Regulatory Test Report

Prepared for Harman International Industries, Inc.

This report presents detailed information on

R1 INT NA 2B HW4

Prepared by

Sharon Spratt

Engineer II

Approved by

Jason Kanakry

General Manager

Issue date: 03/19/2025

Report No: J24179-R1 INT NA 2B HW4-TR2 v2

Contents

1. TEST REQUEST INFORMATION

Test Request #:	7700206788
Test Requested By:	Pranav Patel Harman International Industries, Inc. 30001 Cabot Drive, Novi, MI 48377
Test item Description:	R1 INT NA 2B HW4
Part Number:	P68581660ZZ
DUT Sample Number:	J24179#1
FVIN :	FCA-MY24.MNL-OD.3426
Hardware Version of DUT:	N/A
Software Version of DUT:	N/A
Component Category of DUT:	N/A
FCC ID:	2AHPN-BE2881
ISED ID:	6434C-BE2881
Type of Test:	FCC/ISED Certification
Test Method:	CFR Title 47 FCC Part 15.407, ISED Canada RSS-247 Issue 3, ISED Canada RSS-Gen Issue 5, FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 and ANSI C63.10-2013
Deviations from standard:	None
Approved Test Plan Number:	N/A
Test Plan Revision:	N/A
Date Test Sample Received:	06-26-2024
Date Test Started:	12/05/2024
Date Test Finished:	12/26/2024

2. TEST LABORATORY INFORMATION

Location of Test Lab:	The radiated and conducted emissions test sites are located at Bureau Veritas 815 N. Opdyke Rd #100, Auburn Hills, MI 48326, Phone: +1-248-836-4700
Key Contact:	Jason Kanakry (General Manager) Jason.Kanakry@BureauVeritas.com Phone: +1-248-836-4747
Laboratory Accreditations:	BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.
ISO/IEC 17025:2017:	5678.01
FCC Test Site Number:	US1278 (242530)
IC Test Site Number:	US0229 (26240)

3. STATEMENT OF CONFORMITY

RSS-GEN	RSS 247	Part 15	Comments
6.4		15.15(b)	There are no controls accessible to the user that varies the output power to operate in violation of the regulatory requirements.
		15.19	The label shown in the label exhibit.
		15.21	Information to the user shown in the instruction manual exhibit.
		15.27	No special accessories are required for compliance.
3.2		15.31	The EUT tested in accordance with the measurement standards in this section.
6.13.2		15.33	Frequency range investigated according to this section, unless noted in specific rule section under which the equipment operates.
6.13.1		15.35	The EUT emissions measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.
6.8		15.203	EUT employs integrated PCB antenna with 2.67dBi (UNII-1) and 1.52dBi (UNII-3)
8.10		15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209 or RSS-Gen as applicable
8.8		15.207	N/A. EUT is vehicle battery powered only.

4. CONDUCTED TESTING

4.1 Test Summary

This test report supports an application for certification of a transmitter operating pursuant to:

CFR Title 47 FCC Part 15.407, ISED Canada RSS-247 Issue 3, ISED Canada RSS-Gen Issue 5, FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 and ANSI C63.10-2013

The product is **R1 INT NA 2B HW4** transmitter that operates in UNII-1 (5.15GHz – 5.25GHz) and UNII-3 (5.725GHz – 5.85GHz)

Details	Description
Frequency Range (MHz)	UNII-1 (5.15GHz – 5.25GHz) UNII-3 (5.725GHz – 5.85GHz)
Tested Modes	802.11a 802.11n(HT20, HT40) 802.11ac (VHT20, VHT40, VHT80).
Tested Channels	UNII-1 (36-48) UNII-3 (149-165)
DUT Antenna Type	Integrated PCB antenna
Number of transmit chains	1
Equipment Type	Unlicensed National Information Infrastructure Device
DUT Antenna Gain	2.67dBi (UNII-1) 1.52dBi (UNII-3) ☒ Provided by Customer with Gain Report ☐ Not Provided by Customer
DUT/EUT Operation	EUT is configured/programmed by an External Test Laptop with USB and Ethernet interfaces to set WLAN Test Mode, data rates, channels, bandwidth, band configurations etc., using labtool (MFGBridge_Tool).

Test samples received in good condition, we found that the product met the above requirements with modification.

Test Item	Sample #	Result
FCC 15.407 UNII-1	J24179#1	Meets Requirements
FCC 15.407 UNII-3	J24179#1	Meets Requirements

Worst-case emission obtained on low data rates so Full Testing performed on lowest data rate.

UNII-1 Test Results Summary

Test	Frequency (MHz)	802.11a	802.11n(HT20)	802.11ac (VHT20)
RF Output Power	5180/5200/5240	PASS	PASS	PASS
Power Spectral Density	5180/5200/5240	PASS	PASS	PASS
DTS Bandwidth (6dB)	5180/5200/5240	PASS	PASS	PASS
Occupied Channel Bandwidth 99%	5180/5200/5240	PASS	PASS	PASS
		802.11n(HT40)		802.11ac(VHT40)
RF Output Power	5190/5230	PASS		PASS
Power Spectral Density	5190/5230	PASS		PASS
DTS Bandwidth (6dB)	5190/5230	PASS		PASS
Occupied Channel Bandwidth 99%	5190/5230	PASS		PASS
		802.11ac(VHT80)		
RF Output Power	5210	PASS		
Power Spectral Density	5210	PASS		
DTS Bandwidth (6dB)	5210	PASS		
Occupied Channel Bandwidth 99%	5210	PASS		

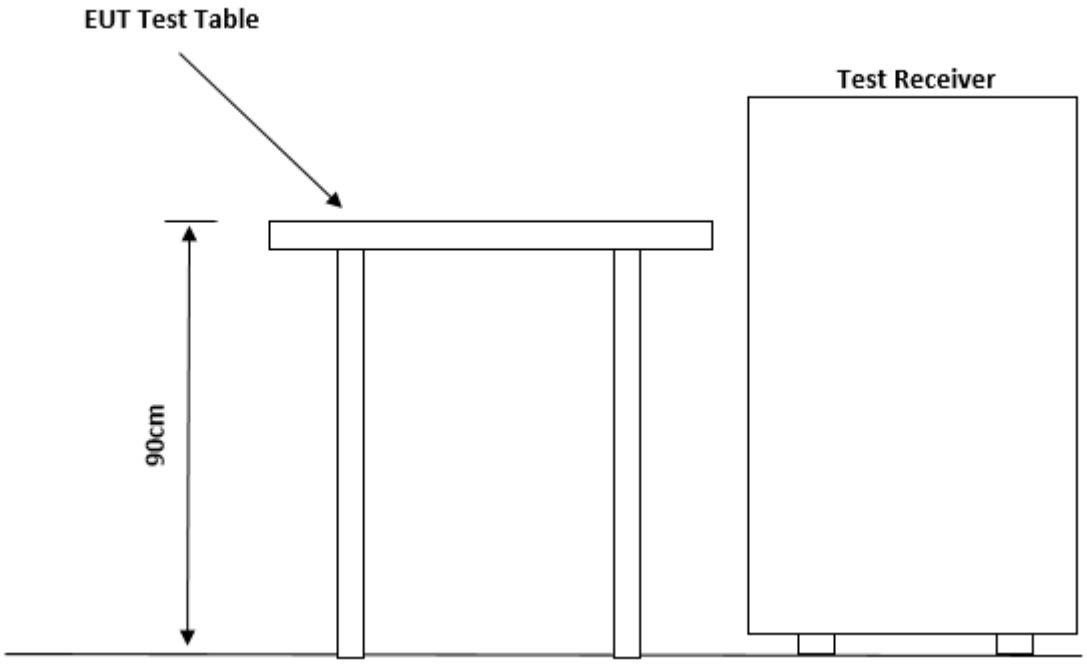
UNII-3 Test Results Summary

Test	Frequency (MHz)	802.11a	802.11n(HT20)	802.11ac (VHT20)
RF Output Power	5745/5785/5825	PASS	PASS	PASS
Power Spectral Density	5745/5785/5825	PASS	PASS	PASS
DTS Bandwidth (6dB)	5745/5785/5825	PASS	PASS	PASS
Occupied Channel Bandwidth 99%	5745/5785/5825	PASS	PASS	PASS
		802.11n(HT40)		802.11ac(VHT40)
RF Output Power	5755/5795	PASS		PASS
Power Spectral Density	5755/5795	PASS		PASS
DTS Bandwidth (6dB)	5755/5795	PASS		PASS
Occupied Channel Bandwidth 99%	5755/5795	PASS		PASS
		802.11ac(VHT80)		
RF Output Power	5775	PASS		
Power Spectral Density	5775	PASS		
DTS Bandwidth (6dB)	5775	PASS		
Occupied Channel Bandwidth 99%	5775	PASS		

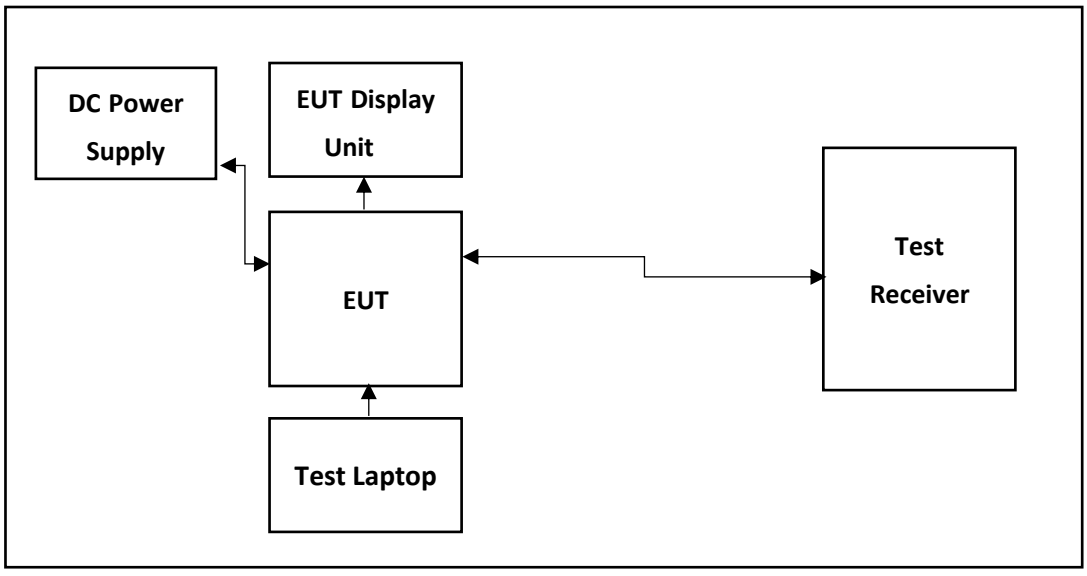
4.2 Test Setup

Conducted Test Site Description

Test site is accommodated with test tabletop and floor standing test equipment.



TEST SETUP DIAGRAM



4.3 Test Equipment Used

ID #	Equipment	Manufacturer	Model #	Serial #	Cal Due
BVD0226	Spectrum Analyzer 10Hz-44GHz	Rohde & Schwarz	FSV3044	101018	4/20/2025
BVD0227	8 port switch unit for Wireless Test system	Rohde & Schwarz	OSP150	101100	11/24/2025
BVD0228	8 port switch unit for Wireless Test system	Rohde & Schwarz	OSP220	101632	11/14/2025
BVD0224	Signal Generator 100kHz-40GHz	Rohde & Schwarz	SMB100A	181741	4/20/2025
BVD0225	Signal Generator 100k-6GHz with GPS simulator	Rohde & Schwarz	SMW200A	107664	4/20/2025
BVD0250	Wireless Connectivity Tester 70M-6GHz	Rohde & Schwarz	CMW270	102113	4/20/2025
BVD0302	DC power supply 1-15VDC 60A 110/220 11.5A max input	BK Precision	1693	257F17180	N/A
BVD0321	Fixed Attenuator 2W 20dB -40GHz	Mini-Circuits	BW-K20-2W44+	2103	12/11/2024
BVD0430	Multimeter	Fluke	117	49710262SV	11/07/2025
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	5/23/2025
N/A	Test-PC	Lenovo ThinkPad	E480	SL10Q37355	N/A

Notes:-

- DC power supply verified before use with calibrated Multimeter.
- All the conducted testing completed by 12/06/2024.

Customer Supplied Equipment

ID #	Equipment	Manufacturer	Model	Serial #	Version No.
N/A	Harness	Harman	N/A	N/A	N/A
N/A	Display Unit	MOBIS	BMM6100000	231107 01	N/A
N/A	Shark Fin Antenna	Alfa Romeo	B901	719147	N/A
N/A	Antenna	Aptiv	APN35409682	N/A	N/A
N/A	Camera	N/A	23295906C	N/A	N/A
N/A	MFGBridge_Tool/ Dut labtool	N/A	N/A	N/A	2.0.0.89

Equipment List (Software)

ID #	Equipment	Manufacturer	Model	Version No	
N/A	EMC Test Software	Rodhe & Schwarz	EMC32	11.20.00	N/A

4.4 UNII-1

Mode	Channel	Frequency
802.11a **802.11n(HT20)** **802.11ac(VHT20)**	36	5180
802.11n(HT40) **802.11ac(VHT40)**	38	5190
802.11a **802.11n(HT20)** **802.11ac(VHT20)**	40	5200
802.11ac(VHT80)	42	5210
802.11n(HT40) **802.11ac(VHT40)**	46	5230
802.11a **802.11n(HT20)** **802.11ac(VHT20)**	48	5240

Notes: Channels and modes above were tested.

Power settings

802.11a		802.11n (HT20)		802.11ac (VHT20)	
Channel	**Power Setting**	**Channel**	**Power Setting**	**Channel**	**Power Setting**
36	5	**36**	5	**36**	5
40	5	**40**	5	**40**	5
48	5	**48**	5	**48**	5

802.11n (HT40)		802.11ac (VHT40)	
Channel	**Power Setting**	**Channel**	**Power Setting**
38	5	**38**	5
46	5	**46**	5

802.11ac (VHT80)	
Channel	**Power Setting**
42	4

4.4.1 RF output power

FCC

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 II.E and ANSI C63.10-2013 (In Reference to KDB 789033 E.3.B). Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.

Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

Device has both client and access point modes and has identical RF characteristics and settings for both Limits are as follows:

15.407(a)(1)(i): 1W (30dBm) for outdoor access points with antenna gains less than 6dBi.

15.407(a)(1)(iv): 250mW (23.9dBm) for client devices with antenna gains less than 6dBi.

Since client devices are subject to more stringent limits, unit was tested against the limits for a client device.

802.11a

Data Rate	Gated RMS with TPC (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
6 Mbps	4.594	2.67	7.264	21.0	5
Data Rate	Gated RMS (dBm) 5200MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
6 Mbps	3.872	2.67	6.542	21.0	5
Data Rate	Gated RMS (dBm) 5240MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
6 Mbps	3.854	2.67	6.524	21.0	5

802.11n (HT20)

Data Rate	Gated RMS (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	4.805	2.67	7.475	21.0	5
Data Rate	Gated RMS (dBm) 5200MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.556	2.67	7.226	21.0	5
Data Rate	Gated RMS (dBm) 5240MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	3.848	2.67	6.518	21.0	5

802.11ac (VHT20)

Data Rate	Gated RMS (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	4.793	2.67	7.463	21.0	5
Data Rate	Gated RMS (dBm) 5200MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.662	2.67	7.332	21.0	5
Data Rate	Gated RMS (dBm) 5240MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.166	2.67	6.836	21.0	5

802.11n (HT40)

Data Rate	Gated RMS (dBm) 5190MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	4.340	2.67	7.01	21.0	5
Data Rate	Gated RMS (dBm) 5230MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.039	2.67	6.709	21.0	5

802.11ac (VHT40)

Data Rate	Gated RMS (dBm) 5190MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	4.533	2.67	7.203	21.0	5
Data Rate	Gated RMS (dBm) 5230MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.095	2.67	6.765	21.0	5

802.11ac (VHT80)

Data Rate	Gated RMS (dBm) 5210MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	3.154	2.67	5.824	21.0	4

RSS-247

Per RSS-247 Issue 2 Section 6.2.1.1, limit for OEM devices installed in vehicles: Maximum EIRP shall not exceed 30mW or 1.76+10*log B, dBm, whichever is less (where B is 99% OBW in MHz). In addition, devices must be capable of reducing power by a least 3dB below the maximum permitted EIRP of 30mW, which is 11.77dBm.

For modulations with less than 20MHz 99% OBW; 802.11a, 802.11n (HT20) and 802.11ac (VHT20), worst case 99% OBW of 16.600MHz is assumed with resulting conservative limit of 13.96dBm. For modulations with more than 20MHz 99% OBW; 802.11n (HT40), 802.11ac (VHT40) and 802.11ac (VHT80), the limit is 30mW (14.77dBm)

802.11a

Data Rate	Gated RMS with TPC (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
6 Mbps	4.594	2.67	7.264	13.96	5
Data Rate	**Gated RMS (dBm) 5200MHz**	**Antenna Gain(dBi)**	**EIRP (dBm)**	**Limit (dBm)**	
6 Mbps	3.872	2.67	6.542	13.96	5
Data Rate	**Gated RMS (dBm) 5240MHz**	**Antenna Gain(dBi)**	**EIRP (dBm)**	**Limit (dBm)**	
6 Mbps	3.854	2.67	6.524	13.96	5

802.11n (HT20)

Data Rate	Gated RMS (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	4.805	2.67	7.475	13.96	5
Data Rate	**Gated RMS (dBm) 5200MHz**	**Antenna Gain(dBi)**	**EIRP (dBm)**	**Limit (dBm)**	
MCS0	4.556	2.67	7.226	13.96	5
Data Rate	**Gated RMS (dBm) 5240MHz**	**Antenna Gain(dBi)**	**EIRP (dBm)**	**Limit (dBm)**	
MCS0	3.848	2.67	6.518	13.96	5

802.11ac (VHT20)

Data Rate	Gated RMS (dBm) 5180MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	4.793	2.67	7.463	13.96	5
Data Rate	Gated RMS (dBm) 5200MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.662	2.67	7.332	13.96	5
Data Rate	Gated RMS (dBm) 5240MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.166	2.67	6.836	13.96	5

802.11n (HT40)

Data Rate	Gated RMS (dBm) 5190MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	4.340	2.67	7.01	14.77	5
Data Rate	Gated RMS (dBm) 5230MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.039	2.67	6.709	14.77	5

802.11ac (VHT40)

Data Rate	Gated RMS (dBm) 5190MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	4.533	2.67	7.203	14.77	5
Data Rate	Gated RMS (dBm) 5230MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	
MCS0	4.095	2.67	6.765	14.77	5

802.11ac (VHT80)

Data Rate	Gated RMS (dBm) 5210MHz	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	3.154	2.67	5.824	14.77	4

4.4.2 Power Spectral Density

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 II.F with test method SA-1 and ANSI C63.10-2013.

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.3 dB

FCC

Device has both client and access point modes and has identical RF characteristics and settings for both Limits are as follows:

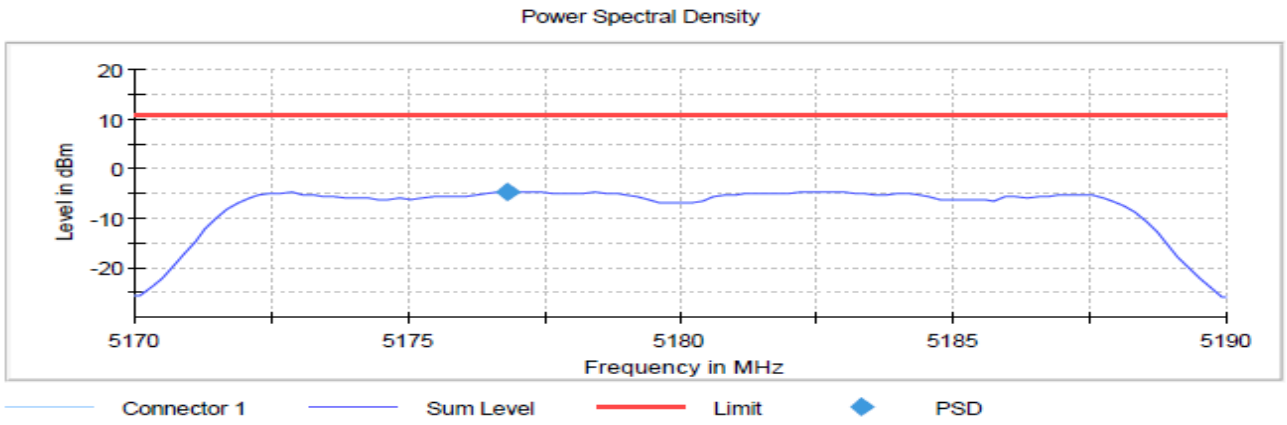
15.407(a)(1)(i): 17dBm for outdoor access points with antenna gains less than 6dBi.

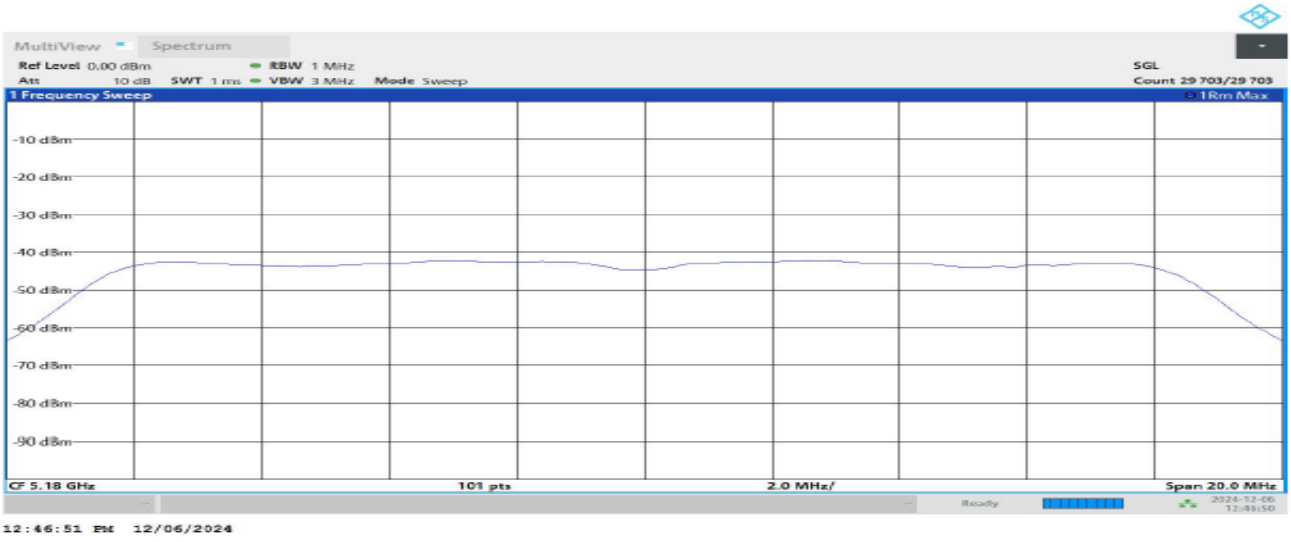
15.407(a)(1)(iv):11dBm for client devices with antenna gains less than 6dBi.

