

TEST REPORT

Reference No..... : WTF24X12284669W003
FCC ID..... : 2BH83-VISION
Applicant..... : FULL TECHNOLOGY TRADE LIMITED
Address..... : RM 13,UNIT A1,2/F.,PHASE 1,KAISER ESTATE,NO.41 MAN YUE
STREET,HUNGHOM,KLN HONG KONG
Manufacturer..... : The same as Applicant
Address..... : The same as Applicant
Product Name..... : Mobile Phone
Model No..... : VISION
Standards..... : FCC Part 15.407
Date of Receipt sample..... : 2024-12-03
Date of Test..... : 2024-12-03 to 2025-01-02
Date of Issue..... : 2025-01-02
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.

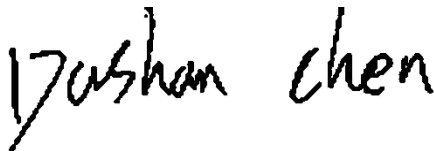
Prepared By:

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

Tel.: +86-755-33663308 Fax.: +86-755-33663309 Email: sem@waltek.com.cn

Tested by:



Dashan Chen

Approved by:



Silin Chen

TABLE OF CONTENTS

1. GENERAL INFORMATION	5
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	5
1.2 TEST STANDARDS	6
1.3 TEST METHODOLOGY	6
1.4 TABLE FOR PARAMETERS OF TEST SOFTWARE SETTING	6
1.5 EUT OPERATING DURING TEST	8
1.6 TEST FACILITY	8
1.7 EUT SETUP AND TEST MODE	9
1.8 MEASUREMENT UNCERTAINTY	10
1.9 TEST EQUIPMENT LIST AND DETAILS	11
2. SUMMARY OF TEST RESULTS	15
3. ANTENNA REQUIREMENT	16
3.1 STANDARD APPLICABLE	16
3.2 EVALUATION INFORMATION	16
4. AUTOMATICALLY DISCONTINUE TRANSMISSION	17
4.1 STANDARD APPLICABLE	17
4.2 SUMMARY OF TEST RESULTS	17
5. POWER SPECTRAL DENSITY	18
5.1 STANDARD APPLICABLE	18
5.2 TEST PROCEDURE	18
5.3 SUMMARY OF TEST RESULTS/PLOTS	19
6. EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH	20
6.1 STANDARD APPLICABLE	20
6.2 TEST PROCEDURE	20
6.3 SUMMARY OF TEST RESULTS/PLOTS	22
7. MAXIMUM CONDUCTED OUTPUT POWER	23
7.1 STANDARD APPLICABLE	23
7.2 TEST PROCEDURE	23
7.3 SUMMARY OF TEST RESULTS/PLOTS	24
8. RADIATED SPURIOUS EMISSIONS	25
8.1 STANDARD APPLICABLE	25
8.2 TEST PROCEDURE	25
8.3 TEST RECEIVER SETUP	27
8.4 CORRECTED AMPLITUDE & MARGIN CALCULATION	27
8.5 SUMMARY OF TEST RESULTS/PLOTS	27
9. FREQUENCY STABILITY	91
9.1 STANDARD APPLICABLE	91
9.2 TEST PROCEDURE	91
9.3 SUMMARY OF TEST RESULTS/PLOTS	91
10. CONDUCTED EMISSIONS	92
10.1 TEST PROCEDURE	92
10.2 BASIC TEST SETUP BLOCK DIAGRAM	92
10.3 TEST RECEIVER SETUP	92
10.4 SUMMARY OF TEST RESULTS/PLOTS	92
APPENDIX SUMMARY	95
APPENDIX A	96
APPENDIX B	113
APPENDIX C	145
APPENDIX D	162

APPENDIX PHOTOGRAPHS 164

Report version

Version No.	Date of issue	Description
Rev.00	2025-01-02	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Mobile Phone
Trade Name:	Lifephone
Model No.:	VISION
Adding Model(s):	/
Rated Voltage:	DC3.85V
Battery Capacity:	4900mAh
Power Adapter:	552A-033F-1C Input:AC100-240V 50/60Hz 1.0A Output:DC5V3A/9V3A/12V2.75A/15V2.2A/20V1.65A
<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-VHT20, 802.11ac-VHT40,802.11ac-VHT80
Frequency Range:	5180-5240MHz, 5260-5320MHz, 5745-5825MHz
Max. RF Output Power:	15.97dBm (Conducted)
Type of Modulation:	QPSK, 16QAM, 64QAM
Type of Antenna:	Integral Antenna
Antenna Gain:	2.14dBi
<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 *##3646633*## 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	5745	5785	5825			
802.11a 6Mbps	19	19	19	18	18	18	19	19	19			
802.11n-HT20 MCS0	18	18	18	17.5	17.5	17.5	18	18	18			
802.11ac-VHT2 0 MCS0	18	18	18	17.5	17.5	17.5	18	18	18			
Mode	NCB: 40MHz											
	5190	5230	5270	5310	5510	5755	5795					
802.11n-HT40 MCS0	17	17	16.5	16.5	16.5	17	17					
802.11ac-VHT4 0 MCS0	17	17	16.5	16.5	16.5	17	17					

Mode	NCB: 80MHz					
	5210	5290	5530	5775		
802.11ac-VHT8 0 MCS0/Nss2	16	16	16	16		

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 ,5745MHz, 5785MHz,5825MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz ,5745MHz, 5785MHz,5825MHz
TM3	802.11ac-VHT20	5180MHz,5200MHz,5240MHz,5260MHz,5280MHz,5320MHz,5745MHz, 5785MHz,5825MHz
TM4	802.11n-HT40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz, 5755MHz,5795MHz
TM5	802.11ac-VHT40	5190MHz,5230MHz,5270MHz,5310MHz,5510MHz,5755MHz,5795MHz
TM6	802.11ac-VHT80	5210MHz,5290MHz, 5775MHz
Note: All test modes (different data rate and different modulation) are performed, but only the worst case is recorded in this report.		

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	45~75 %
ATM Pressure:	1019 mbar

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

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	2024-02-24	2025-02-23
WTXE1005A 1005	Spectrum Analyzer	Agilent	N9020A	US471401 02	2024-03-19	2025-03-18
WTXE1084A 1001	Spectrum Analyzer	Agilent	N9020A	MY543205 48	2024-02-24	2025-02-23
WTXE1004A 1-001	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2024-02-27	2025-02-26
WTXE1103A 1003	Attenuator	Pasternack	PE4007-4	/	2024-02-24	2025-02-23
WTXE1003A 1-005	Coaxial Cable	/	0M4RFC	/	2024-07-03	2025-01-03
☐ Chamber A: Below 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2024-02-24	2025-02-23
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2024-03-19	2025-03-18
WTXE1007A 1001	Amplifier	HP	8447F	2805A034 75	2024-02-24	2025-02-23
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2025-02-25
WTXE1010A 1006	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2024-02-24	2025-02-23
WTXE1104A 1032-1	Coaxial Cable	/	RC_6G-N-M	/	2024-03-15	2025-03-14
WTXE1104A 1032-2	Coaxial Cable	/	RC_6G-N-M	/	2024-03-15	2025-03-14
WTXE1104A 1032-3	Coaxial Cable	/	RC_6G-N-M	/	2024-03-15	2025-03-14
☐ Chamber A: Above 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2024-02-24	2025-02-23
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2024-03-19	2025-03-18
WTXE1065A 1001	Amplifier	C&D	PAP-1G18	2002	2024-02-27	2025-02-26
WTXE1010A 1005	Horn Antenna	ETS	3117	00086197	2024-02-26	2025-02-25

WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2024-03-17	2025-03-16
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2024-02-29	2025-02-28
WTXE1104A 1033-1	Coaxial Cable	/	C16-07-07	/	2024-03-15	2025-03-14
WTXE1104A 1033-2	Coaxial Cable	/	C16-07-07	/	2024-03-15	2025-03-14
WTXE1104A 1033-3	Coaxial Cable	/	C16-07-07	/	2024-03-15	2025-03-14
☐ Chamber B:Below 1GHz						
WTXE1010A 1006	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2024-03-17	2027-03-16
WTXE1038A 1001	Amplifier	Agilent	8447D	2944A104 57	2024-02-24	2025-02-23
WTXE1001A 1002	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2024-02-24	2025-02-23
WTXE1104A 1031-1	Coaxial Cable	/	1.5MRFC-LWB3	/	2024-07-03	2025-07-02
WTXE1104A 1031-2	Coaxial Cable	/	RG 316	/	2024-07-03	2025-07-02
WTXE1104A 1031-3	Coaxial Cable	/	RG 316	/	2024-07-03	2025-07-02
☒ Chamber C:Below 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2024-02-27	2025-02-26
WTXE1010A 1013-1	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2024-04-18	2027-04-17
WTXE1007A 1002	Amplifier	HP	8447F	2944A038 69	2024-02-24	2025-02-23
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2024-02-26	2025-02-25
WTXE1104A 1034-1	Coaxial Cable	/	RC_6G-N-M	/	2024-07-03	2025-07-02
WTXE1104A 1034-2	Coaxial Cable	/	RC_6G-N-M	/	2024-07-03	2025-07-02
WTXE1104A 1034-3	Coaxial Cable	/	RC_6G-N-M	/	2024-07-03	2025-07-02
☒ Chamber C: Above 1GHz						
WTXE1093A	EMI Test	Rohde &	ESIB 26	100401	2024-02-27	2025-02-26

1001	Receiver	Schwarz				
WTXE1103A 1005	Horn Antenna	POAM	RTF-118A	1820	2023-03-10	2026-03-09
WTXE1103A 1006	Amplifier	Tonscend	TAP01018050	AP22E806 235	2024-02-27	2025-02-26
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2024-03-17	2025-03-16
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2024-02-29	2025-02-28
WTXE1104A 1035-1	Coaxial Cable	/	RC-18G-N-M	/	2024-07-03	2025-07-02
WTXE1104A 1035-2	Coaxial Cable	/	RC-18G-N-M	/	2024-07-03	2025-07-02
WTXE1104A 1035-3	Coaxial Cable	/	RC-18G-N-M	/	2024-07-03	2025-07-02
☐ Conducted Room 1#						
WTXE1104A 1029	EMI Test Receiver	Rohde & Schwarz	ESCI	100525	2024-12-08	2025-12-07
WTXE1002A 1001	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2024-02-24	2025-02-23
WTXE1003A 1001	AC LISN	Schwarz beck	NSLK8126	8126-279	2024-02-24	2025-02-23
WTXE1104A 1036	Coaxial Cable	/	RG 316	/	2024-07-03	2025-07-02
WTXE1104A 1038	Coaxial Cable	/	6MRFC-DP	/	2024-07-03	2025-07-02
☒ Conducted Room 2#						
WTXE1001A 1004	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2024-02-24	2025-02-23
WTXE1003A 1003	LISN	Rohde & Schwarz	ENV 216	100097	2024-02-24	2025-02-23
WTXE1104A 1037	Coaxial Cable	/	RG 316	/	2024-07-03	2025-07-02

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission A)	Farad	EZ-EMC	RA-03A1 (1.1.4.2)
EMI Test Software (Radiated Emission B)	Farad	EZ-EMC	RA-03A1 (1.1.4.2)
EMI Test Software (Radiated Emission C)	Farad	EZ-EMC	RA-03A1-2 (1.1.4.2)
EMI Test Software (Conducted Emission Room 1#)	Farad	EZ-EMC	3A1*CE-RE 1.1.4.3
EMI Test Software (Conducted Emission Room 2#)	Farad	EZ-EMC	3A1*CE-RE 1.1.4.3

*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.

Reference No.: WTF24X12284669W003

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 $11\text{dBm} + 10 \log B$, 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.

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.

789033 D02 v02r01 General UNII Test Procedures New Rules v01

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

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

where:

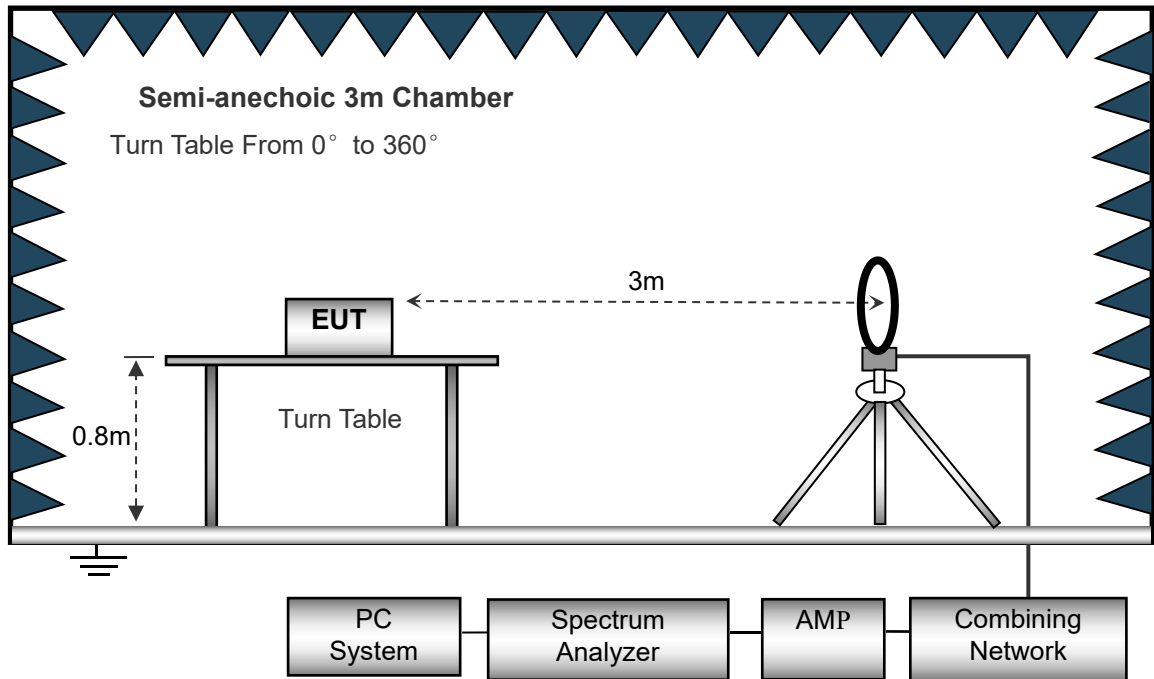
- E is the field strength in V/m;
- d is the measurement distance in meters;
- EIRP is the equivalent isotropically radiated power in watts.

8.2 Test Procedure

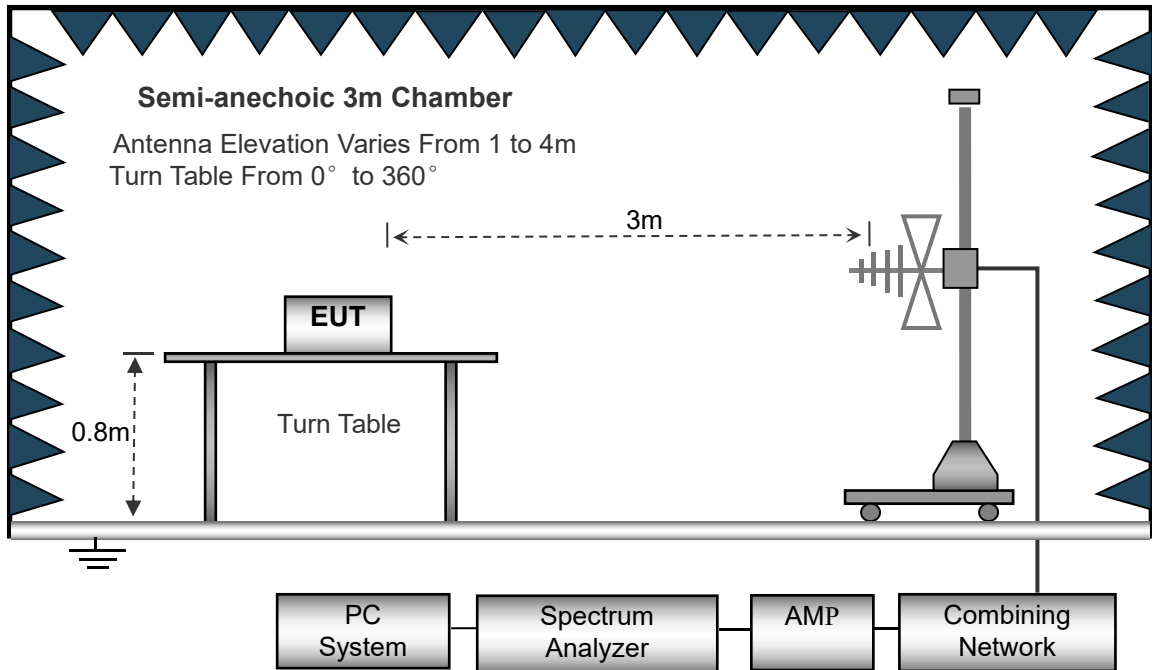
The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.407(b)(6) and FCC Part 15.209 Limit..

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.

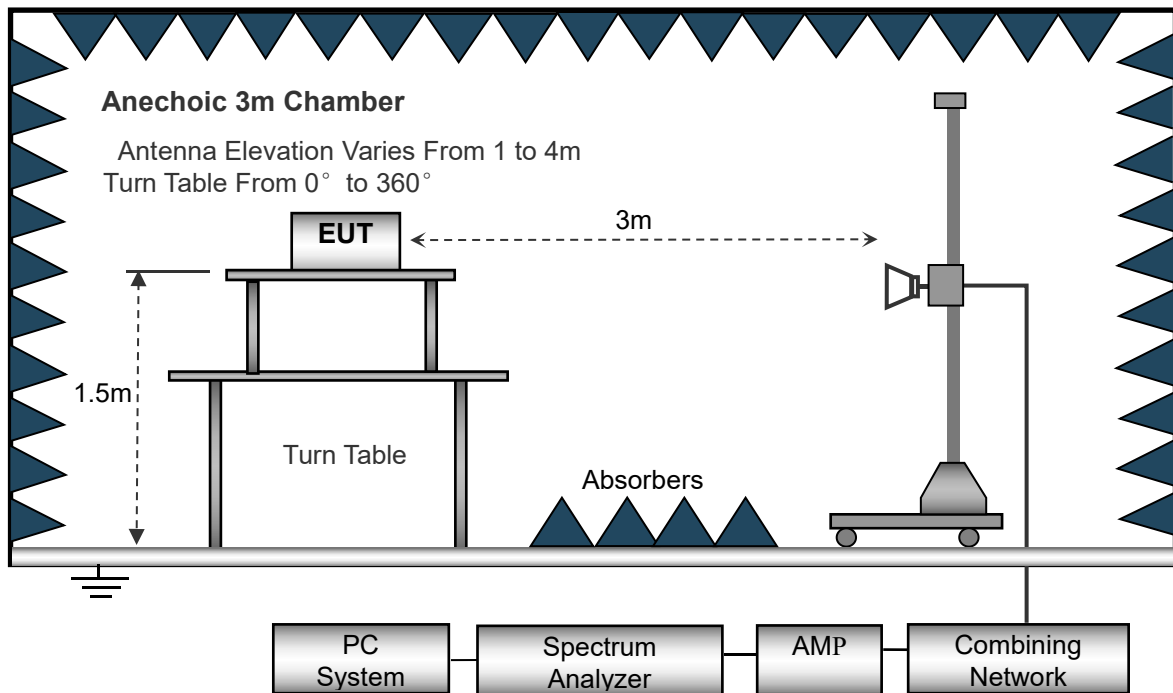
The test setup for emission measurement below 30MHz.



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:

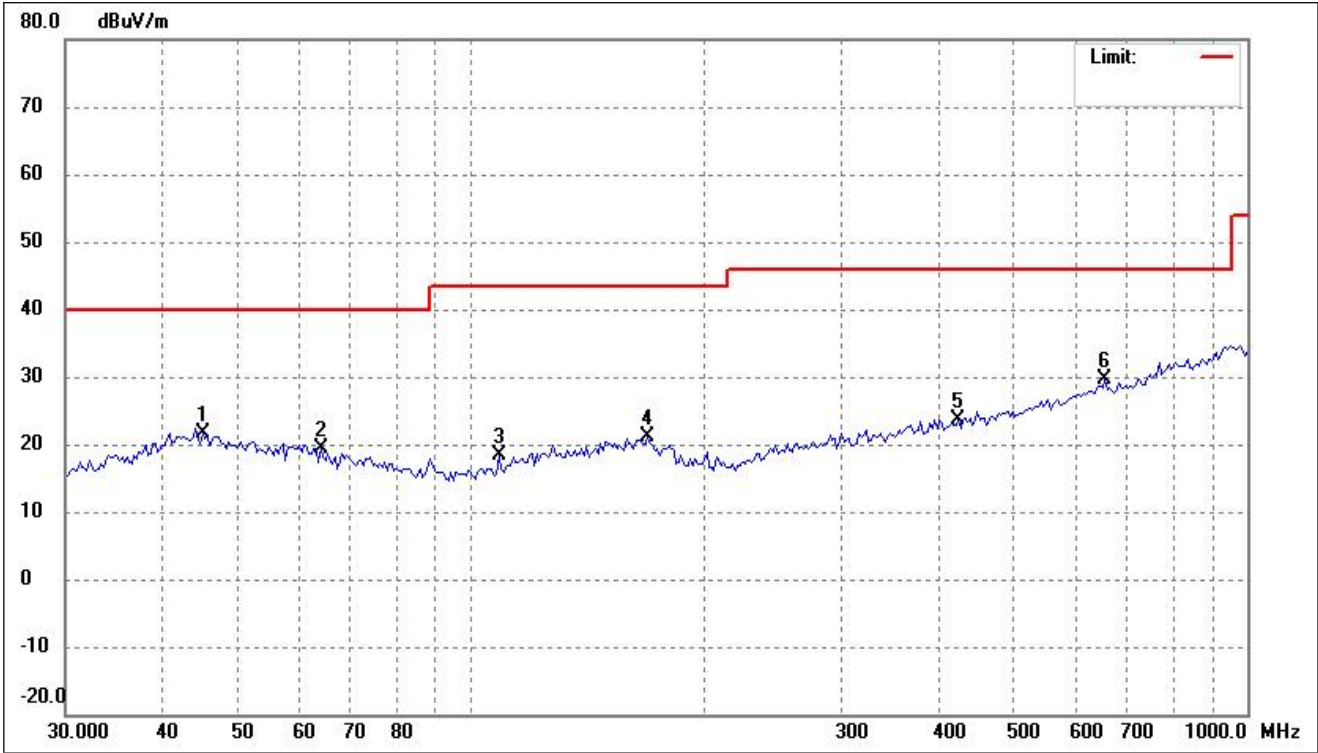
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

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	45.0951	29.49	-7.95	21.54	40.00	-18.46	-	-	peak
2	64.0800	28.52	-9.17	19.35	40.00	-20.65	-	-	peak
3	108.5455	29.55	-11.21	18.34	43.50	-25.16	-	-	peak
4	168.9970	29.44	-8.29	21.15	43.50	-22.35	-	-	peak
5	424.2999	29.45	-5.75	23.70	46.00	-22.30	-	-	peak
6	655.9766	31.19	-1.52	29.67	46.00	-16.33	-	-	peak

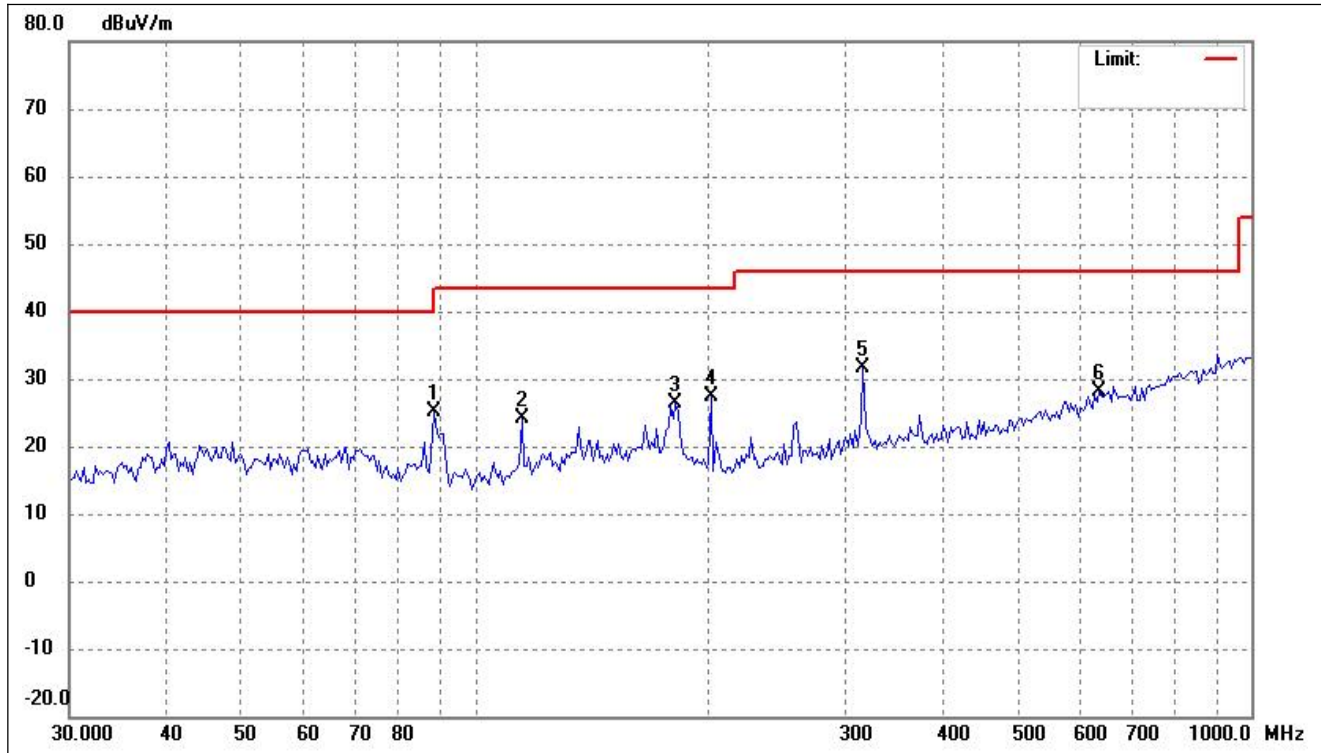
802.11a

Test Channel

5180MHz(Worst case)

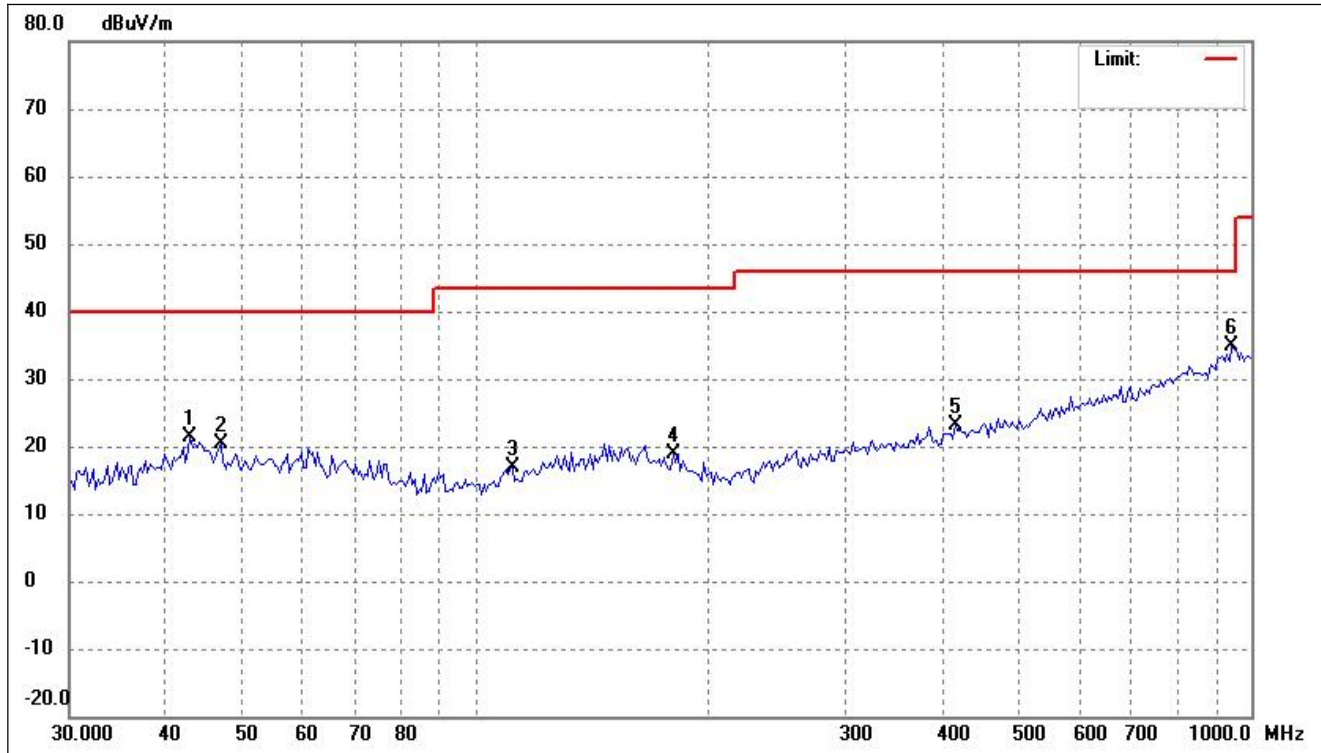
Polarity:

Vertical



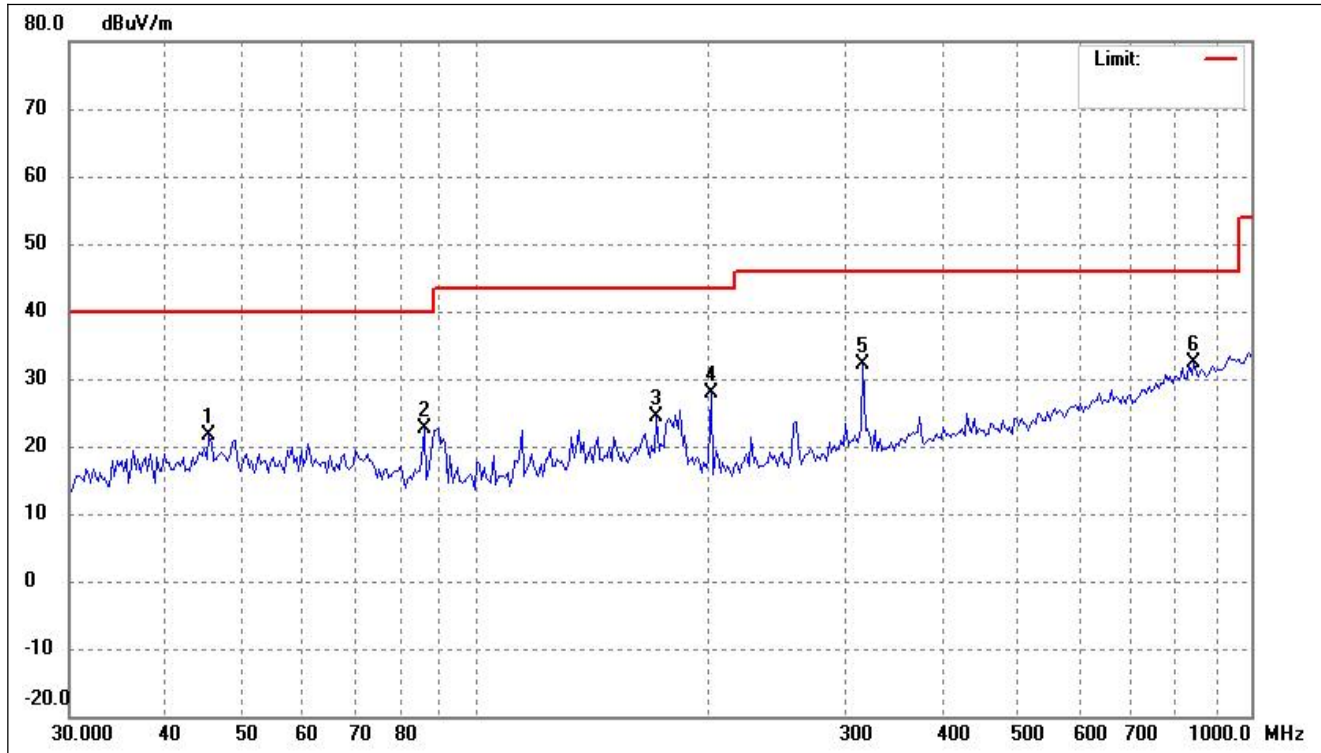
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	88.5336	37.79	-12.58	25.21	43.50	-18.29	-	-	peak
2	114.8224	34.75	-10.56	24.19	43.50	-19.31	-	-	peak
3	181.3000	36.28	-9.88	26.40	43.50	-17.10	-	-	peak
4	201.4539	38.84	-11.42	27.42	43.50	-16.08	-	-	peak
5	315.8601	39.26	-7.52	31.74	46.00	-14.26	-	-	peak
6	637.7947	29.90	-1.67	28.23	46.00	-17.77	-	-	peak

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



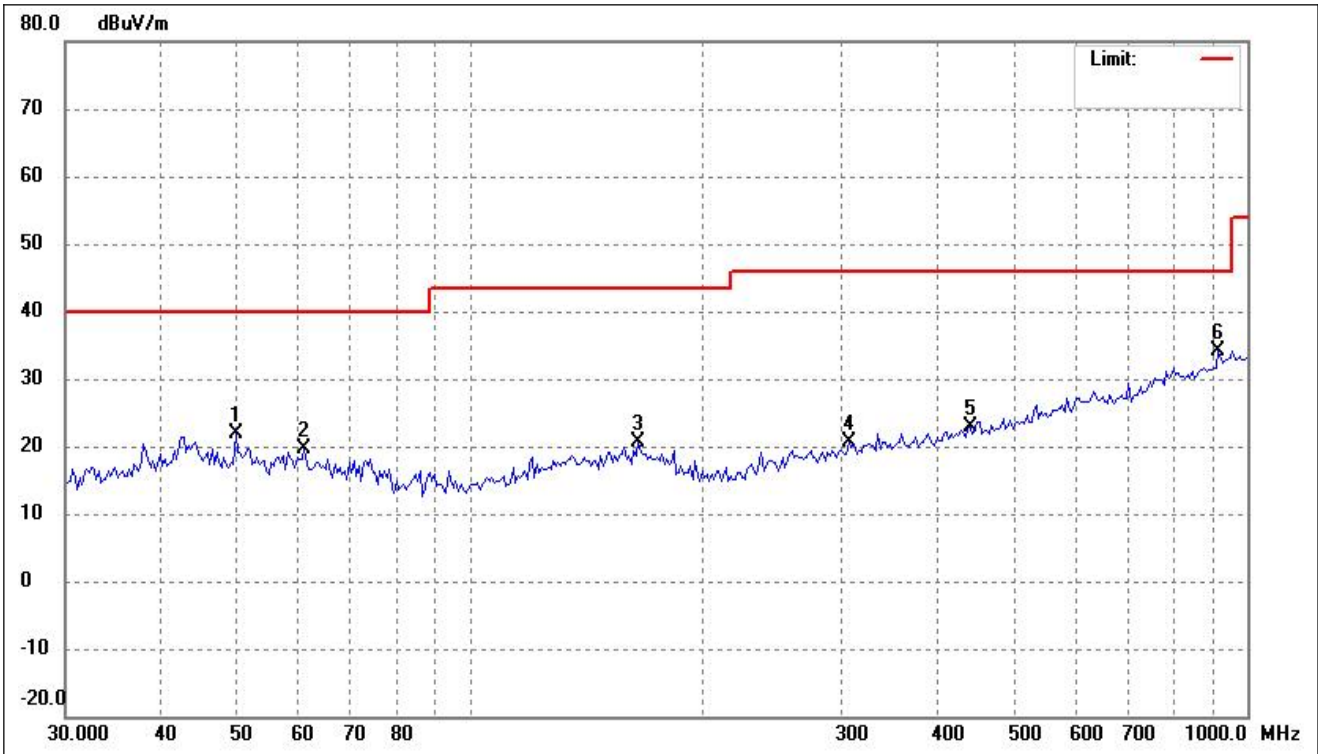
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.9305	29.24	-7.96	21.28	40.00	-18.72	-	-	peak
2	47.0371	28.15	-7.81	20.34	40.00	-19.66	-	-	peak
3	111.6399	27.67	-10.89	16.78	43.50	-26.72	-	-	peak
4	180.0304	28.71	-9.74	18.97	43.50	-24.53	-	-	peak
5	415.4486	28.99	-5.93	23.06	46.00	-22.94	-	-	peak
6	945.3336	31.66	3.19	34.85	46.00	-11.15	-	-	peak

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



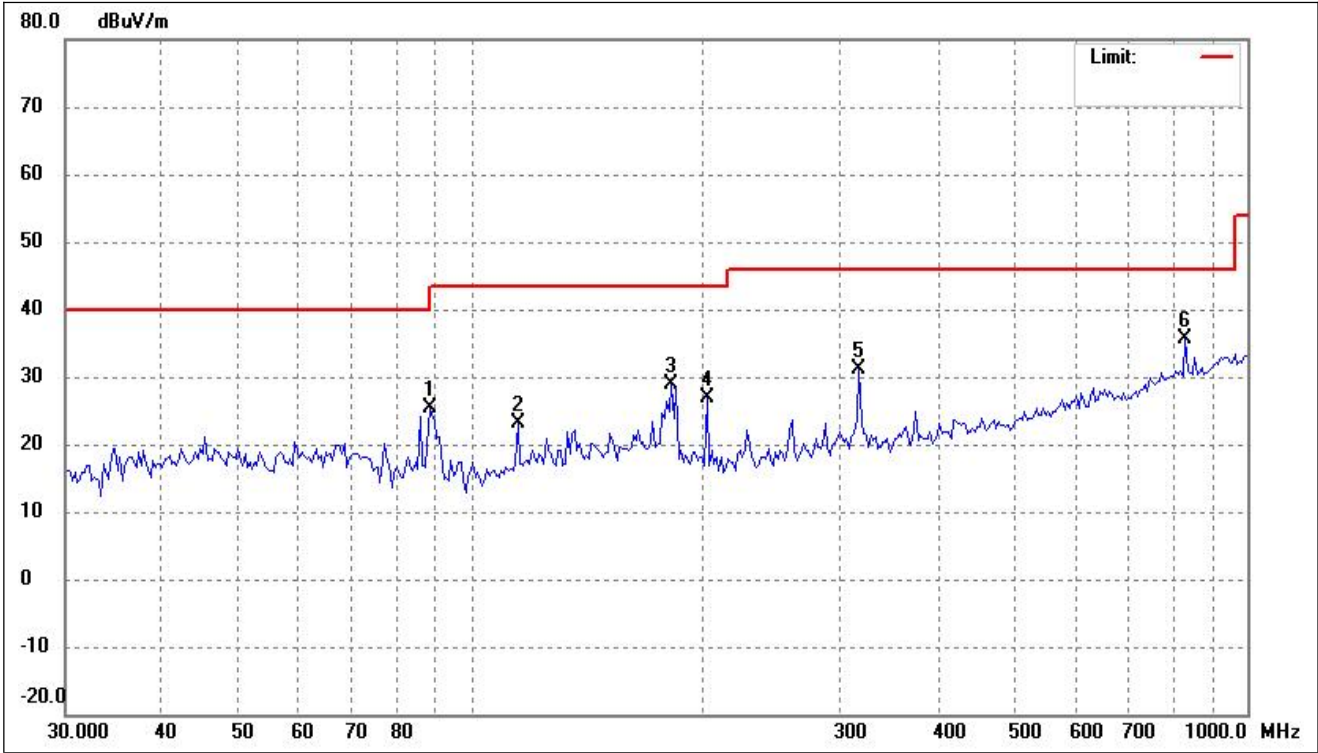
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.4131	29.54	-7.92	21.62	40.00	-18.38	-	-	peak
2	86.0796	35.21	-12.53	22.68	40.00	-17.32	-	-	peak
3	171.3890	32.91	-8.51	24.40	43.50	-19.10	-	-	peak
4	201.4539	39.35	-11.42	27.93	43.50	-15.57	-	-	peak
5	315.8601	39.70	-7.52	32.18	46.00	-13.82	-	-	peak
6	844.8028	30.80	1.48	32.28	46.00	-13.72	-	-	peak

