

TEST REPORT

Reference No...... : WTX24X03067504W001
FCC ID : 2BFOG-PXT51723
Applicant : ORDISSIMO SA
Address : 33 AV LEON GAMBETTA 92120 MONTROUGE FRANCE
Manufacturer : The same as Applicant
Address : The same as Applicant
Product Name : Pix-Star LUX 17
Model No...... : PXT517WR08H
Standards : FCC Part 15.407
Date of Receipt sample : 2024-03-28
Date of Test..... : 2024-08-16 to 2024-09-13
Date of Issue : 2024-09-13
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:



Mike Shi

Approved by:



Jason Su

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.....	14
3. ANTENNA REQUIREMENT	15
3.1 STANDARD APPLICABLE	15
3.2 EVALUATION INFORMATION	15
4. AUTOMATICALLY DISCONTINUE TRANSMISSION	16
4.1 STANDARD APPLICABLE	16
4.2 SUMMARY OF TEST RESULTS.....	16
5. POWER SPECTRAL DENSITY	17
5.1 STANDARD APPLICABLE	17
5.2 TEST PROCEDURE	17
5.3 SUMMARY OF TEST RESULTS/PLOTS.....	18
6. EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH	19
6.1 STANDARD APPLICABLE	19
6.2 TEST PROCEDURE	19
6.3 SUMMARY OF TEST RESULTS/PLOTS.....	21
7. MAXIMUM CONDUCTED OUTPUT POWER	22
7.1 STANDARD APPLICABLE	22
7.2 TEST PROCEDURE	22
7.3 SUMMARY OF TEST RESULTS/PLOTS.....	23
8. RADIATED SPURIOUS EMISSIONS	24
8.1 STANDARD APPLICABLE	24
8.2 TEST PROCEDURE	24
8.3 TEST RECEIVER SETUP	26
8.4 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	26
8.5 SUMMARY OF TEST RESULTS/PLOTS.....	26
9. FREQUENCY STABILITY	66
9.1 STANDARD APPLICABLE	66
9.2 TEST PROCEDURE	66
9.3 SUMMARY OF TEST RESULTS/PLOTS.....	66
10. CONDUCTED EMISSIONS	67
10.1 TEST PROCEDURE.....	67
10.2 BASIC TEST SETUP BLOCK DIAGRAM	67
10.3 TEST RECEIVER SETUP	67
10.4 SUMMARY OF TEST RESULTS/PLOTS	67
APPENDIX SUMMARY	70
APPENDIX A.....	71
APPENDIX B.....	85
APPENDIX C.....	111
APPENDIX D.....	125

APPENDIX PHOTOGRAPHS.....126

Report version

Version No.	Date of issue	Description
Rev.00	2024-09-13	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Pix-Star LUX 17
Trade Name:	PIX-STAR
Model No.:	PXT517WR08H
Adding Model(s):	/
Rated Voltage:	DC12V
Battery Capacity:	/
Power Adapter:	MODEL:GME24A-120200FUR INPUT:100-240V~ 50/60Hz 0.8A OUTPUT:DC12V,2A
<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-VHT20/40, 802.11ax-HE20/40,
Frequency Range:	5180-5240MHz, 5745-5825MHz
Max. RF Output Power:	Band 1: 15.74dBm (Conducted) Band 4: 14.83dBm (Conducted)
Type of Modulation:	QPSK, 16QAM, 64QAM,256QAM,1024QAM
Type of Antenna:	FPC Antenna
Antenna Gain:	Band 1: 3.42dBi Band 4: 3.80dBi
<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

Run commands and follow the instructions given by the manufacturer, you can start to test. During testing, Channel and Power Controlling commands provided by the customer was used to control the operating channel as well as the output power level. Test use the customer default power level, and to measure its highest possible emissions level, more detailed description as follows:

Mode	Test Frequency (MHz)												
	NCB: 20MHz												
	5180	5200	5240	5260	5300	5320	5500	5580	5700	5720	5745	5785	5825
802.11a 6Mbps	11	11	11	/	/	/	/	/	/	/	9	9	9
802.11n-HT20 MCS0	10	10	10	/	/	/	/	/	/	/	8	8	8
802.11ac-VHT20 MCS0	10	10	10	/	/	/	/	/	/	/	8	8	8
802.11ax-HE20 MCS0	10	10	10	/	/	/	/	/	/	/	8	8	8
Mode	NCB: 40MHz												
	5190	5230	5270	5310	5510	5550	5670	5710	5755	5795			
802.11n-HT40 MCS0	10	10	/	/	/	/	/	/	8	8			
802.11ac-VHT4	10	10	/	/	/	/	/	/	8	8			

Reference No.: WTX24X03067504W001

0 MCS0										
802.11ax-HE40 MCS0	10	10	/	/	/	/	/	/	8	8

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, 5745MHz, 5785MHz,5825MHz
TM2	802.11n-HT20	5180MHz,5200MHz,5240MHz, 5745MHz, 5785MHz,5825MHz
TM3	802.11ac-VHT20	5180MHz,5200MHz,5240MHz, 5745MHz, 5785MHz,5825MHz
TM4	802.11ax-HE20	5180MHz,5200MHz,5240MHz, 5745MHz, 5785MHz,5825MHz
TM5	802.11n-HT40	5190MHz,5230MHz, 5755MHz,5795MHz
TM6	802.11ac-VHT40	5190MHz,5230MHz, 5755MHz,5795MHz
TM7	802.11ax-HE40	5190MHz,5230MHz, 5755MHz,5795MHz

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
DC Cable	1.8	Unshielded	With Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Earphone cable	1.2	Unshielded	Without Ferrite

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

1.8 Measurement Uncertainty

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

1.9 Test Equipment List and Details

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
☐ 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
☐ 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
☐ 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
☒ 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
☒ Chamber C: Above 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2024-02-27	2025-02-26
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
☐ Conducted Room 1#						
WTXE1104A 1029	EMI Test Receiver	Rohde & Schwarz	ESCI	100525	2023-12-12	2024-12-11
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
☒ 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

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 FPC 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.: WTX24X03067504W001

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:

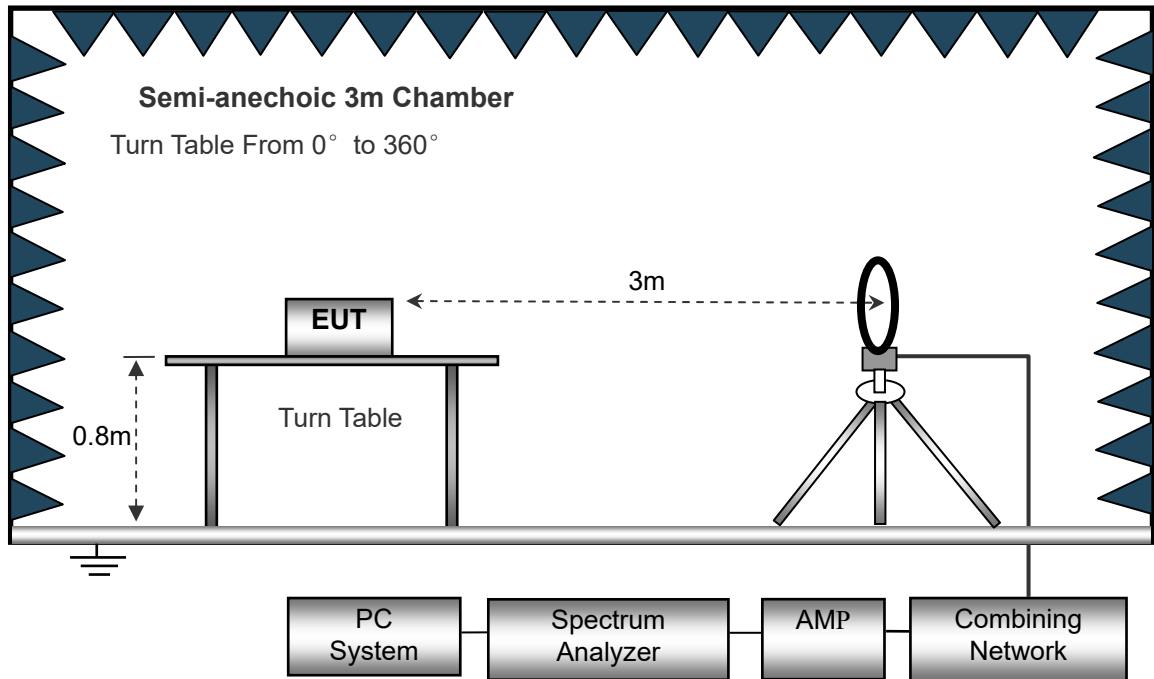
- E is the field strength in V/m;
- d is the measurement distance in meters;
- EIRP is the equivalent isotropically radiated power in watts.

8.2 Test Procedure

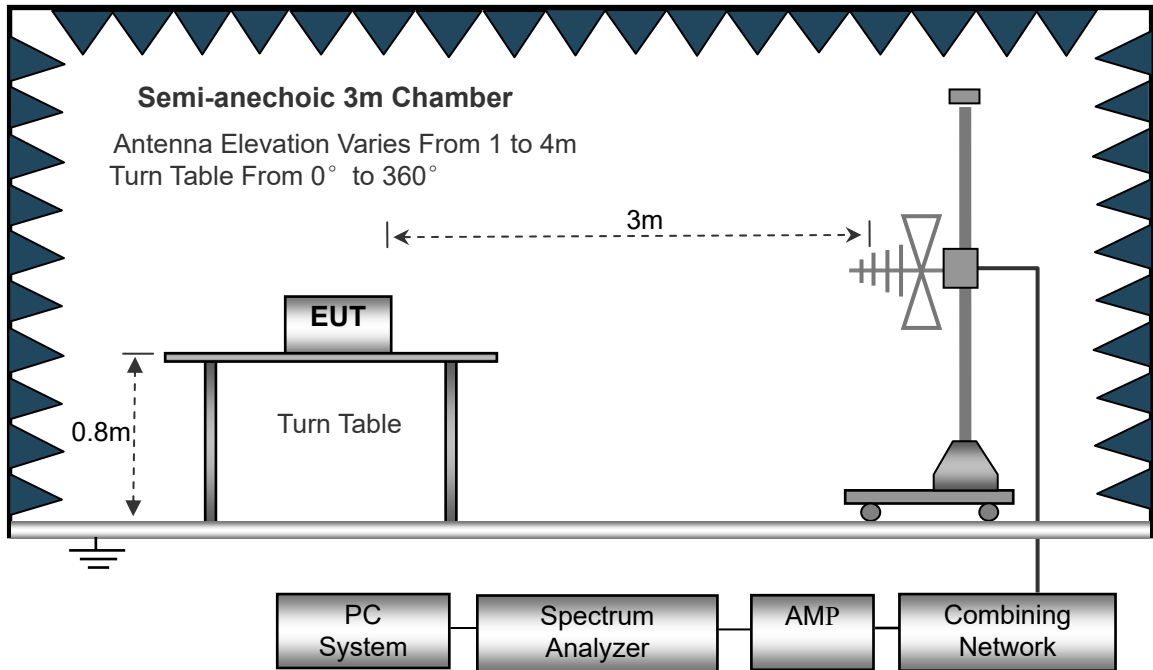
The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.407(b)(6) and FCC Part 15.209 Limit..

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.

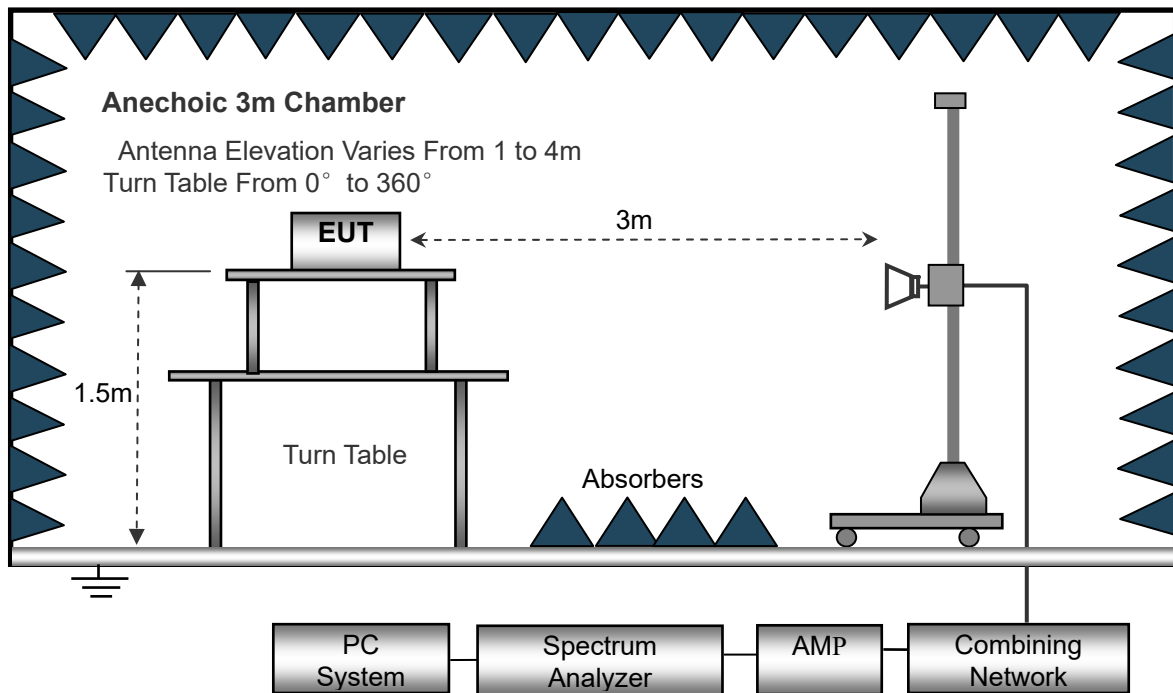
The test setup for emission measurement below 30MHz.



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:

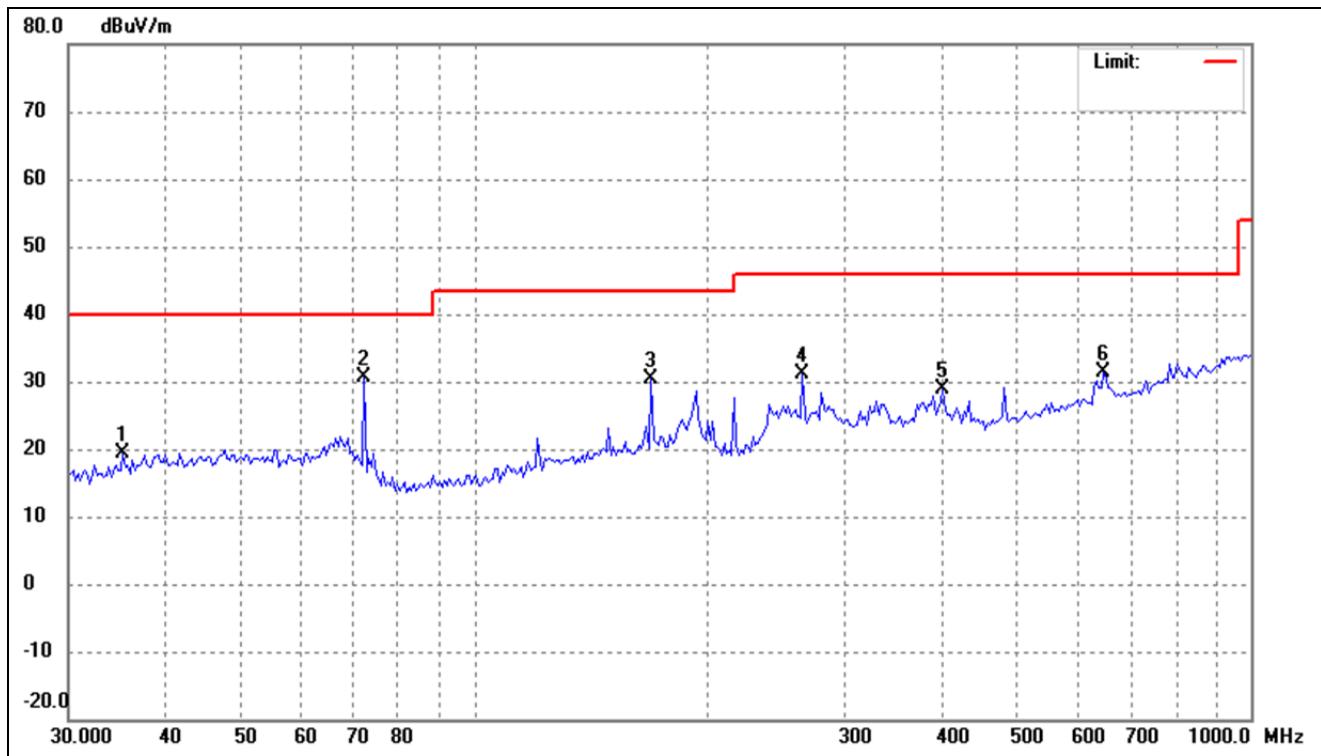
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

8.5 Summary of Test Results/Plots

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

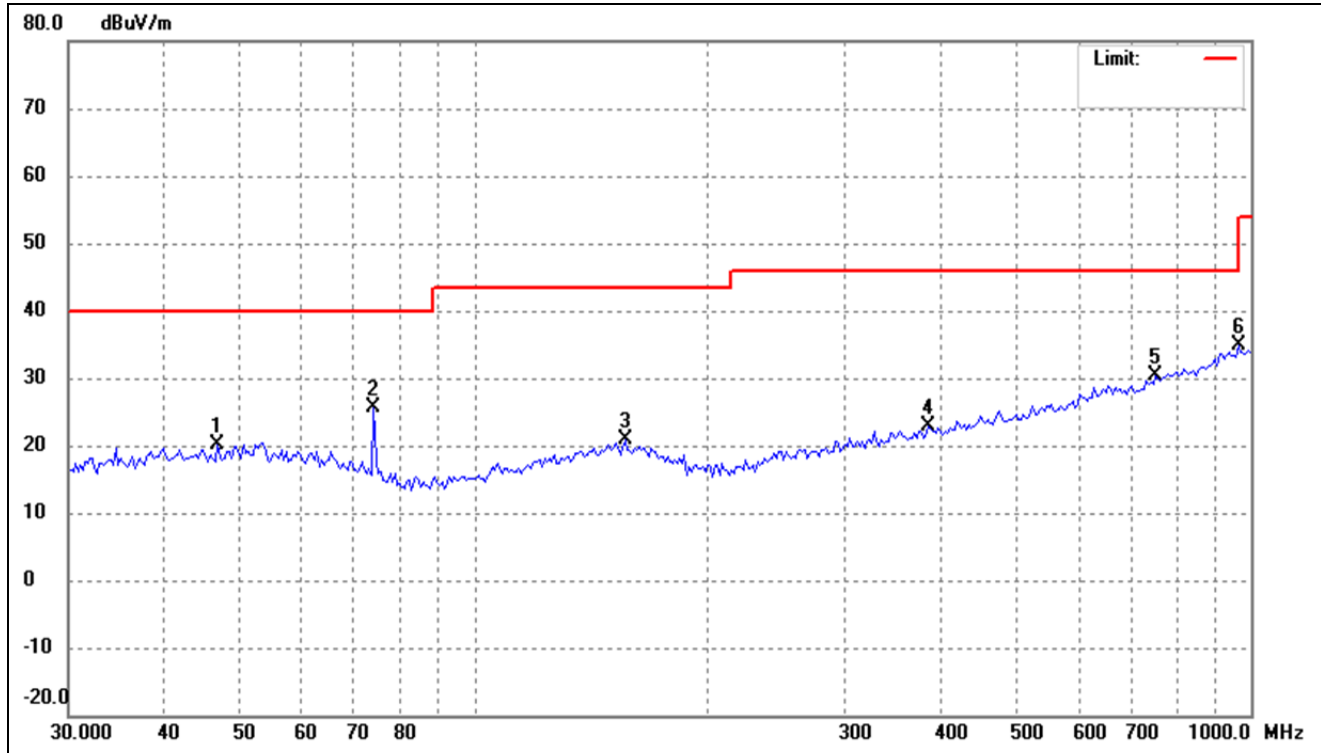
- Spurious Emission From 30MHz to 1GHz
- 5150-5250MHz

802.11a(Worst case)			
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	35.2626	28.22	-8.96	19.26	40.00	-20.74	-	-	peak
2	72.2111	41.46	-10.74	30.72	40.00	-9.28	-	-	peak
3	168.9970	38.59	-8.29	30.30	43.50	-13.20	-	-	peak
4	264.9709	40.15	-9.08	31.07	46.00	-14.93	-	-	peak
5	401.1050	35.20	-6.24	28.96	46.00	-17.04	-	-	peak
6	646.8217	32.95	-1.59	31.36	46.00	-14.64	-	-	peak

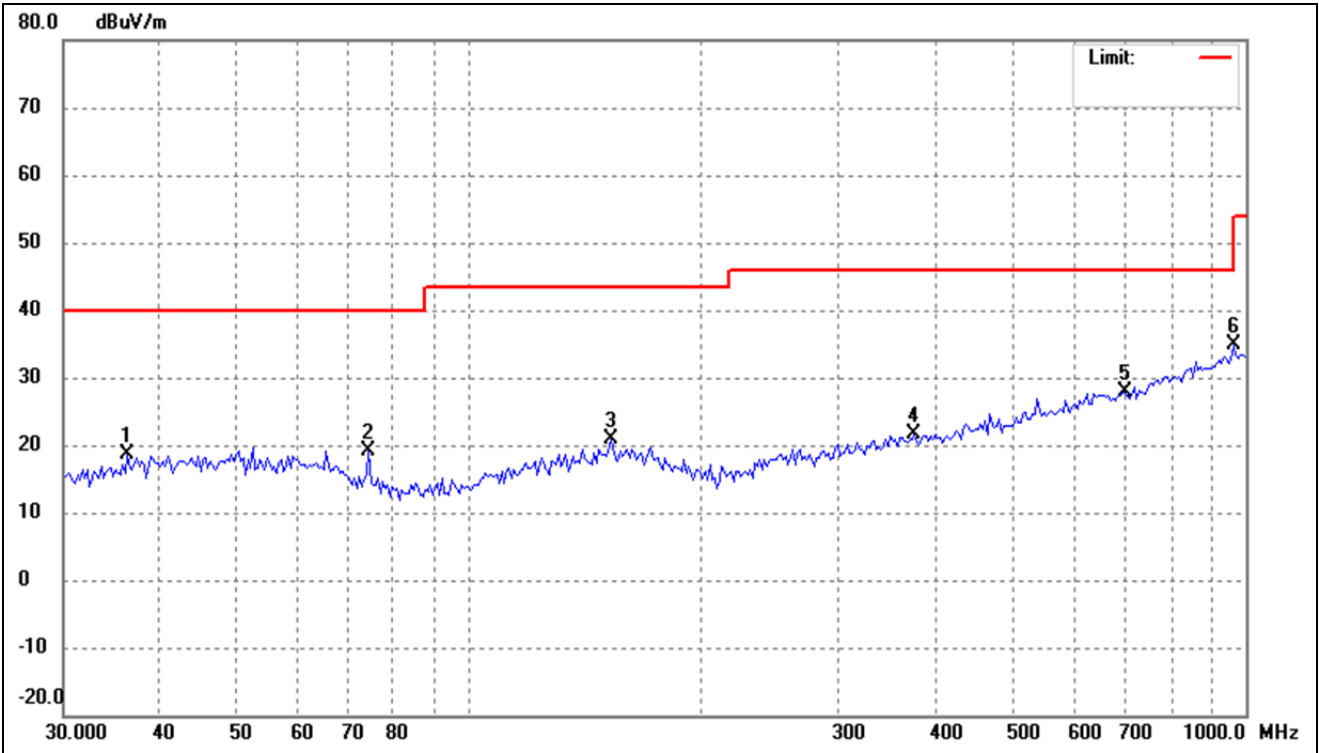
802.11a(Worst case)			
Test Channel	5180MHz(Worst case)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.7077	27.98	-7.83	20.15	40.00	-19.85	-	-	peak
2	74.2696	36.76	-11.18	25.58	40.00	-14.42	-	-	peak
3	156.4259	28.85	-8.05	20.80	43.50	-22.70	-	-	peak
4	384.5447	29.32	-6.48	22.84	46.00	-23.16	-	-	peak
5	754.9628	30.14	0.26	30.40	46.00	-15.60	-	-	peak
6	965.4742	31.47	3.37	34.84	54.00	-19.16	-	-	peak

