

FCC Part 15E Measurement and Test Report

For

SHENZHEN JUMPER TECHNOLOGY CO., LTD

101, 102, 201, 301 No.13-2 Pingxi South Rd., Pingxi Community, Pingdi

Street, Longgang District, Shenzhen, Guangdong, China

FCC ID: 2AQAA-EZBOOKX4

FCC Rule(s): FCC Part 15.407

Product Description: NoteBook

Tested Model: EZbook X4

Report No.: STR18078180I-1

Sample Receipt Date: 2018-07-18

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: SHENZHEN JUMPER TECHNOLOGY CO., LTD
Address of applicant: 101,102, 201, 301 No.13-2 Pingxi South Rd., Pingxi Community, Pingdi Street, Longgang District, Shenzhen, Guangdong, China

Manufacturer: SHENZHEN JUMPER TECHNOLOGY CO., LTD
Address of manufacturer: 101,102, 201, 301 No.13-2 Pingxi South Rd., Pingxi Community, Pingdi Street, Longgang District, Shenzhen, Guangdong, China

General Description of EUT	
Product Name:	NoteBook
Brand Name:	
Model No.:	EZbook X4
Adding Model(s):	EZbook X3, EZbook X5, EZbook X4 pro, EZbook X3 pro, EZbook X5 proc
Rated Voltage:	DC7.6V
Battery Capacity:	4800mAh
Power Adapter:	JHD-AP024U-120200BA-B Input:AC120-240V~50/60Hz 0.45A Output:DC5V 2000mA
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model EZbook X4, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11a, 802.11n(HT20) , 802.11n-HT40, 802.11ac-VH80
Frequency Range:	5150-5250MHz, 5725-5850MHz
RF Output Power:	Antenna 0: 6.67dBm (Conducted) Antenna 1: 6.59dBm (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:	2.0dBi
The EUT WIFI TX/RX without MIMO function.	

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	7	7	7								7	7	7
802.11n-HT20 MCS0	7	7	7								7	7	7
Mode	NCB: 40MHz												
	5190	5230	5270	5310	5510	5550	5670	5710	5755	5795			
802.11n-HT40 MCS0	7	7								7	7		
Mode	NCB: 80MHz												
	5210		5290		5530		5610		5690		5775		
802.11ac-VH80 MCS0/Nss2	7										7		

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, 5745MHz, 5785MHz,5825MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz, 5745MHz, 5785MHz,5825MHz
TM3	802.11n-HT40	5190MHz,5230MHz,5270MHz,5755MHz,5795MHz
TM4	802.11ac-VH80	5210MHz, 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

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)	N/A

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 SAR 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

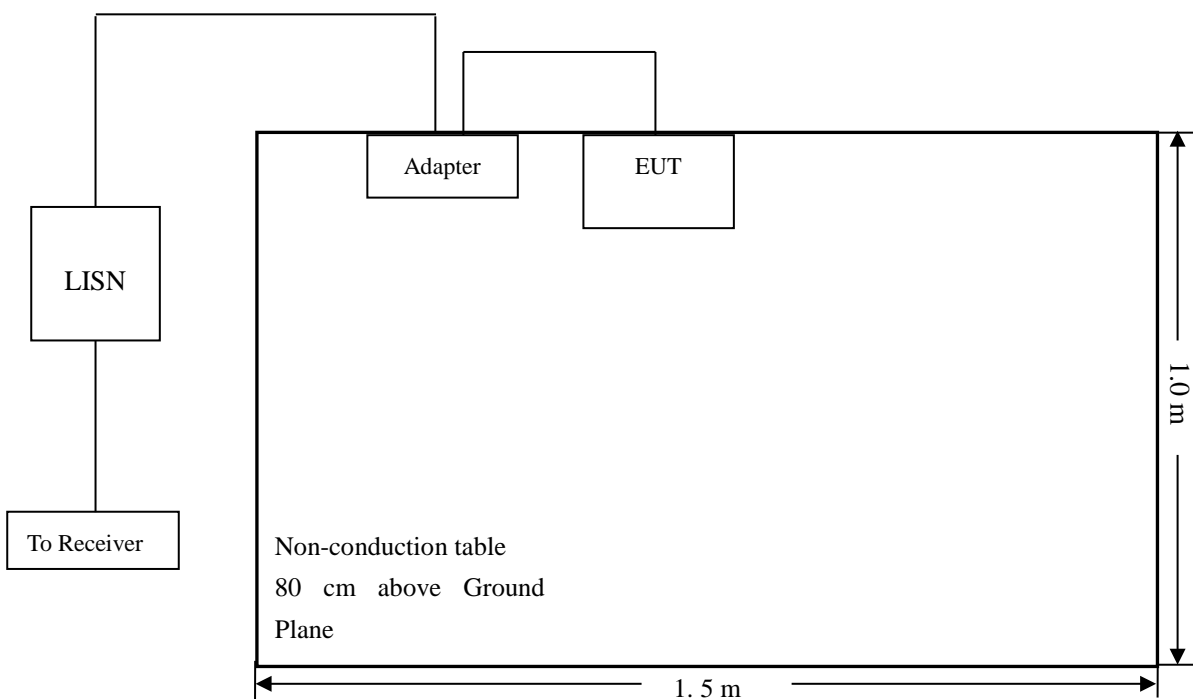
5.1 Test Procedure

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



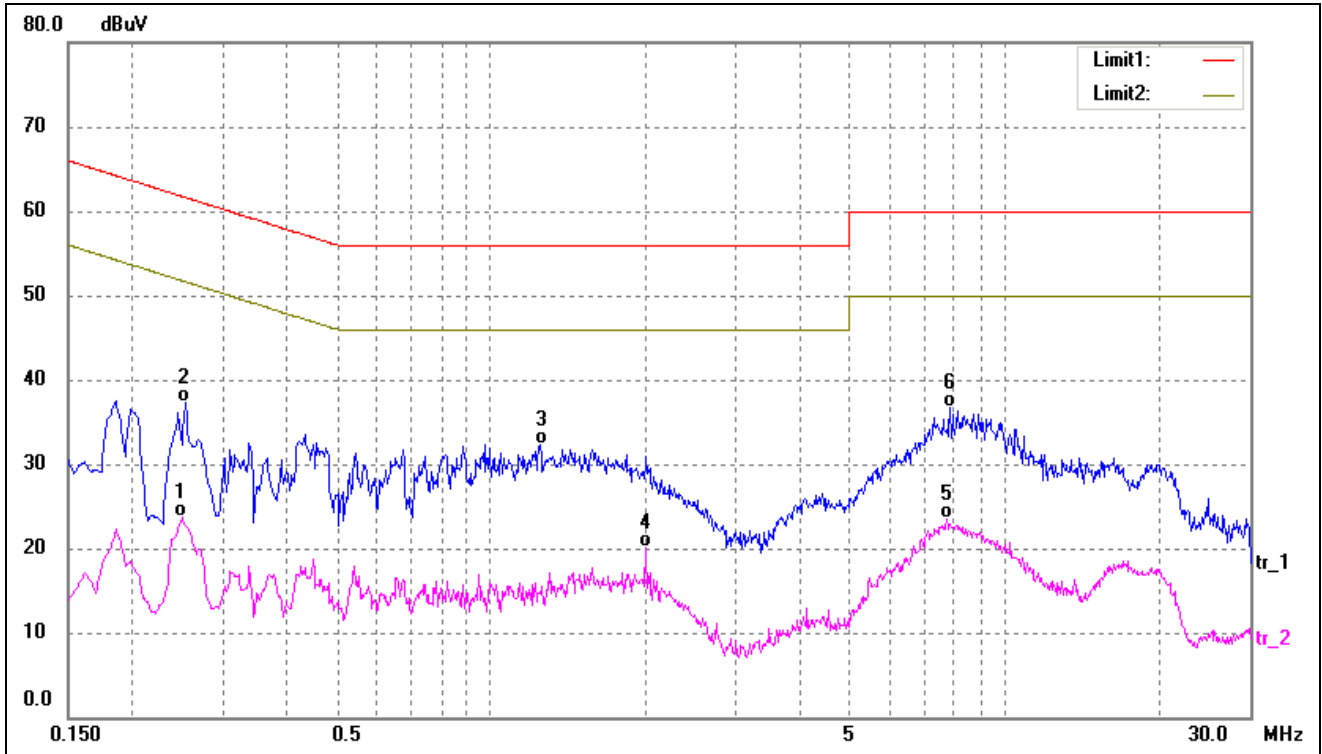
5.3 Test Receiver Setup

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

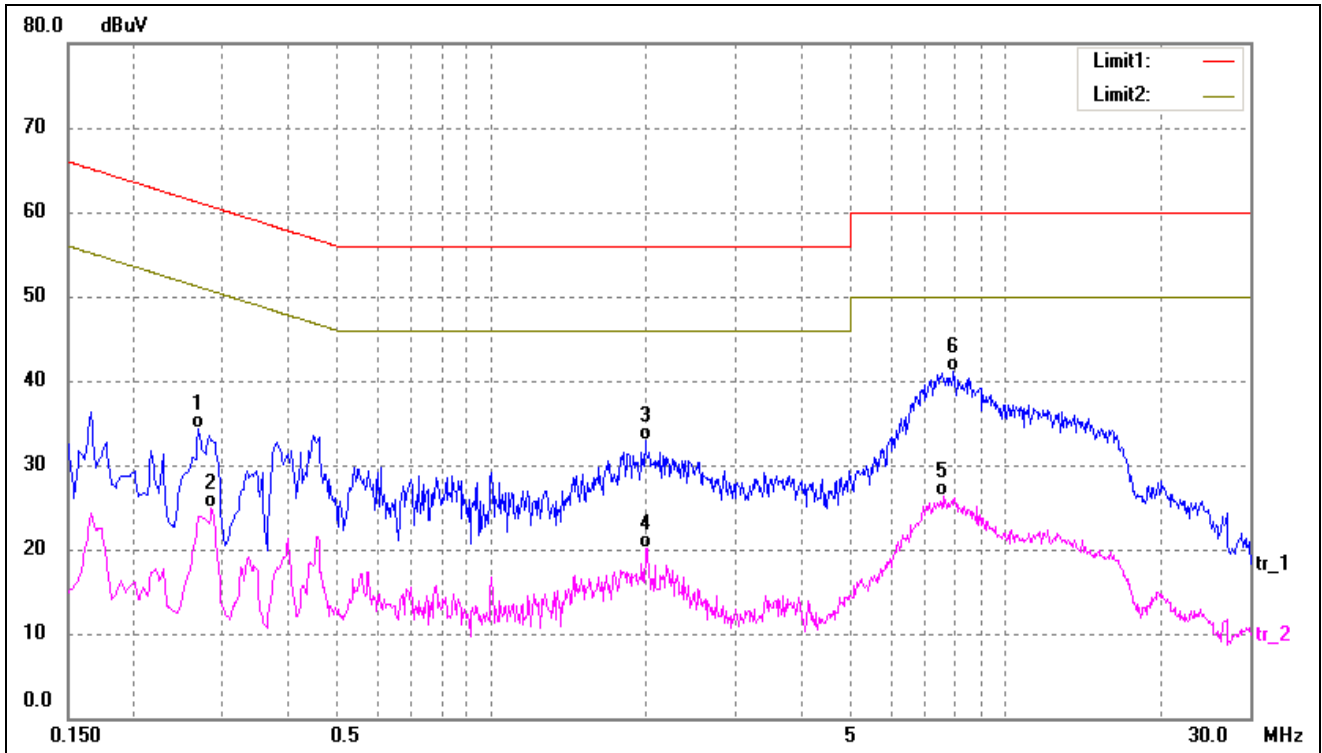
5.4 Summary of Test Results/Plots

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	0.2500	23.40	0.31	23.71	51.76	-28.05	AVG
2	0.2540	36.92	0.31	37.23	61.63	-24.40	QP
3	1.2460	31.75	0.59	32.34	56.00	-23.66	QP
4	1.9980	19.52	0.68	20.20	46.00	-25.80	AVG
5	7.7140	22.59	0.91	23.50	50.00	-26.50	AVG
6*	7.8180	35.82	0.92	36.74	60.00	-23.26	QP

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2700	34.00	0.32	34.32	61.12	-26.80	QP
2	0.2860	24.64	0.33	24.97	50.64	-25.67	AVG
3	1.9980	32.16	0.68	32.84	56.00	-23.16	QP
4	2.0180	19.51	0.68	20.19	46.00	-25.81	AVG
5	7.5860	25.37	0.91	26.28	50.00	-23.72	AVG
6*	7.9620	40.17	0.92	41.09	60.00	-18.91	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 MHz, or < 500 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

Antenna 0:

U-NII-1:5150-5250MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5180	3.151	11
	5200	2.426	11
	5240	3.084	11
802.11n-HT20	5180	1.925	11
	5200	2.550	11
	5240	2.472	11
802.11n-HT40	5190	-1.257	11
	5230	-0.529	11
802.11ac-HT80	5210	-4.296	11

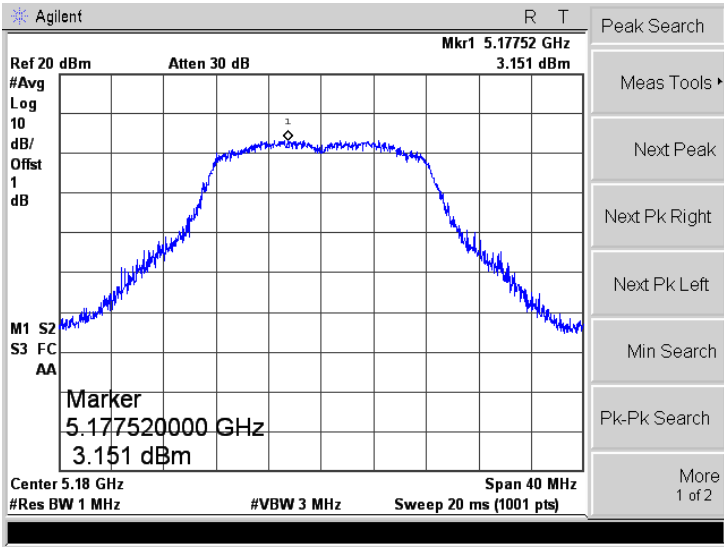
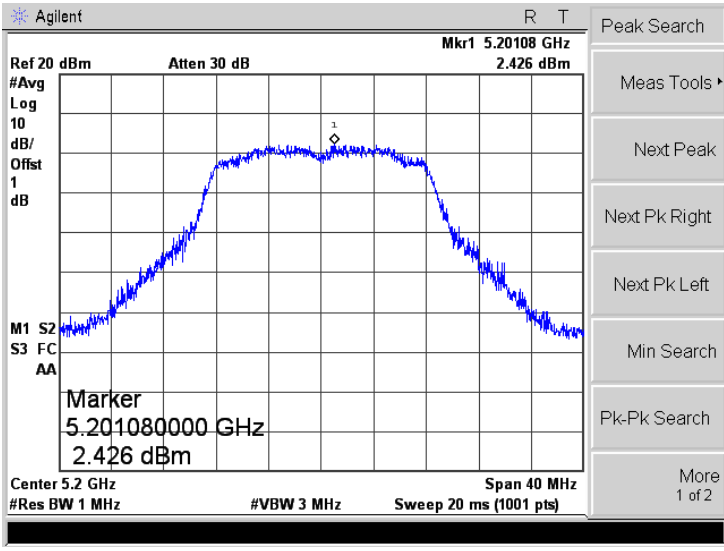
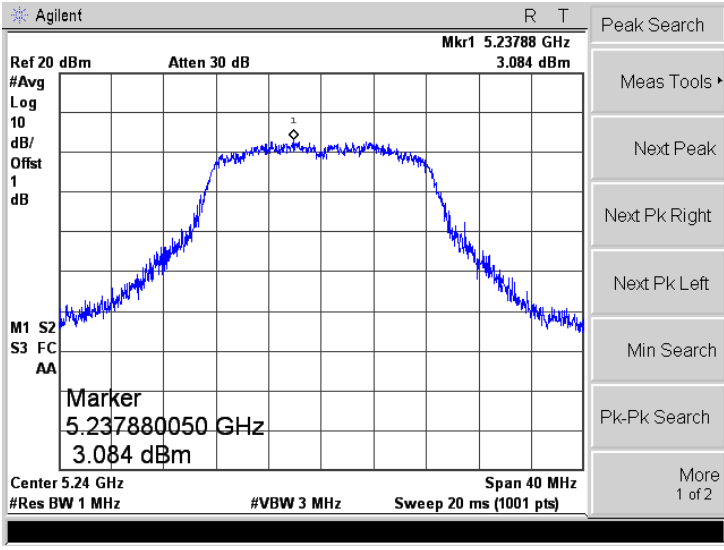
U-NII-3: 5725-5850MHz			
Operating mode	Test Channel	Power Spectral Density dBm/500kHz	Limit (dBm/500kHz)
802.11a	5745	2.533	30
	5785	1.595	30
	5825	1.759	30
802.11n-HT20	5745	1.520	30
	5785	0.814	30
	5825	0.869	30
802.11n-HT40	5755	-5.323	30
	5795	-5.866	30
802.11ac-HT80	5775	-7.660	30

Antenna 1:

U-NII-1: 5150-5250MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5180	2.447	11
	5200	2.261	11
	5240	2.755	11
802.11n-HT20	5180	2.652	11
	5200	3.433	11
	5240	2.723	11
802.11n-HT40	5190	-0.830	11
	5230	-0.171	11
802.11ac-HT80	5210	-3.304	11

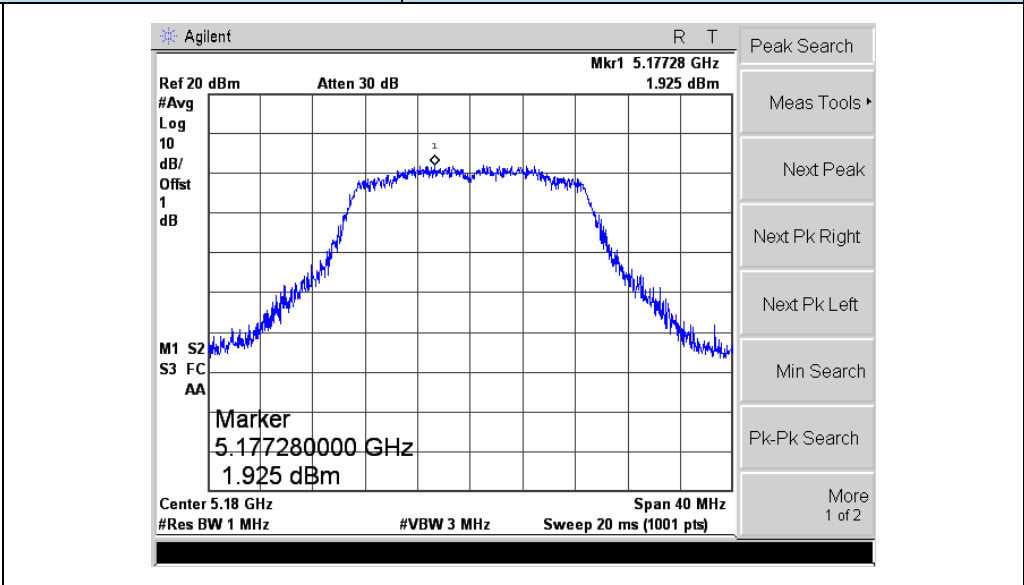
U-NII-3: 5725-5850MHz			
Operating mode	Test Channel	Power Spectral Density dBm/500kHz	Limit (dBm/500kHz)
802.11a	5745	1.914	30
	5785	1.161	30
	5825	1.432	30
802.11n-HT20	5745	1.199	30
	5785	1.193	30
	5825	1.176	30
802.11n-HT40	5755	-4.833	30
	5795	-4.425	30
802.11ac-HT80	5775	-6.360	30

➤ Antenna 0:5150-5250MHz

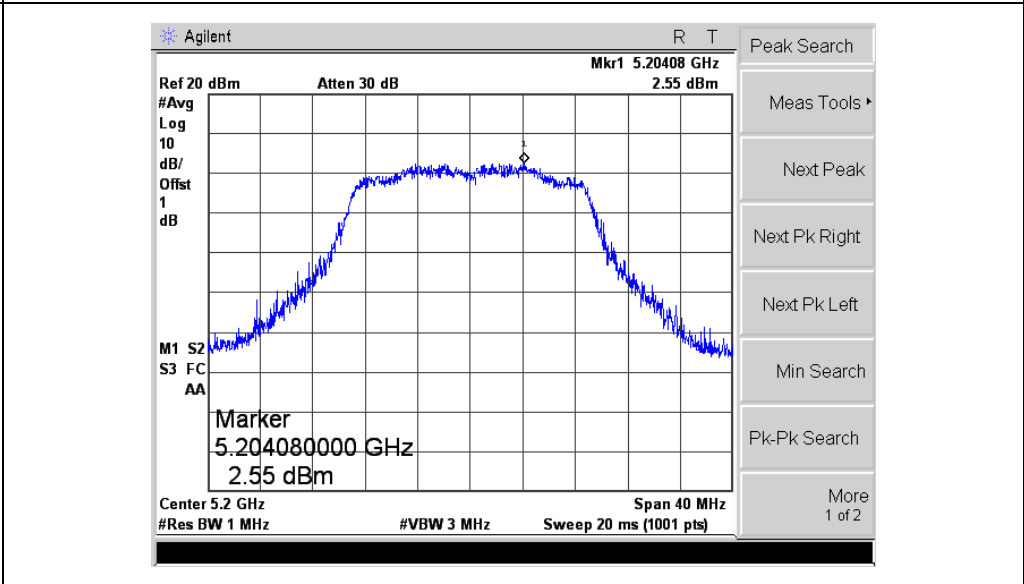
Mode:		802.11a
5180MHz		
5200MHz		
5240MHz		

Mode: 802.11n-HT20

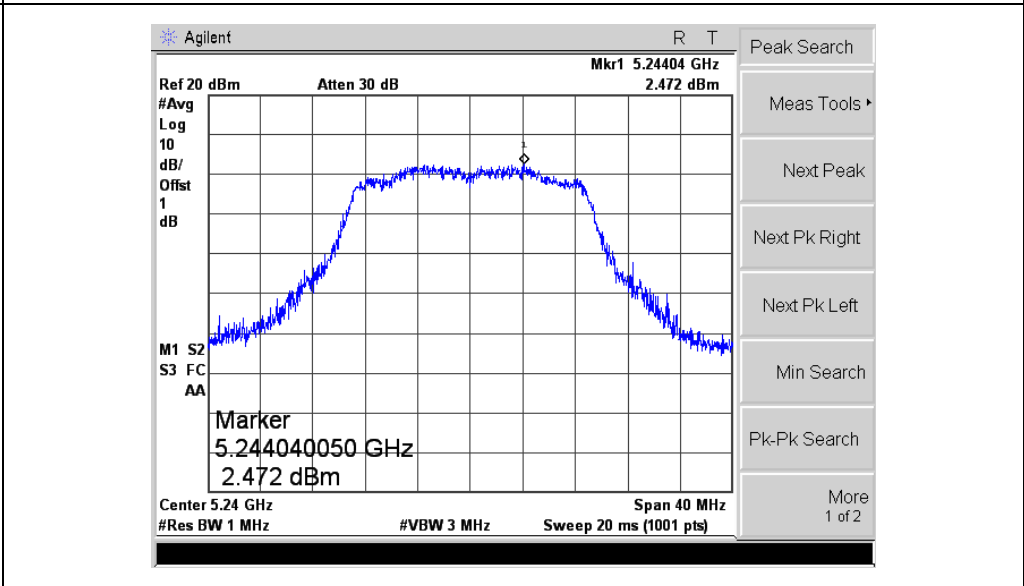
5180MHz

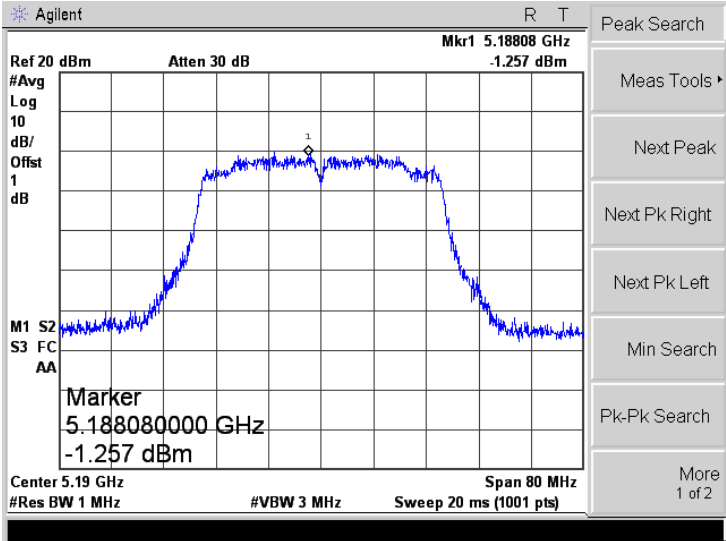
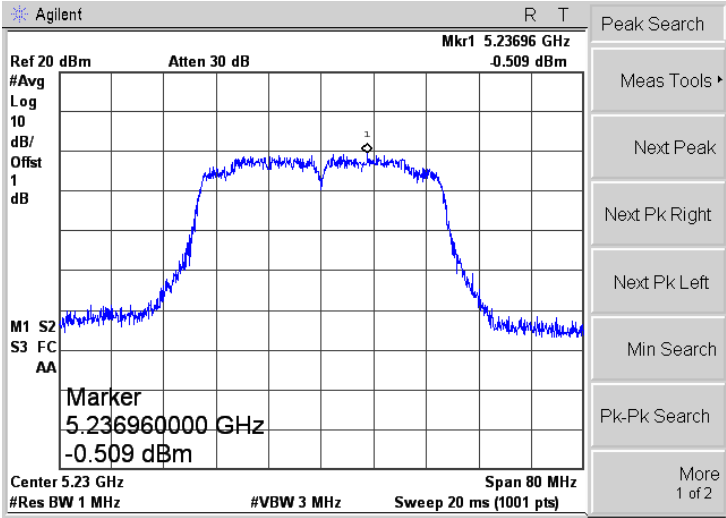


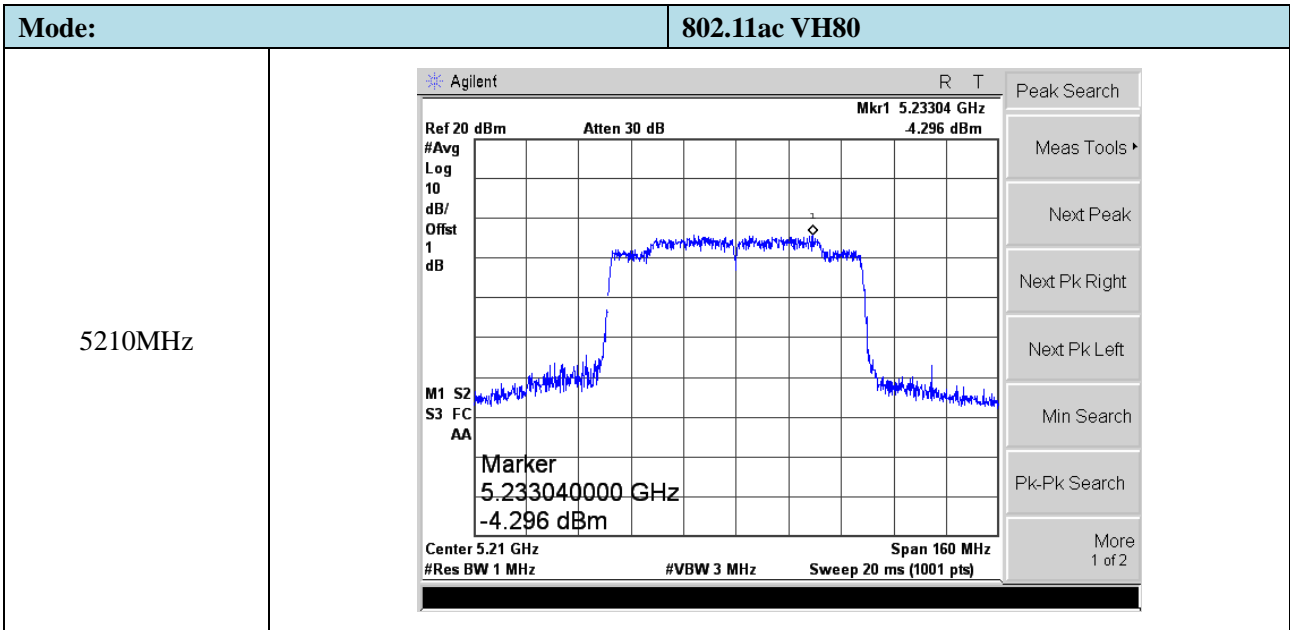
5200MHz




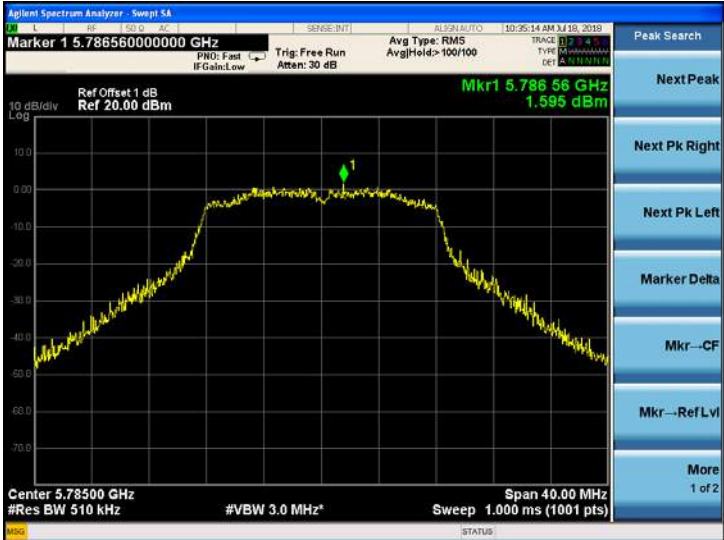

5240MHz



Mode:	802.11n-HT40
5190 MHz	
5230 MHz	

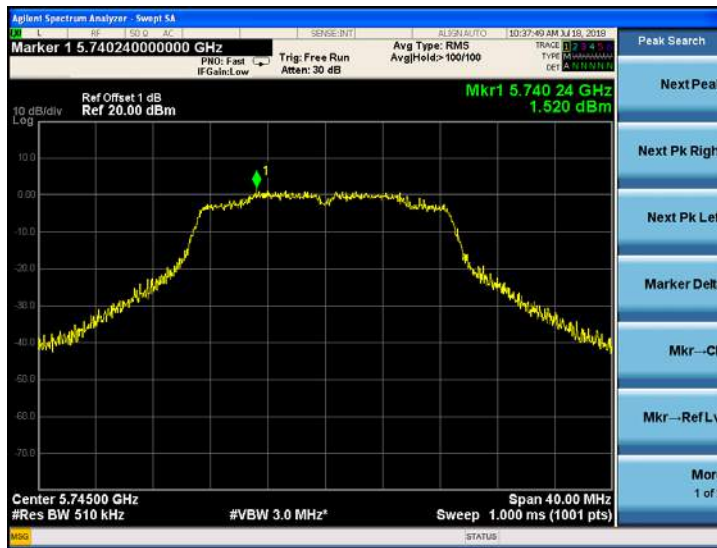


➤ Antenna 0: 5725-5850MHz

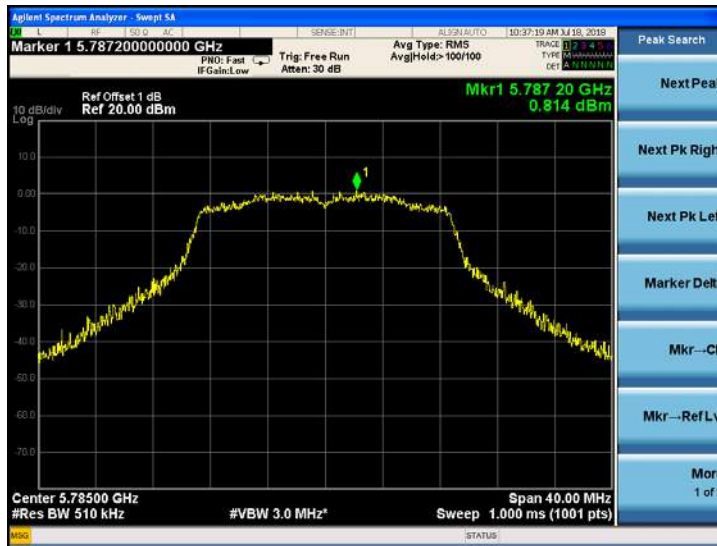
Mode:	802.11a
5745MHz	
5785MHz	
5825MHz	

Mode: 802.11n-HT20

5745MHz


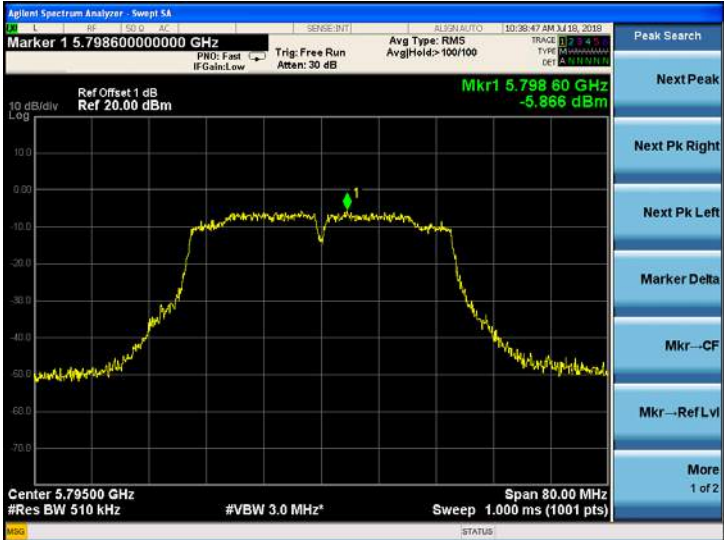


5785MHz



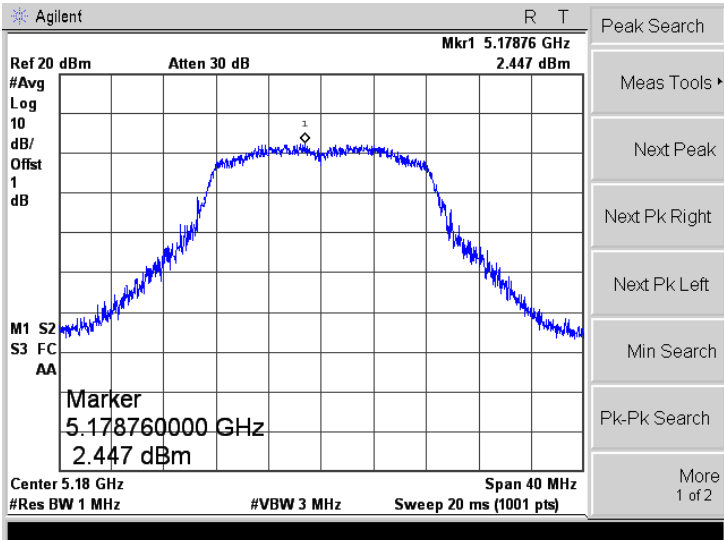
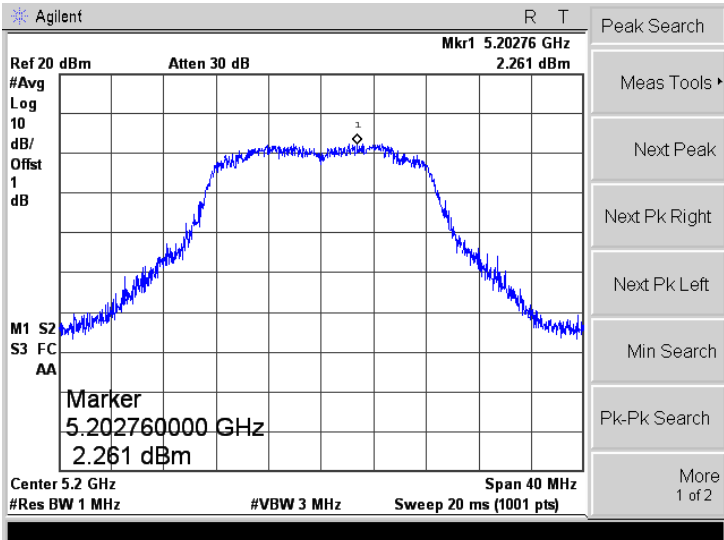
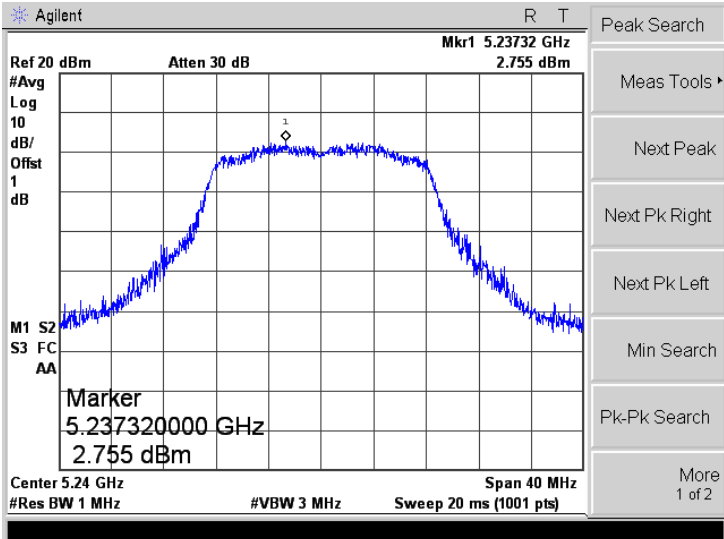
5825MHz



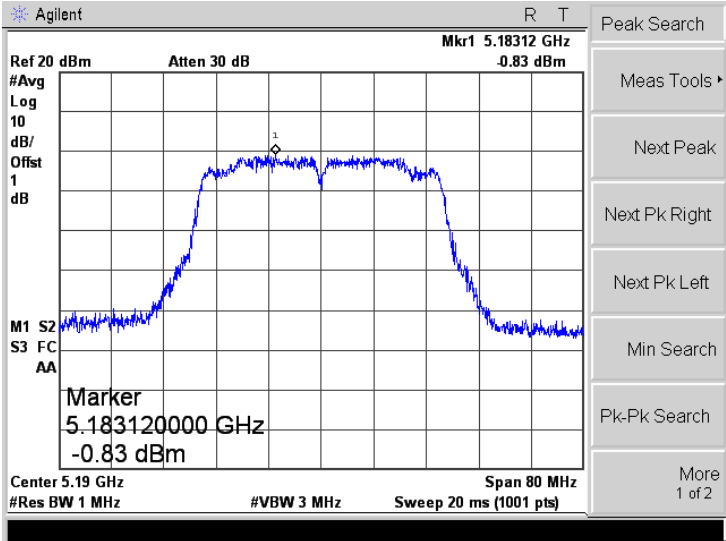
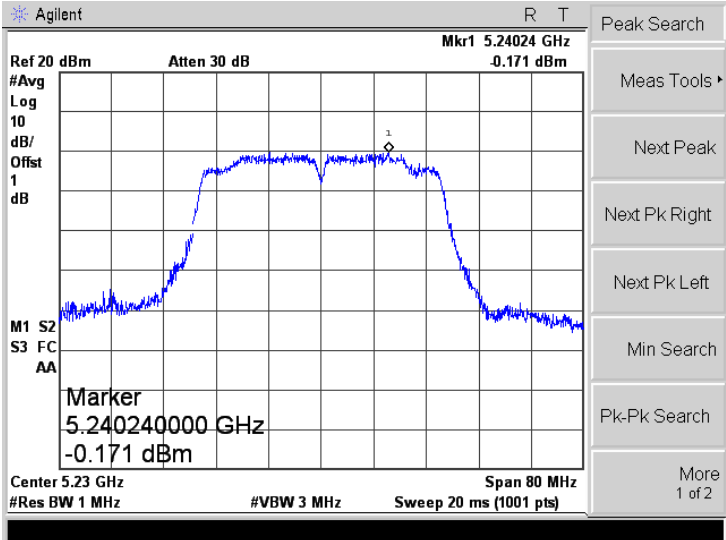
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<p>5755MHz</p>	
<p>5795MHz</p>	

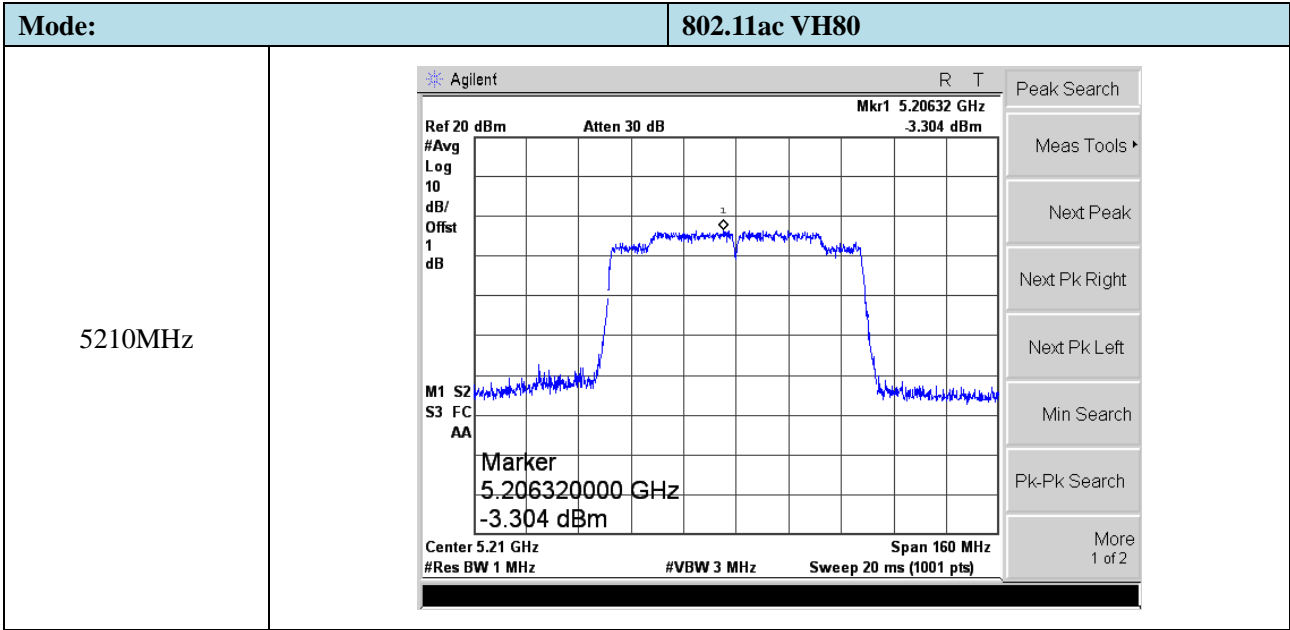


➤ Antenna 1: 5150-5250MHz

Mode:		802.11a
5180MHz		
5200MHz		
5240MHz		

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

Mode:	802.11n-HT40
5190MHz	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.18312 GHz -0.83 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.183120000 GHz -0.83 dBm Center 5.19 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p>
5230MHz	 <p>Agilent R T Ref 20 dBm Atten 30 dB Mkr1 5.24024 GHz -0.171 dBm #Avg 10 Log dB/ Offst 1 dB M1 S2 S3 FC AA Marker 5.240240000 GHz -0.171 dBm Center 5.23 GHz Span 80 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p>



➤ Antenna 1: 5725-5850MHz

Mode:	802.11a
5745MHz	
5785MHz	
5825MHz	

Mode: 802.11n-HT20

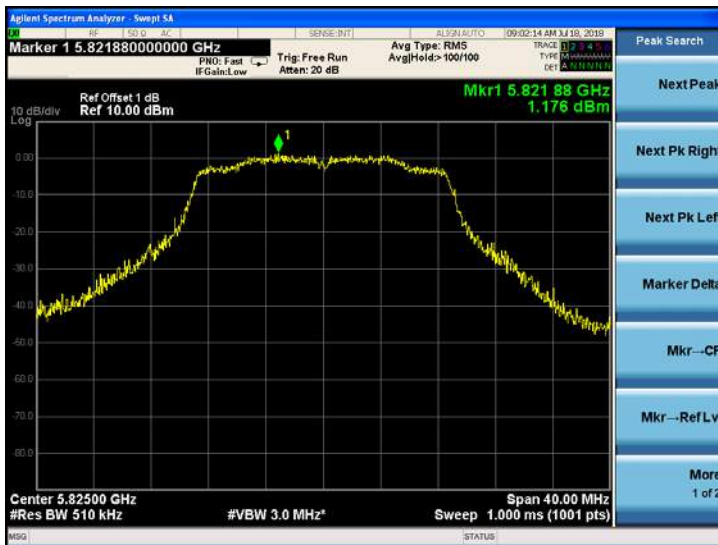
5745MHz




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 $\geq 3 * RBW$
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

Antenna 0:

U-NII-1:5150-5250MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5180	22.986	16.6136	Pass
	5200	22.778	16.6206	Pass
	5240	23.610	16.6487	Pass
802.11n-HT20	5180	23.855	17.7752	Pass
	5200	23.886	17.7943	Pass
	5240	23.501	17.7583	Pass
802.11n-HT40	5190	41.751	35.9989	Pass
	5230	41.545	36.0402	Pass
802.11ac-HT80	5210	79.889	75.1414	Pass

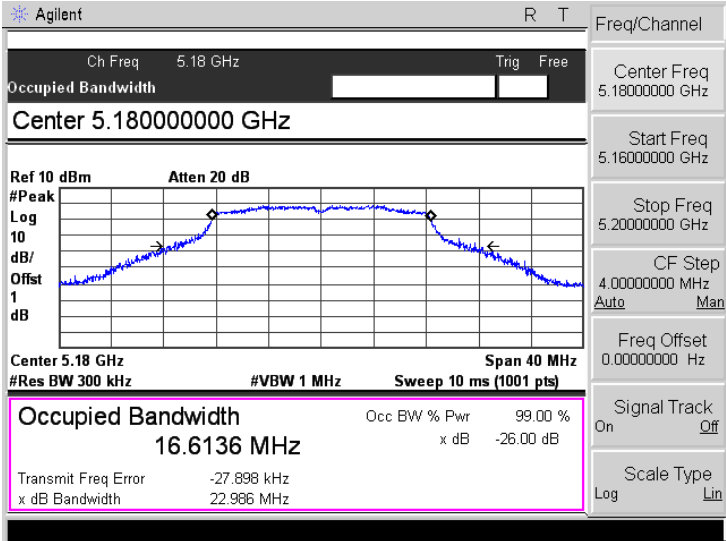
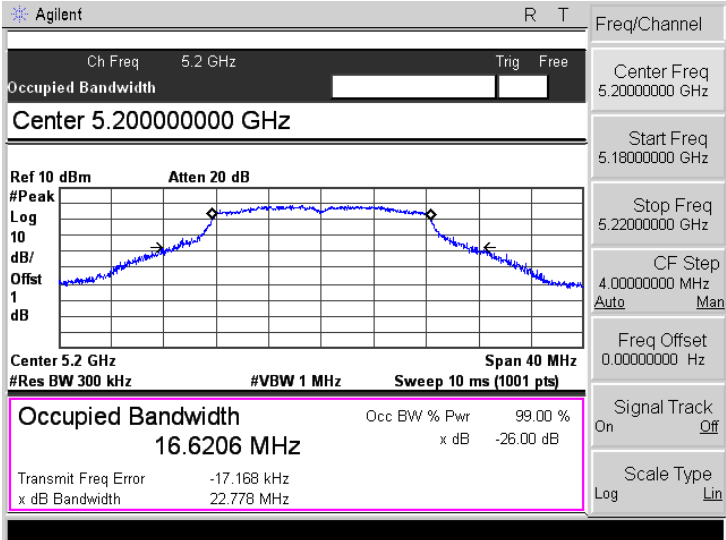
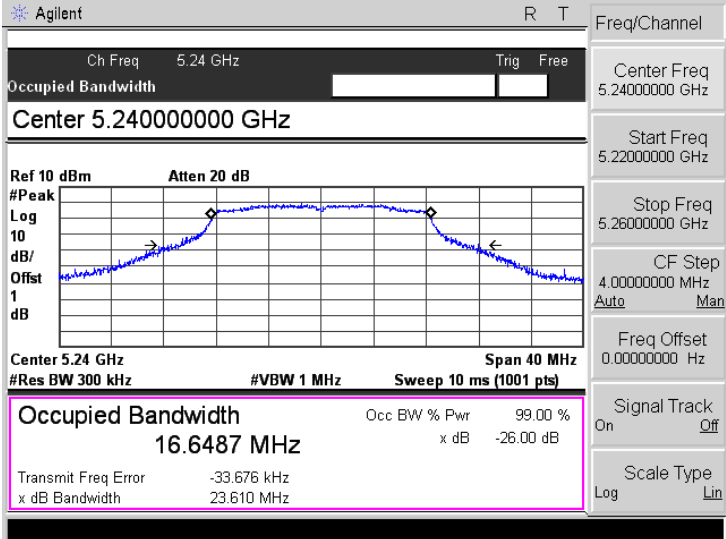
U-NII-3: 5725-5850MHz				
Test Mode	Test Channel MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5745	16.14	16.662	Pass
	5785	15.94	16.612	Pass
	5825	16.04	16.597	Pass
802.11n-HT20	5745	17.35	17.804	Pass
	5785	17.16	17.756	Pass
	5825	17.42	17.759	Pass
802.11n-HT40	5755	36.30	36.200	Pass
	5795	36.21	36.131	Pass
802.11ac-HT80	5775	75.78	75.362	Pass

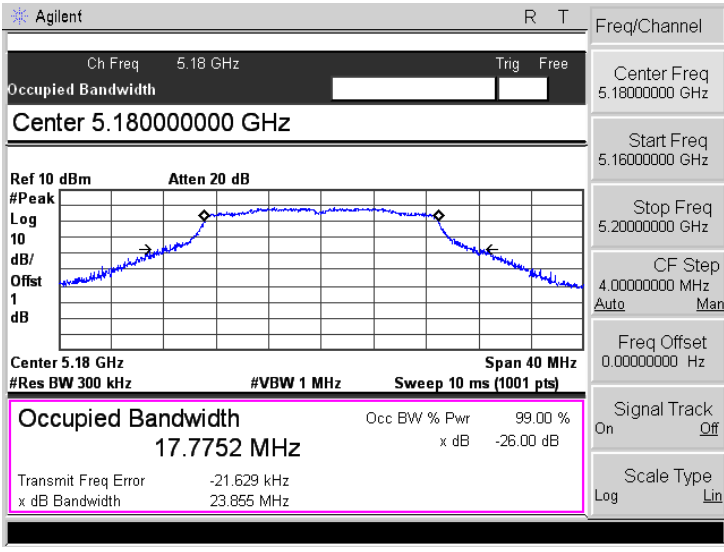
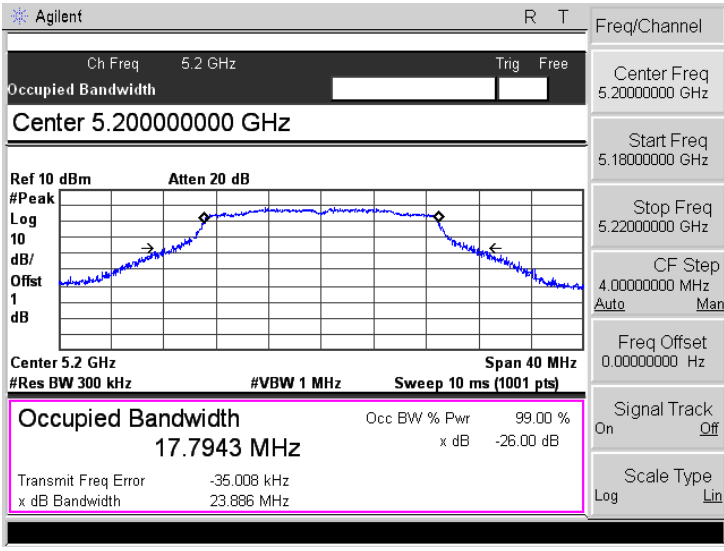
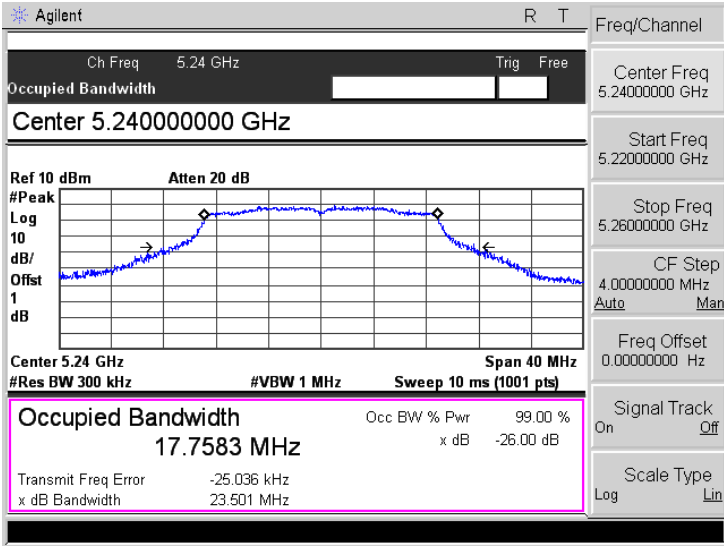
Antenna 1:

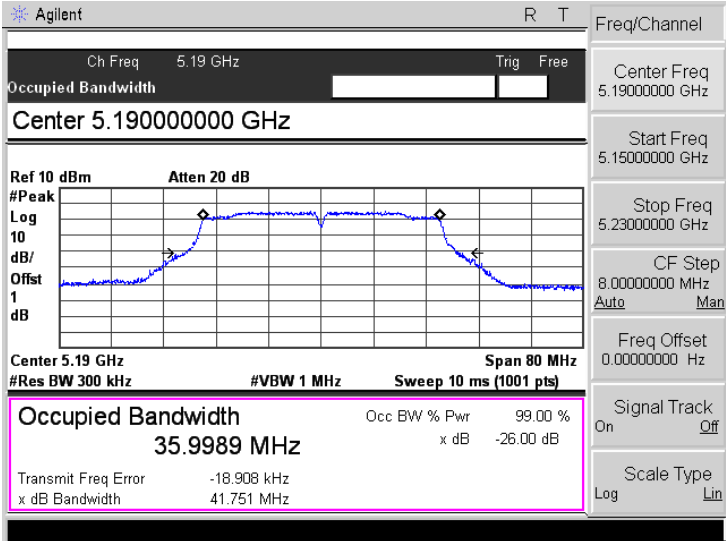
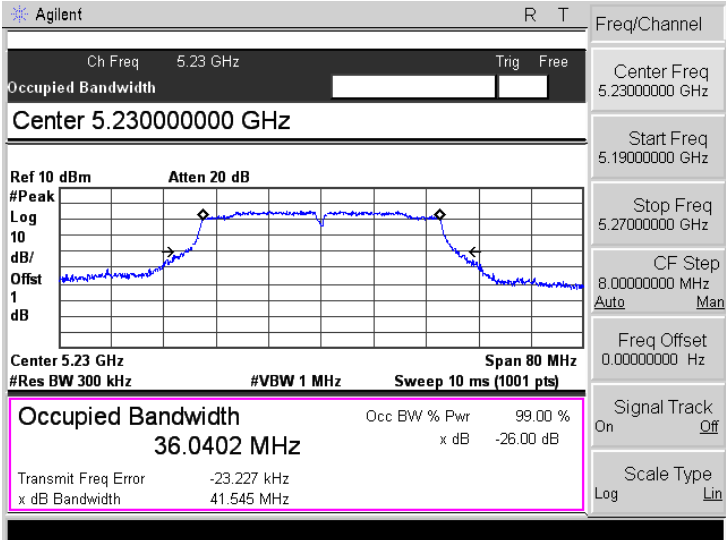
U-NII-1: 5150-5250MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5180	23.945	16.7044	Pass
	5200	23.176	16.6177	Pass
	5240	23.547	16.6527	Pass
802.11n-HT20	5180	23.781	17.7617	Pass
	5200	23.573	17.7968	Pass
	5240	23.807	17.8151	Pass
802.11n-HT40	5190	41.345	36.0235	Pass
	5230	41.588	36.0248	Pass
802.11ac-HT80	5210	80.092	75.1371	Pass