802.11ac-VHT20			
Test Channel	5180MHz(worst case)	Polarity:	Horizontal



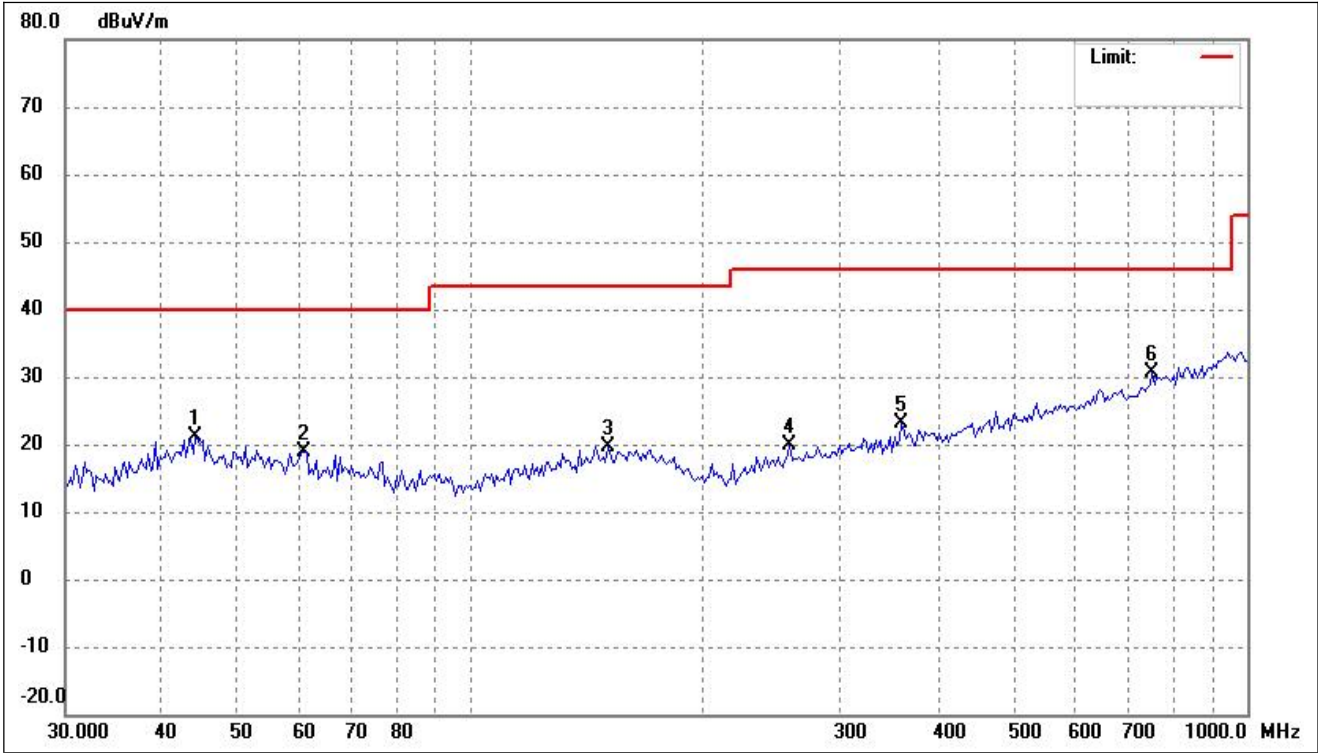
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	49.7571	29.37	-7.59	21.78	40.00	-18.22	-	-	peak
2	61.0041	28.21	-8.61	19.60	40.00	-20.40	-	-	peak
3	164.3129	28.77	-8.16	20.61	43.50	-22.89	-	-	peak
4	307.1053	28.38	-7.71	20.67	46.00	-25.33	-	-	peak
5	439.4730	28.32	-5.42	22.90	46.00	-23.10	-	-	peak
6	919.1315	31.52	2.55	34.07	46.00	-11.93	-	-	peak

802.11ac-VHT20			
Test Channel	5180MHz(worst case)	Polarity:	Vertical



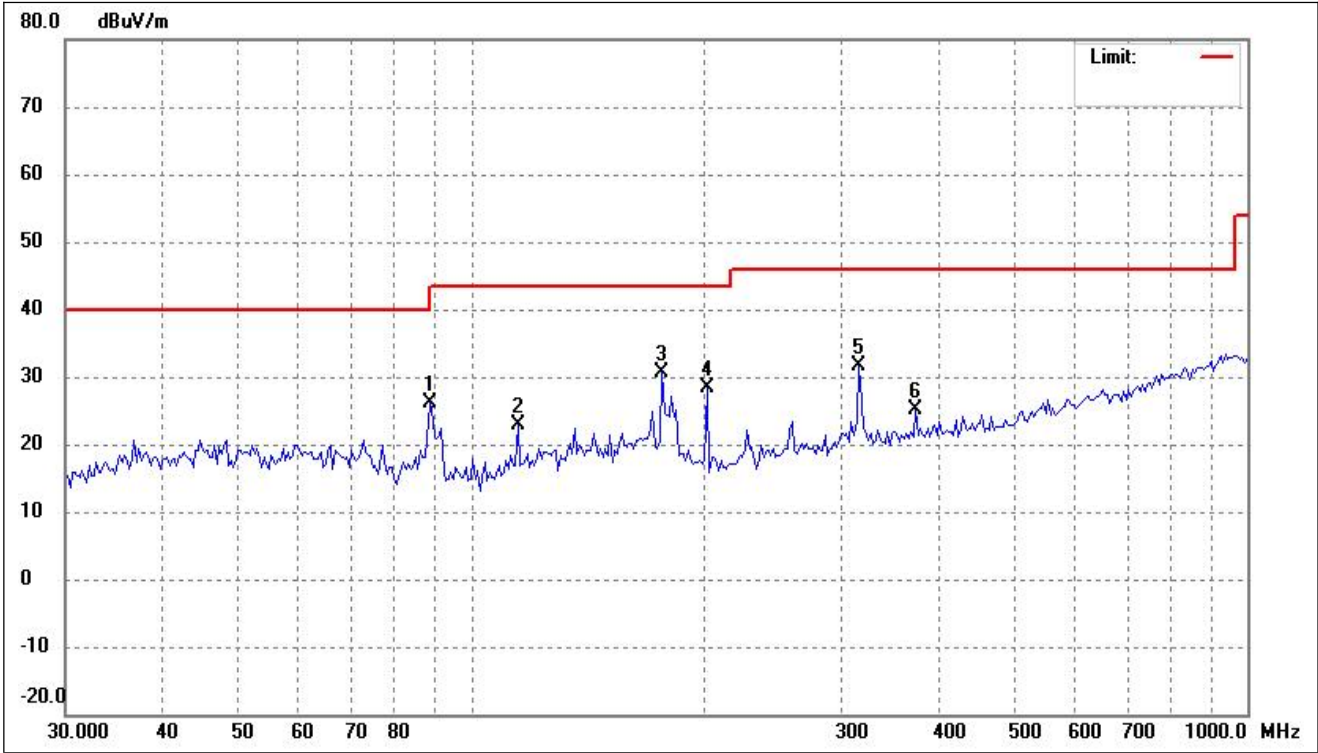
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	88.5336	37.88	-12.58	25.30	43.50	-18.20	-	-	peak
2	114.8224	33.59	-10.56	23.03	43.50	-20.47	-	-	peak
3	181.3000	38.88	-9.88	29.00	43.50	-14.50	-	-	peak
4	201.4539	38.23	-11.42	26.81	43.50	-16.69	-	-	peak
5	315.8601	38.76	-7.52	31.24	46.00	-14.76	-	-	peak
6	833.0127	34.37	1.36	35.73	46.00	-10.27	-	-	peak

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



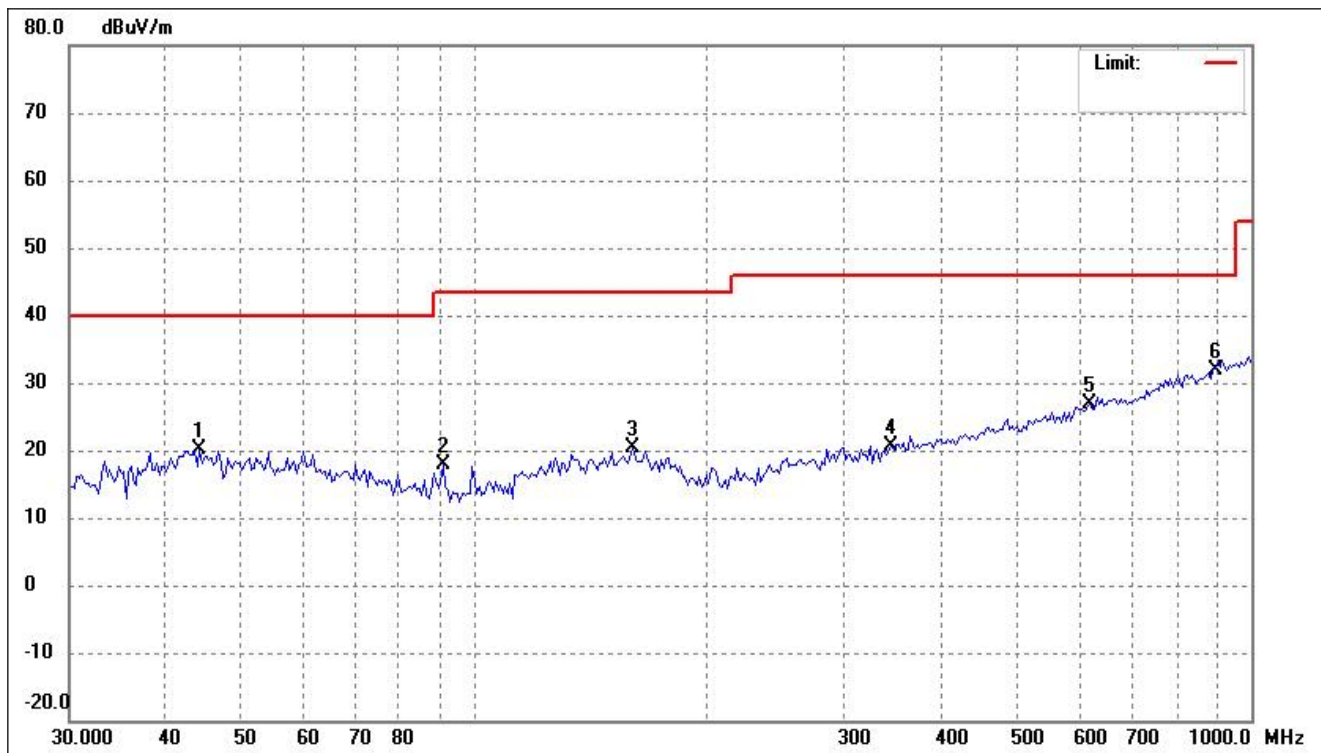
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.1544	28.99	-7.96	21.03	40.00	-18.97	-	-	peak
2	61.0041	27.44	-8.61	18.83	40.00	-21.17	-	-	peak
3	149.9676	27.74	-8.04	19.70	43.50	-23.80	-	-	peak
4	257.6266	29.26	-9.38	19.88	46.00	-26.12	-	-	peak
5	358.4497	29.91	-6.90	23.01	46.00	-22.99	-	-	peak
6	754.9628	30.37	0.26	30.63	46.00	-15.37	-	-	peak

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



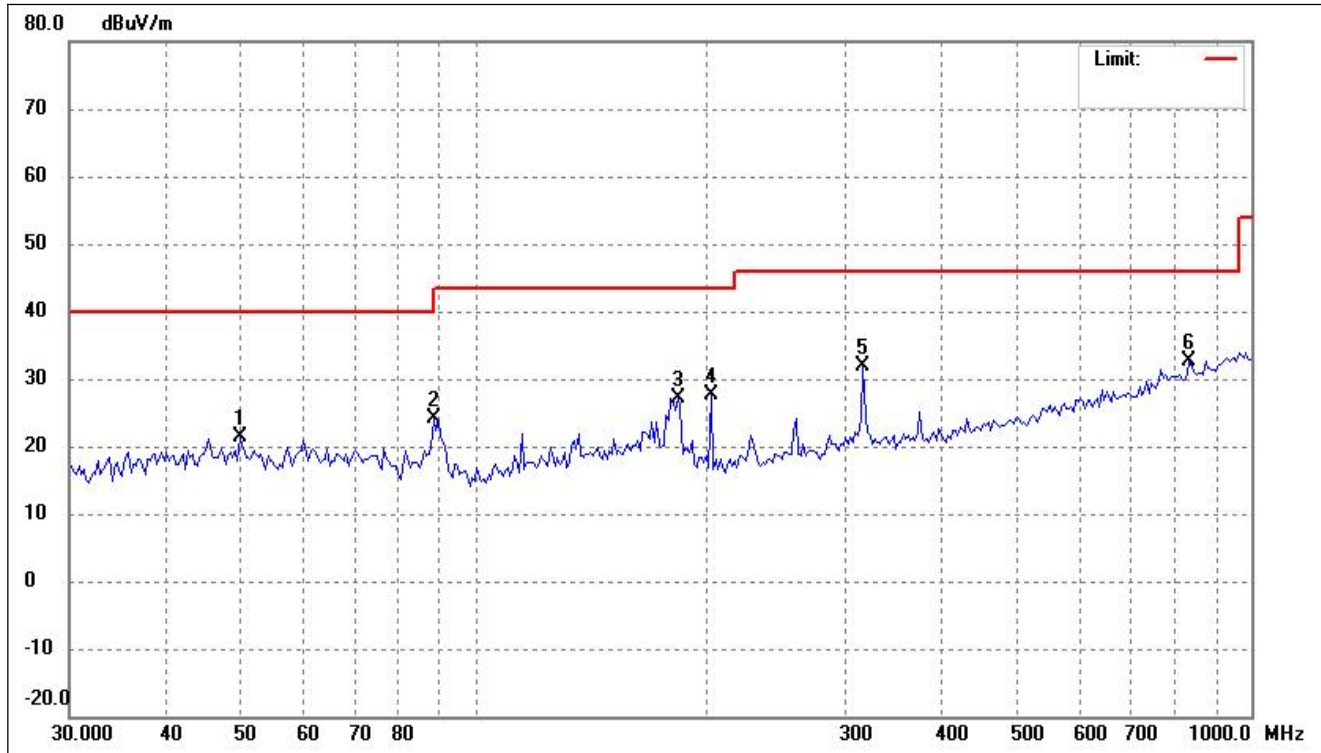
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	88.5336	38.82	-12.58	26.24	43.50	-17.26	-	-	peak
2	114.8224	33.51	-10.56	22.95	43.50	-20.55	-	-	peak
3	176.2748	39.78	-9.21	30.57	43.50	-12.93	-	-	peak
4	201.4539	39.72	-11.42	28.30	43.50	-15.20	-	-	peak
5	315.8601	39.26	-7.52	31.74	46.00	-14.26	-	-	peak
6	373.8862	31.82	-6.62	25.20	46.00	-20.80	-	-	peak

802.11ac-VHT40			
Test Channel	5190MHz(worst case)	Polarity:	Horizontal



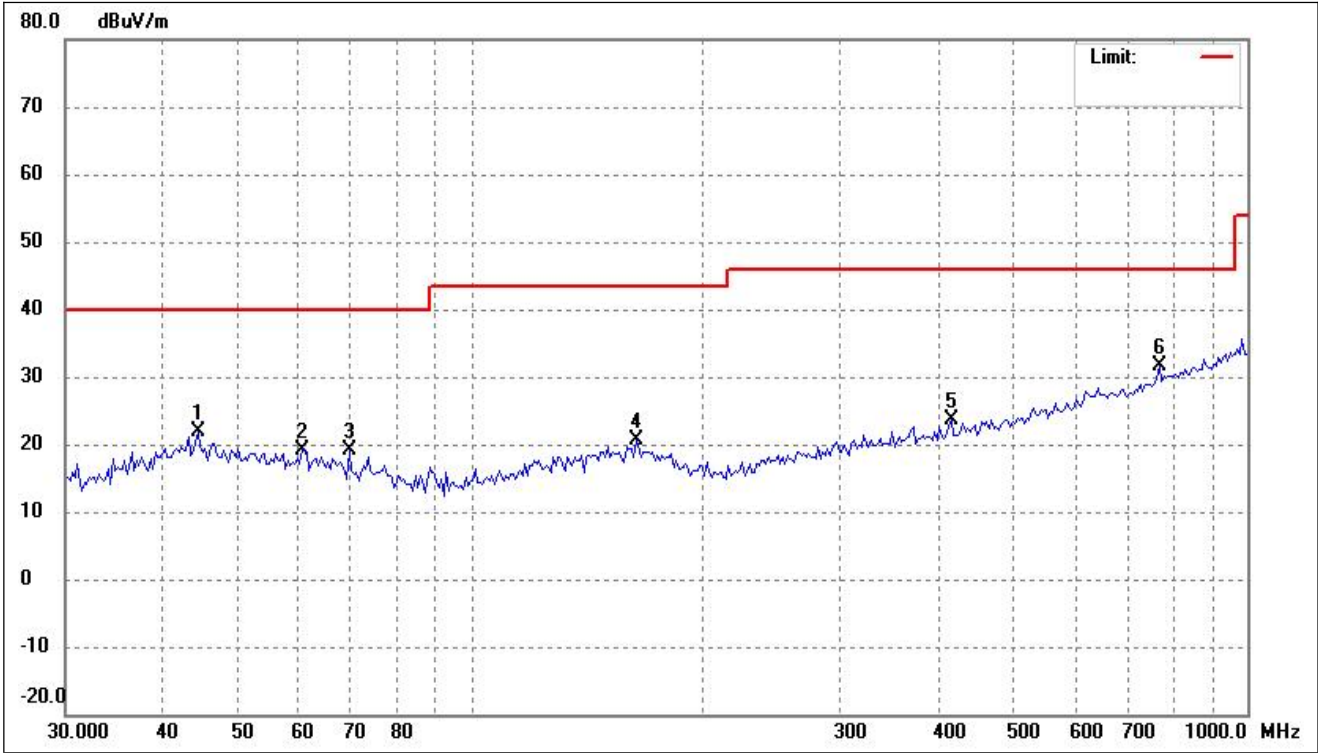
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.1544	28.17	-7.96	20.21	40.00	-19.79	-	-	peak
2	91.0574	30.38	-12.54	17.84	43.50	-25.66	-	-	peak
3	159.7586	28.38	-8.05	20.33	43.50	-23.17	-	-	peak
4	343.6506	27.76	-7.13	20.63	46.00	-25.37	-	-	peak
5	620.1167	28.73	-1.86	26.87	46.00	-19.13	-	-	peak
6	893.6557	29.75	2.02	31.77	46.00	-14.23	-	-	peak

802.11ac-VHT40			
Test Channel	5190MHz(worst case)	Polarity:	Vertical



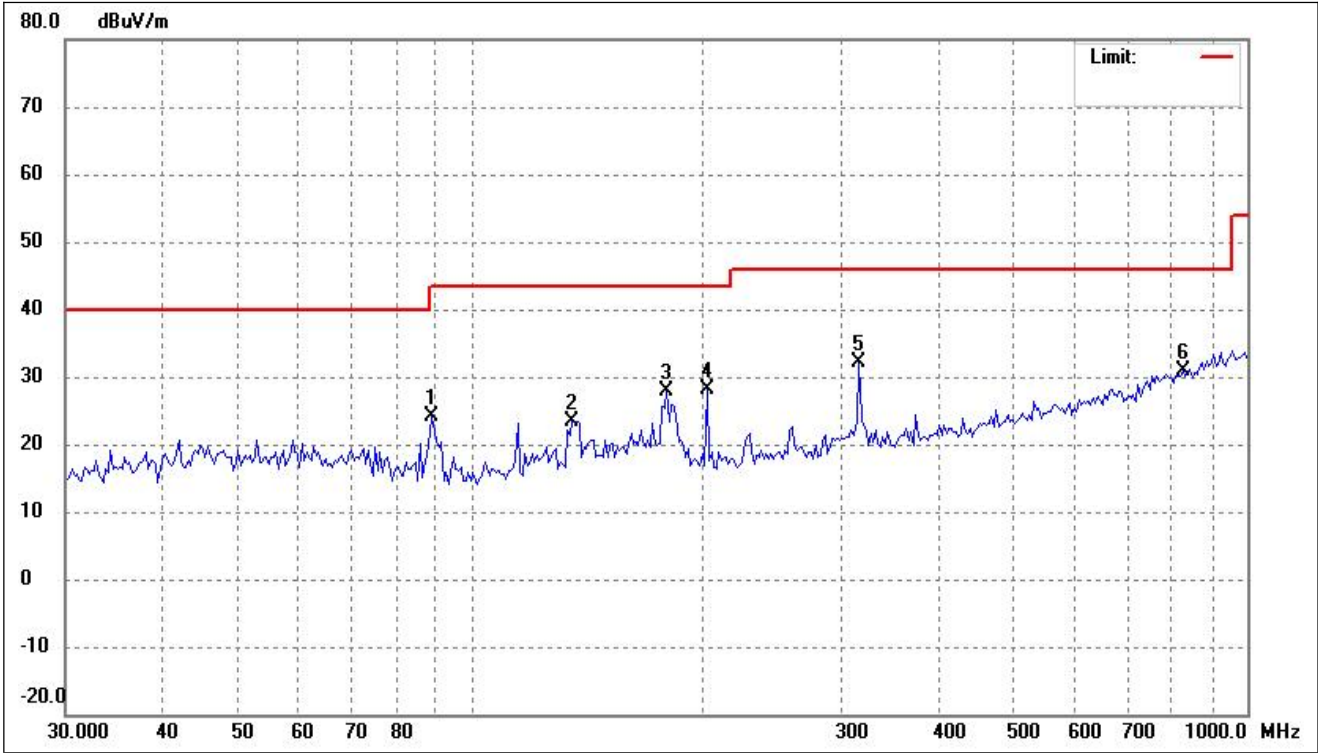
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	49.7571	28.91	-7.59	21.32	40.00	-18.68	-	-	peak
2	88.5336	36.77	-12.58	24.19	43.50	-19.31	-	-	peak
3	182.5785	37.08	-10.02	27.06	43.50	-16.44	-	-	peak
4	201.4539	38.96	-11.42	27.54	43.50	-15.96	-	-	peak
5	315.8601	39.46	-7.52	31.94	46.00	-14.06	-	-	peak
6	833.0127	31.31	1.36	32.67	46.00	-13.33	-	-	peak

802.11ac-VHT80			
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	44.4657	29.79	-7.96	21.83	40.00	-18.17	-	-	peak
2	61.0041	27.85	-8.61	19.24	40.00	-20.76	-	-	peak
3	69.7179	29.39	-10.20	19.19	40.00	-20.81	-	-	peak
4	163.1623	28.70	-8.13	20.57	43.50	-22.93	-	-	peak
5	415.4486	29.45	-5.93	23.52	46.00	-22.48	-	-	peak
6	771.0475	31.20	0.53	31.73	46.00	-14.27	-	-	peak

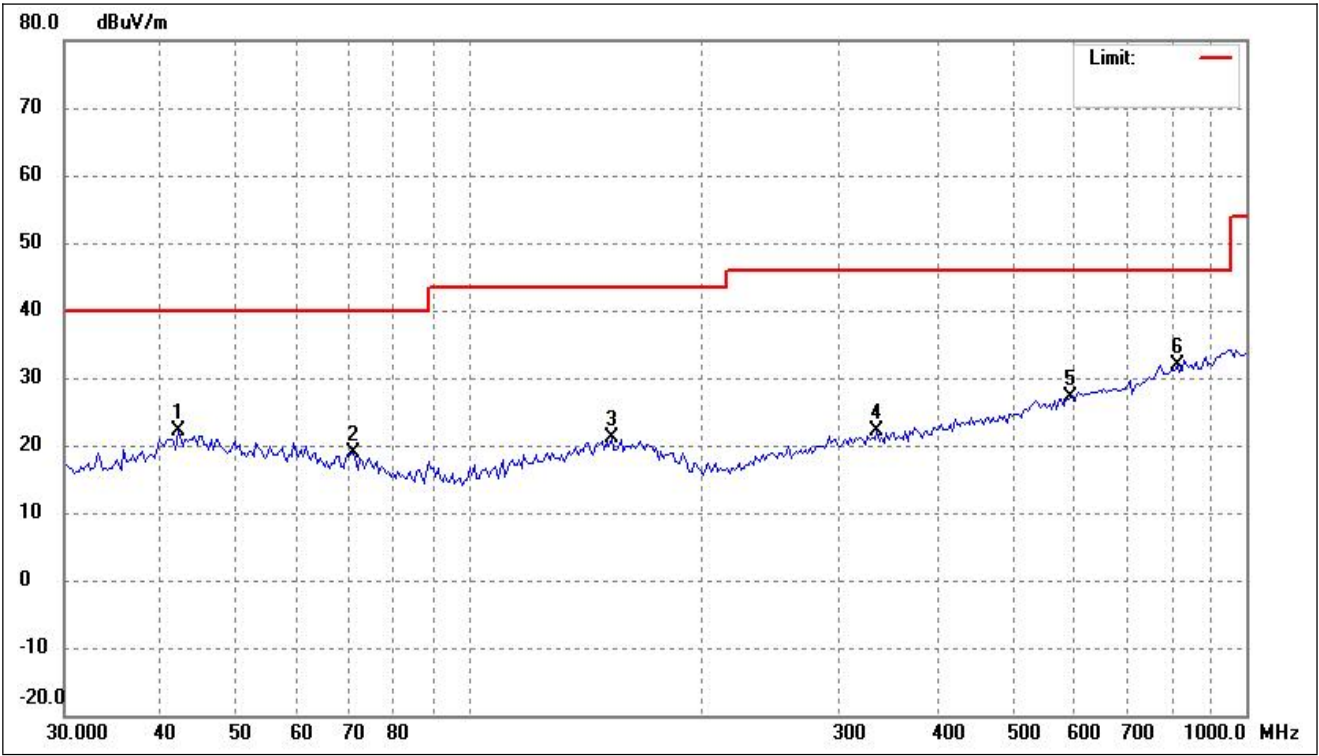
802.11ac-VHT80			
Test Channel	5210MHz(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	89.1579	36.76	-12.58	24.18	43.50	-19.32	-	-	peak
2	134.9645	32.59	-9.11	23.48	43.50	-20.02	-	-	peak
3	178.7697	37.54	-9.57	27.97	43.50	-15.53	-	-	peak
4	201.4539	39.49	-11.42	28.07	43.50	-15.43	-	-	peak
5	315.8601	39.62	-7.52	32.10	46.00	-13.90	-	-	peak
6	827.1795	29.64	1.29	30.93	46.00	-15.07	-	-	peak

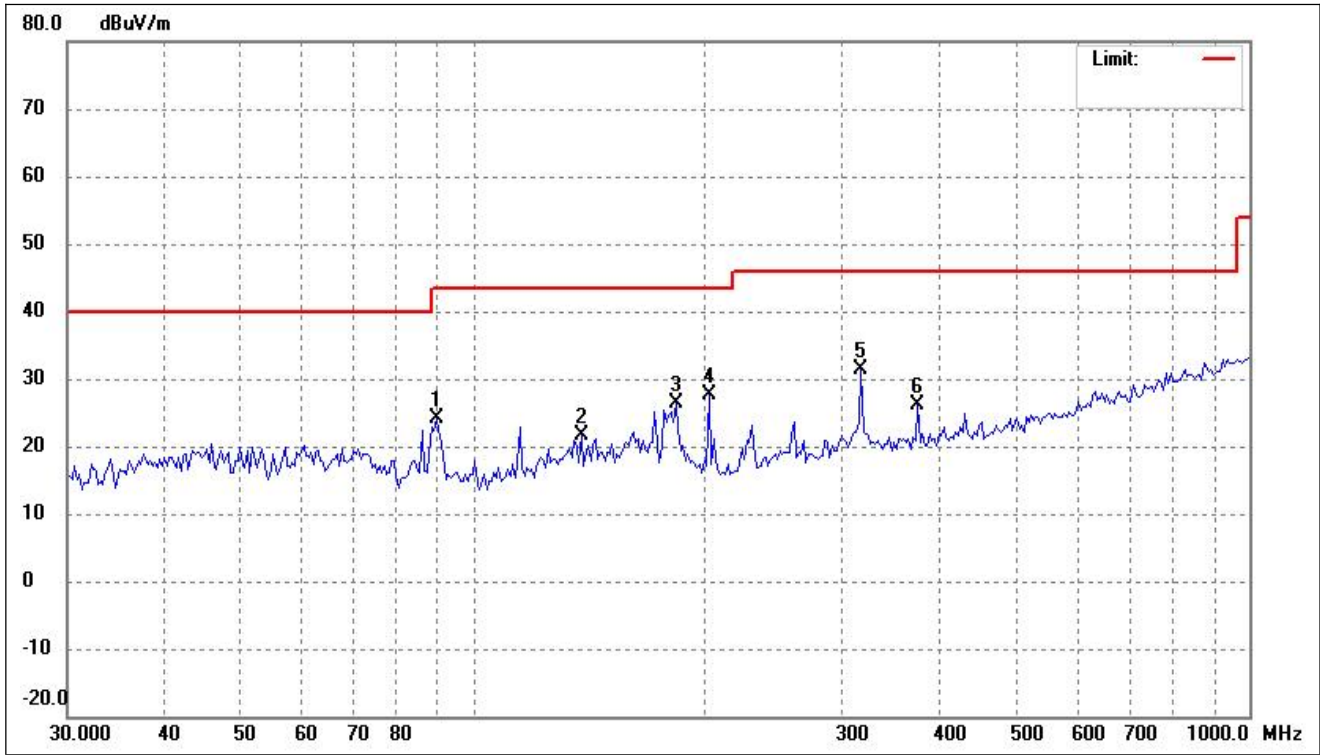
➤ 5250-5350MHz

802.11a			
Test Channel	5260MHz	Polarity:	Horizontal



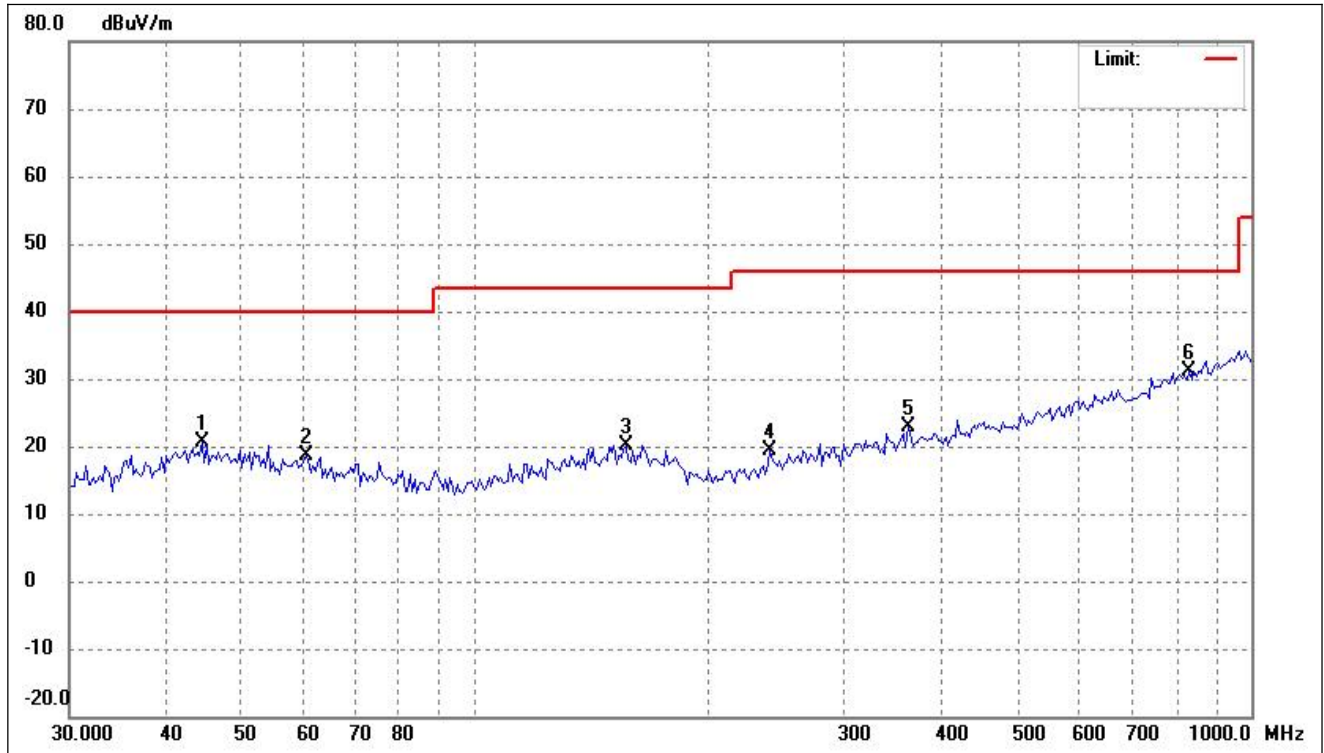
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.0349	30.02	-7.95	22.07	40.00	-17.93	-	-	peak
2	70.7047	29.30	-10.41	18.89	40.00	-21.11	-	-	peak
3	152.0901	29.08	-8.05	21.03	43.50	-22.47	-	-	peak
4	334.1255	29.34	-7.23	22.11	46.00	-23.89	-	-	peak
5	594.5142	29.41	-2.38	27.03	46.00	-18.97	-	-	peak
6	815.6353	30.63	1.17	31.80	46.00	-14.20	-	-	peak

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



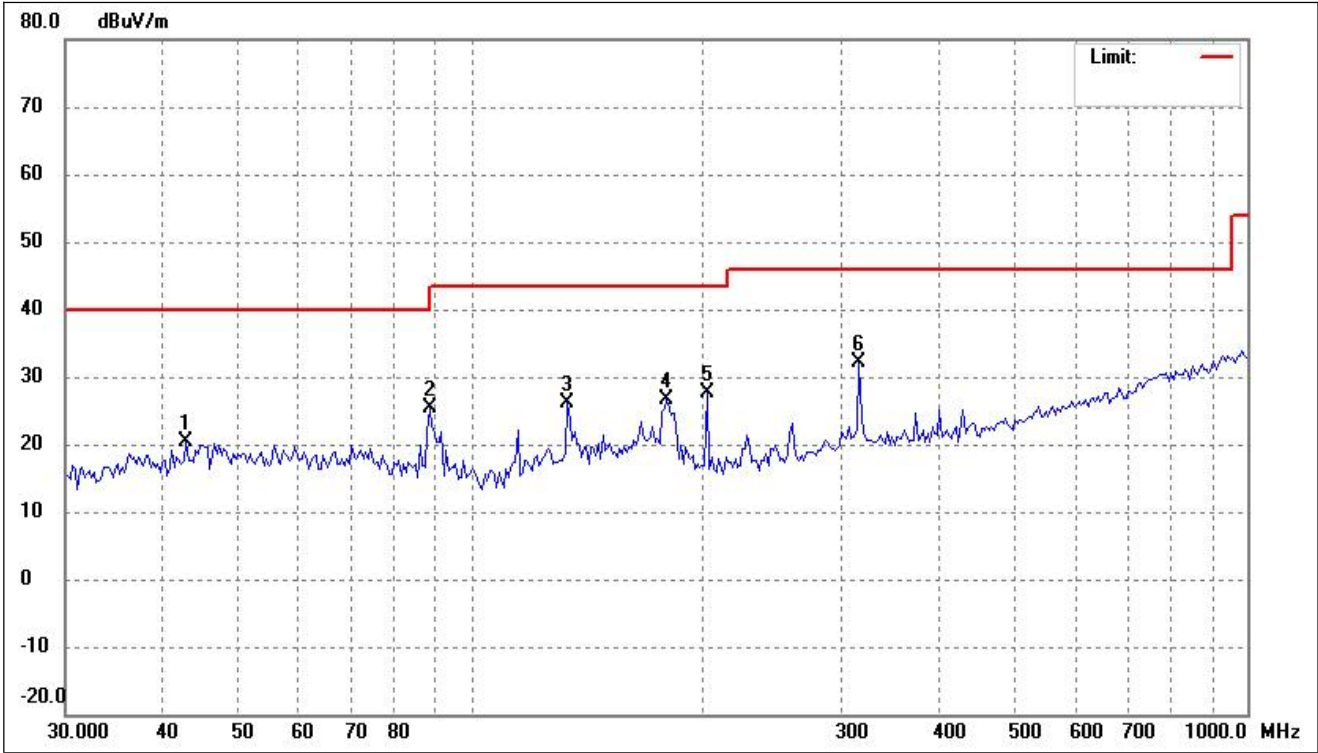
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	89.7866	36.62	-12.59	24.03	43.50	-19.47	-	-	peak
2	137.8400	30.55	-8.98	21.57	43.50	-21.93	-	-	peak
3	182.5785	36.46	-10.02	26.44	43.50	-17.06	-	-	peak
4	201.4539	39.05	-11.42	27.63	43.50	-15.87	-	-	peak
5	315.8601	39.01	-7.52	31.49	46.00	-14.51	-	-	peak
6	373.8862	32.84	-6.62	26.22	46.00	-19.78	-	-	peak

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



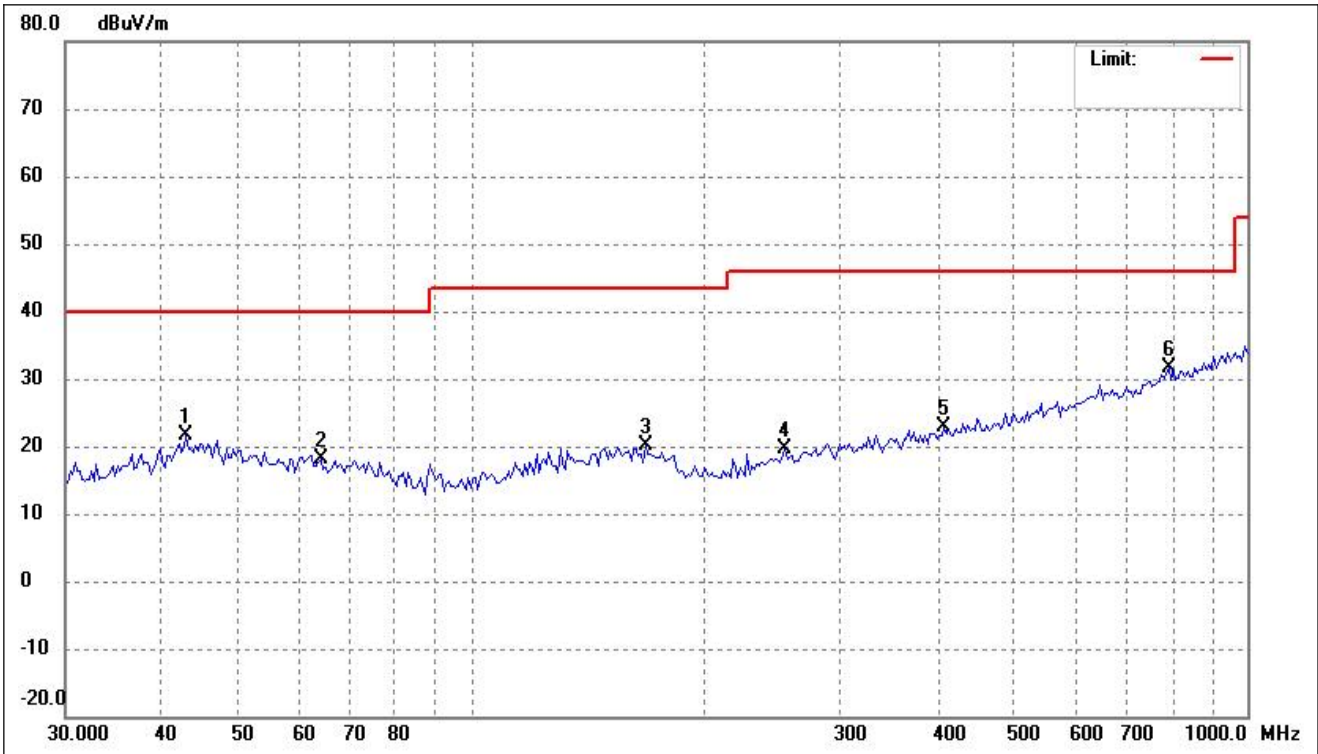
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.4657	28.54	-7.96	20.58	40.00	-19.42	-	-	peak
2	60.5769	27.14	-8.54	18.60	40.00	-21.40	-	-	peak
3	156.4259	28.14	-8.05	20.09	43.50	-23.41	-	-	peak
4	240.1442	29.51	-10.02	19.49	46.00	-26.51	-	-	peak
5	360.9775	29.68	-6.86	22.82	46.00	-23.18	-	-	peak
6	833.0127	29.68	1.36	31.04	46.00	-14.96	-	-	peak

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



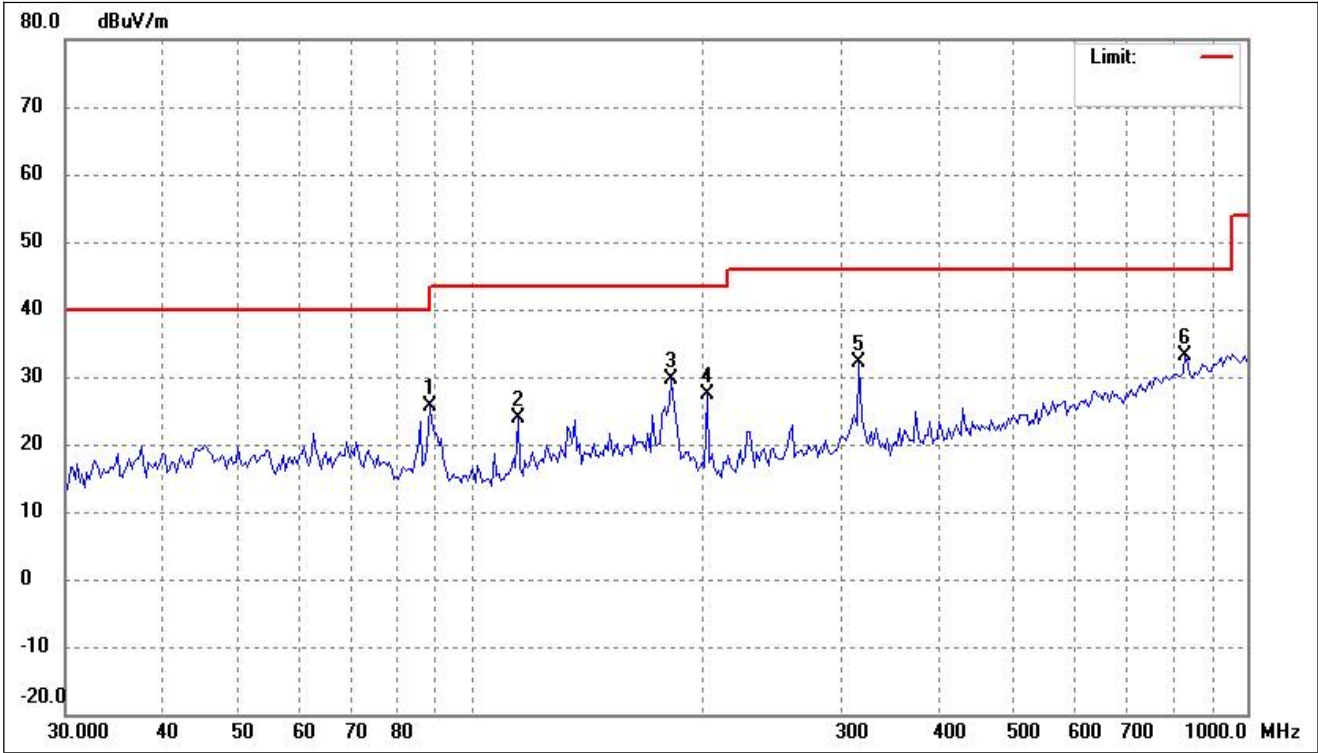
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.9305	28.26	-7.96	20.30	40.00	-19.70	-	-	peak
2	88.5336	38.01	-12.58	25.43	43.50	-18.07	-	-	peak
3	133.0809	35.41	-9.18	26.23	43.50	-17.27	-	-	peak
4	178.7697	36.13	-9.57	26.56	43.50	-16.94	-	-	peak
5	201.4539	39.03	-11.42	27.61	43.50	-15.89	-	-	peak
6	315.8601	39.69	-7.52	32.17	46.00	-13.83	-	-	peak