Since client devices are subject to more stringent limits, unit tested against the limits for a client device.

Mode	Data Rate	PSD (dBm) 5180 MHz	PSD (dBm) 5200 MHz	PSD (dBm) 5240 MHz	Limit (dBm)	Power Setting (dBm)
802.11a	**6Mbps**	-4.542	-4.620	-5.275	11.0	5

802.11a 5180 MHz 6Mbps

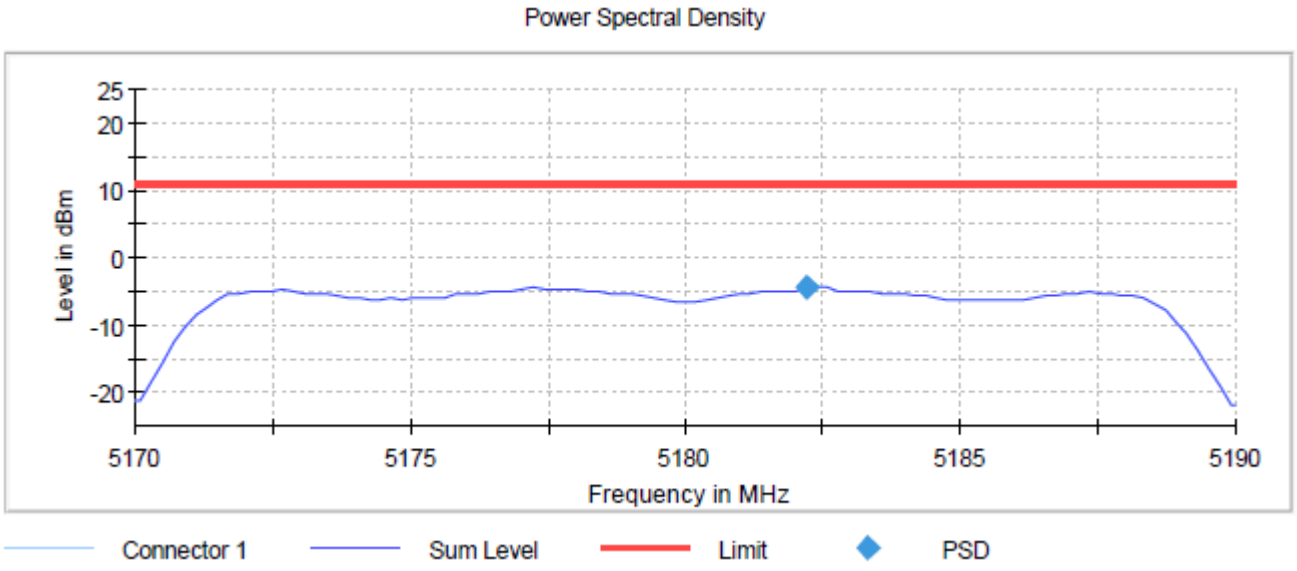


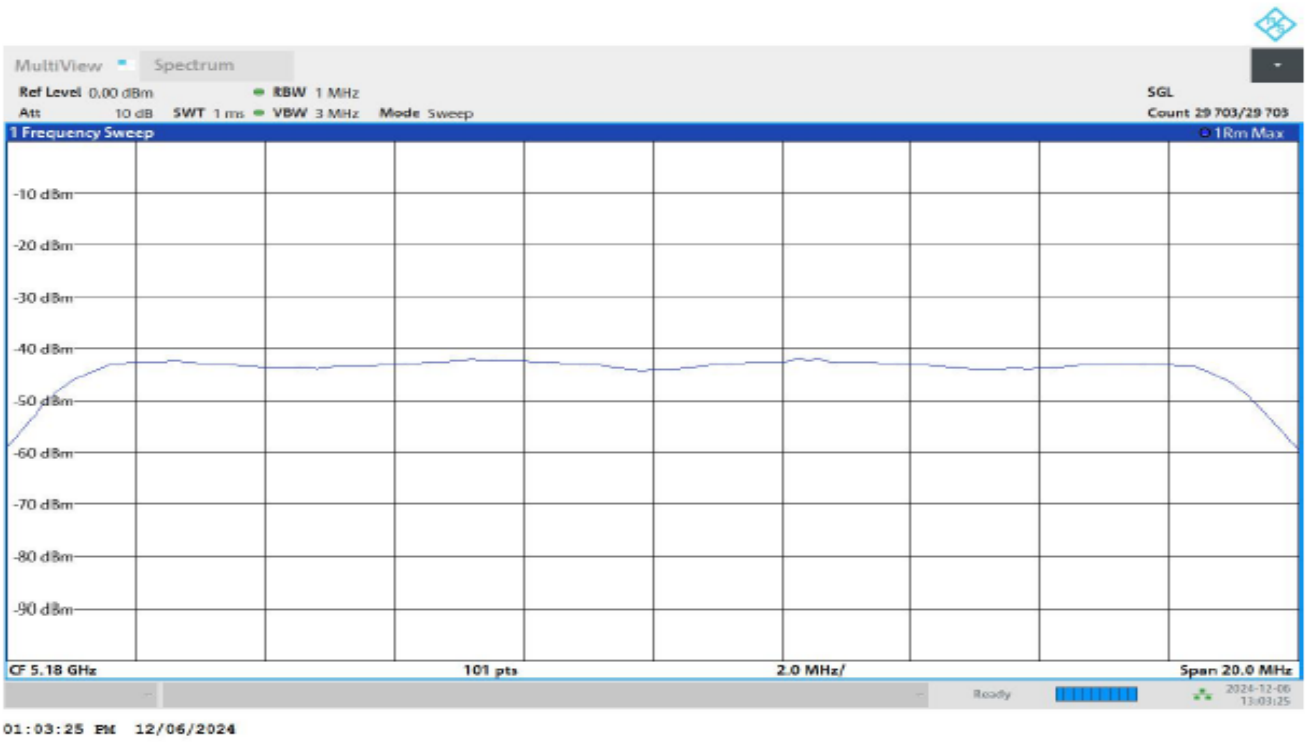


Mode	Data Rate	PSD (dBm) 5180 MHz	PSD (dBm) 5200 MHz	PSD (dBm) 5240 MHz	Limit (dBm)	Power Setting (dBm)
802.11n (HT20)	**MCS0**	-4.404	-4.200	-4.989	11.0	5

Mode	Data Rate	PSD (dBm) 5190 MHz	PSD (dBm) 5230 MHz	Limit (dBm)	Power Setting (dBm)
802.11n (HT40)	**MCS0**	-7.149	-7.579	11.0	5

802.11n (HT20) 5180 MHz MCS0



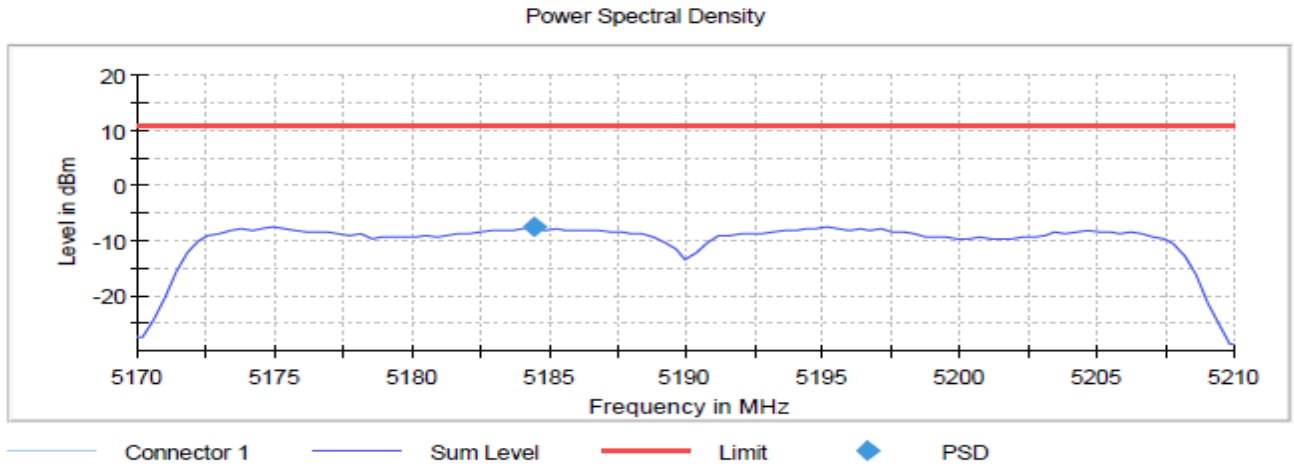


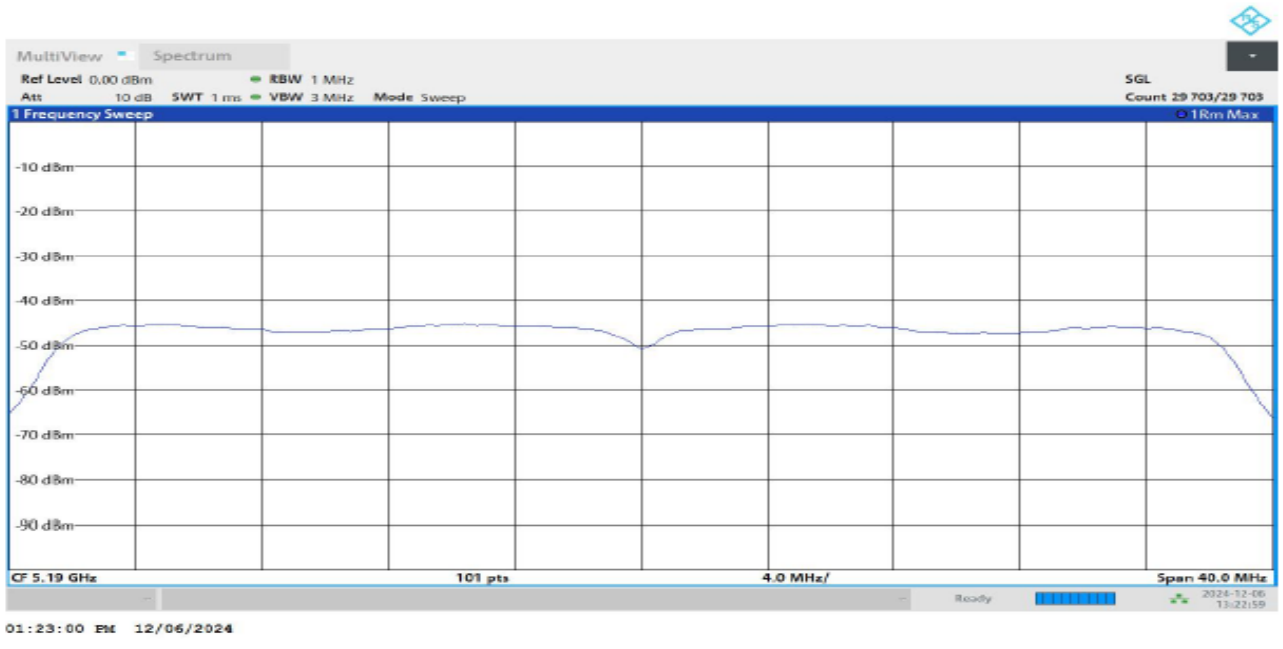
Mode	Data Rate	PSD (dBm) 5180 MHz	PSD (dBm) 5200 MHz	PSD (dBm) 5240 MHz	Limit (dBm)	Power Setting (dBm)
802.11ac (VHT20)	**MCS0**	-4.280	-4.469	-5.134	11.0	5

Mode	Data Rate	PSD (dBm) 5190 MHz	PSD (dBm) 5230 MHz	Limit (dBm)	Power Setting (dBm)
802.11ac (VHT40)	**MCS0**	-7.488	-8.116	11.0	5

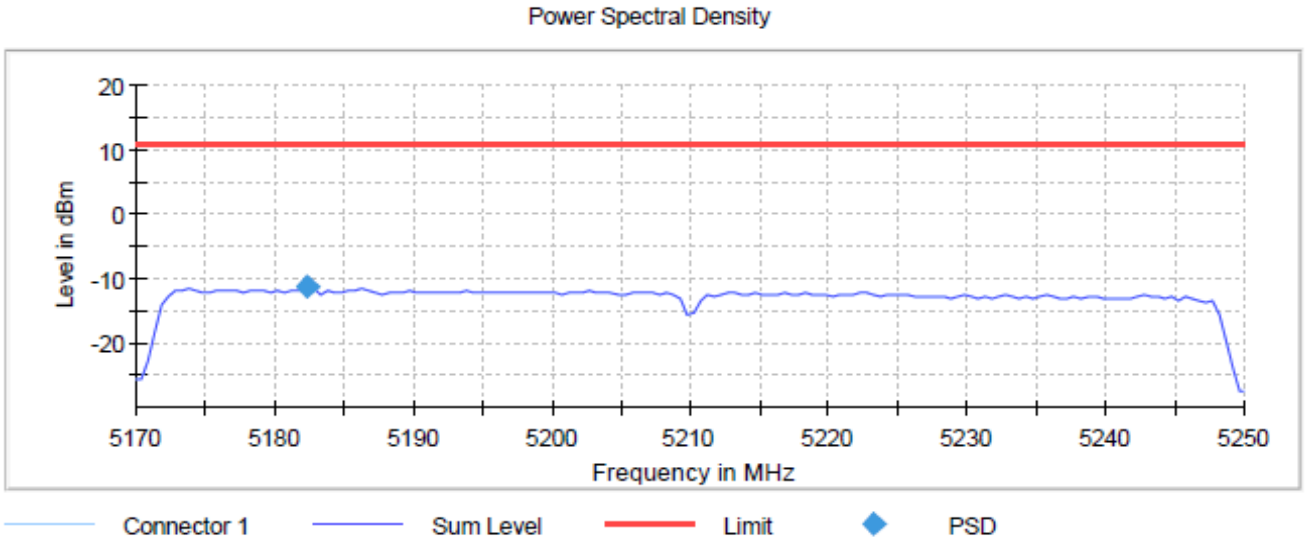
Mode	Data Rate	PSD (dBm) 5210 MHz	Limit (dBm)	Power Setting (dBm)
802.11ac (VHT80)	**MCS0**	-11.161	11.0	5

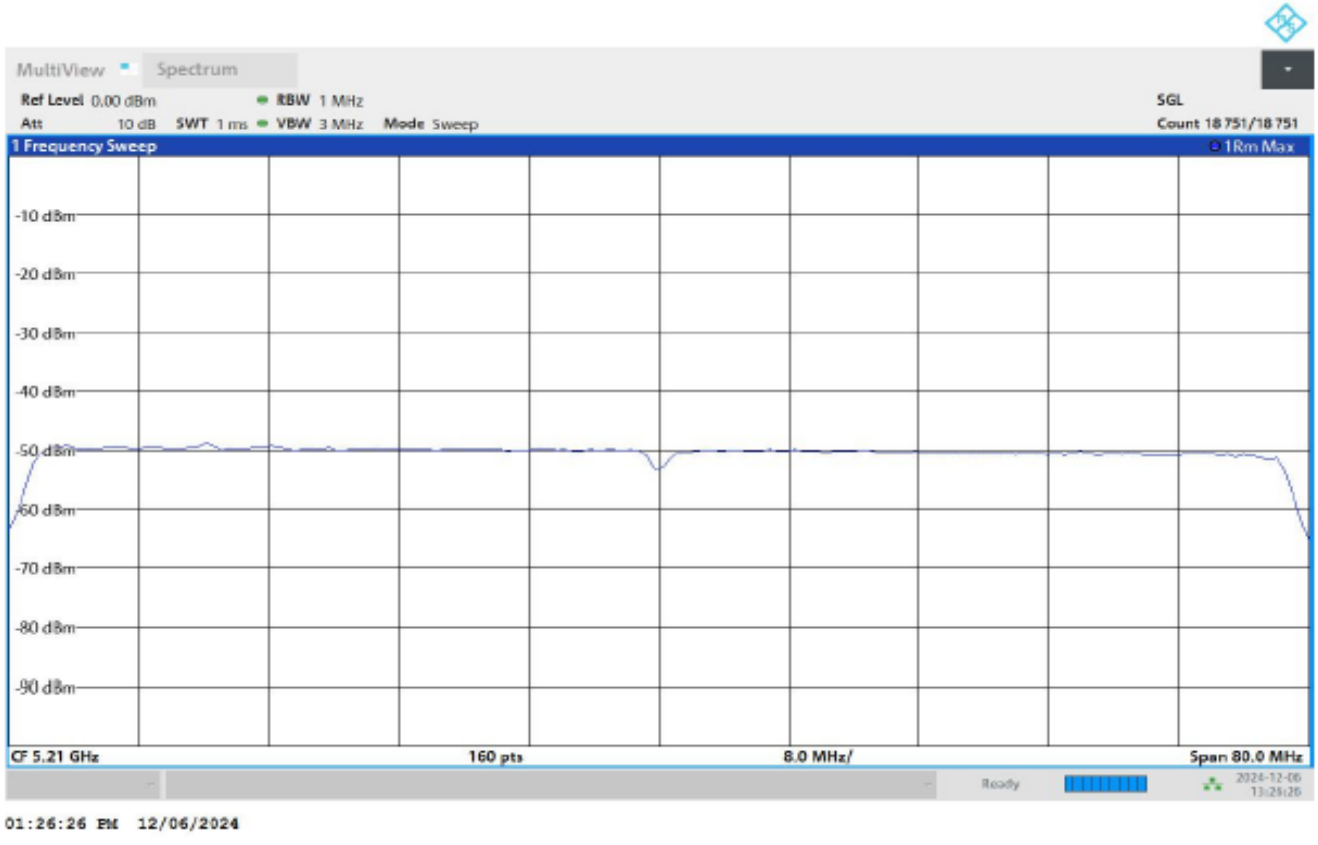
802.11ac (VHT40) 5190 MHz MCS0





802.11ac (VHT80) 5210 MHz MCS0





RSS-247

802.11a

Data Rate	PSD(dBm) 5180MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)	Power Setting (dBm)
6 Mbps	-4.542	2.67	-1.872	10.0	5
Data Rate	**PSD(dBm) 5200MHz**	**Antenna Gain (dBi)**	**EIRP PSD (dBm)**	**Limit (dBm)**	**Power Setting (dBm)**
6 Mbps	-4.620	2.67	-1.95	10.0	5
Data Rate	**PSD(dBm) 5240MHz**	**Antenna Gain (dBi)**	**EIRP PSD (dBm)**	**Limit (dBm)**	**Power Setting (dBm)**
6 Mbps	-5.275	2.67	-2.605	10.0	5

802.11n (HT20)

Data Rate	PSD(dBm) 5180MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	-4.404	2.67	-1.734	10.0	5
Data Rate	**PSD(dBm) 5200MHz**	**Antenna Gain (dBi)**	**EIRP PSD (dBm)**	**Limit (dBm)**	**Power Setting (dBm)**
MCS0	-4.200	2.67	-1.53	10.0	5
Data Rate	**PSD(dBm) 5240MHz**	**Antenna Gain (dBi)**	**EIRP PSD (dBm)**	**Limit (dBm)**	**Power Setting (dBm)**
MCS0	-4.989	2.67	-2.319	10.0	5

802.11n (HT40)

Data Rate	PSD(dBm) 5190MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	-7.149	2.67	-4.479	10.0	5
Data Rate	**PSD(dBm) 5230MHz**	**Antenna Gain (dBi)**	**EIRP PSD (dBm)**	**Limit (dBm)**	**Power Setting (dBm)**
MCS0	-7.579	2.67	-4.909	10.0	5

802.11ac (VHT20)

Data Rate	PSD(dBm) 5180MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	-4.280	2.67	-1.61	10.0	5
Data Rate	**PSD(dBm) 5200MHz**	**Antenna Gain (dBi)**	**EIRP PSD (dBm)**	**Limit (dBm)**	**Power Setting (dBm)**
MCS0	-4.469	2.67	-1.799	10.0	5
Data Rate	**PSD(dBm) 5240MHz**	**Antenna Gain (dBi)**	**EIRP PSD (dBm)**	**Limit (dBm)**	**Power Setting (dBm)**
MCS0	-5.134	2.67	-2.464	10.0	5

802.11ac (VHT40)

Data Rate	PSD(dBm) 5190MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	-7.488	2.67	-4.818	10.0	5
Data Rate	**PSD(dBm) 5230MHz**	**Antenna Gain (dBi)**	**EIRP PSD (dBm)**	**Limit (dBm)**	**Power Setting (dBm)**
MCS0	-8.116	2.67	-5.446	10.0	5

802.11ac (VHT80)

Data Rate	PSD(dBm) 5210MHz	Antenna Gain (dBi)	EIRP PSD (dBm)	Limit (dBm)	Power Setting (dBm)
MCS0	-11.161	2.67	-8.491	10.0	5