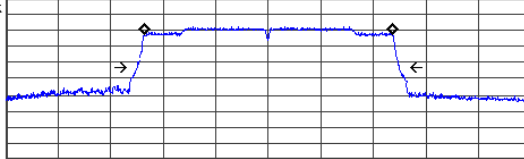
U-NII-3: 5725-5850MHz				
Test Mode	Test Channel MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5745	16.02	16.587	≥500
	5785	16.09	16.609	≥500
	5825	16.05	16.635	≥500
802.11n-HT20	5745	17.48	17.826	≥500
	5785	17.29	17.754	≥500
	5825	17.42	17.716	≥500
802.11n-HT40	5755	36.24	36.183	≥500
	5795	36.28	36.167	≥500
802.11ac VH80	5775	75.91	75.345	≥500

➤ Antenna 0: 5150-5250MHz



Mode:	802.11a
5180MHz	 <p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.18000000 GHz</p> <p>Ref 10 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.6136 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -27.898 kHz x dB Bandwidth 22.986 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.18000000 GHz</p> <p>Start Freq 5.16000000 GHz</p> <p>Stop Freq 5.20000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5200MHz	 <p>Agilent R T</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.20000000 GHz</p> <p>Ref 10 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.6206 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -17.168 kHz x dB Bandwidth 22.778 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.20000000 GHz</p> <p>Start Freq 5.18000000 GHz</p> <p>Stop Freq 5.22000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5240MHz	 <p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.24000000 GHz</p> <p>Ref 10 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth 16.6487 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB</p> <p>Transmit Freq Error -33.676 kHz x dB Bandwidth 23.610 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.24000000 GHz</p> <p>Start Freq 5.22000000 GHz</p> <p>Stop Freq 5.26000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

Mode:	802.11n-HT20
5180MHz	 <p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.18000000 GHz</p> <p>Ref 10 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.7752 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -21.629 kHz</p> <p>x dB Bandwidth 23.855 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.18000000 GHz</p> <p>Start Freq 5.16000000 GHz</p> <p>Stop Freq 5.20000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5200MHz	 <p>Agilent R T</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.20000000 GHz</p> <p>Ref 10 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.7943 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -35.008 kHz</p> <p>x dB Bandwidth 23.886 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.20000000 GHz</p> <p>Start Freq 5.18000000 GHz</p> <p>Stop Freq 5.22000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5240MHz	 <p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.24000000 GHz</p> <p>Ref 10 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.7583 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -25.036 kHz</p> <p>x dB Bandwidth 23.501 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.24000000 GHz</p> <p>Start Freq 5.22000000 GHz</p> <p>Stop Freq 5.26000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

Mode:	802.11n-HT40
5190 MHz	 <p>Agilent R T</p> <p>Ch Freq 5.19 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.19000000 GHz</p> <p>Ref 10 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.19 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>35.9989 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -18.908 kHz</p> <p>x dB Bandwidth 41.751 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.19000000 GHz</p> <p>Start Freq 5.15000000 GHz</p> <p>Stop Freq 5.23000000 GHz</p> <p>CF Step 8.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5230 MHz	 <p>Agilent R T</p> <p>Ch Freq 5.23 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.23000000 GHz</p> <p>Ref 10 dBm Atten 20 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.23 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>36.0402 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -23.227 kHz</p> <p>x dB Bandwidth 41.545 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.23000000 GHz</p> <p>Start Freq 5.19000000 GHz</p> <p>Stop Freq 5.27000000 GHz</p> <p>CF Step 8.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

Mode:	802.11ac VH80
5210MHz	<div style="border: 1px solid gray; padding: 5px;"> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid gray;"> Agilent R T </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: small; margin: 0;">Ch Freq 5.21 GHz Trig Free</p> <p style="margin: 0;">Occupied Bandwidth</p> <p style="font-size: large; margin: 0;">Center 5.21000000 GHz</p> </div> <div style="display: flex; justify-content: space-between; padding: 2px;"> <div style="font-size: x-small;"> <p>Ref 10 dBm</p> <p>#Peak</p> <p>Log</p> <p>dB/</p> <p>Offst</p> <p>1</p> <p>dB</p> </div> <div style="text-align: center;"> <p>Atten 20 dB</p>  </div> <div style="font-size: x-small;"> <p>Center 5.21 GHz</p> <p>#Res BW 300 kHz</p> </div> <div style="font-size: x-small;"> <p>#VBW 1 MHz</p> <p>Sweep 10 ms (1001 pts)</p> </div> <div style="font-size: x-small;"> <p>Span 160 MHz</p> </div> </div> <div style="border: 2px solid magenta; padding: 5px; margin-top: 5px;"> <p style="font-size: large; margin: 0;">Occupied Bandwidth</p> <p style="font-size: x-large; margin: 0;">75.1414 MHz</p> </div> <div style="display: flex; justify-content: space-between; font-size: x-small; margin-top: 5px;"> <div> <p>Transmit Freq Error</p> <p>x dB Bandwidth</p> </div> <div> <p>-30.059 kHz</p> <p>79.889 MHz</p> </div> <div> <p>Occ BW % Pwr</p> <p>x dB</p> </div> <div> <p>99.00 %</p> <p>-26.00 dB</p> </div> </div> </div>

➤ Antenna 0: 5725-5850MHz

Mode:	802.11a
5745MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.745000000 GHz</p> <p>Center Freq: 5.745000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 10.00 dBm</p> <p>Center 5.745 GHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 16.662 MHz</p> <p>Total Power 14.2 dBm</p> <p>Transmit Freq Error -52.869 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.14 MHz</p> <p>x dB -6.00 dB</p>
5785MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.785000000 GHz</p> <p>Center Freq: 5.785000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 10.00 dBm</p> <p>Center 5.785 GHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 16.612 MHz</p> <p>Total Power 13.7 dBm</p> <p>Transmit Freq Error -26.584 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.94 MHz</p> <p>x dB -6.00 dB</p>
5825MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.825000000 GHz</p> <p>Center Freq: 5.825000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 10.00 dBm</p> <p>Center 5.825 GHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 16.597 MHz</p> <p>Total Power 13.2 dBm</p> <p>Transmit Freq Error -59.051 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.04 MHz</p> <p>x dB -6.00 dB</p>

Mode: 802.11n-HT20

5745MHz

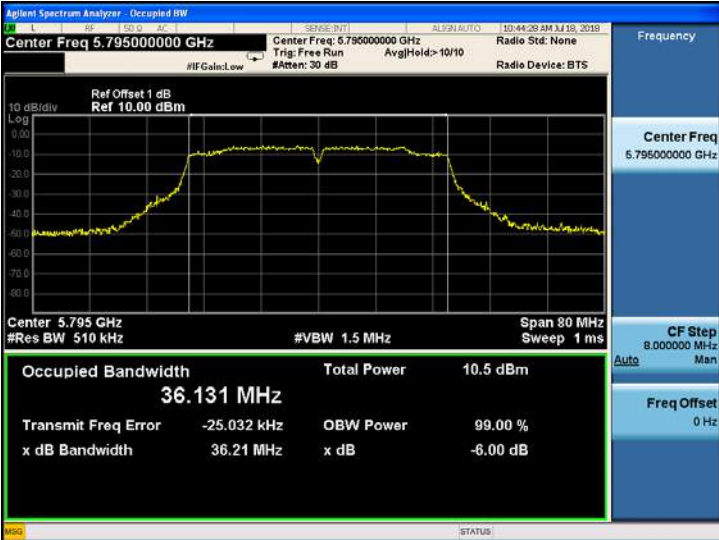


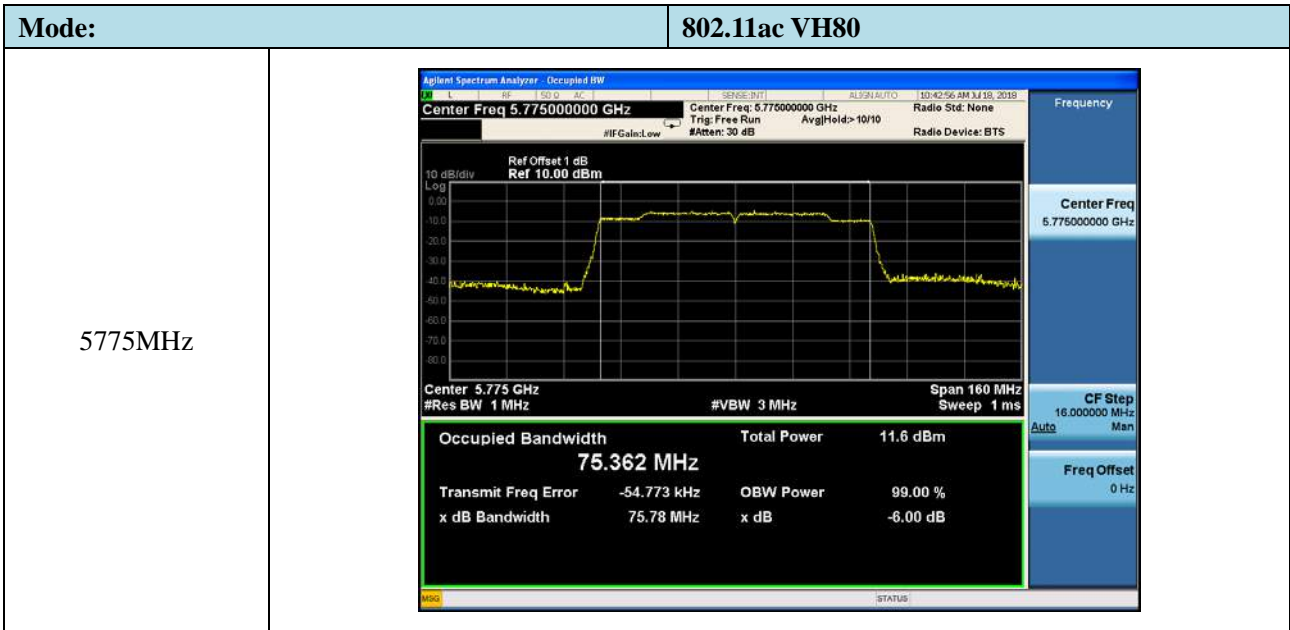
5785MHz



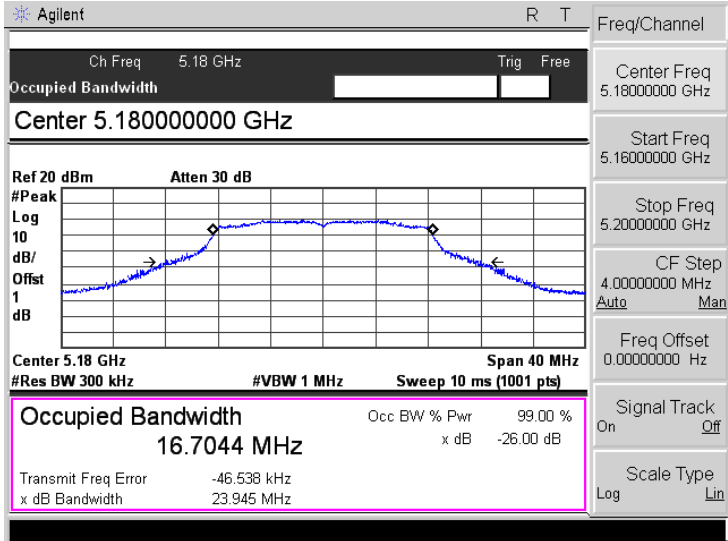
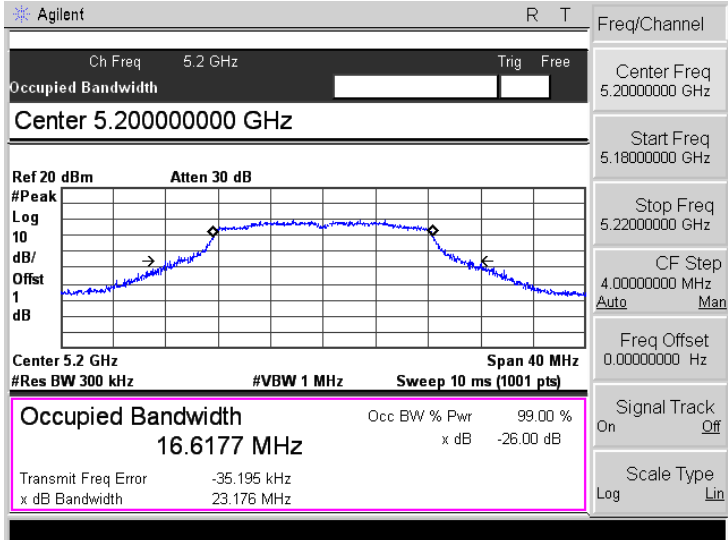
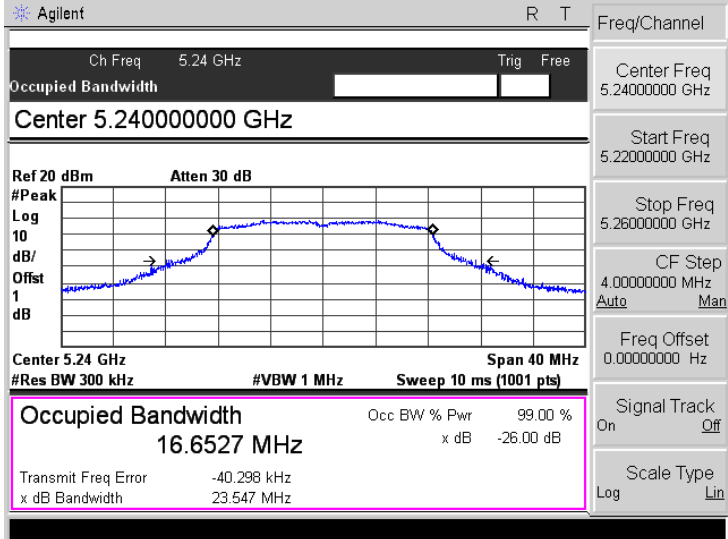
5825MHz

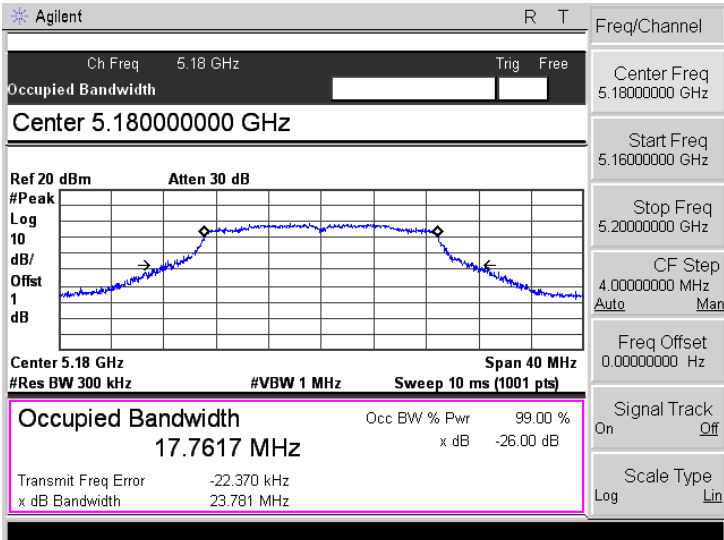
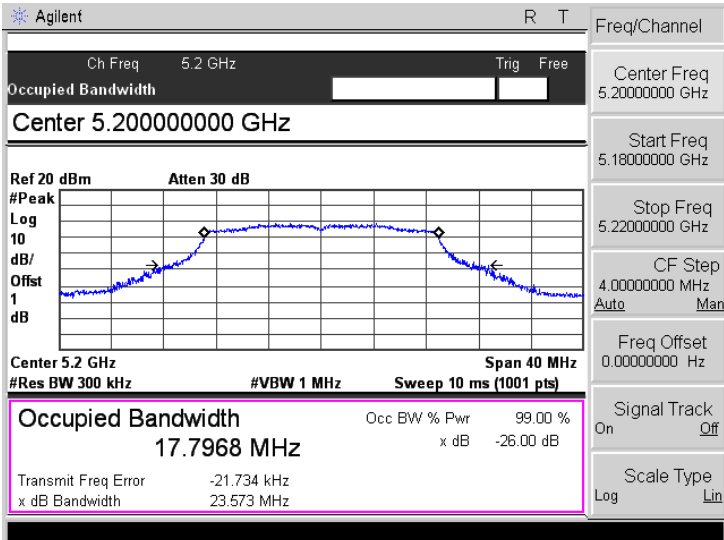
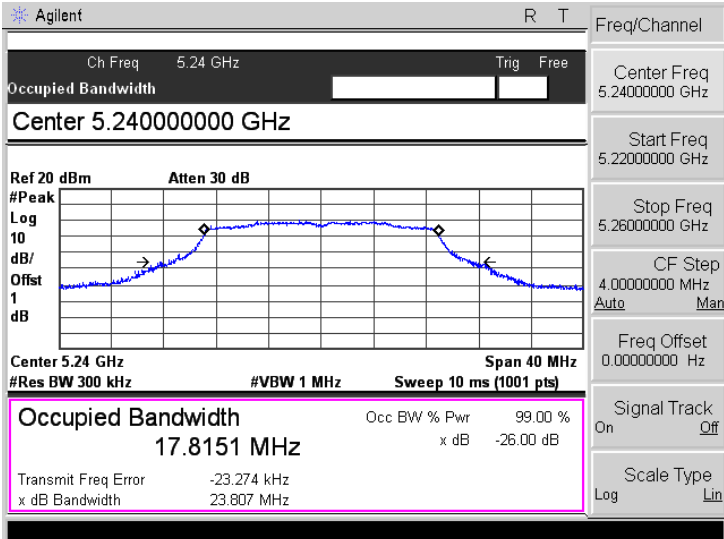


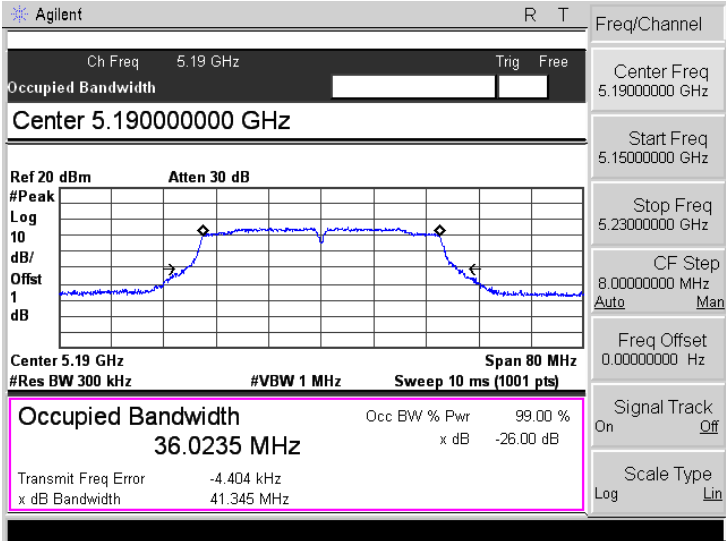
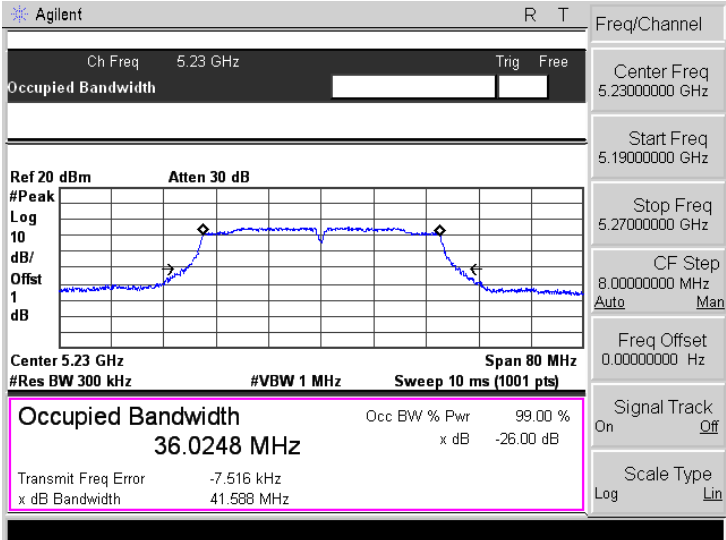
Mode:	802.11n-HT40
5755MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.755000000 GHz</p> <p>Res BW 510.00 kHz</p> <p>Occupied Bandwidth: 36.200 MHz</p> <p>Total Power: 11.1 dBm</p> <p>Transmit Freq Error: -22.828 kHz</p> <p>x dB Bandwidth: 36.30 MHz</p>
5795MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.795000000 GHz</p> <p>Res BW 510 kHz</p> <p>Occupied Bandwidth: 36.131 MHz</p> <p>Total Power: 10.5 dBm</p> <p>Transmit Freq Error: -25.032 kHz</p> <p>x dB Bandwidth: 36.21 MHz</p>

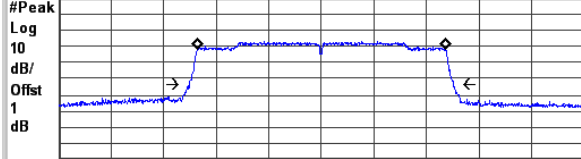


➤ Antenna 1: 5150-5250MHz




Mode:	802.11a
5180MHz	 <p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.18000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>16.7044 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -46.538 kHz</p> <p>x dB Bandwidth 23.945 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.18000000 GHz</p> <p>Start Freq 5.16000000 GHz</p> <p>Stop Freq 5.20000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5200MHz	 <p>Agilent R T</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>16.6177 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -35.195 kHz</p> <p>x dB Bandwidth 23.176 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.20000000 GHz</p> <p>Start Freq 5.18000000 GHz</p> <p>Stop Freq 5.22000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5240MHz	 <p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>16.6527 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -40.298 kHz</p> <p>x dB Bandwidth 23.547 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.24000000 GHz</p> <p>Start Freq 5.22000000 GHz</p> <p>Stop Freq 5.26000000 GHz</p> <p>CF Step 4.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>



Mode:	802.11n-HT20
5180MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.18000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.7617 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -22.370 kHz</p> <p>x dB Bandwidth 23.781 MHz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5200MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.7968 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -21.734 kHz</p> <p>x dB Bandwidth 23.573 MHz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5240MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 40 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>17.8151 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -23.274 kHz</p> <p>x dB Bandwidth 23.807 MHz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>



Mode:	802.11n-HT40
5190MHz	 <p>Agilent R T</p> <p>Ch Freq 5.19 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.19000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.19 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>36.0235 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -4.404 kHz</p> <p>x dB Bandwidth 41.345 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.19000000 GHz</p> <p>Start Freq 5.15000000 GHz</p> <p>Stop Freq 5.23000000 GHz</p> <p>CF Step 8.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5230MHz	 <p>Agilent R T</p> <p>Ch Freq 5.23 GHz Trig Free</p> <p>Occupied Bandwidth</p> <p>Center 5.23000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak Log 10 dB/ Offst 1 dB</p> <p>Center 5.23 GHz Span 80 MHz</p> <p>#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>36.0248 MHz x dB -26.00 dB</p> <p>Transmit Freq Error -7.516 kHz</p> <p>x dB Bandwidth 41.588 MHz</p> <p>Freq/Channel</p> <p>Center Freq 5.23000000 GHz</p> <p>Start Freq 5.19000000 GHz</p> <p>Stop Freq 5.27000000 GHz</p> <p>CF Step 8.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

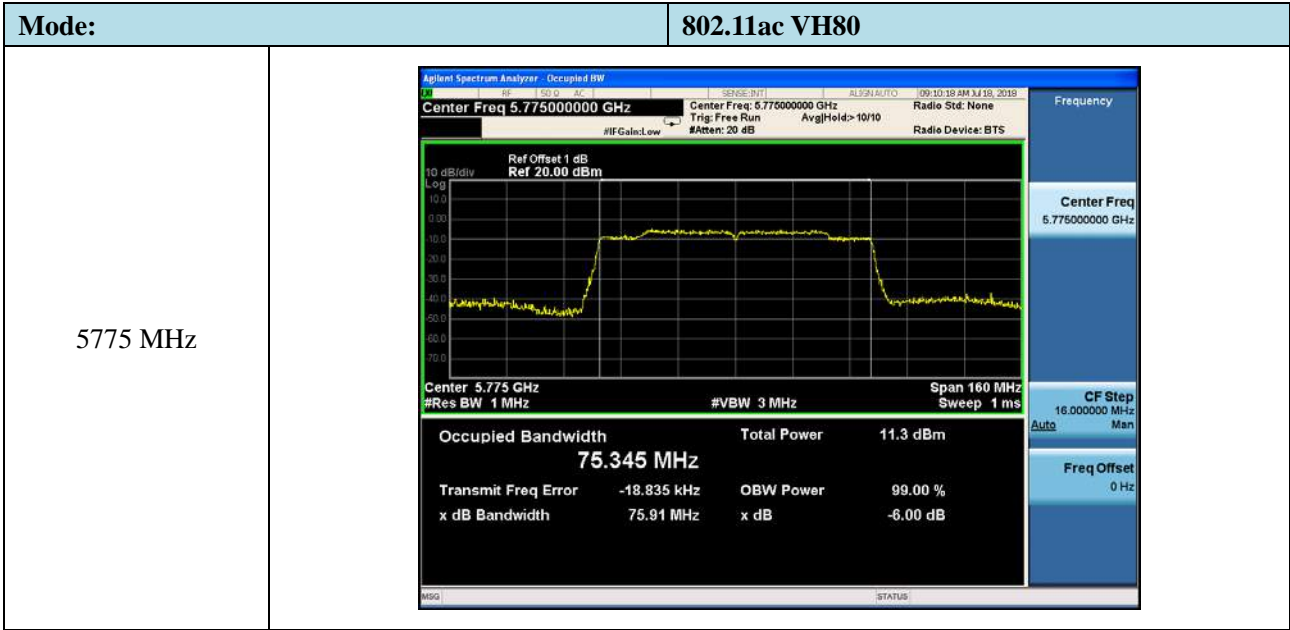
Mode:	802.11ac VH80
5210MHz	<div style="border: 1px solid gray; padding: 5px;"> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid gray;"> Agilent R T </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: small;">Ch Freq 5.21 GHz Trig Free</p> <p style="font-size: small;">Occupied Bandwidth</p> <p style="font-size: small;">Center 5.21000000 GHz</p> </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: x-small;">Ref 20 dBm Atten 30 dB</p> <p style="font-size: x-small;">#Peak</p> <p style="font-size: x-small;">Log</p> <p style="font-size: x-small;">dB/</p> <p style="font-size: x-small;">Offst</p> <p style="font-size: x-small;">1</p> <p style="font-size: x-small;">dB</p>  </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: x-small;">Center 5.21 GHz Span 160 MHz</p> <p style="font-size: x-small;">#Res BW 300 kHz #VBW 1 MHz Sweep 10 ms (1001 pts)</p> </div> <div style="border: 2px solid magenta; padding: 2px;"> <p style="font-size: small; margin: 0;">Occupied Bandwidth</p> <p style="font-size: x-small; margin: 0;">Occ BW % Pwr 99.00 %</p> <p style="font-size: x-small; margin: 0;">75.1371 MHz x dB -26.00 dB</p> </div> <div style="padding: 2px;"> <p style="font-size: x-small; margin: 0;">Transmit Freq Error -25.829 kHz</p> <p style="font-size: x-small; margin: 0;">x dB Bandwidth 80.092 MHz</p> </div> </div>

➤ Antenna 1: 5725-5850MHz

Mode:	802.11a
5745MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.745000000 GHz</p> <p>Center Freq: 5.745000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.587 MHz</p> <p>Total Power: 14.6 dBm</p> <p>Transmit Freq Error: -28.385 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 16.02 MHz</p> <p>x dB: -6.00 dB</p>
5785MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.785000000 GHz</p> <p>Center Freq: 5.785000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.609 MHz</p> <p>Total Power: 14.5 dBm</p> <p>Transmit Freq Error: -18.091 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 16.09 MHz</p> <p>x dB: -6.00 dB</p>
5825MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.825000000 GHz</p> <p>Center Freq: 5.825000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 20.00 dBm</p> <p>Occupied Bandwidth: 16.635 MHz</p> <p>Total Power: 15.1 dBm</p> <p>Transmit Freq Error: -42.296 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 16.05 MHz</p> <p>x dB: -6.00 dB</p>

Mode:	802.11n-HT20
5745MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.745000000 GHz</p> <p>Center Freq: 5.745000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.745 GHz</p> <p>Res BW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 17.826 MHz</p> <p>Total Power 14.7 dBm</p> <p>Transmit Freq Error -39.444 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 17.48 MHz</p> <p>x dB -6.00 dB</p>
5785MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.785000000 GHz</p> <p>Center Freq: 5.785000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.785 GHz</p> <p>Res BW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 17.754 MHz</p> <p>Total Power 14.4 dBm</p> <p>Transmit Freq Error -20.782 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 17.29 MHz</p> <p>x dB -6.00 dB</p>
5825MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 5.825000000 GHz</p> <p>Center Freq: 5.825000000 GHz</p> <p>Ref Offset 1 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.825 GHz</p> <p>Res BW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 17.716 MHz</p> <p>Total Power 14.2 dBm</p> <p>Transmit Freq Error -37.581 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 17.42 MHz</p> <p>x dB -6.00 dB</p>

Mode:	802.11n-HT40
5755 MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.75500000 GHz</p> <p>Occupied Bandwidth: 36.183 MHz</p> <p>Total Power: 11.9 dBm</p> <p>Transmit Freq Error: -1.813 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 36.24 MHz</p> <p>x dB: -6.00 dB</p>
5795 MHz	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.795000000 GHz</p> <p>Occupied Bandwidth: 36.167 MHz</p> <p>Total Power: 11.4 dBm</p> <p>Transmit Freq Error: -13.422 kHz</p> <p>OBW Power: 99.00 %</p> <p>x dB Bandwidth: 36.28 MHz</p> <p>x dB: -6.00 dB</p>



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 \geq 3 MHz.
- (iv) Number of points in sweep \geq 2 Span / RBW. (This ensures that bin-to-bin spacing is \leq 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 \geq 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

Antenna 0:

U-NII-1:5150-5250MHz				
Test mode	Frequency MHz	Output Power dBm	Output Power mW	Limit mW
802.11a	5180	6.32	4.285	250
	5200	6.54	4.508	250
	5240	6.36	4.325	250
802.11n-HT20	5180	6.67	4.645	250
	5200	6.55	4.519	250
	5240	6.45	4.416	250
802.11n-HT40	5190	6.33	4.295	250
	5230	6.47	4.436	250
802.11ac VH80	5210	5.73	3.741	250

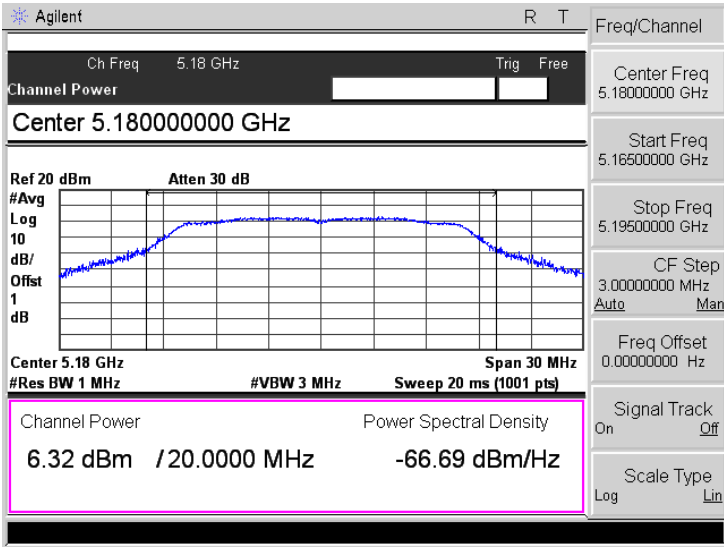
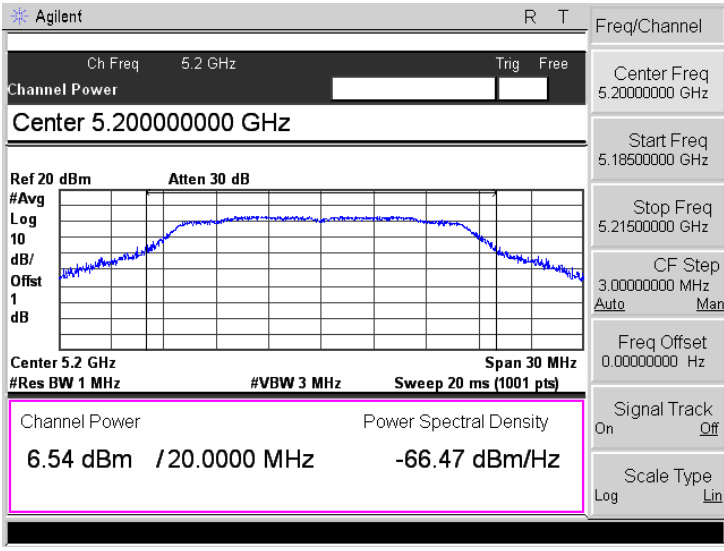
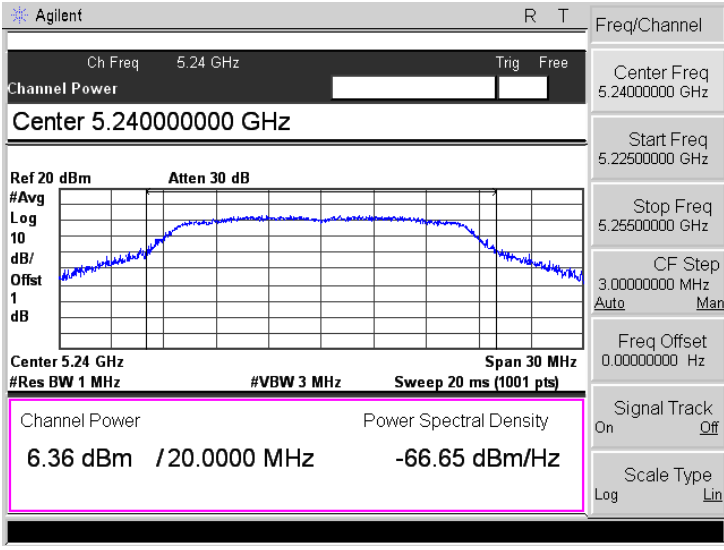
U-NII-3: 5725-5850MHz				
Test mode	Frequency MHz	Output Power dBm	Output Power mW	Limit mW
802.11a	5745	6.19	4.159	1000
	5785	6.03	4.009	1000
	5825	6.24	4.207	1000
802.11n-HT20	5745	6.17	4.140	1000
	5785	6.41	4.375	1000
	5825	6.34	4.305	1000
802.11n-HT40	5755	6.23	4.198	1000
	5795	6.01	3.990	1000
802.11ac VH80	5775	5.41	3.475	1000

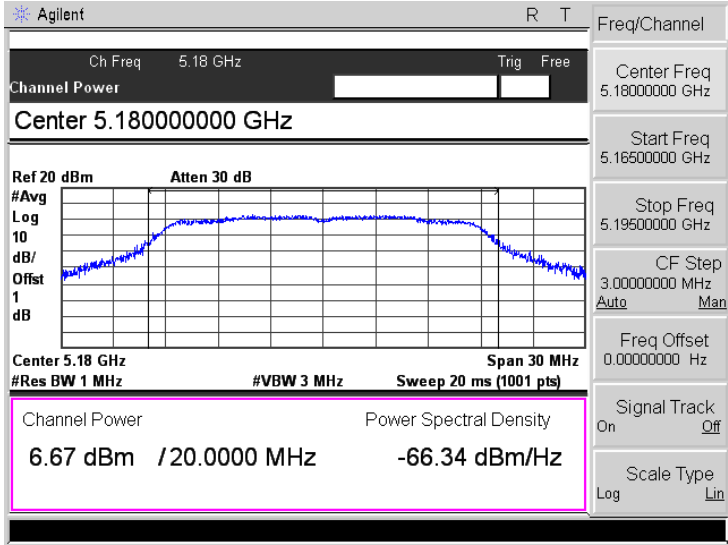
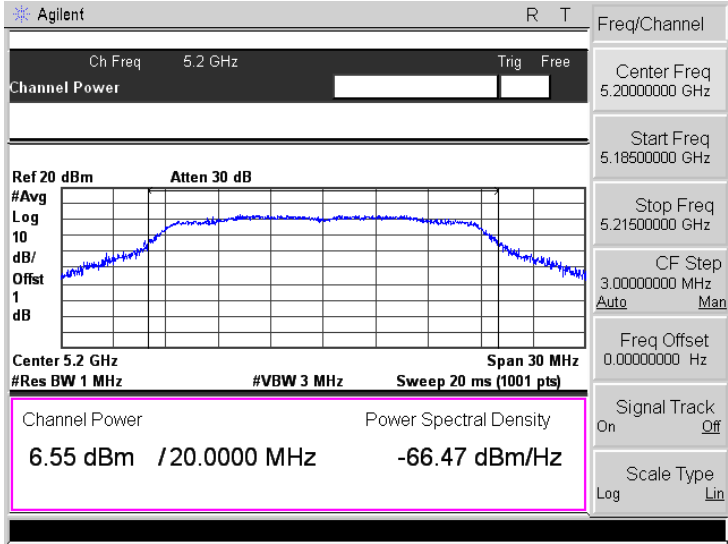
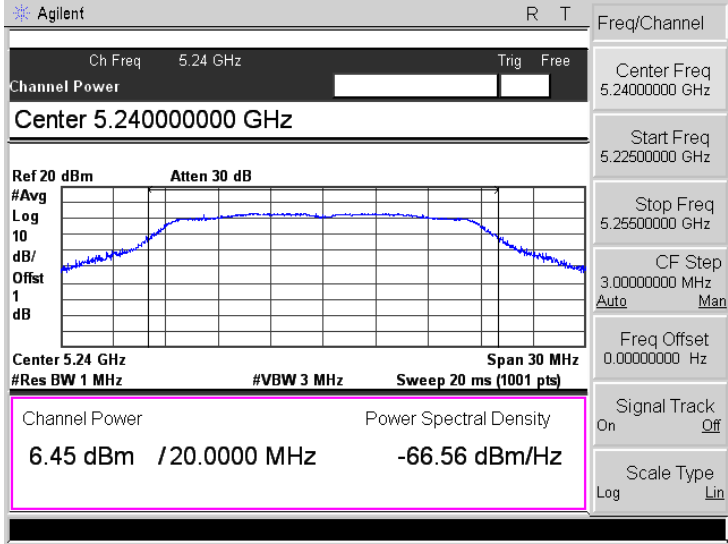
Antenna 1:

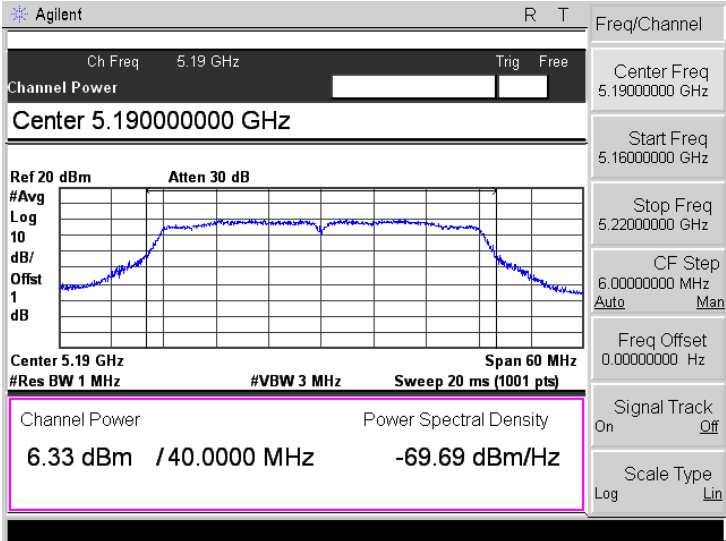
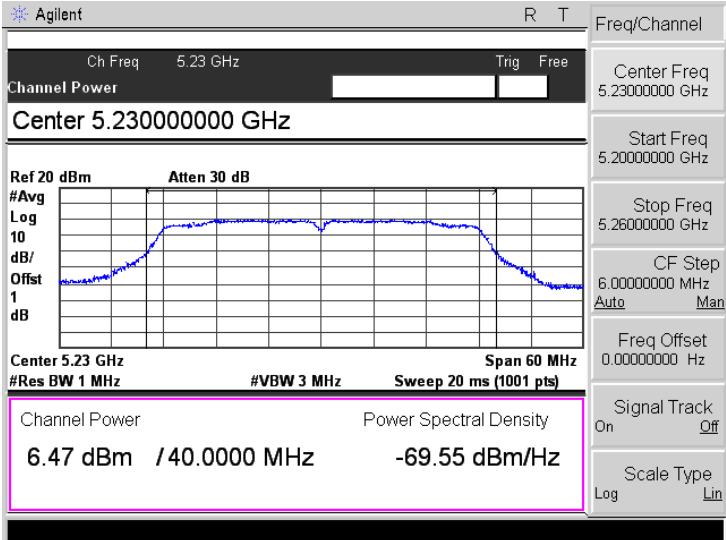
U-NII-1: 5150-5250MHz				
Test mode	Frequency MHz	Output Power dBm	Output Power mW	Limit mW
802.11a	5180	6.42	4.385	250
	5200	6.16	4.130	250
	5240	6.26	4.227	250
802.11n-HT20	5180	6.32	4.285	250
	5200	6.20	4.169	250
	5240	6.43	4.395	250
802.11n-HT40	5190	6.33	4.295	250
	5230	6.37	4.335	250
802.11ac VH80	5180	6.44	4.406	250

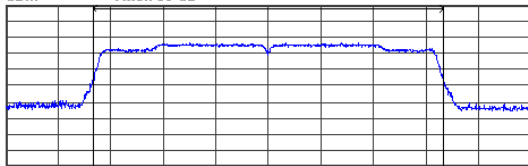
U-NII-3: 5725-5850MHz				
Test mode	Frequency MHz	Output Power dBm	Output Power mW	Limit mW
802.11a	5745	6.34	4.305	1000
	5785	6.20	4.169	1000
	5825	6.09	4.064	1000
802.11n-HT20	5745	6.59	4.560	1000
	5785	6.21	4.178	1000
	5825	5.82	3.819	1000
802.11n-HT40	5755	5.71	3.724	1000
	5795	5.61	3.639	1000
802.11ac VH80	5775	5.88	3.873	1000

➤ Antenna 0: 5150-5250MHz




Mode:		802.11a
5180MHz		
5200MHz		
5240MHz		

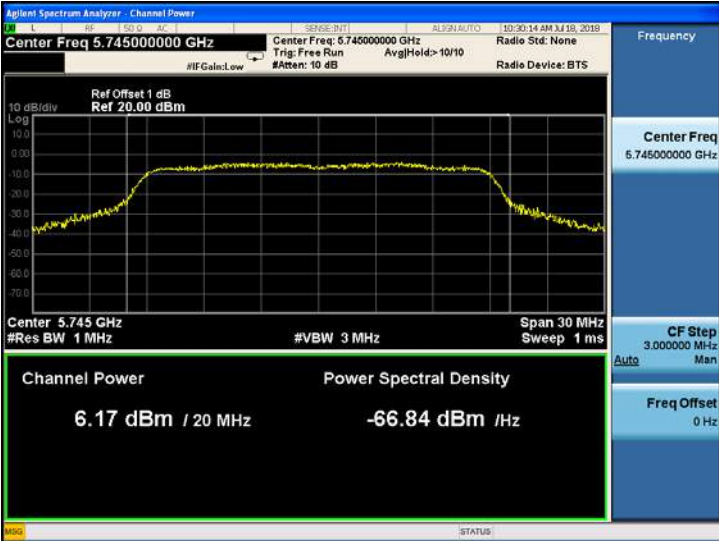


Mode:		802.11n-HT20
5180MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.18000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.67 dBm /20.0000 MHz -66.34 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.18000000 GHz</p> <p>Start Freq 5.16500000 GHz</p> <p>Stop Freq 5.19500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	
5200MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.55 dBm /20.0000 MHz -66.47 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.20000000 GHz</p> <p>Start Freq 5.18500000 GHz</p> <p>Stop Freq 5.21500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	
5240MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.45 dBm /20.0000 MHz -66.56 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.24000000 GHz</p> <p>Start Freq 5.22500000 GHz</p> <p>Stop Freq 5.25500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	



Mode:	802.11n-HT40
5190 MHz	 <p>Agilent R T</p> <p>Ch Freq 5.19 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.19000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log dB/ Offst 1 dB</p> <p>Center 5.19 GHz Span 60 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.33 dBm / 40.0000 MHz -69.69 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.19000000 GHz</p> <p>Start Freq 5.16000000 GHz</p> <p>Stop Freq 5.22000000 GHz</p> <p>CF Step 6.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5230 MHz	 <p>Agilent R T</p> <p>Ch Freq 5.23 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.23000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log dB/ Offst 1 dB</p> <p>Center 5.23 GHz Span 60 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.47 dBm / 40.0000 MHz -69.55 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.23000000 GHz</p> <p>Start Freq 5.20000000 GHz</p> <p>Stop Freq 5.26000000 GHz</p> <p>CF Step 6.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

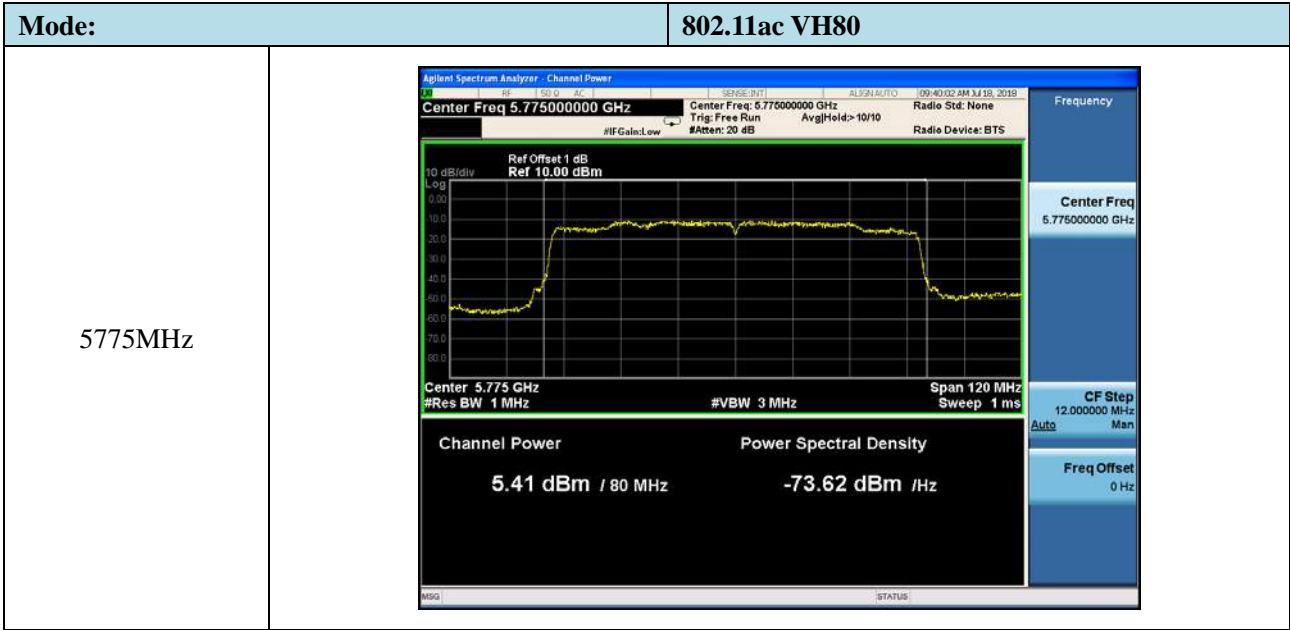
Mode:	802.11ac VH80				
5210MHz	<div style="border: 1px solid gray; padding: 5px;"> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid gray;"> Agilent R T </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: small;">Ch Freq 5.21 GHz Trig Free</p> <p style="font-size: small;">Channel Power </p> <p style="font-size: small;">Center 5.21000000 GHz</p> </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div> <p>Ref 20 dBm</p> <p>#Avg 10</p> <p>Log</p> <p>dB/</p> <p>Offst 1</p> <p>dB</p> </div> <div style="text-align: center;"> <p>Atten 30 dB</p>  </div> <div style="text-align: right;"> <p>Span 120 MHz</p> <p>Sweep 20 ms (1001 pts)</p> </div> </div> <div style="border: 1px solid magenta; padding: 2px; margin-top: 5px;"> <table style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <td style="width: 50%;">Channel Power</td> <td style="width: 50%;">Power Spectral Density</td> </tr> <tr> <td style="text-align: center;">5.73 dBm / 80.0000 MHz</td> <td style="text-align: center;">-73.30 dBm/Hz</td> </tr> </table> </div> </div>	Channel Power	Power Spectral Density	5.73 dBm / 80.0000 MHz	-73.30 dBm/Hz
Channel Power	Power Spectral Density				
5.73 dBm / 80.0000 MHz	-73.30 dBm/Hz				

➤ Antenna 0: 5725-5850MHz

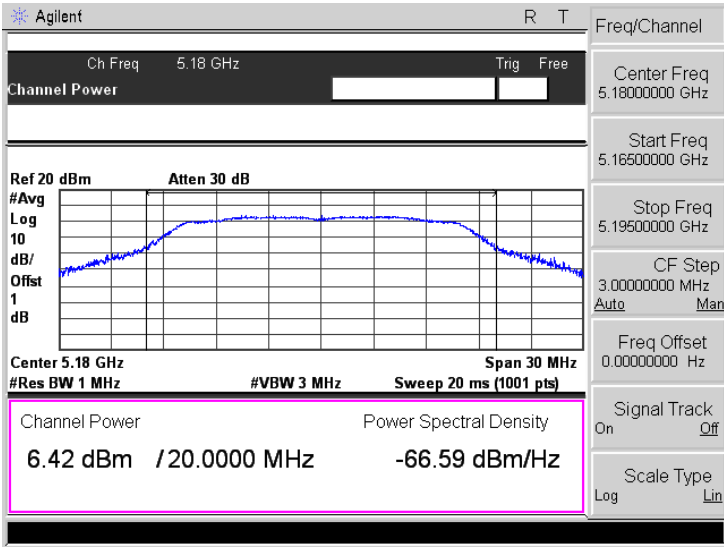
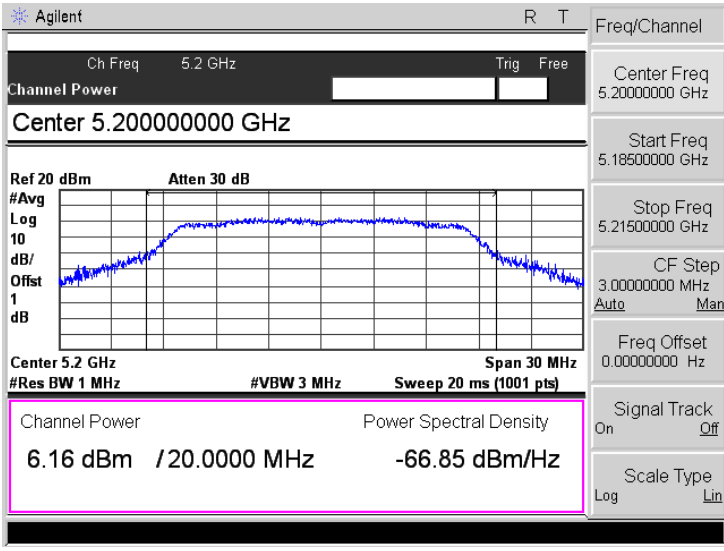
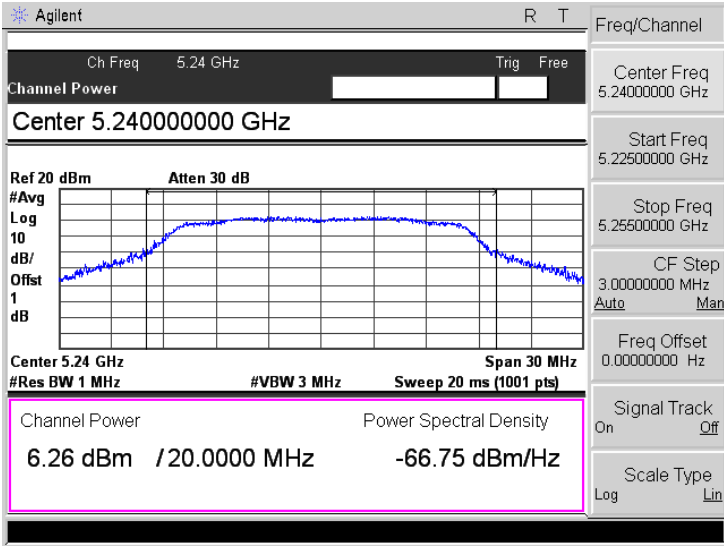
Mode:	802.11a
5745MHz	 <p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.745000000 GHz</p> <p>Ref Offset 1 dB Ref 20.00 dBm</p> <p>Channel Power: 6.19 dBm / 20 MHz</p> <p>Power Spectral Density: -66.82 dBm / Hz</p>
5785MHz	 <p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.785000000 GHz</p> <p>Ref Offset 1 dB Ref 20.00 dBm</p> <p>Channel Power: 6.03 dBm / 20 MHz</p> <p>Power Spectral Density: -66.98 dBm / Hz</p>
5825MHz	 <p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.825000000 GHz</p> <p>Ref Offset 1 dB Ref 20.00 dBm</p> <p>Channel Power: 6.24 dBm / 20 MHz</p> <p>Power Spectral Density: -66.77 dBm / Hz</p>

