

TEST REPORT

Reference No..... : WTX23X10215772W003
FCC ID : 2BAHU2023024
Applicant : DIALN PRODUCTS INC
Address : 8312 Page Ave, St. Louis, Missouri, 63130, USA
Manufacturer : The same as Applicant
Address : The same as Applicant
Product Name : Smart Phone
Model No..... : Nova
Standards : FCC Part 15.407
Date of Receipt sample : 2023-10-09
Date of Test..... : 2023-10-09 to 2023-11-02
Date of Issue : 2023-11-02
Test Report Form No. : WTX_Part 15_407W
Test Result..... : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

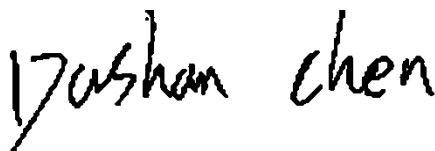
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Report version

Version No.	Date of issue	Description
Rev.00	2023-11-02	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Smart Phone
Trade Name:	DIALN
Model No.:	Nova
Adding Model(s):	/
Rated Voltage:	DC3.85V
Battery Capacity:	4000mAh
Power Adapter:	TPA-46050200UU Input:AC100-220V 50/60Hz 0.3A Output:DC5V2.0A
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Support Standards:	802.11a, 802.11n(HT20) , 802.11n-HT40, 802.11ac-VHT80
Frequency Range:	5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz
RF Output Power:	15.82dBm (Conducted)
Type of Modulation:	QPSK, 16QAM, 64QAM
Type of Antenna:	Integral Antenna
Antenna Gain:	-2.1dBi
<i>Note: The Antenna Gain is provided by the customer and can affect the validity of results.</i>	

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, Subparte.

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	21	21	22	23	23.5	25	24	24	24	24	23.5	22.5	21.5
802.11n-HT20 MCS0	20	20	21	21.5	22	24	24	24	24	24	23	21.5	20.5
Mode	NCB: 40MHz												
	5190	5230	5270	5310	5510	5550	5670	5710	5755	5795			
802.11n-HT40 MCS0	18.5	19.5	21	22	24	24	23	23	21.5	20			
Mode	NCB: 80MHz												
	5210		5290		5530		5610		5690		5775		
802.11ac-VH80 MCS0/Nss2	18.5		20.5		23		22		22		20		

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

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A and the CAB identifier is CN0057.

1.7 EUT Setup and Test Mode

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

Test Mode List		
Test Mode	Description	Remark
TM1	802.11a	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz,5600MHz,5700MHz,5745MHz, 5785MHz,5825MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5500MHz,5600MHz,5700MHz,5745MHz, 5785MHz,5825MHz
TM3	802.11n-HT40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz,5590MHz,5670MHz,5755MHz,5795MHz
TM4	802.11ac-VH80	5210MHz,5290MHz,5530MHz,5610MHz,5775MHz
Note: 802.11ac-VHT20, 802.11ac-VHT40 covered by 802.11n-HT20 and 802.11n-HT40.		

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	45~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	0.95	Shielded	With

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Earphone Cable	1.0	Unshielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	TianYi 100-14IBD	PF0F4ABV

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

Fixed asset Number	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
WTXE1041A 1001	Communication Tester	Rohde & Schwarz	CMW500	148650	2023-02-25	2024-02-24
WTXE1022A 1002	GSM Tester	Rohde & Schwarz	CMU200	114403	2023-02-25	2024-02-24
WTXE1005A 1005	Spectrum Analyzer	Agilent	N9020A	US471401 02	2023-02-25	2024-02-24
WTXE1084A 1001	Spectrum Analyzer	Agilent	N9020A	MY543205 48	2023-02-25	2024-02-24
WTXE1044A 1001	Signal Generator	Agilent	83752A	3610A014 53	2023-02-25	2024-02-24
WTXE1045A 1001	Vector Signal Generator	Agilent	N5182A	MY470702 02	2023-02-25	2024-02-24
WTXE1018A 1001	Power Divider	Weinschel	1506A	PM204	2023-02-25	2024-02-24
WTXE1045A 1001	Power Divider	RF-Lambda	RFLT4W5M18G	14110400 027	2023-02-25	2024-02-24
☐ Chamber A: Below 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2023-02-25	2024-02-24
WTXE1007A 1001	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/00 5	2023-02-25	2024-02-24
WTXE1007A 1001	Amplifier	HP	8447F	2805A034 75	2023-02-25	2024-02-24
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2024-03-19
WTXE1010A 1006	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2023-03-20	2026-03-19
☐ Chamber A: Above 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2023-02-25	2024-02-24
WTXE1007A 1001	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/00 5	2023-02-25	2024-02-24
WTXE1065A 1001	Amplifier	C&D	PAP-1G18	14918	2023-02-25	2024-02-24
WTXE1010A 1005	Horn Antenna	ETS	3117	00086197	2021-03-19	2024-03-18
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2021-03-19	2024-03-18

WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2023-02-25	2024-02-24
☐ Chamber B:Below 1GHz						
WTXE1010A 1006	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2024-04-08
WTXE1038A 1001	Amplifier	Agilent	8447D	2944A104 57	2023-02-25	2024-02-24
WTXE1001A 1002	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2023-02-25	2024-02-24
☒ Chamber C:Below 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
WTXE1010A 1013-1	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2024-05-27
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2024-03-19
WTXE1007A 1002	Amplifier	HP	8447F	2944A038 69	2023-02-25	2024-02-24
☒ Chamber C: Above 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2023-02-25	2024-02-24
WTXE1103A 1005	Horn Antenna	POAM	RTF-118A	1820	2023-03-10	2026-03-09
WTXE1103A 1006	Amplifier	Tonscend	TAP01018050	AP22E806 235	2023-02-25	2024-02-24
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2021-03-19	2024-03-18
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2023-02-25	2024-02-24
☐ Conducted Room 1#						
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2023-02-25	2024-02-24
WTXE1002A 1001	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2023-02-25	2024-02-24
WTXE1003A 1001	AC LISN	Schwarz beck	NSLK8126	8126-279	2023-02-25	2024-02-24
☒ Conducted Room 2#						
WTXE1001A 1004	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2023-02-25	2024-02-24
WTXE1003A	LISN	Rohde &	ENV 216	100097	2023-02-25	2024-02-24

1003		Schwarz				
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Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission Room 1#)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission Room 2#)*	SKET	EMC-I	V2.0

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§15.203; §15.405	Antenna Requirement	Compliant
15.407 (c)	Automatically Discontinue Transmission	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),(4)	Undesirable emission	Compliant
§15.205; §15.407(b)(1),(2),(3)	Radiated Emission	Compliant
§15.407(g)	Frequency Stability	Compliant
§15.407(h)	Dynamic Frequency Selection (DFS)	Compliant

N/A: Not applicable.

3. Antenna Requirement

3.1 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.

3.2 Evaluation Information

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

4. Automatically Discontinue Transmission

4.1 Standard Applicable

According to FCC Part 15.407(c), the device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

4.2 Summary of Test Results

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

5. Power Spectral Density

5.1 Standard Applicable

Section 15.407(a) Power limits:

(1) For the band 5.15-5.25GHz.

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

(2) For the 5.25-5.35GHz and 5.47-5.725GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or $11 \text{ dBm} + 10 \log B$, where B is the 26dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi.

(3) For the band 5.725-5.85GHz, 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 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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.

5.2 Test Procedure

According to 789033 D02 v02r01 General UNII Test Procedures New Rules v02, the following is the measurement procedure.

For devices operating in the bands 5.15-5.25GHz, 5.25-5.35GHz, and 5.47-5.725GHz, 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 5.725-5.85GHz, the rules specify a measurement bandwidth of 500kHz. Many spectrum analyzers do not have 500kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500kHz, "provided that the measured power is integrated over the full

reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1MHz, or 500kHz). If measurements are performed using a reduced resolution bandwidth ($< 1\text{MHz}$, or $< 500\text{kHz}$) and integrated over 1 MHz, or 500kHz bandwidth, the following adjustments to the procedures apply:

- a) Set $\text{RBW} \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $\text{VBW} \geq 3 \text{ RBW}$.
- c) If measurement bandwidth of Maximum PSD is specified in 500kHz, add $10\log(500\text{kHz}/\text{RBW})$ to the measured result, whereas $\text{RBW} (< 500\text{kHz})$ 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 $10\log(1\text{MHz}/\text{RBW})$ to the measured result, whereas $\text{RBW} (< 1\text{MHz})$ 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 100kHz for the sections 5.c) and 5.d) above, since $\text{RBW}=100\text{kHz}$ is available on nearly all spectrum analyzers.

5.3 Summary of Test Results/Plots

Please refer to Appendix A

6. Emission Bandwidth and Occupied Bandwidth

6.1 Standard Applicable

According to 15.407(a) and (e):

(1) For the band 5.15-5.25GHz.

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

(2) For the 5.25-5.35GHz and 5.47-5.725GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or $11\text{dBm} + 10 \log B$, where B is the 26dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi.

(3) For the band 5.725-5.85GHz, 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 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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 5.725-5.85GHz band, the minimum 6dB bandwidth of U-NII devices shall be at least 500kHz.

6.2 Test Procedure

According to 789033 D02 v02r0r 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 26dB 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 5.725-5.85GHz Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- a) Set RBW = 100kHz.
- 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 6dB 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 v02r01 General UNII Test Procedures New Rules v01 define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in section II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

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

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

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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.

6.3 Summary of Test Results/Plots

Please refer to Appendix B

7. Maximum Conducted Output Power

7.1 Standard Applicable

Section 15.407(a) Power limits:

(1) For the band 5.15-5.25GHz.

(iv) For mobile and portable client devices in the 5.15-5.25GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11dBm 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 6dBi.

(2) For the 5.25-5.35GHz and 5.47-5.725GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or 11dBm + 10 log B, where B is the 26dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi.

(3) For the band 5.725-5.85GHz, 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 30dBm in any 500kHz band. If transmitting antennas of directional gain greater than 6dBi 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 6dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi 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.

7.2 Test Procedure

According to KDB789033 D02 v02r01 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 = 1MHz.
- (iii) Set VBW $\geq$ 3MHz.
- (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 1MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

7.3 Summary of Test Results/Plots

Please refer to Appendix C

8. Radiated Spurious Emissions

8.1 Standard Applicable

According to §15.407(b), undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25GHz band: All emissions outside of the 5.15-5.35GHz band shall not exceed an e.i.r.p. of -27dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35GHz band: All emissions outside of the 5.15-5.35GHz band shall not exceed an e.i.r.p. of -27dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725GHz band: All emissions outside of the 5.47-5.725GHz band shall not exceed an e.i.r.p. of -27dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85GHz band:
 - (i) All emissions shall be limited to a level of -27dBm/MHz at 75MHz or more above or below the band edge increasing linearly to 10dBm/MHz at 25MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6dBm/MHz at 5MHz above or below the band edge, and from 5MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

According to §15.407(b)(6), Unwanted emissions below 1GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

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

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

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

where:

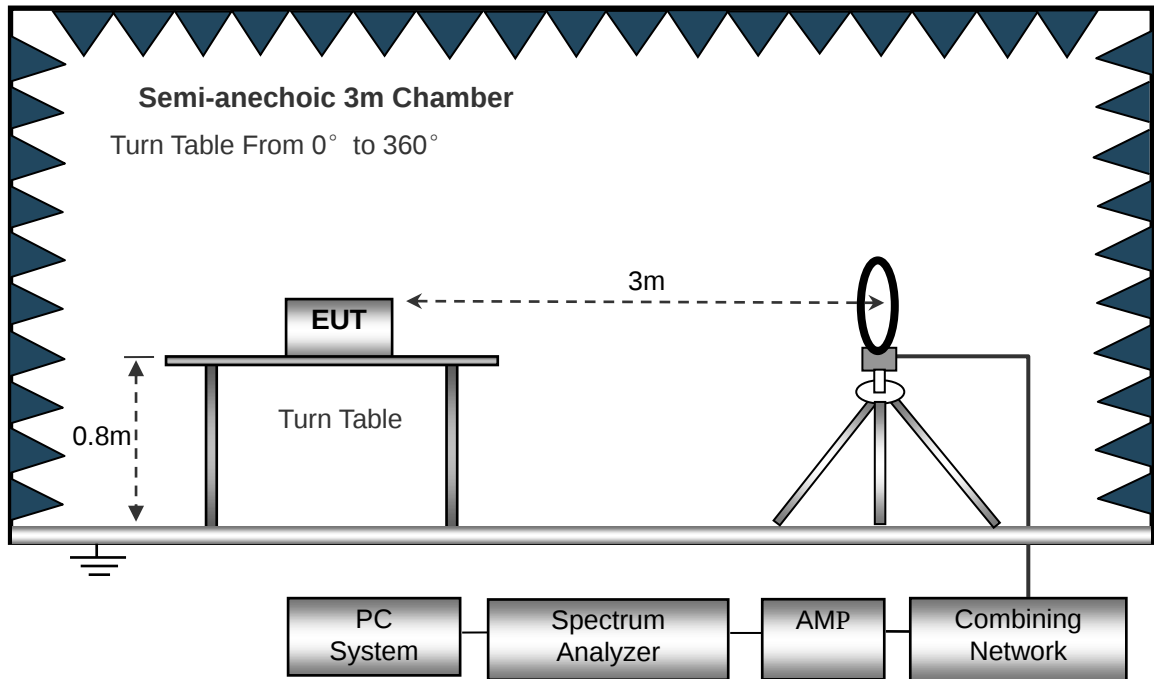
- E is the field strength in V/m;
- d is the measurement distance in meters;
- EIRP is the equivalent isotropically radiated power in watts.

8.2 Test Procedure

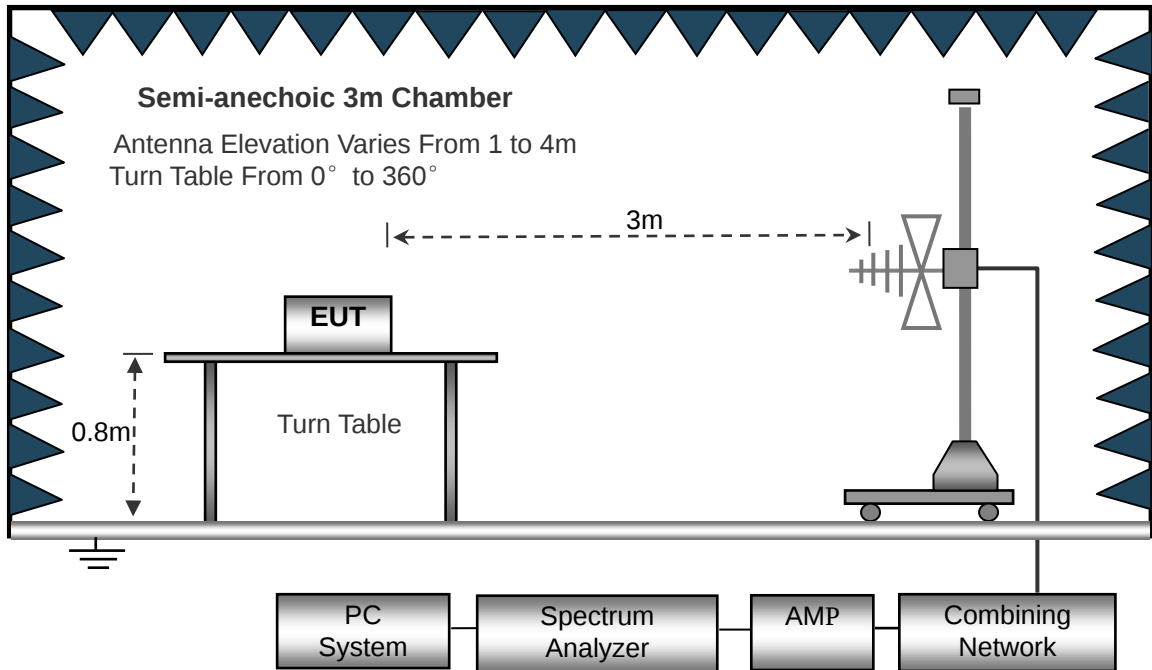
The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.407(b)(6) and FCC Part 15.209 Limit..

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

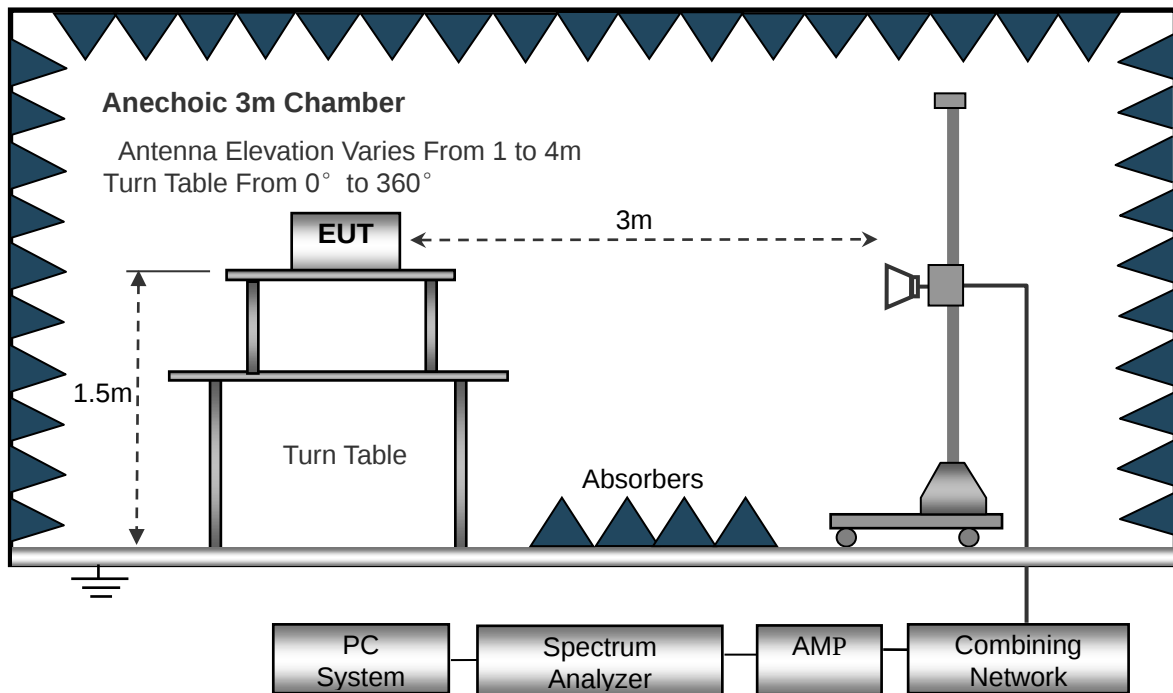
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30MHz to 1GHz.



The test setup for emission measurement above 1GHz.



8.3 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

8.4 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:

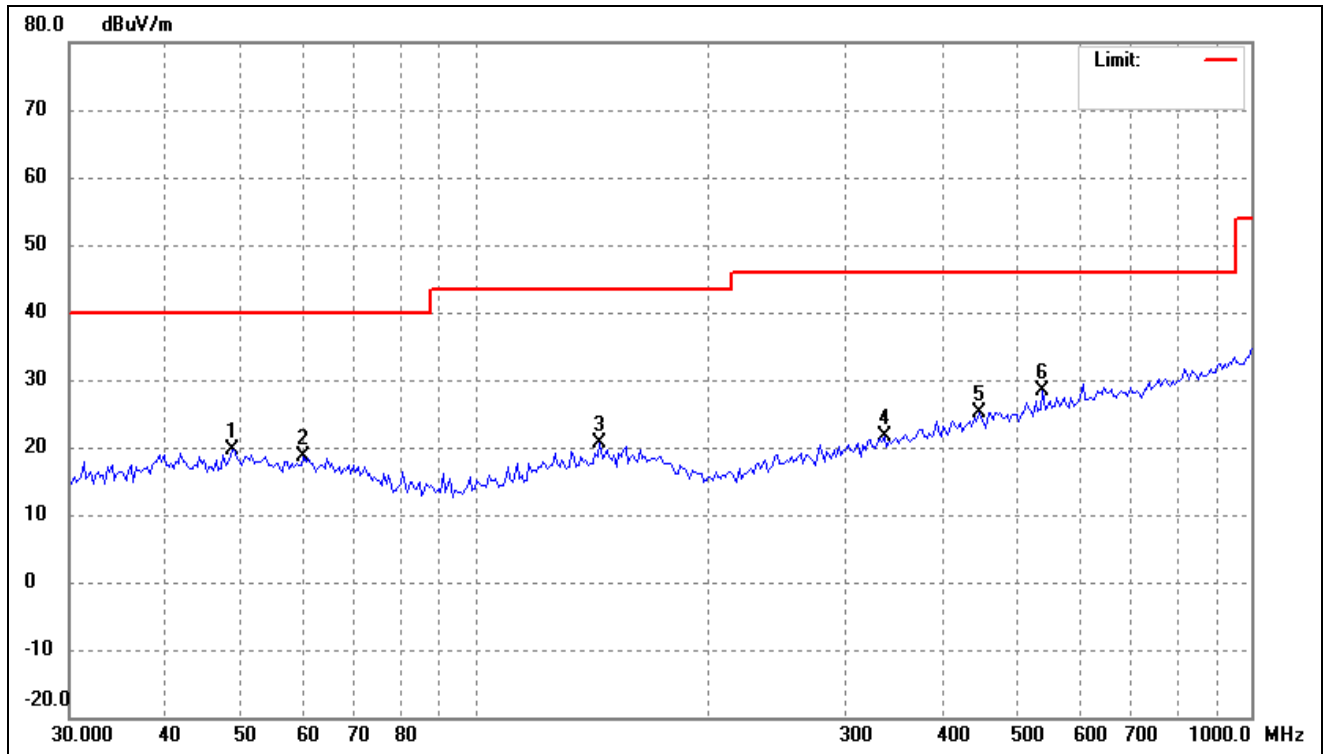
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

8.5 Summary of Test Results/Plots

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

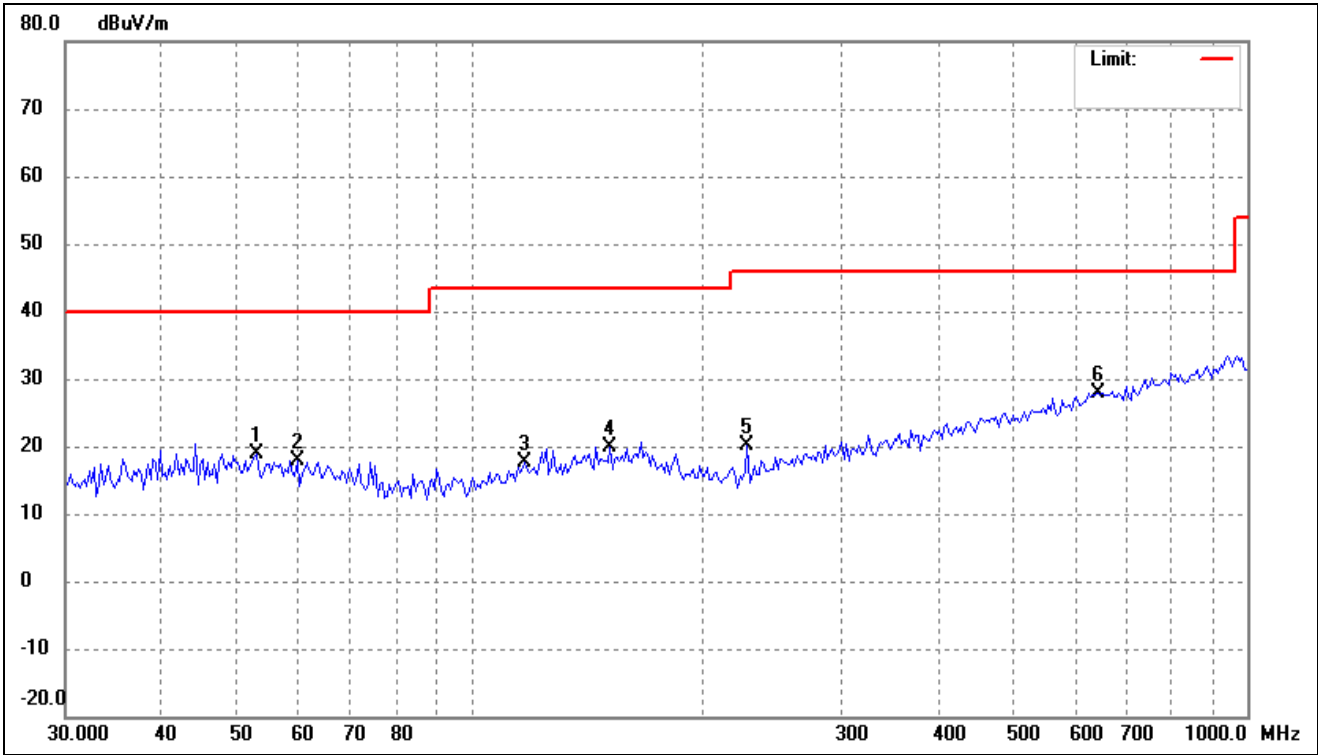
- Spurious Emission From 30MHz to 1GHz
- 5150-5250MHz

802.11a			
Test Channel	5180MHz(Worst case)	Polarity:	Horizontal



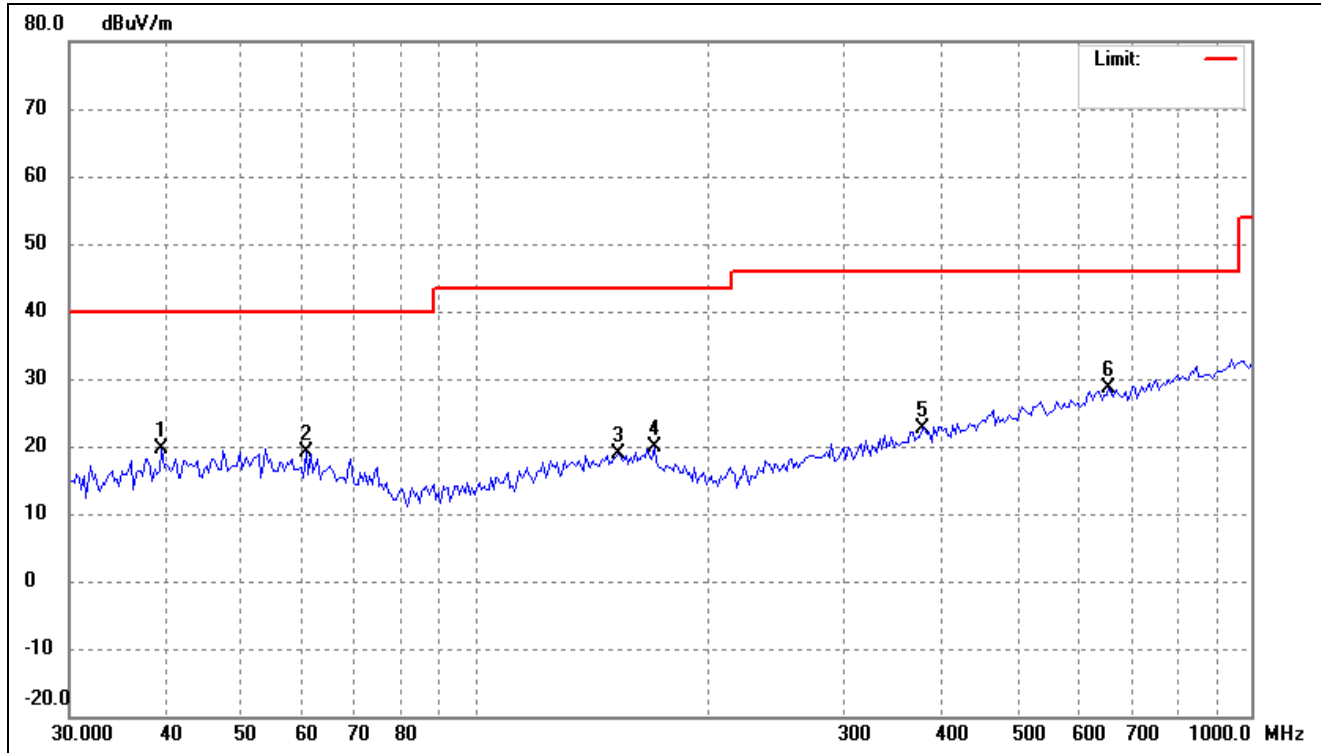
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	48.7191	27.83	-8.18	19.65	40.00	-20.35	-	-	peak
2	60.1528	27.70	-8.97	18.73	40.00	-21.27	-	-	peak
3	144.7899	29.55	-9.03	20.52	43.50	-22.98	-	-	peak
4	336.4817	29.08	-7.35	21.73	46.00	-24.27	-	-	peak
5	445.6932	29.75	-4.71	25.04	46.00	-20.96	-	-	peak
6	538.8107	31.59	-3.15	28.44	46.00	-17.56	-	-	peak

802.11a			
Test Channel	5180MHz(Worst case)	Polarity:	Vertical



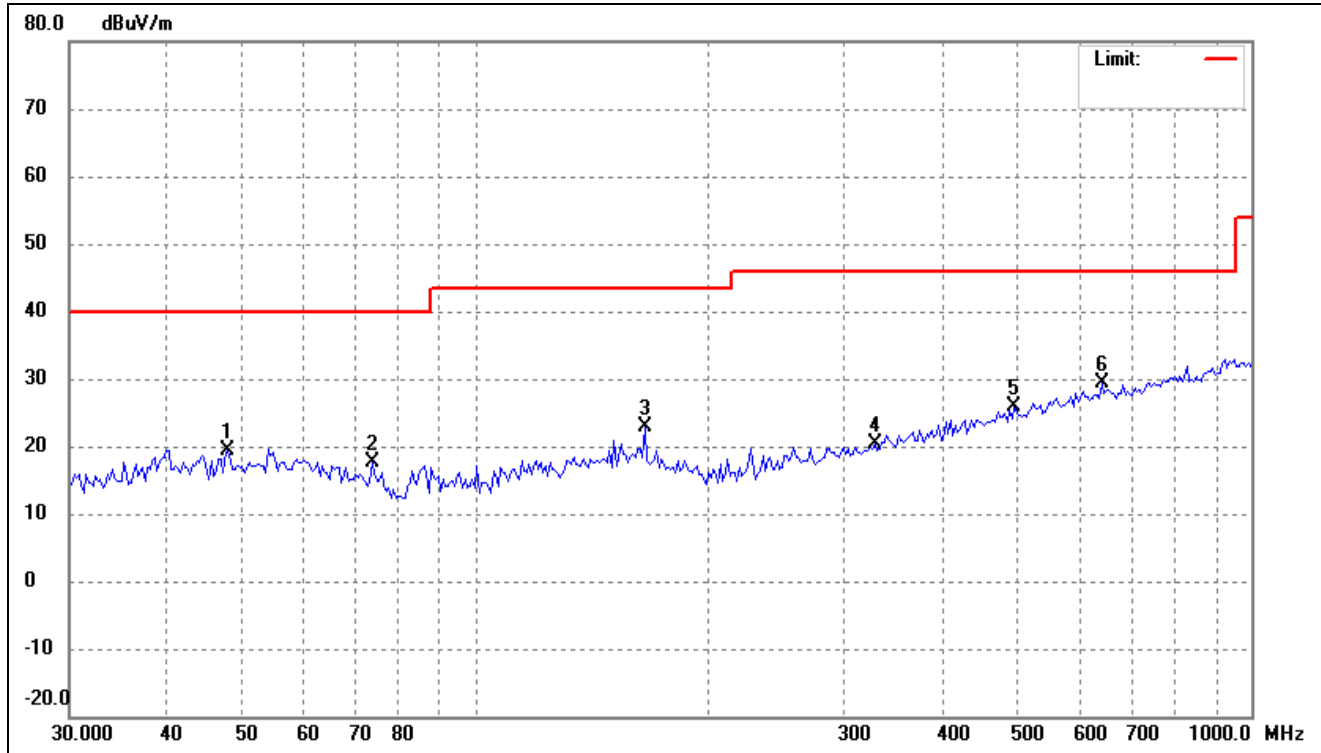
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	53.0056	27.37	-8.41	18.96	40.00	-21.04	-	-	peak
2	59.7315	26.87	-8.92	17.95	40.00	-22.05	-	-	peak
3	117.2688	28.51	-10.82	17.69	43.50	-25.81	-	-	peak
4	151.0252	28.49	-8.61	19.88	43.50	-23.62	-	-	peak
5	227.0164	31.88	-11.76	20.12	46.00	-25.88	-	-	peak
6	642.2923	29.27	-1.33	27.94	46.00	-18.06	-	-	peak

802.11n-HT20			
Test Channel	5180MHz(worst case)	Polarity:	Horizontal



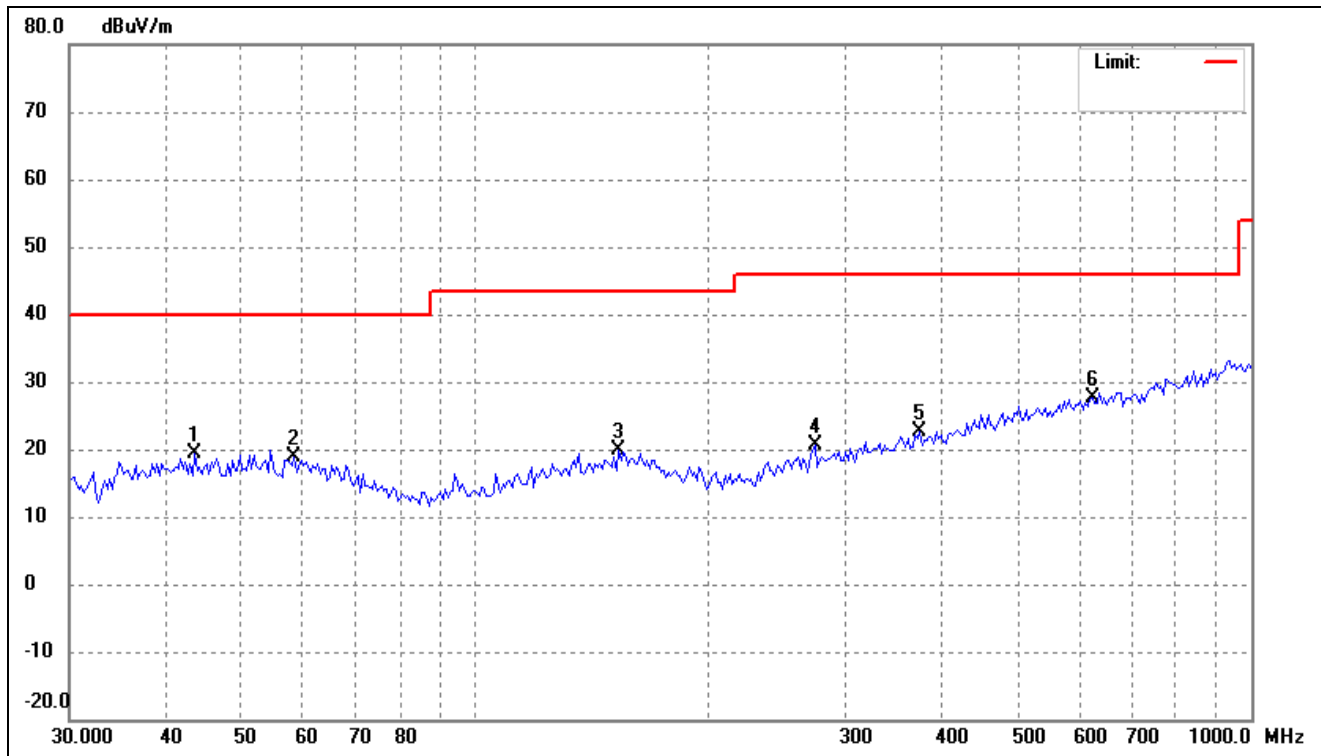
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.4588	28.35	-8.60	19.75	40.00	-20.25	-	-	peak
2	60.5769	28.14	-9.04	19.10	40.00	-20.90	-	-	peak
3	153.1627	27.59	-8.61	18.98	43.50	-24.52	-	-	peak
4	170.1888	28.72	-8.91	19.81	43.50	-23.69	-	-	peak
5	376.5228	28.97	-6.44	22.53	46.00	-23.47	-	-	peak
6	655.9766	29.83	-1.30	28.53	46.00	-17.47	-	-	peak

802.11n-HT20			
Test Channel	5180MHz(worst case)	Polarity:	Vertical



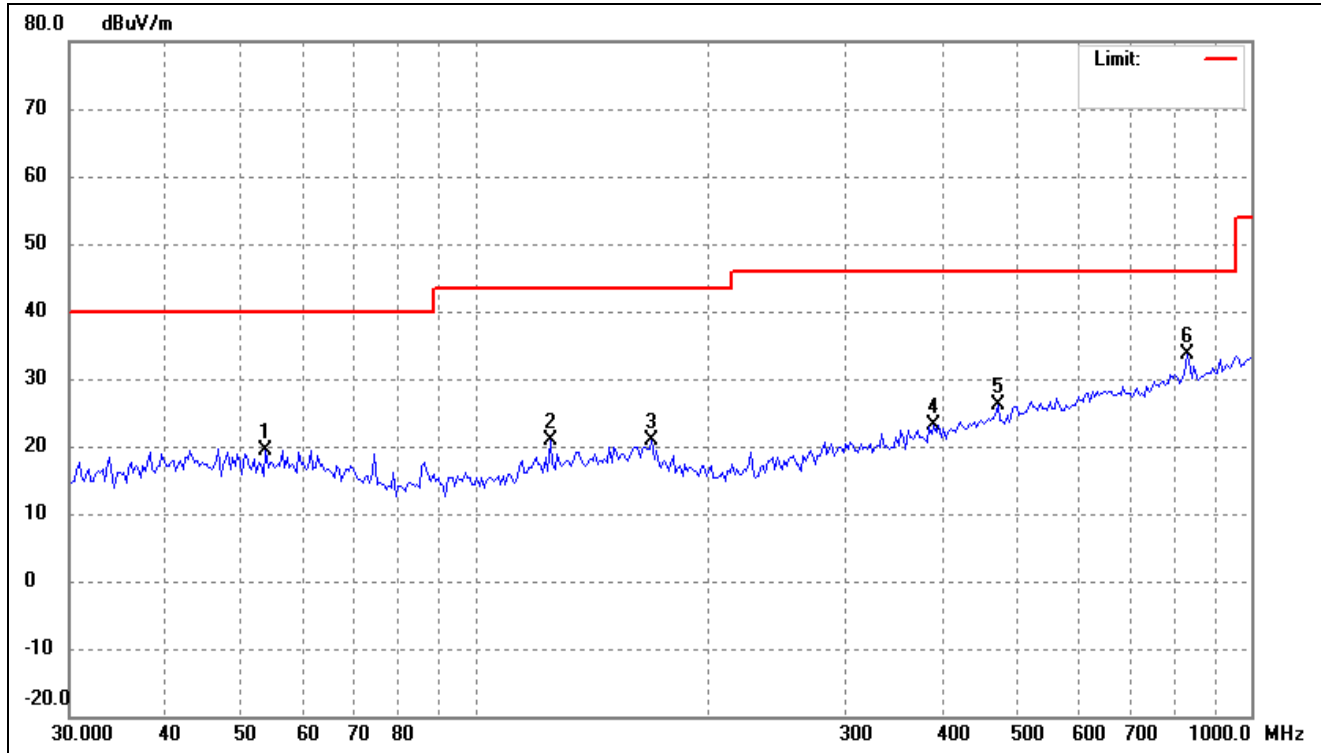
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	48.0392	27.61	-8.23	19.38	40.00	-20.62	-	-	peak
2	73.7496	29.16	-11.59	17.57	40.00	-22.43	-	-	peak
3	165.4716	31.62	-8.76	22.86	43.50	-20.64	-	-	peak
4	327.1554	27.92	-7.51	20.41	46.00	-25.59	-	-	peak
5	495.2379	29.94	-3.97	25.97	46.00	-20.03	-	-	peak
6	642.2923	30.66	-1.33	29.33	46.00	-16.67	-	-	peak

802.11n-HT40			
Test Channel	5190MHz(worst case)	Polarity:	Horizontal



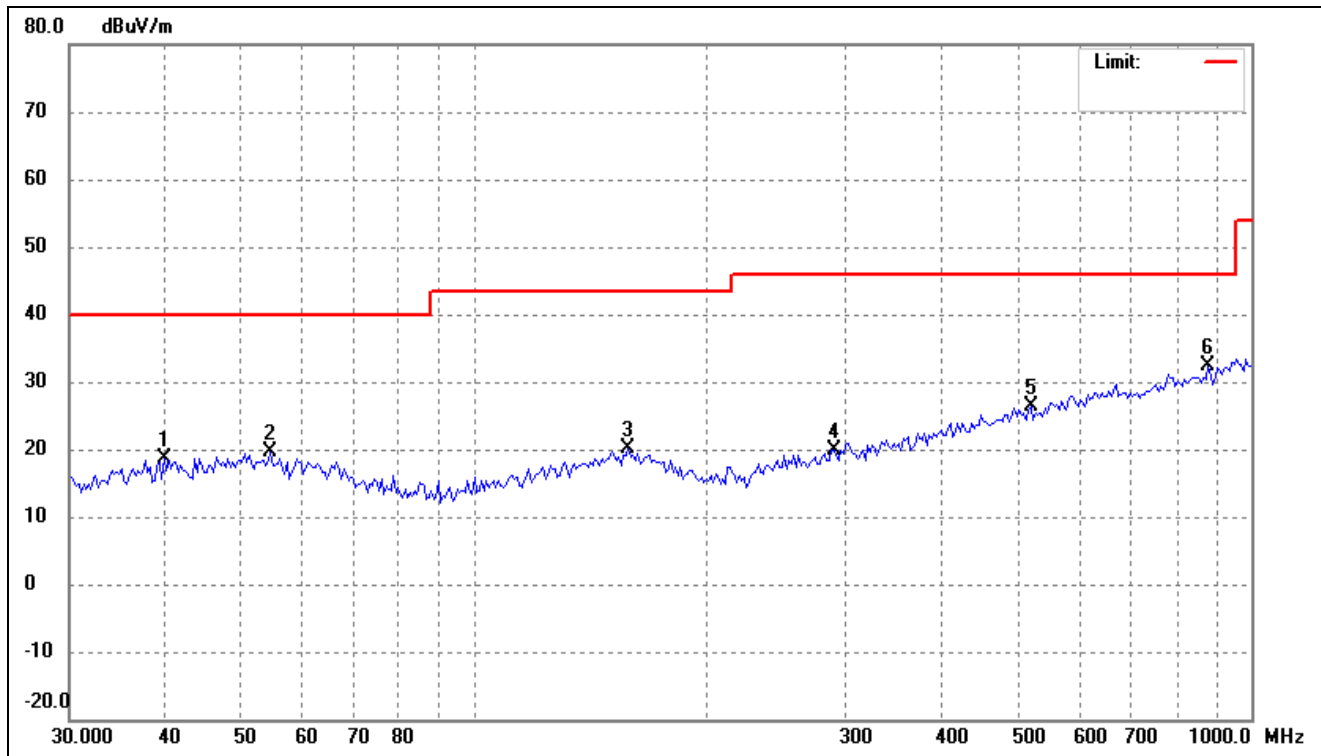
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	43.5381	27.90	-8.47	19.43	40.00	-20.57	-	-	peak
2	58.4854	27.61	-8.84	18.77	40.00	-21.23	-	-	peak
3	153.1627	28.43	-8.61	19.82	43.50	-23.68	-	-	peak
4	274.4463	29.80	-9.13	20.67	46.00	-25.33	-	-	peak
5	373.8861	29.10	-6.50	22.60	46.00	-23.40	-	-	peak
6	624.4897	29.08	-1.41	27.67	46.00	-18.33	-	-	peak