4.4.3 DTS Bandwidth 6dB

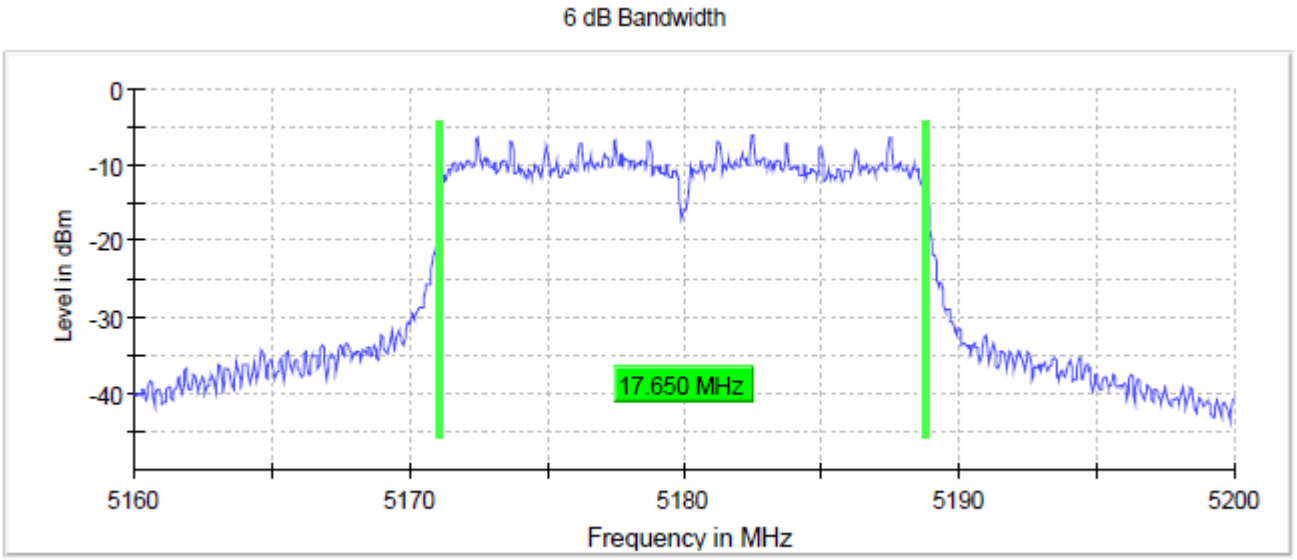
FCC and RSS-247

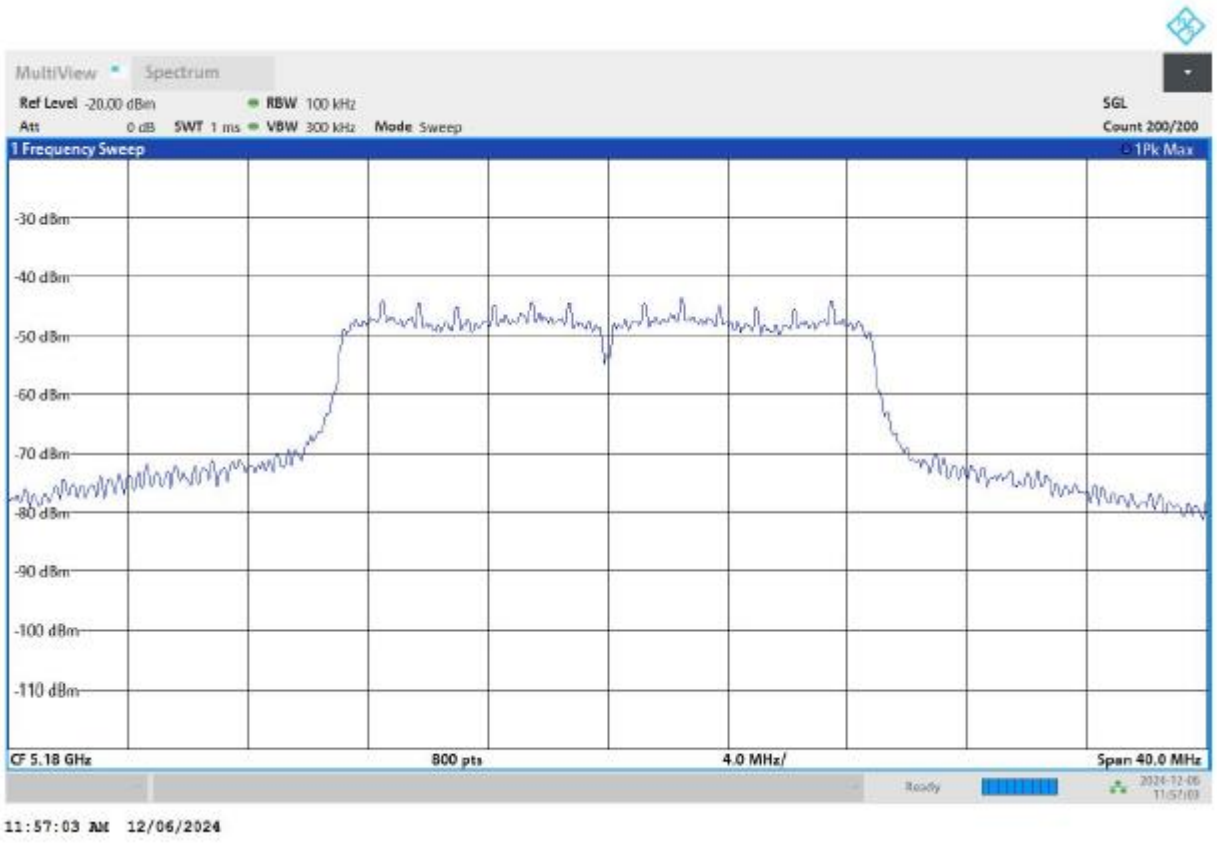
Test according to FCC title 47 part 15 §15.407(a) (e), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 Section C.2 and ANSI C63.10-2013, ISEDC RSS-247 6.2.4(1)

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

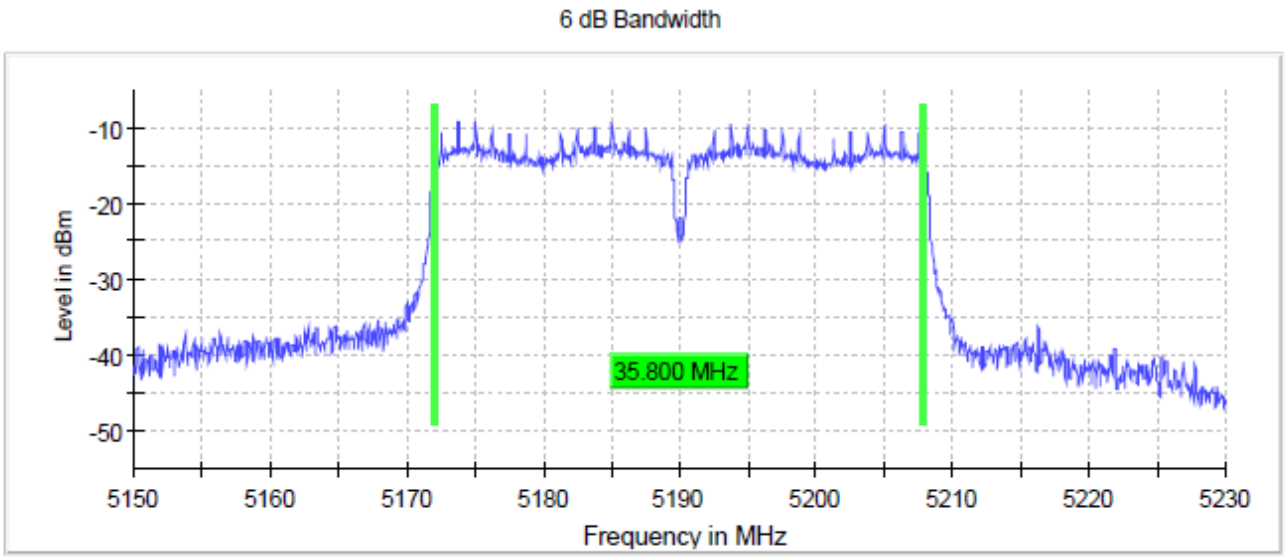
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Minimum Limit (MHz)
802.11a 6Mbps	5180	16.45	5171.725	5188.175	0.5
802.11n (HT20) MCS0	5180	17.65	5171.125	5188.775	0.5
802.11ac (VHT20) MCS0	5180	17.65	5171.125	5188.775	0.5
802.11n (HT40) MCS0	5190	35.9	5172.025	5207.925	0.5
802.11ac (VHT40) MCS0	5190	35.8	5172.025	5207.825	0.5
802.11ac (VHT80) MCS0	5210	76.4	5171.775	5248.175	0.5
802.11a 6Mbps	5200	16.45	5191725	5208.175	0.5
802.11n (HT20) MCS0	5200	17.65	5191.125	5208.775	0.5
802.11ac (VHT20) MCS0	5200	17.65	5191.125	5208.775	0.5
802.11n (HT40) MCS0	5230	35.75	5212.075	5247.825	0.5
802.11ac (VHT40) MCS0	5230	35.5	5212.075	5247.625	0.5
802.11a 6Mbps	5240	16.45	5231.725	5248.175	0.5
802.11n (HT20) MCS0	5240	17.65	5231.125	5248.775	0.5
802.11ac (VHT20) MCS0	5240	17.65	5231.125	5248.775	0.5

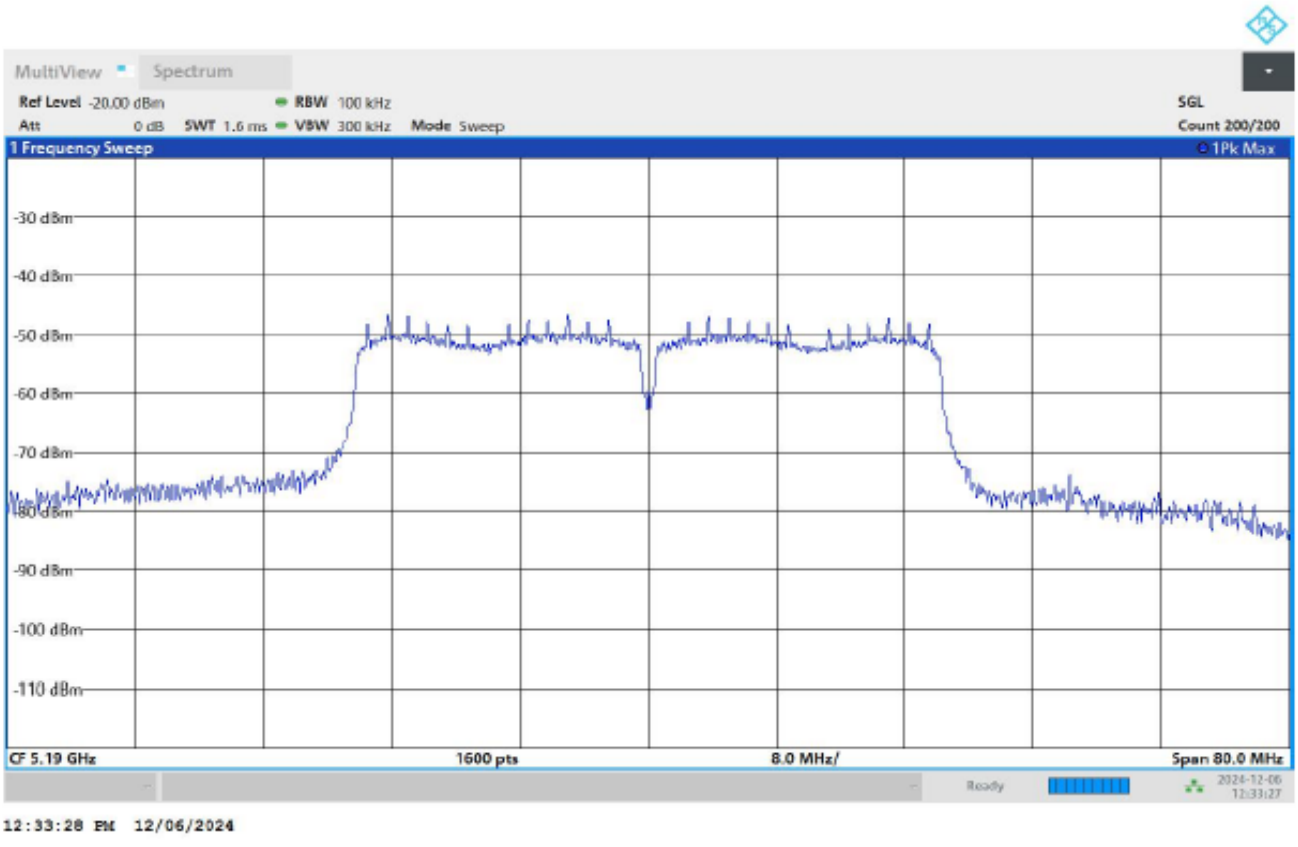
802.11n 5180MHz MCS0



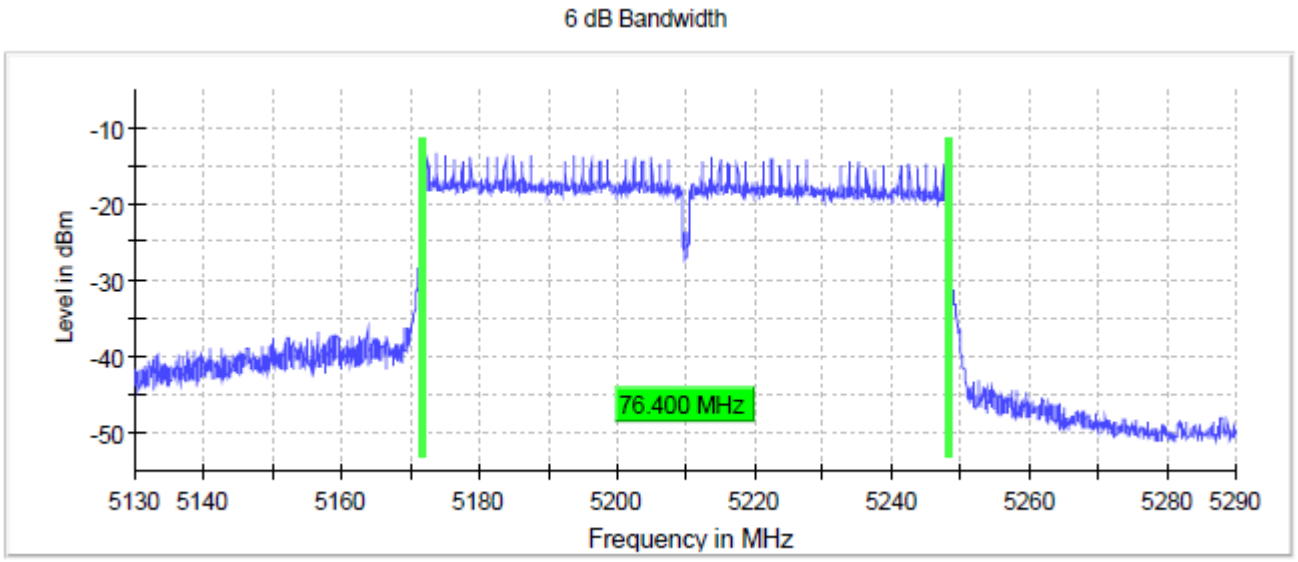


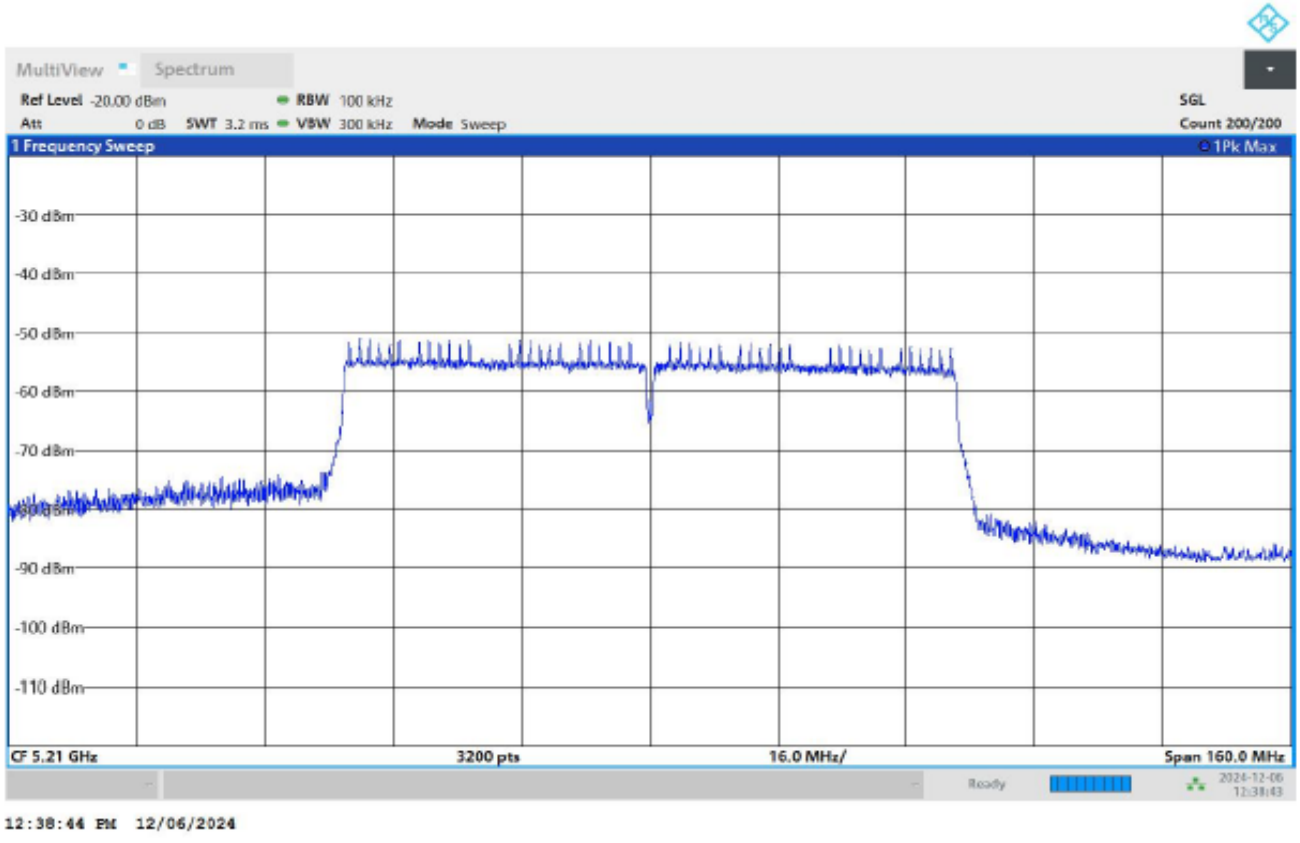
802.11ac 5190MHz MCS0





802.11ac 5210MHz MCS0





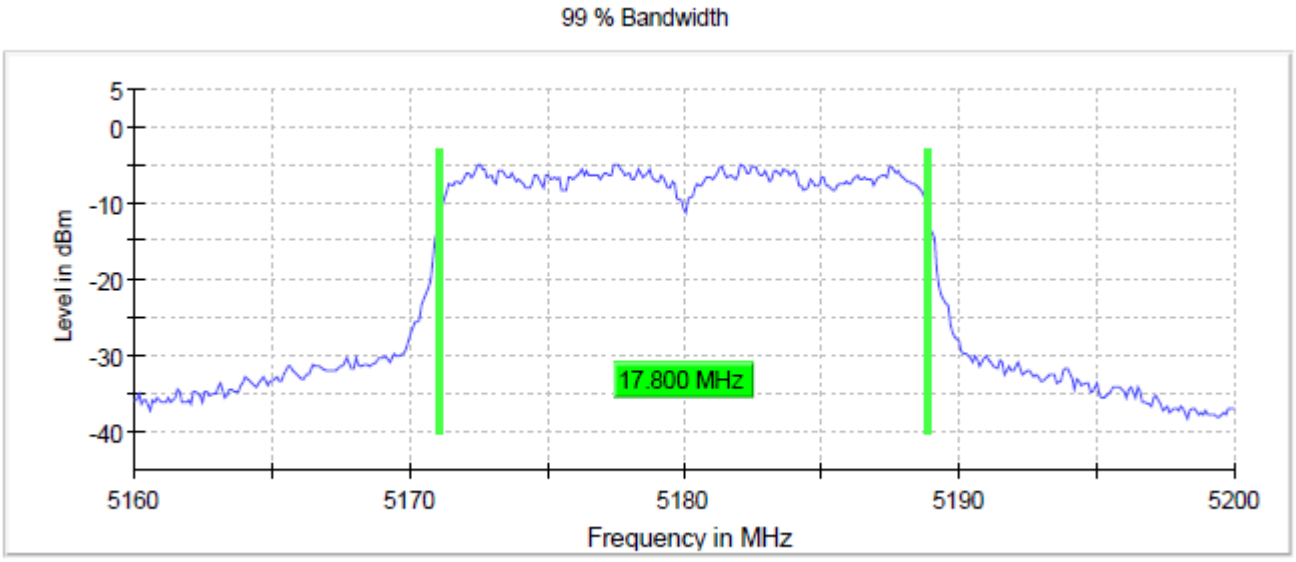
4.4.4 Occupied Channel Bandwidth

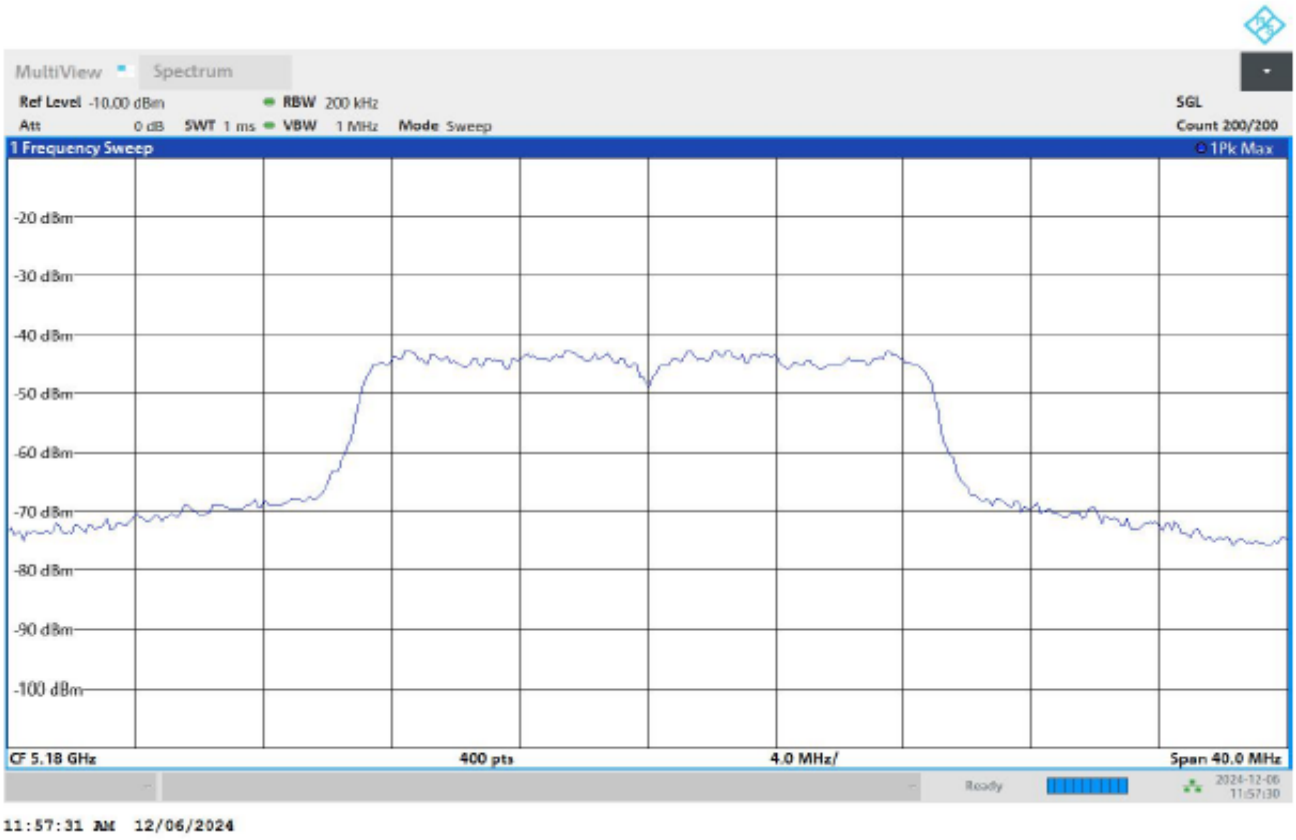
Test according to RSS-GEN Section 6.7, KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 D and ANSI C63.10-2013.