802.11ac-VHT20			
Test Channel	5260MHz(worst case)	Polarity:	Horizontal



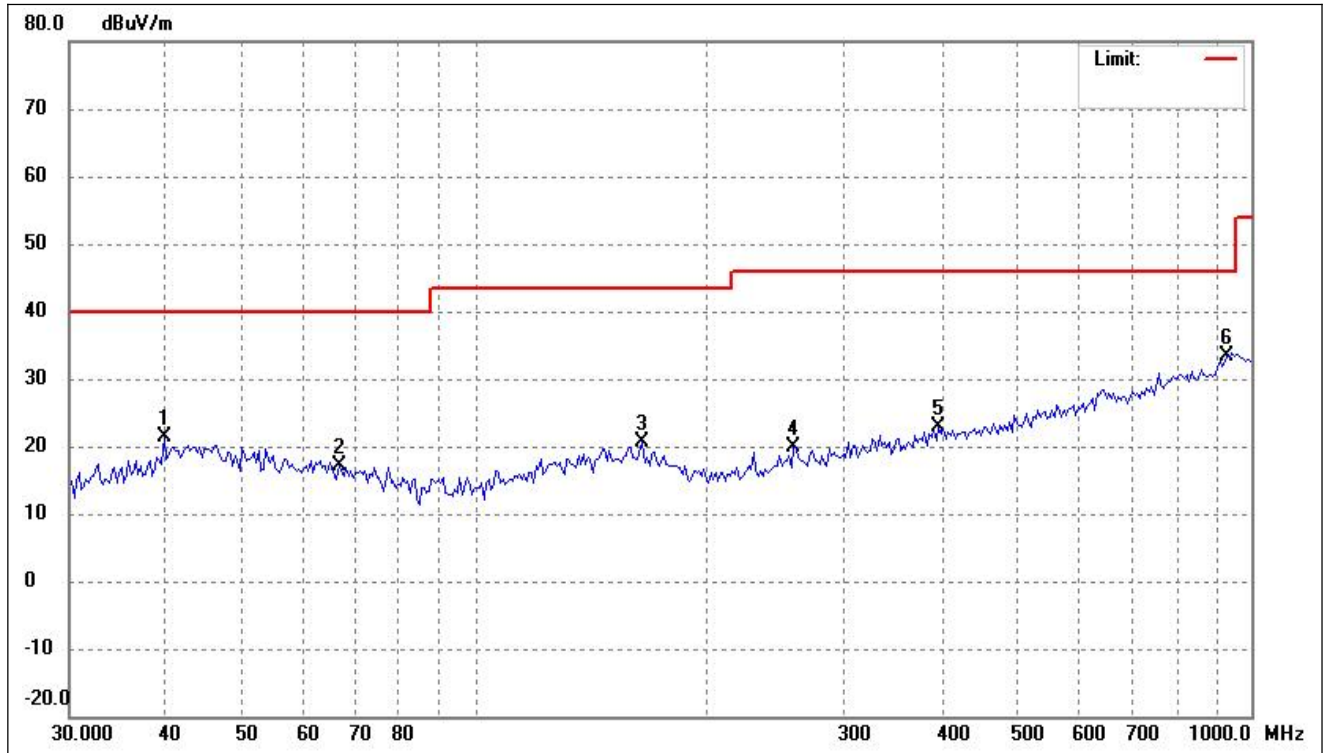
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.9305	29.48	-7.96	21.52	40.00	-18.48	-	-	peak
2	64.0800	27.26	-9.17	18.09	40.00	-21.91	-	-	peak
3	167.8136	28.28	-8.25	20.03	43.50	-23.47	-	-	peak
4	254.0312	29.26	-9.54	19.72	46.00	-26.28	-	-	peak
5	406.7820	28.91	-6.12	22.79	46.00	-23.21	-	-	peak
6	793.0281	30.70	0.88	31.58	46.00	-14.42	-	-	peak

802.11ac-VHT20			
Test Channel	5260MHz(worst case)	Polarity:	Vertical



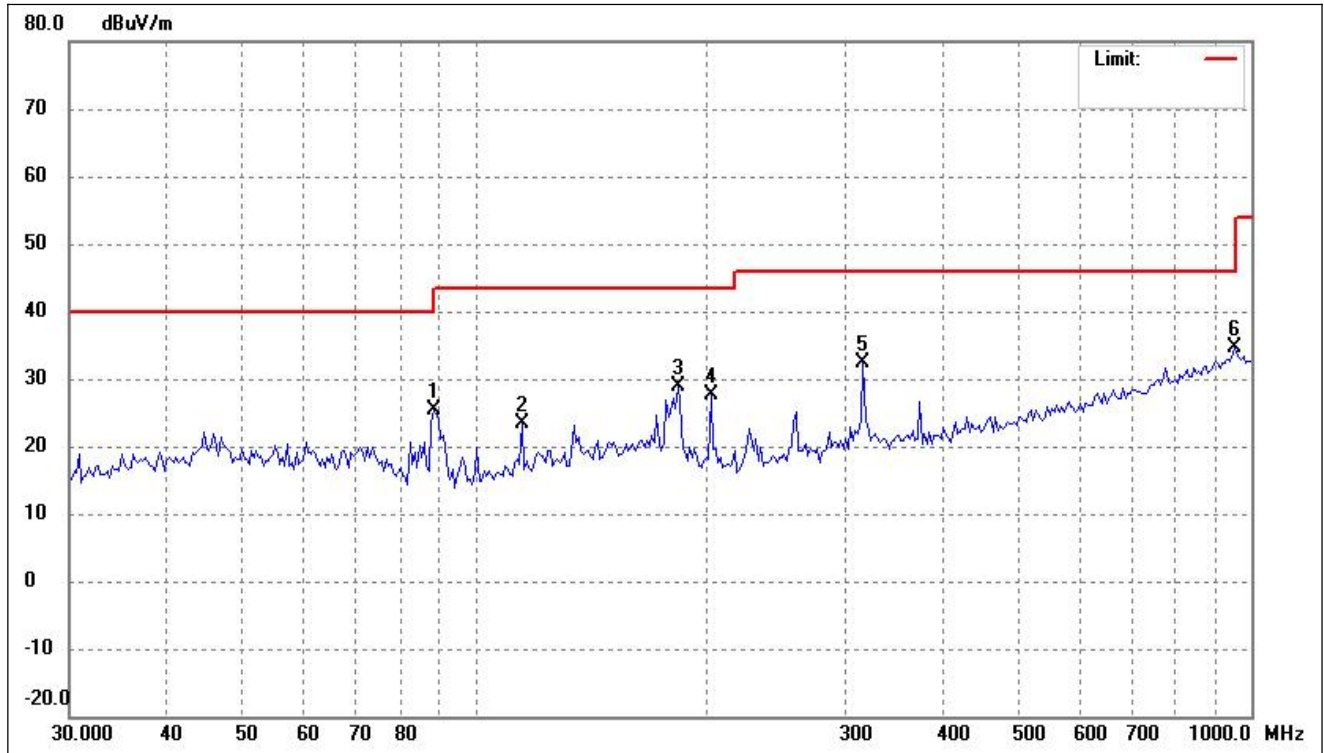
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	88.5336	38.19	-12.58	25.61	43.50	-17.89	-	-	peak
2	114.8224	34.45	-10.56	23.89	43.50	-19.61	-	-	peak
3	181.3000	39.43	-9.88	29.55	43.50	-13.95	-	-	peak
4	201.4539	38.84	-11.42	27.42	43.50	-16.08	-	-	peak
5	315.8601	39.64	-7.52	32.12	46.00	-13.88	-	-	peak
6	833.0127	31.88	1.36	33.24	46.00	-12.76	-	-	peak

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



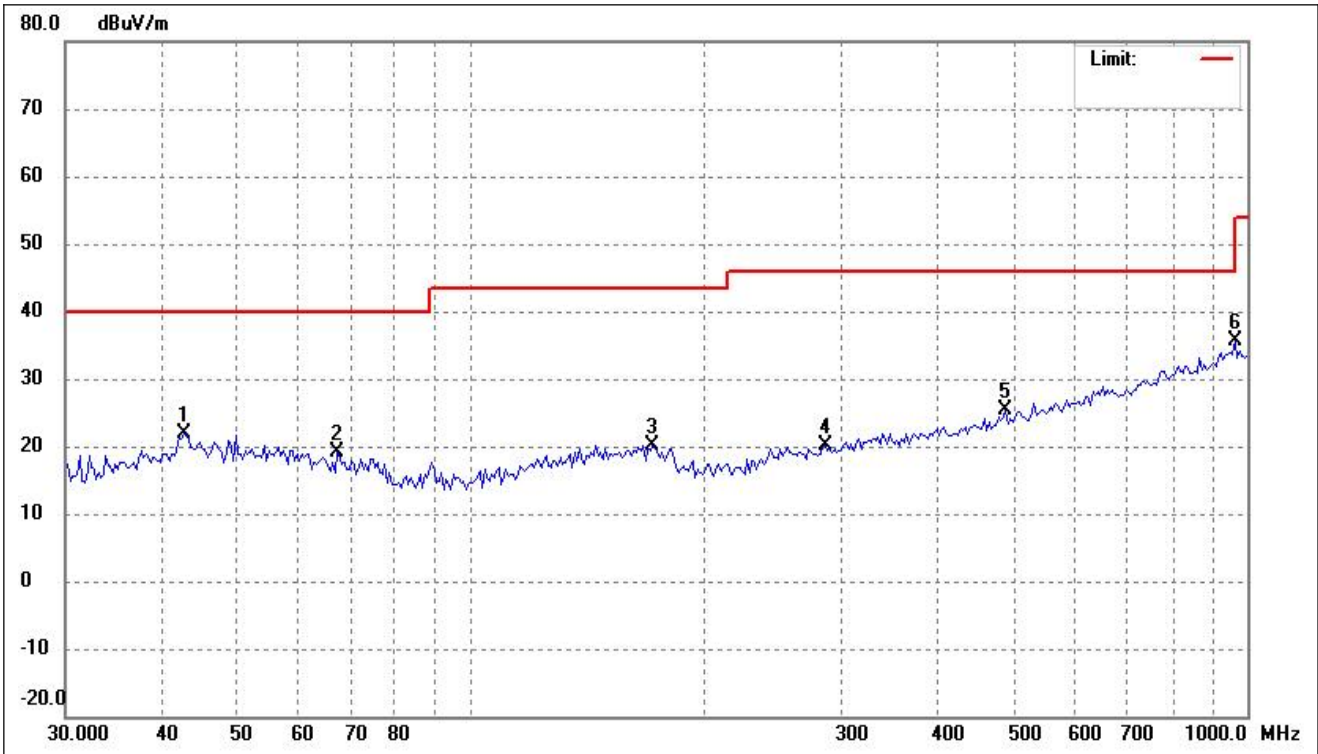
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	39.7371	29.28	-8.01	21.27	40.00	-18.73	-	-	peak
2	66.8395	26.69	-9.67	17.02	40.00	-22.98	-	-	peak
3	164.3129	28.90	-8.16	20.74	43.50	-22.76	-	-	peak
4	257.6266	29.17	-9.38	19.79	46.00	-26.21	-	-	peak
5	395.5071	29.26	-6.31	22.95	46.00	-23.05	-	-	peak
6	932.1405	30.48	2.87	33.35	46.00	-12.65	-	-	peak

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



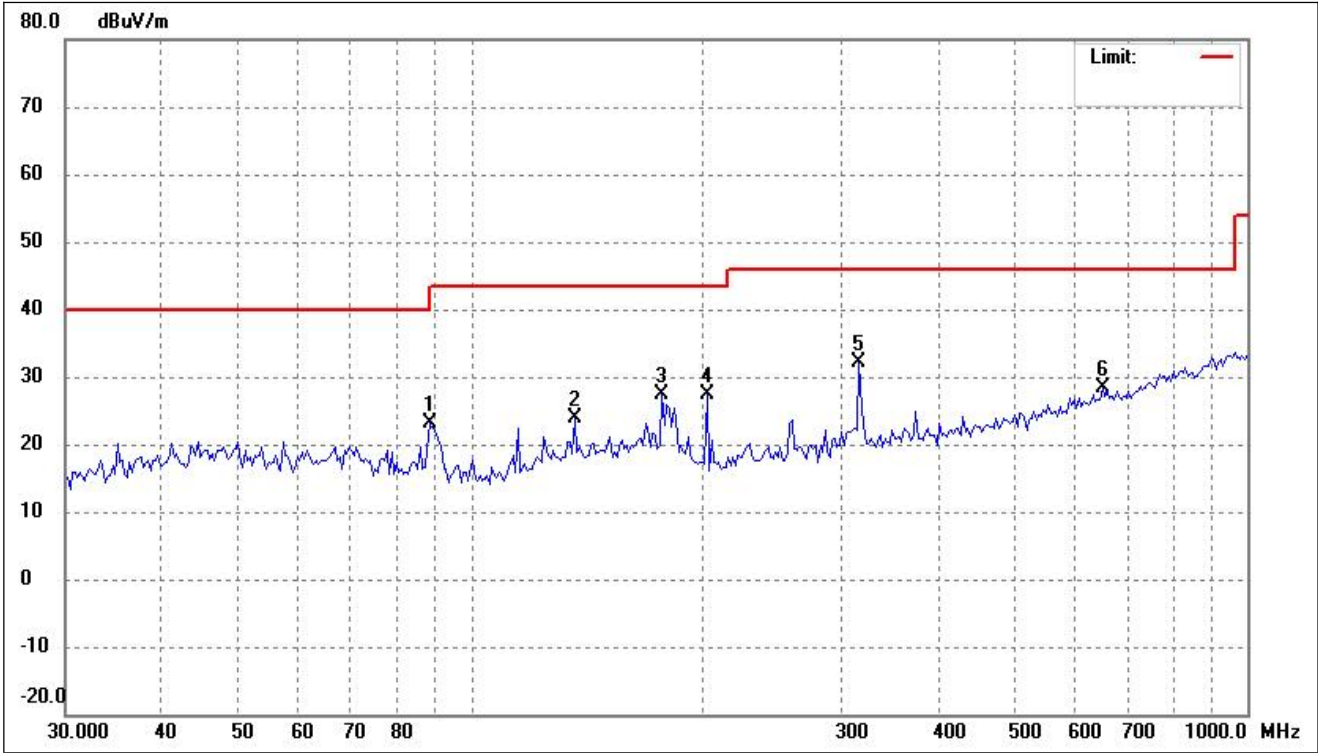
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	88.5336	37.98	-12.58	25.40	43.50	-18.10	-	-	peak
2	114.8224	34.05	-10.56	23.49	43.50	-20.01	-	-	peak
3	182.5785	38.86	-10.02	28.84	43.50	-14.66	-	-	peak
4	201.4539	39.15	-11.42	27.73	43.50	-15.77	-	-	peak
5	315.8601	39.81	-7.52	32.29	46.00	-13.71	-	-	peak
6	952.0001	31.39	3.31	34.70	46.00	-11.30	-	-	peak

802.11ac-VHT40			
Test Channel	5270MHz(worst case)	Polarity:	Horizontal



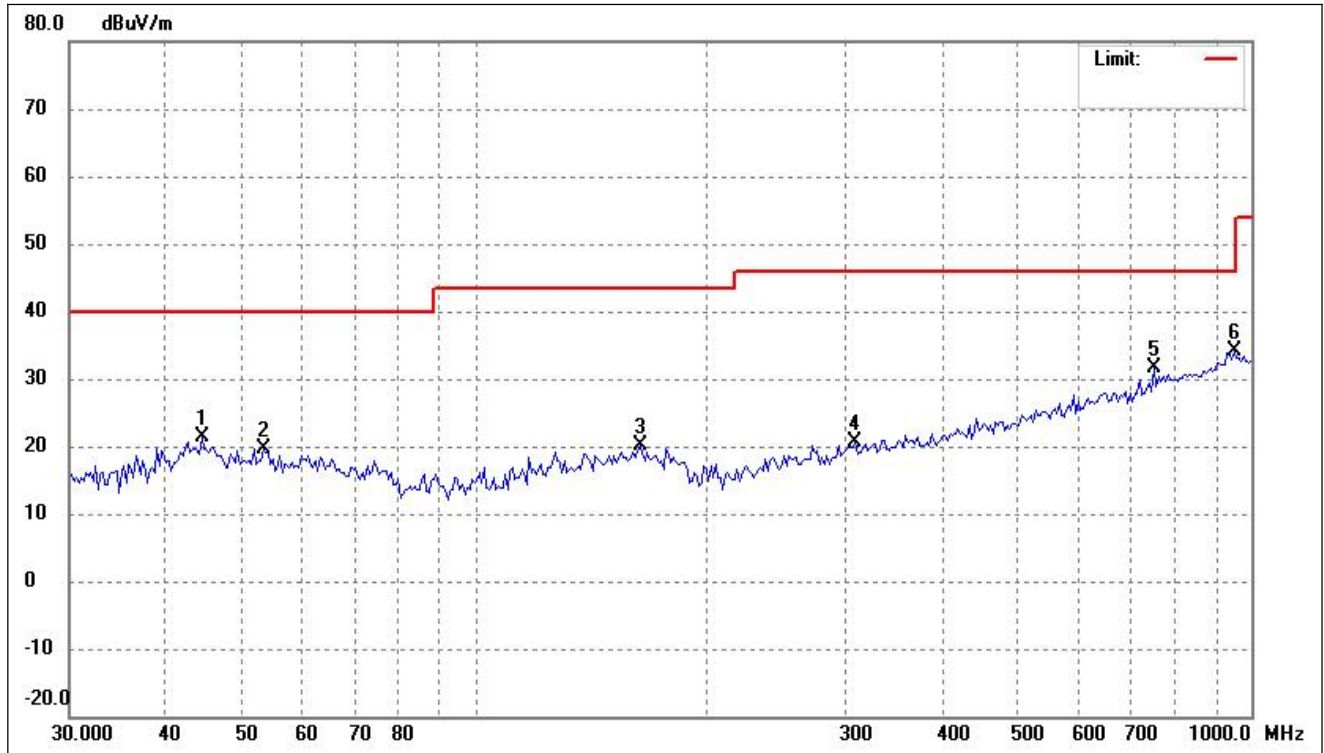
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.6299	29.75	-7.96	21.79	40.00	-18.21	-	-	peak
2	67.3109	28.99	-9.76	19.23	40.00	-20.77	-	-	peak
3	171.3890	28.67	-8.51	20.16	43.50	-23.34	-	-	peak
4	286.2653	28.53	-8.30	20.23	46.00	-25.77	-	-	peak
5	488.3263	30.16	-4.90	25.26	46.00	-20.74	-	-	peak
6	965.4742	32.22	3.37	35.59	54.00	-18.41	-	-	peak

802.11ac-VHT40			
Test Channel	5270MHz(worst case)	Polarity:	Vertical



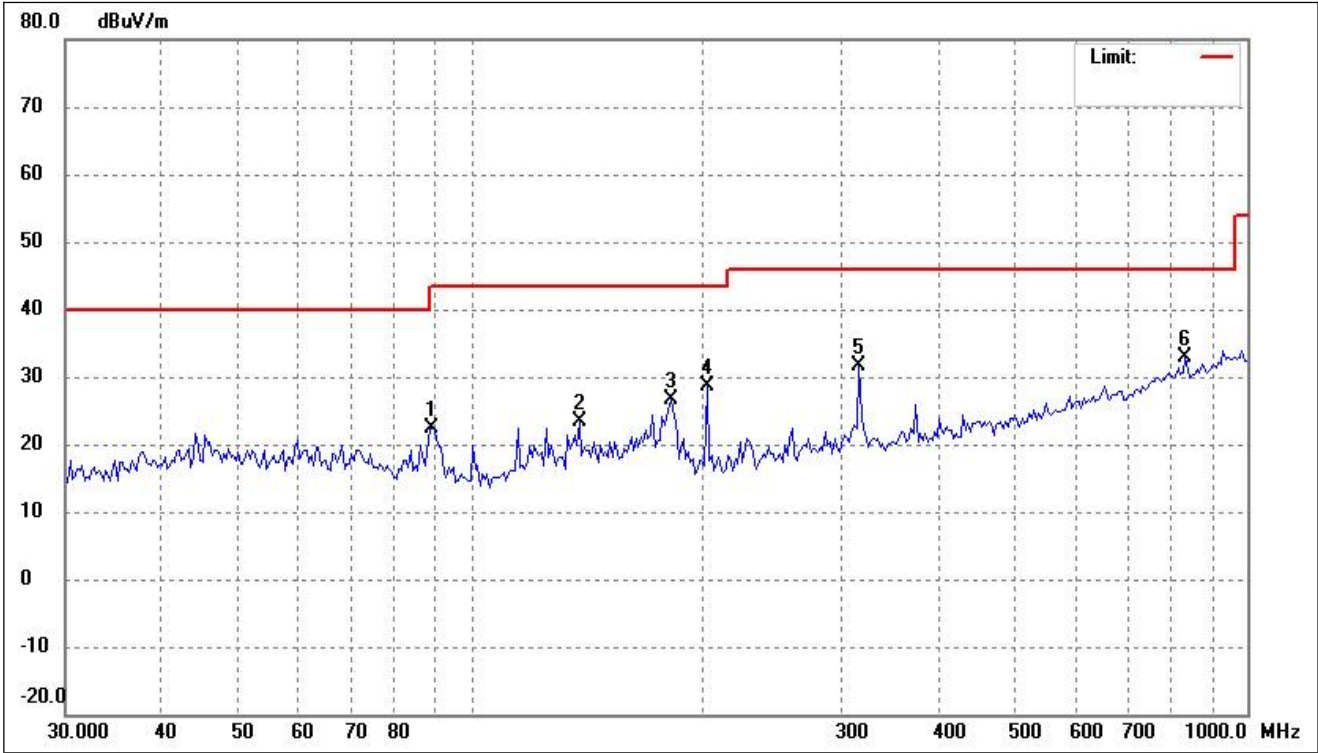
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	88.5336	35.79	-12.58	23.21	43.50	-20.29	-	-	peak
2	135.9163	32.98	-9.07	23.91	43.50	-19.59	-	-	peak
3	176.2748	36.64	-9.21	27.43	43.50	-16.07	-	-	peak
4	201.4539	38.69	-11.42	27.27	43.50	-16.23	-	-	peak
5	315.8601	39.73	-7.52	32.21	46.00	-13.79	-	-	peak
6	651.3831	30.00	-1.54	28.46	46.00	-17.54	-	-	peak

802.11ac-VHT80			
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	29.44	-7.96	21.48	40.00	-18.52	-	-	peak
2	53.3794	27.50	-7.95	19.55	40.00	-20.45	-	-	peak
3	163.1623	28.24	-8.13	20.11	43.50	-23.39	-	-	peak
4	309.2710	28.19	-7.66	20.53	46.00	-25.47	-	-	peak
5	749.6761	31.42	0.17	31.59	46.00	-14.41	-	-	peak
6	952.0001	30.80	3.31	34.11	46.00	-11.89	-	-	peak

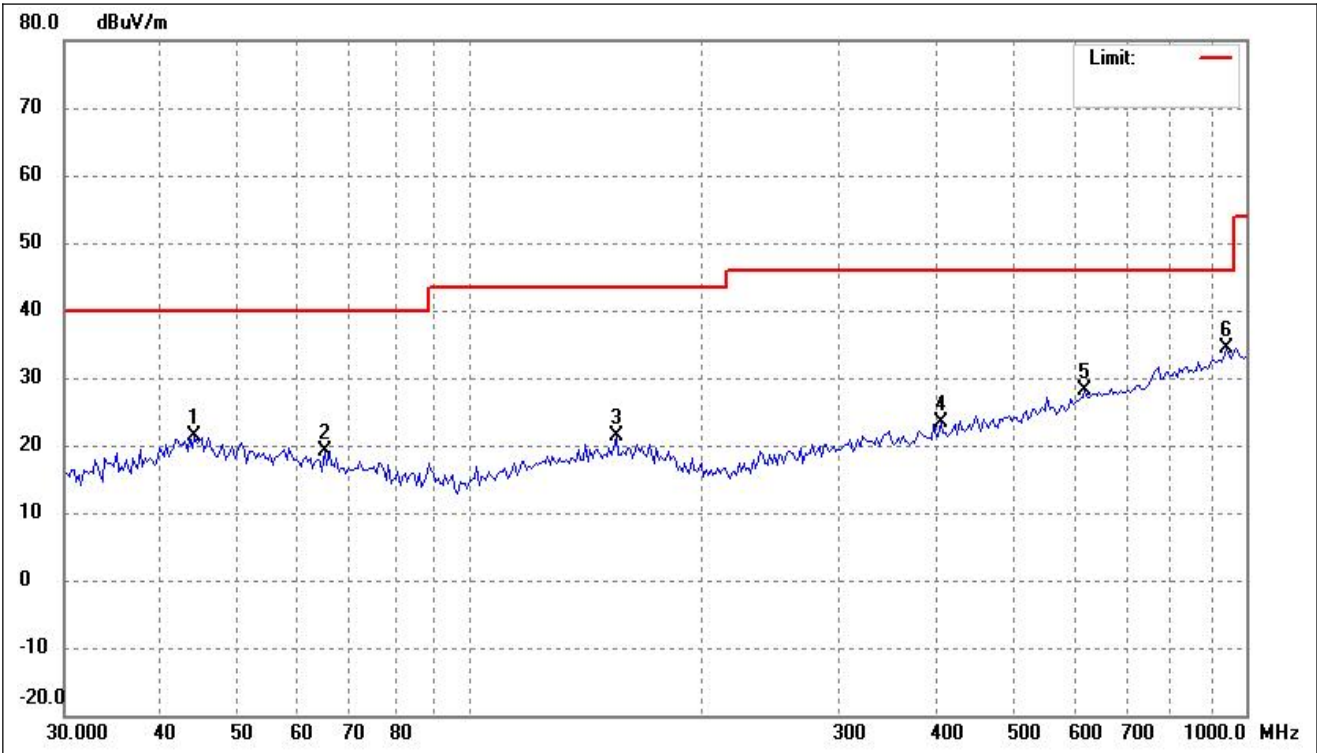
802.11ac-VHT80			
Test Channel	5290MHz(worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	89.1579	34.99	-12.58	22.41	43.50	-21.09	-	-	peak
2	137.8400	32.34	-8.98	23.36	43.50	-20.14	-	-	peak
3	181.3000	36.56	-9.88	26.68	43.50	-16.82	-	-	peak
4	201.4539	40.10	-11.42	28.68	43.50	-14.82	-	-	peak
5	315.8601	39.06	-7.52	31.54	46.00	-14.46	-	-	peak
6	833.0127	31.47	1.36	32.83	46.00	-13.17	-	-	peak

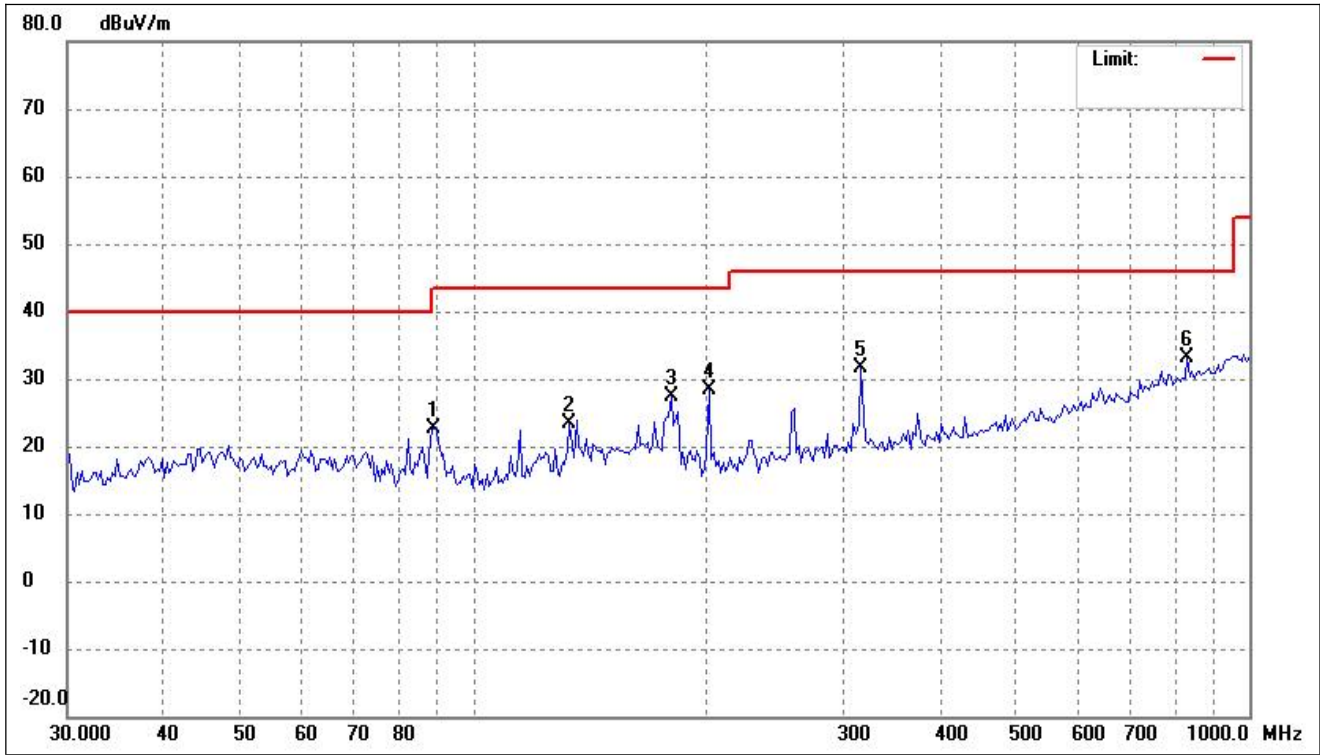
➤ 5725-5850MHz

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



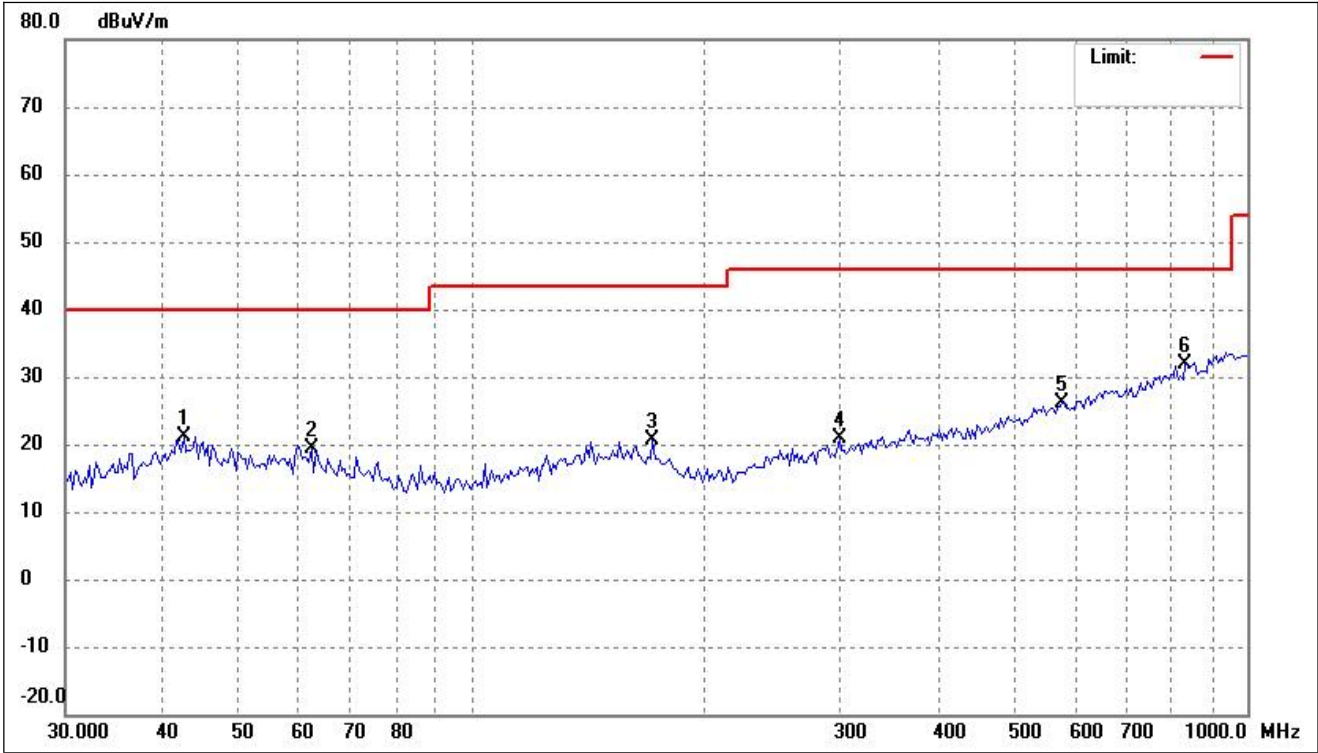
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.1544	29.44	-7.96	21.48	40.00	-18.52	-	-	peak
2	64.9869	28.50	-9.33	19.17	40.00	-20.83	-	-	peak
3	154.2428	29.39	-8.05	21.34	43.50	-22.16	-	-	peak
4	403.9335	29.55	-6.18	23.37	46.00	-22.63	-	-	peak
5	620.1167	30.02	-1.86	28.16	46.00	-17.84	-	-	peak
6	945.3336	31.31	3.19	34.50	46.00	-11.50	-	-	peak

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



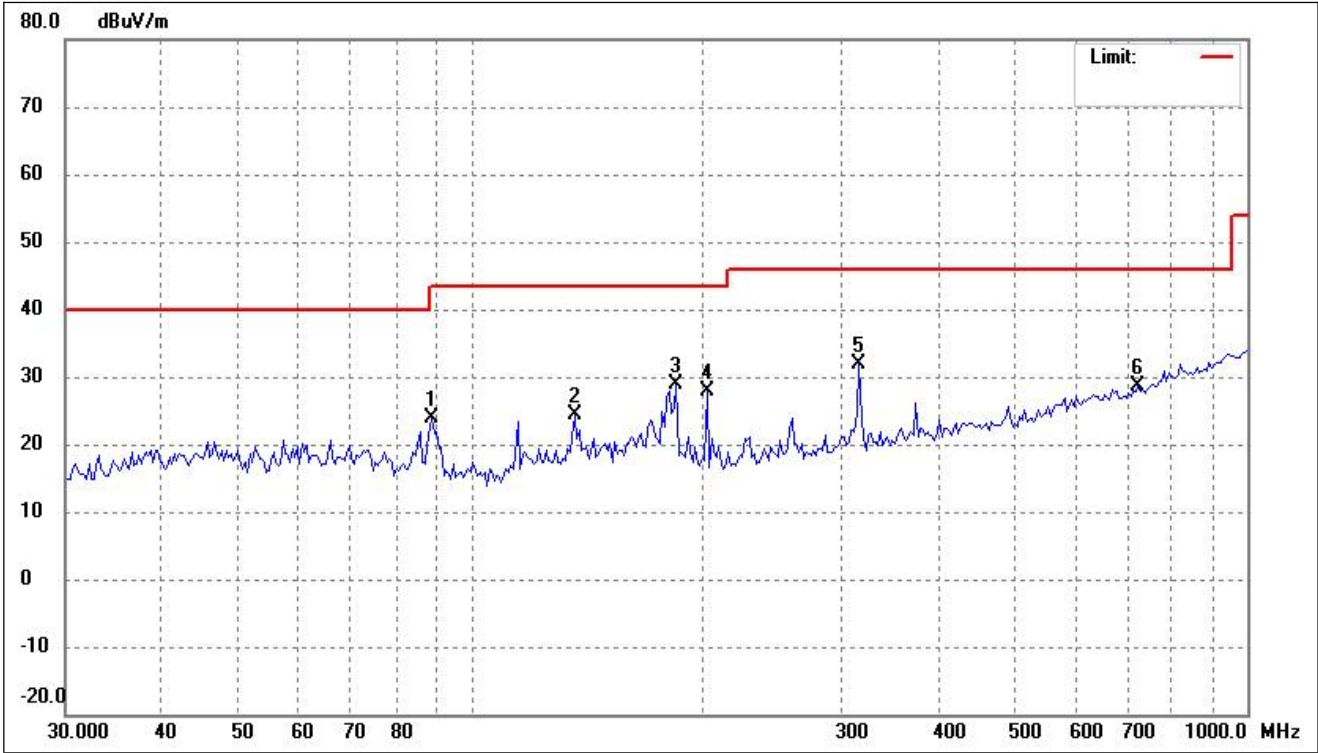
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	89.1579	35.33	-12.58	22.75	43.50	-20.75	-	-	peak
2	133.0809	32.49	-9.18	23.31	43.50	-20.19	-	-	peak
3	180.0304	37.17	-9.74	27.43	43.50	-16.07	-	-	peak
4	201.4539	39.79	-11.42	28.37	43.50	-15.13	-	-	peak
5	315.8601	39.26	-7.52	31.74	46.00	-14.26	-	-	peak
6	833.0127	31.69	1.36	33.05	46.00	-12.95	-	-	peak

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



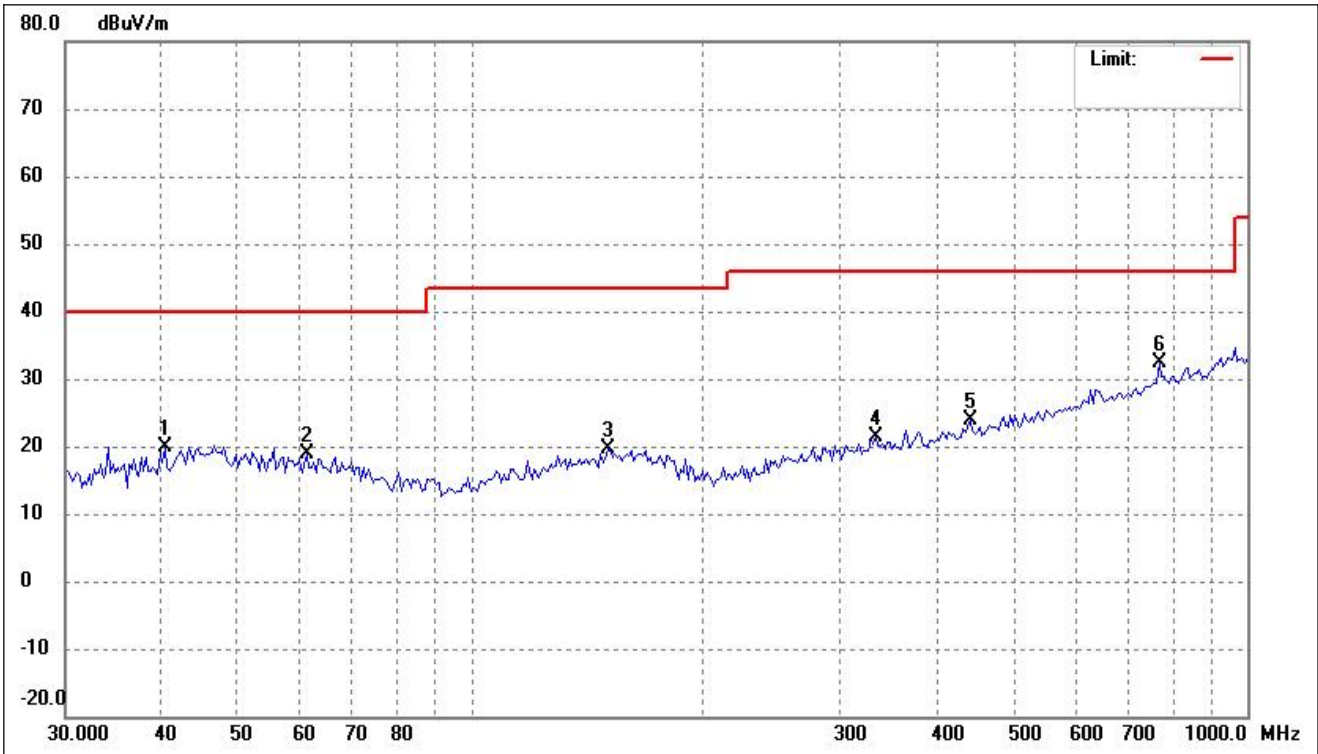
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.6299	29.20	-7.96	21.24	40.00	-18.76	-	-	peak
2	62.3038	28.24	-8.84	19.40	40.00	-20.60	-	-	peak
3	171.3890	29.25	-8.51	20.74	43.50	-22.76	-	-	peak
4	298.5932	28.81	-7.90	20.91	46.00	-25.09	-	-	peak
5	578.0359	28.89	-2.78	26.11	46.00	-19.89	-	-	peak
6	833.0127	30.57	1.36	31.93	46.00	-14.07	-	-	peak