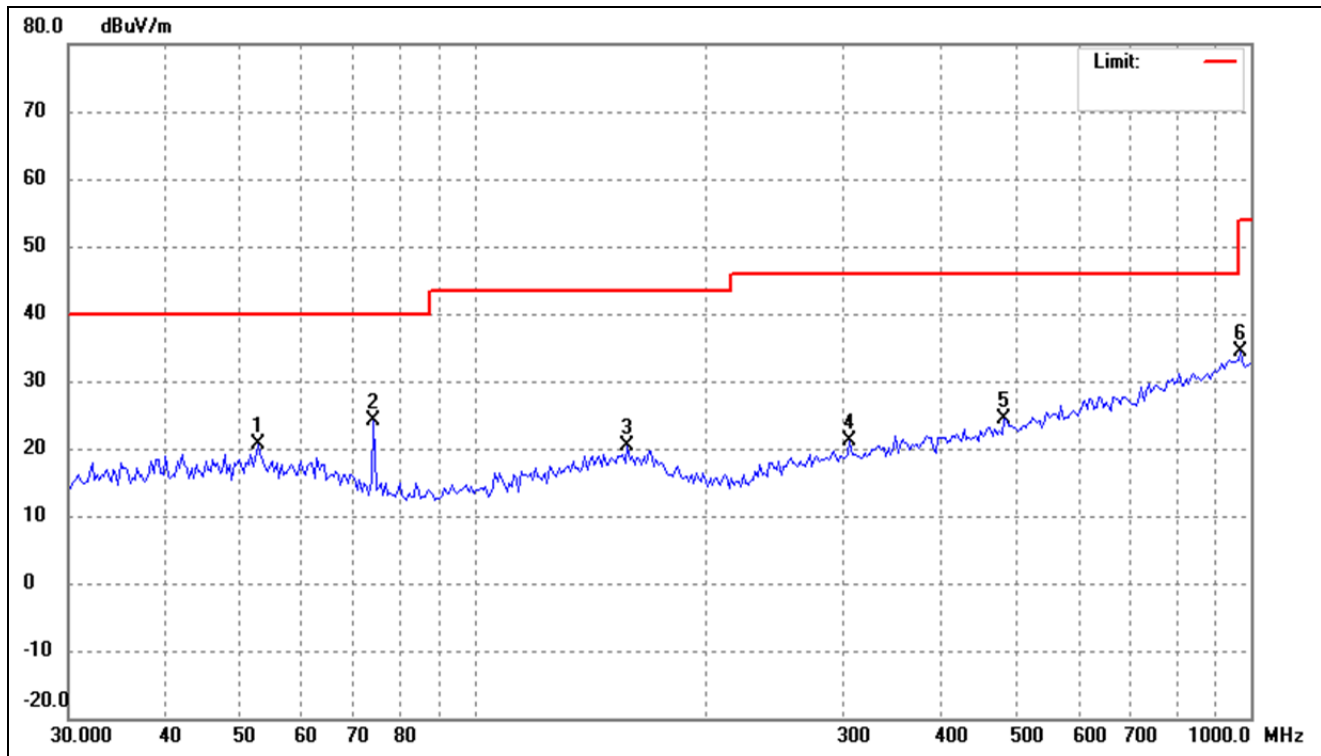
➤ 5725-5850MHz

802.11a(worst case)			
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	36.2678	27.39	-8.75	18.64	40.00	-21.36	-	-	peak
2	74.2696	30.31	-11.18	19.13	40.00	-20.87	-	-	peak
3	152.0902	28.95	-8.05	20.90	43.50	-22.60	-	-	peak
4	373.8862	28.17	-6.62	21.55	46.00	-24.45	-	-	peak
5	698.8035	28.95	-1.11	27.84	46.00	-18.16	-	-	peak
6	965.4742	31.39	3.37	34.76	54.00	-19.24	-	-	peak

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

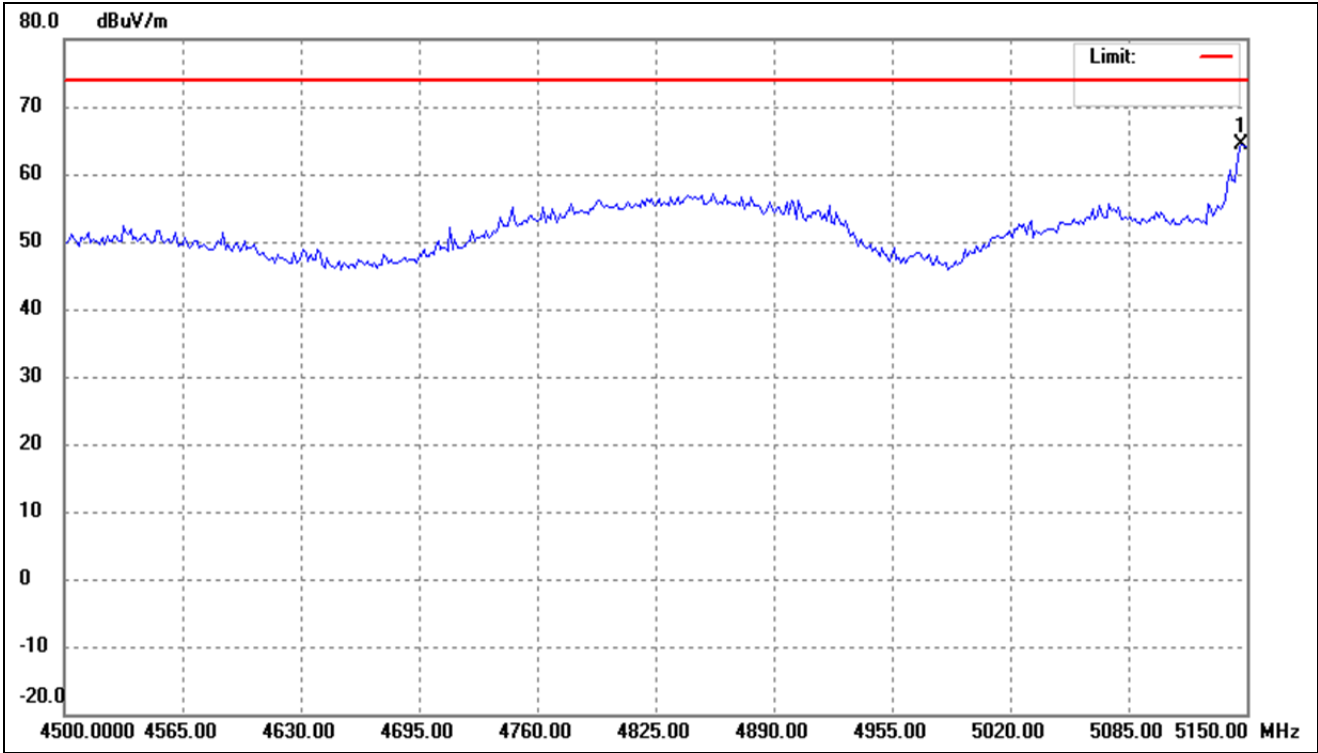


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	52.6345	28.41	-7.87	20.54	40.00	-19.46	-	-	peak
2	74.2696	35.33	-11.18	24.15	40.00	-15.85	-	-	peak
3	157.5290	28.32	-8.05	20.27	43.50	-23.23	-	-	peak
4	304.9548	28.82	-7.76	21.06	46.00	-24.94	-	-	peak
5	481.5112	29.27	-4.94	24.33	46.00	-21.67	-	-	peak
6	972.2827	30.97	3.39	34.36	54.00	-19.64	-	-	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.

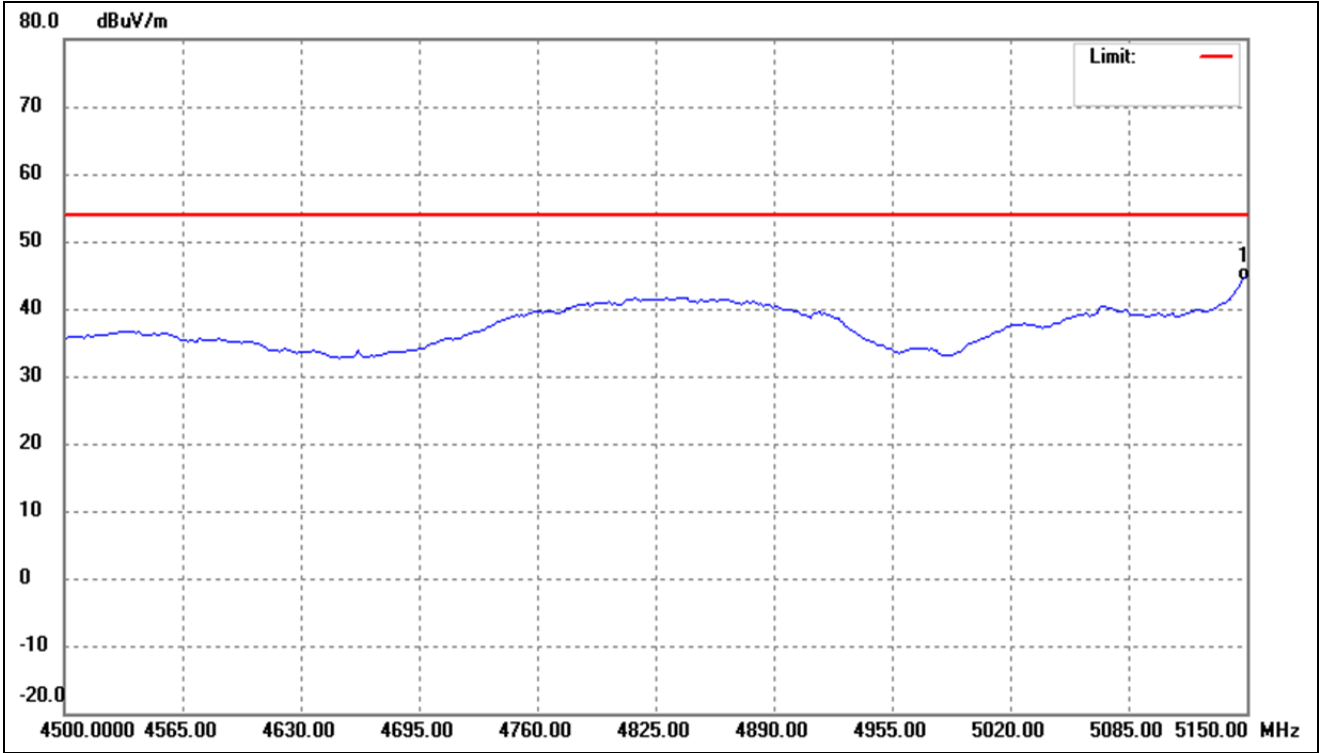
➤ Spurious Emission above 1GHz

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



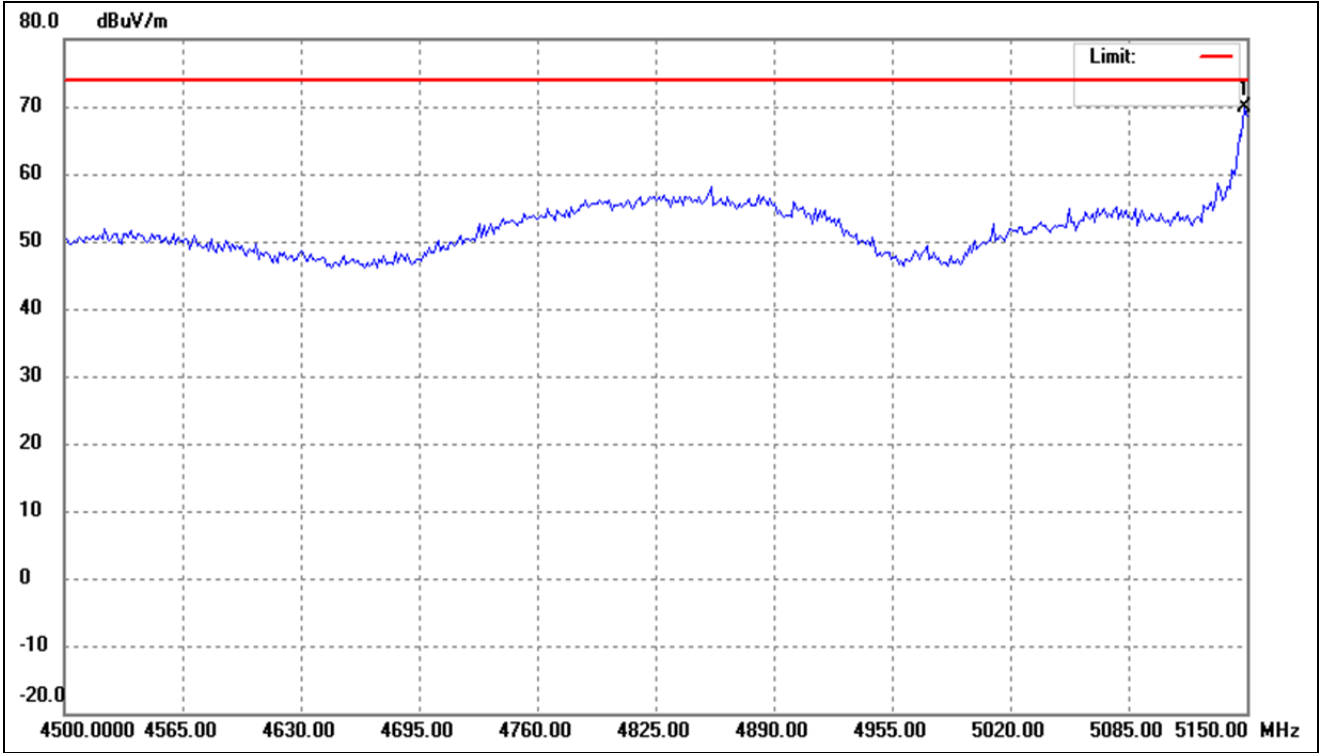
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5147.395	76.82	-12.54	64.28	74.00	-9.72	-	-	peak

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



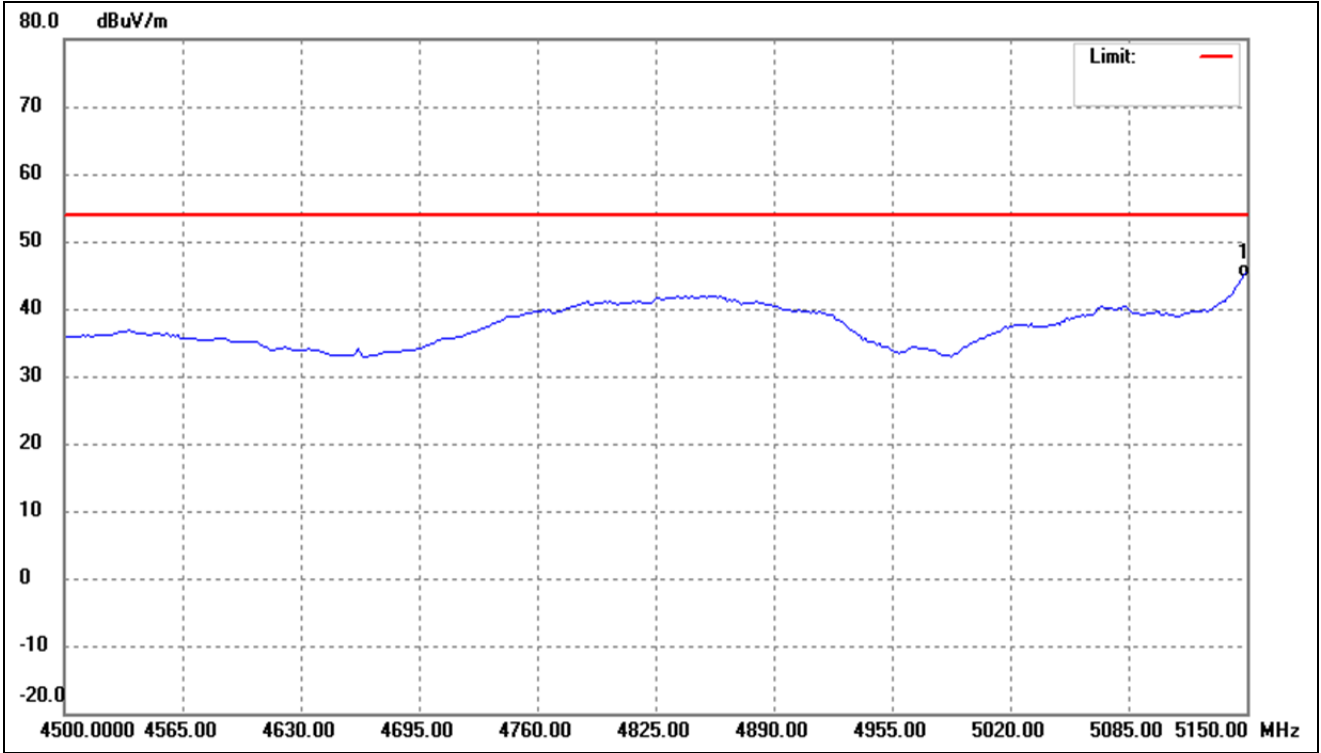
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	57.75	-12.53	45.22	54.00	-8.78	-	-	AVG

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



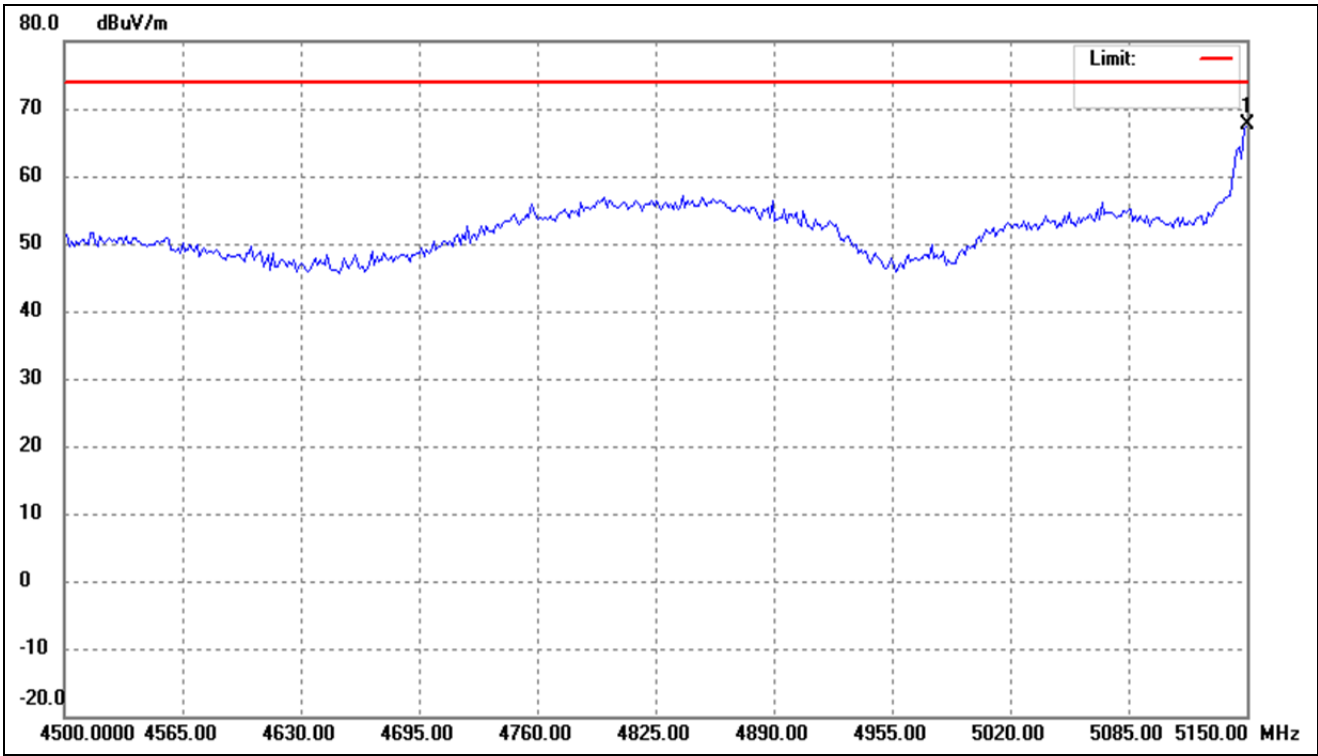
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5148.697	82.48	-12.53	69.95	74.00	-4.05	-	-	peak

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



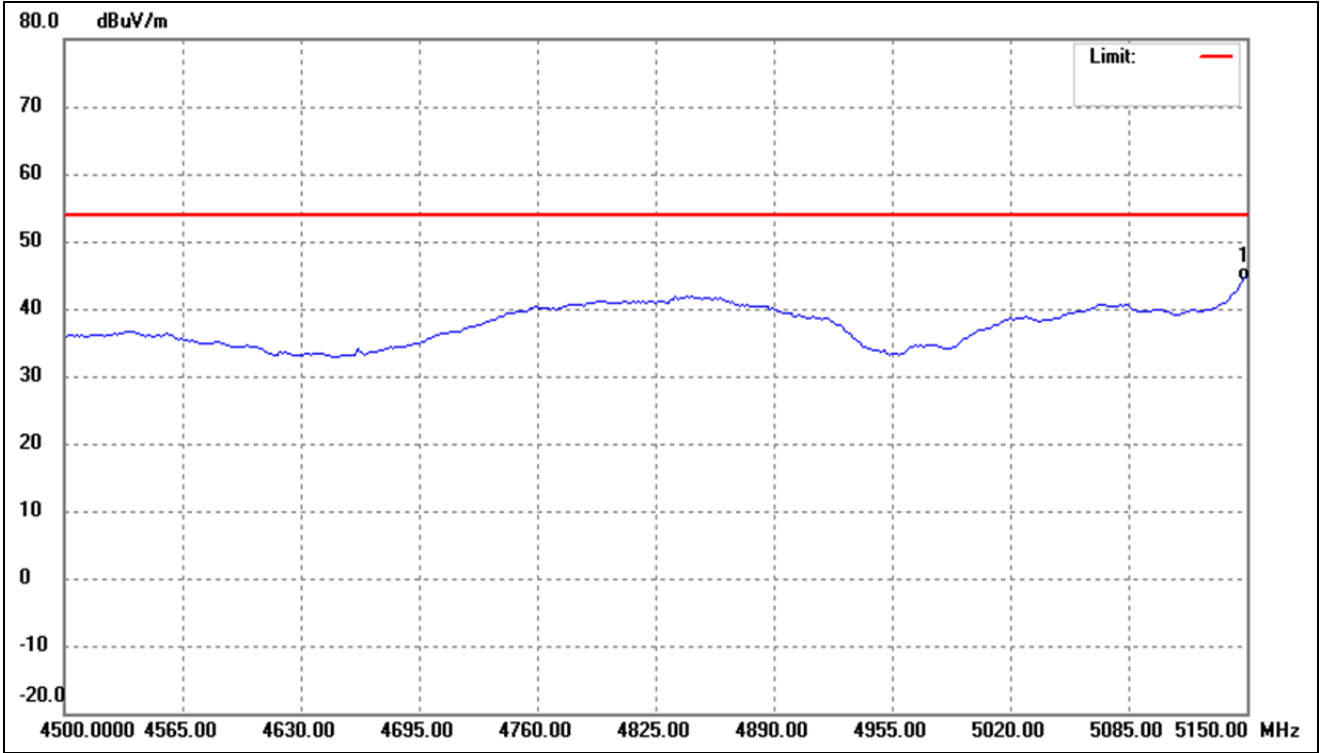
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	58.06	-12.53	45.53	54.00	-8.47	-	-	AVG

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



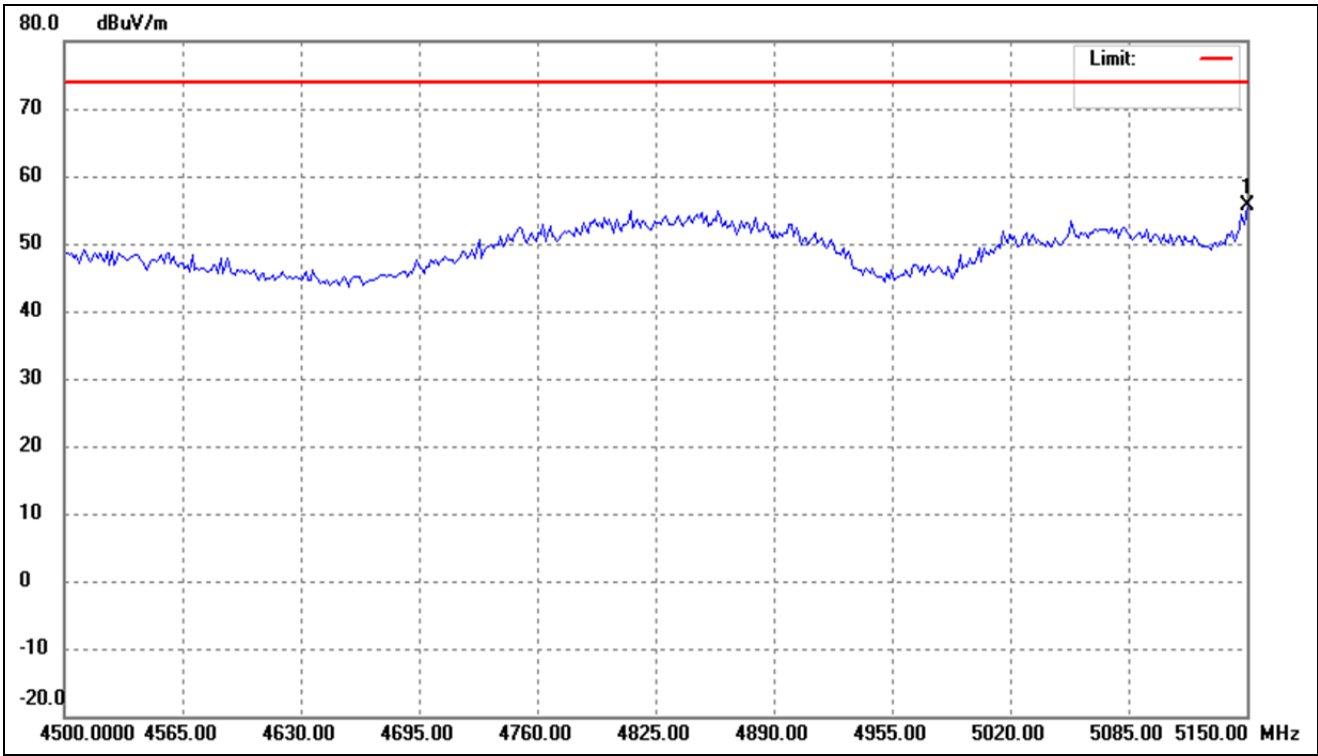
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	5150.000	80.13	-12.53	67.60	74.00	-6.40	-	-	peak