802.11n-HT40			
Test Channel	5190MHz(worst case)	Polarity:	Vertical



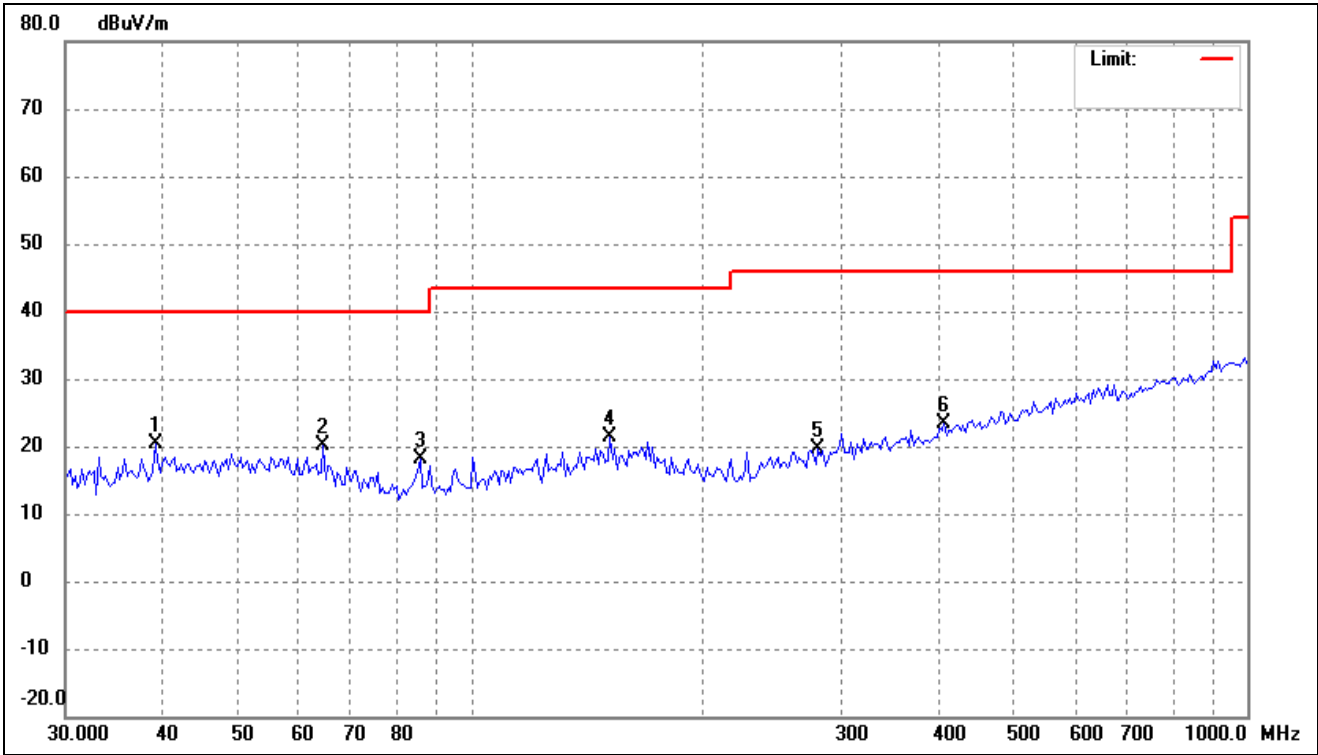
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	53.7559	27.86	-8.50	19.36	40.00	-20.64	-	-	peak
2	124.9249	31.05	-10.19	20.86	43.50	-22.64	-	-	peak
3	168.9970	29.73	-8.85	20.88	43.50	-22.62	-	-	peak
4	389.9874	29.32	-6.16	23.16	46.00	-22.84	-	-	peak
5	471.4665	30.46	-4.29	26.17	46.00	-19.83	-	-	peak
6	827.1795	33.00	0.54	33.54	46.00	-12.46	-	-	peak

802.11ac-HT80			
Test Channel	5210MHz(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.7371	27.11	-8.54	18.57	40.00	-21.43	-	-	peak
2	54.5167	28.11	-8.57	19.54	40.00	-20.46	-	-	peak
3	157.5290	28.73	-8.61	20.12	43.50	-23.38	-	-	peak
4	290.3170	28.46	-8.58	19.88	46.00	-26.12	-	-	peak
5	520.2079	29.91	-3.59	26.32	46.00	-19.68	-	-	peak
6	881.1838	31.25	1.02	32.27	46.00	-13.73	-	-	peak

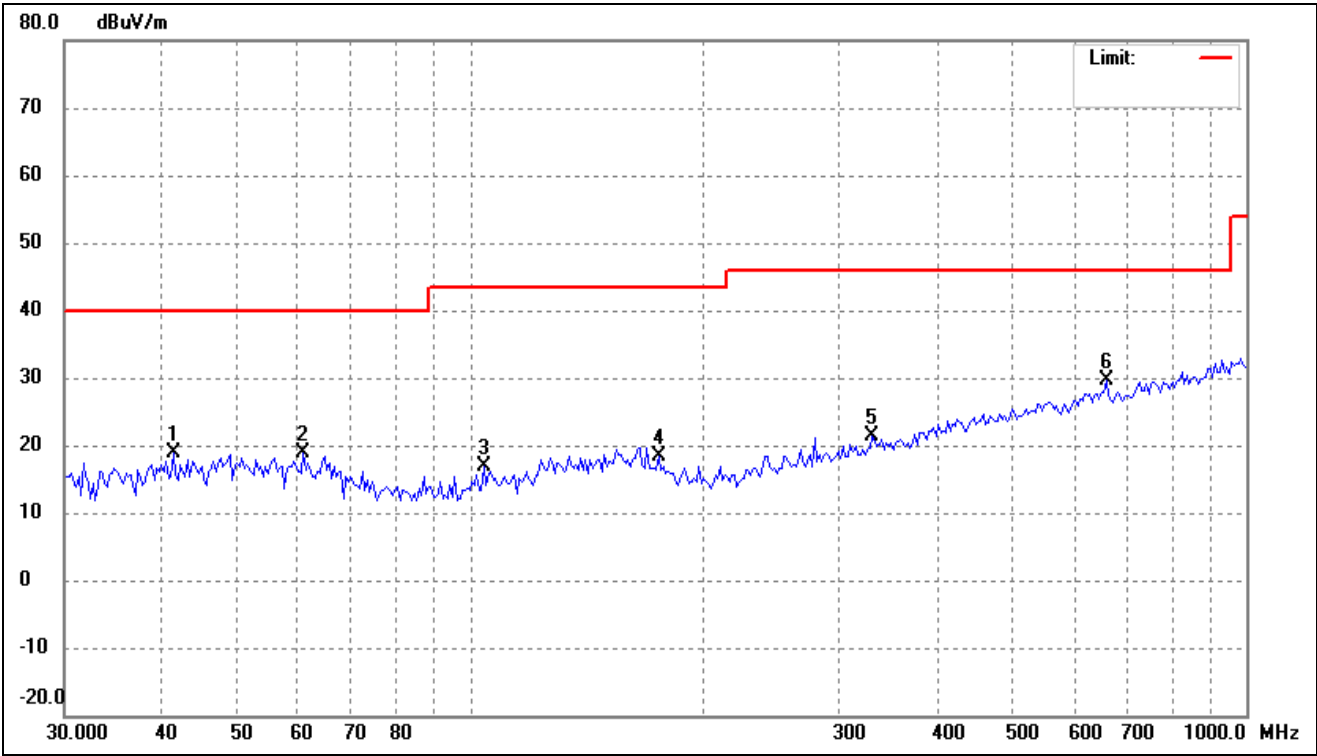
802.11ac-HT80			
Test Channel	5210MHz(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.1825	29.07	-8.65	20.42	40.00	-19.58	-	-	peak
2	64.5319	29.98	-9.76	20.22	40.00	-19.78	-	-	peak
3	86.0796	31.25	-13.04	18.21	40.00	-21.79	-	-	peak
4	151.0252	29.90	-8.61	21.29	43.50	-22.21	-	-	peak
5	280.2936	28.55	-8.93	19.62	46.00	-26.38	-	-	peak
6	406.7820	29.08	-5.78	23.30	46.00	-22.70	-	-	peak

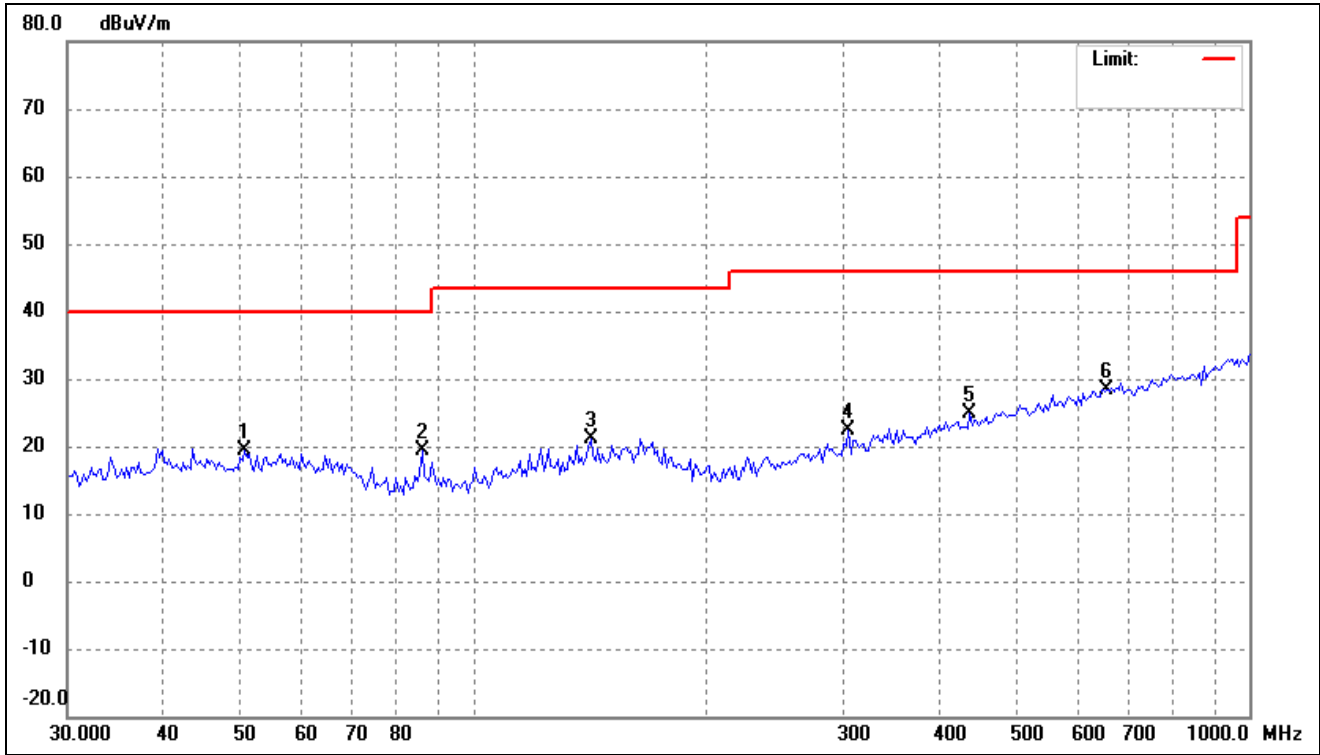
➤ 5250-5350MHz

802.11a			
Test Channel	5260MHz	Polarity:	Horizontal



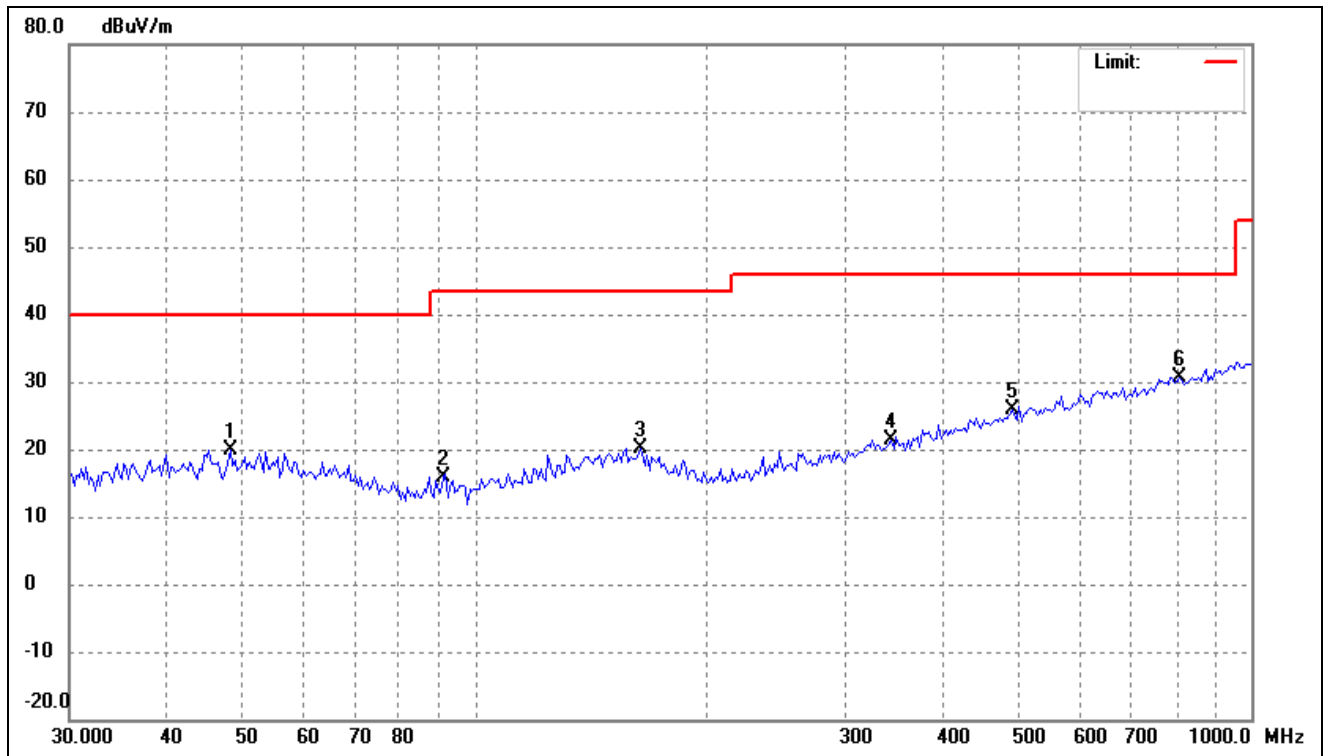
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	41.4483	27.39	-8.48	18.91	40.00	-21.09	-	-	peak
2	61.0041	27.95	-9.11	18.84	40.00	-21.16	-	-	peak
3	104.0640	29.05	-12.12	16.93	43.50	-26.57	-	-	peak
4	175.0404	28.04	-9.61	18.43	43.50	-25.07	-	-	peak
5	329.4625	28.81	-7.47	21.34	46.00	-24.66	-	-	peak
6	660.6025	30.96	-1.28	29.68	46.00	-16.32	-	-	peak

802.11a			
Test Channel	5260MHz(worst case)	Polarity:	Vertical



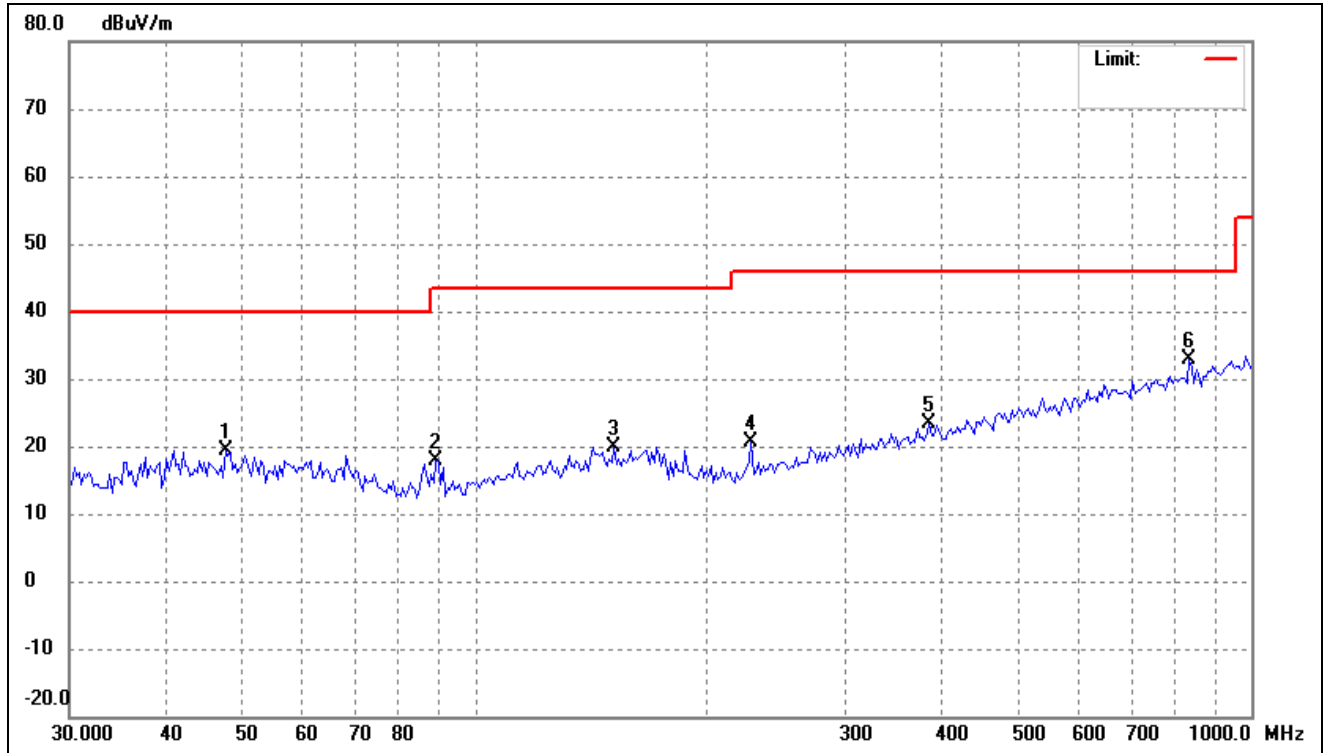
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.8172	27.57	-8.17	19.40	40.00	-20.60	-	-	peak
2	86.0796	32.33	-13.04	19.29	40.00	-20.71	-	-	peak
3	141.7694	30.44	-9.28	21.16	43.50	-22.34	-	-	peak
4	304.9548	30.41	-8.12	22.29	46.00	-23.71	-	-	peak
5	436.3956	29.81	-4.96	24.85	46.00	-21.15	-	-	peak
6	655.9766	29.76	-1.30	28.46	46.00	-17.54	-	-	peak

802.11n-HT20			
Test Channel	5260MHz(worst case)	Polarity:	Horizontal



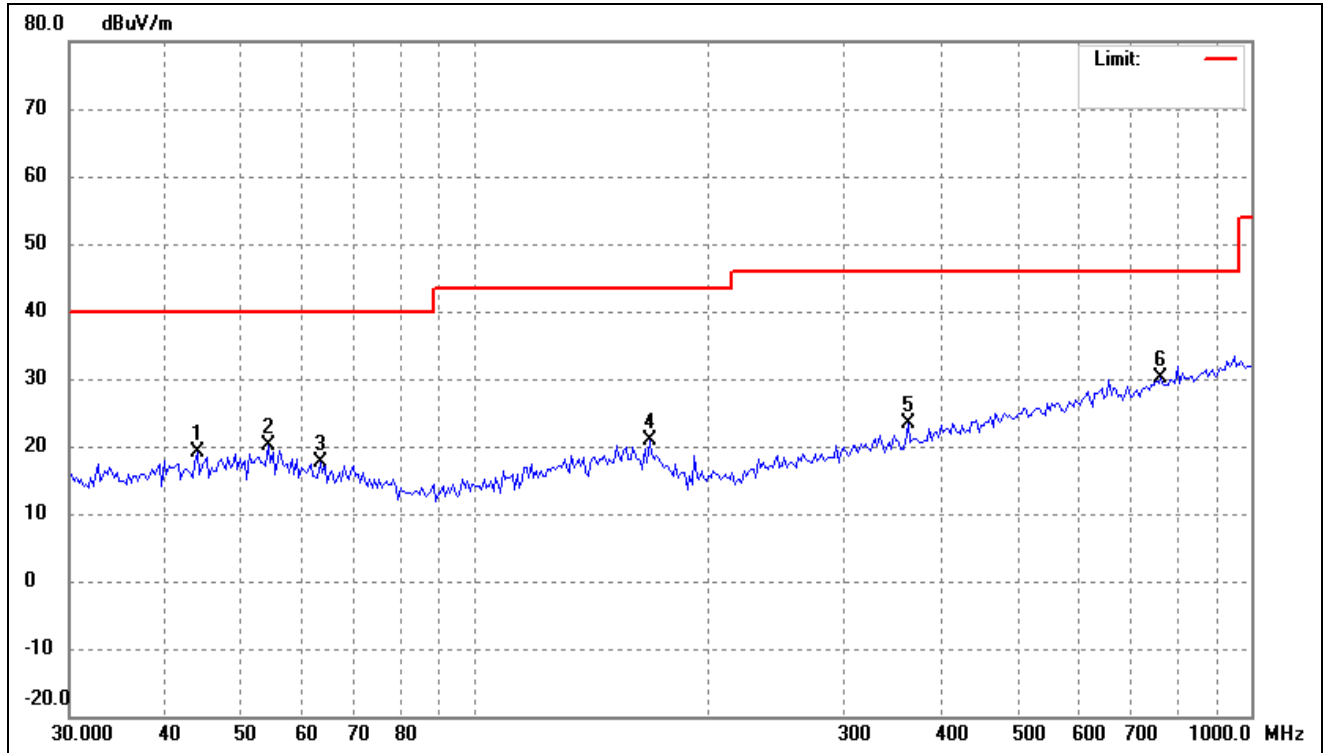
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	48.3780	28.21	-8.21	20.00	40.00	-20.00	-	-	peak
2	91.0574	28.98	-13.04	15.94	43.50	-27.56	-	-	peak
3	163.1623	28.91	-8.70	20.21	43.50	-23.29	-	-	peak
4	343.6506	28.66	-7.22	21.44	46.00	-24.56	-	-	peak
5	491.7700	29.89	-4.01	25.88	46.00	-20.12	-	-	peak
6	809.9238	30.26	0.39	30.65	46.00	-15.35	-	-	peak

802.11n-HT20			
Test Channel	5260MHz(worst case)	Polarity:	Vertical



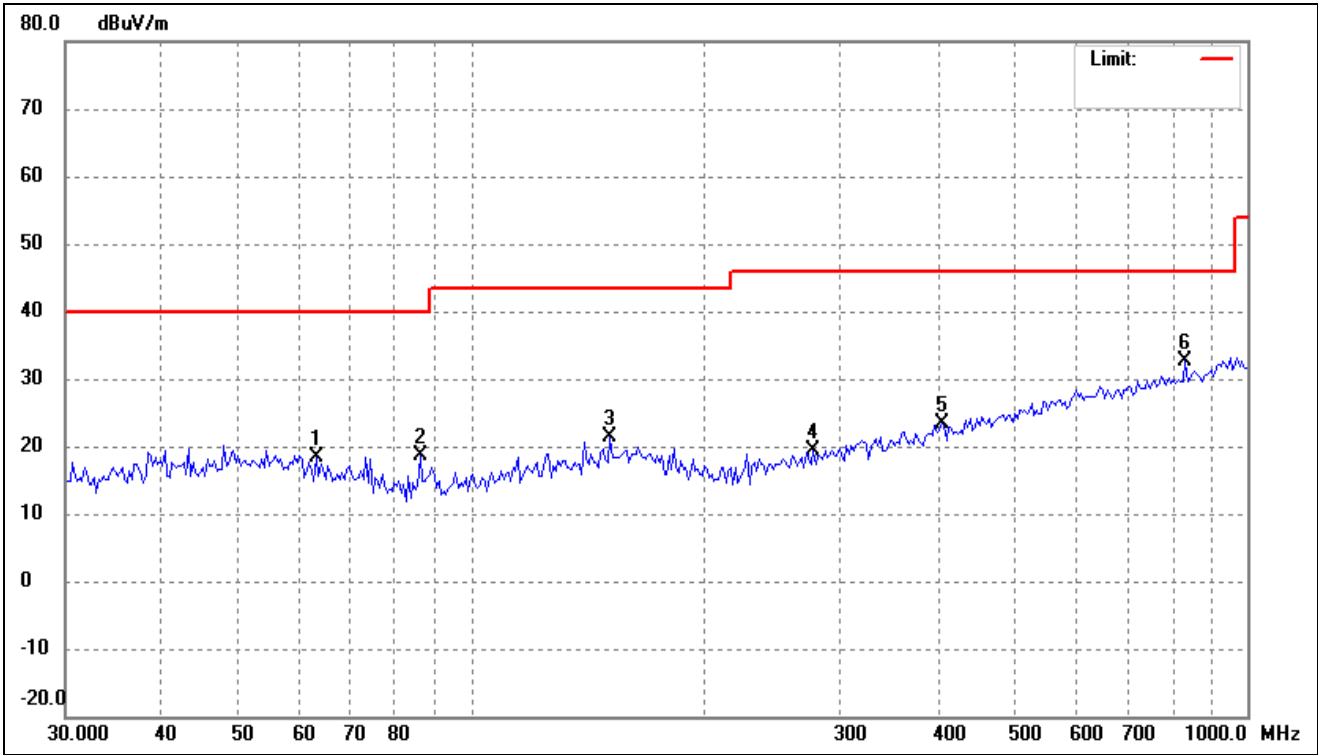
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	47.7028	27.60	-8.27	19.33	40.00	-20.67	-	-	peak
2	89.1579	31.03	-13.09	17.94	43.50	-25.56	-	-	peak
3	151.0252	28.55	-8.61	19.94	43.50	-23.56	-	-	peak
4	227.0164	32.47	-11.76	20.71	46.00	-25.29	-	-	peak
5	384.5447	29.73	-6.28	23.45	46.00	-22.55	-	-	peak
6	833.0127	32.36	0.59	32.95	46.00	-13.05	-	-	peak

802.11n-HT40			
Test Channel	5270MHz(worst case)	Polarity:	Horizontal



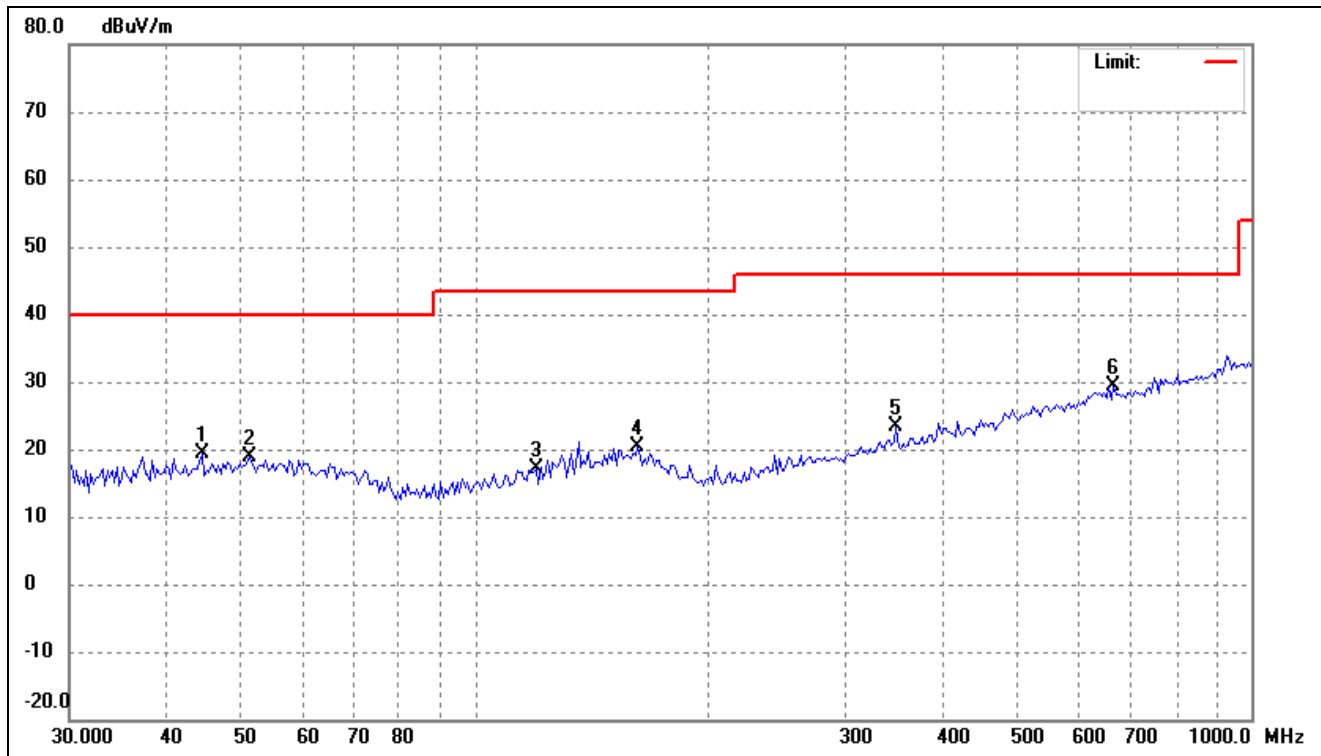
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	43.8452	27.64	-8.48	19.16	40.00	-20.84	-	-	peak
2	54.1349	28.55	-8.54	20.01	40.00	-19.99	-	-	peak
3	63.1857	27.03	-9.52	17.51	40.00	-22.49	-	-	peak
4	167.8136	29.58	-8.82	20.76	43.50	-22.74	-	-	peak
5	360.9775	30.28	-6.83	23.45	46.00	-22.55	-	-	peak
6	765.6482	30.18	-0.01	30.17	46.00	-15.83	-	-	peak

802.11n-HT40			
Test Channel	5270MHz(worst case)	Polarity:	Vertical



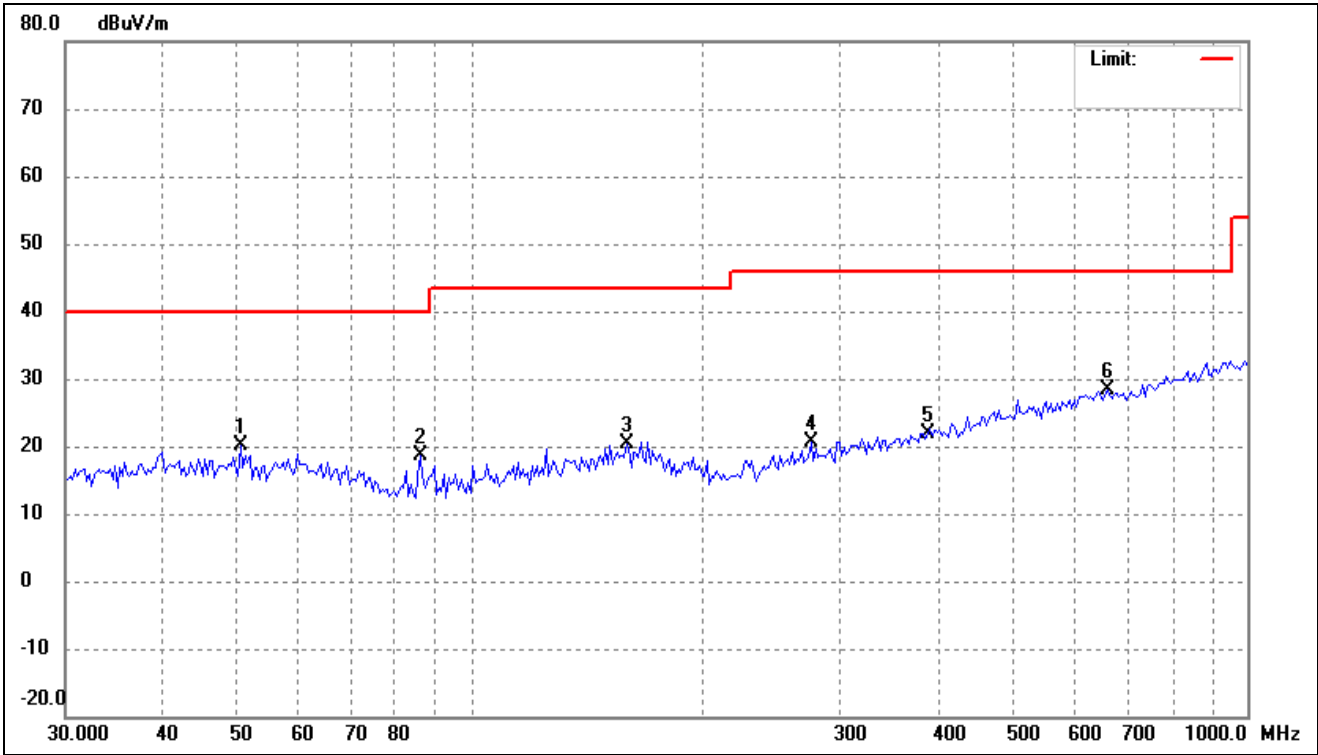
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	63.1857	28.00	-9.52	18.48	40.00	-21.52	-	-	peak
2	86.0796	31.69	-13.04	18.65	40.00	-21.35	-	-	peak
3	151.0252	29.91	-8.61	21.30	43.50	-22.20	-	-	peak
4	276.3818	28.40	-9.06	19.34	46.00	-26.66	-	-	peak
5	403.9335	29.32	-5.85	23.47	46.00	-22.53	-	-	peak
6	833.0127	32.14	0.59	32.73	46.00	-13.27	-	-	peak

802.11ac-HT80			
Test Channel	5290MHz(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.4657	27.75	-8.47	19.28	40.00	-20.72	-	-	peak
2	51.1756	27.15	-8.22	18.93	40.00	-21.07	-	-	peak
3	119.7672	27.79	-10.55	17.24	43.50	-26.26	-	-	peak
4	162.0197	28.93	-8.66	20.27	43.50	-23.23	-	-	peak
5	348.5145	30.49	-7.14	23.35	46.00	-22.65	-	-	peak
6	665.2610	30.67	-1.27	29.40	46.00	-16.60	-	-	peak

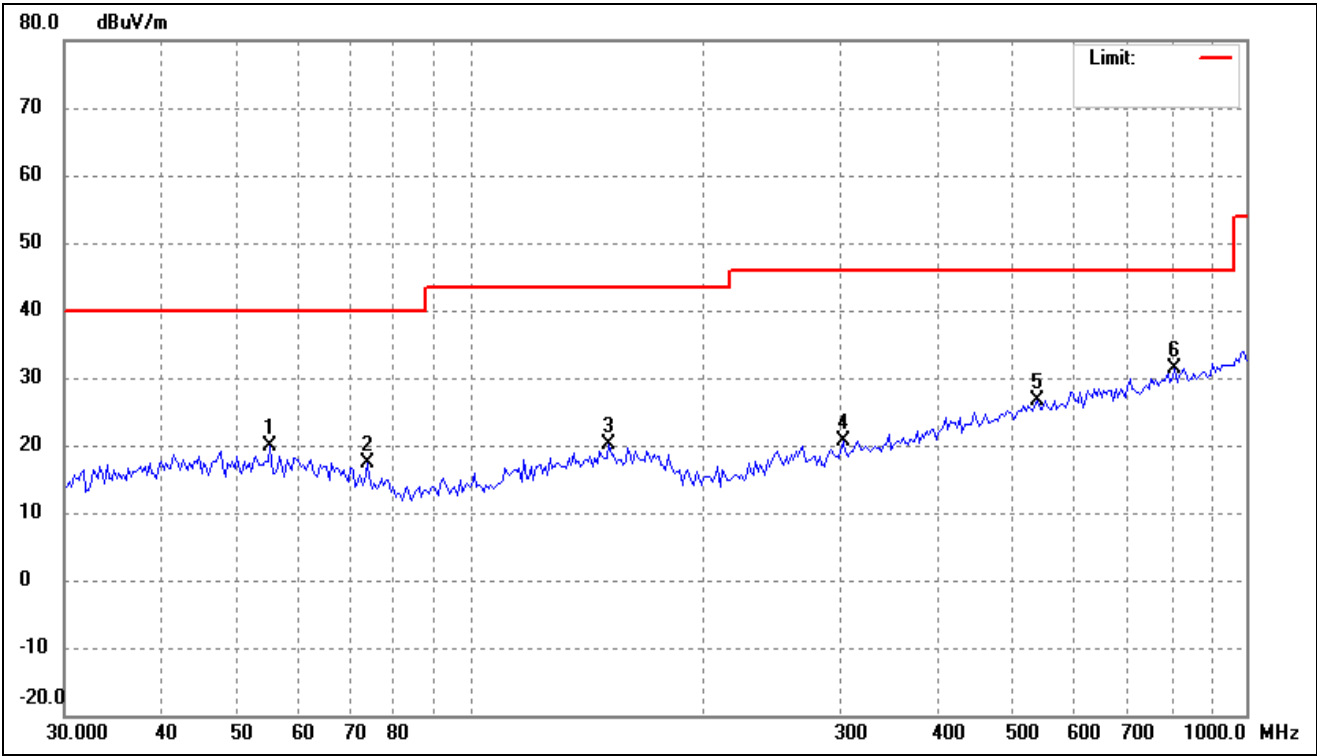
802.11ac-HT80			
Test Channel	5290MHz(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.4614	28.23	-8.14	20.09	40.00	-19.91	-	-	peak
2	86.0796	31.63	-13.04	18.59	40.00	-21.41	-	-	peak
3	158.6399	28.91	-8.61	20.30	43.50	-23.20	-	-	peak
4	274.4464	29.80	-9.13	20.67	46.00	-25.33	-	-	peak
5	387.2565	28.19	-6.22	21.97	46.00	-24.03	-	-	peak
6	660.6025	29.71	-1.28	28.43	46.00	-17.57	-	-	peak