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



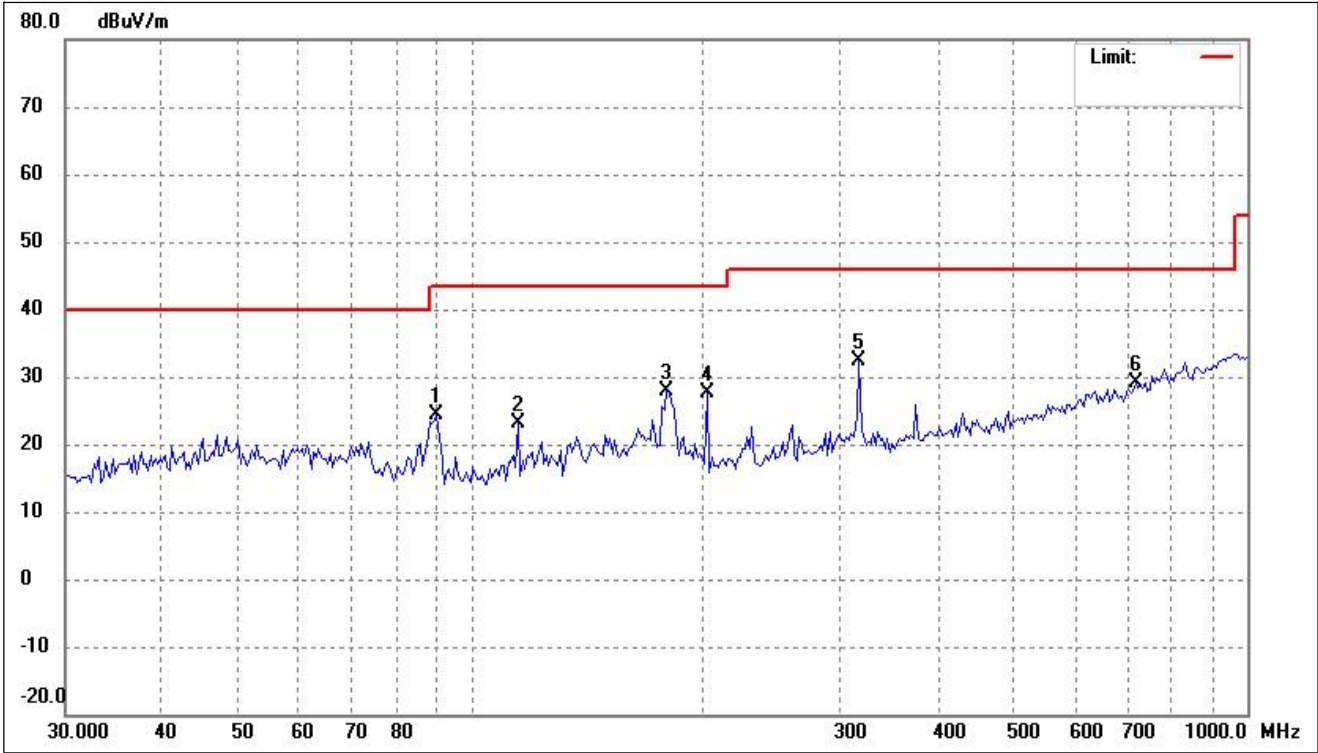
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	89.1579	36.36	-12.58	23.78	43.50	-19.72	-	-	peak
2	135.9163	33.33	-9.07	24.26	43.50	-19.24	-	-	peak
3	183.8660	39.09	-10.16	28.93	43.50	-14.57	-	-	peak
4	201.4539	39.31	-11.42	27.89	43.50	-15.61	-	-	peak
5	315.8601	39.33	-7.52	31.81	46.00	-14.19	-	-	peak
6	723.7930	29.18	-0.49	28.69	46.00	-17.31	-	-	peak

802.11ac-VHT20			
Test Channel	5745MHz(worst case)	Polarity:	Horizontal



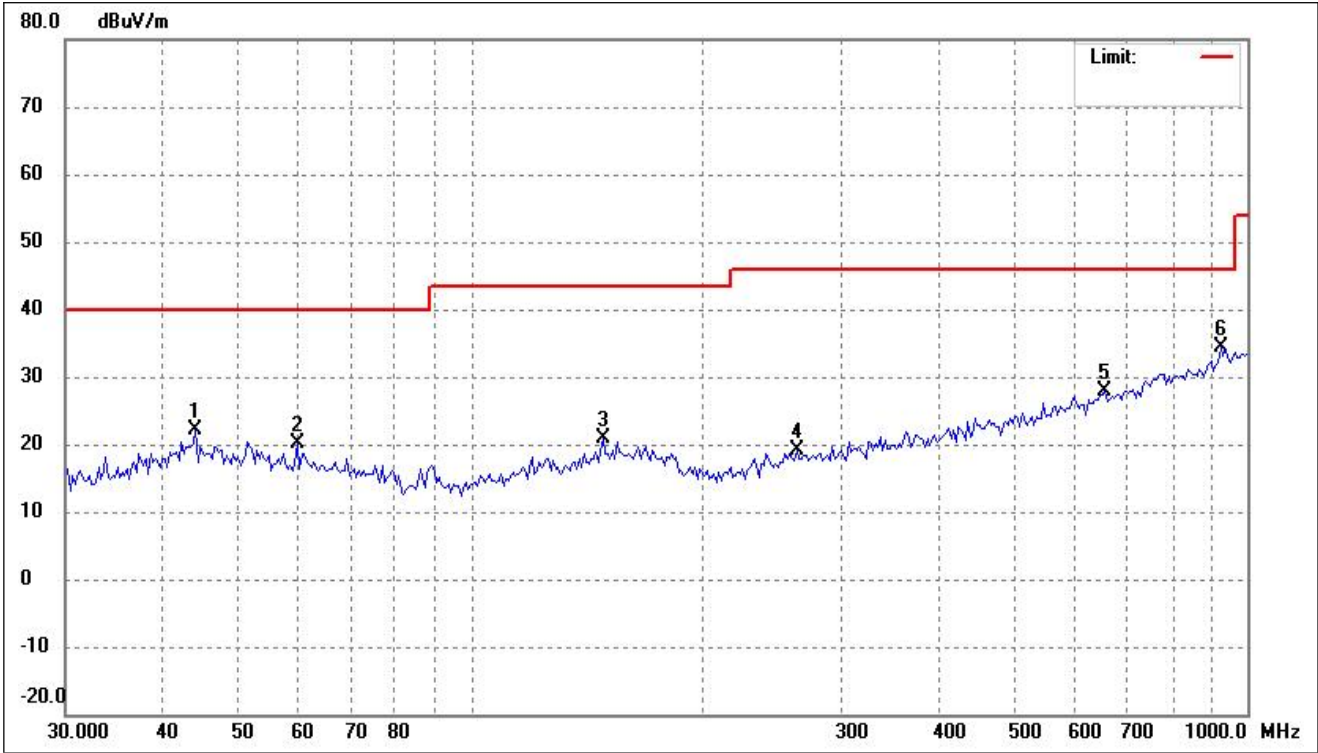
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	40.2995	27.93	-7.96	19.97	40.00	-20.03	-	-	peak
2	61.4343	27.64	-8.69	18.95	40.00	-21.05	-	-	peak
3	149.9676	27.62	-8.04	19.58	43.50	-23.92	-	-	peak
4	331.7858	28.63	-7.25	21.38	46.00	-24.62	-	-	peak
5	439.4730	29.27	-5.42	23.85	46.00	-22.15	-	-	peak
6	771.0475	31.94	0.53	32.47	46.00	-13.53	-	-	peak

802.11ac-VHT20			
Test Channel	5745MHz(worst case)	Polarity:	Vertical



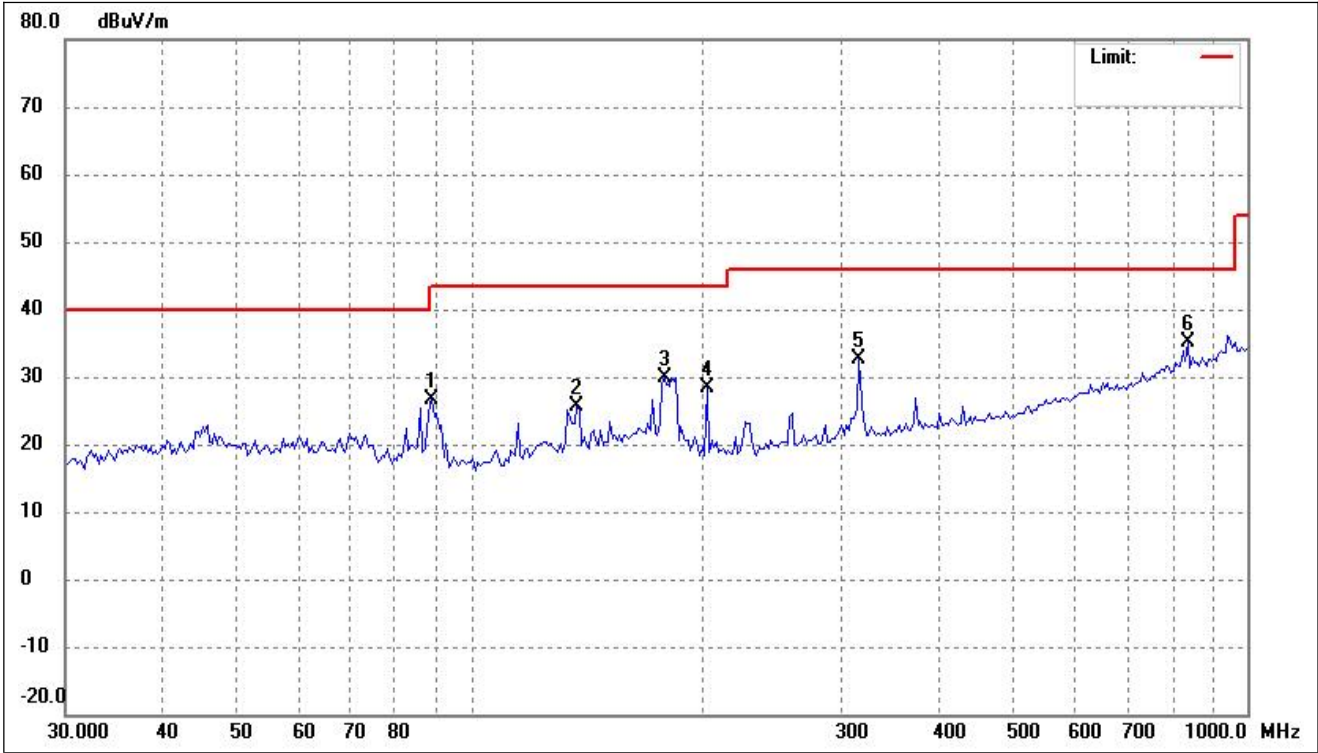
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	90.4198	37.00	-12.57	24.43	43.50	-19.07	-	-	peak
2	114.8224	33.70	-10.56	23.14	43.50	-20.36	-	-	peak
3	180.0304	37.72	-9.74	27.98	43.50	-15.52	-	-	peak
4	201.4539	39.07	-11.42	27.65	43.50	-15.85	-	-	peak
5	315.8601	39.78	-7.52	32.26	46.00	-13.74	-	-	peak
6	718.7246	29.65	-0.62	29.03	46.00	-16.97	-	-	peak

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



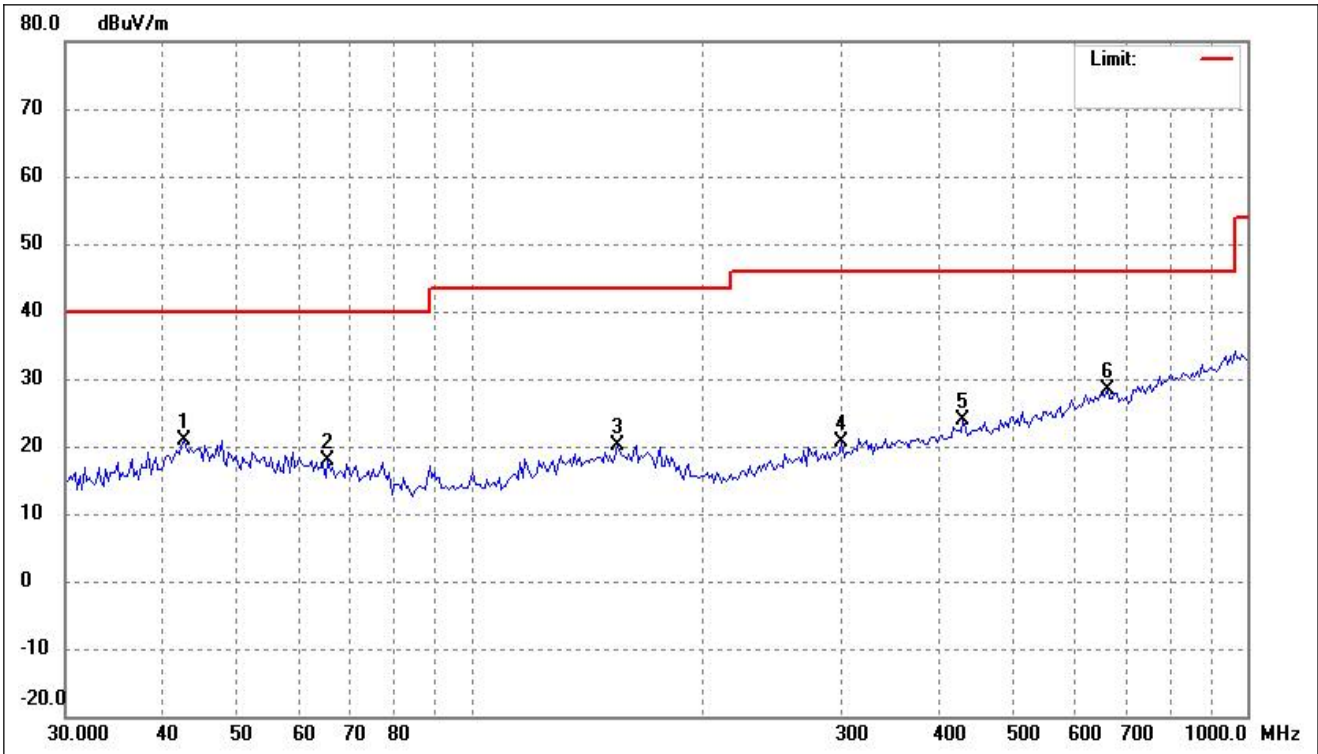
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.1544	30.10	-7.96	22.14	40.00	-17.86	-	-	peak
2	59.7315	28.62	-8.41	20.21	40.00	-19.79	-	-	peak
3	147.8747	29.19	-8.22	20.97	43.50	-22.53	-	-	peak
4	263.1155	28.23	-9.16	19.07	46.00	-26.93	-	-	peak
5	655.9766	29.50	-1.52	27.98	46.00	-18.02	-	-	peak
6	925.6132	31.55	2.72	34.27	46.00	-11.73	-	-	peak

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



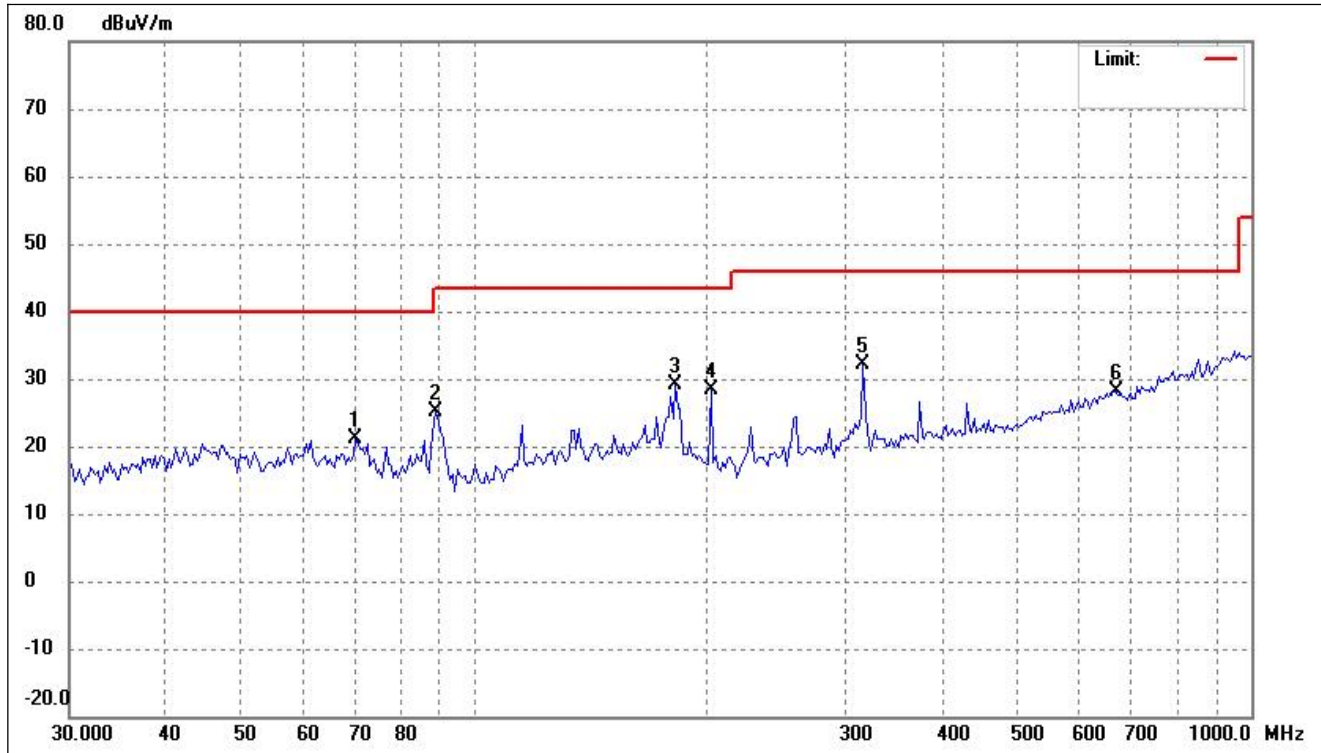
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	89.1578	39.18	-12.58	26.60	43.50	-16.90	-	-	peak
2	136.8747	34.74	-9.03	25.71	43.50	-17.79	-	-	peak
3	177.5179	39.31	-9.38	29.93	43.50	-13.57	-	-	peak
4	201.4538	39.90	-11.42	28.48	43.50	-15.02	-	-	peak
5	315.8600	40.14	-7.52	32.62	46.00	-13.38	-	-	peak
6	838.8870	33.63	1.42	35.05	46.00	-10.95	-	-	peak

802.11ac-VHT40			
Test Channel	5755MHz(worst case)	Polarity:	Horizontal



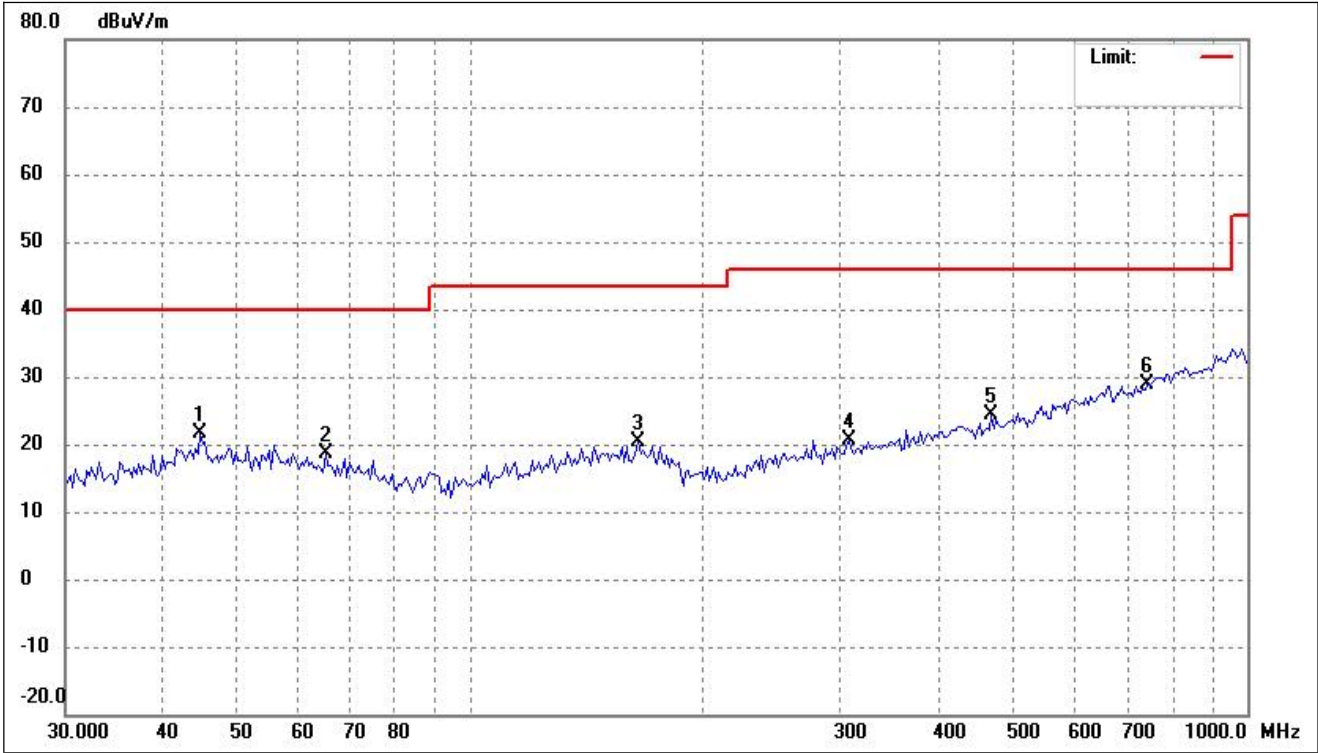
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	42.6299	28.87	-7.96	20.91	40.00	-19.09	-	-	peak
2	65.4452	27.34	-9.42	17.92	40.00	-22.08	-	-	peak
3	154.2428	28.15	-8.05	20.10	43.50	-23.40	-	-	peak
4	300.6988	28.37	-7.85	20.52	46.00	-25.48	-	-	peak
5	430.3053	29.47	-5.62	23.85	46.00	-22.15	-	-	peak
6	660.6025	29.77	-1.48	28.29	46.00	-17.71	-	-	peak

802.11ac-VHT40			
Test Channel	5755MHz(worst case)	Polarity:	Vertical



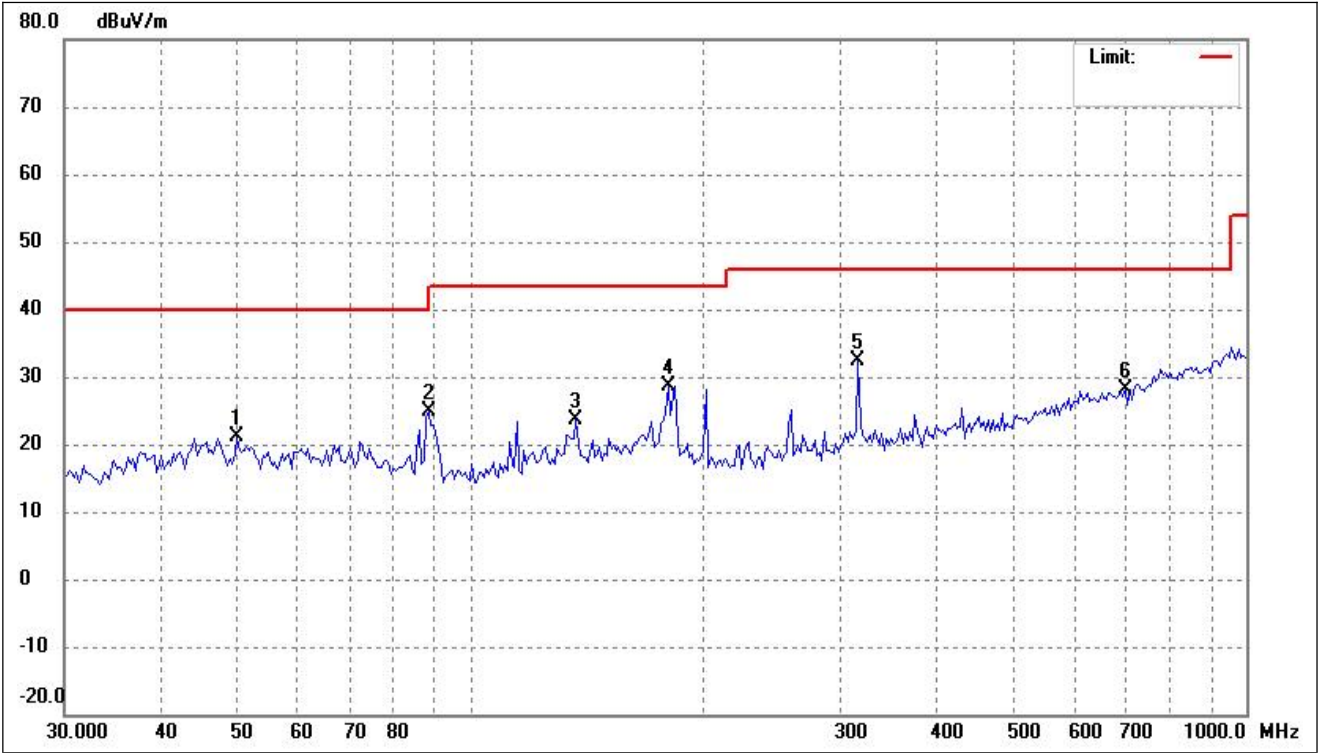
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	70.2096	31.38	-10.30	21.08	40.00	-18.92	-	-	peak
2	89.1579	37.82	-12.58	25.24	43.50	-18.26	-	-	peak
3	181.3000	38.95	-9.88	29.07	43.50	-14.43	-	-	peak
4	201.4539	39.79	-11.42	28.37	43.50	-15.13	-	-	peak
5	315.8601	39.64	-7.52	32.12	46.00	-13.88	-	-	peak
6	665.2610	29.54	-1.45	28.09	46.00	-17.91	-	-	peak

802.11ac-VHT80			
Test Channel	5775MHz(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	44.7793	29.55	-7.96	21.59	40.00	-18.41	-	-	peak
2	64.9869	28.01	-9.33	18.68	40.00	-21.32	-	-	peak
3	164.3129	28.65	-8.16	20.49	43.50	-23.01	-	-	peak
4	307.1053	28.40	-7.71	20.69	46.00	-25.31	-	-	peak
5	468.1651	29.38	-5.05	24.33	46.00	-21.67	-	-	peak
6	744.4265	28.92	0.04	28.96	46.00	-17.04	-	-	peak

802.11ac-VHT80			
Test Channel	5775MHz(worst case)	Polarity:	Vertical

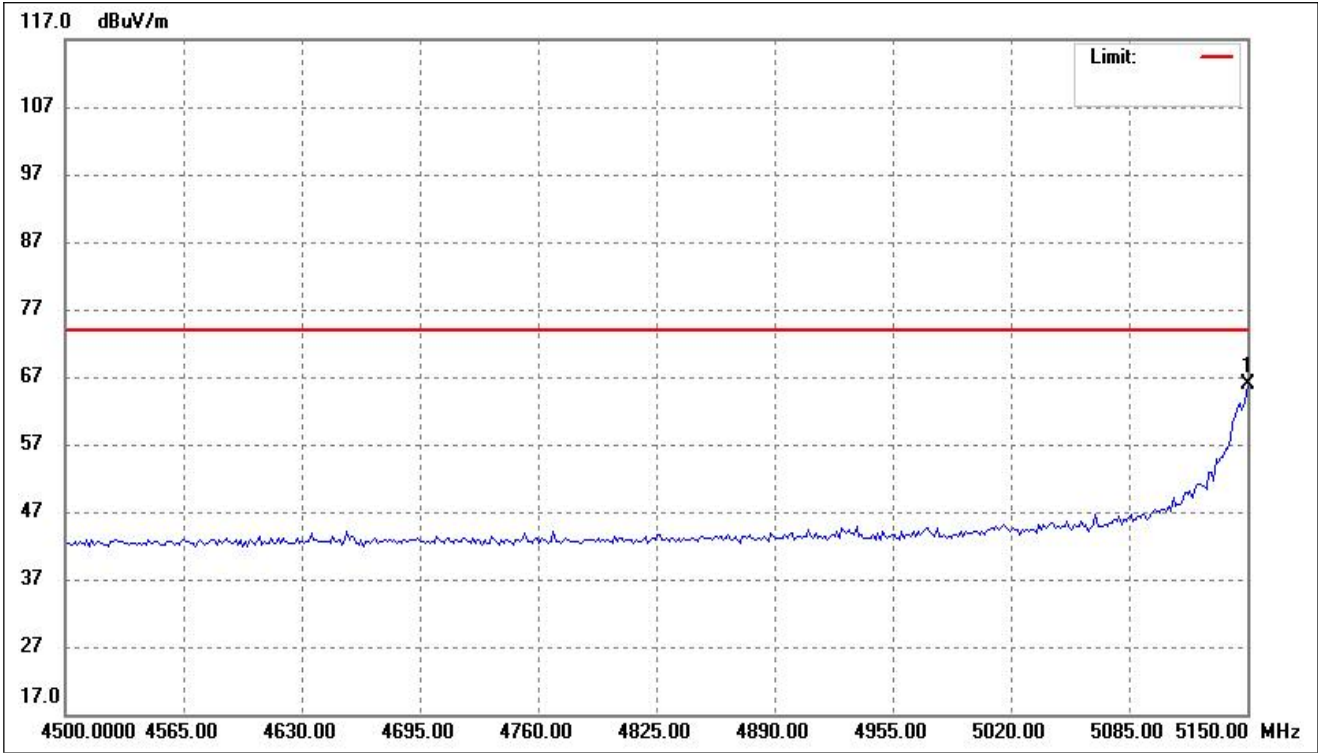


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.1080	28.74	-7.59	21.15	40.00	-18.85	-	-	peak
2	88.5336	37.39	-12.58	24.81	43.50	-18.69	-	-	peak
3	136.8747	32.67	-9.03	23.64	43.50	-19.86	-	-	peak
4	180.0304	38.39	-9.74	28.65	43.50	-14.85	-	-	peak
5	315.8601	39.92	-7.52	32.40	46.00	-13.60	-	-	peak
6	698.8035	29.27	-1.11	28.16	46.00	-17.84	-	-	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.

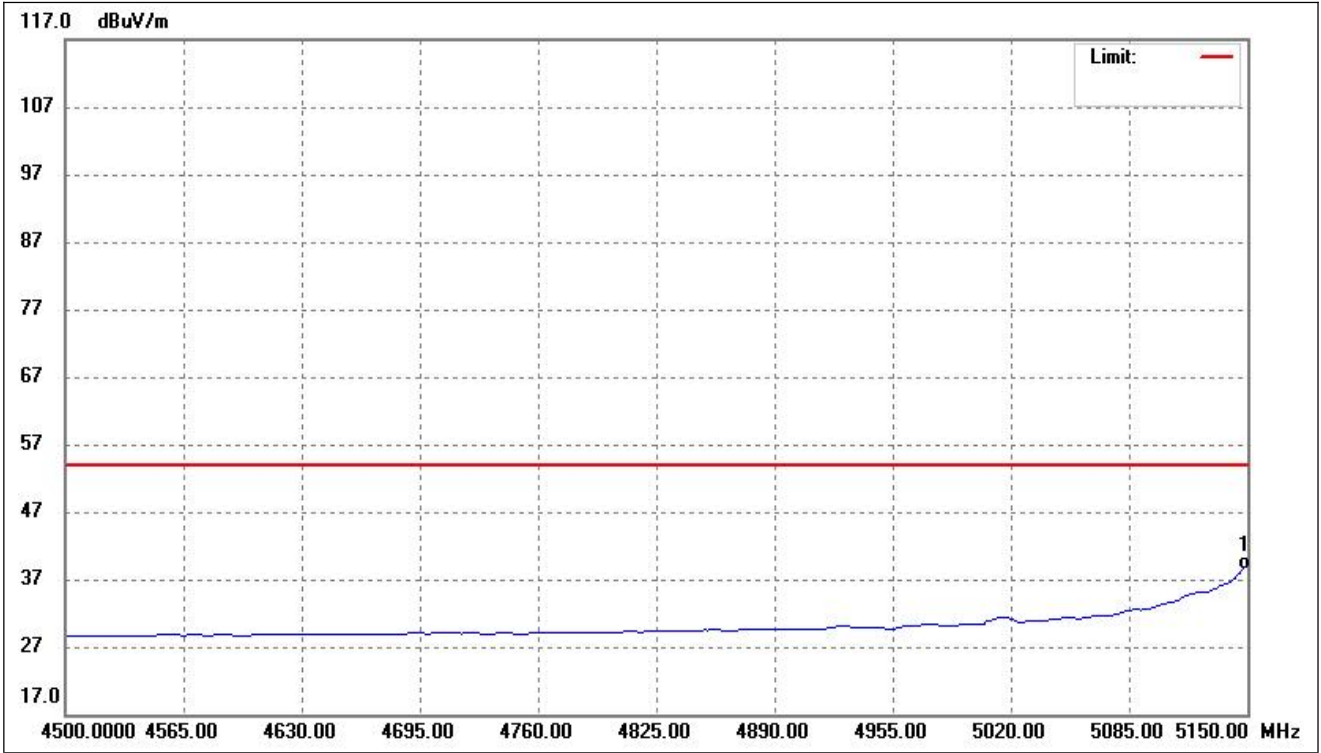
➤ Spurious Emission above 1GHz

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



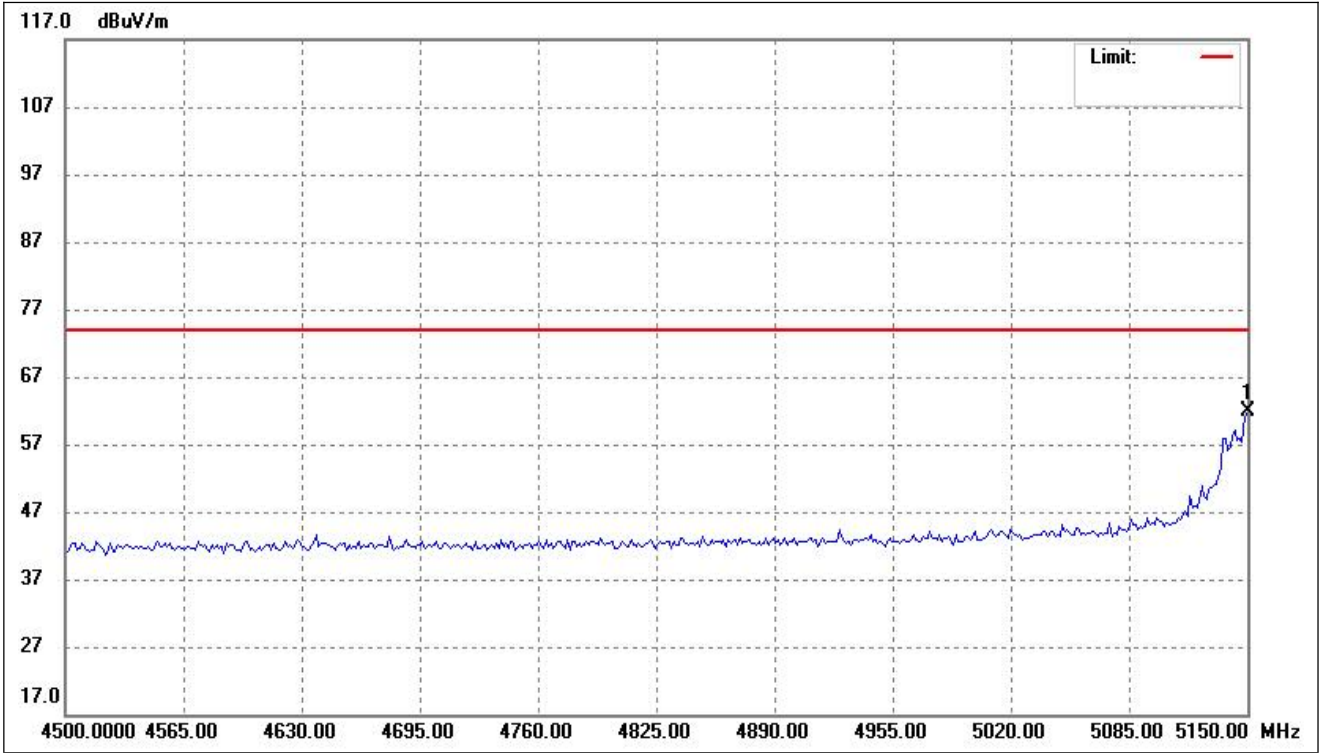
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	78.46	-12.53	65.93	74.00	-8.07	-	-	peak

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



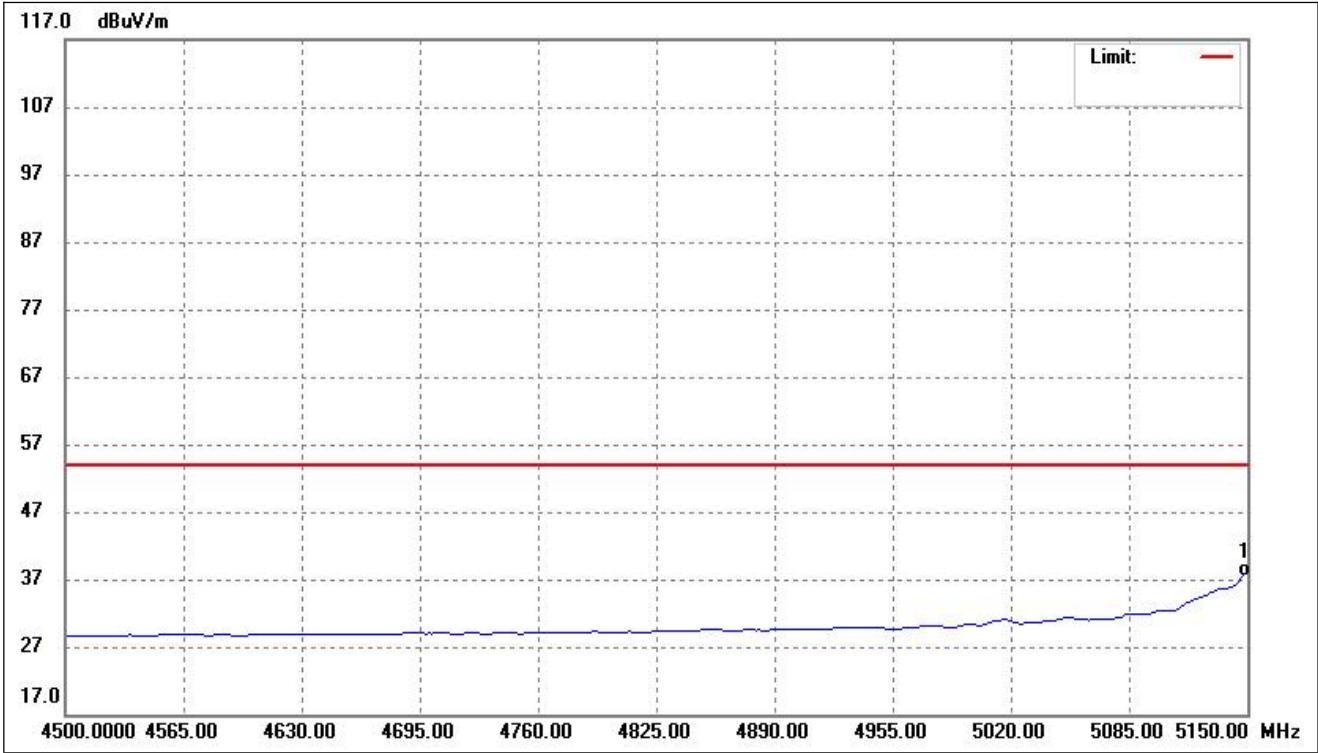
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	52.01	-12.53	39.48	54.00	-14.52	-	-	AVG

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



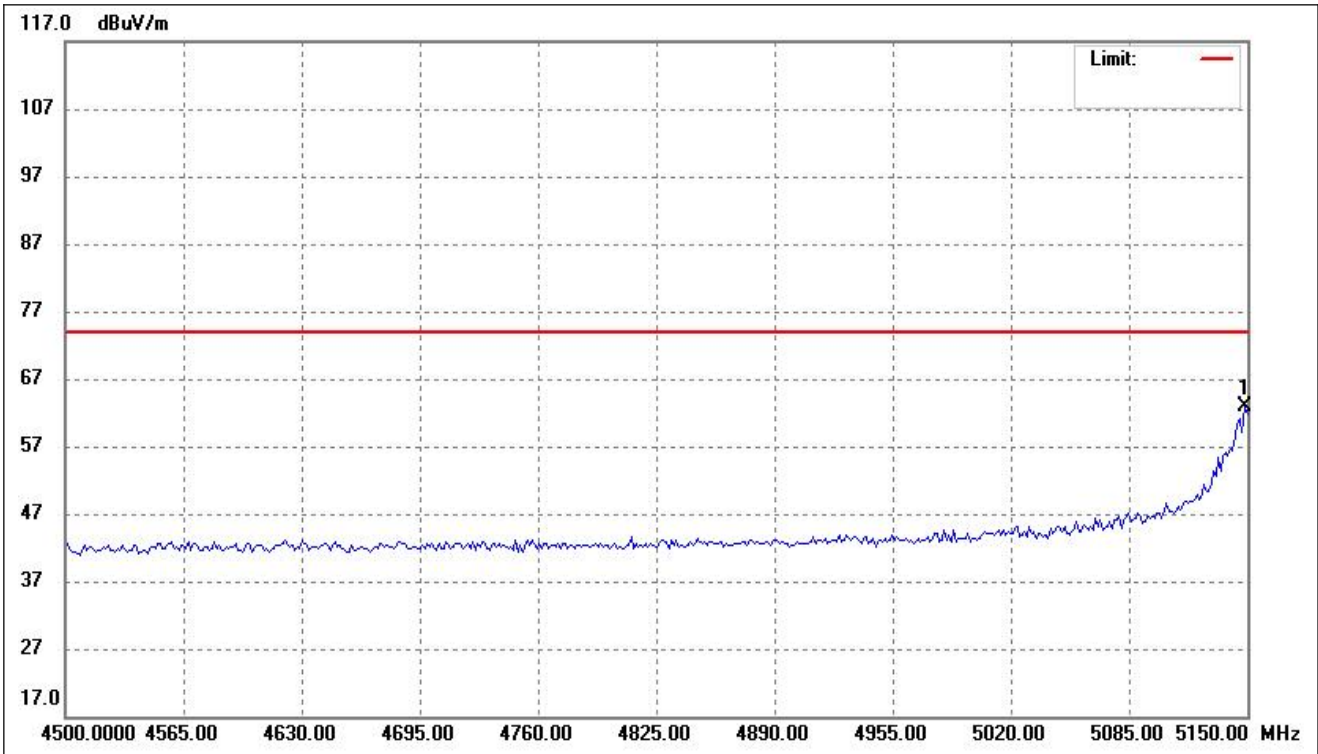
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	74.38	-12.53	61.85	74.00	-12.15	-	-	peak