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



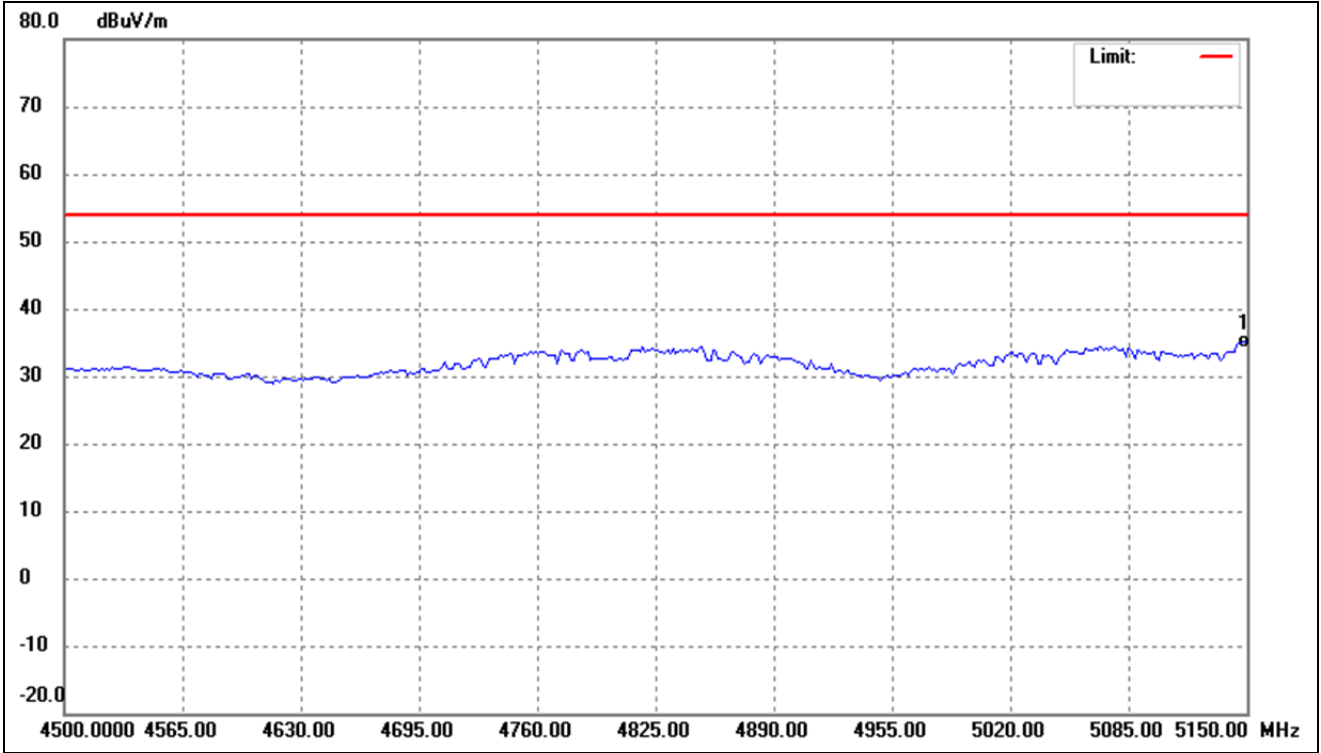
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	57.63	-12.53	45.10	54.00	-8.90	-	-	AVG

802.11ax-HE20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Horizontal(worst case)



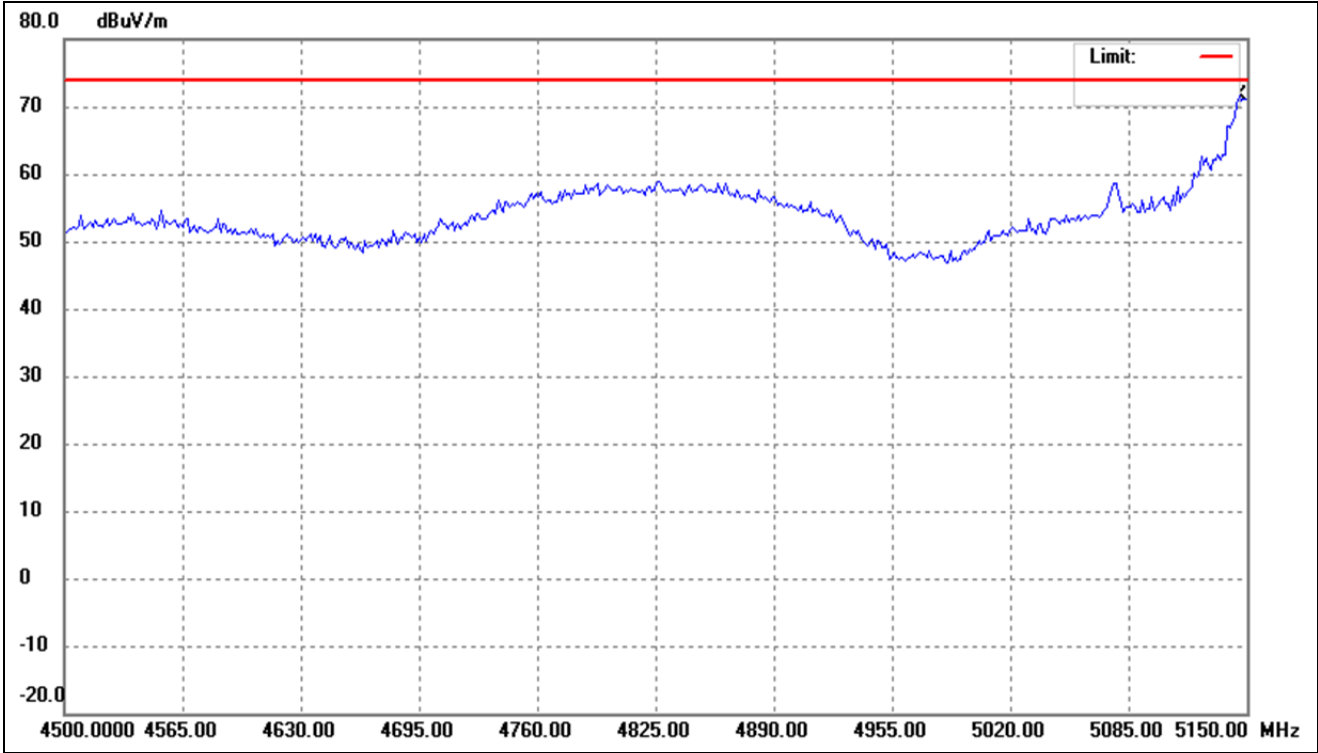
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	68.26	-12.53	55.73	74.00	-18.27	-	-	peak

802.11ax-HE20- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Horizontal(worst case)



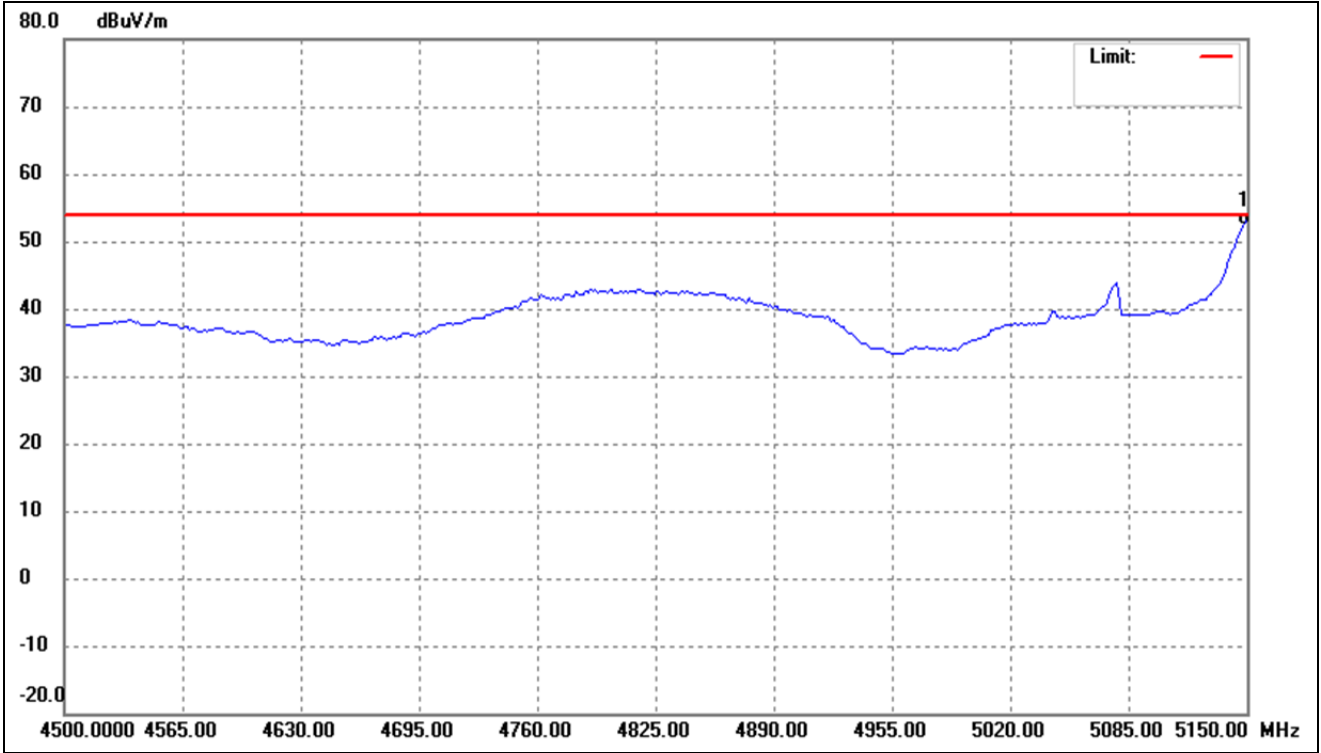
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5148.697	47.58	-12.53	35.05	54.00	-18.95	-	-	AVG

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



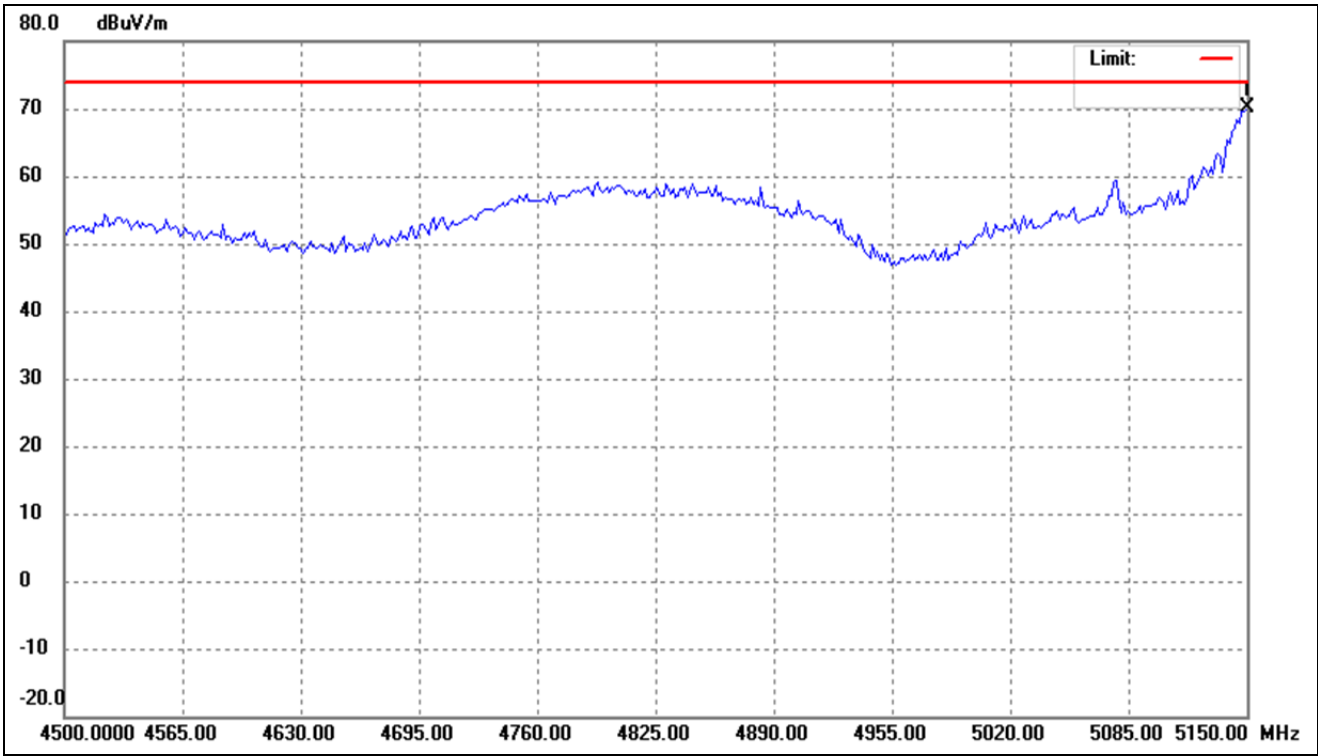
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5146.092	84.06	-12.55	71.51	74.00	-2.49	-	-	peak

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



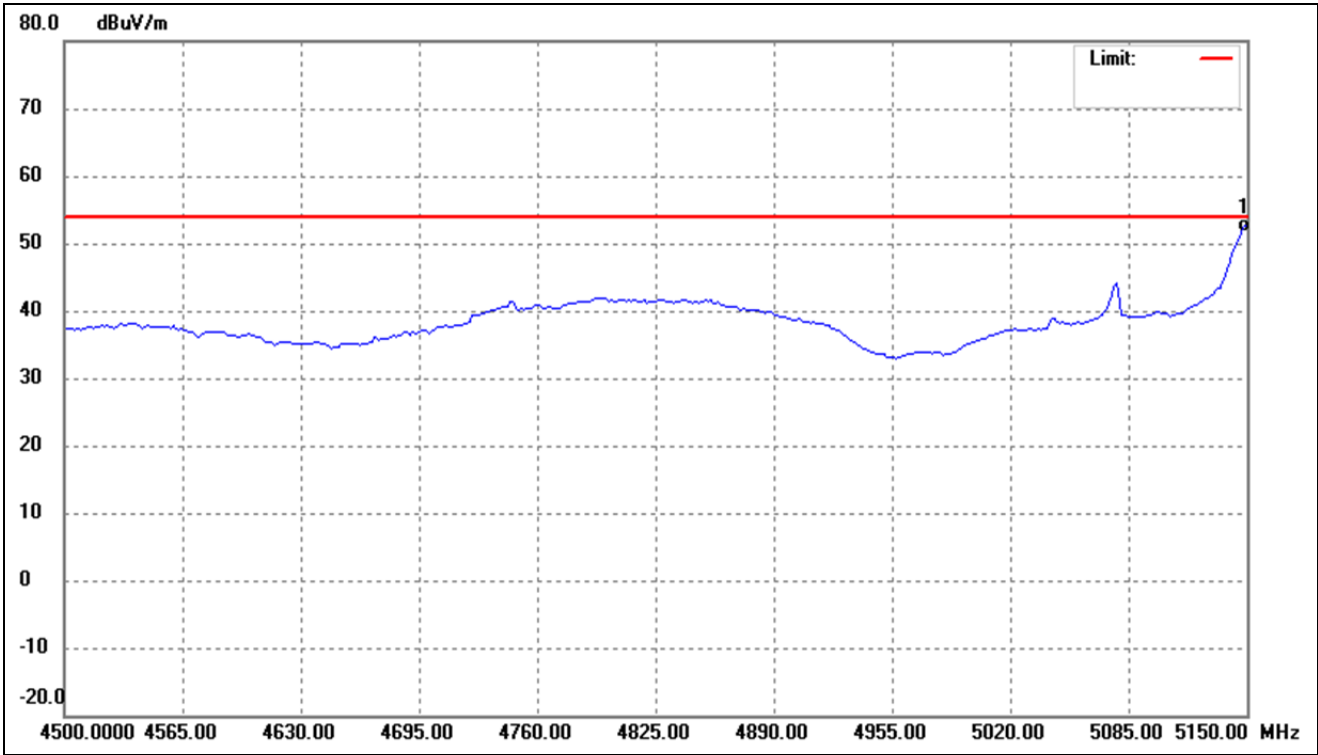
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	65.89	-12.53	53.36	54.00	-0.64	-	-	AVG

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



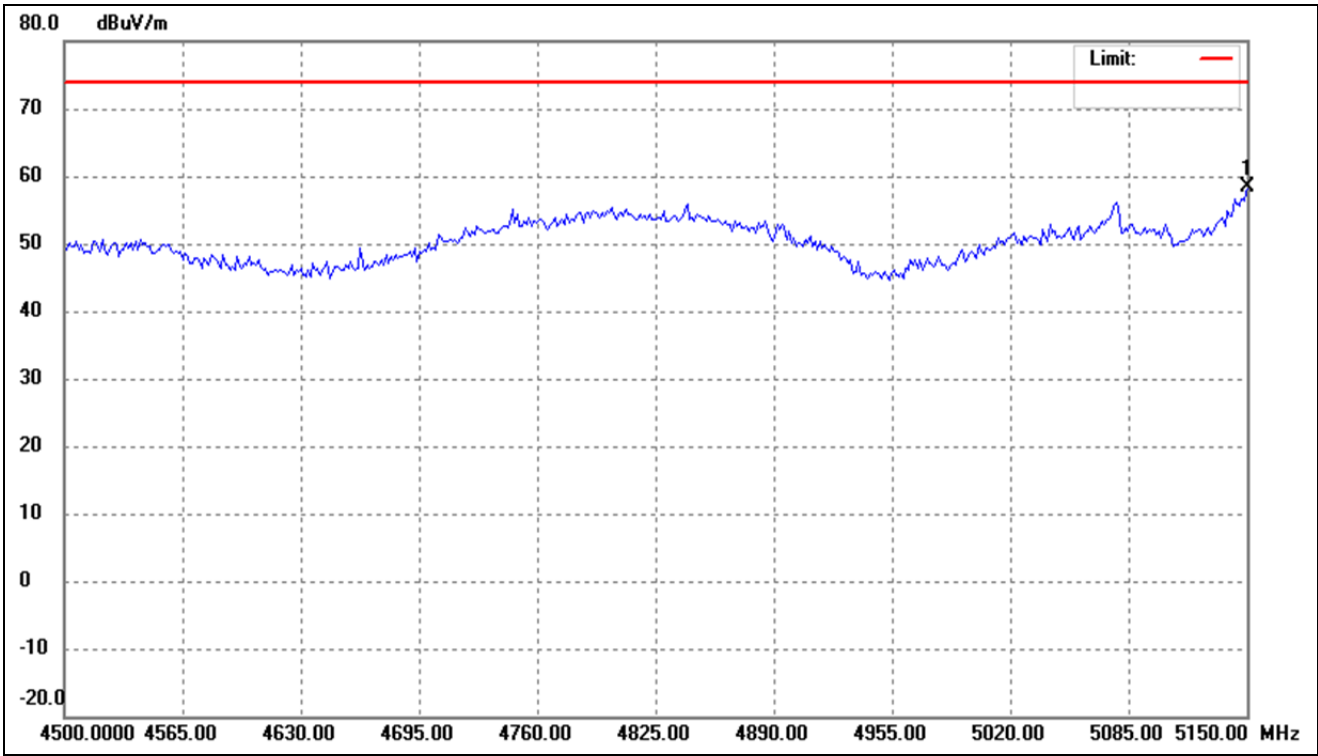
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	5150.000	82.77	-12.53	70.24	74.00	-3.76	-	-	peak

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



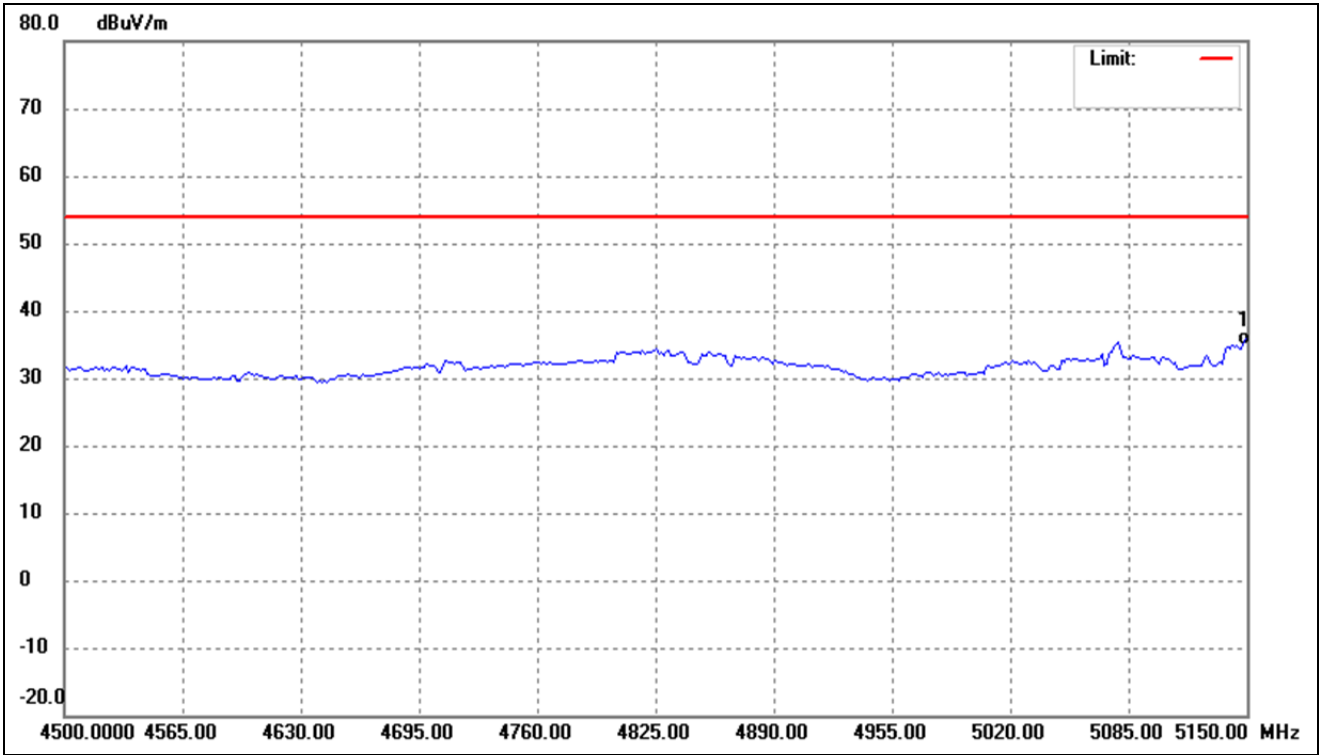
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	5150.000	65.19	-12.53	52.66	54.00	-1.34	-	-	AVG

802.11ax-HE40- Restricted Bandedge			
Test Channel	band 5.15-5.25GHz	Polarity:	Horizontal(worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	5150.000	70.95	-12.53	58.42	74.00	-15.58	-	-	peak

802.11ax-HE40- 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	48.49	-12.53	35.96	54.00	-18.04	-	-	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.