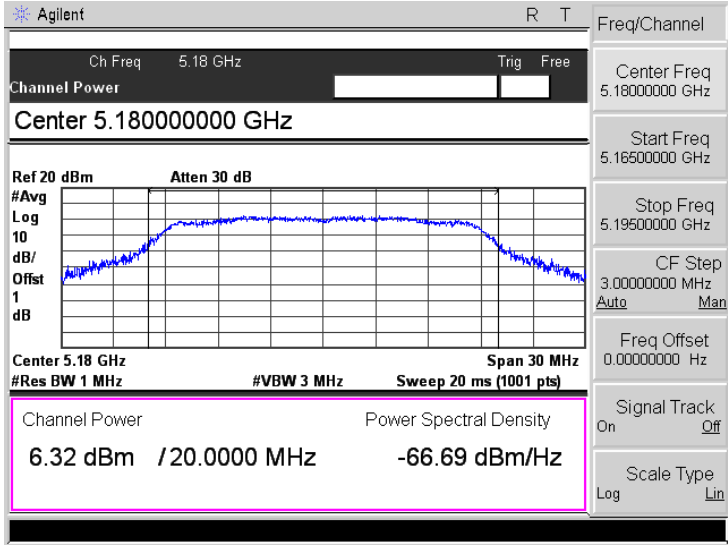
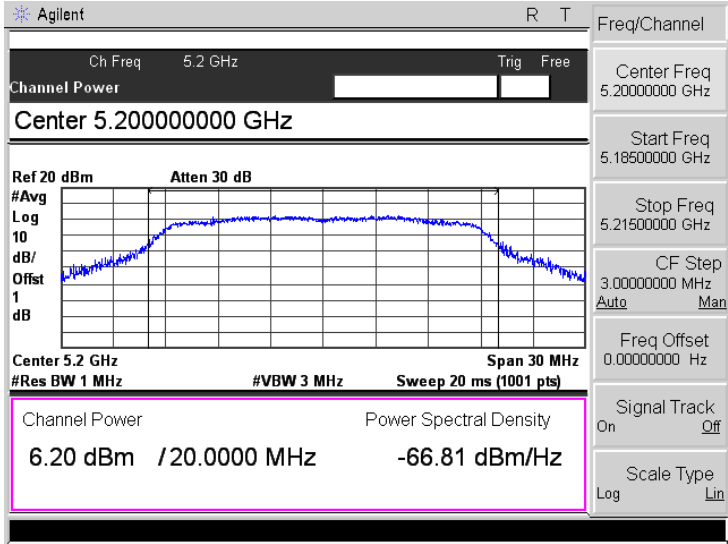
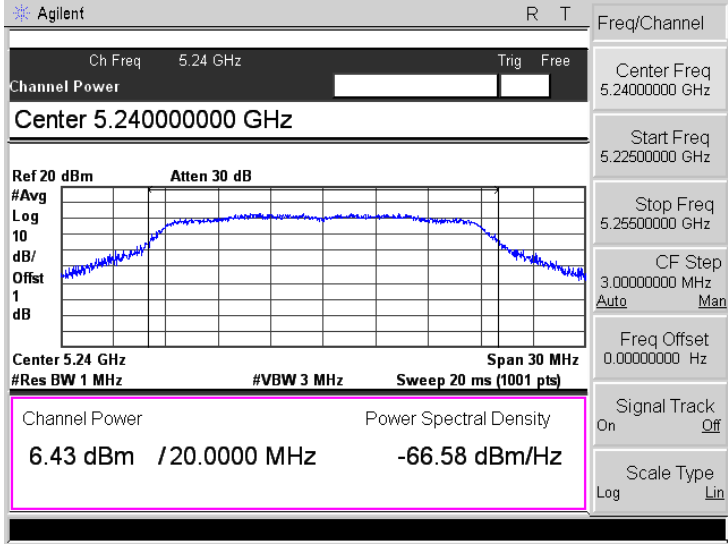
Mode:	802.11n-HT20
5745MHz	 <p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.745000000 GHz</p> <p>Ref Offset 1 dB Ref 20.00 dBm</p> <p>Channel Power: 6.17 dBm / 20 MHz</p> <p>Power Spectral Density: -66.84 dBm / Hz</p>
5785MHz	 <p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.785000000 GHz</p> <p>Ref Offset 1 dB Ref 20.00 dBm</p> <p>Channel Power: 6.41 dBm / 20 MHz</p> <p>Power Spectral Density: -66.60 dBm / Hz</p>
5825MHz	 <p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.825000000 GHz</p> <p>Ref Offset 1 dB Ref 20.00 dBm</p> <p>Channel Power: 6.34 dBm / 20 MHz</p> <p>Power Spectral Density: -66.67 dBm / Hz</p>

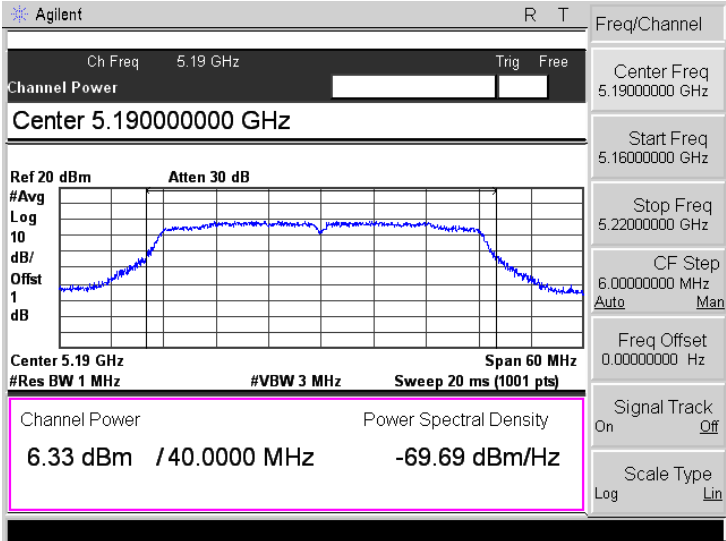
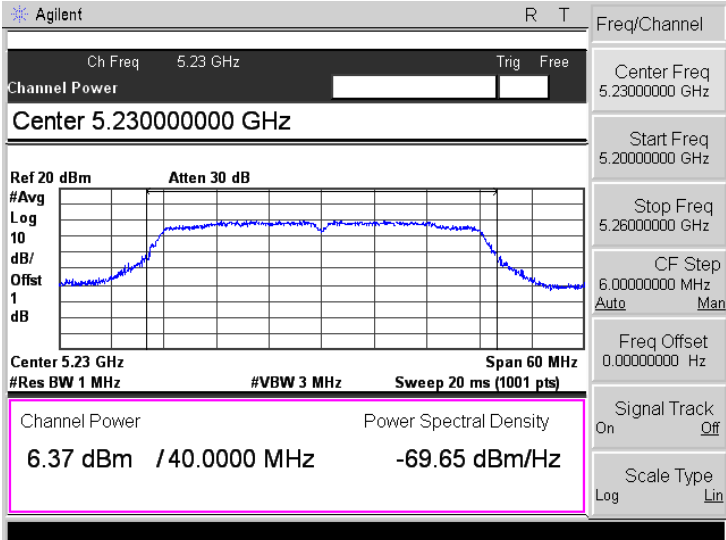
Mode:	802.11n-HT40
5755MHz	
5795MHz	

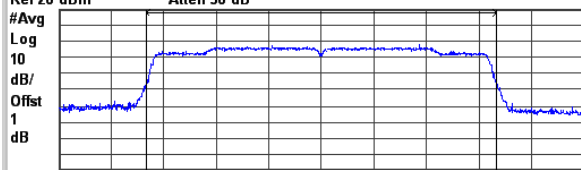


➤ Antenna 1: 5150-5250MHz


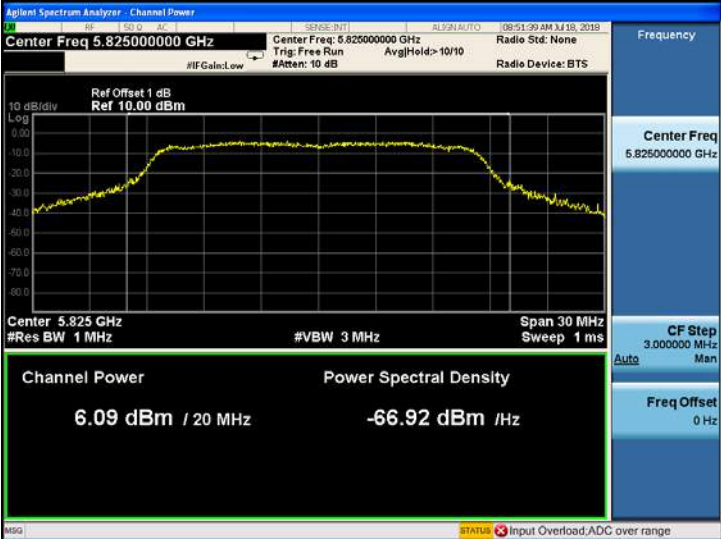
Mode:		802.11a
5180MHz	 <p>Agilent R T</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Channel Power</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.42 dBm / 20.0000 MHz -66.59 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.1800000 GHz</p> <p>Start Freq 5.1650000 GHz</p> <p>Stop Freq 5.1950000 GHz</p> <p>CF Step 3.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	
5200MHz	 <p>Agilent R T</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.16 dBm / 20.0000 MHz -66.85 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.2000000 GHz</p> <p>Start Freq 5.1850000 GHz</p> <p>Stop Freq 5.2150000 GHz</p> <p>CF Step 3.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	
5240MHz	 <p>Agilent R T</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log 10 dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.26 dBm / 20.0000 MHz -66.75 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.2400000 GHz</p> <p>Start Freq 5.2250000 GHz</p> <p>Stop Freq 5.2550000 GHz</p> <p>CF Step 3.0000000 MHz Auto Man</p> <p>Freq Offset 0.0000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	

Mode:		802.11n-HT20
5180MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.18 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.18000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log dB/ Offst 1 dB</p> <p>Center 5.18 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.32 dBm / 20.0000 MHz -66.69 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.18000000 GHz</p> <p>Start Freq 5.16500000 GHz</p> <p>Stop Freq 5.19500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	
5200MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.2 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.20000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log dB/ Offst 1 dB</p> <p>Center 5.2 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.20 dBm / 20.0000 MHz -66.81 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.20000000 GHz</p> <p>Start Freq 5.18500000 GHz</p> <p>Stop Freq 5.21500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	
5240MHz	 <p>Agilent R T Freq/Channel</p> <p>Ch Freq 5.24 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.24000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log dB/ Offst 1 dB</p> <p>Center 5.24 GHz Span 30 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.43 dBm / 20.0000 MHz -66.58 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.24000000 GHz</p> <p>Start Freq 5.22500000 GHz</p> <p>Stop Freq 5.25500000 GHz</p> <p>CF Step 3.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>	

Mode:	802.11n-HT40
5190MHz	 <p>Agilent R T</p> <p>Ch Freq 5.19 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.19000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log dB/ Offst 1 dB</p> <p>Center 5.19 GHz Span 60 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.33 dBm / 40.0000 MHz -69.69 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.19000000 GHz</p> <p>Start Freq 5.16000000 GHz</p> <p>Stop Freq 5.22000000 GHz</p> <p>CF Step 6.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>
5230MHz	 <p>Agilent R T</p> <p>Ch Freq 5.23 GHz Trig Free</p> <p>Channel Power</p> <p>Center 5.23000000 GHz</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Avg Log dB/ Offst 1 dB</p> <p>Center 5.23 GHz Span 60 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> <p>Channel Power Power Spectral Density</p> <p>6.37 dBm / 40.0000 MHz -69.65 dBm/Hz</p> <p>Freq/Channel</p> <p>Center Freq 5.23000000 GHz</p> <p>Start Freq 5.20000000 GHz</p> <p>Stop Freq 5.26000000 GHz</p> <p>CF Step 6.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p>

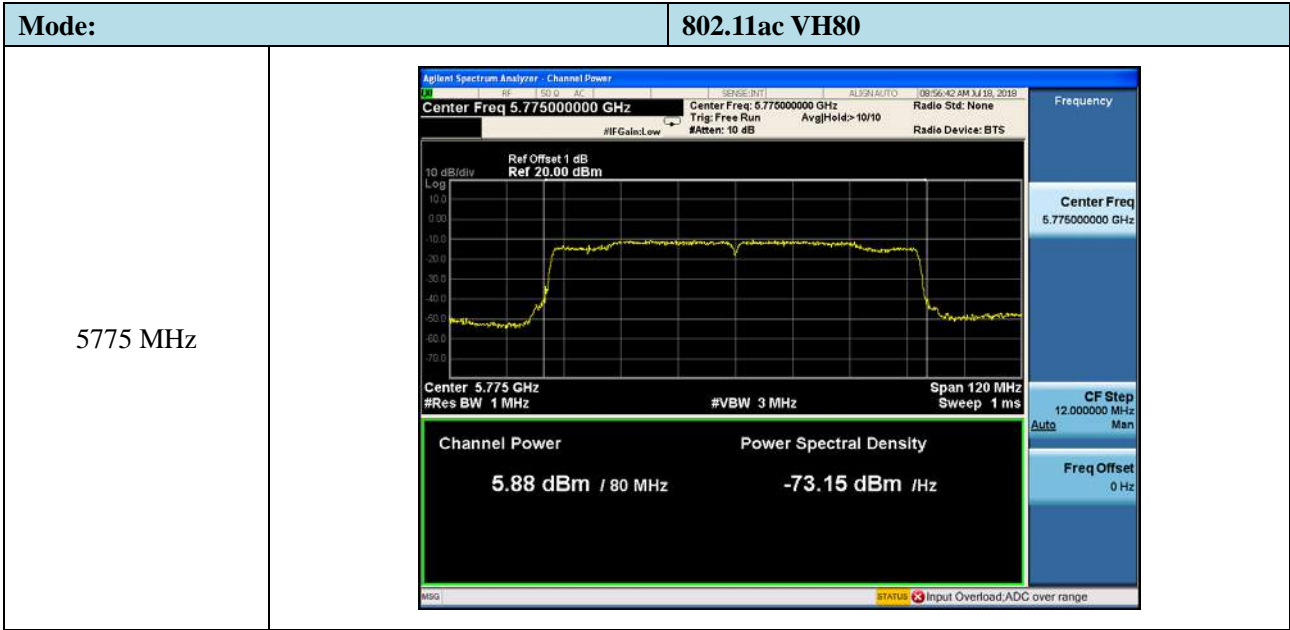
Mode:	802.11ac VH80				
5210MHz	<div style="border: 1px solid gray; padding: 5px;"> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid gray;"> Agilent R T </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: small;">Ch Freq 5.21 GHz Trig Free</p> </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: small;">Channel Power</p> </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: small;">Center 5.21000000 GHz</p> </div> <div style="padding: 2px;"> <p style="font-size: x-small;">Ref 20 dBm Atten 30 dB</p>  </div> <div style="border-bottom: 1px solid gray; padding: 2px;"> <p style="font-size: x-small;">Center 5.21 GHz Span 120 MHz</p> <p style="font-size: x-small;">#Res BW 1 MHz #VBW 3 MHz Sweep 20 ms (1001 pts)</p> </div> <div style="border: 2px solid magenta; padding: 2px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; font-size: x-small;">Channel Power</td> <td style="width: 50%; font-size: x-small;">Power Spectral Density</td> </tr> <tr> <td style="font-size: small;">6.44 dBm / 80.0000 MHz</td> <td style="font-size: small;">-72.59 dBm/Hz</td> </tr> </table> </div> </div> <div style="border-left: 1px solid gray; border-right: 1px solid gray; padding: 5px; font-size: x-small;"> <p style="margin-top: 0;">Freq/Channel</p> <p>Center Freq 5.21000000 GHz</p> <p>Start Freq 5.15000000 GHz</p> <p>Stop Freq 5.27000000 GHz</p> <p>CF Step 12.00000000 MHz Auto Man</p> <p>Freq Offset 0.00000000 Hz</p> <p>Signal Track On Off</p> <p>Scale Type Log Lin</p> </div>	Channel Power	Power Spectral Density	6.44 dBm / 80.0000 MHz	-72.59 dBm/Hz
Channel Power	Power Spectral Density				
6.44 dBm / 80.0000 MHz	-72.59 dBm/Hz				

➤ Antenna 1: 5725-5850MHz

Mode:	802.11a
5745MHz	
5785MHz	
5825MHz	

Mode:	802.11n-HT20
5745MHz	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.745000000 GHz</p> <p>Ref Offset 1 dB Ref 10.00 dBm</p> <p>Channel Power: 6.59 dBm / 20 MHz</p> <p>Power Spectral Density: -66.42 dBm / Hz</p> <p>STATUS: Input Overload, ADC over range</p>
5785MHz	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.785000000 GHz</p> <p>Ref Offset 1 dB Ref 10.00 dBm</p> <p>Channel Power: 6.21 dBm / 20 MHz</p> <p>Power Spectral Density: -66.80 dBm / Hz</p> <p>STATUS: Input Overload, ADC over range</p>
5825MHz	<p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.825000000 GHz</p> <p>Ref Offset 1 dB Ref 10.00 dBm</p> <p>Channel Power: 5.82 dBm / 20 MHz</p> <p>Power Spectral Density: -67.19 dBm / Hz</p> <p>STATUS: Input Overload, ADC over range</p>

Mode:	802.11n-HT40
5755 MHz	 <p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.755000000 GHz</p> <p>Ref Offset 1 dB Ref 20.00 dBm</p> <p>Channel Power: 5.71 dBm / 40 MHz</p> <p>Power Spectral Density: -70.31 dBm / Hz</p>
5795 MHz	 <p>Agilent Spectrum Analyzer - Channel Power</p> <p>Center Freq 5.795000000 GHz</p> <p>Ref Offset 1 dB Ref 20.00 dBm</p> <p>Channel Power: 5.61 dBm / 40 MHz</p> <p>Power Spectral Density: -70.41 dBm / Hz</p>



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.

789033 D02 v01r02 General UNII Test Procedures New Rules v01

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

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

where:

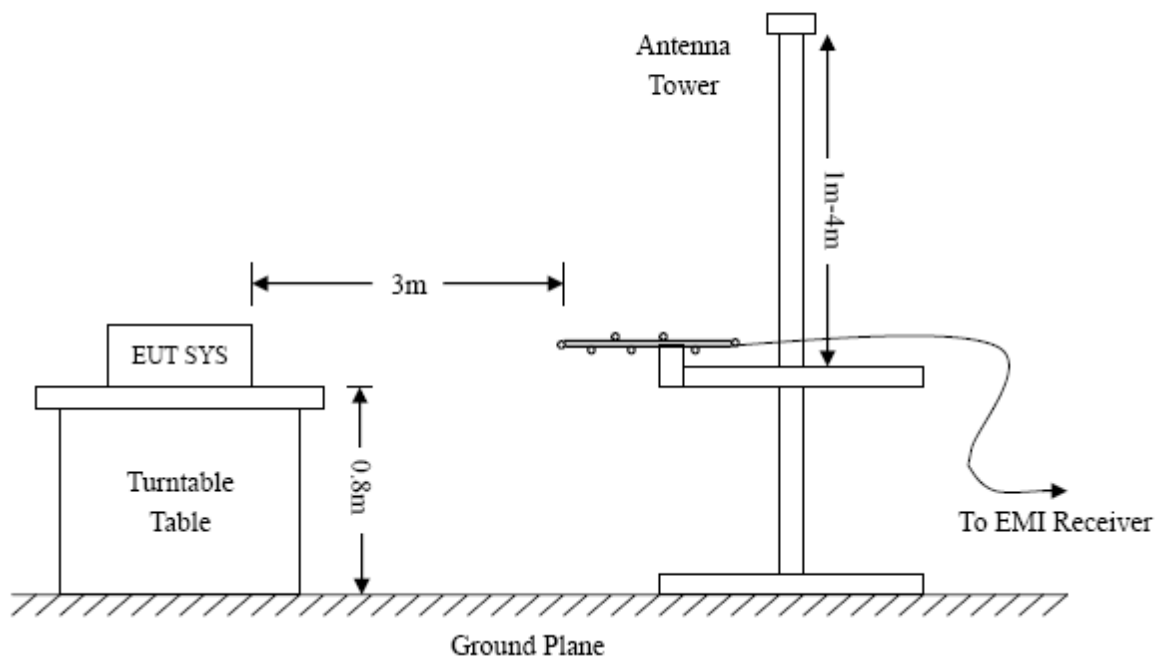
- E is the field strength in V/m;
- d is the measurement distance in meters;
- EIRP is the equivalent isotropically radiated power in watts.

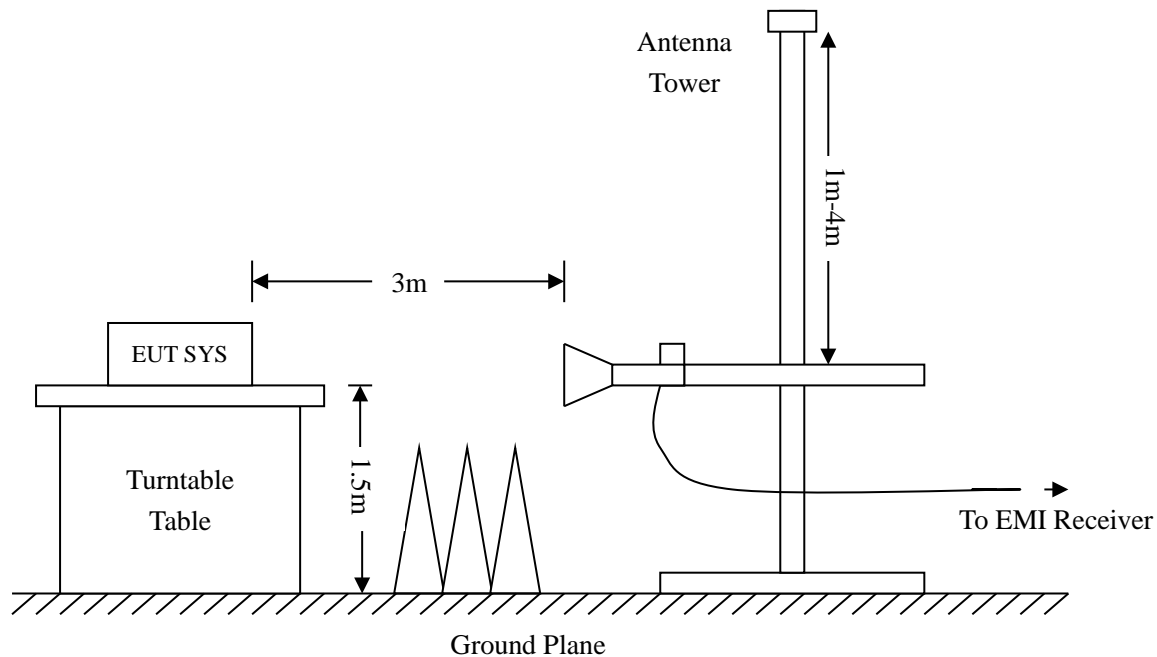
9.2 Test Procedure

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:

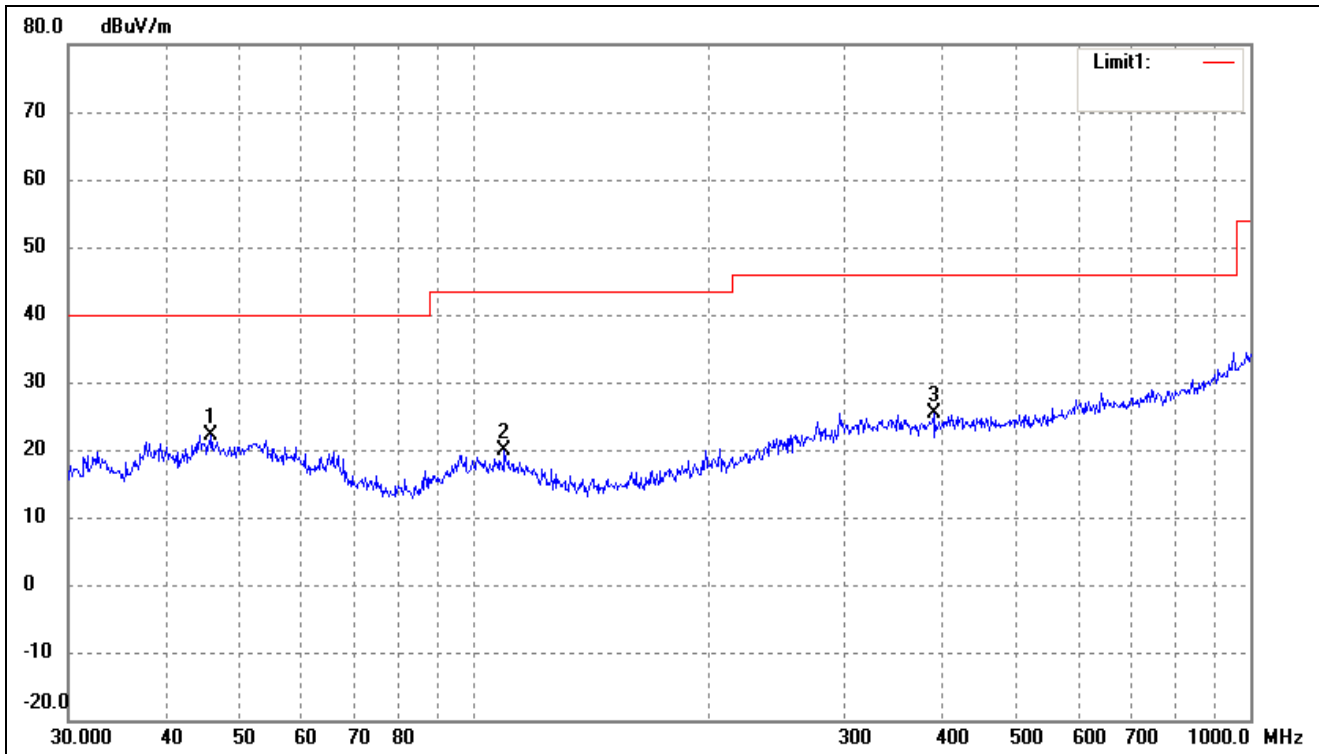
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

9.5 Summary of Test Results/Plots

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

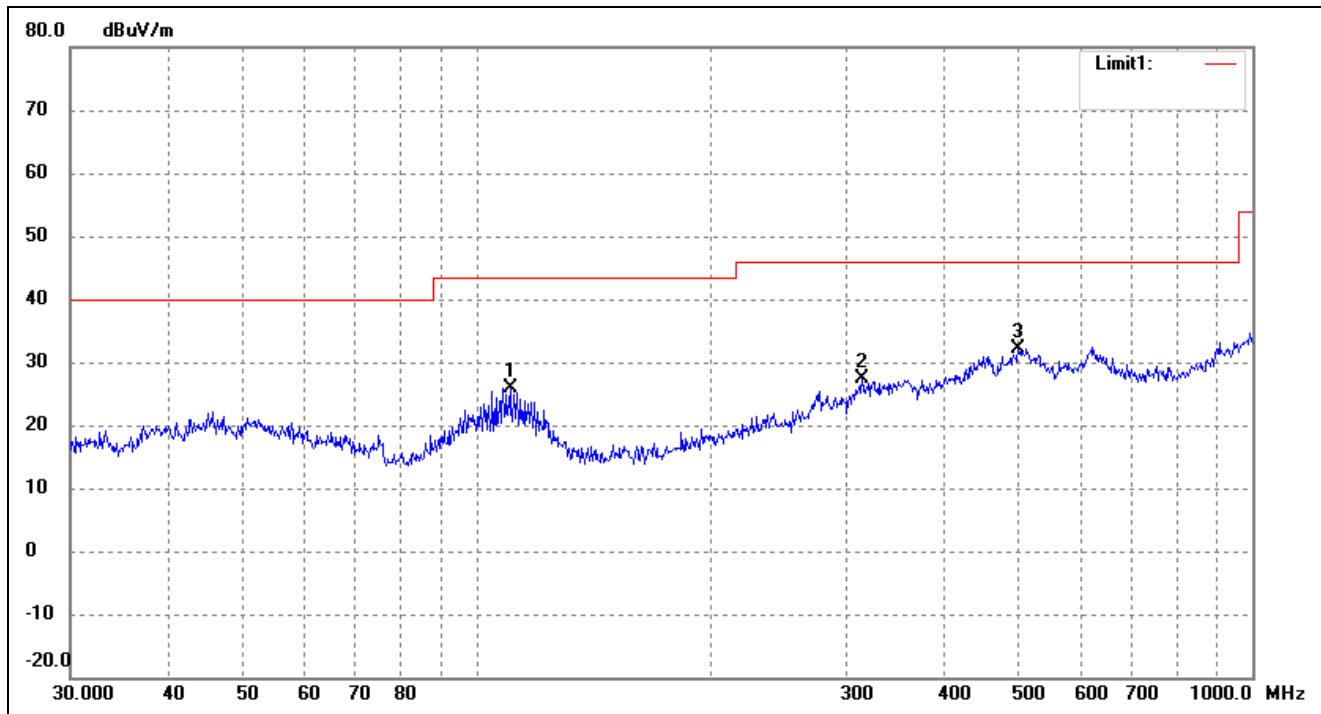
- Spurious Emission From 30 MHz to 1 GHz
- Antenna 0:
- 5150-5250MHz

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	45.8553	35.14	-12.92	22.22	40.00	-17.78	328	100	peak
2	109.4116	33.75	-13.93	19.82	43.50	-23.68	92	100	peak
3	390.7226	32.13	-6.78	25.35	46.00	-20.65	273	100	peak

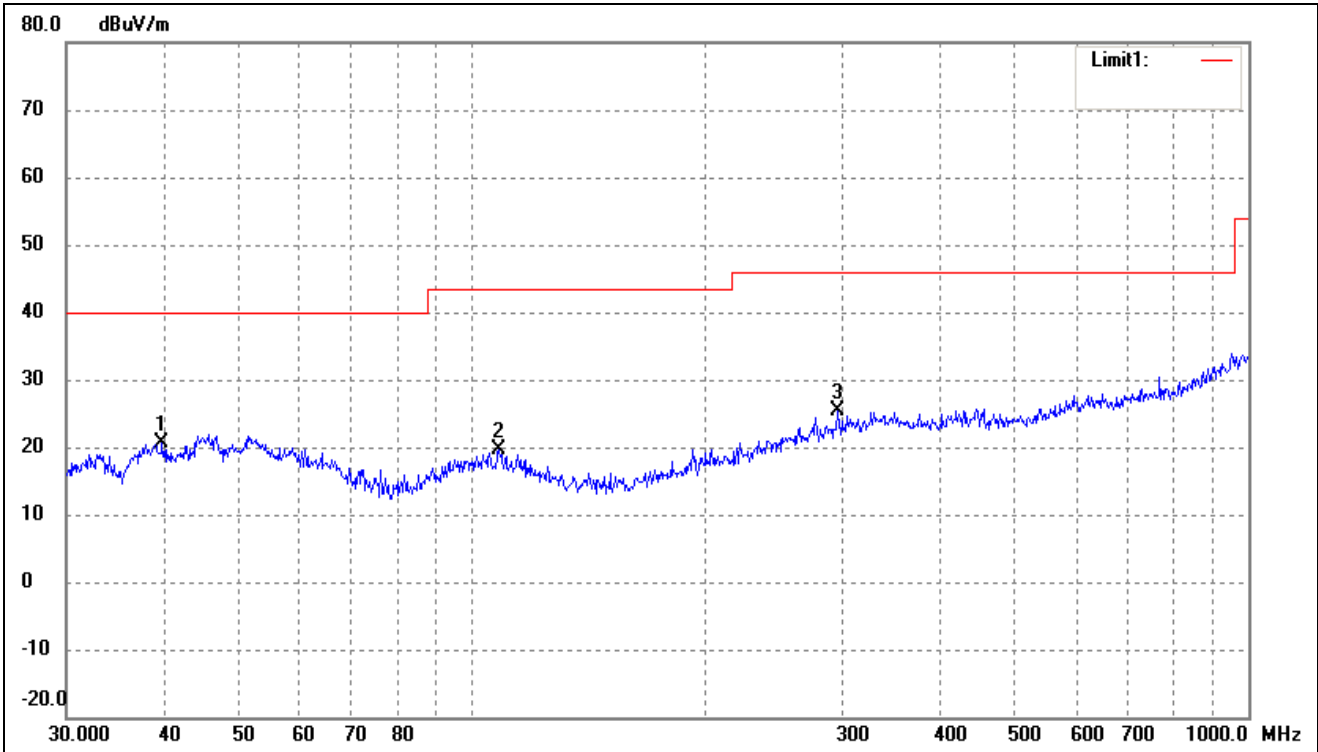
802.11a			
Test Channel	5180MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	110.5687	39.97	-14.01	25.96	43.50	-17.54	296	100	peak
2	314.3765	34.54	-7.16	27.38	46.00	-18.62	100	100	peak
3	499.4247	38.17	-5.99	32.18	46.00	-13.82	263	100	peak

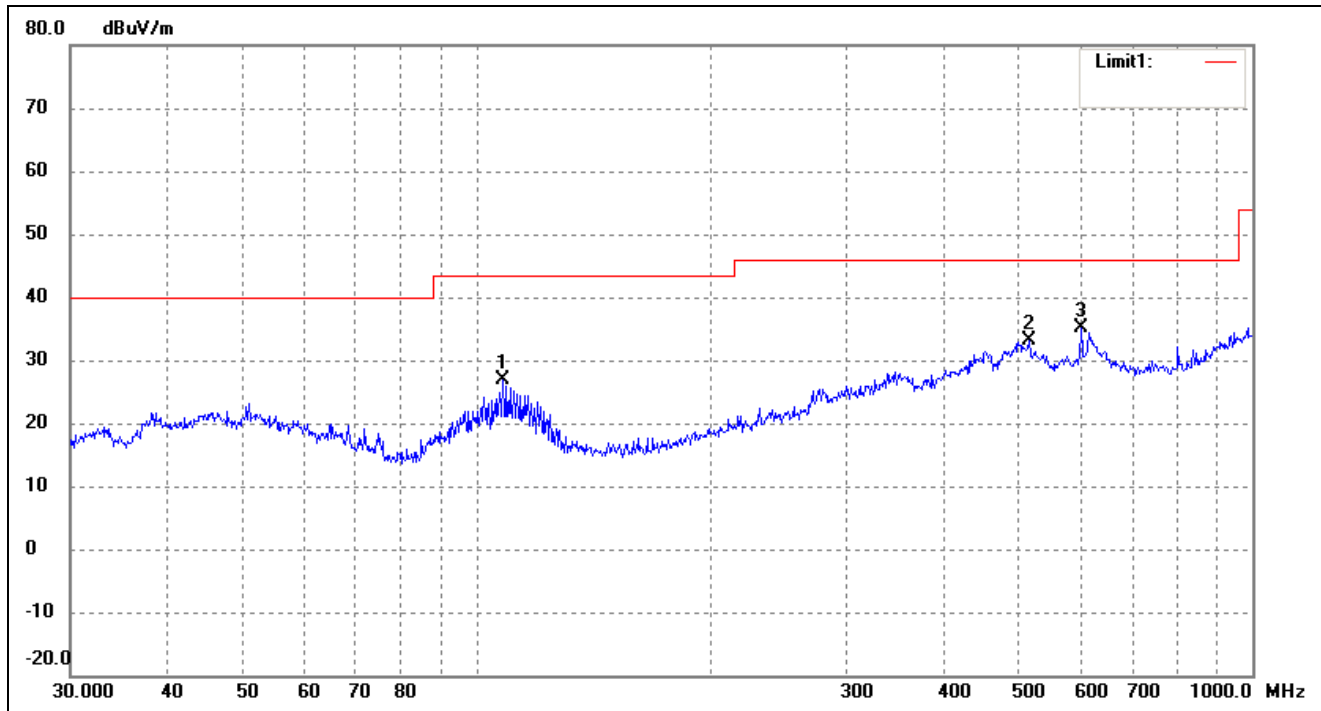
802.11a

Test Channel	5200MHz	Polarity:	Horizontal
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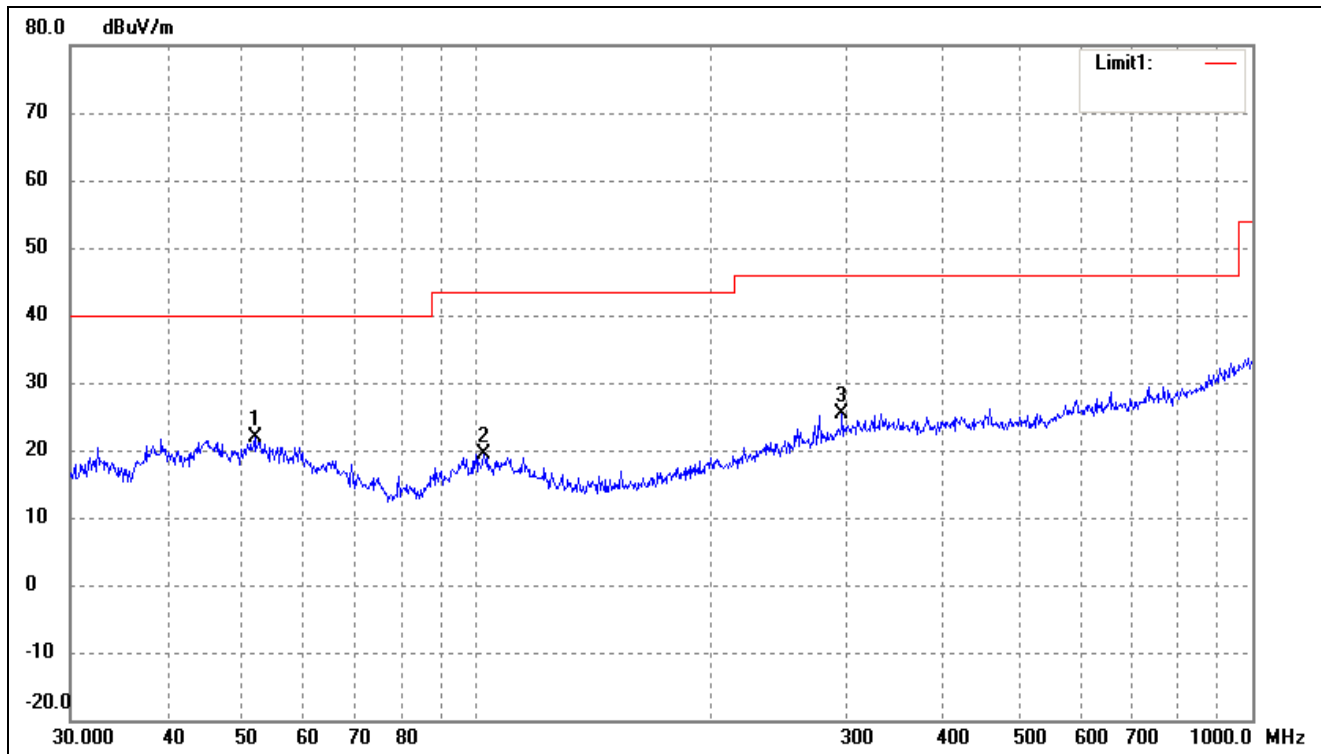
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.8542	34.75	-14.06	20.69	40.00	-19.31	315	100	peak
2	108.2667	33.48	-13.96	19.52	43.50	-23.98	246	100	peak
3	295.1469	32.99	-7.51	25.48	46.00	-20.52	62	100	peak

802.11a			
Test Channel	5200MHz	Polarity:	Vertical



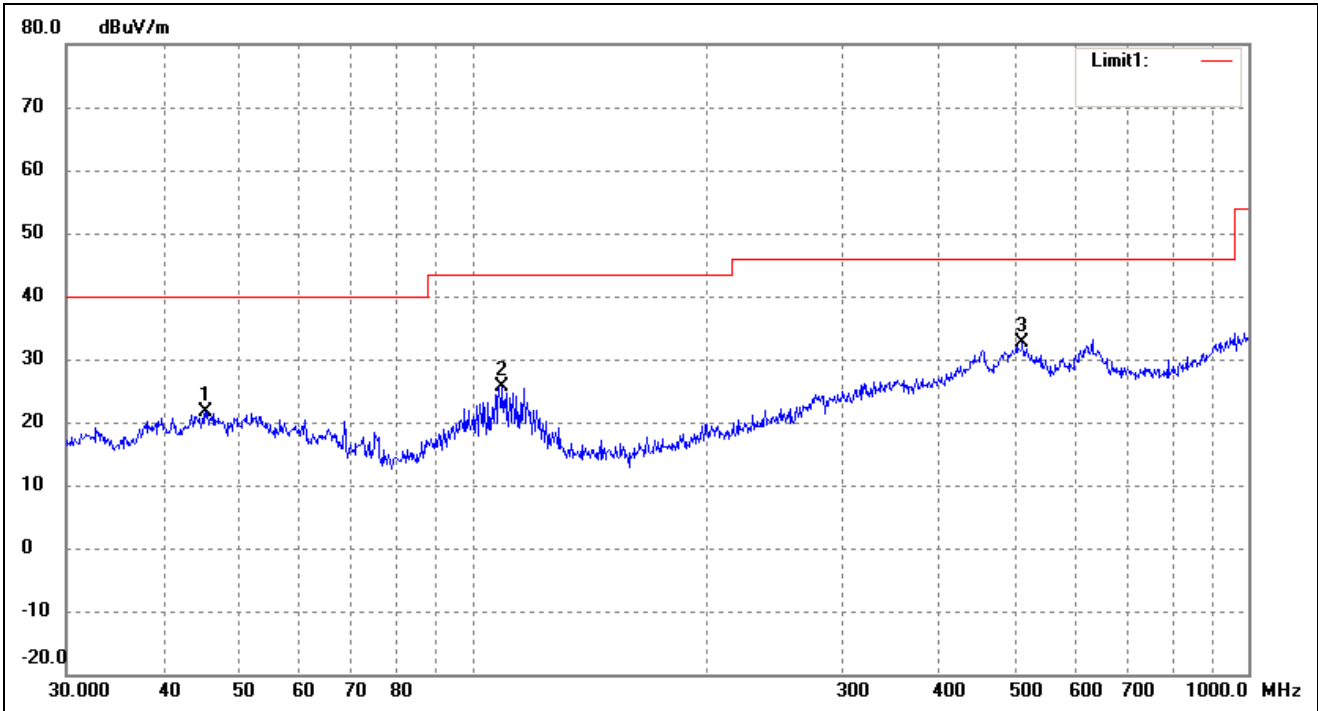
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	108.2667	40.83	-13.96	26.87	43.50	-16.63	296	100	peak
2	515.4374	38.95	-5.90	33.05	46.00	-12.95	106	100	peak
3	601.4265	39.18	-3.98	35.20	46.00	-10.80	97	100	peak

802.11a			
Test Channel	5240MHz	Polarity:	Horizontal



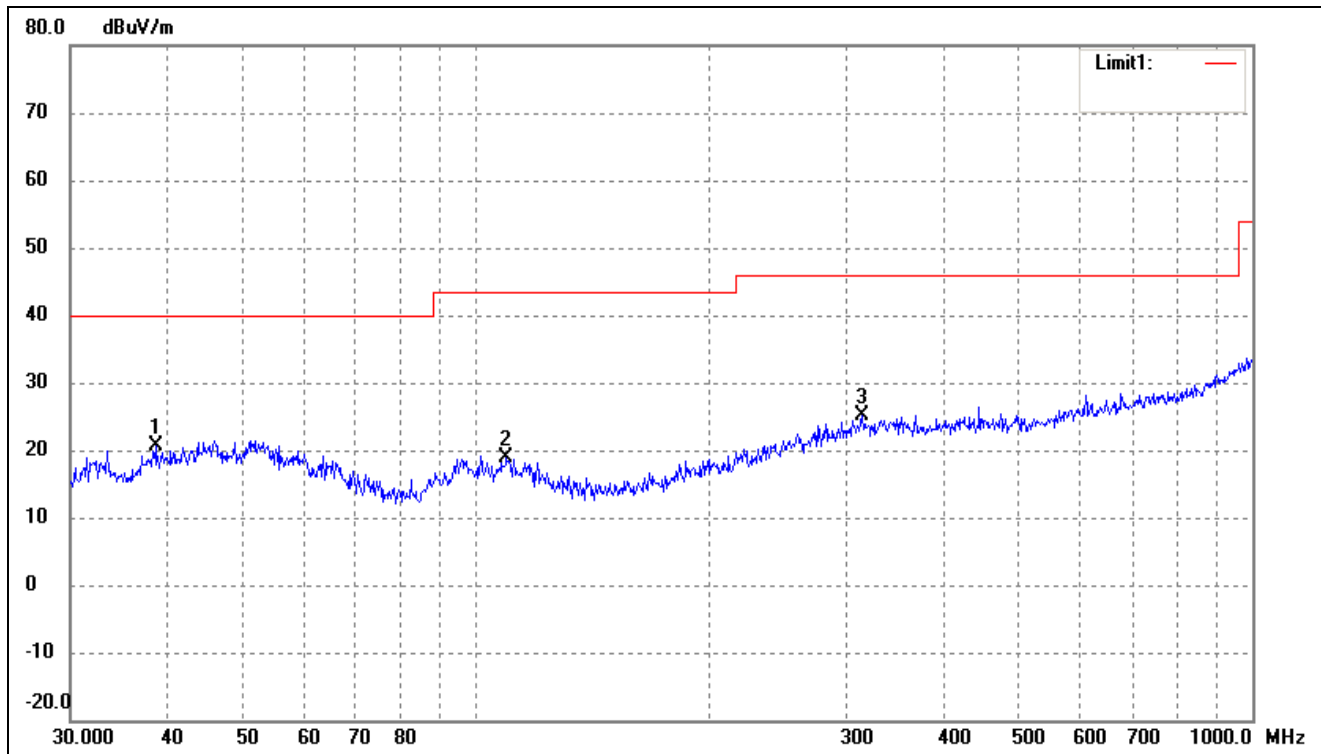
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.8430	34.59	-12.81	21.78	40.00	-18.22	302	100	peak
2	102.3597	33.58	-14.26	19.32	43.50	-24.18	94	100	peak
3	296.1836	32.87	-7.49	25.38	46.00	-20.62	194	100	peak

802.11a			
Test Channel	5240MHz	Polarity:	Vertical



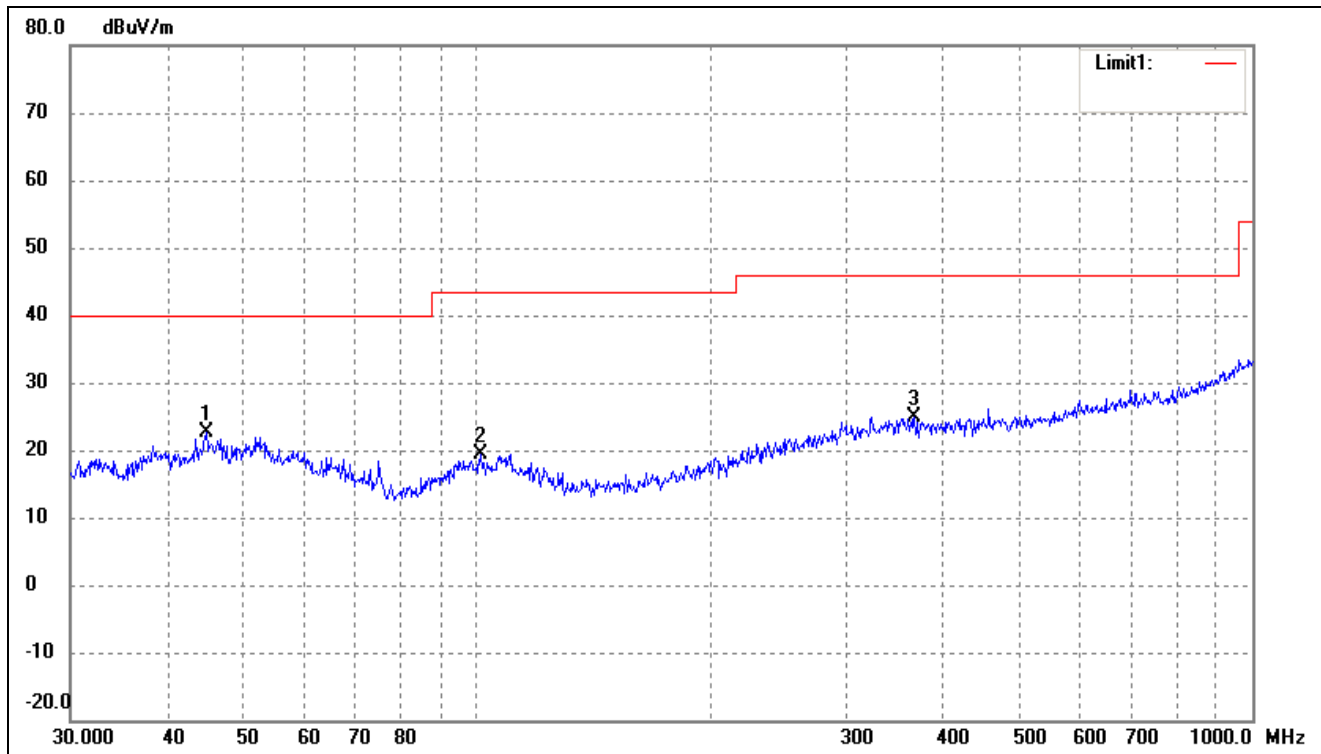
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.3755	34.53	-12.95	21.58	40.00	-18.42	312	100	peak
2	109.4116	39.51	-13.93	25.58	43.50	-17.92	96	100	peak
3	511.8352	38.67	-5.94	32.73	46.00	-13.27	250	100	peak

802.11n-HT20			
Test Channel	5180MHz	Polarity:	Horizontal



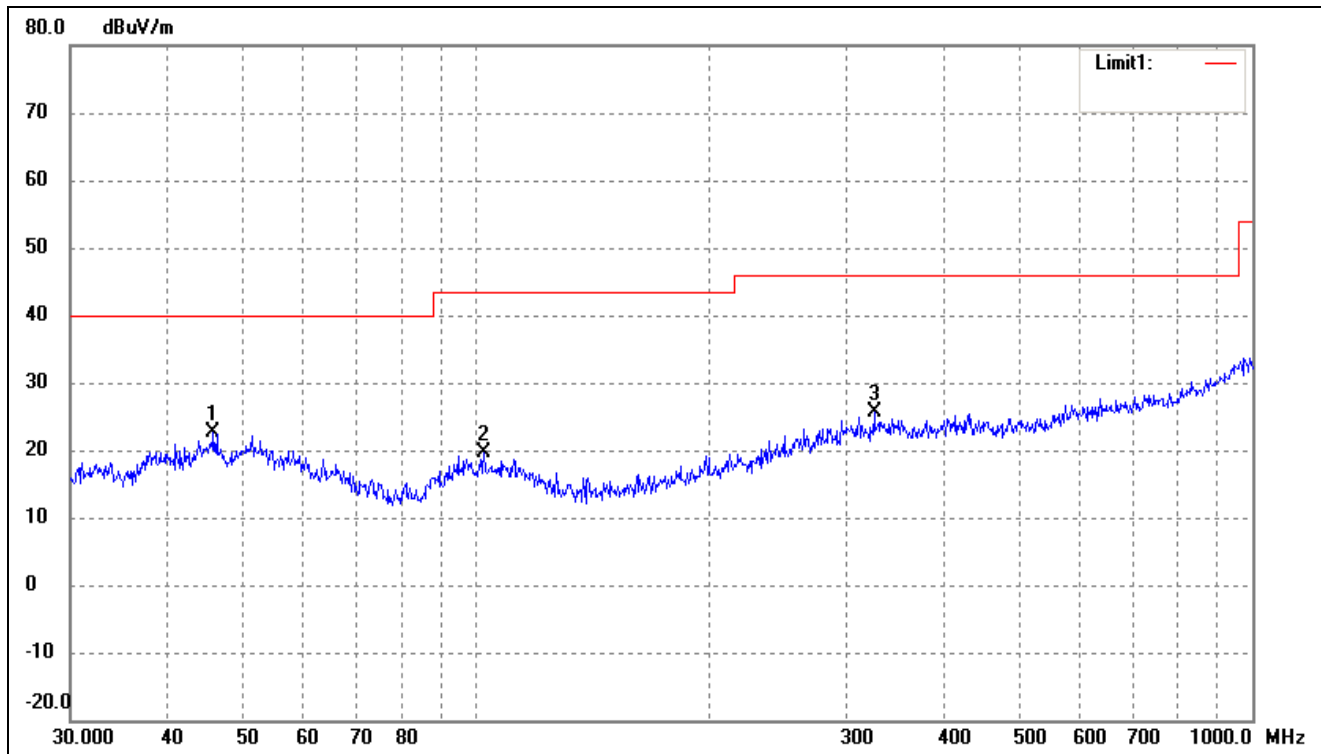
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	38.6160	35.00	-14.33	20.67	40.00	-19.33	194	100	peak
2	109.4116	32.89	-13.93	18.96	43.50	-24.54	93	100	peak
3	314.3765	32.23	-7.16	25.07	46.00	-20.93	304	100	peak

802.11n-HT20			
Test Channel	5180MHz	Polarity:	Vertical



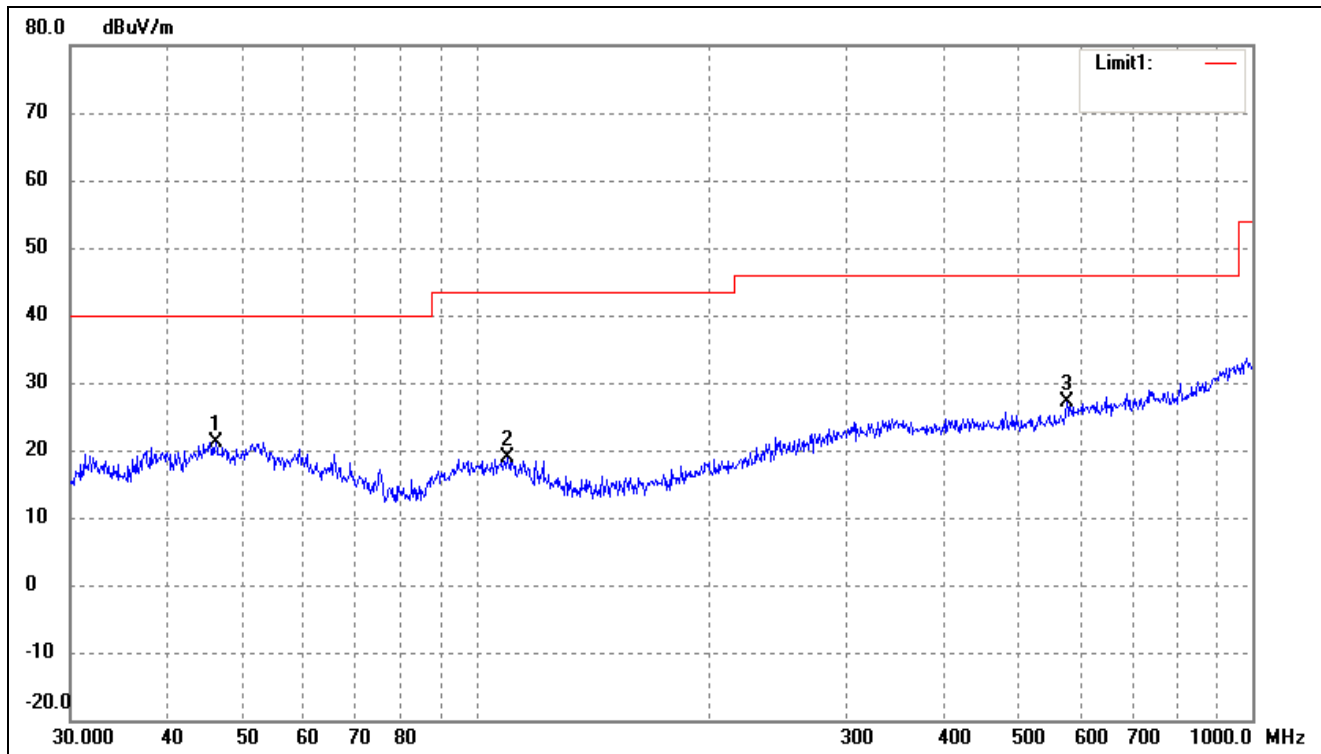
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.9006	35.58	-12.99	22.59	40.00	-17.41	96	100	peak
2	101.2885	33.76	-14.35	19.41	43.50	-24.09	250	100	peak
3	366.8231	31.88	-6.97	24.91	46.00	-21.09	111	100	peak

