	5280MHz	Polarity:	Vertical



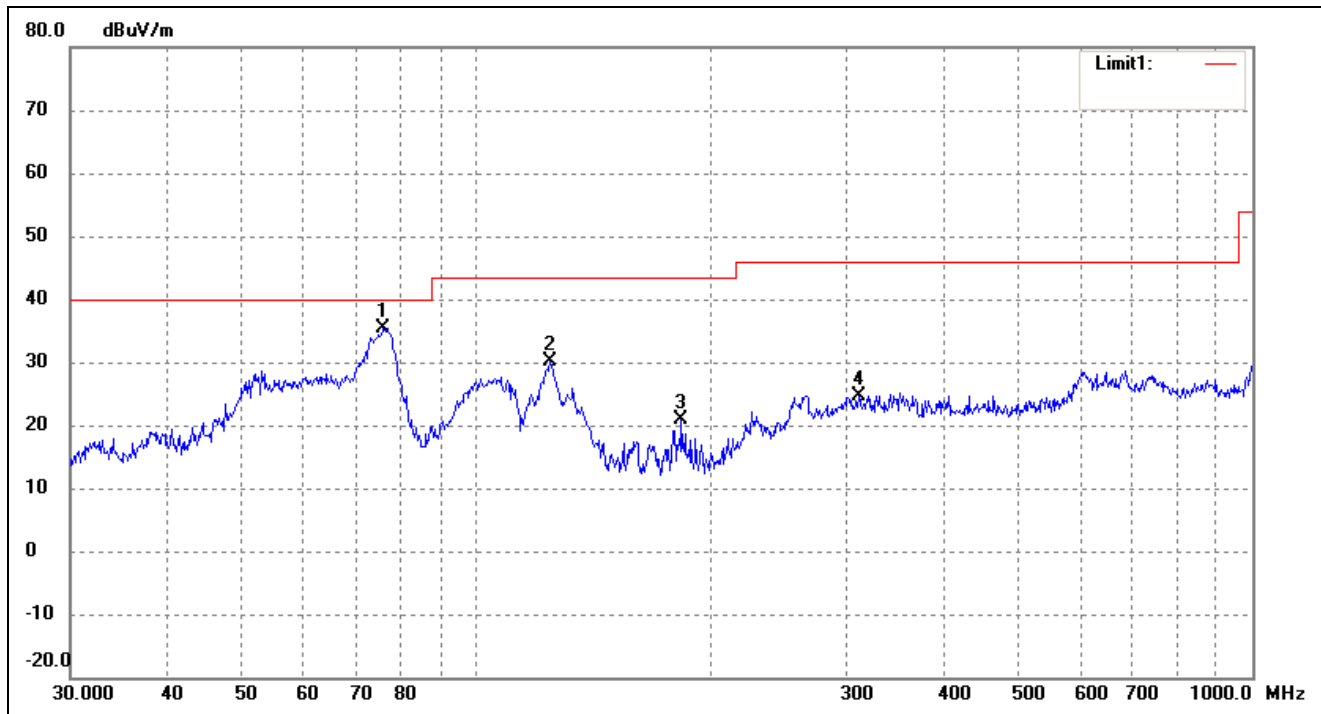
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	53.6932	43.08	-15.64	27.44	40.00	-12.56	238	100	peak
2	76.2442	53.36	-18.27	35.09	40.00	-4.91	99	100	peak
3	123.2655	43.53	-14.97	28.56	43.50	-14.94	76	100	peak
4	262.8955	33.48	-7.05	26.43	46.00	-19.57	111	100	peak

802.11n-HT20			
Test Channel	5320MHz	Polarity:	Horizontal



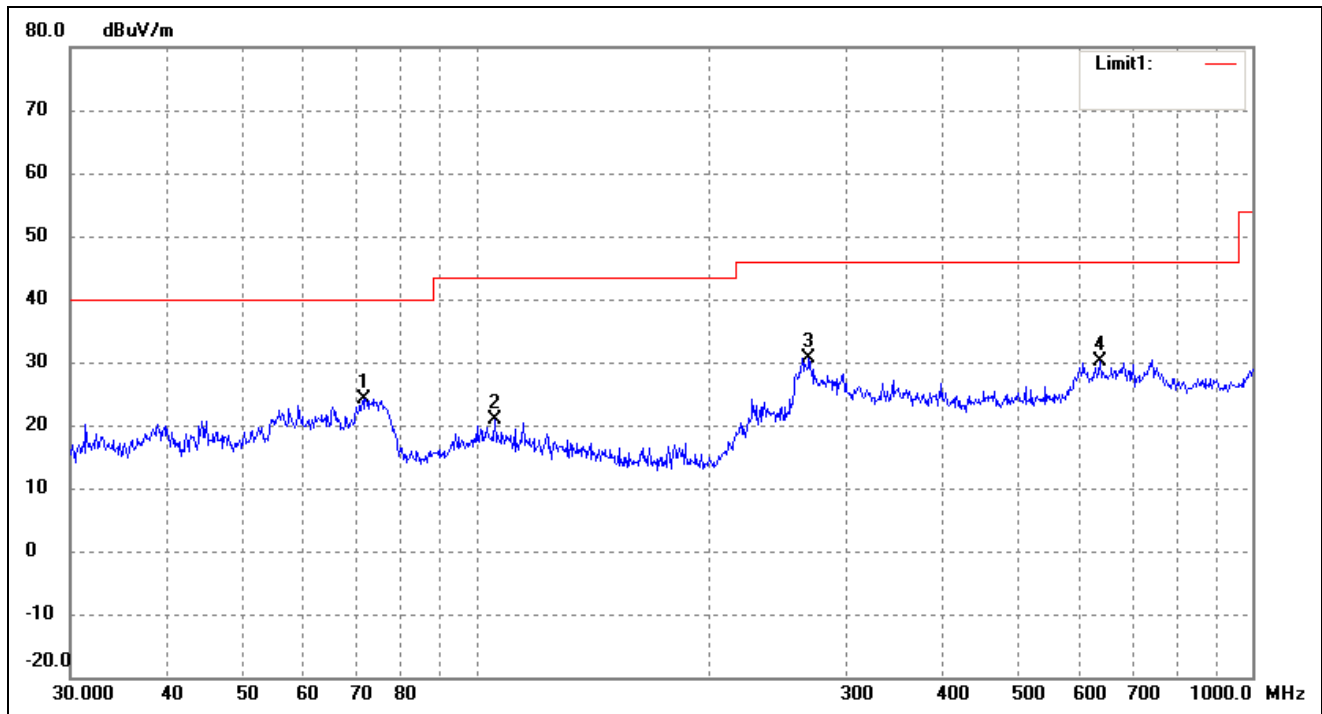
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	77.5928	41.41	-18.43	22.98	40.00	-17.02	116	100	peak
2	123.2655	36.60	-14.97	21.63	43.50	-21.87	104	100	peak
3	226.8936	32.88	-9.37	23.51	46.00	-22.49	70	100	peak
4	264.7457	37.52	-6.89	30.63	46.00	-15.37	91	100	peak

802.11n-HT20			
Test Channel	5320MHz	Polarity:	Vertical



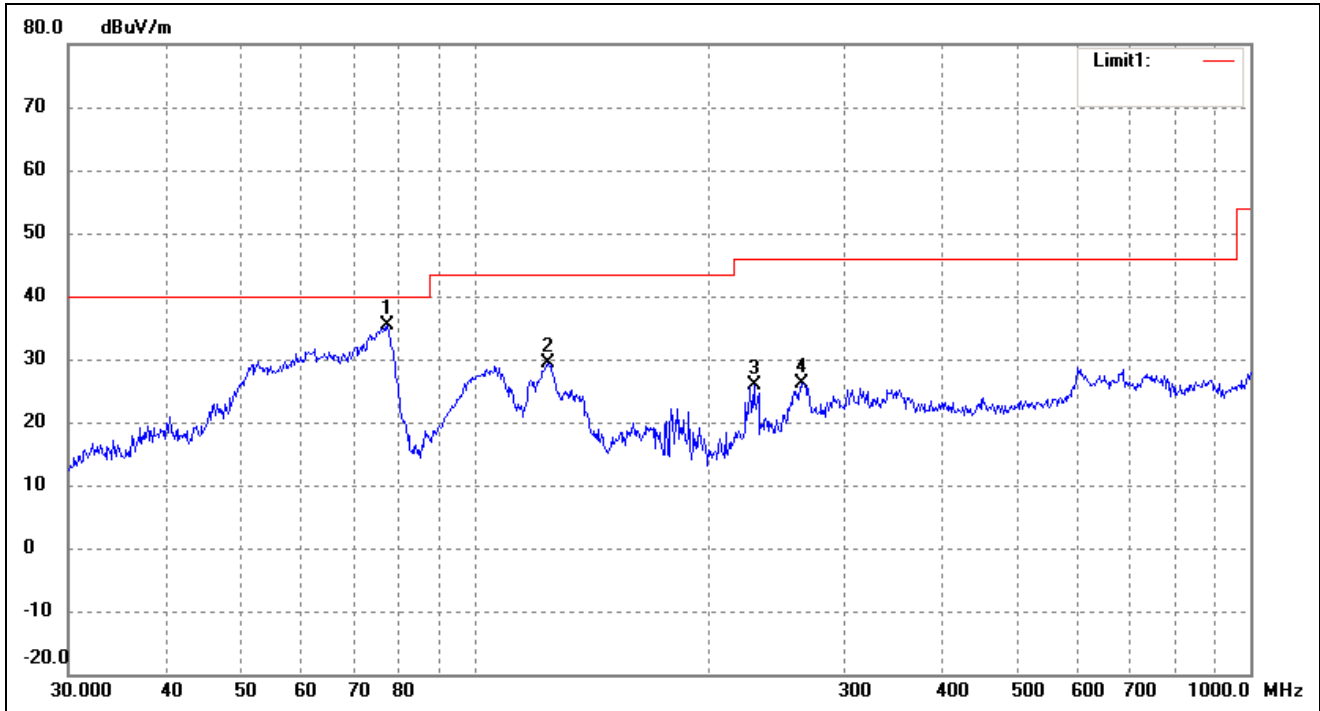
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	53.51	-18.24	35.27	40.00	-4.73	349	100	peak
2	124.5690	45.08	-15.06	30.02	43.50	-13.48	91	100	peak
3	183.8440	36.50	-15.66	20.84	43.50	-22.66	202	100	peak
4	311.0867	28.87	-4.23	24.64	46.00	-21.36	108	100	peak

802.11n-HT40			
Test Channel	5270MHz	Polarity:	Horizontal



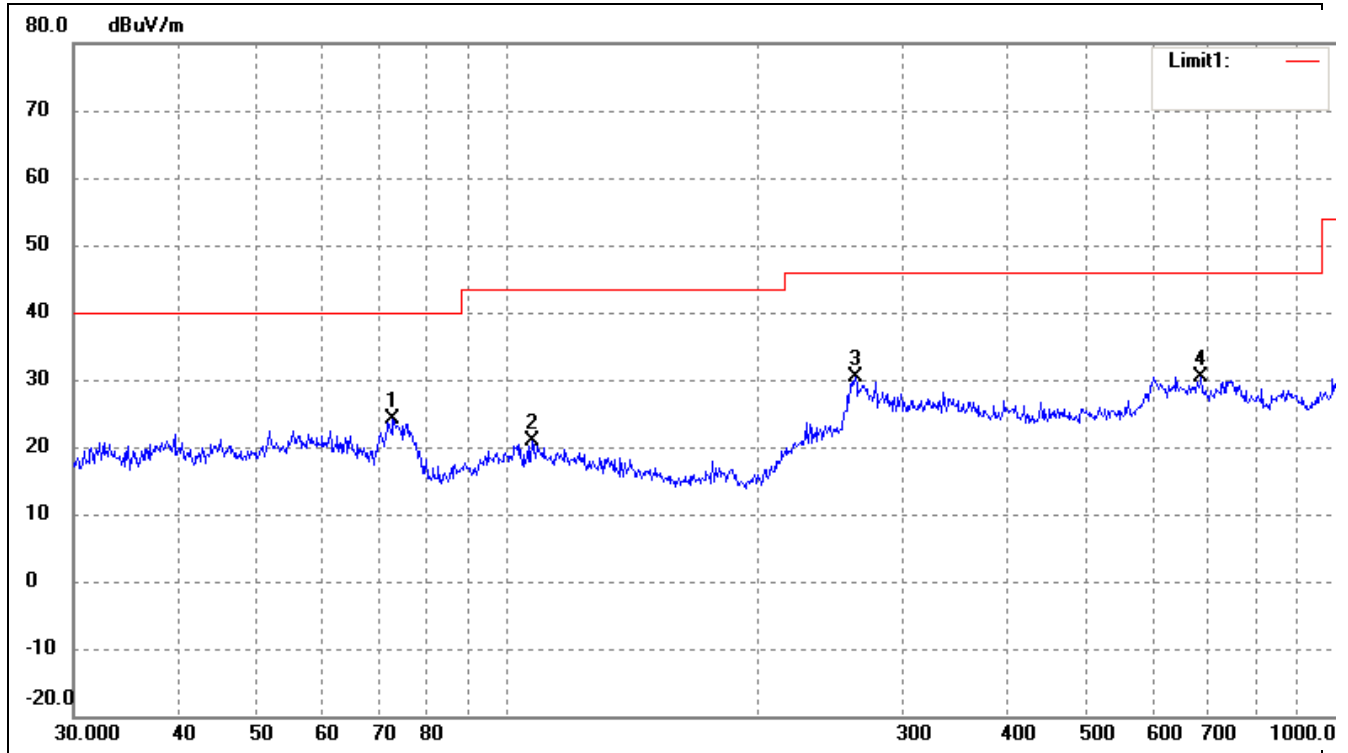
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	71.8320	41.98	-17.77	24.21	40.00	-15.79	232	100	peak
2	105.6415	35.83	-14.99	20.84	43.50	-22.66	94	100	peak
3	268.4853	37.25	-6.58	30.67	46.00	-15.33	343	100	peak
4	636.1340	29.15	1.03	30.18	46.00	-15.82	96	100	peak

802.11n-HT40			
Test Channel	5270MHz	Polarity:	Vertical



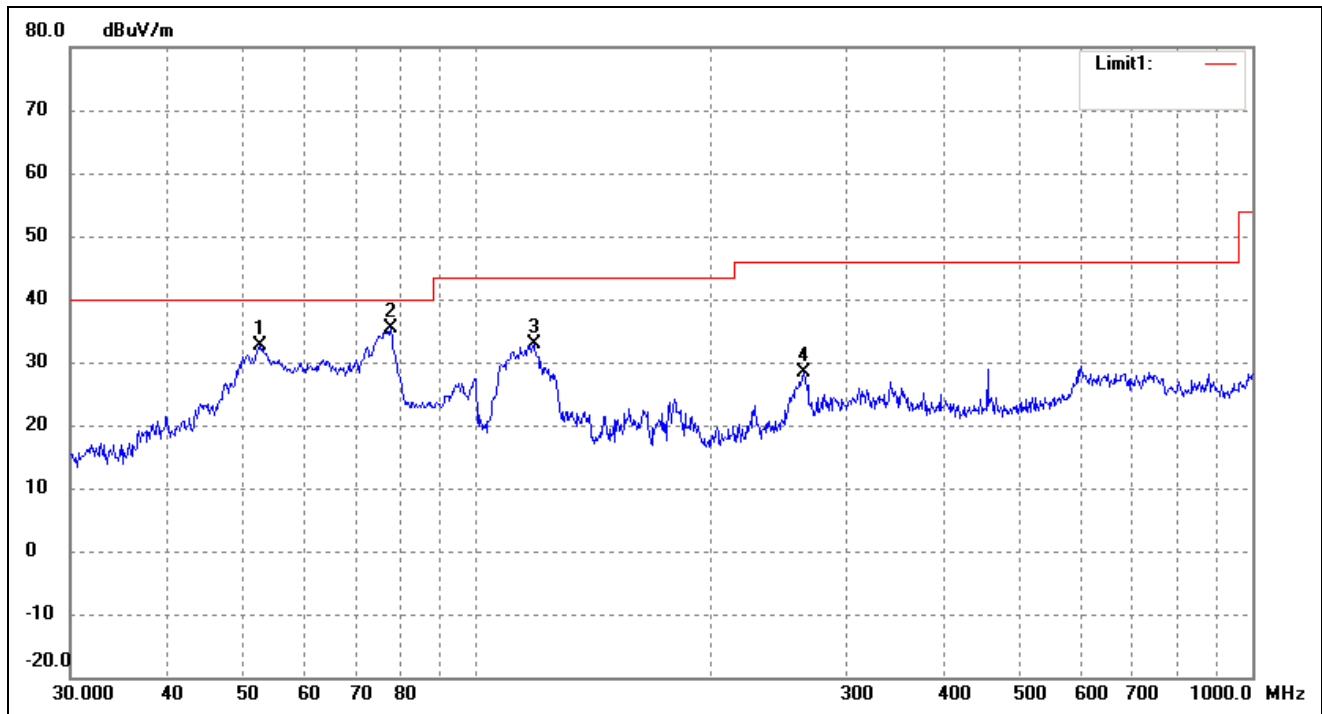
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	77.3212	53.86	-18.40	35.46	40.00	-4.54	85	100	peak
2	124.5690	44.43	-15.06	29.37	43.50	-14.13	105	100	peak
3	229.2931	35.01	-9.17	25.84	46.00	-20.16	99	100	peak
4	264.7457	33.06	-6.89	26.17	46.00	-19.83	143	100	peak

802.11n-HT40			
Test Channel	5310MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	72.8466	41.96	-17.88	24.08	40.00	-15.92	52	100	peak
2	107.1337	35.89	-14.96	20.93	43.50	-22.57	186	100	peak
3	262.8955	37.46	-7.05	30.41	46.00	-15.59	146	100	peak
4	687.1507	28.88	1.60	30.48	46.00	-15.52	125	100	peak

802.11n-HT40			
Test Channel	5310MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.7600	48.20	-15.66	32.54	40.00	-7.46	102	100	peak
2	77.5928	53.69	-18.43	35.26	40.00	-4.74	234	100	peak
3	118.6014	47.77	-14.79	32.98	43.50	-10.52	83	100	peak
4	264.7457	35.34	-6.89	28.45	46.00	-17.55	256	100	peak

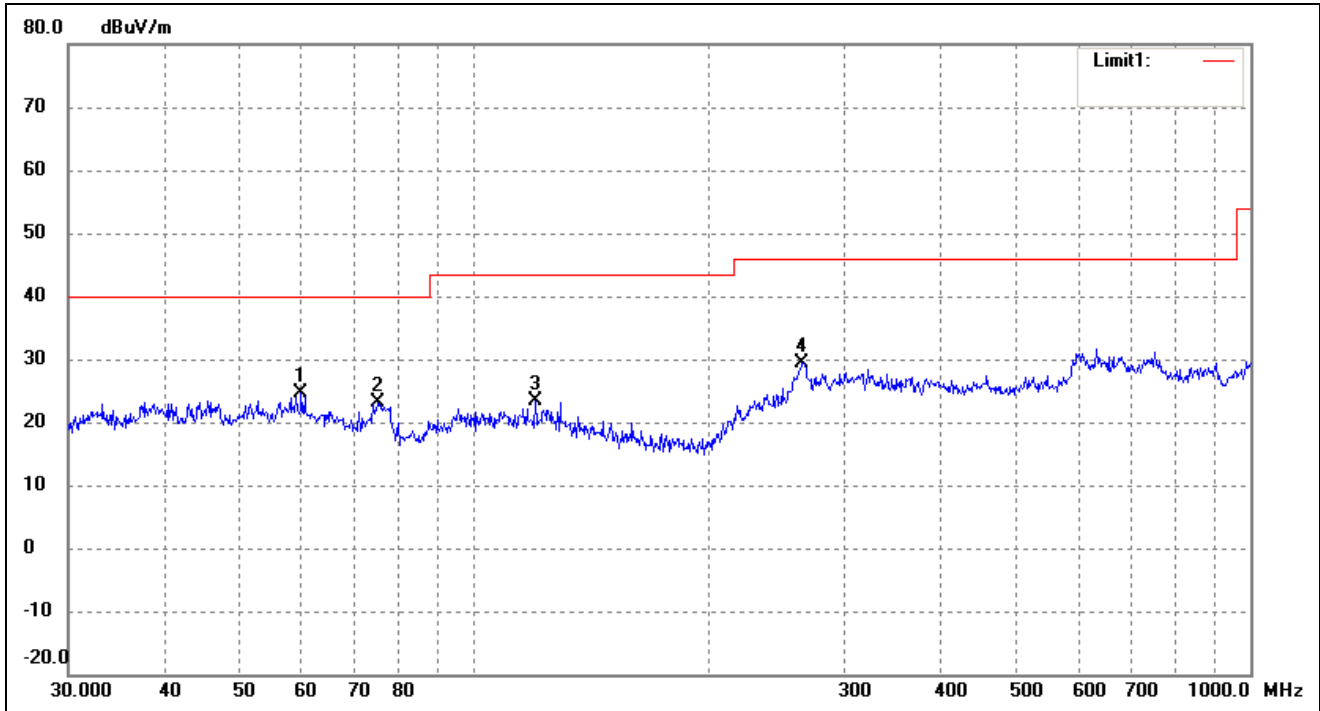
802.11ac-HT80

Test Channel

5290MHz

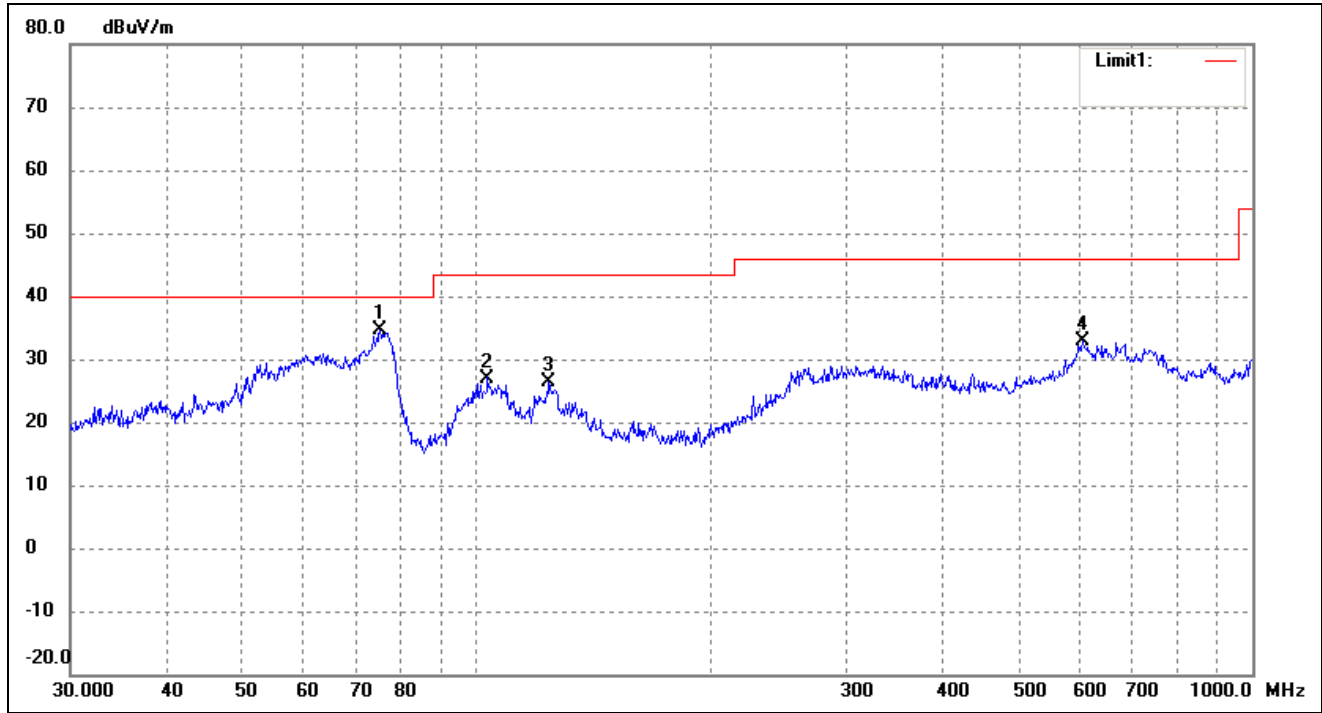
Polarity:

Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	59.8588	40.19	-15.50	24.69	40.00	-15.31	236	100	peak
2	75.1823	41.19	-18.15	23.04	40.00	-16.96	122	100	peak
3	119.8556	38.19	-14.76	23.43	43.50	-20.07	143	100	peak
4	264.7457	36.25	-6.89	29.36	46.00	-16.64	101	100	peak

802.11ac-HT80			
Test Channel	5290MHz	Polarity:	Vertical

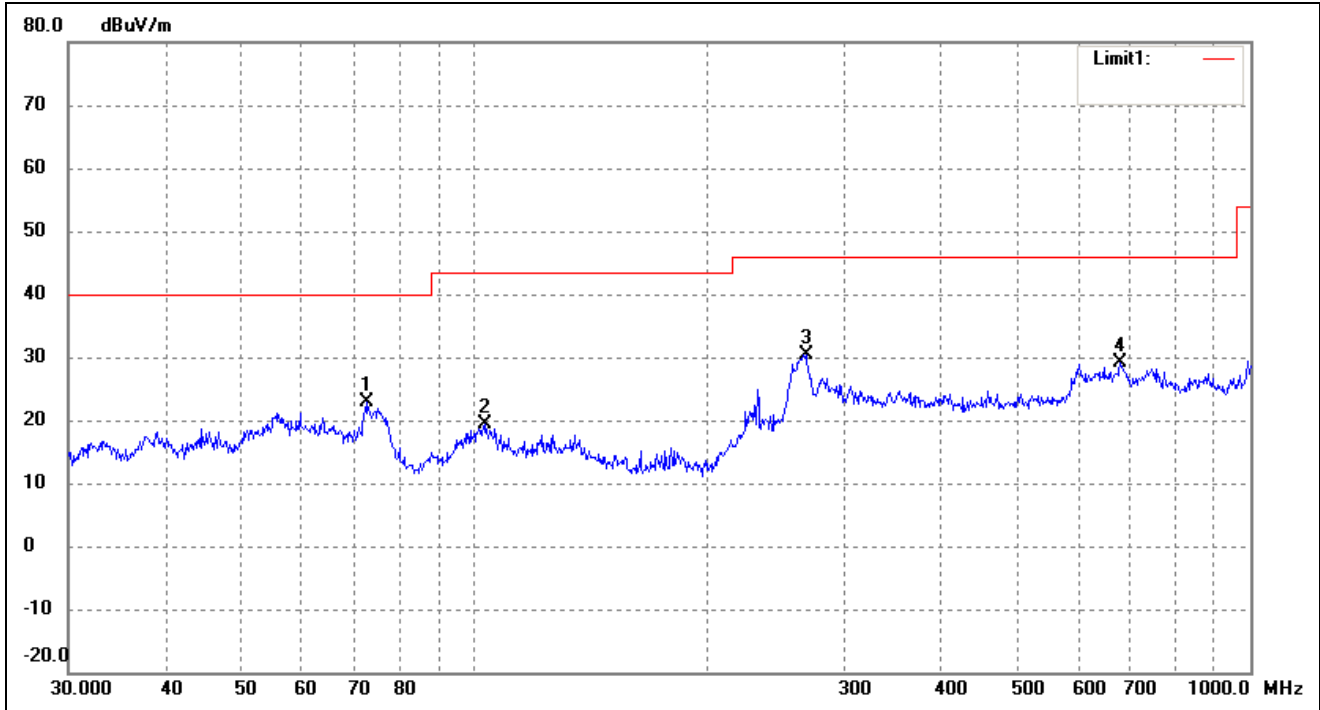


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.1823	52.78	-18.15	34.63	40.00	-5.37	71	100	peak
2	103.4421	42.00	-15.00	27.00	43.50	-16.50	199	100	peak
3	124.1330	41.31	-15.03	26.28	43.50	-17.22	138	100	peak
4	603.5392	31.28	1.66	32.94	46.00	-13.06	92	100	peak