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

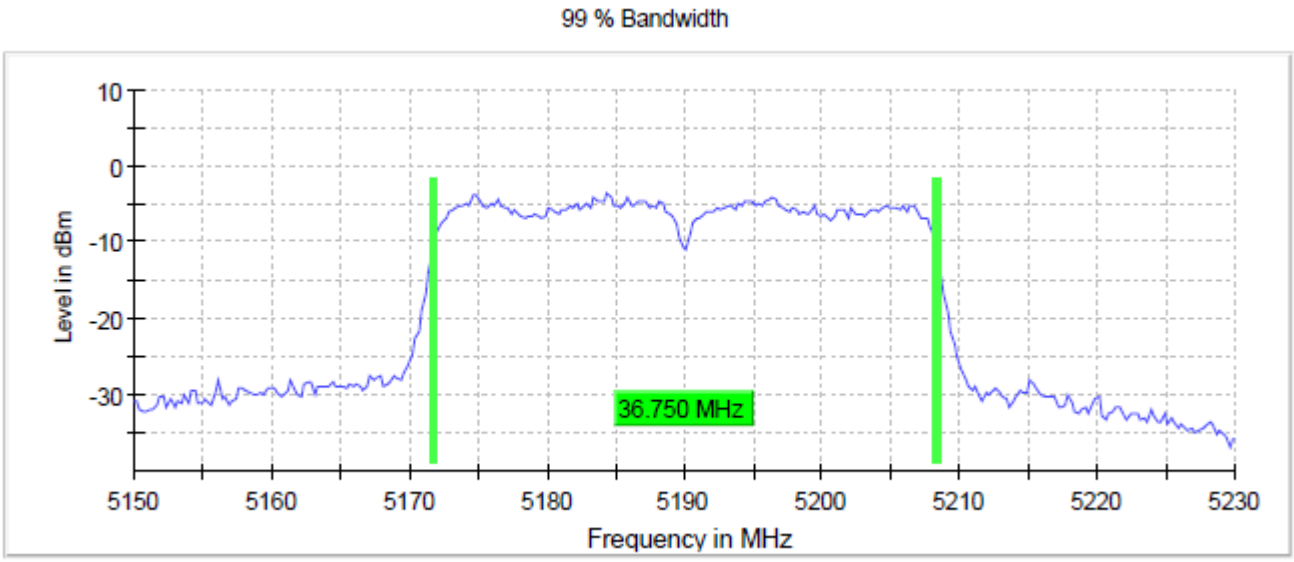
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Band Limit (MHz)
802.11a 6Mbps	5180	16.7	5171.65	5188.35	5150-5250
802.11n (HT20) MCS0	5180	17.8	5171.05	5188.85	5150-5250
802.11ac (VHT20) MCS0	5180	178	5171.05	5188.85	5150-5250
802.11n (HT40) MCS0	5190	36.75	5171.625	5208.375	5150-5250
802.11ac (VHT40) MCS0	5190	36.75	5171.625	5208.375	5150-5250
802.11ac (VHT80) MCS0	5210	77.5	5170.75	5248.25	5150-5250
802.11a 6Mbps	5200	16.7	5191.65	5208.35	5150-5250
802.11n (HT20) MCS0	5200	17.8	5191.05	5208.85	5150-5250
802.11ac (VHT20) MCS0	5200	17.8	5191.05	5208.85	5150-5250
802.11n (HT40) MCS0	5230	37.0	5211.375	5248.375	5150-5250
802.11ac (VHT40) MCS0	5230	37.0	5211.375	5248.375	5150-5250
802.11a 6Mbps	5240	16.8	5231.55	5248.35	5150-5250
802.11n (HT20) MCS0	5240	17.8	5231.05	5248.85	5150-5250
802.11ac (VHT20) MCS0	5240	17.8	5231.05	5248.85	5150-5250

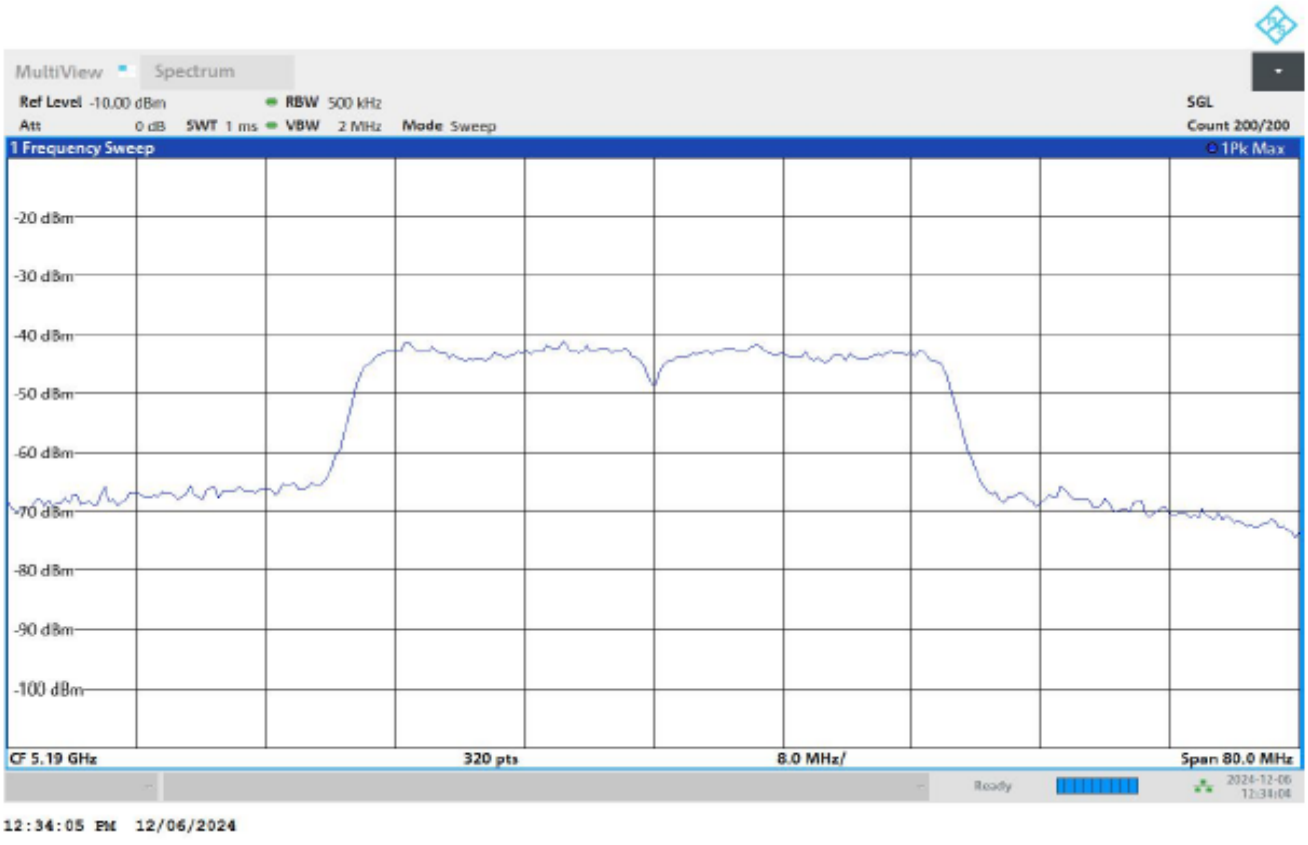
802.11n (HT20) 5180MHz MCS0



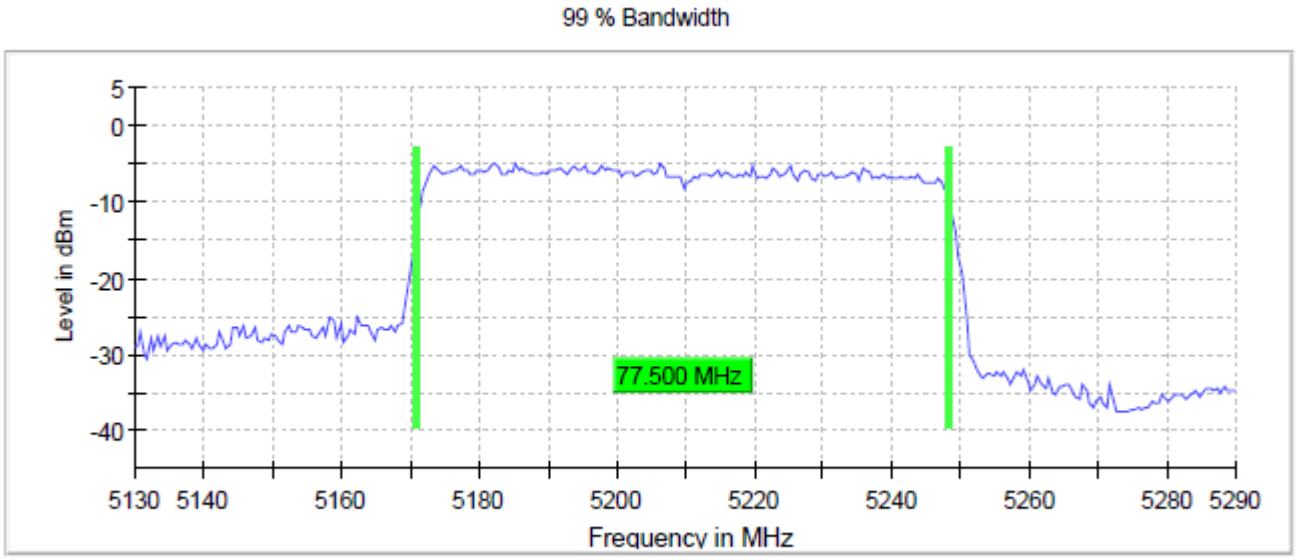


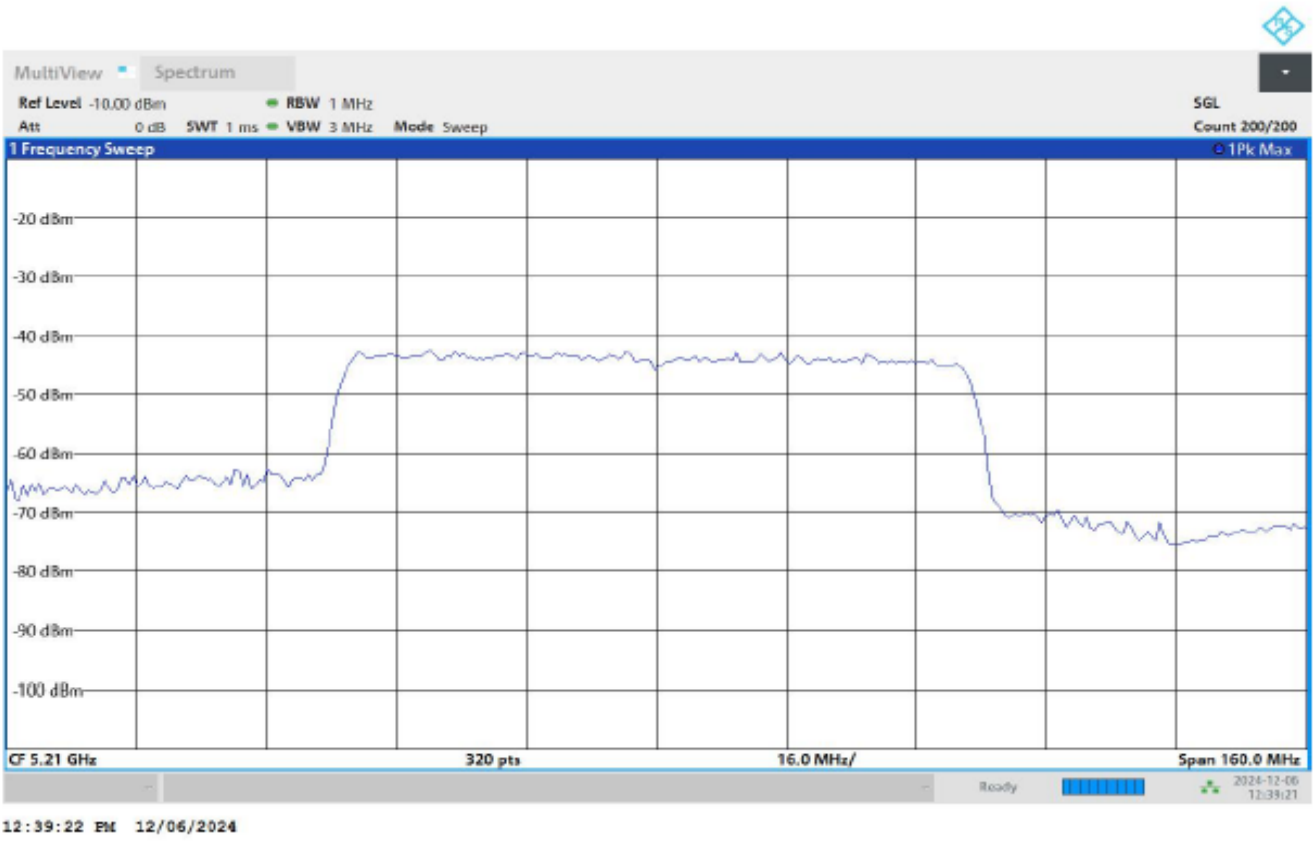
802.11ac (VHT40) 5190MHz MCS0





802.11ac (VHT80) 5210MHz MCS0





4.5 UNII-3

Mode	Channel	Frequency
802.11a **802.11n(HT20)** **802.11ac(VHT20)**	149	5745
802.11n(HT40) **802.11ac(VHT40)**	151	5755
802.11ac(VHT80)	155	5775
802.11a **802.11n(HT20)** **802.11ac(VHT20)**	157	5785
802.11n(HT40) **802.11ac(VHT40)**	159	5795
802.11a **802.11n(HT20)** **802.11ac(VHT20)**	165	5825

Notes:- Output power measurements performed on all supported worst data rate of each supported 802.11 mode.

Power Settings

802.11a		802.11n (HT20)		802.11ac (VHT20)	
Channel	**Power Setting**	**Channel**	**Power Setting**	**Channel**	**Power Setting**
149	5	**149**	5	**149**	5
157	5	**157**	5	**157**	5
165	5	**165**	5	**165**	5

802.11n (HT40)		802.11ac (VHT40)	
Channel	**Power Setting**	**Channel**	**Power Setting**
151	5	**151**	5
159	5	**159**	5

802.11ac (VHT80)	
Channel	**Power Setting**
155	4

4.5.1 RF output power and Duty-Cycle

FCC and RSS-247

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 II.E and ANSI C63.10-2013 (In Reference to KDB 789033 E.3.B)

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

802.11a

Data Rate	Gated RMS (dBm) 5745 MHz	Gated RMS (dBm) 5785 MHz	Gated RMS (dBm) 5825 MHz	Limit (dBm)	Power Setting (dBm)
6 Mbps	4.844	4.524	5.284	30.0	5

802.11n (HT20)

Data Rate	Gated RMS (dBm) 5745 MHz	Gated RMS (dBm) 5785 MHz	Gated RMS (dBm) 5825 MHz	Limit (dBm)	Power Setting (dBm)
MCS0	5.039	4.593	5.587	30.0	5

802.11ac (VHT20)

Data Rate	Gated RMS (dBm) 5745 MHz	Gated RMS (dBm) 5785 MHz	Gated RMS (dBm) 5825 MHz	Limit (dBm)	Power Setting (dBm)
MCS0	5.001	4.683	4.990	30.0	5

802.11n (HT40)

Data Rate	Gated RMS (dBm) 5755 MHz	Gated RMS (dBm) 5795 MHz	Limit (dBm)	Power Setting (dBm)
MCS0	4.669	4.338	30.0	5

802.11ac (VHT40)

Data Rate	Gated RMS (dBm) 5755 MHz	Gated RMS (dBm) 5795 MHz	Limit (dBm)	Power Setting (dBm)
MCS0	4.719	4.292	30.0	5

802.11ac (VHT80)

Data Rate	Gated RMS (dBm) 5775 MHz	Limit (dBm)	Power Setting (dBm)
MCS0	3.670	30.0	4

4.5.2 Power Spectral Density

FCC and RSS-247

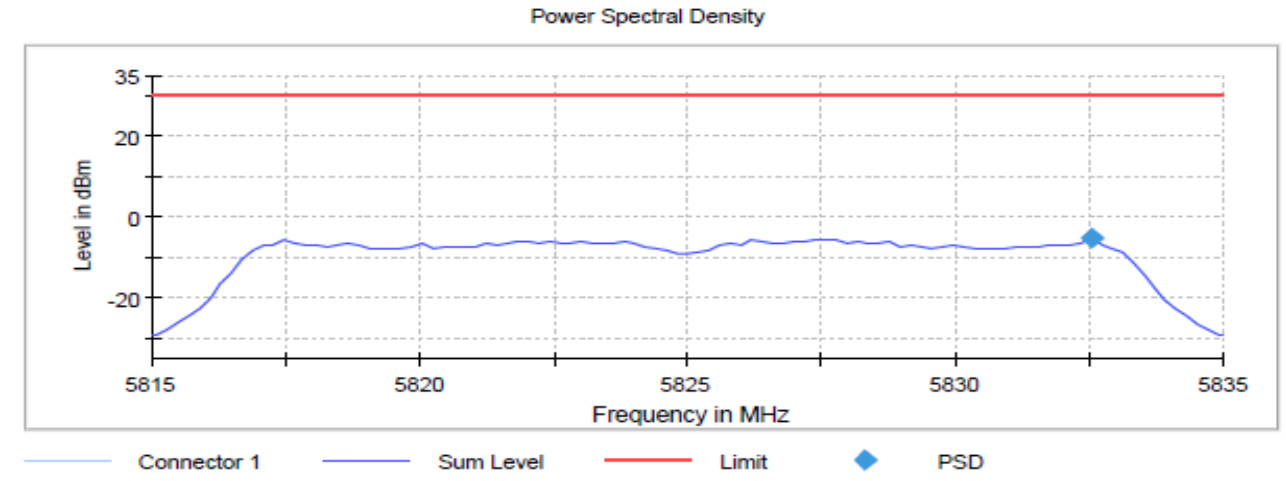
Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 II.F with test method SA-1 and ANSI C63.10-2013