802.11n-HT20			
Test Channel	5200MHz	Polarity:	Horizontal



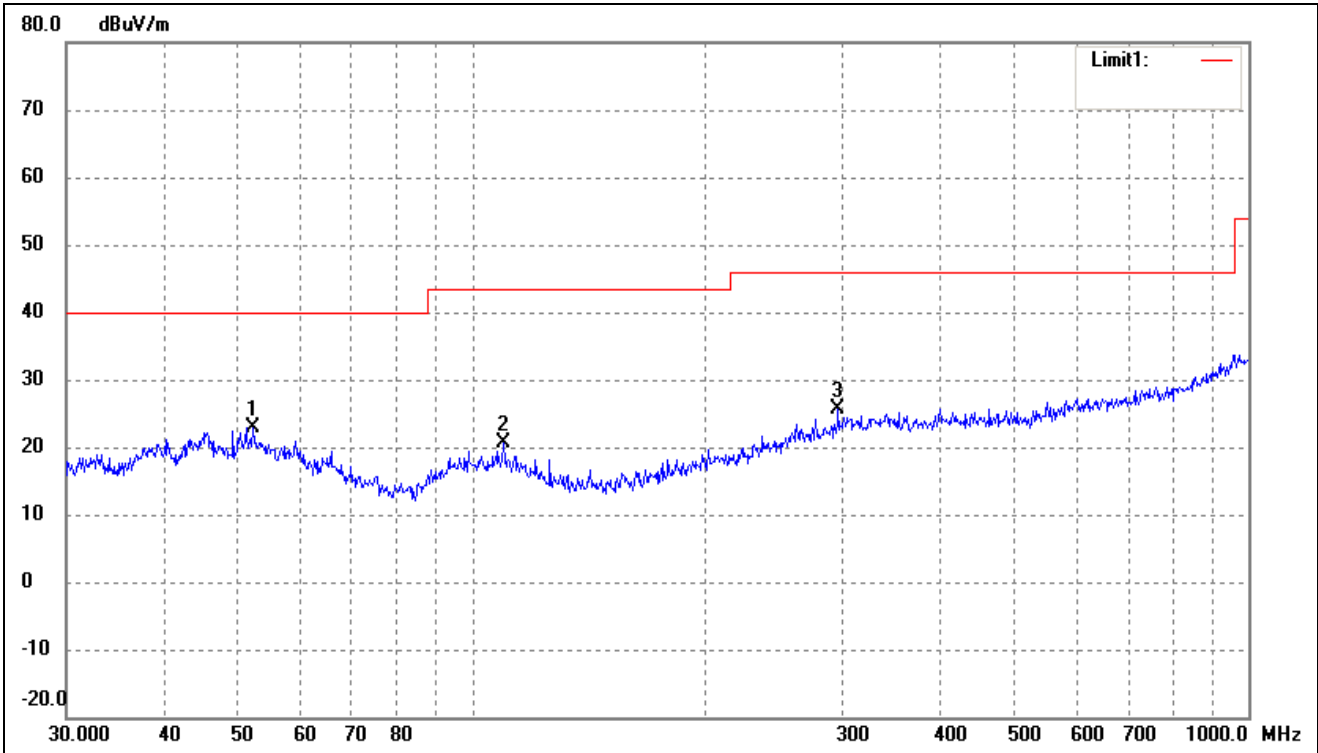
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.8553	35.60	-12.92	22.68	40.00	-17.32	264	100	peak
2	102.3597	33.88	-14.26	19.62	43.50	-23.88	340	100	peak
3	325.5958	32.64	-6.94	25.70	46.00	-20.30	82	100	peak

802.11n-HT20			
Test Channel	5200MHz	Polarity:	Vertical



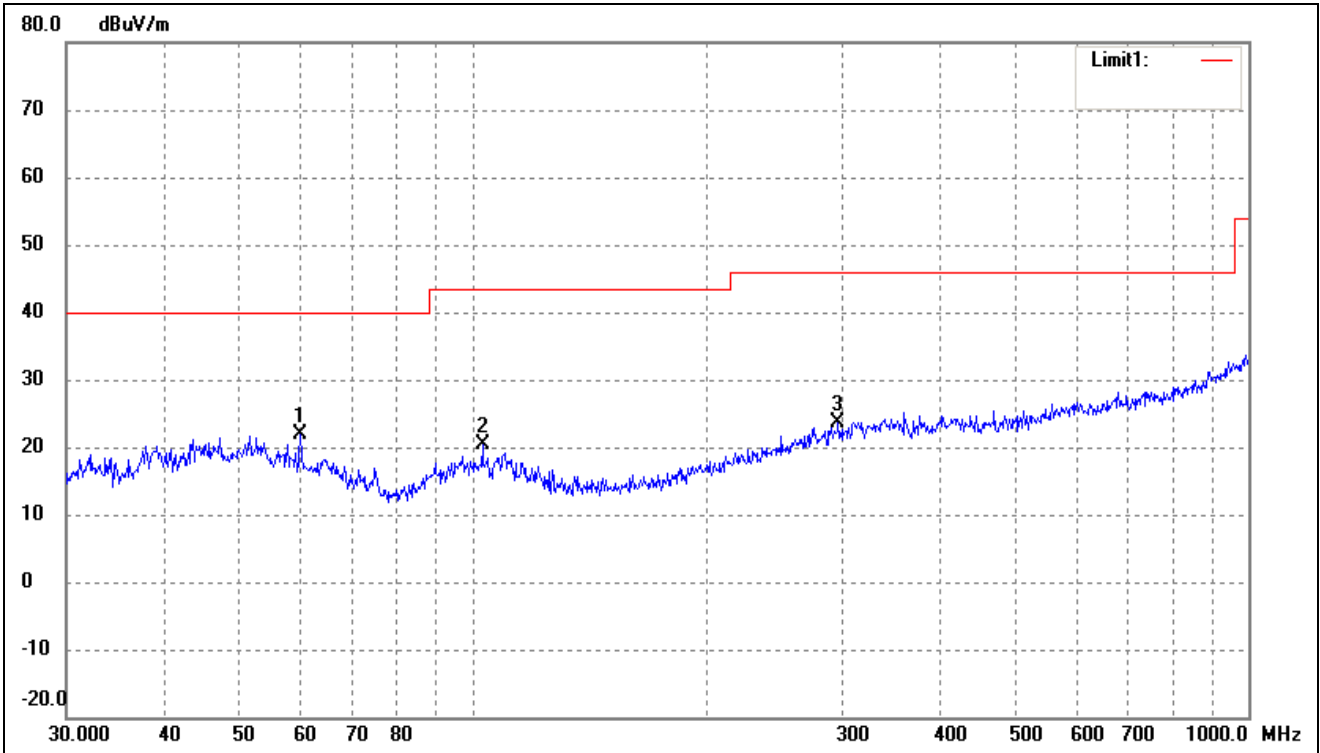
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.1779	34.13	-12.90	21.23	40.00	-18.77	51	100	peak
2	109.7960	32.92	-13.92	19.00	43.50	-24.50	175	100	peak
3	576.6443	31.68	-4.51	27.17	46.00	-18.83	53	100	peak

802.11n-HT20			
Test Channel	5240MHz	Polarity:	Horizontal



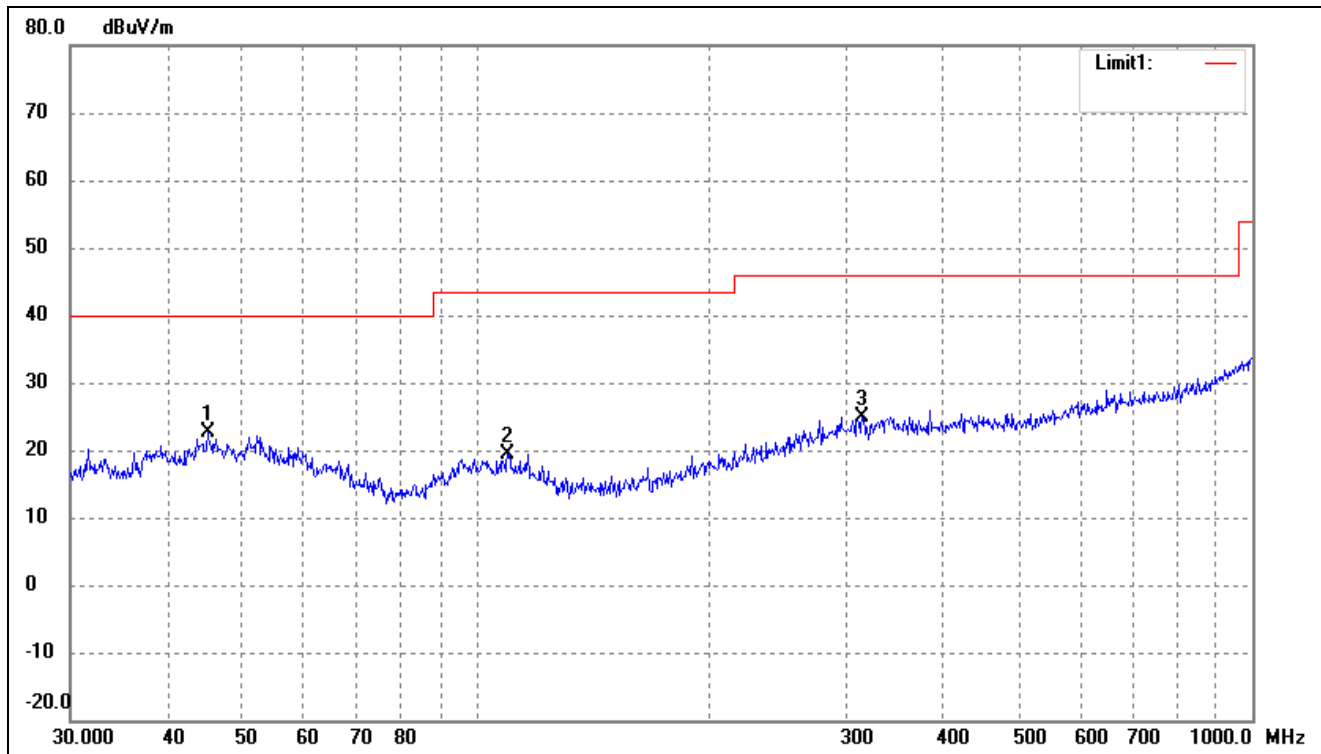
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.2079	35.66	-12.82	22.84	40.00	-17.16	129	100	peak
2	109.7960	34.66	-13.92	20.74	43.50	-22.76	137	100	peak
3	296.1836	33.04	-7.49	25.55	46.00	-20.45	124	100	peak

802.11n-HT20			
Test Channel	5240MHz	Polarity:	Vertical



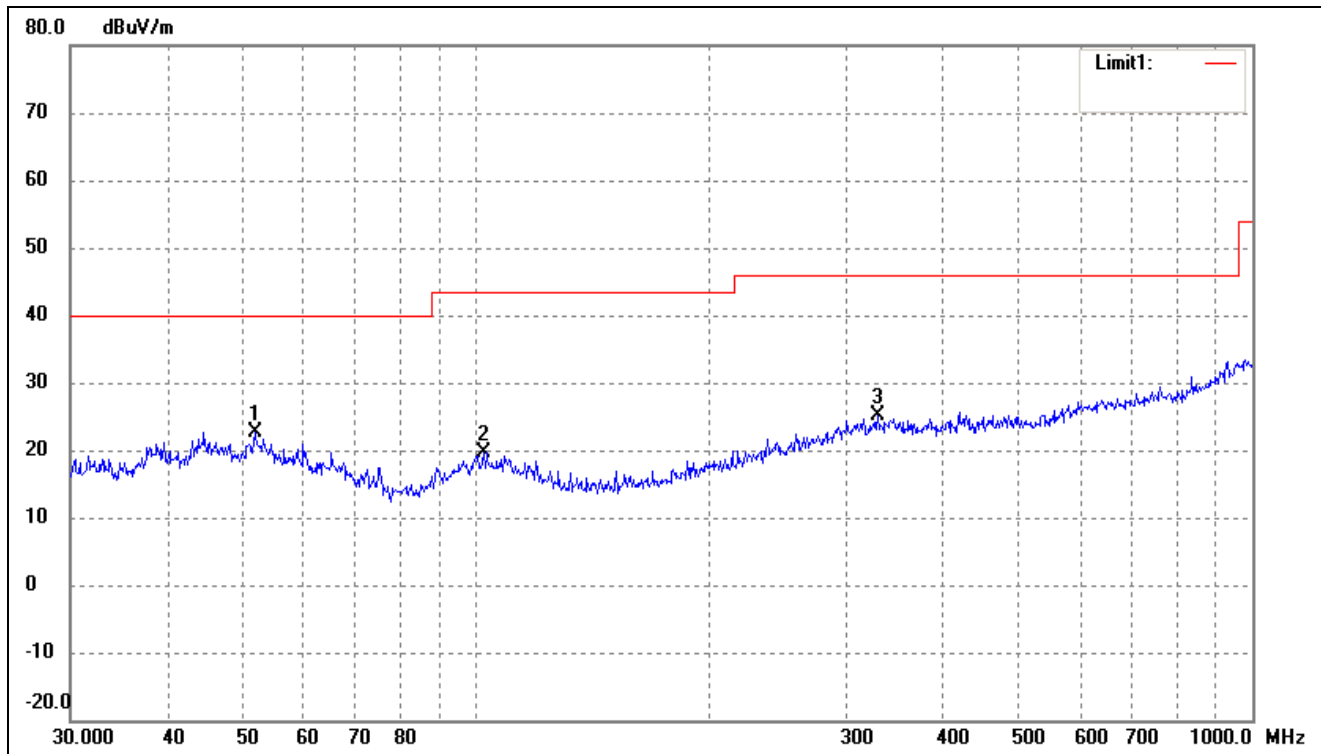
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	60.0691	36.49	-14.61	21.88	40.00	-18.12	68	100	peak
2	103.0800	34.67	-14.21	20.46	43.50	-23.04	167	100	peak
3	296.1836	31.13	-7.49	23.64	46.00	-22.36	80	100	peak

802.11n-HT40			
Test Channel	5190MHz	Polarity:	Horizontal



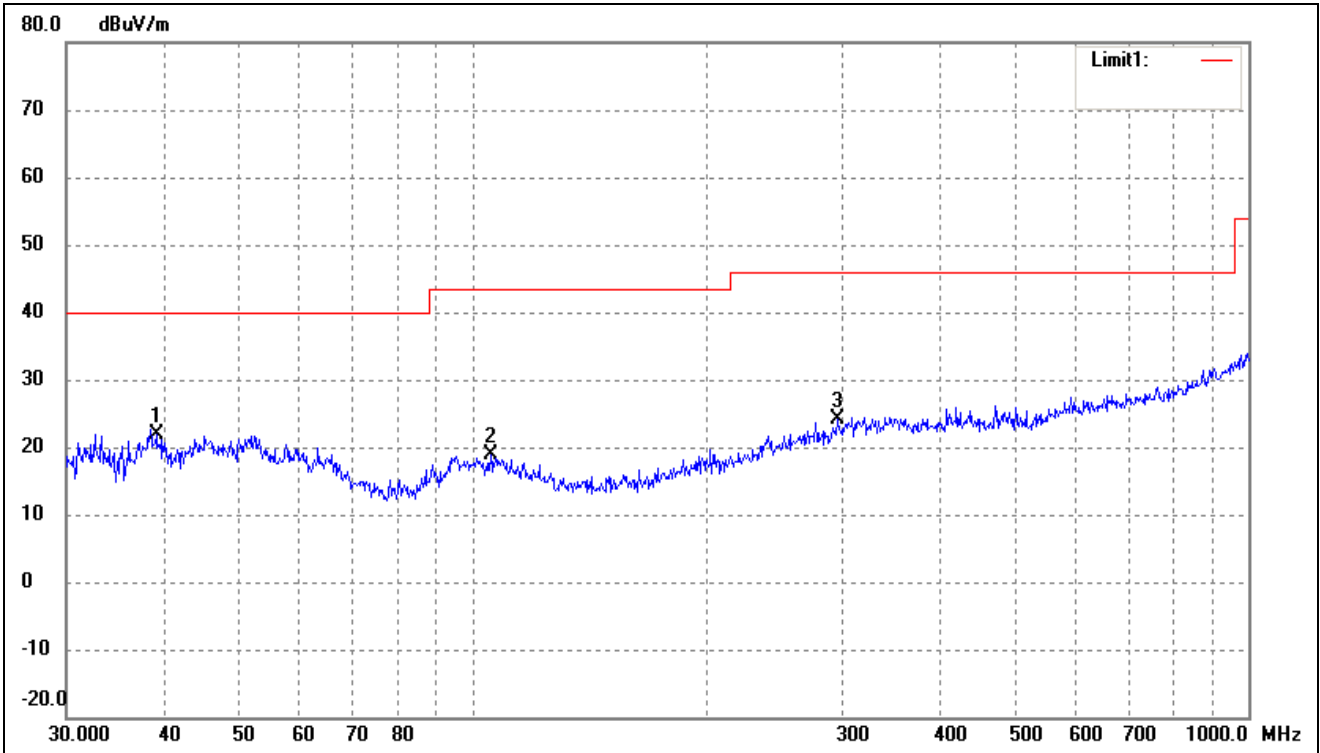
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.0583	35.62	-12.97	22.65	40.00	-17.35	124	100	peak
2	109.7960	33.35	-13.92	19.43	43.50	-24.07	100	100	peak
3	314.3765	32.16	-7.16	25.00	46.00	-21.00	304	100	peak

802.11n-HT40			
Test Channel	5190MHz	Polarity:	Vertical



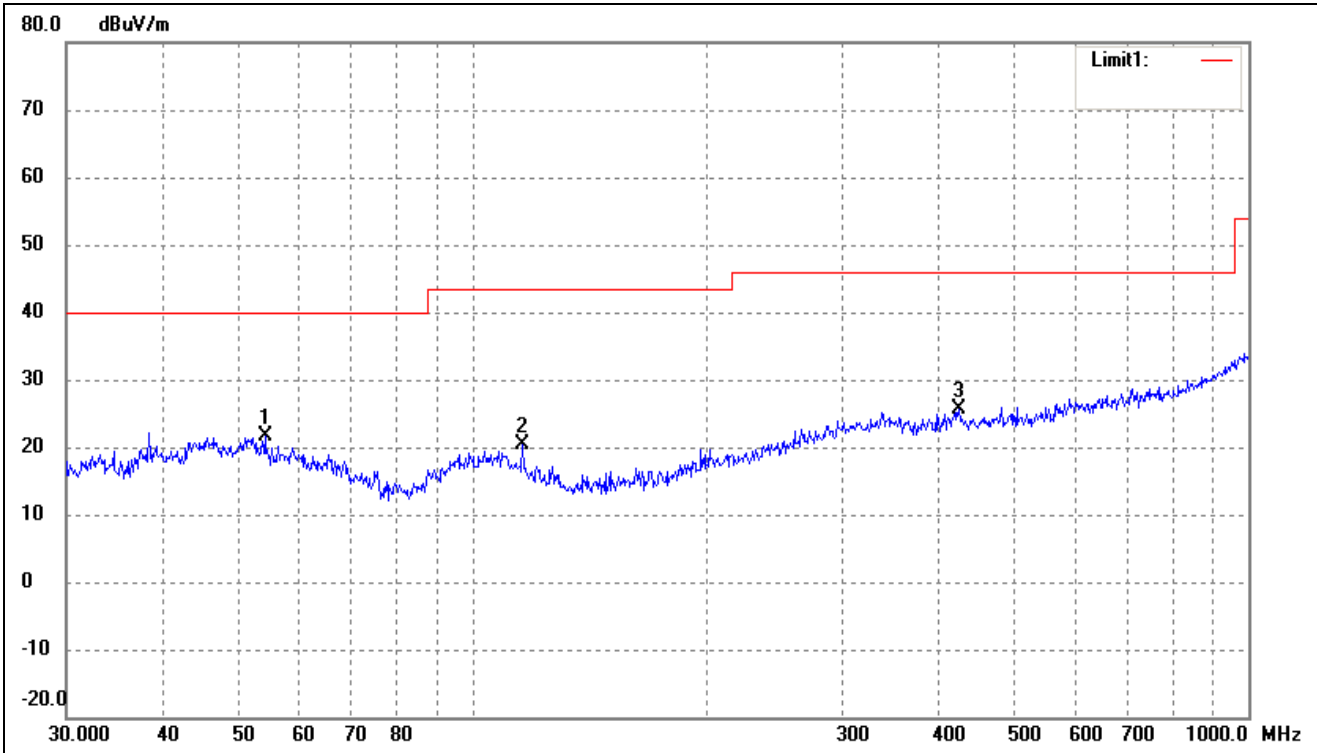
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.8430	35.50	-12.81	22.69	40.00	-17.31	167	100	peak
2	102.3597	33.98	-14.26	19.72	43.50	-23.78	80	100	peak
3	329.0390	32.02	-6.81	25.21	46.00	-20.79	145	100	peak

802.11n-HT40			
Test Channel	5230MHz	Polarity:	Horizontal



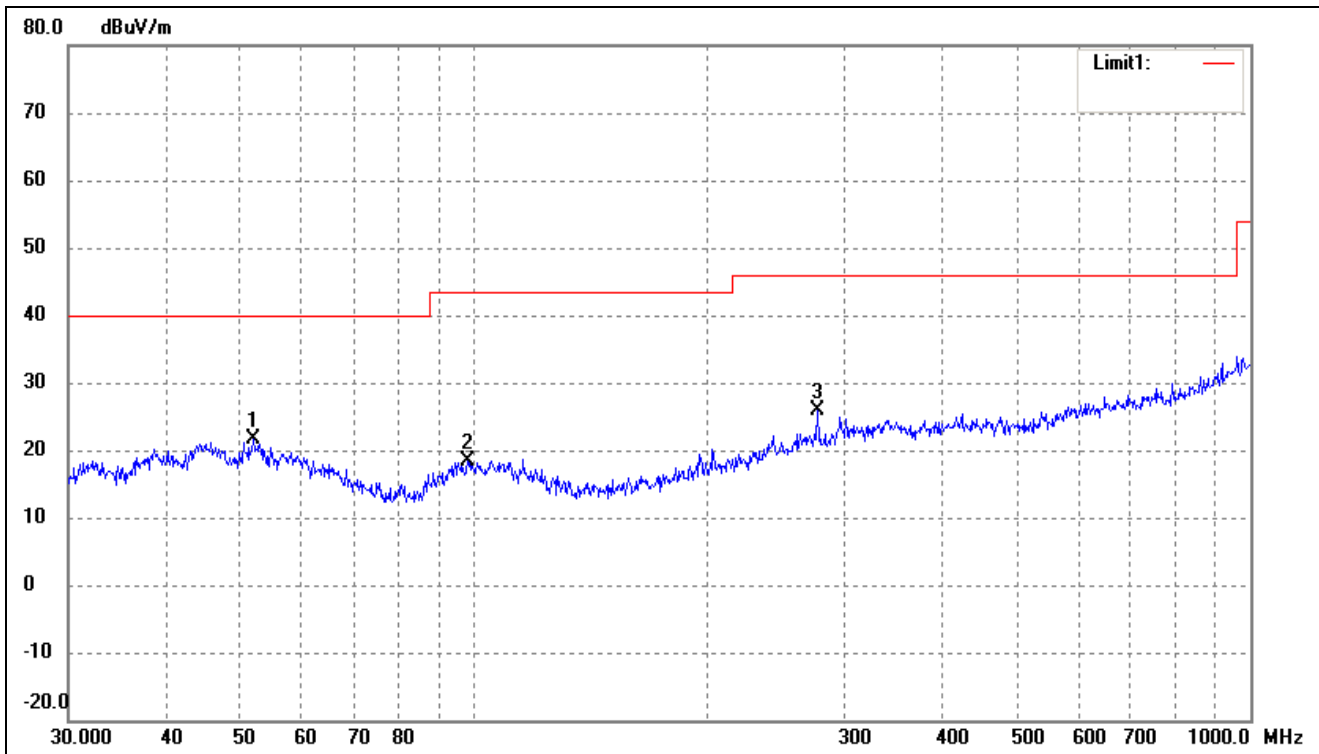
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.1616	36.14	-14.21	21.93	40.00	-18.07	326	100	peak
2	105.6415	32.93	-14.03	18.90	43.50	-24.60	97	100	peak
3	295.1469	31.54	-7.51	24.03	46.00	-21.97	252	100	peak

802.11n-HT40			
Test Channel	5230MHz	Polarity:	Vertical



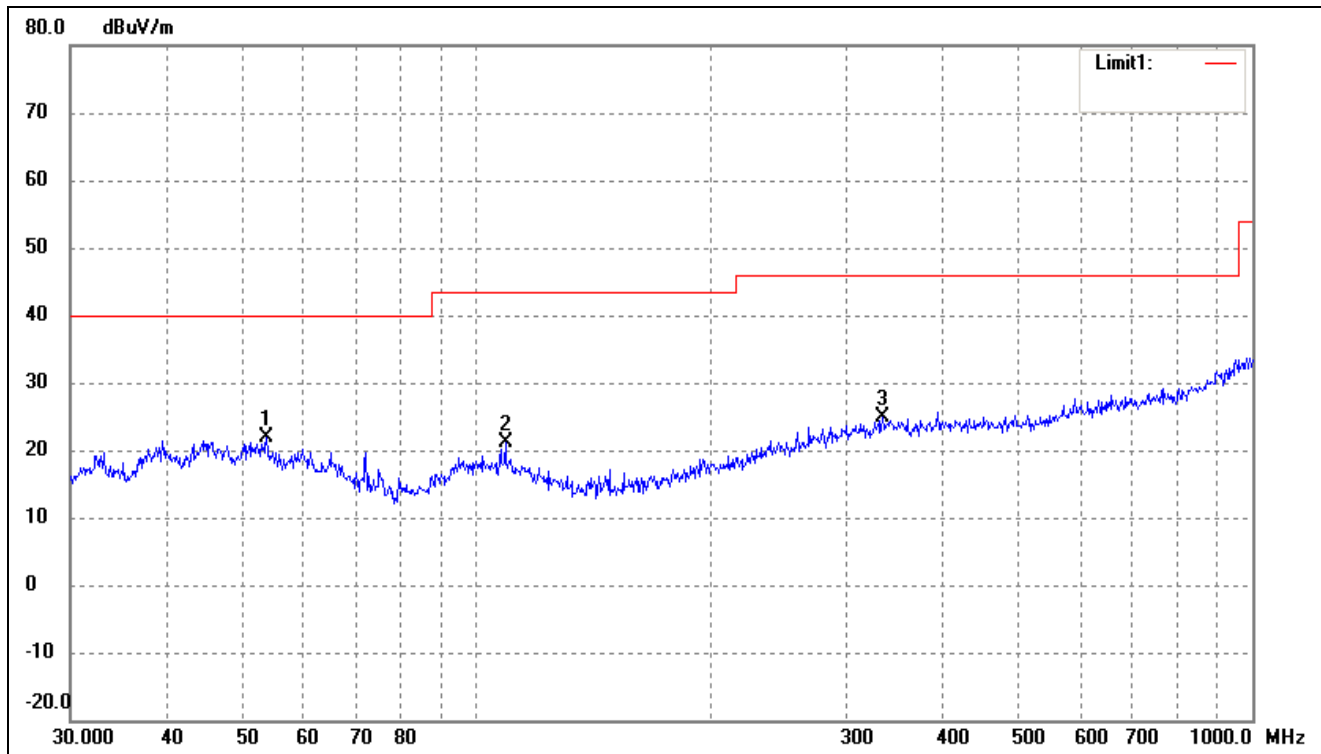
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	54.0711	34.65	-13.00	21.65	40.00	-18.35	301	100	peak
2	116.1321	35.37	-14.94	20.43	43.50	-23.07	90	100	peak
3	423.5403	31.78	-6.19	25.59	46.00	-20.41	71	100	peak

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	52.0251	34.51	-12.80	21.71	40.00	-18.29	252	100	peak
2	98.1419	33.14	-14.74	18.40	43.50	-25.10	94	100	peak
3	277.0935	34.25	-8.43	25.82	46.00	-20.18	187	100	peak

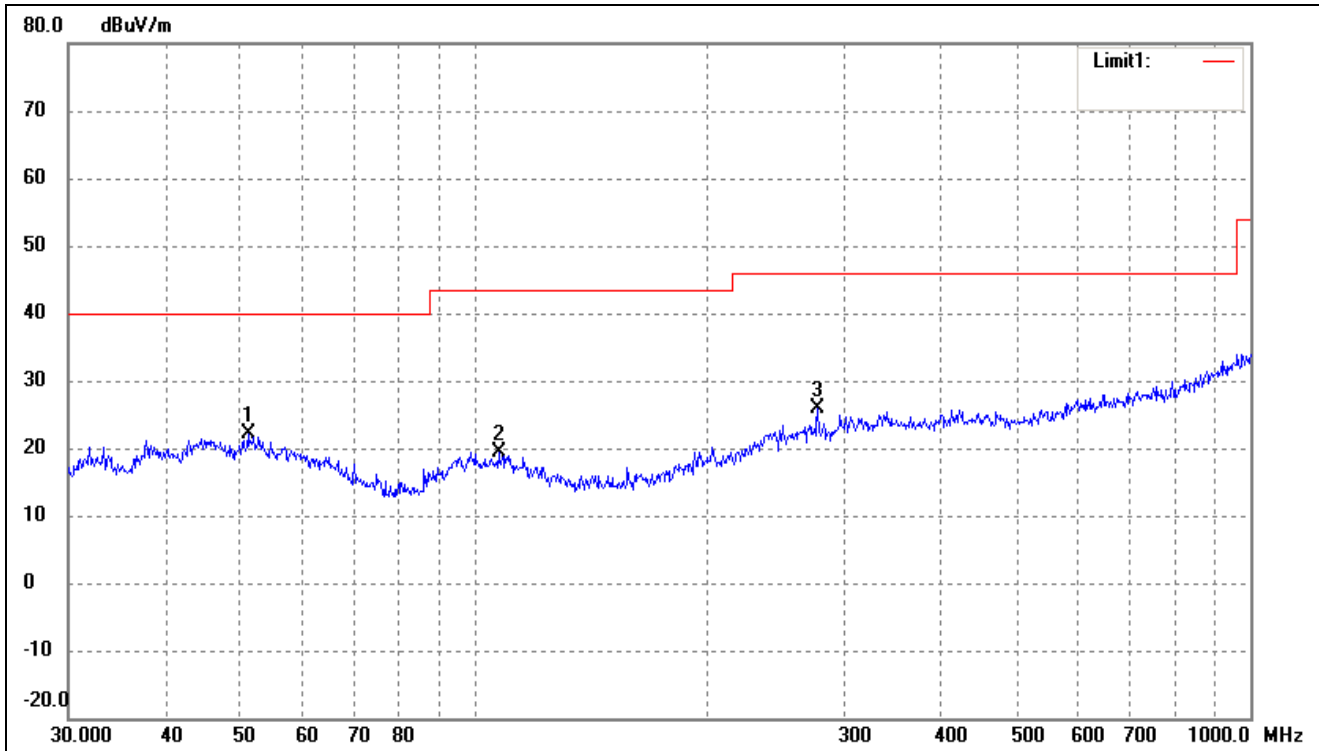
802.11ac-HT80			
Test Channel	5210MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	53.6932	34.73	-12.95	21.78	40.00	-18.22	71	100	peak
2	109.0286	35.01	-13.94	21.07	43.50	-22.43	116	100	peak
3	333.6867	31.65	-6.68	24.97	46.00	-21.03	210	100	peak

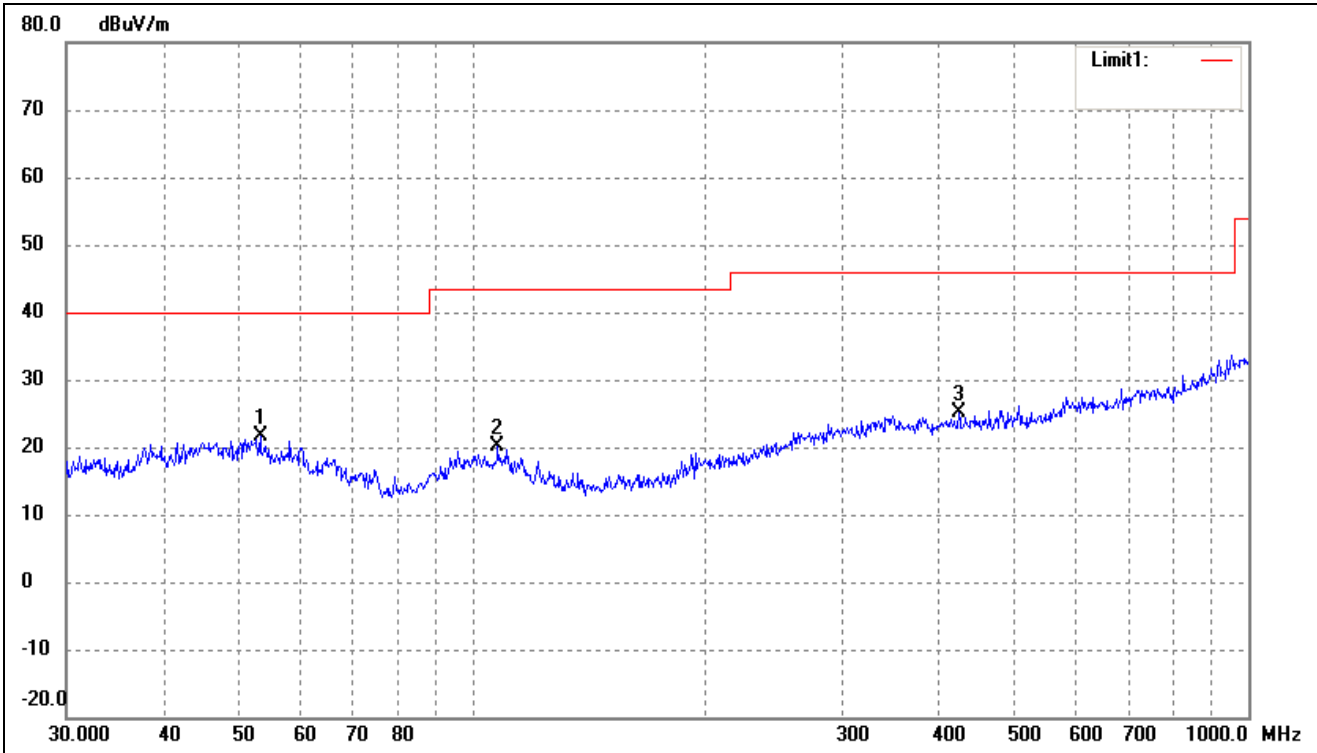
> 5725-5850MHz

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	51.1209	35.11	-12.86	22.25	40.00	-17.75	336	100	peak
2	107.5101	33.43	-13.97	19.46	43.50	-24.04	190	100	peak
3	277.0935	34.25	-8.43	25.82	46.00	-20.18	55	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	53.3179	34.65	-12.92	21.73	40.00	-18.27	284	100	peak
2	107.8877	34.13	-13.97	20.16	43.50	-23.34	221	100	peak
3	423.5403	31.26	-6.19	25.07	46.00	-20.93	100	100	peak

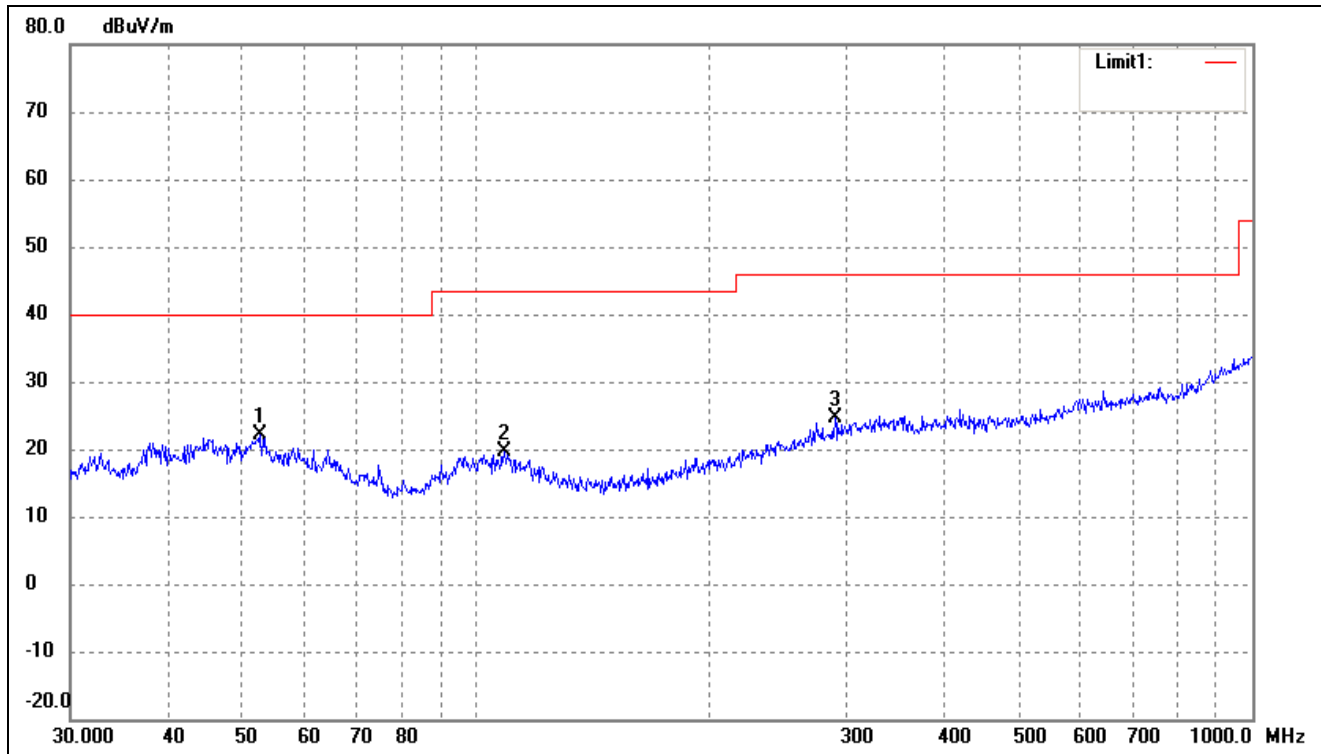
802.11a

Test Channel	5785MHz	Polarity:	Horizontal
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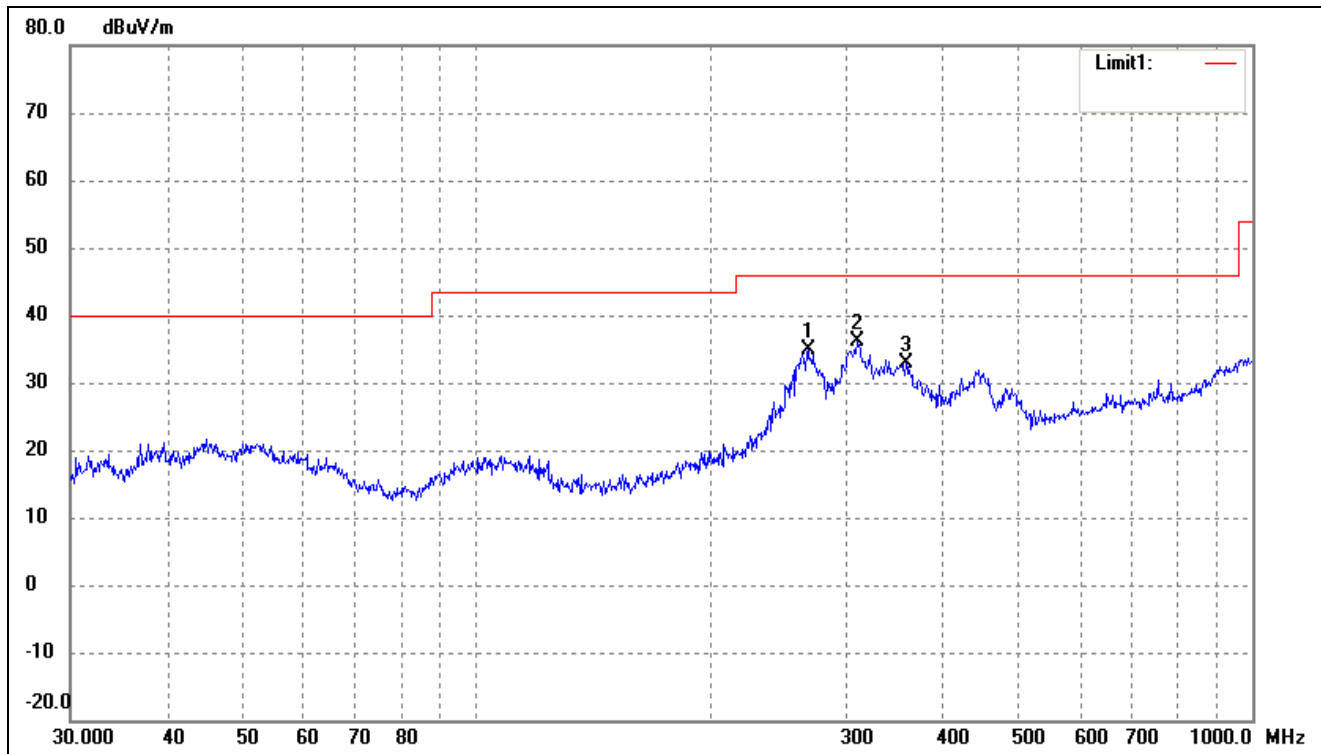
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	190.4050	37.93	-13.24	24.69	43.50	-18.81	55	100	peak
2	277.0935	43.70	-8.43	35.27	46.00	-10.73	266	100	peak
3	306.7536	44.74	-7.26	37.48	46.00	-8.52	159	100	peak
4	454.3100	37.42	-6.40	31.02	46.00	-14.98	238	100	peak
5	483.9094	34.56	-6.08	28.48	46.00	-17.52	55	100	peak

802.11a			
Test Channel	5785MHz	Polarity:	Vertical



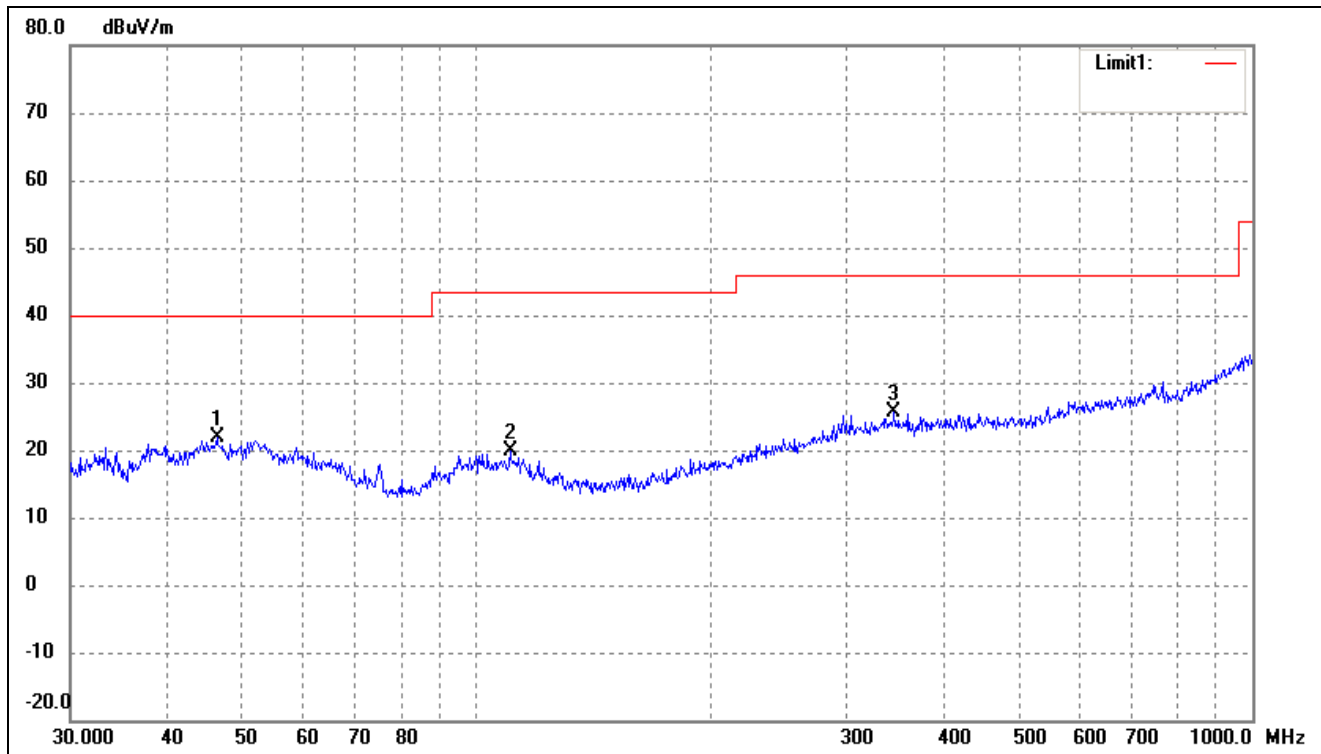
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.7600	34.90	-12.87	22.03	40.00	-17.97	100	100	peak
2	108.6470	33.54	-13.95	19.59	43.50	-23.91	334	100	peak
3	290.0172	32.65	-7.98	24.67	46.00	-21.33	128	100	peak

802.11a			
Test Channel	5825MHz	Polarity:	Horizontal



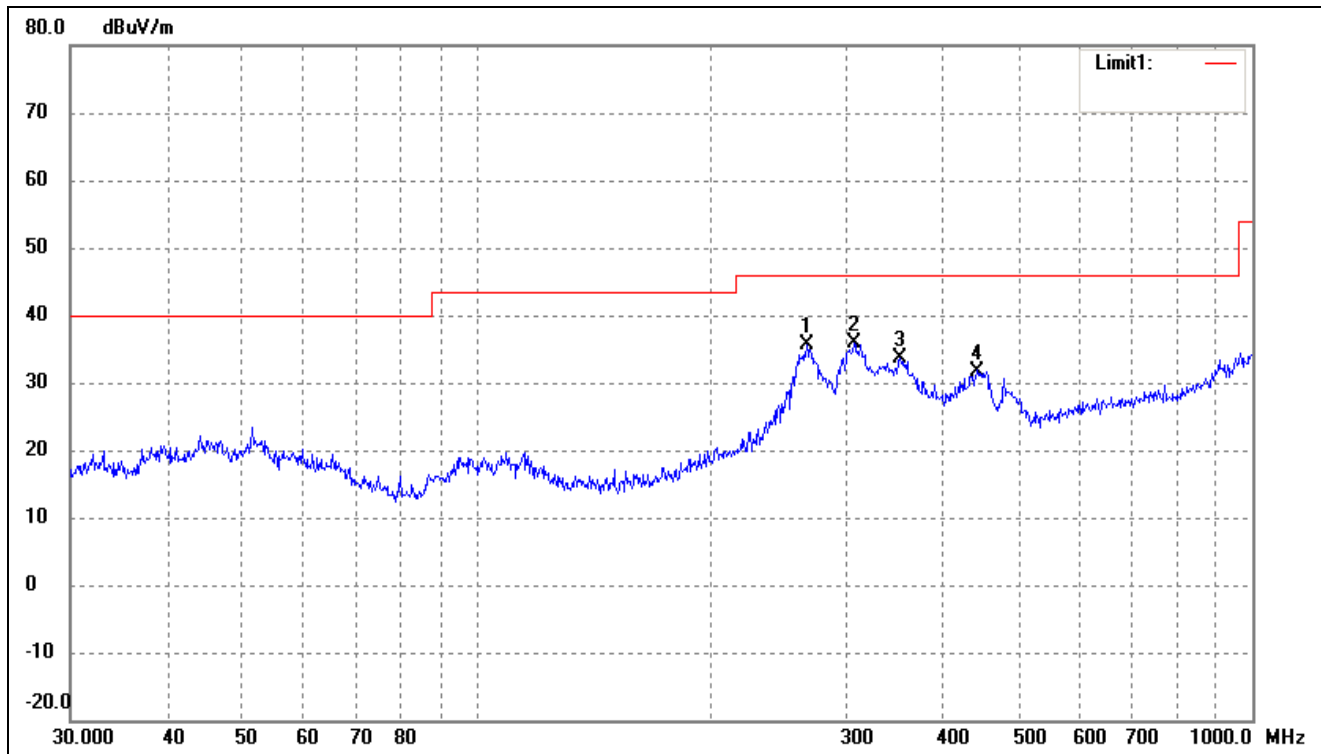
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	267.5455	43.67	-8.90	34.77	46.00	-11.23	292	100	peak
2	309.9977	43.21	-7.19	36.02	46.00	-9.98	92	100	peak
3	357.9287	39.54	-6.73	32.81	46.00	-13.19	229	100	peak

802.11a			
Test Channel	5825MHz	Polarity:	Vertical



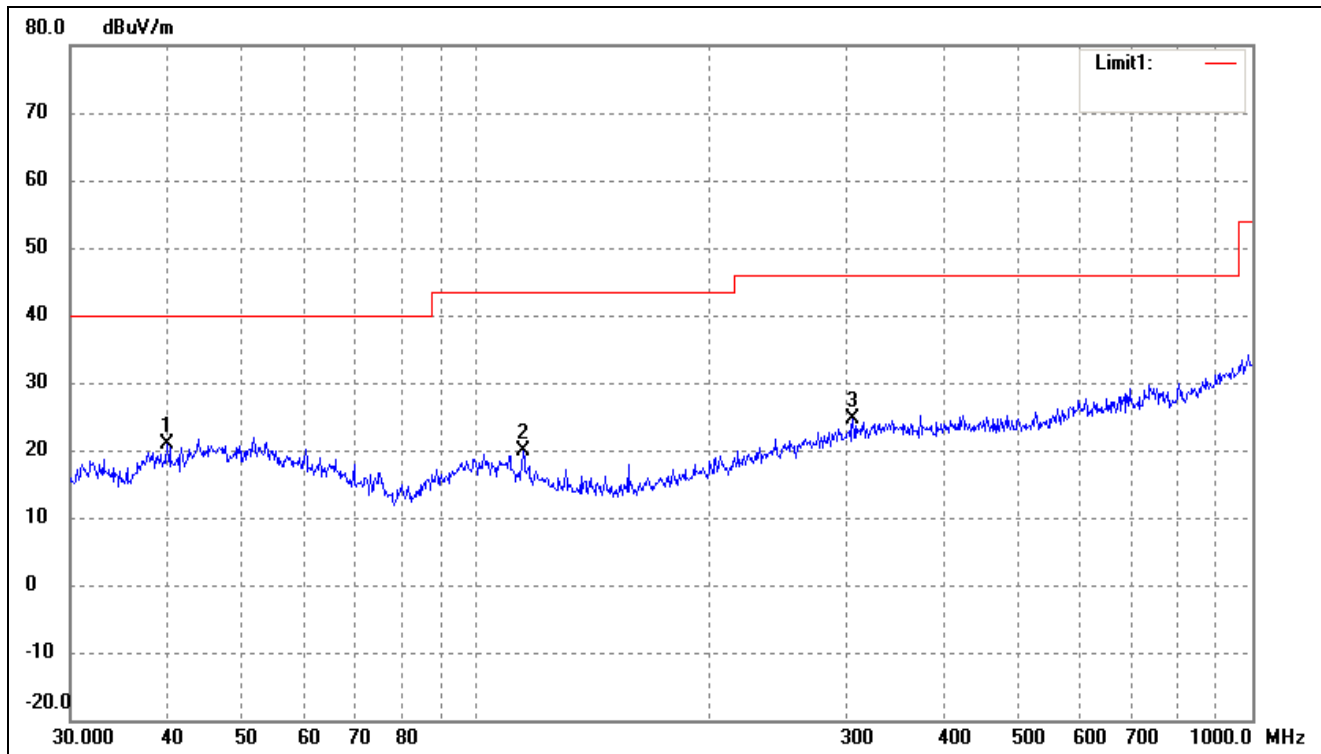
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.3402	34.82	-12.88	21.94	40.00	-18.06	355	100	peak
2	110.5687	33.99	-14.01	19.98	43.50	-23.52	90	100	peak
3	345.5952	32.25	-6.50	25.75	46.00	-20.25	258	100	peak

802.11n-HT20			
Test Channel	5745MHz	Polarity:	Horizontal



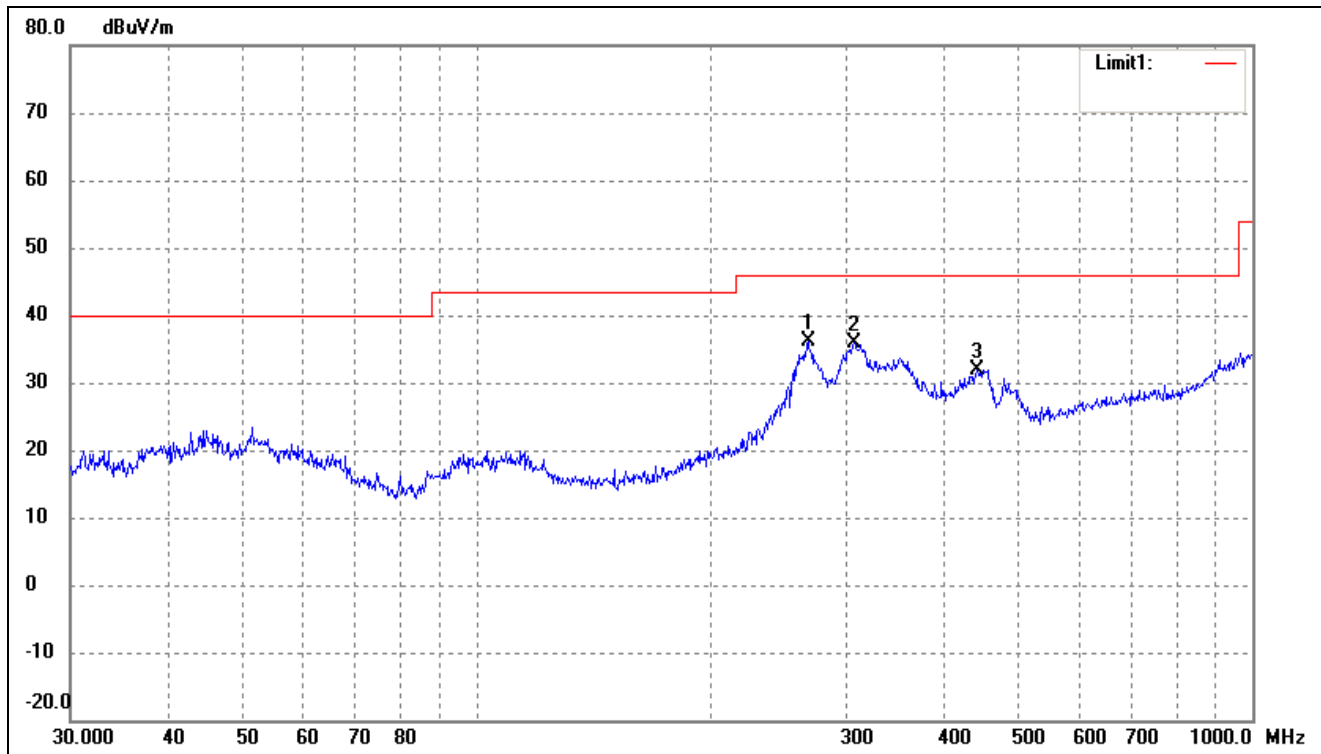
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	266.6089	44.60	-8.93	35.67	46.00	-10.33	296	100	peak
2	306.7537	43.12	-7.26	35.86	46.00	-10.14	109	100	peak
3	351.7079	40.13	-6.52	33.61	46.00	-12.39	83	100	peak
4	441.7426	38.13	-6.38	31.75	46.00	-14.25	234	100	peak