- Harmonics And Spurious Emissions
- For the frequency band 5.150-5.250GHz, 5.725-5.850GHz (802.11a)

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel (5180MHz)							
10360	44.58	7.11	51.69	74	-22.31	H	PK
10360	37.12	7.11	44.23	54	-9.77	H	AV
15540	38.33	8.22	46.55	74	-27.45	H	PK
15540	34.12	8.22	42.34	54	-11.66	H	AV
10360	43.36	7.11	50.47	74	-23.53	V	PK
10360	36.15	7.11	43.26	54	-10.74	V	AV
15540	36.26	8.22	44.48	74	-29.52	V	PK
15540	31.74	8.22	39.96	54	-14.04	V	AV
Middle Channel (5200MHz)							
10400	43.81	7.22	51.03	74	-22.97	H	PK
10400	37.23	7.22	44.45	54	-9.55	H	AV
15600	37.69	8.67	46.36	74	-27.64	H	PK
15600	33.59	8.67	42.26	54	-11.74	H	AV
10400	42.83	7.22	50.05	74	-23.95	V	PK
10400	37.72	7.22	44.94	54	-9.06	V	AV
15600	35.44	8.67	44.11	74	-29.89	V	PK
15600	31.36	8.67	40.03	54	-13.97	V	AV
High Channel (5240MHz)							
10480	44.12	7.69	51.81	74	-22.19	H	PK
10480	37.69	7.69	45.38	54	-8.62	H	AV
15720	37.98	8.93	46.91	74	-27.09	H	PK
15720	32.54	8.93	41.47	54	-12.53	H	AV
10480	43.68	7.69	51.37	74	-22.63	V	PK
10480	37.35	7.69	45.04	54	-8.96	V	AV
15720	34.78	8.93	43.71	74	-30.29	V	PK
15720	31.60	8.93	40.53	54	-13.47	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	44.24	9.45	53.69	74	-20.31	H	PK
11490	37.24	9.45	46.69	54	-7.31	H	AV
17235	38.46	10.36	48.82	74	-25.18	H	PK
17235	32.79	10.36	43.15	54	-10.85	H	AV
11490	43.62	9.45	53.07	74	-20.93	V	PK
11490	36.42	9.45	45.87	54	-8.13	V	AV
17235	35.94	10.36	46.30	74	-27.70	V	PK
17235	31.54	10.36	41.90	54	-12.10	V	AV
Middle Channel (5785MHz)							
11570	44.24	9.62	53.86	74	-20.14	H	PK
11570	36.92	9.62	46.54	54	-7.46	H	AV
17355	37.28	10.67	47.95	74	-26.05	H	PK
17355	33.34	10.67	44.01	54	-9.99	H	AV
11570	42.49	9.62	52.11	74	-21.89	V	PK
11570	36.55	9.62	46.17	54	-7.83	V	AV
17355	35.71	10.67	46.38	74	-27.62	V	PK
17355	31.49	10.67	42.16	54	-11.84	V	AV
High Channel (5825MHz)							
11650	42.80	9.84	52.64	74	-21.36	H	PK
11650	36.42	9.84	46.26	54	-7.74	H	AV
17475	35.56	10.95	46.51	74	-27.49	H	PK
17475	29.09	10.95	40.04	54	-13.96	H	AV
11650	40.44	9.84	50.28	74	-23.72	V	PK
11650	33.54	9.84	43.38	54	-10.62	V	AV
17475	33.93	10.95	44.88	74	-29.12	V	PK
17475	27.30	10.95	38.25	54	-15.75	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-35.25	-27
Highest	Above 5350	-43.05	-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	-46.09	-27
	5650 to 5700	-33.05	-27 to -17
	5700 to 5720	-27.77	-17 to 15.6
	5720 to 5725	-17.64	15.6 to 27
Highest	5850 to 5855	-14.73	27 to 15.6
	5855 to 5875	-21.75	15.6 to -17
	5875 to 5925	-33.26	-17 to -27
	Above 5925	-38.81	-27
Note: the data just list the worst cases			

- For the frequency band 5.150-5.250GHz, 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	42.37	7.11	49.48	74	-24.52	H	PK
10360	37.75	7.11	44.86	54	-9.14	H	AV
15540	35.60	8.22	43.82	74	-30.18	H	PK
15540	29.97	8.22	38.19	54	-15.81	H	AV
10360	39.81	7.11	46.92	74	-27.08	V	PK
10360	33.88	7.11	40.99	54	-13.01	V	AV
15540	32.99	8.22	41.21	74	-32.79	V	PK
15540	28.62	8.22	36.84	54	-17.16	V	AV
Middle Channel (5200MHz)							
10400	43.90	7.22	51.12	74	-22.88	H	PK
10400	38.04	7.22	45.26	54	-8.74	H	AV
15600	36.50	8.67	45.17	74	-28.83	H	PK
15600	32.54	8.67	41.21	54	-12.79	H	AV
10400	42.92	7.22	50.14	74	-23.86	V	PK
10400	36.27	7.22	43.49	54	-10.51	V	AV
15600	35.23	8.67	43.90	74	-30.10	V	PK
15600	29.81	8.67	38.48	54	-15.52	V	AV
High Channel (5240MHz)							
10480	43.85	7.69	51.54	74	-22.46	H	PK
10480	37.65	7.69	45.34	54	-8.66	H	AV
15720	36.81	8.93	45.74	74	-28.26	H	PK
15720	31.73	8.93	40.66	54	-13.34	H	AV
10480	39.65	7.69	47.34	74	-26.66	V	PK
10480	34.05	7.69	41.74	54	-12.26	V	AV
15720	34.89	8.93	43.82	74	-30.18	V	PK
15720	28.08	8.93	37.01	54	-16.99	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	43.47	9.45	52.92	74	-21.08	H	PK
11490	37.39	9.45	46.84	54	-7.16	H	AV
17235	36.58	10.36	46.94	74	-27.06	H	PK
17235	29.88	10.36	40.24	54	-13.76	H	AV
11490	38.69	9.45	48.14	74	-25.86	V	PK
11490	35.66	9.45	45.11	54	-8.89	V	AV
17235	33.50	10.36	43.86	74	-30.14	V	PK
17235	27.76	10.36	38.12	54	-15.88	V	AV
Middle Channel (5785MHz)							
11570	42.36	9.62	51.98	74	-22.02	H	PK
11570	36.71	9.62	46.33	54	-7.67	H	AV
17355	35.55	10.67	46.22	74	-27.78	H	PK
17355	30.02	10.67	40.69	54	-13.31	H	AV
11570	42.02	9.62	51.64	74	-22.36	V	PK
11570	33.71	9.62	43.33	54	-10.67	V	AV
17355	33.42	10.67	44.09	74	-29.91	V	PK
17355	28.09	10.67	38.76	54	-15.24	V	AV
High Channel (5825MHz)							
11650	41.89	9.84	51.73	74	-22.27	H	PK
11650	35.58	9.84	45.42	54	-8.58	H	AV
17475	37.58	10.95	48.53	74	-25.47	H	PK
17475	30.13	10.95	41.08	54	-12.92	H	AV
11650	40.99	9.84	50.83	74	-23.17	V	PK
11650	34.40	9.84	44.24	54	-9.76	V	AV
17475	35.79	10.95	46.74	74	-27.26	V	PK
17475	28.94	10.95	39.89	54	-14.11	V	AV

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-30.42	-27
Highest	Above 5350	-40.53	-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	-49.15	-27
	5650 to 5700	-38.34	-27 to -17
	5700 to 5720	-27.07	-17 to 15.6
	5720 to 5725	-18.74	15.6 to 27
Highest	5850 to 5855	-14.35	27 to 15.6
	5855 to 5875	-27.58	15.6 to -17
	5875 to 5925	-34.06	-17 to -27
	Above 5925	-41.51	-27
Note: the data just list the worst cases			

- For the frequency band 5.150-5.250GHz, 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	41.47	7.11	48.58	74	-25.42	H	PK
10360	36.79	7.11	43.90	54	-10.10	H	AV
15540	35.04	8.22	43.26	74	-30.74	H	PK
15540	31.10	8.22	39.32	54	-14.68	H	AV
10360	40.34	7.11	47.45	74	-26.55	V	PK
10360	34.70	7.11	41.81	54	-12.19	V	AV
15540	33.96	8.22	42.18	74	-31.82	V	PK
15540	28.32	8.22	36.54	54	-17.46	V	PK
Middle Channel (5200MHz)							
10400	43.93	7.22	51.15	74	-22.85	H	PK
10400	37.22	7.22	44.44	54	-9.56	H	AV
15600	37.66	8.67	46.33	74	-27.67	H	PK
15600	32.25	8.67	40.92	54	-13.08	H	AV
10400	43.94	7.22	51.16	74	-22.84	V	PK
10400	36.71	7.22	43.93	54	-10.07	V	AV
15600	35.99	8.67	44.66	74	-29.34	V	PK
15600	29.89	8.67	38.56	54	-15.44	V	PK
High Channel (5240MHz)							
10480	41.40	7.69	49.09	74	-24.91	H	PK
10480	36.00	7.69	43.69	54	-10.31	H	AV
15720	36.50	8.93	45.43	74	-28.57	H	PK
15720	30.39	8.93	39.32	54	-14.68	H	AV
10480	40.83	7.69	48.52	74	-25.48	V	PK
10480	35.12	7.69	42.81	54	-11.19	V	AV
15720	34.49	8.93	43.42	74	-30.58	V	PK
15720	28.80	8.93	37.73	54	-16.27	V	PK

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	39.98	9.45	49.43	74	-24.57	H	PK
11490	33.42	9.45	42.87	54	-11.13	H	AV
17235	33.82	10.36	44.18	74	-29.82	H	PK
17235	27.57	10.36	37.93	54	-16.07	H	AV
11490	38.01	9.45	47.46	74	-26.54	V	PK
11490	33.82	9.45	43.27	54	-10.73	V	AV
11490	32.47	9.45	41.92	74	-32.08	V	PK
17235	26.12	10.36	36.48	54	-17.52	V	PK
Middle Channel (5785MHz)							
11570	43.11	9.62	52.73	74	-21.27	H	PK
11570	36.34	9.62	45.96	54	-8.04	H	AV
17355	35.55	10.67	46.22	74	-27.78	H	PK
17355	29.77	10.67	40.44	54	-13.56	H	AV
11570	42.05	9.62	51.67	74	-22.33	V	PK
11570	34.38	9.62	44.00	54	-10.00	V	AV
17355	32.89	10.67	43.56	74	-30.44	V	PK
17355	29.35	10.67	40.02	54	-13.98	V	PK
High Channel (5825MHz)							
11650	42.30	9.84	52.14	74	-21.86	H	PK
11650	35.24	9.84	45.08	54	-8.92	H	AV
17475	35.95	10.95	46.90	74	-27.10	H	PK
17475	30.43	10.95	41.38	54	-12.62	H	AV
11650	39.56	9.84	49.40	74	-24.60	V	PK
11650	33.81	9.84	43.65	54	-10.35	V	AV
17475	34.86	10.95	45.81	74	-28.19	V	PK
17475	28.75	10.95	39.70	54	-14.30	V	PK

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-29.69	-27
Highest	Above 5350	-38.66	-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	-45.84	-27
	5650 to 5700	-40.67	-27 to -17
	5700 to 5720	-24.44	-17 to 15.6
	5720 to 5725	-20.44	15.6 to 27
Highest	5850 to 5855	-13.18	27 to 15.6
	5855 to 5875	-24.05	15.6 to -17
	5875 to 5925	-36.15	-17 to -27
	Above 5925	-38.98	-27
Note: the data just list the worst cases			

- For the frequency band 5.150-5.250GHz, 5.725-5.850GHz (802.11ax HE20)
- 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	41.88	7.11	48.99	74	-25.01	H	PK
10360	35.51	7.11	42.62	54	-11.38	H	AV
15540	35.56	8.22	43.78	74	-30.22	H	PK
15540	30.25	8.22	38.47	54	-15.53	H	AV
10360	40.79	7.11	47.90	74	-26.10	V	PK
10360	35.03	7.11	42.14	54	-11.86	V	AV
15540	32.42	8.22	40.64	74	-33.36	V	PK
15540	26.48	8.22	34.70	54	-19.30	V	PK
Middle Channel (5200MHz)							
10400	43.86	7.22	51.08	74	-22.92	H	PK
10400	38.66	7.22	45.88	54	-8.12	H	AV
15600	37.98	8.67	46.65	74	-27.35	H	PK
15600	32.88	8.67	41.55	54	-12.45	H	AV
10400	43.91	7.22	51.13	74	-22.87	V	PK
10400	36.86	7.22	44.08	54	-9.92	V	AV
15600	35.31	8.67	43.98	74	-30.02	V	PK
15600	30.19	8.67	38.86	54	-15.14	V	PK
High Channel (5240MHz)							
10480	41.65	7.69	49.34	74	-24.66	H	PK
10480	36.38	7.69	44.07	54	-9.93	H	AV
15720	35.48	8.93	44.41	74	-29.59	H	PK
15720	30.83	8.93	39.76	54	-14.24	H	AV
10480	41.14	7.69	48.83	74	-25.17	V	PK
10480	35.70	7.69	43.39	54	-10.61	V	AV
15720	34.34	8.93	43.27	74	-30.73	V	PK
15720	28.47	8.93	37.40	54	-16.60	V	PK

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5745MHz)							
11490	42.04	9.45	51.49	74	-22.51	H	PK
11490	35.96	9.45	45.41	54	-8.59	H	AV
17235	37.63	10.36	47.99	74	-26.01	H	PK
17235	31.22	10.36	41.58	54	-12.42	H	AV
11490	41.44	9.45	50.89	74	-23.11	V	PK
11490	40.11	9.45	49.56	74	-24.44	V	AV
11490	34.85	9.45	44.30	54	-9.70	V	PK
17235	35.75	10.36	46.11	74	-27.89	V	PK
Middle Channel (5785MHz)							
11570	43.71	9.62	53.33	74	-20.67	H	PK
11570	35.99	9.62	45.61	54	-8.39	H	AV
17355	35.51	10.67	46.18	74	-27.82	H	PK
17355	28.64	10.67	39.31	54	-14.69	H	AV
11570	41.10	9.62	50.72	74	-23.28	V	PK
11570	35.46	9.62	45.08	54	-8.92	V	AV
17355	34.08	10.67	44.75	74	-29.25	V	PK
17355	28.26	10.67	38.93	54	-15.07	V	PK
High Channel (5825MHz)							
11650	42.21	9.84	52.05	74	-21.95	H	PK
11650	36.15	9.84	45.99	54	-8.01	H	AV
17475	36.53	10.95	47.48	74	-26.52	H	PK
17475	29.84	10.95	40.79	54	-13.21	H	AV
11650	39.63	9.84	49.47	74	-24.53	V	PK
11650	32.92	9.84	42.76	54	-11.24	V	AV
17475	35.56	10.95	46.51	74	-27.49	V	PK
17475	27.03	10.95	37.98	54	-16.02	V	PK

➤ Out of Band edge 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-30.72	-27
Highest	Above 5350	-39.16	-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	-44.68	-27
	5650 to 5700	-40.54	-27 to -17
	5700 to 5720	-26.08	-17 to 15.6
	5720 to 5725	-20.02	15.6 to 27
Highest	5850 to 5855	-12.03	27 to 15.6
	5855 to 5875	-23.31	15.6 to -17
	5875 to 5925	-37.32	-17 to -27
	Above 5925	-39.72	-27
Note: the data just list the worst cases			

- For the frequency band 5.150-5.250GHz, 5.725-5.850GHz (802.11n HT40)
- 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 (5190MHz)							
10380	45.54	7.25	52.79	74	-21.21	H	PK
10380	36.73	7.25	43.98	54	-10.02	H	AV
15570	37.22	8.33	45.55	74	-28.45	H	PK
15570	31.37	8.33	39.70	54	-14.30	H	AV
10380	40.31	7.25	47.56	74	-26.44	V	PK
10380	31.00	7.25	38.25	54	-15.75	V	AV
15570	31.68	8.33	40.01	74	-33.99	V	PK
15570	26.26	8.33	34.59	54	-19.41	V	PK
High Channel (5230MHz)							
10460	44.40	7.54	51.94	74	-22.06	H	PK
10460	39.08	7.54	46.62	54	-7.38	H	AV
15690	37.51	8.86	46.37	74	-27.63	H	PK
15690	31.55	8.86	40.41	54	-13.59	H	AV
10460	39.50	7.54	47.04	74	-26.96	V	PK
10460	32.04	7.54	39.58	54	-14.42	V	AV
15690	31.88	8.86	40.74	74	-33.26	V	PK
15690	26.86	8.86	35.72	54	-18.28	V	PK

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel (5755MHz)							
11510	44.15	9.65	53.80	74	-20.20	H	PK
11510	37.17	9.65	46.82	54	-7.18	H	AV
17265	36.53	10.87	47.40	74	-26.60	H	PK
17265	32.17	10.87	43.04	54	-10.96	H	AV
11510	39.27	9.65	48.92	74	-25.08	V	PK
11510	32.62	9.65	42.27	54	-11.73	V	AV
17265	33.49	10.87	44.36	74	-29.64	V	PK
17265	27.49	10.87	38.36	54	-15.64	V	AV
High Channel (5795MHz)							
11590	42.53	9.81	52.34	74	-21.66	H	PK
11590	36.65	9.81	46.46	54	-7.54	H	AV
17385	37.92	10.89	48.81	74	-25.19	H	PK
17385	31.79	10.89	42.68	54	-11.32	H	AV
11590	40.41	9.81	50.22	74	-23.78	V	PK
11590	33.57	9.81	43.38	54	-10.62	V	AV
17385	33.72	10.89	44.61	74	-29.39	V	PK
17385	27.39	10.89	38.28	54	-15.72	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-38.12	-27
Highest	Above 5350	-41.17	-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	-49.65	-27
	5650 to 5700	-37.93	-27 to -17
	5700 to 5720	-23.95	-17 to 15.6
	5720 to 5725	-16.23	15.6 to 27
Highest	5850 to 5855	-13.56	27 to 15.6
	5855 to 5875	-26.29	15.6 to -17
	5875 to 5925	-36.92	-17 to -27
	Above 5925	-38.32	-27
Note: the data just list the worst cases			

- For the frequency band 5.150-5.250GHz, 5.725-5.850GHz (802.11ac-VHT40)
- 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 (5190MHz)							
10380	42.00	7.25	49.25	74	-24.75	H	PK
10380	36.17	7.25	43.42	54	-10.58	H	AV
15570	34.44	8.33	42.77	74	-31.23	H	PK
15570	30.23	8.33	38.56	54	-15.44	H	AV
10380	38.92	7.25	46.17	74	-27.83	V	PK
10380	32.03	7.25	39.28	54	-14.72	V	AV
15570	31.45	8.33	39.78	74	-34.22	V	PK
15570	25.52	8.33	33.85	54	-20.15	V	AV
High Channel (5230MHz)							
10460	42.75	7.54	50.29	74	-23.71	H	PK
10460	36.11	7.54	43.65	54	-10.35	H	AV
15690	37.04	8.86	45.90	74	-28.10	H	PK
15690	30.31	8.86	39.17	54	-14.83	H	AV
10460	37.75	7.54	45.29	74	-28.71	V	PK
10460	33.35	7.54	40.89	54	-13.11	V	AV
15690	33.64	8.86	42.50	74	-31.50	V	PK
15690	24.42	8.86	33.28	54	-20.72	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	41.96	9.65	51.61	74	-22.39	H	PK
11510	35.81	9.65	45.46	54	-8.54	H	AV
17265	34.69	10.87	45.56	74	-28.44	H	PK
17265	29.67	10.87	40.54	54	-13.46	H	AV
11510	39.21	9.65	48.86	74	-25.14	V	PK
11510	30.29	9.65	39.94	54	-14.06	V	AV
17265	31.60	10.87	42.47	74	-31.53	V	PK
17265	26.24	10.87	37.11	54	-16.89	V	AV
High Channel (5795MHz)							
11590	41.63	9.81	51.44	74	-22.56	H	PK
11590	36.12	9.81	45.93	54	-8.07	H	AV
17385	36.33	10.89	47.22	74	-26.78	H	PK
17385	30.39	10.89	41.28	54	-12.72	H	AV
11590	39.20	9.81	49.01	74	-24.99	V	PK
11590	31.98	9.81	41.79	54	-12.21	V	AV
17385	33.32	10.89	44.21	74	-29.79	V	PK
17385	26.16	10.89	37.05	54	-16.95	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-37.78	-27
Highest	Above 5350	-42.14	-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	-49.05	-27
	5650 to 5700	-40.23	-27 to -17
	5700 to 5720	-27.66	-17 to 15.6
	5720 to 5725	-15.72	15.6 to 27
Highest	5850 to 5855	-13.25	27 to 15.6
	5855 to 5875	-25.84	15.6 to -17
	5875 to 5925	-35.95	-17 to -27
	Above 5925	-36.69	-27
Note: the data just list the worst cases			

- For the frequency band 5.150-5.250GHz, 5.725-5.850GHz (802.11ax HE40)
- 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 (5190MHz)							
10380	43.71	7.25	50.96	74	-23.04	H	PK
10380	35.53	7.25	42.78	54	-11.22	H	AV
15570	36.11	8.33	44.44	74	-29.56	H	PK
15570	30.21	8.33	38.54	54	-15.46	H	AV
10380	40.39	7.25	47.64	74	-26.36	V	PK
10380	31.19	7.25	38.44	54	-15.56	V	AV
15570	31.96	8.33	40.29	74	-33.71	V	PK
15570	26.11	8.33	34.44	54	-19.56	V	AV
High Channel (5230MHz)							
10460	41.91	7.54	49.45	74	-24.55	H	PK
10460	36.57	7.54	44.11	54	-9.89	H	AV
15690	37.38	8.86	46.24	74	-27.76	H	PK
15690	30.13	8.86	38.99	54	-15.01	H	AV
10460	37.94	7.54	45.48	74	-28.52	V	PK
10460	33.29	7.54	40.83	54	-13.17	V	AV
15690	33.62	8.86	42.48	74	-31.52	V	PK
15690	24.40	8.86	33.26	54	-20.74	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	41.97	9.65	51.62	74	-22.38	H	PK
11510	36.90	9.65	46.55	54	-7.45	H	AV
17265	36.34	10.87	47.21	74	-26.79	H	PK
17265	30.82	10.87	41.69	54	-12.31	H	AV
11510	38.67	9.65	48.32	74	-25.68	V	PK
11510	29.99	9.65	39.64	54	-14.36	V	AV
17265	31.73	10.87	42.60	74	-31.40	V	PK
17265	26.38	10.87	37.25	54	-16.75	V	AV
High Channel (5795MHz)							
11590	42.31	9.81	52.12	74	-21.88	H	PK
11590	36.60	9.81	46.41	54	-7.59	H	AV
17385	37.37	10.89	48.26	74	-25.74	H	PK
17385	30.44	10.89	41.33	54	-12.67	H	AV
11590	38.08	9.81	47.89	74	-26.11	V	PK
11590	31.60	9.81	41.41	54	-12.59	V	AV
17385	33.85	10.89	44.74	74	-29.26	V	PK
17385	25.78	10.89	36.67	54	-17.33	V	AV

➤ Out of Band edge for 5150-5250MHz

Test CH.	Test Segment	Result	Limit
	MHz	dBm/MHz	dBm/MHz
Lowest	Below 5150	-37.04	-27
Highest	Above 5350	-41.33	-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	-49.32	-27
	5650 to 5700	-39.99	-27 to -17
	5700 to 5720	-27.75	-17 to 15.6
	5720 to 5725	-15.42	15.6 to 27
Highest	5850 to 5855	-11.99	27 to 15.6
	5855 to 5875	-26.17	15.6 to -17
	5875 to 5925	-34.73	-17 to -27
	Above 5925	-37.29	-27
Note: the data just list the worst cases			

Note: Testing is carried out with frequency rang 9kHz to 40Ghz, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9. Frequency Stability

9.1 Standard Applicable

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

9.2 Test Procedure

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

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

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

9.3 Summary of Test Results/Plots

Please refer to Appendix D

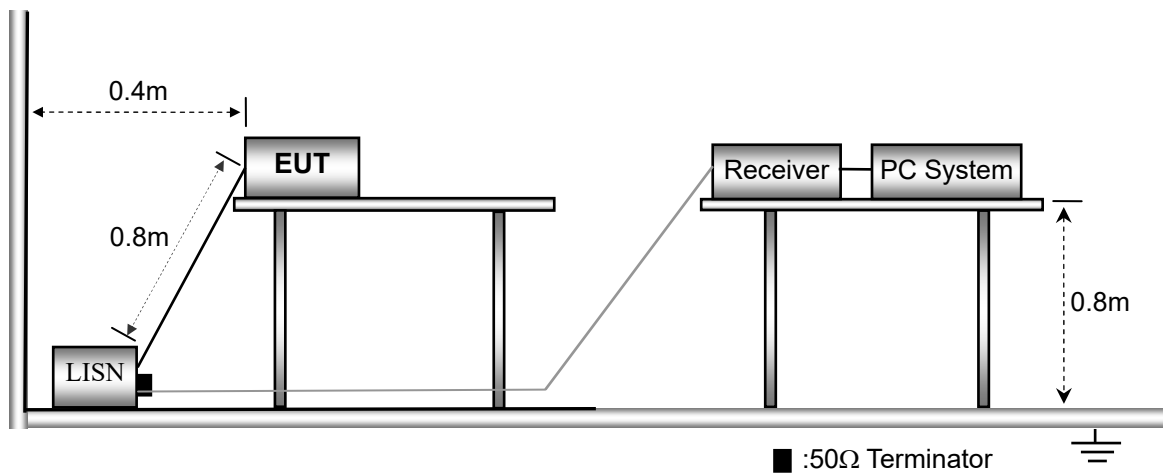
10. Conducted Emissions

10.1 Test Procedure

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

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

10.2 Basic Test Setup Block Diagram



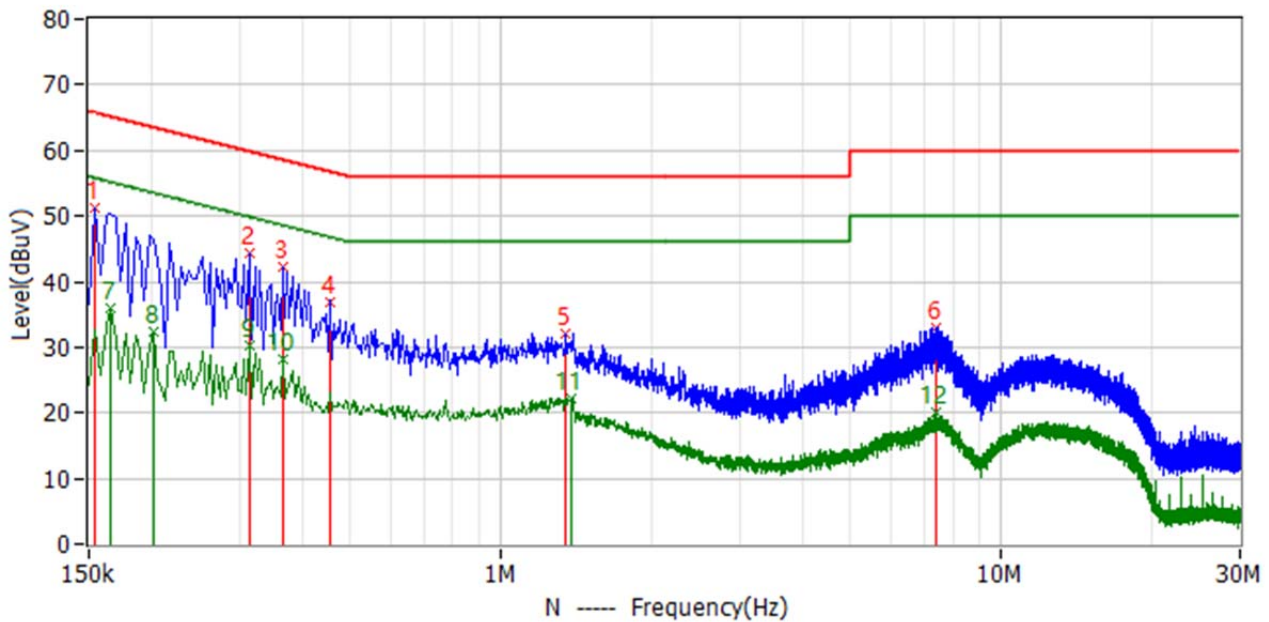
10.3 Test Receiver Setup

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

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

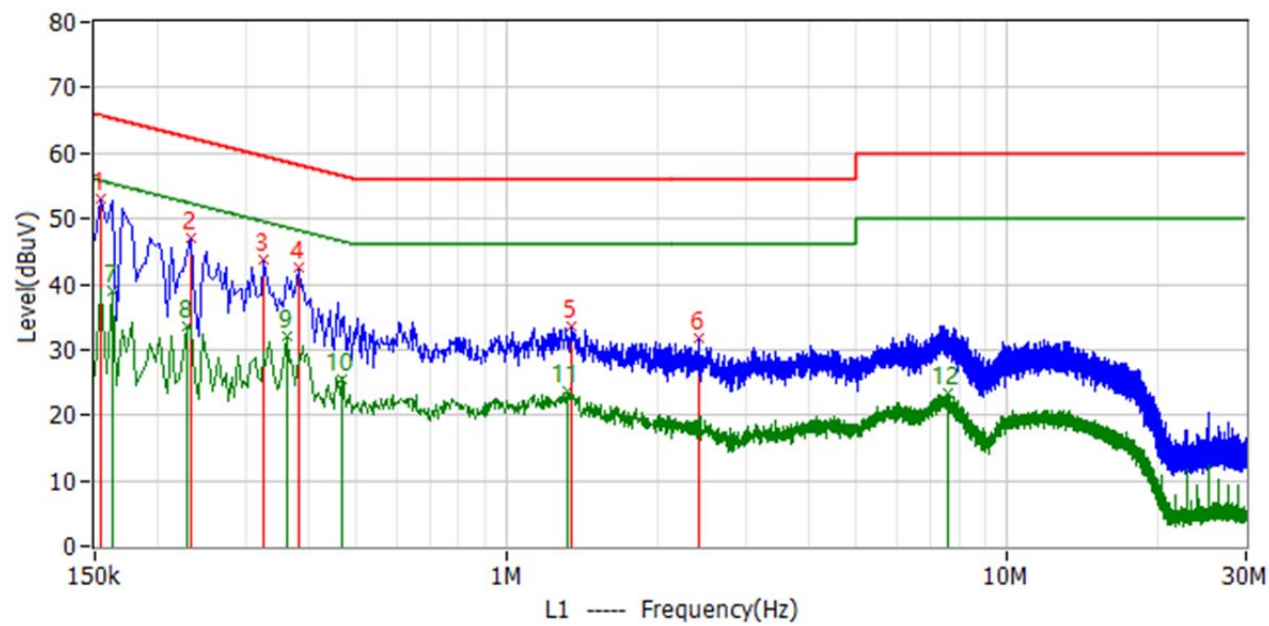
10.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
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No.	Frequency	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Delta dB	Detector
1*	154.000kHz	41.5	9.7	51.2	65.8	-14.5	QP
2*	314.000kHz	34.7	9.6	44.3	59.9	-15.5	QP
3*	366.000kHz	32.5	9.6	42.1	58.6	-16.4	QP
4*	454.000kHz	27.3	9.7	37.0	56.8	-19.8	QP
5*	1.350MHz	22.5	9.6	32.1	56.0	-23.9	QP
6*	7.418MHz	23.4	9.7	33.1	60.0	-26.9	QP
7*	166.000kHz	26.4	9.7	36.1	55.2	-19.1	AV
8*	202.000kHz	23.0	9.5	32.5	53.5	-21.0	AV
9*	314.000kHz	20.6	9.6	30.2	49.9	-19.6	AV
10*	366.000kHz	18.7	9.6	28.3	48.6	-20.3	AV
11*	1.378MHz	12.6	9.6	22.2	46.0	-23.8	AV
12*	7.398MHz	10.3	9.7	20.0	50.0	-30.0	AV