➤ 5470-5725MHz

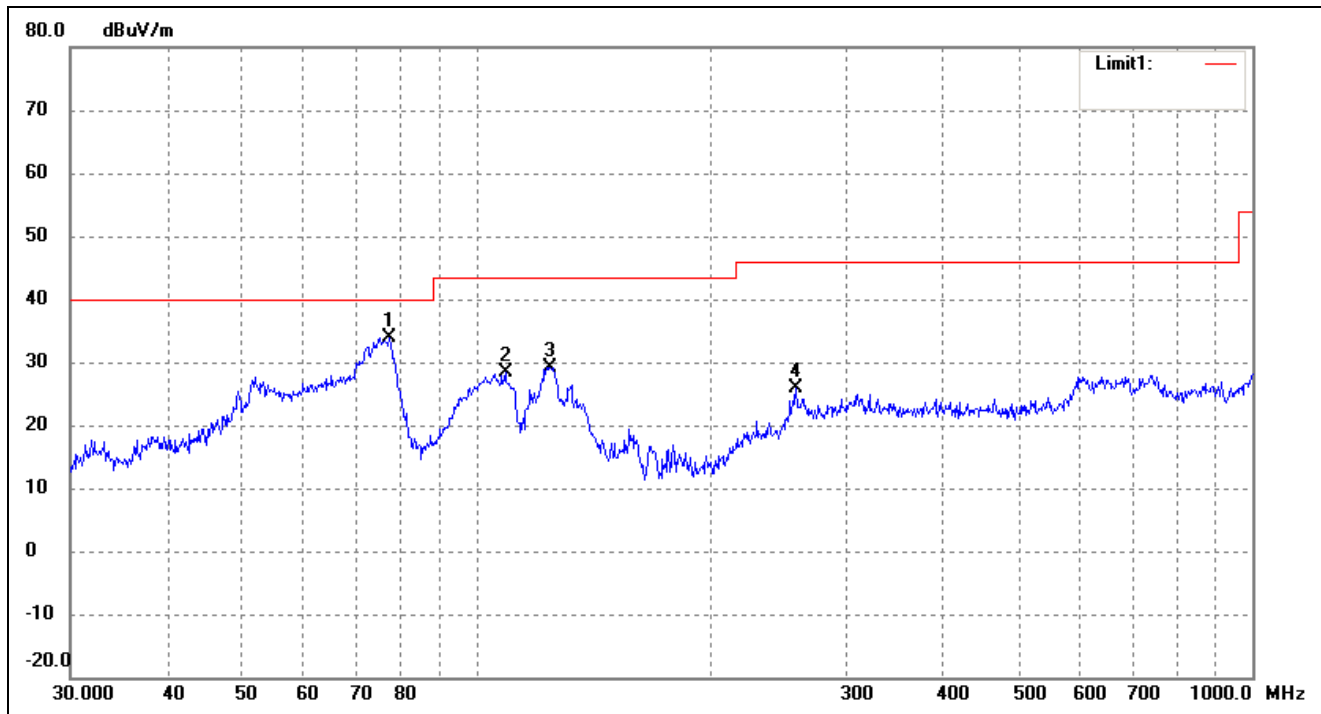
802.11a

Test Channel	5500MHz	Polarity:	Horizontal
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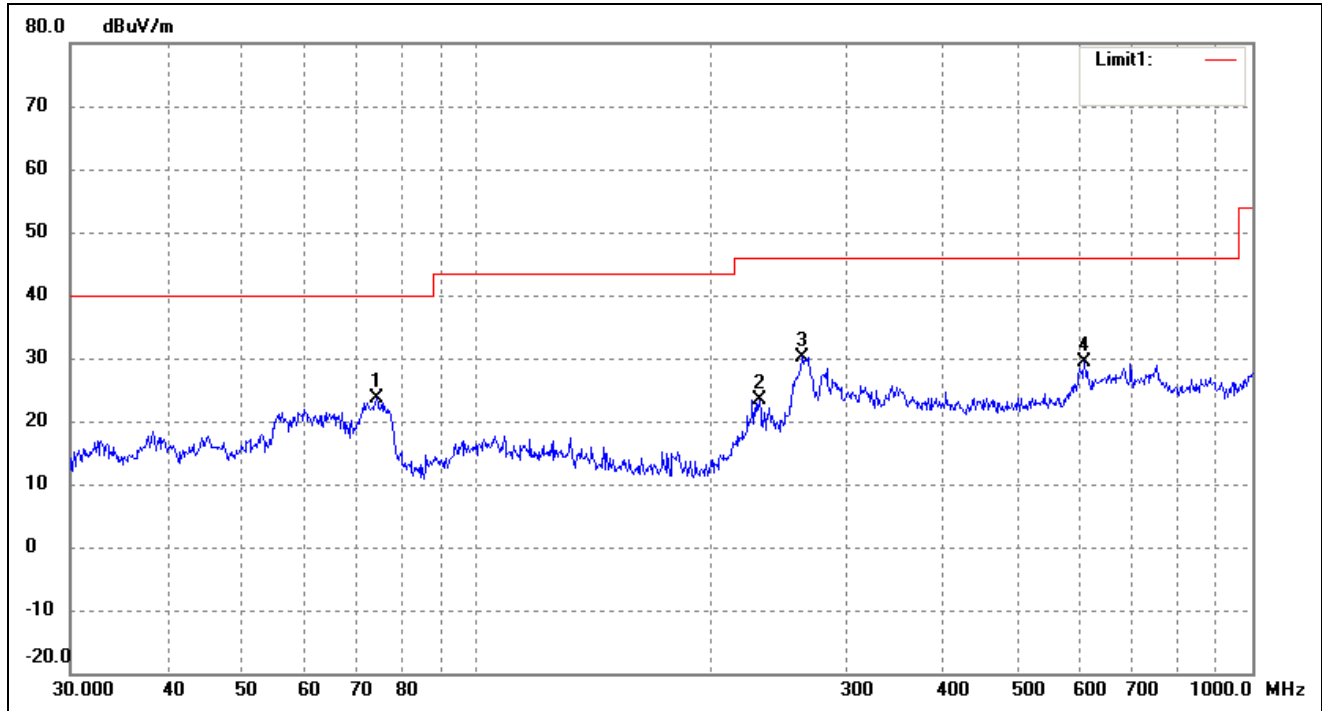
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	72.8466	40.87	-17.88	22.99	40.00	-17.01	357	100	peak
2	103.4421	34.43	-15.00	19.43	43.50	-24.07	132	100	peak
3	267.5455	36.97	-6.66	30.31	46.00	-15.69	88	100	peak
4	679.9600	27.09	2.07	29.16	46.00	-16.84	280	100	peak

802.11a			
Test Channel	5500MHz	Polarity:	Vertical



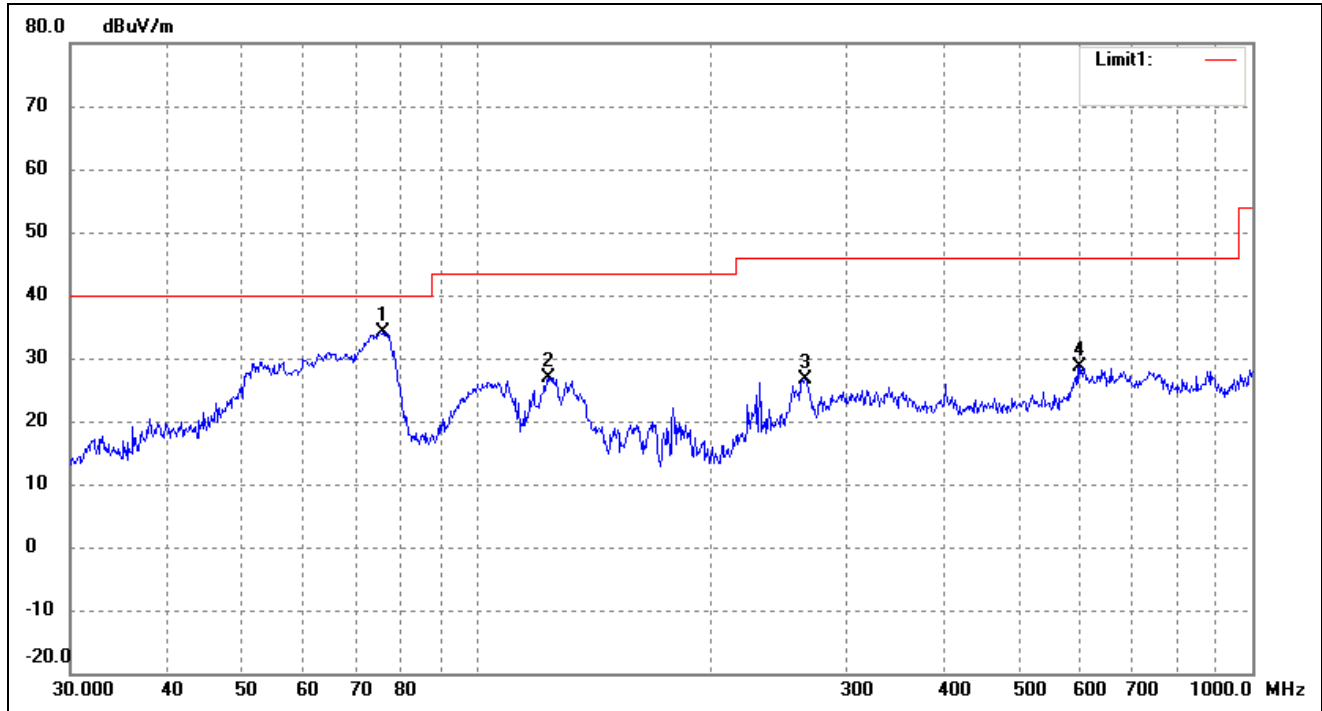
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	77.3212	52.32	-18.40	33.92	40.00	-6.08	200	100	peak
2	109.0286	43.27	-14.93	28.34	43.50	-15.16	186	100	peak
3	124.5690	44.28	-15.06	29.22	43.50	-14.28	63	100	peak
4	258.3264	33.31	-7.38	25.93	46.00	-20.07	107	100	peak

802.11a			
Test Channel	5600MHz	Polarity:	Horizontal



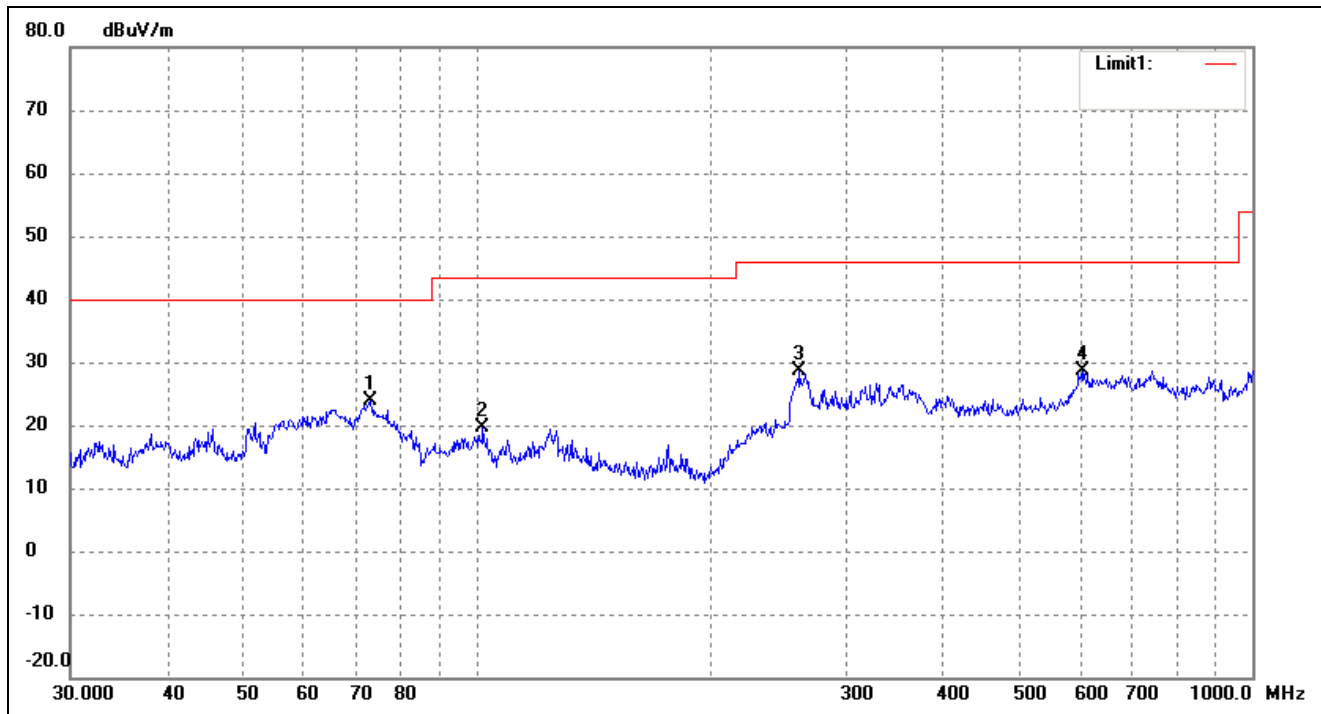
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	74.3955	41.62	-18.07	23.55	40.00	-16.45	308	100	peak
2	231.7179	32.48	-8.99	23.49	46.00	-22.51	90	100	peak
3	262.8955	37.30	-7.05	30.25	46.00	-15.75	346	100	peak
4	607.7867	28.12	1.36	29.48	46.00	-16.52	120	100	peak

802.11a			
Test Channel	5600MHz	Polarity:	Vertical



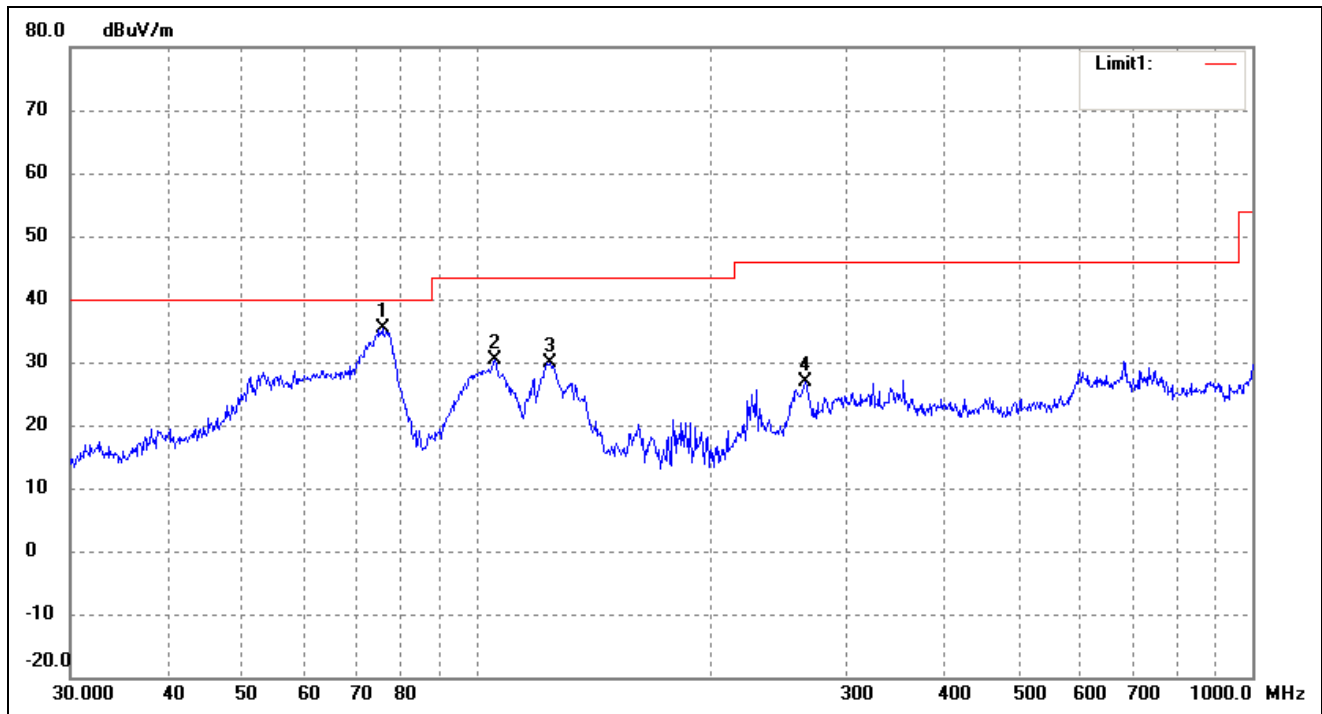
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	52.34	-18.24	34.10	40.00	-5.90	167	100	peak
2	124.1330	41.93	-15.03	26.90	43.50	-16.60	170	100	peak
3	265.6757	33.38	-6.81	26.57	46.00	-19.43	82	100	peak
4	599.3213	26.91	1.79	28.70	46.00	-17.30	195	100	peak

802.11a			
Test Channel	5700MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	73.1025	41.70	-17.91	23.79	40.00	-16.21	123	100	peak
2	102.0014	34.54	-15.03	19.51	43.50	-23.99	74	100	peak
3	261.0583	35.83	-7.20	28.63	46.00	-17.37	228	100	peak
4	605.6592	27.10	1.51	28.61	46.00	-17.39	167	100	peak

802.11a			
Test Channel	5700MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.7114	53.61	-18.21	35.40	40.00	-4.60	123	100	peak
2	105.6415	45.28	-14.99	30.29	43.50	-13.21	74	100	peak
3	124.5690	45.05	-15.06	29.99	43.50	-13.51	228	100	peak
4	265.6757	33.60	-6.81	26.79	46.00	-19.21	167	100	peak

802.11n-HT20			
Test Channel	5500MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	61.7781	39.30	-15.86	23.44	40.00	-16.56	173	100	peak
2	103.0800	36.13	-15.02	21.11	43.50	-22.39	87	100	peak
3	267.5455	36.86	-6.66	30.20	46.00	-15.80	113	100	peak
4	645.1195	29.13	1.03	30.16	46.00	-15.84	210	100	peak

802.11n-HT20			
Test Channel	5500MHz	Polarity:	Vertical



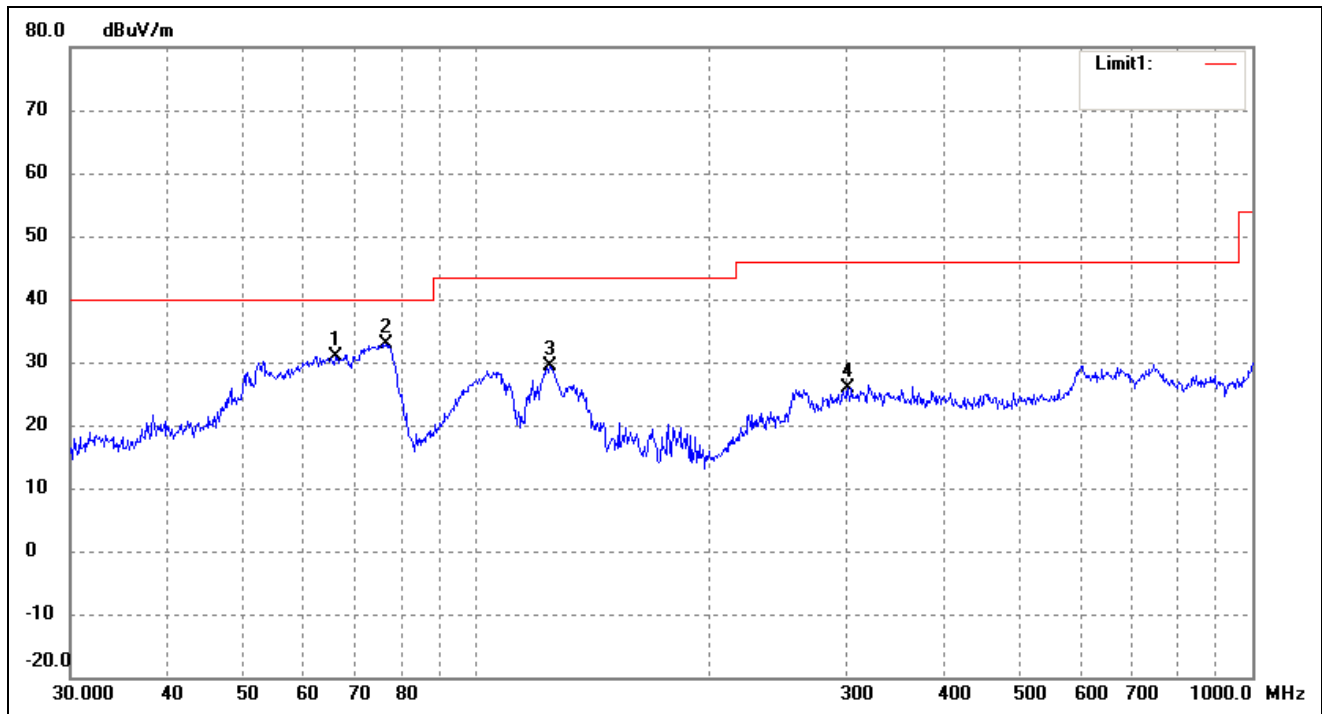
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	63.3132	45.80	-16.19	29.61	40.00	-10.39	106	100	peak
2	74.9191	52.60	-18.13	34.47	40.00	-5.53	163	100	peak
3	266.6089	34.30	-6.73	27.57	46.00	-18.43	133	100	peak
4	684.7454	28.34	1.76	30.10	46.00	-15.90	121	100	peak

802.11n-HT20			
Test Channel	5600MHz	Polarity:	Horizontal



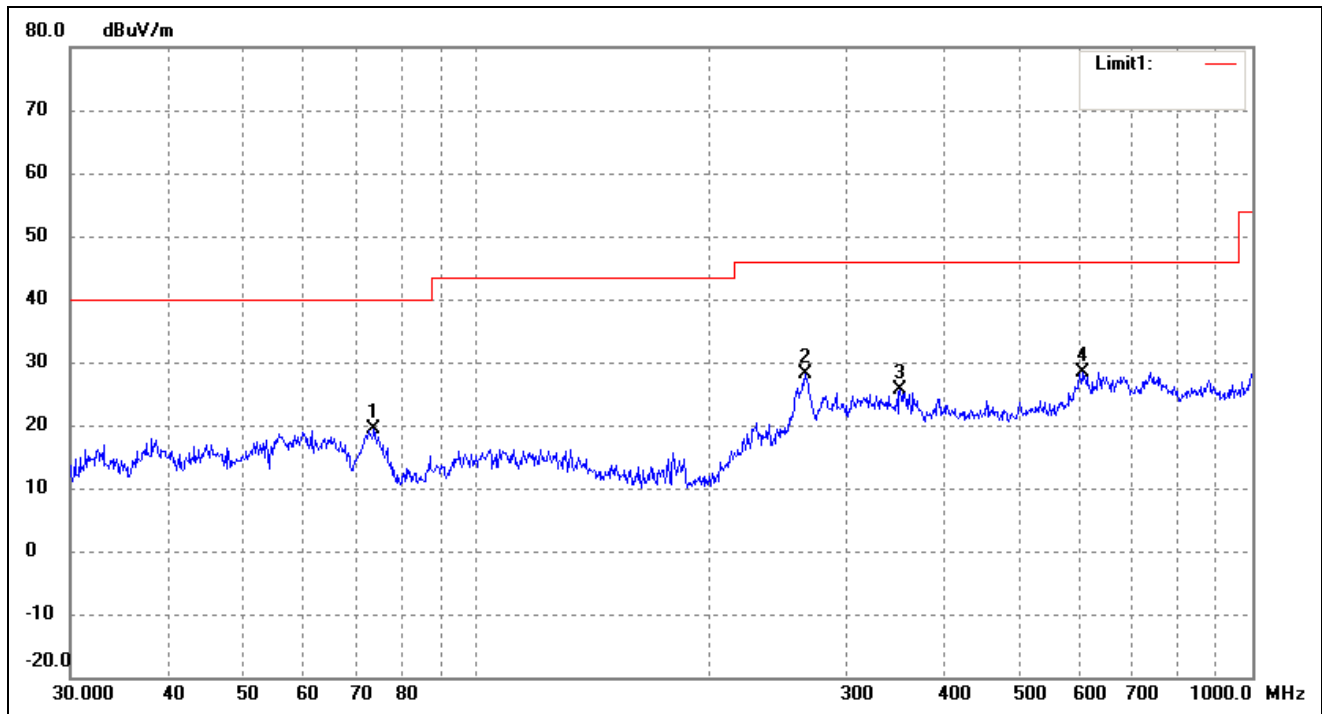
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	57.7962	38.35	-15.54	22.81	40.00	-17.19	100	100	peak
2	100.2286	36.68	-15.06	21.62	43.50	-21.88	199	100	peak
3	265.6757	38.25	-6.81	31.44	46.00	-14.56	68	100	peak
4	677.5798	28.60	1.92	30.52	46.00	-15.48	100	100	peak

802.11n-HT20			
Test Channel	5600MHz	Polarity:	Vertical



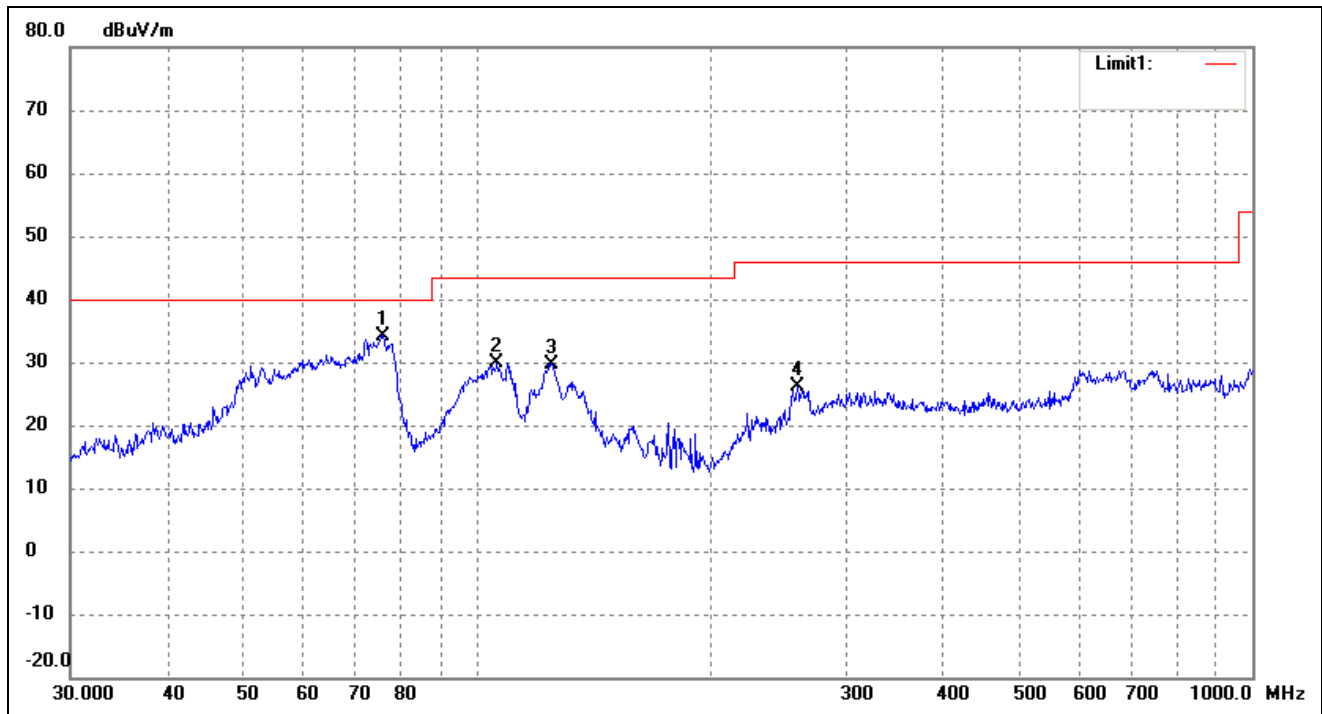
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	66.0342	47.66	-16.75	30.91	40.00	-9.09	230	100	peak
2	76.5121	51.19	-18.30	32.89	40.00	-7.11	129	100	peak
3	124.5690	44.36	-15.06	29.30	43.50	-14.20	51	100	peak
4	301.4224	30.10	-4.24	25.86	46.00	-20.14	108	100	peak