802.11n-HT20			
Test Channel	5745MHz	Polarity:	Vertical



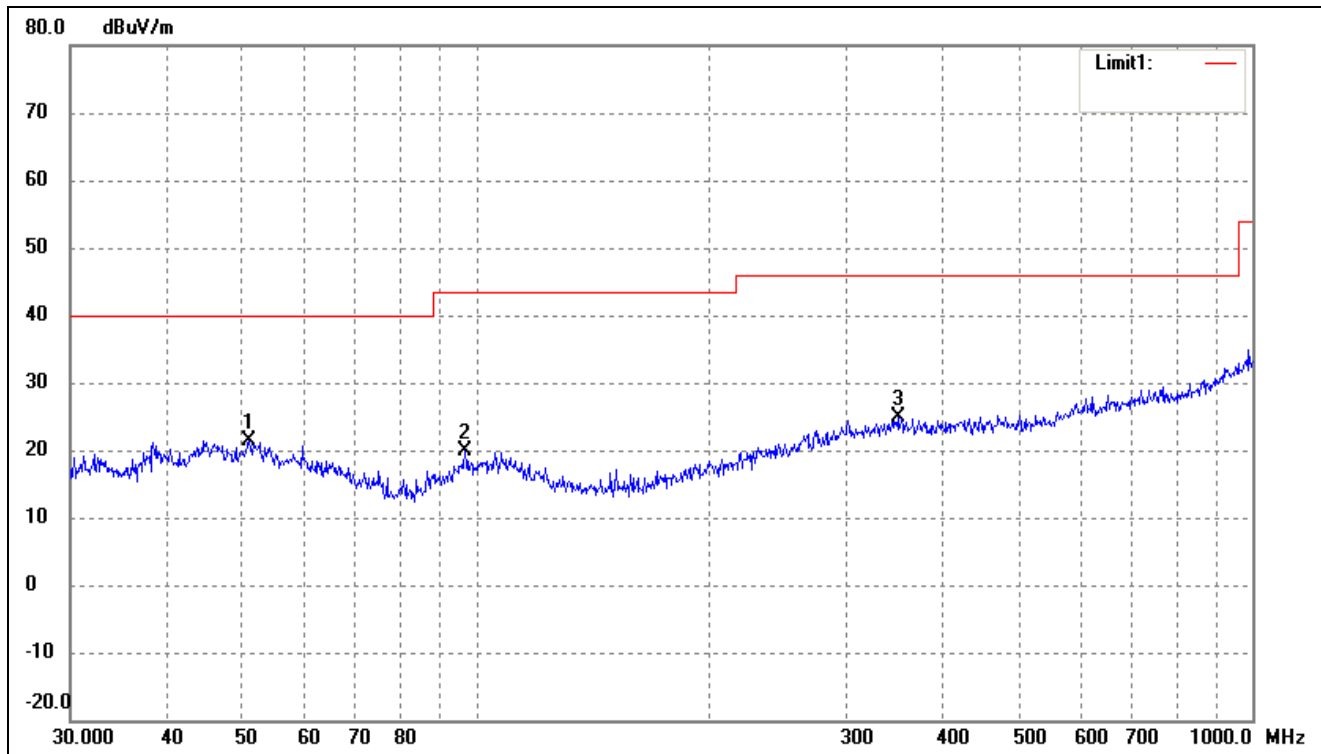
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.9942	34.87	-14.02	20.85	40.00	-19.15	92	100	peak
2	114.9169	34.56	-14.77	19.79	43.50	-23.71	218	100	peak
3	305.6800	32.05	-7.30	24.75	46.00	-21.25	61	100	peak

802.11n-HT20			
Test Channel	5785MHz	Polarity:	Horizontal



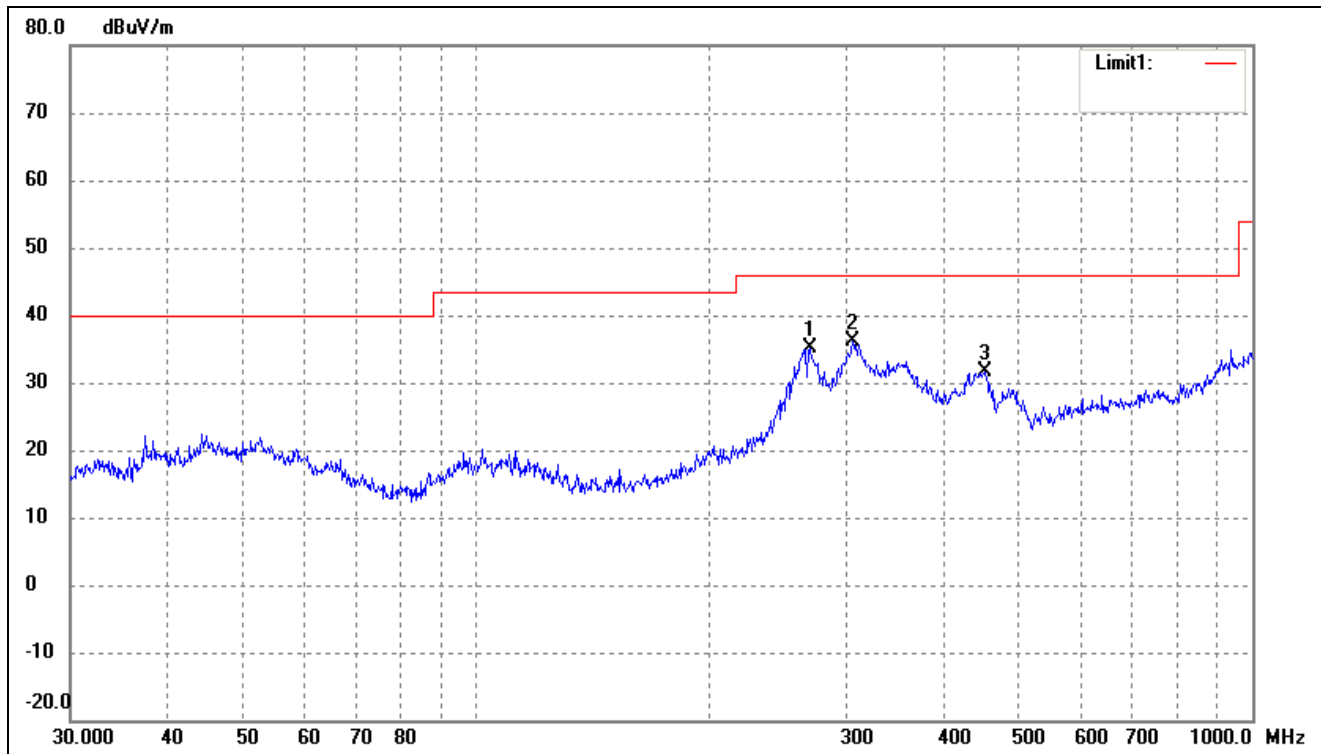
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	267.5455	45.09	-8.90	36.19	46.00	-9.81	340	100	peak
2	306.7537	43.12	-7.26	35.86	46.00	-10.14	194	100	peak
3	441.7426	38.32	-6.38	31.94	46.00	-14.06	71	100	peak

802.11n-HT20			
Test Channel	5785MHz	Polarity:	Vertical



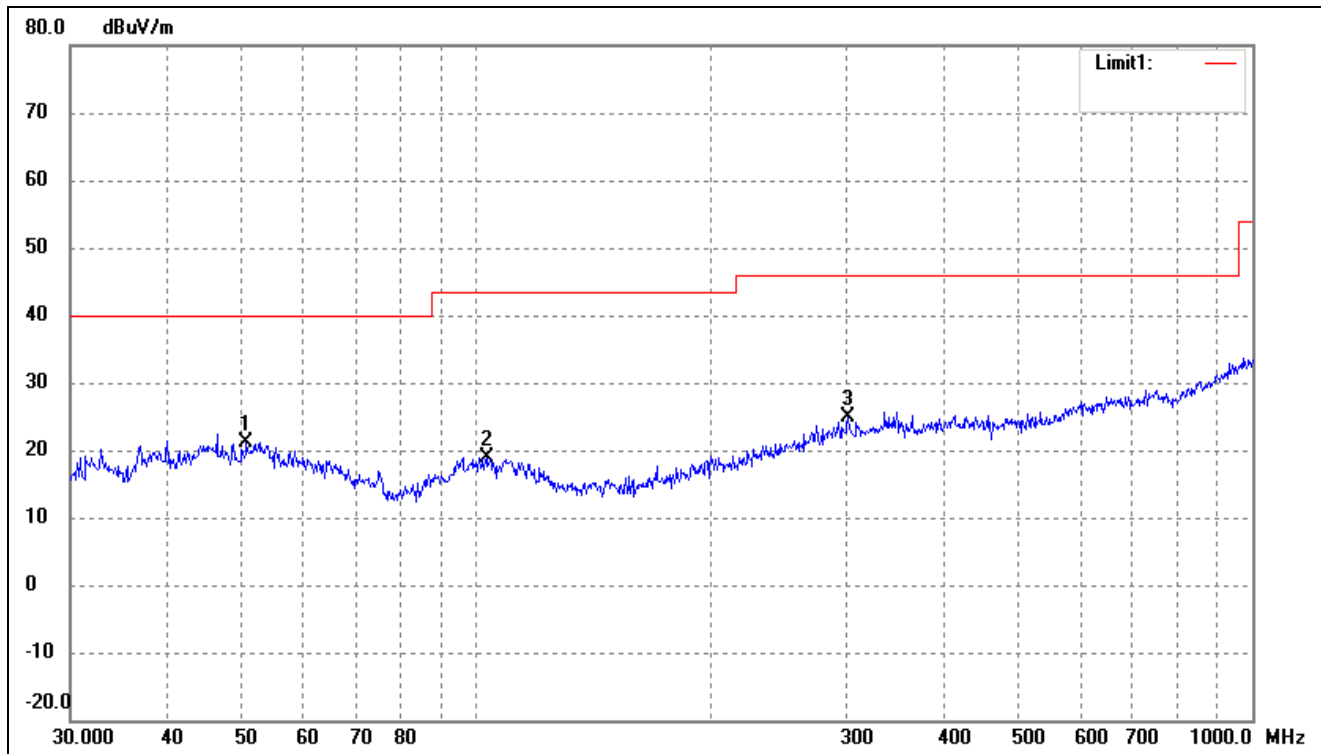
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.9420	34.34	-12.87	21.47	40.00	-18.53	52	100	peak
2	96.7749	34.85	-14.94	19.91	43.50	-23.59	150	100	peak
3	349.2500	31.28	-6.48	24.80	46.00	-21.20	122	100	peak

802.11n-HT20			
Test Channel	5825MHz	Polarity:	Horizontal



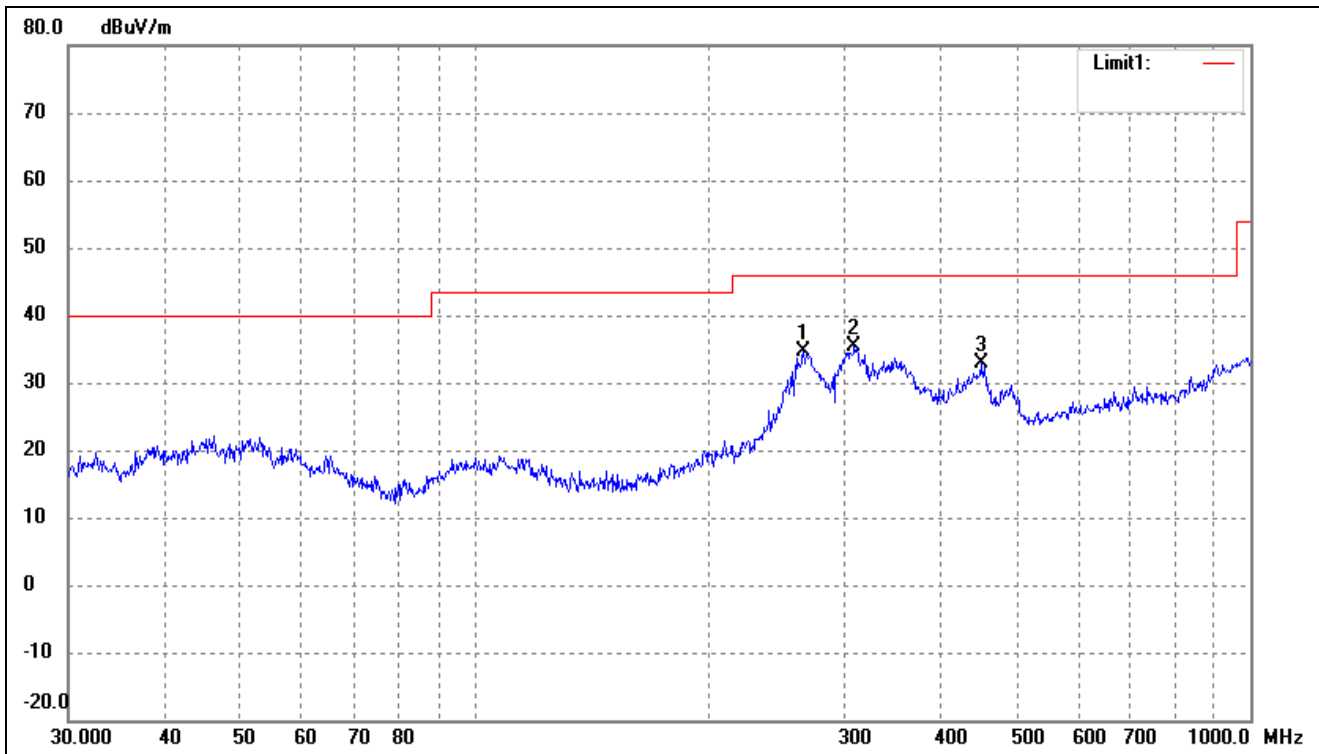
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	269.4284	43.96	-8.82	35.14	46.00	-10.86	313	100	peak
2	305.6800	43.46	-7.30	36.16	46.00	-9.84	95	100	peak
3	452.7197	37.97	-6.44	31.53	46.00	-14.47	285	100	peak

802.11n-HT20			
Test Channel	5825MHz	Polarity:	Vertical



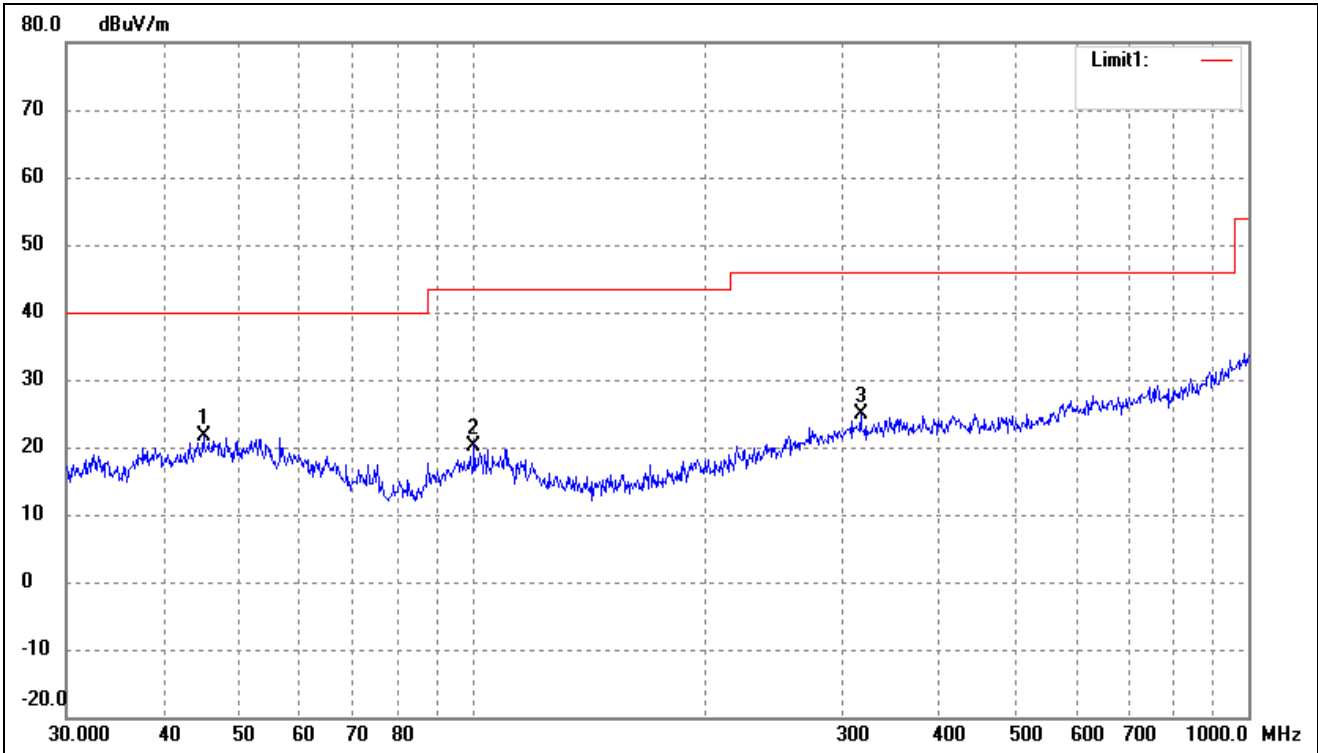
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.5860	34.12	-12.89	21.23	40.00	-18.77	92	100	peak
2	103.0800	33.01	-14.21	18.80	43.50	-24.70	196	100	peak
3	301.4224	32.34	-7.40	24.94	46.00	-21.06	118	100	peak

802.11n-HT40			
Test Channel	5755MHz	Polarity:	Horizontal



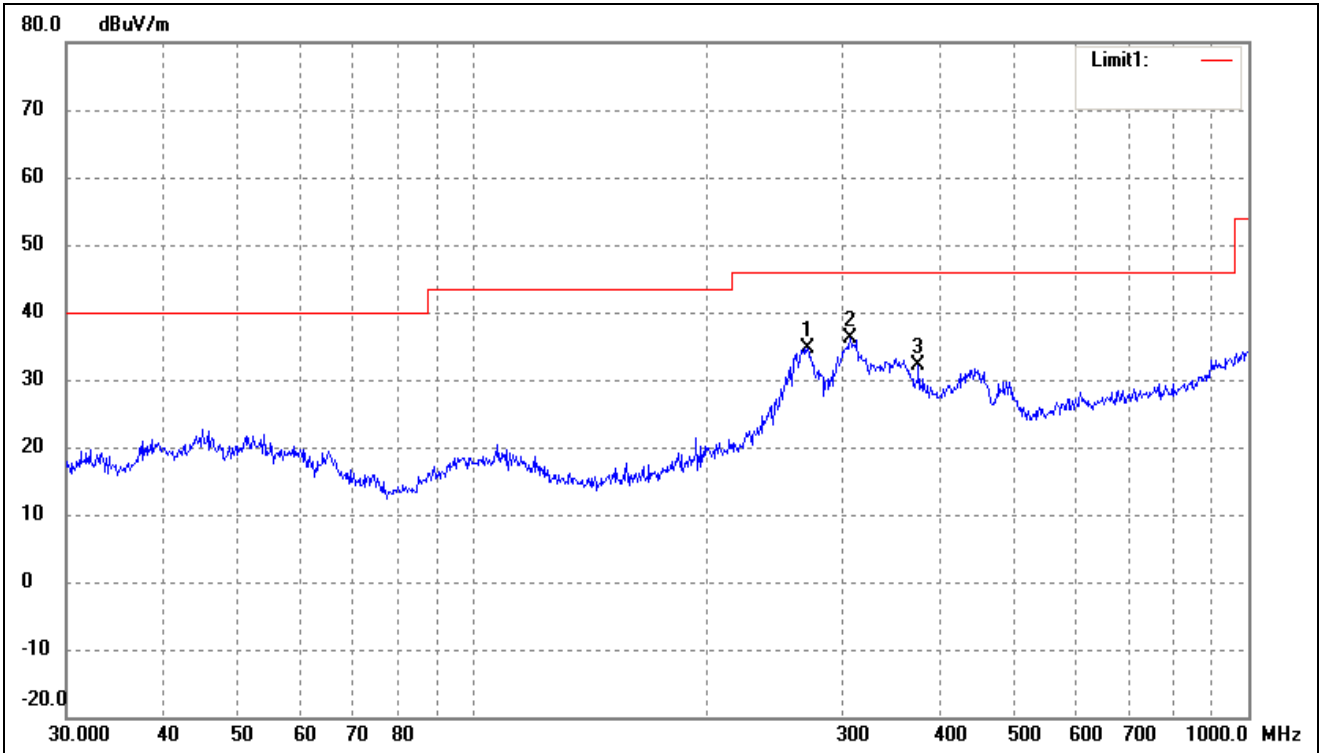
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	265.6757	43.64	-8.97	34.67	46.00	-11.33	353	100	peak
2	308.9126	42.66	-7.21	35.45	46.00	-10.55	271	100	peak
3	449.5558	39.31	-6.47	32.84	46.00	-13.16	78	100	peak

802.11n-HT40			
Test Channel	5755MHz	Polarity:	Vertical



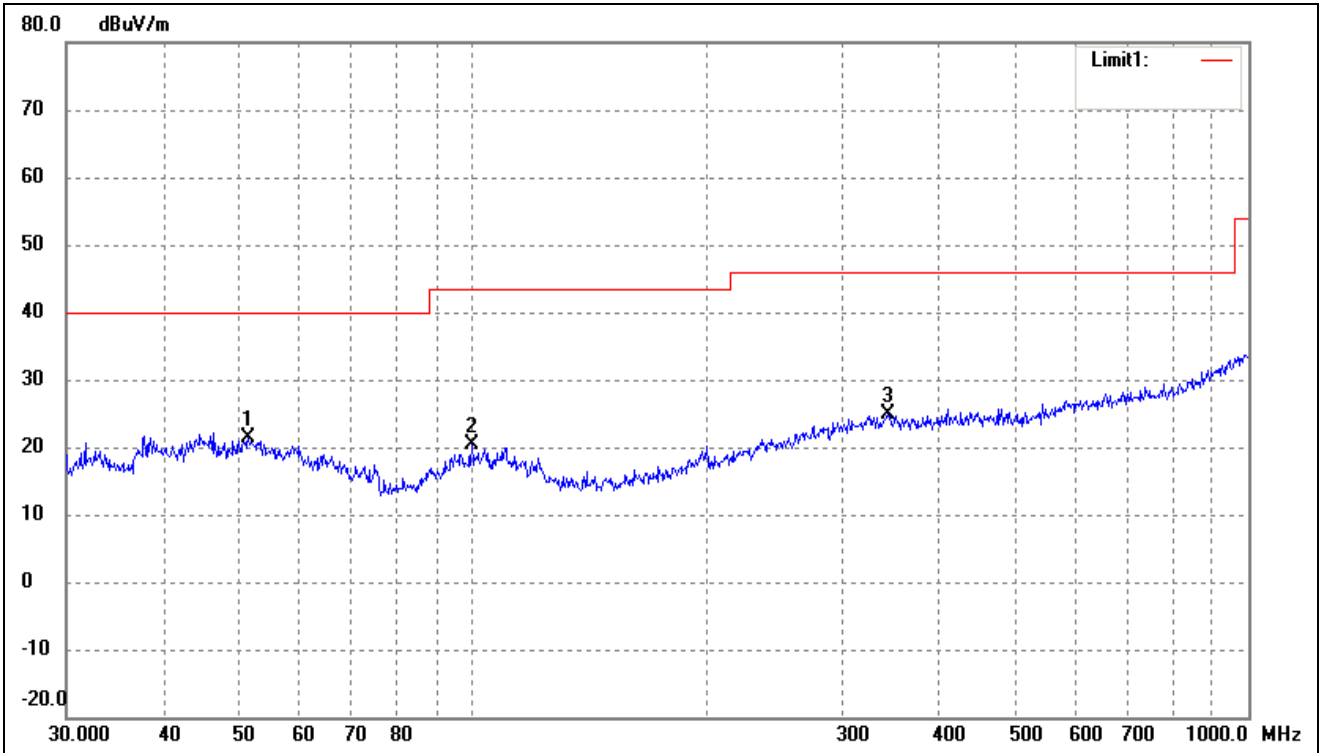
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.0583	34.67	-12.97	21.70	40.00	-18.30	94	100	peak
2	100.5806	34.68	-14.43	20.25	43.50	-23.25	55	100	peak
3	316.5890	31.92	-7.15	24.77	46.00	-21.23	230	100	peak

802.11n-HT40			
Test Channel	5795MHz	Polarity:	Horizontal



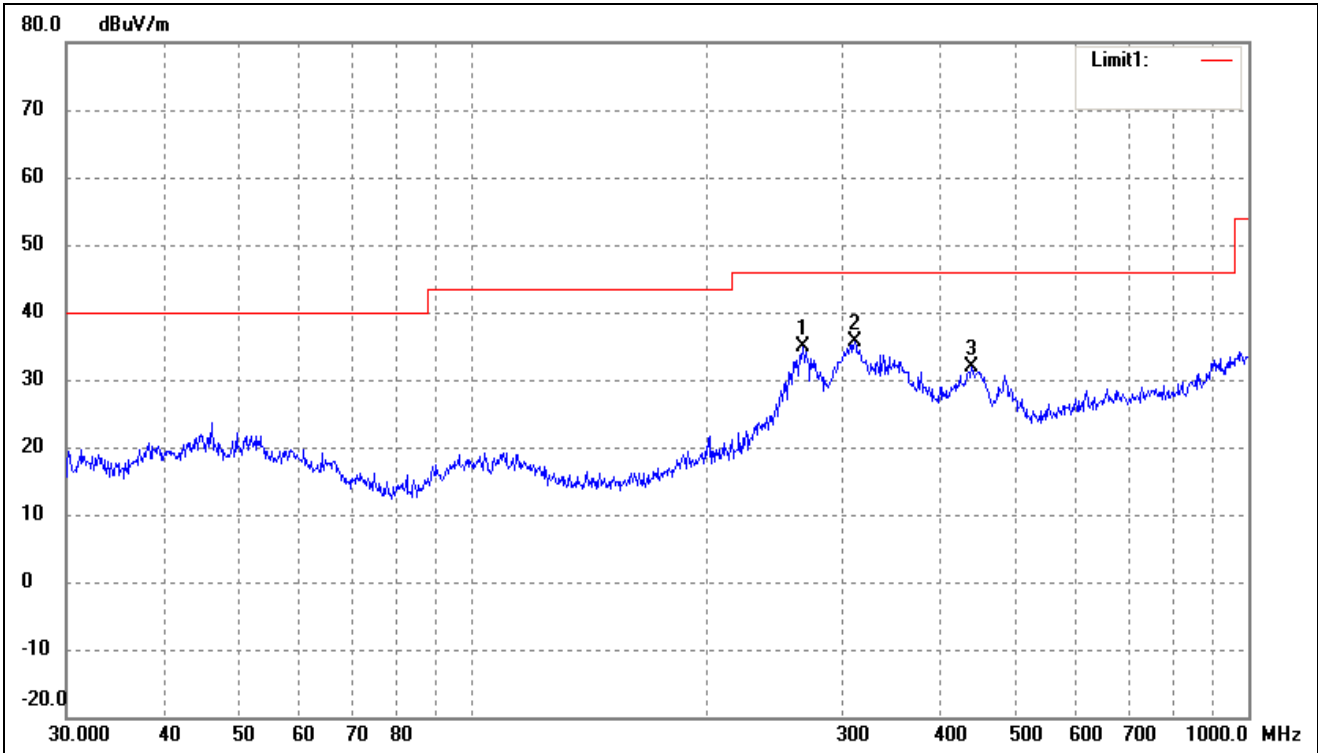
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	270.3748	43.43	-8.79	34.64	46.00	-11.36	256	100	peak
2	306.7537	43.35	-7.26	36.09	46.00	-9.91	120	100	peak
3	375.9385	38.93	-6.76	32.17	46.00	-13.83	143	100	peak

802.11n-HT40			
Test Channel	5795MHz	Polarity:	Vertical



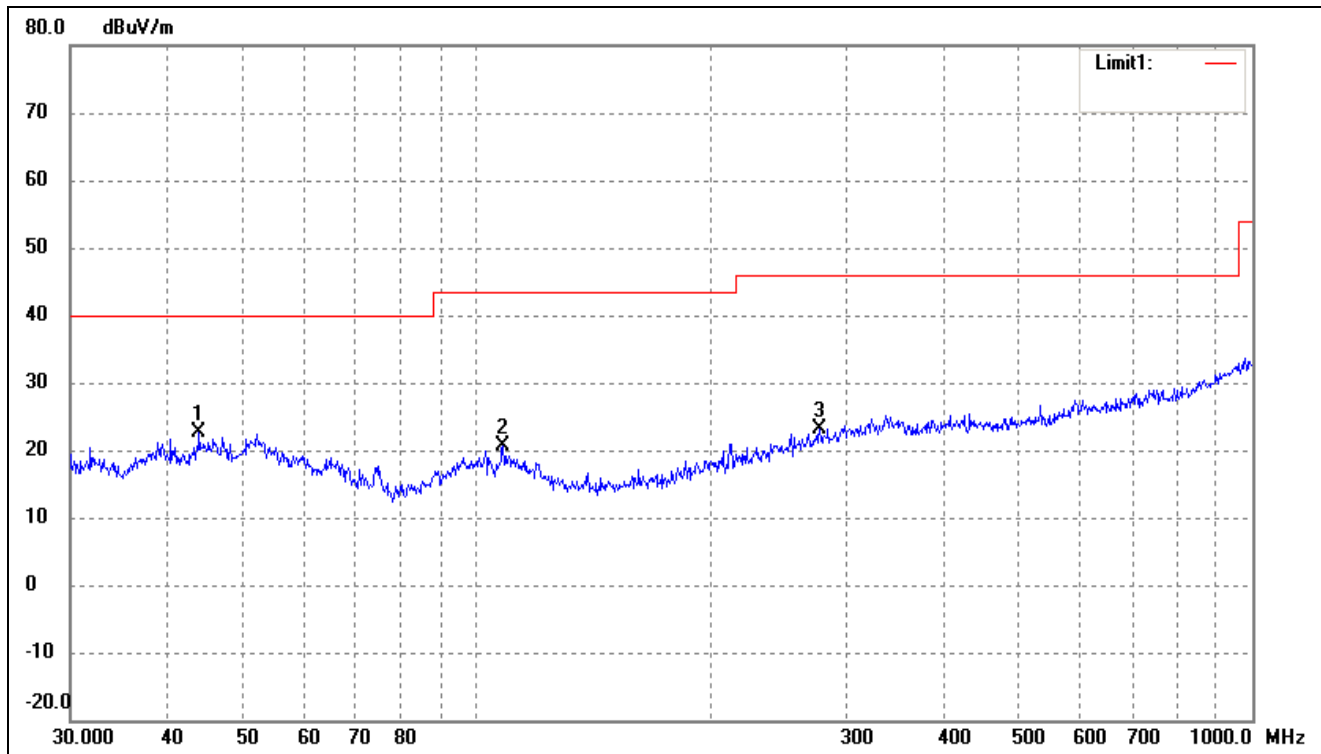
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.4807	34.16	-12.85	21.31	40.00	-18.69	81	100	peak
2	99.8777	34.75	-14.48	20.27	43.50	-23.23	134	100	peak
3	343.1800	31.31	-6.51	24.80	46.00	-21.20	124	100	peak

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	266.6089	43.70	-8.93	34.77	46.00	-11.23	258	100	peak
2	311.0867	42.73	-7.18	35.55	46.00	-10.45	90	100	peak
3	440.1963	38.17	-6.35	31.82	46.00	-14.18	118	100	peak

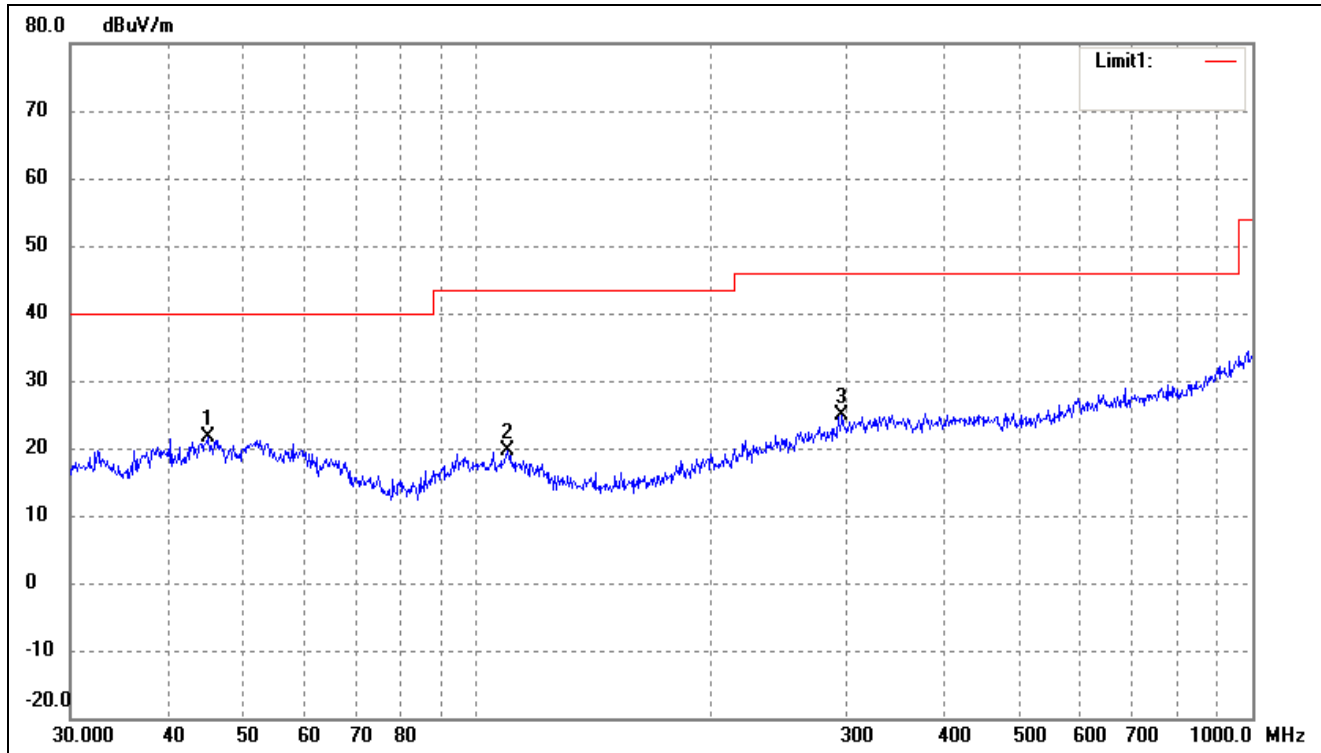
802.11ac-HT80			
Test Channel	5775MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	43.9658	35.63	-13.05	22.58	40.00	-17.42	259	100	peak
2	108.2667	34.64	-13.96	20.68	43.50	-22.82	97	100	peak
3	277.0935	31.56	-8.43	23.13	46.00	-22.87	146	100	peak

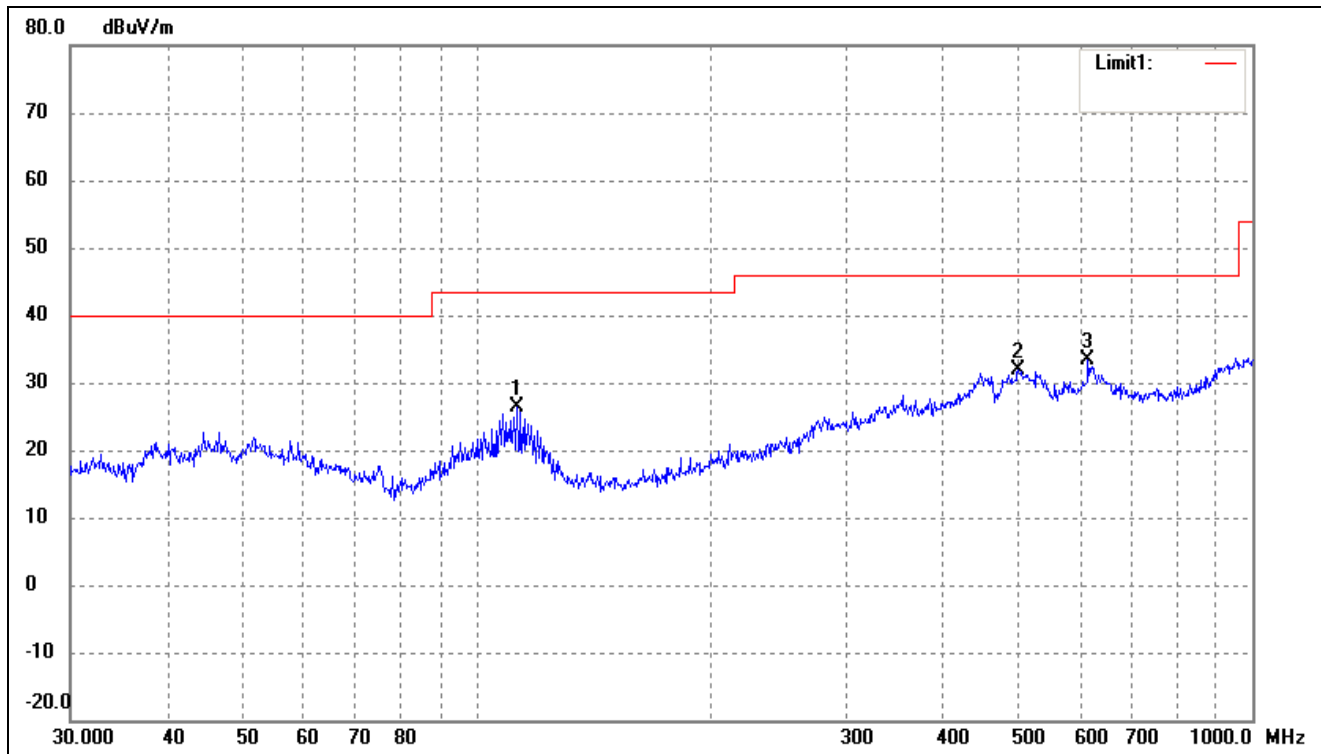
- Antenna 1:
- 5150-5250MHz

802.11a			
Test Channel	5180MHz	Polarity:	Horizontal



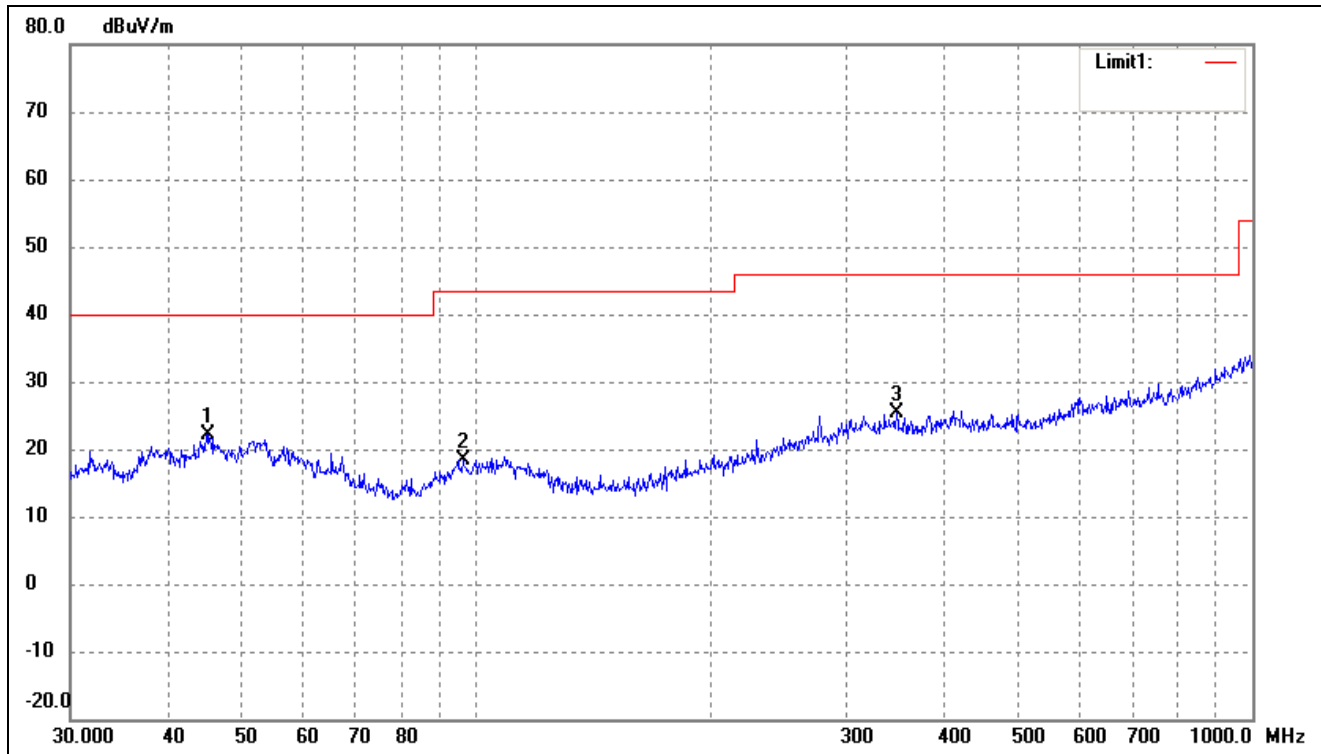
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.2166	34.56	-12.96	21.60	40.00	-18.40	201	100	peak
2	109.7960	33.52	-13.92	19.60	43.50	-23.90	105	100	peak
3	296.1836	32.33	-7.49	24.84	46.00	-21.16	57	100	peak

802.11a			
Test Channel	5180MHz	Polarity:	Vertical



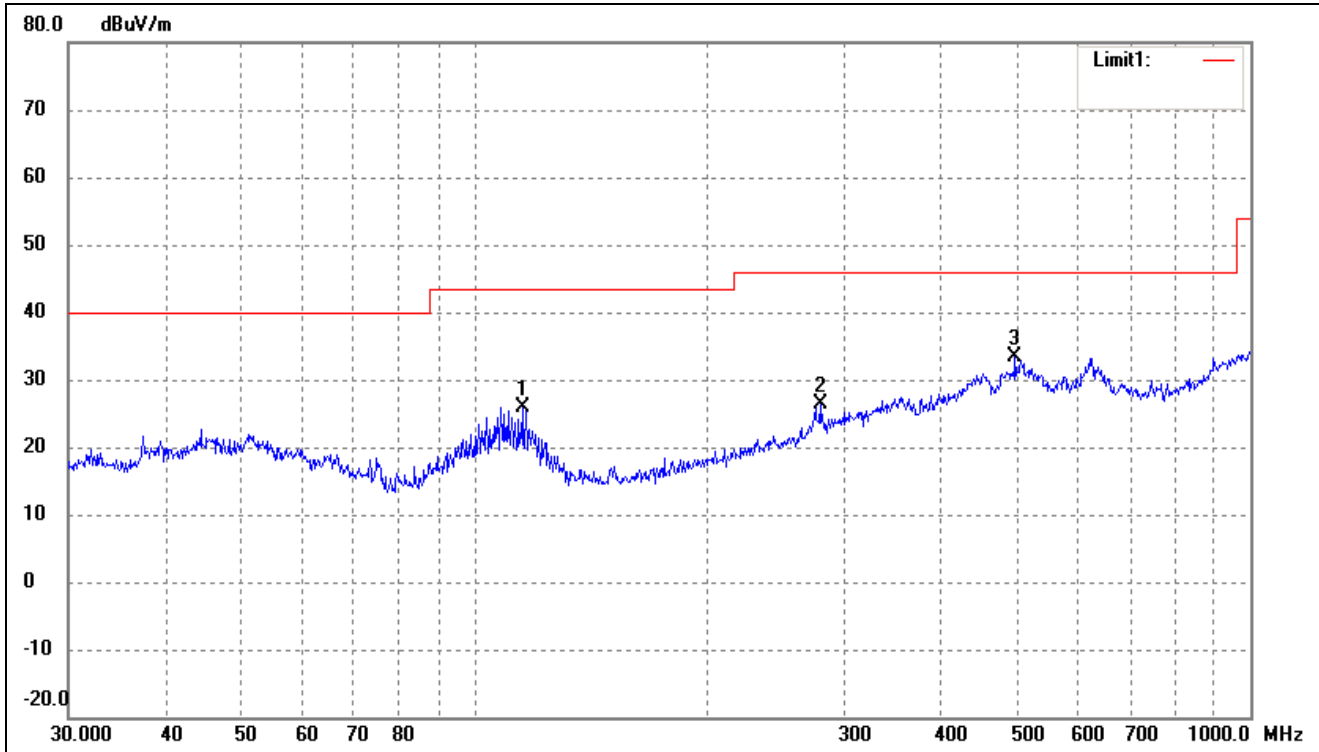
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	112.9196	40.71	-14.42	26.29	43.50	-17.21	213	100	peak
2	499.4247	37.76	-5.99	31.77	46.00	-14.23	99	100	peak
3	614.2142	37.16	-3.86	33.30	46.00	-12.70	138	100	peak

802.11a			
Test Channel	5200MHz	Polarity:	Horizontal



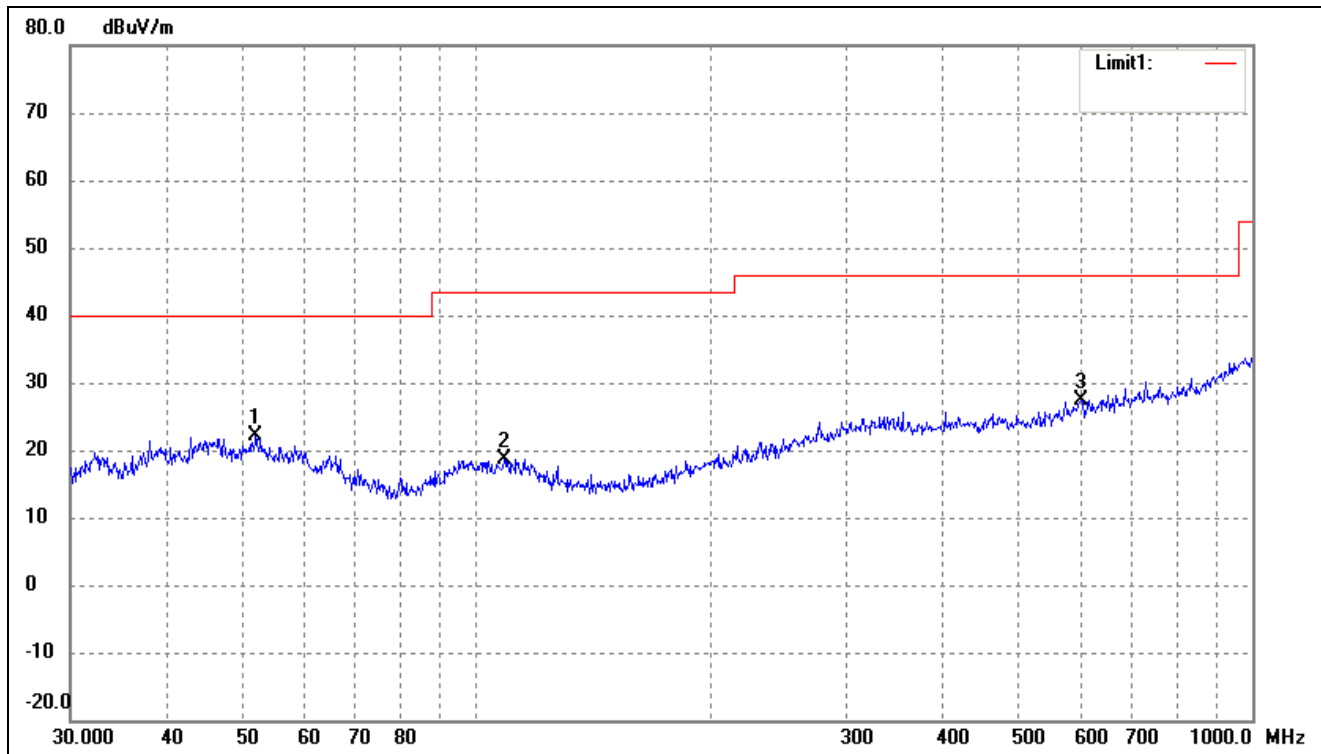
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.2166	35.07	-12.96	22.11	40.00	-17.89	88	100	peak
2	96.0986	33.34	-15.04	18.30	43.50	-25.20	140	100	peak
3	348.0274	31.93	-6.48	25.45	46.00	-20.55	61	100	peak

802.11a			
Test Channel	5200MHz	Polarity:	Vertical



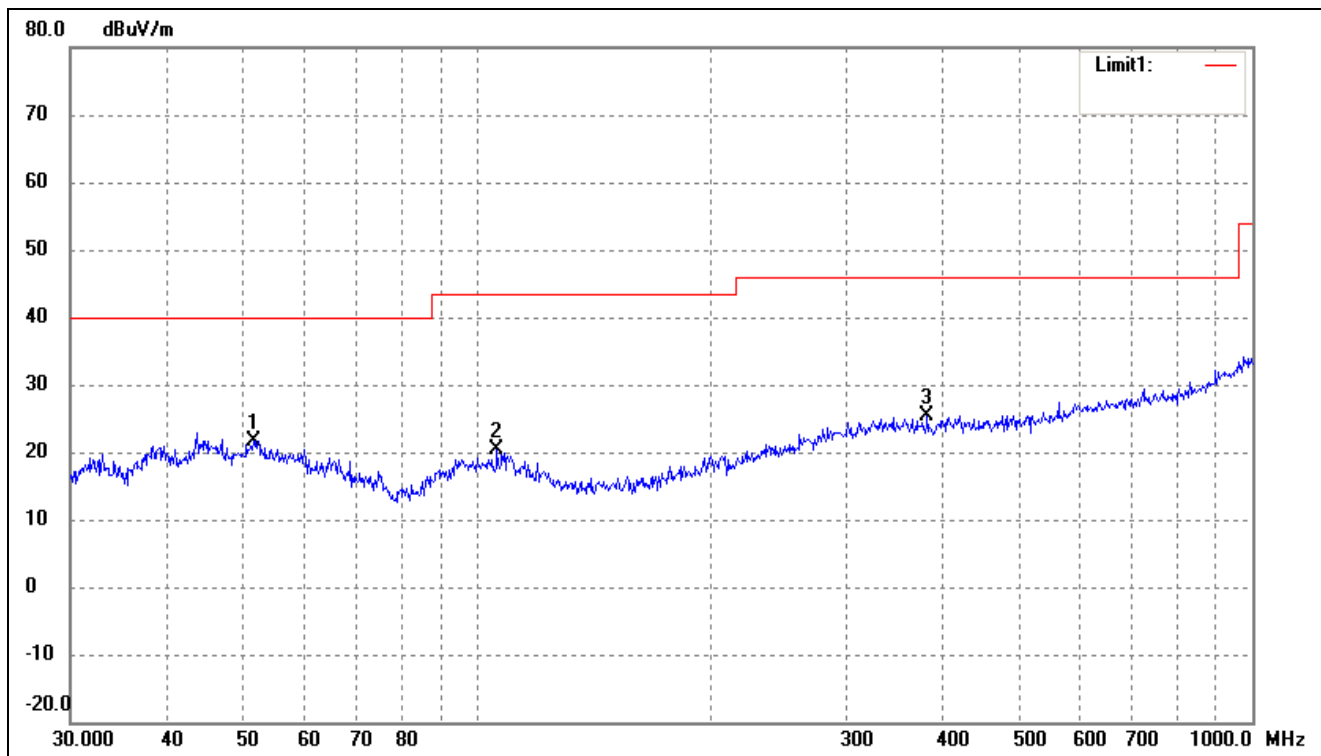
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	115.3205	40.60	-14.83	25.77	43.50	-17.73	208	100	peak
2	279.0436	34.67	-8.35	26.32	46.00	-19.68	328	100	peak
3	497.6765	39.24	-5.98	33.26	46.00	-12.74	62	100	peak

802.11a			
Test Channel	5240MHz	Polarity:	Horizontal



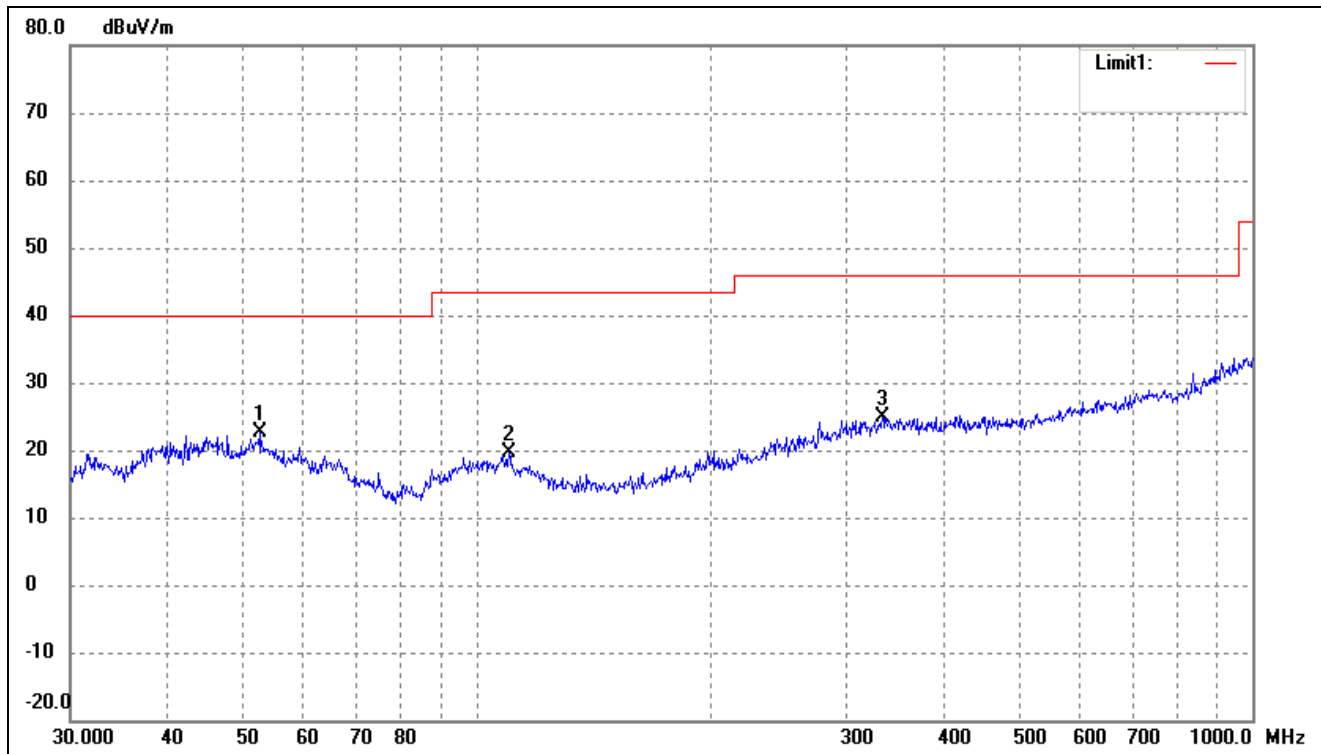
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.0251	34.96	-12.80	22.16	40.00	-17.84	168	100	peak
2	108.6470	32.65	-13.95	18.70	43.50	-24.80	332	100	peak
3	601.4265	31.40	-3.98	27.42	46.00	-18.58	74	100	peak