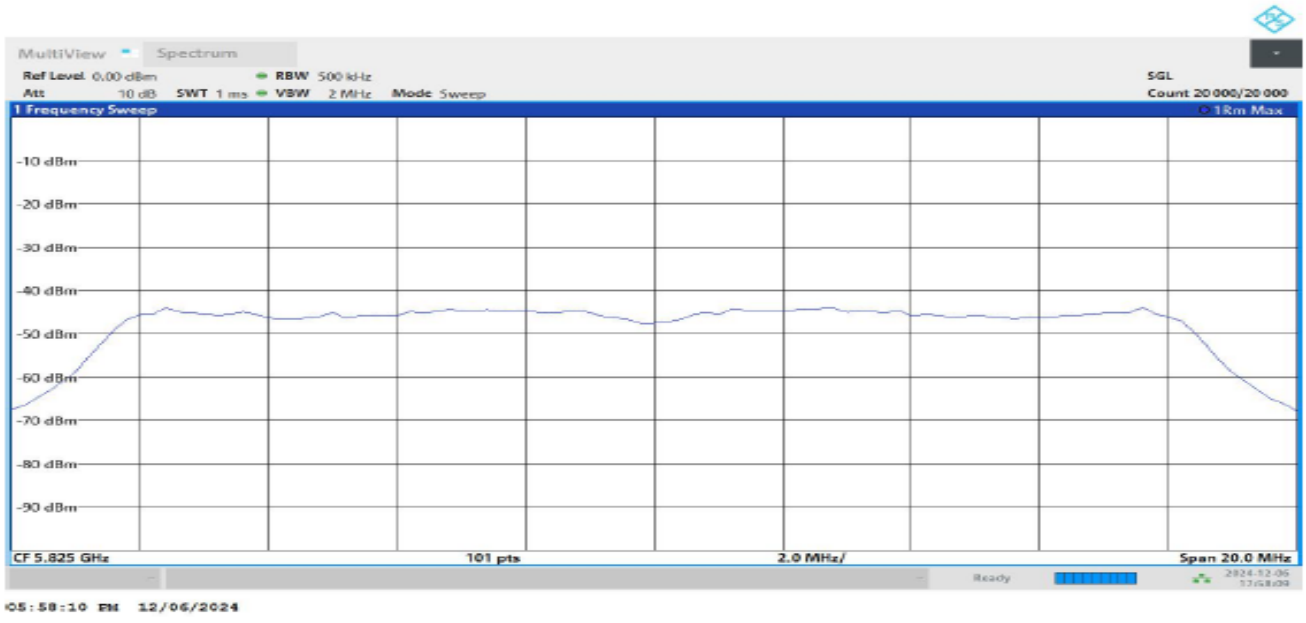
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.3 dB

802.11a 6Mbps

Data Rate	PSD (dBm) 5745 MHz	PSD (dBm) 5785 MHz	PSD (dBm) 5825 MHz	Limit (dBm)
6Mbps	-5.854	-6.205	-5.448	30.0

802.11a 5825 MHz 6Mbps





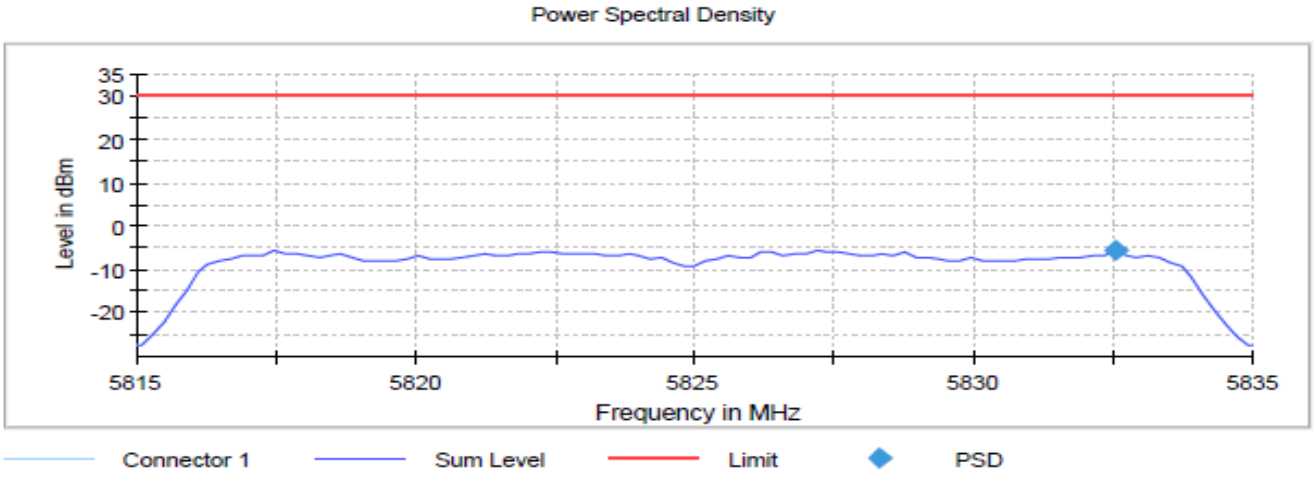
802.11n (HT20)

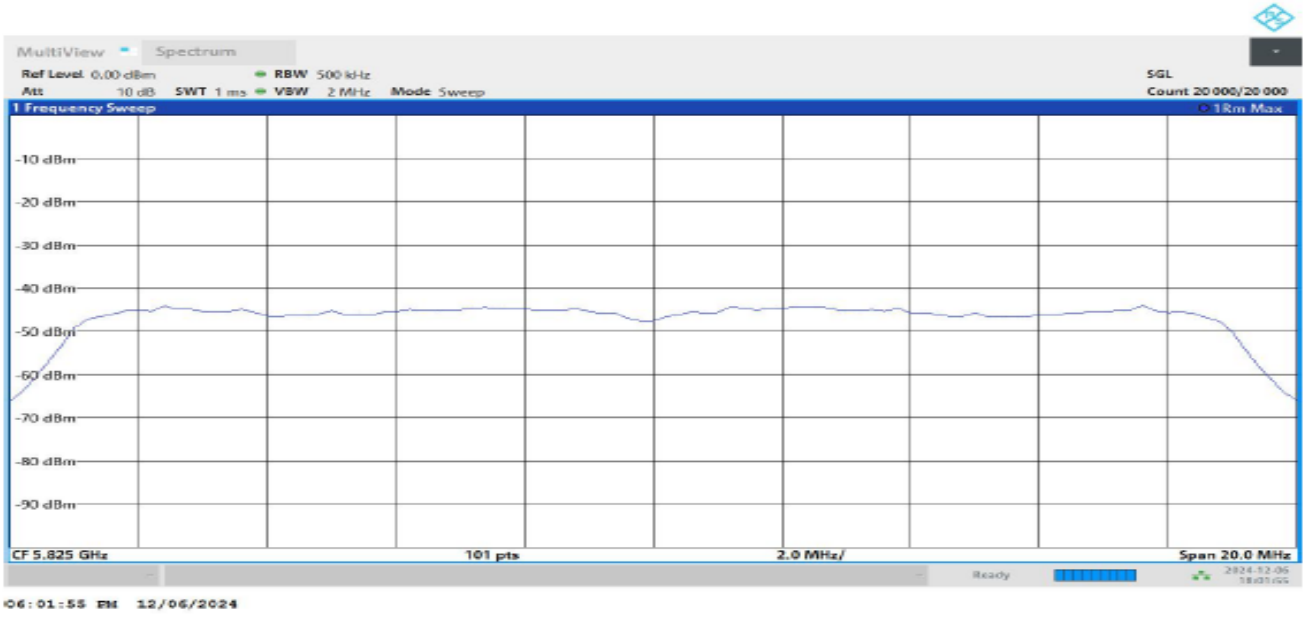
Data Rate	PSD (dBm) 5745 MHz	PSD (dBm) 5785 MHz	PSD (dBm) 5825 MHz	Limit (dBm)
MCS0	-6.013	-6.281	-5.559	30.0

802.11n (HT40)

Data Rate	PSD (dBm) 5755 MHz	PSD (dBm) 5795 MHz	Limit (dBm)
MCS0	-8.722	-8.943	30.0

802.11n (HT20) 5825 MHz MCS0





802.11ac (VHT20)

Data Rate	PSD (dBm) 5745 MHz	PSD (dBm) 5785 MHz	PSD (dBm) 5825 MHz	Limit (dBm)
MCS0	-6.150	-6.378	-5.617	30.0

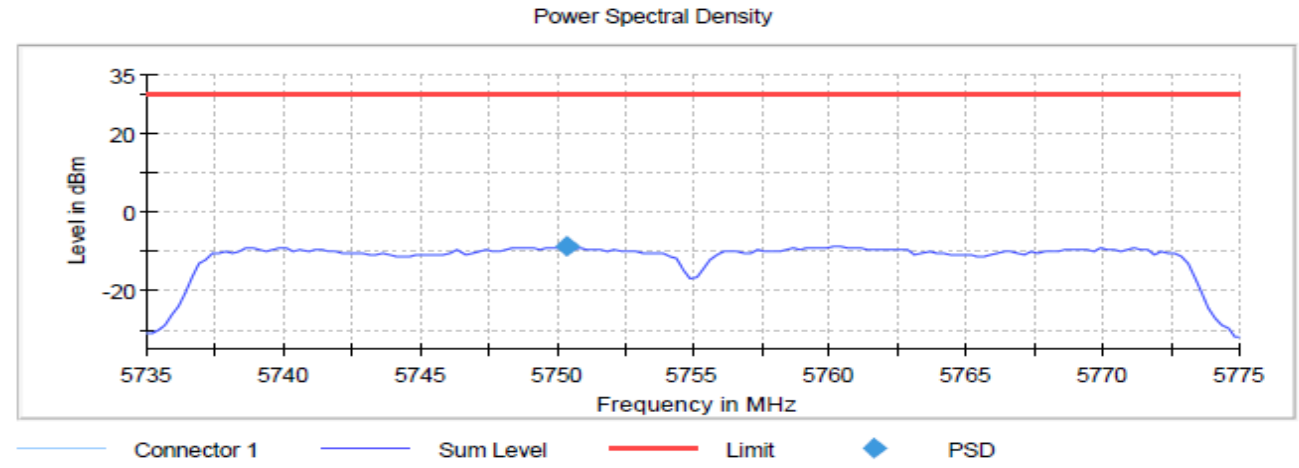
802.11ac (VHT40)

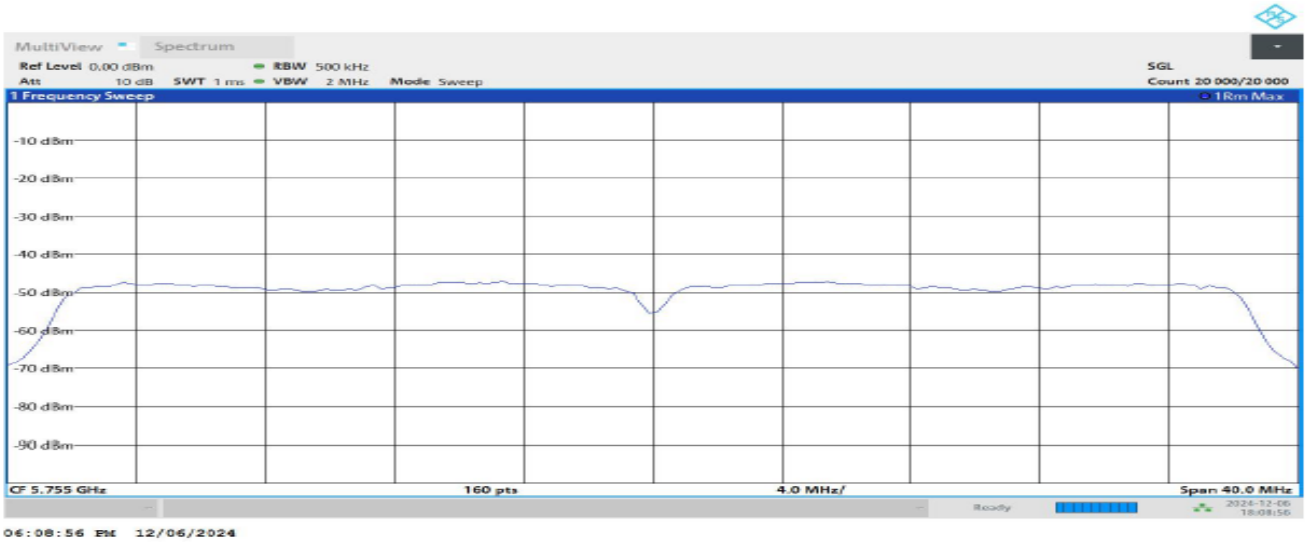
Data Rate	PSD (dBm) 5755 MHz	PSD (dBm) 5795 MHz	Limit (dBm)
MCS0	-8.721	-9.131	30.0

802.11ac (VHT80)

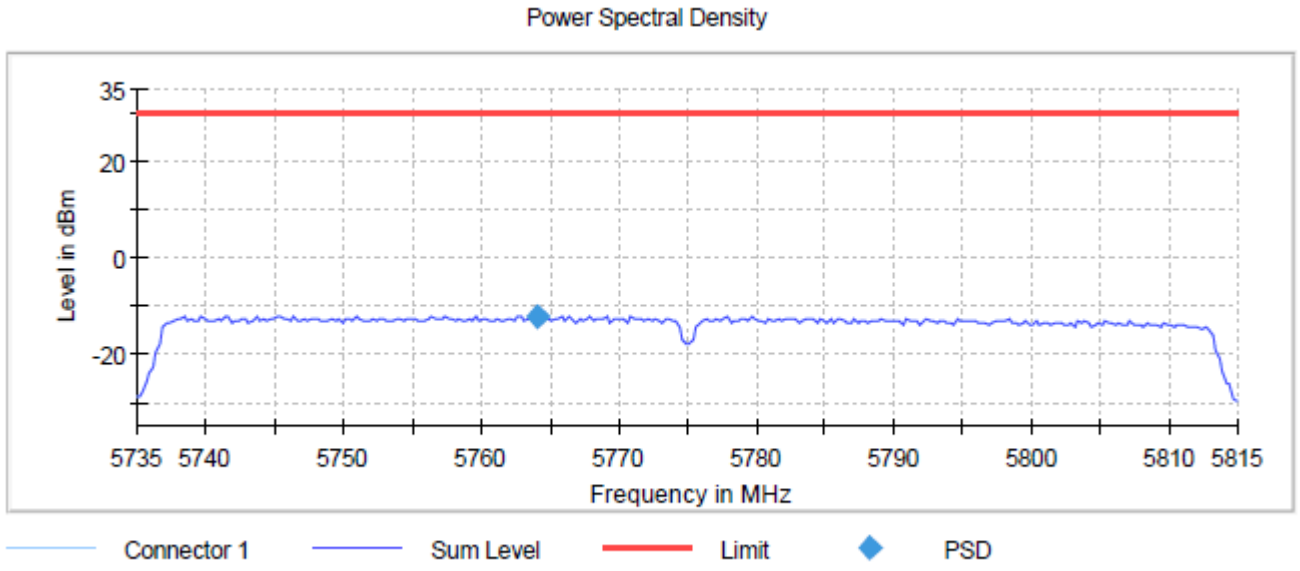
Data Rate	PSD (dBm) 5775 MHz	Limit (dBm)
MCS0	-12.074	30.0

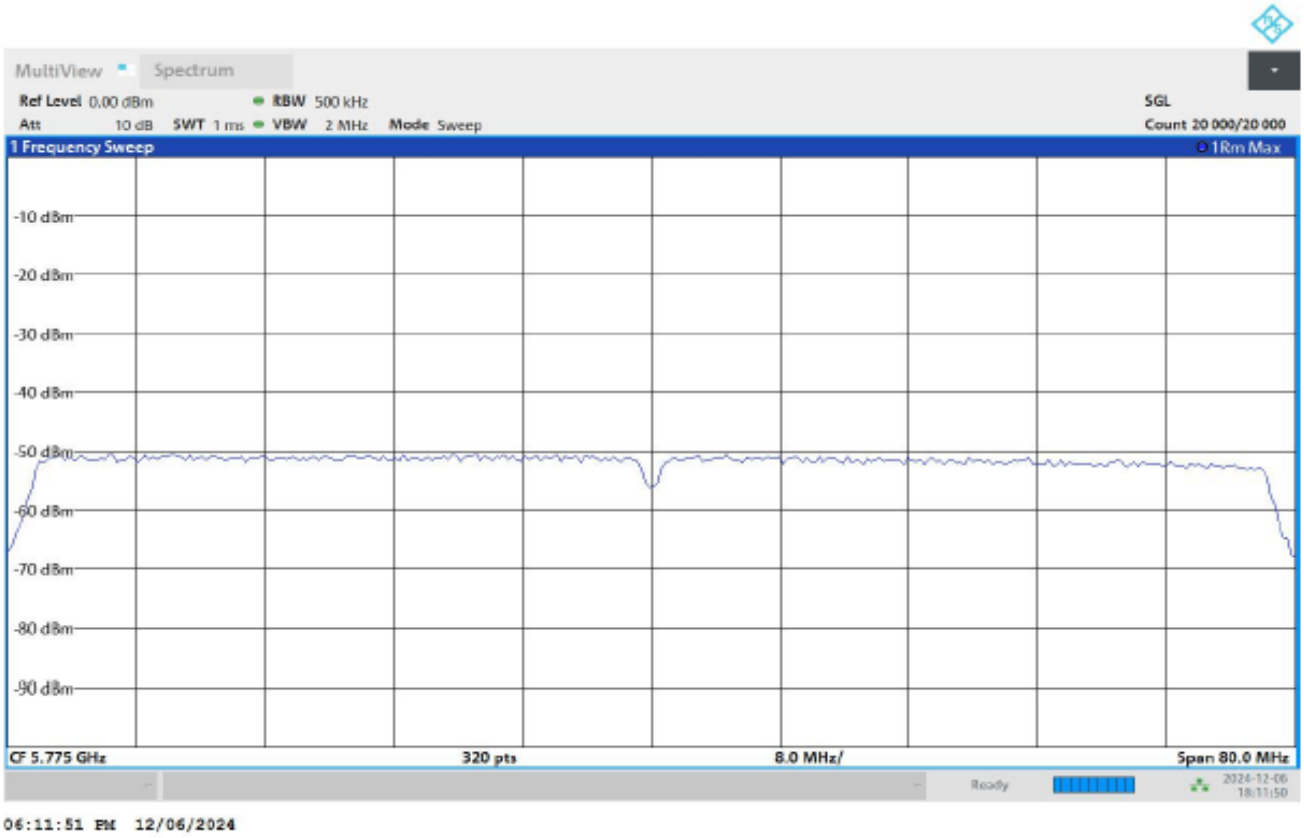
802.11a (VHT40) 5755 MHz MCS0





802.11a (VHT80) 5775 MHz MCS0





4.5.3 DTS Bandwidth 6dB

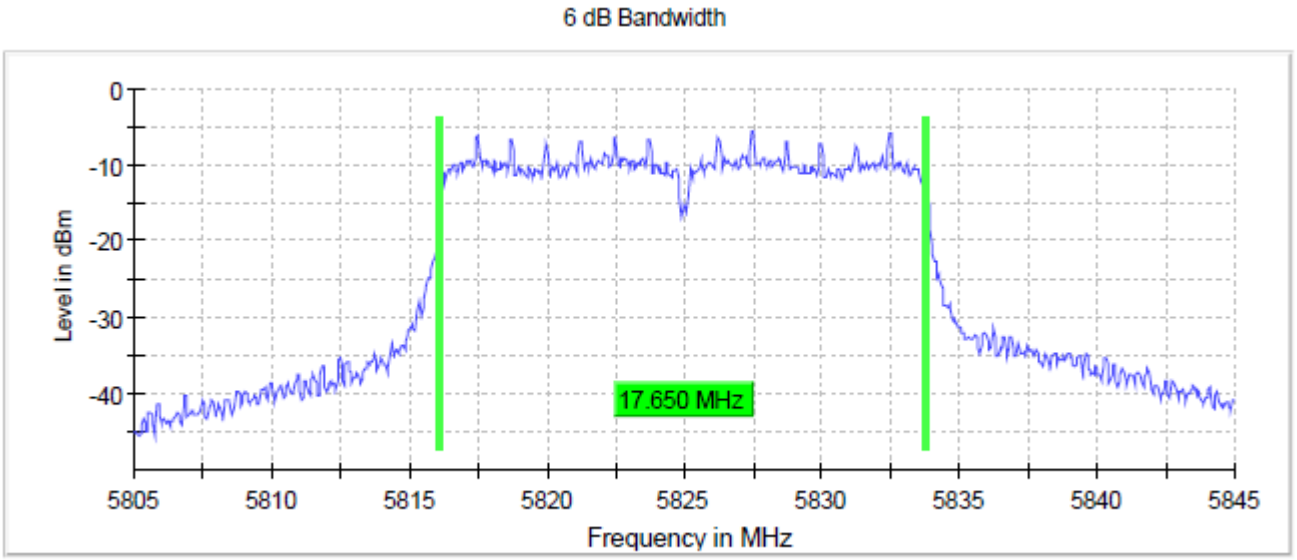
FCC and RSS-247

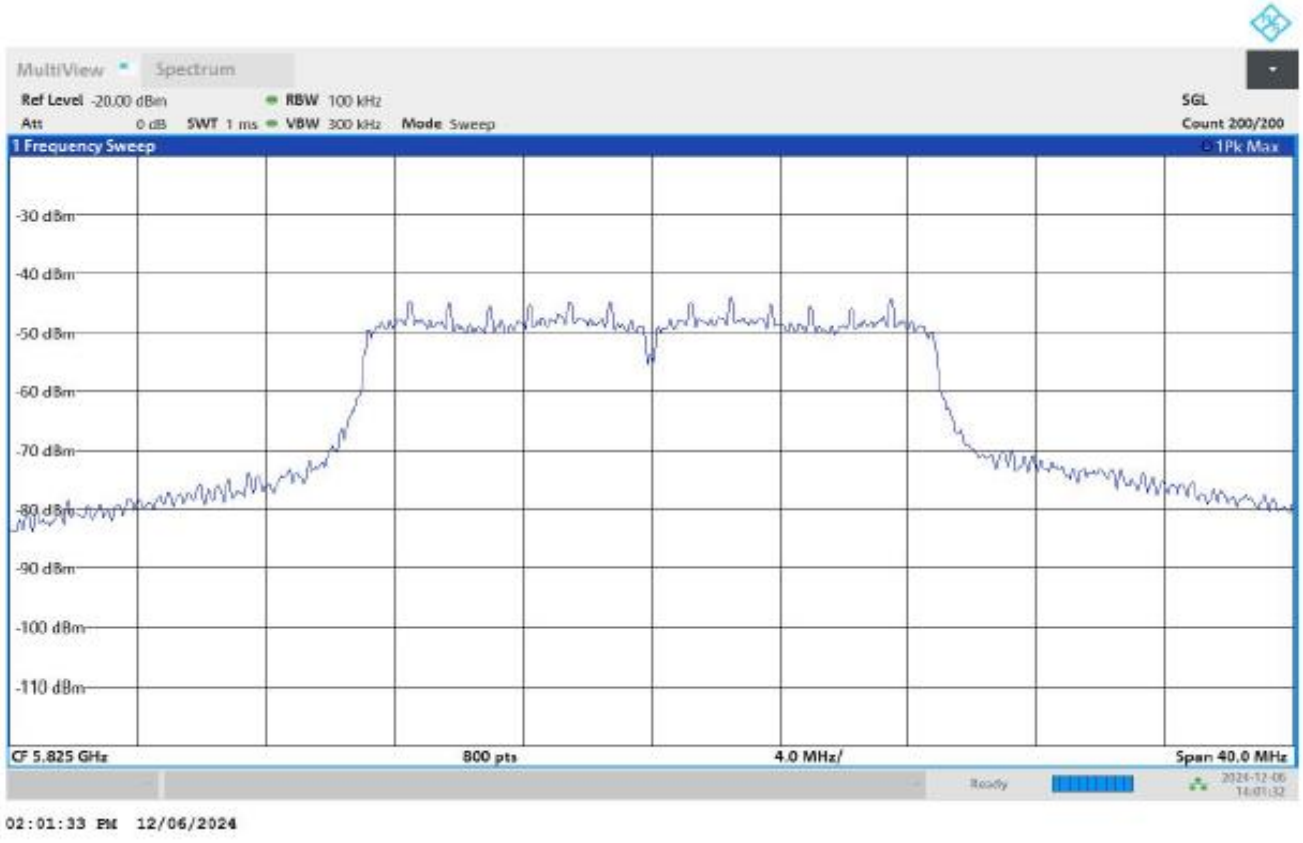
Test according to FCC title 47 part 15 §15.407(a) (e), KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 Section C.2 and ANSI C63.10-2013, ISEDC RSS-247 6.2.4(1)