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



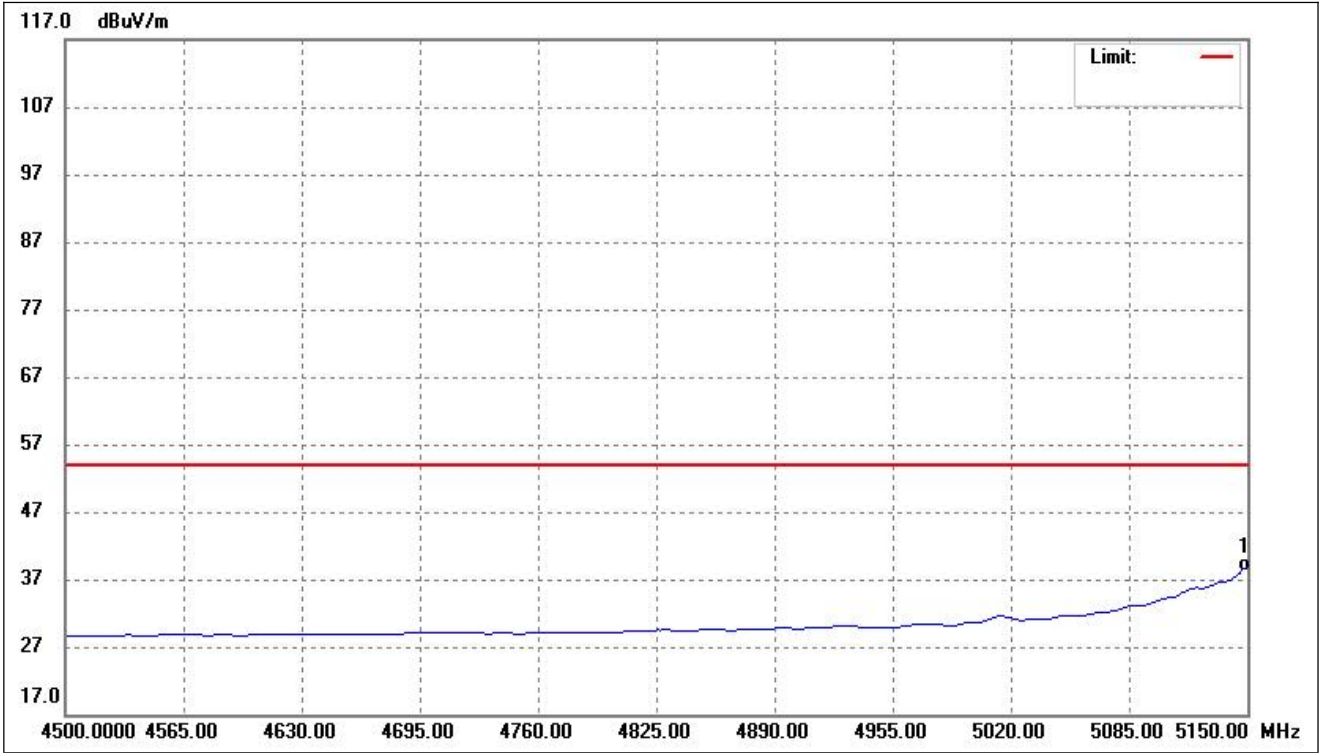
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	50.88	-12.53	38.35	54.00	-15.65	-	-	AVG

802.11ac-VHT20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Horizontal(worst case)



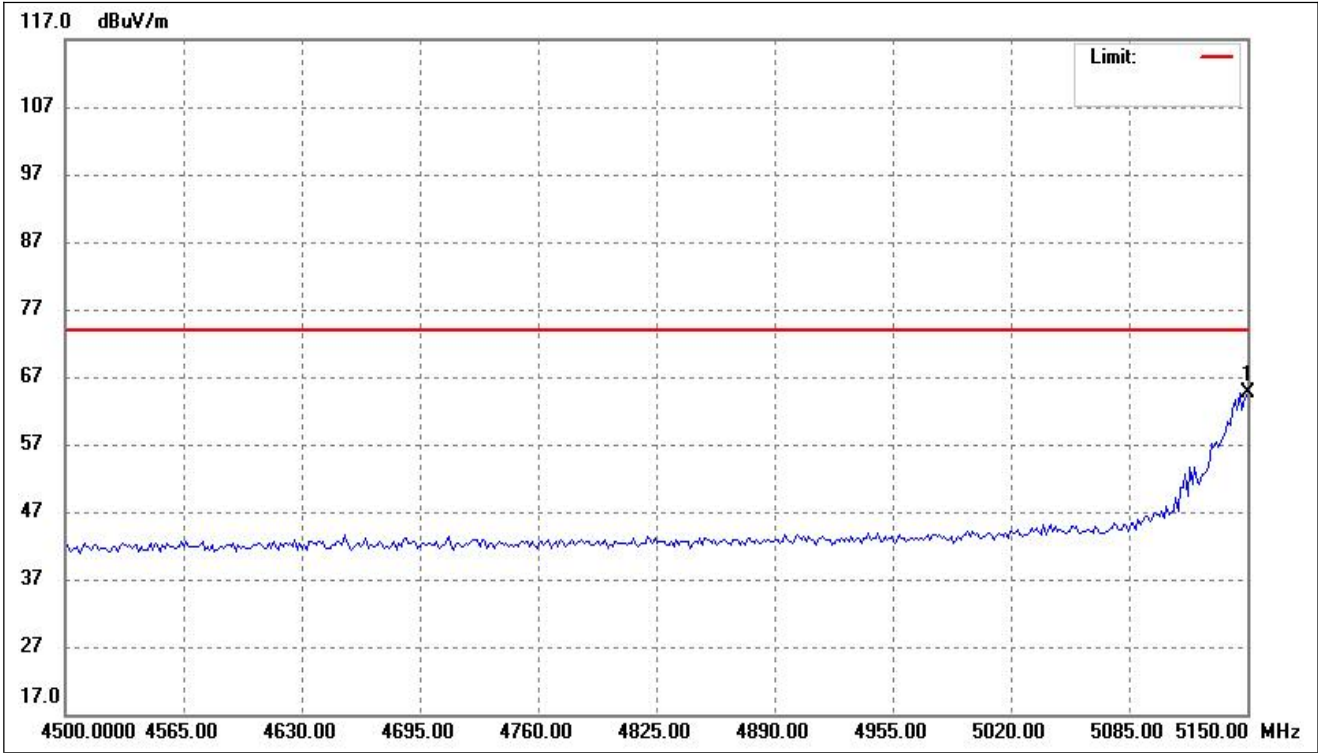
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5148.697	75.41	-12.53	62.88	74.00	-11.12	-	-	peak

802.11ac-VHT20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Horizontal(worst case)



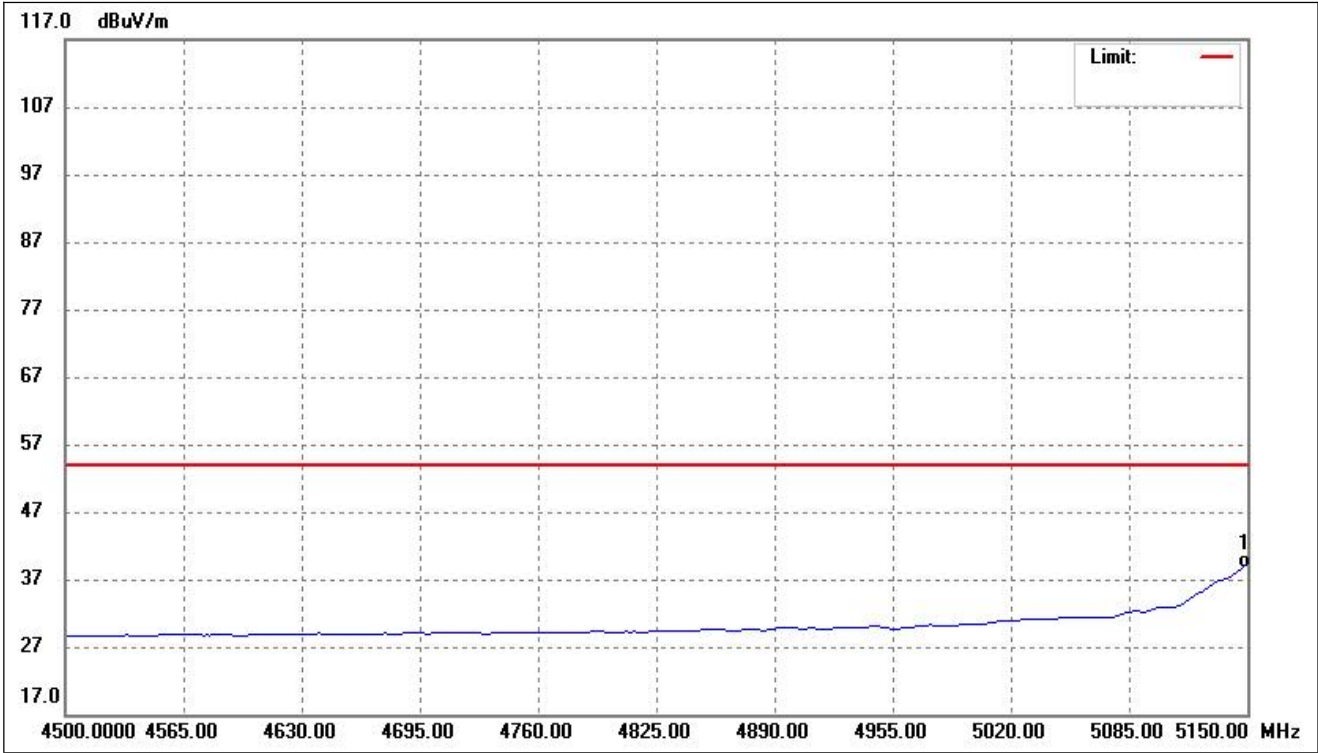
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	51.64	-12.53	39.11	54.00	-14.89	-	-	AVG

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



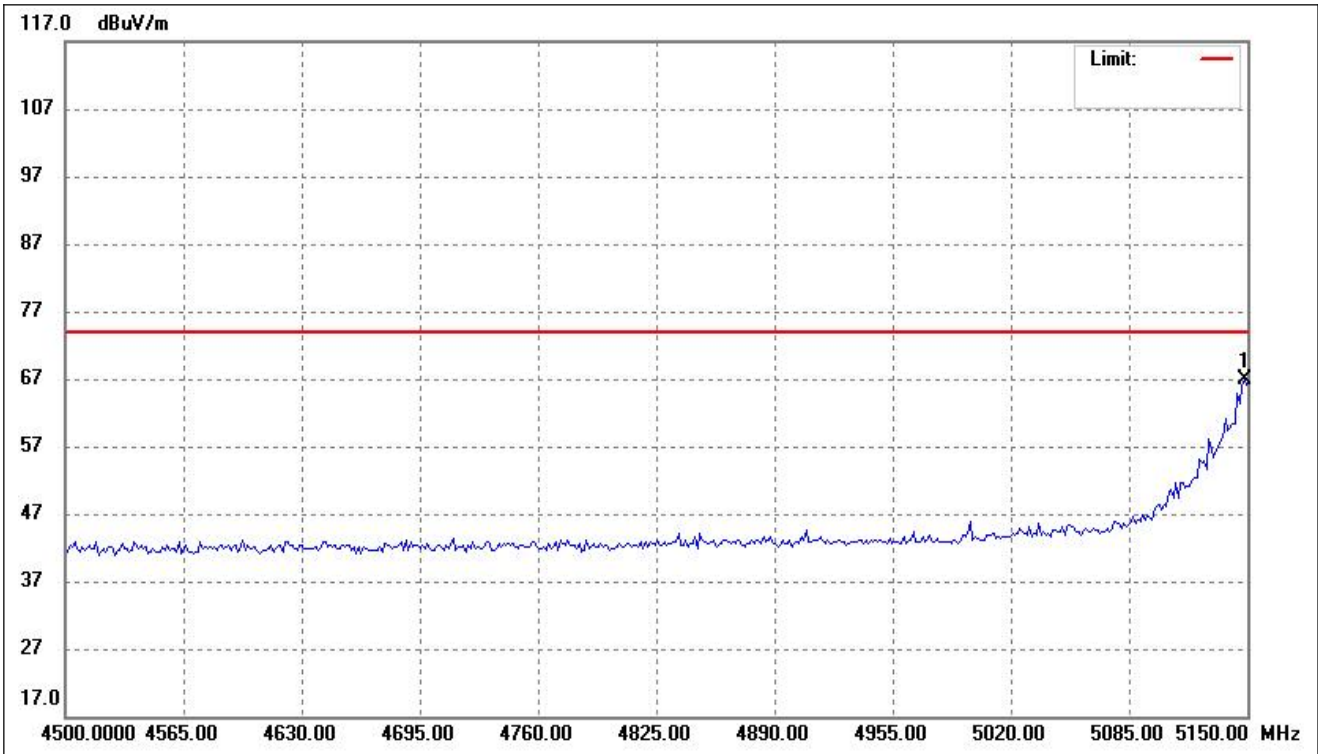
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	77.11	-12.53	64.58	74.00	-9.42	-	-	peak

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



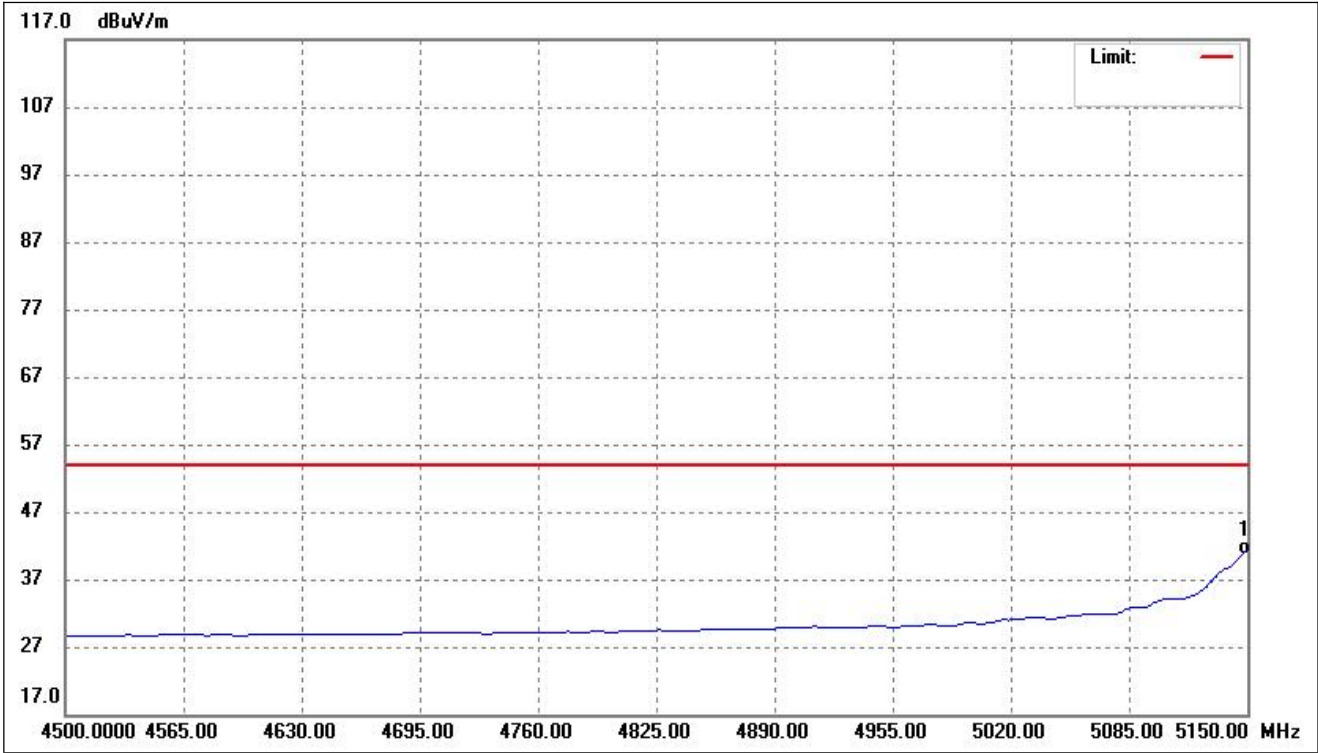
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	52.16	-12.53	39.63	54.00	-14.37	-	-	AVG

802.11ac-VHT40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Horizontal(worst case)



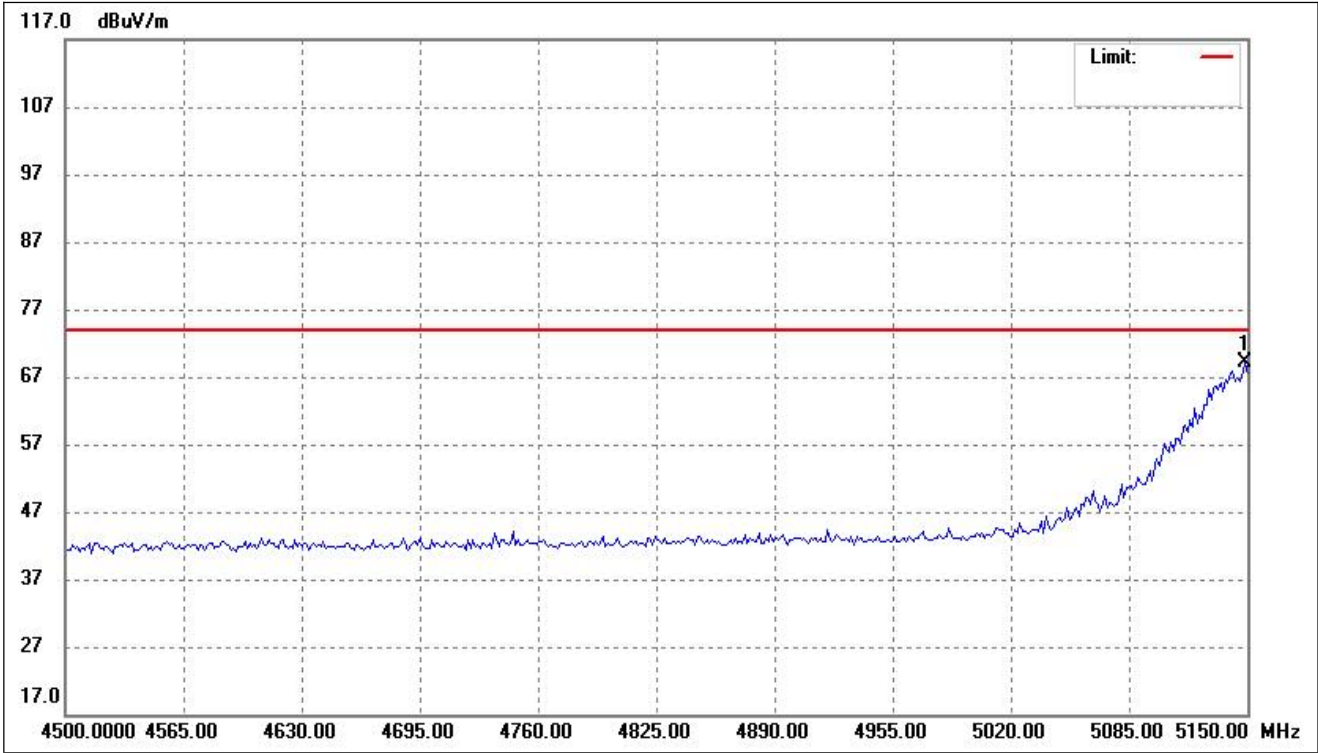
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5148.697	79.36	-12.53	66.83	74.00	-7.17	-	-	peak

802.11ac-VHT40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Horizontal(worst case)



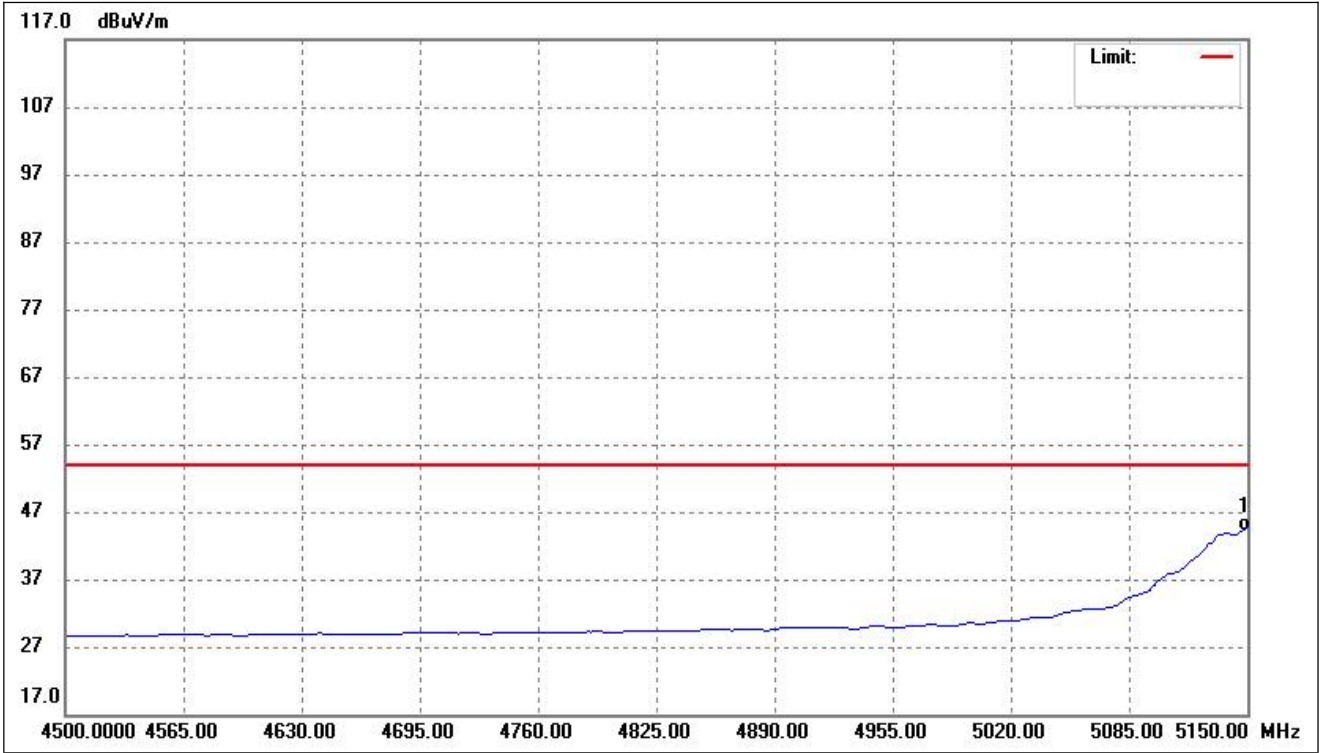
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	54.08	-12.53	41.55	54.00	-12.45	-	-	AVG

802.11ac-VHT80- 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	5148.697	81.72	-12.53	69.19	74.00	-4.81	-	-	peak

802.11ac-VHT80- 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	57.54	-12.53	45.01	54.00	-8.99	-	-	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, 5.725-5.850GHz (802.11a)
- Harmonics And Spurious Emissions

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5180MHz)							
10360	55.10	7.11	62.21	74	-11.79	H	PK
10360	40.29	7.11	47.40	54	-6.60	H	AV
10360	58.15	7.11	65.26	74	-8.74	V	PK
10360	39.91	7.11	47.02	54	-6.98	V	AV
Middle Channel (5200MHz)							
10400	55.12	7.22	62.34	74	-11.66	H	PK
10400	41.07	7.22	48.29	54	-5.71	H	AV
10400	55.83	7.22	63.05	74	-10.95	V	PK
10400	41.82	7.22	49.04	54	-4.96	V	AV
High Channel (5240MHz)							
10480	58.01	7.69	65.70	74	-8.30	H	PK
10480	41.25	7.69	48.94	54	-5.06	H	AV
10480	56.33	7.69	64.02	74	-9.98	V	PK
10480	38.56	7.69	46.25	54	-7.75	V	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5260MHz)							
10520	55.99	7.96	63.95	74	-10.05	H	PK
10520	41.76	7.96	49.72	54	-4.28	H	AV
10520	55.48	7.96	63.44	74	-10.56	V	PK
10520	39.48	7.96	47.44	54	-6.56	V	AV
Middle Channel (5280MHz)							
10560	55.17	8.02	63.19	74	-10.81	H	PK
10560	40.77	8.02	48.79	54	-5.21	H	AV
10560	55.14	8.02	63.16	74	-10.84	V	PK
10560	40.68	8.02	48.70	54	-5.30	V	AV
High Channel (5320MHz)							
10640	57.89	8.35	66.24	74	-7.76	H	PK
10640	39.25	8.35	47.60	54	-6.40	H	AV
10640	57.60	8.35	65.95	74	-8.05	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 (5745MHz)							
11490	57.03	9.45	66.48	74	-7.52	H	PK
11490	38.50	9.45	47.95	54	-6.05	H	AV
11490	57.00	9.45	66.45	74	-7.55	V	PK
11490	39.48	9.45	48.93	54	-5.07	V	AV
Middle Channel (5785MHz)							
11570	58.12	9.62	67.74	74	-6.26	H	PK
11570	38.30	9.62	47.92	54	-6.08	H	AV
11570	55.77	9.62	65.39	74	-8.61	V	PK
11570	38.72	9.62	48.34	54	-5.66	V	AV
High Channel (5825MHz)							
11650	57.81	9.84	67.65	74	-6.35	H	PK
11650	38.92	9.84	48.76	54	-5.24	H	AV
11650	57.59	9.84	67.43	74	-6.57	V	PK
11650	39.23	9.84	49.07	54	-4.93	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-43.82	-27
Highest	Above 5350	-42.71	-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	-42.65	-27
Highest	Above 5350	-41.71	-27
Note: the data just list the worst cases			

➤ Out of Band edge for 5725-5850MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5650	-46.63	-27
	5650 to 5700	-33.26	-27 to -17
	5700 to 5720	-27.74	-17 to 15.6
	5720 to 5725	-17.39	15.6 to 27
Highest	5850 to 5855	-14.25	27 to 15.6
	5855 to 5875	-21.12	15.6 to -17
	5875 to 5925	-33.71	-17 to -27
	Above 5925	-38.63	-27
Note: the data just list the worst cases			

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

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5180MHz)							
10360	56.57	7.11	63.68	74	-10.32	H	PK
10360	41.18	7.11	48.29	54	-5.71	H	AV
10360	57.25	7.11	64.36	74	-9.64	V	PK
10360	39.57	7.11	46.68	54	-7.32	V	AV
Middle Channel (5200MHz)							
10400	58.33	7.22	65.55	74	-8.45	H	PK
10400	40.16	7.22	47.38	54	-6.62	H	AV
10400	57.66	7.22	64.88	74	-9.12	V	PK
10400	41.08	7.22	48.30	54	-5.70	V	AV
High Channel (5240MHz)							
10480	57.97	7.69	65.66	74	-8.34	H	PK
10480	41.97	7.69	49.66	54	-4.34	H	AV
10480	58.51	7.69	66.20	74	-7.80	V	PK
10480	38.67	7.69	46.36	54	-7.64	V	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5260MHz)							
10520	56.70	7.96	64.66	74	-9.34	H	PK
10520	40.87	7.96	48.83	54	-5.17	H	AV
10520	58.76	7.96	66.72	74	-7.28	V	PK
10520	40.89	7.96	48.85	54	-5.15	V	AV
Middle Channel (5280MHz)							
10560	57.57	8.02	65.59	74	-8.41	H	PK
10560	38.23	8.02	46.25	54	-7.75	H	AV
10560	58.01	8.02	66.03	74	-7.97	V	PK
10560	39.70	8.02	47.72	54	-6.28	V	AV
High Channel (5320MHz)							
10640	57.36	8.35	65.71	74	-8.29	H	PK
10640	41.77	8.35	50.12	54	-3.88	H	AV
10640	58.57	8.35	66.92	74	-7.08	V	PK
10640	38.97	8.35	47.32	54	-6.68	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	55.58	9.45	65.03	74	-8.97	H	PK
11490	38.62	9.45	48.07	54	-5.93	H	AV
11490	55.21	9.45	64.66	74	-9.34	V	PK
11490	40.88	9.45	50.33	54	-3.67	V	AV
Middle Channel (5785MHz)							
11570	58.30	9.62	67.92	74	-6.08	H	PK
11570	38.23	9.62	47.85	54	-6.15	H	AV
11570	55.51	9.62	65.13	74	-8.87	V	PK
11570	39.41	9.62	49.03	54	-4.97	V	AV
High Channel (5825MHz)							
11650	57.31	9.84	67.15	74	-6.85	H	PK
11650	41.04	9.84	50.88	54	-3.12	H	AV
11650	55.11	9.84	64.95	74	-9.05	V	PK
11650	39.88	9.84	49.72	54	-4.28	V	AV

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-42.72	-27
Highest	Above 5350	-40.63	-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	-41.19	-27
Highest	Above 5350	-42.24	-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 5650	-46.73	-27
	5650 to 5700	-33.59	-27 to -17
	5700 to 5720	-27.16	-17 to 15.6
	5720 to 5725	-17.24	15.6 to 27
Highest	5850 to 5855	-14.71	27 to 15.6
	5855 to 5875	-21.30	15.6 to -17
	5875 to 5925	-33.70	-17 to -27
	Above 5925	-38.25	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.725-5.850GHz (802.11ac-VHT20)
- Harmonics And Spurious Emissions

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5180MHz)							
10360	55.45	7.11	62.56	74	-11.44	H	PK
10360	38.36	7.11	45.47	54	-8.53	H	AV
10360	55.70	7.11	62.81	74	-11.19	V	PK
10360	41.97	7.11	49.08	54	-4.92	V	AV
Middle Channel (5200MHz)							
10400	58.53	7.22	65.75	74	-8.25	H	PK
10400	38.62	7.22	45.84	54	-8.16	H	AV
10400	57.46	7.22	64.68	74	-9.32	V	PK
10400	39.43	7.22	46.65	54	-7.35	V	AV
High Channel (5240MHz)							
10480	57.80	7.69	65.49	74	-8.51	H	PK
10480	38.89	7.69	46.58	54	-7.42	H	AV
10480	55.18	7.69	62.87	74	-11.13	V	PK
10480	41.92	7.69	49.61	54	-4.39	V	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5260MHz)							
10520	57.54	7.96	65.50	74	-8.50	H	PK
10520	38.00	7.96	45.96	54	-8.04	H	AV
10520	55.73	7.96	63.69	74	-10.31	V	PK
10520	40.39	7.96	48.35	54	-5.65	V	AV
Middle Channel (5280MHz)							
10560	56.94	8.02	64.96	74	-9.04	H	PK
10560	41.77	8.02	49.79	54	-4.21	H	AV
10560	56.74	8.02	64.76	74	-9.24	V	PK
10560	39.73	8.02	47.75	54	-6.25	V	AV
High Channel (5320MHz)							
10640	58.08	8.35	66.43	74	-7.57	H	PK
10640	39.19	8.35	47.54	54	-6.46	H	AV
10640	58.60	8.35	66.95	74	-7.05	V	PK
10640	40.38	8.35	48.73	54	-5.27	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	56.97	9.45	66.42	74	-7.58	H	PK
11490	41.16	9.45	50.61	54	-3.39	H	AV
11490	56.38	9.45	65.83	74	-8.17	V	PK
11490	40.69	9.45	50.14	54	-3.86	V	AV
Middle Channel (5785MHz)							
11570	57.98	9.62	67.60	74	-6.40	H	PK
11570	41.63	9.62	51.25	54	-2.75	H	AV
11570	55.16	9.62	64.78	74	-9.22	V	PK
11570	38.98	9.62	48.60	54	-5.40	V	AV
High Channel (5825MHz)							
11650	55.61	9.84	65.45	74	-8.55	H	PK
11650	39.37	9.84	49.21	54	-4.79	H	AV
11650	57.41	9.84	67.25	74	-6.75	V	PK
11650	41.93	9.84	51.77	54	-2.23	V	AV

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-40.27	-27
Highest	Above 5350	-41.35	-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	-41.61	-27
Highest	Above 5350	-42.29	-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	-41.31	-27
	5715 to 5725	-37.50	-17
Highest	5850 to 5860	-47.86	-17
	Above 5860	-48.27	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 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	55.44	7.89	63.33	74	-10.67	H	PK
10380	41.12	7.89	49.01	54	-4.99	H	AV
10380	56.53	7.89	64.42	74	-9.58	V	PK
10380	40.99	7.89	48.88	54	-5.12	V	AV
High Channel (5230MHz)							
10460	55.38	7.97	63.35	74	-10.65	H	PK
10460	41.73	7.97	49.70	54	-4.30	H	AV
10460	58.41	7.97	66.38	74	-7.62	V	PK
10460	40.30	7.97	48.27	54	-5.73	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	56.64	8.16	64.80	74	-9.20	H	PK
10540	41.36	8.16	49.52	54	-4.48	H	AV
10540	56.16	8.16	64.32	74	-9.68	V	PK
10540	38.00	8.16	46.16	54	-7.84	V	AV
High Channel (5310MHz)							
10620	56.62	8.57	65.19	74	-8.81	H	PK
10620	39.01	8.57	47.58	54	-6.42	H	AV
10620	58.66	8.57	67.23	74	-6.77	V	PK
10620	38.82	8.57	47.39	54	-6.61	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	56.78	9.45	66.23	74	-7.77	H	PK
11510	39.26	9.45	48.71	54	-5.29	H	AV
11510	56.49	9.45	65.94	74	-8.06	V	PK
11510	39.39	9.45	48.84	54	-5.16	V	AV
High Channel (5795MHz)							
11590	55.37	9.27	64.64	74	-9.36	H	PK
11590	39.83	9.27	49.10	54	-4.90	H	AV
11590	57.81	9.27	67.08	74	-6.92	V	PK
11590	38.05	9.27	47.32	54	-6.68	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-39.24	-27
Highest	Above 5350	-38.71	-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	-37.35	-27
Highest	Above 5350	-38.48	-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 5650	-46.32	-27
	5650 to 5700	-33.71	-27 to -17
	5700 to 5720	-27.25	-17 to 15.6
	5720 to 5725	-17.60	15.6 to 27
Highest	5850 to 5855	-14.31	27 to 15.6
	5855 to 5875	-21.24	15.6 to -17
	5875 to 5925	-33.76	-17 to -27
	Above 5925	-38.39	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.725-5.850GHz (802.11ac-VHT40)
- 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	56.37	7.89	64.26	74	-9.74	H	PK
10380	41.12	7.89	49.01	54	-4.99	H	AV
10380	56.45	7.89	64.34	74	-9.66	V	PK
10380	41.97	7.89	49.86	54	-4.14	V	AV
High Channel (5230MHz)							
10460	56.23	7.97	64.20	74	-9.80	H	PK
10460	39.52	7.97	47.49	54	-6.51	H	AV
10460	56.84	7.97	64.81	74	-9.19	V	PK
10460	38.49	7.97	46.46	54	-7.54	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	58.64	8.16	66.80	74	-7.20	H	PK
10540	40.81	8.16	48.97	54	-5.03	H	AV
10540	56.84	8.16	65.00	74	-9.00	V	PK
10540	41.58	8.16	49.74	54	-4.26	V	AV
High Channel (5310MHz)							
10620	58.57	8.57	67.14	74	-6.86	H	PK
10620	39.33	8.57	47.90	54	-6.10	H	AV
10620	56.39	8.57	64.96	74	-9.04	V	PK
10620	41.21	8.57	49.78	54	-4.22	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	56.40	9.45	65.85	74	-8.15	H	PK
11510	38.70	9.45	48.15	54	-5.85	H	AV
11510	57.79	9.45	67.24	74	-6.76	V	PK
11510	38.72	9.45	48.17	54	-5.83	V	AV
High Channel (5795MHz)							
11590	58.80	9.27	68.07	74	-5.93	H	PK
11590	38.20	9.27	47.47	54	-6.53	H	AV
11590	58.49	9.27	67.76	74	-6.24	V	PK
11590	40.81	9.27	50.08	54	-3.92	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-39.63	-27
Highest	Above 5350	-38.24	-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	-37.73	-27
Highest	Above 5350	-38.51	-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 5650	-46.74	-27
	5650 to 5700	-33.29	-27 to -17
	5700 to 5720	-27.51	-17 to 15.6
	5720 to 5725	-17.74	15.6 to 27
Highest	5850 to 5855	-14.64	27 to 15.6
	5855 to 5875	-21.63	15.6 to -17
	5875 to 5925	-33.29	-17 to -27
	Above 5925	-38.71	-27
Note: the data just list the worst cases			

- For the frequency band 5.15-5.25GHz, 5.250-5.350GHz, 5.725-5.850GHz (802.11ac-VHT80)
- Harmonics And Spurious Emissions

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
5210MHz							
10420	58.89	7.53	66.42	74	-7.58	H	PK
10420	38.42	7.53	45.95	54	-8.05	H	AV
10420	55.74	7.53	63.27	74	-10.73	H	PK
10420	38.92	7.53	46.45	54	-7.55	H	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
5290MHz							
10580	56.71	7.95	64.66	74	-9.34	H	PK
10580	39.37	7.95	47.32	54	-6.68	H	AV
10580	58.15	7.95	66.10	74	-7.90	V	PK
10580	40.32	7.95	48.27	54	-5.73	V	AV

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
5775MHz							
11550	55.27	9.93	65.20	74	-8.80	H	PK
11550	41.86	9.93	51.79	54	-2.21	H	AV
11550	55.17	9.93	65.10	74	-8.90	V	PK
11550	41.50	9.93	51.43	54	-2.57	V	AV

- Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-37.29	-27
Highest	Above 5350	-36.39	-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	-38.15	-27
Highest	Above 5350	-36.48	-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 5650	-46.73	-27
	5650 to 5700	-33.19	-27 to -17
	5700 to 5720	-27.52	-17 to 15.6
	5720 to 5725	-17.34	15.6 to 27
Highest	5850 to 5855	-14.20	27 to 15.6
	5855 to 5875	-21.65	15.6 to -17
	5875 to 5925	-33.30	-17 to -27
	Above 5925	-38.21	-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