802.11a			
Test Channel	5240MHz	Polarity:	Vertical



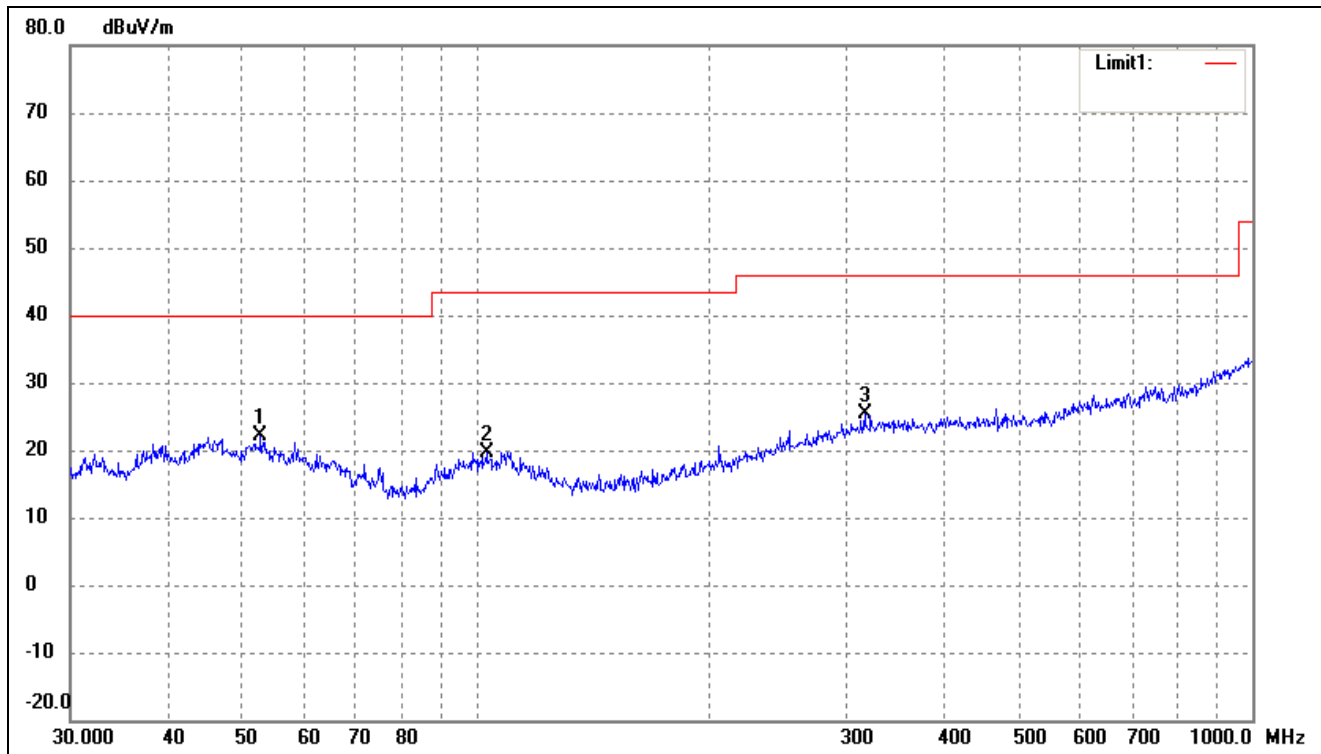
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.6616	34.54	-12.82	21.72	40.00	-18.28	158	100	peak
2	106.3850	34.28	-14.00	20.28	43.50	-23.22	199	100	peak
3	381.2487	32.07	-6.60	25.47	46.00	-20.53	60	100	peak

802.11n-HT20			
Test Channel	5180MHz	Polarity:	Horizontal



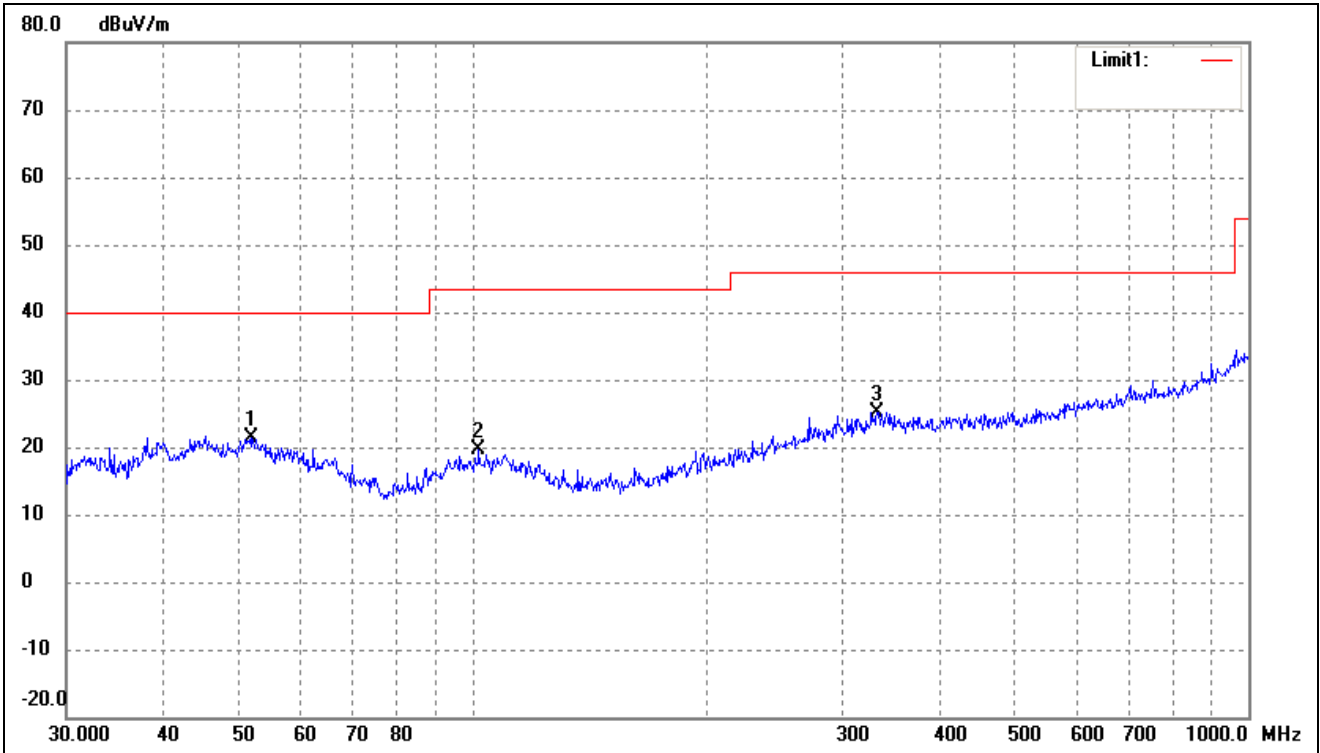
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.5753	35.43	-12.85	22.58	40.00	-17.42	355	100	peak
2	110.1816	33.64	-13.94	19.70	43.50	-23.80	97	100	peak
3	333.6867	31.44	-6.68	24.76	46.00	-21.24	156	100	peak

802.11n-HT20			
Test Channel	5180MHz	Polarity:	Vertical



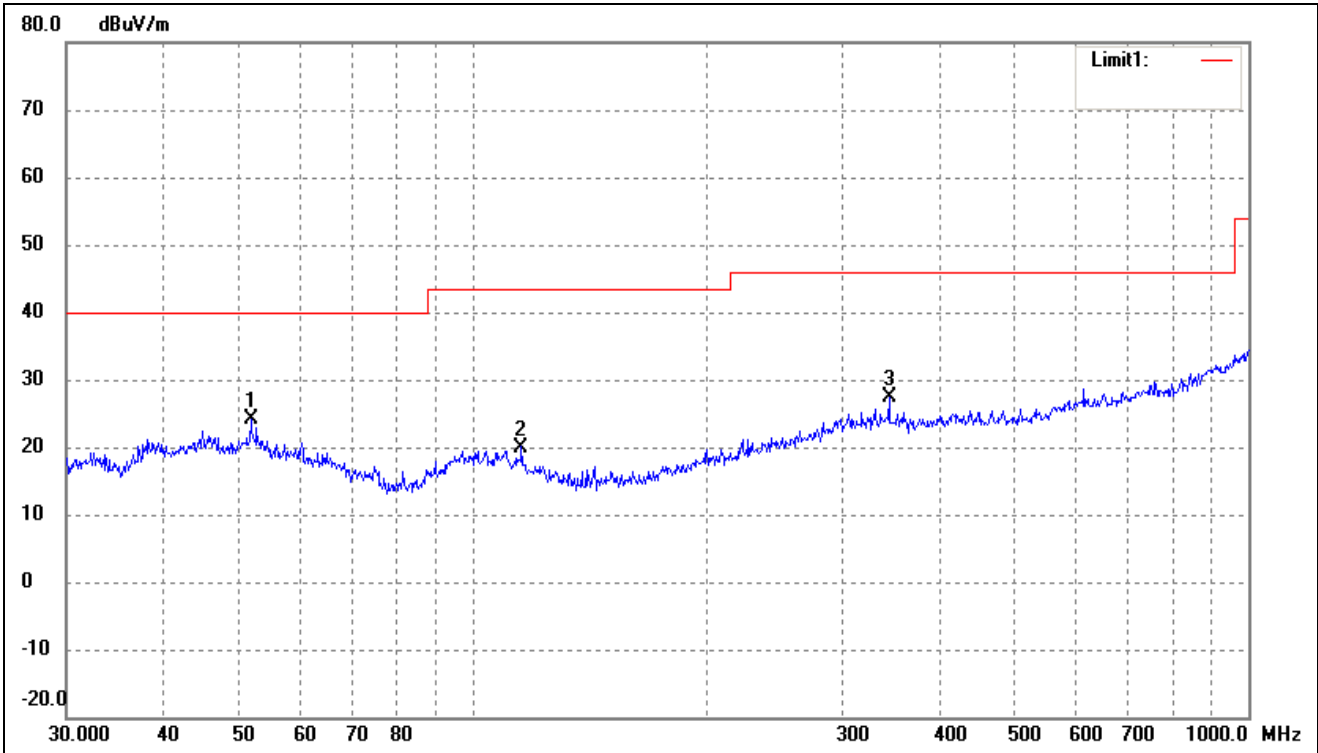
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.7600	34.94	-12.87	22.07	40.00	-17.93	92	100	peak
2	103.0800	33.94	-14.21	19.73	43.50	-23.77	299	100	peak
3	316.5890	32.45	-7.15	25.30	46.00	-20.70	120	100	peak

802.11n-HT20			
Test Channel	5200MHz	Polarity:	Horizontal



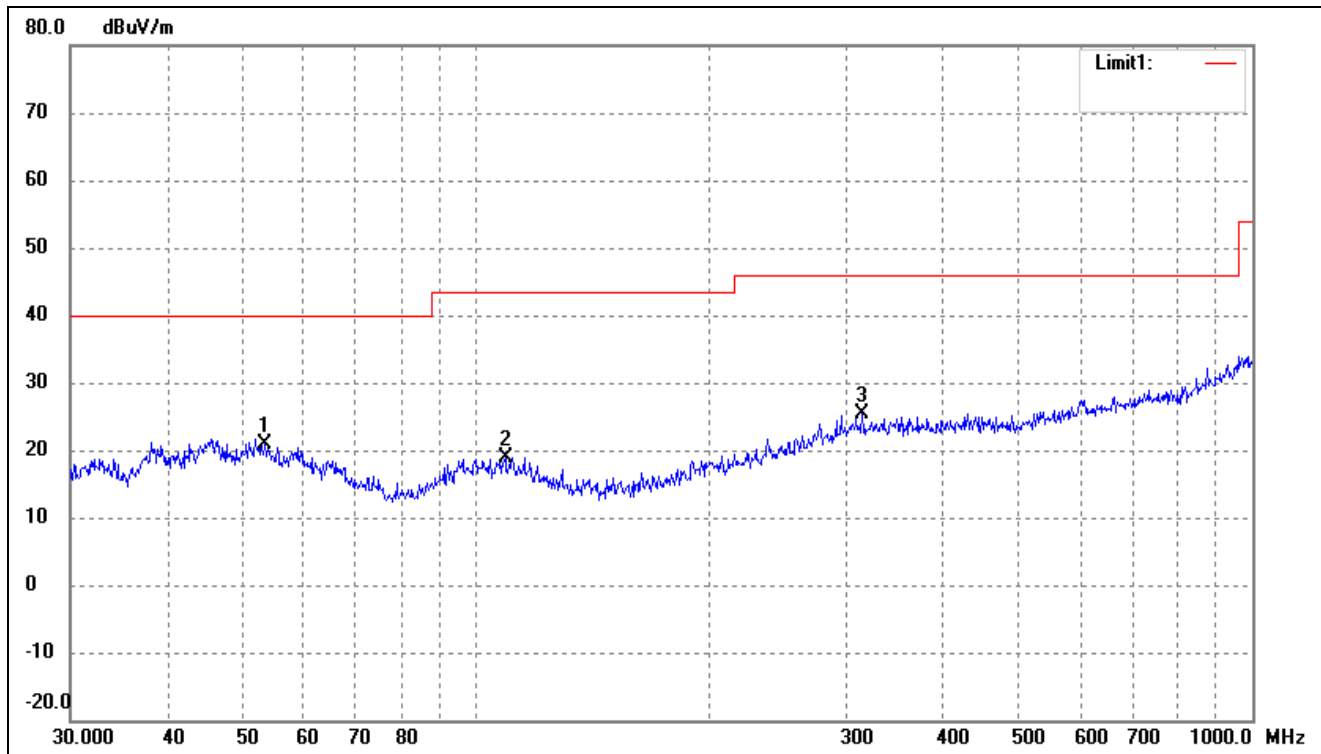
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.0251	34.30	-12.80	21.50	40.00	-18.50	114	100	peak
2	102.0014	33.86	-14.29	19.57	43.50	-23.93	89	100	peak
3	332.5187	31.95	-6.71	25.24	46.00	-20.76	131	100	peak

802.11n-HT20			
Test Channel	5200MHz	Polarity:	Vertical



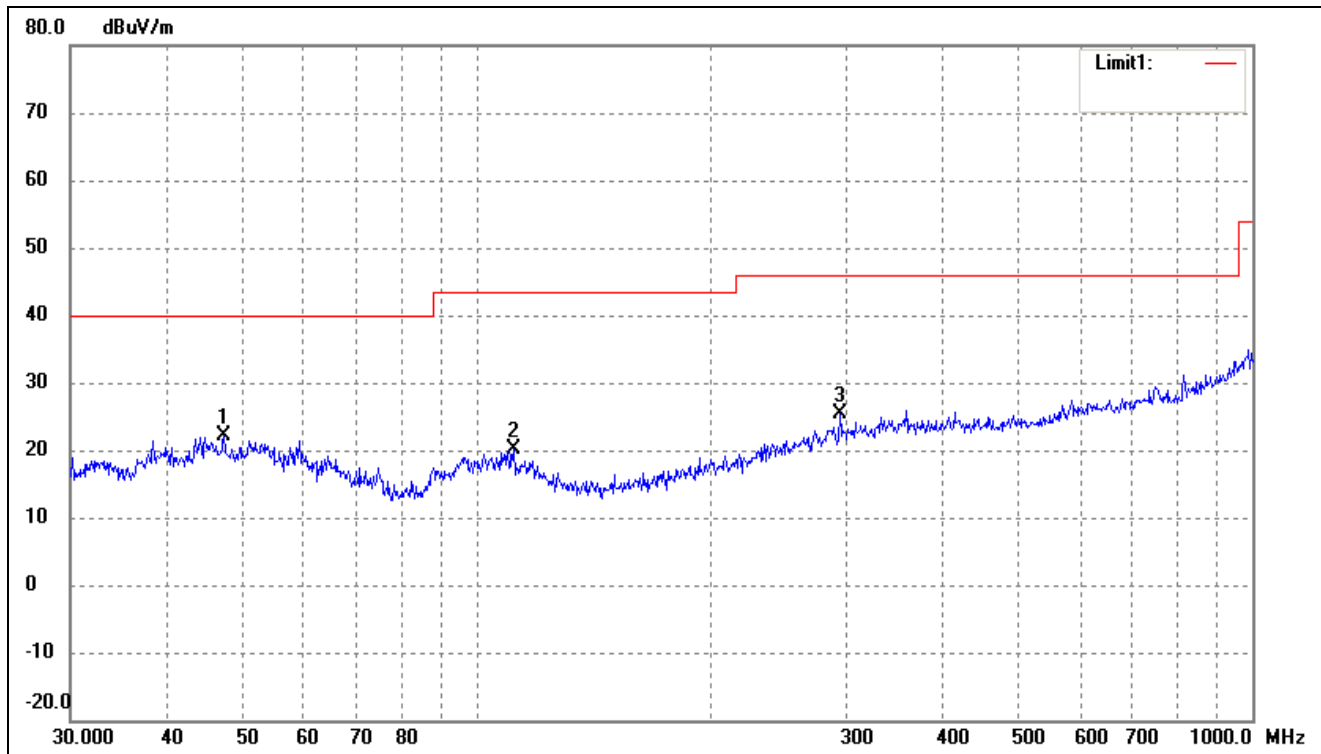
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.8430	36.95	-12.81	24.14	40.00	-15.86	161	100	peak
2	115.7256	34.89	-14.89	20.00	43.50	-23.50	93	100	peak
3	344.3855	33.93	-6.49	27.44	46.00	-18.56	101	100	peak

802.11n-HT20			
Test Channel	5240MHz	Polarity:	Horizontal



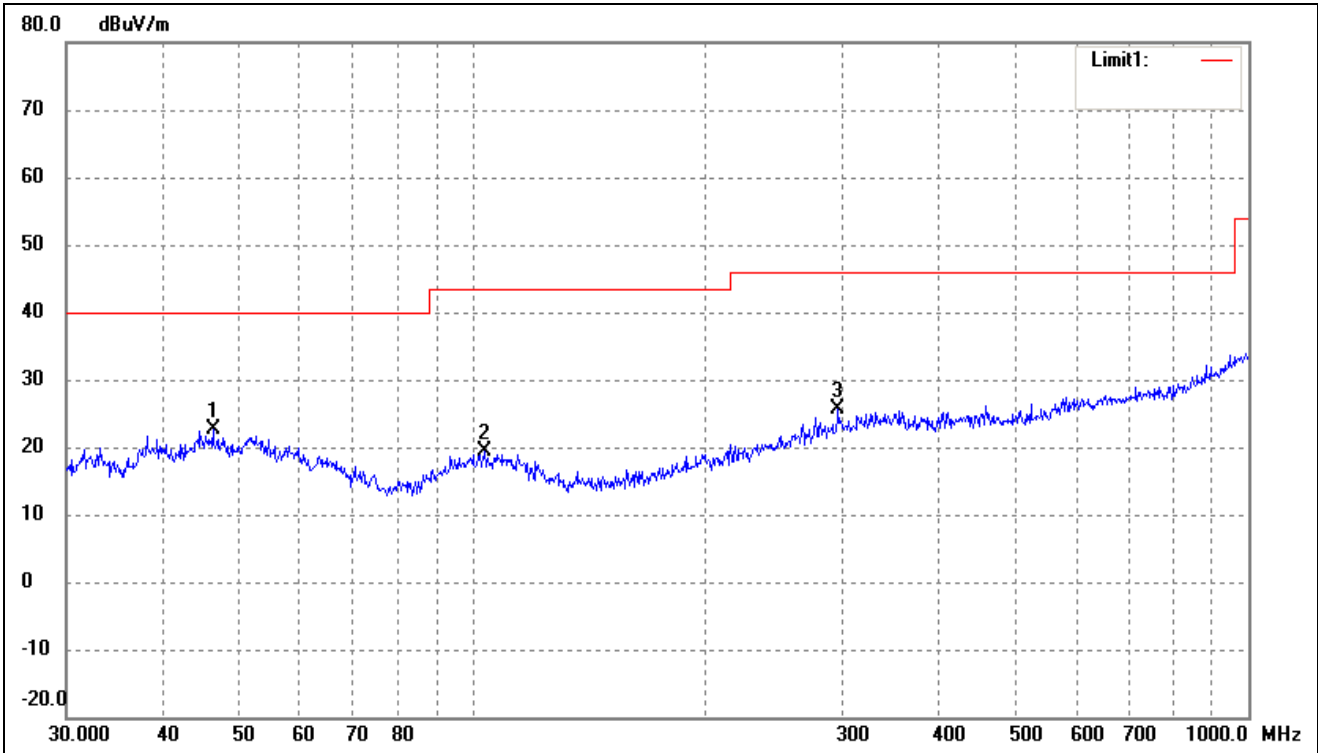
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	53.5052	33.72	-12.94	20.78	40.00	-19.22	214	100	peak
2	109.0286	32.91	-13.94	18.97	43.50	-24.53	235	100	peak
3	314.3765	32.49	-7.16	25.33	46.00	-20.67	62	100	peak

802.11n-HT20			
Test Channel	5240MHz	Polarity:	Vertical



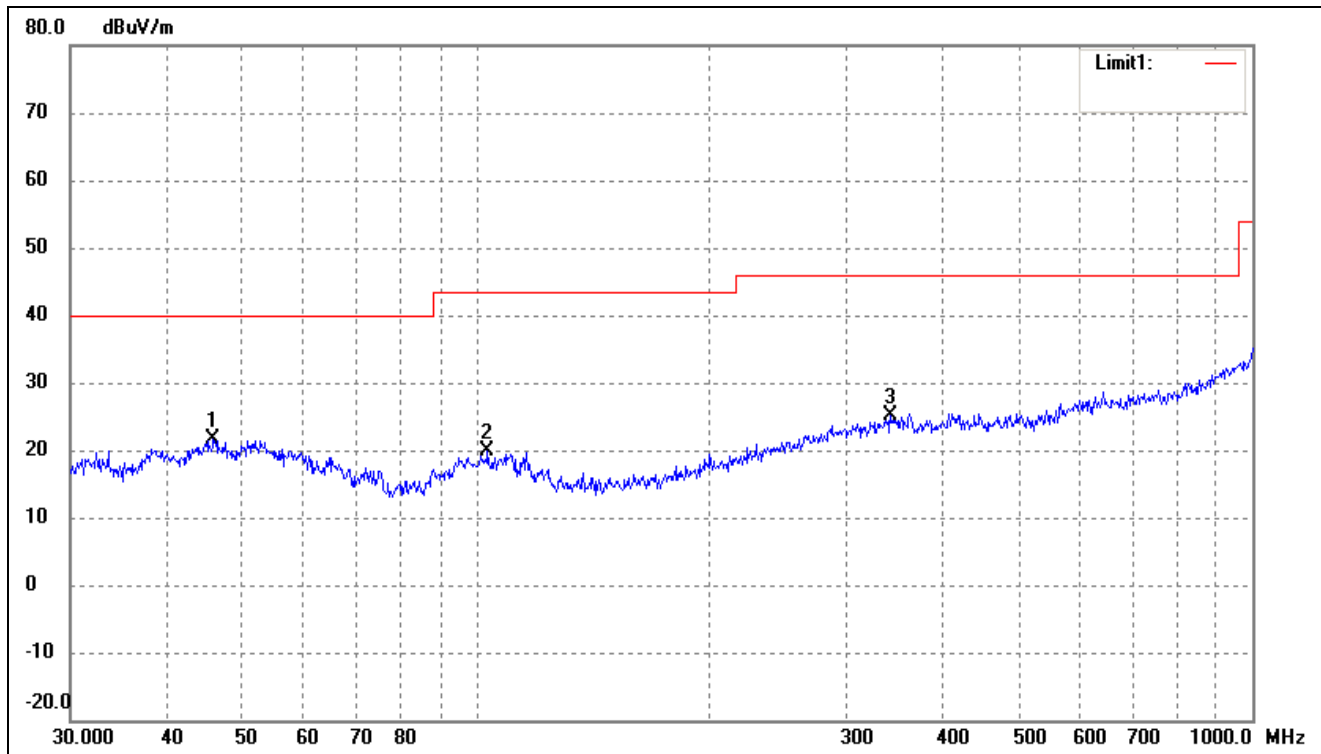
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	47.3255	34.88	-12.82	22.06	40.00	-17.94	219	100	peak
2	111.7380	34.27	-14.22	20.05	43.50	-23.45	51	100	peak
3	294.1137	33.06	-7.58	25.48	46.00	-20.52	350	100	peak

802.11n-HT40			
Test Channel	5190MHz	Polarity:	Horizontal



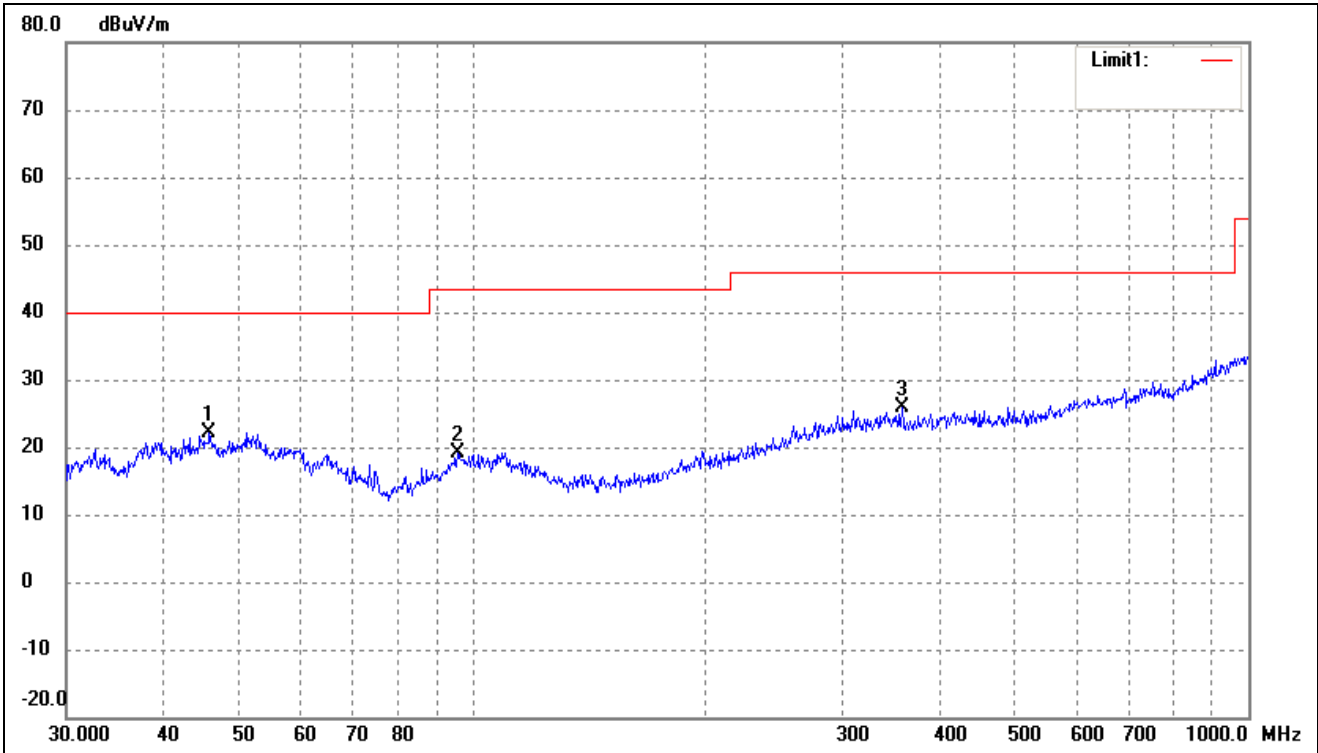
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.3402	35.39	-12.88	22.51	40.00	-17.49	51	100	peak
2	103.8055	33.43	-14.14	19.29	43.50	-24.21	132	100	peak
3	296.1836	33.04	-7.49	25.55	46.00	-20.45	105	100	peak

802.11n-HT40			
Test Channel	5190MHz	Polarity:	Vertical



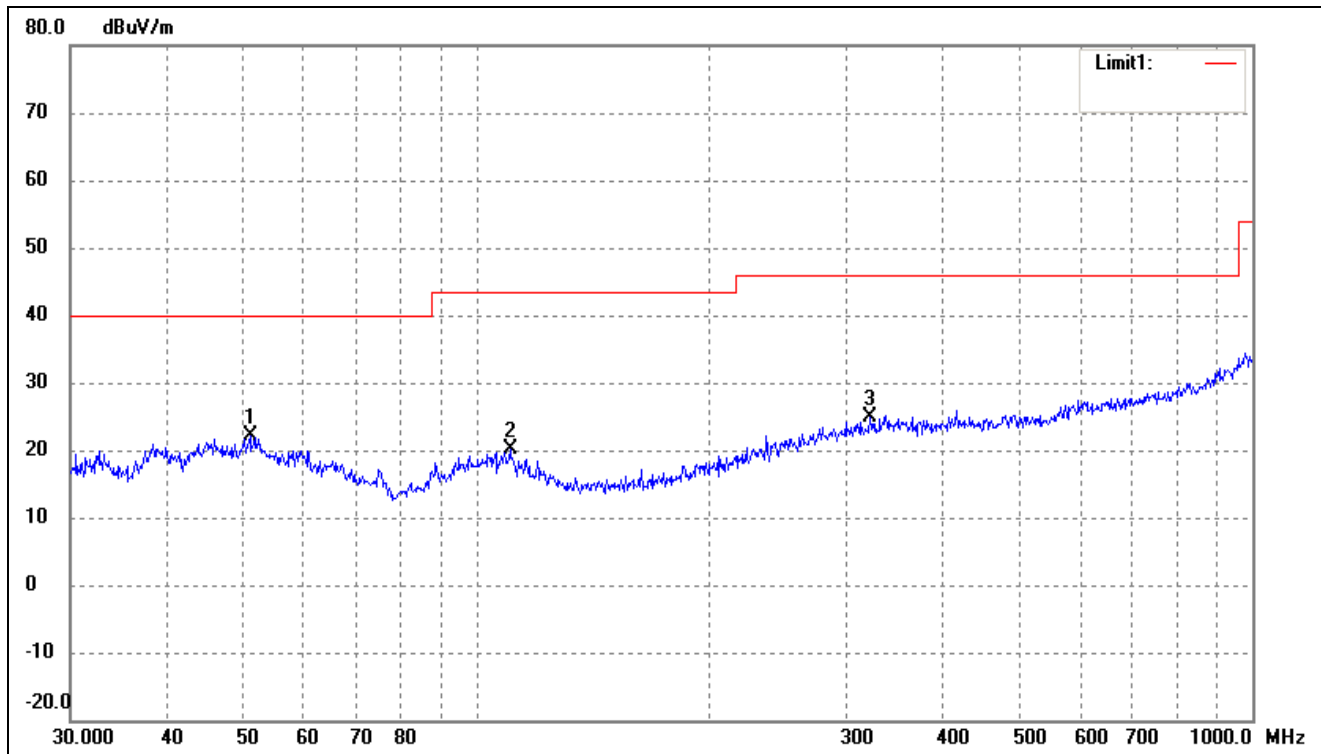
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.8553	34.55	-12.92	21.63	40.00	-18.37	115	100	peak
2	103.4421	34.05	-14.16	19.89	43.50	-23.61	91	100	peak
3	341.9786	31.66	-6.51	25.15	46.00	-20.85	87	100	peak

802.11n-HT40			
Test Channel	5230MHz	Polarity:	Horizontal



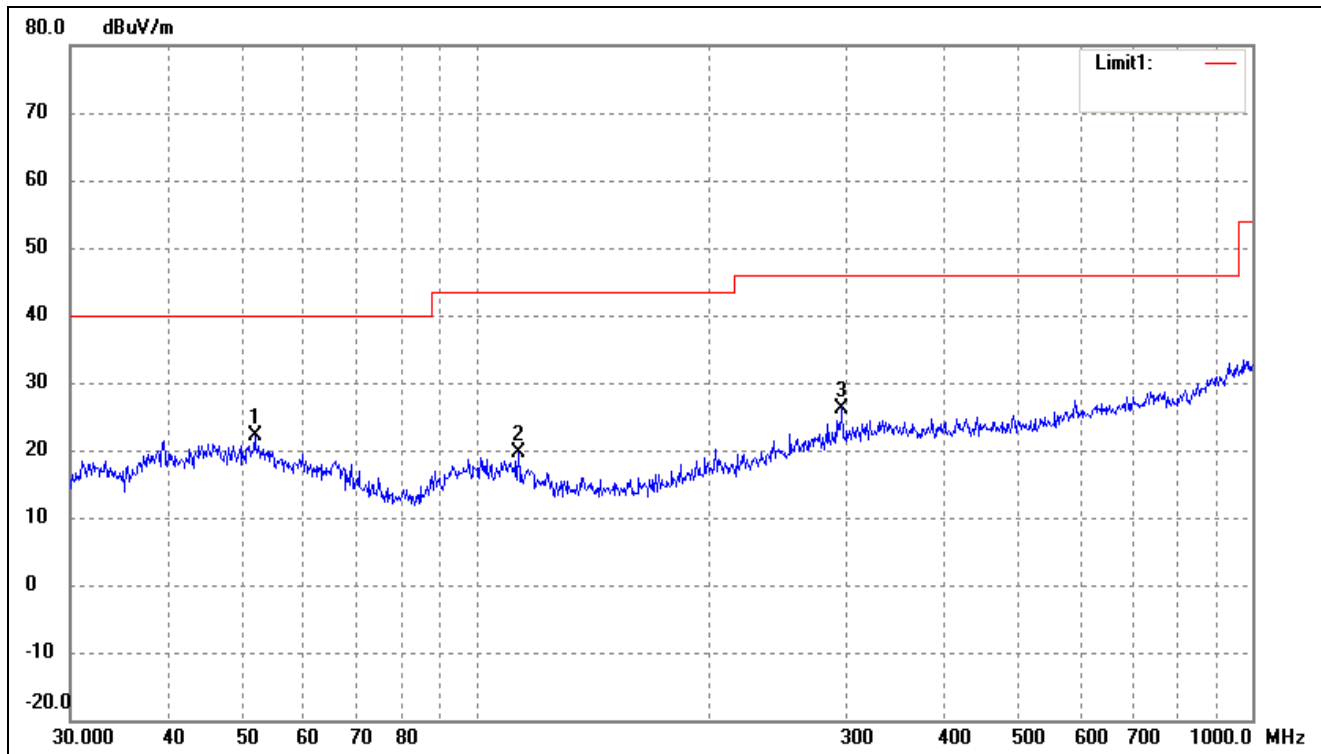
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.8553	35.03	-12.92	22.11	40.00	-17.89	93	100	peak
2	95.7622	34.17	-15.09	19.08	43.50	-24.42	211	100	peak
3	357.9287	32.52	-6.73	25.79	46.00	-20.21	113	100	peak

802.11n-HT40			
Test Channel	5230MHz	Polarity:	Vertical



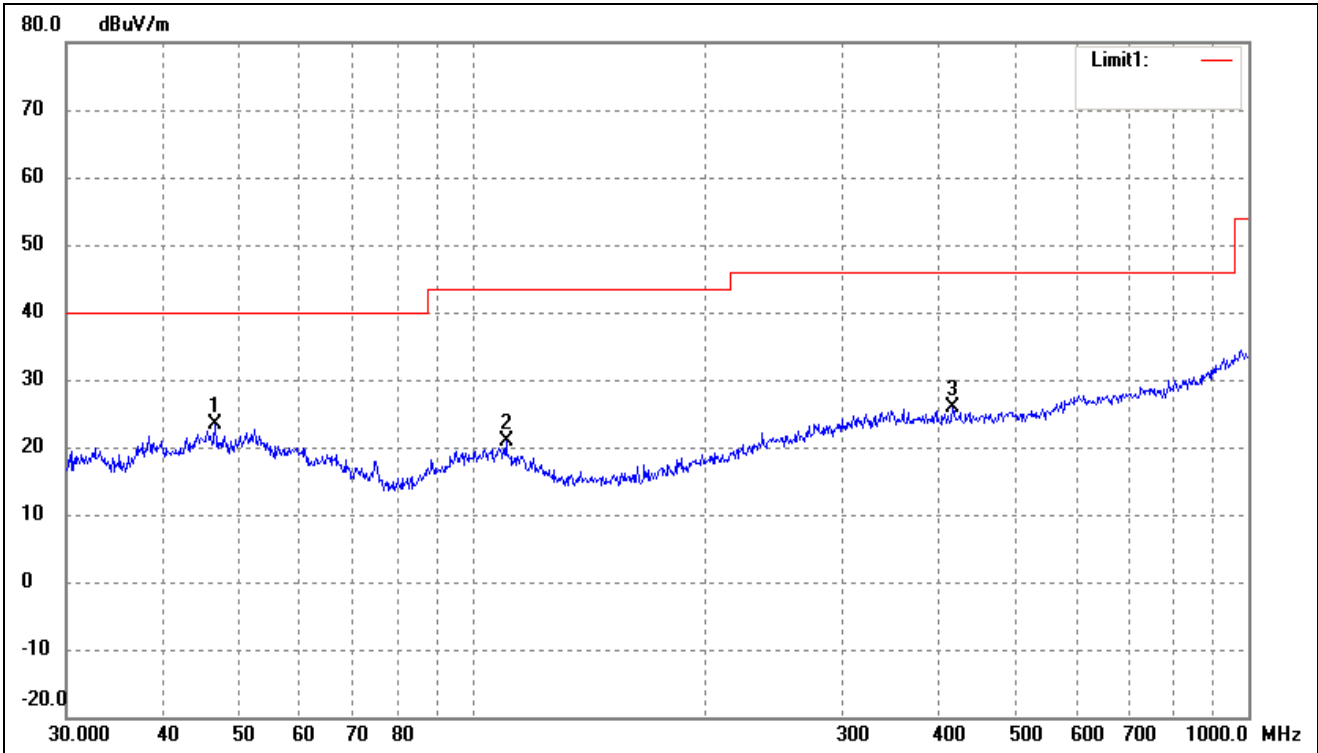
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.1209	34.98	-12.86	22.12	40.00	-17.88	94	100	peak
2	110.5687	34.15	-14.01	20.14	43.50	-23.36	115	100	peak
3	322.1886	31.88	-7.06	24.82	46.00	-21.18	102	100	peak

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	51.8430	34.90	-12.81	22.09	40.00	-17.91	51	100	peak
2	113.3163	34.11	-14.49	19.62	43.50	-23.88	132	100	peak
3	296.1836	33.74	-7.49	26.25	46.00	-19.75	105	100	peak

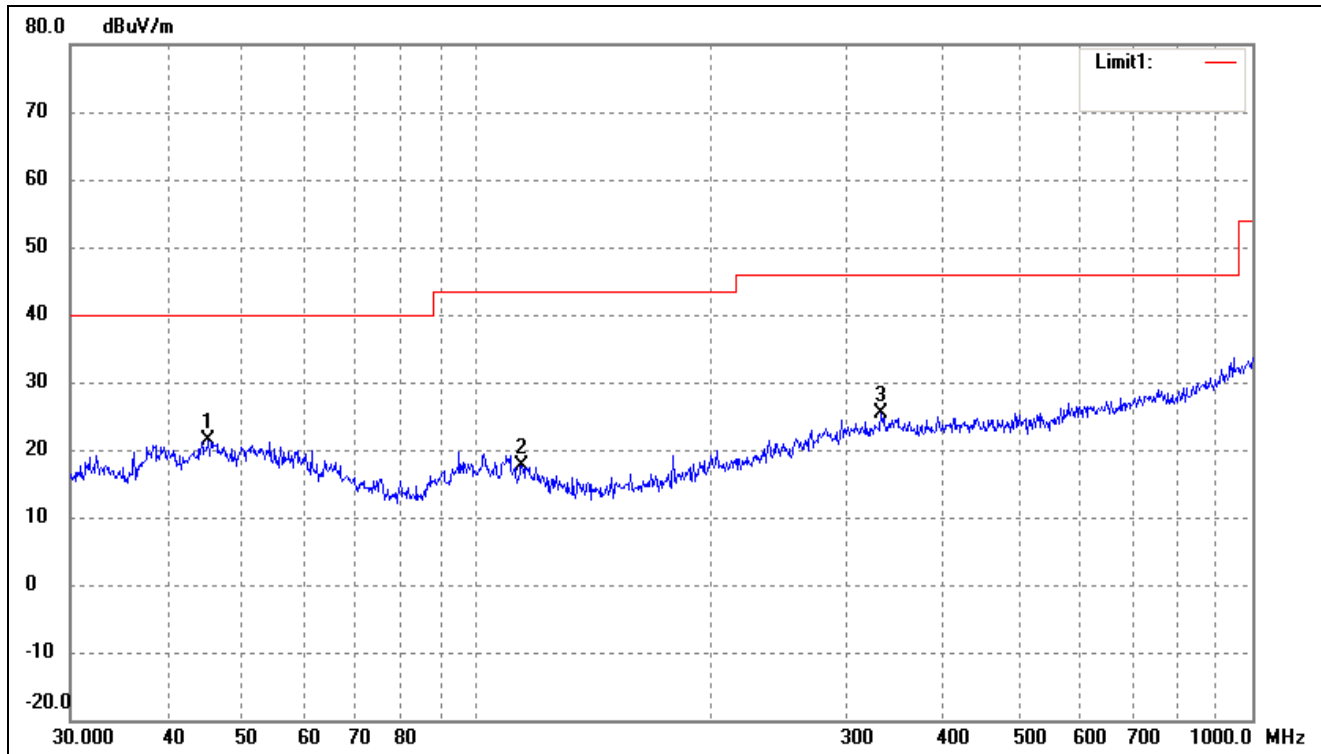
802.11ac-HT80			
Test Channel	5210MHz	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.6664	36.17	-12.87	23.30	40.00	-16.70	91	100	peak
2	110.5687	34.81	-14.01	20.80	43.50	-22.70	87	100	peak
3	416.1791	31.94	-6.16	25.78	46.00	-20.22	156	100	peak

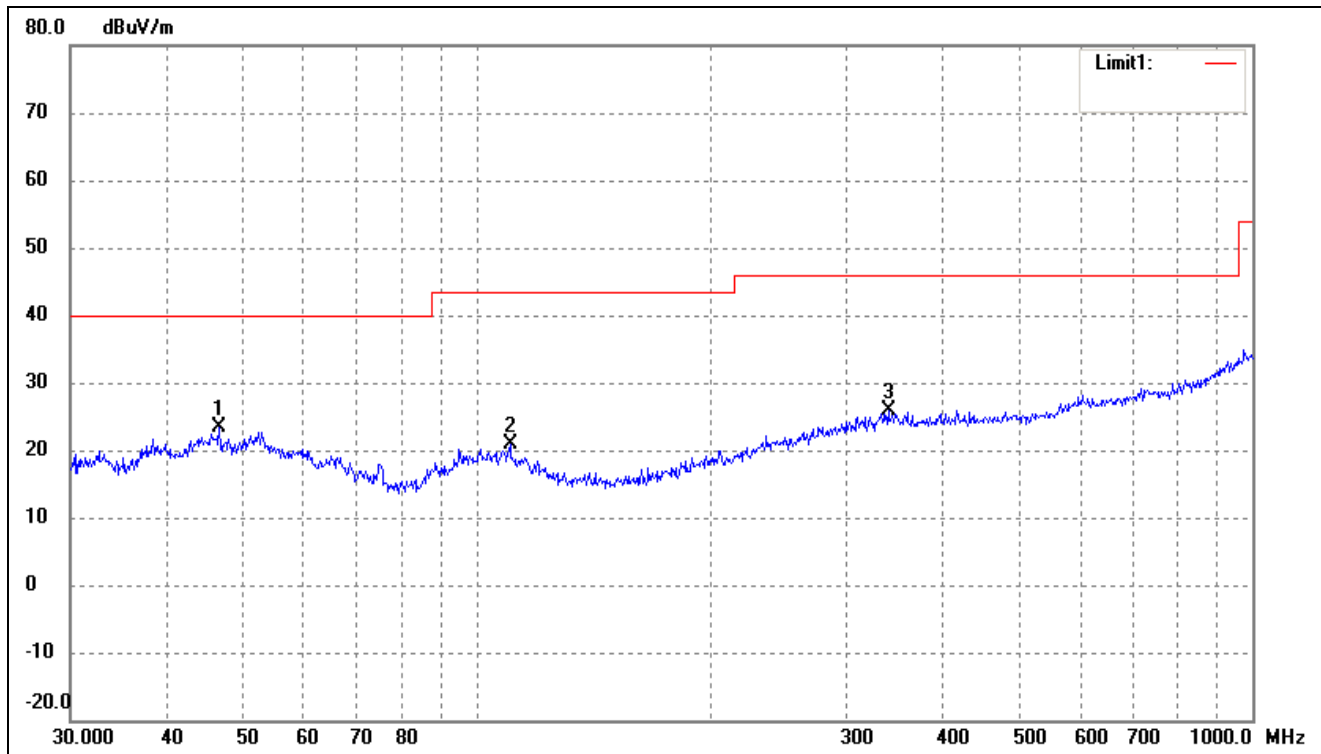
- Antenna 1
- 5725-5850MHz

802.11a			
Test Channel	5745MHz	Polarity:	Horizontal



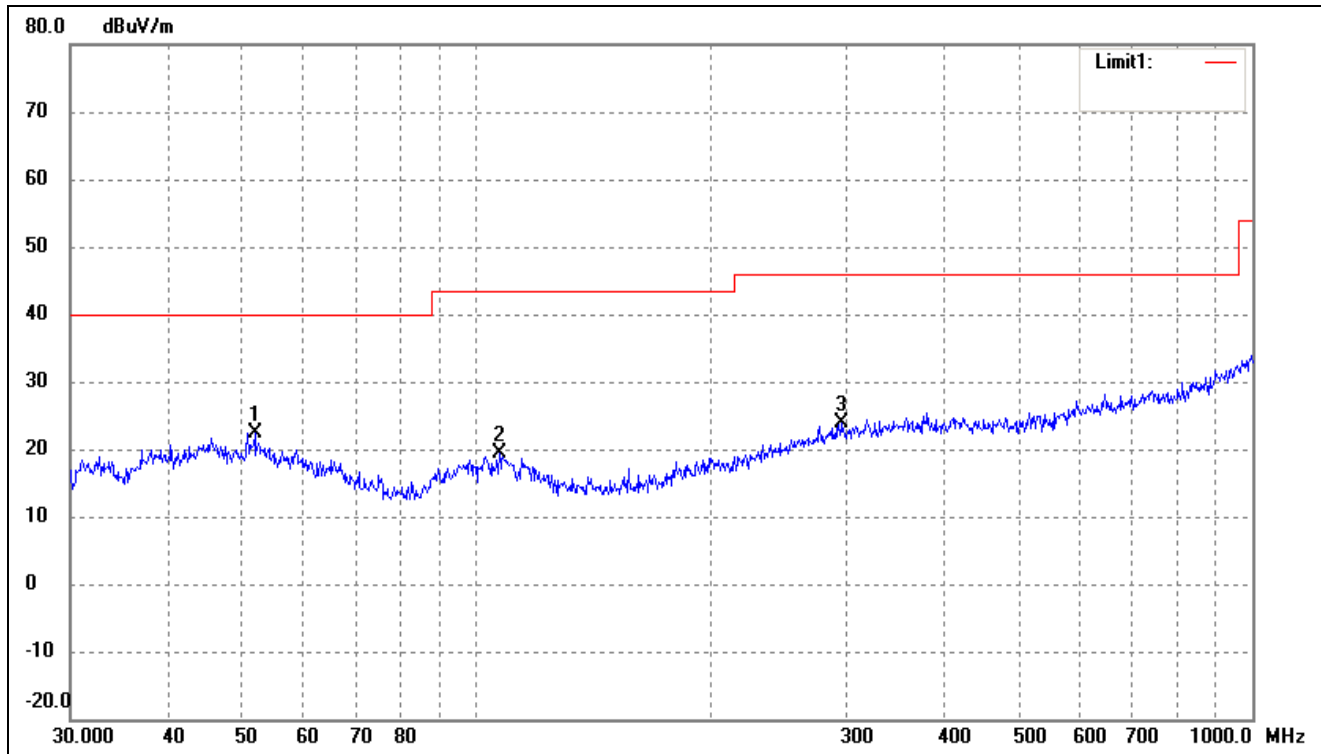
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	45.2166	34.32	-12.96	21.36	40.00	-18.64	101	100	peak
2	114.5146	32.44	-14.70	17.74	43.50	-25.76	93	100	peak
3	332.5187	32.07	-6.71	25.36	46.00	-20.64	209	100	peak

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	46.6664	36.17	-12.87	23.30	40.00	-16.70	222	100	peak
2	110.5687	34.81	-14.01	20.80	43.50	-22.70	96	100	peak
3	339.5888	32.39	-6.53	25.86	46.00	-20.14	144	100	peak

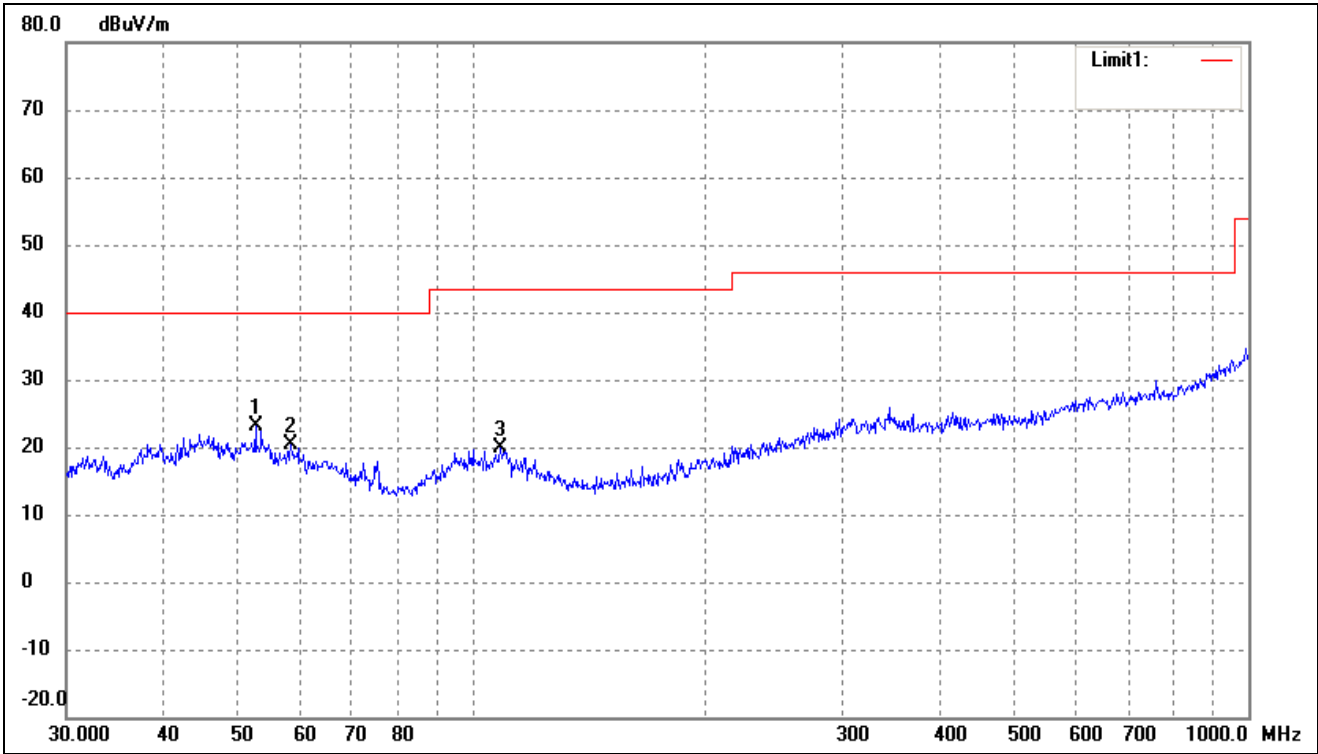
802.11a			
Test Channel	5785MHz	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.8430	35.22	-12.81	22.41	40.00	-17.59	206	100	peak
2	107.1337	33.40	-13.99	19.41	43.50	-24.09	94	100	peak
3	295.1469	31.39	-7.51	23.88	46.00	-22.12	231	100	peak