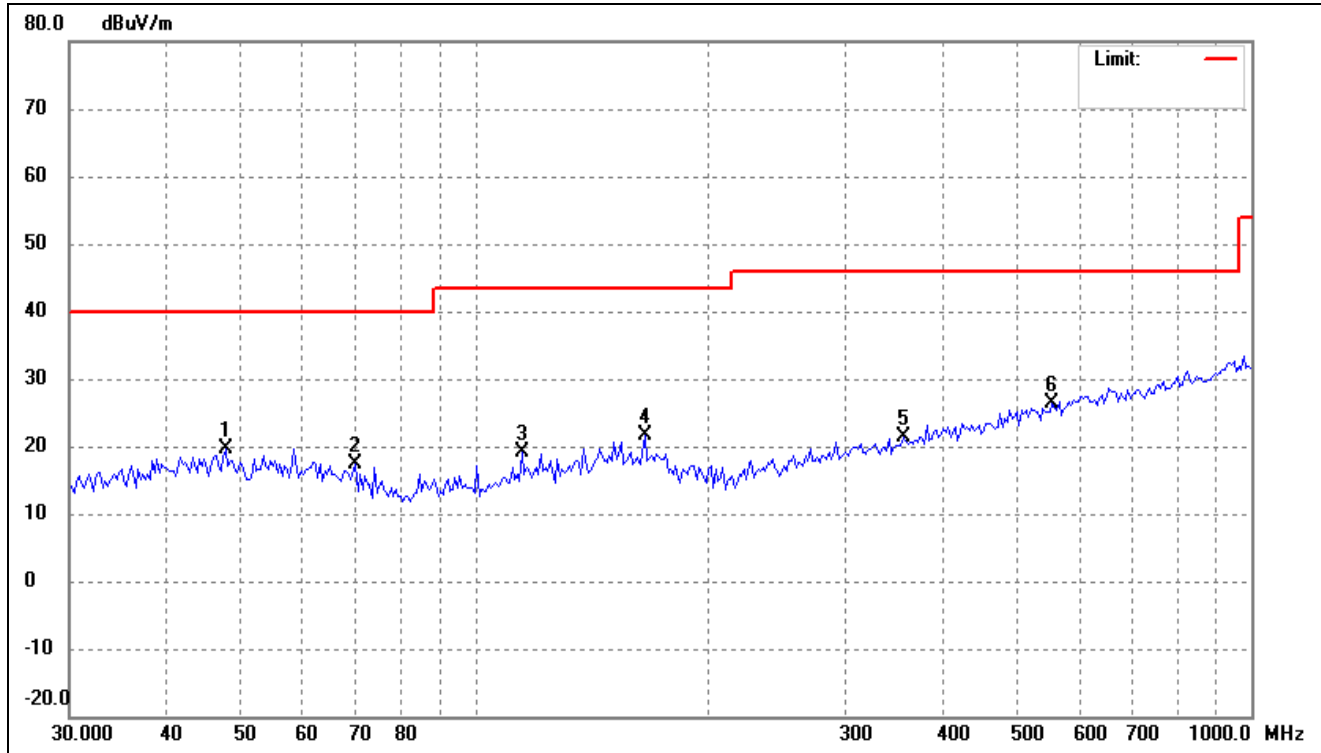
➤ 5470-5725MHz

802.11a			
Test Channel	5500MHz(worst case)	Polarity:	Horizontal



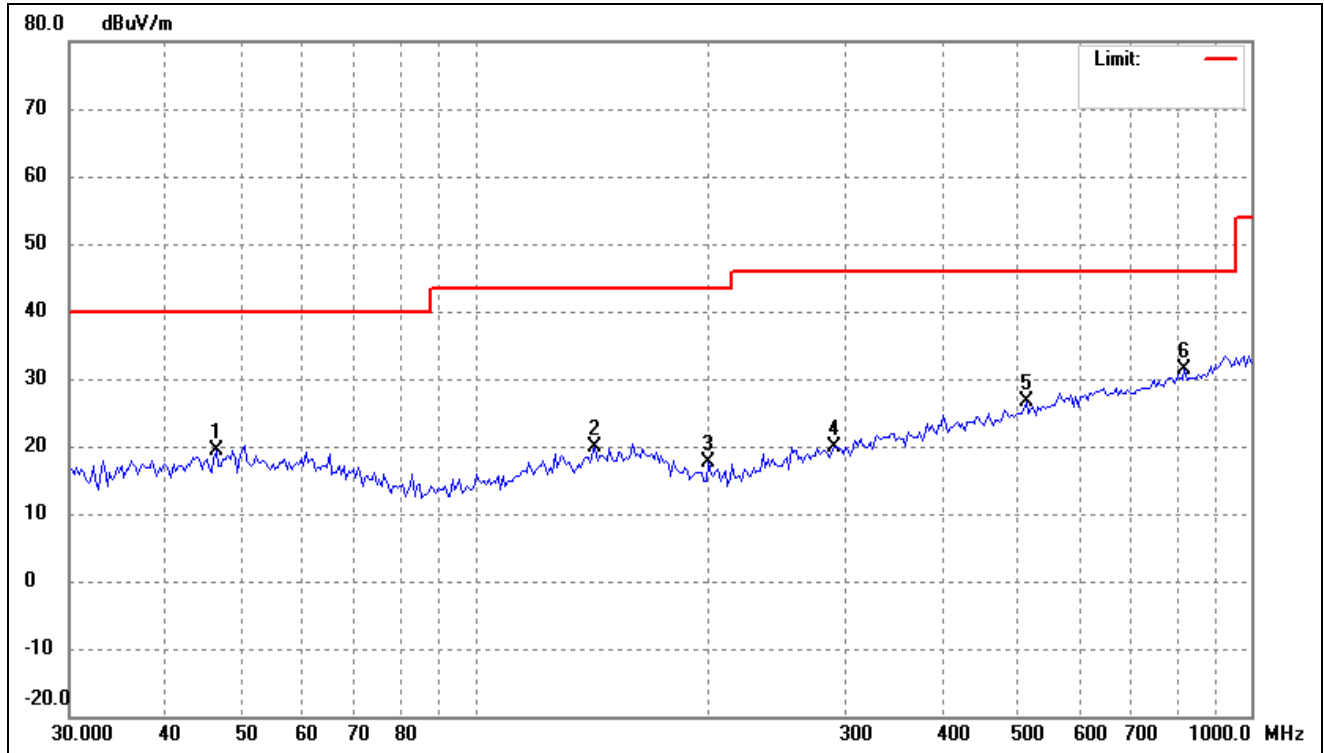
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.2883	28.64	-8.64	20.00	40.00	-20.00	-	-	peak
2	73.7496	28.85	-11.59	17.26	40.00	-22.74	-	-	peak
3	151.0252	28.62	-8.61	20.01	43.50	-23.49	-	-	peak
4	302.8193	28.87	-8.18	20.69	46.00	-25.31	-	-	peak
5	538.8107	29.68	-3.15	26.53	46.00	-19.47	-	-	peak
6	809.9238	31.06	0.39	31.45	46.00	-14.55	-	-	peak

802.11a			
Test Channel	5500MHz(worst case)	Polarity:	Vertical



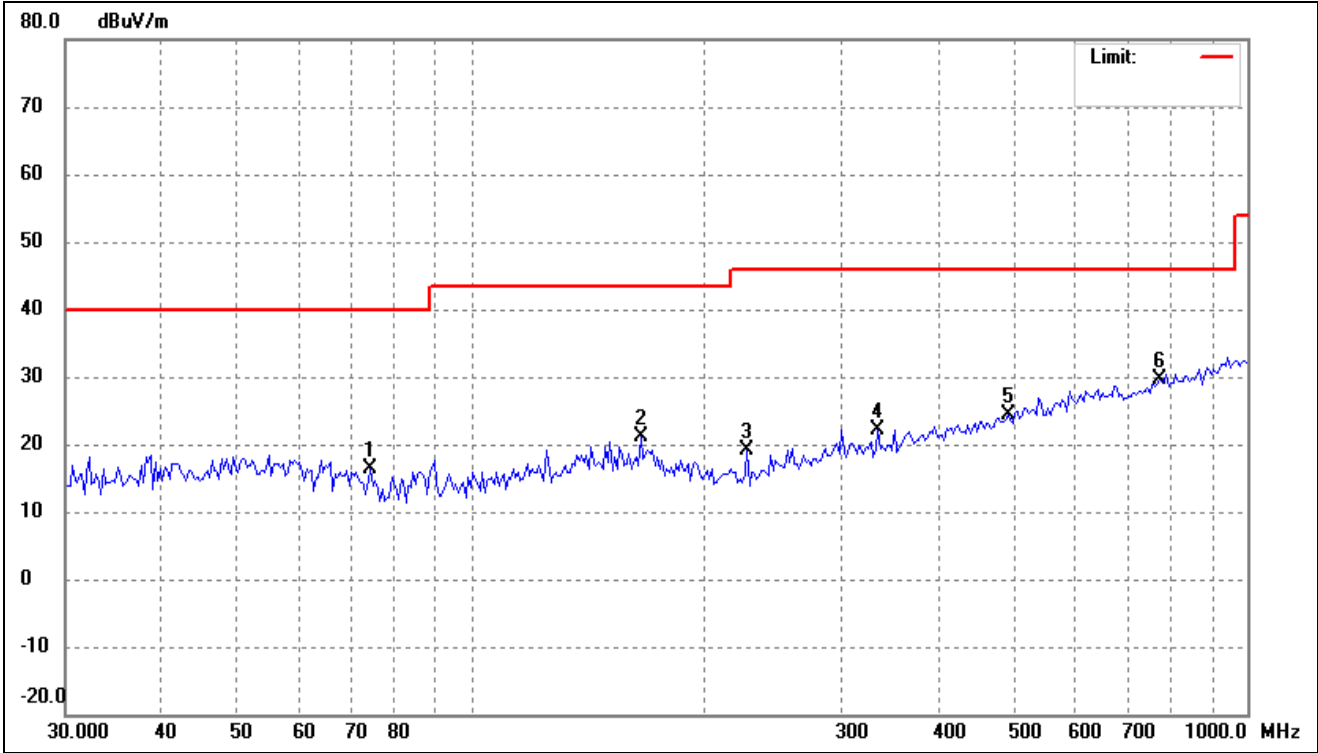
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	47.7028	27.89	-8.27	19.62	40.00	-20.38	-	-	peak
2	70.2096	28.14	-10.81	17.33	40.00	-22.67	-	-	peak
3	114.8224	30.16	-11.07	19.09	43.50	-24.41	-	-	peak
4	165.4716	30.36	-8.76	21.60	43.50	-21.90	-	-	peak
5	355.9397	28.39	-6.96	21.43	46.00	-24.57	-	-	peak
6	554.1708	29.25	-2.75	26.50	46.00	-19.50	-	-	peak

802.11n-HT20			
Test Channel	5500MHz(worst case)	Polarity:	Horizontal



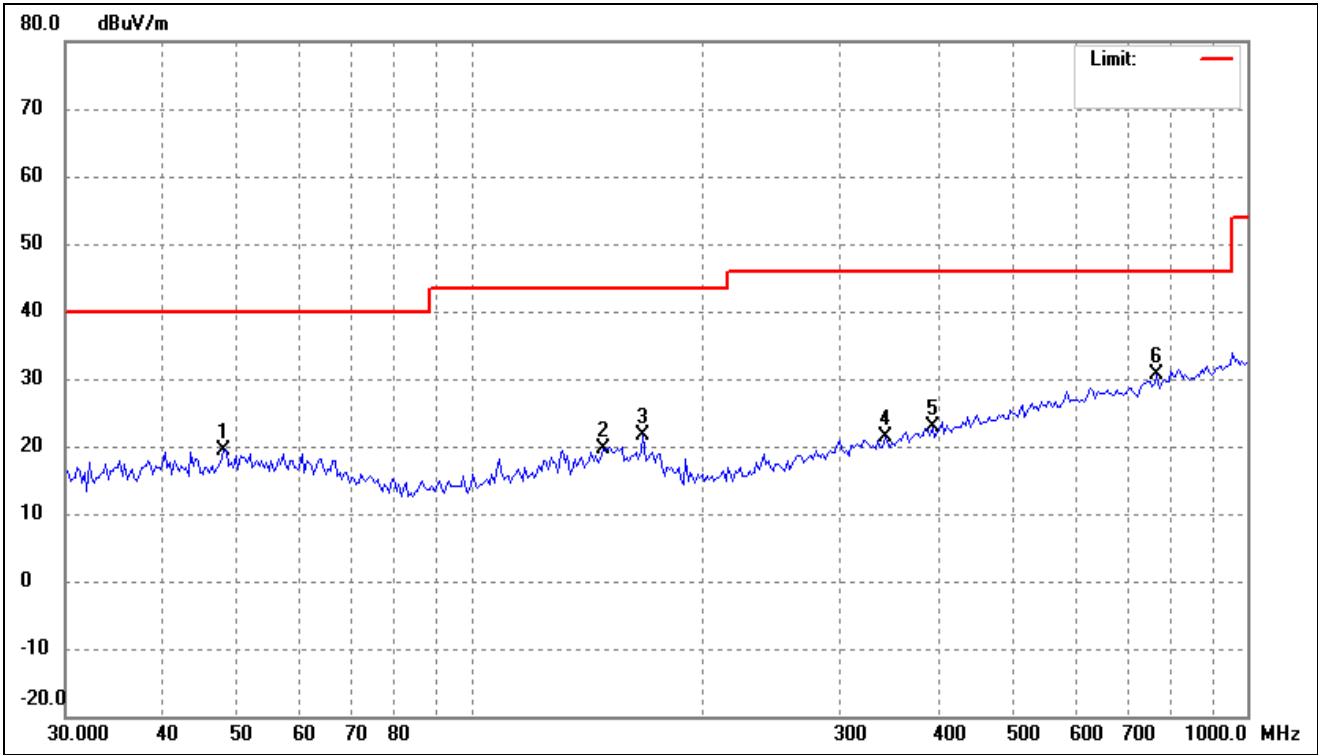
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.3806	27.68	-8.37	19.31	40.00	-20.69	-	-	peak
2	142.7692	29.03	-9.20	19.83	43.50	-23.67	-	-	peak
3	200.0432	29.65	-11.98	17.67	43.50	-25.83	-	-	peak
4	290.3170	28.58	-8.58	20.00	46.00	-26.00	-	-	peak
5	512.9478	30.23	-3.70	26.53	46.00	-19.47	-	-	peak
6	821.3871	31.01	0.49	31.50	46.00	-14.50	-	-	peak

802.11n-HT20			
Test Channel	5500MHz(worst case)	Polarity:	Vertical



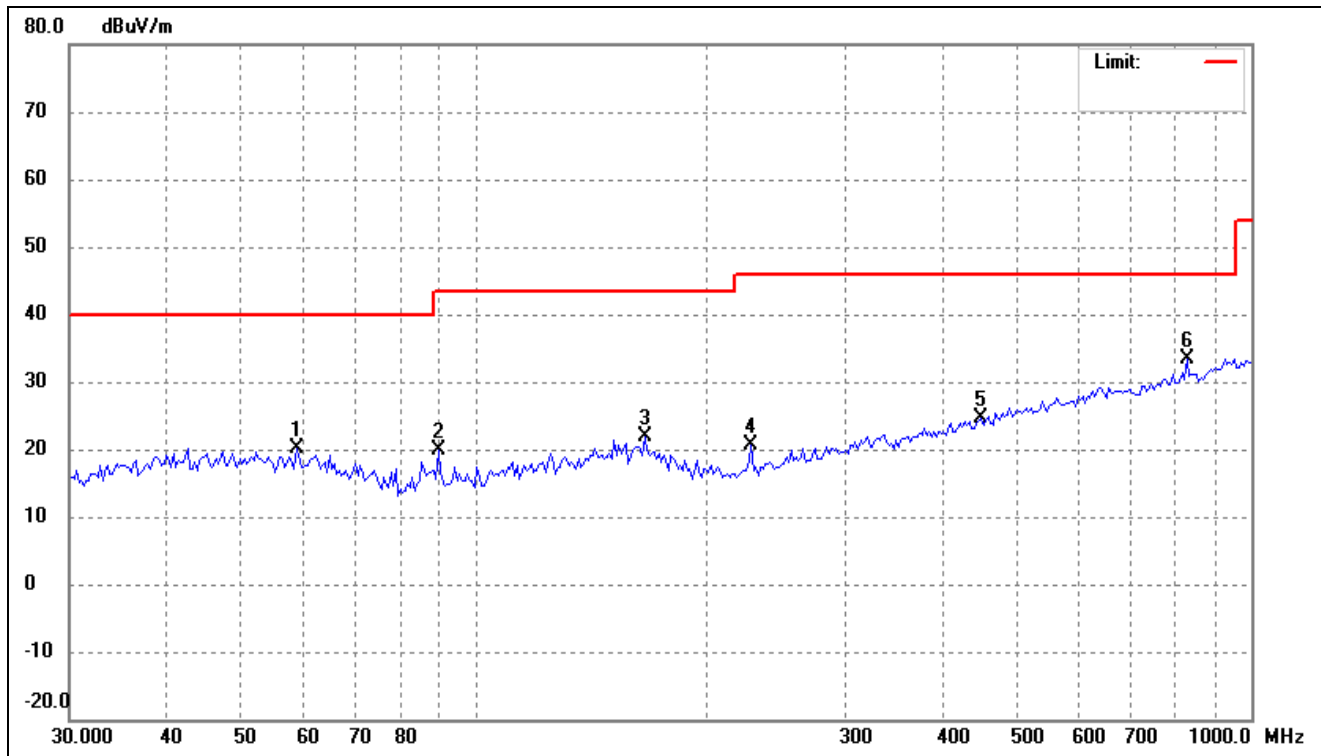
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	74.2696	28.08	-11.70	16.38	40.00	-23.62	-	-	peak
2	165.4716	30.00	-8.76	21.24	43.50	-22.26	-	-	peak
3	227.0164	30.83	-11.76	19.07	46.00	-26.93	-	-	peak
4	334.1255	29.48	-7.39	22.09	46.00	-23.91	-	-	peak
5	491.7700	28.28	-4.01	24.27	46.00	-21.73	-	-	peak
6	771.0475	29.66	0.03	29.69	46.00	-16.31	-	-	peak

802.11n-HT40			
Test Channel	5510MHz(worst case)	Polarity:	Horizontal



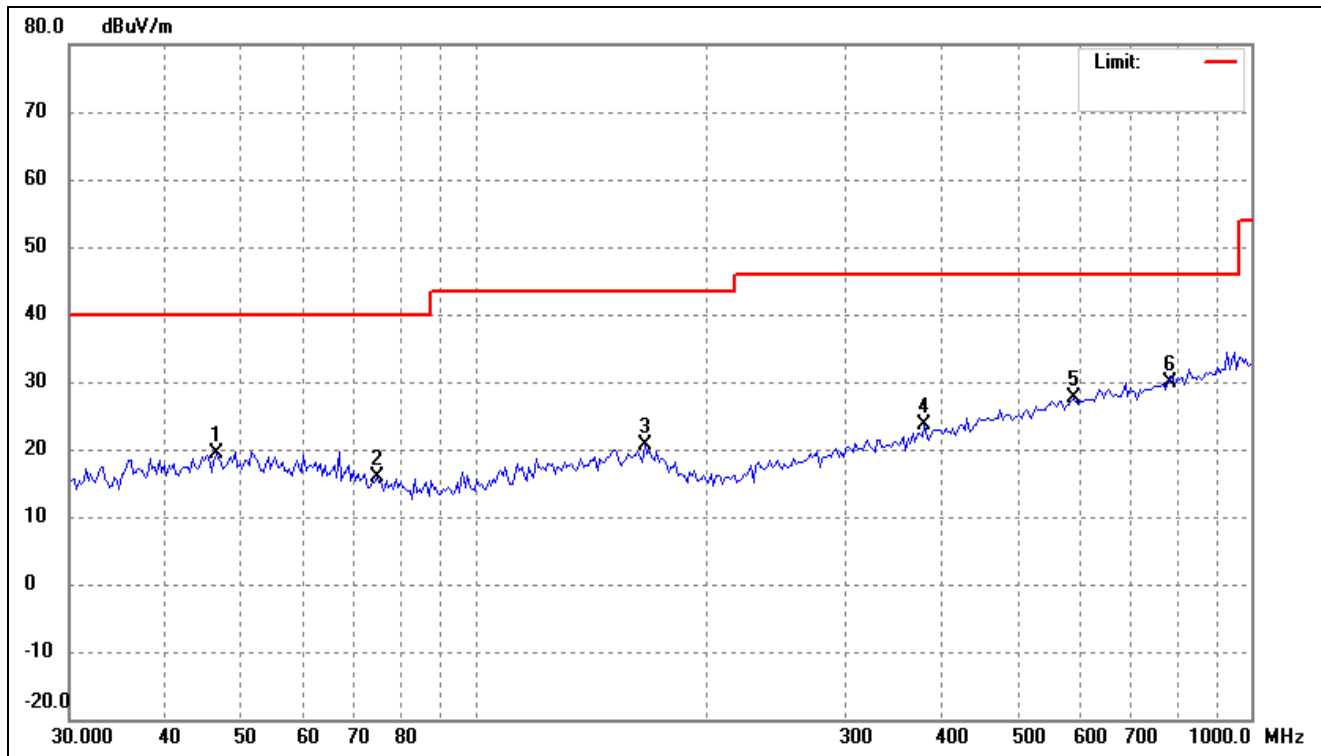
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	48.0392	27.60	-8.23	19.37	40.00	-20.63	-	-	peak
2	147.8747	28.43	-8.77	19.66	43.50	-23.84	-	-	peak
3	166.6385	30.35	-8.79	21.56	43.50	-21.94	-	-	peak
4	341.2442	28.64	-7.26	21.38	46.00	-24.62	-	-	peak
5	392.7376	28.98	-6.11	22.87	46.00	-23.13	-	-	peak
6	765.6482	30.60	-0.01	30.59	46.00	-15.41	-	-	peak

802.11n-HT40			
Test Channel	5510MHz(worst case)	Polarity:	Vertical



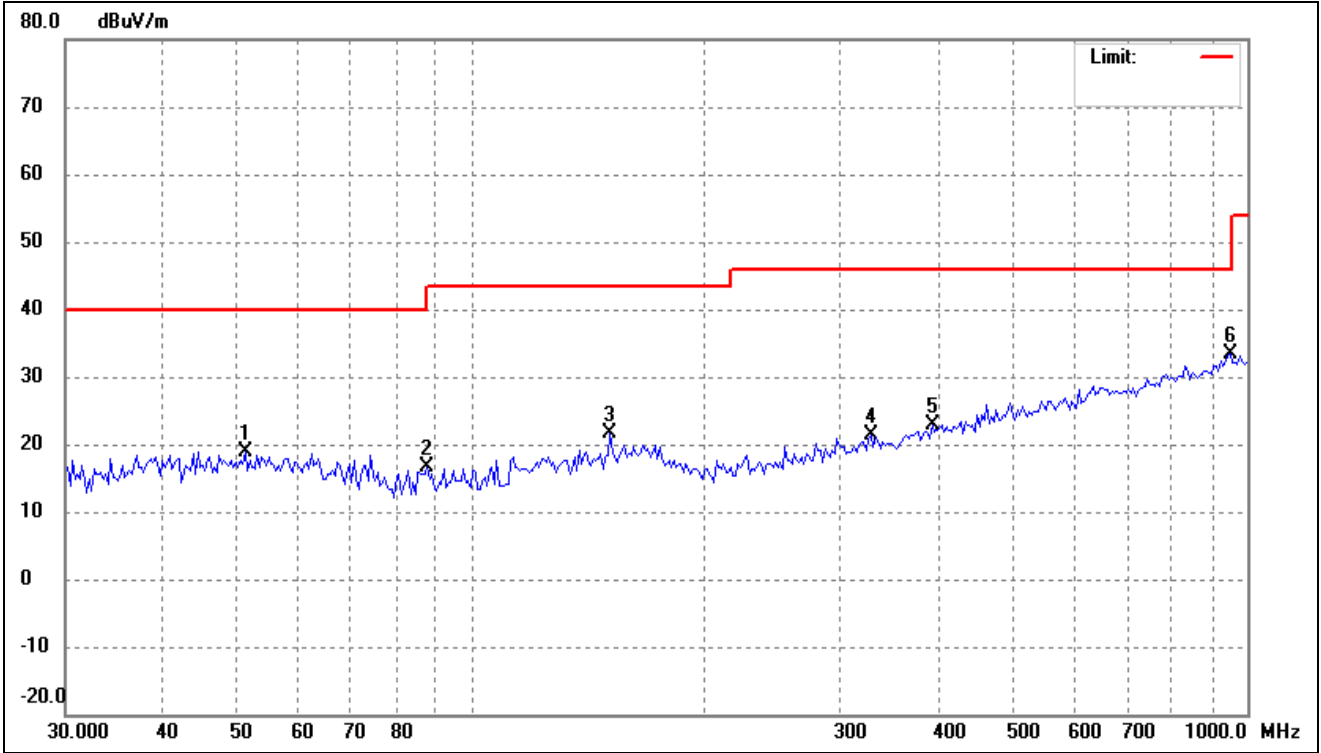
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	58.8979	29.05	-8.87	20.18	40.00	-19.82	-	-	peak
2	89.7866	33.05	-13.10	19.95	43.50	-23.55	-	-	peak
3	165.4716	30.71	-8.76	21.95	43.50	-21.55	-	-	peak
4	227.0164	32.37	-11.76	20.61	46.00	-25.39	-	-	peak
5	448.8361	29.32	-4.61	24.71	46.00	-21.29	-	-	peak
6	827.1795	32.79	0.54	33.33	46.00	-12.67	-	-	peak

802.11ac-HT80			
Test Channel	5530MHz(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.3806	27.70	-8.37	19.33	40.00	-20.67	-	-	peak
2	74.7934	27.61	-11.82	15.79	40.00	-24.21	-	-	peak
3	165.4716	29.32	-8.76	20.56	43.50	-22.94	-	-	peak
4	379.1780	30.04	-6.38	23.66	46.00	-22.34	-	-	peak
5	590.3511	29.65	-1.94	27.71	46.00	-18.29	-	-	peak
6	781.9606	29.84	0.13	29.97	46.00	-16.03	-	-	peak

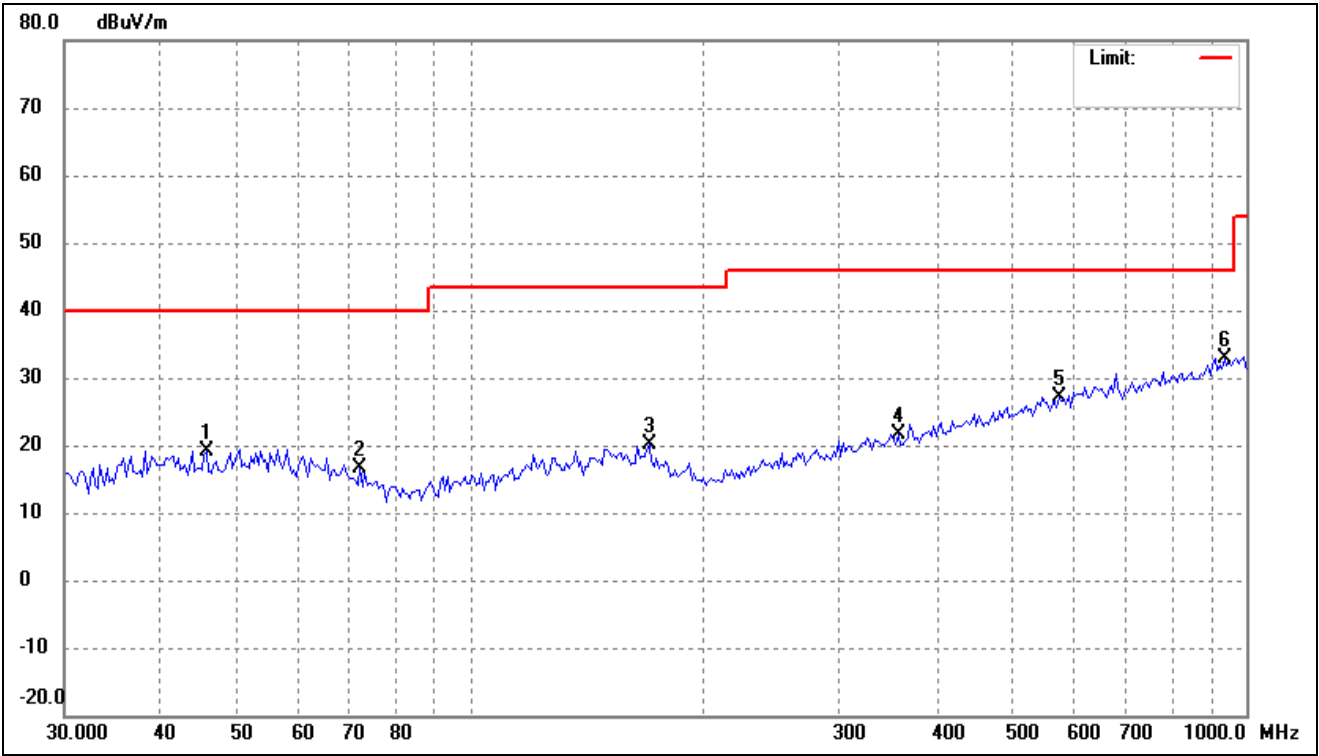
802.11ac-HT80			
Test Channel	5530MHz(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	51.1756	27.02	-8.22	18.80	40.00	-21.20	-	-	peak
2	87.9136	29.64	-13.07	16.57	40.00	-23.43	-	-	peak
3	151.0252	30.19	-8.61	21.58	43.50	-21.92	-	-	peak
4	327.1554	28.98	-7.51	21.47	46.00	-24.53	-	-	peak
5	392.7376	29.03	-6.11	22.92	46.00	-23.08	-	-	peak
6	952.0001	31.03	2.25	33.28	46.00	-12.72	-	-	peak

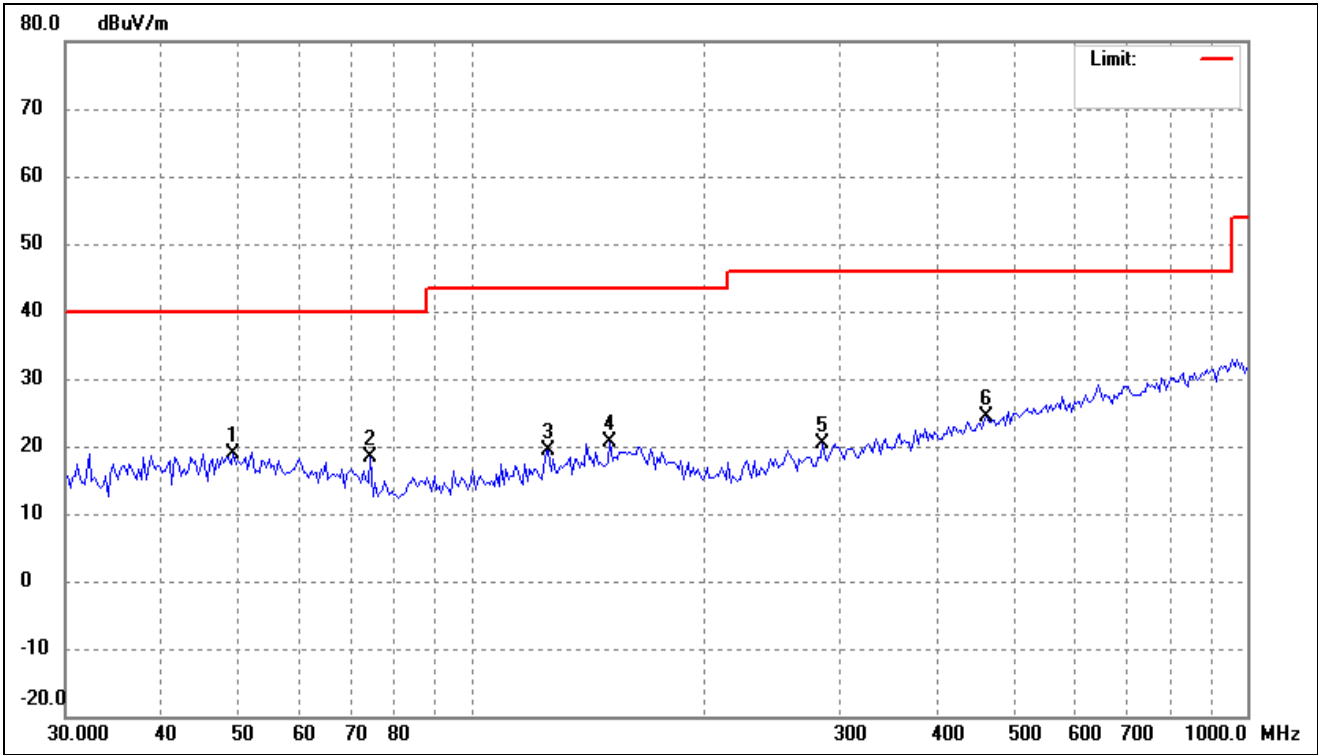
➤ 5725-5850MHz

802.11a			
Test Channel	5745MHz(worst case)	Polarity:	Horizontal



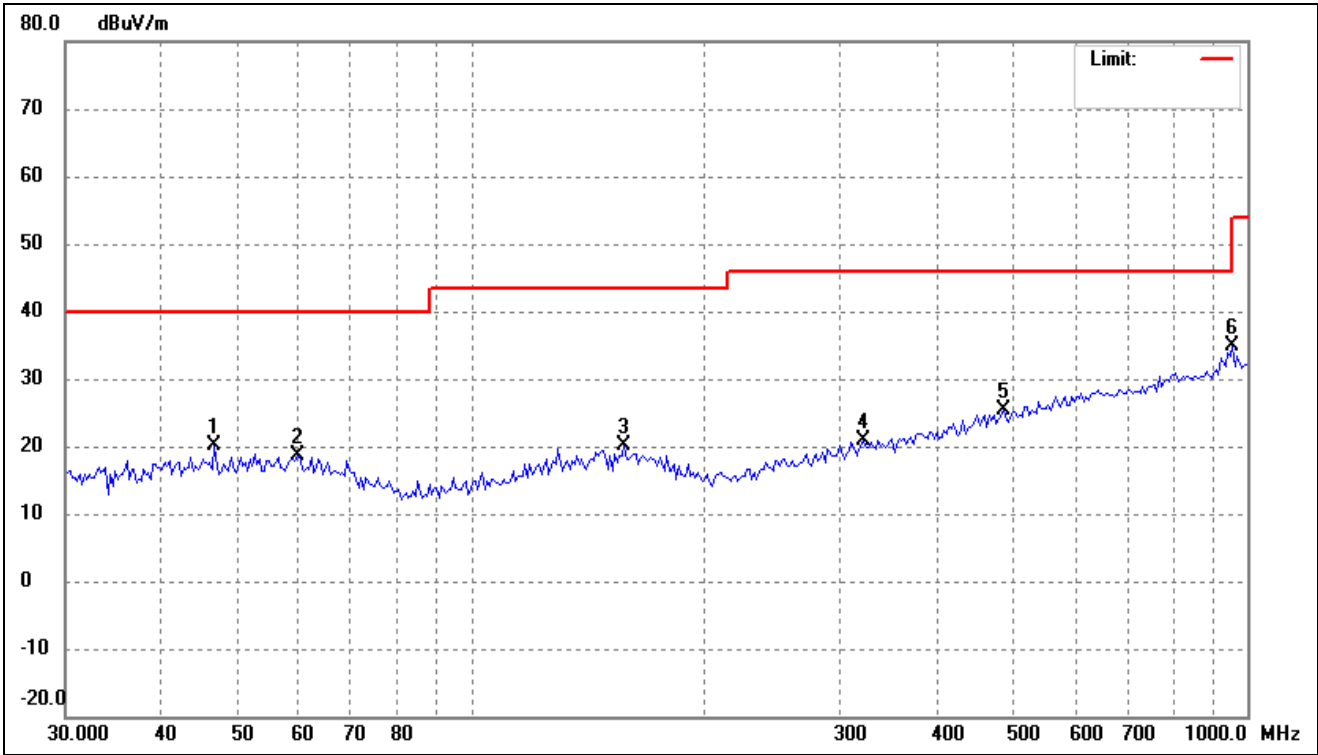
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.7333	27.51	-8.41	19.10	40.00	-20.90	-	-	peak
2	72.2111	27.90	-11.26	16.64	40.00	-23.36	-	-	peak
3	170.1888	29.09	-8.91	20.18	43.50	-23.32	-	-	peak
4	355.9397	28.61	-6.96	21.65	46.00	-24.35	-	-	peak
5	573.9882	29.37	-2.27	27.10	46.00	-18.90	-	-	peak
6	938.7139	30.90	2.01	32.91	46.00	-13.09	-	-	peak

802.11a			
Test Channel	5745MHz(worst case)	Polarity:	Vertical



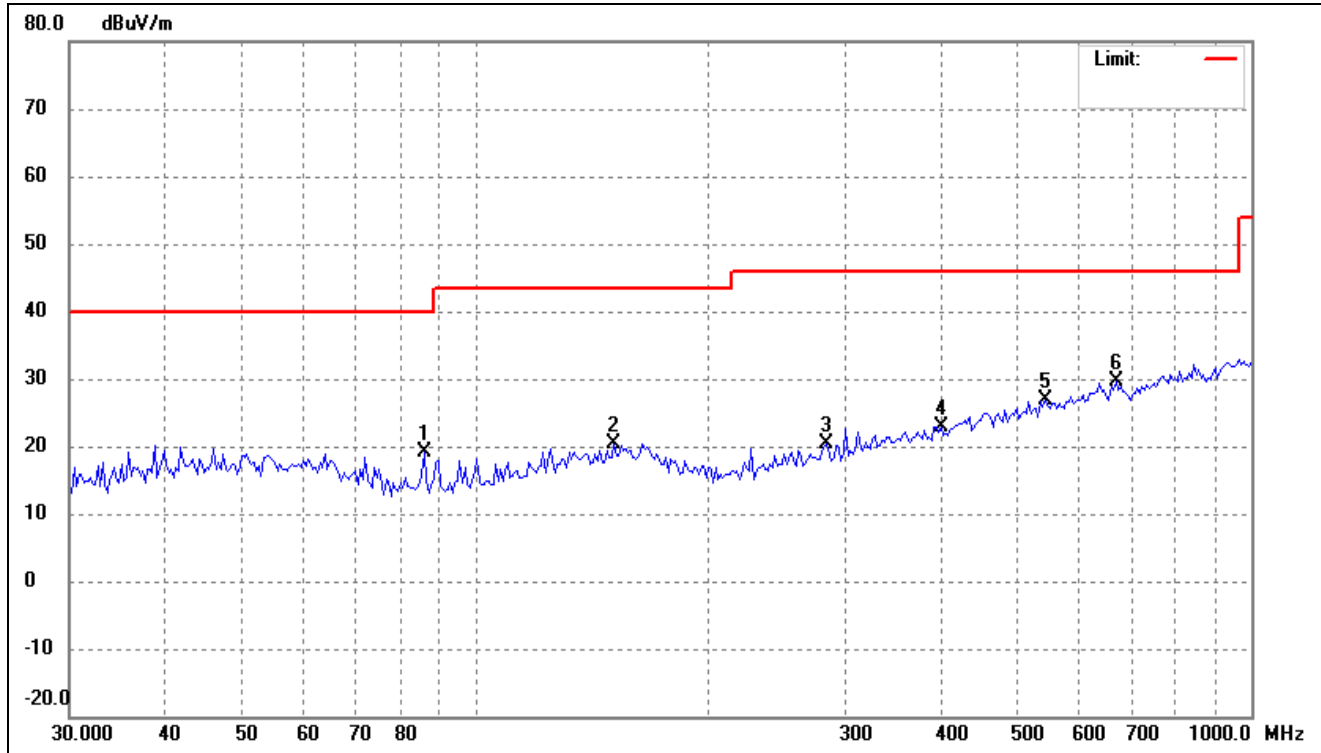
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	49.4087	27.01	-8.13	18.88	40.00	-21.12	-	-	peak
2	74.2696	29.96	-11.70	18.26	40.00	-21.74	-	-	peak
3	125.8059	29.52	-10.14	19.38	43.50	-24.12	-	-	peak
4	151.0252	29.19	-8.61	20.58	43.50	-22.92	-	-	peak
5	284.2607	29.20	-8.79	20.41	46.00	-25.59	-	-	peak
6	461.6313	28.68	-4.42	24.26	46.00	-21.74	-	-	peak

802.11n-HT20			
Test Channel	5745MHz(worst case)	Polarity:	Horizontal



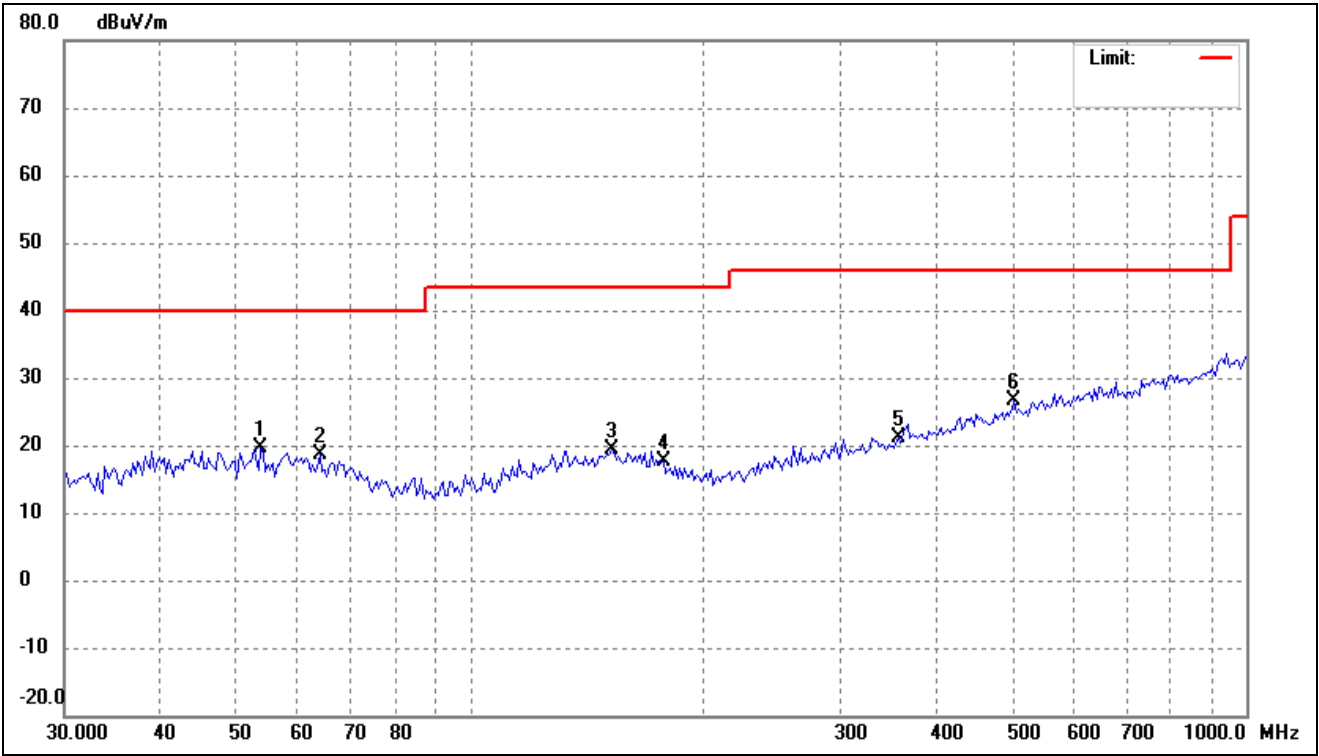
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.7077	28.53	-8.34	20.19	40.00	-19.81	-	-	peak
2	59.7315	27.66	-8.92	18.74	40.00	-21.26	-	-	peak
3	157.5290	28.74	-8.61	20.13	43.50	-23.37	-	-	peak
4	320.3306	28.55	-7.68	20.87	46.00	-25.13	-	-	peak
5	484.9068	29.41	-4.11	25.30	46.00	-20.70	-	-	peak
6	958.7135	32.69	2.26	34.95	46.00	-11.05	-	-	peak