802.11n-HT20			
Test Channel	5700MHz	Polarity:	Horizontal



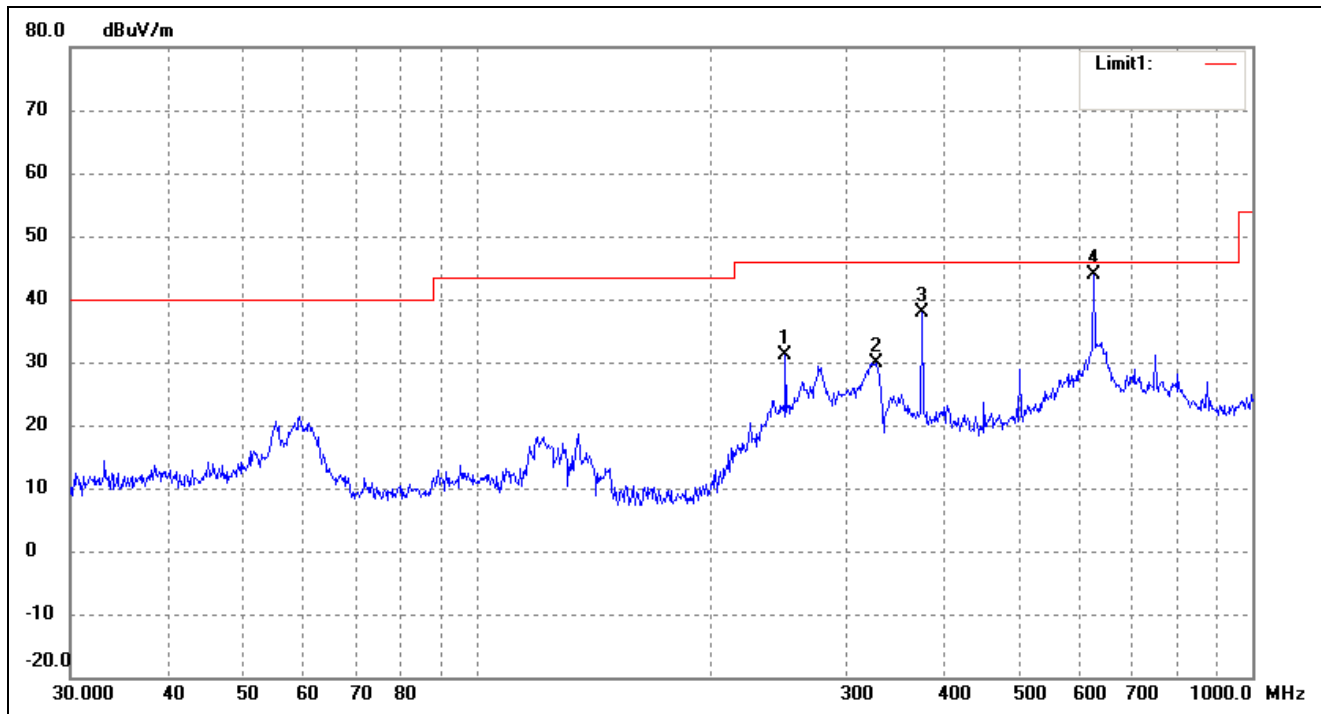
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	73.8756	37.50	-18.01	19.49	40.00	-20.51	65	100	peak
2	265.6757	34.96	-6.81	28.15	46.00	-17.85	199	100	peak
3	351.7079	30.41	-4.68	25.73	46.00	-20.27	122	100	peak
4	603.5392	26.67	1.66	28.33	46.00	-17.67	135	100	peak

802.11n-HT20			
Test Channel	5700MHz	Polarity:	Vertical



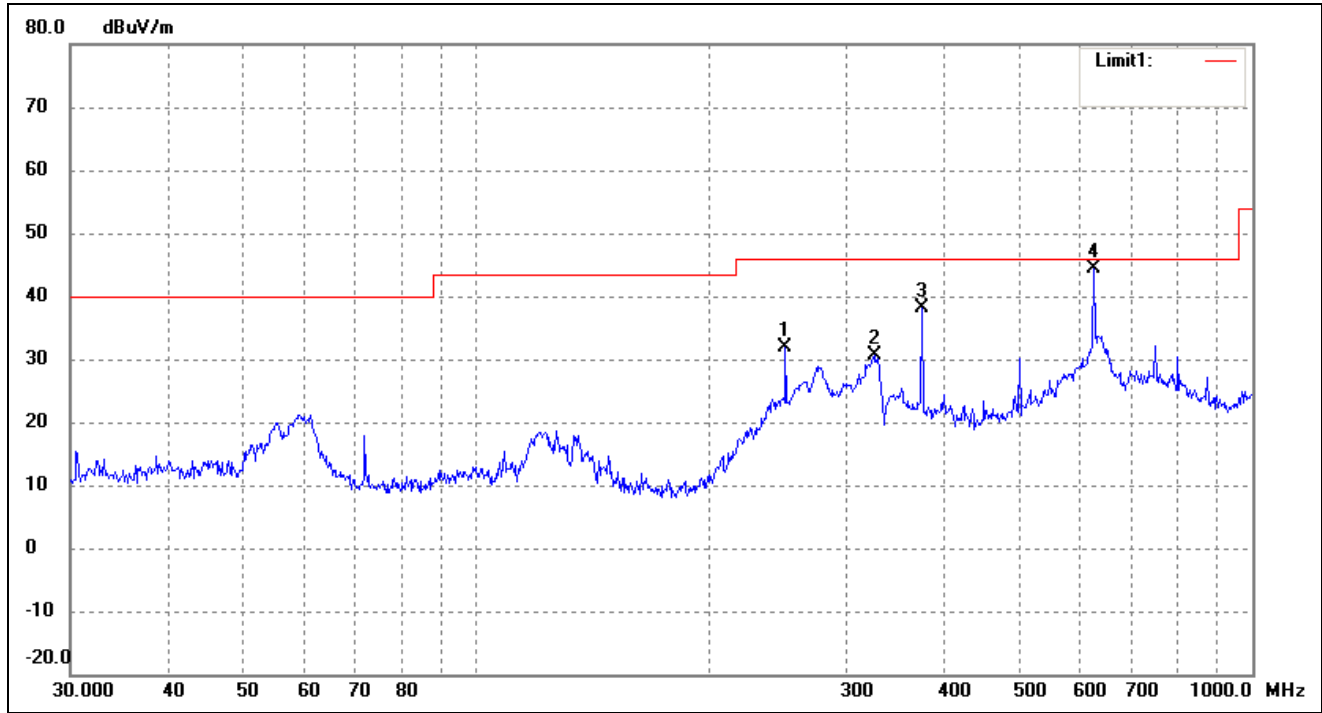
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	52.49	-18.24	34.25	40.00	-5.75	295	100	peak
2	106.3850	44.83	-14.96	29.87	43.50	-13.63	92	100	peak
3	125.0066	44.83	-15.08	29.75	43.50	-13.75	155	100	peak
4	259.2338	33.48	-7.32	26.16	46.00	-19.84	114	100	peak

802.11n-HT40			
Test Channel	5510MHz	Polarity:	Horizontal



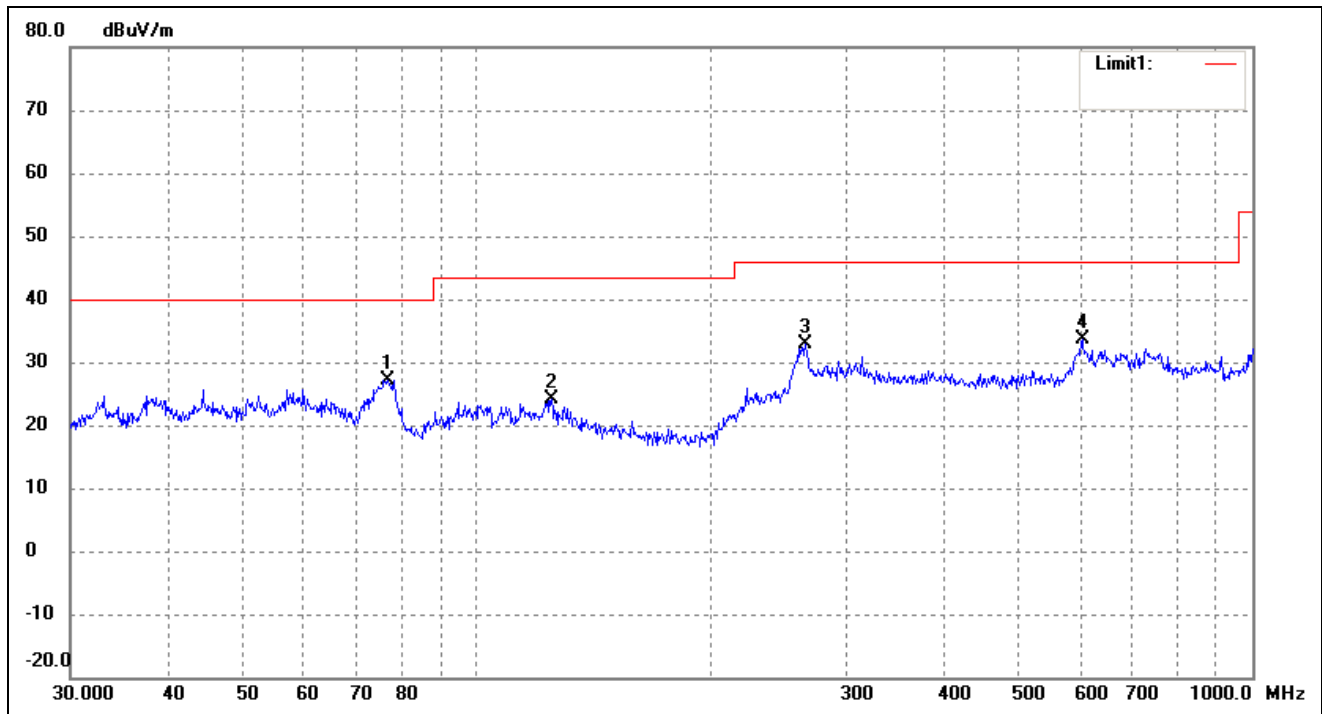
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	250.3012	43.17	-12.13	31.04	46.00	-14.96	323	100	peak
2	327.8873	39.30	-9.49	29.81	46.00	-16.19	96	100	peak
3	375.9385	46.82	-8.88	37.94	46.00	-8.06	58	100	peak
4	625.0780	45.48	-1.51	43.97	46.00	-2.03	100	100	peak

802.11n-HT40			
Test Channel	5510MHz	Polarity:	Vertical



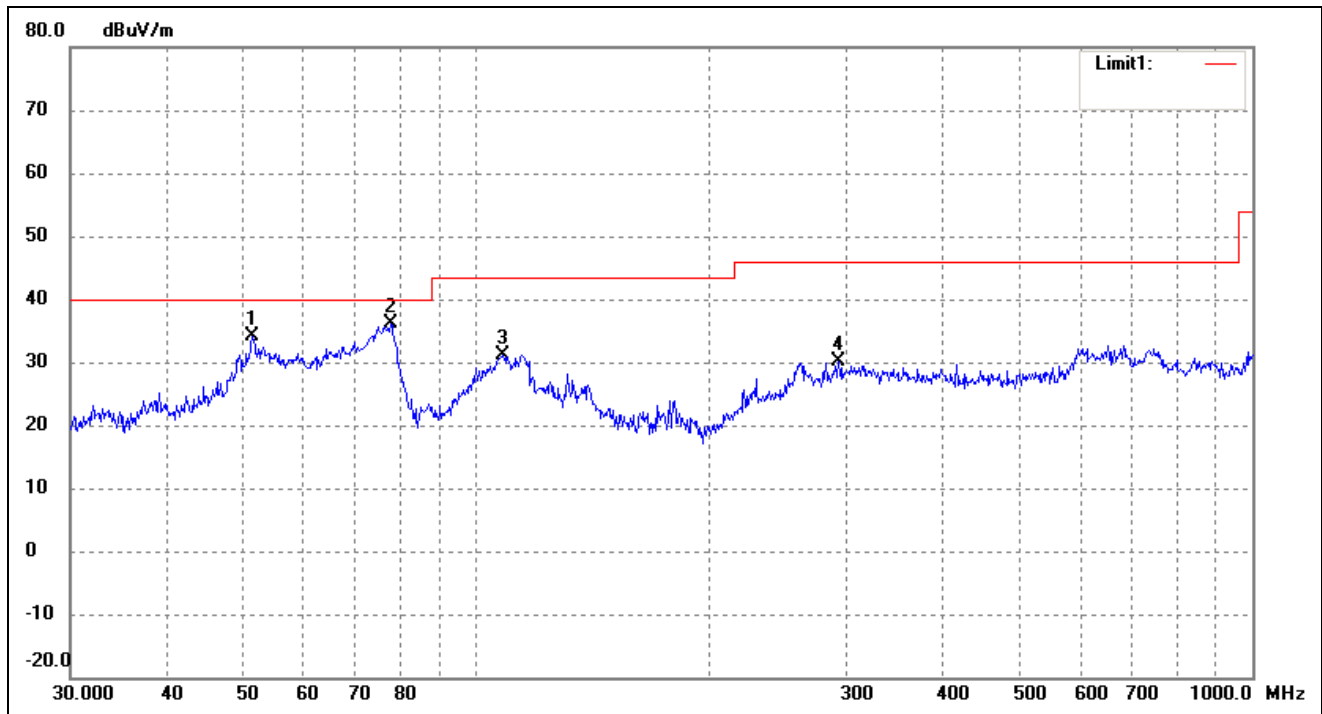
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	250.3012	44.12	-12.13	31.99	46.00	-14.01	227	100	peak
2	326.7395	40.08	-9.47	30.61	46.00	-15.39	171	100	peak
3	375.9385	46.94	-8.88	38.06	46.00	-7.94	66	100	peak
4	625.0780	45.81	-1.51	44.30	46.00	-1.70	211	100	peak

802.11n-HT40			
Test Channel	5590MHz	Polarity:	Horizontal



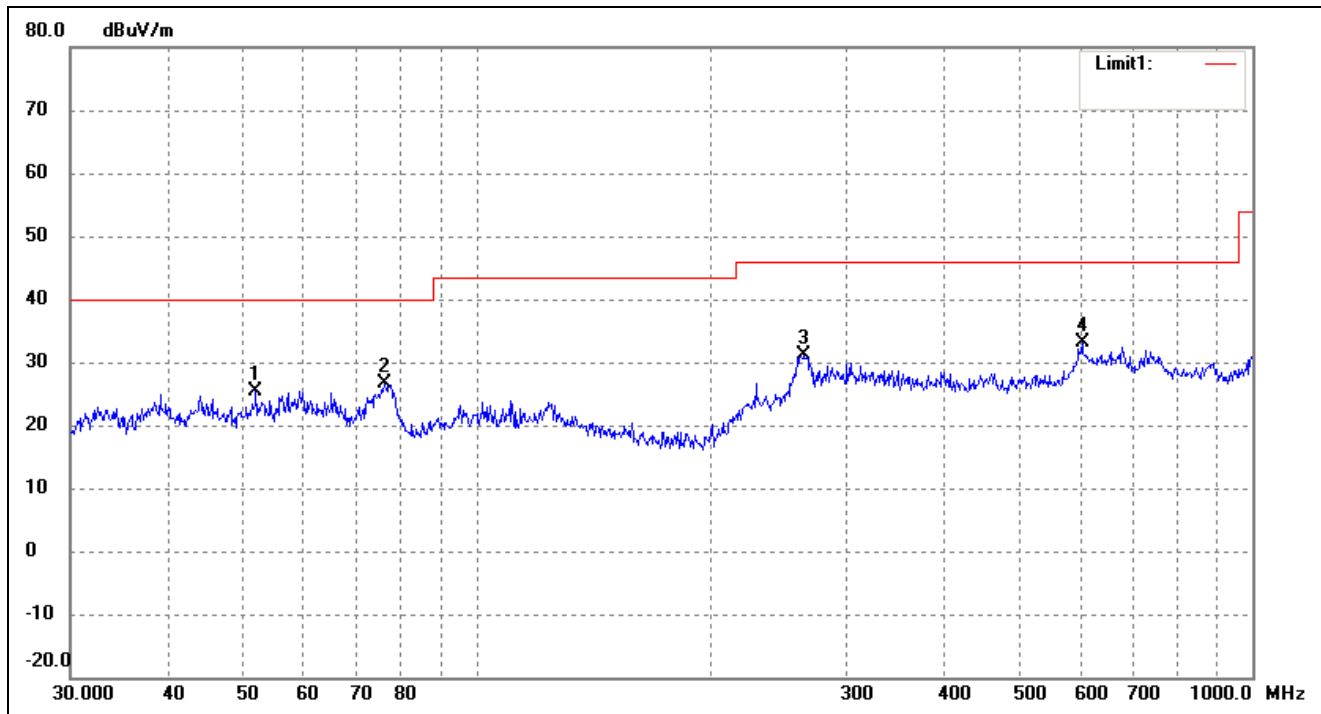
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.7808	45.53	-18.33	27.20	40.00	-12.80	72	100	peak
2	125.0066	39.23	-15.08	24.15	43.50	-19.35	99	100	peak
3	265.6757	39.60	-6.81	32.79	46.00	-13.21	83	100	peak
4	603.5392	31.99	1.66	33.65	46.00	-12.35	145	100	peak

802.11n-HT40			
Test Channel	5590MHz	Polarity:	Vertical



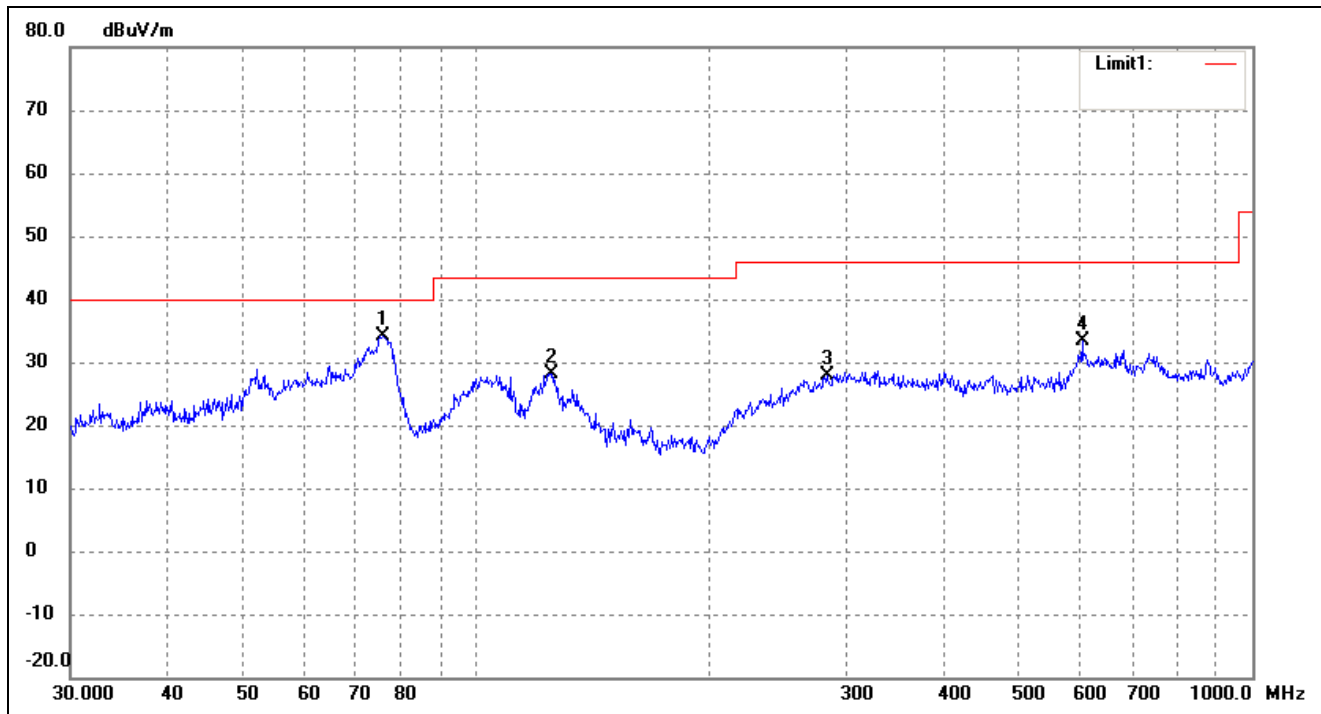
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.4807	49.83	-15.71	34.12	40.00	-5.88	151	100	peak
2	77.5928	54.44	-18.43	36.01	40.00	-3.99	92	100	peak
3	108.2667	46.15	-14.94	31.21	43.50	-12.29	127	100	peak
4	293.0842	34.93	-4.71	30.22	46.00	-15.78	143	100	peak

802.11n-HT40			
Test Channel	5670MHz	Polarity:	Horizontal



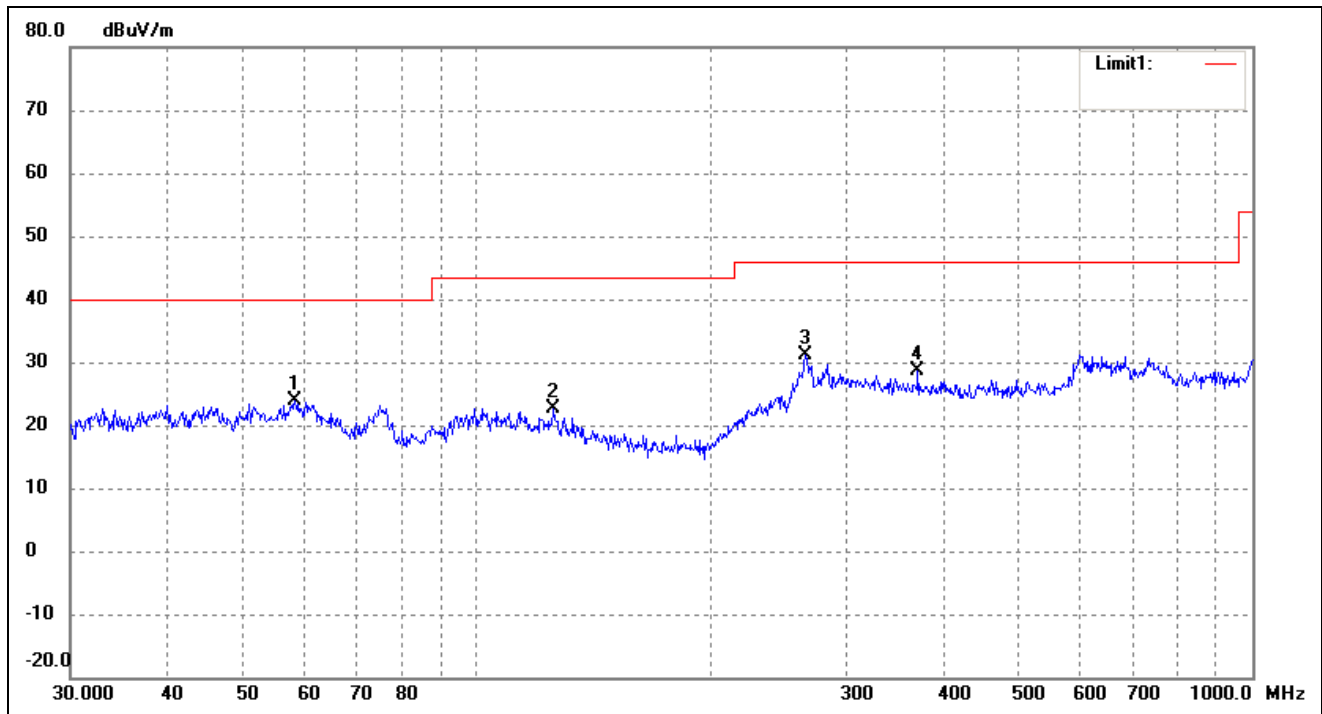
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.0251	41.10	-15.68	25.42	40.00	-14.58	80	100	peak
2	76.2442	44.84	-18.27	26.57	40.00	-13.43	163	100	peak
3	264.7457	38.03	-6.89	31.14	46.00	-14.86	138	100	peak
4	603.5392	31.42	1.66	33.08	46.00	-12.92	91	100	peak