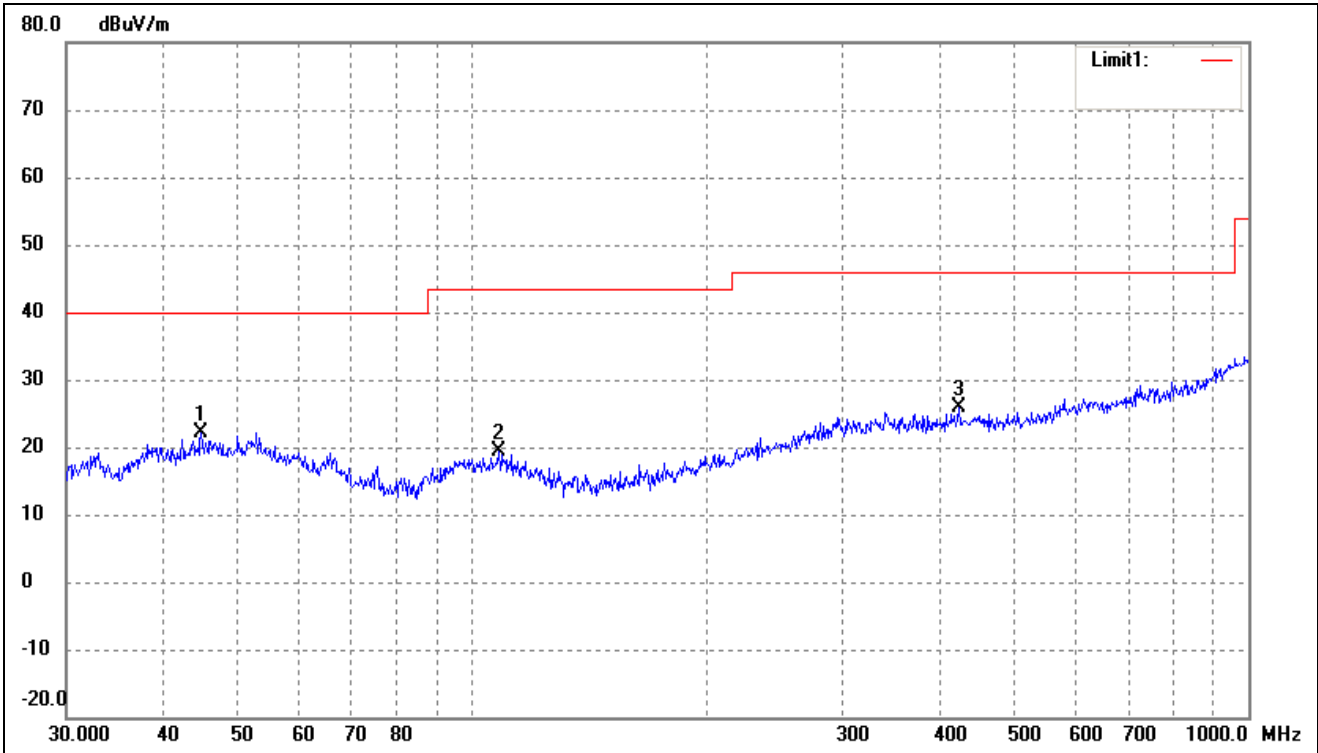
802.11a

Test Channel	5785MHz	Polarity:	Vertical
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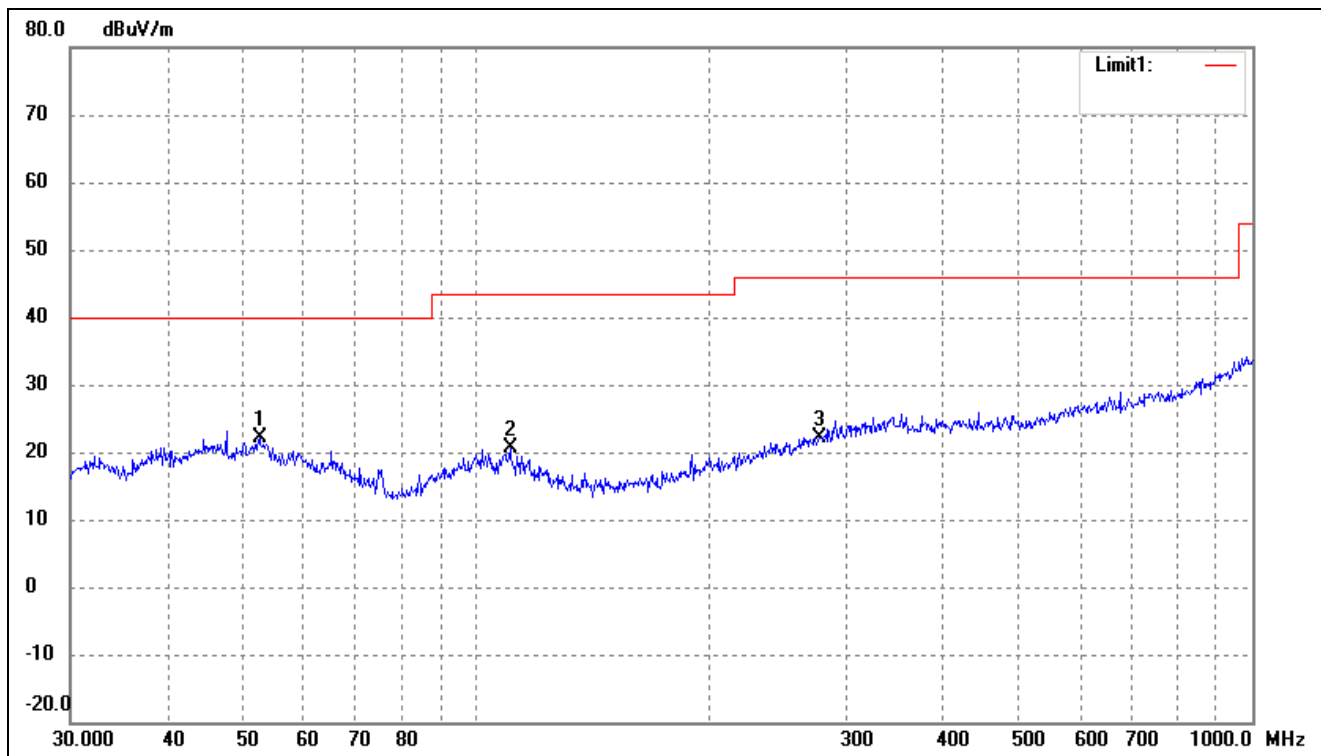
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.5753	35.94	-12.85	23.09	40.00	-16.91	250	100	peak
2	58.4074	34.63	-14.30	20.33	40.00	-19.67	261	100	peak
3	108.6470	33.72	-13.95	19.77	43.50	-23.73	94	100	peak

802.11a			
Test Channel	5825MHz	Polarity:	Horizontal



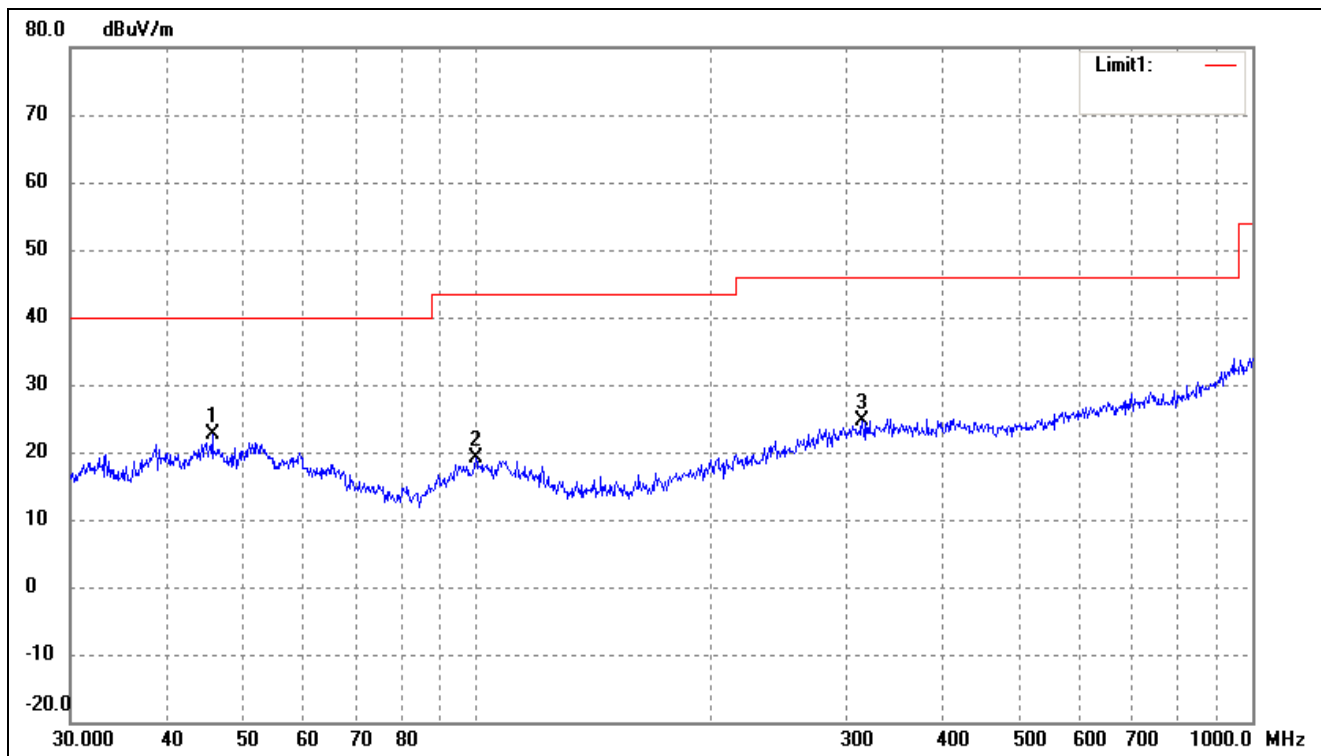
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.7433	35.08	-12.99	22.09	40.00	-17.91	83	100	peak
2	108.2667	33.36	-13.96	19.40	43.50	-24.10	314	100	peak
3	423.5403	32.15	-6.19	25.96	46.00	-20.04	96	100	peak

802.11a			
Test Channel	5825MHz	Polarity:	Vertical



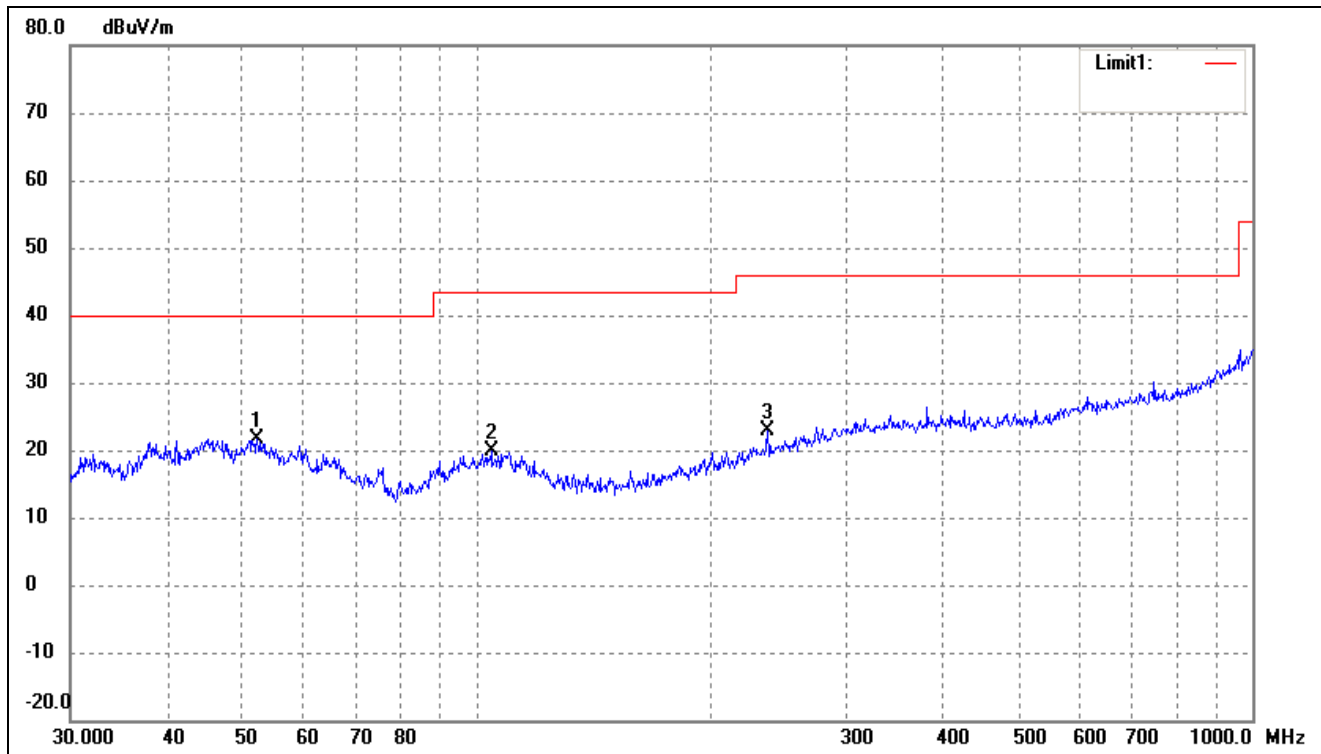
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.5753	35.03	-12.85	22.18	40.00	-17.82	96	100	peak
2	110.5687	34.70	-14.01	20.69	43.50	-22.81	132	100	peak
3	277.0935	30.57	-8.43	22.14	46.00	-23.86	146	100	peak

802.11n-HT20			
Test Channel	5745MHz	Polarity:	Horizontal



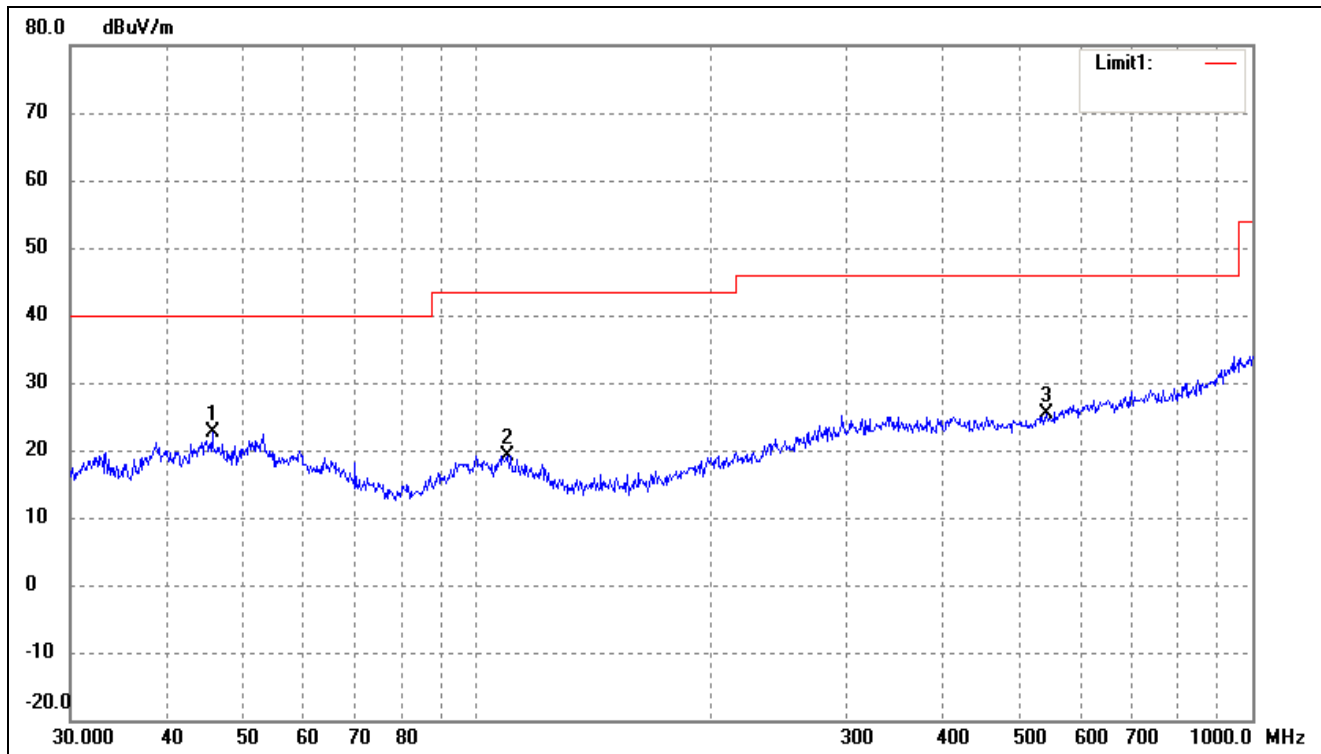
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.6948	35.55	-12.93	22.62	40.00	-17.38	133	100	peak
2	99.8777	33.59	-14.48	19.11	43.50	-24.39	51	100	peak
3	314.3765	31.87	-7.16	24.71	46.00	-21.29	99	100	peak

802.11n-HT20			
Test Channel	5745MHz	Polarity:	Vertical



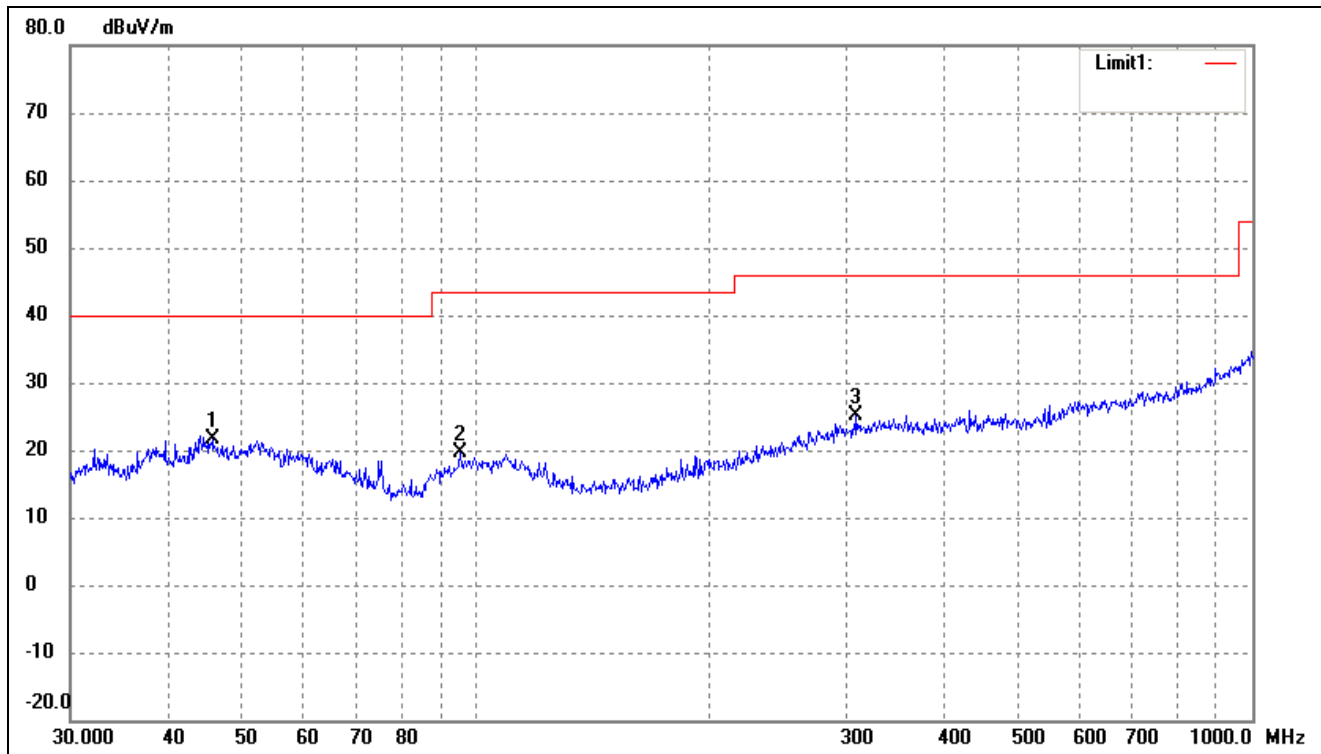
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.2079	34.52	-12.82	21.70	40.00	-18.30	338	100	peak
2	104.5361	33.97	-14.08	19.89	43.50	-23.61	92	100	peak
3	237.4760	33.22	-10.30	22.92	46.00	-23.08	313	100	peak

802.11n-HT20			
Test Channel	5785MHz	Polarity:	Horizontal



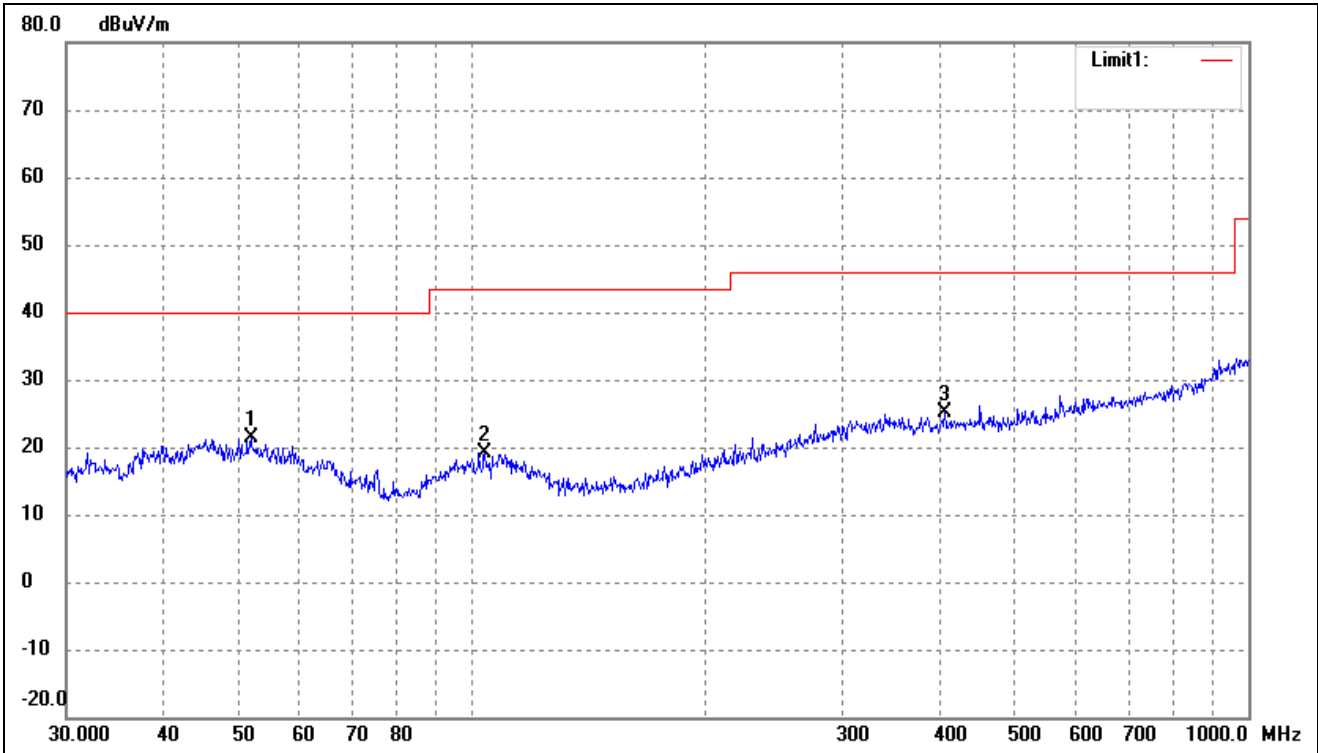
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.6948	35.55	-12.93	22.62	40.00	-17.38	302	100	peak
2	109.7960	33.14	-13.92	19.22	43.50	-24.28	95	100	peak
3	543.2742	30.86	-5.43	25.43	46.00	-20.57	117	100	peak

802.11n-HT20			
Test Channel	5785MHz	Polarity:	Vertical



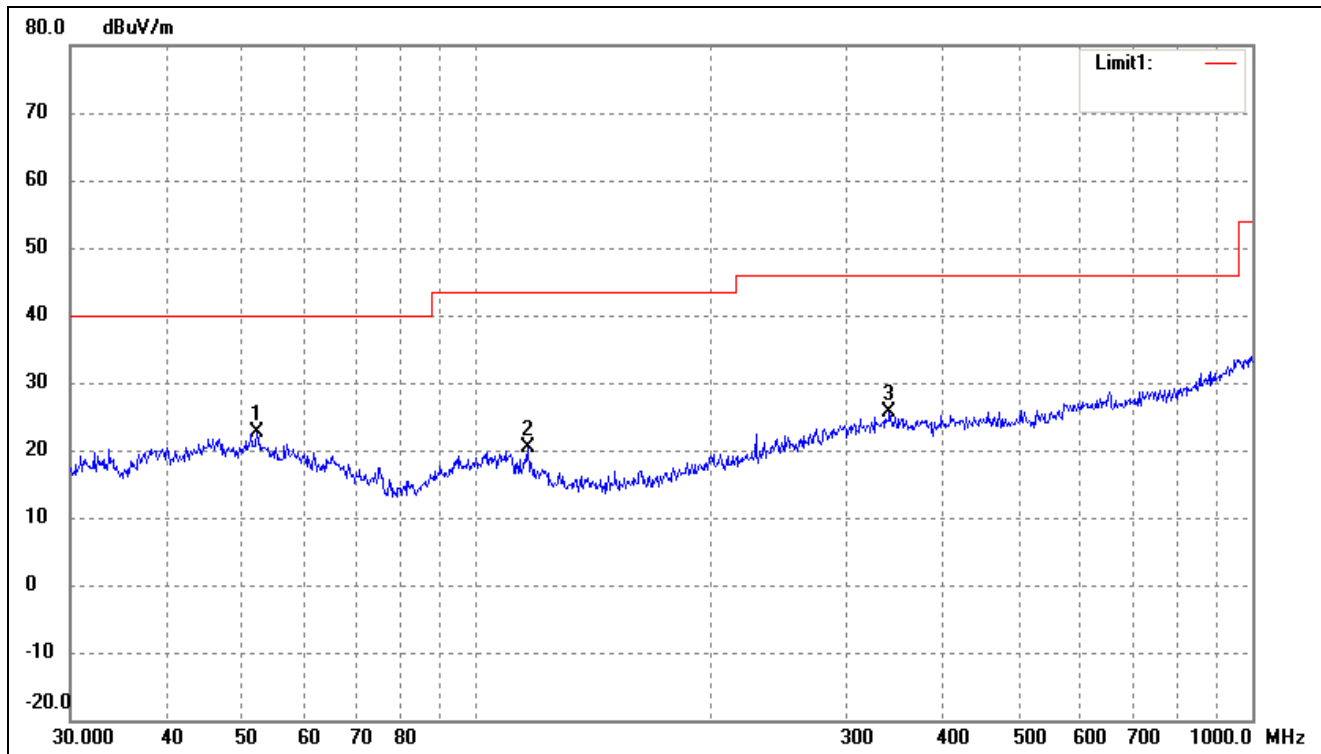
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.6948	34.63	-12.93	21.70	40.00	-18.30	313	100	peak
2	95.4270	34.79	-15.14	19.65	43.50	-23.85	119	100	peak
3	308.9126	32.42	-7.21	25.21	46.00	-20.79	119	100	peak

802.11n-HT20			
Test Channel	5825MHz	Polarity:	Horizontal



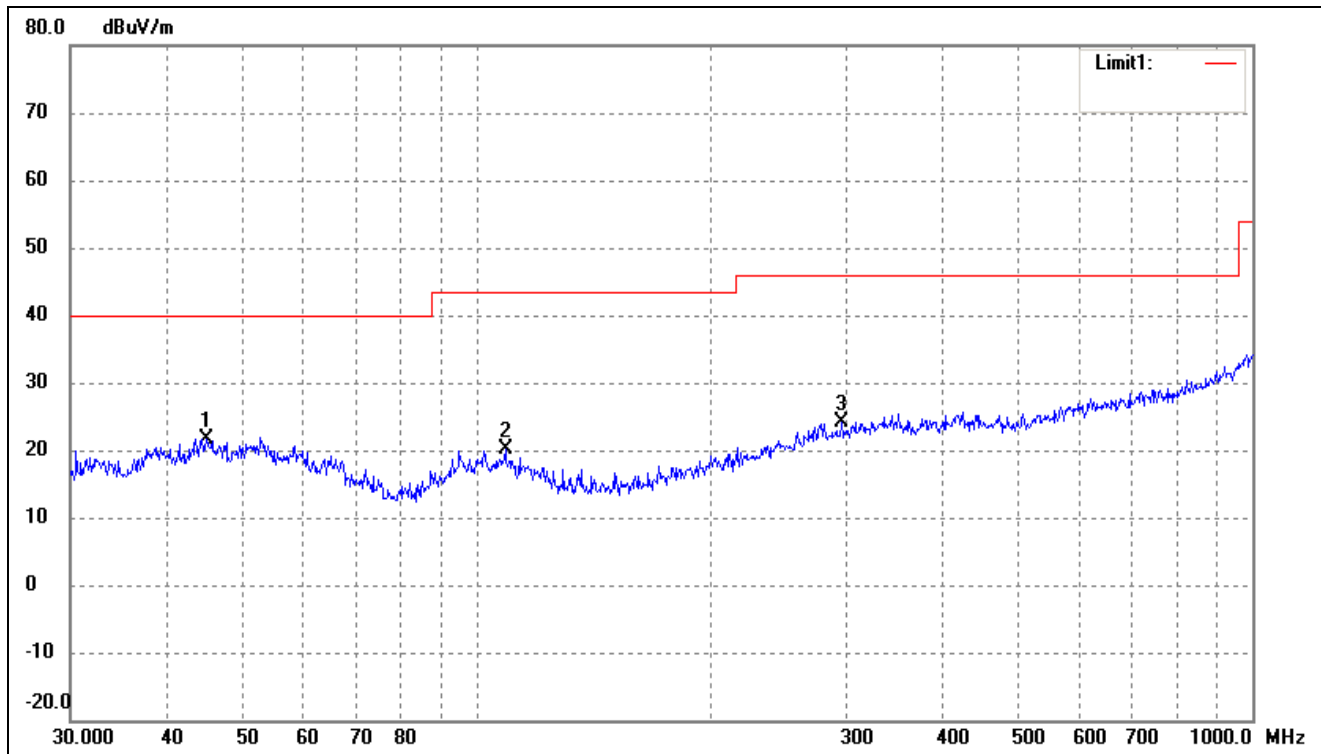
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.8430	34.07	-12.81	21.26	40.00	-18.74	117	100	peak
2	103.8055	33.38	-14.14	19.24	43.50	-24.26	103	100	peak
3	406.0880	31.43	-6.34	25.09	46.00	-20.91	74	100	peak

802.11n-HT20			
Test Channel	5825MHz	Polarity:	Vertical



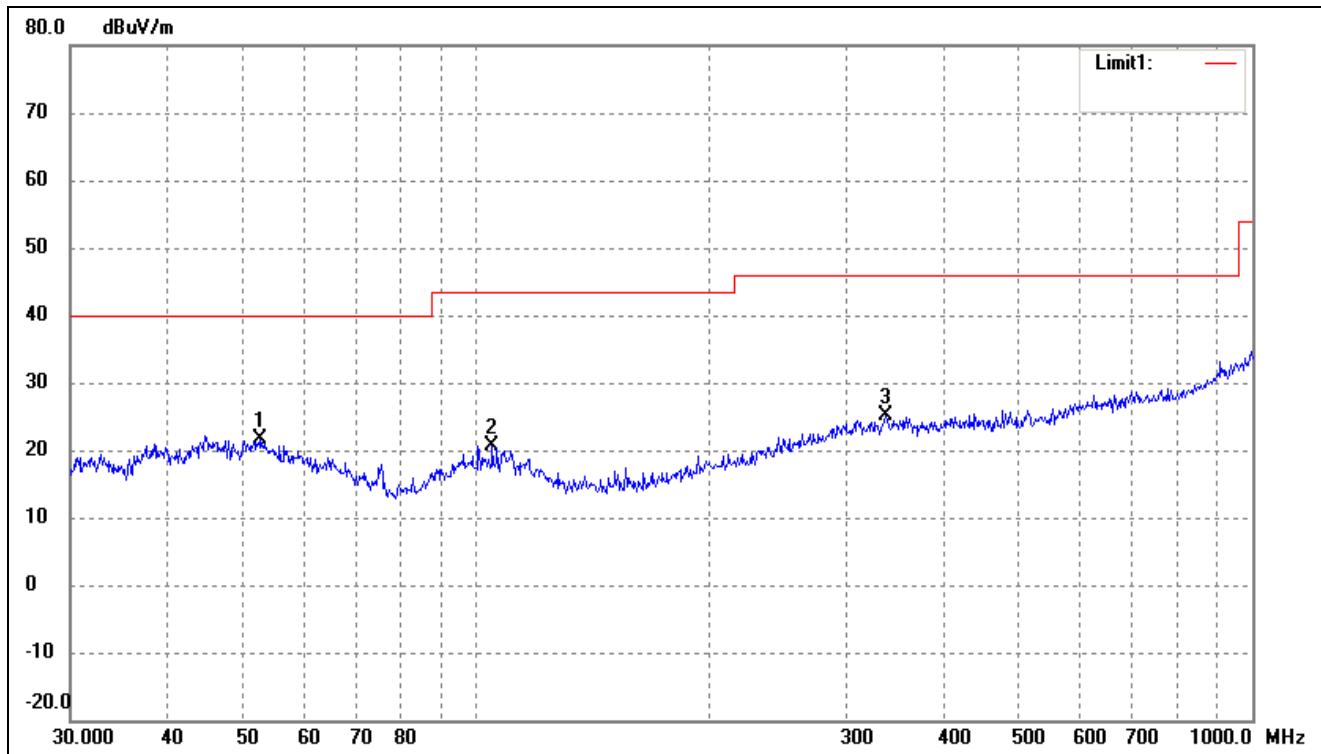
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.2079	35.37	-12.82	22.55	40.00	-17.45	296	100	peak
2	116.5401	35.42	-15.00	20.42	43.50	-23.08	86	100	peak
3	340.7817	32.20	-6.51	25.69	46.00	-20.31	262	100	peak

802.11n-HT40			
Test Channel	5755MHz	Polarity:	Horizontal



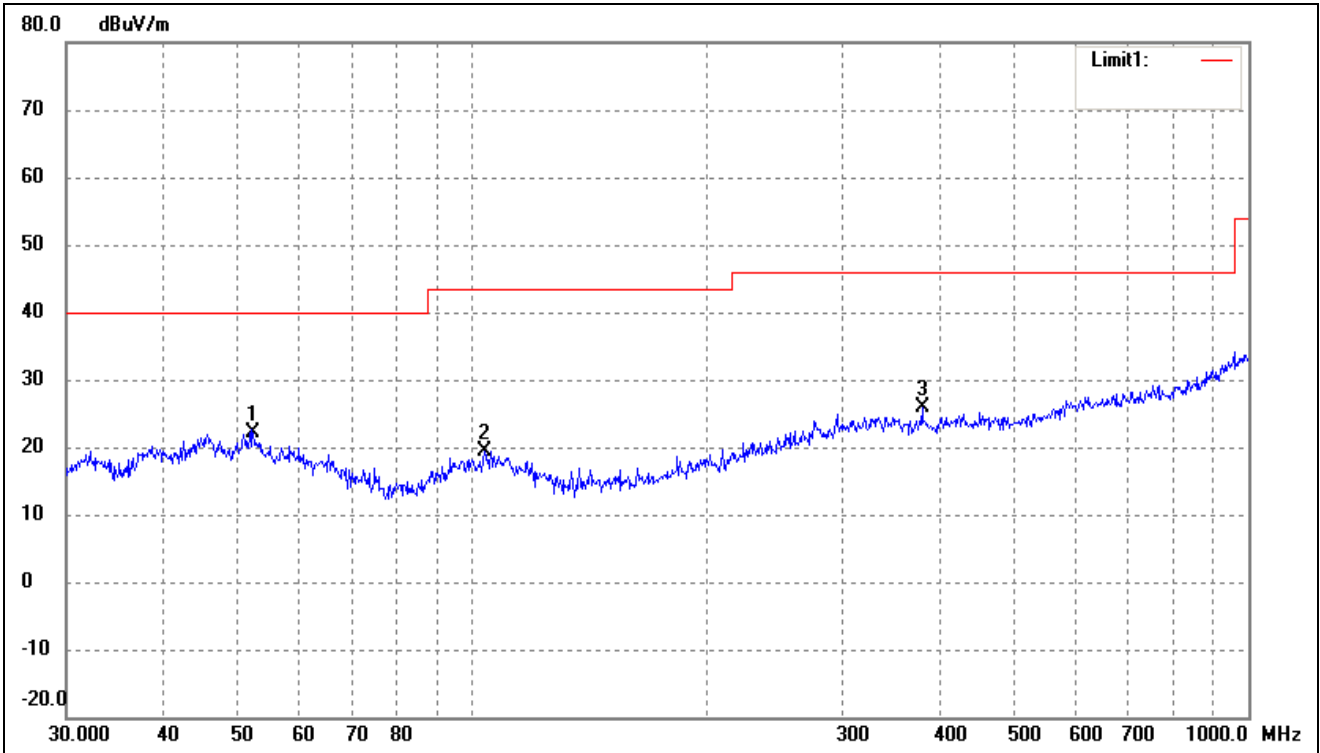
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.9006	34.72	-12.99	21.73	40.00	-18.27	341	100	peak
2	109.0286	34.02	-13.94	20.08	43.50	-23.42	144	100	peak
3	296.1836	31.64	-7.49	24.15	46.00	-21.85	60	100	peak

802.11n-HT40			
Test Channel	5755MHz	Polarity:	Vertical



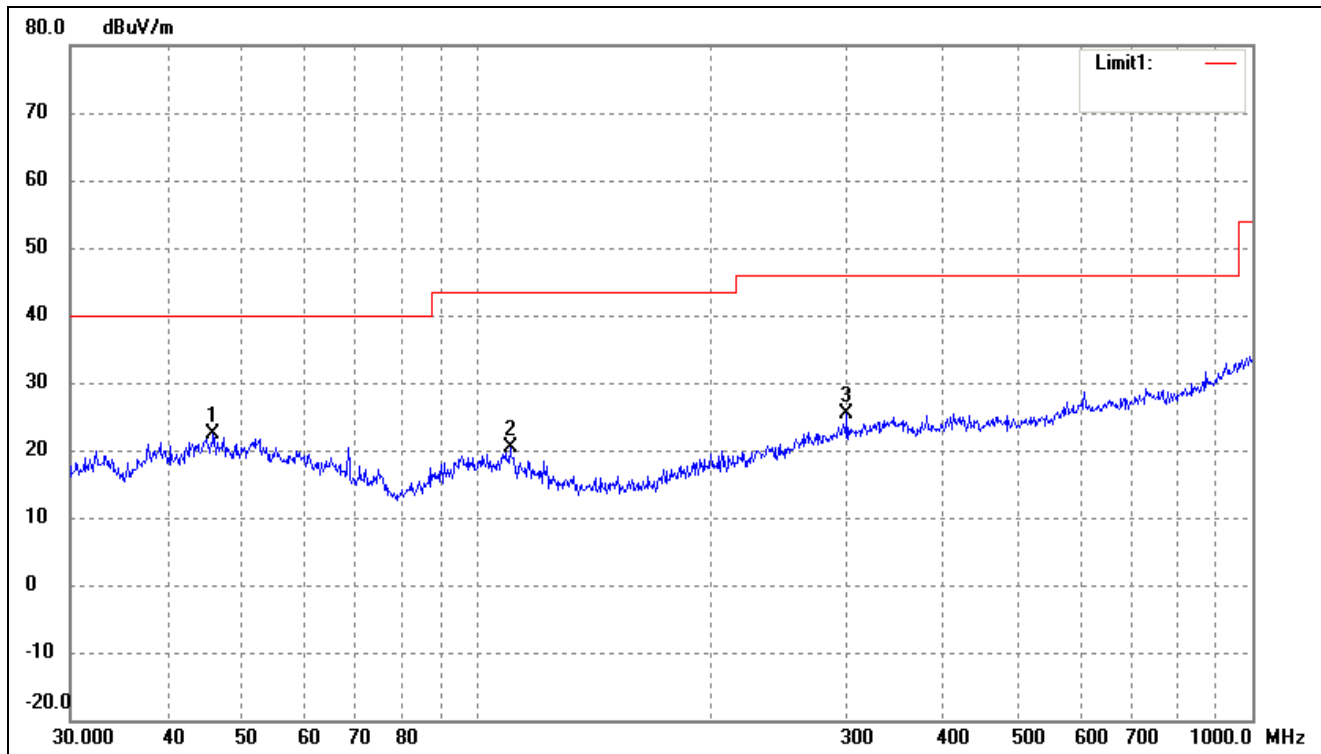
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.7600	34.42	-12.87	21.55	40.00	-18.45	301	100	peak
2	104.9033	34.62	-14.05	20.57	43.50	-22.93	296	100	peak
3	337.2155	31.79	-6.59	25.20	46.00	-20.80	86	100	peak

802.11n-HT40			
Test Channel	5795MHz	Polarity:	Horizontal



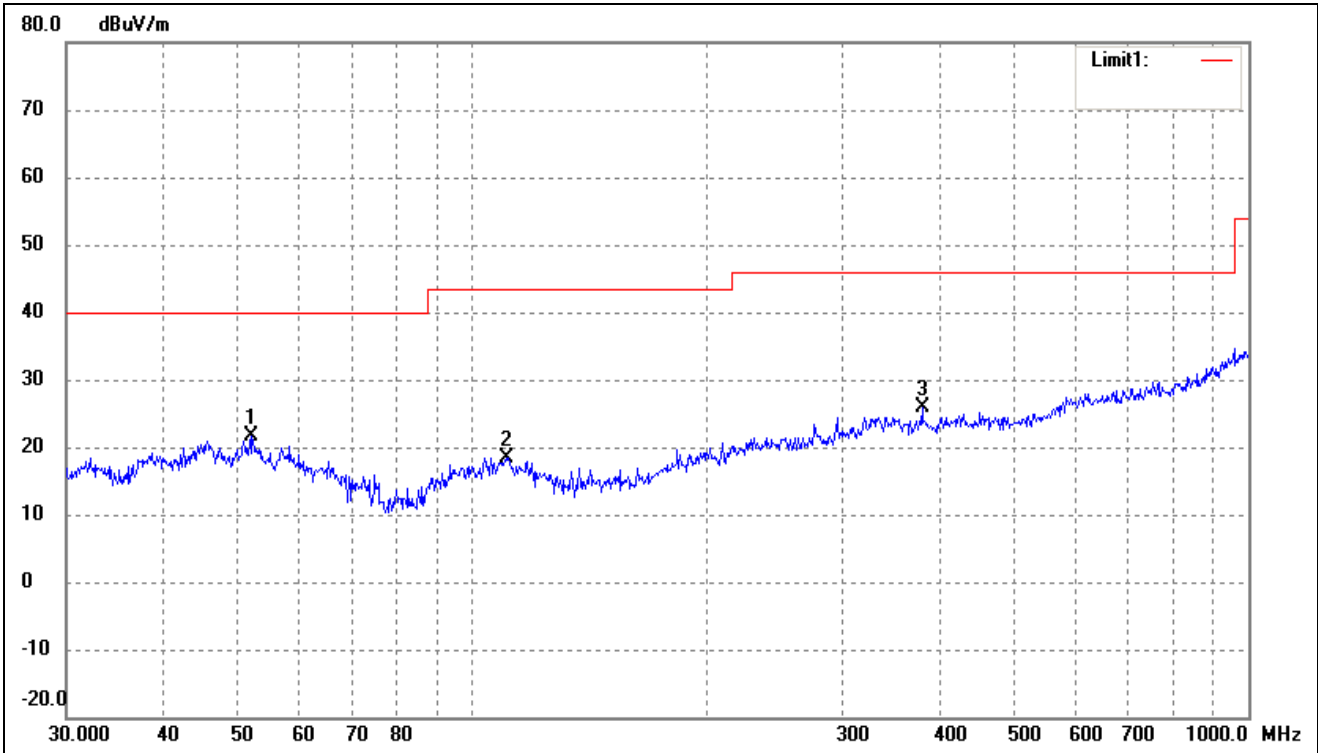
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.2079	34.91	-12.82	22.09	40.00	-17.91	167	100	peak
2	103.8055	33.46	-14.14	19.32	43.50	-24.18	122	100	peak
3	379.9141	32.40	-6.59	25.81	46.00	-20.19	90	100	peak

802.11n-HT40			
Test Channel	5795MHz	Polarity:	Vertical



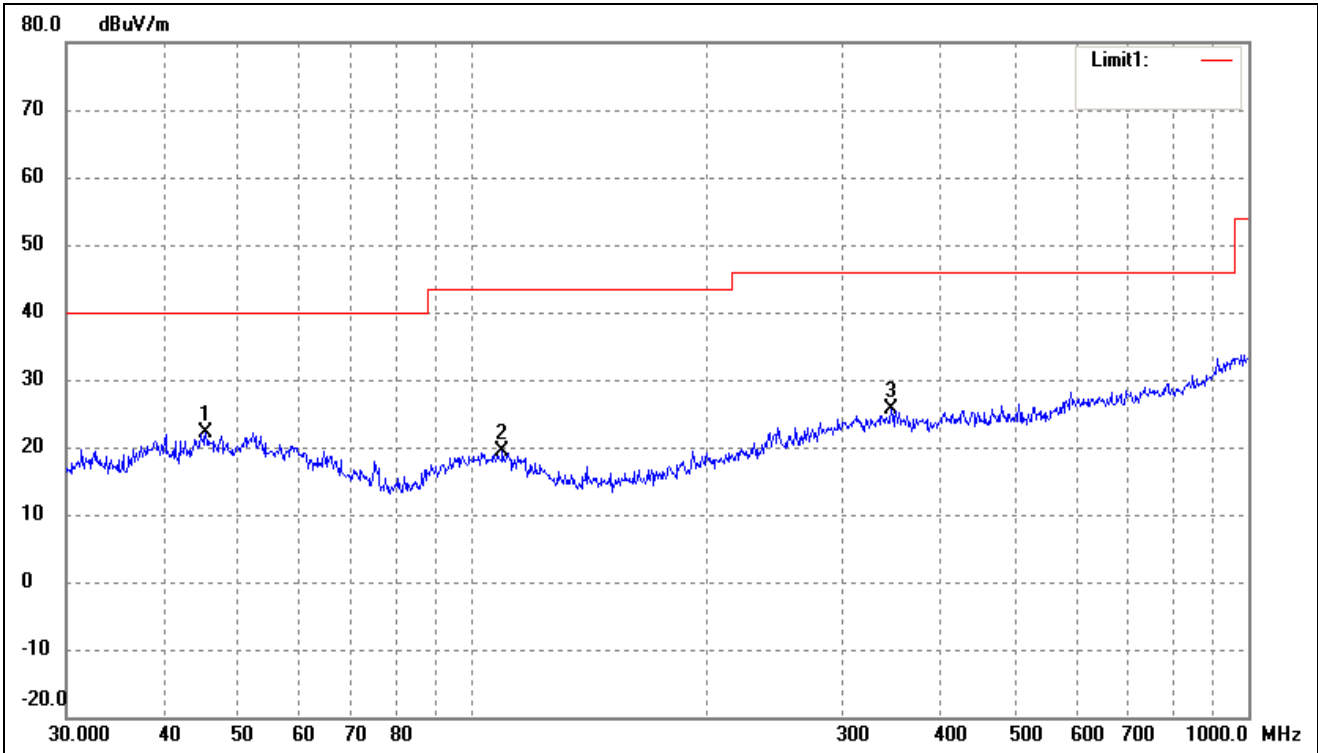
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.8553	35.22	-12.92	22.30	40.00	-17.70	75	100	peak
2	110.5687	34.31	-14.01	20.30	43.50	-23.20	177	100	peak
3	300.3672	32.87	-7.44	25.43	46.00	-20.57	80	100	peak

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	51.8430	34.44	-12.81	21.63	40.00	-18.37	308	100	peak
2	110.9569	32.49	-14.08	18.41	43.50	-25.09	127	100	peak
3	379.9141	32.40	-6.59	25.81	46.00	-20.19	51	100	peak

802.11ac-HT80			
Test Channel	5775MHz	Polarity:	Vertical

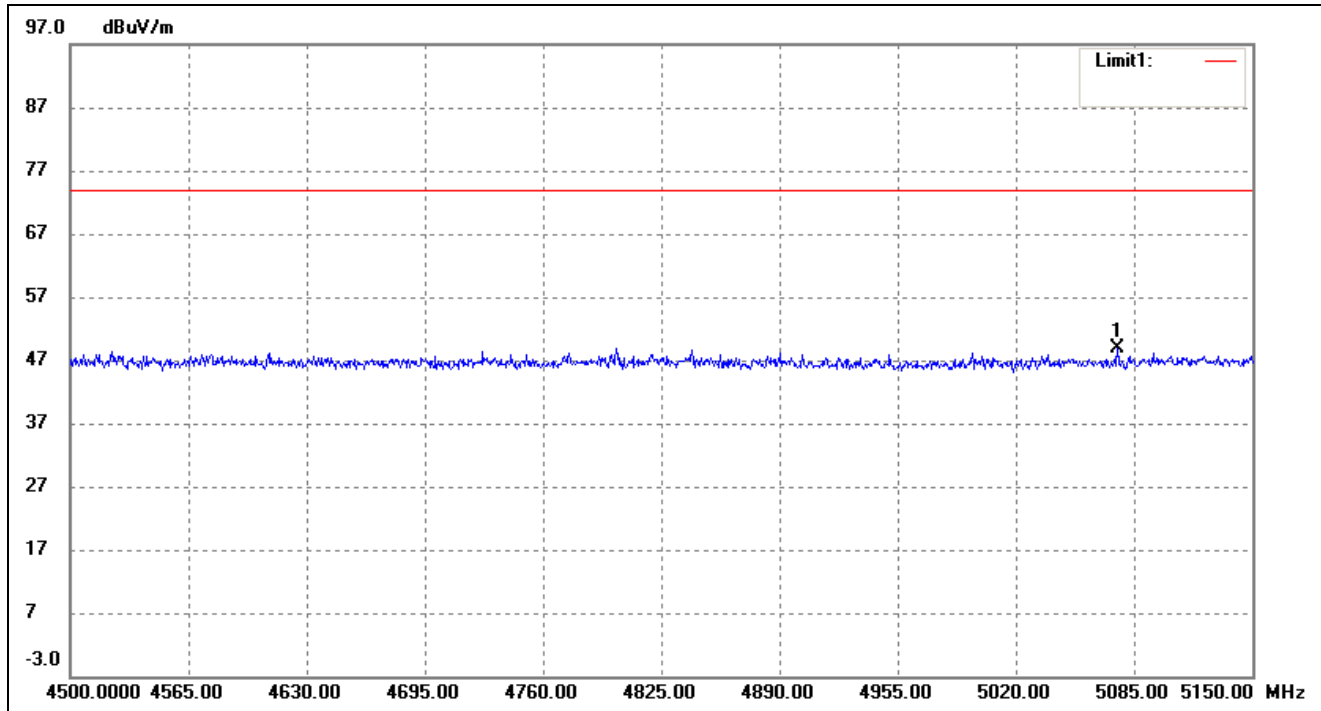


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.3755	35.04	-12.95	22.09	40.00	-17.91	291	100	peak
2	109.4116	33.22	-13.93	19.29	43.50	-24.21	90	100	peak
3	346.8092	32.12	-6.49	25.63	46.00	-20.37	93	100	peak

➤ Spurious Emission above 1GHz

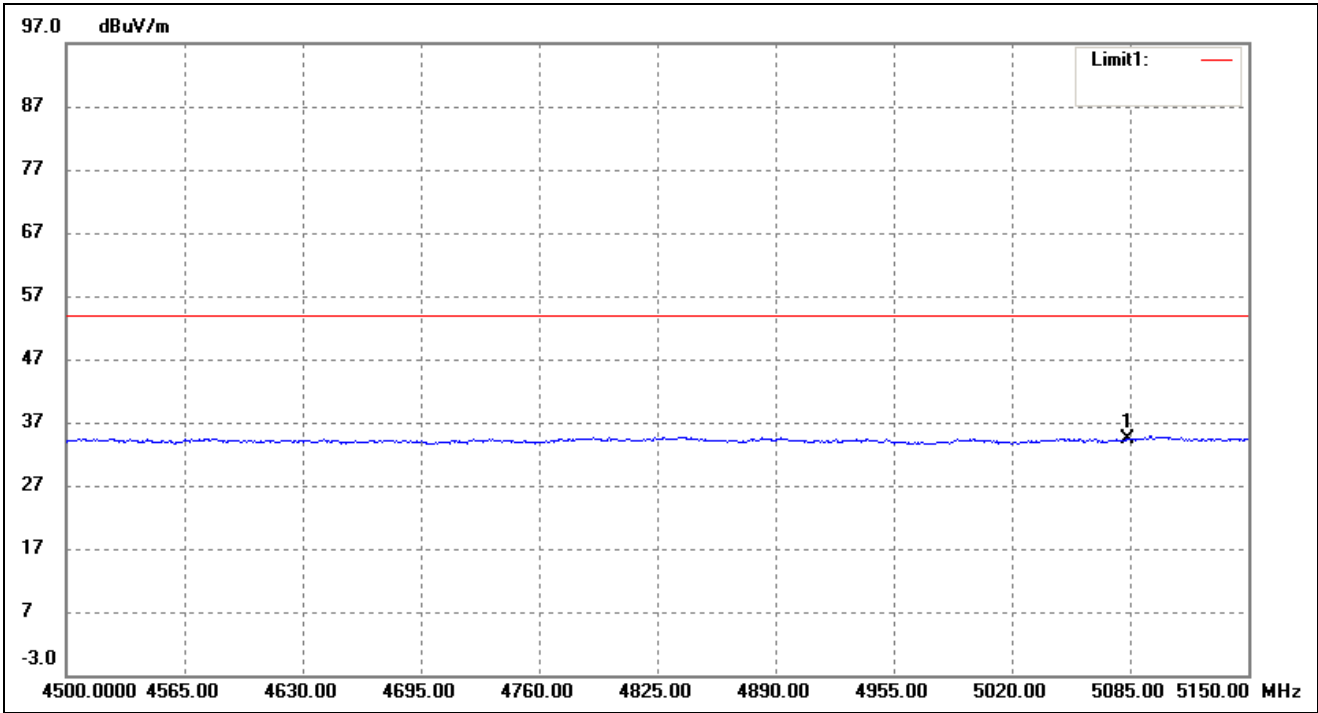
➤ Antenna 0:

802.11a- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Peak



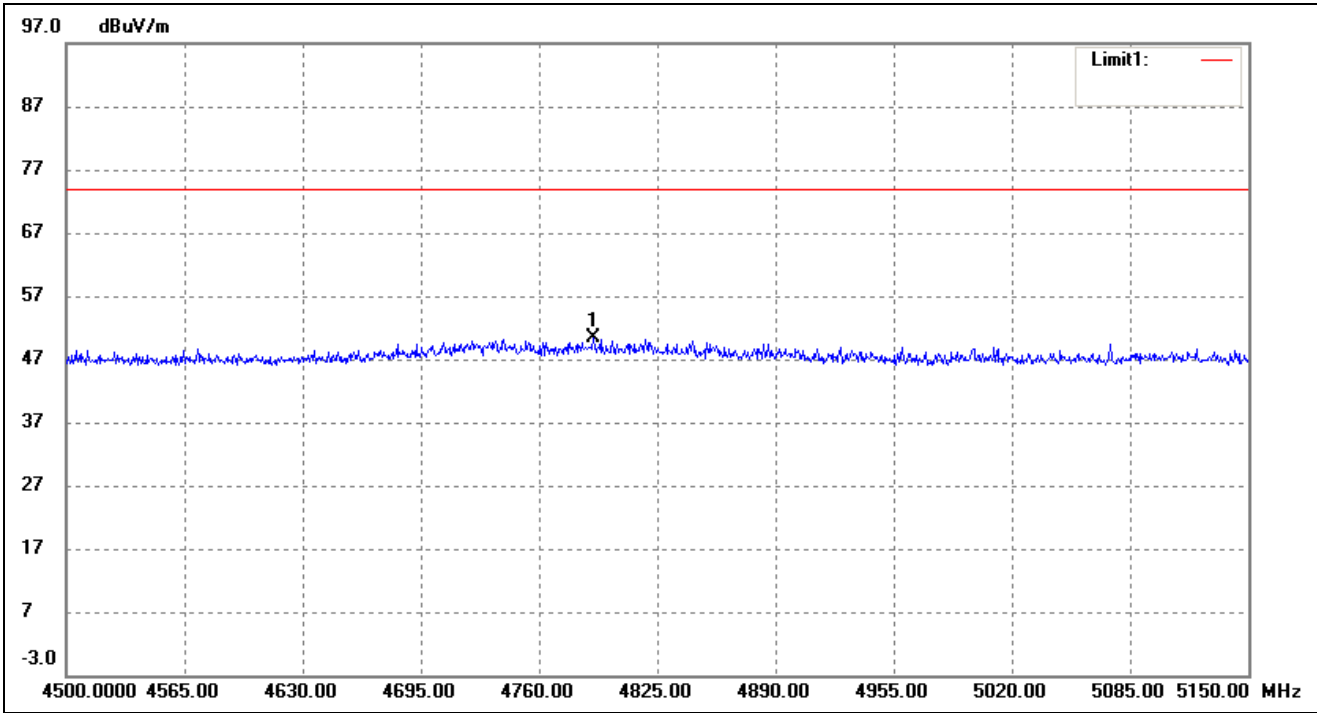
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5075.900	51.93	-3.17	48.76	74.00	-25.24	211	100	peak