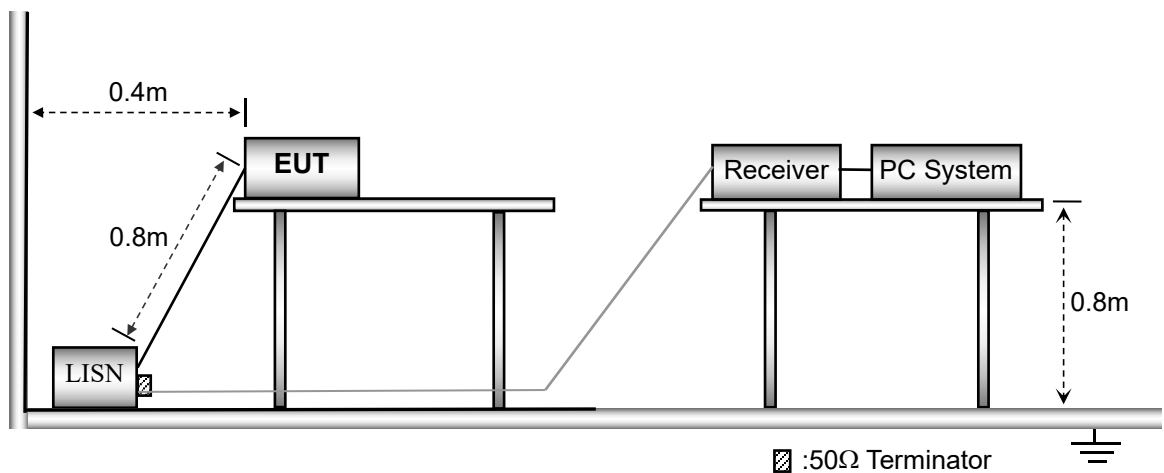
10. Conducted Emissions

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



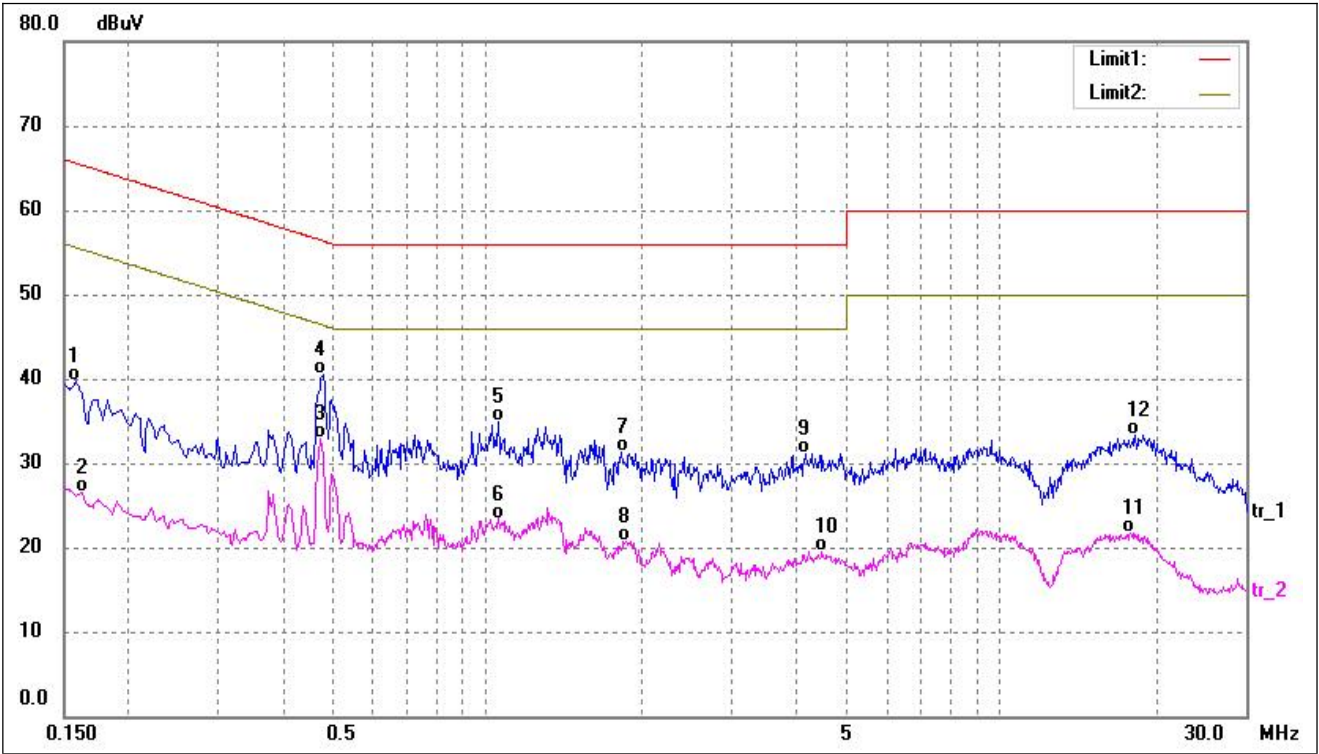
10.3 Test Receiver Setup

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

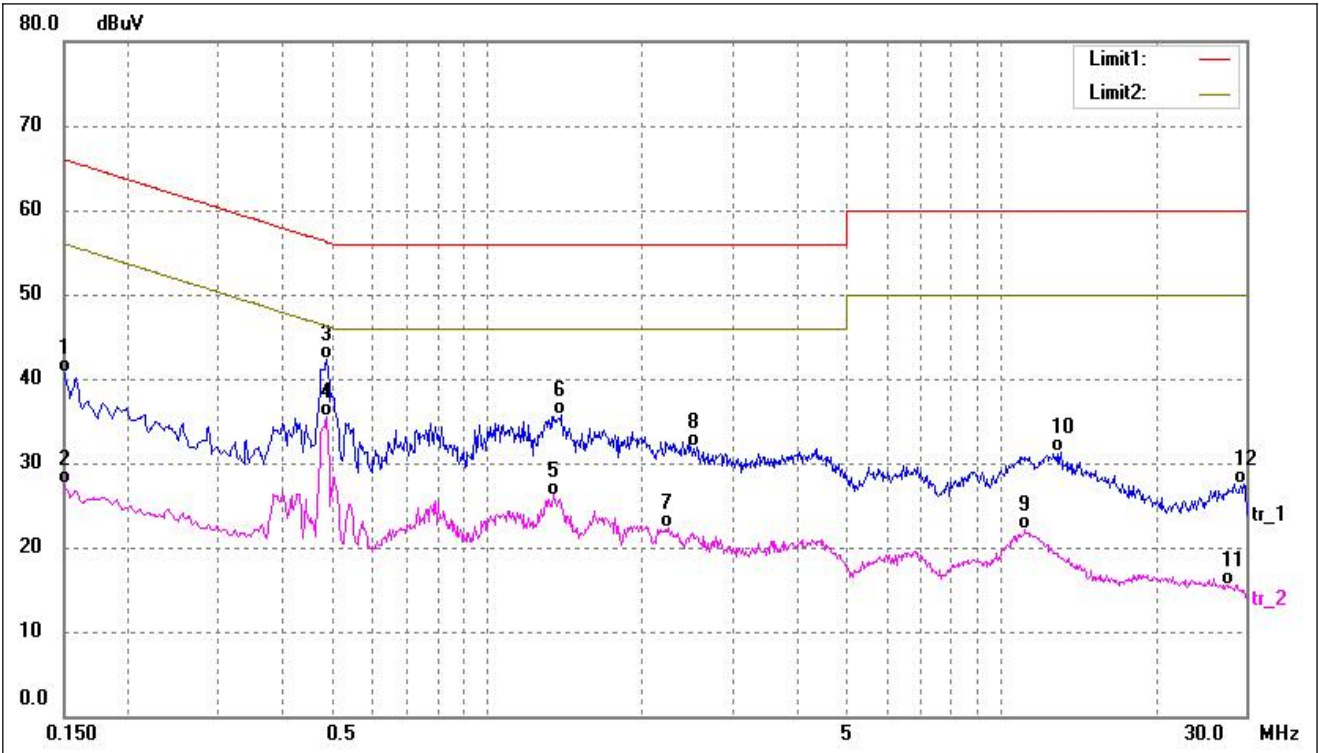
10.4 Summary of Test Results/Plots

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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	30.01	9.73	39.74	65.56	-25.82	QP
2	0.1620	16.79	9.71	26.50	55.36	-28.86	AVG
3*	0.4740	23.15	9.73	32.88	46.44	-13.56	AVG
4	0.4780	30.72	9.73	40.45	56.37	-15.92	QP
5	1.0540	25.18	9.67	34.85	56.00	-21.15	QP
6	1.0540	13.73	9.67	23.40	46.00	-22.60	AVG
7	1.8220	21.59	9.63	31.22	56.00	-24.78	QP
8	1.8620	11.15	9.63	20.78	46.00	-25.22	AVG
9	4.1660	21.50	9.67	31.17	56.00	-24.83	QP
10	4.4860	9.87	9.68	19.55	46.00	-26.45	AVG
11	17.9260	11.52	10.13	21.65	50.00	-28.35	AVG
12	18.2340	23.18	10.15	33.33	60.00	-26.67	QP

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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	31.00	9.76	40.76	65.99	-25.23	QP
2	0.1500	17.82	9.76	27.58	55.99	-28.41	AVG
3	0.4860	32.65	9.73	42.38	56.24	-13.86	QP
4*	0.4860	25.86	9.73	35.59	46.24	-10.65	AVG
5	1.3500	16.55	9.65	26.20	46.00	-19.80	AVG
6	1.3980	26.01	9.65	35.66	56.00	-20.34	QP
7	2.2500	12.65	9.62	22.27	46.00	-23.73	AVG
8	2.5579	22.19	9.62	31.81	56.00	-24.19	QP
9	11.1420	12.17	9.90	22.07	50.00	-27.93	AVG
10	13.0659	21.34	9.94	31.28	60.00	-28.72	QP
11	27.6500	5.53	10.07	15.60	50.00	-34.40	AVG
12	29.7980	17.47	10.02	27.49	60.00	-32.51	QP

APPENDIX SUMMARY

Project No.	WTF24X12284669W	Test Engineer	Timi Huang
Start date	2024/12/19	Finish date	2024/12/19
Temperature	24℃	Humidity	56%
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

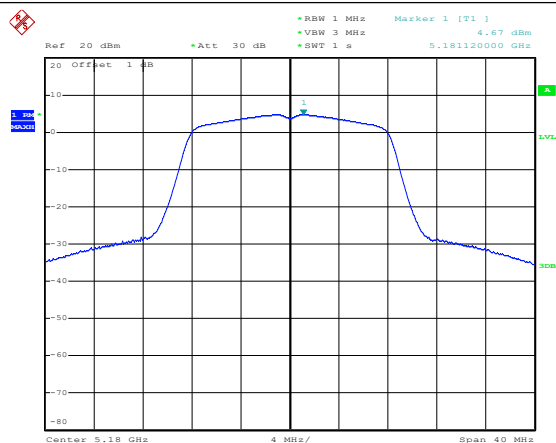
APPENDIX A

Power Spectral Density			
U-NII-1:5150-5250MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5180	4.67	11
	5200	4.73	11
	5240	5.09	11
802.11n-HT20	5180	3.35	11
	5200	3.26	11
	5240	4.00	11
802.11n-HT40	5190	-0.60	11
	5230	-0.12	11
802.11ac-VHT20	5180	3.59	11
	5200	3.40	11
	5240	3.55	11
802.11ac-VHT40	5190	-0.34	11
	5230	-0.43	11
802.11ac-VHT80	5210	-4.75	11

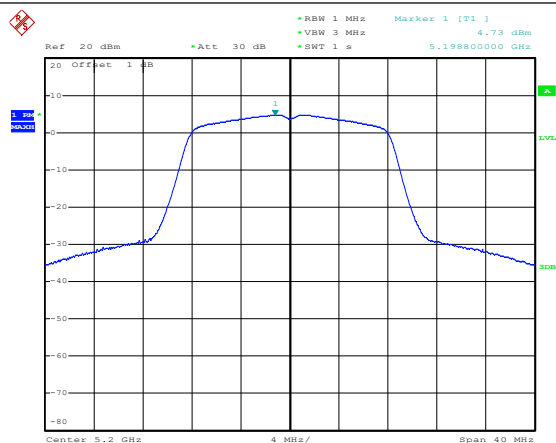
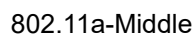
U-NII-2A: 5250-5350MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5260	4.35	11
	5280	4.80	11
	5320	4.37	11
802.11n-HT20	5260	3.60	11
	5280	3.99	11
	5320	3.53	11
802.11n-HT40	5270	-0.08	11
	5310	-0.02	11
802.11ac-VHT20	5260	3.50	11
	5280	3.98	11
	5320	3.88	11
802.11ac-VHT40	5270	-0.03	11
	5310	-0.30	11
802.11ac-VHT80	5290	-3.94	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	-0.01	2.22	2.21	30
	5785	0.13	2.22	2.35	30
	5825	0.45	2.22	2.67	30
802.11n-HT20	5745	-1.37	2.22	0.85	30
	5785	-1.32	2.22	0.90	30
	5825	-0.88	2.22	1.34	30
802.11n HT40	5755	-5.49	2.22	-3.27	30
	5795	-5.27	2.22	-3.05	30
802.11ac VHT20	5745	-1.25	2.22	0.97	30
	5785	-1.22	2.22	1.00	30
	5825	-0.88	2.22	1.34	30
802.11ac VHT40	5755	-5.46	2.22	-3.24	30
	5795	-5.42	2.22	-3.20	30
802.11ac VHT80	5775	-9.88	2.22	-7.66	30
*Note: Maximum PSD=PSD(dBm/300kHz)+10log(500kHz/300kHz)=2.22					

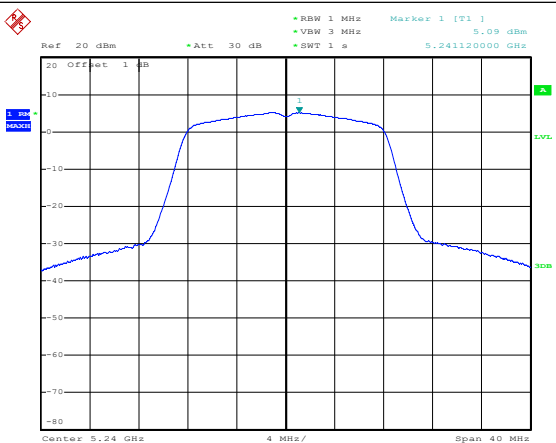
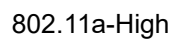
5150-5250MHz



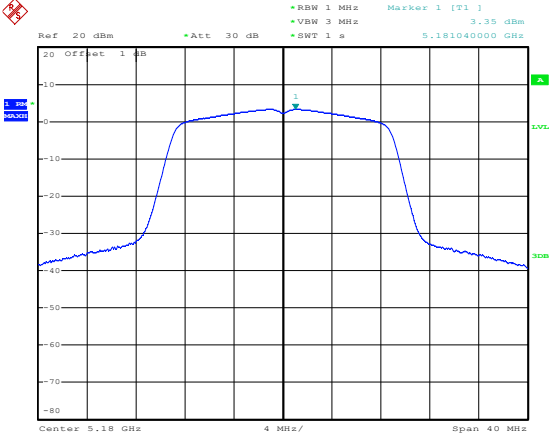
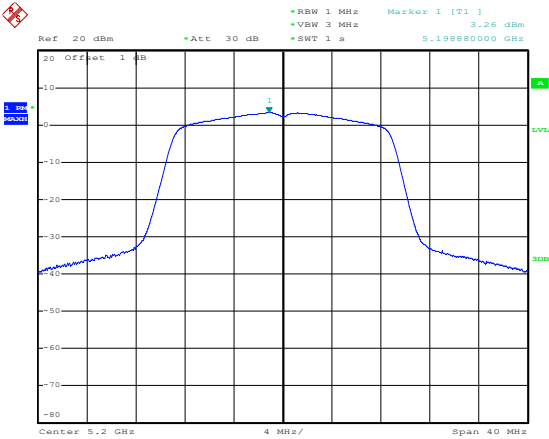
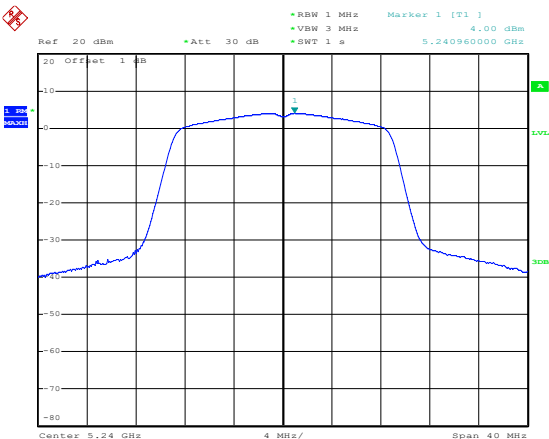
Date: 19.DEC.2024 09:28:46

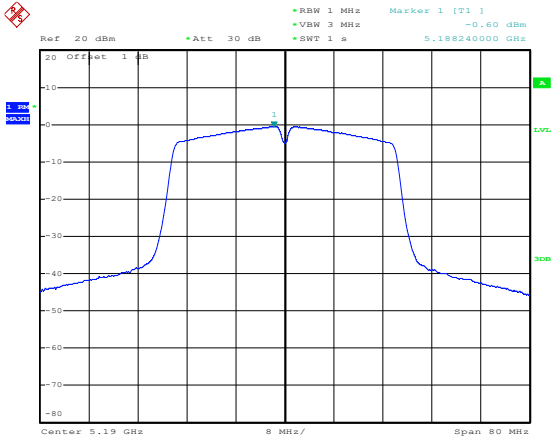
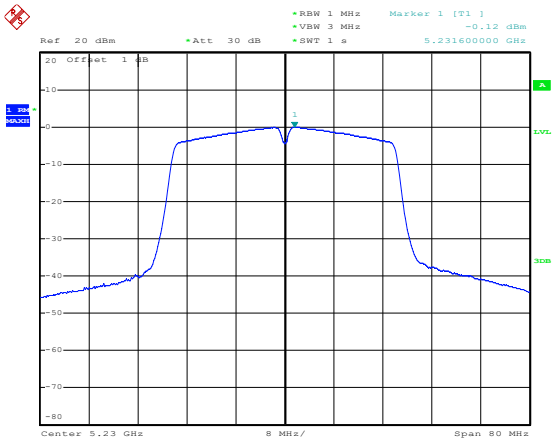
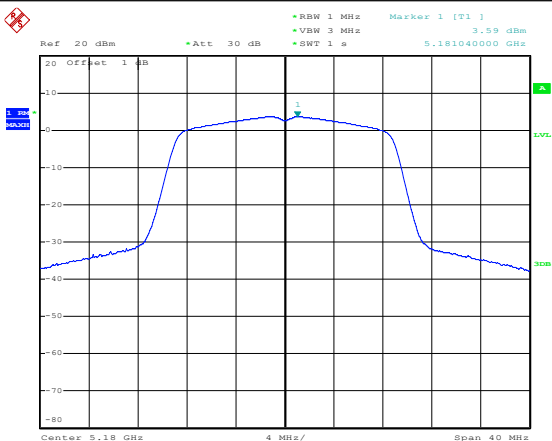


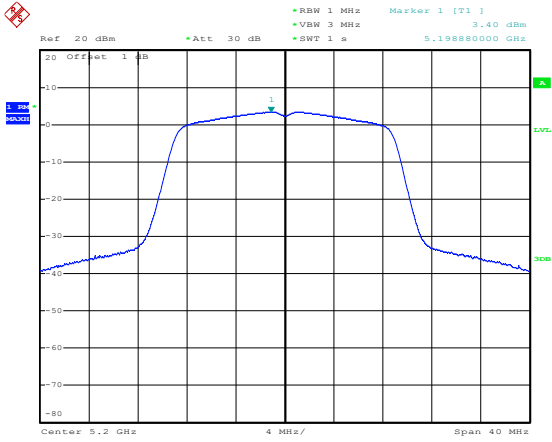
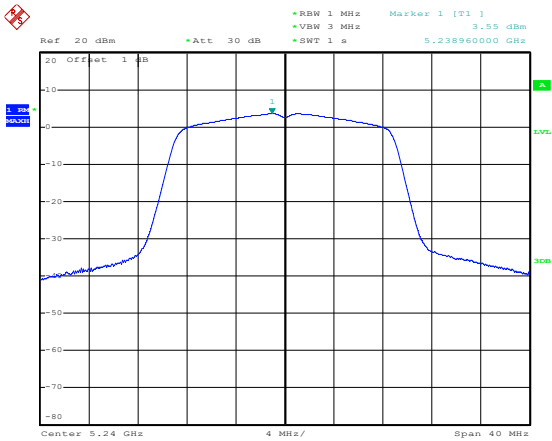
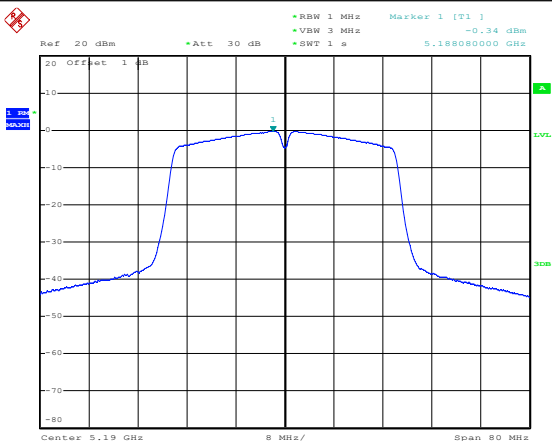
Date: 19.DEC.2024 09:28:28



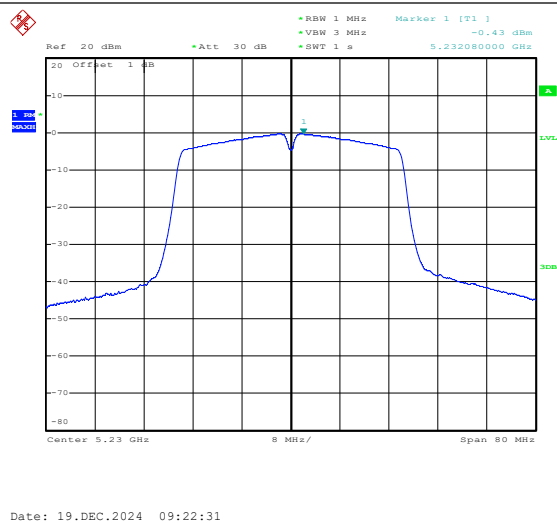
Date: 19.DEC.2024 09:28:09

802.11n-HT20-Low	 Date: 19.DEC.2024 09:26:43
802.11n-HT20-Middle	 Date: 19.DEC.2024 09:27:04
802.11n-HT20-High	 Date: 19.DEC.2024 09:27:25

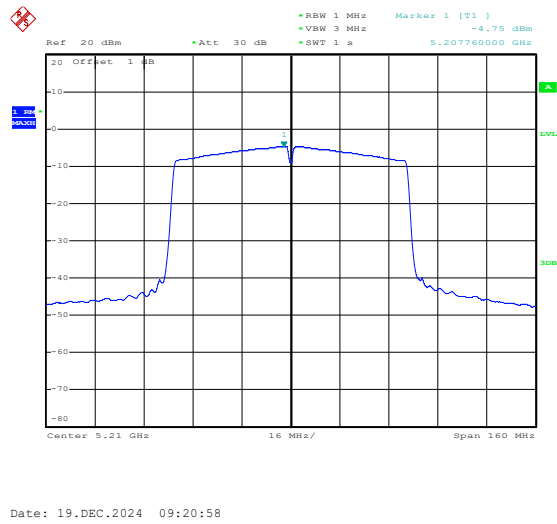
802.11n-HT40-Low	 Date: 19.DEC.2024 09:23:18
802.11n-HT40-High	 Date: 19.DEC.2024 09:23:44
802.11ac-VHT20-Low	 Date: 19.DEC.2024 09:26:27

802.11ac-VHT20-Middle	 Date: 19.DEC.2024 09:26:08
802.11ac-VHT20-High	 Date: 19.DEC.2024 09:25:44
802.11ac-VHT40-Low	 Date: 19.DEC.2024 09:22:59

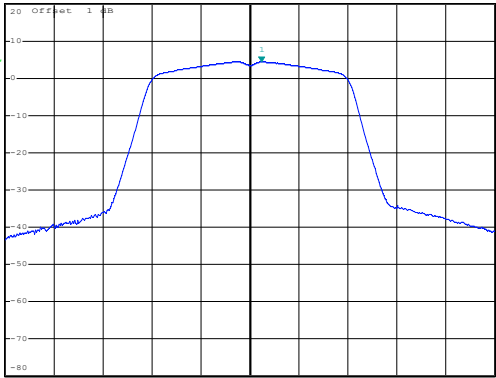
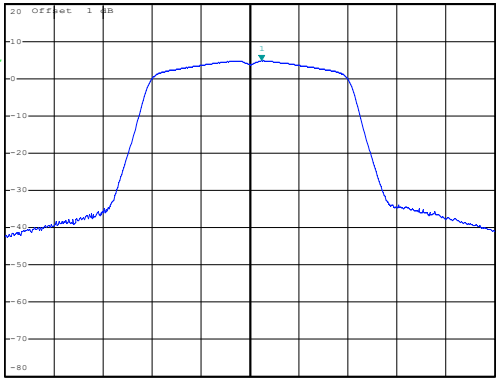
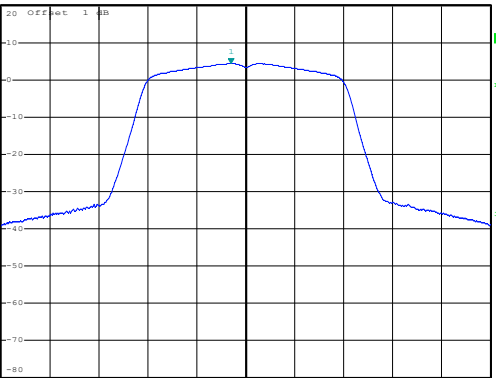
802.11ac-VHT40-High



802.11ac-VHT80-Low



5250-5350MHz

802.11a-Low	 Ref 20 dBm Att 30 dB RBW 1 MHz VSW 3 MHz Span 40 MHz Marker 1 [T1] 4.35 dBm 5.26096000 GHz Date: 19.DEC.2024 10:24:31
802.11a-Middle	 Ref 20 dBm Att 30 dB RBW 1 MHz VSW 3 MHz Span 40 MHz Marker 1 [T1] 4.80 dBm 5.28096000 GHz Date: 19.DEC.2024 10:24:12
802.11a-High	 Ref 20 dBm Att 30 dB RBW 1 MHz VSW 3 MHz Span 40 MHz Marker 1 [T1] 4.37 dBm 5.31880000 GHz Date: 19.DEC.2024 10:23:54

802.11n-HT20-Low	Ref: 20 dBm Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 1 s Marker 1 [T1]: 3.60 dBm 5.26120000 GHz Center: 5.26 GHz 4 MHz/ Span: 40 MHz Date: 19.DEC.2024 10:22:48
802.11n-HT20-Middle	Ref: 20 dBm Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 1 s Marker 1 [T1]: 3.99 dBm 5.28280000 GHz Center: 5.28 GHz 4 MHz/ Span: 40 MHz Date: 19.DEC.2024 10:23:05
802.11n-HT20-High	Ref: 20 dBm Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 1 s Marker 1 [T1]: 3.53 dBm 5.318720000 GHz Center: 5.32 GHz 4 MHz/ Span: 40 MHz Date: 19.DEC.2024 10:23:27

802.11n-HT40-Low

Ref: 20 dBm, Offset: 1 dB, Att: 30 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 1 s, Marker 1 [T1]: -0.08 dBm, 5.27288000 GHz

Center: 5.27 GHz, Span: 80 MHz

802.11n-HT40-High

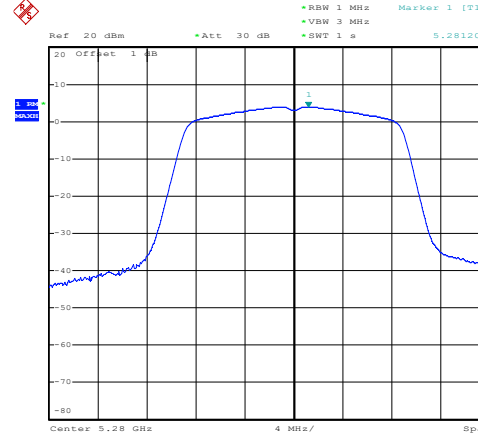
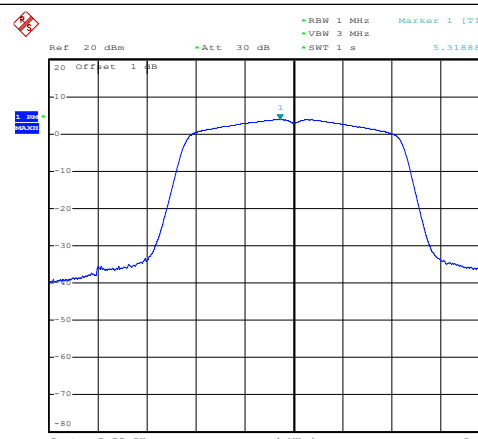
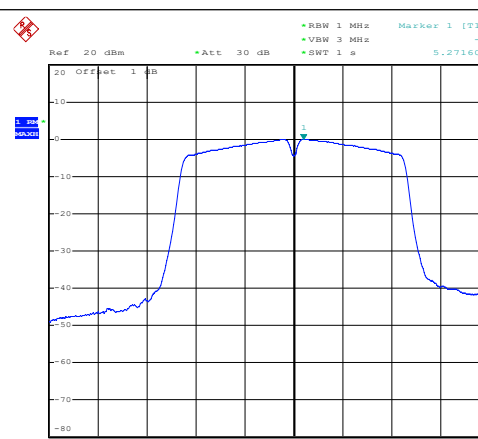
Ref: 20 dBm, Offset: 1 dB, Att: 30 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 1 s, Marker 1 [T1]: -0.02 dBm, 5.308240000 GHz

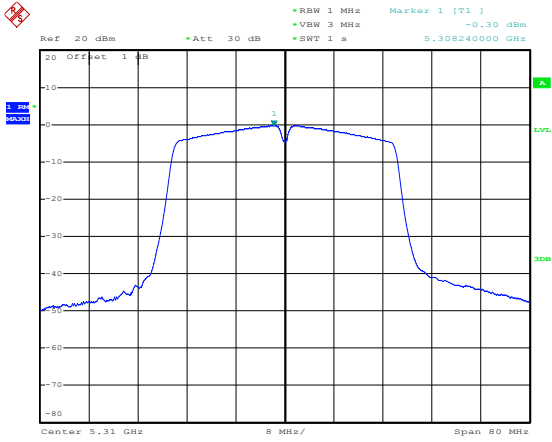
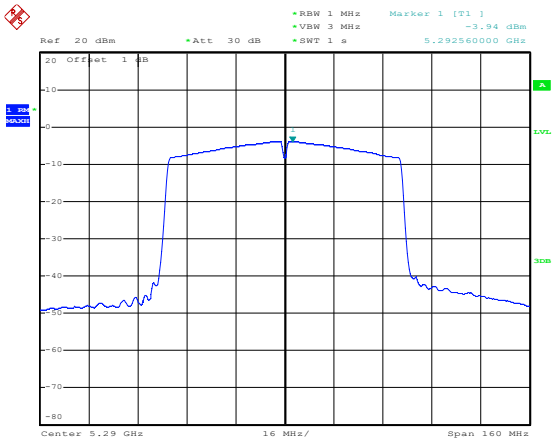
Center: 5.31 GHz, Span: 80 MHz

802.11ac-VHT20-Low

Ref: 20 dBm, Offset: 1 dB, Att: 30 dB, RBW: 1 MHz, VBW: 3 MHz, SWT: 1 s, Marker 1 [T1]: 3.50 dBm, 5.258880000 GHz

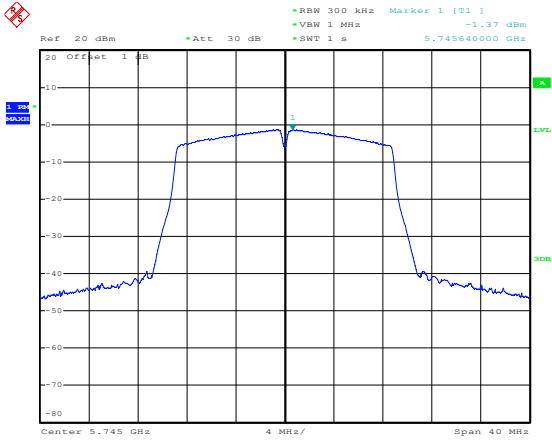
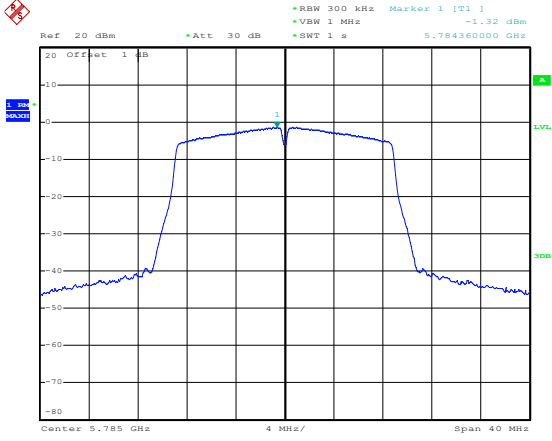
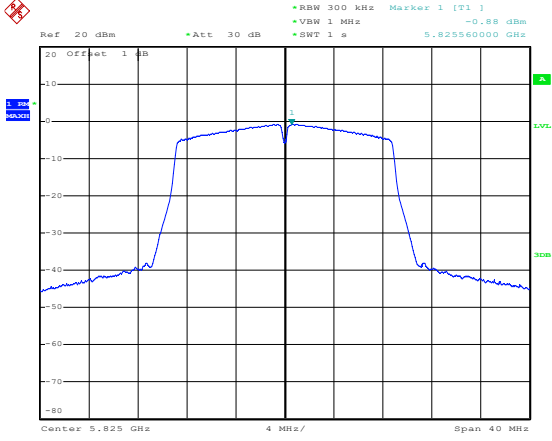
Center: 5.26 GHz, Span: 40 MHz

802.11ac-VHT20-Middle	 Date: 19.DEC.2024 10:22:06
802.11ac-VHT20-High	 Date: 19.DEC.2024 10:21:45
802.11ac-VHT40-Low	 Date: 19.DEC.2024 10:19:23

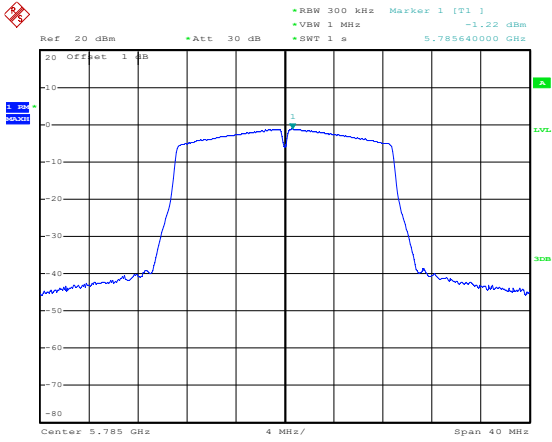
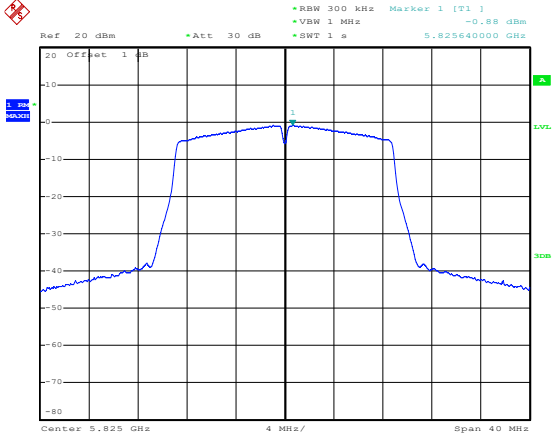
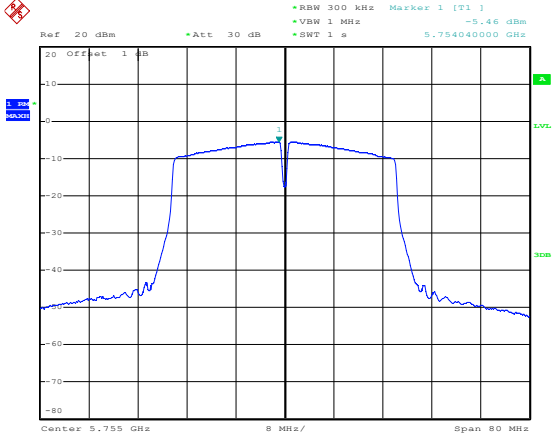
802.11ac-VHT40-High	 Date: 19.DEC.2024 10:19:04
802.11ac-VHT80-Low	 Date: 19.DEC.2024 10:18:05

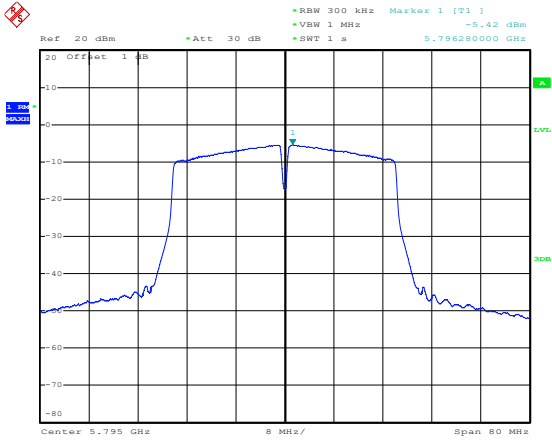
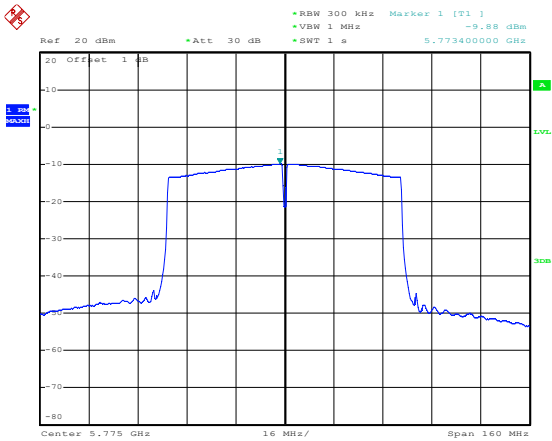
5725-5850MHz

Channel	Plot Type	Center Frequency (GHz)	Span (MHz)	Ref (dBm)	Att (dB)	RBW (kHz)	VBW (MHz)	SWT	Marker 1 [T1] (dBm)	Date	Time
802.11a-Low	Power Spectrum	5.745	40	20	30	300	1	1 s	-0.01	19.DEC.2024	11:08:03
802.11a-Middle	Power Spectrum	5.785	40	20	30	300	1	1 s	0.13	19.DEC.2024	11:07:43
802.11a-High	Power Spectrum	5.825	40	20	30	300	1	1 s	0.45	19.DEC.2024	11:07:26

802.11n-HT20-Low	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -1.37 dBm *VSW 1 MHz *SWT 1 s 5.745640000 GHz 20 Offset 1 dB Center 5.745 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:06:09
802.11n-HT20-Middle	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -1.32 dBm *VSW 1 MHz *SWT 1 s 5.784360000 GHz 20 Offset 1 dB Center 5.785 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:06:28
802.11n-HT20-High	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -0.88 dBm *VSW 1 MHz *SWT 1 s 5.825560000 GHz 20 Offset 1 dB Center 5.825 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:06:59

802.11n-HT40-Low	Date: 19.DEC.2024 11:04:06
802.11n-HT40-High	Date: 19.DEC.2024 11:04:23
802.11ac-VHT20-Low	Date: 19.DEC.2024 11:05:53

802.11ac-VHT20-Middle	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -1.22 dBm *VSW 1 MHz *SWT 1 s 5.785640000 GHz 20 Offset 1 dB 10 0 -10 -20 -30 -40 -50 -60 -70 -80 Center 5.785 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:05:36
802.11ac-VHT20-High	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -0.88 dBm *VSW 1 MHz *SWT 1 s 5.825640000 GHz 20 Offset 1 dB 10 0 -10 -20 -30 -40 -50 -60 -70 -80 Center 5.825 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:05:17
802.11ac-VHT40-Low	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -5.46 dBm *VSW 1 MHz *SWT 1 s 5.754040000 GHz 20 Offset 1 dB 10 0 -10 -20 -30 -40 -50 -60 -70 -80 Center 5.755 GHz 8 MHz/ Span 80 MHz Date: 19.DEC.2024 11:03:52

802.11ac-VHT40-High	 Date: 19.DEC.2024 11:03:31
802.11ac-VHT80-Low	 Date: 19.DEC.2024 11:01:54

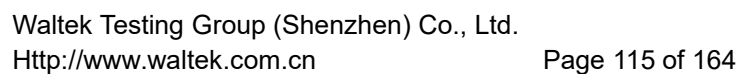
APPENDIX B

Emission Bandwidth and Occupied Bandwidth

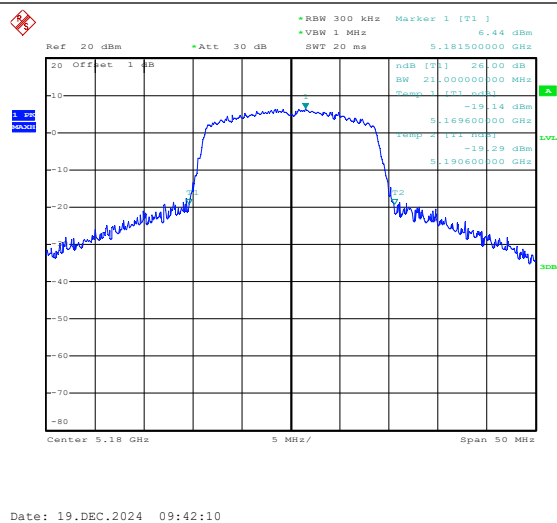
U-NII-1:5150-5250MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5180	23.30	17.28	Pass
	5200	21.30	17.28	Pass
	5240	21.40	17.04	Pass
802.11n-HT20	5180	21.00	18.00	Pass
	5200	21.00	18.00	Pass
	5240	20.80	17.92	Pass
802.11n-HT40	5190	40.80	36.96	Pass
	5230	40.40	36.80	Pass
802.11ac-VHT20	5180	21.40	18.08	Pass
	5200	20.90	18.00	Pass
	5240	20.90	17.92	Pass
802.11ac-VHT40	5190	40.60	36.96	Pass
	5230	40.80	36.80	Pass
802.11ac-VHT80	5210	82.08	75.52	Pass

U-NII-2A: 5250-5350MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5260	20.70	17.04	Pass
	5280	20.50	16.96	Pass
	5320	20.60	16.96	Pass
802.11n-HT20	5260	20.70	17.92	Pass
	5280	20.70	17.92	Pass
	5320	20.70	17.92	Pass
802.11n-HT40	5270	40.60	36.80	Pass
	5310	40.80	36.96	Pass
802.11ac-VHT20	5260	20.70	17.92	Pass
	5280	20.70	17.92	Pass
	5320	20.70	17.92	Pass
802.11ac-VHT40	5270	40.40	36.80	Pass
	5310	40.80	36.96	Pass
802.11ac-VHT80	5290	82.08	75.52	Pass

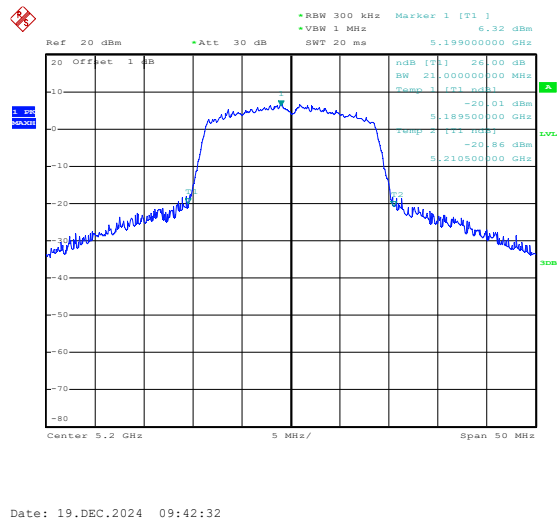
U-NII-3: 5725-5850MHz				
Test Mode	Test Channel MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5745	16.48	17.20	≥500
	5785	16.56	17.12	≥500
	5825	16.56	17.12	≥500
802.11n-HT20	5745	17.76	17.92	≥500
	5785	17.76	17.92	≥500
	5825	17.76	17.92	≥500
802.11n-HT40	5755	36.48	36.80	≥500
	5795	36.64	36.80	≥500
802.11ac VHT20	5745	17.76	17.92	≥500
	5785	17.76	17.92	≥500
	5825	17.76	17.92	≥500
802.11ac VHT40	5755	36.48	36.80	≥500
	5795	36.64	36.80	≥500
802.11ac VHT80	5775	77.12	75.52	≥500