802.11n-HT40			
Test Channel	5670MHz	Polarity:	Vertical



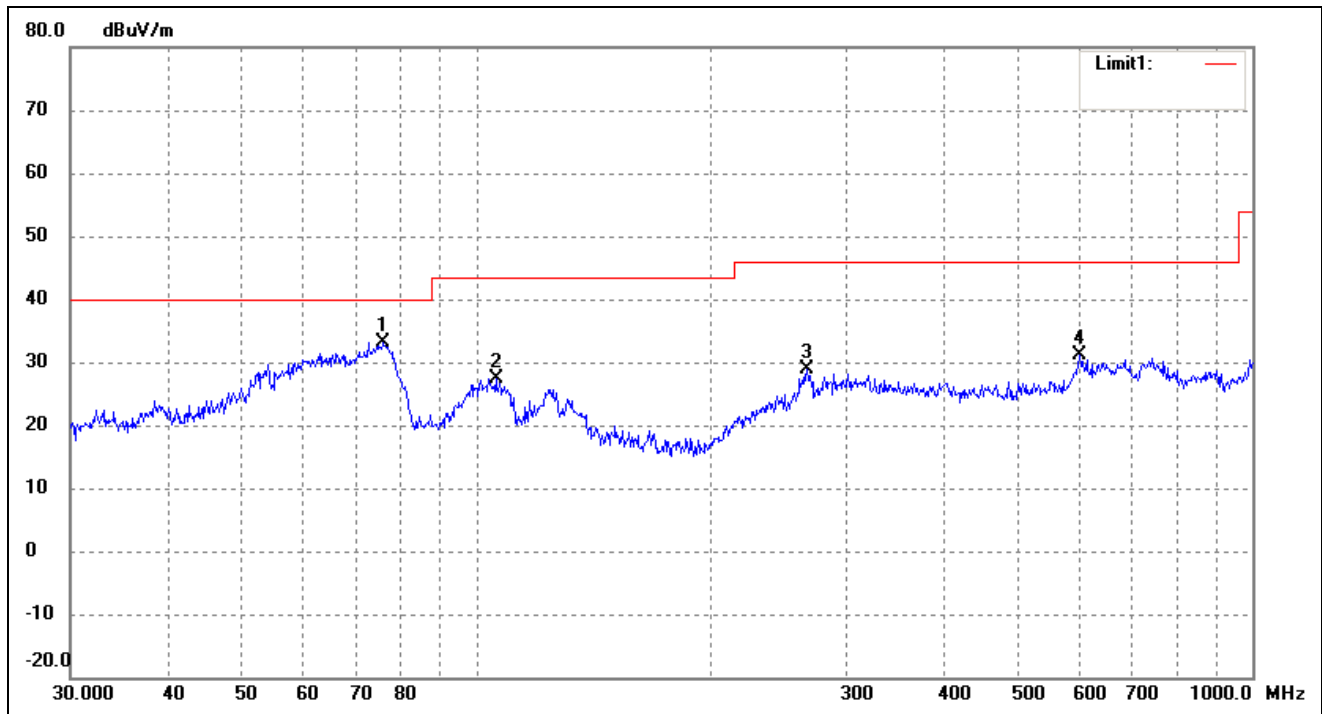
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	52.47	-18.24	34.23	40.00	-5.77	65	100	peak
2	125.0066	43.22	-15.08	28.14	43.50	-15.36	135	100	peak
3	282.9852	33.36	-5.41	27.95	46.00	-18.05	91	100	peak
4	603.5392	31.79	1.66	33.45	46.00	-12.55	259	100	peak

802.11ac-HT80			
Test Channel	5530MHz	Polarity:	Horizontal



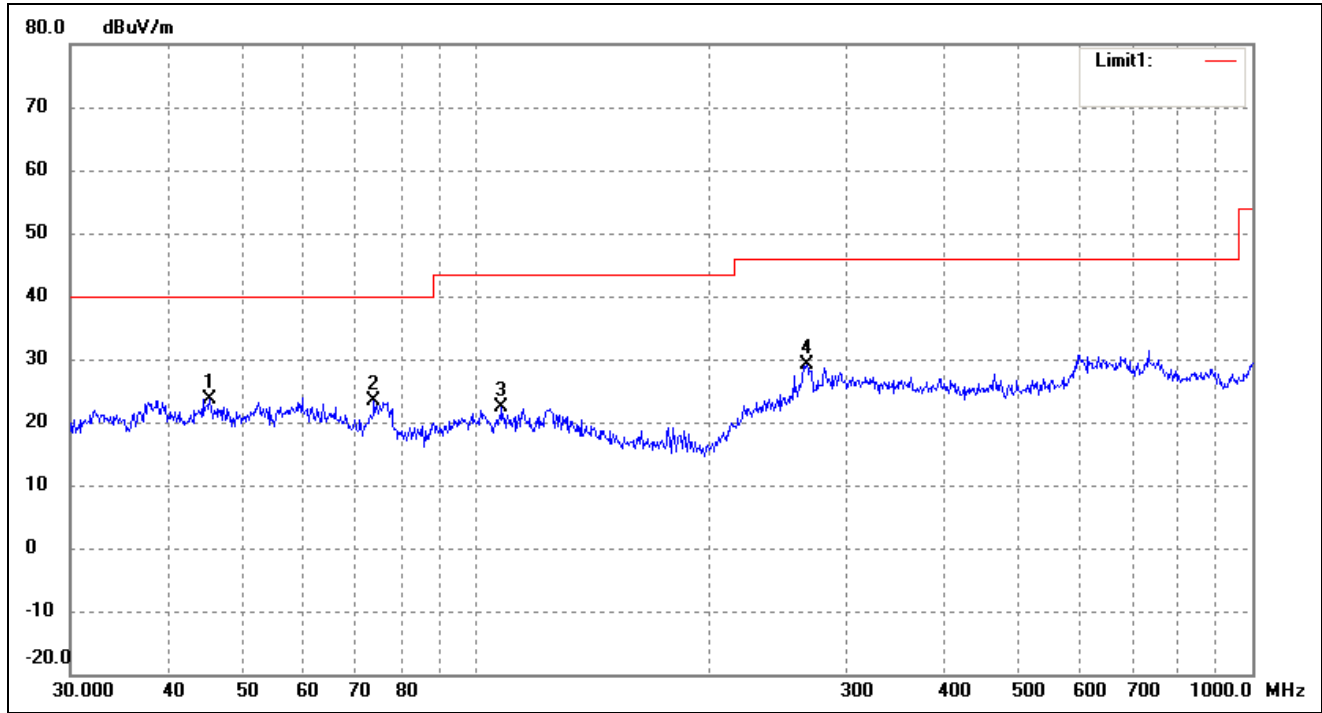
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	58.4074	39.49	-15.54	23.95	40.00	-16.05	235	100	peak
2	125.8864	37.66	-15.14	22.52	43.50	-20.98	136	100	peak
3	265.6757	37.87	-6.81	31.06	46.00	-14.94	81	100	peak
4	370.7023	33.29	-4.60	28.69	46.00	-17.31	281	100	peak

802.11ac-HT80			
Test Channel	5530MHz	Polarity:	Vertical



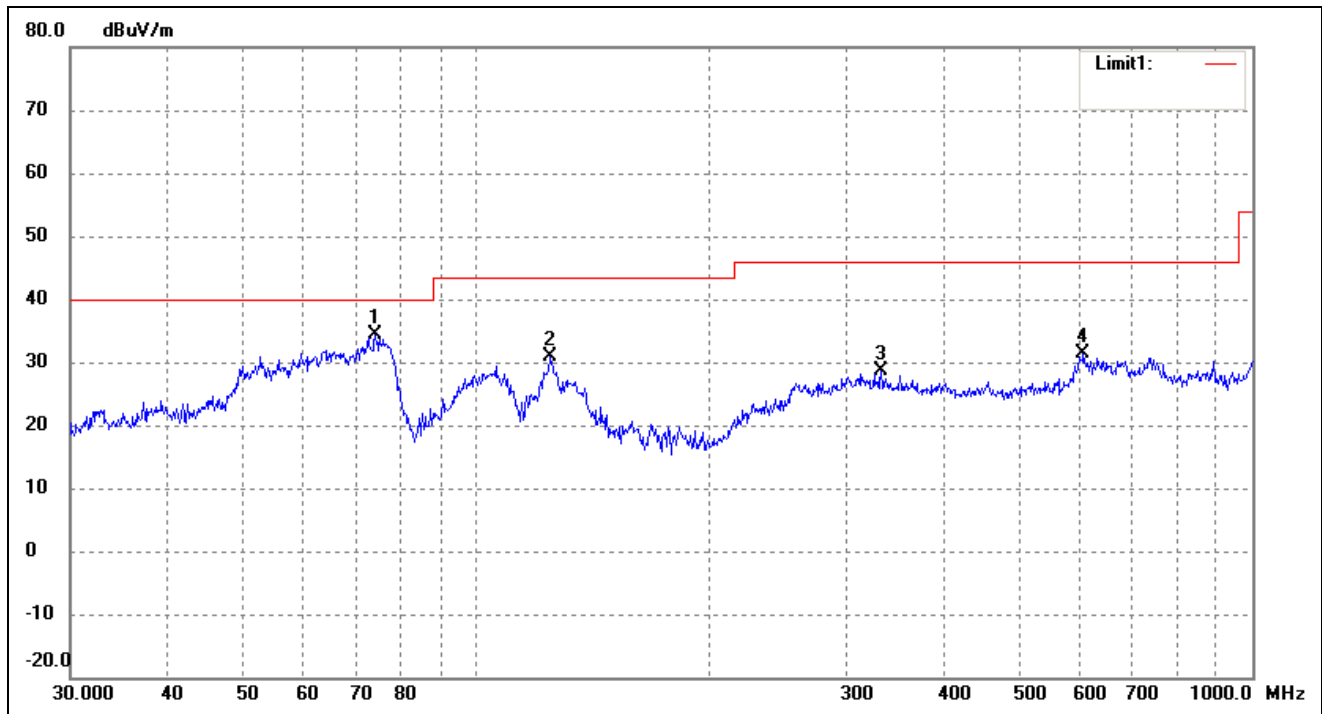
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	51.42	-18.24	33.18	40.00	-6.82	121	100	peak
2	106.0126	42.43	-14.97	27.46	43.50	-16.04	153	100	peak
3	266.6089	35.50	-6.73	28.77	46.00	-17.23	95	100	peak
4	599.3213	29.22	1.79	31.01	46.00	-14.99	238	100	peak

802.11ac-HT80			
Test Channel	5610MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.3755	39.44	-15.82	23.62	40.00	-16.38	100	100	peak
2	73.8756	41.48	-18.01	23.47	40.00	-16.53	109	100	peak
3	107.8877	37.31	-14.95	22.36	43.50	-21.14	106	100	peak
4	266.6089	35.77	-6.73	29.04	46.00	-16.96	135	100	peak

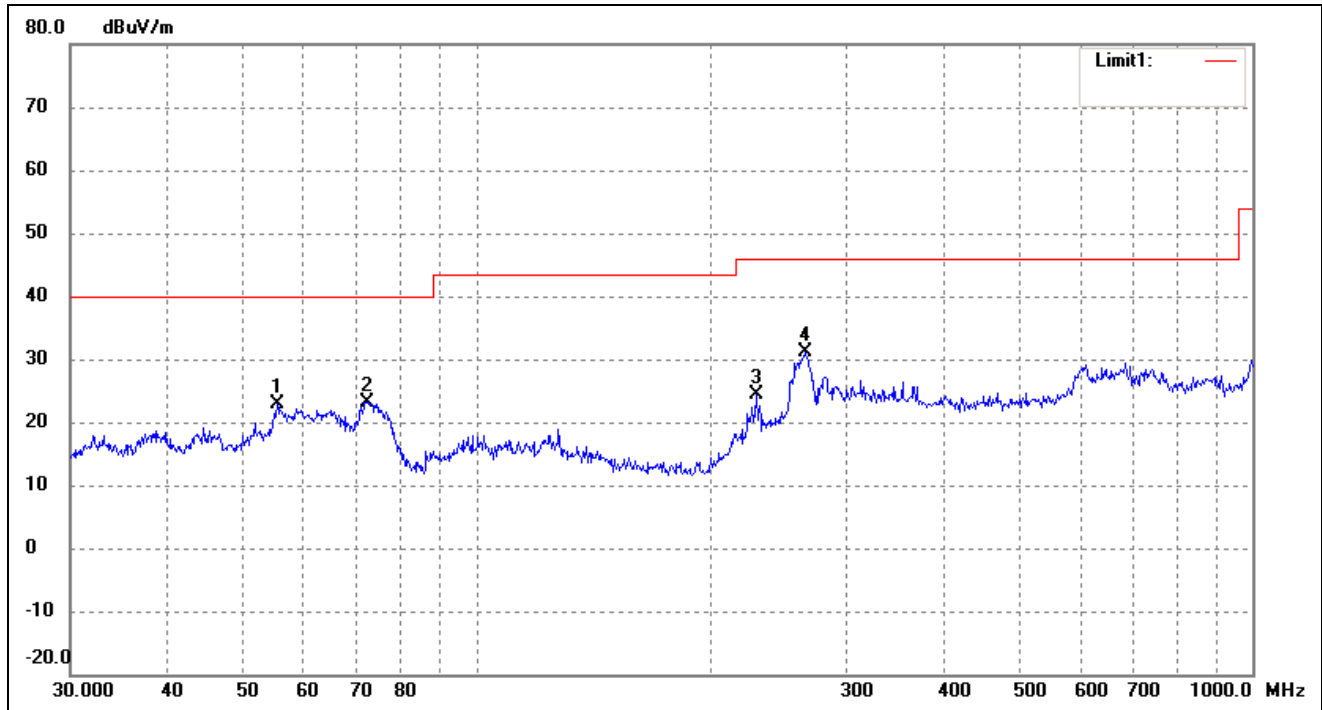
802.11ac-HT80			
Test Channel	5610MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	74.1351	52.32	-18.04	34.28	40.00	-5.72	328	100	peak
2	124.5690	45.92	-15.06	30.86	43.50	-12.64	91	100	peak
3	332.5187	33.19	-4.66	28.53	46.00	-17.47	115	100	peak
4	605.6592	29.83	1.51	31.34	46.00	-14.66	107	100	peak

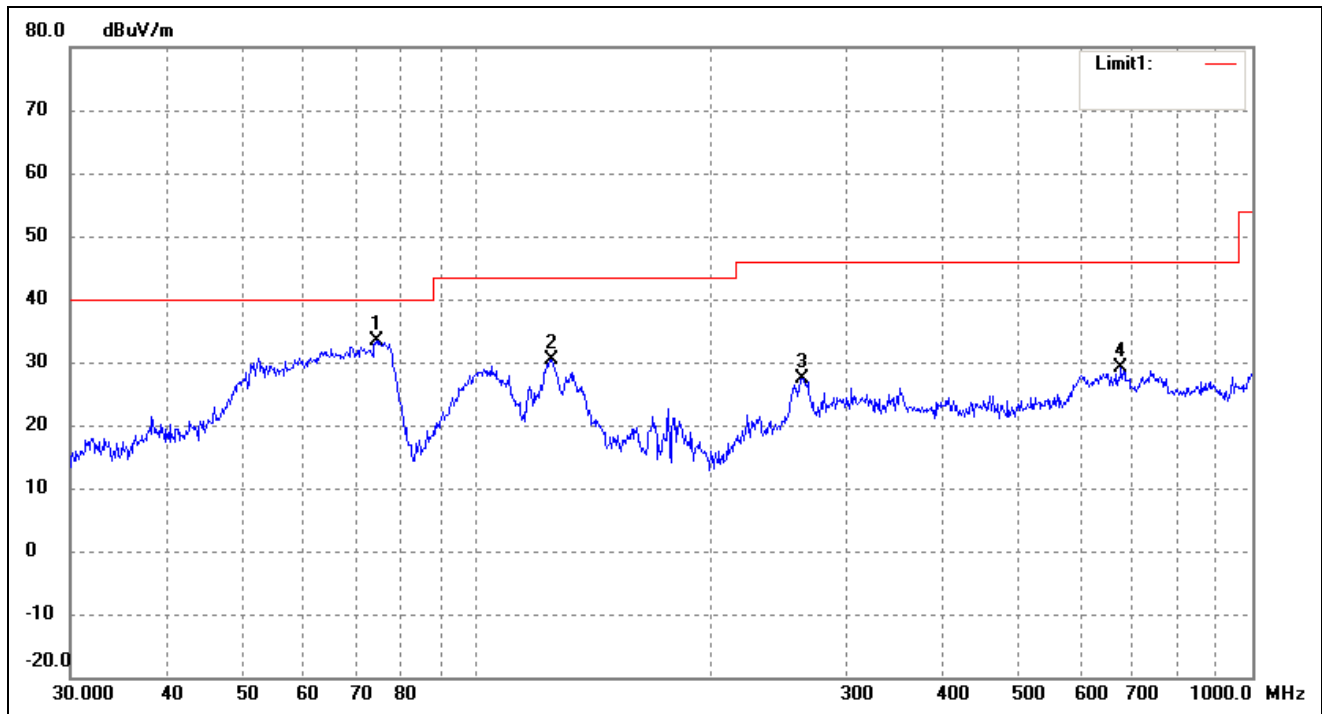
➤ 5725-5850MHz

802.11a			
Test Channel	5745MHz	Polarity:	Horizontal



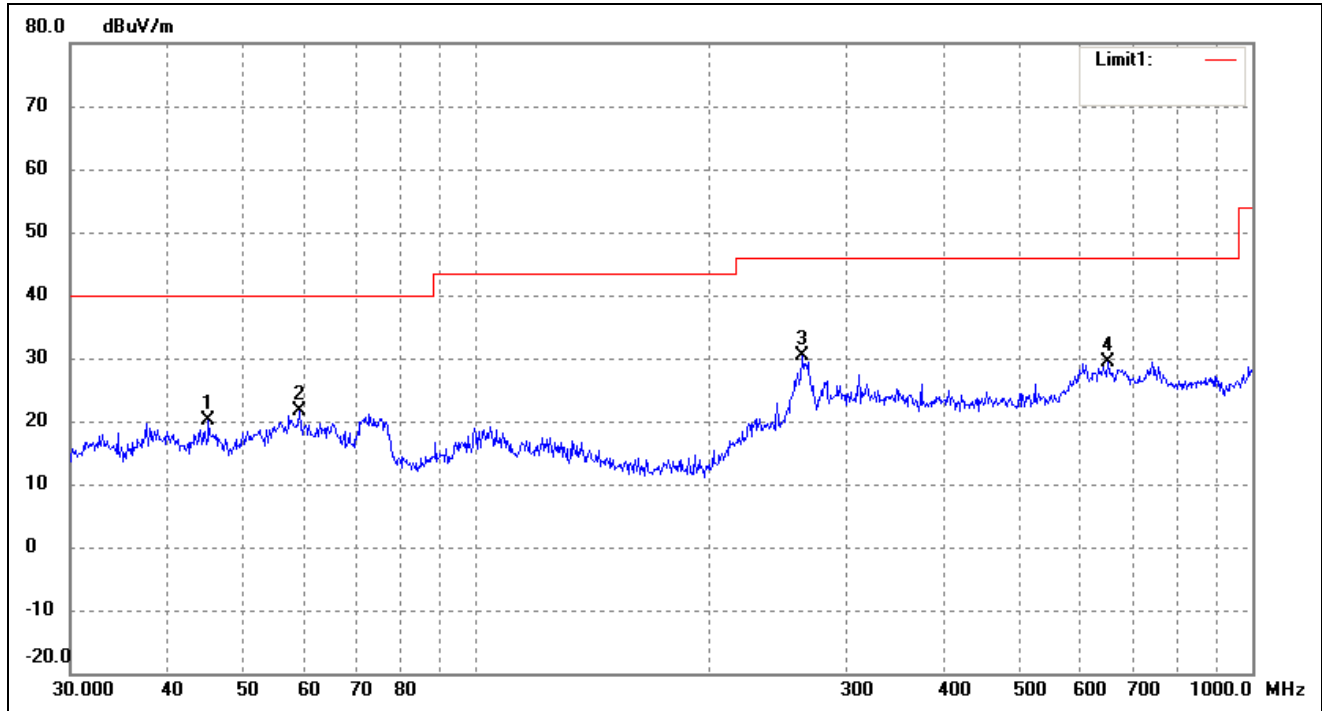
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.4147	38.56	-15.61	22.95	40.00	-17.05	218	100	peak
2	72.3376	41.05	-17.83	23.22	40.00	-16.78	90	100	peak
3	230.0985	33.47	-9.11	24.36	46.00	-21.64	272	100	peak
4	265.6757	37.83	-6.81	31.02	46.00	-14.98	105	100	peak

802.11a			
Test Channel	5745MHz	Polarity:	Vertical



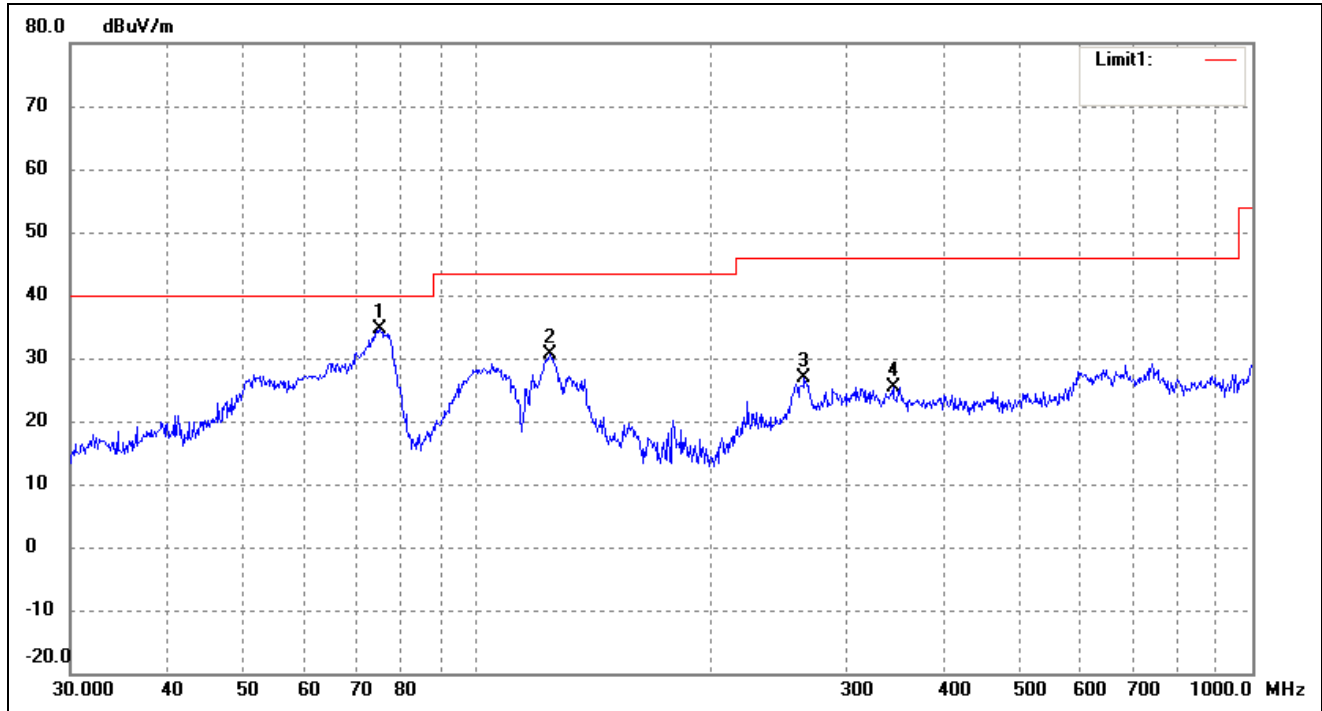
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	74.3955	51.50	-18.07	33.43	40.00	-6.57	99	100	peak
2	125.0066	45.42	-15.08	30.34	43.50	-13.16	302	100	peak
3	262.8955	34.54	-7.05	27.49	46.00	-18.51	65	100	peak
4	677.5798	27.27	1.92	29.19	46.00	-16.81	331	100	peak

802.11a			
Test Channel	5785MHz	Polarity:	Horizontal



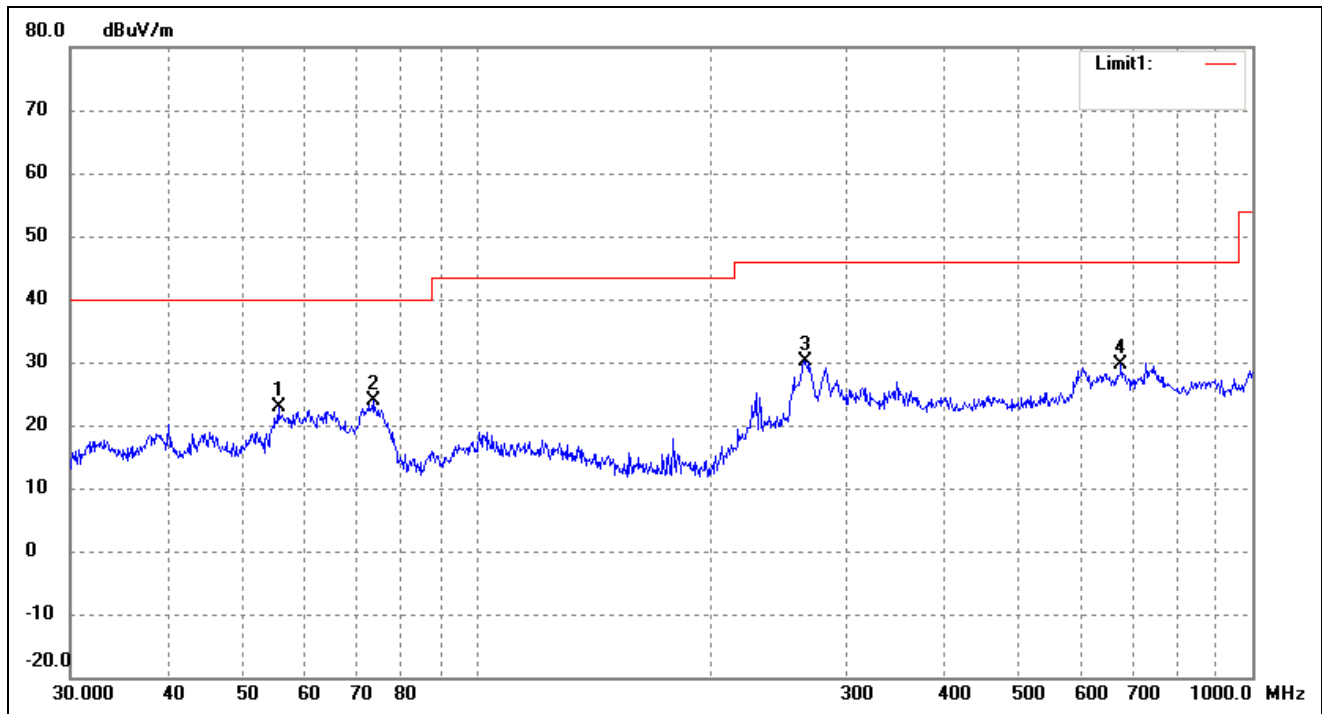
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.2166	35.97	-15.82	20.15	40.00	-19.85	111	100	peak
2	59.2325	37.15	-15.52	21.63	40.00	-18.37	177	100	peak
3	262.8955	37.53	-7.05	30.48	46.00	-15.52	95	100	peak
4	651.9417	28.58	0.88	29.46	46.00	-16.54	319	100	peak