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
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No.	Frequency	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Delta dB	Detector
1*	154.000kHz	43.4	9.7	53.1	65.8	-12.6	QP
2*	234.000kHz	37.4	9.6	47.0	62.3	-15.3	QP
3*	326.000kHz	34.2	9.6	43.8	59.6	-15.7	QP
4*	382.000kHz	32.8	9.6	42.4	58.2	-15.9	QP
5*	1.346MHz	24.0	9.6	33.6	56.0	-22.4	QP
6*	2.410MHz	22.2	9.6	31.8	56.0	-24.2	QP
7*	162.000kHz	29.3	9.7	39.0	55.4	-16.4	AV
8*	230.000kHz	24.0	9.6	33.6	52.4	-18.8	AV
9*	362.000kHz	22.4	9.6	32.0	48.7	-16.7	AV
10*	466.000kHz	15.9	9.7	25.6	46.6	-20.9	AV
11*	1.326MHz	14.0	9.6	23.6	46.0	-22.4	AV
12*	7.638MHz	13.7	9.7	23.4	50.0	-26.6	AV

APPENDIX SUMMARY

Project No.	WTX24X03067504W	Test Engineer	Elin Su
Start date	2024/8/22	Finish date	2024/8/23
Temperature	23℃	Humidity	52%
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

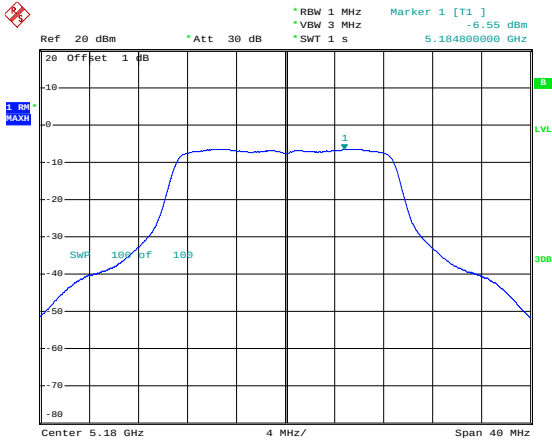
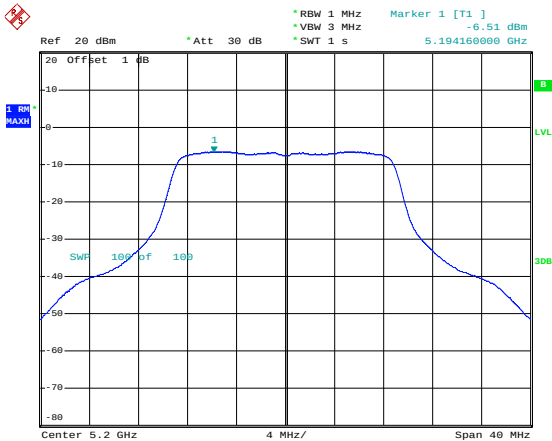
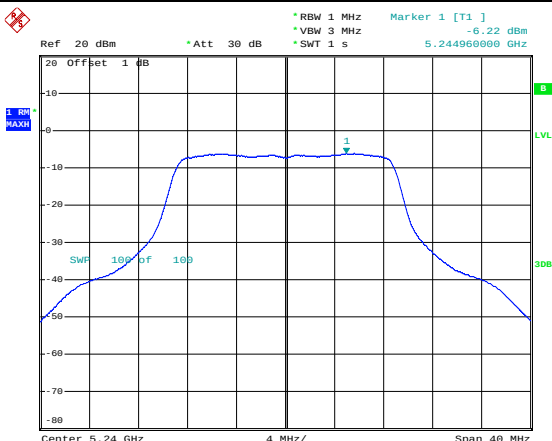
Power Spectral Density			
U-NII-1:5150-5250MHz			
Operating mode	Test Channel	Power Spectral Density dBm/MHz	Limit (dBm/MHz)
802.11a	5180	-6.09	11
	5200	-5.75	11
	5240	-5.91	11
802.11n-HT20	5180	-6.55	11
	5200	-6.51	11
	5240	-6.22	11
802.11n-HT40	5190	-10.16	11
	5230	-9.89	11
802.11ac-VHT20	5180	-6.47	11
	5200	-6.62	11
	5240	-6.14	11
802.11ac-VHT40	5190	0.28	11
	5230	-0.19	11
802.11ax-HE20	5180	2.93	11
	5200	2.95	11
	5240	3.10	11
802.11ax-HE40	5190	-0.69	11
	5230	-0.68	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	-1.62	2.22	0.60	30
	5785	-2.88	2.22	-0.66	30
	5825	-3.51	2.22	-1.29	30
802.11n-HT20	5745	-2.86	2.22	-0.64	30
	5785	-3.45	2.22	-1.23	30
	5825	-4.17	2.22	-1.95	30
802.11n HT40	5755	-6.64	2.22	-4.42	30
	5795	-7.07	2.22	-4.85	30
802.11ac-VHT20	5745	-2.96	2.22	-0.74	30
	5785	-3.51	2.22	-1.29	30

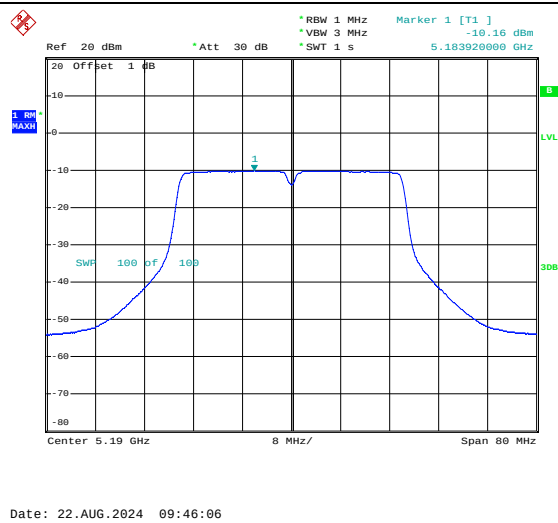
	5825	-3.95	2.22	-1.73	30
802.11ac-VHT40	5755	-6.59	2.22	-4.37	30
	5795	-7.09	2.22	-4.87	30
802.11ax-HE20	5745	-5.31	2.22	-3.09	30
	5785	-5.42	2.22	-3.20	30
	5825	-6.19	2.22	-3.97	30
802.11ax-HE40	5755	-8.60	2.22	-6.38	30
	5795	-9.04	2.22	-6.82	30
*Note: Maximum PSD=PSD(dBm/300kHz)+10log(500kHz/300kHz)=2.22					

5150-5250MHz

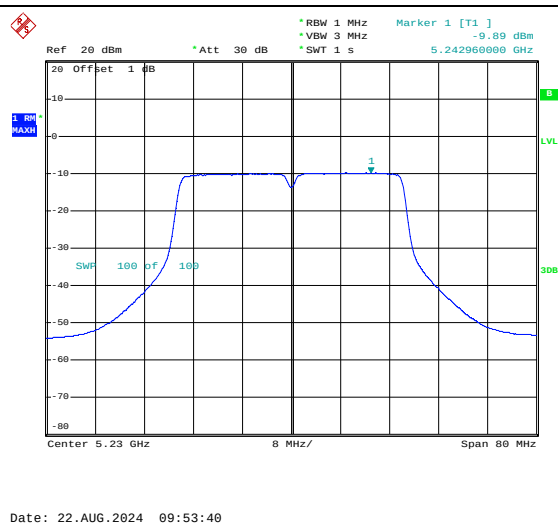
802.11a-Low	Date: 22.AUG.2024 09:34:39
802.11a-Middle	Date: 22.AUG.2024 09:32:05
802.11a-High	Date: 22.AUG.2024 09:36:39

802.11n-HT20-Low	 Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 1 s Marker 1 [T1] -6.55 dBm 5.184800000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 Hz 100 Center 5.18 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 09:38:50
802.11n-HT20-Middle	 Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 1 s Marker 1 [T1] -6.51 dBm 5.194160000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 Hz 100 Center 5.2 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 09:41:58
802.11n-HT20-High	 Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 1 s Marker 1 [T1] -6.22 dBm 5.244960000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 Hz 100 Center 5.24 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 09:43:59

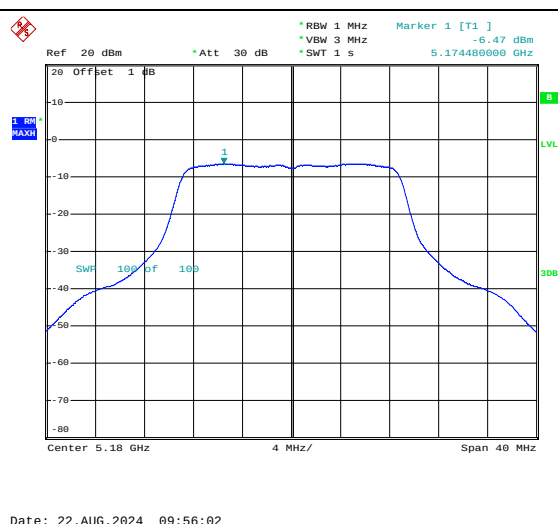
802.11n-HT40-Low

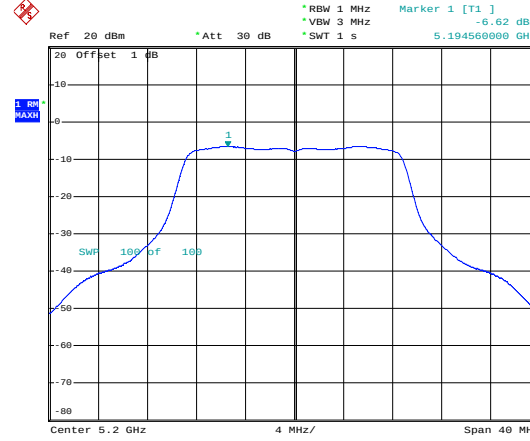
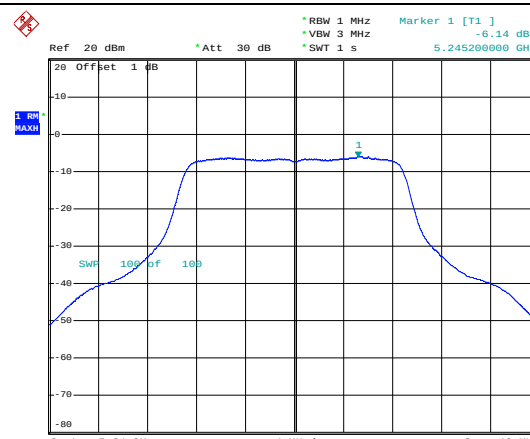
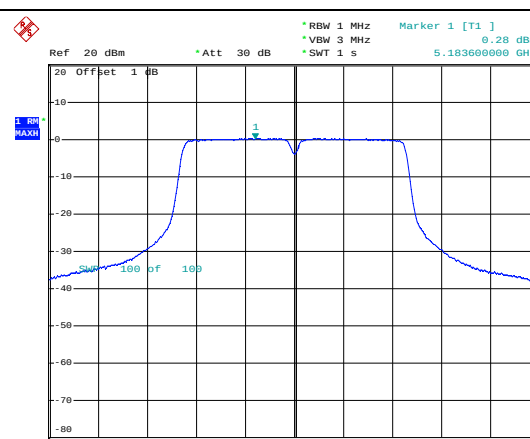


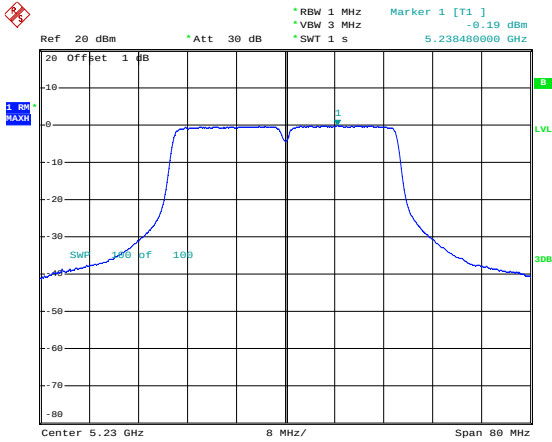
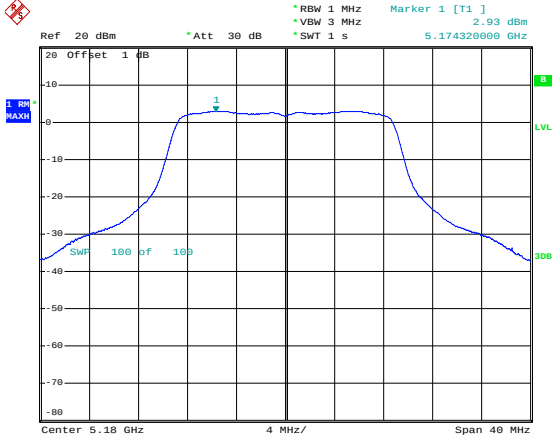
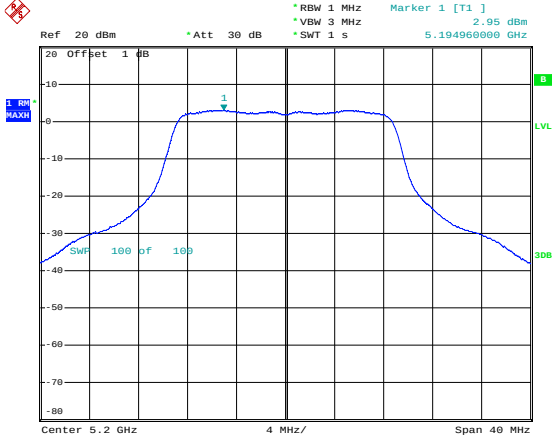
802.11n-HT40-High



802.11ac-VHT20-Low

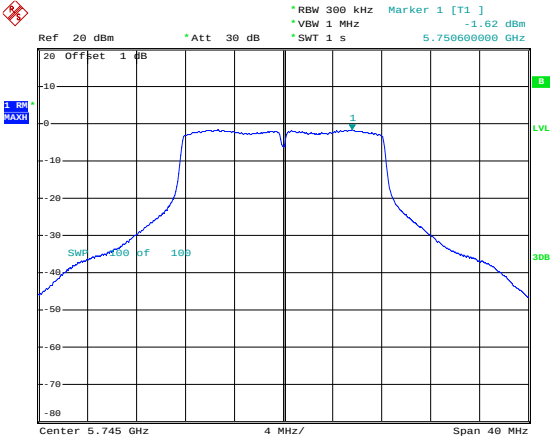
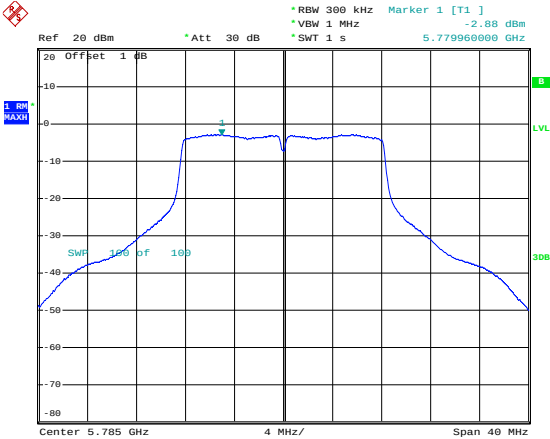
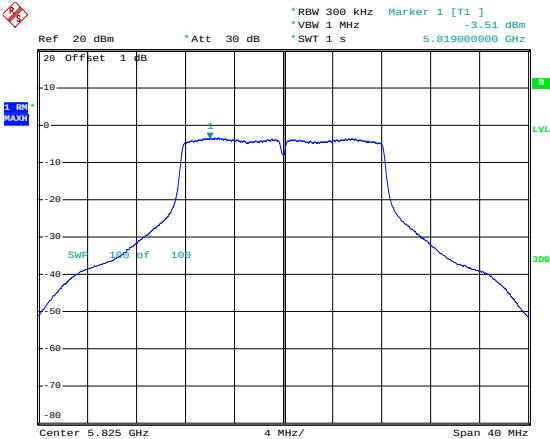


802.11ac-VHT20-Middle	 Date: 22.AUG.2024 09:58:10
802.11ac-VHT20-High	 Date: 22.AUG.2024 10:00:47
802.11ac-VHT40-Low	 Date: 22.AUG.2024 10:18:33

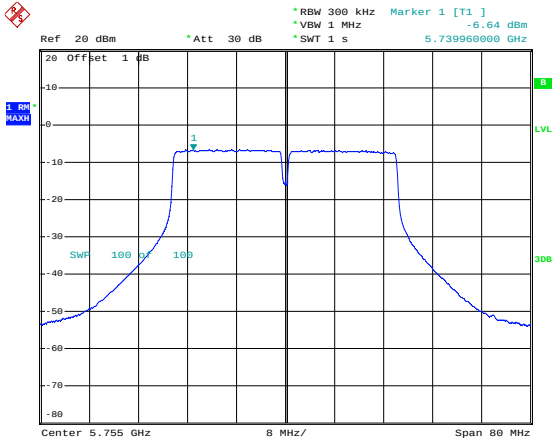
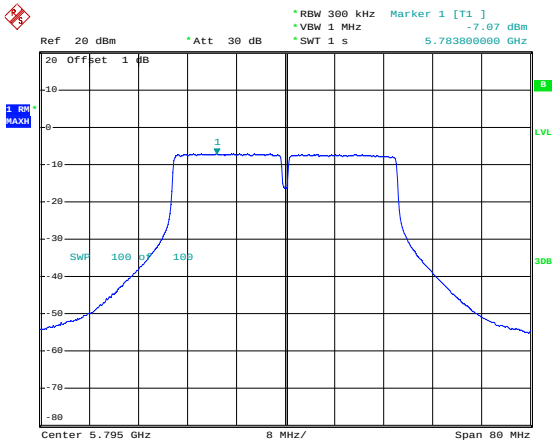
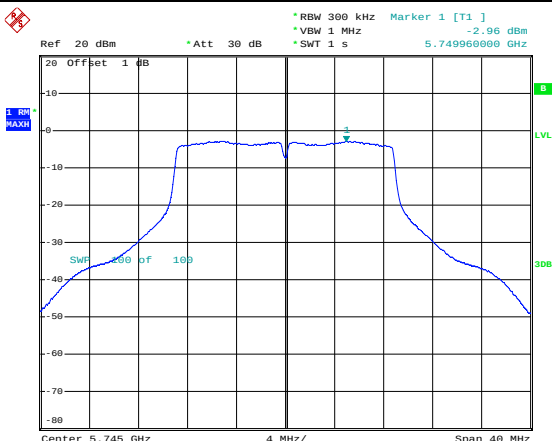
802.11ac-VHT40-High	 Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 1 s Marker 1 [T1] 0.19 dBm 5.23840000 GHz Center 5.23 GHz 8 MHz/ Span 80 MHz Date: 22.AUG.2024 10:21:09
802.11ax-HE20-Low	 Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 1 s Marker 1 [T1] 2.93 dBm 5.17432000 GHz Center 5.18 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 10:23:26
802.11ax-HE20-Middle	 Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz *SWT 1 s Marker 1 [T1] 2.95 dBm 5.19496000 GHz Center 5.2 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 10:28:09

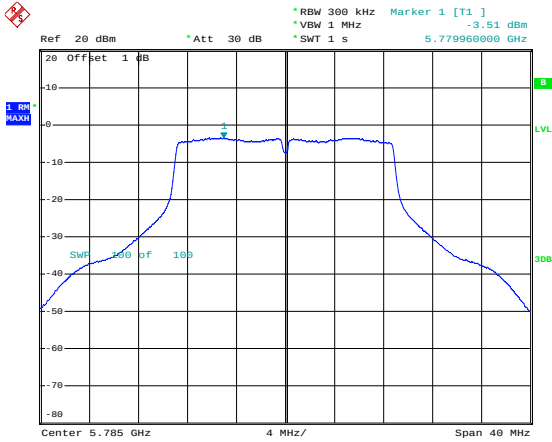
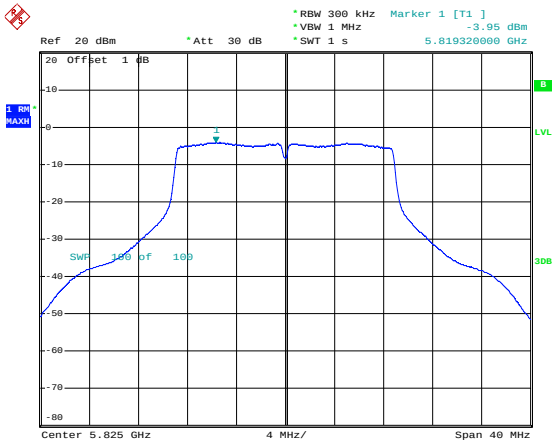
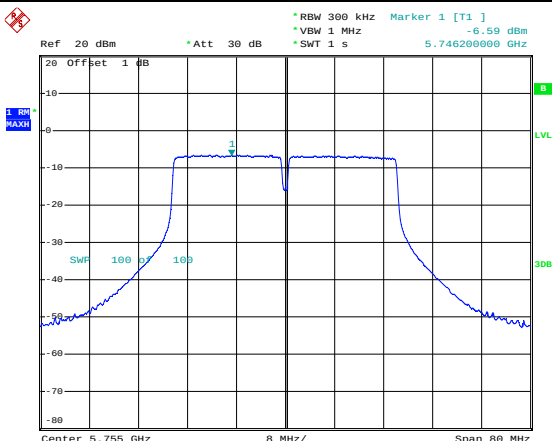
802.11ax-HE20-High	Date: 22.AUG.2024 10:30:46
802.11ax-HE40-Low	Date: 22.AUG.2024 10:33:14
802.11ax-HE40-High	Date: 22.AUG.2024 10:35:45

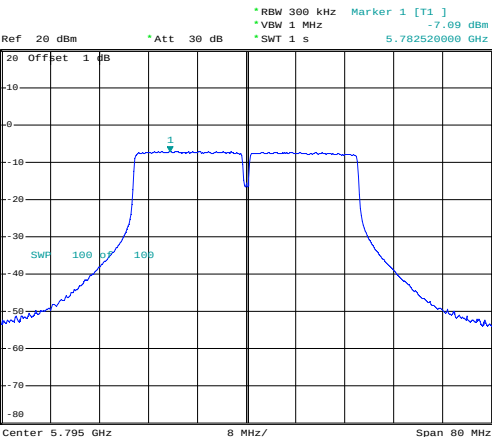
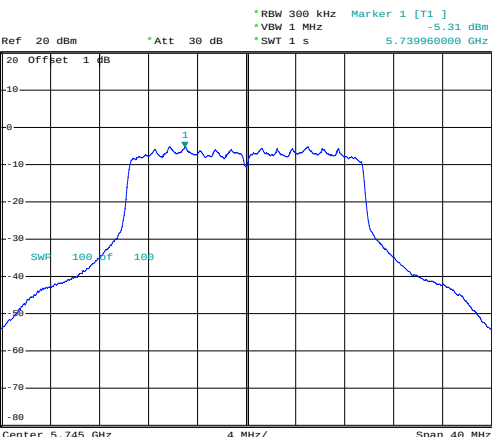
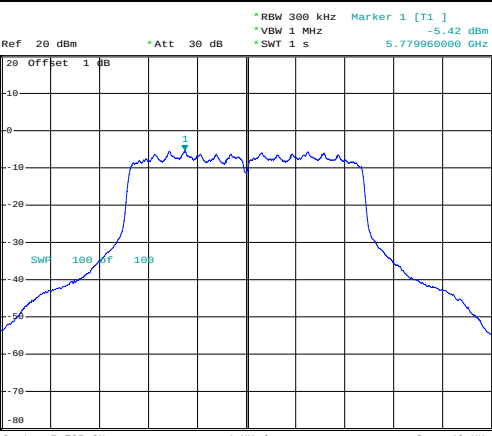
5725-5850MHz