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

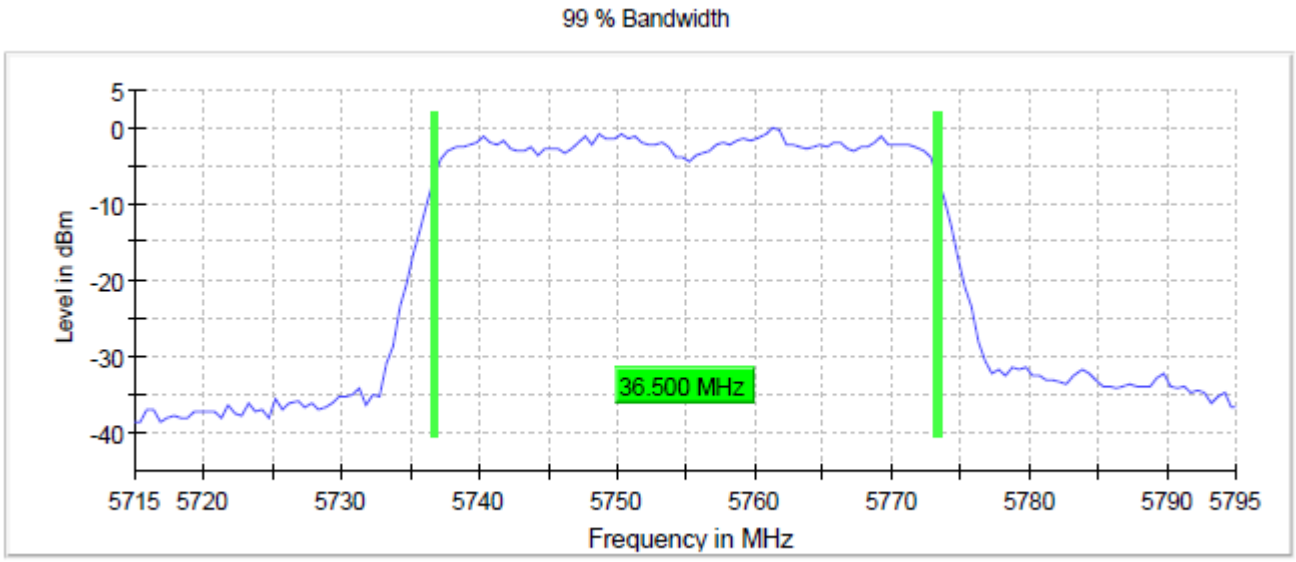
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Minimum Band Limit (MHz)
802.11a 6Mbps	5745	16.45	5736.725	5753.175	0.500000
802.11n (HT20) MCS0	5745	17.65	5736.125	5753.775	0.500000
802.11ac (VHT20) MCS0	5745	16.45	5736.125	5753.775	0.500000
802.11n (HT40) MCS0	5755	35.9	5737.075	5772.975	0.500000
802.11ac (VHT40) MCS0	5755	35.9	5737.075	5772.975	0.500000
802.11ac (VHT80) MCS0	5775	76.4	5736.775	5813.175	0.500000
802.11a 6Mbps	5785	16.45	5776.725	5793.175	0.500000
802.11n (HT20) MCS0	5785	17.65	5776.125	5793.775	0.500000
802.11ac (VHT20) MCS0	5785	17.45	5776.125	5793.575	0.500000
802.11n (HT40) MCS0	5795	35.8	5777.025	5812.825	0.500000
802.11ac (VHT40) MCS0	5795	35.6	5777.025	5812.625	0.500000
802.11a 6Mbps	5825	16.4	5816.775	5833.175	0.500000
802.11n (HT20) MCS0	5825	17.65	5816.125	5833.775	0.500000
802.11ac (VHT20) MCS0	5825	17.65	5816.125	5833.775	0.500000

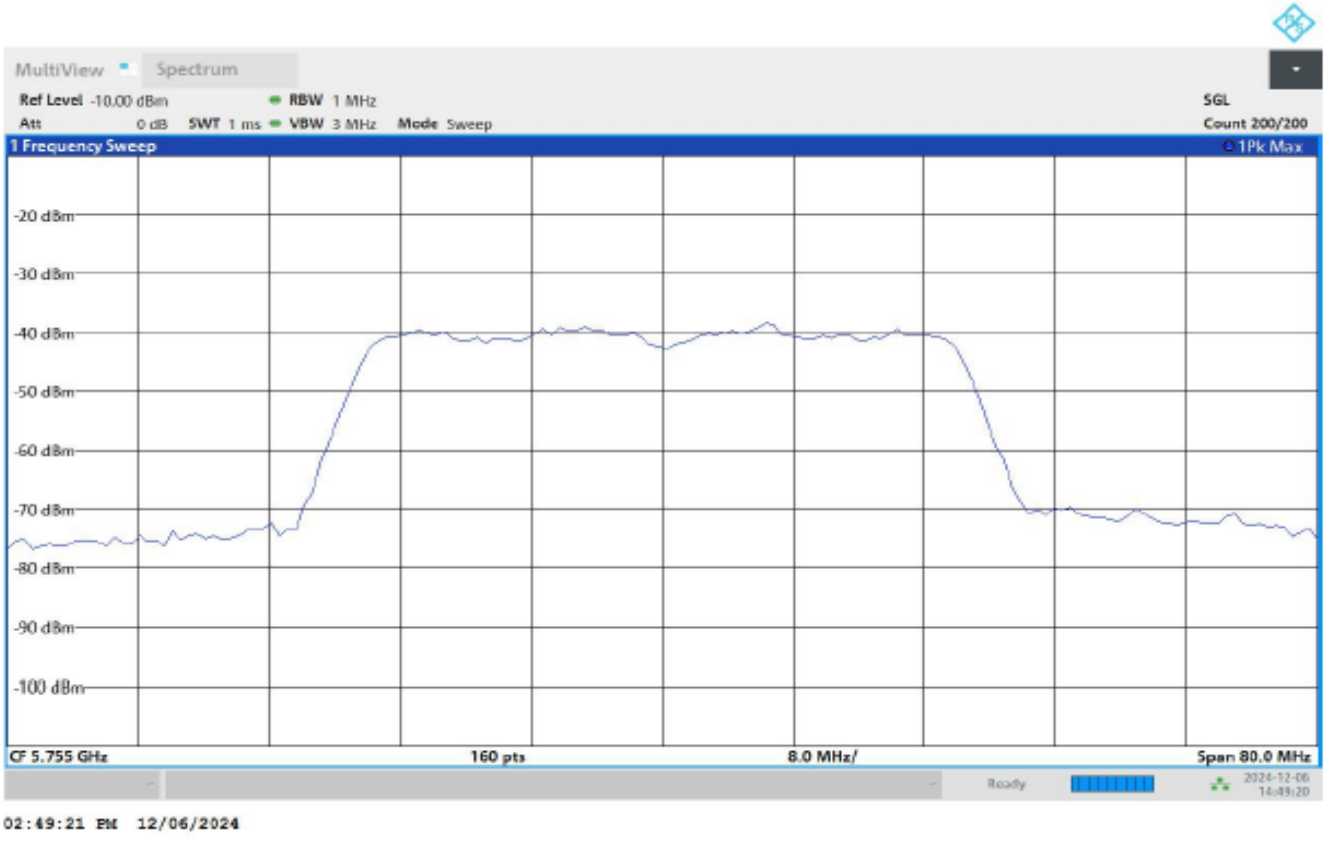
802.11n (HT20) 5825MHz MCS0



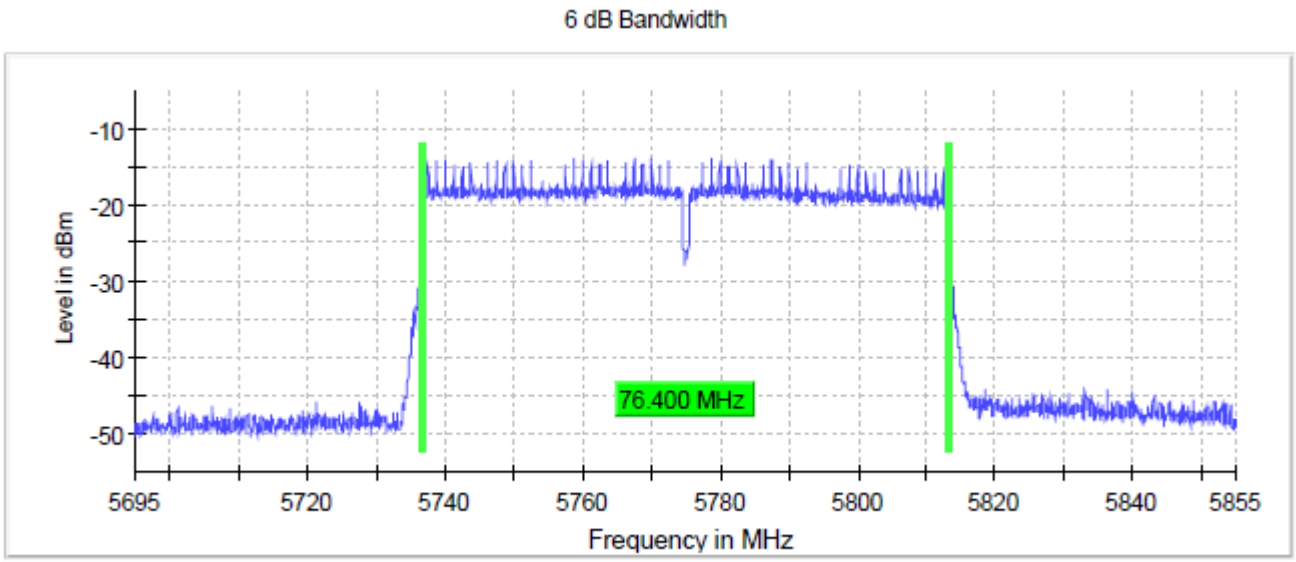


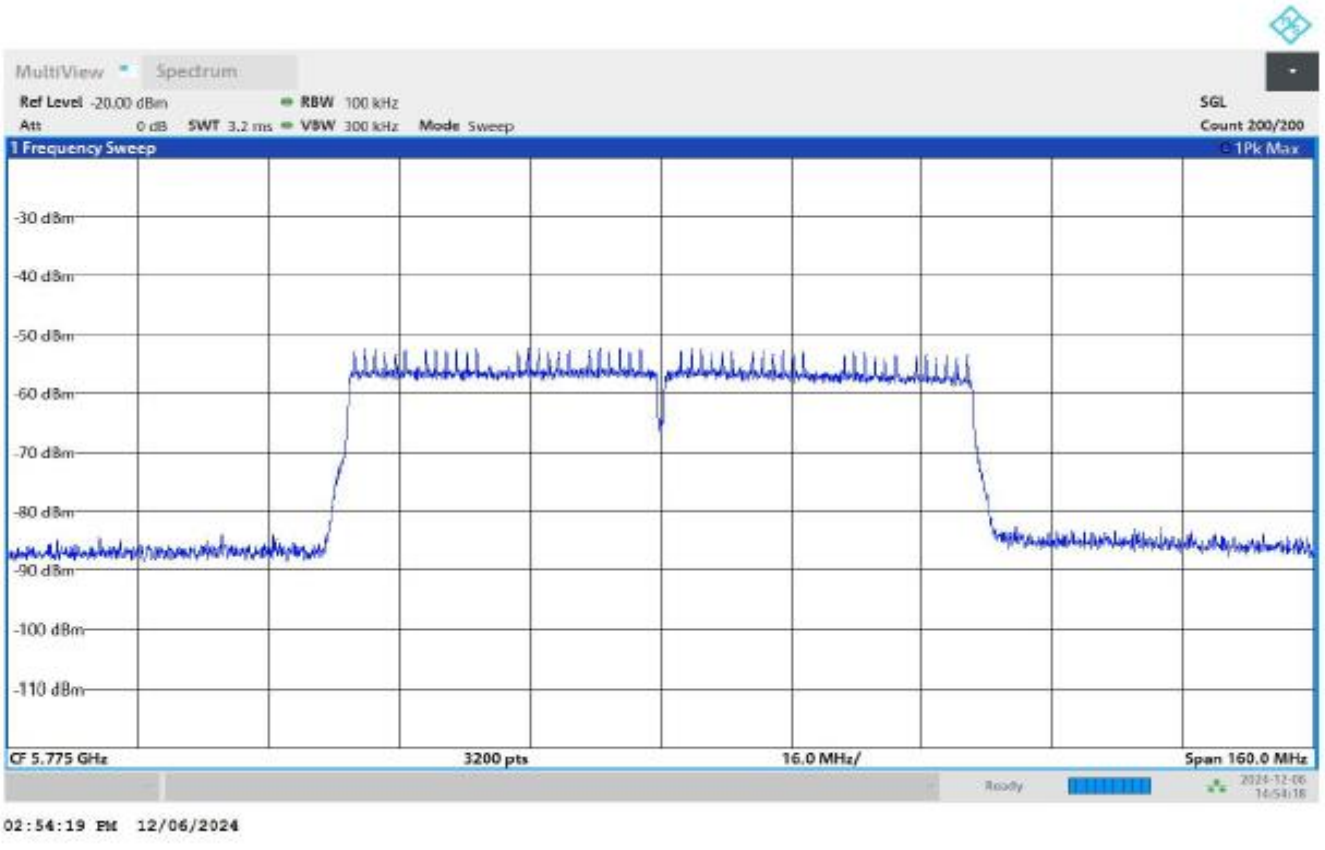
802.11ac (VHT40) 5755MHz MCS0





802.11ac (VHT80) 5775MHz MCS0





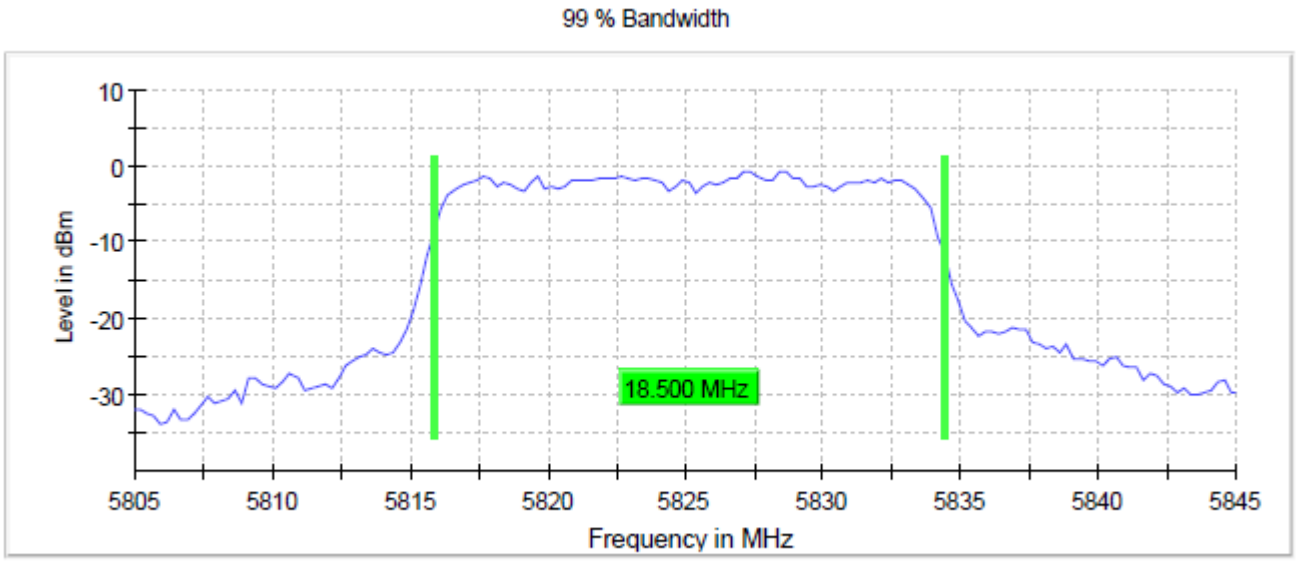
4.5.4 Occupied Channel Bandwidth

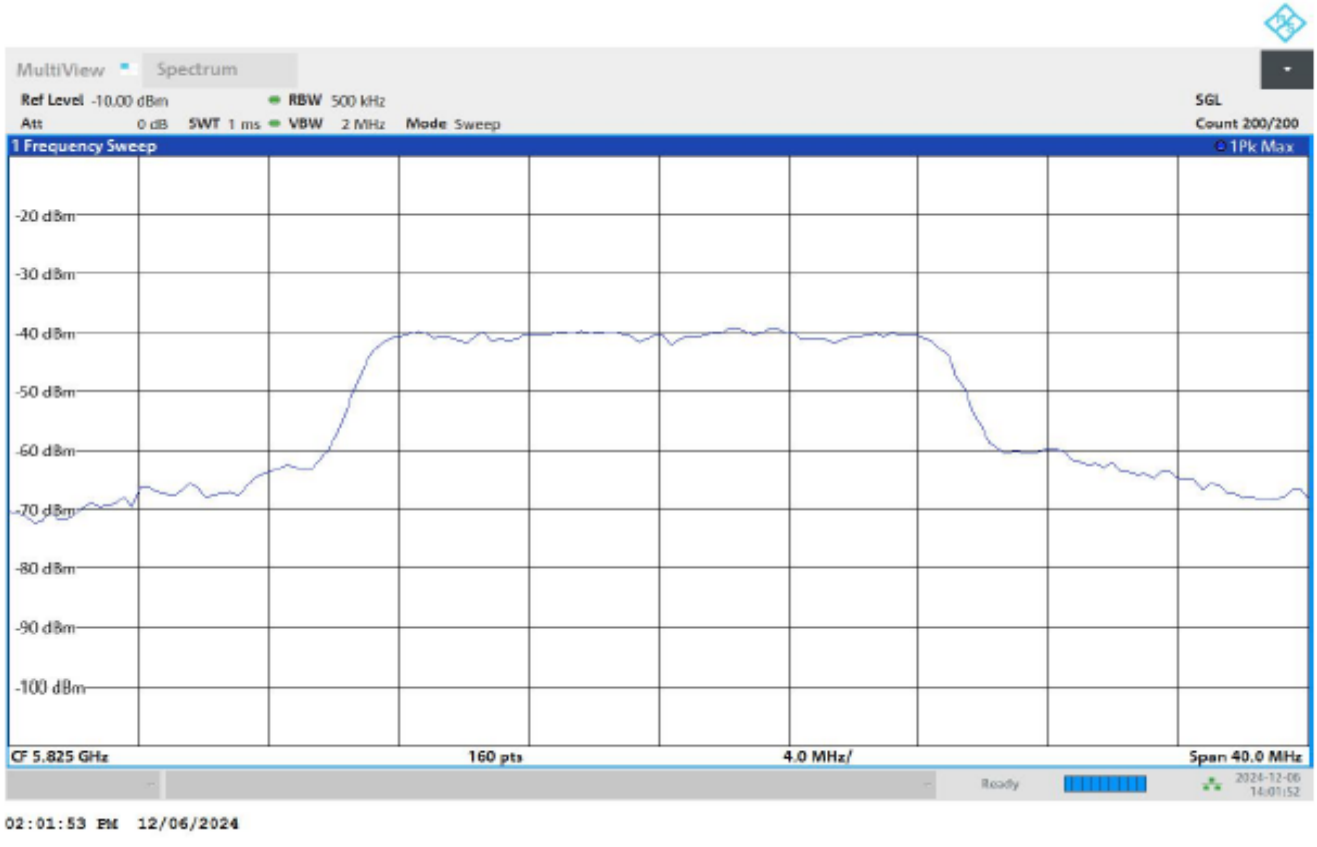
Test according to RSS-GEN Section 6.7, KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 D and ANSI C63.10-2013