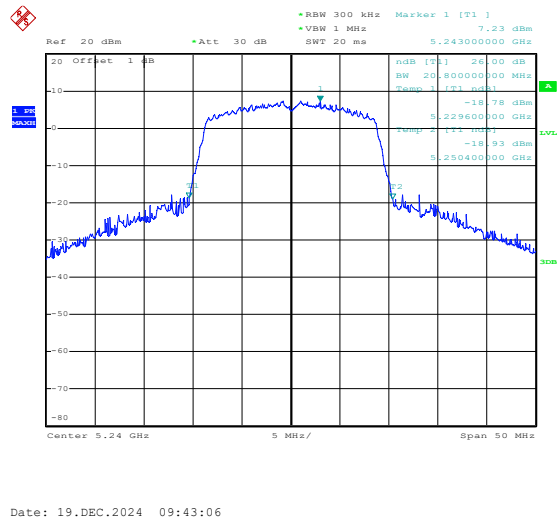
802.11n-HT20-Low

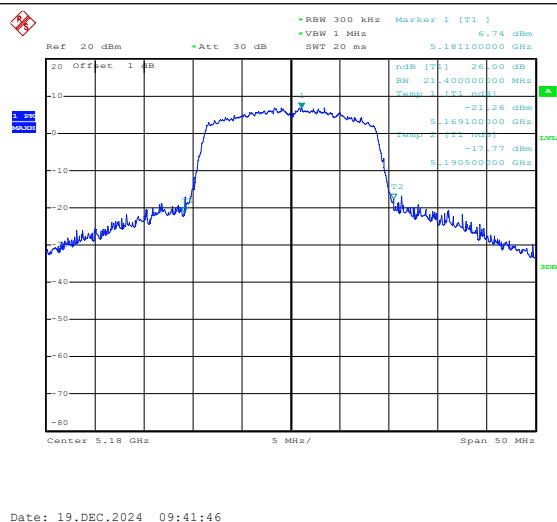
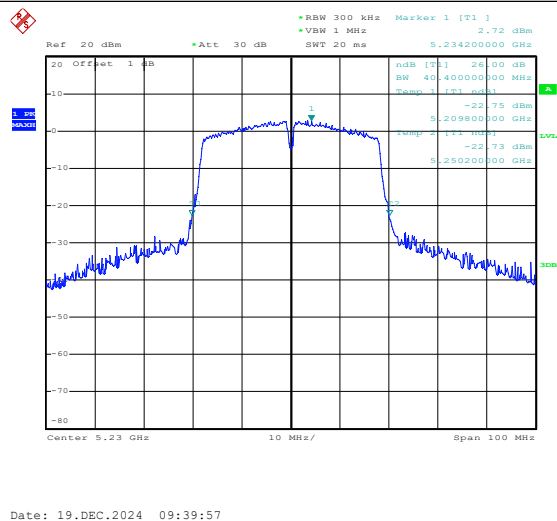
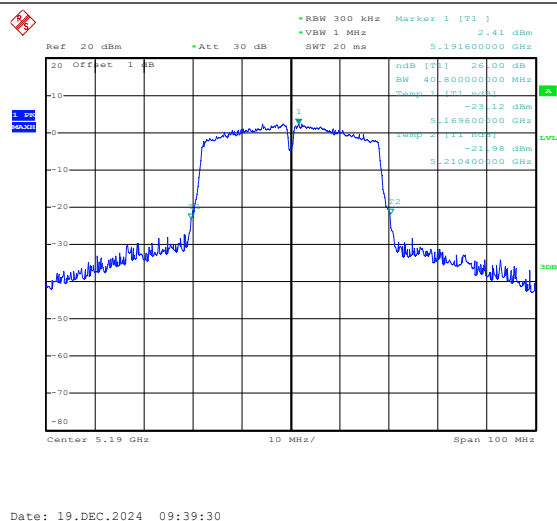


802.11n-HT20-Middle



802.11n-HT20-High





802.11ac-VHT20-Middle

Ref: 20 dBm, Att: 30 dB, RBW: 300 kHz, VBW: 1 MHz, Marker 1 [T1]: 6.84 dBm, SWT: 20 ns, 5.198500000 GHz

20 Offset 1 dB, ndB [T1]: 26.00 dB, BW: 20.900000000 MHz, Temp: 1 [T1] dBm: -19.03 dBm, 5.189500000 GHz, Temp: 2 [T1] dBm: -19.21 dBm, 5.210400000 GHz

Center: 5.2 GHz, 5 MHz/, Span: 50 MHz

Date: 19.DEC.2024 09:41:17

802.11ac-VHT20-High

Ref: 20 dBm, Att: 30 dB, RBW: 300 kHz, VBW: 1 MHz, Marker 1 [T1]: 7.45 dBm, SWT: 20 ns, 5.242300000 GHz

20 Offset 1 dB, ndB [T1]: 26.00 dB, BW: 20.900000000 MHz, Temp: 1 [T1] dBm: -19.23 dBm, 5.229500000 GHz, Temp: 2 [T1] dBm: -19.11 dBm, 5.250400000 GHz

Center: 5.24 GHz, 5 MHz/, Span: 50 MHz

Date: 19.DEC.2024 09:40:51

802.11ac-VHT40-Low

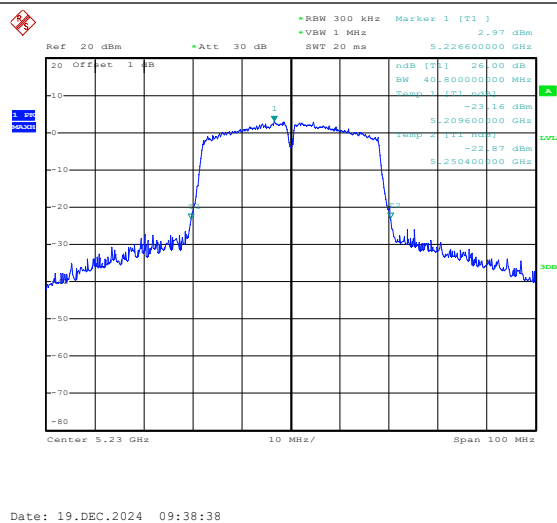
Ref: 20 dBm, Att: 30 dB, RBW: 300 kHz, VBW: 1 MHz, Marker 1 [T1]: 2.69 dBm, SWT: 20 ns, 5.187800000 GHz

20 Offset 1 dB, ndB [T1]: 26.00 dB, BW: 40.600000000 MHz, Temp: 1 [T1] dBm: -23.17 dBm, 5.169600000 GHz, Temp: 2 [T1] dBm: -23.43 dBm, 5.210200000 GHz

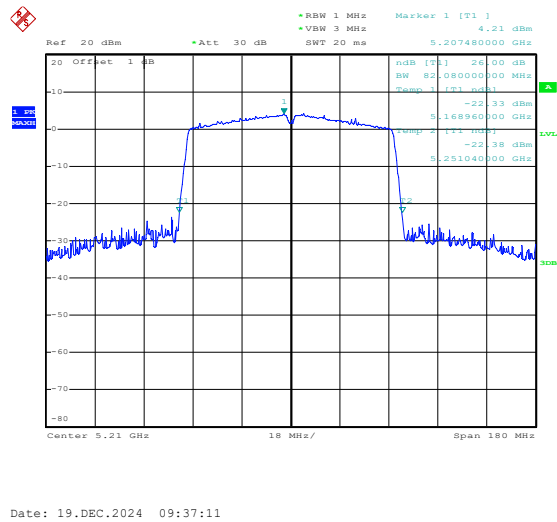
Center: 5.19 GHz, 10 MHz/, Span: 100 MHz

Date: 19.DEC.2024 09:39:08

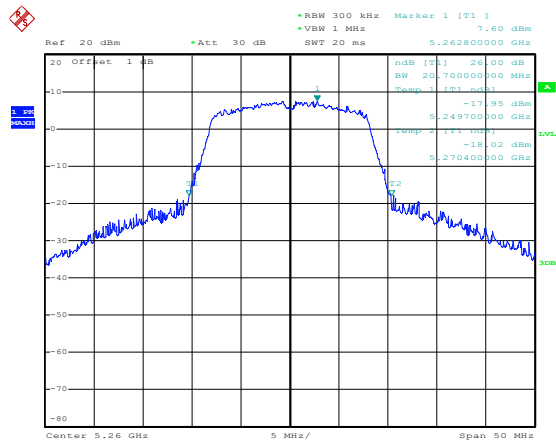
802.11ac-VHT40-High



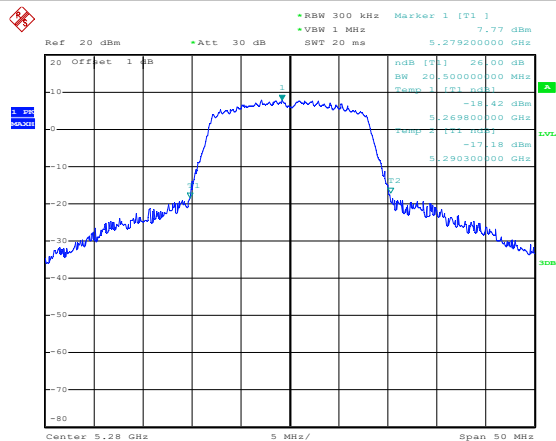
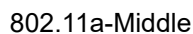
802.11ac-VHT80-Low



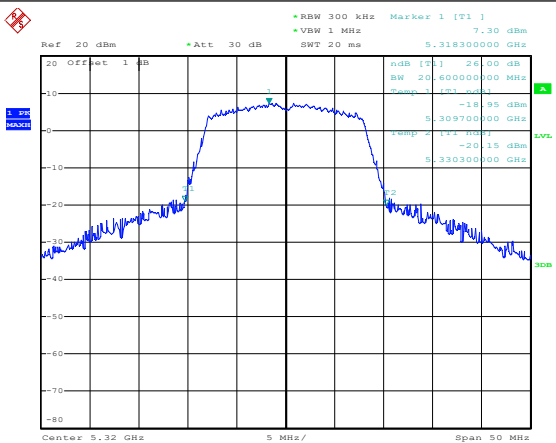
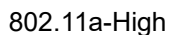
26 dB Bandwidth
5250-5350MHz



Date: 19.DEC.2024 10:39:53



Date: 19.DEC.2024 10:39:24



Date: 19.DEC.2024 10:38:52

802.11n-HT20-Low

Ref: 20 dBm, Att: 30 dB, VBW: 1 MHz, RBW: 300 kHz, Marker 1 [T1]: 7.23 dBm, SWT: 20 ms, Center: 5.26 GHz, Span: 50 MHz

802.11n-HT20-Middle

Ref: 20 dBm, Att: 30 dB, VBW: 1 MHz, RBW: 300 kHz, Marker 1 [T1]: 7.81 dBm, SWT: 20 ms, Center: 5.28 GHz, Span: 50 MHz

802.11n-HT20-High

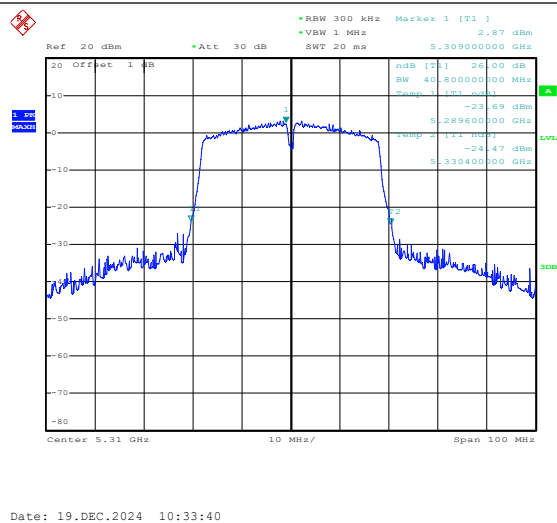
Ref: 20 dBm, Att: 30 dB, VBW: 1 MHz, RBW: 300 kHz, Marker 1 [T1]: 7.41 dBm, SWT: 20 ms, Center: 5.32 GHz, Span: 50 MHz

The figure consists of three vertically stacked spectral plots, each representing an 802.11n-HT20 channel at a different frequency: Low, Middle, and High. Each plot shows a signal spectrum with a peak at the center frequency. The plots include technical parameters such as Reference level (Ref), Attenuation (Att), Video Bandwidth (VBW), Resolution Bandwidth (RBW), Marker 1 [T1], Sweep Time (SWT), Center Frequency, and Span. The plots are labeled '802.11n-HT20-Low', '802.11n-HT20-Middle', and '802.11n-HT20-High' respectively. The plots show a signal spectrum with a peak at the center frequency. The plots include technical parameters like Ref, Att, VBW, RBW, Marker, SWT, Center, and Span.

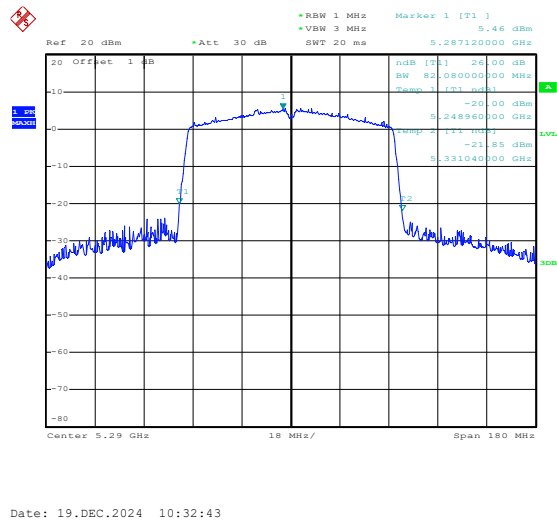
802.11n-HT40-Low	Date: 19.DEC.2024 10:34:26
802.11n-HT40-High	Date: 19.DEC.2024 10:34:48
802.11ac-VHT20-Low	Date: 19.DEC.2024 10:37:04

[illegible]

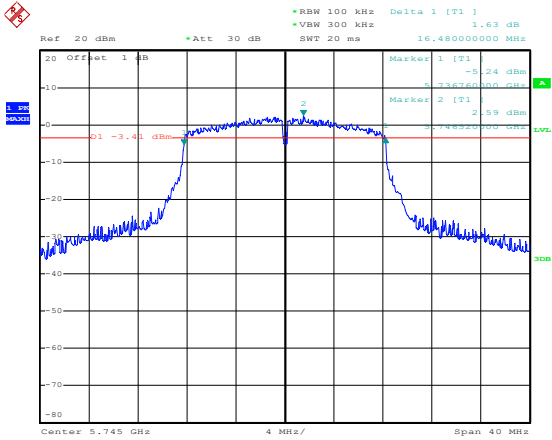
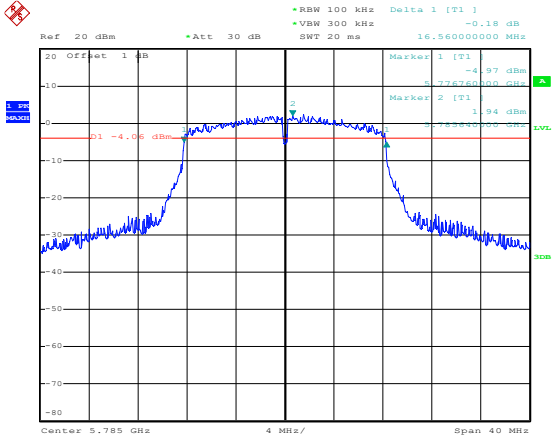
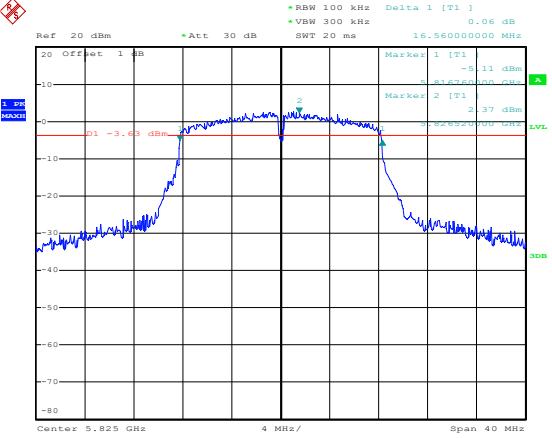
802.11ac-VHT40-High

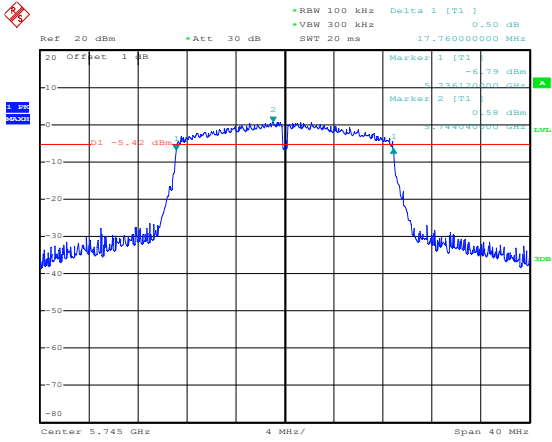
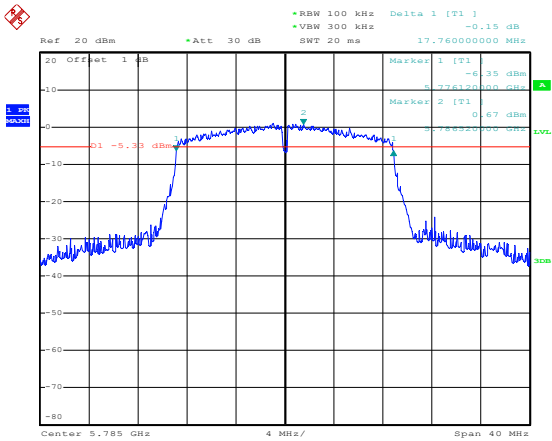
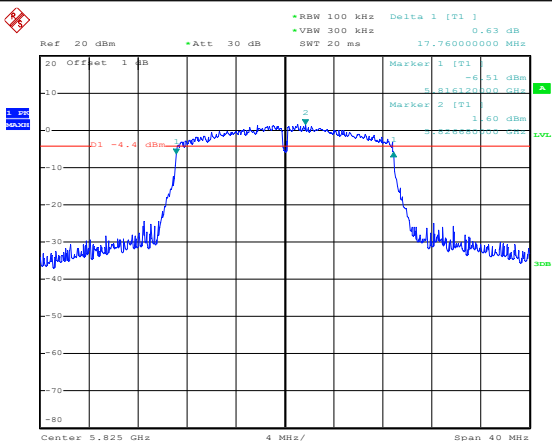


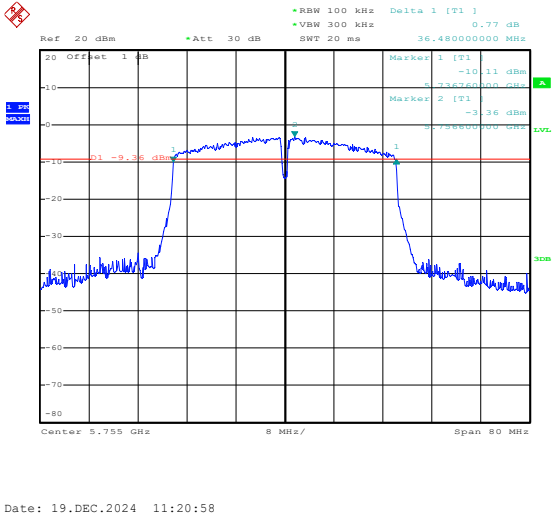
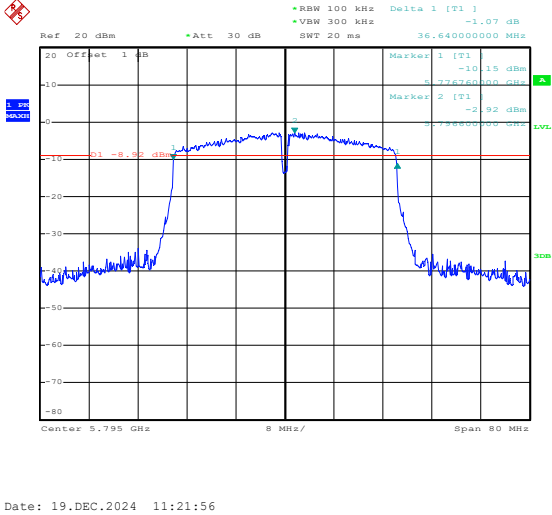
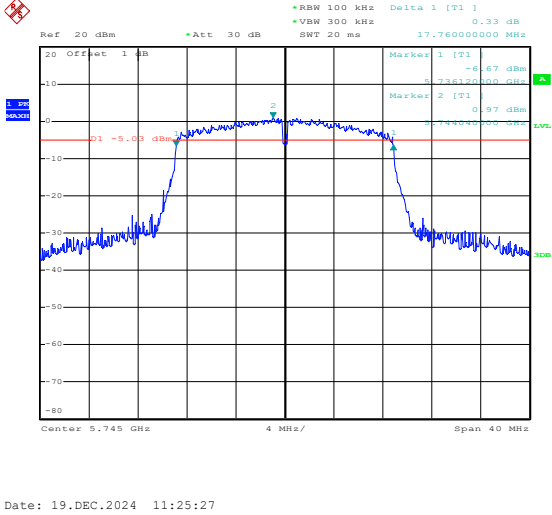
802.11ac-VHT80-Low

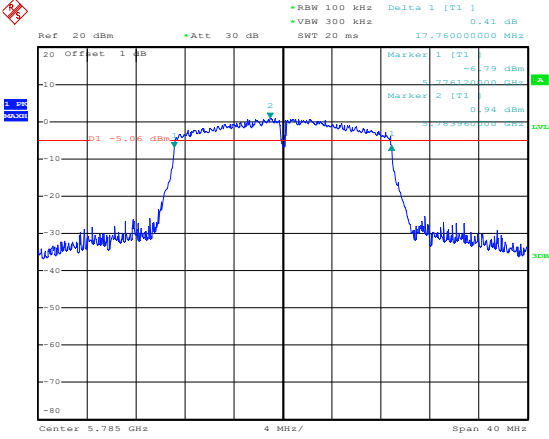
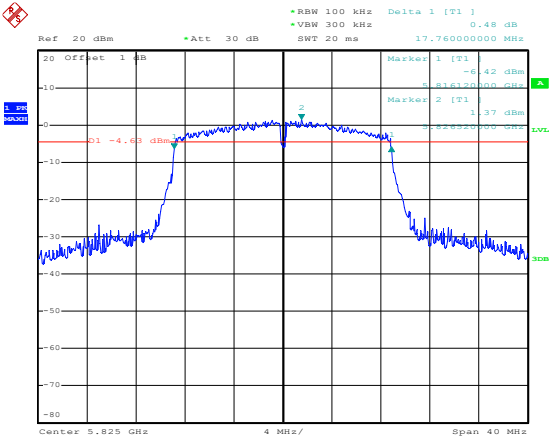
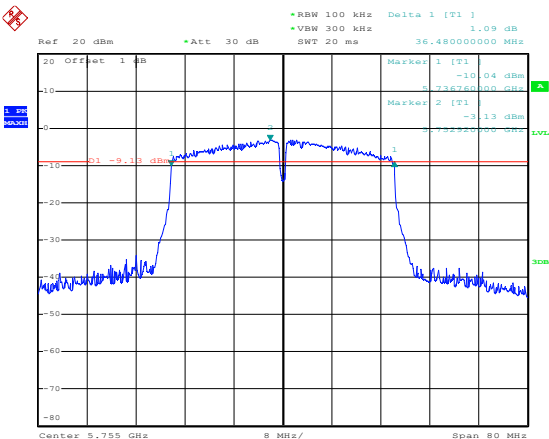


6 dB Bandwidth
5725-5850MHz

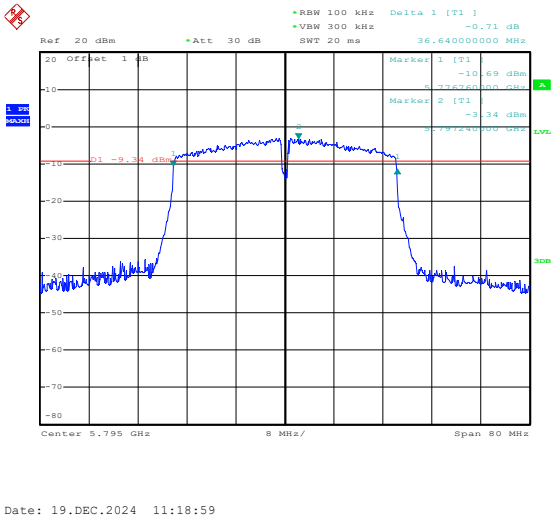
802.11a-Low	 Date: 19.DEC.2024 11:30:24
802.11a-Middle	 Date: 19.DEC.2024 11:29:34
802.11a-High	 Date: 19.DEC.2024 11:28:54

802.11n-HT20-Low	 Ref 20 dBm *Att 30 dB SWT 20 ms 17.76000000 MHz Marker 1 [T1] -6.79 dBm 5.74520000 GHz Marker 2 [T1] 0.58 dBm 5.74520000 GHz D1 -5.42 dBm Center 5.745 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:26:16
802.11n-HT20-Middle	 Ref 20 dBm *Att 30 dB SWT 20 ms 17.76000000 MHz Marker 1 [T1] -6.35 dBm 5.78520000 GHz Marker 2 [T1] 0.67 dBm 5.78520000 GHz D1 -5.33 dBm Center 5.785 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:27:06
802.11n-HT20-High	 Ref 20 dBm *Att 30 dB SWT 20 ms 17.76000000 MHz Marker 1 [T1] -6.51 dBm 5.82520000 GHz Marker 2 [T1] 1.60 dBm 5.82520000 GHz D1 -4.4 dBm Center 5.825 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:27:57

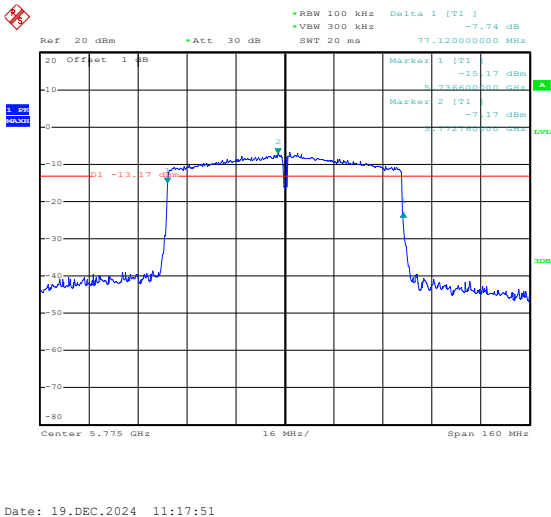
802.11n-HT40-Low	 Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] 0.77 dB VSW 300 kHz SWT 20 ms 36.48000000 MHz Marker 1 [T1] -10.11 dBm 5.75500000 GHz Marker 2 [T1] -3.36 dBm 5.75500000 GHz Center 5.755 GHz 8 MHz/ Span 80 MHz Date: 19.DEC.2024 11:20:58
802.11n-HT40-High	 Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] -1.07 dB VSW 300 kHz SWT 20 ms 36.64000000 MHz Marker 1 [T1] -10.15 dBm 5.79500000 GHz Marker 2 [T1] -2.92 dBm 5.79500000 GHz Center 5.795 GHz 8 MHz/ Span 80 MHz Date: 19.DEC.2024 11:21:56
802.11ac-VHT20-Low	 Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] 0.33 dB VSW 300 kHz SWT 20 ms 17.76000000 MHz Marker 1 [T1] -6.67 dBm 5.74500000 GHz Marker 2 [T1] 0.27 dBm 5.74500000 GHz Center 5.745 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:25:27

802.11ac-VHT20-Middle	 Ref 20 dBm *Att 30 dB SWT 20 ms 17.76000000 MHz Marker 1 [T1] -6.79 dBm 5.78500000 GHz Marker 2 [T1] 0.94 dBm 5.78500000 GHz D1 -5.06 dBm Center 5.785 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:24:40
802.11ac-VHT20-High	 Ref 20 dBm *Att 30 dB SWT 20 ms 17.76000000 MHz Marker 1 [T1] -6.42 dBm 5.81200000 GHz Marker 2 [T1] 1.37 dBm 5.82200000 GHz D1 -4.63 dBm Center 5.825 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:23:32
802.11ac-VHT40-Low	 Ref 20 dBm *Att 30 dB SWT 20 ms 36.48000000 MHz Marker 1 [T1] -10.04 dBm 5.73600000 GHz Marker 2 [T1] -3.13 dBm 5.75600000 GHz D1 -9.13 dBm Center 5.755 GHz 8 MHz/ Span 80 MHz Date: 19.DEC.2024 11:19:41

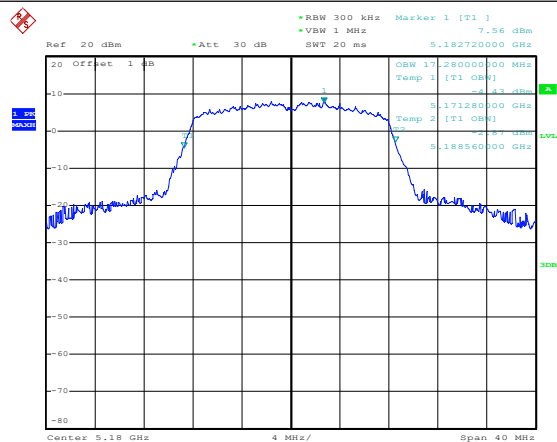
802.11ac-VHT40-High



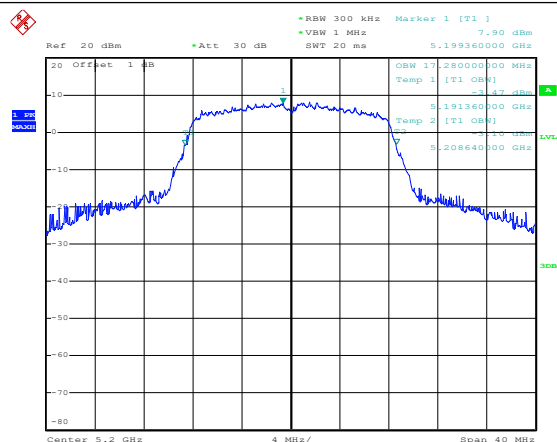
802.11ac-VHT80-Low



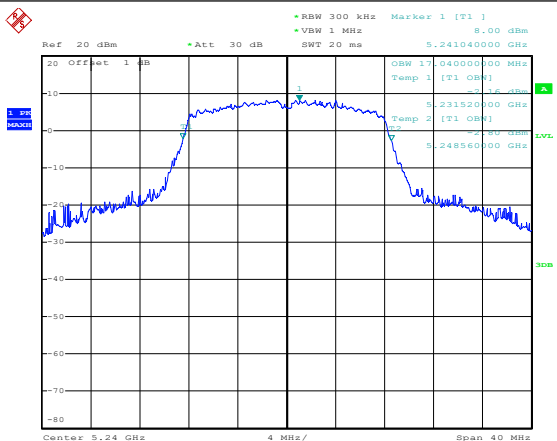
99% Bandwidth
5150-5250MHz



Date: 19.DEC.2024 09:29:56

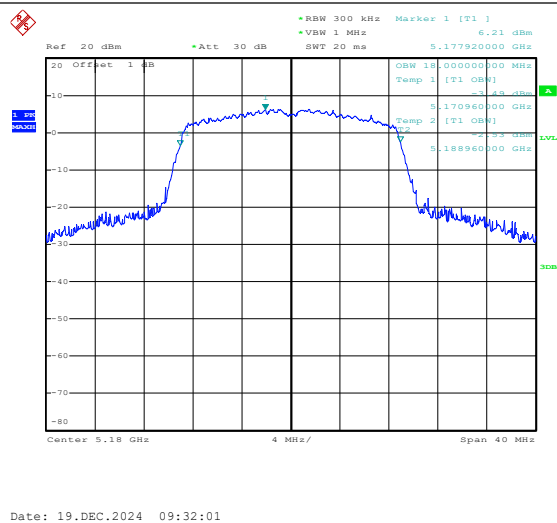


Date: 19.DEC.2024 09:30:20

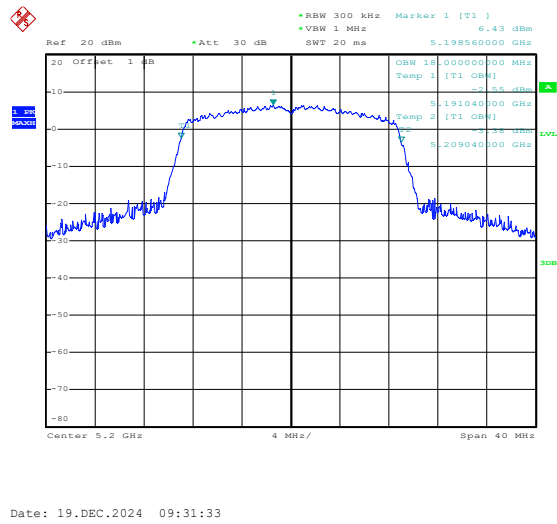


Date: 19.DEC.2024 09:30:43

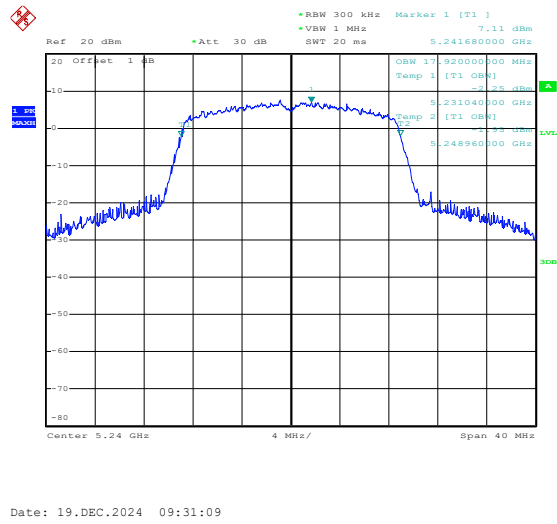
802.11n-HT20-Low

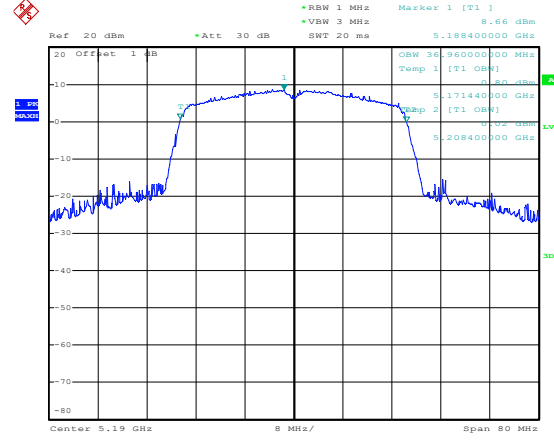
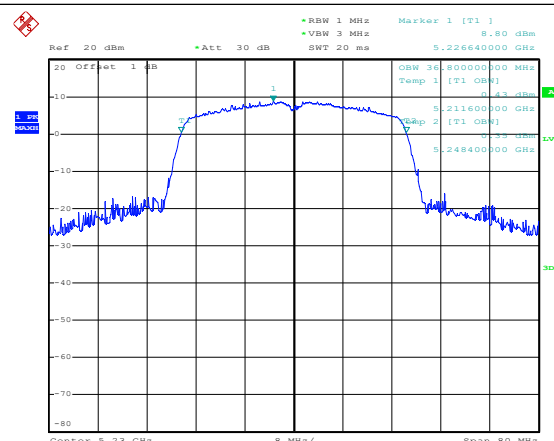
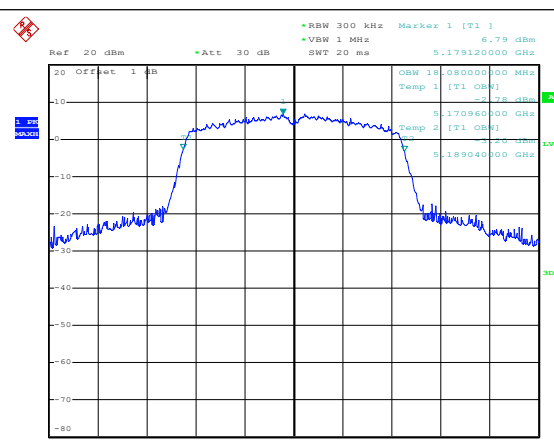


802.11n-HT20-Middle



802.11n-HT20-High



802.11n-HT40-Low	 Ref: 20 dBm Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Marker 1 [T1]: 8.66 dBm Center: 5.19 GHz Span: 80 MHz Date: 19.DEC.2024 09:34:26
802.11n-HT40-High	 Ref: 20 dBm Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Marker 1 [T1]: 8.80 dBm Center: 5.23 GHz Span: 80 MHz Date: 19.DEC.2024 09:35:03
802.11ac-VHT20-Low	 Ref: 20 dBm Att: 30 dB RBW: 300 kHz VBW: 1 MHz SWT: 20 ms Marker 1 [T1]: 6.79 dBm Center: 5.18 GHz Span: 40 MHz Date: 19.DEC.2024 09:32:29

[illegible]

[illegible]

99% dB Bandwidth
5250-5350MHz

802.11a-Low

Ref 20 dBm Att 30 dB

RBW 300 kHz Marker 1 [T1] 7.44 dBm
VBW 1 MHz SWT 20 ms 5.262720000 GHz

Offset 1 dB

20 10 0 -10 -20 -30 -40 -50 -60 -70 -80

Center 5.26 GHz 4 MHz/ Span 40 MHz

OBW 17.04000000 MHz
Temp 1 [T1 OBW] 1.6 dBm
5.251440000 GHz
Temp 2 [T1 OBW] 1.6 dBm
5.268480000 GHz

3dB

10dB

20dB

30dB

40dB

50dB

60dB

70dB

80dB

90dB

100dB

110dB

120dB

130dB

140dB

150dB

160dB

170dB

180dB

190dB

200dB

210dB

220dB

230dB

240dB

250dB

260dB

270dB

280dB

290dB

300dB

310dB

320dB

330dB

340dB

350dB

360dB

370dB

380dB

390dB

400dB

410dB

420dB

430dB

440dB

450dB

460dB

470dB

480dB

490dB

500dB

510dB

520dB

530dB

540dB

550dB

560dB

570dB

580dB

590dB

600dB

610dB

620dB

630dB

640dB

650dB

660dB

670dB

680dB

690dB

700dB

710dB

720dB

730dB

740dB

750dB

760dB

770dB

780dB

790dB

800dB

810dB

820dB

830dB

840dB

850dB

860dB

870dB

880dB

890dB

900dB

910dB

920dB

930dB

940dB

950dB

960dB

970dB

980dB

990dB

1000dB

1010dB

1020dB

1030dB

1040dB

1050dB

1060dB

1070dB

1080dB

1090dB

1100dB

1110dB

1120dB

1130dB

1140dB

1150dB

1160dB

1170dB

1180dB

1190dB

1200dB

1210dB

1220dB

1230dB

1240dB

1250dB

1260dB

1270dB

1280dB

1290dB

1300dB

1310dB

1320dB

1330dB

1340dB

1350dB

1360dB

1370dB

1380dB

1390dB

1400dB

1410dB

1420dB

1430dB

1440dB

1450dB

1460dB

1470dB

1480dB

1490dB

1500dB

1510dB

1520dB

1530dB

1540dB

1550dB

1560dB

1570dB

1580dB

1590dB

1600dB

1610dB

1620dB

1630dB

1640dB

1650dB

1660dB

1670dB

1680dB

1690dB

1700dB

1710dB

1720dB

1730dB

1740dB

1750dB

1760dB

1770dB

1780dB

1790dB

1800dB

1810dB

1820dB

1830dB

1840dB

1850dB

1860dB

1870dB

1880dB

1890dB

1900dB

1910dB

1920dB

1930dB

1940dB

1950dB

1960dB

1970dB

1980dB

1990dB

2000dB

2010dB

2020dB

2030dB

2040dB

2050dB

2060dB

2070dB

2080dB

2090dB

2100dB

2110dB

2120dB

2130dB

2140dB

2150dB

2160dB

2170dB

2180dB

2190dB

2200dB

2210dB

2220dB

2230dB

2240dB

2250dB

2260dB

2270dB

2280dB

2290dB

2300dB

2310dB

2320dB

2330dB

2340dB

2350dB

2360dB

2370dB

2380dB

2390dB

2400dB

2410dB

2420dB

2430dB

2440dB

2450dB

2460dB

2470dB

2480dB

2490dB

2500dB

2510dB

2520dB

2530dB

2540dB

2550dB

2560dB

2570dB

2580dB

2590dB

2600dB

2610dB

2620dB

2630dB

2640dB

2650dB

2660dB

2670dB

2680dB

2690dB

2700dB

2710dB

2720dB

2730dB

2740dB

2750dB

2760dB

2770dB

2780dB

2790dB

2800dB

2810dB

2820dB

2830dB

2840dB

2850dB

2860dB

2870dB

2880dB

2890dB

2900dB

2910dB

2920dB

2930dB

2940dB

2950dB

2960dB

2970dB

2980dB

2990dB

3000dB

3010dB

3020dB

3030dB

3040dB

3050dB

3060dB

3070dB

3080dB

3090dB

3100dB

3110dB

3120dB

3130dB

3140dB

3150dB

3160dB

3170dB

3180dB

3190dB

3200dB

3210dB

3220dB

3230dB

3240dB

3250dB

3260dB

3270dB

3280dB

3290dB

3300dB

3310dB

3320dB

3330dB

3340dB

3350dB

3360dB

3370dB

3380dB

3390dB

3400dB

3410dB

3420dB

3430dB

3440dB

3450dB

3460dB

3470dB

3480dB

3490dB

3500dB

3510dB

802.11a-Middle

802.11a-High

802.11n-HT20-Low

The figure displays three spectral plots, each showing the power spectral density (PSD) of a signal. The plots are arranged vertically, corresponding to different signal types: 802.11a-Middle, 802.11a-High, and 802.11n-HT20-Low. Each plot has a frequency axis ranging from 5.24 GHz to 5.36 GHz, with a center frequency of 5.28 GHz, 5.32 GHz, and 5.26 GHz respectively. The y-axis represents power in dBm, ranging from -80 to 20. The plots show a central channel with a bandwidth of 20 MHz, centered around 5.28 GHz, 5.32 GHz, and 5.26 GHz respectively. The plots include various parameters such as RBW, VBW, Att, and Span.