802.11a			
Test Channel	5785MHz	Polarity:	Vertical



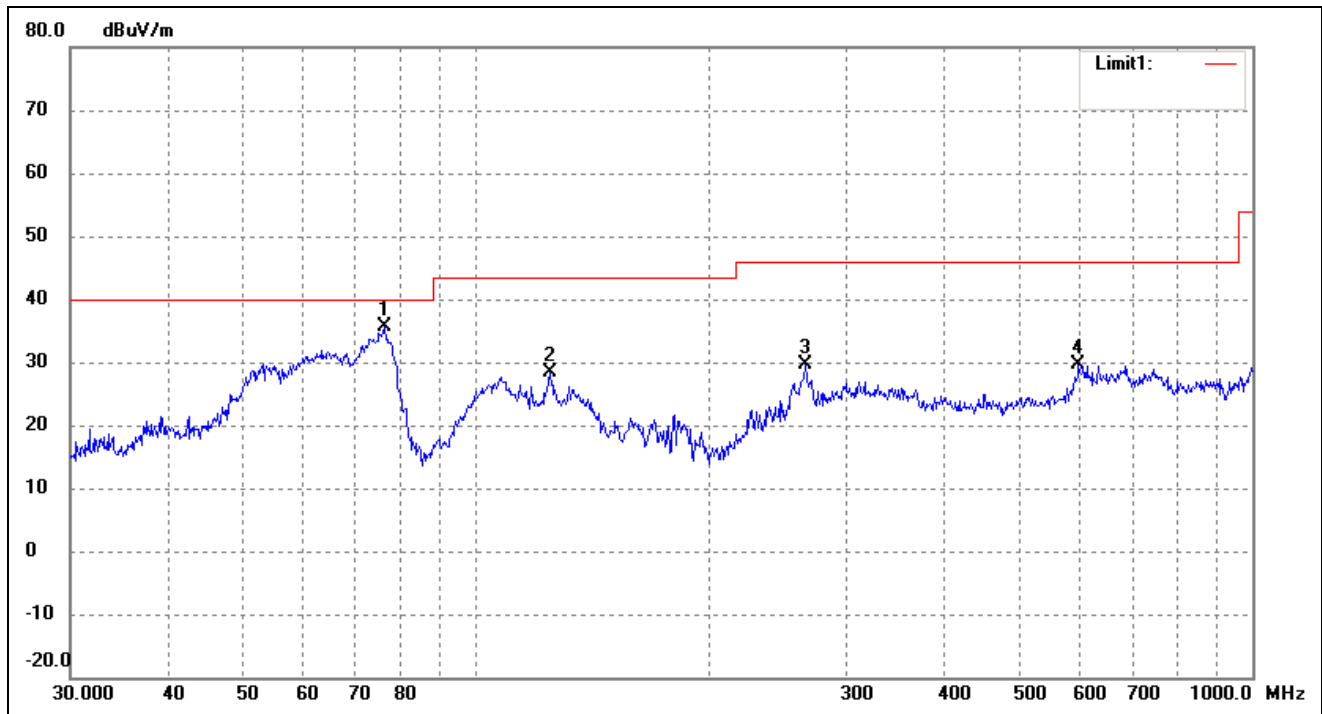
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.1823	52.81	-18.15	34.66	40.00	-5.34	24	100	peak
2	124.5690	45.75	-15.06	30.69	43.50	-12.81	90	100	peak
3	264.7457	33.66	-6.89	26.77	46.00	-19.23	68	100	peak
4	344.3855	30.25	-4.83	25.42	46.00	-20.58	143	100	peak

802.11a			
Test Channel	5825MHz	Polarity:	Horizontal



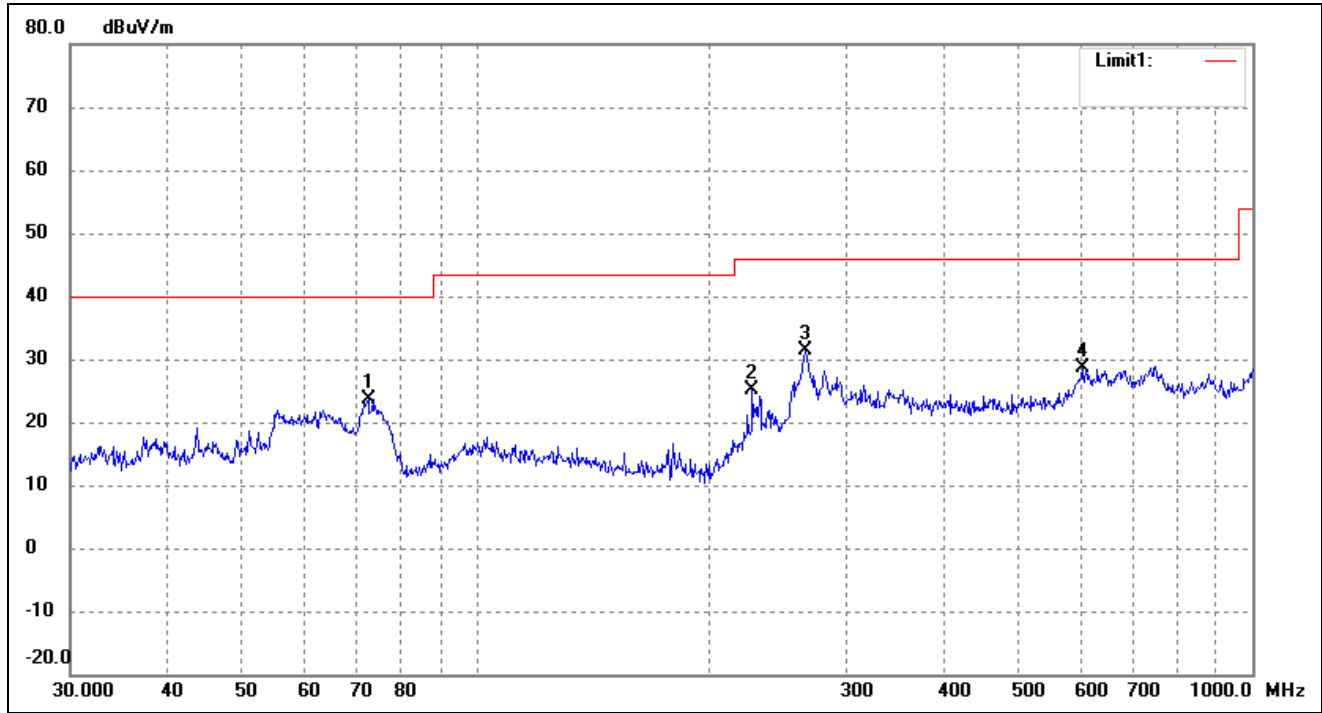
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.6094	38.40	-15.59	22.81	40.00	-17.19	91	100	peak
2	73.6170	41.78	-17.97	23.81	40.00	-16.19	169	100	peak
3	265.6757	37.05	-6.81	30.24	46.00	-15.76	128	100	peak
4	677.5798	27.73	1.92	29.65	46.00	-16.35	128	100	peak

802.11a			
Test Channel	5825MHz	Polarity:	Vertical



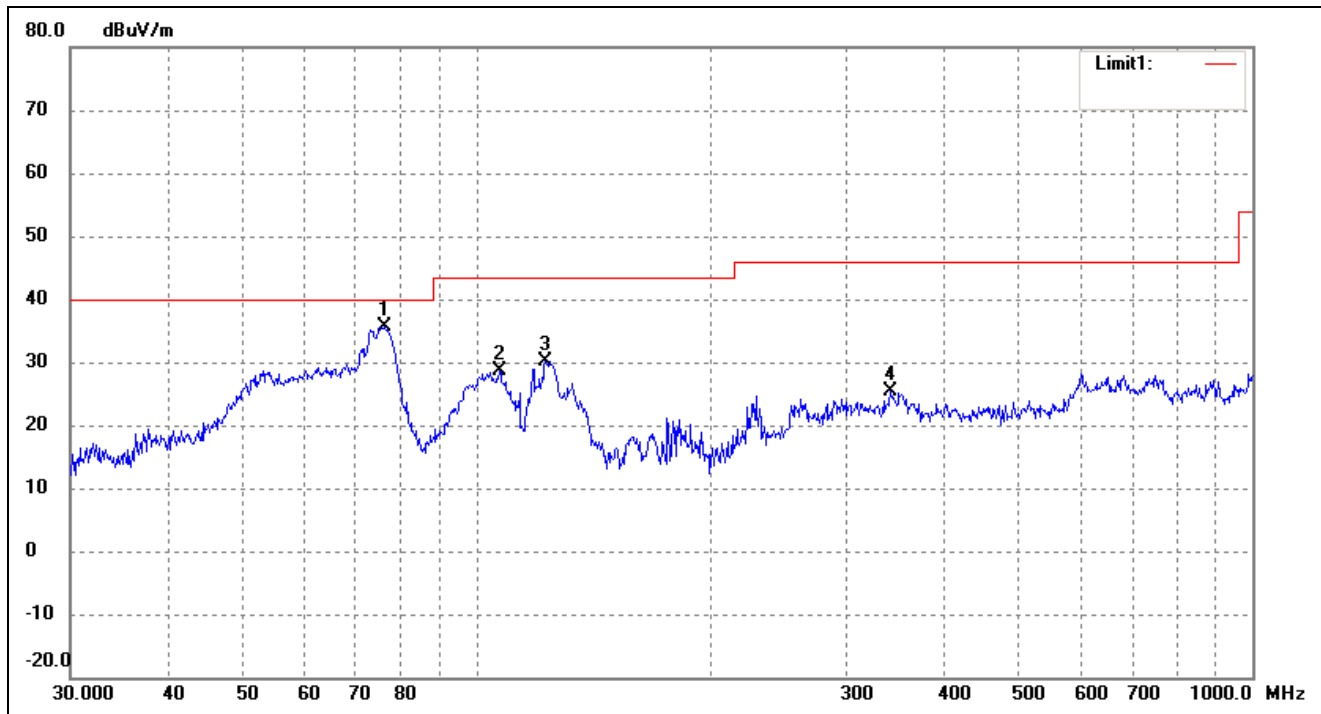
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.2442	53.78	-18.27	35.51	40.00	-4.49	179	100	peak
2	124.5690	43.36	-15.06	28.30	43.50	-15.20	219	100	peak
3	265.6757	36.56	-6.81	29.75	46.00	-16.25	100	100	peak
4	597.2234	28.24	1.40	29.64	46.00	-16.36	292	100	peak

802.11n-HT20			
Test Channel	5745MHz	Polarity:	Horizontal



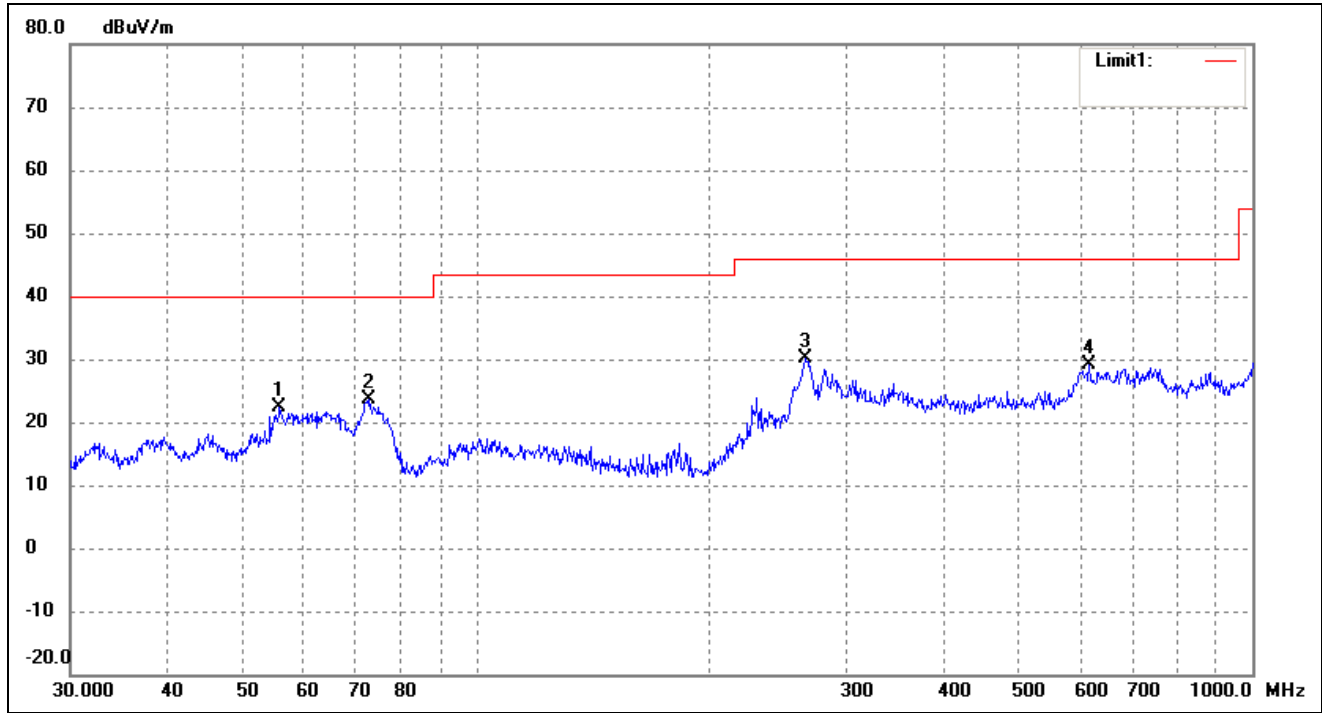
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	72.5917	41.50	-17.85	23.65	40.00	-16.35	71	100	peak
2	226.8936	34.40	-9.37	25.03	46.00	-20.97	262	100	peak
3	265.6757	38.27	-6.81	31.46	46.00	-14.54	84	100	peak
4	603.5392	26.89	1.66	28.55	46.00	-17.45	295	100	peak

802.11n-HT20			
Test Channel	5745MHz	Polarity:	Vertical



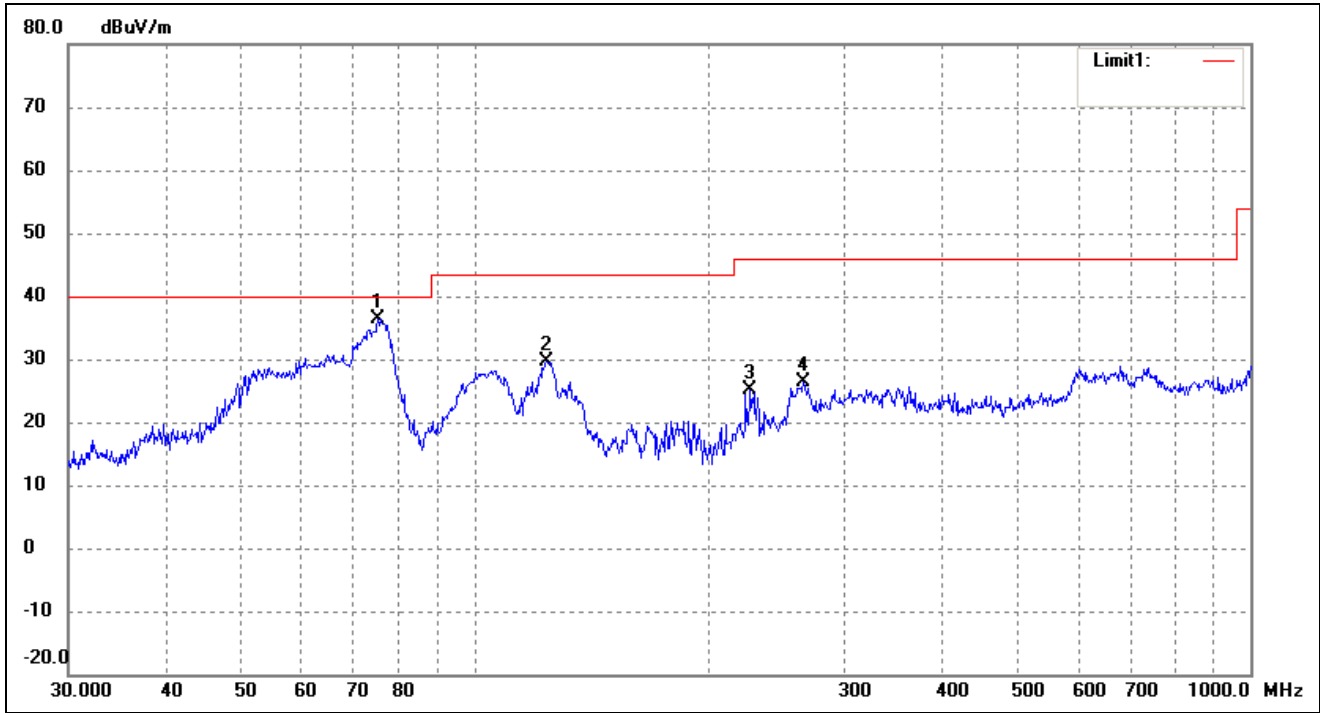
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.2442	54.00	-18.27	35.73	40.00	-4.27	88	100	peak
2	107.1337	43.63	-14.96	28.67	43.50	-14.83	175	100	peak
3	122.8340	44.96	-14.94	30.02	43.50	-13.48	90	100	peak
4	341.9787	30.34	-4.88	25.46	46.00	-20.54	117	100	peak

802.11n-HT20			
Test Channel	5785MHz	Polarity:	Horizontal



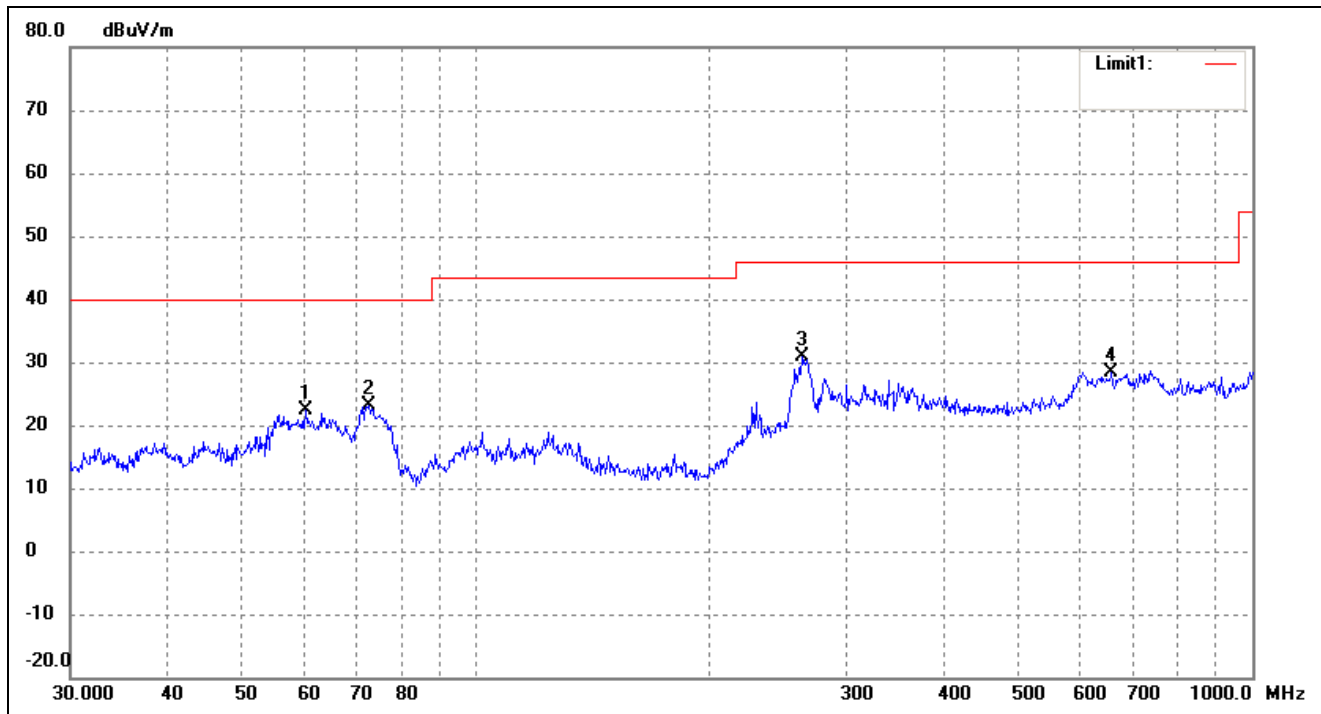
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.8047	37.87	-15.59	22.28	40.00	-17.72	80	100	peak
2	72.8466	41.39	-17.88	23.51	40.00	-16.49	229	100	peak
3	265.6757	36.90	-6.81	30.09	46.00	-15.91	94	100	peak
4	616.3718	28.32	0.75	29.07	46.00	-16.93	150	100	peak

802.11n-HT20			
Test Channel	5785MHz	Polarity:	Vertical



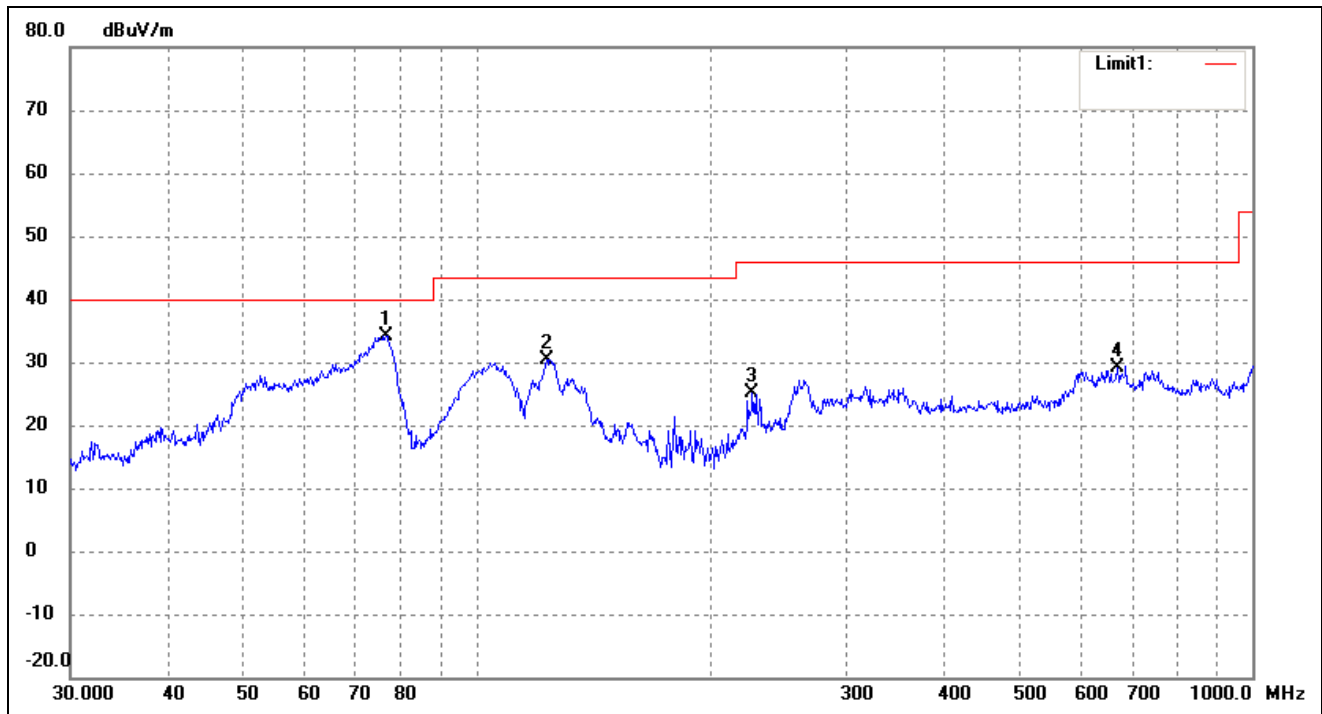
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.1823	54.48	-18.15	36.33	40.00	-3.67	297	100	peak
2	124.1330	44.71	-15.03	29.68	43.50	-13.82	93	100	peak
3	226.8936	34.44	-9.37	25.07	46.00	-20.93	87	100	peak
4	265.6757	33.08	-6.81	26.27	46.00	-19.73	100	100	peak

802.11n-HT20			
Test Channel	5825MHz	Polarity:	Horizontal



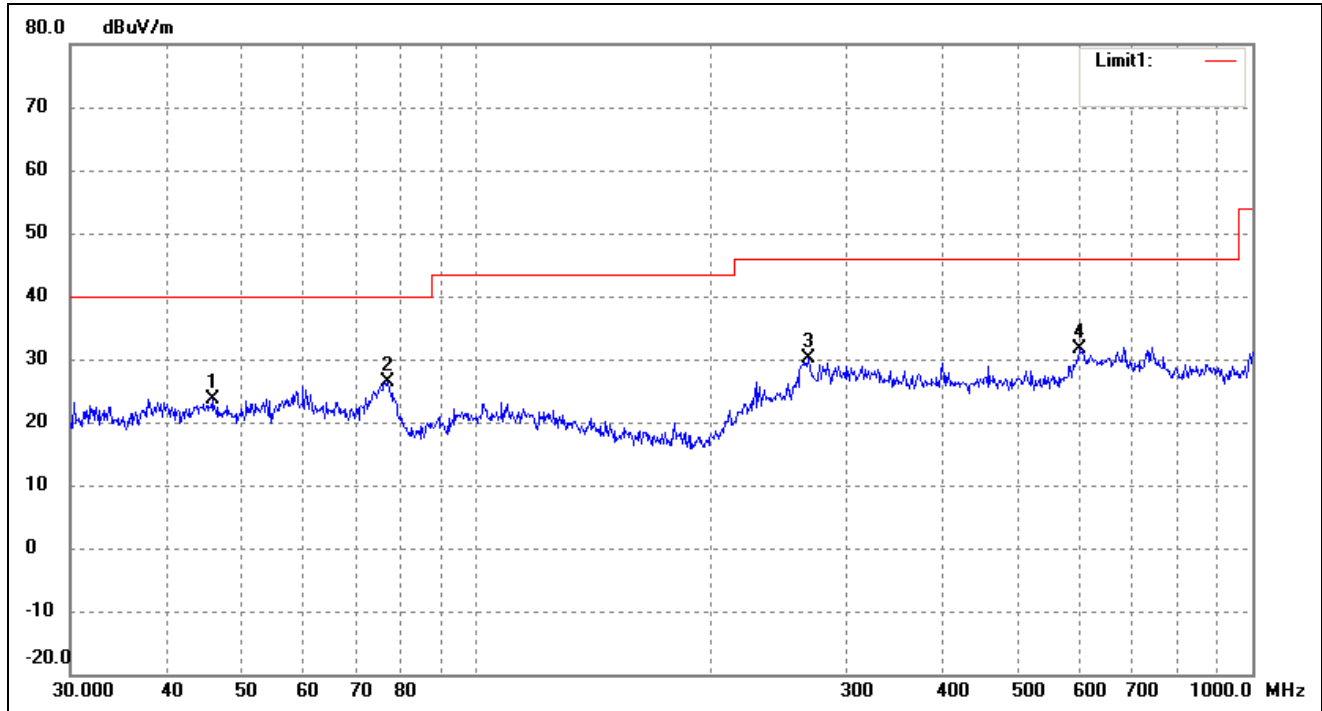
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	60.2801	38.03	-15.56	22.47	40.00	-17.53	204	100	peak
2	72.8466	41.08	-17.88	23.20	40.00	-16.80	100	100	peak
3	262.8955	37.82	-7.05	30.77	46.00	-15.23	137	100	peak
4	658.8362	27.61	0.78	28.39	46.00	-17.61	95	100	peak