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

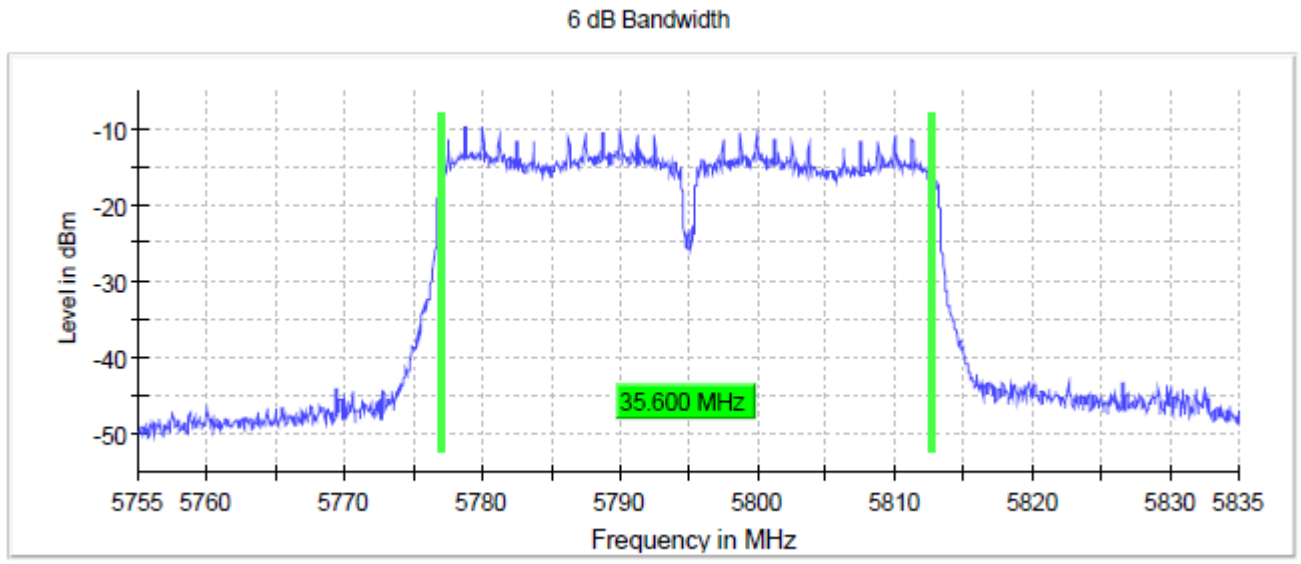
Data Rate	DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Band Limit (MHz)
802.11a 6Mbps	5745	17.25	5736.375	5753.625	5725-5850
802.11n (HT20) MCS0	5745	18.25	5735.875	5754.125	5725-5850
802.11ac (VHT20) MCS0	5745	18.25	5735.875	5754.125	5725-5850
802.11n (HT40) MCS0	5755	37.5	5736.25	5773.75	5725-5850
802.11ac (VHT40) MCS0	5755	36.5	5736.75	5773.25	5725-5850
802.11ac (VHT80) MCS0	5775	77.0	5736.50	5813.50	5725-5850
802.11a 6Mbps	5785	17.25	5776.375	5793.625	5725-5850
802.11n (HT20) MCS0	5785	18.25	5775.875	5794.125	5725-5850
802.11ac (VHT20) MCS0	5785	18.25	5775.875	5794.125	5725-5850
802.11n (HT40) MCS0	5795	37.0	5776.25	5813.25	5725-5850
802.11ac (VHT40) MCS0	5795	36.5	5776.75	5813.25	5725-5850
802.11a 6Mbps	5825	17.75	5816.125	5833.875	5725-5850
802.11n (HT20) MCS0	5825	18.5	5815.875	5834.375	5725-5850
802.11ac (VHT20) MCS0	5825	18.5	5815.875	5834.375	5725-5850

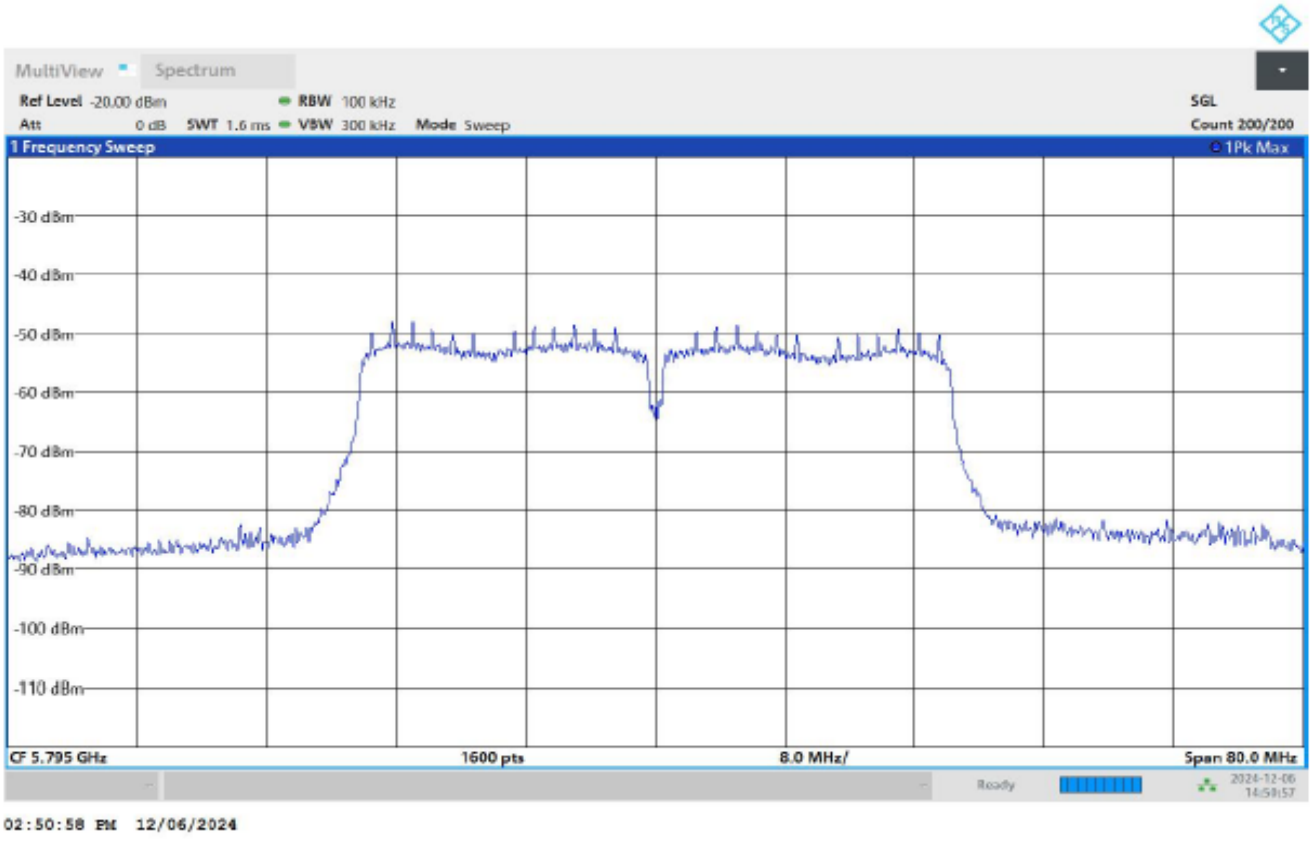
802.11n (HT20) 5825MHz MCS0



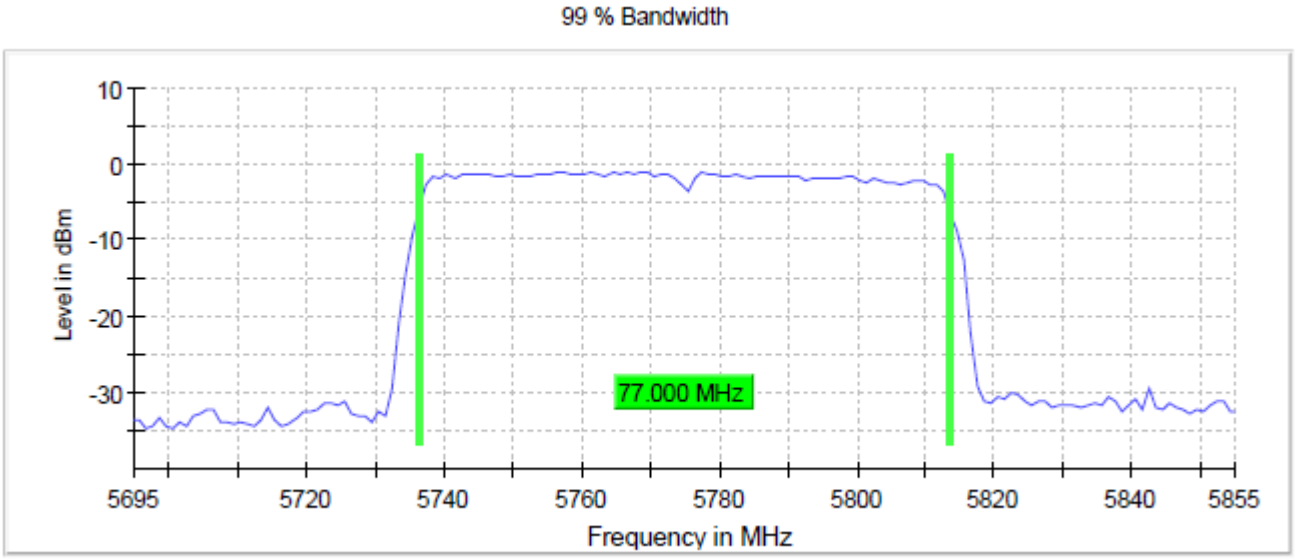


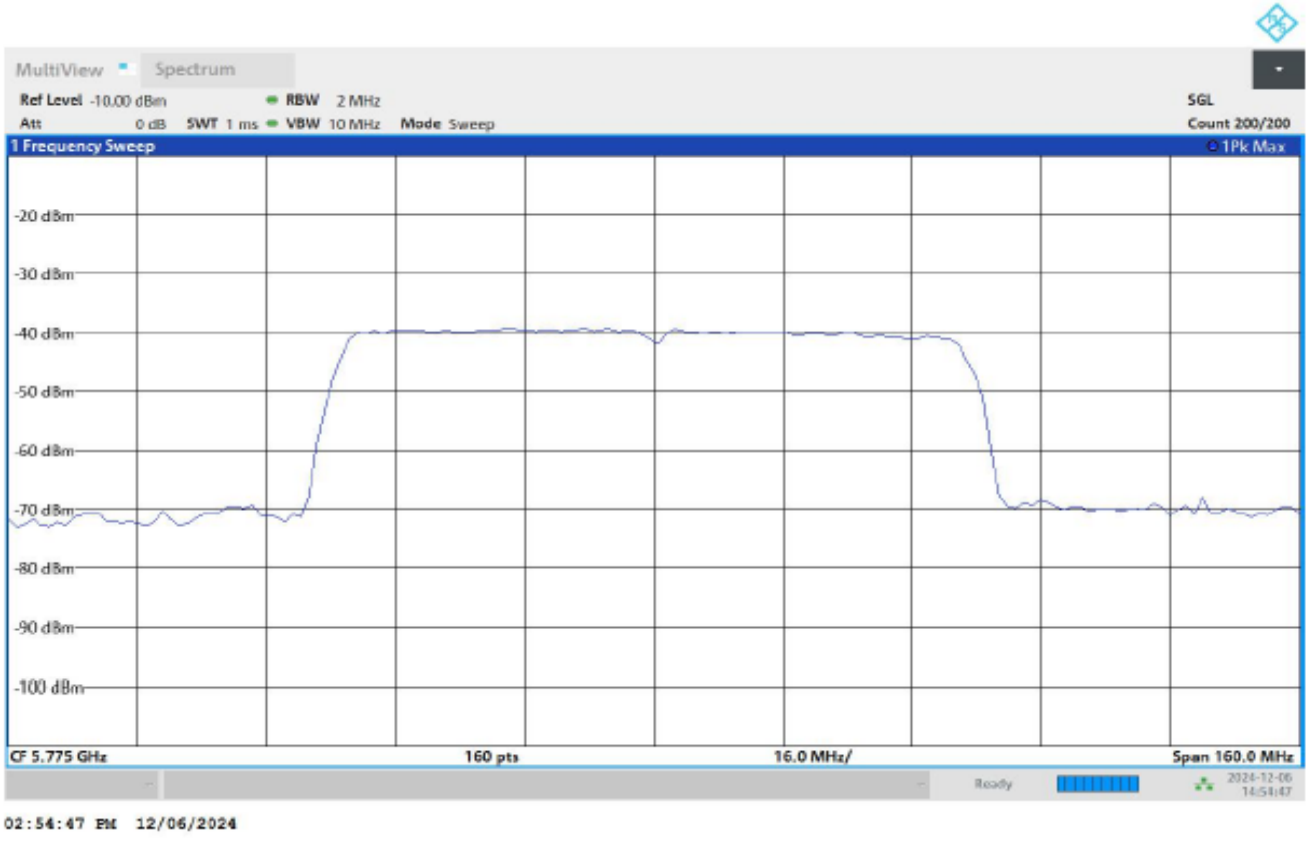
802.11ac (VHT40) 5795MHz MCS0





802.11ac (VHT80) 5775MHz MCS0





5. RADIATED TESTING

5.1 Test Summary

Start: 12/9/2024	End: 12/26/2024	Temperature: 20.8°C Humidity: 28.0%R.H	Initials: SS/AB

DUT S/N	J24179#1		DUT Operating Mode		5GHz WLAN
Comment	Worst case 20MHz channels from 802.11a and (802.11n/802.11ac) modulations are tested Worst case 40MHz and 80MHz channels from (802.11ac) are tested.				
Antenna	Frequency Range	Polarization	Result Over/Under Limit		Notes
Loop	9kHz-30MHz	Parallel	☐Over	☒Under	√
		Perpendicular	☐Over	☒Under	√
		Ground-Parallel	☐Over	☒Under	√
Log Periodic	30MHz-1GHz	Horizontal	☐Over	☒Under	√
		Vertical	☐Over	☒Under	√
Horn	1GHz-18GHz	Horizontal	☐Over	☒Under	√
		Vertical	☐Over	☒Under	√
Horn	18GHz-27.5GHz	Horizontal	☐Over	☒Under	√
		Vertical	☐Over	☒Under	√

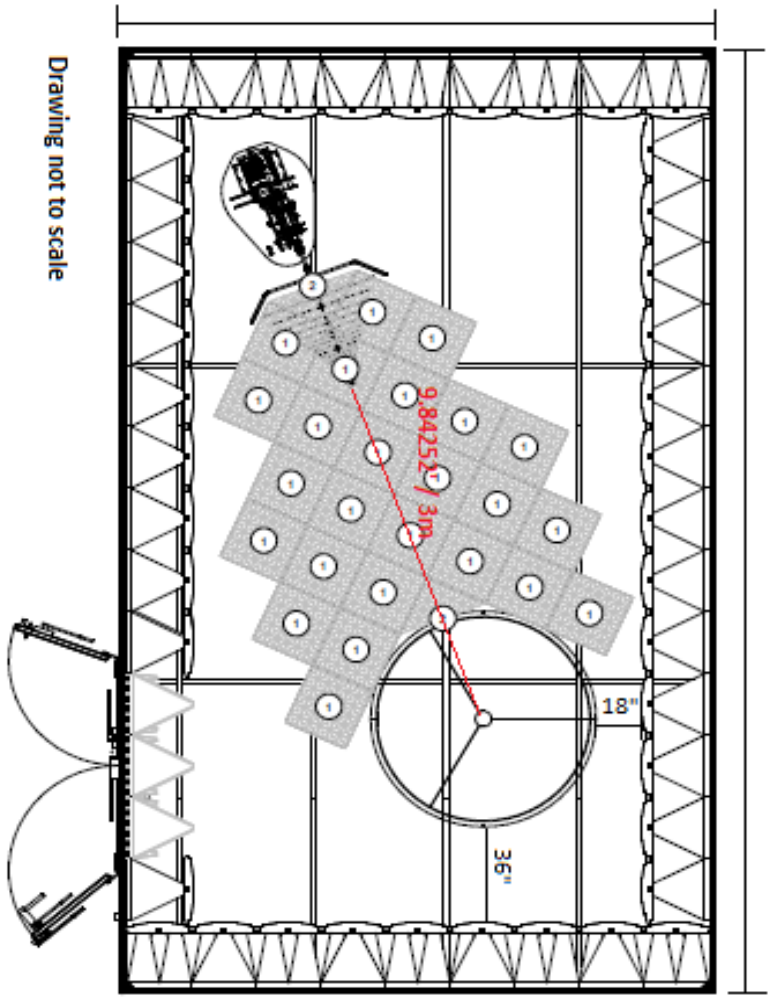
Notes: √ meets the requirements of the acceptance criteria.

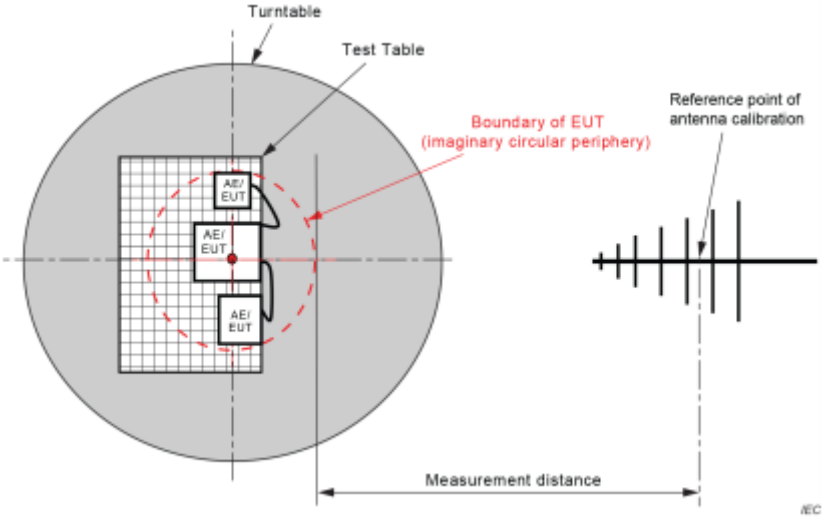
5.2 Test Setup

Semi-Anechoic Chamber Test Site-3 meter

Chamber Location	815 N Opdyke Rd Auburn Hills, Michigan 48326
Chamber Manufacturer:	ETS-Lindgren
Chamber Type	Semi-Anechoic
Model	FACT™ 3-2.0 Plus
Chamber Dimensions (L x W x H)	18'x18'x30'
Quiet Zone Diameter	2.0 meters
Quiet Zone Test Heights	1 & 2 meters (front only)
Test Distance	3.0 meters
Test Frequency Range	1-40 GHz
Measured Performance	4.87 dB Site *s*VSWR

Chamber Dimensions




Turntable
Test Table
Boundary of EUT
(imaginary circular periphery)
Reference point of
antenna calibration
AE/
EUT
AE/
EUT
AE/
EUT
Measurement distance
IEC

5.3 Test Equipment Used

ID #	Equipment	Manufacturer	Model #	Serial #	Cal Due
BVD0217	Receiver 2Hz-44GHz	Rohde & Schwarz	ESW44	101871	4/21/2025
BVD0118	Antenna Mast Position Controller	ETS	7006-001	00214778/00214648	N/A
BVD0111	3 Meter Anechoic Chamber	ETS	N/A	N/A	N/A
BVD0247	Turn Table	ETS	920250	N/A	N/A
BVD0323	Foam Test Table For 3 Meter Chamber	ETS-Lindgren	LDT-1.5	N/A	N/A
BVD0069	Bore Sight Tower	ETS	2171B	226732	N/A
BVD0312	Optima 12V Blue top Marine battery	Optima	D34M	N/A	N/A
BVD0187	Preamplifier 25dB cal to 100kHz-1GHz	Rohde & Schwarz	TS-PR1	102080	1/23/2025
BVD0184	Preamplifier 29dB 1-18GHz	Rohde & Schwarz	TS-PR18	101646	6/20/2025
BVD0185	Preamplifier 45dB 18-40GHz	Rohde & Schwarz	TS-PR1840	100064	6/20/2025
BVD0011	Loop Antenna 9kHz-30MHz	Rohde & Schwarz	FMZB1519B	145	6/10/2025
BVD0021	UltraLog Antenna 30-6000MHz	Rohde & Schwarz	HL562E	101113	6/26/2025
BVD0267	Double Ridge Waveguide 800MHz-18GHz	Rohde & Schwarz	HF907	102832	6/27/2025
BVD0320	18-40GHz Horn Antenna	L3 Narda ATM	PNR 180-442-KF	136164-01	7/15/2025
BVD0045	Field Probe Mast	Rohde & Schwarz	TS-FPMA	N/A	N/A
BVD0481	Band Reject Filter 40dB from 5150 to 5880MHz	Micro-Tronics	BRM50716	G336	6/17/2025
BVD0394	Double Shielded N-Type Cable 6.9 Meter	Rohde & Schwarz	N-Type	N/A	4/8/2025
BVD0398	Double Shielded N-Type Cable 2 Meter	Rohde & Schwarz	N-Type	N/A	4/8/2025
BVD0563	RF Cable Assembly	Huber+Suhner, inc	SUCOFLEX 102A	502215/2A	10/30/2025
BVD0407	Double Shielded N-Type Cable 410mm (For PreAmp)	Rohde & Schwarz	N-Type	N/A	10/15/2025
BVD0495	SMA Shielded Cable approx 100mm (for Pre-Amp)	Rohde & Schwarz	SMA-Type	N/A	7/15/2025
BVD0587	Double Shielded N-Type Cable 440mm (For PreAmp)	Winchester Interconnect	250-251-660157 REV A	N/A	1/9/2025
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	5/23/2025

Equipment List (Software)

ID #	Equipment	Manufacturer	Model	Version No.	
N/A	EMC Test Software	Rodhe & Schwarz	EMC32	2024.0.8.0	N/A

Customer Supplied Equipment

ID #	Equipment	Manufacturer	Model	Serial #	Version No.
N/A	Harness	Harman	N/A	N/A	N/A
N/A	Display Unit	MOBIS	BMM6100000	231107 01	N/A
N/A	Shark Fin Antenna	Alfa Romeo	B901	719147	N/A
N/A	Antenna	Aptiv	APN35409682	N/A	N/A
N/A	Camera	N/A	23295906C	N/A	N/A
N/A	MFGBridge_Tool/Dut labtool	N/A	N/A	N/A	2.0.0.89

5.4 Test Limits and Procedure

Radiated emissions that fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a)

Frequencies (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (meters)
0.009 ~ 0.490	2400/F(kHz)	48.5 - 13.8	300
0.490 ~ 1.705	24000/F(kHz)	33.8 - 23	30
1.705 ~ 30.0	30	29.54	30
30 ~ 88	100	40.0	3
88 ~ 216	150	43.5	3
216 ~ 960	200	46.0	3
Above 960	500	54.0	3

Note:

a) The lower limit shall apply at the transition frequencies.

b) For performing measurements at a specified distance of 3m, the values are extrapolated using extrapolation factor.
Frequencies below 30MHz are extrapolated using 40dB/decade.
Frequencies above 30MHz are extrapolated using 20dB/decade.