802.11a-Middle

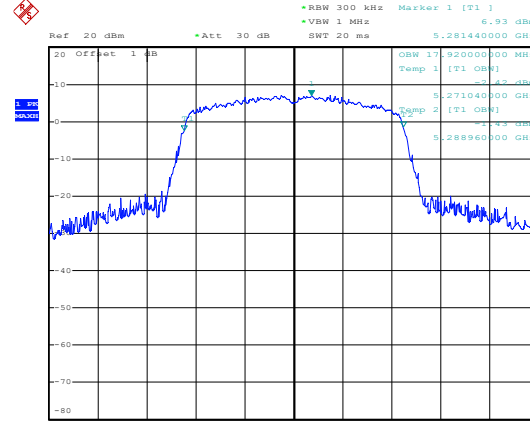
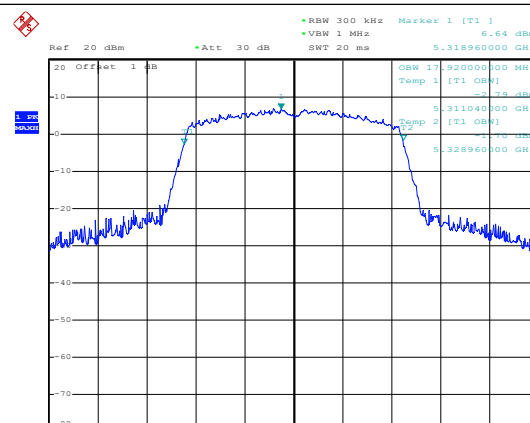
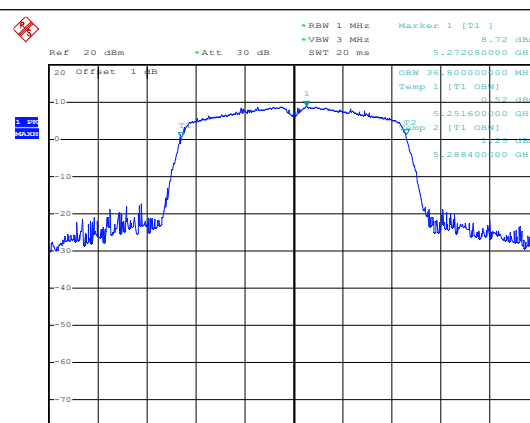
802.11a-High

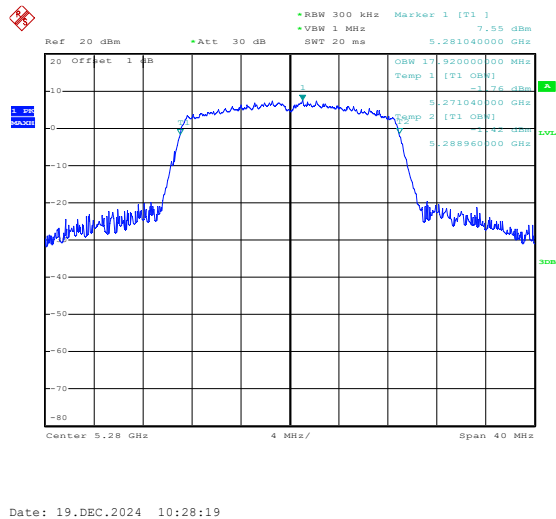
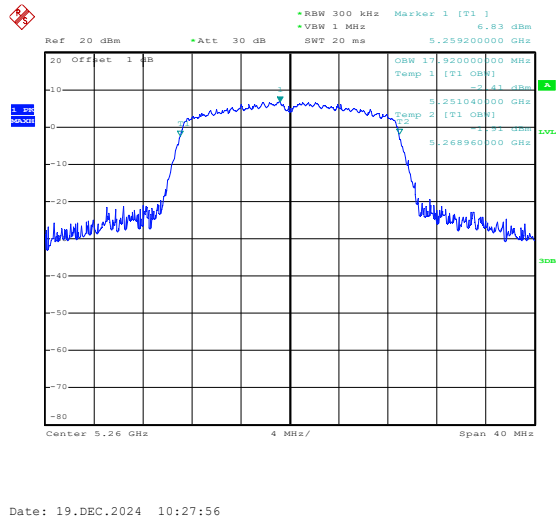
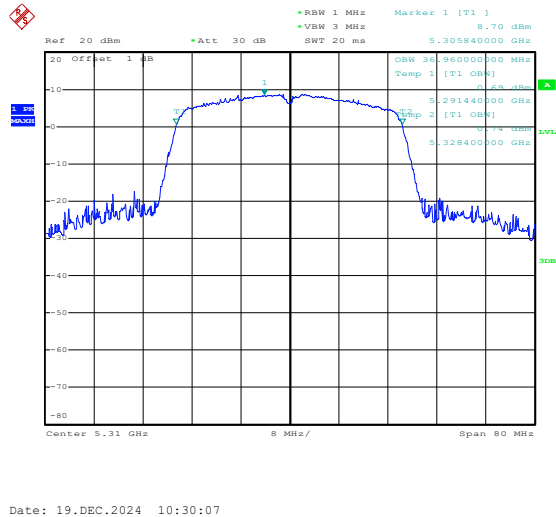
802.11n-HT20-Low

Date: 19.DEC.2024 10:25:46

Date: 19.DEC.2024 10:26:11

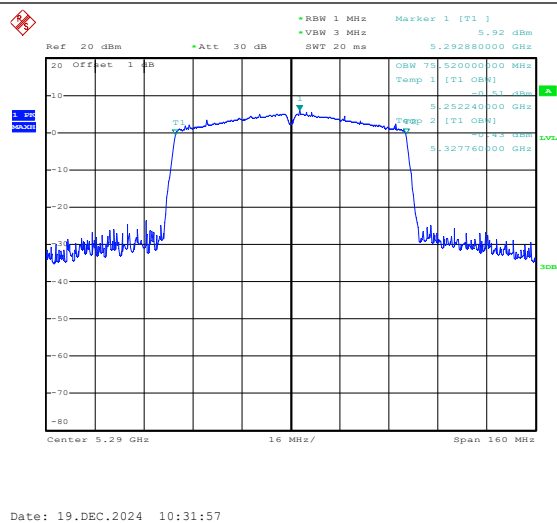
Date: 19.DEC.2024 10:27:33

802.11n-HT20-Middle	 Ref 20 dBm Att 30 dB BW 20 MHz Marker 1 [T1] 6.93 dBm OBW 17.92000000 MHz Temp 1 [T1 OBW] 6.93 dBm 5.27104000 GHz Temp 2 [T1 OBW] 6.93 dBm 5.28896000 GHz Temp 2 [T1 OBW] 6.93 dBm Center 5.28 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 10:27:06
802.11n-HT20-High	 Ref 20 dBm Att 30 dB BW 20 MHz Marker 1 [T1] 6.64 dBm OBW 17.92000000 MHz Temp 1 [T1 OBW] 6.64 dBm 5.31104000 GHz Temp 2 [T1 OBW] 6.64 dBm 5.32896000 GHz Temp 2 [T1 OBW] 6.64 dBm Center 5.32 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 10:26:39
802.11n-HT40-Low	 Ref 20 dBm Att 30 dB BW 3 MHz Marker 1 [T1] 8.72 dBm OBW 16.80000000 MHz Temp 1 [T1 OBW] 8.72 dBm 5.25160000 GHz Temp 2 [T1 OBW] 8.72 dBm 5.28840000 GHz Temp 2 [T1 OBW] 8.72 dBm Center 5.27 GHz 8 MHz/ Span 80 MHz Date: 19.DEC.2024 10:29:37



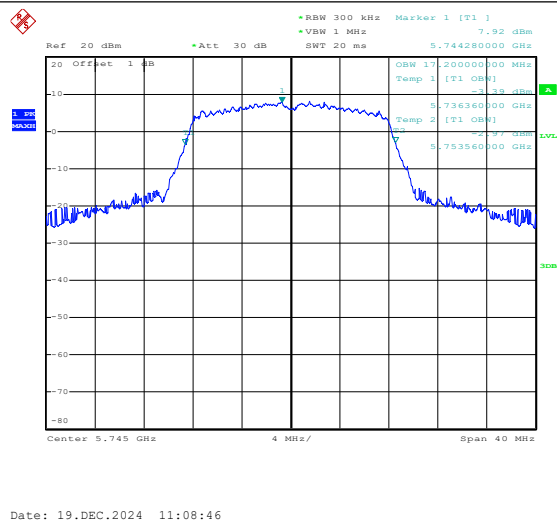


802.11ac-VHT80-Low



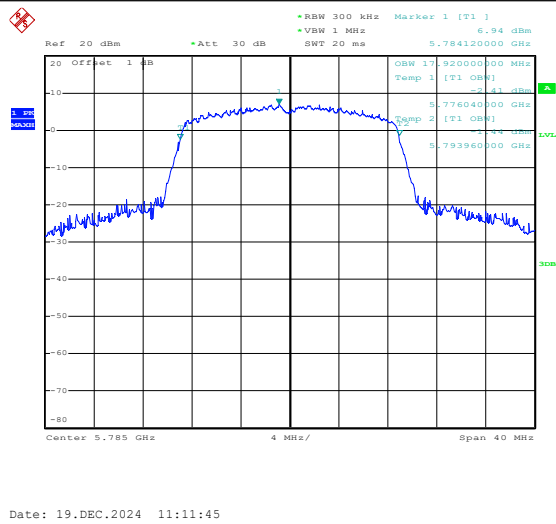
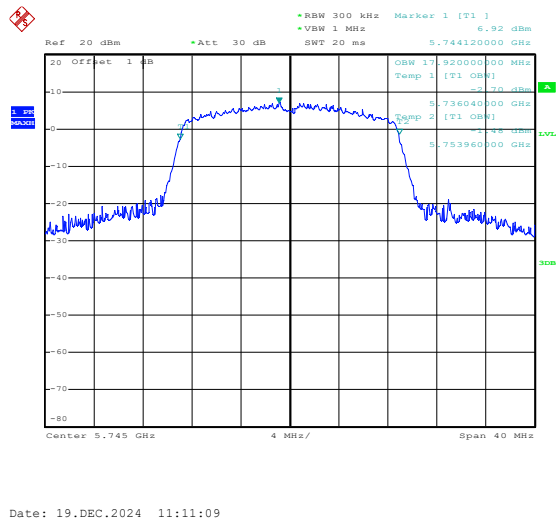
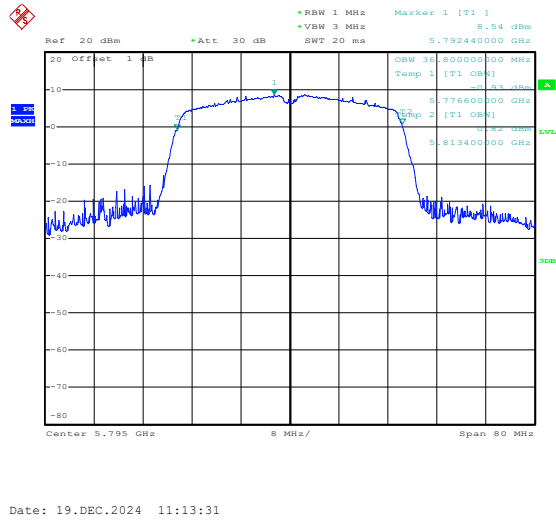
99% dB Bandwidth
5725-5850MHz

802.11a-Low



802.11a-Middle	Ref 20 dBm •RBW 300 kHz •VSW 1 MHz •Att 30 dB SWT 20 ms Marker 1 [T1] 7.55 dBm 5.782280000 GHz 20 Offset 1 dB 1 OSW 17.120000000 MHz Temp 1 [T1] 0dBm 5.776440000 GHz Temp 2 [T1] 0dBm 5.793560000 GHz Center 5.785 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:09:07
802.11a-High	Ref 20 dBm •RBW 300 kHz •VSW 1 MHz •Att 30 dB SWT 20 ms Marker 1 [T1] 8.39 dBm 5.824280000 GHz 20 Offset 1 dB 1 OSW 17.120000000 MHz Temp 1 [T1] 0dBm 5.816440000 GHz Temp 2 [T1] 0dBm 5.833560000 GHz Center 5.825 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:09:28
802.11n-HT20-Low	Ref 20 dBm •RBW 300 kHz •VSW 1 MHz •Att 30 dB SWT 20 ms Marker 1 [T1] 6.92 dBm 5.747400000 GHz 20 Offset 1 dB 1 OSW 17.920000000 MHz Temp 1 [T1] 0dBm 5.736040000 GHz Temp 2 [T1] 0dBm 5.753960000 GHz Center 5.745 GHz 4 MHz/ Span 40 MHz Date: 19.DEC.2024 11:10:39

802.11n-HT20-Middle	Ref 20 dBm *Att 30 dB SWT 20 ms RBW 300 kHz VBW 1 MHz Marker 1 [T1] 6.68 dBm 5.786120000 GHz 20 Offset 1 dB 10 0 -10 -20 -30 -40 -50 -60 -70 -80 Center 5.785 GHz 4 MHz/ Span 40 MHz OSW 17.920000000 MHz Temp 1 [T1] 0dB 5.776040000 GHz Temp 2 [T1] 0dB 5.793960000 GHz 30m LVL Date: 19.DEC.2024 11:10:17
802.11n-HT20-High	Ref 20 dBm *Att 30 dB SWT 20 ms RBW 300 kHz VBW 1 MHz Marker 1 [T1] 7.00 dBm 5.827240000 GHz 20 Offset 1 dB 10 0 -10 -20 -30 -40 -50 -60 -70 -80 Center 5.825 GHz 4 MHz/ Span 40 MHz OSW 17.920000000 MHz Temp 1 [T1] 0dB 5.816040000 GHz Temp 2 [T1] 0dB 5.833960000 GHz 30m LVL Date: 19.DEC.2024 11:09:51
802.11n-HT40-Low	Ref 20 dBm *Att 30 dB SWT 20 ms RBW 1 MHz VBW 3 MHz Marker 1 [T1] 8.55 dBm 5.752280000 GHz 20 Offset 1 dB 10 0 -10 -20 -30 -40 -50 -60 -70 -80 Center 5.755 GHz 8 MHz/ Span 80 MHz OSW 36.800000000 MHz Temp 1 [T1] 0dB 5.736600000 GHz Temp 2 [T1] 0dB 5.773400000 GHz 30m LVL Date: 19.DEC.2024 11:13:04



802.11ac-VHT20-High

Ref: 20 dBm Att: 30 dB RBW: 300 kHz Marker 1 [T1] 7.45 dBm
Center: 5.825 GHz Span: 40 MHz

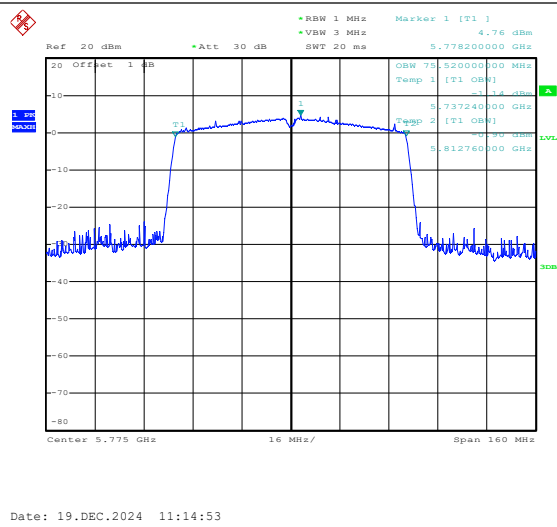
802.11ac-VHT40-Low

Ref: 20 dBm Att: 30 dB RBW: 1 MHz Marker 1 [T1] 8.34 dBm
Center: 5.755 GHz Span: 80 MHz

802.11ac-VHT40-High

Ref: 20 dBm Att: 30 dB RBW: 1 MHz Marker 1 [T1] 8.44 dBm
Center: 5.795 GHz Span: 80 MHz

802.11ac-VHT80-Low



APPENDIX C

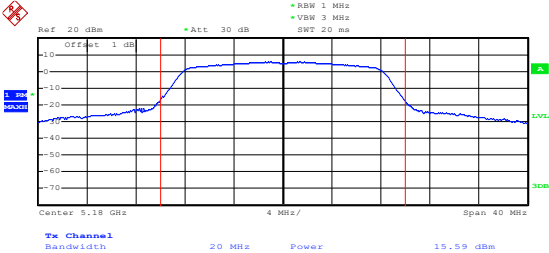
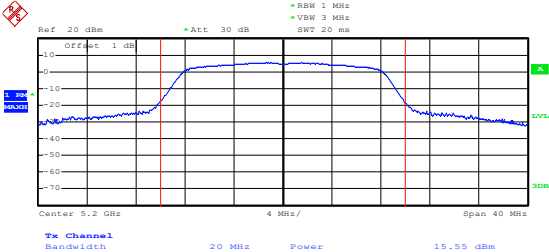
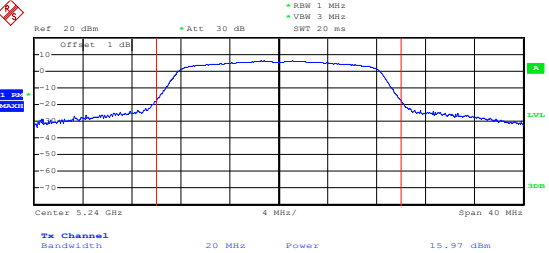
Maximum Conducted Output Power

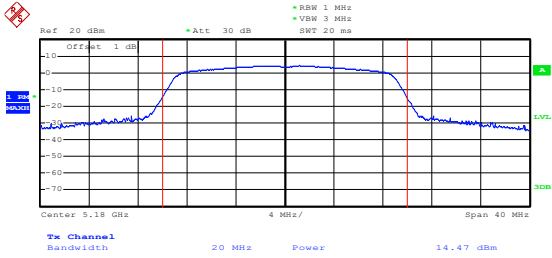
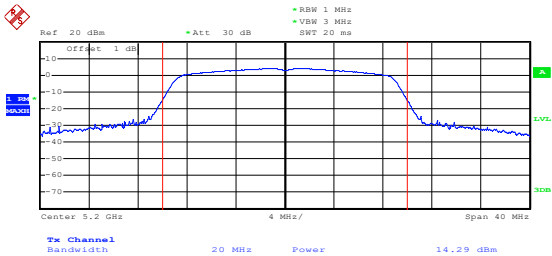
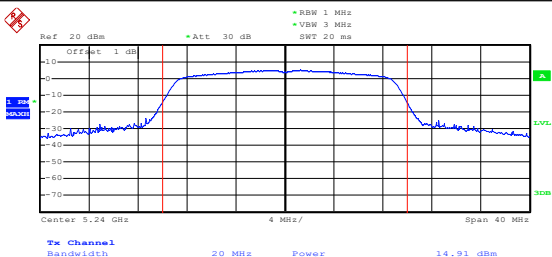
U-NII-1:5150-5250MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5180	15.59	23.98
	5200	15.55	23.98
	5240	15.97	23.98
802.11n-HT20	5180	14.47	23.98
	5200	14.29	23.98
	5240	14.91	23.98
802.11n-HT40	5190	13.29	23.98
	5230	13.47	23.98
802.11ac VHT20	5180	14.21	23.98
	5200	14.25	23.98
	5240	14.87	23.98
802.11ac VHT40	5190	13.21	23.98
	5230	13.50	23.98
802.11ac VHT80	5210	12.56	23.98

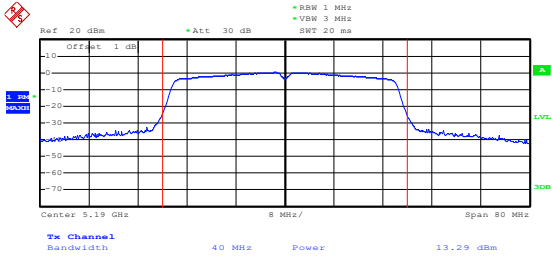
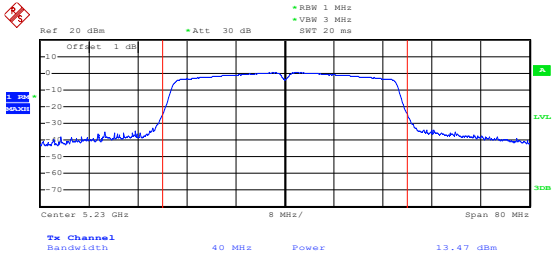
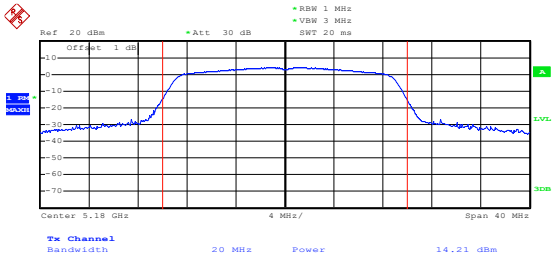
U-NII-2A: 5250-5350MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5260	15.04	23.98
	5280	15.34	23.98
	5320	15.13	23.98
802.11n-HT20	5260	14.38	23.98
	5280	14.75	23.98
	5320	14.56	23.98
802.11n-HT40	5270	13.67	23.98
	5310	13.60	23.98
802.11ac VHT20	5260	14.37	23.98
	5280	14.77	23.98
	5320	14.59	23.98
802.11ac VHT40	5270	13.61	23.98
	5310	13.40	23.98
802.11ac VHT80	5290	12.98	23.98

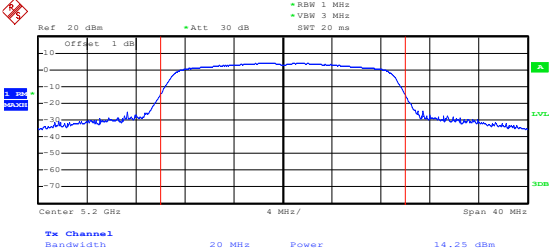
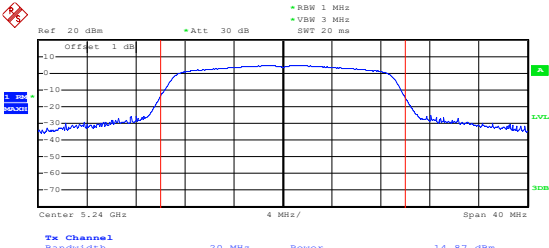
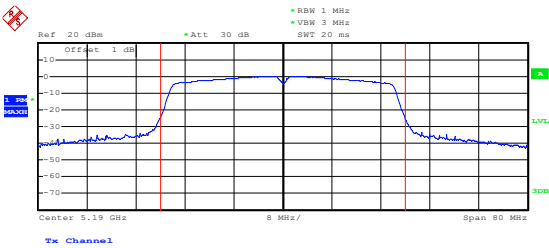
U-NII-3: 5725-5850MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5745	15.42	30.00
	5785	15.46	30.00
	5825	15.95	30.00
802.11n-HT20	5745	14.22	30.00
	5785	14.20	30.00
	5825	14.69	30.00
802.11n-HT40	5755	13.27	30.00
	5795	13.46	30.00
802.11ac VHT20	5745	14.23	30.00
	5785	14.39	30.00
	5825	14.71	30.00
802.11ac VHT40	5755	13.02	30.00
	5795	13.22	30.00
802.11ac VHT80	5775	12.28	30.00

5150-5250MHz

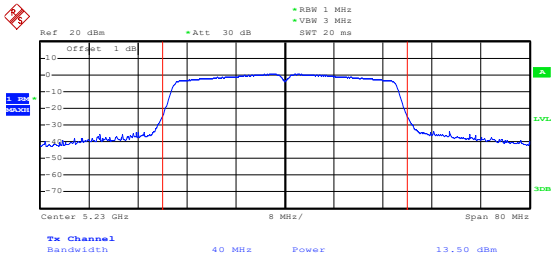
802.11a-Low	 Ref: 20 dBm *Att: 30 dB RBW 1 MHz VBW 3 MHz SWT 20 ms Offset: 1 dB Center 5.18 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.59 dBm Date: 19.DEC.2024 09:07:35
802.11a-Middle	 Ref: 20 dBm *Att: 30 dB RBW 1 MHz VBW 3 MHz SWT 20 ms Offset: 1 dB Center 5.2 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.55 dBm Date: 19.DEC.2024 09:09:34
802.11a-High	 Ref: 20 dBm *Att: 30 dB RBW 1 MHz VBW 3 MHz SWT 20 ms Offset: 1 dB Center 5.24 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.97 dBm Date: 19.DEC.2024 09:10:06

802.11n-HT20-Low	 Date: 19.DEC.2024 09:11:23
802.11n-HT20-Middle	 Date: 19.DEC.2024 09:10:58
802.11n-HT20-High	 Date: 19.DEC.2024 09:10:35

802.11n-HT40-Low	 Date: 19.DEC.2024 09:13:43
802.11n-HT40-High	 Date: 19.DEC.2024 09:14:08
802.11ac-VHT20-Low	 Date: 19.DEC.2024 09:11:51

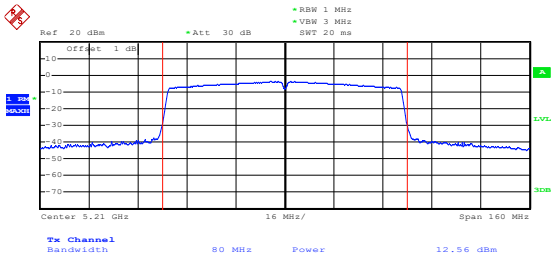
802.11ac-VHT20-Middle	 Date: 19.DEC.2024 09:12:18
802.11ac-VHT20-High	 Date: 19.DEC.2024 09:12:43
802.11ac-VHT40-Low	 Date: 19.DEC.2024 09:14:59

802.11ac-VHT40-High



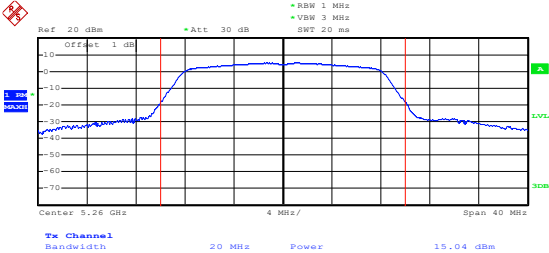
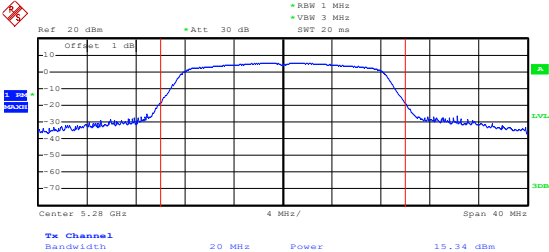
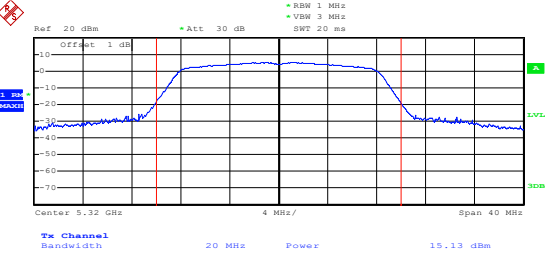
Date: 19.DEC.2024 09:14:33

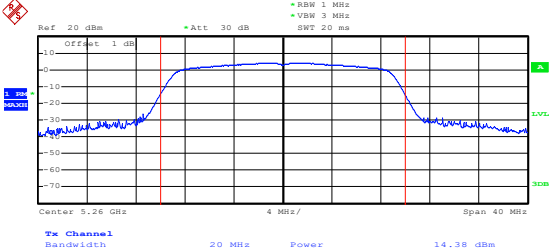
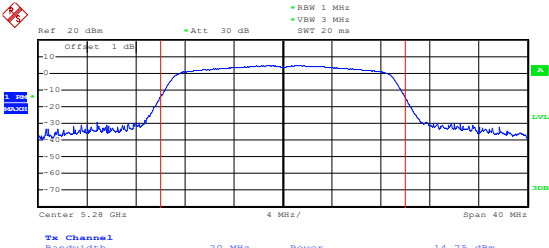
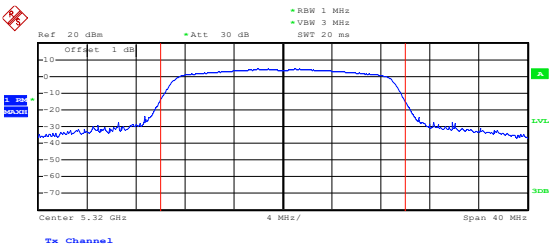
802.11ac-VHT80-Low

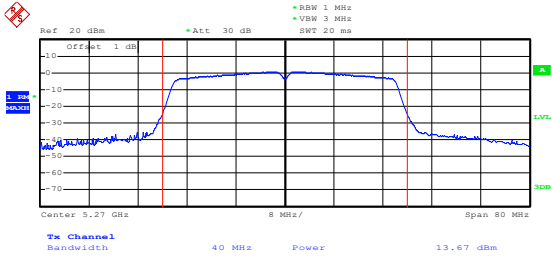
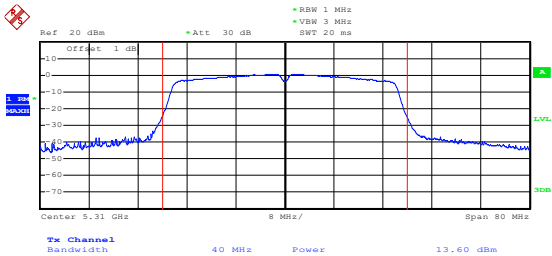
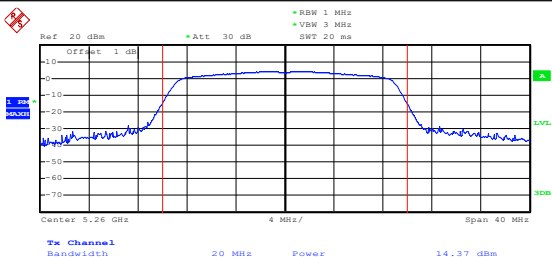


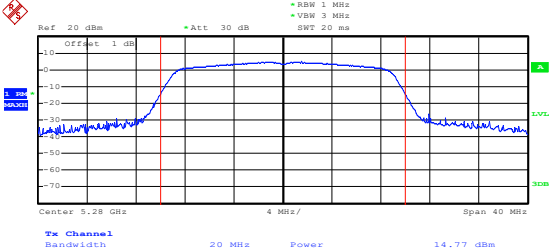
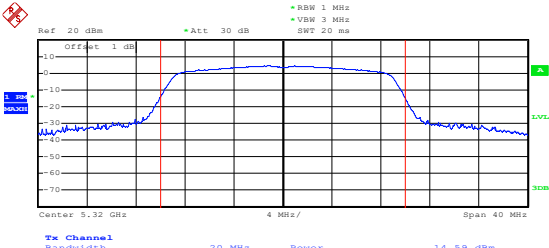
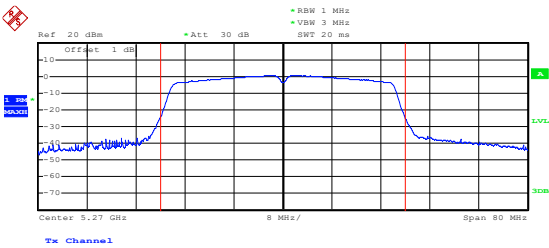
Date: 19.DEC.2024 09:16:48

5250-5350MHz

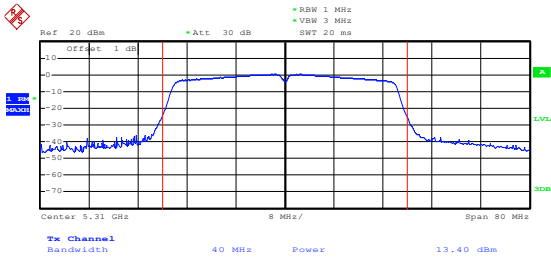
802.11a-Low	 Ref: 20 dBm *Att: 30 dB RBW 1 MHz VBW 3 MHz SWT 20 ms Offset: 1 dB Center 5.26 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.04 dBm Date: 19.DEC.2024 10:09:50
802.11a-Middle	 Ref: 20 dBm *Att: 30 dB RBW 1 MHz VBW 3 MHz SWT 20 ms Offset: 1 dB Center 5.28 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.34 dBm Date: 19.DEC.2024 10:10:22
802.11a-High	 Ref: 20 dBm *Att: 30 dB RBW 1 MHz VBW 3 MHz SWT 20 ms Offset: 1 dB Center 5.32 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.13 dBm Date: 19.DEC.2024 10:10:44

802.11n-HT20-Low	 Date: 19.DEC.2024 10:12:26
802.11n-HT20-Middle	 Date: 19.DEC.2024 10:12:03
802.11n-HT20-High	 Date: 19.DEC.2024 10:11:41

802.11n-HT40-Low	 Date: 19.DEC.2024 10:14:36
802.11n-HT40-High	 Date: 19.DEC.2024 10:15:03
802.11ac-VHT20-Low	 Date: 19.DEC.2024 10:12:48

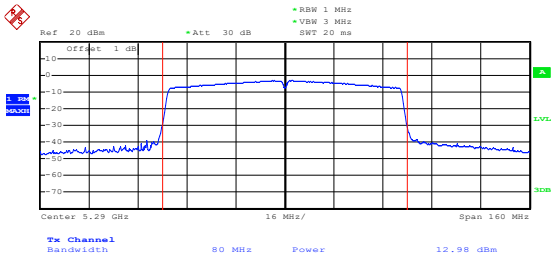
802.11ac-VHT20-Middle	 Date: 19.DEC.2024 10:13:08
802.11ac-VHT20-High	 Date: 19.DEC.2024 10:13:32
802.11ac-VHT40-Low	 Date: 19.DEC.2024 10:16:04

802.11ac-VHT40-High



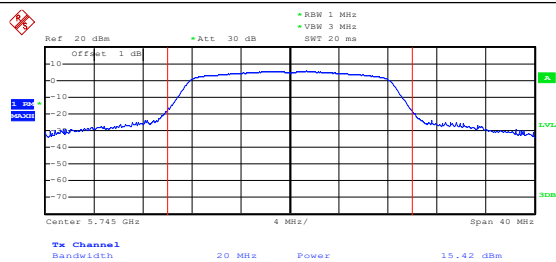
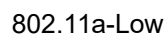
Date: 19.DEC.2024 10:15:42

802.11ac-VHT80-Low

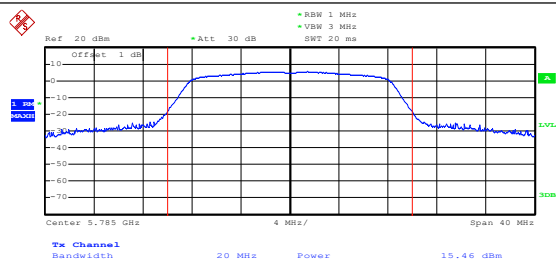
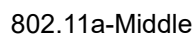


Date: 19.DEC.2024 10:16:51

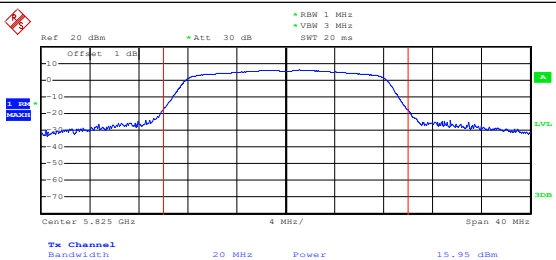
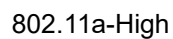
5725-5850MHz



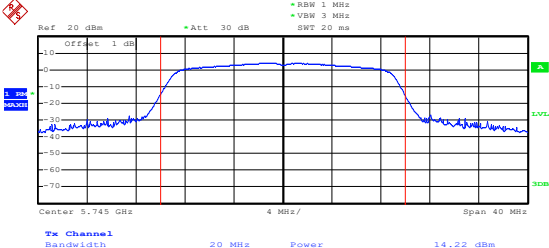
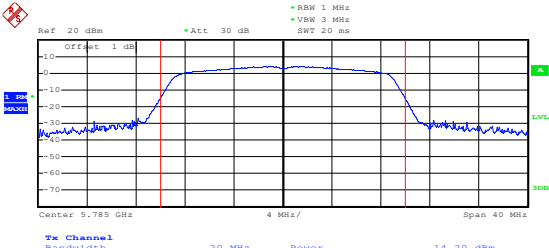
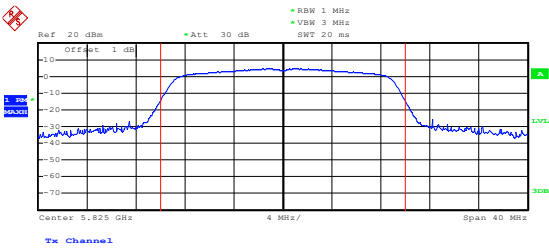
Date: 19.DEC.2024 10:56:08

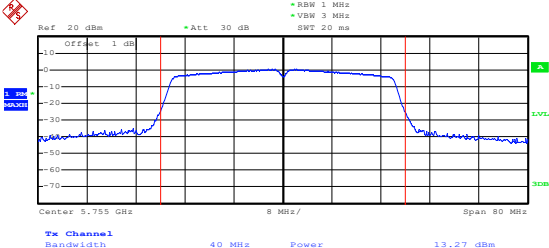
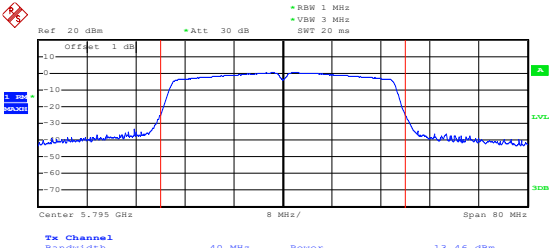
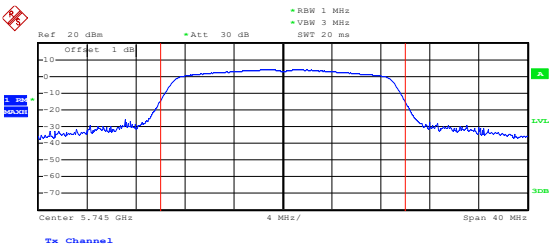


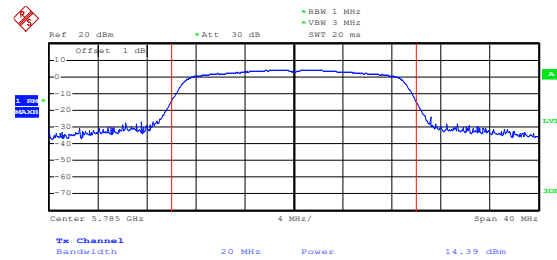
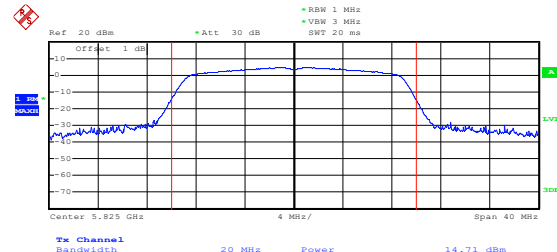
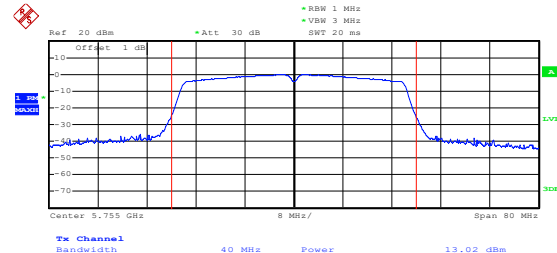
Date: 19.DEC.2024 10:56:31



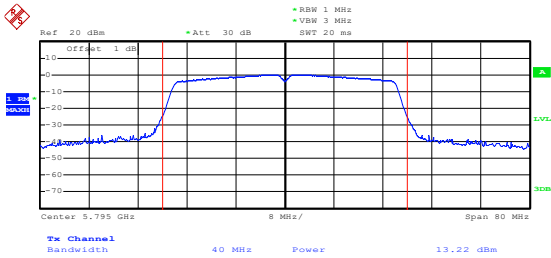
Date: 19.DEC.2024 10:56:54

802.11n-HT20-Low	 Date: 19.DEC.2024 10:57:58
802.11n-HT20-Middle	 Date: 19.DEC.2024 10:57:40
802.11n-HT20-High	 Date: 19.DEC.2024 10:57:16

802.11n-HT40-Low	 Date: 19.DEC.2024 10:59:40
802.11n-HT40-High	 Date: 19.DEC.2024 10:59:59
802.11ac-VHT20-Low	 Date: 19.DEC.2024 10:58:20

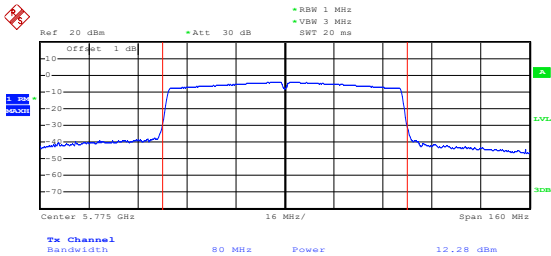
802.11ac-VHT20-Middle	 Date: 19.DEC.2024 10:58:38
802.11ac-VHT20-High	 Date: 19.DEC.2024 10:58:56
802.11ac-VHT40-Low	 Date: 19.DEC.2024 11:00:37

802.11ac-VHT40-High



Date: 19.DEC.2024 11:00:16

802.11ac-VHT80-Low



Date: 19.DEC.2024 11:01:11

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	503	0.097
100%		-10	500	0.096
100%		0	498	0.096
100%		+10	503	0.097
100%		+20	499	0.096
100%		+30	501	0.096
100%		+40	496	0.095
100%		+50	497	0.096
Low Battery power	3.08	+20	496	0.095
High Battery power	4.62	+20	496	0.095

U-NII-1: 5250-5350MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	3.85	-30	496	0.094
100%		-20	503	0.095
100%		-10	504	0.095
100%		0	498	0.094
100%		+10	497	0.094
100%		+20	496	0.094
100%		+30	495	0.094
100%		+40	500	0.095
100%		+50	500	0.095
Low Battery power	3.08	+20	502	0.095
High Battery power	4.62	+20	503	0.095

U-NII-1:5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	3.85	-30	502	0.087
100%		-20	500	0.086
100%		-10	500	0.086
100%		0	503	0.087
100%		+10	503	0.087
100%		+20	501	0.087
100%		+30	505	0.087
100%		+40	496	0.086
100%		+50	496	0.086
Low Battery power	3.08	+20	505	0.087
High Battery power	4.62	+20	496	0.086

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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