802.11n-HT20			
Test Channel	5745MHz(worst case)	Polarity:	Vertical



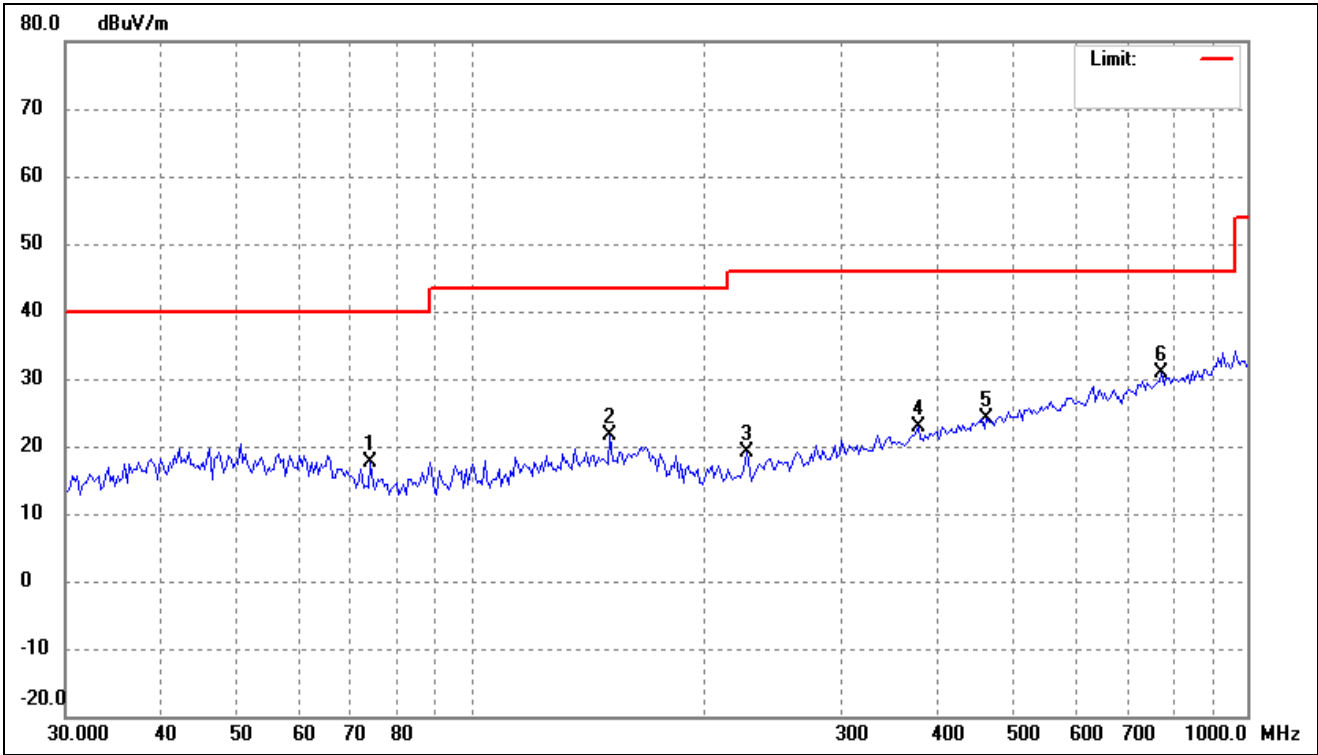
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	86.0796	32.23	-13.04	19.19	40.00	-20.81	-	-	peak
2	151.0252	28.95	-8.61	20.34	43.50	-23.16	-	-	peak
3	284.2607	29.12	-8.79	20.33	46.00	-25.67	-	-	peak
4	398.2962	28.99	-5.99	23.00	46.00	-23.00	-	-	peak
5	542.6104	29.84	-3.05	26.79	46.00	-19.21	-	-	peak
6	669.9523	30.90	-1.27	29.63	46.00	-16.37	-	-	peak

802.11n-HT40			
Test Channel	5755MHz(worst case)	Polarity:	Horizontal



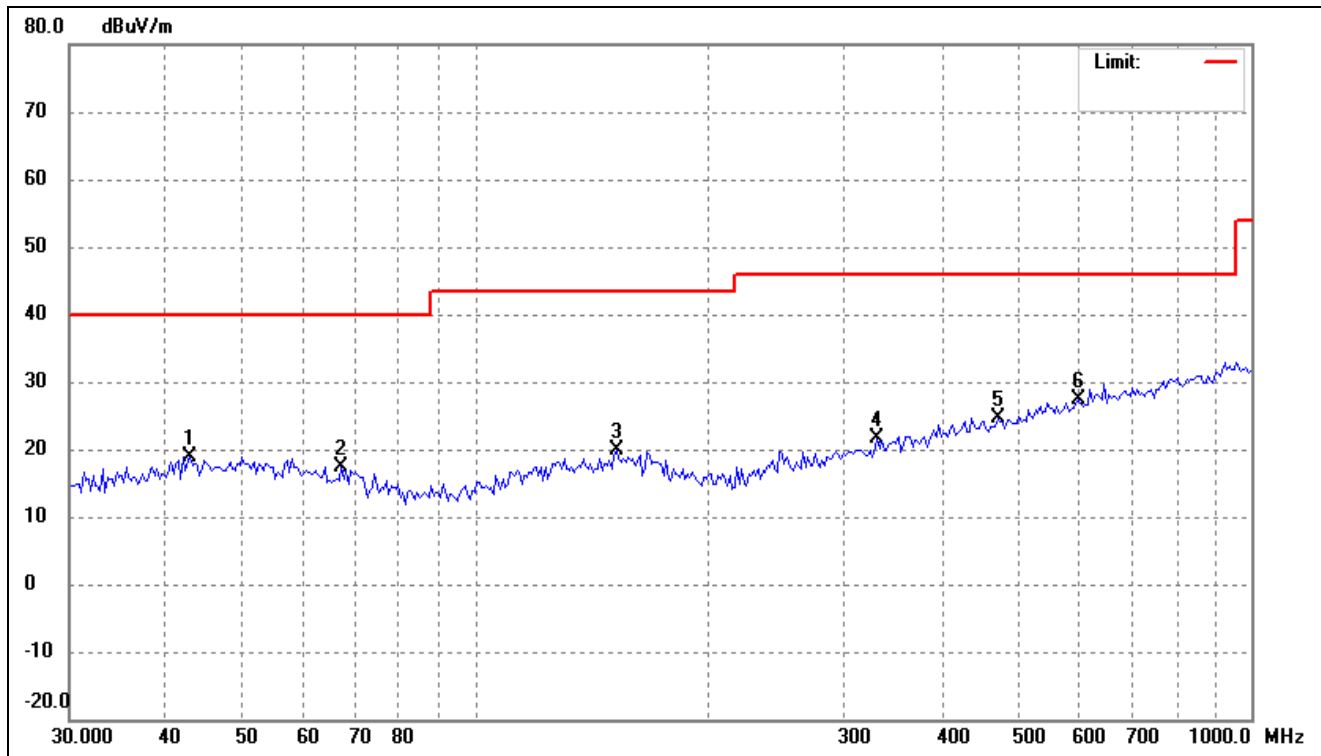
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	53.7559	28.02	-8.50	19.52	40.00	-20.48	-	-	peak
2	64.0800	28.32	-9.68	18.64	40.00	-21.36	-	-	peak
3	152.0902	27.98	-8.60	19.38	43.50	-24.12	-	-	peak
4	177.5179	27.63	-9.96	17.67	43.50	-25.83	-	-	peak
5	355.9397	28.14	-6.96	21.18	46.00	-24.82	-	-	peak
6	502.2473	30.55	-3.87	26.68	46.00	-19.32	-	-	peak

802.11n-HT40			
Test Channel	5755MHz(worst case)	Polarity:	Vertical



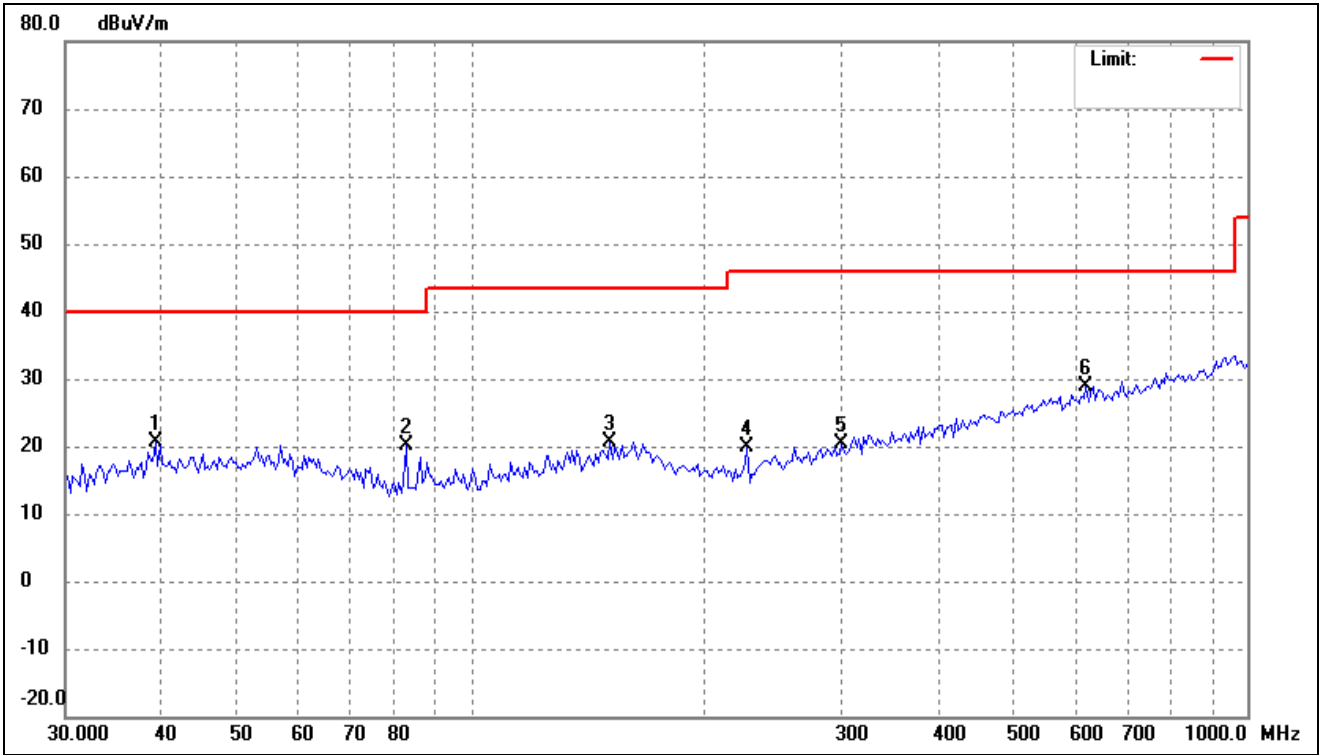
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	74.2696	29.44	-11.70	17.74	40.00	-22.26	-	-	peak
2	151.0252	30.19	-8.61	21.58	43.50	-21.92	-	-	peak
3	227.0164	30.95	-11.76	19.19	46.00	-26.81	-	-	peak
4	376.5228	29.37	-6.44	22.93	46.00	-23.07	-	-	peak
5	461.6313	28.64	-4.42	24.22	46.00	-21.78	-	-	peak
6	776.4849	30.73	0.08	30.81	46.00	-15.19	-	-	peak

802.11ac-HT80			
Test Channel	5745MHz(worst case)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.9305	27.48	-8.48	19.00	40.00	-21.00	-	-	peak
2	67.3109	27.66	-10.27	17.39	40.00	-22.61	-	-	peak
3	152.0902	28.36	-8.60	19.76	43.50	-23.74	-	-	peak
4	329.4625	29.09	-7.47	21.62	46.00	-24.38	-	-	peak
5	471.4665	29.01	-4.29	24.72	46.00	-21.28	-	-	peak
6	598.7067	29.03	-1.77	27.26	46.00	-18.74	-	-	peak

802.11ac-HT80			
Test Channel	5745MHz(worst case)	Polarity:	Vertical

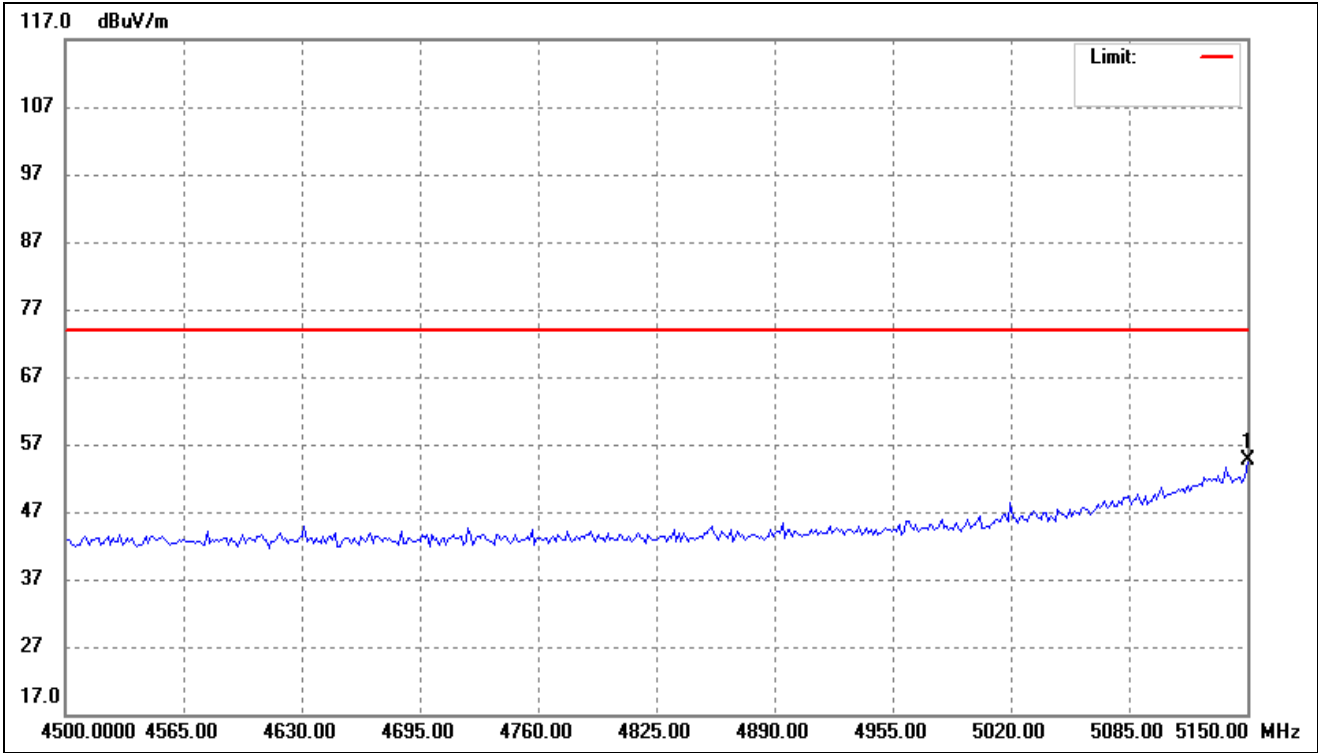


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.1825	29.16	-8.65	20.51	40.00	-19.49	-	-	peak
2	82.5257	33.14	-13.00	20.14	40.00	-19.86	-	-	peak
3	151.0252	29.36	-8.61	20.75	43.50	-22.75	-	-	peak
4	227.0164	31.52	-11.76	19.76	46.00	-26.24	-	-	peak
5	300.6988	28.64	-8.24	20.40	46.00	-25.60	-	-	peak
6	620.1167	30.39	-1.46	28.93	46.00	-17.07	-	-	peak

Remark: ‘-’Means’ the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

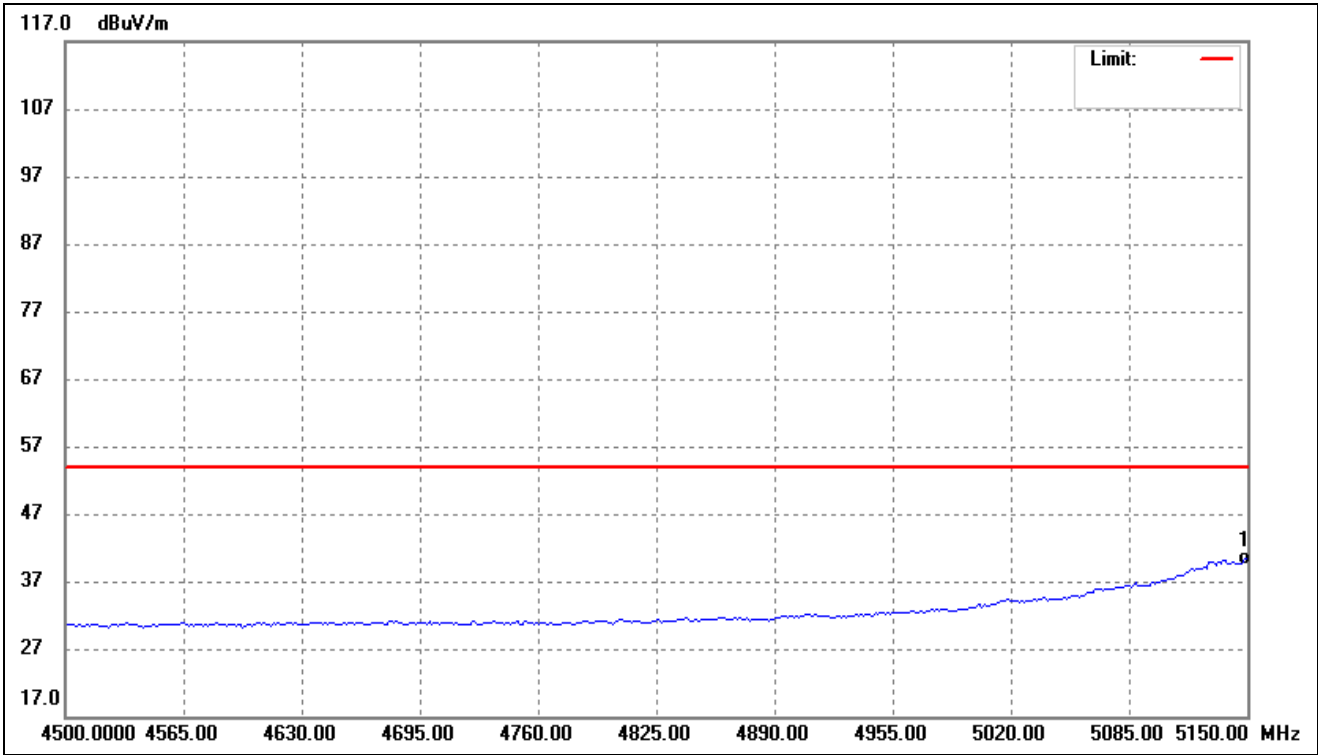
➤ Spurious Emission above 1GHz

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



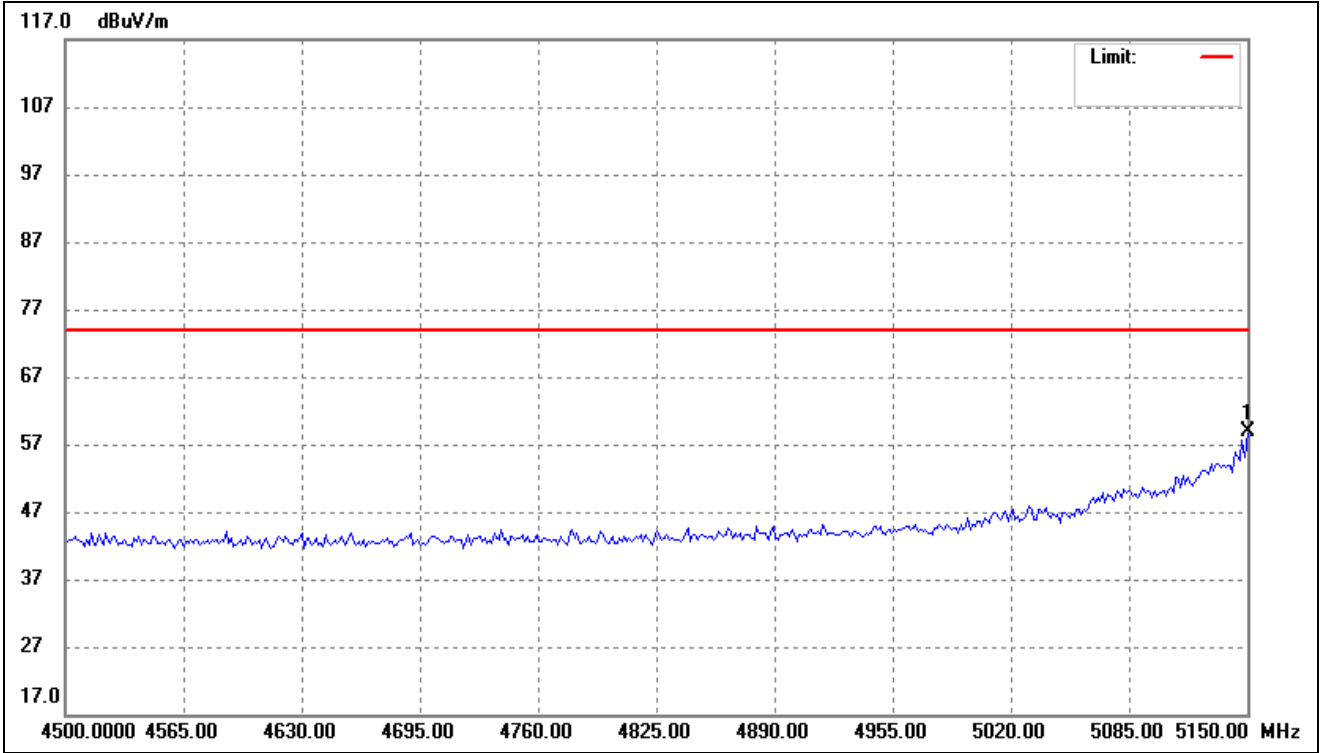
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	66.21	-11.66	54.55	74.00	-19.45	-	-	peak

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



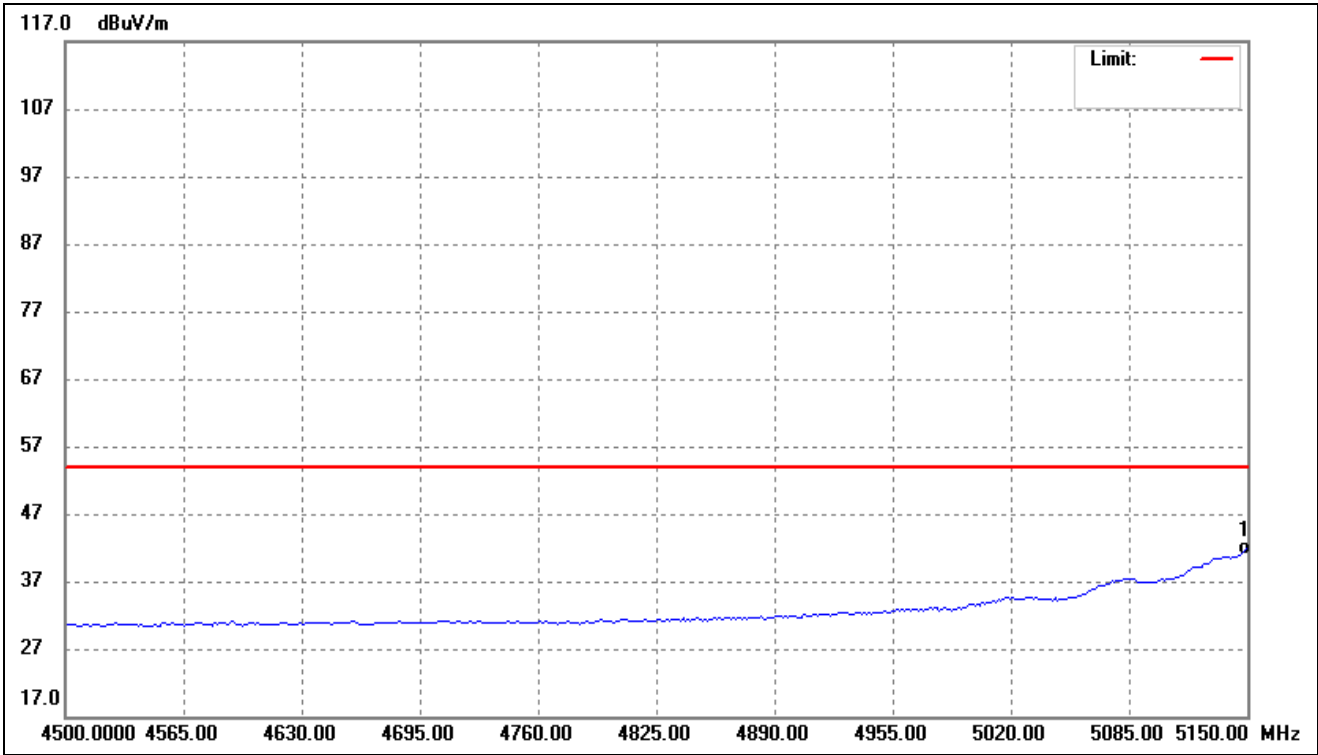
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	52.08	-11.66	40.42	54.00	-13.58	-	-	AVG

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



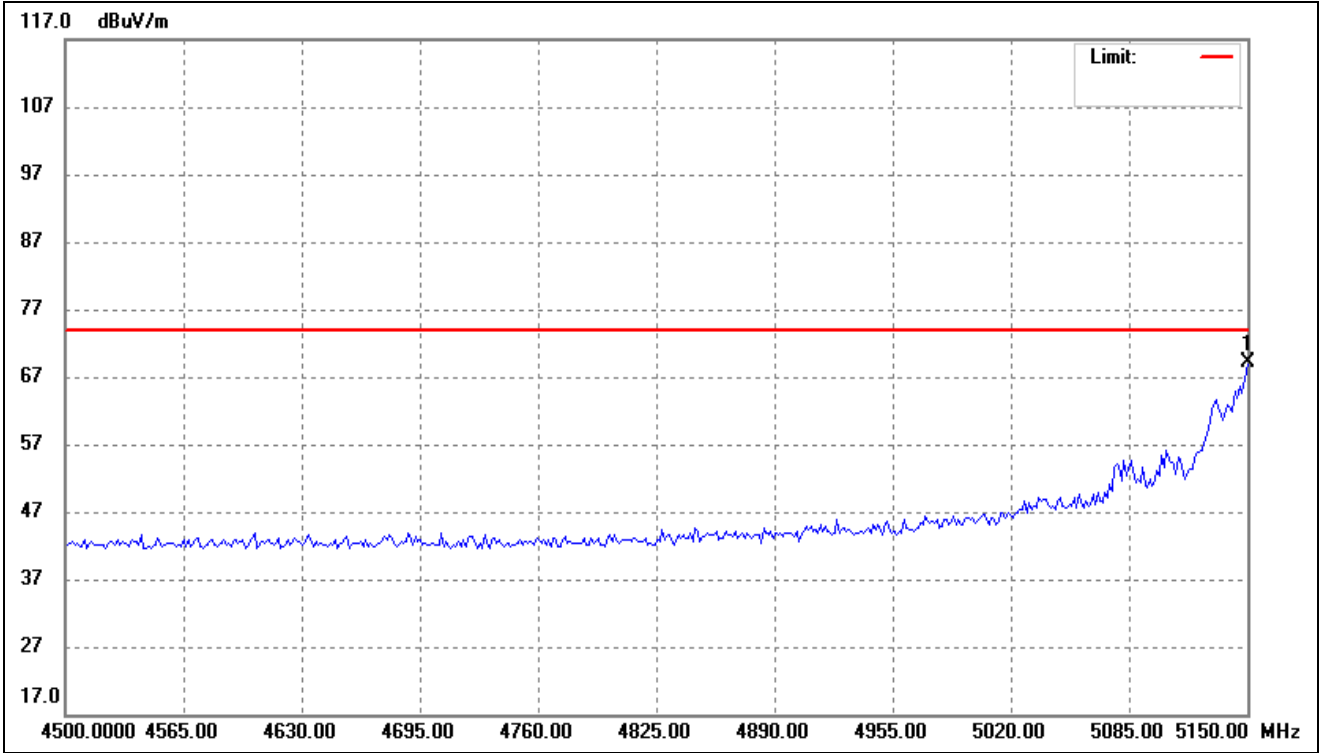
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	70.59	-11.66	58.93	74.00	-15.07	-	-	peak

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



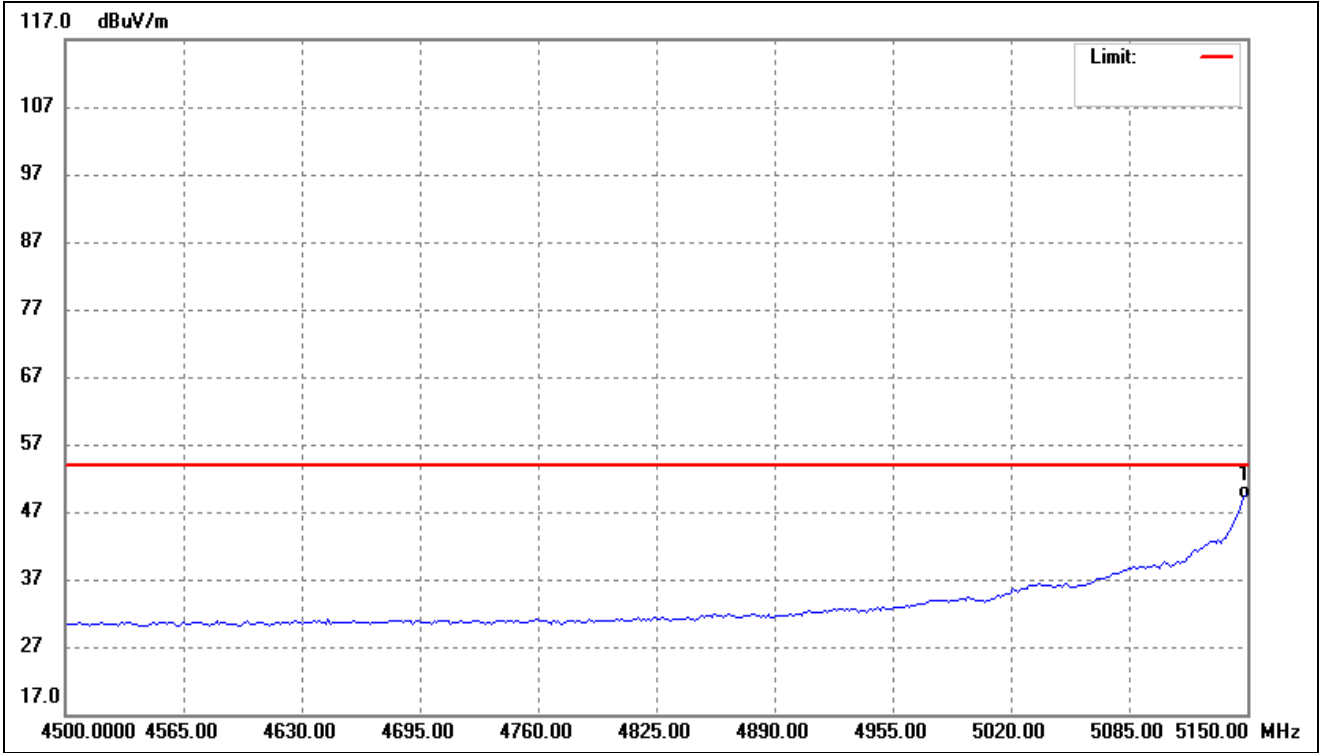
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	53.56	-11.66	41.90	54.00	-12.10	-	-	AVG

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



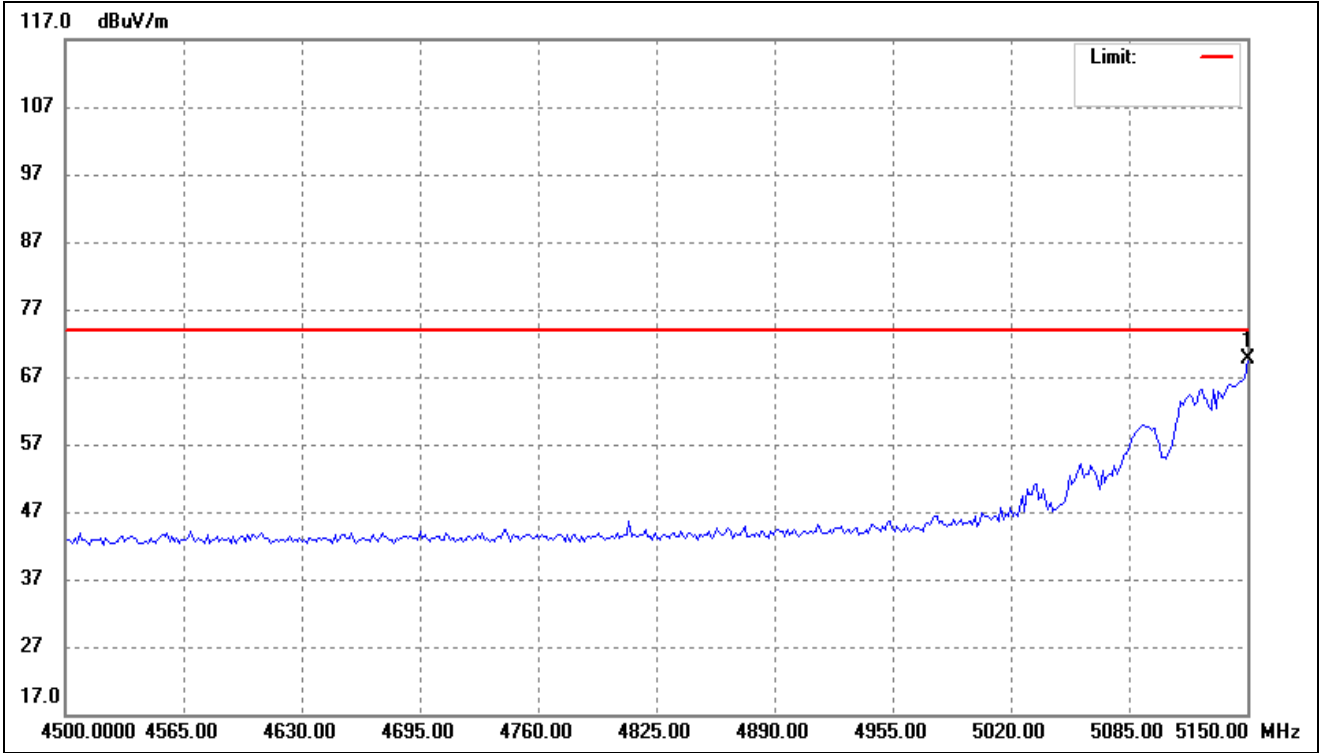
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	80.77	-11.66	69.11	74.00	-4.89	-	-	peak

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



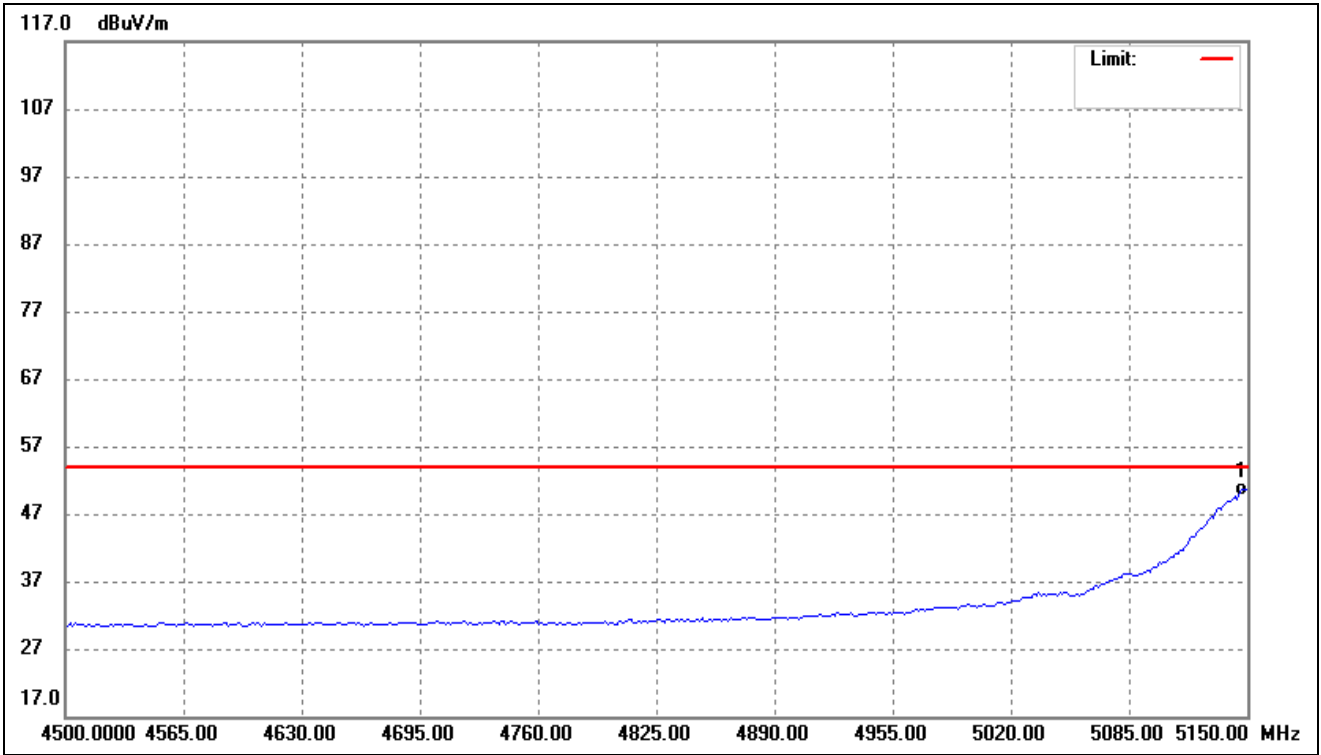
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	61.51	-11.66	49.85	54.00	-4.15	-	-	AVG

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



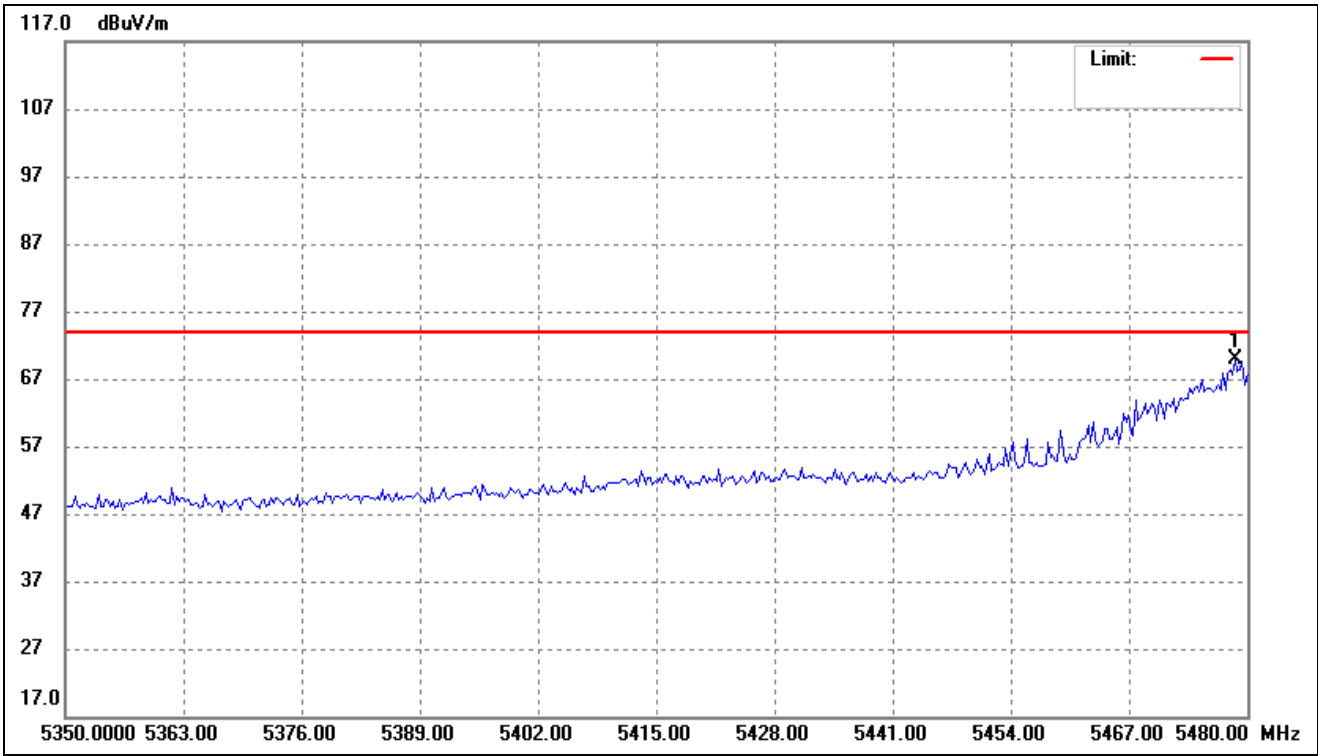
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	81.35	-11.66	69.69	74.00	-4.31	-	-	peak

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



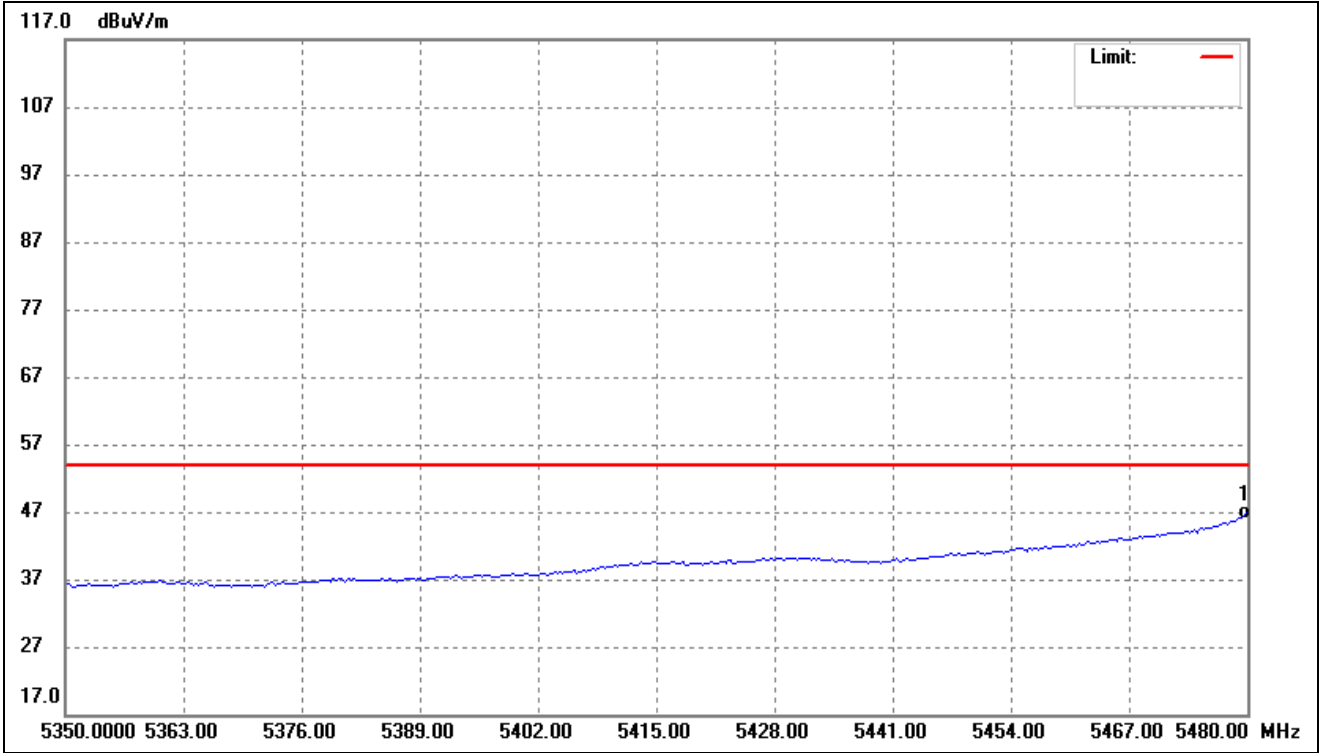
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5147.395	62.41	-11.67	50.74	54.00	-3.26	-	-	AVG