802.11n-HT20			
Test Channel	5825MHz	Polarity:	Vertical



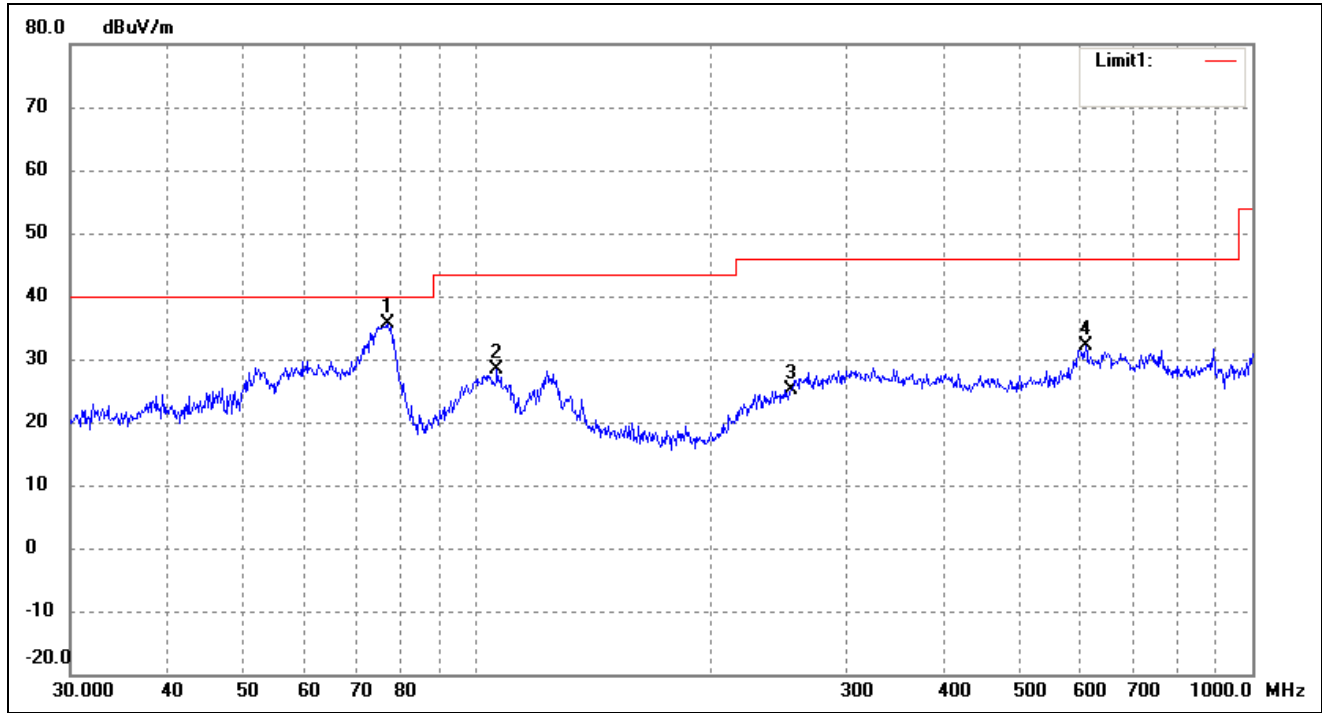
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.5121	52.55	-18.30	34.25	40.00	-5.75	78	100	peak
2	123.2655	45.34	-14.97	30.37	43.50	-13.13	161	100	peak
3	226.8936	34.48	-9.37	25.11	46.00	-20.89	71	100	peak
4	670.4893	27.72	1.45	29.17	46.00	-16.83	117	100	peak

802.11n-HT40			
Test Channel	5755MHz	Polarity:	Horizontal



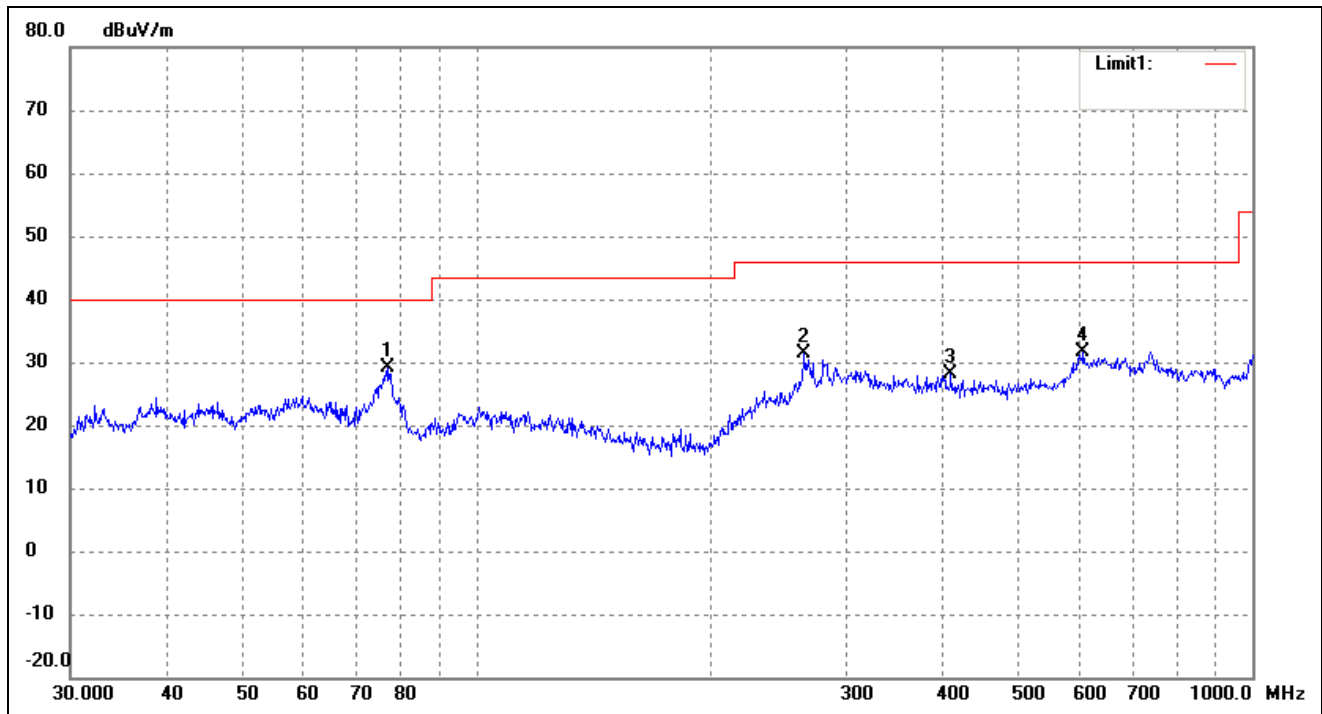
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.6948	39.49	-15.81	23.68	40.00	-16.32	63	100	peak
2	76.7808	44.64	-18.33	26.31	40.00	-13.69	124	100	peak
3	267.5455	36.72	-6.66	30.06	46.00	-15.94	58	100	peak
4	599.3213	29.75	1.79	31.54	46.00	-14.46	243	100	peak

802.11n-HT40			
Test Channel	5755MHz	Polarity:	Vertical



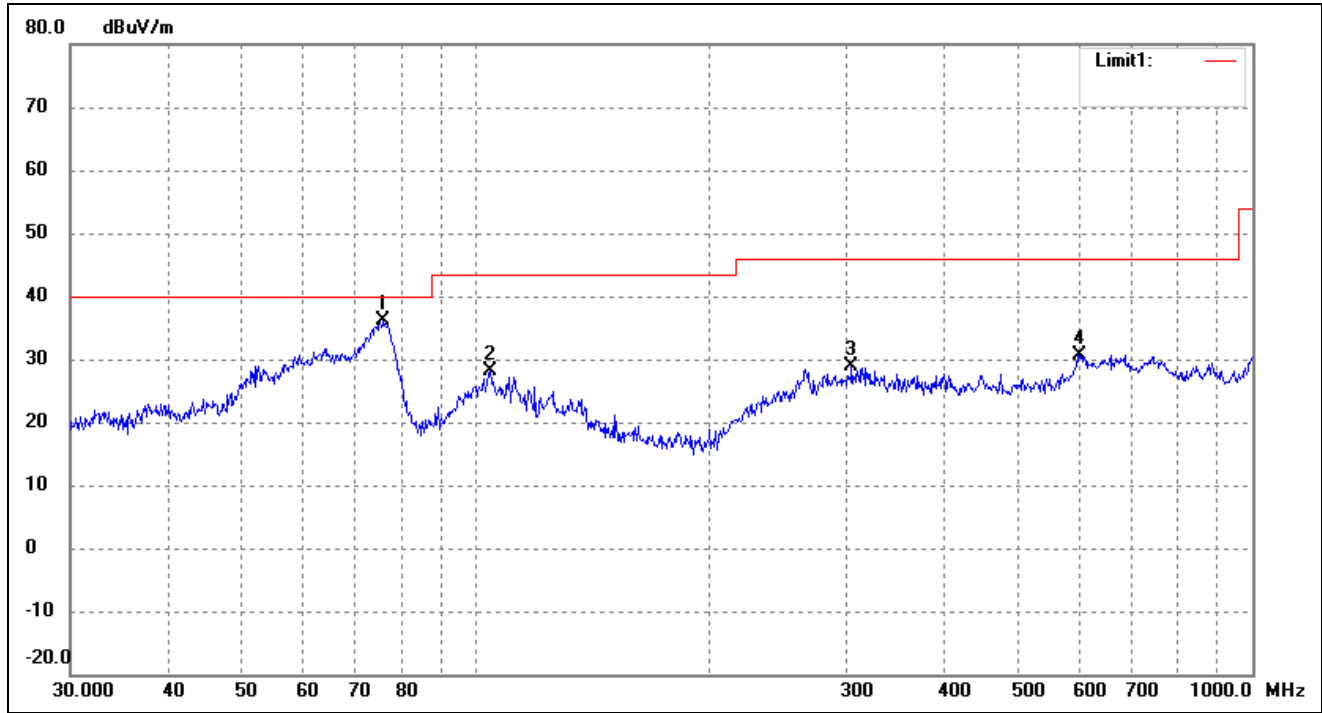
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	76.7808	54.06	-18.33	35.73	40.00	-4.27	259	100	peak
2	106.3850	43.25	-14.96	28.29	43.50	-15.21	97	100	peak
3	254.7284	32.79	-7.56	25.23	46.00	-20.77	94	100	peak
4	609.9217	30.80	1.21	32.01	46.00	-13.99	130	100	peak

802.11n-HT40			
Test Channel	5795MHz	Polarity:	Horizontal



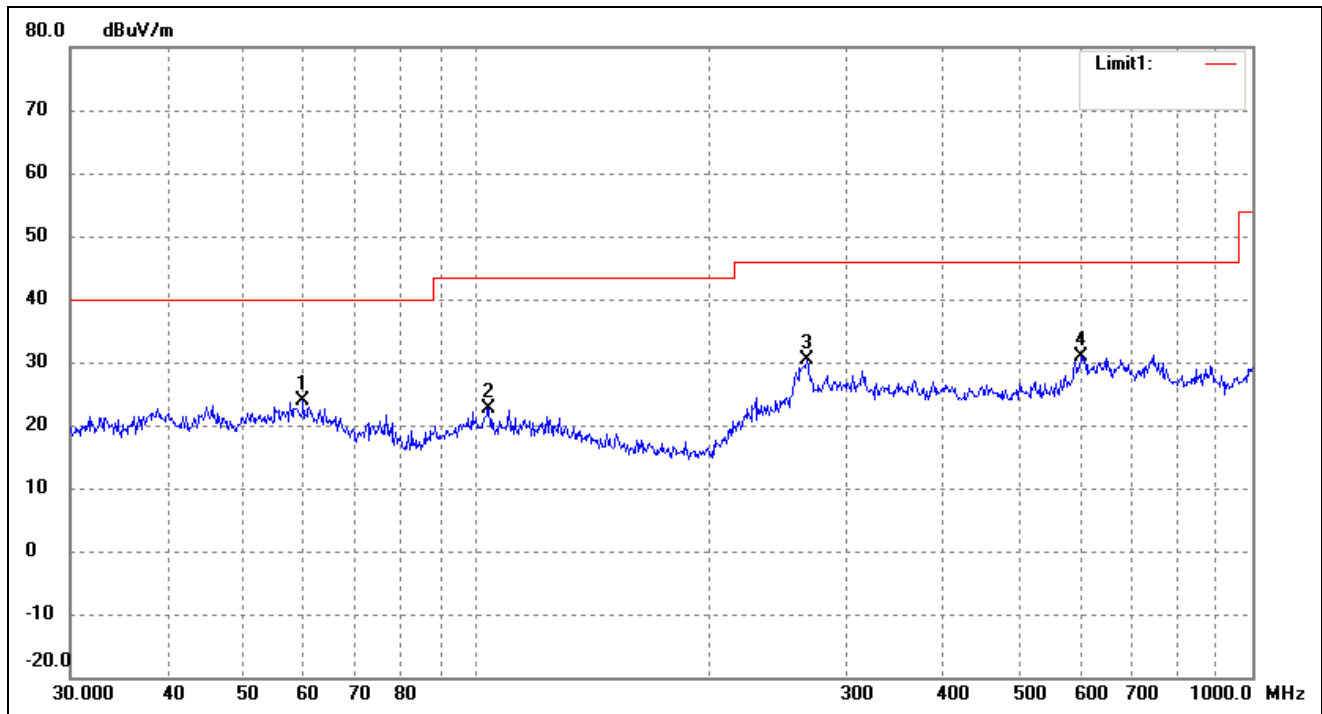
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	77.0505	47.49	-18.37	29.12	40.00	-10.88	101	100	peak
2	264.7457	38.21	-6.89	31.32	46.00	-14.68	107	100	peak
3	408.9460	32.30	-4.23	28.07	46.00	-17.93	107	100	peak
4	605.6592	30.23	1.51	31.74	46.00	-14.26	170	100	peak

802.11n-HT40			
Test Channel	5795MHz	Polarity:	Vertical



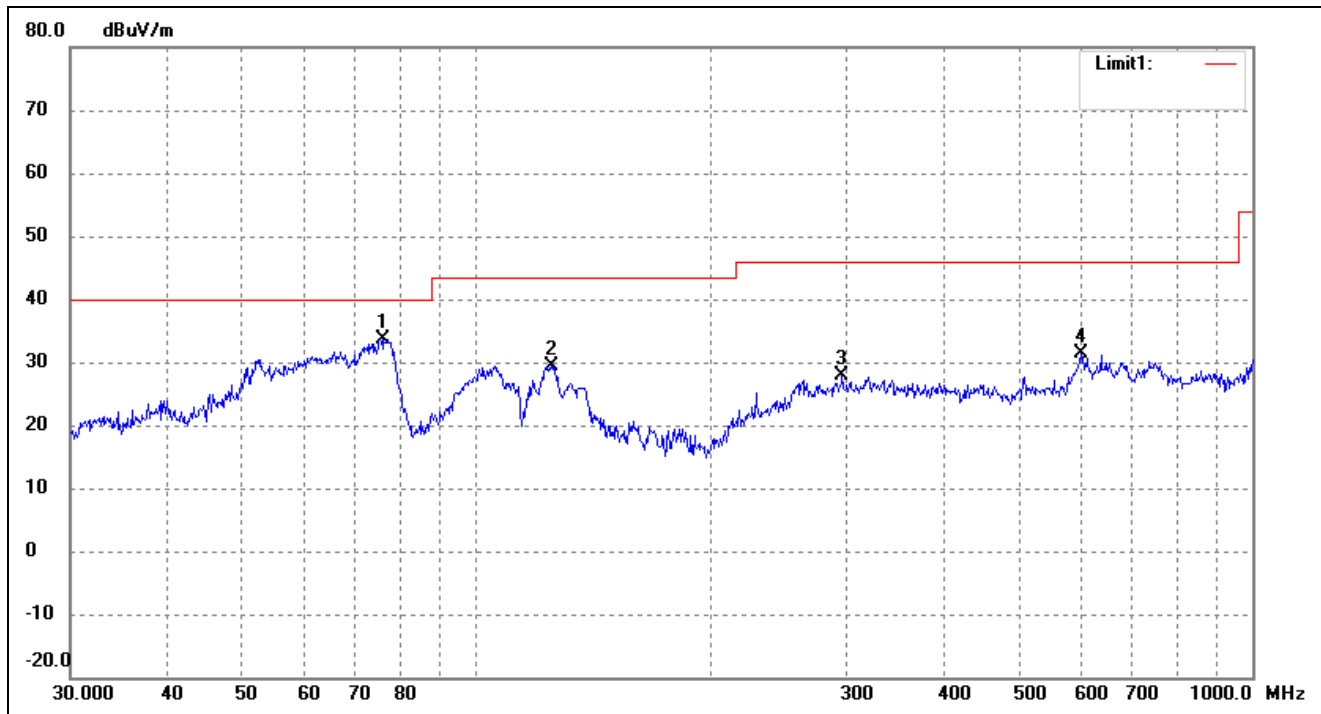
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	54.32	-18.24	36.08	40.00	-3.92	197	100	peak
2	104.1701	43.07	-15.00	28.07	43.50	-15.43	216	100	peak
3	304.6100	33.22	-4.24	28.98	46.00	-17.02	62	100	peak
4	599.3213	28.95	1.79	30.74	46.00	-15.26	144	100	peak

802.11ac-HT80			
Test Channel	5775MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	59.8588	39.26	-15.50	23.76	40.00	-16.24	67	100	peak
2	103.8055	37.64	-15.01	22.63	43.50	-20.87	192	100	peak
3	266.6089	37.20	-6.73	30.47	46.00	-15.53	53	100	peak
4	601.4265	29.05	1.81	30.86	46.00	-15.14	99	100	peak

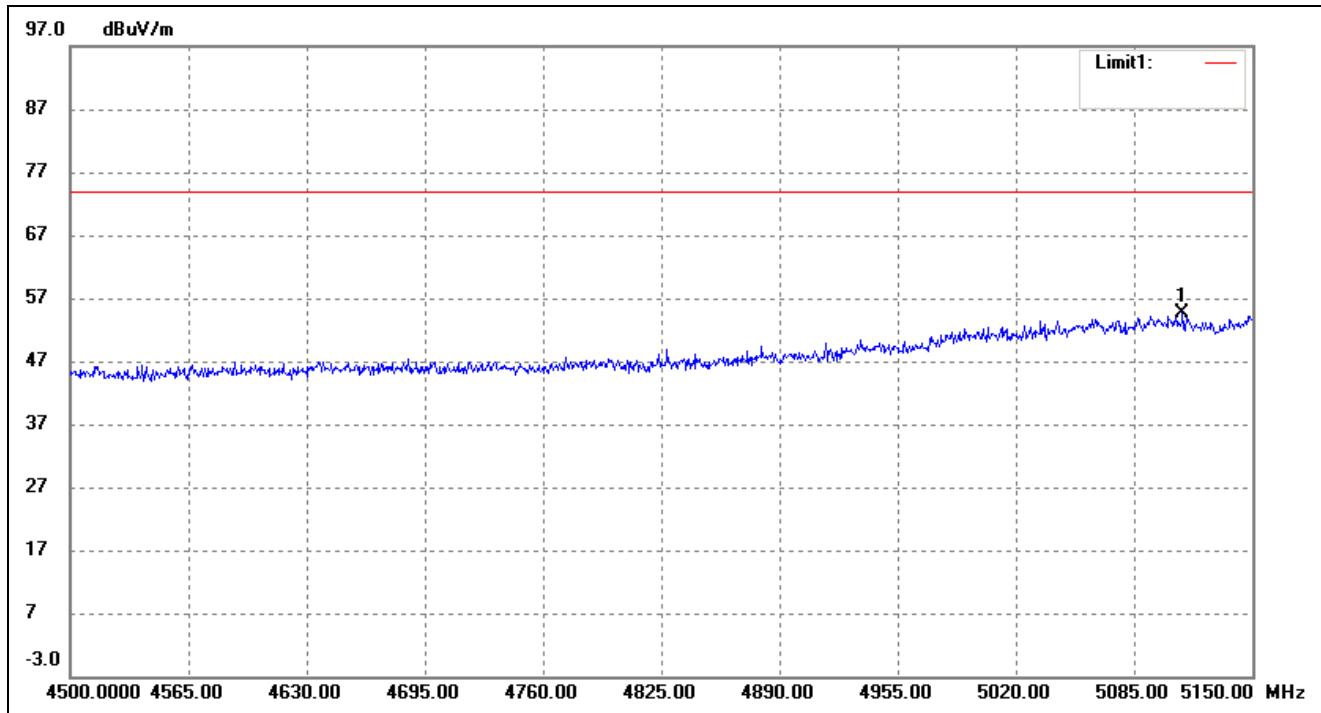
802.11ac-HT80			
Test Channel	5775MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	75.9773	51.98	-18.24	33.74	40.00	-6.26	200	100	peak
2	125.0066	44.54	-15.08	29.46	43.50	-14.04	204	100	peak
3	296.1836	32.42	-4.50	27.92	46.00	-18.08	55	100	peak
4	601.4265	29.64	1.81	31.45	46.00	-14.55	156	100	peak

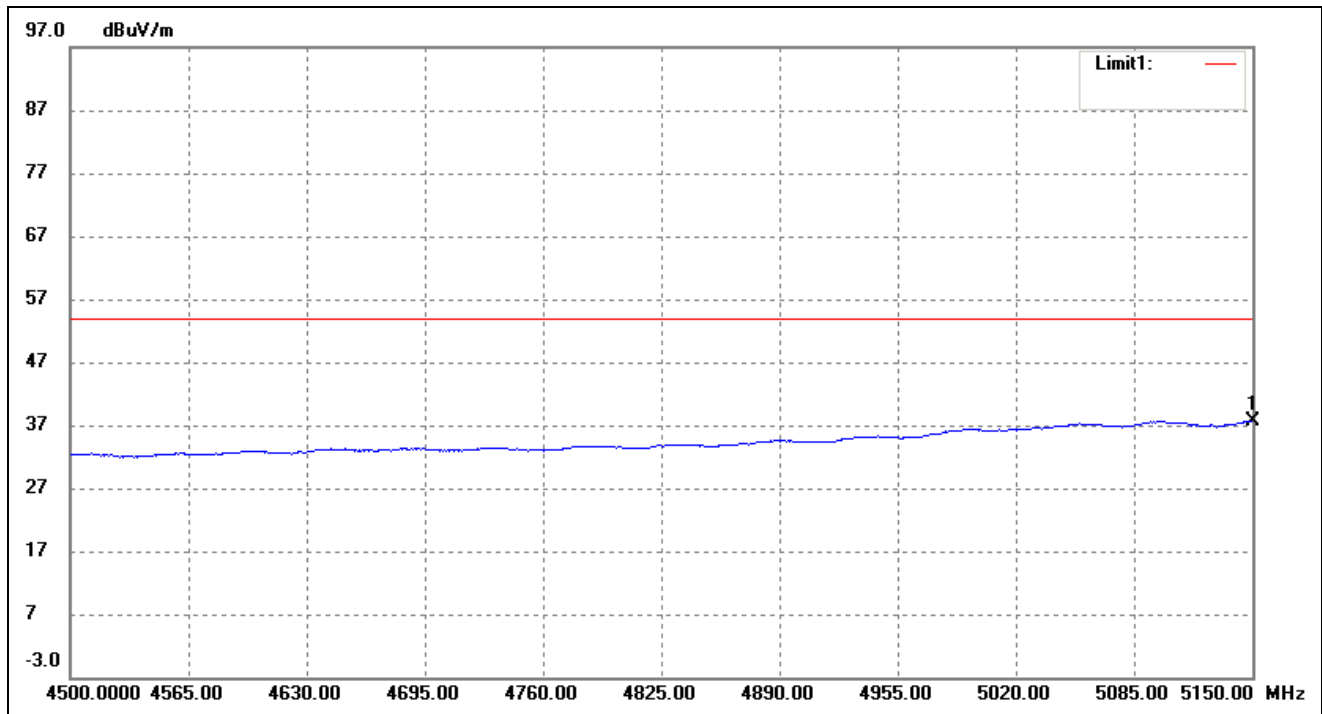
➤ Spurious Emission above 1GHz

802.11a- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



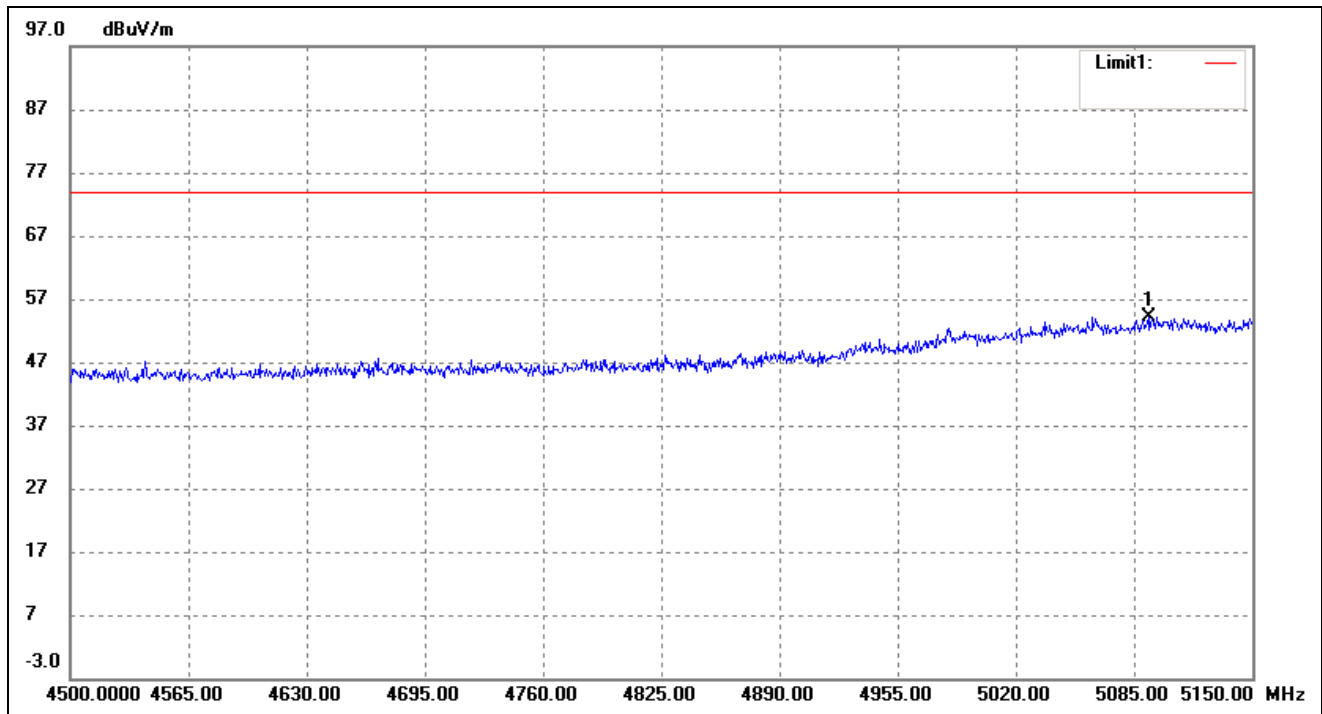
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5111.650	54.95	-0.22	54.73	74.00	-19.27	130	100	peak