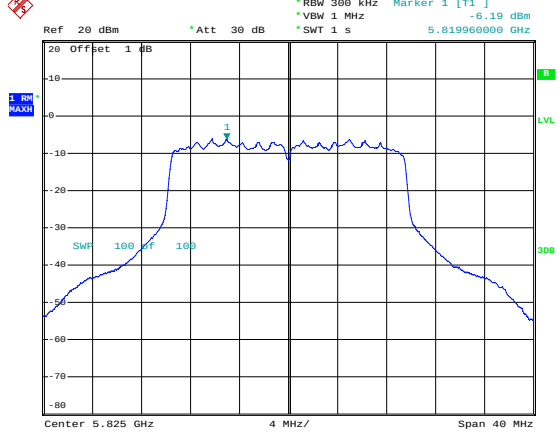
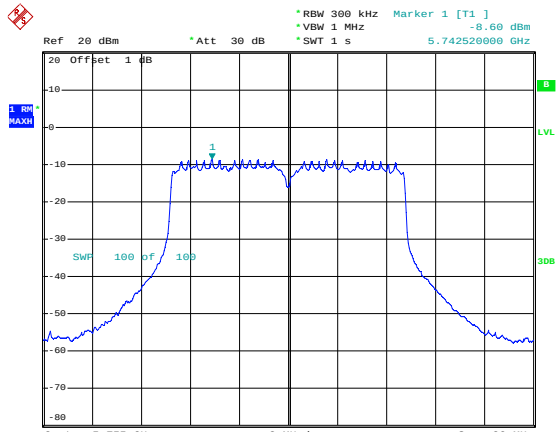
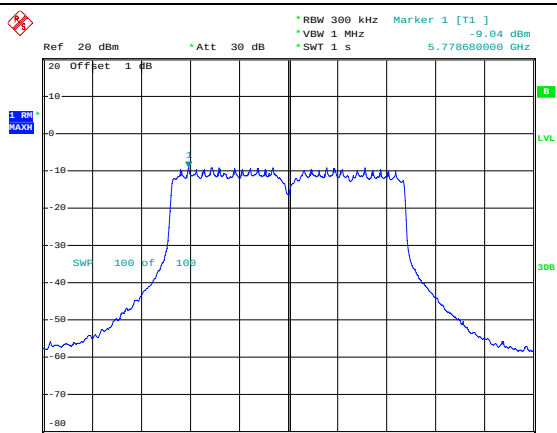
802.11a-Low	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -1.62 dBm *VBW 1 MHz 5.75060000 GHz *SWT 1 s 20 Offset 1 dB 1 dB MAX SWR 100 pf 100 Center 5.745 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 14:07:26
802.11a-Middle	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -2.88 dBm *VBW 1 MHz 5.77960000 GHz *SWT 1 s 20 Offset 1 dB 1 dB MAX SWR 100 pf 100 Center 5.785 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 14:09:39
802.11a-High	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -3.51 dBm *VBW 1 MHz 5.81900000 GHz *SWT 1 s 20 Offset 1 dB 1 dB MAX SWR 100 pf 100 Center 5.825 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 14:15:20

802.11n-HT20-Low	Date: 22.AUG.2024 14:17:48
802.11n-HT20-Middle	Date: 22.AUG.2024 14:24:13
802.11n-HT20-High	Date: 22.AUG.2024 14:26:14

802.11n-HT40-Low	 Ref 20 dBm *Att 30 dB *RBW 300 kHz *VBW 1 MHz *SWT 1 s Marker 1 [T1] -6.64 dBm 5.73960000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 dB 100 Center 5.755 GHz 8 MHz/ Span 80 MHz Date: 22.AUG.2024 14:28:48
802.11n-HT40-High	 Ref 20 dBm *Att 30 dB *RBW 300 kHz *VBW 1 MHz *SWT 1 s Marker 1 [T1] -7.07 dBm 5.78380000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 dB 100 Center 5.795 GHz 8 MHz/ Span 80 MHz Date: 22.AUG.2024 14:31:25
802.11ac-VHT20-Low	 Ref 20 dBm *Att 30 dB *RBW 300 kHz *VBW 1 MHz *SWT 1 s Marker 1 [T1] -2.96 dBm 5.74960000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 dB 100 Center 5.745 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 14:33:35

802.11ac-VHT20-Middle	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -3.51 dBm *VBW 1 MHz *SWT 1 s 5.77960000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 dB 100 dB Center 5.785 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 14:35:44
802.11ac-VHT20-High	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -3.95 dBm *VBW 1 MHz *SWT 1 s 5.81932000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 dB 100 dB Center 5.825 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 14:37:50
802.11ac-VHT40-Low	 Ref 20 dBm *Att 30 dB *RBW 300 kHz Marker 1 [T1] -6.59 dBm *VBW 1 MHz *SWT 1 s 5.74620000 GHz 20 Offset 1 dB 1 dB MAX SWR 100 dB 100 dB Center 5.755 GHz 8 MHz/ Span 80 MHz Date: 22.AUG.2024 15:01:30

802.11ac-VHT40-High	 Date: 22.AUG.2024 15:03:52
802.11ax-HE20-Low	 Date: 22.AUG.2024 15:06:29
802.11ax-HE20-Middle	 Date: 22.AUG.2024 15:09:00

802.11ax-HE20-High	 Ref 20 dBm Att 30 dB RBW 300 kHz VBW 1 MHz SWT 1 s Marker 1 [T1] -6.19 dBm 5.819960000 GHz 20 Offset 1 dB 1 RBW 300 kHz SWR 100 dB 100 Center 5.825 GHz 4 MHz/ Span 40 MHz Date: 22.AUG.2024 15:11:18
802.11ax-HE40-Low	 Ref 20 dBm Att 30 dB RBW 300 kHz VBW 1 MHz SWT 1 s Marker 1 [T1] -8.60 dBm 5.742520000 GHz 20 Offset 1 dB 1 RBW 300 kHz SWR 100 dB 100 Center 5.755 GHz 8 MHz/ Span 80 MHz Date: 22.AUG.2024 15:13:47
802.11ax-HE40-High	 Ref 20 dBm Att 30 dB RBW 300 kHz VBW 1 MHz SWT 1 s Marker 1 [T1] -9.04 dBm 5.778680000 GHz 20 Offset 1 dB 1 RBW 300 kHz SWR 100 dB 100 Center 5.795 GHz 8 MHz/ Span 80 MHz Date: 22.AUG.2024 15:16:09

APPENDIX B

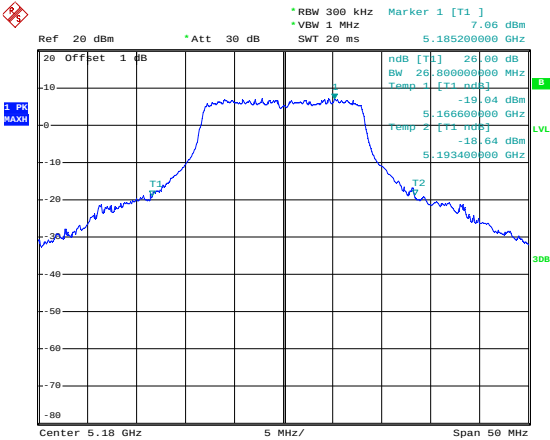
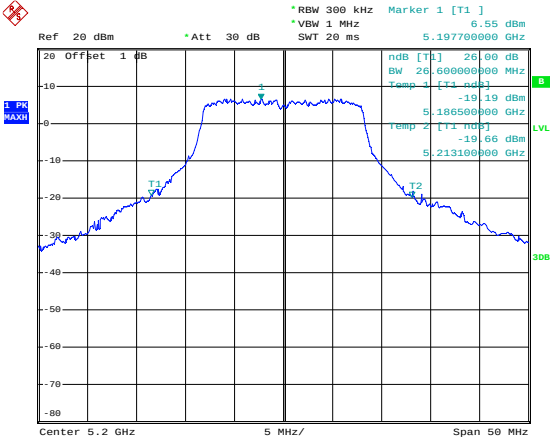
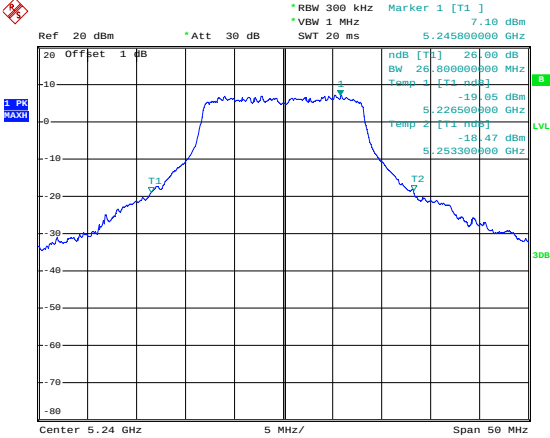
Emission Bandwidth and Occupied Bandwidth

U-NII-1:5150-5250MHz				
Test Mode	Test Channel MHz	26 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5180	26.80	17.80	Pass
	5200	26.60	17.70	Pass
	5240	26.80	17.80	Pass
802.11n-HT20	5180	27.10	19.30	Pass
	5200	27.10	19.30	Pass
	5240	27.10	19.30	Pass
802.11n-HT40	5190	48.60	38.80	Pass
	5230	46.60	39.00	Pass
802.11ac-VHT20	5180	28.00	19.40	Pass
	5200	26.70	19.00	Pass
	5240	27.00	18.90	Pass
802.11ac-VHT40	5190	47.40	39.00	Pass
	5230	46.40	38.80	Pass
802.11ax-HE20	5180	25.50	19.40	Pass
	5200	25.40	19.40	Pass
	5240	25.60	19.40	Pass
802.11ax-HE40	5190	44.40	38.80	Pass
	5230	44.40	38.80	Pass

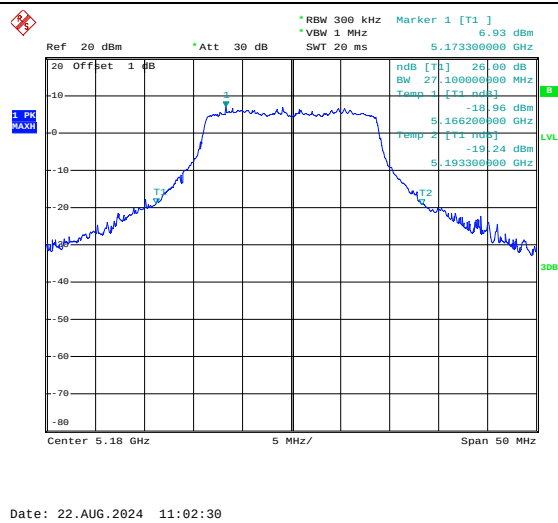
U-NII-3: 5725-5850MHz				
Test Mode	Test Channel MHz	6 dB Bandwidth MHz	99% Bandwidth MHz	Limit MHz
802.11a	5745	16.60	17.90	≥500
	5785	16.60	17.90	≥500
	5825	16.60	17.80	≥500
802.11n-HT20	5745	17.80	19.10	≥500
	5785	17.80	19.10	≥500
	5825	17.80	19.20	≥500
802.11n-HT40	5755	36.80	39.20	≥500
	5795	36.80	39.00	≥500
802.11ac-VHT20	5745	17.80	18.80	≥500
	5785	17.80	19.00	≥500
	5825	17.80	18.90	≥500

802.11ac-VHT40	5755	36.80	39.20	≥500
	5795	36.80	39.00	≥500
802.11ax-HE20	5745	19.30	19.50	≥500
	5785	19.30	19.60	≥500
	5825	19.20	19.50	≥500
802.11ax-HE40	5755	38.80	39.00	≥500
	5795	38.60	39.00	≥500

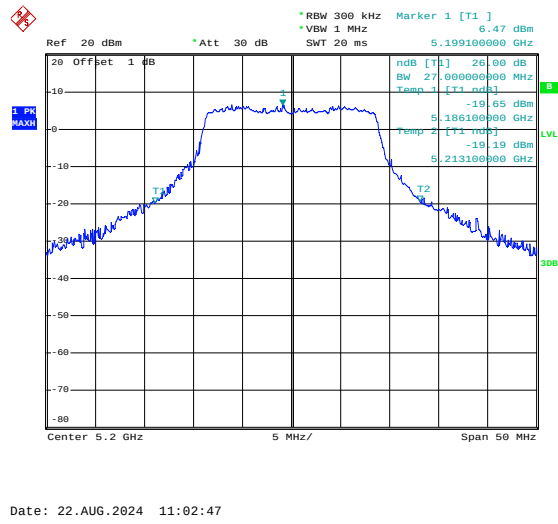
26 dB Bandwidth
5150-5250MHz

802.11a-Low	 Date: 22.AUG.2024 11:00:55
802.11a-Middle	 Date: 22.AUG.2024 11:01:21
802.11a-High	 Date: 22.AUG.2024 11:02:01

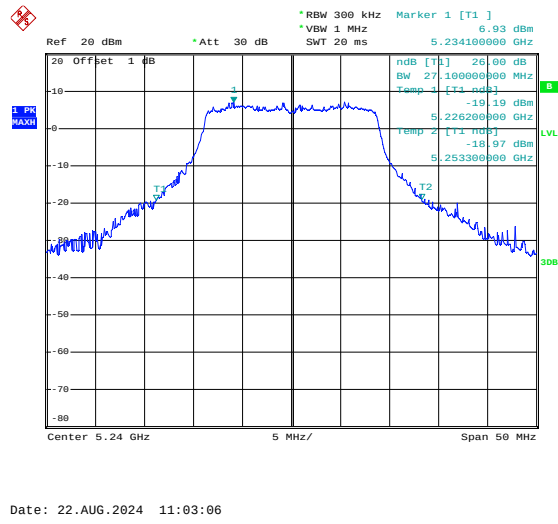
802.11n-HT20-Low



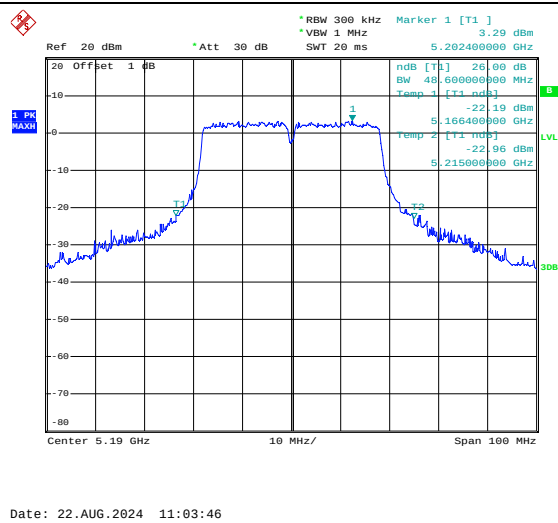
802.11n-HT20-Middle



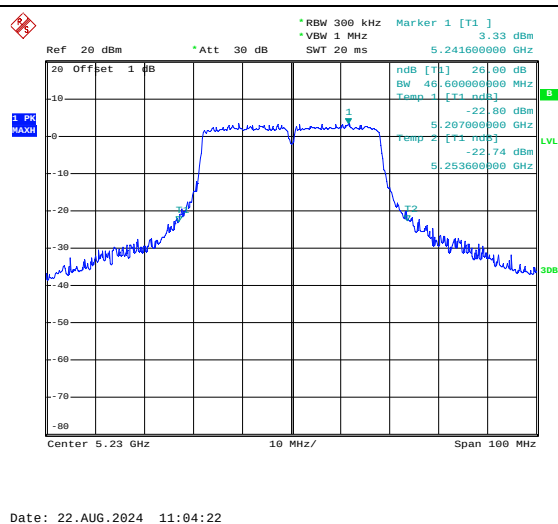
802.11n-HT20-High



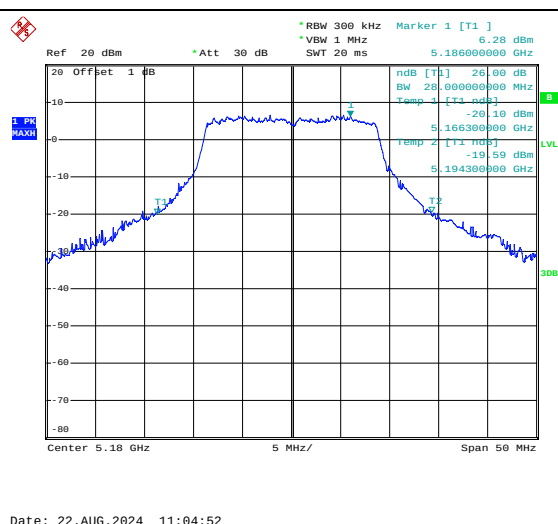
802.11n-HT40-Low

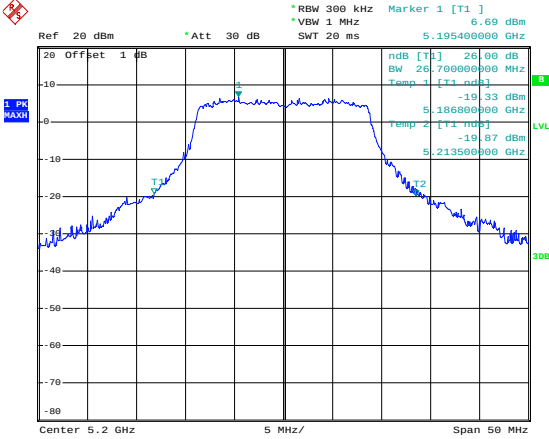
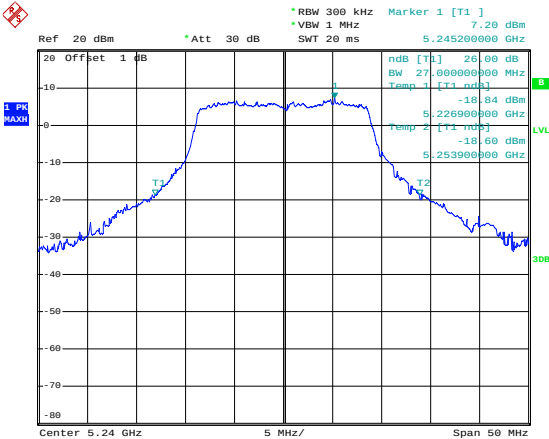
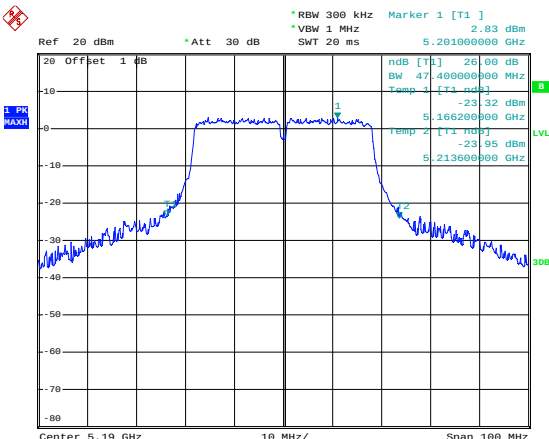


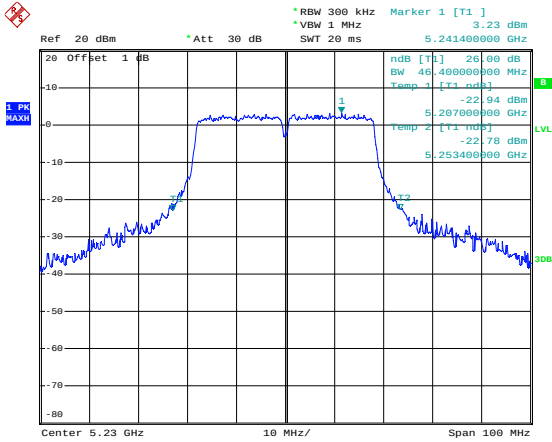
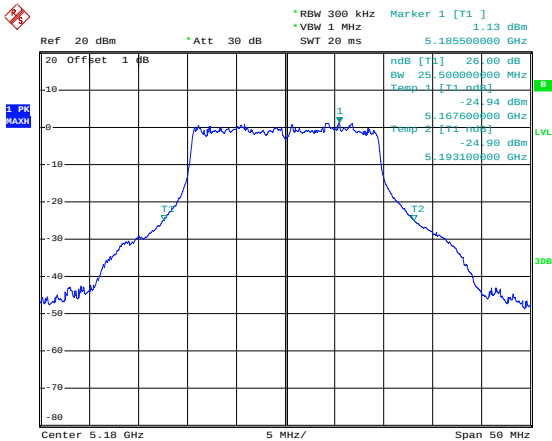
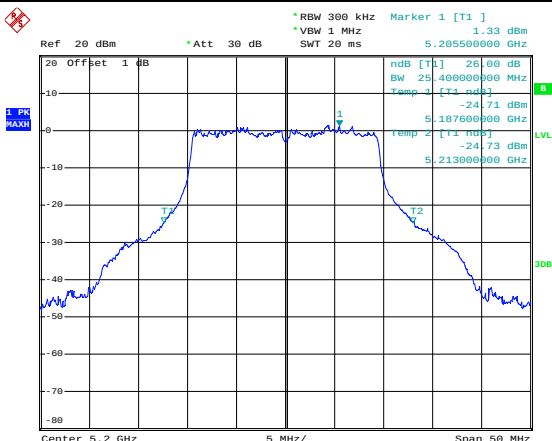
802.11n-HT40-High

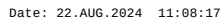


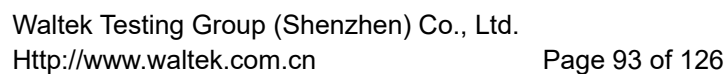
802.11ac-VHT20-Low

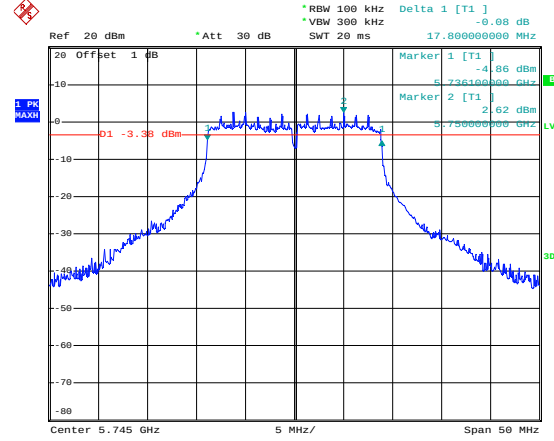
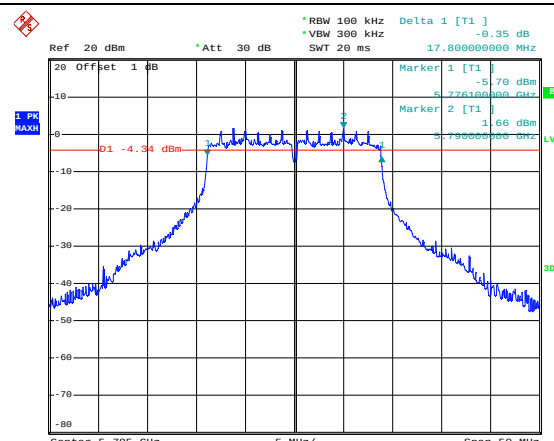
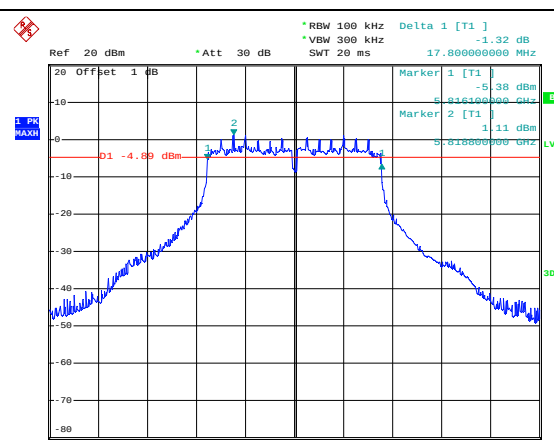


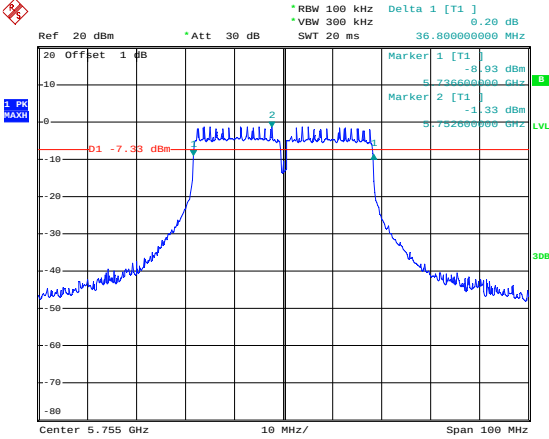
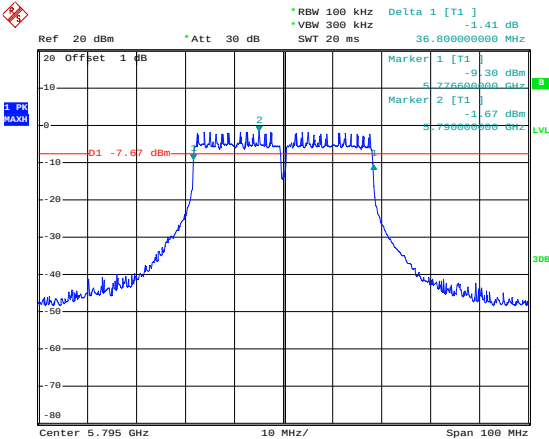
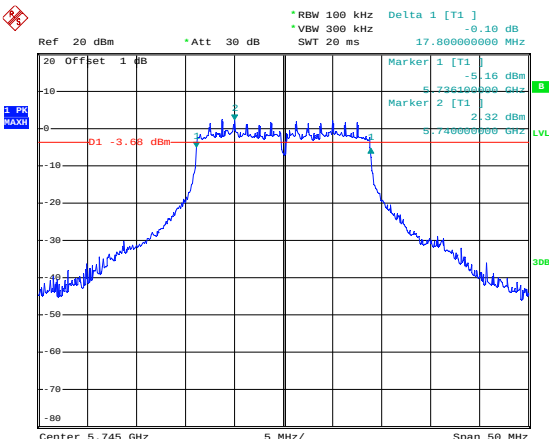
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802.11ac-VHT20-High	 Date: 22.AUG.2024 11:05:36
802.11ac-VHT40-Low	 Date: 22.AUG.2024 11:06:01