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



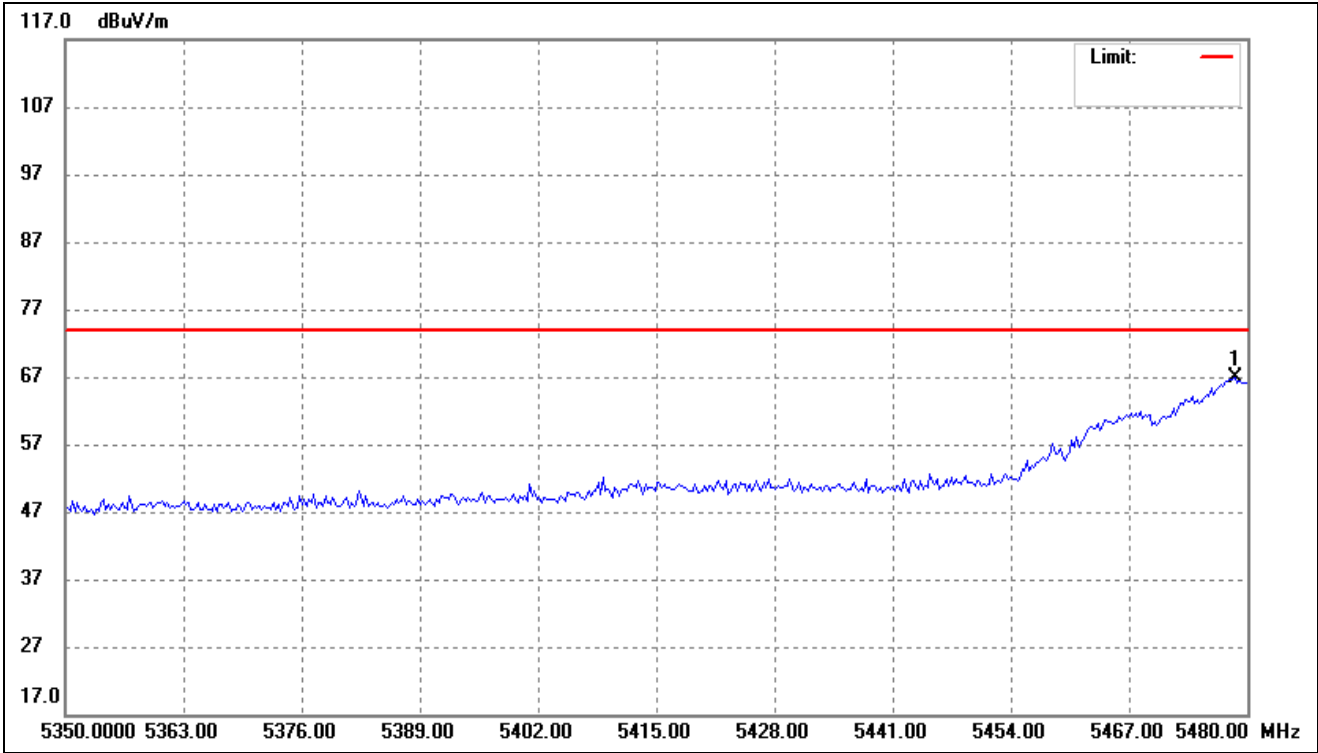
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5478.697	79.86	-10.03	69.83	74.00	-4.17	-	-	peak

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



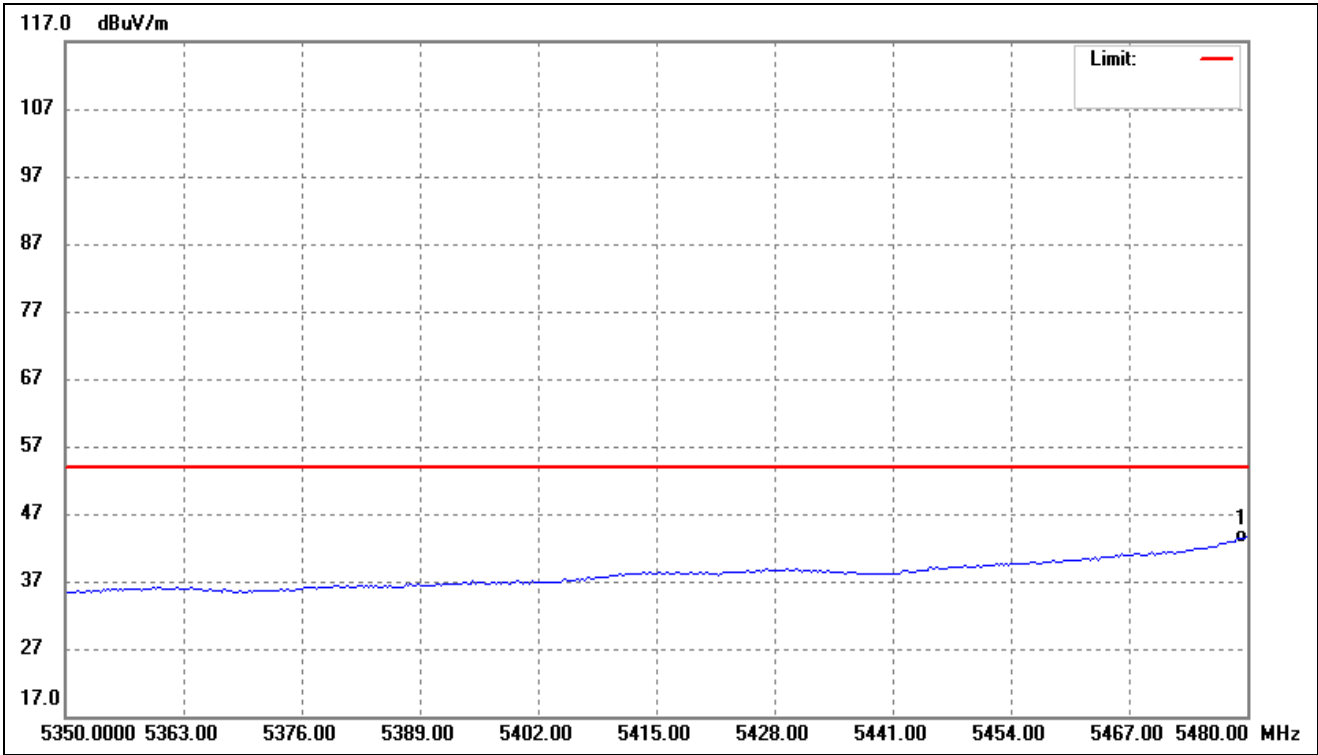
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5480.000	56.84	-10.03	46.81	54.00	-7.19	-	-	AVG

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



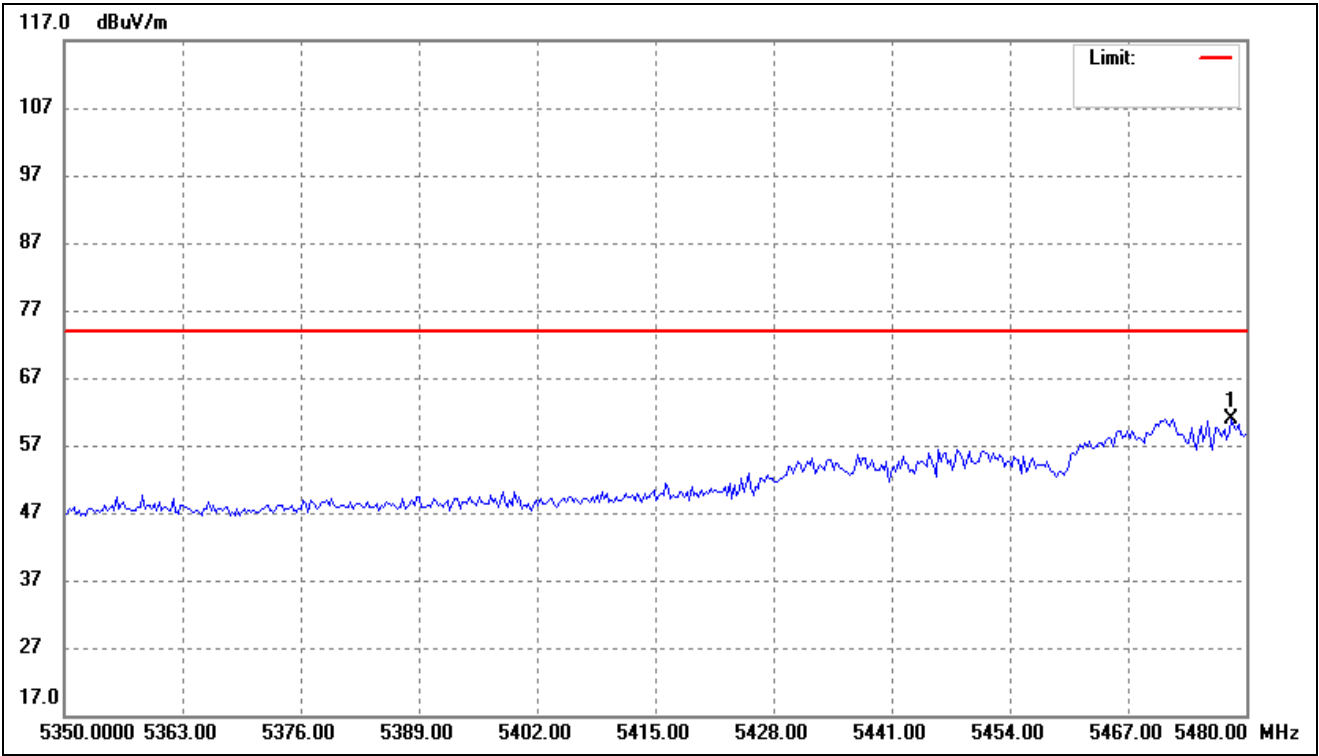
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5478.697	77.03	-10.03	67.00	74.00	-7.00	-	-	peak

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



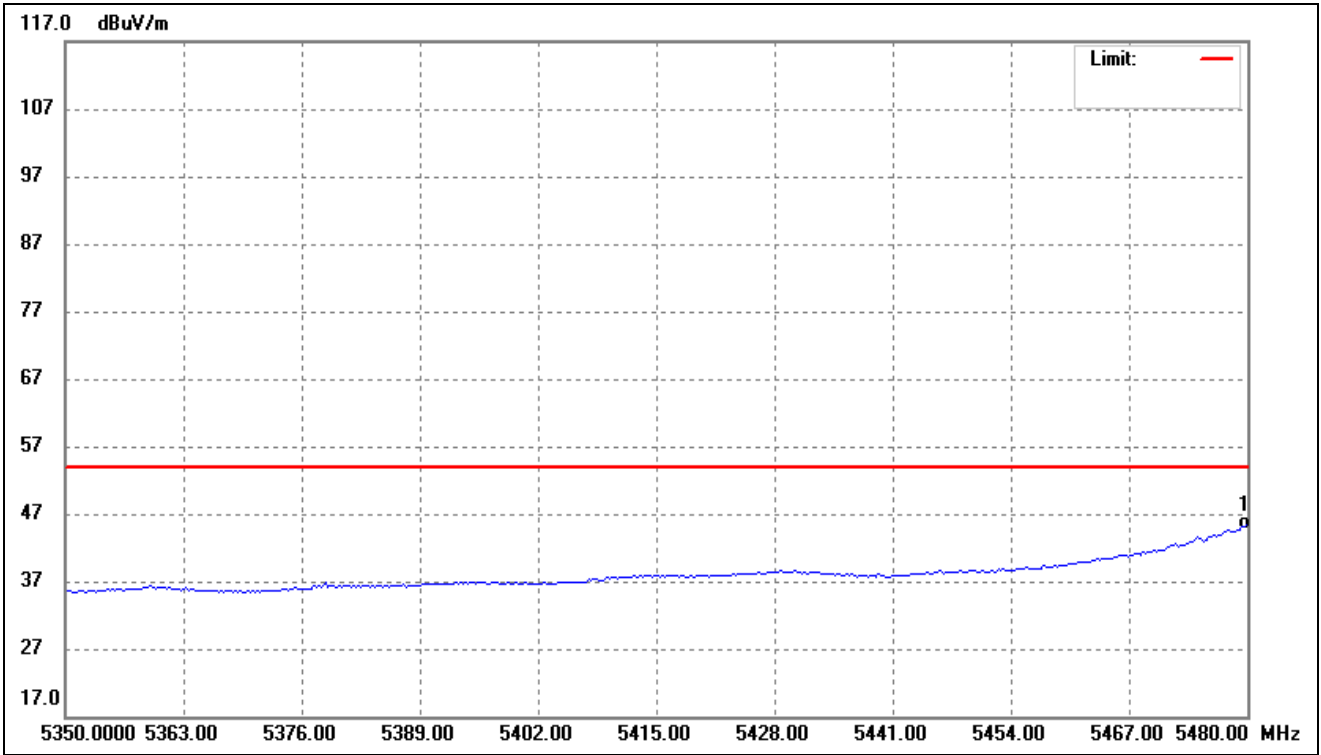
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5480.000	53.73	-10.03	43.70	54.00	-10.30	-	-	AVG

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



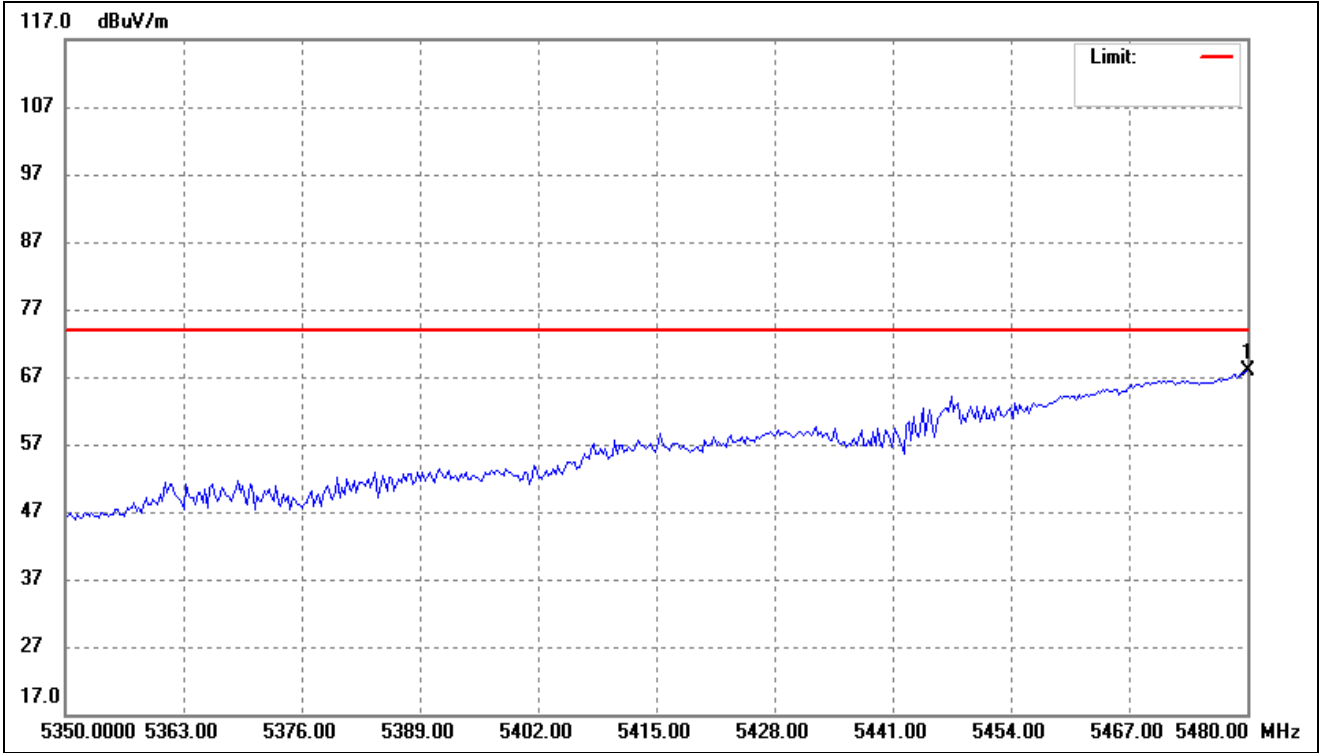
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5478.437	70.88	-10.04	60.84	74.00	-13.16	-	-	peak

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



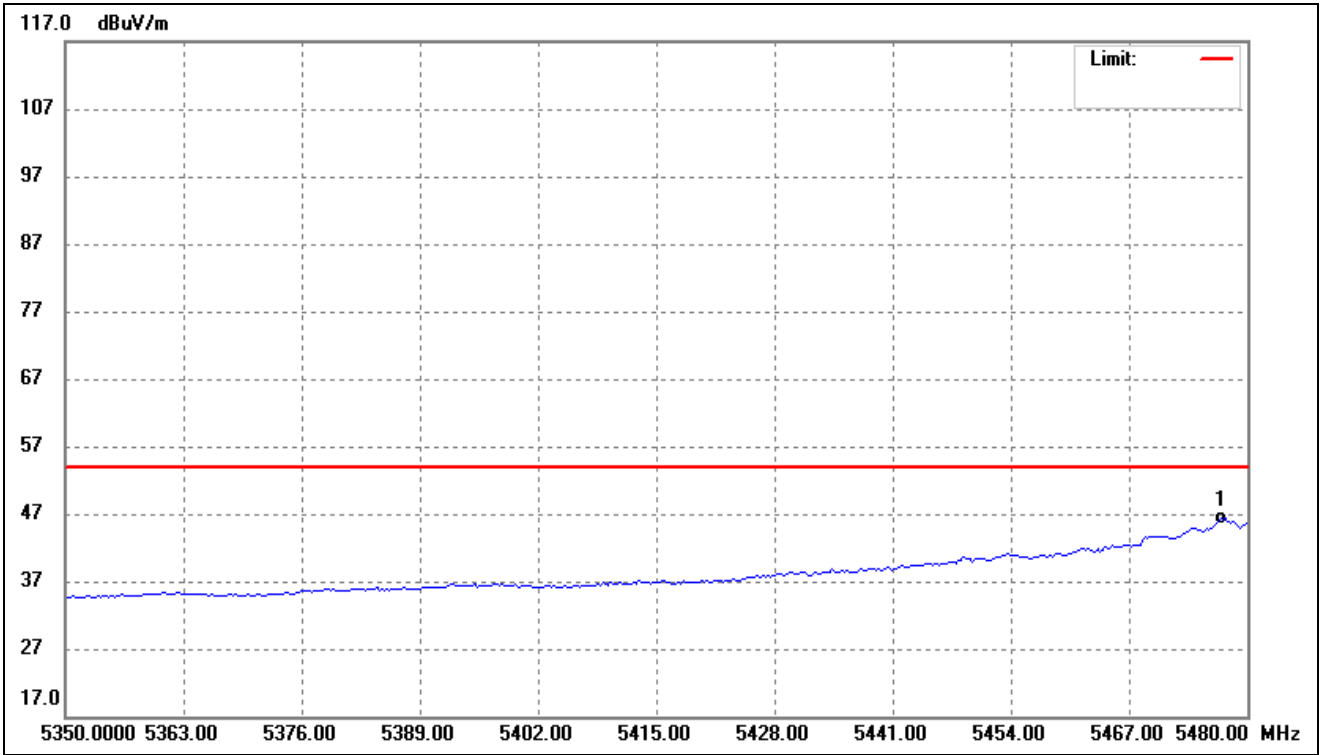
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5480.000	55.59	-10.03	45.56	54.00	-8.44	-	-	AVG

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



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5480.000	77.98	-10.03	67.95	74.00	-6.05	-	-	peak

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



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5477.134	56.43	-10.04	46.39	54.00	-7.61	-	-	AVG

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

Remark: ‘-’Means’ the test Degree and Height is not recorded by the test software and only show the worst case in the test report.

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

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5180MHz)							
10360	56.82	7.11	63.93	74	-10.07	H	PK
10360	40.40	7.11	47.51	54	-6.49	H	AV
10360	56.20	7.11	63.31	74	-10.69	V	PK
10360	39.81	7.11	46.92	54	-7.08	V	AV
Middle Channel (5200MHz)							
10400	55.93	7.22	63.15	74	-10.85	H	PK
10400	41.93	7.22	49.15	54	-4.85	H	AV
10400	57.52	7.22	64.74	74	-9.26	V	PK
10400	39.73	7.22	46.95	54	-7.05	V	AV
High Channel (5240MHz)							
10480	57.08	7.69	64.77	74	-9.23	H	PK
10480	40.38	7.69	48.07	54	-5.93	H	AV
10480	57.40	7.69	65.09	74	-8.91	V	PK
10480	38.59	7.69	46.28	54	-7.72	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5260MHz)							
10520	56.05	7.96	64.01	74	-9.99	H	PK
10520	41.10	7.96	49.06	54	-4.94	H	AV
10520	57.11	7.96	65.07	74	-8.93	V	PK
10520	42.00	7.96	49.96	54	-4.04	V	AV
Middle Channel (5280MHz)							
10560	58.87	8.02	66.89	74	-7.11	H	PK
10560	41.20	8.02	49.22	54	-4.78	H	AV
10560	55.28	8.02	63.30	74	-10.70	V	PK
10560	38.06	8.02	46.08	54	-7.92	V	AV
High Channel (5320MHz)							
10640	56.62	8.35	64.97	74	-9.03	H	PK
10640	41.18	8.35	49.53	54	-4.47	H	AV
10640	55.17	8.35	63.52	74	-10.48	V	PK
10640	38.18	8.35	46.53	54	-7.47	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5500MHz)							
11000	56.13	8.82	64.95	74	-9.05	H	PK
11000	38.99	8.82	47.81	54	-6.19	H	AV
11000	58.45	8.82	67.27	74	-6.73	V	PK
11000	41.92	8.82	50.74	54	-3.26	V	AV
Middle Channel (5600MHz)							
11200	58.70	8.92	67.62	74	-6.38	H	PK
11200	39.74	8.92	48.66	54	-5.34	H	AV
11200	57.60	8.92	66.52	74	-7.48	V	PK
11200	41.11	8.92	50.03	54	-3.97	V	AV
High Channel (5700MHz)							
11400	55.21	9.36	64.57	74	-9.43	H	PK
11400	40.87	9.36	50.23	54	-3.77	H	AV
11400	58.22	9.36	67.58	74	-6.42	V	PK
11400	40.47	9.36	49.83	54	-4.17	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	58.76	9.45	68.21	74	-5.79	H	PK
11490	38.57	9.45	48.02	54	-5.98	H	AV
11490	57.06	9.45	66.51	74	-7.49	V	PK
11490	39.49	9.45	48.94	54	-5.06	V	AV
Middle Channel (5785MHz)							
11570	58.44	9.62	68.06	74	-5.94	H	PK
11570	38.61	9.62	48.23	54	-5.77	H	AV
11570	55.90	9.62	65.52	74	-8.48	V	PK
11570	41.23	9.62	50.85	54	-3.15	V	AV
High Channel (5825MHz)							
11650	56.17	9.84	66.01	74	-7.99	H	PK
11650	38.35	9.84	48.19	54	-5.81	H	AV
11650	55.22	9.84	65.06	74	-8.94	V	PK
11650	38.41	9.84	48.25	54	-5.75	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-41.62	-27
Highest	Above 5350	-40.57	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-42.34	-27
Highest	Above 5350	-41.59	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-40.12	-27
Highest	Above 5725	-38.68	-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	-36.57	-27
	5715 to 5725	-35.21	-17
Highest	5850 to 5860	-28.66	-17
	Above 5860	-27.39	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.470-5.725GHz, 5.725-5.850GHz (802.11n HT20)
- Harmonics And Spurious Emissions

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5180MHz)							
10360	55.32	7.11	62.43	74	-11.57	H	PK
10360	39.39	7.11	46.50	54	-7.50	H	AV
10360	56.43	7.11	63.54	74	-10.46	V	PK
10360	40.64	7.11	47.75	54	-6.25	V	AV
Middle Channel (5200MHz)							
10400	57.33	7.22	64.55	74	-9.45	H	PK
10400	41.37	7.22	48.59	54	-5.41	H	AV
10400	56.81	7.22	64.03	74	-9.97	V	PK
10400	40.37	7.22	47.59	54	-6.41	V	AV
High Channel (5240MHz)							
10480	55.02	7.69	62.71	74	-11.29	H	PK
10480	41.55	7.69	49.24	54	-4.76	H	AV
10480	58.81	7.69	66.50	74	-7.50	V	PK
10480	38.22	7.69	45.91	54	-8.09	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5260MHz)							
10520	56.04	7.96	64.00	74	-10.00	H	PK
10520	39.46	7.96	47.42	54	-6.58	H	AV
10520	58.05	7.96	66.01	74	-7.99	V	PK
10520	38.12	7.96	46.08	54	-7.92	V	AV
Middle Channel (5280MHz)							
10560	58.14	8.02	66.16	74	-7.84	H	PK
10560	40.40	8.02	48.42	54	-5.58	H	AV
10560	56.64	8.02	64.66	74	-9.34	V	PK
10560	41.65	8.02	49.67	54	-4.33	V	AV
High Channel (5320MHz)							
10640	58.82	8.35	67.17	74	-6.83	H	PK
10640	41.20	8.35	49.55	54	-4.45	H	AV
10640	56.44	8.35	64.79	74	-9.21	V	PK
10640	40.24	8.35	48.59	54	-5.41	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5500MHz)							
11000	56.68	8.82	65.50	74	-8.50	H	PK
11000	38.13	8.82	46.95	54	-7.05	H	AV
11000	57.16	8.82	65.98	74	-8.02	V	PK
11000	40.58	8.82	49.40	54	-4.60	V	AV
Middle Channel (5600MHz)							
11200	55.12	8.92	64.04	74	-9.96	H	PK
11200	38.24	8.92	47.16	54	-6.84	H	AV
11200	55.31	8.92	64.23	74	-9.77	V	PK
11200	39.70	8.92	48.62	54	-5.38	V	AV
High Channel (5700MHz)							
11400	55.47	9.84	65.31	74	-8.69	H	PK
11400	39.58	9.84	49.42	54	-4.58	H	AV
11400	55.47	9.84	65.31	74	-8.69	V	PK
11400	39.87	9.84	49.71	54	-4.29	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	60.87	9.45	70.32	74	-3.68	H	PK
11490	40.27	9.45	49.72	54	-4.28	H	AV
11490	60.33	9.45	69.78	74	-4.22	V	PK
11490	38.61	9.45	48.06	54	-5.94	V	AV
Middle Channel (5785MHz)							
11570	55.54	9.45	64.99	74	-9.01	H	PK
11570	41.27	9.45	50.72	54	-3.28	H	AV
11570	58.13	9.45	67.58	74	-6.42	V	PK
11570	40.14	9.45	49.59	54	-4.41	V	AV
High Channel (5825MHz)							
11650	57.55	9.84	67.39	74	-6.61	H	PK
11650	41.04	9.84	50.88	54	-3.12	H	AV
11650	58.00	9.84	67.84	74	-6.16	V	PK
11650	39.68	9.84	49.52	54	-4.48	V	AV

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-40.21	-27
Highest	Above 5350	-41.43	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-41.32	-27
Highest	Above 5350	-42.87	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-38.23	-27
Highest	Above 5725	-39.19	-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	-41.15	-27
	5715 to 5725	-37.64	-17
Highest	5850 to 5860	-47.39	-17
	Above 5860	-48.50	-27
Note: the data just list the worst cases			

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

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

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5190MHz)							
10380	56.26	7.89	64.15	74	-9.85	H	PK
10380	41.15	7.89	49.04	54	-4.96	H	AV
10380	56.53	7.89	64.42	74	-9.58	V	PK
10380	40.62	7.89	48.51	54	-5.49	V	AV
High Channel (5230MHz)							
10460	57.92	7.97	65.89	74	-8.11	H	PK
10460	40.40	7.97	48.37	54	-5.63	H	AV
10460	58.36	7.97	66.33	74	-7.67	V	PK
10460	41.44	7.97	49.41	54	-4.59	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5270MHz)							
10540	57.50	8.16	65.66	74	-8.34	H	PK
10540	41.97	8.16	50.13	54	-3.87	H	AV
10540	57.32	8.16	65.48	74	-8.52	V	PK
10540	38.31	8.16	46.47	54	-7.53	V	AV
High Channel (5310MHz)							
10620	57.32	8.57	65.89	74	-8.11	H	PK
10620	40.02	8.57	48.59	54	-5.41	H	AV
10620	57.37	8.57	65.94	74	-8.06	V	PK
10620	38.95	8.57	47.52	54	-6.48	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5510MHz)							
11020	56.83	9.16	65.99	74	-8.01	H	PK
11020	40.25	9.16	49.41	54	-4.59	H	AV
11020	57.42	9.16	66.58	74	-7.42	V	PK
11020	39.78	9.16	48.94	54	-5.06	V	AV
Middle Channel (5590MHz)							
11180	55.58	9.29	64.87	74	-9.13	H	PK
11180	41.40	9.29	50.69	54	-3.31	H	AV
11180	57.65	9.29	66.94	74	-7.06	V	PK
11180	38.97	9.29	48.26	54	-5.74	V	AV
High Channel (5670MHz)							
11340	56.28	9.43	65.71	74	-8.29	H	PK
11340	39.45	9.43	48.88	54	-5.12	H	AV
11340	57.94	9.43	67.37	74	-6.63	V	PK
11340	38.16	9.43	47.59	54	-6.41	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5755MHz)							
11510	55.79	9.45	65.24	74	-8.76	H	PK
11510	39.43	9.45	48.88	54	-5.12	H	AV
11510	57.52	9.45	66.97	74	-7.03	V	PK
11510	41.36	9.45	50.81	54	-3.19	V	AV
High Channel (5795MHz)							
11590	56.85	9.27	66.12	74	-7.88	H	PK
11590	39.56	9.27	48.83	54	-5.17	H	AV
11590	55.48	9.27	64.75	74	-9.25	V	PK
11590	38.32	9.27	47.59	54	-6.41	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-39.85	-27
Highest	Above 5350	-38.96	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-37.92	-27
Highest	Above 5350	-38.49	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-35.93	-27
Highest	Above 5725	-37.25	-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	-41.66	-27
	5715 to 5725	-35.19	-17
Highest	5850 to 5860	-37.24	-17
	Above 5860	-38.31	-27
Note: the data just list the worst cases			

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

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
5210MHz							
10420	58.52	7.53	66.05	74	-7.95	H	PK
10420	40.64	7.53	48.17	54	-5.83	H	AV
10420	56.05	7.53	63.58	74	-10.42	H	PK
10420	39.73	7.53	47.26	54	-6.74	H	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
5290MHz							
10580	55.15	7.95	63.10	74	-10.90	H	PK
10580	39.29	7.95	47.24	54	-6.76	H	AV
10580	57.84	7.95	65.79	74	-8.21	V	PK
10580	39.97	7.95	47.92	54	-6.08	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5530MHz)							
11060	57.47	9.42	66.89	74	-7.11	H	PK
11060	39.42	9.42	48.84	54	-5.16	H	AV
11060	58.70	9.42	68.12	74	-5.88	V	PK
11060	41.31	9.42	50.73	54	-3.27	V	AV
High Channel (5610MHz)							
11220	56.56	9.69	66.25	74	-7.75	H	PK
11220	39.30	9.69	48.99	54	-5.01	H	AV
11220	56.90	9.69	66.59	74	-7.41	V	PK
11220	38.70	9.69	48.39	54	-5.61	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
5775MHz							
11550	58.85	9.93	68.78	74	-5.22	H	PK
11550	39.73	9.93	49.66	54	-4.34	H	AV
11550	58.74	9.93	68.67	74	-5.33	V	PK
11550	41.00	9.93	50.93	54	-3.07	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-37.85	-27
Highest	Above 5350	-36.47	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5250-5350MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-38.53	-27
Highest	Above 5350	-36.69	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5470-5725MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5470	-39.24	-27
Highest	Above 5725	-37.36	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5715	-38.76	-27
	5715 to 5725	-37.53	-17
Highest	5850 to 5860	-35.74	-17
	Above 5860	-37.39	-27
Note: the data just list the worst cases			

Note: Testing is carried out with frequency rang 9kHz to 40Ghz, 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.

9. Frequency Stability

9.1 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.

9.2 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.

9.3 Summary of Test Results/Plots

Please refer to Appendix D

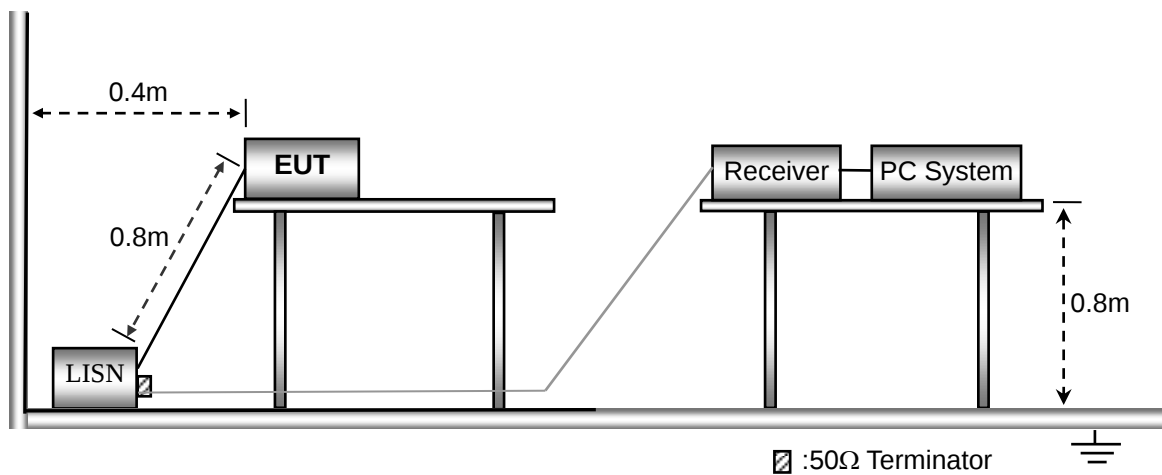
10. Conducted Emissions

10.1 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 40cm long in the middle. The spacing between the peripherals was 10cm.

10.2 Basic Test Setup Block Diagram



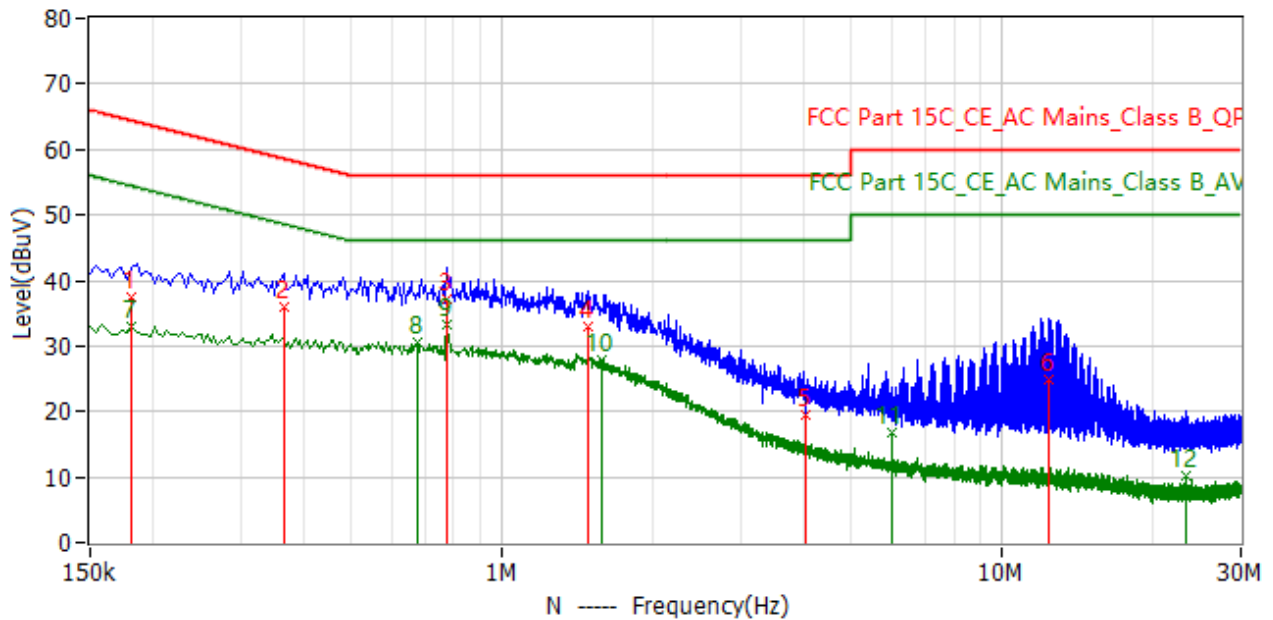
10.3 Test Receiver Setup

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

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

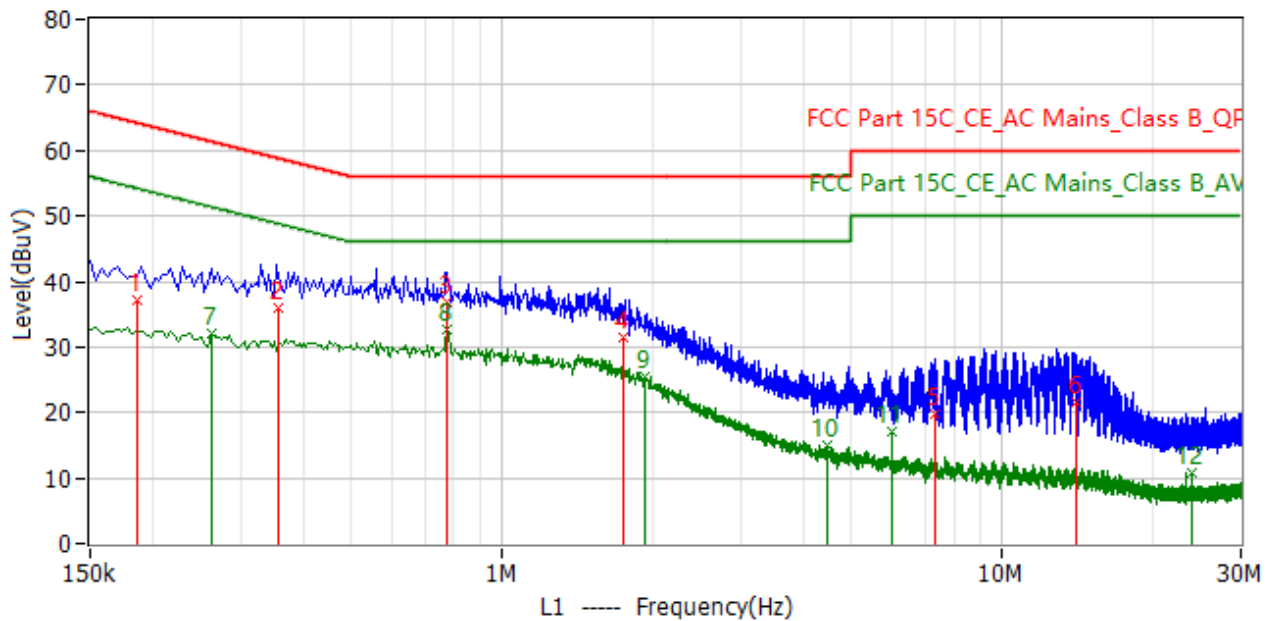
10.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
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No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector
1	182.000kHz	64.4	37.4	-27.0	16.7	20.7	QP
2	366.000kHz	58.6	36.1	-22.5	15.5	20.6	QP
3	778.000kHz	56.0	37.2	-18.8	16.4	20.8	QP
4	1.490MHz	56.0	33.1	-22.9	12.3	20.8	QP
5	4.030MHz	56.0	19.6	-36.4	-1.3	20.9	QP
6	12.438MHz	60.0	24.8	-35.2	4.0	20.8	QP
7*	182.000kHz	54.4	33.0	-21.4	12.3	20.7	AV
8*	678.000kHz	46.0	30.5	-15.5	9.8	20.7	AV
9*	778.000kHz	46.0	33.3	-12.7	12.5	20.8	AV
10*	1.582MHz	46.0	27.9	-18.1	7.1	20.8	AV
11*	6.030MHz	50.0	16.9	-33.1	-3.9	20.8	AV
12*	23.198MHz	50.0	10.3	-39.7	-9.8	20.1	AV

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
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No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector
1	186.000kHz	64.2	37.3	-26.9	16.6	20.7	QP
2	358.000kHz	58.8	35.9	-22.9	15.3	20.6	QP
3	774.000kHz	56.0	36.8	-19.2	16.0	20.8	QP
4	1.754MHz	56.0	31.5	-24.5	10.7	20.8	QP
5	7.342MHz	60.0	19.7	-40.3	-1.0	20.7	QP
6	13.998MHz	60.0	21.5	-38.5	0.7	20.8	QP
7*	262.000kHz	51.4	32.1	-19.3	11.8	20.3	AV
8*	774.000kHz	46.0	32.7	-13.3	11.9	20.8	AV
9*	1.934MHz	46.0	25.5	-20.5	4.7	20.8	AV
10*	4.450MHz	46.0	14.9	-31.1	-6.0	20.9	AV
11*	6.030MHz	50.0	17.1	-32.9	-3.7	20.8	AV
12*	23.878MHz	50.0	10.9	-39.1	-9.2	20.1	AV

APPENDIX SUMMARY

Project No.	WTX23X1025772W	Test Engineer	Elin Su
Start date	2023/10/17	Finish date	2023/10/24
Temperature	23℃	Humidity	51%
RF specifications	U-NII		

APPENDIX	Description of Test Item	Result
A	Power Spectral Density	Compliant
B	Emission Bandwidth and Occupied Bandwidth	Compliant
C	Maximum Conducted Output Power	Compliant
D	Frequency Stability	Compliant