802.11a- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Average



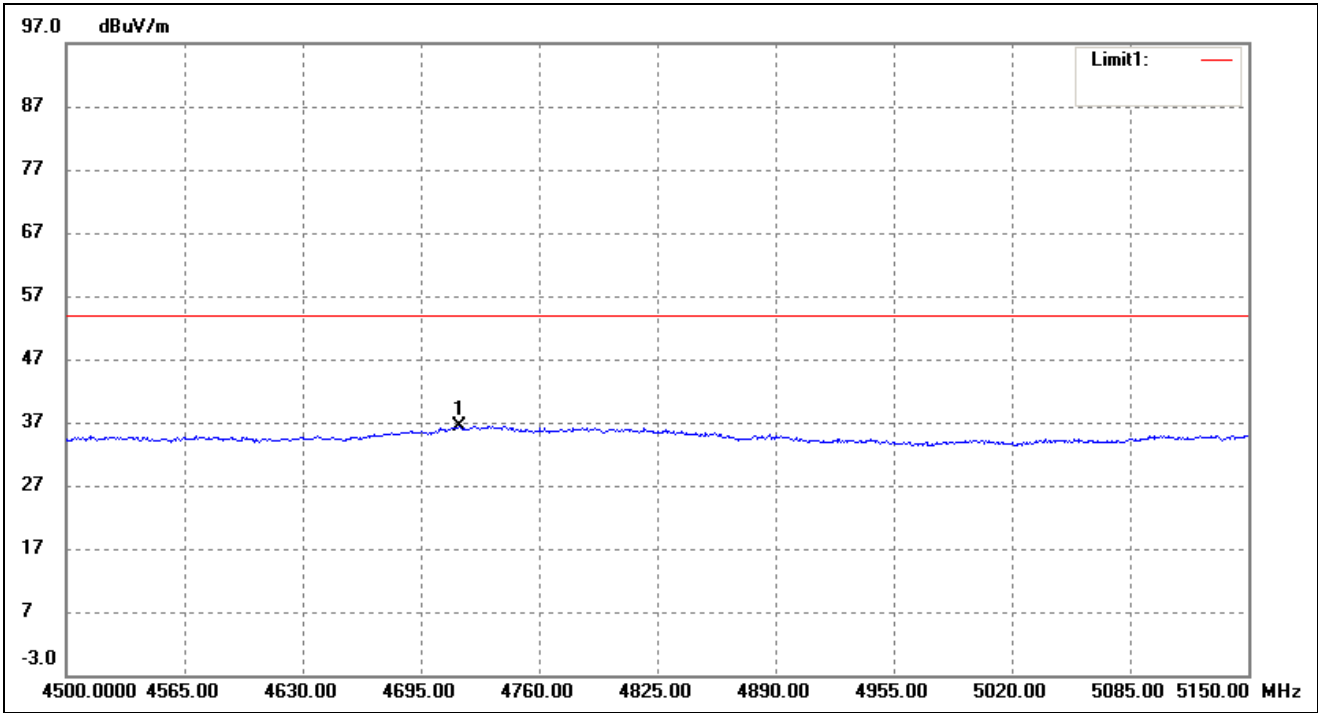
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5083.700	37.56	-3.16	34.40	54.00	-19.60	110	100	peak

802.11n-HT20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Peak



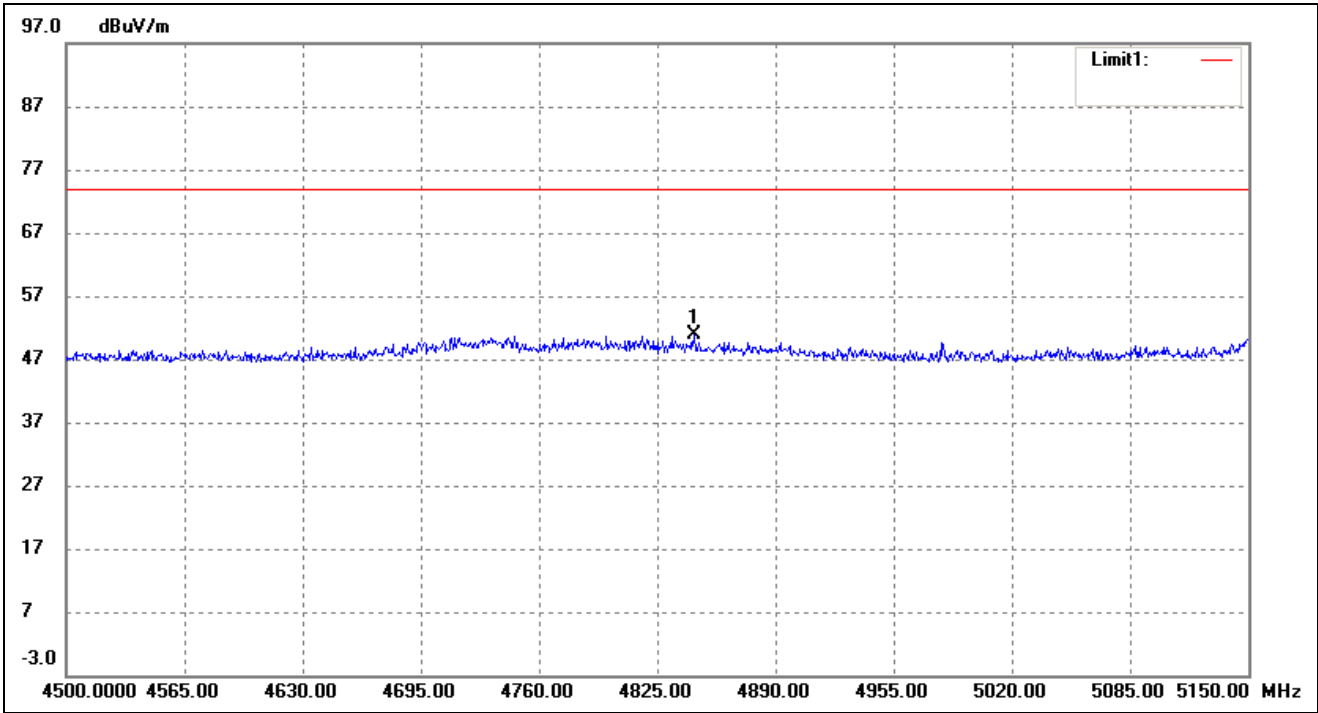
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4789.900	53.89	-3.54	50.35	74.00	-23.65	178	100	peak

802.11n-HT20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Average



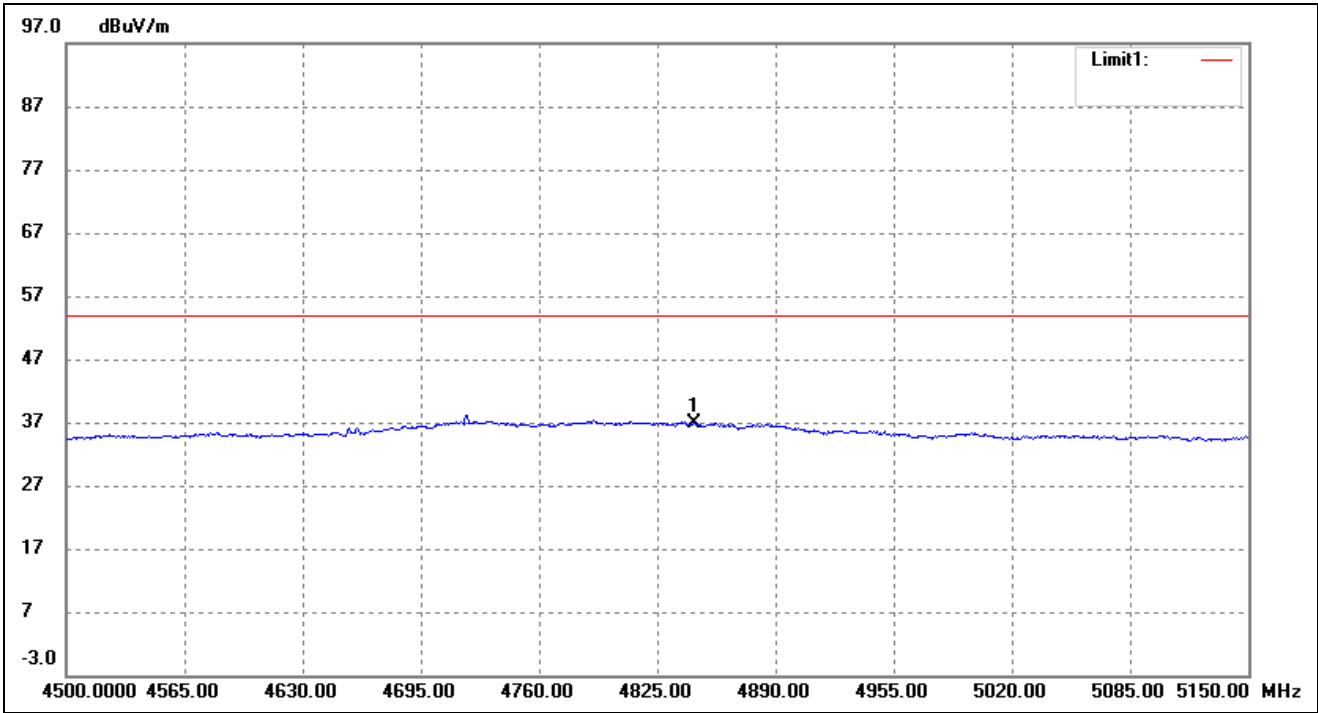
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4716.450	40.01	-3.60	36.41	54.00	-17.59	75	100	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Peak



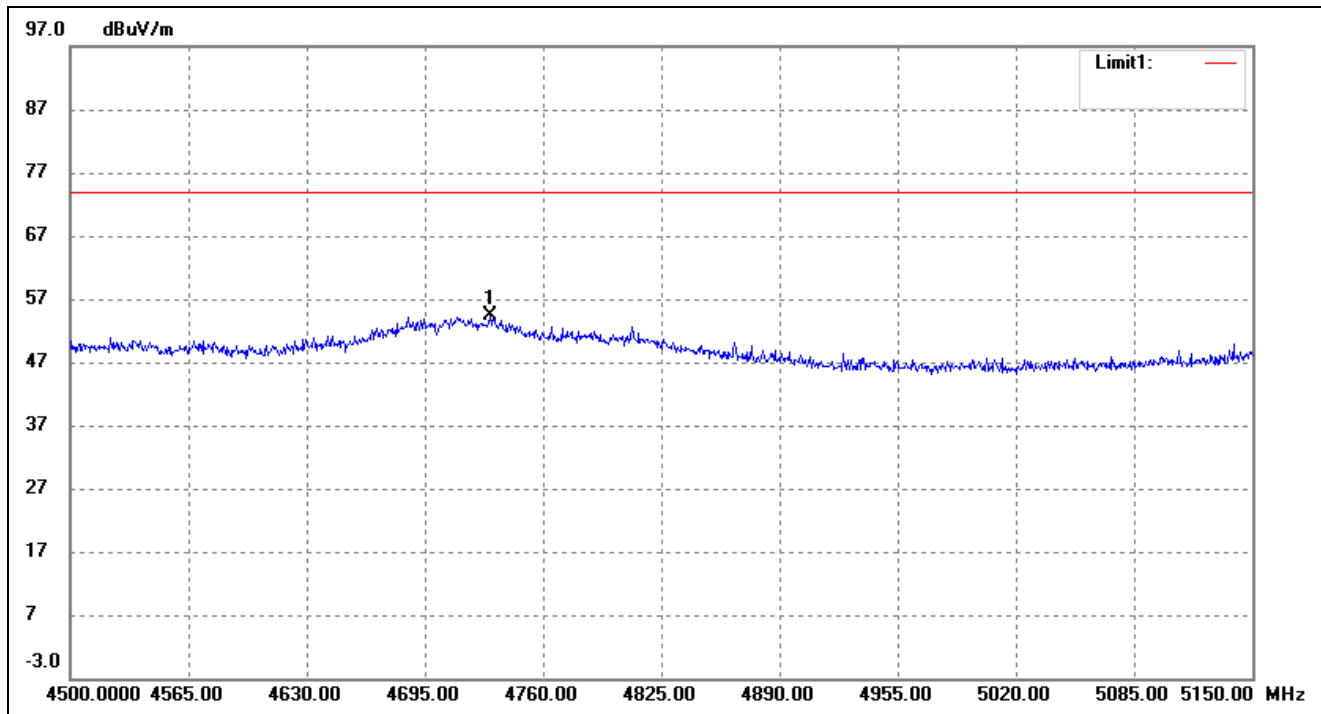
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4845.150	54.43	-3.49	50.94	74.00	-23.06	81	100	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Average



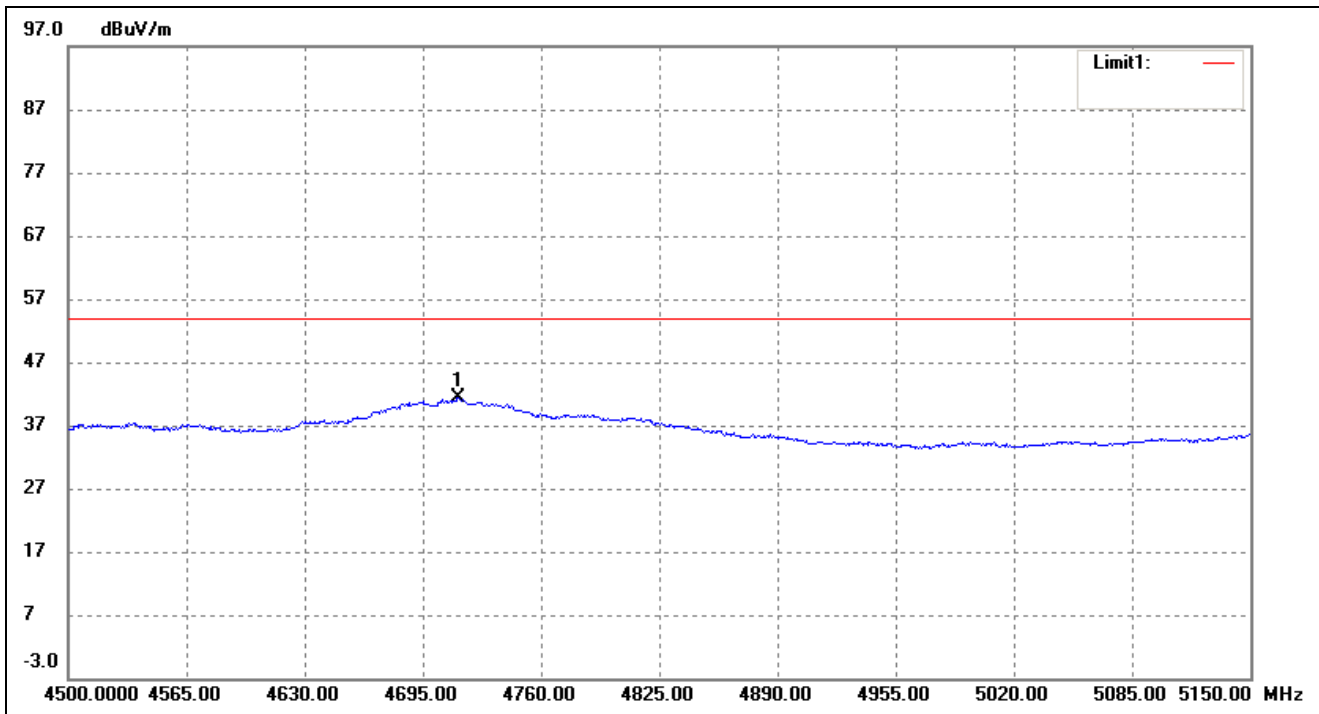
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4845.000	40.30	-3.49	36.81	54.00	-17.19	66	100	peak

802.11ac-HT80- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Peak



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4730.750	57.98	-3.59	54.39	74.00	-19.61	124	100	peak

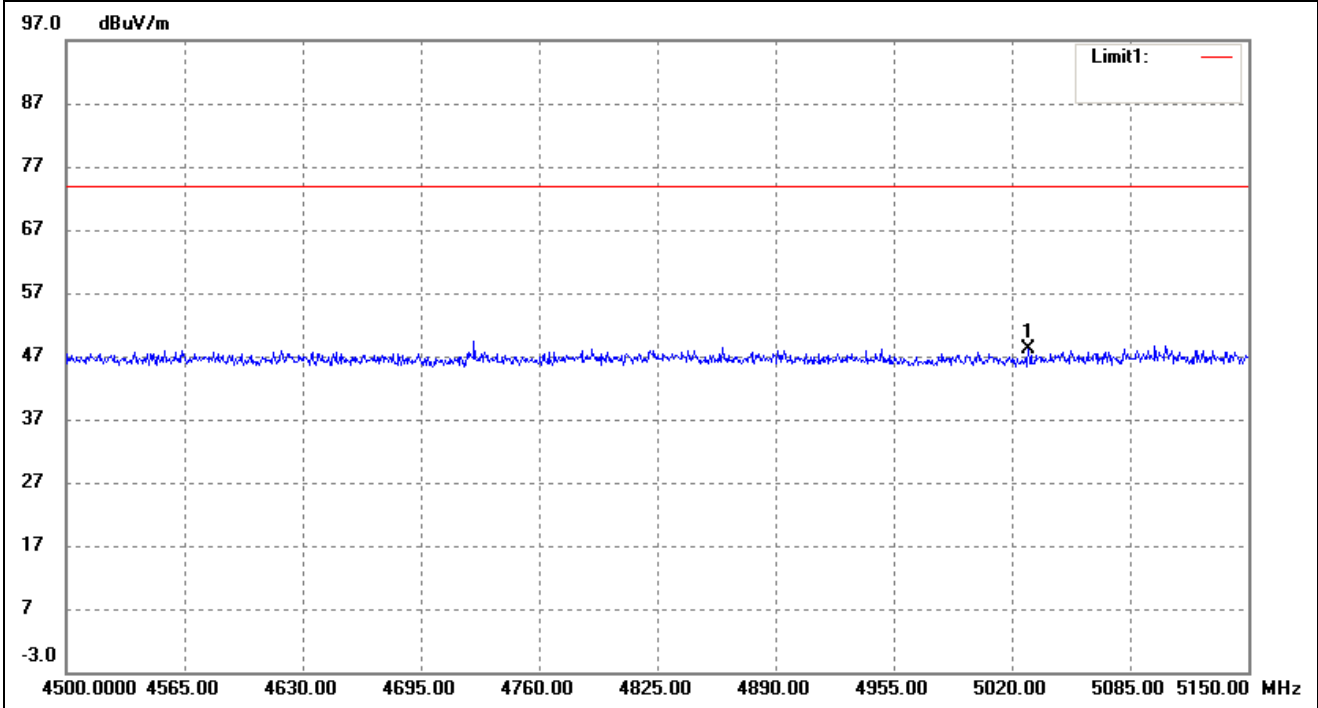
802.11ac-HT80- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Average



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4714.500	44.97	-3.60	41.37	54.00	-12.63	308	100	peak

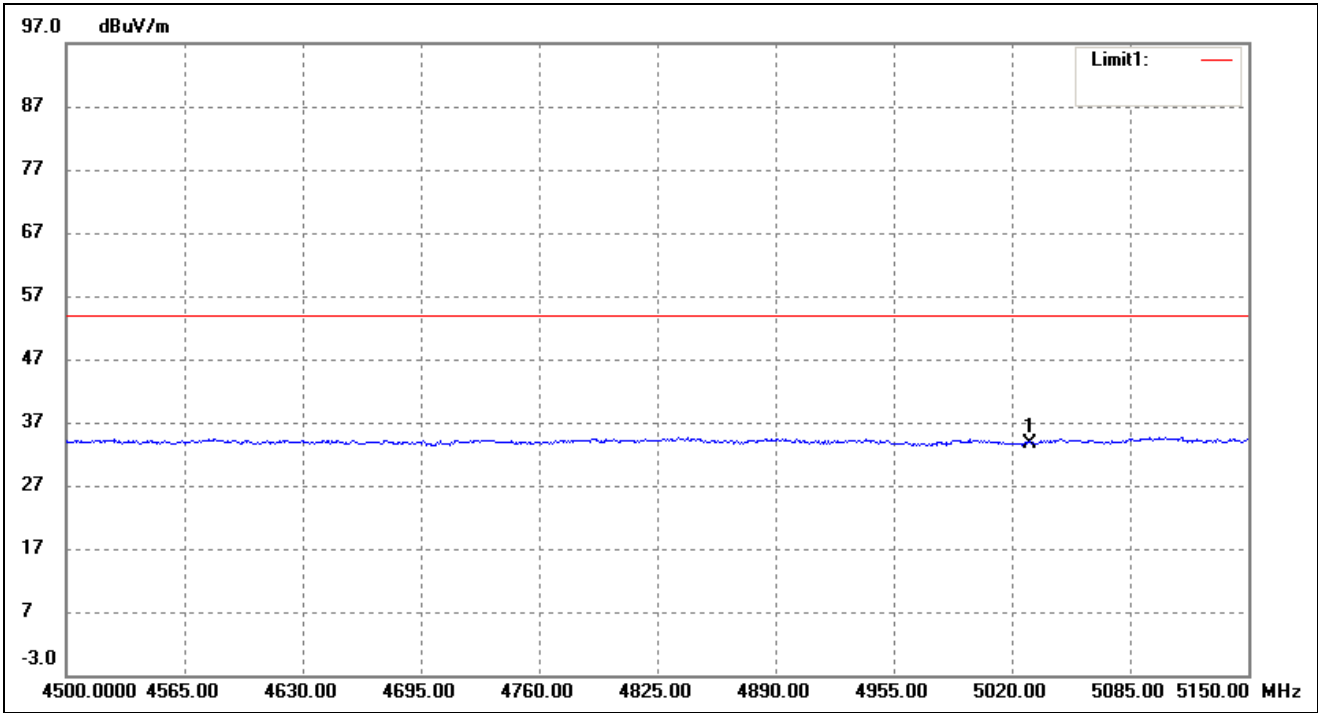
➤ Antenna 1:

802.11a- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Peak



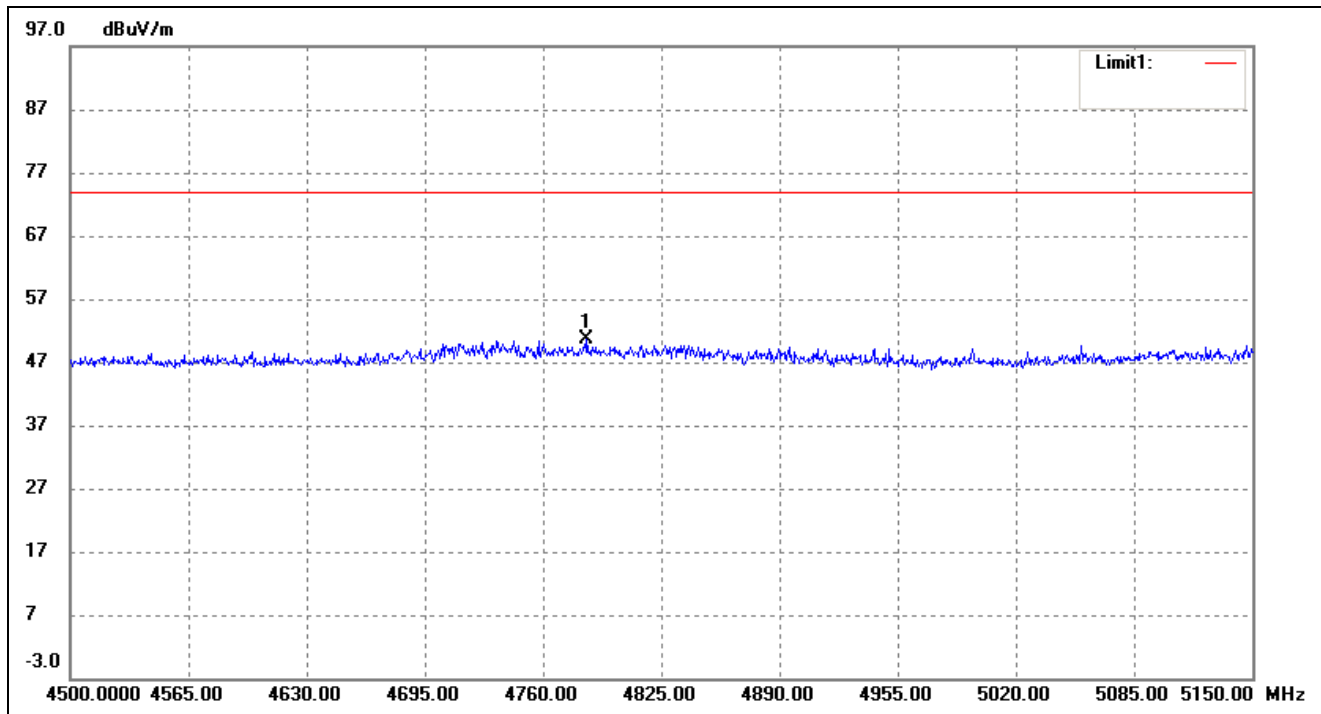
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5029.100	51.40	-3.29	48.11	74.00	-25.89	127	100	peak

802.11a- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Average



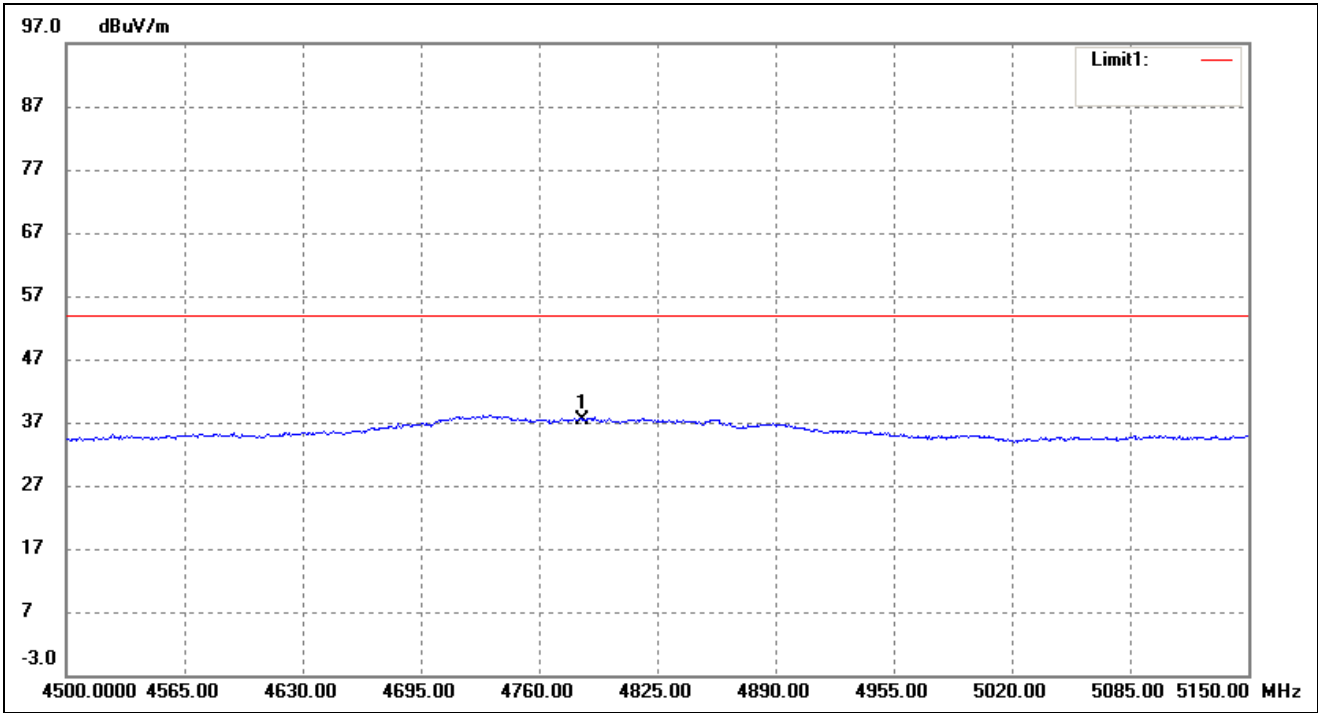
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5030.000	36.98	-3.29	33.69	54.00	-20.31	149	100	peak

802.11n-HT20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Peak



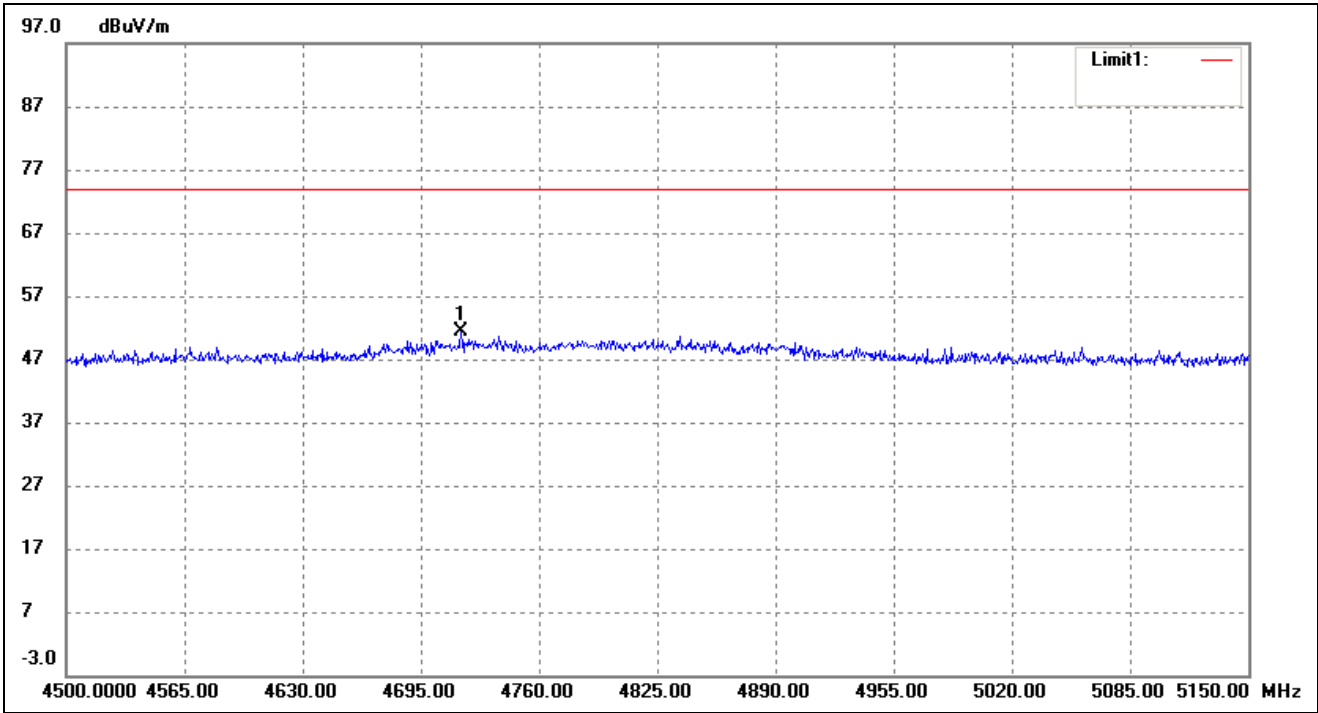
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4784.050	54.16	-3.54	50.62	74.00	-23.38	66	100	peak

802.11n-HT20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Average



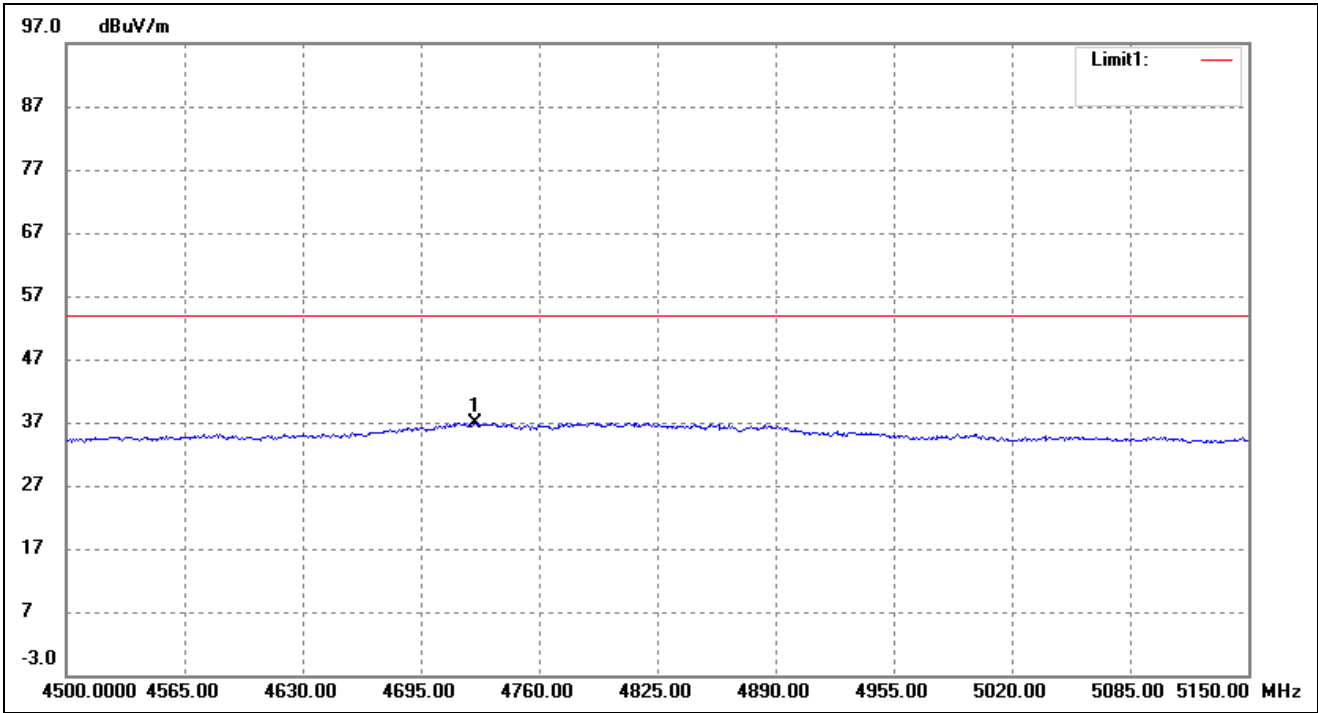
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4784.000	40.97	-3.54	37.43	54.00	-16.57	93	100	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Peak



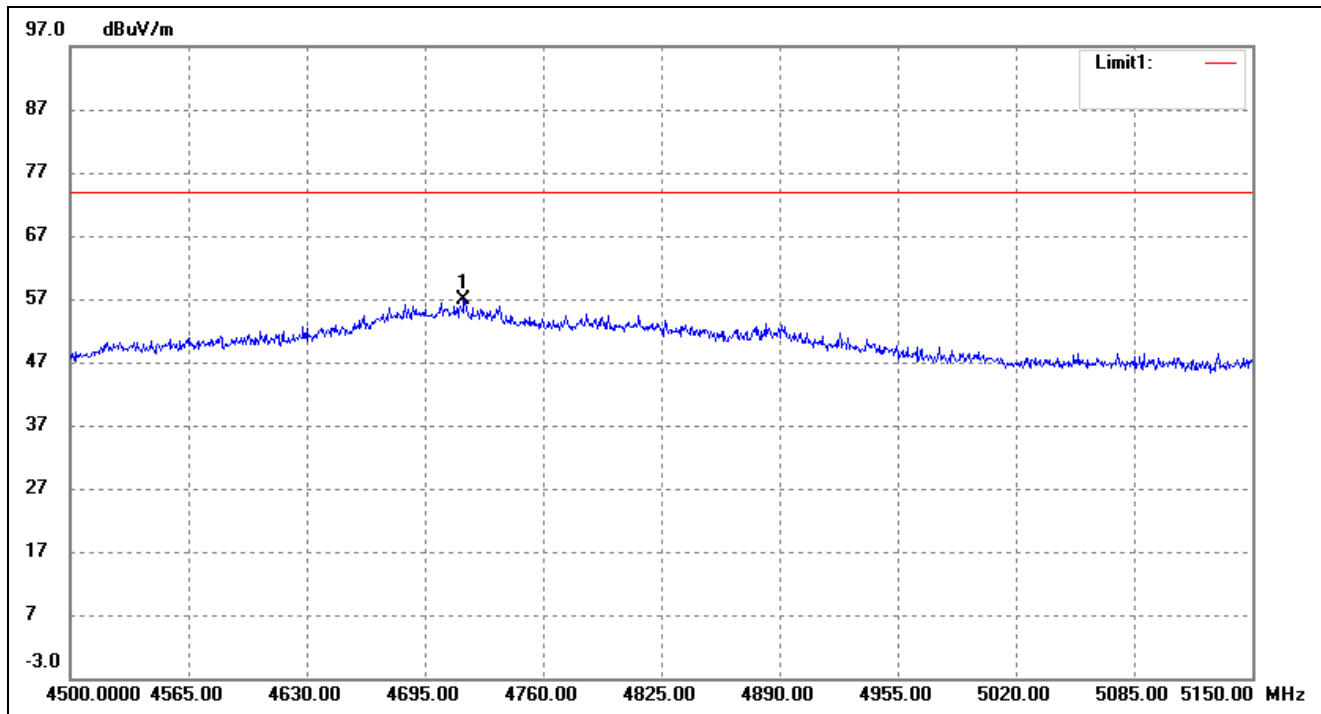
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4717.100	54.87	-3.60	51.27	74.00	-22.73	343	100	peak

802.11n-HT40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Average



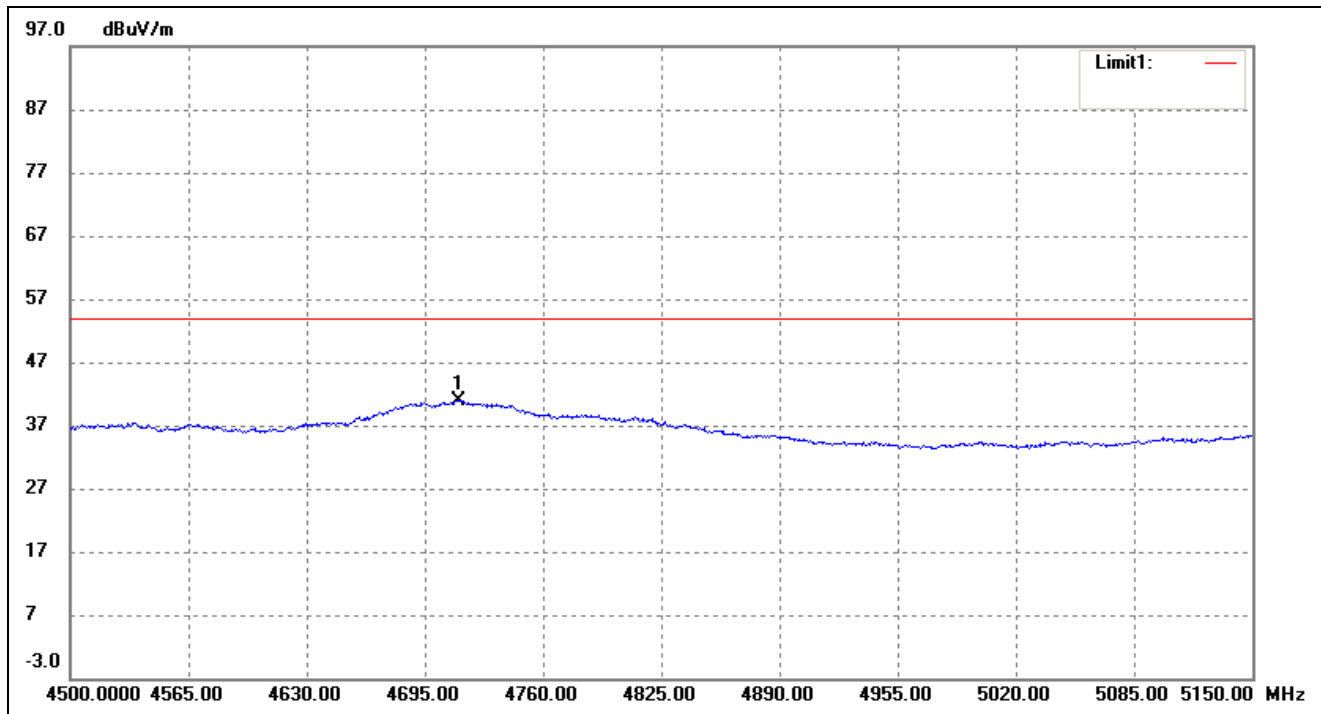
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4724.900	40.41	-3.59	36.82	54.00	-17.18	238	100	peak

802.11ac-HT80- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Peak



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4716.450	60.59	-3.60	56.99	74.00	-17.01	110	100	peak

802.11ac-HT80- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Average



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4713.850	44.56	-3.60	40.96	54.00	-13.04	343	100	peak

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

- Antenna 0:
- For the frequency band 5.15-5.25GHz, 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	53.07	85	V	40.7	10.9	39.6	65.07	74	-8.93
10360	PK	53.84	327	H	40.7	10.9	39.6	65.84	74	-8.16
10360	AV	32.51	127	V	40.7	10.9	39.6	44.51	54	-9.49
10360	AV	30.46	176	H	40.7	10.9	39.6	42.46	54	-11.54
High Channel (5240MHz)										
10480	PK	52.12	172	V	40.7	10.9	39.6	64.12	74	-9.88
10480	PK	52.48	59	H	40.7	10.9	39.6	64.48	74	-9.52
10480	AV	33.7	344	V	40.7	10.9	39.6	45.7	54	-8.3
10480	AV	31.29	110	H	40.7	10.9	39.6	43.29	54	-10.71
Low Channel (5745MHz)										
11490	PK	50.56	296	V	38.9	9.8	40.1	59.16	74	-14.84
11490	PK	51.4	162	H	38.9	9.8	40.1	60	74	-14
11490	AV	33	303	V	38.9	9.8	40.1	41.6	54	-12.4
11490	AV	32.33	113	H	38.9	9.8	40.1	40.93	54	-13.07
High Channel (5825MHz)										
11610	PK	52.73	33	V	38.9	9.8	40.1	61.33	74	-12.67
11610	PK	53.94	352	H	38.9	9.8	40.1	62.54	74	-11.46
11610	AV	30.07	64	V	38.9	9.8	40.1	38.67	54	-15.33
11610	AV	33.44	290	H	38.9	9.8	40.1	42.04	54	-11.96

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-40.98	-27
Highest	Above 5350	-39.32	-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	-42.21	-27
	5715 to 5725	-30.32	-17
Highest	5850 to 5860	-29.25	-17
	Above 5860	-43.02	-27

Note: the data just list the worst cases

➤ For the frequency band 5.15-5.25GHz, 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	52.32	180	V	40.7	10.9	39.6	64.32	74	-9.68
10360	PK	51.03	344	H	40.7	10.9	39.6	63.03	74	-10.97
10360	AV	30.67	314	V	40.7	10.9	39.6	42.67	54	-11.33
10360	AV	32.04	355	H	40.7	10.9	39.6	44.04	54	-9.96
High Channel (5240MHz)										
10480	PK	53.69	261	V	40.7	10.9	39.6	65.69	74	-8.31
10480	PK	51.08	169	H	40.7	10.9	39.6	63.08	74	-10.92
10480	AV	32.26	255	V	40.7	10.9	39.6	44.26	54	-9.74
10480	AV	33.39	83	H	40.7	10.9	39.6	45.39	54	-8.61
Low Channel (5745MHz)										
11490	PK	52.41	16	V	38.9	9.8	40.1	61.01	74	-12.99
11490	PK	52.19	249	H	38.9	9.8	40.1	60.79	74	-13.21
11490	AV	32.59	227	V	38.9	9.8	40.1	41.19	54	-12.81
11490	AV	30.12	325	H	38.9	9.8	40.1	38.72	54	-15.28
High Channel (5825MHz)										
11610	PK	50.73	51	V	38.9	9.8	40.1	59.33	74	-14.67
11610	PK	50.73	57	H	38.9	9.8	40.1	59.33	74	-14.67
11610	AV	32.67	132	V	38.9	9.8	40.1	41.27	54	-12.73
11610	AV	33.63	217	H	38.9	9.8	40.1	42.23	54	-11.77

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-36.35	-27
Highest	Above 5350	-40.02	-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	-46.32	-27
	5715 to 5725	-29.69	-17
Highest	5850 to 5860	-32.41	-17
	Above 5860	-46.47	-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, 5.725-5.850GHz (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	53.16	330	V	40.7	10.9	39.6	65.16	74	-8.84
10380	PK	51.76	329	H	40.7	10.9	39.6	63.76	74	-10.24
10380	AV	32.58	315	V	40.7	10.9	39.6	44.58	54	-9.42
10380	AV	33.16	70	H	40.7	10.9	39.6	45.16	54	-8.84
High Channel (5230MHz)										
10460	PK	51.61	86	V	38.9	9.8	40.1	60.21	74	-13.79
10460	PK	51.06	169	H	38.9	9.8	40.1	59.66	74	-14.34
10460	AV	31.78	332	V	38.9	9.8	40.1	40.38	54	-13.62
10460	AV	32.68	360	H	38.9	9.8	40.1	41.28	54	-12.72
Low Channel (5755MHz)										
11510	PK	50.79	105	V	38.9	9.8	40.1	59.39	74	-14.61
11510	PK	50.8	52	H	38.9	9.8	40.1	59.4	74	-14.6
11510	AV	33.01	226	V	38.9	9.8	40.1	41.61	54	-12.39
11510	AV	32.5	13	H	38.9	9.8	40.1	41.1	54	-12.9
High Channel (5795MHz)										
11590	PK	53.99	206	V	38.9	9.8	40.1	62.59	74	-11.41
11590	PK	51.51	190	H	38.9	9.8	40.1	60.11	74	-13.89
11590	AV	32.04	127	V	38.9	9.8	40.1	40.64	54	-13.36
11590	AV	33.27	316	H	38.9	9.8	40.1	41.87	54	-12.13

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-45.71	-27
Highest	Above 5350	-43.39	-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	-42.71	-27
	5715 to 5725	-31.34	-17
Highest	5850 to 5860	-35.32	-17
	Above 5860	-44.35	-27

Note: the data just list the worst cases

- For the frequency band 5.15-5.25GHz, 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	52.79	345	V	40.7	10.9	39.6	64.79	74	-9.21
10420	PK	51.41	308	H	40.7	10.9	39.6	63.41	74	-10.59
10420	AV	32.03	141	V	40.7	10.9	39.6	44.03	54	-9.97
10420	AV	30.05	177	H	40.7	10.9	39.6	42.05	54	-11.95
Low Channel (5775MHz)										
11550	PK	52.05	1	V	39.5	10.4	39.7	62.25	74	-11.75
11550	PK	50.98	162	H	39.5	10.4	39.7	61.18	74	-12.82
11550	AV	33.79	131	V	39.5	10.4	39.7	43.99	54	-10.01
11550	AV	33.03	28	H	39.5	10.4	39.7	43.23	54	-10.77

- Antenna 1:
- For the frequency band 5.15-5.25GHz, 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	51.17	249	V	40.7	10.9	39.6	63.17	74	-10.83
10360	PK	51.92	12	H	40.7	10.9	39.6	63.92	74	-10.08
10360	AV	32.86	301	V	40.7	10.9	39.6	44.86	54	-9.14
10360	AV	33.19	73	H	40.7	10.9	39.6	45.19	54	-8.81
High Channel (5240MHz)										
10480	PK	50.97	124	V	40.7	10.9	39.6	62.97	74	-11.03
10480	PK	53.09	344	H	40.7	10.9	39.6	65.09	74	-8.91
10480	AV	33.33	326	V	40.7	10.9	39.6	45.33	54	-8.67
10480	AV	30.23	87	H	40.7	10.9	39.6	42.23	54	-11.77
Low Channel (5745MHz)										
11490	PK	51.19	127	V	38.9	9.8	40.1	59.79	74	-14.21
11490	PK	50.79	234	H	38.9	9.8	40.1	59.39	74	-14.61
11490	AV	31.46	190	V	38.9	9.8	40.1	40.06	54	-13.94
11490	AV	32.18	326	H	38.9	9.8	40.1	40.78	54	-13.22
High Channel (5825MHz)										
11610	PK	53.14	40	V	38.9	9.8	40.1	61.74	74	-12.26
11610	PK	50.92	269	H	38.9	9.8	40.1	59.52	74	-14.48
11610	AV	33.18	145	V	38.9	9.8	40.1	41.78	54	-12.22
11610	AV	33.22	172	H	38.9	9.8	40.1	41.82	54	-12.18

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-44.71	-27
Highest	Above 5350	-43.36	-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	-45.69	-27
	5715 to 5725	-31.02	-17
Highest	5850 to 5860	-30.17	-17
	Above 5860	-42.36	-27

Note: the data just list the worst cases

- For the frequency band 5.15-5.25GHz, 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	50.51	262	V	40.7	10.9	39.6	62.51	74	-11.49
10360	PK	51.72	57	H	40.7	10.9	39.6	63.72	74	-10.28
10360	AV	32.84	122	V	40.7	10.9	39.6	44.84	54	-9.16
10360	AV	32.57	138	H	40.7	10.9	39.6	44.57	54	-9.43
High Channel (5240MHz)										
10480	PK	52.04	271	V	40.7	10.9	39.6	64.04	74	-9.96
10480	PK	51.48	359	H	40.7	10.9	39.6	63.48	74	-10.52
10480	AV	31.11	249	V	40.7	10.9	39.6	43.11	54	-10.89
10480	AV	33.08	130	H	40.7	10.9	39.6	45.08	54	-8.92
Low Channel (5745MHz)										
11490	PK	51.72	263	V	38.9	9.8	40.1	60.32	74	-13.68
11490	PK	53.06	306	H	38.9	9.8	40.1	61.66	74	-12.34
11490	AV	32.68	244	V	38.9	9.8	40.1	41.28	54	-12.72
11490	AV	32.96	63	H	38.9	9.8	40.1	41.56	54	-12.44
High Channel (5825MHz)										
11610	PK	52.16	278	V	38.9	9.8	40.1	60.76	74	-13.24
11610	PK	53.86	98	H	38.9	9.8	40.1	62.46	74	-11.54
11610	AV	30.26	65	V	38.9	9.8	40.1	38.86	54	-15.14
11610	AV	33.62	286	H	38.9	9.8	40.1	42.22	54	-11.78

- Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-41.62	-27
Highest	Above 5350	-42.71	-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	-43.65	-27
	5715 to 5725	-29.31	-17
Highest	5850 to 5860	-31.41	-17
	Above 5860	-46.17	-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, 5.725-5.850GHz (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	53.62	30	V	40.7	10.9	39.6	65.62	74	-8.38
10380	PK	53.83	171	H	40.7	10.9	39.6	65.83	74	-8.17
10380	AV	30.98	87	V	40.7	10.9	39.6	42.98	54	-11.02
10380	AV	31.95	142	H	40.7	10.9	39.6	43.95	54	-10.05
High Channel (5230MHz)										
10460	PK	52.89	232	V	38.9	9.8	40.1	61.49	74	-12.51
10460	PK	50.51	353	H	38.9	9.8	40.1	59.11	74	-14.89
10460	AV	31.05	122	V	38.9	9.8	40.1	39.65	54	-14.35
10460	AV	31.15	11	H	38.9	9.8	40.1	39.75	54	-14.25
Low Channel (5755MHz)										
11510	PK	50.28	72	V	38.9	9.8	40.1	58.88	74	-15.12
11510	PK	51.35	294	H	38.9	9.8	40.1	59.95	74	-14.05
11510	AV	30.85	290	V	38.9	9.8	40.1	39.45	54	-14.55
11510	AV	32.65	198	H	38.9	9.8	40.1	41.25	54	-12.75
High Channel (5795MHz)										
11590	PK	50.78	324	V	38.9	9.8	40.1	59.38	74	-14.62
11590	PK	52.19	124	H	38.9	9.8	40.1	60.79	74	-13.21
11590	AV	33.19	26	V	38.9	9.8	40.1	41.79	54	-12.21
11590	AV	32.44	15	H	38.9	9.8	40.1	41.04	54	-12.96

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-43.69	-27
Highest	Above 5350	-42.47	-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	-46.65	-27
	5715 to 5725	-33.14	-17
Highest	5850 to 5860	-27.32	-17
	Above 5860	-42.83	-27

Note: the data just list the worst cases

- For the frequency band 5.15-5.25GHz, 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	52.49	123	V	40.7	10.9	39.6	64.49	74	-9.51
10420	PK	52.03	242	H	40.7	10.9	39.6	64.03	74	-9.97
10420	AV	32.19	352	V	40.7	10.9	39.6	44.19	54	-9.81
10420	AV	31.39	72	H	40.7	10.9	39.6	43.39	54	-10.61
Low Channel (5775MHz)										
11550	PK	51.14	22	V	39.5	10.4	39.7	61.34	74	-12.66
11550	PK	51.97	16	H	39.5	10.4	39.7	62.17	74	-11.83
11550	AV	33.18	124	V	39.5	10.4	39.7	43.38	54	-10.62
11550	AV	30.35	150	H	39.5	10.4	39.7	40.55	54	-13.45

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

Antenna 0:

U-NII-1:5150-5250MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	7.6	-30	136	0.0262
100%		-20	128	0.0246
100%		-10	132	0.0254
100%		0	175	0.0337
100%		+10	124	0.0238
100%		+20	139	0.0267
100%		+30	177	0.0340
100%		+40	101	0.0194
100%		+50	125	0.0240
Low Battery power		6.5	+20	165
High Battery power	8.7	+20	121	0.0233

Antenna 0:

U-NII-1: 5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	7.6	-30	174	0.0301
100%		-20	194	0.0335
100%		-10	102	0.0176
100%		0	132	0.0228
100%		+10	154	0.0266
100%		+20	114	0.0197
100%		+30	120	0.0207
100%		+40	136	0.0235
100%		+50	121	0.0209
Low Battery power		6.5	+20	174
High Battery power	8.7	+20	126	0.0218

Antenna 1:

U-NII-1: 5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	7.6	-30	163	0.0313
100%		-20	170	0.0327
100%		-10	176	0.0338
100%		0	123	0.0237
100%		+10	130	0.0250
100%		+20	151	0.0290
100%		+30	104	0.0200
100%		+40	184	0.0354
100%		+50	134	0.0258
Low Battery power		6.5	+20	136
High Battery power	8.7	+20	154	0.0296

Antenna 1:

U-NII-1:5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	7.6	-30	157	0.0271
100%		-20	113	0.0195
100%		-10	105	0.0182
100%		0	134	0.0232
100%		+10	190	0.0328
100%		+20	159	0.0275
100%		+30	111	0.0192
100%		+40	186	0.0322
100%		+50	170	0.0294
Low Battery power		6.5	+20	165
High Battery power	8.7	+20	157	0.0271

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