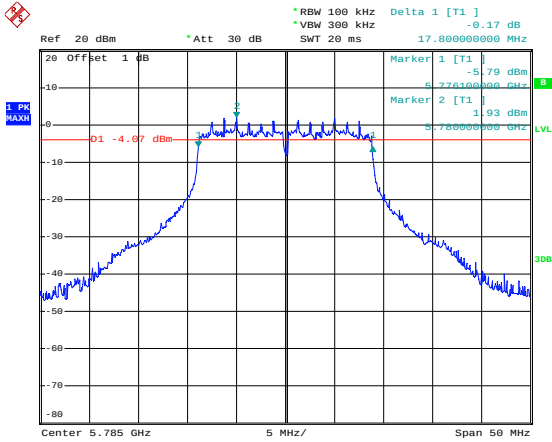
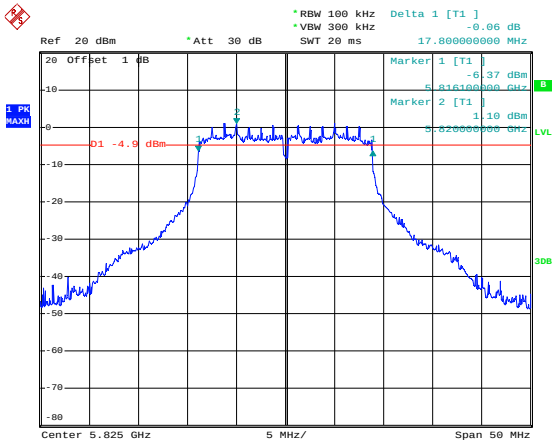
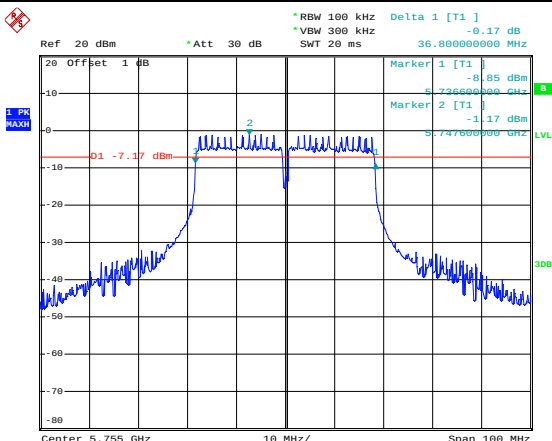
802.11ac-VHT40-High	 Date: 22.AUG.2024 11:06:19
802.11ax-HE20-Low	 Date: 22.AUG.2024 11:06:41
802.11ax-HE20-Middle	 Date: 22.AUG.2024 11:06:59

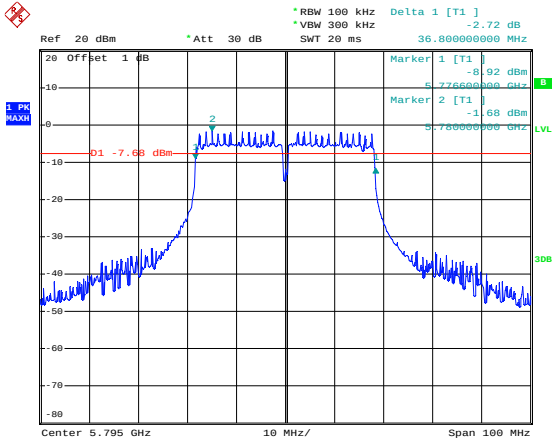
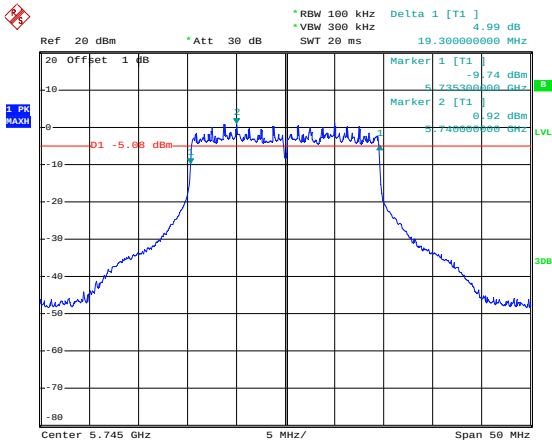
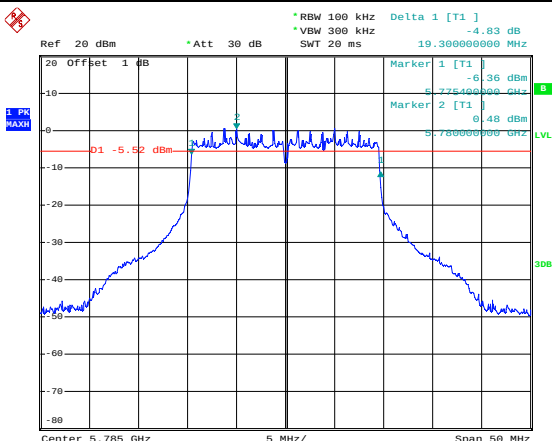




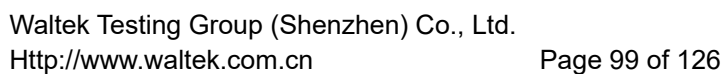
802.11n-HT20-Low	 Ref 20 dBm Att 30 dB RBW 100 kHz Delta 1 [T1] -0.08 dB VBW 300 kHz SWT 20 ms 17.800000000 MHz Marker 1 [T1] -4.86 dBm Marker 2 [T1] -2.62 dBm 01 -3.38 dBm Center 5.745 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 16:10:40
802.11n-HT20-Middle	 Ref 20 dBm Att 30 dB RBW 100 kHz Delta 1 [T1] -0.35 dB VBW 300 kHz SWT 20 ms 17.800000000 MHz Marker 1 [T1] -5.70 dBm Marker 2 [T1] 1.66 dBm 01 -4.34 dBm Center 5.785 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:39:31
802.11n-HT20-High	 Ref 20 dBm Att 30 dB RBW 100 kHz Delta 1 [T1] -1.32 dB VBW 300 kHz SWT 20 ms 17.800000000 MHz Marker 1 [T1] -5.38 dBm Marker 2 [T1] 1.11 dBm 01 -4.89 dBm Center 5.825 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:40:07

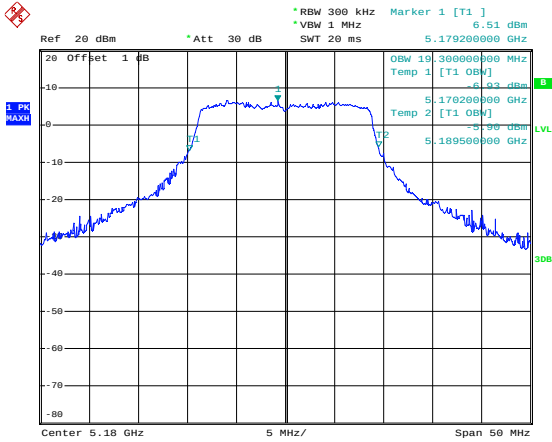
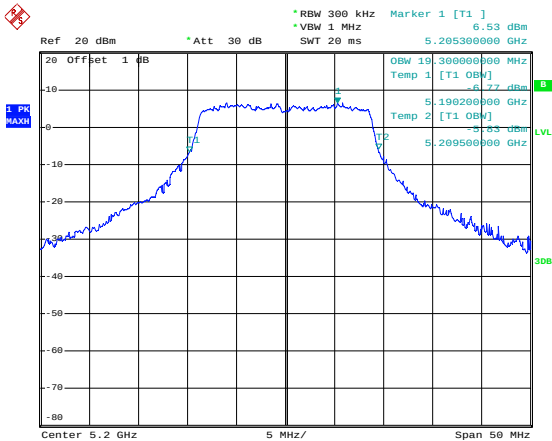
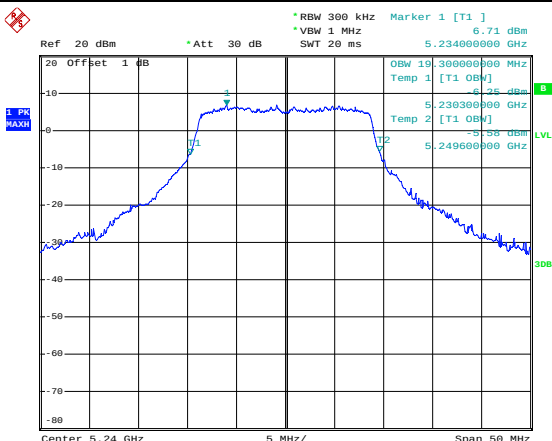
802.11n-HT40-Low	 Date: 22.AUG.2024 15:41:53
802.11n-HT40-High	 Date: 22.AUG.2024 15:43:55
802.11ac-VHT20-Low	 Date: 22.AUG.2024 15:44:39

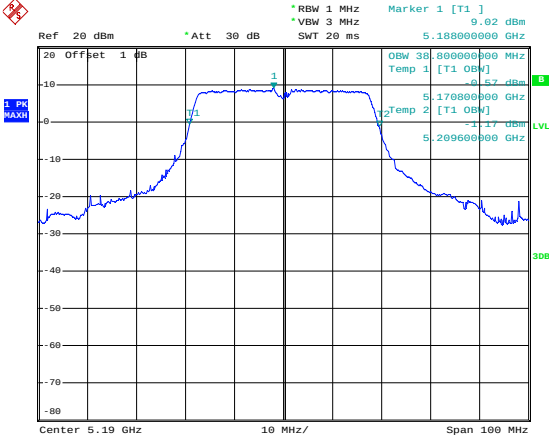
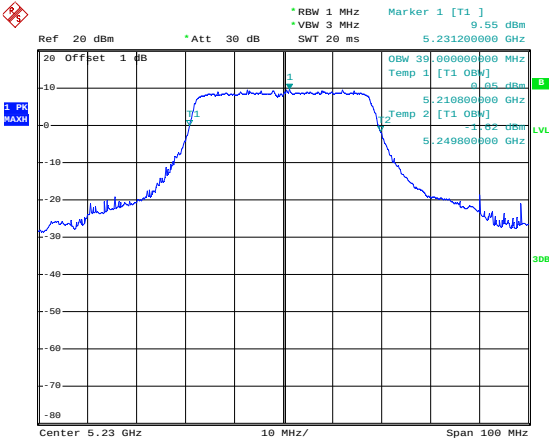
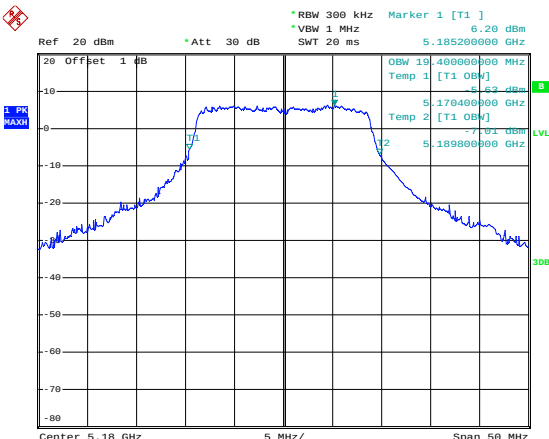
802.11ac-VHT20-Middle	 Ref 20 dBm *Att 30 dB Delta 1 [T1] -0.17 dB RBW 100 kHz VBW 300 kHz SWT 20 ms 17.80000000 MHz Marker 1 [T1] -5.79 dBm Marker 2 [T1] 1.93 dBm D1 -4.07 dBm LVL 300 Center 5.785 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:45:13
802.11ac-VHT20-High	 Ref 20 dBm *Att 30 dB Delta 1 [T1] -0.06 dB RBW 100 kHz VBW 300 kHz SWT 20 ms 17.80000000 MHz Marker 1 [T1] -6.37 dBm Marker 2 [T1] 1.10 dBm D1 -4.9 dBm LVL 300 Center 5.825 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:45:48
802.11ac-VHT40-Low	 Ref 20 dBm *Att 30 dB Delta 1 [T1] -0.17 dB RBW 100 kHz VBW 300 kHz SWT 20 ms 36.80000000 MHz Marker 1 [T1] -8.85 dBm Marker 2 [T1] -1.17 dBm D1 -7.17 dBm LVL 300 Center 5.755 GHz 10 MHz/ Span 100 MHz Date: 22.AUG.2024 15:46:27

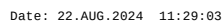
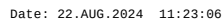
802.11ac-VHT40-High	 Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] 2.72 dB VBW 300 kHz SWT 20 ms 36.80000000 MHz Marker 1 [T1] -8.92 dBm 5.776600000 GHz Marker 2 [T1] -1.68 dBm 5.780000000 GHz D1 -7.68 dBm Center 5.795 GHz 10 MHz/ Span 100 MHz Date: 22.AUG.2024 15:46:59
802.11ax-HE20-Low	 Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] 4.99 dB VBW 300 kHz SWT 20 ms 19.30000000 MHz Marker 1 [T1] -9.74 dBm 5.735300000 GHz Marker 2 [T1] -0.92 dBm 5.740000000 GHz D1 -5.08 dBm Center 5.745 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:48:23
802.11ax-HE20-Middle	 Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] -4.83 dB VBW 300 kHz SWT 20 ms 19.30000000 MHz Marker 1 [T1] -6.36 dBm 5.776400000 GHz Marker 2 [T1] -0.48 dBm 5.780000000 GHz D1 -5.52 dBm Center 5.785 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:49:00

802.11ax-HE20-High	Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] 0.21 dB *VBW 300 kHz SWT 20 ms 19.200000000 MHz Marker 1 [T1] -6.23 dBm 5.815400000 GHz Marker 2 [T1] -6.05 dBm 5.820000000 GHz Center 5.825 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:49:31
802.11ax-HE40-Low	Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] 1.55 dB *VBW 300 kHz SWT 20 ms 38.000000000 MHz Marker 1 [T1] -17.55 dBm 5.735600000 GHz Marker 2 [T1] -2.56 dBm 5.738600000 GHz Center 5.755 GHz 10 MHz/ Span 100 MHz Date: 22.AUG.2024 15:50:08
802.11ax-HE40-High	Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 1 [T1] -10.12 dB *VBW 300 kHz SWT 20 ms 38.000000000 MHz Marker 1 [T1] -10.74 dBm 5.776800000 GHz Marker 2 [T1] -2.86 dBm 5.790000000 GHz Center 5.795 GHz 10 MHz/ Span 100 MHz Date: 22.AUG.2024 15:51:06

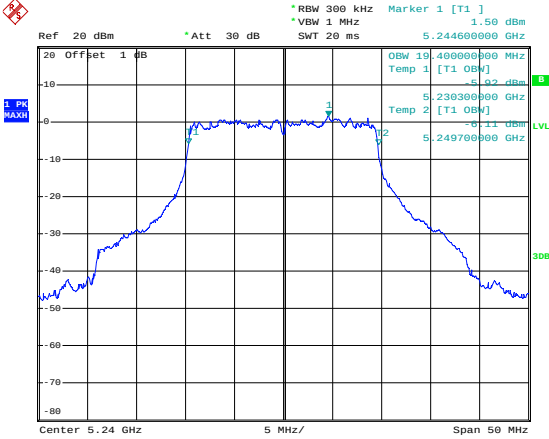
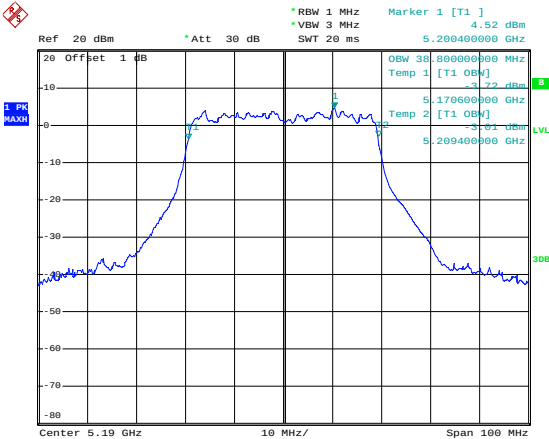
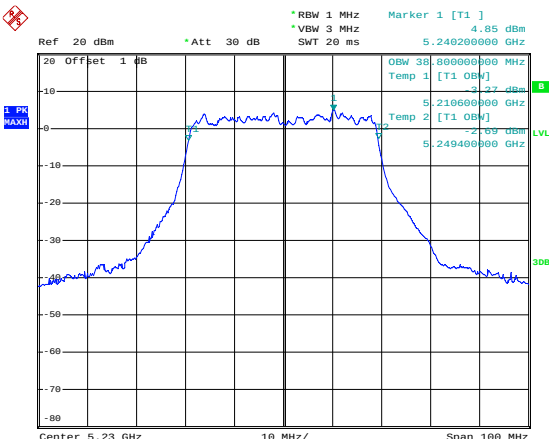


802.11n-HT20-Low	 Date: 22.AUG.2024 11:10:38
802.11n-HT20-Middle	 Date: 22.AUG.2024 11:11:03
802.11n-HT20-High	 Date: 22.AUG.2024 11:11:45

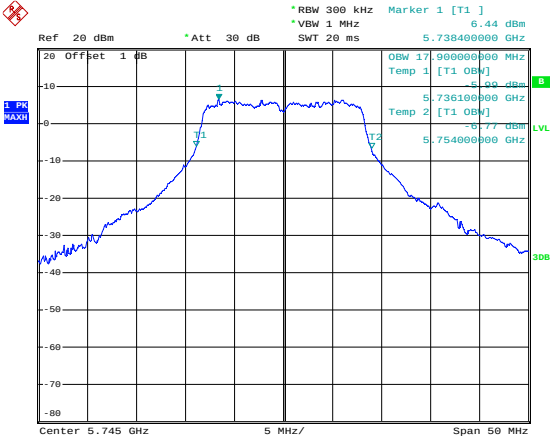
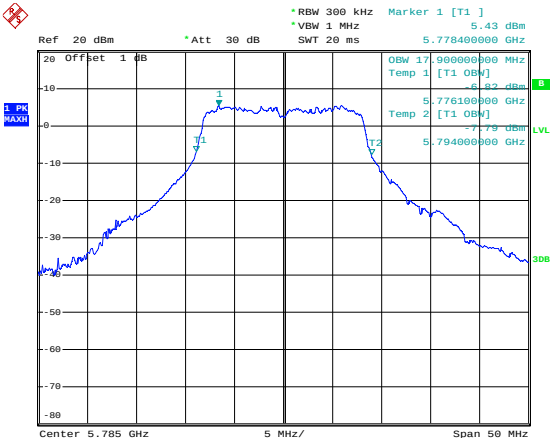
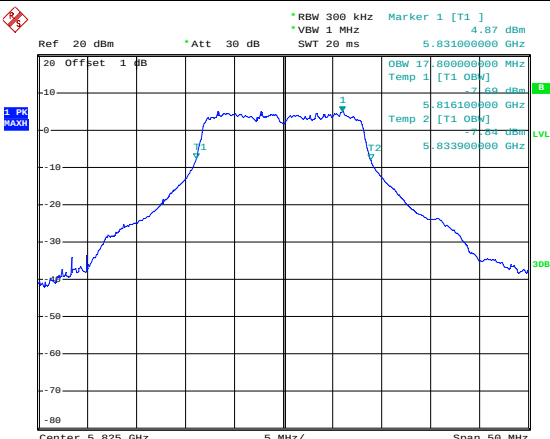
802.11n-HT40-Low	 Date: 22.AUG.2024 11:12:28
802.11n-HT40-High	 Date: 22.AUG.2024 11:14:35
802.11ac-VHT20-Low	 Date: 22.AUG.2024 11:16:08



802.11ac-VHT40-High	Date: 22.AUG.2024 11:29:51
802.11ax-HE20-Low	Date: 22.AUG.2024 11:31:31
802.11ax-HE20-Middle	Date: 22.AUG.2024 11:32:59

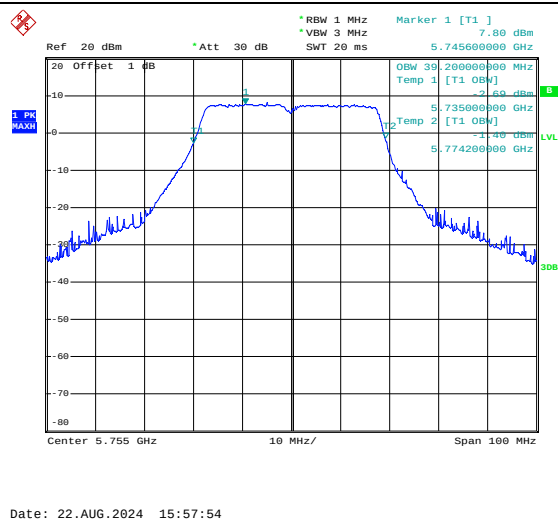
802.11ax-HE20-High	 Date: 22.AUG.2024 11:33:20
802.11ax-HE40-Low	 Date: 22.AUG.2024 11:34:44
802.11ax-HE40-High	 Date: 22.AUG.2024 11:36:13

5725-5850MHz

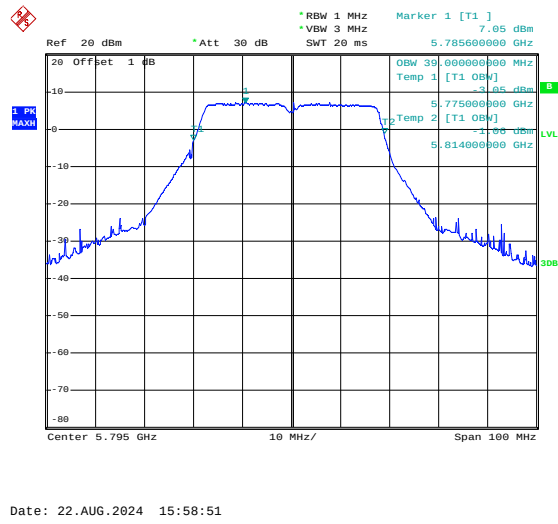
802.11a-Low	 Ref 20 dBm *Att 30 dB RBW 300 kHz Marker 1 [T1] 6.44 dBm VBW 1 MHz 5.736400000 GHz SWT 20 ms OBW 17.900000000 MHz Temp 1 [T1 OBW] 6.44 dBm 5.736100000 GHz Temp 2 [T1 OBW] 6.44 dBm 5.754000000 GHz LVL 30B Center 5.745 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:53:30
802.11a-Middle	 Ref 20 dBm *Att 30 dB RBW 300 kHz Marker 1 [T1] 5.43 dBm VBW 1 MHz 5.776400000 GHz SWT 20 ms OBW 17.900000000 MHz Temp 1 [T1 OBW] 5.43 dBm 5.776100000 GHz Temp 2 [T1 OBW] 5.43 dBm 5.794000000 GHz LVL 30B Center 5.785 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:54:12
802.11a-High	 Ref 20 dBm *Att 30 dB RBW 300 kHz Marker 1 [T1] 4.87 dBm VBW 1 MHz 5.831000000 GHz SWT 20 ms OBW 17.900000000 MHz Temp 1 [T1 OBW] 4.87 dBm 5.816100000 GHz Temp 2 [T1 OBW] 4.87 dBm 5.833900000 GHz LVL 30B Center 5.825 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 15:54:56

802.11n-HT20-Low	Date: 22.AUG.2024 15:55:32
802.11n-HT20-Middle	Date: 22.AUG.2024 15:56:04
802.11n-HT20-High	Date: 22.AUG.2024 15:56:37

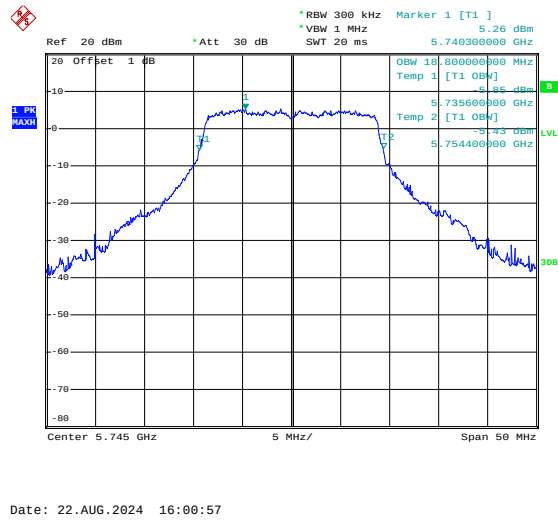
802.11n-HT40-Low



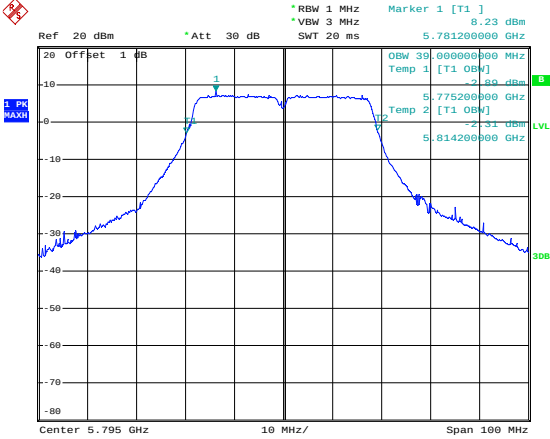
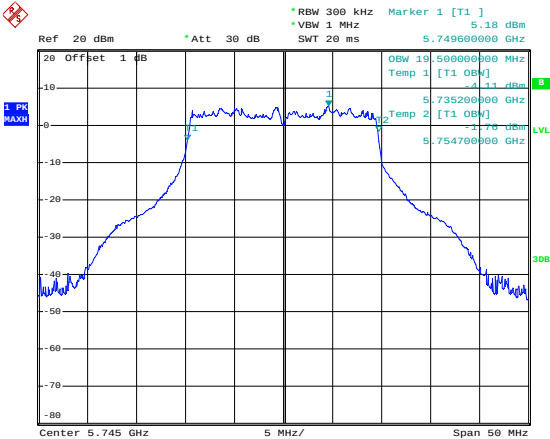
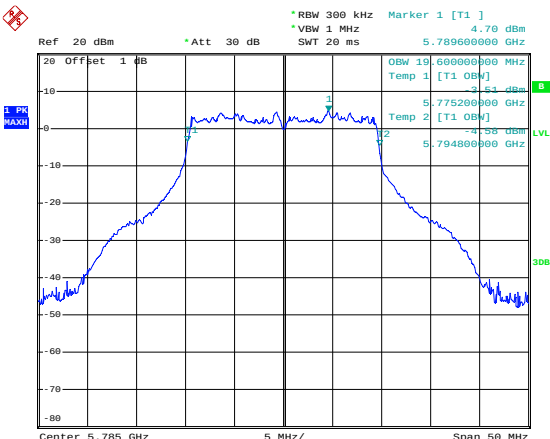
802.11n-HT40-High