APPENDIX A

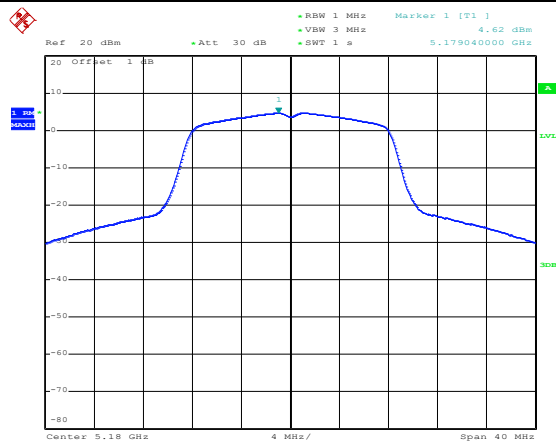
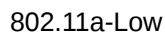
Power Spectral Density			
U-NII-1:5150-5250MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5180	4.62	11
	5200	4.58	11
	5240	4.17	11
802.11n-HT20	5180	3.77	11
	5200	3.48	11
	5240	3.17	11
802.11n-HT40	5190	-0.46	11
	5230	-0.84	11
802.11ac-HT80	5210	-3.12	11

U-NII-2A: 5250-5350MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5260	3.71	11
	5280	3.41	11
	5320	3.19	11
802.11n-HT20	5260	2.59	11
	5280	2.32	11
	5320	2.12	11
802.11n-HT40	5270	-0.98	11
	5310	-1.79	11
802.11ac-HT80	5290	-5.82	11

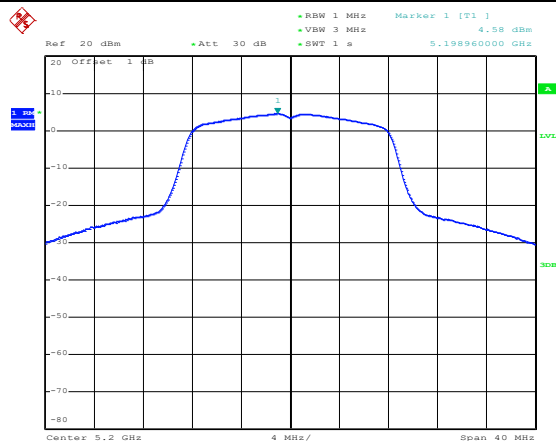
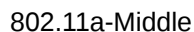
U-NII-2C: 5470-5725MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5500	0.00	11
	5580	-0.02	11
	5700	1.98	11
802.11n-HT20	5500	-0.24	11
	5580	-0.30	11
	5700	1.72	11
802.11n-HT40	5510	-3.45	11
	5550	-2.93	11
	5670	-2.39	11
802.11ac-HT80	5530	-7.21	11
	5610	-7.54	11

U-NII-3: 5725-5850MHz					
Operating mode	Test Channel	Power Spectral Density dBm/300kHz	Factor	Power Spectral Density* dBm/500kHz	Limit dBm/500kHz
802.11a	5745	3.49	2.22	5.71	30
	5785	4.09	2.22	6.31	30
	5825	3.98	2.22	6.2	30
802.11n-HT20	5745	2.64	2.22	4.86	30
	5785	2.71	2.22	4.93	30
	5825	2.59	2.22	4.81	30
802.11n HT40	5755	-0.75	2.22	1.47	30
	5795	-0.70	2.22	1.52	30
802.11ac VH80	5775	-4.87	2.22	-2.65	30
*Note: Maximum PSD=PSD(dBm/300kHz)+10log(500kHz/300kHz)=2.22					

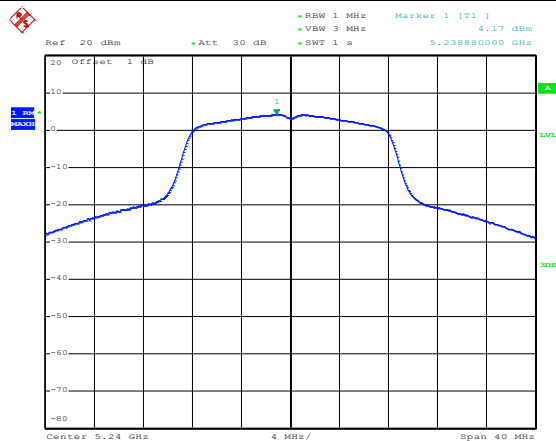
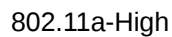
5150-5250MHz



Date: 19.OCT.2023 16:55:27

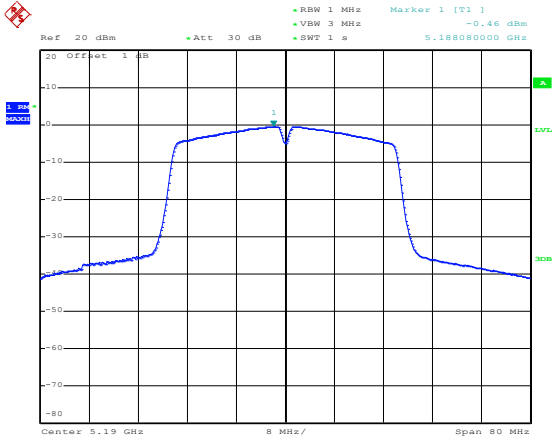
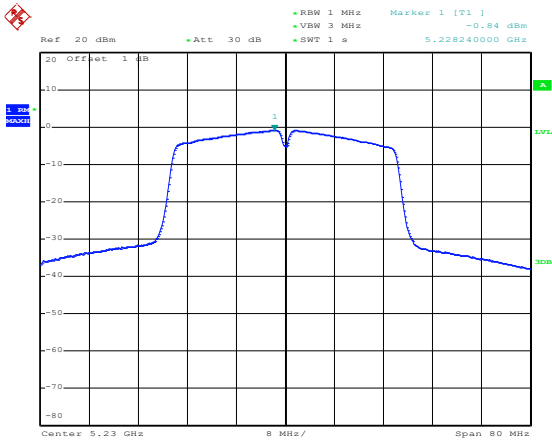
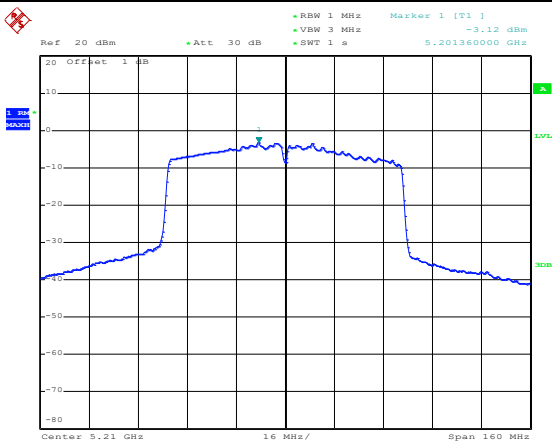


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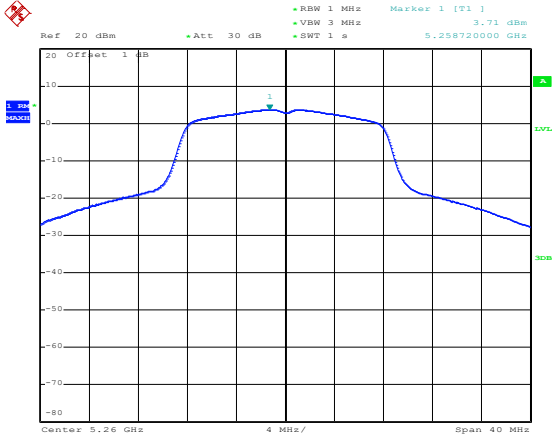
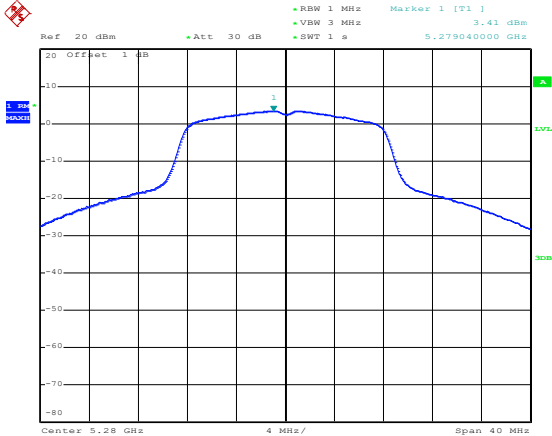
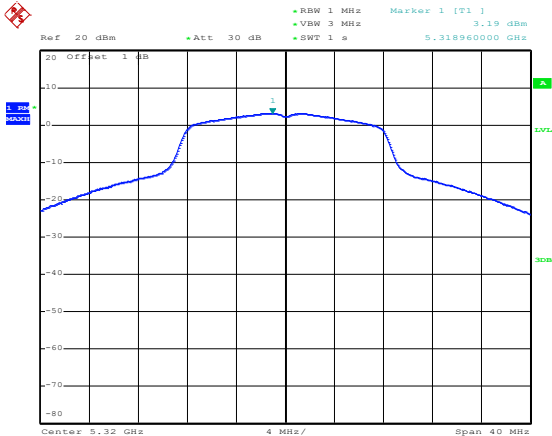


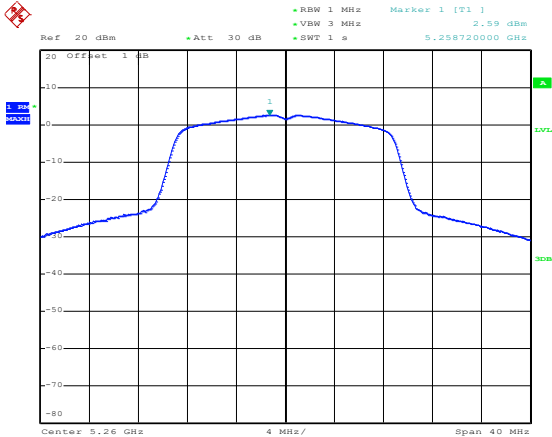
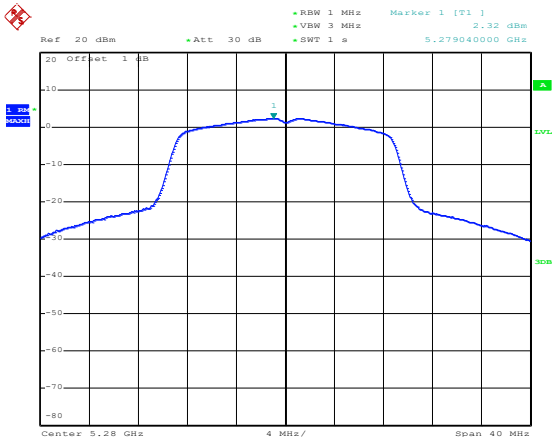
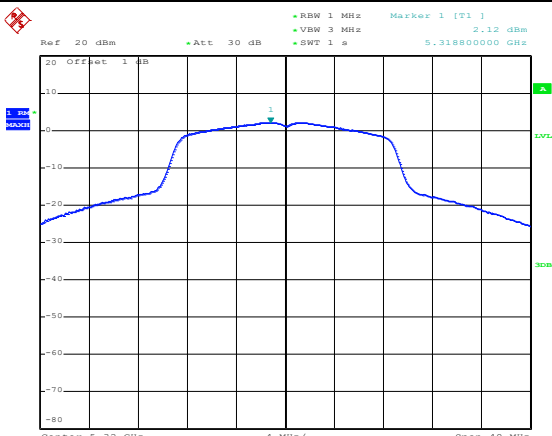
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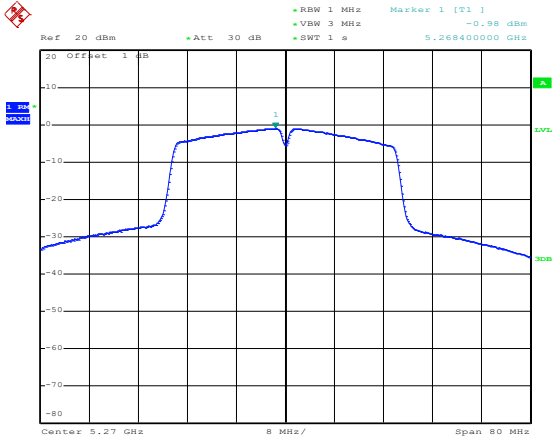
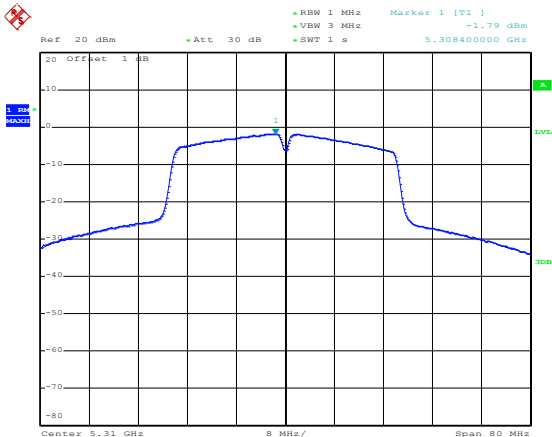
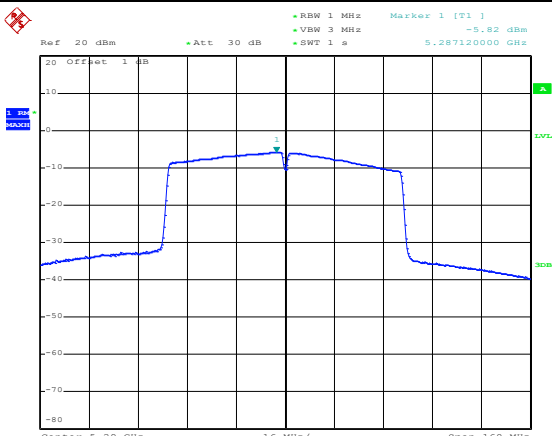
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802.11n-HT20-Middle	Date: 19.OCT.2023 16:56:41
802.11n-HT20-High	Date: 19.OCT.2023 16:57:02

802.11n-HT40-Low	 Date: 19.OCT.2023 16:57:59
802.11n-HT40-High	 Date: 19.OCT.2023 16:58:28
802.11ac-HT80-Low	 Date: 19.OCT.2023 16:58:58

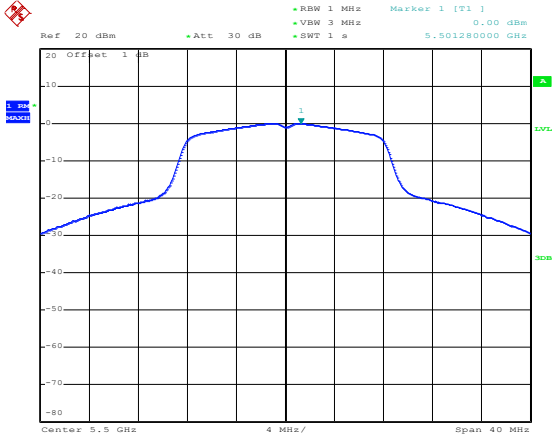
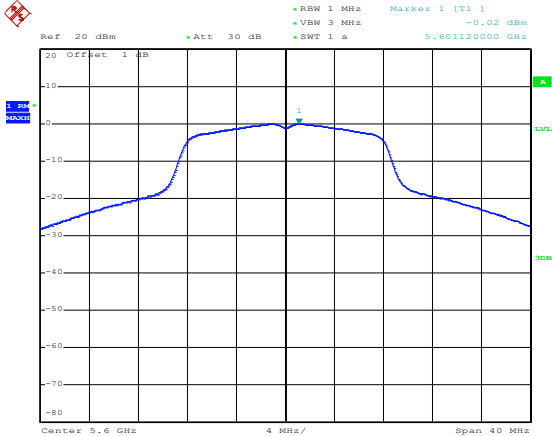
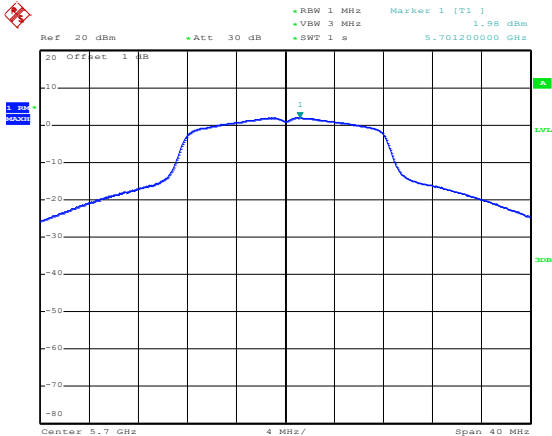
5250-5350MHz

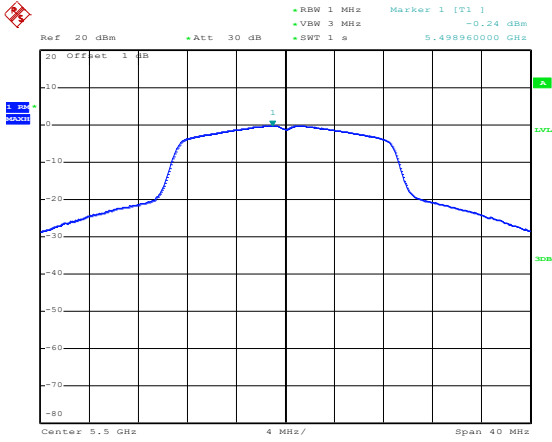
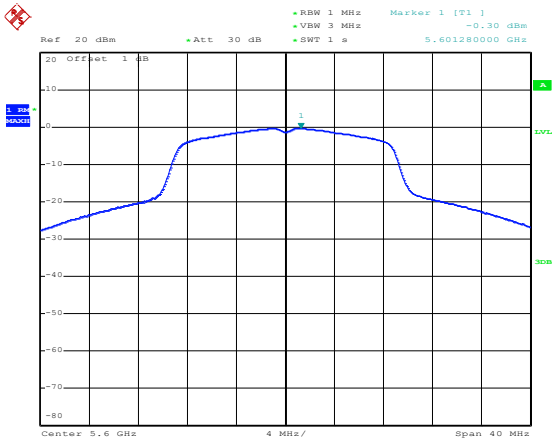
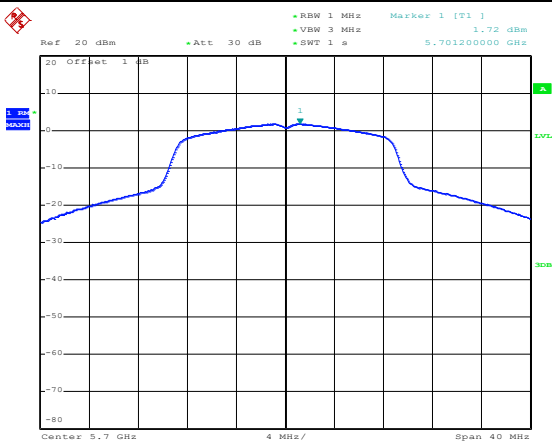
802.11a-Low	 Date: 19.OCT.2023 16:50:45
802.11a-Middle	 Date: 19.OCT.2023 16:51:09
802.11a-High	 Date: 19.OCT.2023 16:51:43

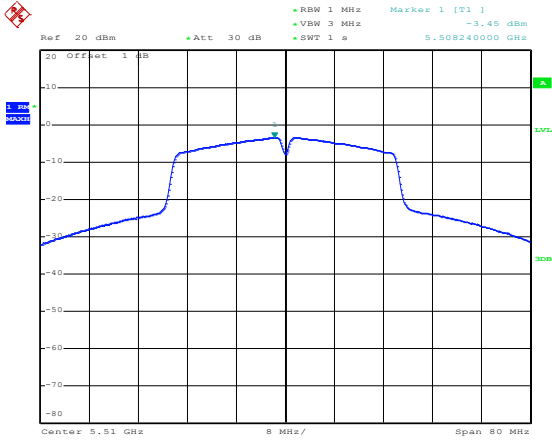
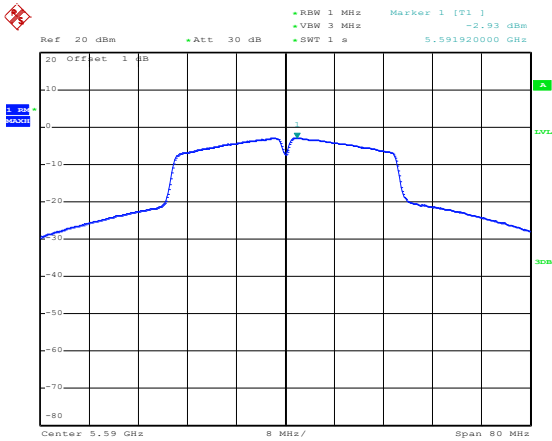
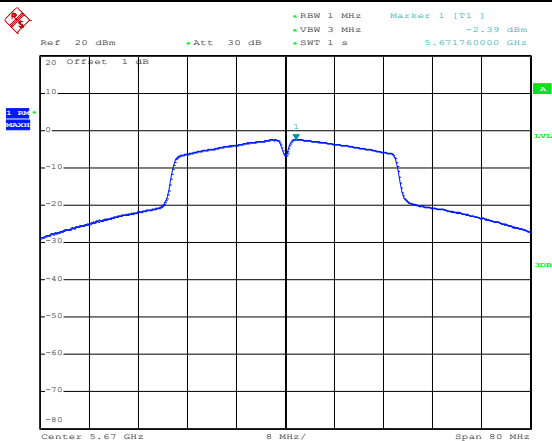
802.11n-HT20-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] 2.59 dBm VSW 3 MHz SWT 1 s 5.258720000 GHz Center 5.26 GHz 4 MHz/ Span 40 MHz Date: 19.OCT.2023 16:52:10
802.11n-HT20-Middle	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] 2.32 dBm VSW 3 MHz SWT 1 s 5.279040000 GHz Center 5.28 GHz 4 MHz/ Span 40 MHz Date: 19.OCT.2023 16:52:25
802.11n-HT20-High	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] 2.12 dBm VSW 3 MHz SWT 1 s 5.318800000 GHz Center 5.32 GHz 4 MHz/ Span 40 MHz Date: 19.OCT.2023 16:52:40

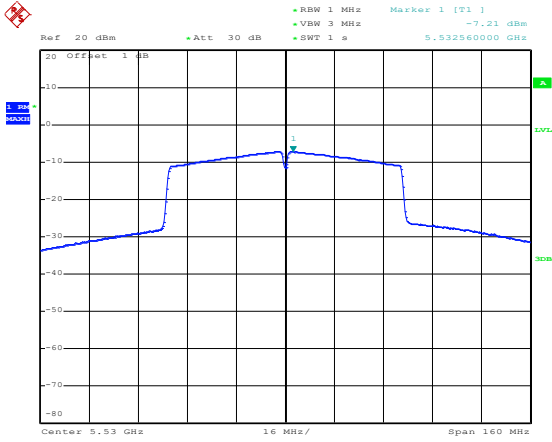
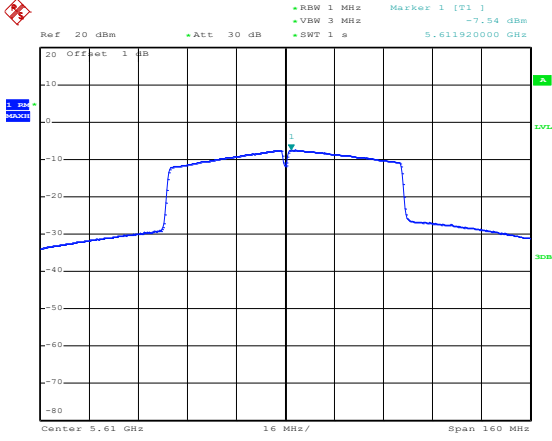
802.11n-HT40-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -0.98 dBm VBW 3 MHz 5.268400000 GHz SWT 1 s Center 5.27 GHz 8 MHz/ Span 80 MHz Date: 19.OCT.2023 16:53:08
802.11n-HT40-High	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -1.79 dBm VBW 3 MHz 5.308400000 GHz SWT 1 s Center 5.31 GHz 8 MHz/ Span 80 MHz Date: 19.OCT.2023 16:53:29
802.11ac-HT80-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -5.82 dBm VBW 3 MHz 5.287120000 GHz SWT 1 s Center 5.29 GHz 16 MHz/ Span 160 MHz Date: 19.OCT.2023 16:54:07

5470-5725MHz

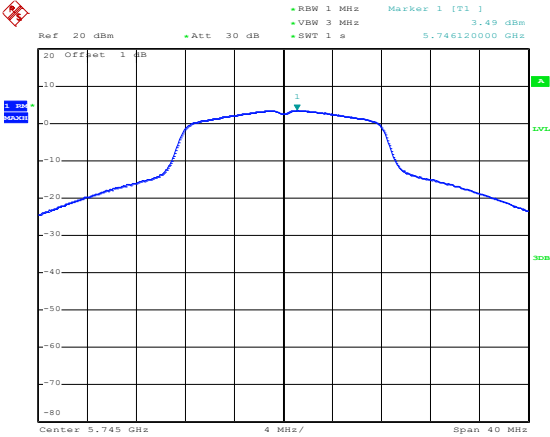
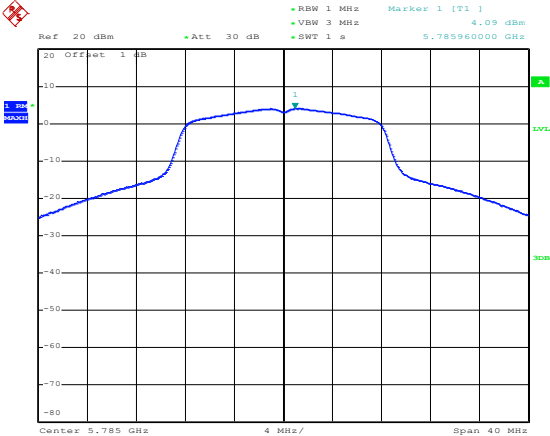
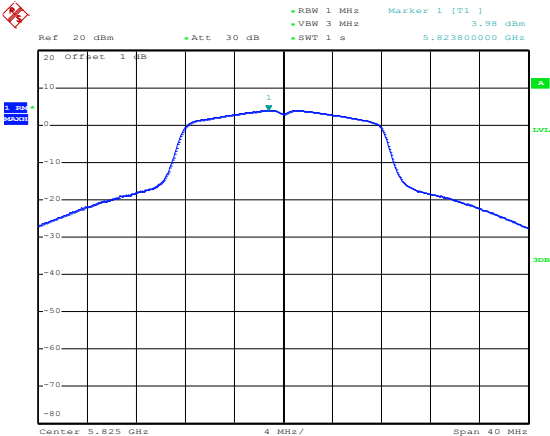
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802.11a-Middle	 Date: 19.OCT.2023 16:44:03
802.11a-High	 Date: 19.OCT.2023 16:44:21

802.11n-HT20-Low	 Date: 19.OCT.2023 16:44:44
802.11n-HT20-Middle	 Date: 19.OCT.2023 16:45:03
802.11n-HT20-High	 Date: 19.OCT.2023 16:46:21

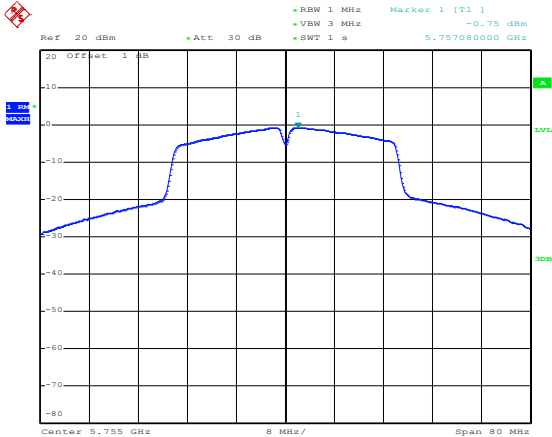
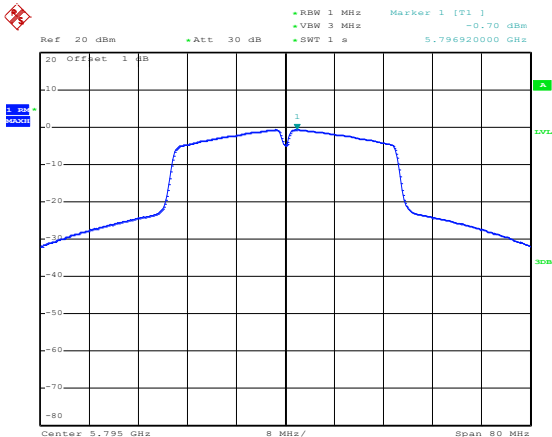
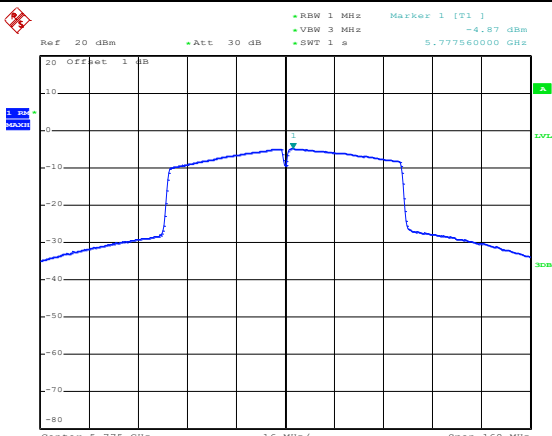
802.11n-HT40-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -3.45 dBm VBW 3 MHz SWT 1 s 5.508240000 GHz Center 5.51 GHz 8 MHz/ Span 80 MHz Date: 19.OCT.2023 16:47:17
802.11n-HT40- Middle	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -2.93 dBm VBW 3 MHz SWT 1 s 5.591920000 GHz Center 5.59 GHz 8 MHz/ Span 80 MHz Date: 19.OCT.2023 16:47:36
802.11n-HT40-High	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -2.39 dBm VBW 3 MHz SWT 1 s 5.671760000 GHz Center 5.67 GHz 8 MHz/ Span 80 MHz Date: 19.OCT.2023 16:47:55

802.11ac-HT80-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -7.21 dBm VSW 3 MHz SWT 1 s 5.532560000 GHz Center 5.53 GHz 16 MHz/ Span 160 MHz Date: 19.OCT.2023 16:48:27
802.11ac-HT80-High	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -7.54 dBm VSW 3 MHz SWT 1 s 5.611920000 GHz Center 5.61 GHz 16 MHz/ Span 160 MHz Date: 19.OCT.2023 16:48:49

5725-5850MHz

802.11a-Low	 Date: 19.OCT.2023 17:00:18
802.11a-Middle	 Date: 19.OCT.2023 17:00:34
802.11a-High	 Date: 19.OCT.2023 17:00:54

802.11n-HT20-Low	Date: 19.OCT.2023 17:01:17
802.11n-HT20-Middle	Date: 19.OCT.2023 17:01:35
802.11n-HT20-High	Date: 19.OCT.2023 17:01:54

802.11n-HT40-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -0.75 dBm VBW 3 MHz 5.757080000 GHz SWT 1 s Center 5.755 GHz 8 MHz/ Span 80 MHz Date: 19.OCT.2023 17:02:24
802.11n-HT40-High	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -0.70 dBm VBW 3 MHz 5.796920000 GHz SWT 1 s Center 5.795 GHz 8 MHz/ Span 80 MHz Date: 19.OCT.2023 17:02:47
802.11ac-HT80-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz Marker 1 [T1] -4.87 dBm VBW 3 MHz 5.777560000 GHz SWT 1 s Center 5.775 GHz 16 MHz/ Span 160 MHz Date: 19.OCT.2023 17:03:23

APPENDIX B

Emission Bandwidth and Occupied Bandwidth

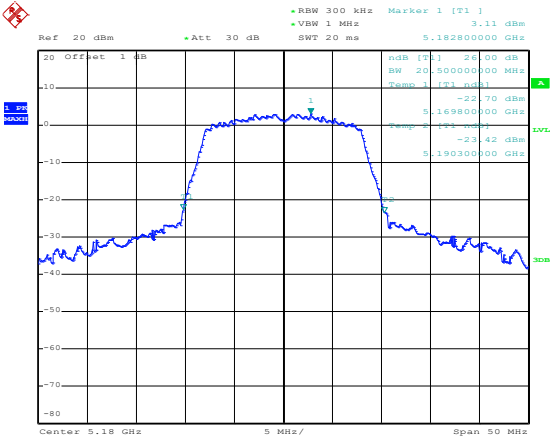
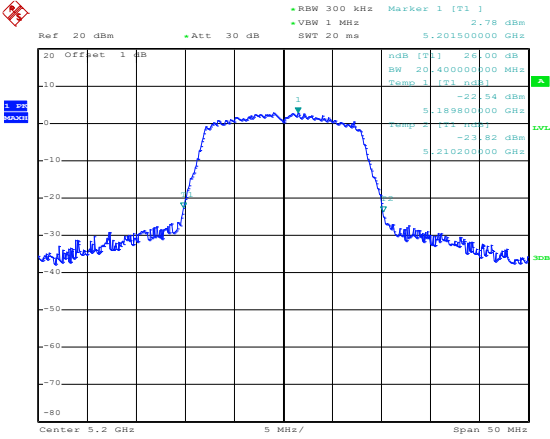
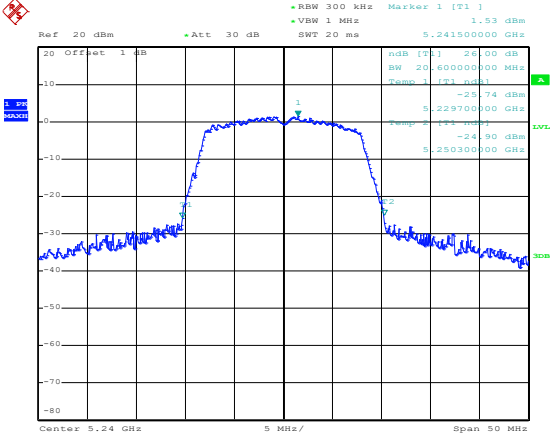
U-NII-1:5150-5250MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5180	20.50	17.00	Pass
	5200	20.40	17.00	Pass
	5240	20.60	17.00	Pass
802.11n-HT20	5180	20.80	17.90	Pass
	5200	20.80	18.00	Pass
	5240	20.60	17.90	Pass
802.11n-HT40	5190	40.80	36.80	Pass
	5230	40.60	36.80	Pass
802.11ac-HT80	5210	81.60	75.60	Pass

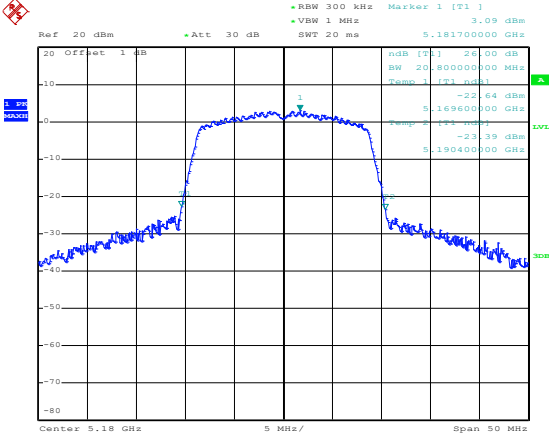
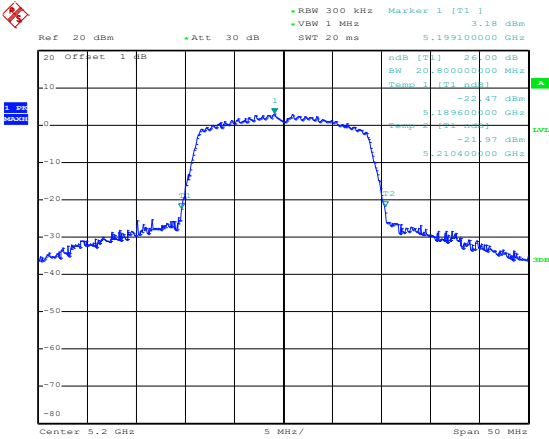
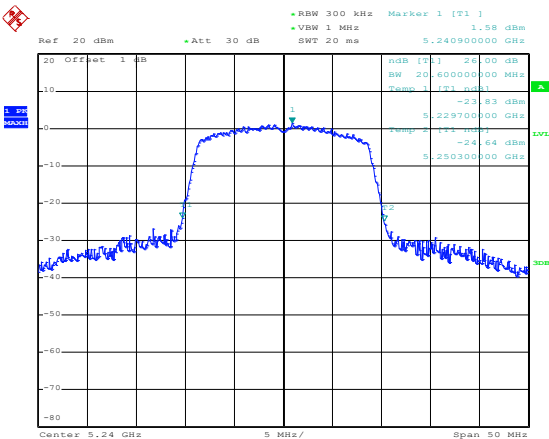
U-NII-2A: 5250-5350MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5260	20.50	16.90	Pass
	5280	20.40	16.90	Pass
	5320	20.50	16.90	Pass
802.11n-HT20	5260	20.90	17.90	Pass
	5280	20.70	17.90	Pass
	5320	20.70	18.00	Pass
802.11n-HT40	5270	40.80	37.00	Pass
	5310	40.20	37.00	Pass
802.11ac-HT80	5290	82.00	75.60	Pass

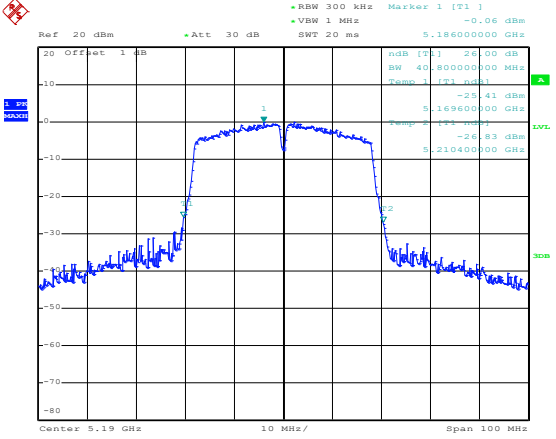
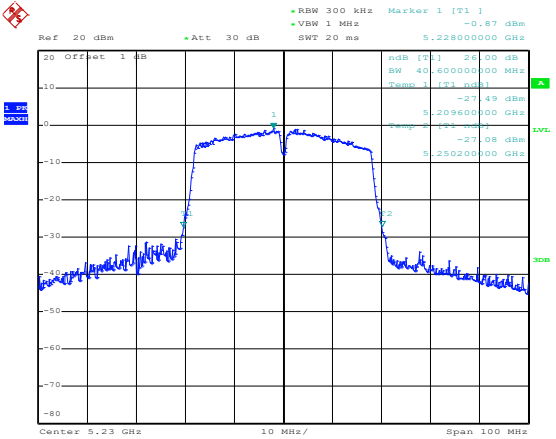
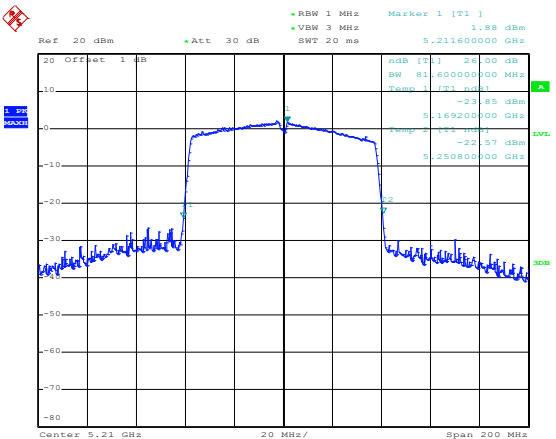
U-NII-2C: 5470-5725MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5500	20.60	17.00	Pass
	5580	21.20	17.10	Pass
	5700	22.60	17.30	Pass
802.11n-HT20	5500	20.90	18.10	Pass
	5580	20.80	18.10	Pass
	5700	21.40	18.10	Pass
802.11n-HT40	5510	40.40	36.80	Pass
	5550	40.40	37.00	Pass
	5670	40.80	37.20	Pass
802.11ac-HT80	5530	82.00	75.60	Pass
	5610	82.00	76.00	Pass

U-NII-3: 5725-5850MHz				
Test Mode	Test Channel MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5745	16.60	17.20	≥500
	5785	16.60	17.20	≥500
	5825	16.60	17.30	≥500
802.11n-HT20	5745	17.70	18.10	≥500
	5785	17.80	18.10	≥500
	5825	17.80	18.00	≥500
802.11n-HT40	5755	36.80	37.40	≥500
	5795	36.80	37.40	≥500
802.11ac VH80	5775	77.60	76.00	≥500

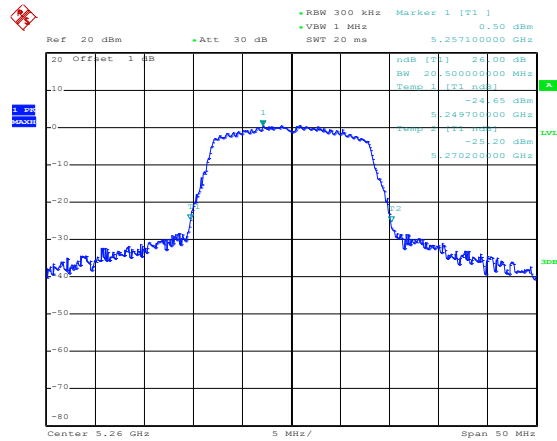
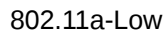
26 dB Bandwidth MHz
5150-5250MHz

802.11a-Low	 Date: 19.OCT.2023 17:18:53
802.11a-Middle	 Date: 19.OCT.2023 17:19:24
802.11a-High	 Date: 19.OCT.2023 17:19:43

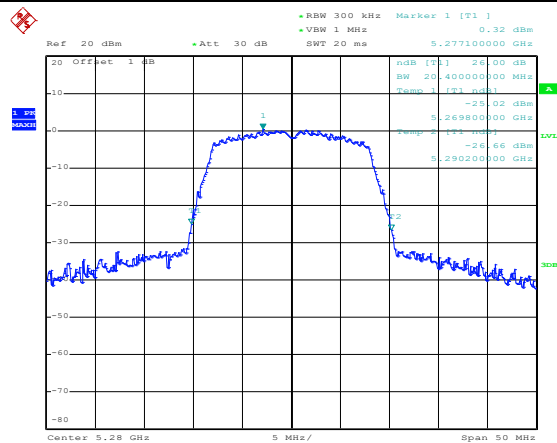
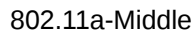
802.11n-HT20-Low	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] 3.09 dBm VSW 1 MHz SWT 20 ms 5.181700000 GHz Offset 1 dB nB [T1] 26.00 dB BW 20.800000000 MHz Temp 1 [T1] nB [T1] -22.64 dBm 5.169600000 GHz -23.39 dBm 5.190400000 GHz Center 5.18 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:21:22
802.11n-HT20-Middle	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] 3.18 dBm VSW 1 MHz SWT 20 ms 5.199100000 GHz Offset 1 dB nB [T1] 26.00 dB BW 20.800000000 MHz Temp 1 [T1] nB [T1] -22.47 dBm 5.189600000 GHz -21.97 dBm 5.210400000 GHz Center 5.2 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:23:37
802.11n-HT20-High	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] 1.58 dBm VSW 1 MHz SWT 20 ms 5.240900000 GHz Offset 1 dB nB [T1] 26.00 dB BW 20.600000000 MHz Temp 1 [T1] nB [T1] -23.83 dBm 5.229700000 GHz -24.64 dBm 5.250300000 GHz Center 5.24 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:24:21