802.11a- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



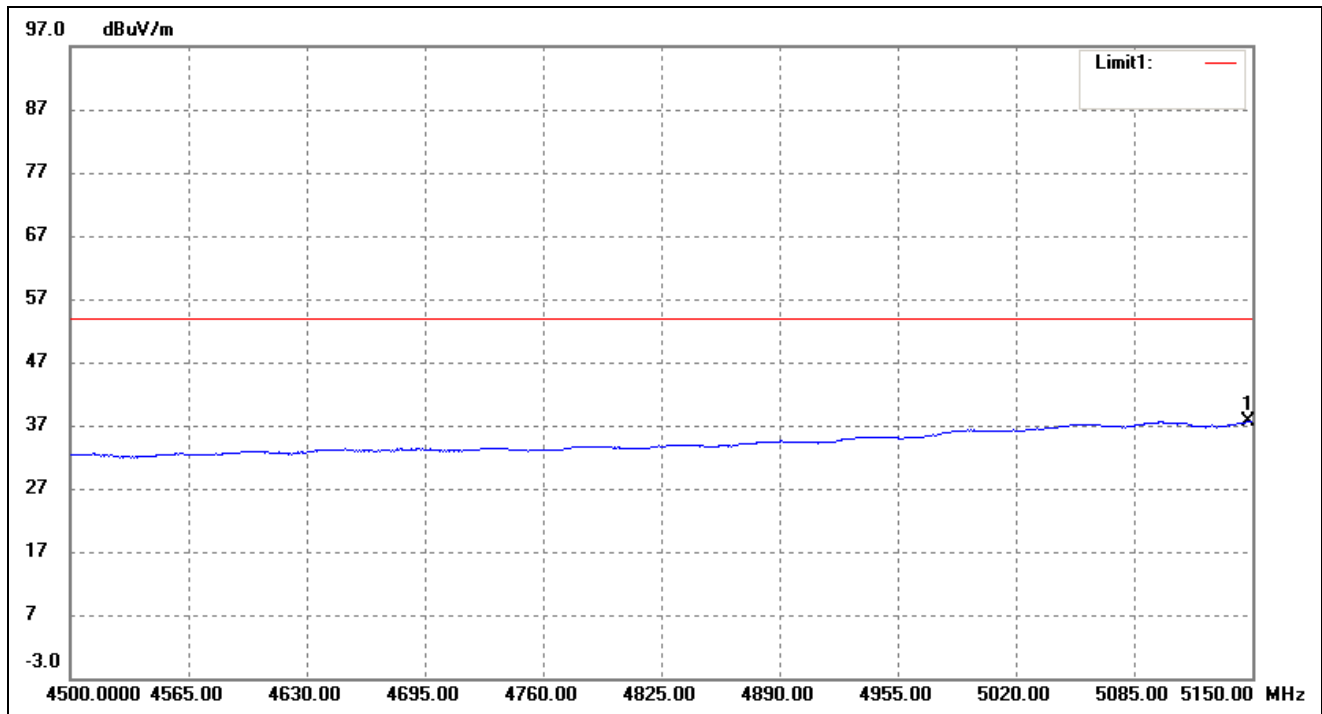
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	37.77	-0.13	37.64	54.00	-16.36	132	100	AVG

802.11n-HT20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



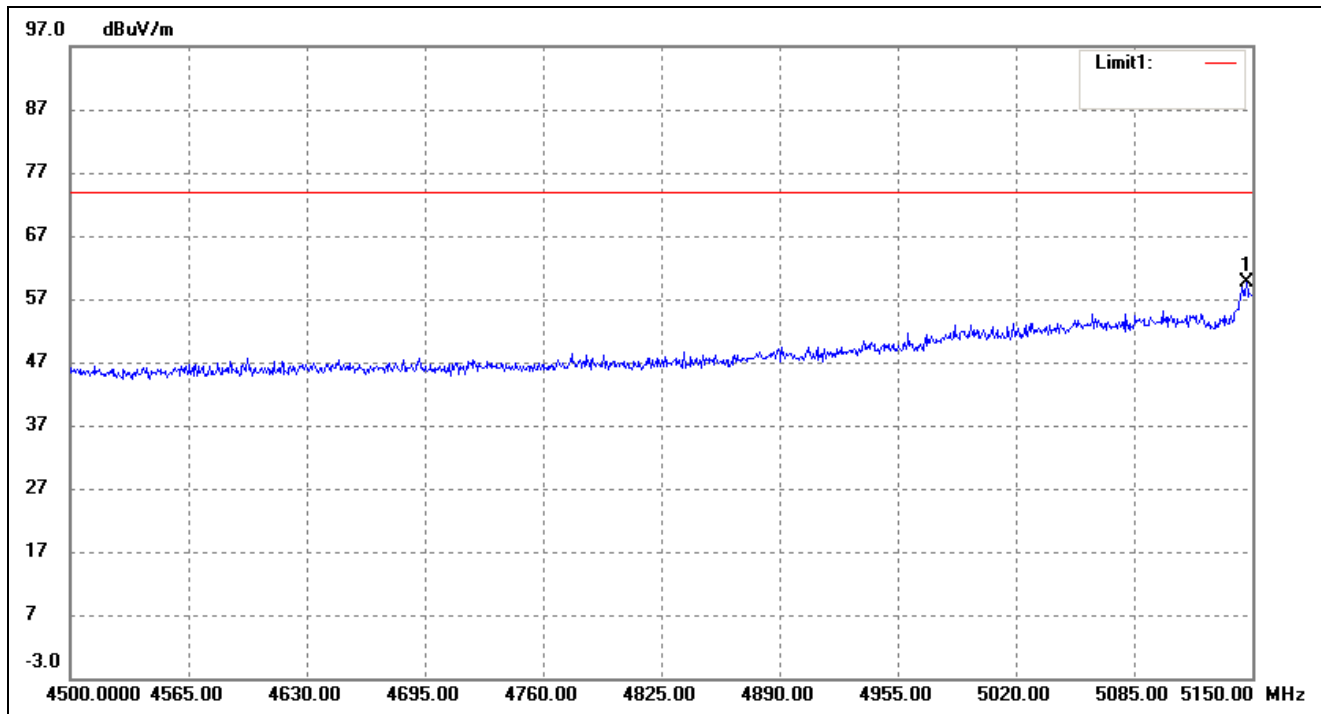
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5092.800	54.40	-0.26	54.14	74.00	-19.86	122	100	peak

802.11n-HT20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



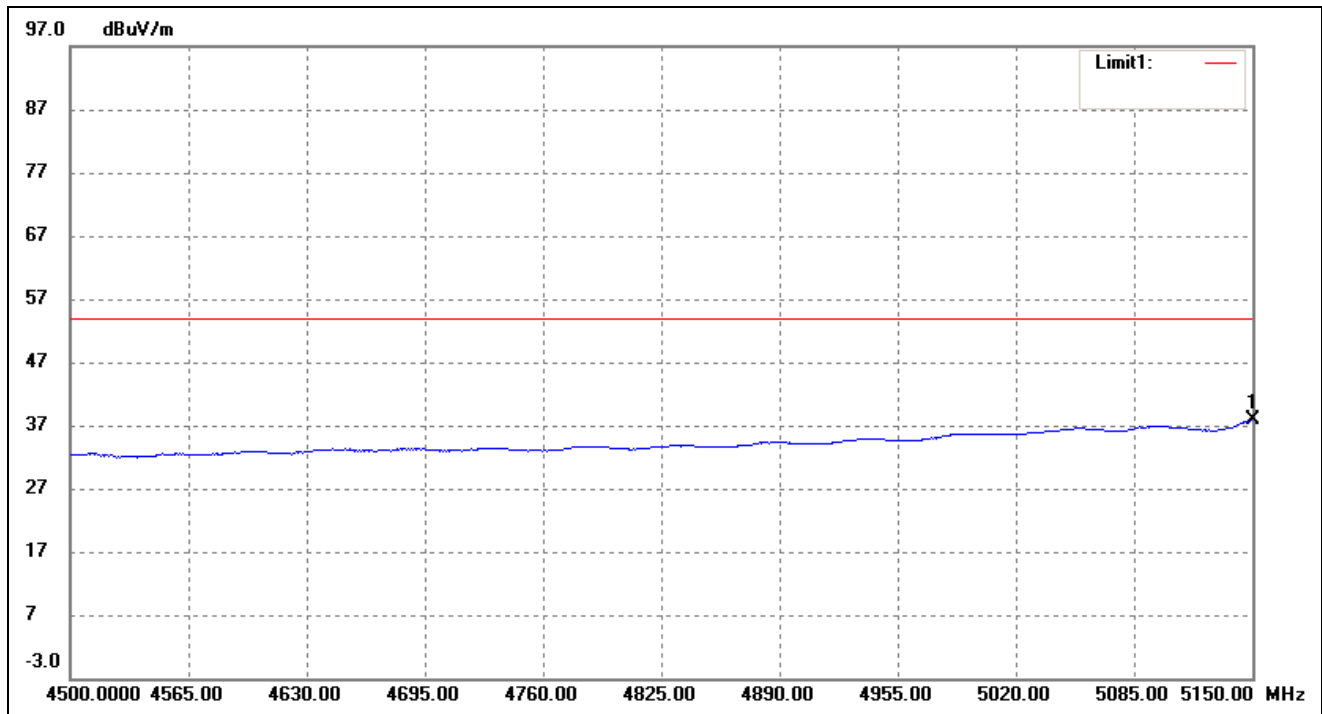
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5148.050	37.69	-0.13	37.56	54.00	-16.44	76	100	AVG

802.11n-HT40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



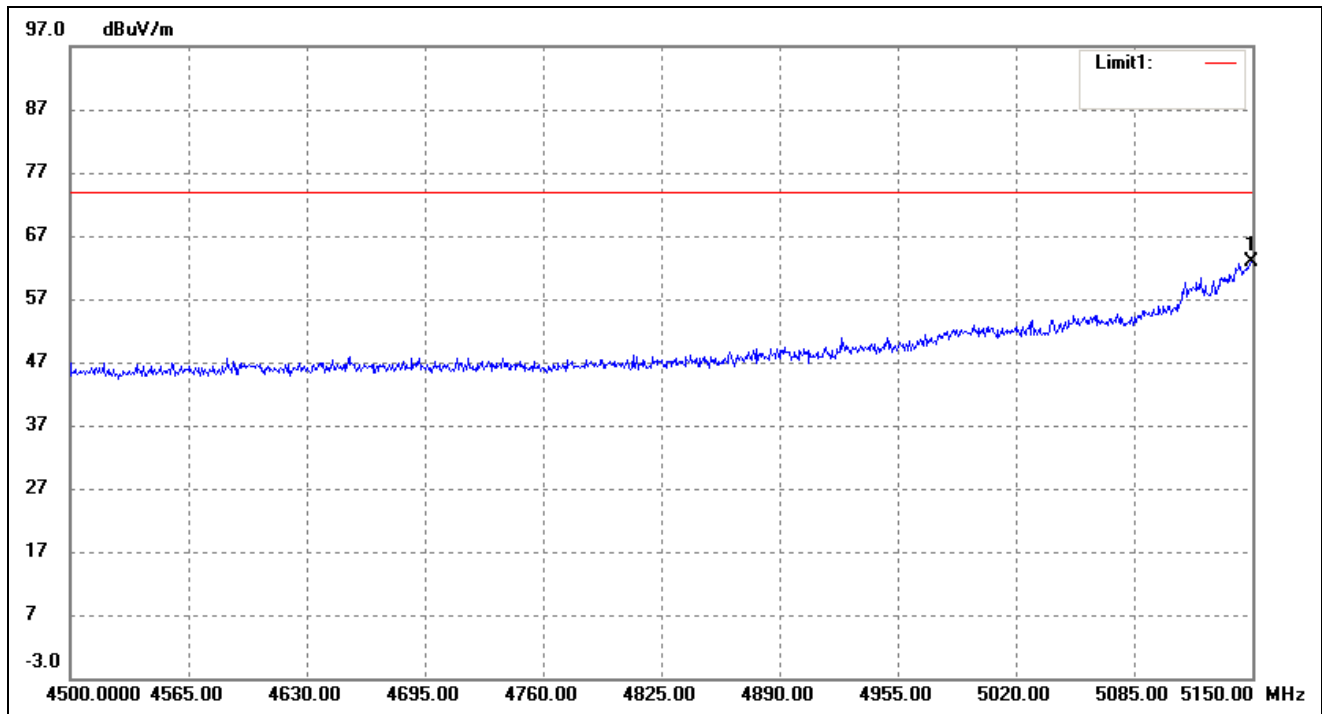
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5146.750	59.89	-0.14	59.75	74.00	-14.25	110	100	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



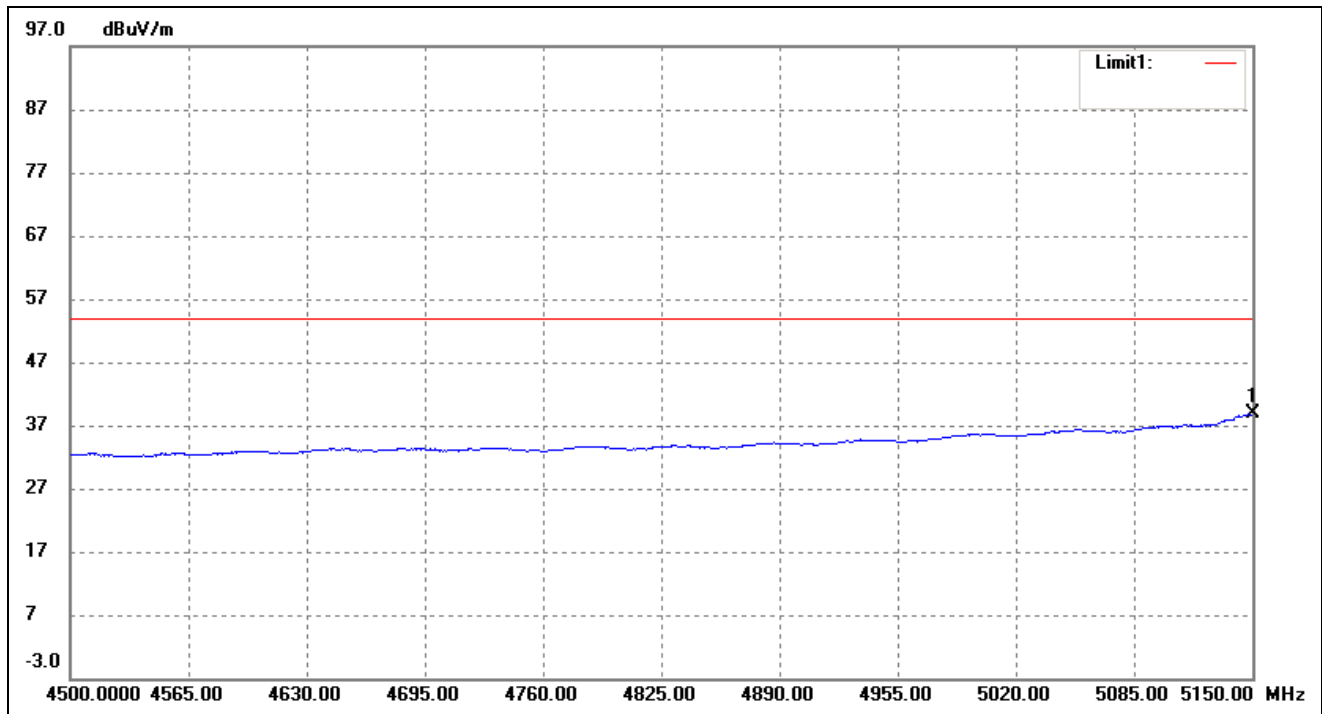
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	38.05	-0.13	37.92	54.00	-16.08	179	100	AVG

802.11ac-HT80- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5149.350	62.96	-0.13	62.83	74.00	-11.17	342	100	peak

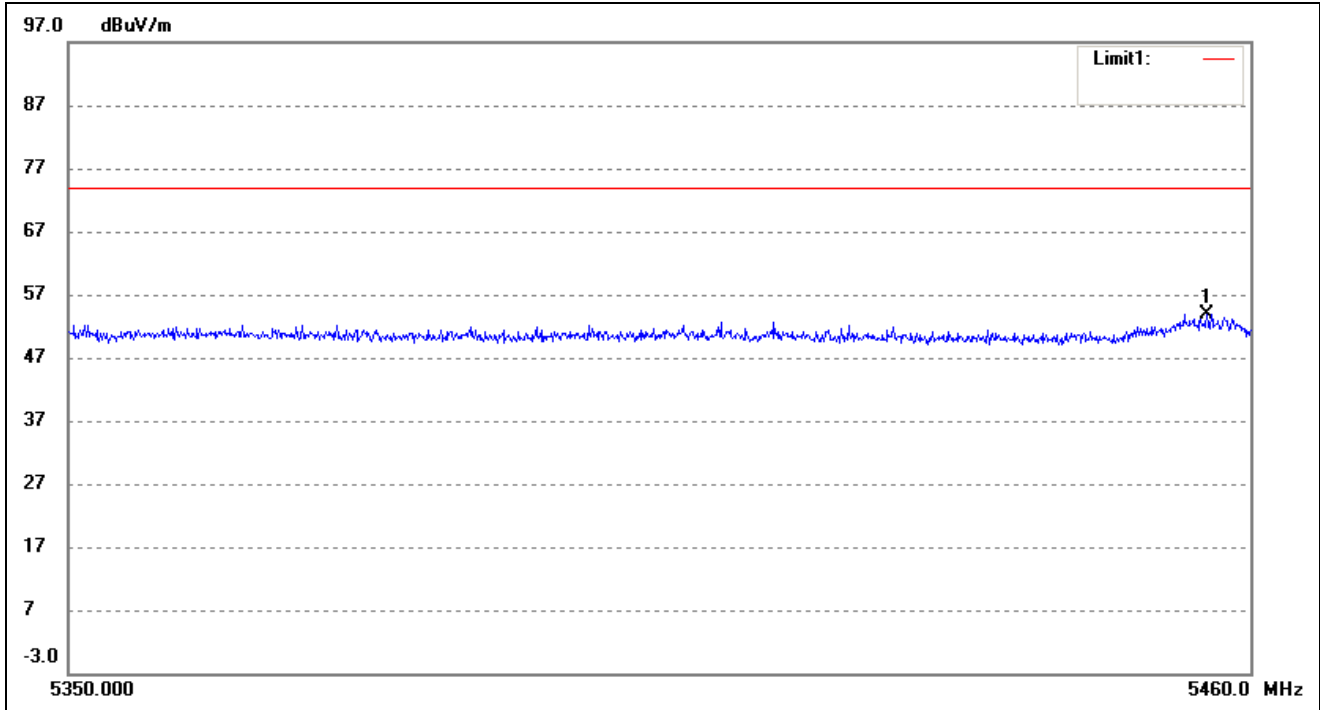
802.11ac-HT80- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	38.93	-0.13	38.80	54.00	-15.20	61	100	AVG

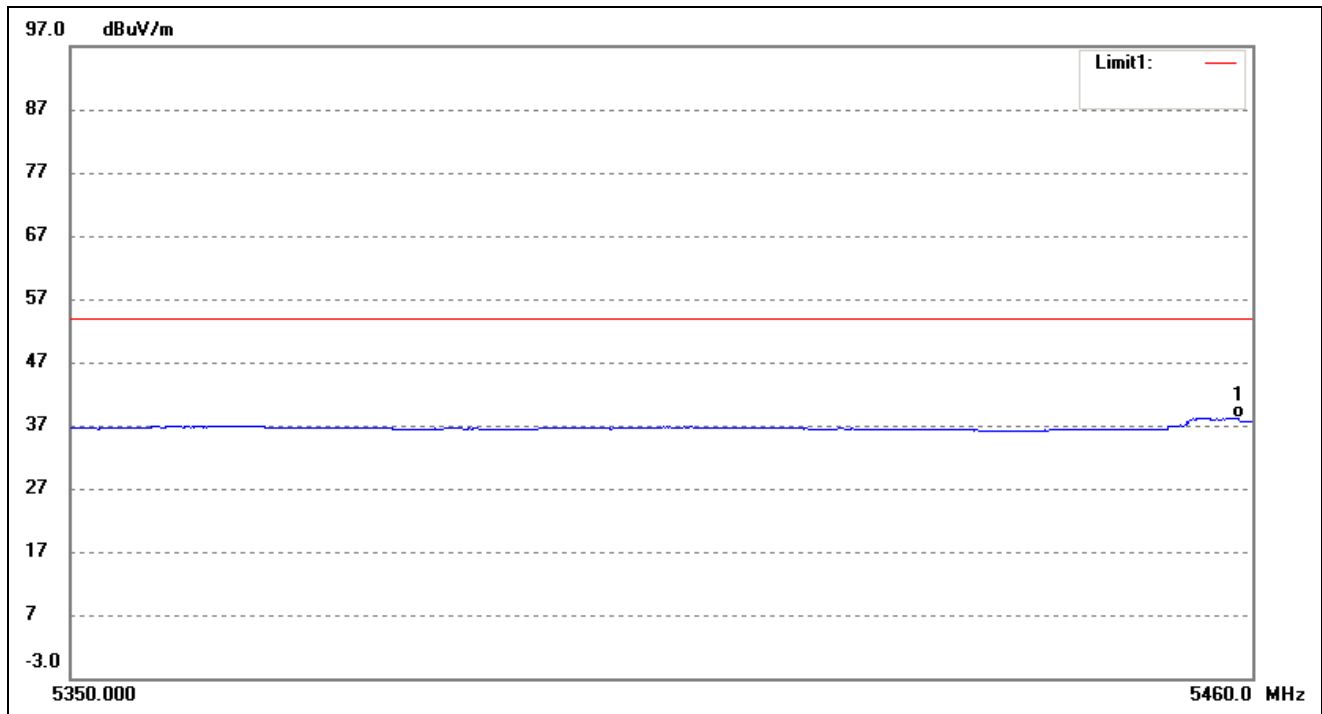
802.11a- Restricted Bandedge

Test Channel	band 5.35-5.47GHz	Polarity:	Vertical(worst case)
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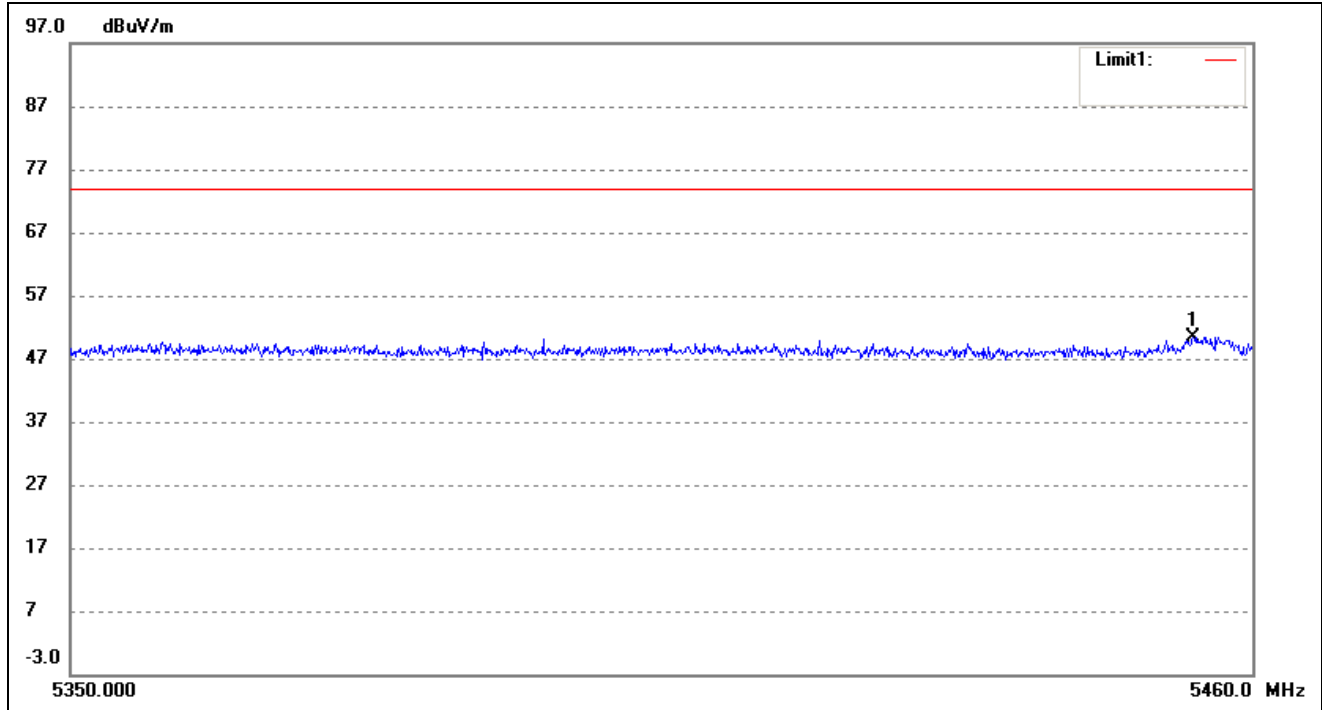
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5455.890	56.21	-2.23	53.98	74.00	-20.02	45	100	peak

802.11a- Restricted Bandedge			
Test Channel	band 5.35-5.47GHz	Polarity:	Vertical(worst case)



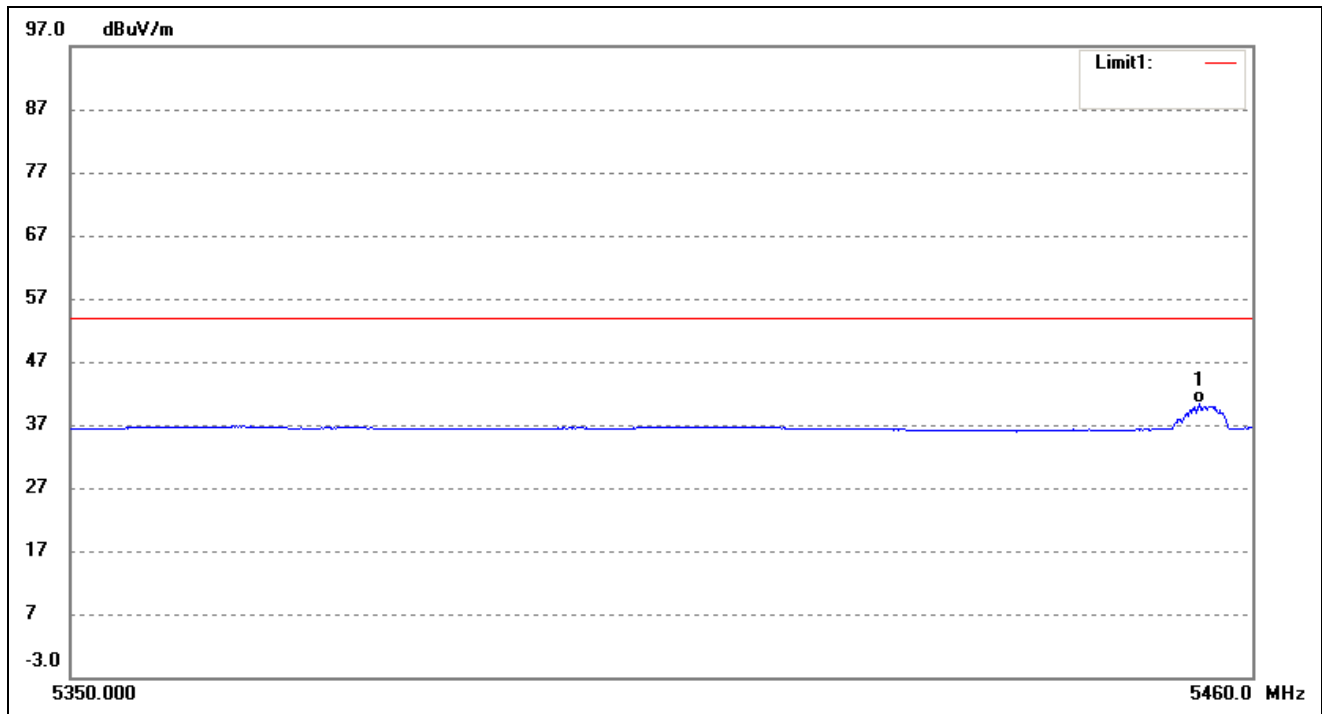
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5458.778	40.27	-2.21	38.06	54.00	-15.94	64	100	AVG

802.11n-HT20- Restricted Bandedge			
Test Channel	band 5.35-5.47GHz	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5454.447	52.72	-2.23	50.49	74.00	-23.51	59	100	peak