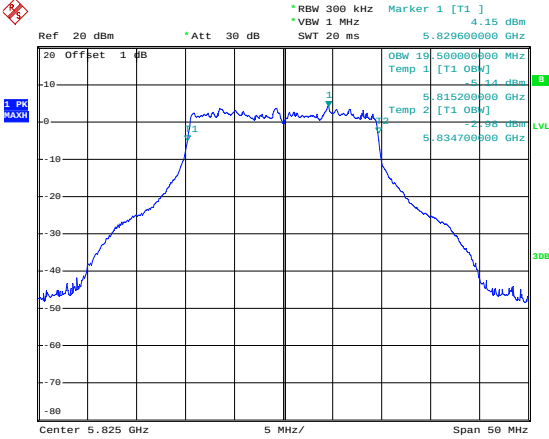
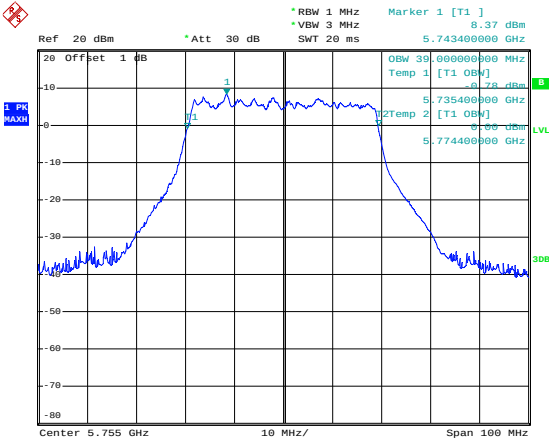
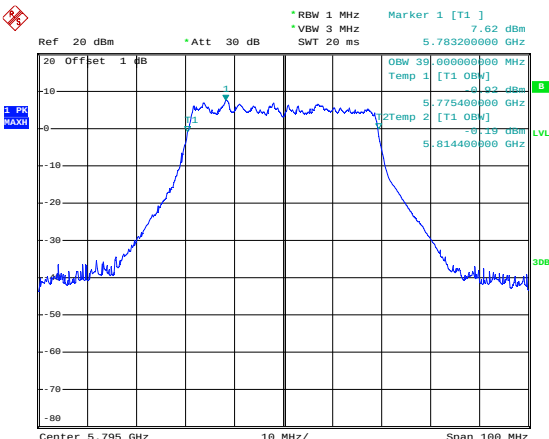


802.11ac-VHT20-Low



802.11ac-VHT20-Middle	Date: 22.AUG.2024 16:01:22
802.11ac-VHT20-High	Date: 22.AUG.2024 16:01:40
802.11ac-VHT40-Low	Date: 22.AUG.2024 16:02:25

802.11ac-VHT40-High	 Ref 20 dBm *Att 30 dB *RBW 1 MHz *VBW 3 MHz SWT 20 ms Marker 1 [T1] 8.23 dBm 5.781200000 GHz 20 Offset 1 dB OBW 30.00000000 MHz Temp 1 [T1 OBW] -2.23 dBm 5.775200000 GHz Temp 2 [T1 OBW] -12.31 dBm 5.814200000 GHz Center 5.795 GHz 10 MHz/ Span 100 MHz Date: 22.AUG.2024 16:02:59
802.11ax-HE20-Low	 Ref 20 dBm *Att 30 dB *RBW 300 kHz *VBW 1 MHz SWT 20 ms Marker 1 [T1] 5.18 dBm 5.749600000 GHz 20 Offset 1 dB OBW 10.50000000 MHz Temp 1 [T1 OBW] -4.11 dBm 5.735200000 GHz Temp 2 [T1 OBW] -11.76 dBm 5.754700000 GHz Center 5.745 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 16:03:33
802.11ax-HE20-Middle	 Ref 20 dBm *Att 30 dB *RBW 300 kHz *VBW 1 MHz SWT 20 ms Marker 1 [T1] 4.70 dBm 5.789600000 GHz 20 Offset 1 dB OBW 10.60000000 MHz Temp 1 [T1 OBW] -4.70 dBm 5.775200000 GHz Temp 2 [T1 OBW] -11.30 dBm 5.794800000 GHz Center 5.785 GHz 5 MHz/ Span 50 MHz Date: 22.AUG.2024 16:03:54

802.11ax-HE20-High	 Date: 22.AUG.2024 16:04:18
802.11ax-HE40-Low	 Date: 22.AUG.2024 16:05:01
802.11ax-HE40-High	 Date: 22.AUG.2024 16:05:25

APPENDIX C

Maximum Conducted Output Power

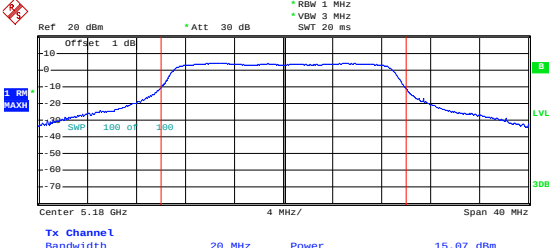
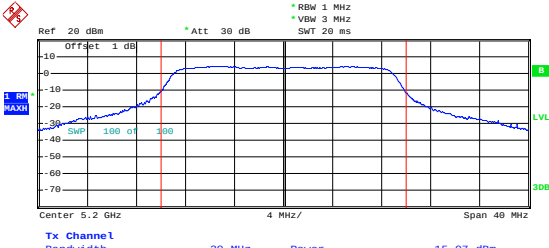
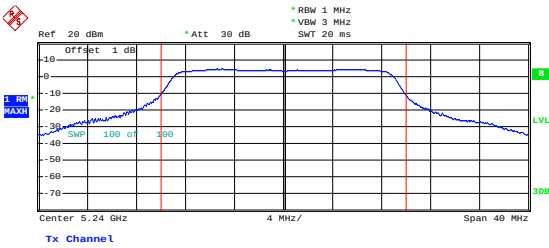
U-NII-1:5150-5250MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5180	15.53	23.98
	5200	15.41	23.98
	5240	15.74	23.98
802.11n-HT20	5180	15.07	23.98
	5200	15.07	23.98
	5240	15.28	23.98
802.11n-HT40	5190	14.95	23.98
	5230	15.11	23.98
802.11ac-VHT20	5180	14.96	23.98
	5200	14.93	23.98
	5240	15.15	23.98
802.11ac-VHT40	5190	14.76	23.98
	5230	14.86	23.98
802.11ax-HE20	5180	9.40	23.98
	5200	9.35	23.98
	5240	9.60	23.98
802.11ax-HE40	5190	9.23	23.98
	5230	9.38	23.98

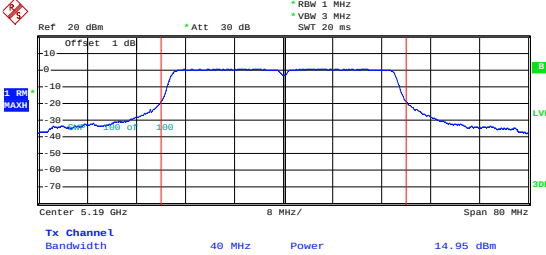
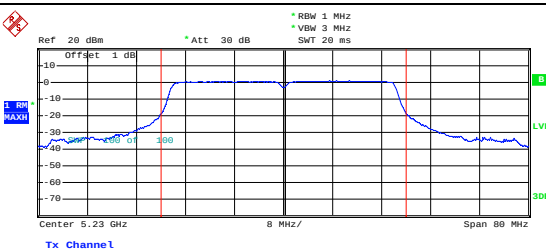
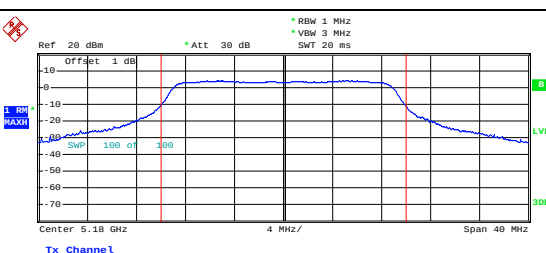
U-NII-3: 5725-5850MHz			
Test mode	Frequency MHz	Output Power dBm	Limit dBm
802.11a	5745	14.83	30.00
	5785	14.10	30.00
	5825	13.43	30.00
802.11n-HT20	5745	14.48	30.00
	5785	13.95	30.00
	5825	13.32	30.00
802.11n-HT40	5755	14.18	30.00
	5795	13.72	30.00
802.11ac-VHT20	5745	14.31	30.00
	5785	13.83	30.00
	5825	13.37	30.00

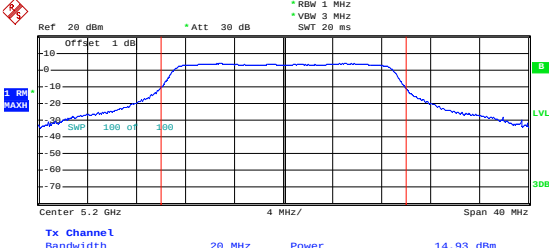
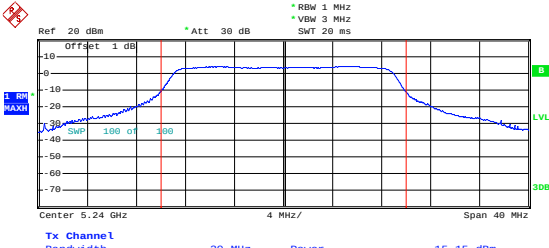
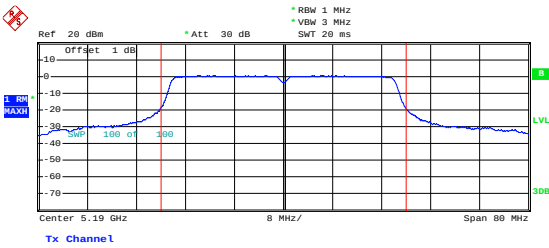
802.11ac-VHT40	5755	14.25	30.00
	5795	13.69	30.00
802.11ax-HE20	5745	13.18	30.00
	5785	12.84	30.00
	5825	12.12	30.00
802.11ax-HE40	5755	13.02	30.00
	5795	12.47	30.00

5150-5250MHz

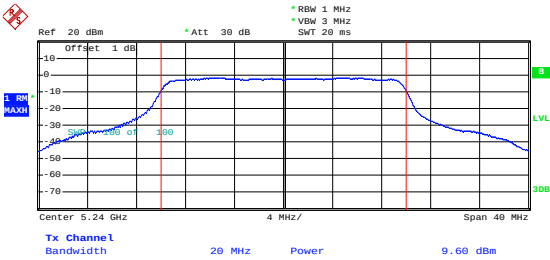
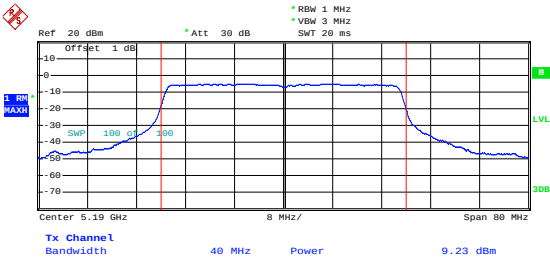
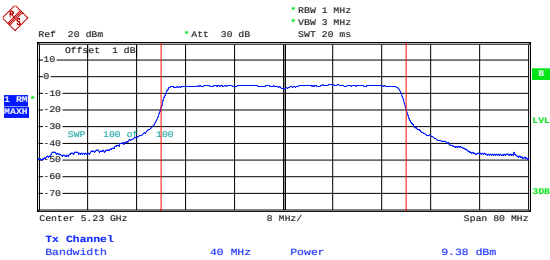
802.11a-Low	Date: 22.AUG.2024 08:52:50
802.11a-Middle	Date: 22.AUG.2024 08:53:28
802.11a-High	Date: 22.AUG.2024 08:55:16

802.11n-HT20-Low	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.18 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.07 dBm Date: 22.AUG.2024 08:58:02
802.11n-HT20-Middle	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.2 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.07 dBm Date: 22.AUG.2024 08:58:27
802.11n-HT20-High	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.24 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.28 dBm Date: 22.AUG.2024 08:58:51

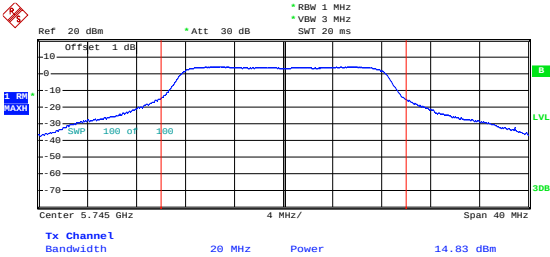
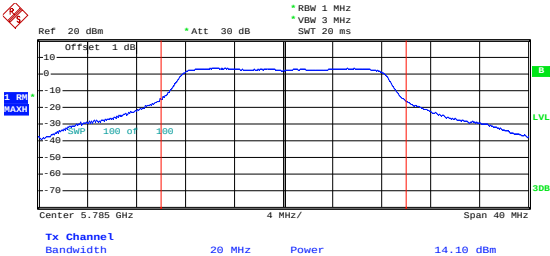
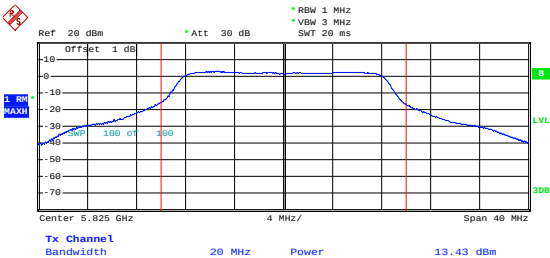
802.11n-HT40-Low	 Ref: 20 dBm *Att: 30 dB RBW: 1 MHz VSW: 3 MHz SWT: 20 ms Offset: 1 dB Center: 5.19 GHz 8 MHz/ Span: 80 MHz Tx Channel Bandwidth 40 MHz Power 14.95 dBm
802.11n-HT40-High	 Ref: 20 dBm *Att: 30 dB RBW: 1 MHz VSW: 3 MHz SWT: 20 ms Offset: 1 dB Center: 5.23 GHz 8 MHz/ Span: 80 MHz Tx Channel Bandwidth 40 MHz Power 15.11 dBm
802.11ac-VHT20-Low	 Ref: 20 dBm *Att: 30 dB RBW: 1 MHz VSW: 3 MHz SWT: 20 ms Offset: 1 dB Center: 5.18 GHz 4 MHz/ Span: 40 MHz Tx Channel Bandwidth 20 MHz Power 14.96 dBm

802.11ac-VHT20-Middle	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB 1 RBW MAX SwP 100 of 100 Center 5.2 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 14.93 dBm Date: 22.AUG.2024 09:02:09
802.11ac-VHT20-High	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB 1 RBW MAX SwP 100 of 100 Center 5.24 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 15.15 dBm Date: 22.AUG.2024 09:02:54
802.11ac-VHT40-Low	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB 1 RBW MAX SwP 100 of 100 Center 5.19 GHz 8 MHz/ Span 80 MHz Tx Channel Bandwidth 40 MHz Power 14.76 dBm Date: 22.AUG.2024 09:04:55

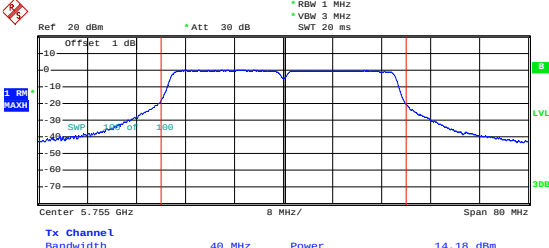
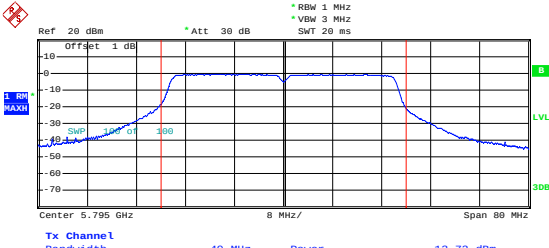
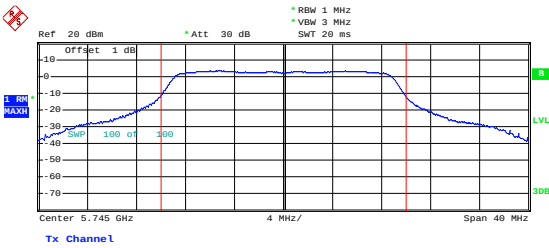
802.11ac-VHT40-High	Date: 22.AUG.2024 09:05:35
802.11ax-HE20-Low	Date: 22.AUG.2024 09:17:52
802.11ax-HE20-Middle	Date: 22.AUG.2024 09:18:12

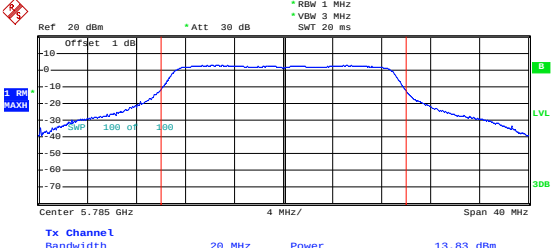
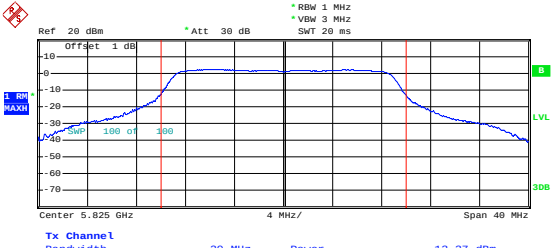
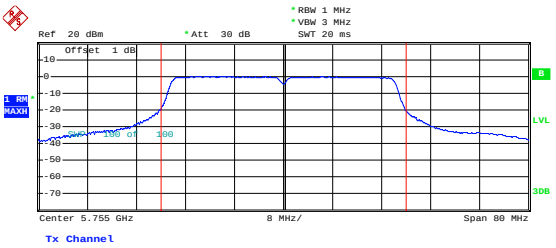
802.11ax-HE20-High	 Date: 22.AUG.2024 09:18:37
802.11ax-HE40-Low	 Date: 22.AUG.2024 09:19:22
802.11ax-HE40-High	 Date: 22.AUG.2024 09:19:59

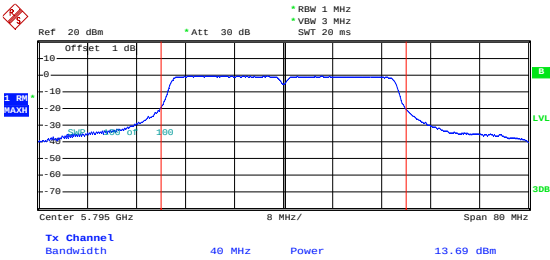
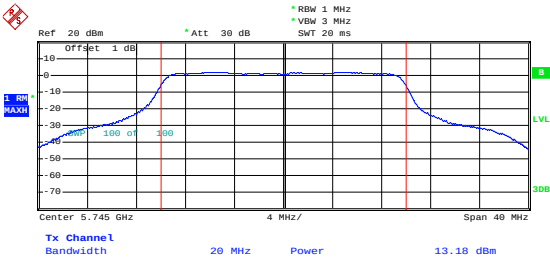
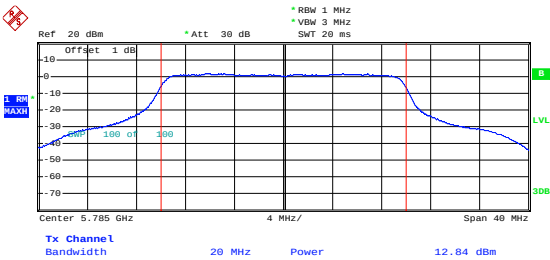
5725-5850MHz

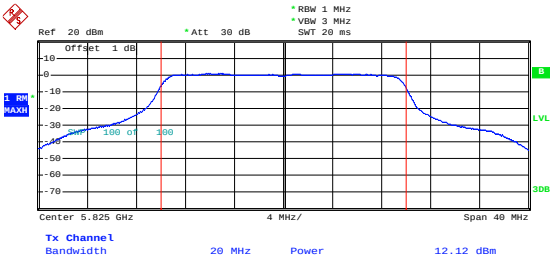
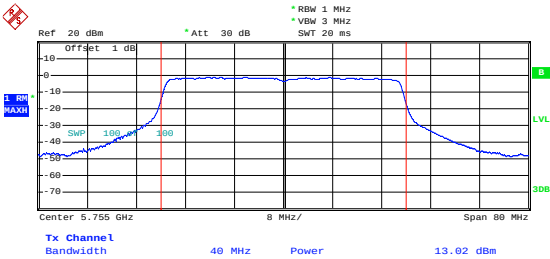
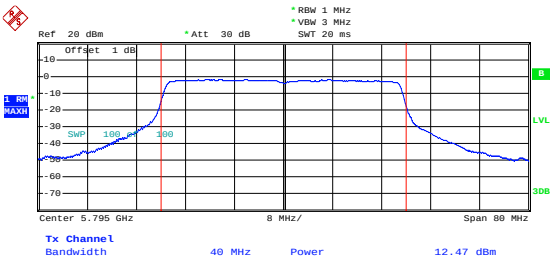
802.11a-Low	 Ref: 20 dBm * Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Offset: 1 dB Center: 5.745 GHz 4 MHz/ Span: 40 MHz Tx Channel Bandwidth: 20 MHz Power: 14.83 dBm Date: 22.AUG.2024 13:51:49
802.11a-Middle	 Ref: 20 dBm * Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Offset: 1 dB Center: 5.785 GHz 4 MHz/ Span: 40 MHz Tx Channel Bandwidth: 20 MHz Power: 14.10 dBm Date: 22.AUG.2024 13:52:17
802.11a-High	 Ref: 20 dBm * Att: 30 dB RBW: 1 MHz VBW: 3 MHz SWT: 20 ms Offset: 1 dB Center: 5.825 GHz 4 MHz/ Span: 40 MHz Tx Channel Bandwidth: 20 MHz Power: 13.43 dBm Date: 22.AUG.2024 13:53:20

802.11n-HT20-Low	Date: 22.AUG.2024 13:53:42
802.11n-HT20-Middle	Date: 22.AUG.2024 13:54:05
802.11n-HT20-High	Date: 22.AUG.2024 13:54:28

802.11n-HT40-Low	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.755 GHz 8 MHz/ Span 80 MHz Tx Channel Bandwidth 40 MHz Power 14.18 dBm Date: 22.AUG.2024 13:55:06
802.11n-HT40-High	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.795 GHz 8 MHz/ Span 80 MHz Tx Channel Bandwidth 40 MHz Power 13.72 dBm Date: 22.AUG.2024 13:55:34
802.11ac-VHT20-Low	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.745 GHz 4 MHz/ Span 40 MHz Tx Channel Bandwidth 20 MHz Power 14.31 dBm Date: 22.AUG.2024 13:56:04

802.11ac-VHT20-Middle	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.785 GHz 4 MHz/ Span 40 MHz Tx Channel1 Bandwidth 20 MHz Power 13.83 dBm Date: 22.AUG.2024 13:56:22
802.11ac-VHT20-High	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.825 GHz 4 MHz/ Span 40 MHz Tx Channel1 Bandwidth 20 MHz Power 13.37 dBm Date: 22.AUG.2024 13:57:04
802.11ac-VHT40-Low	 Ref 20 dBm * Att 30 dB RBW 1 MHz VBW 3 MHz SMT 20 ms Offset 1 dB Center 5.755 GHz 8 MHz/ Span 80 MHz Tx Channel1 Bandwidth 40 MHz Power 14.25 dBm Date: 22.AUG.2024 13:57:42

802.11ac-VHT40-High	 Date: 22.AUG.2024 13:58:02
802.11ax-HE20-Low	 Date: 22.AUG.2024 13:58:35
802.11ax-HE20-Middle	 Date: 22.AUG.2024 14:01:59

802.11ax-HE20-High	 Date: 22.AUG.2024 14:02:36
802.11ax-HE40-Low	 Date: 22.AUG.2024 14:03:37
802.11ax-HE40-High	 Date: 22.AUG.2024 14:04:03

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%	12	-30	503	0.097
100%		-20	498	0.096
100%		-10	497	0.096
100%		0	501	0.096
100%		+10	495	0.095
100%		+20	497	0.096
100%		+30	501	0.096
100%		+40	499	0.096
100%		+50	505	0.097
Low power	10.8	+20	496	0.095
High power	13.2	+20	501	0.096

U-NII-1:5725-5850MHz worst case at 802.11a middle channel				
Voltage(%)	Power(VDC)	TEMP(°C)	Freq.Dev(Hz)	Deviation
100%	12	-30	495	0.086
100%		-20	504	0.087
100%		-10	500	0.086
100%		0	499	0.086
100%		+10	496	0.086
100%		+20	497	0.086
100%		+30	497	0.086
100%		+40	504	0.087
100%		+50	502	0.087
Low power	10.8	+20	505	0.087
High power	13.2	+20	500	0.086

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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