802.11n-HT40-Low	 Date: 19.OCT.2023 17:25:17
802.11n-HT40-High	 Date: 19.OCT.2023 17:25:59
802.11ac-HT80-Low	 Date: 19.OCT.2023 17:26:36

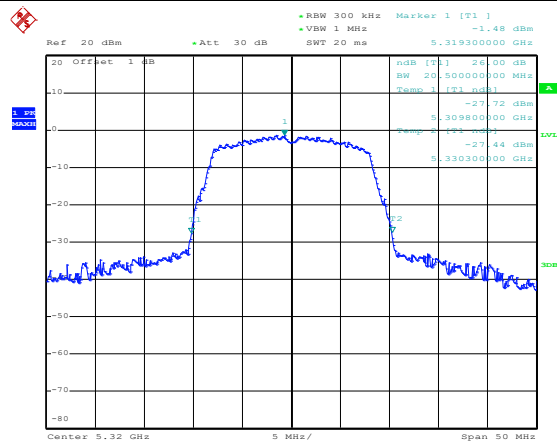
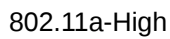
5250-5350MHz



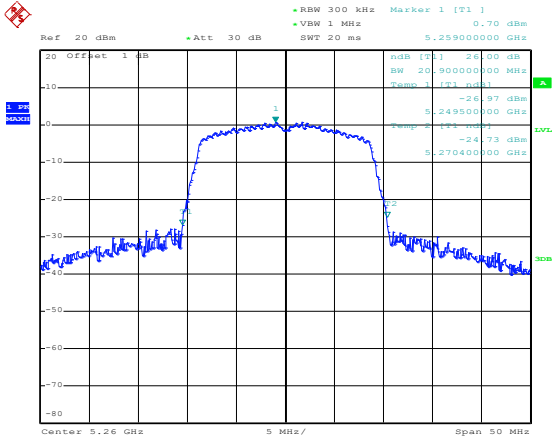
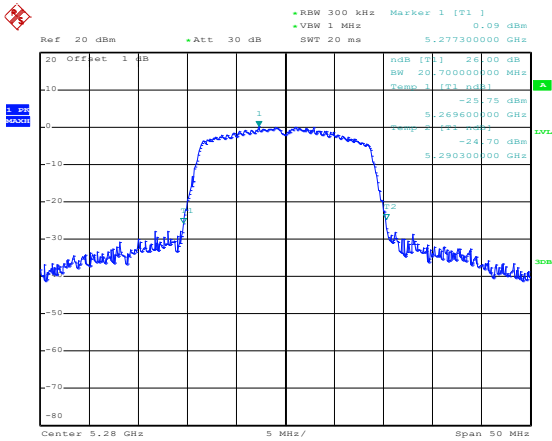
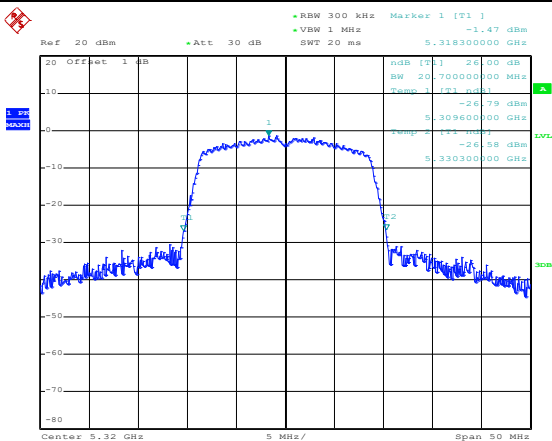
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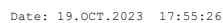


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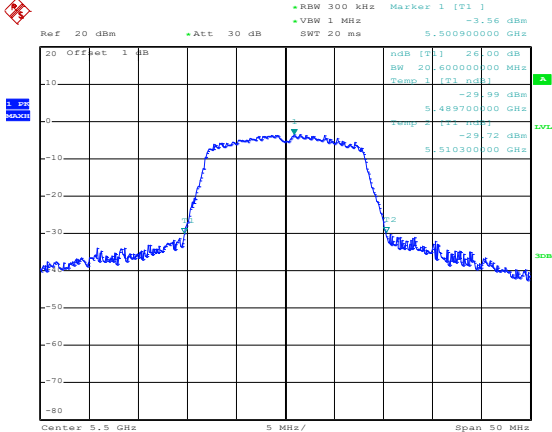
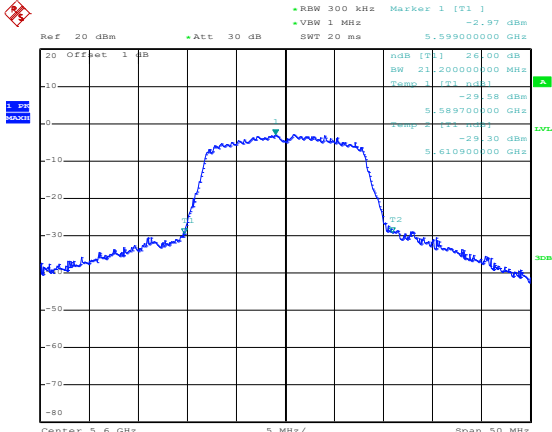
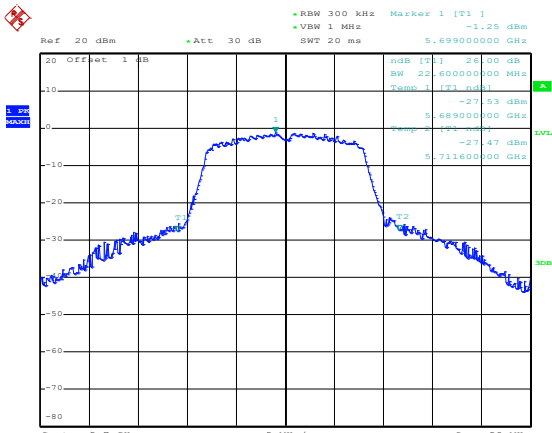


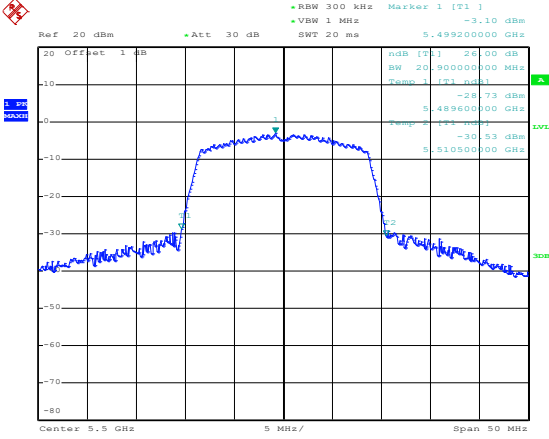
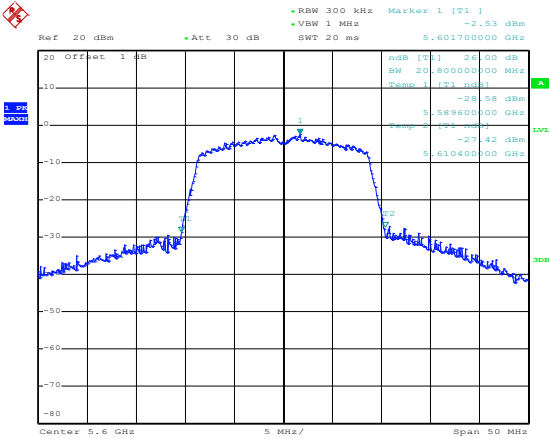
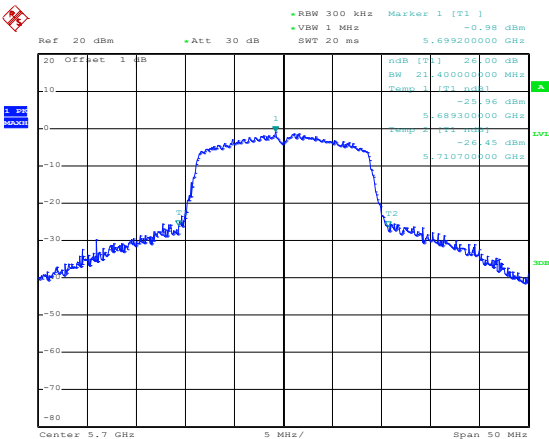
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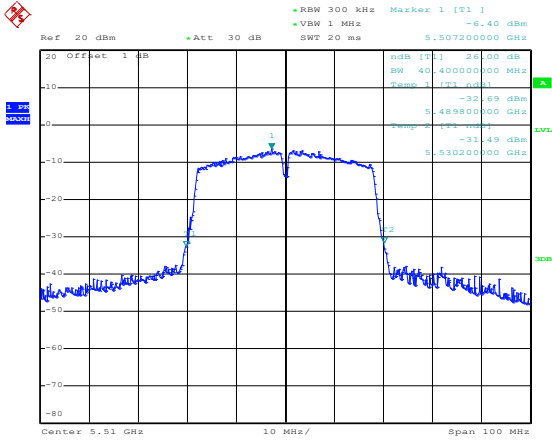
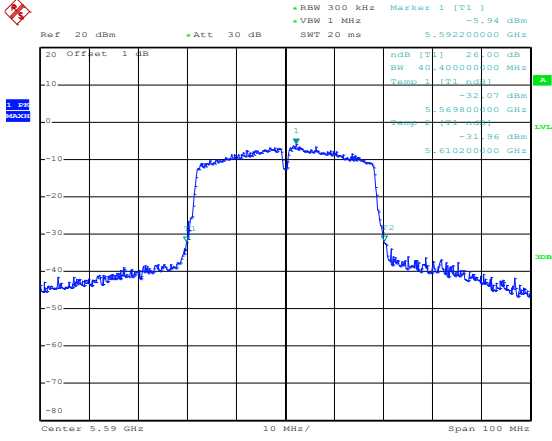
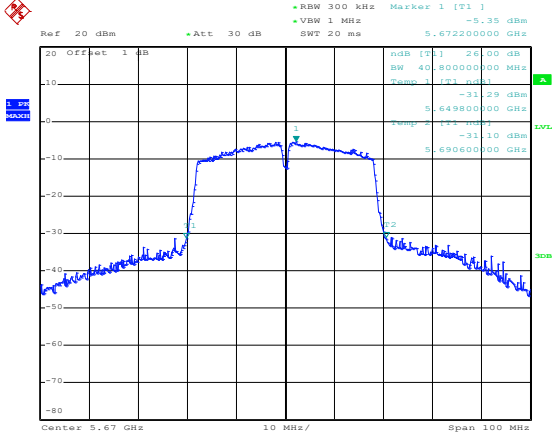
802.11n-HT20-Low	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 0.70 dBm •VSW 1 MHz SWT 20 ms 5.259000000 GHz ndB [T1] -26.97 dBm BW 20.900000000 MHz Temp 1 [T1] 5.249500000 GHz -24.73 dBm 5.270400000 GHz Center 5.26 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:52:55
802.11n-HT20-Middle	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 0.09 dBm •VSW 1 MHz SWT 20 ms 5.277300000 GHz ndB [T1] -25.75 dBm BW 20.700000000 MHz Temp 1 [T1] 5.269600000 GHz -24.70 dBm 5.290300000 GHz Center 5.28 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:53:38
802.11n-HT20-High	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] -1.47 dBm •VSW 1 MHz SWT 20 ms 5.318300000 GHz ndB [T1] -26.79 dBm BW 20.700000000 MHz Temp 1 [T1] 5.309600000 GHz -26.58 dBm 5.330300000 GHz Center 5.32 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:54:20



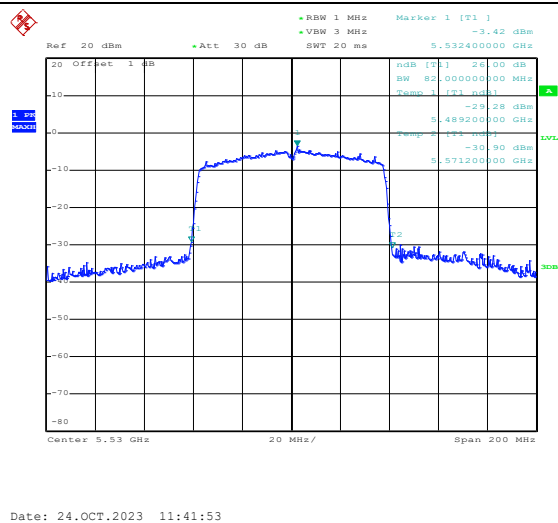
5470-5725MHz

802.11a-Low	 Ref: 20 dBm, Att: 30 dB, RBW: 300 kHz, VBW: 1 MHz, SWT: 20 ms, Marker 1 [T1]: -25.56 dBm, 5.500900000 GHz Center: 5.5 GHz, Span: 50 MHz Date: 24.OCT.2023 11:33:56
802.11a-Middle	 Ref: 20 dBm, Att: 30 dB, RBW: 300 kHz, VBW: 1 MHz, SWT: 20 ms, Marker 1 [T1]: -25.97 dBm, 5.599000000 GHz Center: 5.6 GHz, Span: 50 MHz Date: 24.OCT.2023 11:34:37
802.11a-High	 Ref: 20 dBm, Att: 30 dB, RBW: 300 kHz, VBW: 1 MHz, SWT: 20 ms, Marker 1 [T1]: -25.25 dBm, 5.699000000 GHz Center: 5.7 GHz, Span: 50 MHz Date: 24.OCT.2023 11:35:35

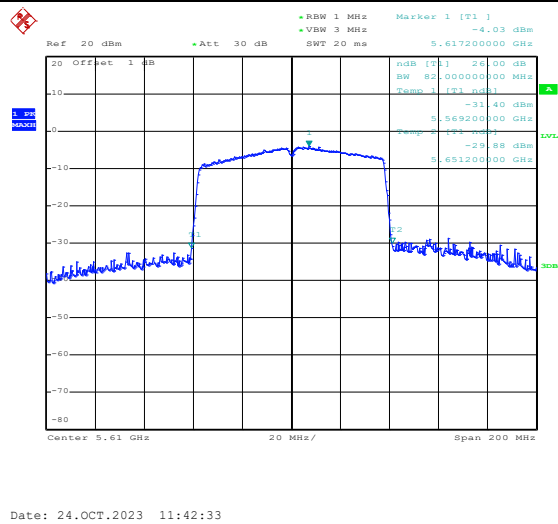
802.11n-HT20-Low	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] -3.10 dBm VSW 1 MHz SWT 20 ms 5.499200000 GHz Offset 1 dB Center 5.5 GHz 5 MHz/ Span 50 MHz Date: 24.OCT.2023 11:37:14
802.11n-HT20-Middle	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] -2.53 dBm VSW 1 MHz SWT 20 ms 5.601700000 GHz Offset 1 dB Center 5.6 GHz 5 MHz/ Span 50 MHz Date: 24.OCT.2023 11:37:46
802.11n-HT20-High	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] -0.98 dBm VSW 1 MHz SWT 20 ms 5.699200000 GHz Offset 1 dB Center 5.7 GHz 5 MHz/ Span 50 MHz Date: 24.OCT.2023 11:38:08

802.11n-HT40-Low	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] -6.40 dBm •VSW 1 MHz SWT 20 ms 5.507200000 GHz ndB [T1] -32.69 dBm BW 40.400000000 MHz Temp 1 [T1] 5.489800000 GHz -32.69 dBm 5.507200000 GHz -31.49 dBm 5.507200000 GHz Center 5.51 GHz 10 MHz/ Span 100 MHz Date: 24.OCT.2023 11:38:51
802.11n-HT40- Middle	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] -5.94 dBm •VSW 1 MHz SWT 20 ms 5.592200000 GHz ndB [T1] -32.07 dBm BW 40.400000000 MHz Temp 1 [T1] 5.569800000 GHz -32.07 dBm 5.592200000 GHz -31.96 dBm 5.610200000 GHz Center 5.59 GHz 10 MHz/ Span 100 MHz Date: 24.OCT.2023 11:39:13
802.11n-HT40-High	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] -5.35 dBm •VSW 1 MHz SWT 20 ms 5.672200000 GHz ndB [T1] -31.29 dBm BW 40.800000000 MHz Temp 1 [T1] 5.649800000 GHz -31.29 dBm 5.672200000 GHz -31.10 dBm 5.690600000 GHz Center 5.67 GHz 10 MHz/ Span 100 MHz Date: 24.OCT.2023 11:39:53

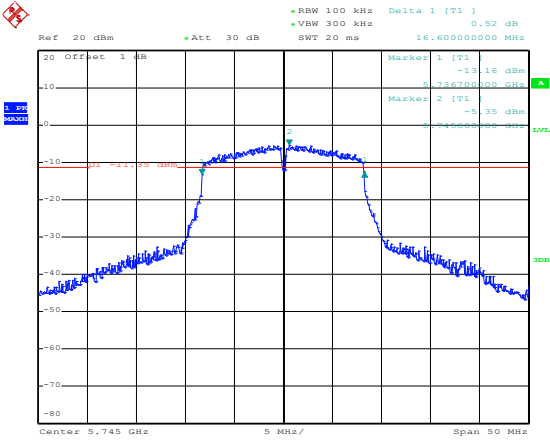
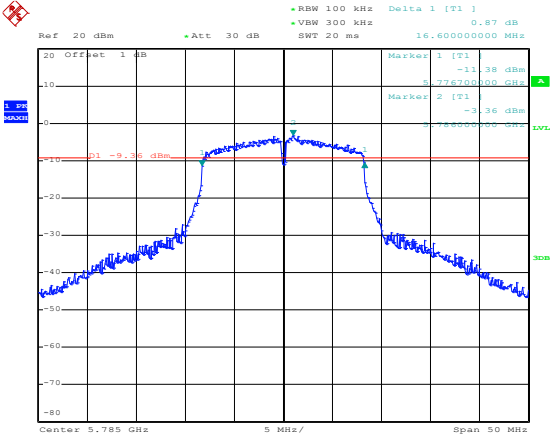
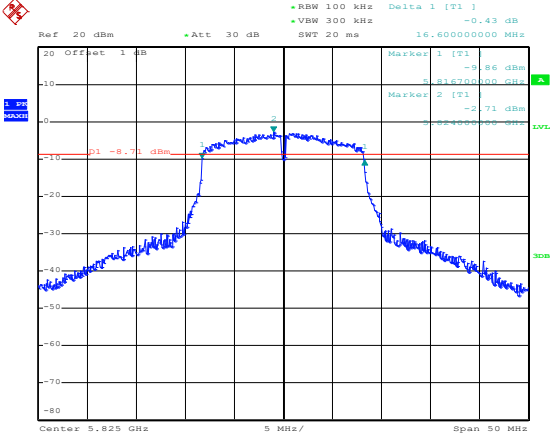
802.11ac-HT80-Low

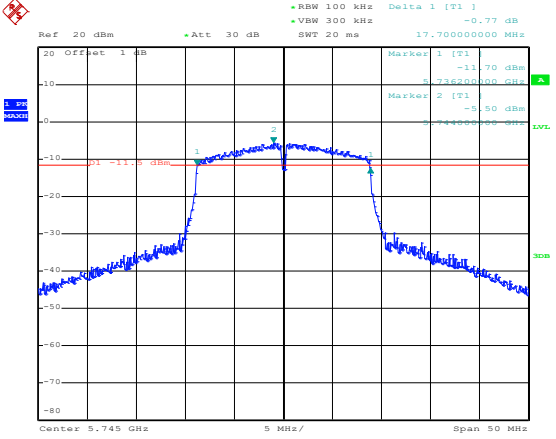
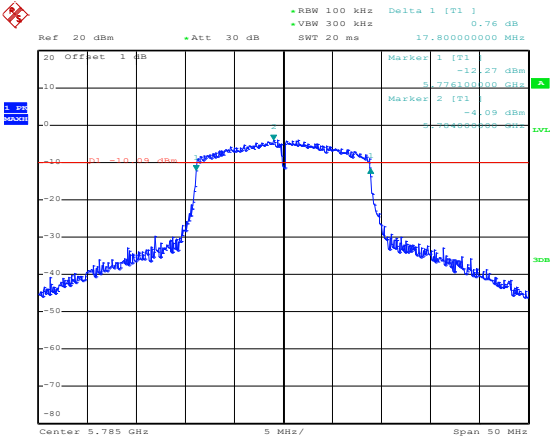
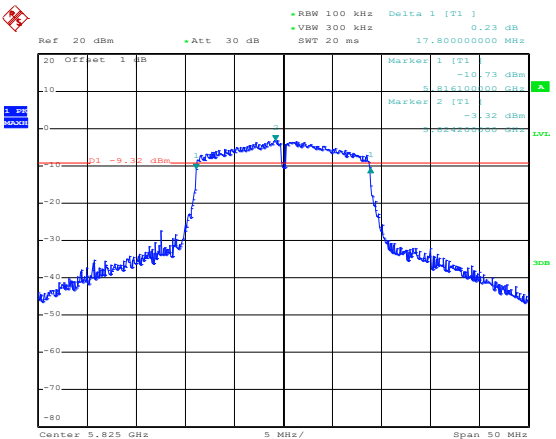


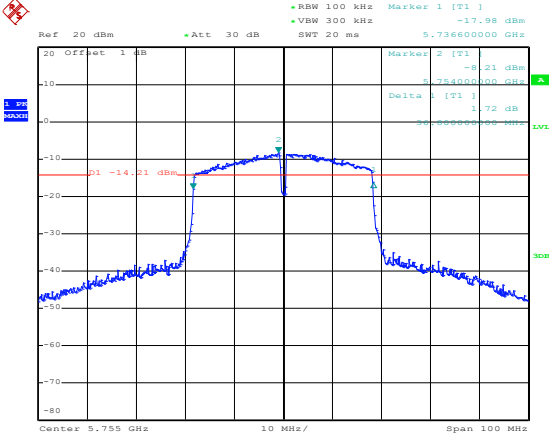
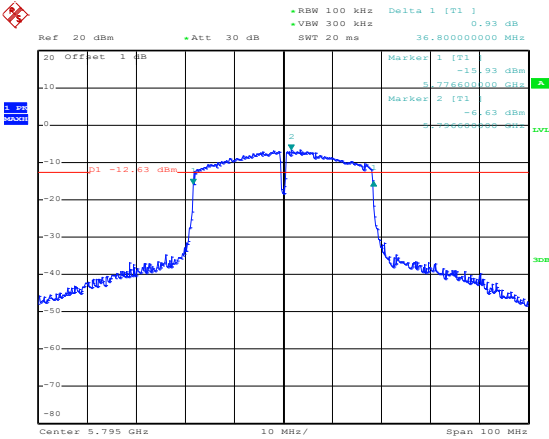
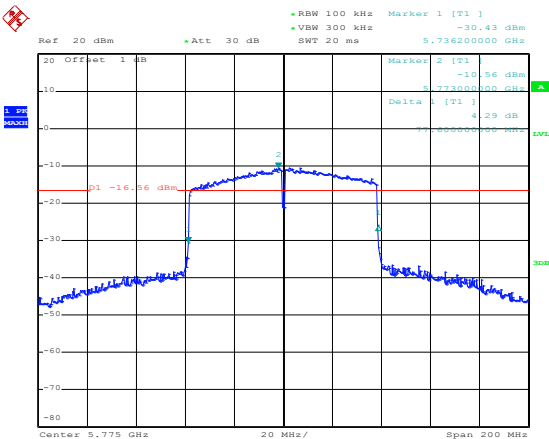
802.11ac-HT80-High



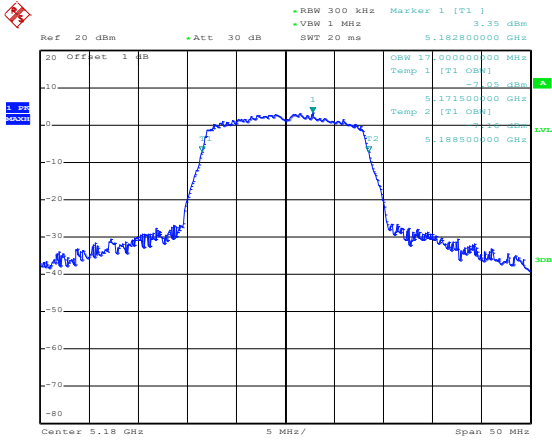
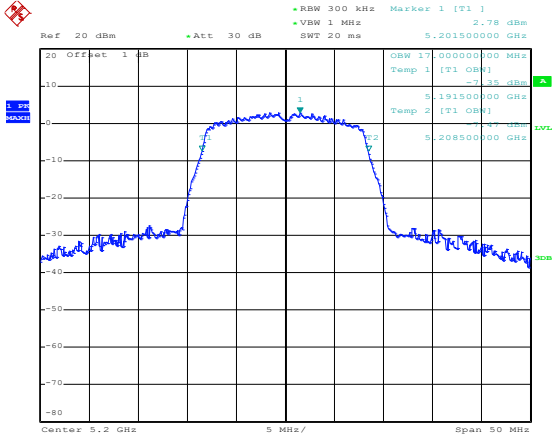
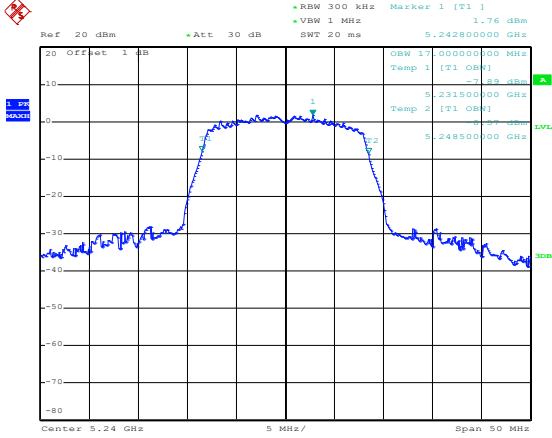
6 dB Bandwidth MHz
5725-5850MHz

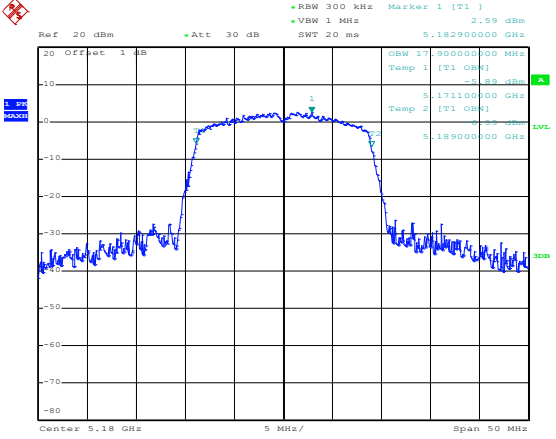
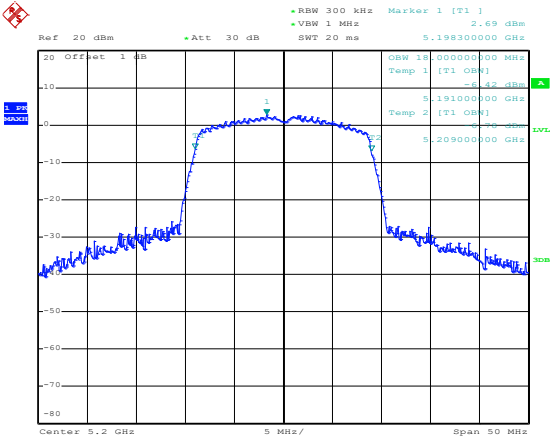
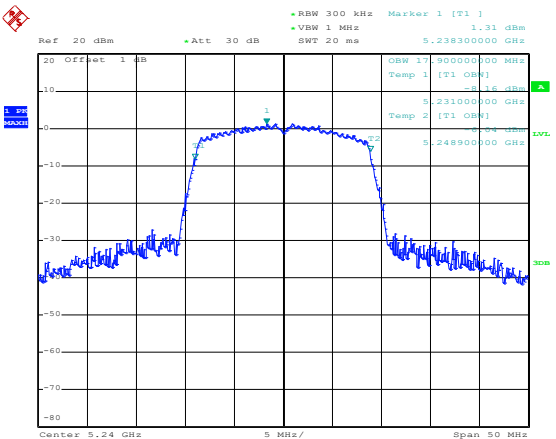
802.11a-Low	 Date: 20.OCT.2023 09:50:39
802.11a-Middle	 Date: 20.OCT.2023 09:51:50
802.11a-High	 Date: 20.OCT.2023 09:52:40

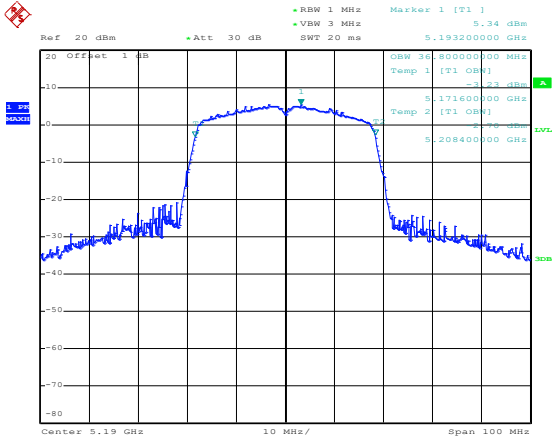
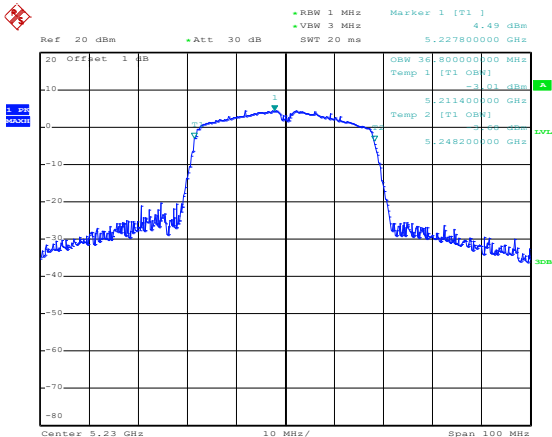
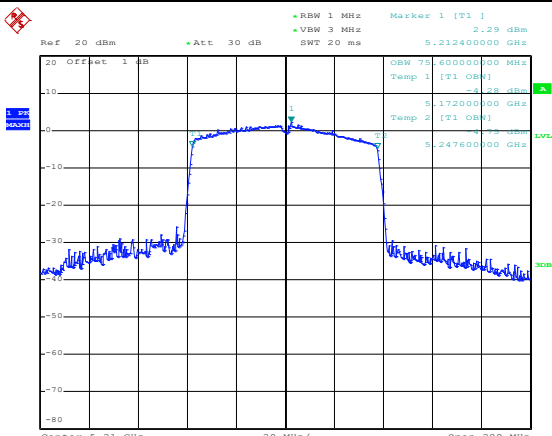
802.11n-HT20-Low	 Ref 20 dBm Att 30 dB RBW 100 kHz VSW 300 kHz SWT 20 ms Delta 1 [T1] -0.77 dB 17.700000000 MHz Marker 1 [T1] -11.70 dBm 5.736200000 GHz Marker 2 [T1] -5.50 dBm 5.746000000 GHz Center 5.745 GHz 5 MHz/ Span 50 MHz Date: 20.OCT.2023 09:53:29
802.11n-HT20-Middle	 Ref 20 dBm Att 30 dB RBW 100 kHz VSW 300 kHz SWT 20 ms Delta 1 [T1] 0.76 dB 17.800000000 MHz Marker 1 [T1] -12.27 dBm 5.776100000 GHz Marker 2 [T1] -4.09 dBm 5.786000000 GHz Center 5.785 GHz 5 MHz/ Span 50 MHz Date: 20.OCT.2023 09:54:00
802.11n-HT20-High	 Ref 20 dBm Att 30 dB RBW 100 kHz VSW 300 kHz SWT 20 ms Delta 1 [T1] 0.23 dB 17.800000000 MHz Marker 1 [T1] -10.73 dBm 5.816100000 GHz Marker 2 [T1] -3.32 dBm 5.826000000 GHz Center 5.825 GHz 5 MHz/ Span 50 MHz Date: 20.OCT.2023 09:54:38

802.11n-HT40-Low	 Ref 20 dBm Att 30 dB RBW 100 kHz VSW 300 kHz SWT 20 ms Marker 1 [T1] -17.98 dBm Marker 2 [T1] -8.21 dBm Delta 1 [T1] 9.77 dB Delta 2 [T1] 1.72 dB Center 5.755 GHz 10 MHz/ Span 100 MHz Date: 20.OCT.2023 09:55:39
802.11n-HT40-High	 Ref 20 dBm Att 30 dB RBW 100 kHz VSW 300 kHz SWT 20 ms Delta 1 [T1] 0.93 dB Marker 1 [T1] -15.93 dBm Marker 2 [T1] -6.63 dBm Center 5.795 GHz 10 MHz/ Span 100 MHz Date: 20.OCT.2023 09:56:26
802.11ac-HT80-Low	 Ref 20 dBm Att 30 dB RBW 100 kHz VSW 300 kHz SWT 20 ms Marker 1 [T1] -30.43 dBm Marker 2 [T1] -10.56 dBm Delta 1 [T1] 4.29 dB Center 5.775 GHz 20 MHz/ Span 200 MHz Date: 20.OCT.2023 09:57:39

99% Bandwidth MHz
5150-5250MHz

802.11a-Low	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] 3.35 dBm VBW 1 MHz SWT 20 ms 5.18280000 GHz 20 Offset 1 dB OSW 17.00000000 MHz Temp 1 [T1] OSW -2.35 dBm A -10 5.17150000 GHz Temp 2 [T1] OSW -108 dBm LVL 0 5.18850000 GHz -105 dBm 30B -10 -20 -30 -40 -50 -60 -70 -80 Center 5.18 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:28:06
802.11a-Middle	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] 2.78 dBm VBW 1 MHz SWT 20 ms 5.20150000 GHz 20 Offset 1 dB OSW 17.00000000 MHz Temp 1 [T1] OSW -2.78 dBm A -10 5.19150000 GHz Temp 2 [T1] OSW -108 dBm LVL 0 5.20850000 GHz -105 dBm 30B -10 -20 -30 -40 -50 -60 -70 -80 Center 5.2 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:29:46
802.11a-High	 Ref 20 dBm Att 30 dB RBW 300 kHz Marker 1 [T1] 1.76 dBm VBW 1 MHz SWT 20 ms 5.24280000 GHz 20 Offset 1 dB OSW 17.00000000 MHz Temp 1 [T1] OSW -1.76 dBm A -10 5.23150000 GHz Temp 2 [T1] OSW -108 dBm LVL 0 5.24850000 GHz -105 dBm 30B -10 -20 -30 -40 -50 -60 -70 -80 Center 5.24 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:30:55

802.11n-HT20-Low	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 2.59 dBm •VSW 1 MHz SWT 20 ms 5.182900000 GHz 20 Offset 1 dB 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 Center 5.18 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:34:12
802.11n-HT20-Middle	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 2.69 dBm •VSW 1 MHz SWT 20 ms 5.198300000 GHz 20 Offset 1 dB 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 Center 5.2 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:35:46
802.11n-HT20-High	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 1.31 dBm •VSW 1 MHz SWT 20 ms 5.238300000 GHz 20 Offset 1 dB 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 Center 5.24 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:36:26

802.11n-HT40-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz VSW 3 MHz SWT 20 ms Marker 1 [T1] 5.34 dBm 5.193200000 GHz OSW 30.800000000 MHz Temp 1 [T1] 0.00 dBm -3.23 dBm 5.171600000 GHz Temp 2 [T1] 0.00 dBm -3.23 dBm 5.208400000 GHz Center 5.19 GHz 10 MHz/ Span 100 MHz Date: 19.OCT.2023 17:37:34
802.11n-HT40-High	 Ref 20 dBm Att 30 dB RBW 1 MHz VSW 3 MHz SWT 20 ms Marker 1 [T1] 4.49 dBm 5.227800000 GHz OSW 30.800000000 MHz Temp 1 [T1] 0.00 dBm -3.01 dBm 5.211400000 GHz Temp 2 [T1] 0.00 dBm -3.01 dBm 5.248200000 GHz Center 5.23 GHz 10 MHz/ Span 100 MHz Date: 19.OCT.2023 17:38:02
802.11ac-HT80-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz VSW 3 MHz SWT 20 ms Marker 1 [T1] 2.29 dBm 5.212400000 GHz OSW 75.600000000 MHz Temp 1 [T1] 0.00 dBm -3.22 dBm 5.172000000 GHz Temp 2 [T1] 0.00 dBm -3.22 dBm 5.247600000 GHz Center 5.21 GHz 20 MHz/ Span 200 MHz Date: 19.OCT.2023 17:38:51

5250-5350MHz

802.11a-Low

Ref: 20 dBm Att: 30 dB BW: 300 kHz Marker 1 [T1] 0.96 dBm
5.258500000 GHz

OBW 16 900000000 MHz
Temp 1 [T1 OBW] -8.37 dBm
5.251500000 GHz
Temp 2 [T1 OBW] -8.44 dBm
5.268400000 GHz

Center 5.26 GHz 5 MHz/ Span 50 MHz

Date: 19.OCT.2023 17:40:28

802.11a-Middle

Ref: 20 dBm Att: 30 dB BW: 300 kHz Marker 1 [T1] 0.14 dBm
5.279000000 GHz

OBW 16 900000000 MHz
Temp 1 [T1 OBW] -8.37 dBm
5.271500000 GHz
Temp 2 [T1 OBW] -8.33 dBm
5.288400000 GHz

Center 5.28 GHz 5 MHz/ Span 50 MHz

Date: 19.OCT.2023 17:41:02

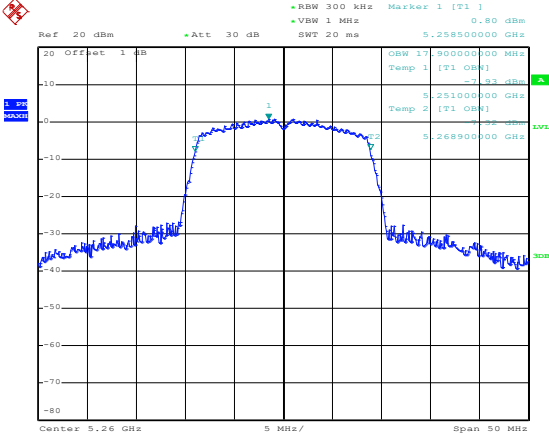
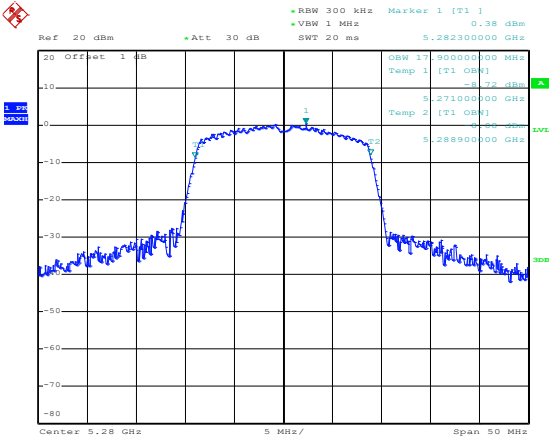
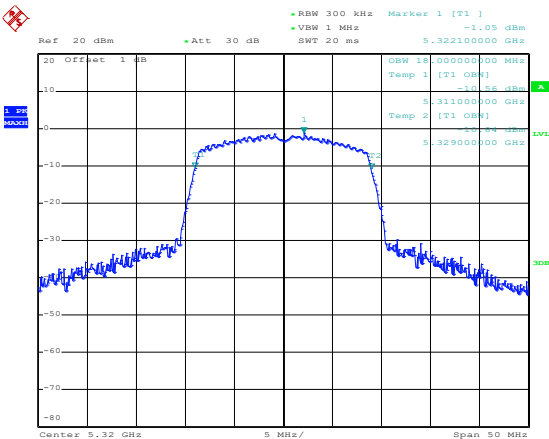
802.11a-High

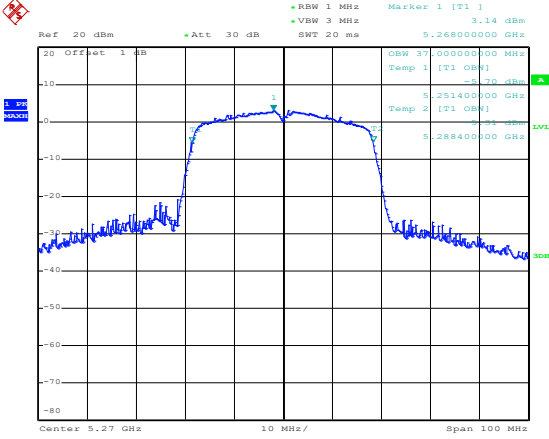
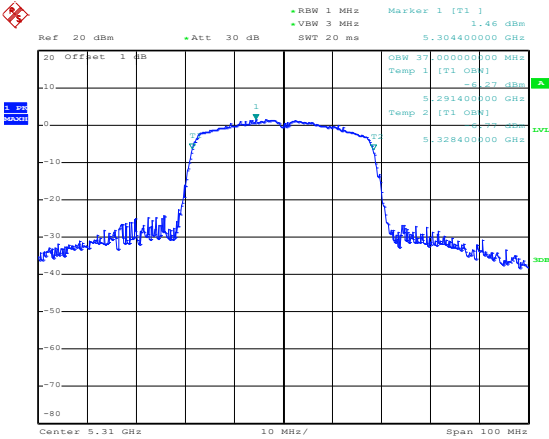
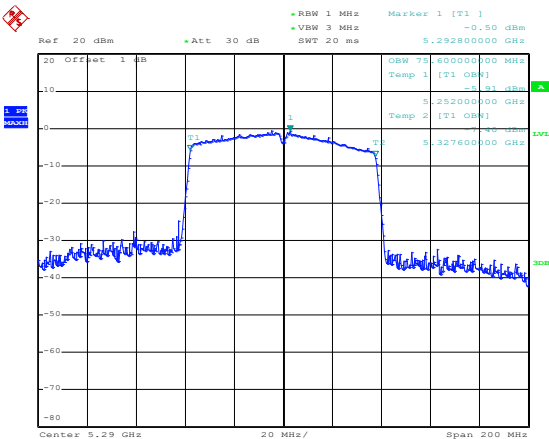
Ref: 20 dBm Att: 30 dB BW: 300 kHz Marker 1 [T1] -1.46 dBm
5.321500000 GHz