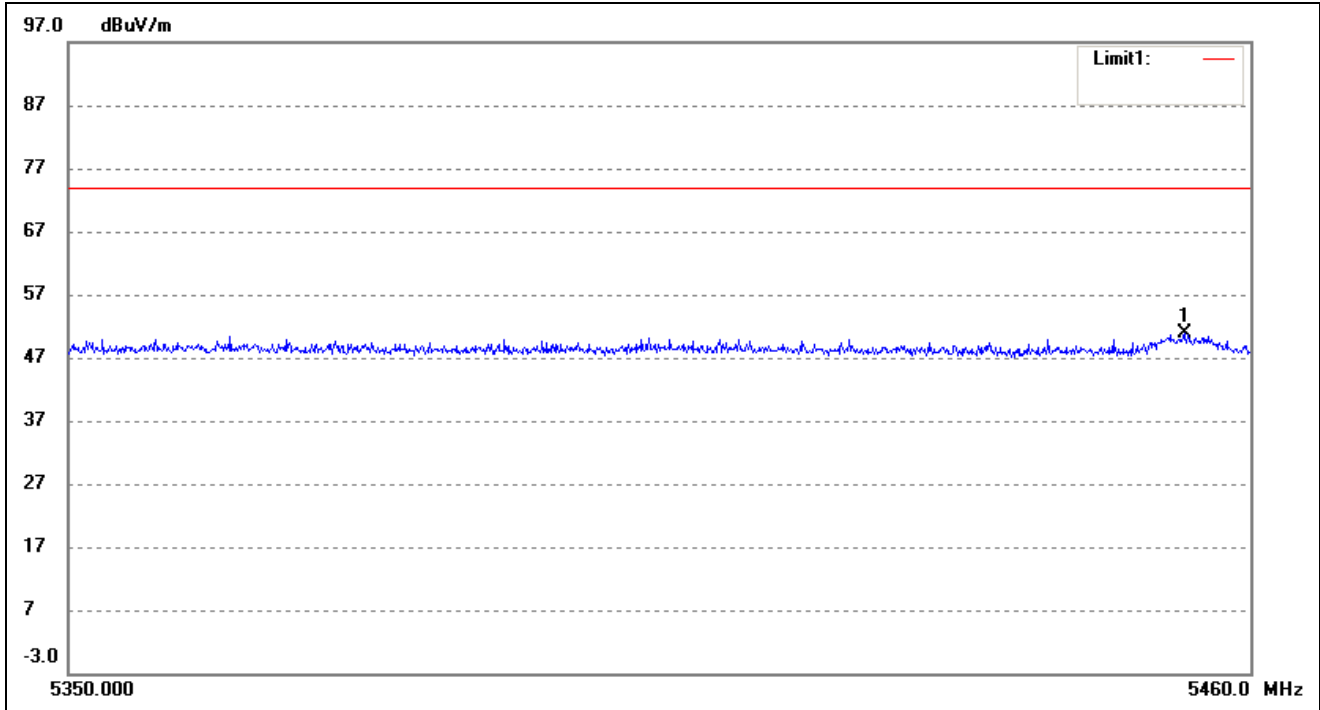
802.11n-HT20- Restricted Bandedge			
Test Channel	band 5.35-5.47GHz	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5455.002	42.63	-2.23	40.40	54.00	-13.60	59	100	AVG

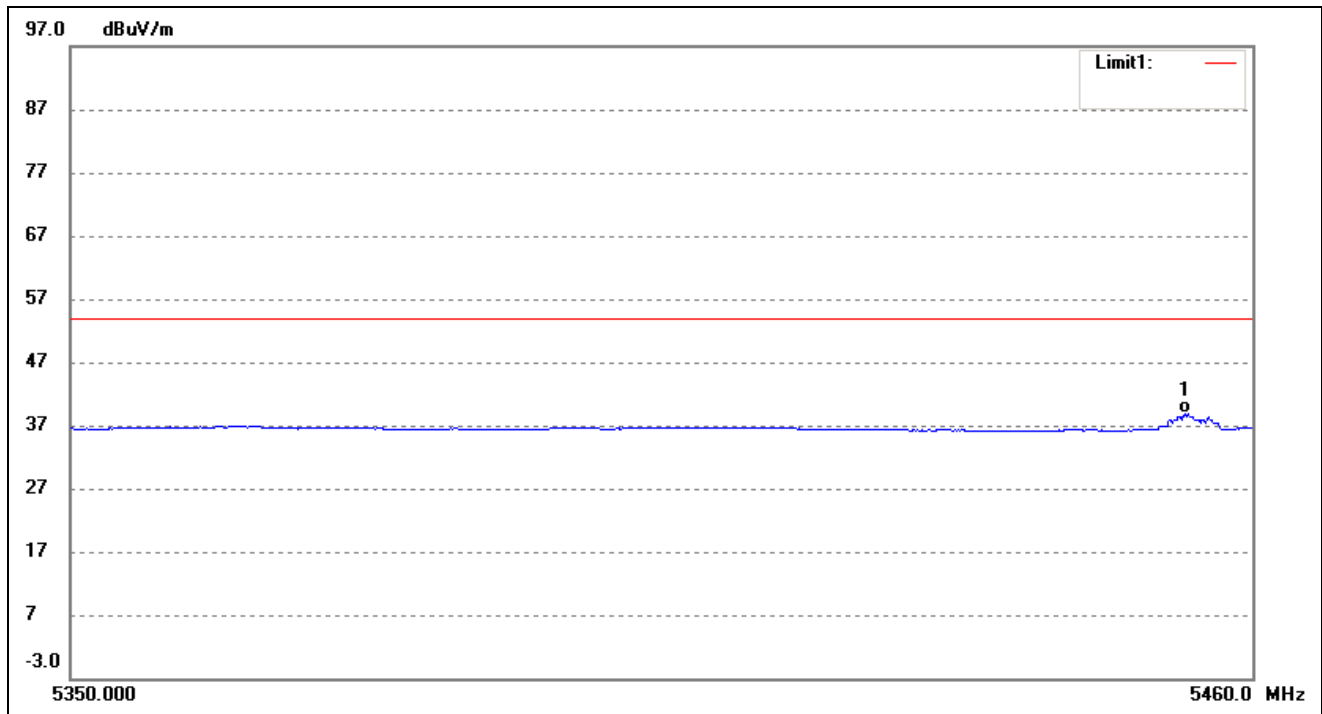
802.11n-HT40- Restricted Bandedge

Test Channel	band 5.35-5.47GHz	Polarity:	Vertical(worst case)
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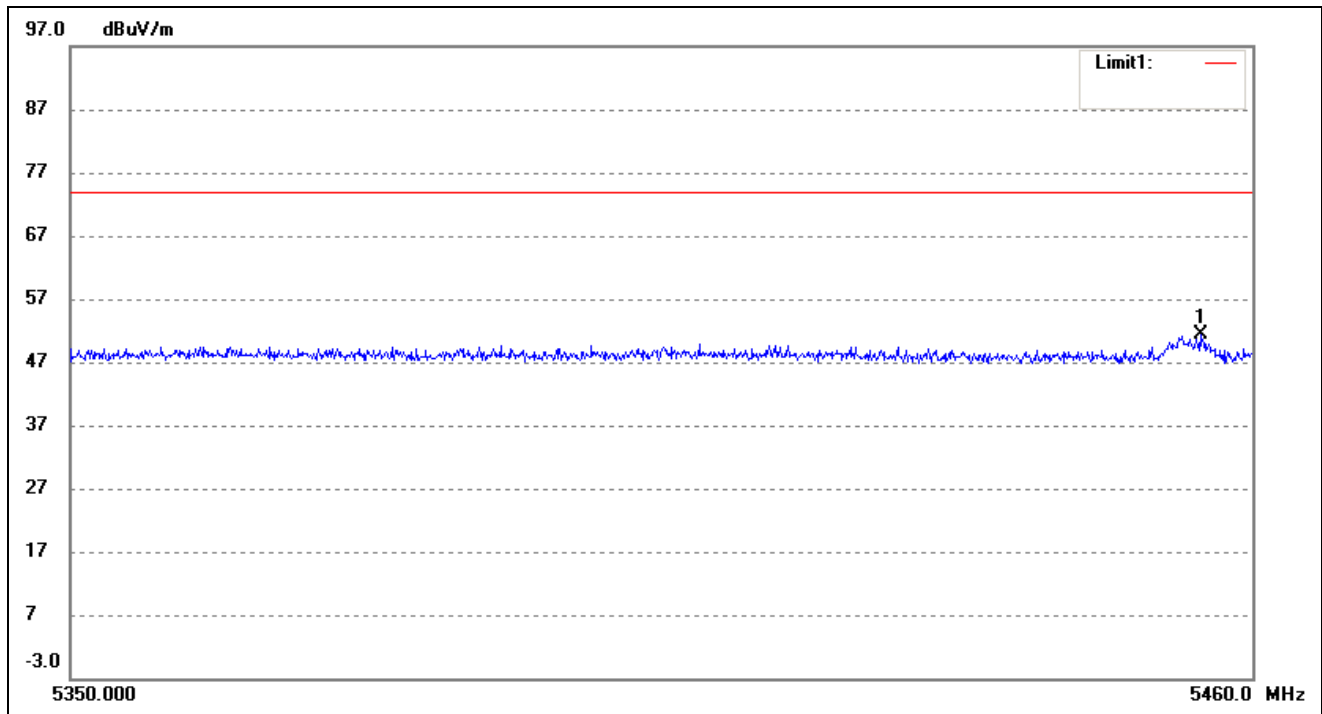
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5453.781	53.15	-2.23	50.92	74.00	-23.08	68	100	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	band 5.35-5.47GHz	Polarity:	Vertical(worst case)



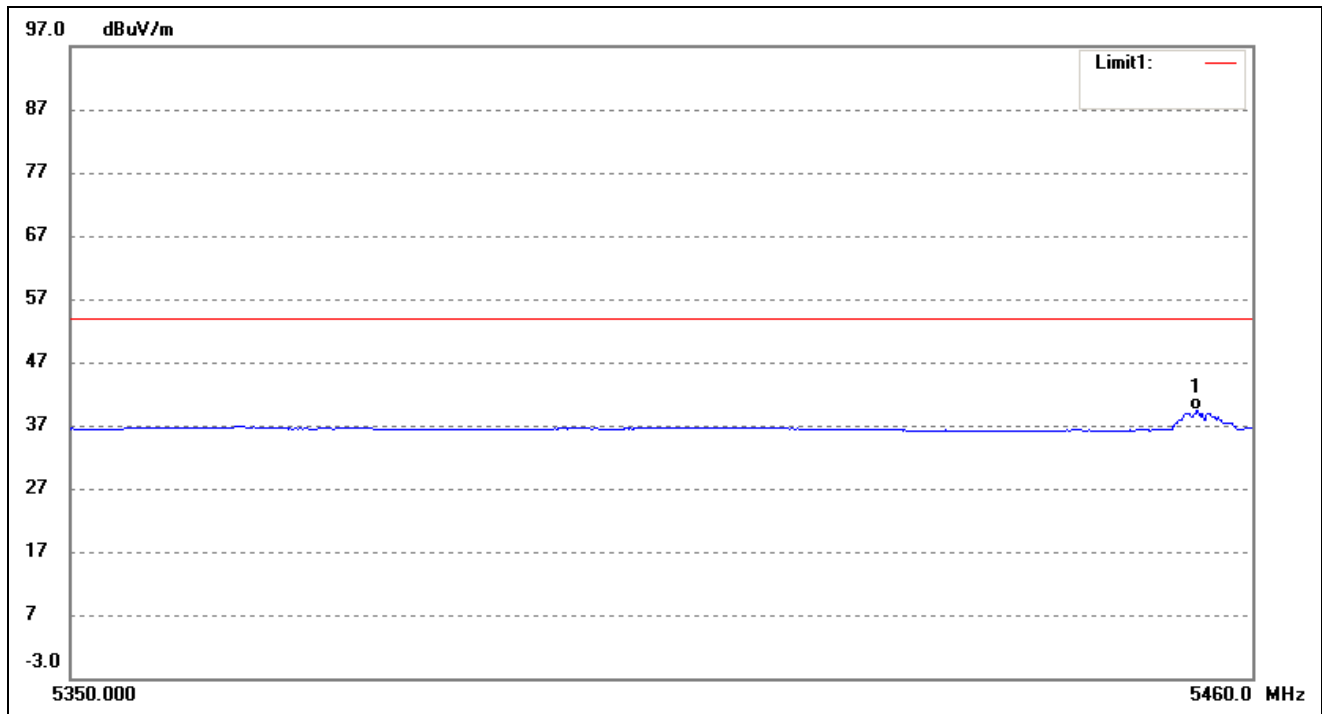
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5453.670	41.18	-2.23	38.95	54.00	-15.05	48	100	AVG

802.11ac-HT80- Restricted Bandedge			
Test Channel	band 5.35-5.47GHz	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5455.113	53.63	-2.23	51.40	74.00	-22.60	121	100	peak

802.11ac-HT80- Restricted Bandedge			
Test Channel	band 5.35-5.47GHz	Polarity:	Vertical(worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5454.780	41.65	-2.23	39.42	54.00	-14.58	121	100	AVG

Note: The Restricted Bandedge was tested in Horizontal /Vertical and the worst case position data was reported.

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11a)
- Harmonics And Spurious Emissions

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (5180MHz)										
10360	PK	50.42	159	V	40.7	10.9	39.6	62.42	74	-11.58
10360	PK	52.19	165	H	40.7	10.9	39.6	64.19	74	-9.81
10360	AV	30.37	269	V	40.7	10.9	39.6	42.37	54	-11.63
10360	AV	30.56	210	H	40.7	10.9	39.6	42.56	54	-11.44
High Channel (5240MHz)										
10480	PK	50.25	194	V	40.7	10.9	39.6	62.25	74	-11.75
10480	PK	52.98	269	H	40.7	10.9	39.6	64.98	74	-9.02
10480	AV	32.58	102	V	40.7	10.9	39.6	44.58	54	-9.42
10480	AV	32.21	94	H	40.7	10.9	39.6	44.21	54	-9.79
Low Channel (5260MHz)										
10520	PK	50.55	310	V	40.1	10.6	39.7	61.55	74	-12.45
10520	PK	52.97	197	H	40.1	10.6	39.7	63.97	74	-10.03
10520	AV	30.88	201	V	40.1	10.6	39.7	41.88	54	-12.12
10520	AV	30.41	159	H	40.1	10.6	39.7	41.41	54	-12.59
High Channel (5320MHz)										
10640	PK	51.37	321	V	39.5	10.4	39.7	61.57	74	-12.43
10640	PK	52.15	154	H	39.5	10.4	39.7	62.35	74	-11.65
10640	AV	32.44	69	V	39.5	10.4	39.7	42.64	54	-11.36
10640	AV	30.06	145	H	39.5	10.4	39.7	40.26	54	-13.74
Low Channel (5500MHz)										
11000	PK	50.39	165	V	39.3	10.3	39.7	60.29	74	-13.71
11000	PK	53.31	20	H	39.3	10.3	39.7	63.21	74	-10.79
11000	AV	32.14	144	V	39.3	10.3	39.7	42.04	54	-11.96
11000	AV	32.8	165	H	39.3	10.3	39.7	42.7	54	-11.3
High Channel (5700MHz)										
11400	PK	52.86	98	V	39	10.1	39.9	62.06	74	-11.94
11400	PK	52.6	201	H	39	10.1	39.9	61.8	74	-12.2
11400	AV	32.77	155	V	39	10.1	39.9	41.97	54	-12.03
11400	AV	31.6	47	H	39	10.1	39.9	40.8	54	-13.2
Low Channel (5745MHz)										
11490	PK	53.01	156	V	38.9	9.8	40.1	61.61	74	-12.39
11490	PK	53.46	269	H	38.9	9.8	40.1	62.06	74	-11.94
11490	AV	33.97	81	V	38.9	9.8	40.1	42.57	54	-11.43
11490	AV	31.3	173	H	38.9	9.8	40.1	39.9	54	-14.10

High Channel (5825MHz)										
11610	PK	53.92	141	V	38.9	9.8	40.1	62.52	74	-11.48
11610	PK	50.99	147	H	38.9	9.8	40.1	59.59	74	-14.41
11610	AV	33.17	126	V	38.9	9.8	40.1	41.77	54	-12.23
11610	AV	33.18	98	H	38.9	9.8	40.1	41.78	54	-12.22

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-45.61	-27
Highest	Above 5350	-54.32	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5715	-46.36	-27
	5715 to 5725	-39.32	-17
Highest	5850 to 5860	-42.36	-17
	Above 5860	-41.36	-27
Note: the data just list the worst cases			

➤ For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11n HT20)

➤ Harmonics And Spurious Emissions

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (5180MHz)										
10360	PK	53.46	298	V	40.7	10.9	39.6	65.46	74	-8.54
10360	PK	52.92	236	H	40.7	10.9	39.6	64.92	74	-9.08
10360	AV	32.49	214	V	40.7	10.9	39.6	44.49	54	-9.51
10360	AV	30.73	197	H	40.7	10.9	39.6	42.73	54	-11.27
High Channel (5240MHz)										
10480	PK	53.05	162	V	40.7	10.9	39.6	65.05	74	-8.95
10480	PK	52.66	152	H	40.7	10.9	39.6	64.66	74	-9.34
10480	AV	31.42	65	V	40.7	10.9	39.6	43.42	54	-10.58
10480	AV	33.13	126	H	40.7	10.9	39.6	45.13	54	-8.87
Low Channel (5260MHz)										
10520	PK	52.37	148	V	40.7	10.9	39.6	64.37	74	-9.63
10520	PK	50.06	26	H	40.7	10.9	39.6	62.06	74	-11.94
10520	AV	30.47	201	V	40.7	10.9	39.6	42.47	54	-11.53
10520	AV	31.67	159	H	40.7	10.9	39.6	43.67	54	-10.33
654High Channel (5320MHz)										
10640	PK	52.83	121	V	39.5	10.4	39.7	63.03	74	-10.97
10640	PK	52.92	161	H	39.5	10.4	39.7	63.12	74	-10.88
10640	AV	33.97	157	V	39.5	10.4	39.7	44.17	54	-9.83
10640	AV	30.39	98	H	39.5	10.4	39.7	40.59	54	-13.41
Low Channel (5500MHz)										
11000	PK	52.09	198	V	39.3	10.3	39.7	61.99	74	-12.01
11000	PK	50.69	236	H	39.3	10.3	39.7	60.59	74	-13.41
11000	AV	33.84	172	V	39.3	10.3	39.7	43.74	54	-10.26
11000	AV	30.10	36	H	39.3	10.3	39.7	40	54	-14.00
High Channel (5700MHz)										
11400	PK	51.28	122	V	39	10.1	39.9	60.48	74	-13.52
11400	PK	50.27	103	H	39	10.1	39.9	59.47	74	-14.53
11400	AV	30.44	95	V	39	10.1	39.9	39.64	54	-14.36
11400	AV	32.04	16	H	39	10.1	39.9	41.24	54	-12.76
Low Channel (5745MHz)										
11490	PK	53.79	162	V	38.9	9.8	40.1	62.39	74	-11.61
11490	PK	51.93	155	H	38.9	9.8	40.1	60.53	74	-13.47
11490	AV	31.65	65	V	38.9	9.8	40.1	40.25	54	-13.75
11490	AV	33.85	69	H	38.9	9.8	40.1	42.45	54	-11.55

High Channel (5825MHz)										
11610	PK	52.25	114	V	38.9	9.8	40.1	60.85	74	-13.15
11610	PK	51.73	20	H	38.9	9.8	40.1	60.33	74	-13.67
11610	AV	31.22	69	V	38.9	9.8	40.1	39.82	54	-14.18
11610	AV	32.27	159	H	38.9	9.8	40.1	40.87	54	-13.13

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-43.36	-27
Highest	Above 5350	-41.36	-27

Note: the data just list the worst cases

➤ Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5715	-38.36	-27
	5715 to 5725	-37.02	-17
Highest	5850 to 5860	-39.32	-17
	Above 5860	-40.14	-27

Note: the data just list the worst cases

Note: this EUT was tested in the low, high channel and the worst case position data was reported.

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11n HT40)
- Harmonics And Spurious Emissions

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (5190MHz)										
10380	PK	50.16	198	V	40.7	10.9	39.6	62.16	74	-11.84
10380	PK	52.65	265	H	40.7	10.9	39.6	64.65	74	-9.35
10380	AV	32.01	10	V	40.7	10.9	39.6	44.01	54	-9.99
10380	AV	33.45	136	H	40.7	10.9	39.6	45.45	54	-8.55
High Channel (5230MHz)										
10460	PK	50.16	151	V	38.9	9.8	40.1	58.76	74	-15.24
10460	PK	53.75	263	H	38.9	9.8	40.1	62.35	74	-11.65
10460	AV	33.12	97	V	38.9	9.8	40.1	41.72	54	-12.28
10460	AV	32.51	126	H	38.9	9.8	40.1	41.11	54	-12.89
Low Channel (5270MHz)										
10540	PK	53.09	187	V	40.7	10.9	39.6	65.09	74	-8.91
10540	PK	50.23	265	H	40.7	10.9	39.6	62.23	74	-11.77
10540	AV	32.94	20	V	40.7	10.9	39.6	44.94	54	-9.06
10540	AV	32.98	114	H	40.7	10.9	39.6	44.98	54	-9.02
654High Channel (5310MHz)										
10620	PK	47.21		V	39.5	10.4	39.7	57.41	74	-16.59
10620	PK	45.68		H	39.5	10.4	39.7	55.88	74	-18.12
10620	AV	34.87		V	39.5	10.4	39.7	45.07	54	-8.93
10620	AV	35.64		H	39.5	10.4	39.7	45.84	54	-8.16
Low Channel (5510MHz)										
11020	PK	53.14	121	V	39.5	10.4	39.7	63.34	74	-10.66
11020	PK	51.07	26	H	39.5	10.4	39.7	61.27	74	-12.73
11020	AV	33.68	91	V	39.5	10.4	39.7	43.88	54	-10.12
11020	AV	30.36	68	H	39.5	10.4	39.7	40.56	54	-13.44
High Channel (5670MHz)										
11340	PK	51.43	68	V	39	10.1	39.9	60.63	74	-13.37
11340	PK	52.95	89	H	39	10.1	39.9	62.15	74	-11.85
11340	AV	33.68	236	V	39	10.1	39.9	42.88	54	-11.12
11340	AV	32.02	156	H	39	10.1	39.9	41.22	54	-12.78
Low Channel (5755MHz)										
11510	PK	53.68	169	V	38.9	9.8	40.1	62.28	74	-11.72
11510	PK	53.82	201	H	38.9	9.8	40.1	62.42	74	-11.58
11510	AV	31.14	155	V	38.9	9.8	40.1	39.74	54	-14.26
11510	AV	33.94	74	H	38.9	9.8	40.1	42.54	54	-11.46

High Channel (5795MHz)										
11590	PK	52.32	201	V	38.9	9.8	40.1	60.92	74	-13.08
11590	PK	53.17	78	H	38.9	9.8	40.1	61.77	74	-12.23
11590	AV	32.2	126	V	38.9	9.8	40.1	40.8	54	-13.2
11590	AV	33.32	322	H	38.9	9.8	40.1	41.92	54	-12.08

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-36.02	-27
Highest	Above 5350	-39.31	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5715	-40.96	-27
	5715 to 5725	-38.69	-17
Highest	5850 to 5860	-42.36	-17
	Above 5860	-41.02	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11ac VH80)
- Harmonics And Spurious Emissions

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (5210MHz)										
10420	PK	51.86	174	V	40.7	10.9	39.6	63.86	74	-10.14
10420	PK	51.47	166	H	40.7	10.9	39.6	63.47	74	-10.53
10420	AV	30.43	97	V	40.7	10.9	39.6	42.43	54	-11.57
10420	AV	33.29	264	H	40.7	10.9	39.6	45.29	54	-8.71
High Channel (5290MHz)										
10580	PK	52.37	298	V	40.7	10.9	39.6	64.37	74	-9.63
10580	PK	52.29	201	H	40.7	10.9	39.6	64.29	74	-9.71
10580	AV	30.56	155	V	40.7	10.9	39.6	42.56	54	-11.44
10580	AV	33.45	87	H	40.7	10.9	39.6	45.45	54	-8.55
Low Channel (5530MHz)										
11060	PK	53.07	298	V	40.7	10.9	39.6	65.07	74	-8.93
11060	PK	51.54	20	H	40.7	10.9	39.6	63.54	74	-10.46
11060	AV	31.34	115	V	40.7	10.9	39.6	43.34	54	-10.66
11060	AV	30.85	69	H	40.7	10.9	39.6	42.85	54	-11.15
654High Channel (5610MHz)										
11220	PK	53.34	165	V	39.5	10.4	39.7	63.54	74	-10.46
11220	PK	51.12	126	H	39.5	10.4	39.7	61.32	74	-12.68
11220	AV	31.19	58	V	39.5	10.4	39.7	41.39	54	-12.61
11220	AV	32.56	97	H	39.5	10.4	39.7	42.76	54	-11.24
Low Channel (5775MHz)										
11550	PK	52.6	62	V	39.5	10.4	39.7	62.8	74	-11.2
11550	PK	53.33	157	H	39.5	10.4	39.7	63.53	74	-10.47
11550	AV	30.94	59	V	39.5	10.4	39.7	41.14	54	-12.86
11550	AV	32.57	261	H	39.5	10.4	39.7	42.77	54	-11.23

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

10. Frequency Stability

10.1 Standard Applicable

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 users manual.

10.2 Test Procedure

According to §2.1055, the following test procedure was performed.

The Frequency Stability is measured directly with a Frequency Domain Analyzer. Frequency Deviation in ppm is calculated from the measured peak to peak value.

The Carrier Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode.

10.3 Summary of Test Results/Plots

U-NII-1:5150-5250MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	5.0	-30	126	0.0242
100%		-20	97	0.0187
100%		-10	174	0.0335
100%		0	97	0.0187
100%		+10	103	0.0198
100%		+20	184	0.0354
100%		+30	141	0.0271
100%		+40	120	0.0231
100%		+50	165	0.0317
Low Battery power	5.50	+20	125	0.0240
High Battery power	4.50	+20	147	0.0283

U-NII-1: 5250-5350MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	5.0	-30	125	0.0237
100%		-20	131	0.0248
100%		-10	102	0.0193
100%		0	132	0.0250
100%		+10	147	0.0278
100%		+20	120	0.0227
100%		+30	161	0.0305
100%		+40	112	0.0212
100%		+50	165	0.0313
Low Battery power	5.50	+20	174	0.0330
High Battery power	4.50	+20	124	0.0235

U-NII-1: 5470-5725MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	5.0	-30	126	0.0225
100%		-20	154	0.0275
100%		-10	126	0.0225
100%		0	102	0.0182
100%		+10	116	0.0207
100%		+20	132	0.0236
100%		+30	111	0.0198
100%		+40	120	0.0214
100%		+50	143	0.0255
Low Battery power	5.50	+20	171	0.0305
High Battery power	4.50	+20	169	0.0302

U-NII-1:5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	5.0	-30	102	0.0176
100%		-20	121	0.0209
100%		-10	141	0.0244
100%		0	124	0.0214
100%		+10	102	0.0176
100%		+20	114	0.0197
100%		+30	127	0.0220
100%		+40	101	0.0175
100%		+50	135	0.0233
Low Battery power	5.50	+20	172	0.0297
High Battery power	4.50	+20	141	0.0244

***** END OF REPORT *****