OBW 16 900000000 MHz
Temp 1 [T1 OBW] -11.12 dBm
5.311500000 GHz
Temp 2 [T1 OBW] -11.23 dBm
5.328400000 GHz

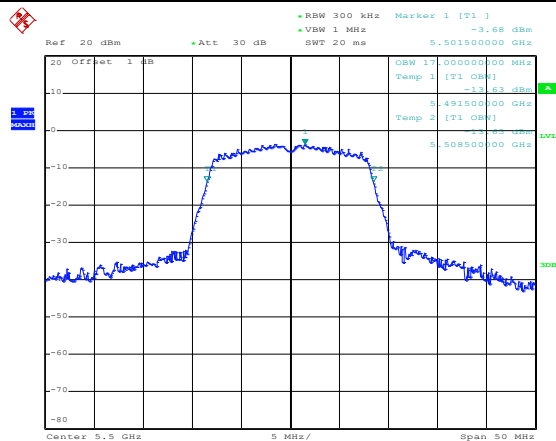
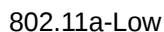
Center 5.32 GHz 5 MHz/ Span 50 MHz

Date: 19.OCT.2023 17:41:48

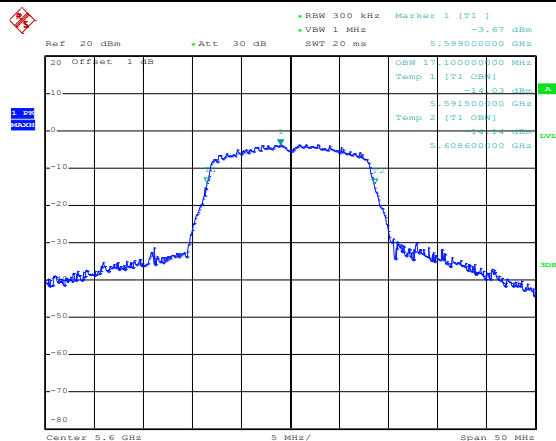
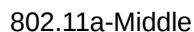
802.11n-HT20-Low	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 0.80 dBm •VSW 1 MHz SWT 20 ms 5.258500000 GHz 20 Offset 1 dB 1 17.900000000 MHz 17.900000000 MHz Temp 1 [T1] -1.83 dBm 5.251000000 GHz 5.251000000 GHz Temp 2 [T1] -1.82 dBm 5.268900000 GHz 5.268900000 GHz Center 5.26 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:42:53
802.11n-HT20-Middle	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 0.38 dBm •VSW 1 MHz SWT 20 ms 5.282300000 GHz 20 Offset 1 dB 1 17.900000000 MHz 17.900000000 MHz Temp 1 [T1] -1.72 dBm 5.271000000 GHz 5.271000000 GHz Temp 2 [T1] -1.69 dBm 5.288900000 GHz 5.288900000 GHz Center 5.28 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:43:51
802.11n-HT20-High	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] -1.05 dBm •VSW 1 MHz SWT 20 ms 5.322100000 GHz 20 Offset 1 dB 1 18.000000000 MHz 18.000000000 MHz Temp 1 [T1] -1.05 dBm 5.311000000 GHz 5.311000000 GHz Temp 2 [T1] -1.04 dBm 5.329000000 GHz 5.329000000 GHz Center 5.32 GHz 5 MHz/ Span 50 MHz Date: 19.OCT.2023 17:44:53

802.11n-HT40-Low	 Ref 20 dBm Att 30 dB SWT 20 ms Marker 1 [T1] 3.14 dBm 5.26800000 GHz OSW 37.00000000 MHz Temp 1 [T1] 0.00 dBm Temp 2 [T1] 0.00 dBm 5.25140000 GHz Temp 3 [T1] 0.00 dBm 5.28400000 GHz Center 5.27 GHz 10 MHz/ Span 100 MHz Date: 19.OCT.2023 17:46:38
802.11n-HT40-High	 Ref 20 dBm Att 30 dB SWT 20 ms Marker 1 [T1] 1.46 dBm 5.30440000 GHz OSW 37.00000000 MHz Temp 1 [T1] 0.00 dBm Temp 2 [T1] 0.00 dBm 5.29140000 GHz Temp 3 [T1] 0.00 dBm 5.32840000 GHz Center 5.31 GHz 10 MHz/ Span 100 MHz Date: 19.OCT.2023 17:47:22
802.11ac-HT80-Low	 Ref 20 dBm Att 30 dB SWT 20 ms Marker 1 [T1] -0.50 dBm 5.29280000 GHz OSW 75.60000000 MHz Temp 1 [T1] 0.00 dBm Temp 2 [T1] 0.00 dBm 5.25200000 GHz Temp 3 [T1] 0.00 dBm 5.32760000 GHz Center 5.29 GHz 20 MHz/ Span 200 MHz Date: 19.OCT.2023 17:48:35

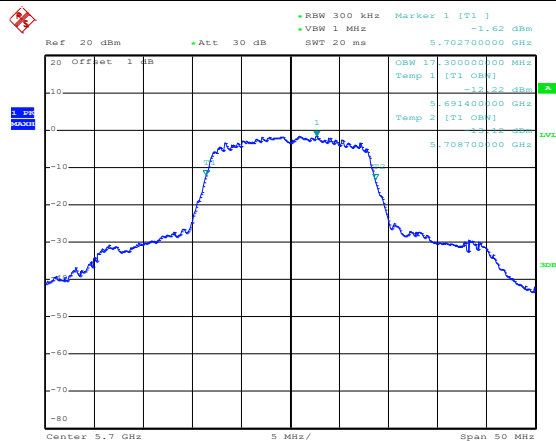
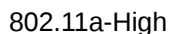
5470-5725MHz



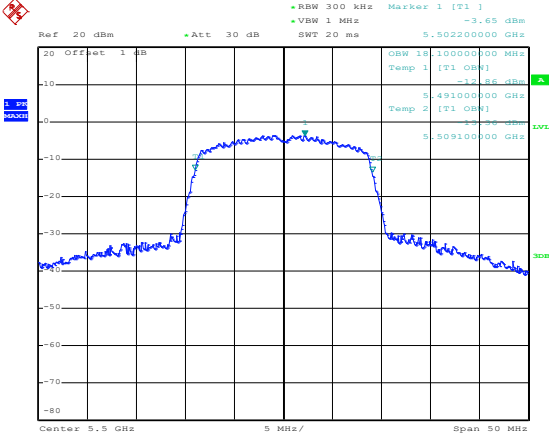
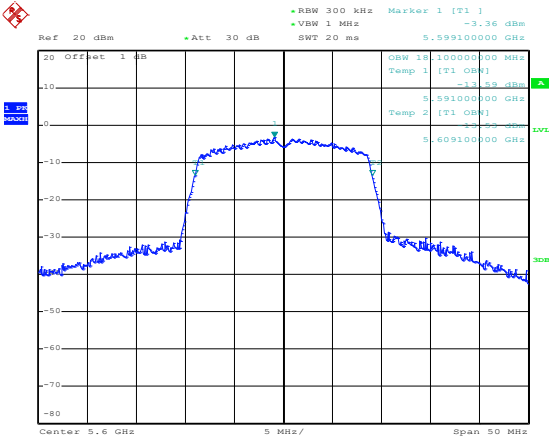
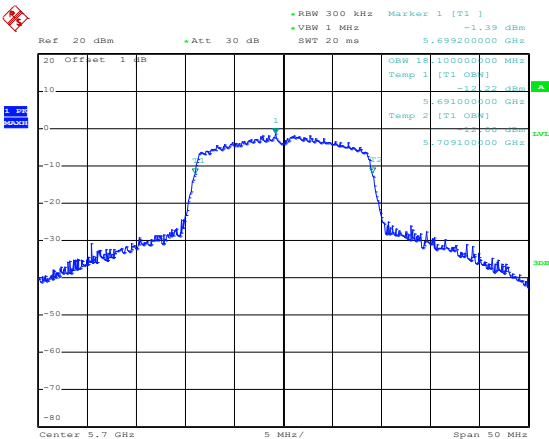
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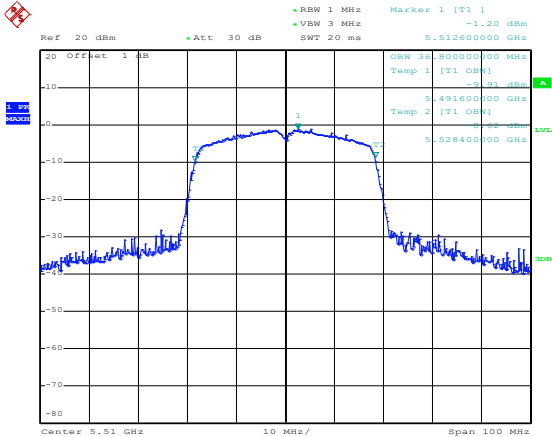
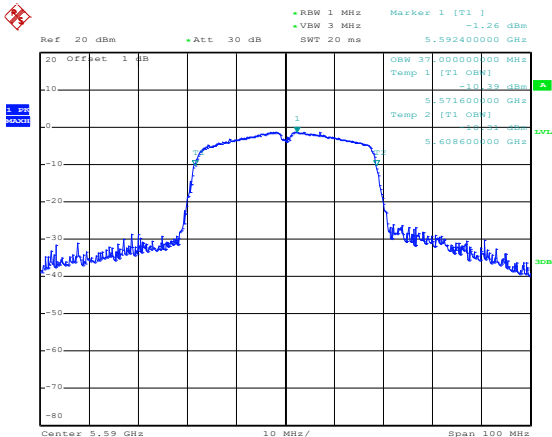
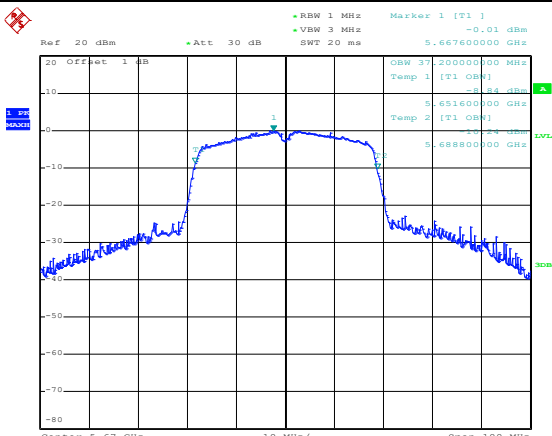


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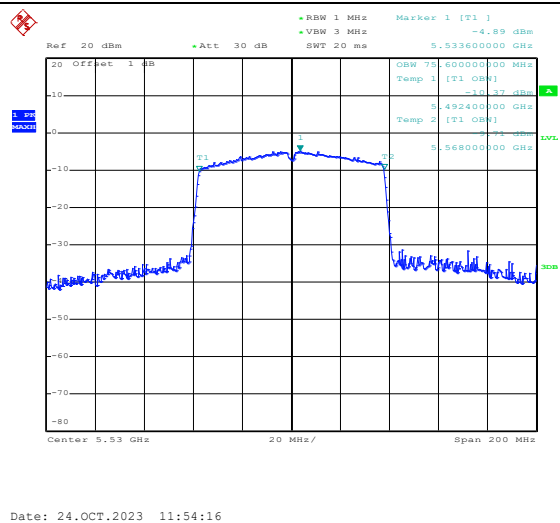


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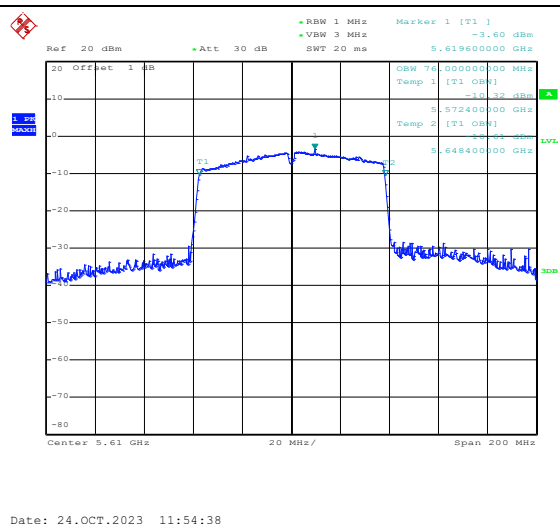
802.11n-HT20-Low	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] -3.65 dBm •VSW 1 MHz SWT 20 ms 5.502200000 GHz OSW 10.100000000 MHz Temp 1 [T1] [OSW] -12.86 dBm 5.491000000 GHz Temp 2 [T1] [OSW] -12.86 dBm 5.509100000 GHz Center 5.5 GHz 5 MHz/ Span 50 MHz Date: 24.OCT.2023 11:49:30
802.11n-HT20-Middle	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] -3.36 dBm •VSW 1 MHz SWT 20 ms 5.599100000 GHz OSW 10.100000000 MHz Temp 1 [T1] [OSW] -12.69 dBm 5.591000000 GHz Temp 2 [T1] [OSW] -12.69 dBm 5.609100000 GHz Center 5.6 GHz 5 MHz/ Span 50 MHz Date: 24.OCT.2023 11:50:51
802.11n-HT20-High	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] -1.39 dBm •VSW 1 MHz SWT 20 ms 5.699200000 GHz OSW 10.100000000 MHz Temp 1 [T1] [OSW] -12.22 dBm 5.691000000 GHz Temp 2 [T1] [OSW] -12.22 dBm 5.709100000 GHz Center 5.7 GHz 5 MHz/ Span 50 MHz Date: 24.OCT.2023 11:52:00

802.11n-HT40-Low	 Ref 20 dBm +Att 30 dB Offset 1 dB RBW 1 MHz VSW 3 MHz SWT 20 ms Marker 1 [T1] -1.20 dBm Obs 30.00000000 MHz Temp 1 [T1 Obs] -3.81 dBm 5.491600000 GHz Temp 2 [T1 Obs] -3.82 dBm 5.528400000 GHz Center 5.51 GHz 10 MHz/ Span 100 MHz Date: 24.OCT.2023 11:52:46
802.11n-HT40- Middle	 Ref 20 dBm +Att 30 dB Offset 1 dB RBW 1 MHz VSW 3 MHz SWT 20 ms Marker 1 [T1] -1.26 dBm Obs 37.00000000 MHz Temp 1 [T1 Obs] -10.49 dBm 5.571600000 GHz Temp 2 [T1 Obs] -10.49 dBm 5.608600000 GHz Center 5.59 GHz 10 MHz/ Span 100 MHz Date: 24.OCT.2023 11:53:16
802.11n-HT40-High	 Ref 20 dBm +Att 30 dB Offset 1 dB RBW 1 MHz VSW 3 MHz SWT 20 ms Marker 1 [T1] -0.01 dBm Obs 37.20000000 MHz Temp 1 [T1 Obs] -3.84 dBm 5.651600000 GHz Temp 2 [T1 Obs] -3.84 dBm 5.688600000 GHz Center 5.67 GHz 10 MHz/ Span 100 MHz Date: 24.OCT.2023 11:53:45

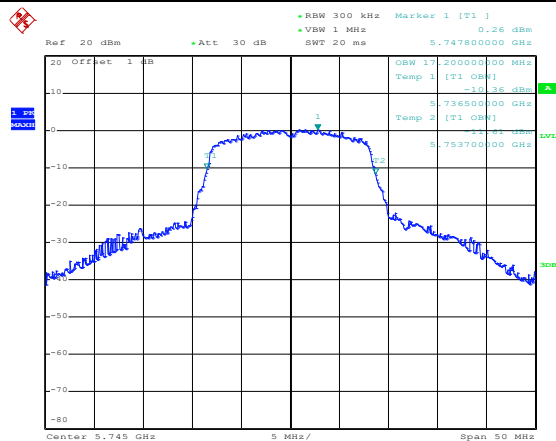
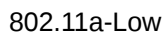
802.11ac-HT80-Low



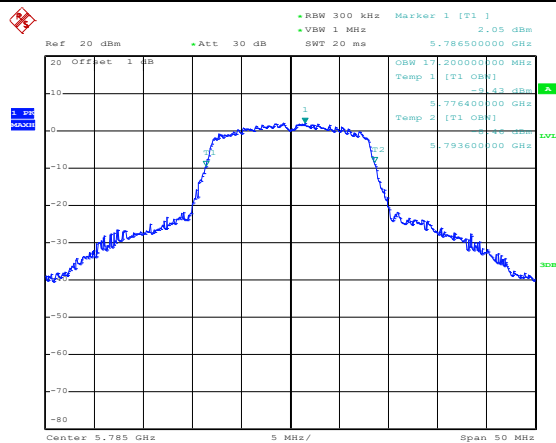
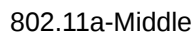
802.11ac-HT80-High



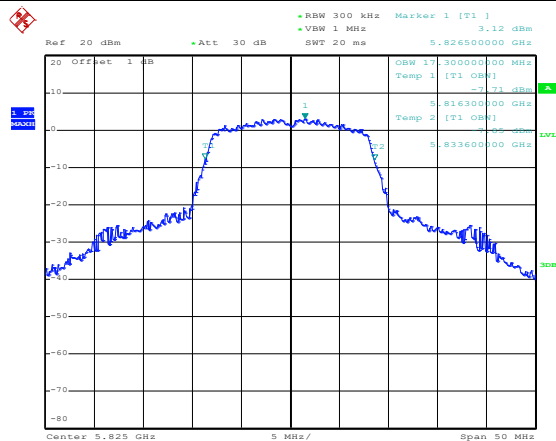
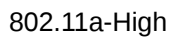
5725-5850MHz



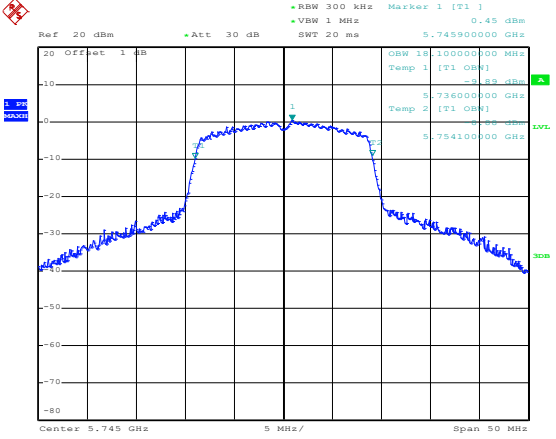
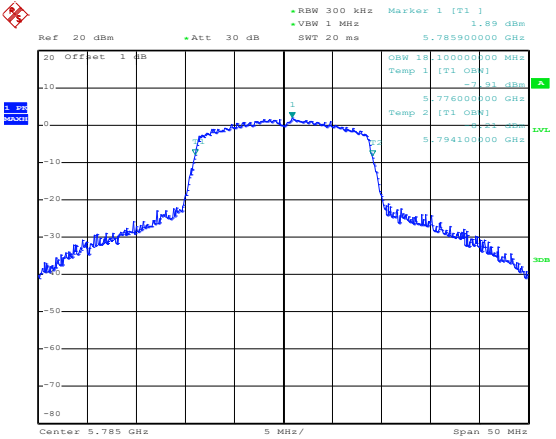
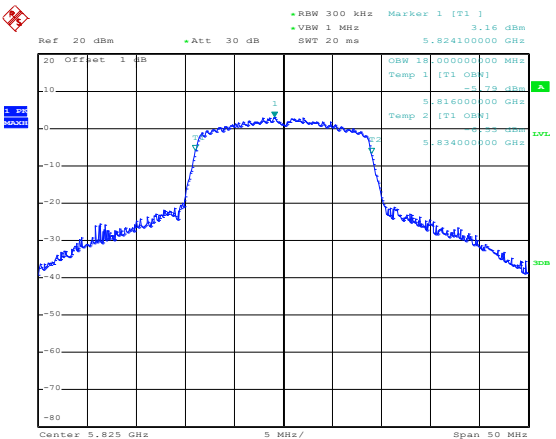
Date: 20.OCT.2023 09:41:22



Date: 20.OCT.2023 09:42:05



Date: 20.OCT.2023 09:42:53

802.11n-HT20-Low	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 0.45 dBm •VSW 1 MHz SWT 20 ms 5.745900000 GHz 20 Offset 1 dB •BW 10.0000000 MHz Temp 1 [T1] -5.82 dBm Temp 2 [T1] -5.736000000 GHz -5.88 dBm 5.754100000 GHz 30B Center 5.745 GHz 5 MHz/ Span 50 MHz Date: 20.OCT.2023 09:43:31
802.11n-HT20-Middle	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 1.89 dBm •VSW 1 MHz SWT 20 ms 5.785900000 GHz 20 Offset 1 dB •BW 10.0000000 MHz Temp 1 [T1] -7.81 dBm Temp 2 [T1] 5.776000000 GHz -7.88 dBm 5.794100000 GHz 30B Center 5.785 GHz 5 MHz/ Span 50 MHz Date: 20.OCT.2023 09:43:56
802.11n-HT20-High	 Ref 20 dBm •Att 30 dB •RBW 300 kHz Marker 1 [T1] 3.16 dBm •VSW 1 MHz SWT 20 ms 5.824100000 GHz 20 Offset 1 dB •BW 10.0000000 MHz Temp 1 [T1] -5.79 dBm Temp 2 [T1] 5.816000000 GHz -5.88 dBm 5.834000000 GHz 30B Center 5.825 GHz 5 MHz/ Span 50 MHz Date: 20.OCT.2023 09:44:53

[illegible]

APPENDIX C

Maximum Conducted Output Power

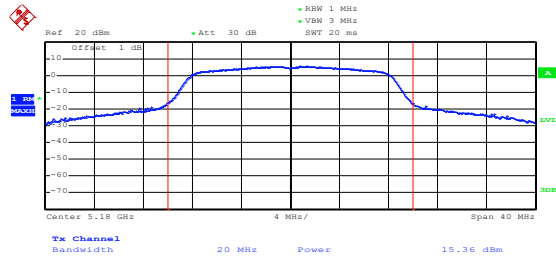
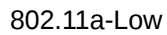
U-NII-1:5150-5250MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5180	15.36	23.98
	5200	15.34	23.98
	5240	15.65	23.98
802.11n-HT20	5180	14.47	23.98
	5200	14.31	23.98
	5240	14.61	23.98
802.11n-HT40	5190	13.18	23.98
	5230	13.53	23.98
802.11ac VH80	5210	12.74	23.98

U-NII-2A: 5250-5350MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5260	15.82	23.98
	5280	15.64	23.98
	5320	15.13	23.98
802.11n-HT20	5260	14.84	23.98
	5280	14.51	23.98
	5320	14.43	23.98
802.11n-HT40	5270	13.91	23.98
	5310	13.31	23.98
802.11ac VH80	5290	12.48	23.98

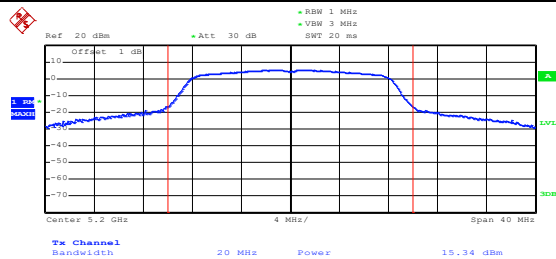
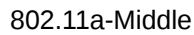
U-NII-2C: 5470-5725MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5500	13.16	23.98
	5580	11.19	23.98
	5700	13.23	23.98
802.11n-HT20	5500	10.81	23.98
	5580	10.99	23.98
	5700	12.99	23.98
802.11n-HT40	5510	10.88	23.98
	5550	10.98	23.98
	5670	11.41	23.98
802.11ac VH80	5530	9.80	23.98
	5610	9.41	23.98

U-NII-3: 5725-5850MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5745	15.12	30.00
	5785	15.73	30.00
	5825	15.46	30.00
802.11n-HT20	5745	14.56	30.00
	5785	14.46	30.00
	5825	14.57	30.00
802.11n-HT40	5755	13.87	30.00
	5795	13.78	30.00
802.11ac VH80	5775	12.90	30.00

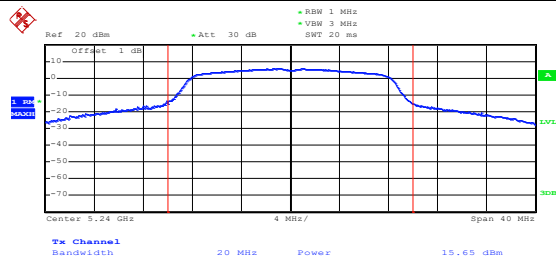
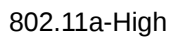
5150-5250MHz



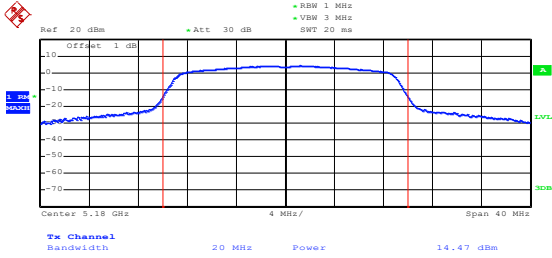
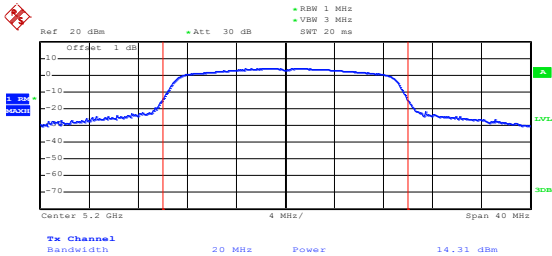
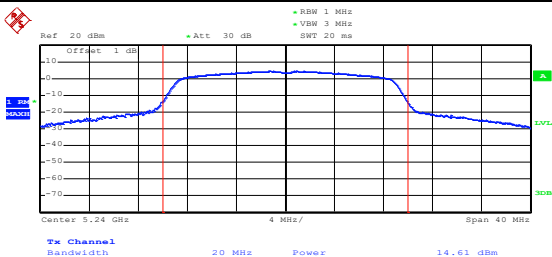
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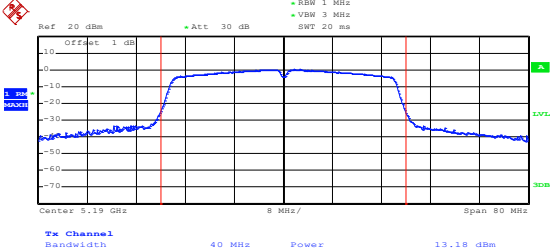
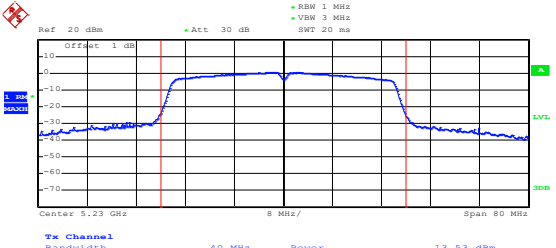
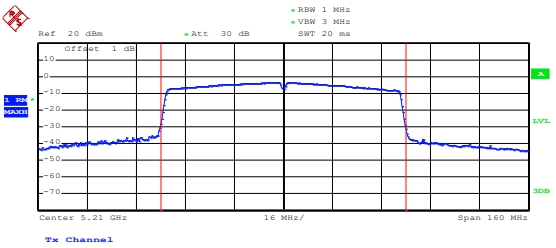


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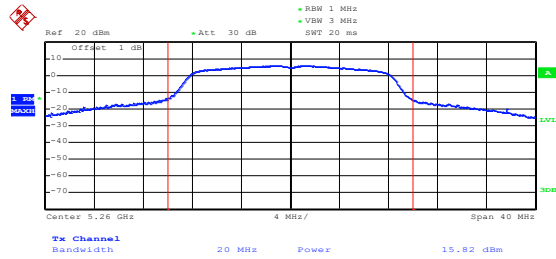
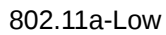


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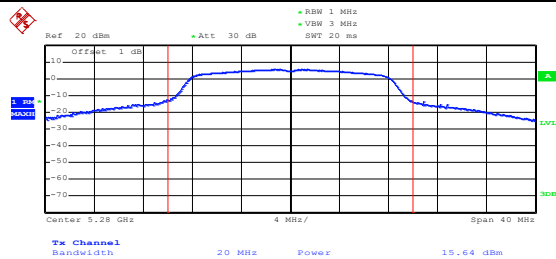
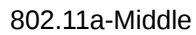
802.11n-HT20-Low	 Date: 17.OCT.2023 16:08:16
802.11n-HT20-Middle	 Date: 17.OCT.2023 16:10:02
802.11n-HT20-High	 Date: 17.OCT.2023 16:11:15

802.11n-HT40-Low	 Date: 17.OCT.2023 16:21:24
802.11n-HT40-High	 Date: 17.OCT.2023 16:22:22
802.11ac-HT80-Low	 Date: 17.OCT.2023 16:23:44

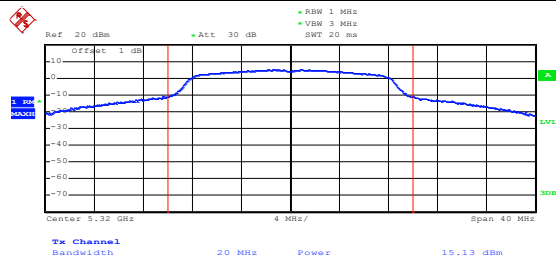
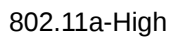
5250-5350MHz



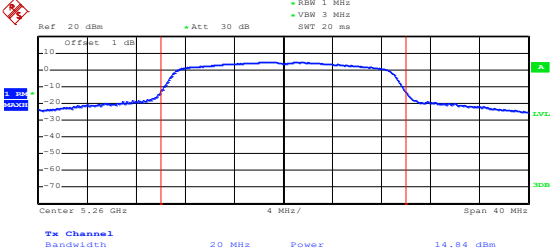
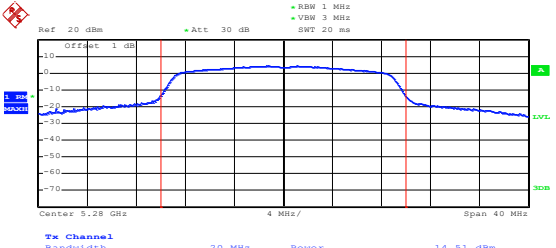
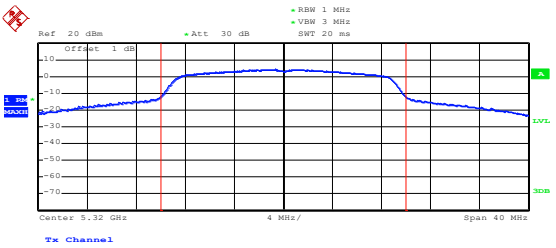
Date: 17.OCT.2023 16:25:31



Date: 17.OCT.2023 16:26:18



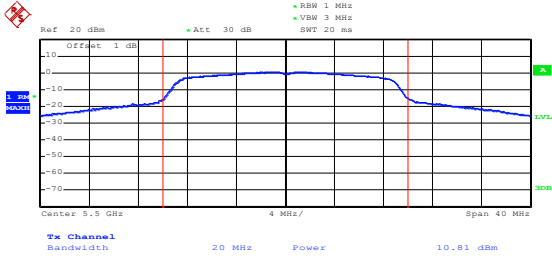
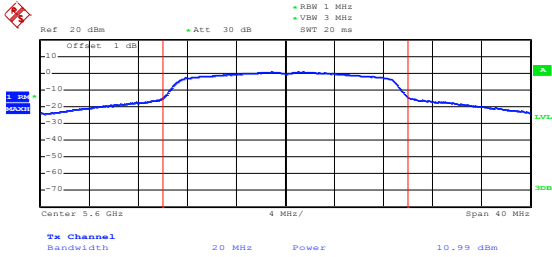
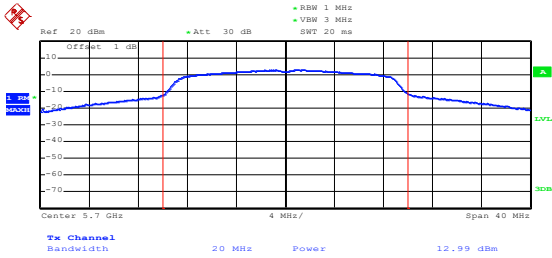
Date: 17.OCT.2023 16:27:05

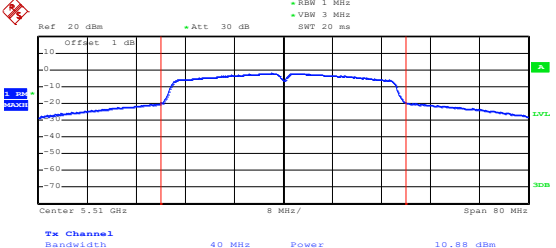
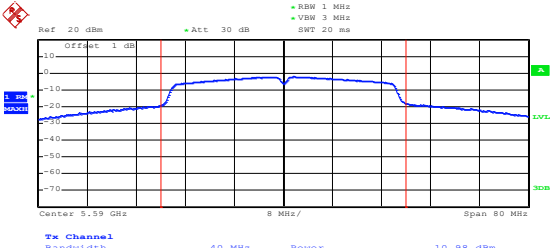
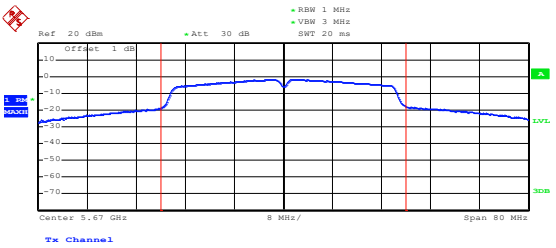
802.11n-HT20-Low	 Ref: 20 dBm Offset: 1 dB Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Center: 5.26 GHz Span: 40 MHz Ts Channel Bandwidth: 20 MHz Power: 14.84 dBm Date: 17.OCT.2023 16:34:13
802.11n-HT20-Middle	 Ref: 20 dBm Offset: 1 dB Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Center: 5.28 GHz Span: 40 MHz Ts Channel Bandwidth: 20 MHz Power: 14.51 dBm Date: 17.OCT.2023 16:35:06
802.11n-HT20-High	 Ref: 20 dBm Offset: 1 dB Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Center: 5.32 GHz Span: 40 MHz Ts Channel Bandwidth: 20 MHz Power: 14.43 dBm Date: 17.OCT.2023 16:35:52

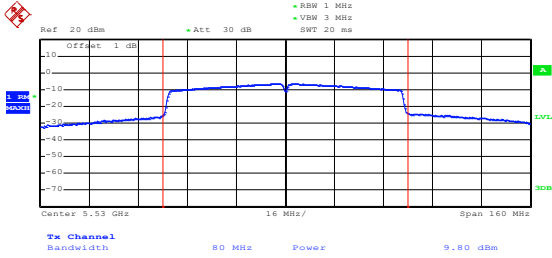
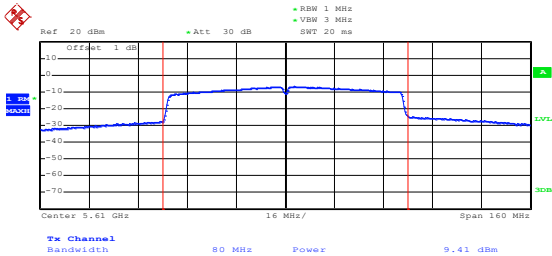
802.11n-HT40-Low	Date: 17.OCT.2023 16:36:39
802.11n-HT40-High	Date: 17.OCT.2023 16:37:26
802.11ac-HT80-Low	Date: 17.OCT.2023 16:38:22

5470-5725MHz

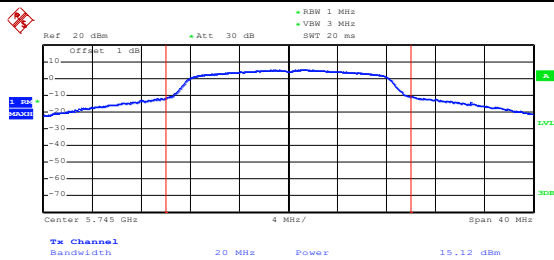
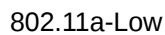
802.11a-Low	Date: 19.OCT.2023 16:33:42
802.11a-Middle	Date: 19.OCT.2023 16:35:07
802.11a-High	Date: 19.OCT.2023 16:35:42

802.11n-HT20-Low	 Date: 19.OCT.2023 16:36:30
802.11n-HT20-Middle	 Date: 19.OCT.2023 16:37:10
802.11n-HT20-High	 Date: 19.OCT.2023 16:37:33

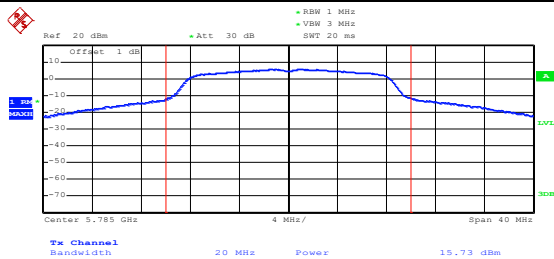
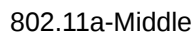
802.11n-HT40-Low	 Date: 19.OCT.2023 16:38:12
802.11n-HT40- Middle	 Date: 19.OCT.2023 16:38:39
802.11n-HT40-High	 Date: 19.OCT.2023 16:39:33

802.11ac-HT80-Low	 Date: 19.OCT.2023 16:40:30
802.11ac-HT80-High	 Date: 19.OCT.2023 16:41:06

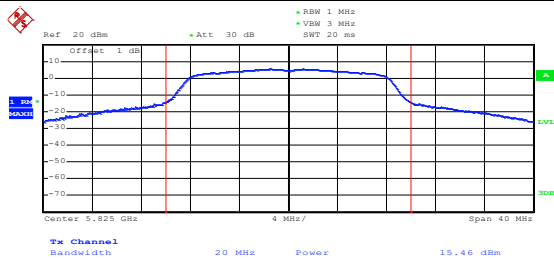
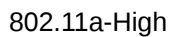
5725-5850MHz



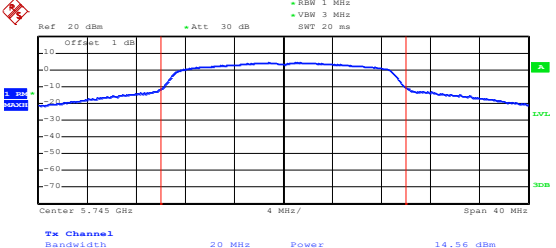
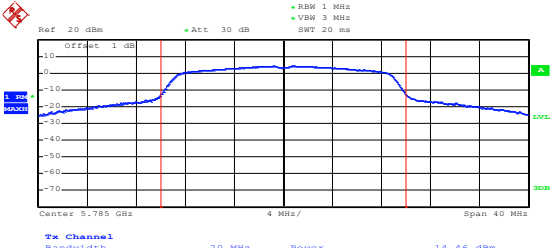
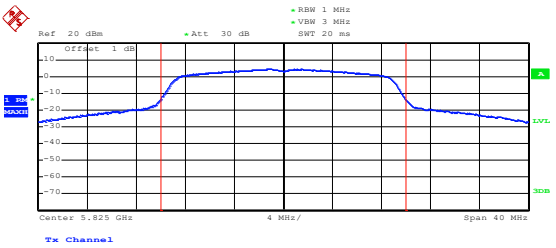
Date: 17.OCT.2023 16:41:21



Date: 17.OCT.2023 16:41:59



Date: 17.OCT.2023 16:42:47

802.11n-HT20-Low	 Date: 17.OCT.2023 16:43:18
802.11n-HT20-Middle	 Date: 17.OCT.2023 16:43:49
802.11n-HT20-High	 Date: 17.OCT.2023 16:44:14

802.11n-HT40-Low	Ref: 20 dBm Offset: 1 dB Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Center: 5.755 GHz Span: 80 MHz Ts Channel Bandwidth: 40 MHz Power: 13.87 dBm Date: 17.OCT.2023 16:45:06
802.11n-HT40-High	Ref: 20 dBm Offset: 1 dB Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Center: 5.795 GHz Span: 80 MHz Ts Channel Bandwidth: 40 MHz Power: 13.78 dBm Date: 17.OCT.2023 16:45:38
802.11ac-HT80-Low	Ref: 20 dBm Offset: 1 dB Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Center: 5.775 GHz Span: 160 MHz Ts Channel Bandwidth: 80 MHz Power: 12.90 dBm Date: 17.OCT.2023 16:46:25

APPENDIX D

Frequency Stability

U-NII-1:5150-5250MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	3.85	-30	499	0.096
100%		-20	499	0.096
100%		-10	502	0.096
100%		0	496	0.095
100%		+10	504	0.097
100%		+20	495	0.095
100%		+30	496	0.095
100%		+40	503	0.097
100%		+50	503	0.097
Low Battery power	3.08	+20	498	0.096
High Battery power	4.62	+20	498	0.096

U-NII-2A: 5250-5350MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	3.85	-30	501	0.095
100%		-20	498	0.094
100%		-10	498	0.094
100%		0	498	0.094
100%		+10	503	0.095
100%		+20	497	0.094
100%		+30	505	0.096
100%		+40	497	0.094
100%		+50	497	0.094
Low Battery power	3.08	+20	497	0.094
High Battery power	4.62	+20	505	0.096

U-NII-2C: 5470-5725MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	3.85	-30	501	0.090
100%		-20	499	0.089
100%		-10	500	0.089
100%		0	495	0.088
100%		+10	495	0.088
100%		+20	498	0.089
100%		+30	497	0.089
100%		+40	499	0.089
100%		+50	500	0.089
Low Battery power	3.08	+20	503	0.090
High Battery power	4.62	+20	501	0.089

U-NII-3:5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	3.85	-30	505	0.087
100%		-20	503	0.087
100%		-10	498	0.086
100%		0	500	0.087
100%		+10	500	0.086
100%		+20	500	0.086
100%		+30	502	0.087
100%		+40	497	0.086
100%		+50	505	0.087
Low Battery power	3.08	+20	503	0.087
High Battery power	4.62	+20	503	0.087

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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