Frequencies (MHz)	Formula for Limits derivation for below 30MHz	Limits for frequencies below 30MHz (dBuV/m)
0.009 ~ 0.490	2400/F(kHz) + 40 Log (300m/3m)	128.5 ~ 93.8
0.490 ~ 1.705	24000/F(kHz) + 40 Log (30m/3m)	73.8 ~ 62.96
1.705 ~ 30.0	29.54 + 40 Log (30m/3m)	69.54

c) For frequencies above 1000MHz, the field strength limits based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 30dB under any condition of modulation.

The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω.

The measurement procedures are as per **789033 D02 General UNII Test Procedures New Rules v02r01, ISED RSS-247 6.2**

The Limits for Unwanted emissions out of the Restricted Bands are as follows.

Procedure	Limits	
	Peak (dBµV/m)	Average (dBµV/m)
KDB 789033 D02 General UNII Test Procedures New Rules v02r01	74	54

§ 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 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4) For transmitters operating in the 5.725–5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Procedure	Peak Limit (dBµV/m)
15.407(b)(1)	68.23
15.407(b)(2)	
15.407(b)(3)	
15.407(b)(4)	As stated above

1. The table height for emissions measurements
   i) Below 1 GHz, the table height is 80 cm above the reference ground plane.
   ii) Above 1 GHz, the table height is 1.5 m
2. Measurements performed with the EUT rotated from 0° to 360°, the antenna height scanned between 1m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

5.5 EMI Test Receiver/Spectrum Analyzer Settings

Below 1GHz

Frequency	RBW	Detector
9KHz to 30MHz	9KHz	Peak

Frequency	RBW	Detector
30MHz to 1GHz	120KHz	Peak/Quasi Peak

Above 1GHz

Frequency	RBW	Detector
1GHz to 40GHz	1 MHz	Peak/ Power Averaging (RMS)

Note: Trace average is 100 traces for continuous transmission else the traces shall be increased by a factor of 1/x, where x is the duty cycle. Duty cycle > 98% no correction factor needed and for Duty cycle < 98% the correction factor 10 log (1/x), where x is the duty cycle.

5.6 Test Data

Uncertainty

Radiated Emissions (30MHz to 40GHz)

Test Engineer Initials: SS/AB

The test is to measure the radiated emissions of the EUT. Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- NSA Calibration
- Etc., details see the below table

30MHz to 1GHZ

Source of Uncertainty	Value (dB)	ProbabilityDistribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105
Filter Insertion Loss	0.25	Normal	2	1	0.125
Antenna Factor	0.65	Normal	2	1	0.325
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.86605081
PRF Response	1.5	Rectangular	1.732	1	0.86605081
Mismatch Filter – Receiver	0.25	U-Shape	2.449	1	0.1768033
NSA Calibration	4.0	Triangular	1.414	1	1.633332
ETS Foam Table (LDT-1.5)	1.8	Rectangular	1.732	1	1.039261
Combined Standard Uncertainty (square root of the sum of the squares)					2.113781
Expanded Uncertainty (K=2)					**4.227562**

The total derived measurement uncertainty is +/- 4.228 dB

1GHz to 40GHz

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105000
Filter Insertion Loss	0.25	Normal	2	1	0.125000
Antenna Factor	0.65	Normal	2	1	0.325000
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.866051
PRF Response	1.5	Rectangular	1.732	1	0.866051
Mismatch Filter – Receiver	0.25	U-Shape	1.414	1	0.176803
VSWR Calibration	2.0	Triangular	2.449	1	0.816659
ETS Foam Table (LDT-1.5)	1.8	Rectangular	1.732	1	1.039261
Combined Standard Uncertainty (square root of the sum of the squares)					1.869213
Expanded Uncertainty (K=2)					**3.738426**

The total derived measurement uncertainty is +/- 3.738 dB.

Remarks:

1. Level Q-Peak Reading (dBµV/m) = Raw Q-Peak Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Q-Peak Reading – Limit

Remarks:

1. Level Peak Reading (dBµV/m) = Raw Peak Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Peak Reading – Limit

Remarks:

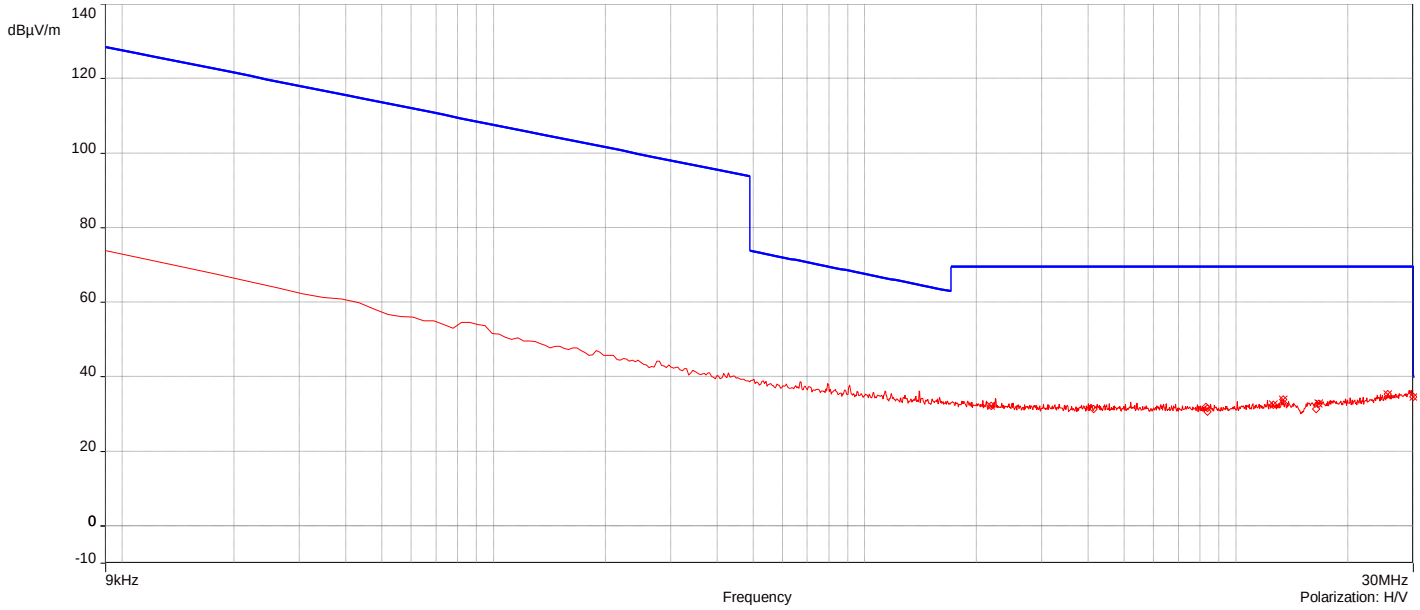
1. Level Average Reading (dBµV/m) = Raw Average Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Average Reading – Limit

J24179#1_5G UNII-1 802.11a_6Mbps_Ch 40_9kHz-30MHz_Ground-Parallel

12/17/2024 15:39:13

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	32.23	19.59	69.54	-37.31	1.00	20.30	H/V	Passed
2.	12.577024MHz	32.57	19.84	69.54	-36.97	1.00	188.20	H/V	Passed
3.	13.386897MHz	33.96	19.90	69.54	-35.58	1.00	68.20	H/V	Passed
4.	16.694949MHz	32.81	20.11	69.54	-36.73	1.00	357.90	H/V	Passed
5.	25.629258MHz	35.36	21.15	69.54	-34.18	1.00	0.10	H/V	Passed
6.	30MHz	34.60	22.04	40.00	-5.40	1.00	355.70	H/V	Passed

Overall Graphs:

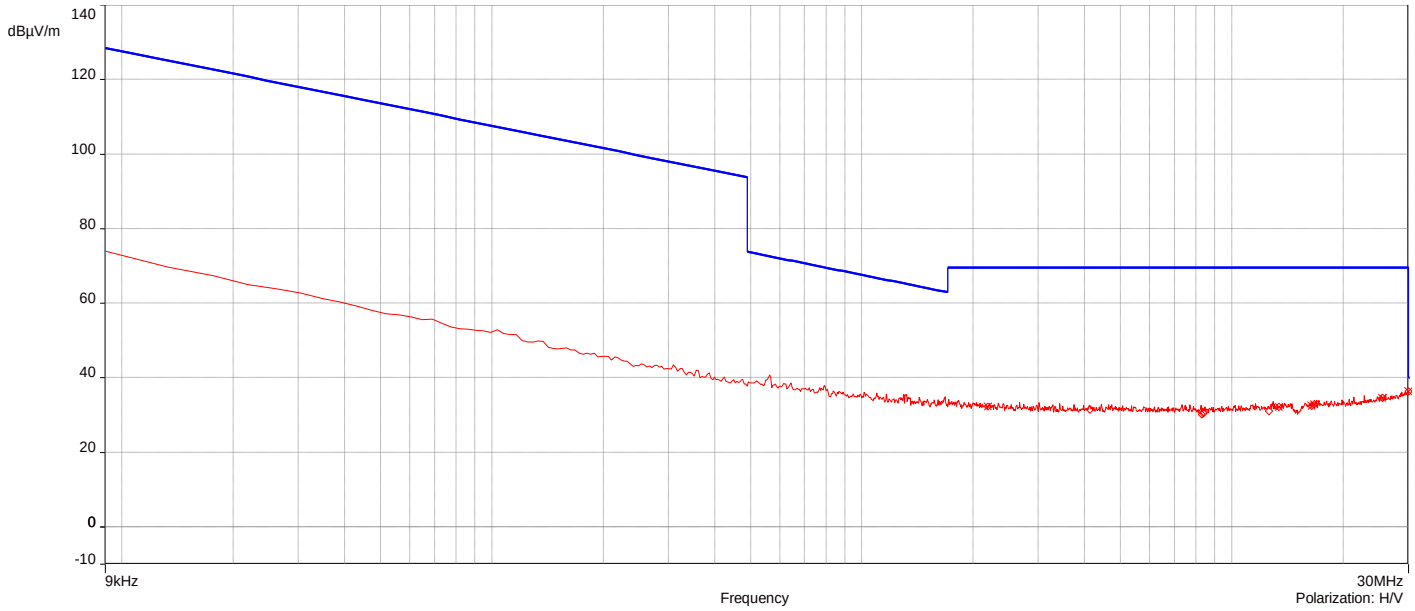


J24179#1_5G UNII-1 802.11a_6Mbps_Ch 40_9kHz-30MHz_Parallel

12/17/2024 15:51:24

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.185801MHz	32.38	19.59	69.54	-37.16	1.00	106.30	H/V	Passed
2.	13.374042MHz	32.19	19.90	69.54	-37.35	1.00	76.30	H/V	Passed
3.	16.420706MHz	32.57	20.07	69.54	-36.97	1.00	358.90	H/V	Passed
4.	16.694949MHz	32.99	20.11	69.54	-36.55	1.00	71.30	H/V	Passed
5.	25.504992MHz	34.66	21.14	69.54	-34.88	1.00	342.00	H/V	Passed
6.	30MHz	36.33	22.04	40.00	-3.67	1.00	292.70	H/V	Passed

Overall Graphs:

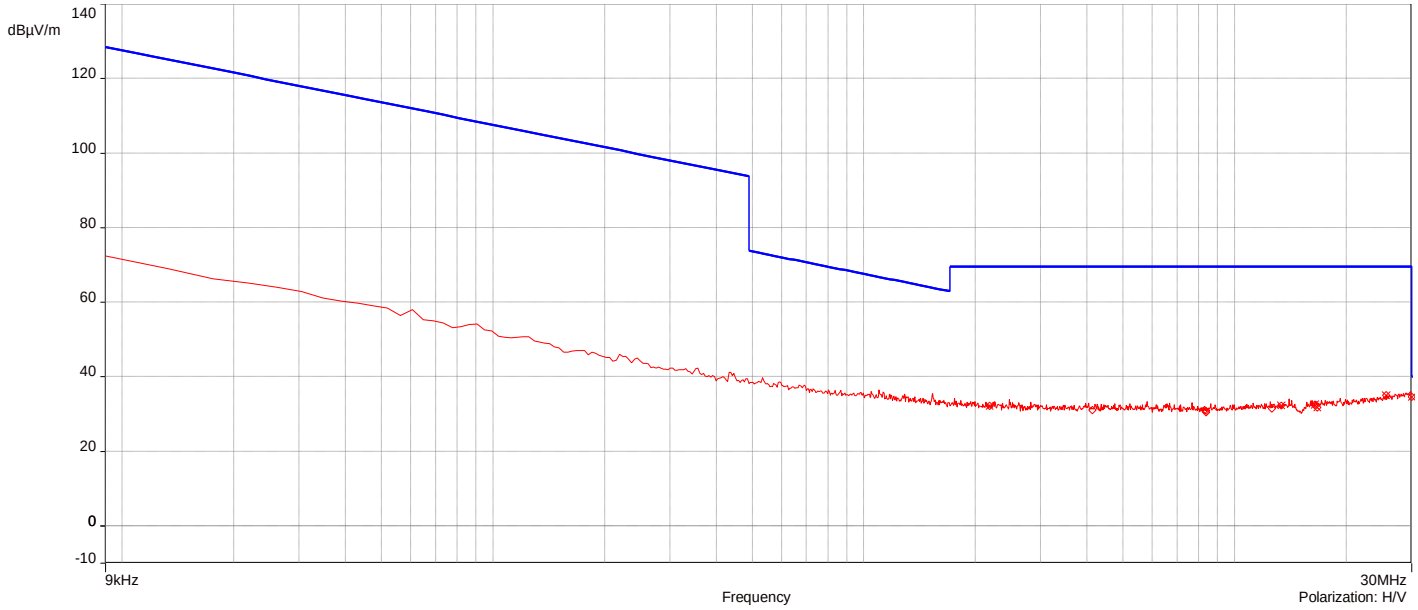


J24179#1_5G UNII-1 802.11a_6Mbps_Ch 40_9kHz-30MHz_Perpendicular

12/17/2024 15:18:01

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.181516MHz	32.18	19.59	69.54	-37.36	1.00	188.60	H/V	Passed
2.	13.361187MHz	32.41	19.90	69.54	-37.13	1.00	215.20	H/V	Passed
3.	16.420706MHz	32.43	20.07	69.54	-37.11	1.00	234.40	H/V	Passed
4.	16.694949MHz	31.84	20.11	69.54	-37.70	1.00	138.20	H/V	Passed
5.	25.616403MHz	35.08	21.15	69.54	-34.46	1.00	262.20	H/V	Passed
6.	30MHz	34.59	22.04	40.00	-5.41	1.00	127.80	H/V	Passed

Overall Graphs:

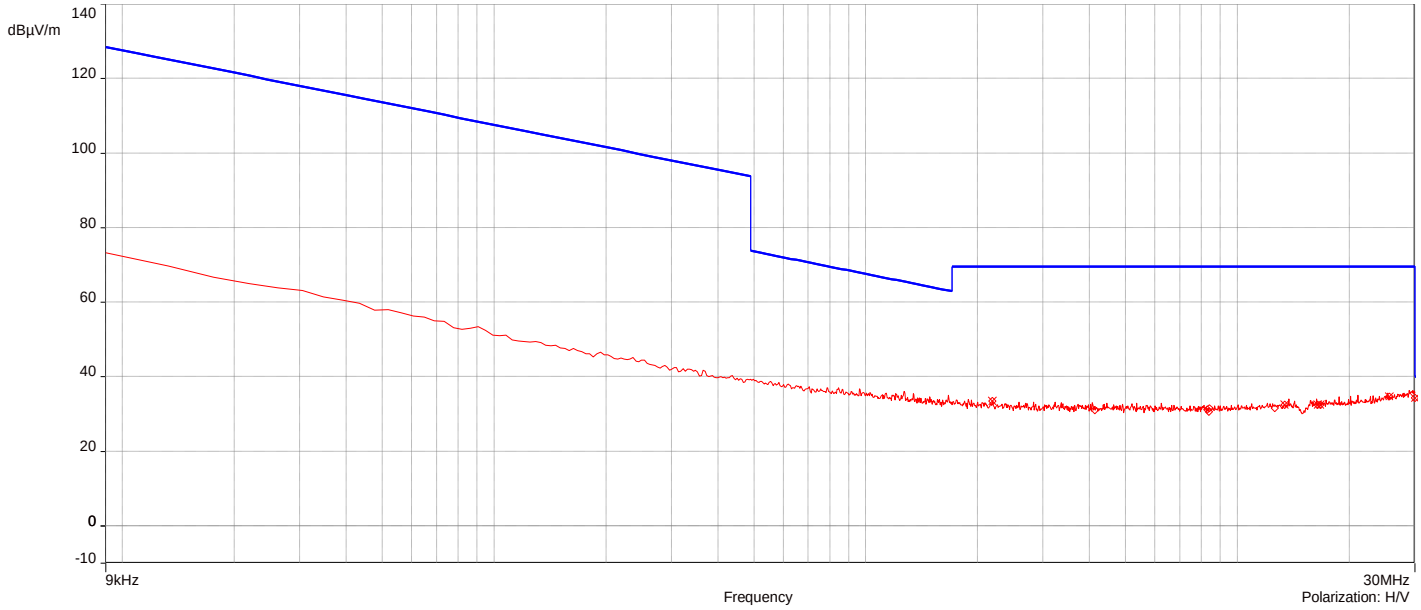


J24179#1_5G UNII-1 802.11n_MCS0_Ch 40_9kHz-30MHz_Ground-Parallel

12/17/2024 16:06:11

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	33.56	19.59	69.54	-35.98	1.00	358.90	H/V	Passed
2.	13.382612MHz	32.55	19.90	69.54	-36.99	1.00	76.00	H/V	Passed
3.	16.420706MHz	32.45	20.07	69.54	-37.09	1.00	358.90	H/V	Passed
4.	16.694949MHz	32.45	20.11	69.54	-37.09	1.00	117.30	H/V	Passed
5.	25.603548MHz	34.81	21.15	69.54	-34.73	1.00	243.00	H/V	Passed
6.	30MHz	34.34	22.04	40.00	-5.66	1.00	8.80	H/V	Passed

Overall Graphs:

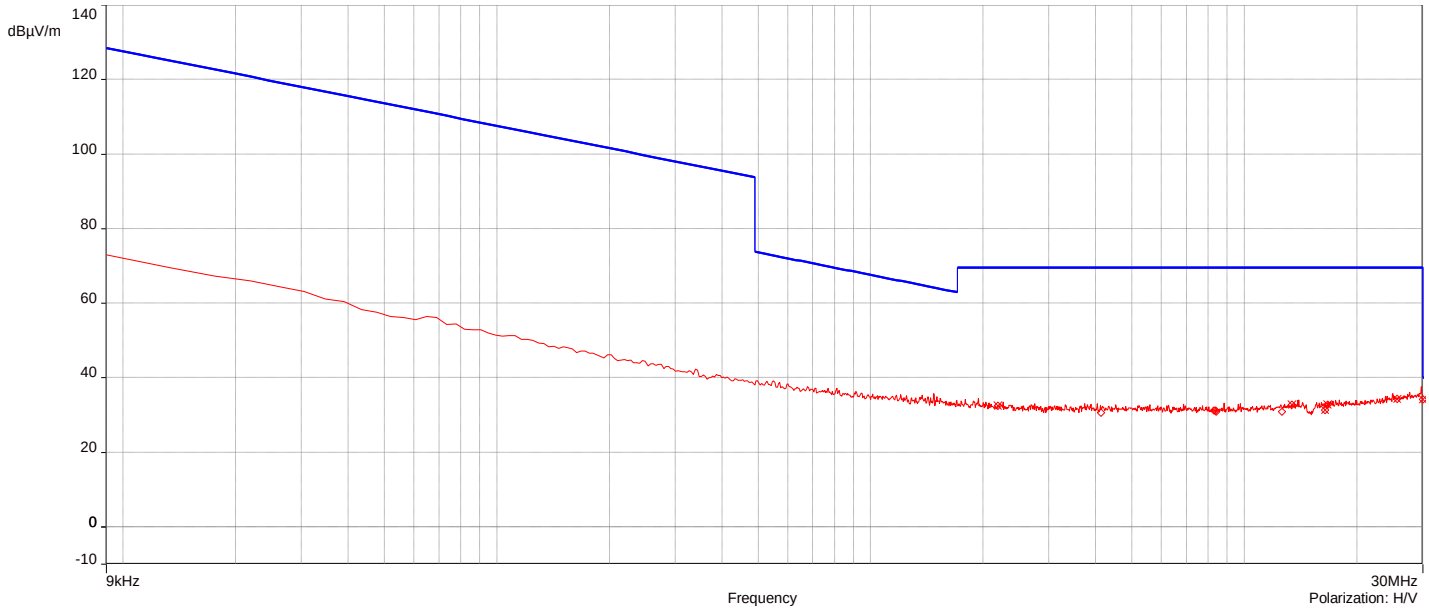


J24179#1_5G UNII-1 802.11n_MCS0_Ch 40_9kHz-30MHz_Parallel

12/17/2024 16:00:38

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	32.49	19.59	69.54	-37.05	1.00	339.80	H/V	Passed
2.	13.378327MHz	32.82	19.90	69.54	-36.72	1.00	140.40	H/V	Passed
3.	16.420706MHz	31.41	20.07	69.54	-38.13	1.00	0.10	H/V	Passed
4.	16.694949MHz	32.79	20.11	69.54	-36.75	1.00	77.50	H/V	Passed
5.	25.616403MHz	34.36	21.15	69.54	-35.18	1.00	43.50	H/V	Passed
6.	30MHz	34.27	22.04	40.00	-5.73	1.00	309.40	H/V	Passed

Overall Graphs:

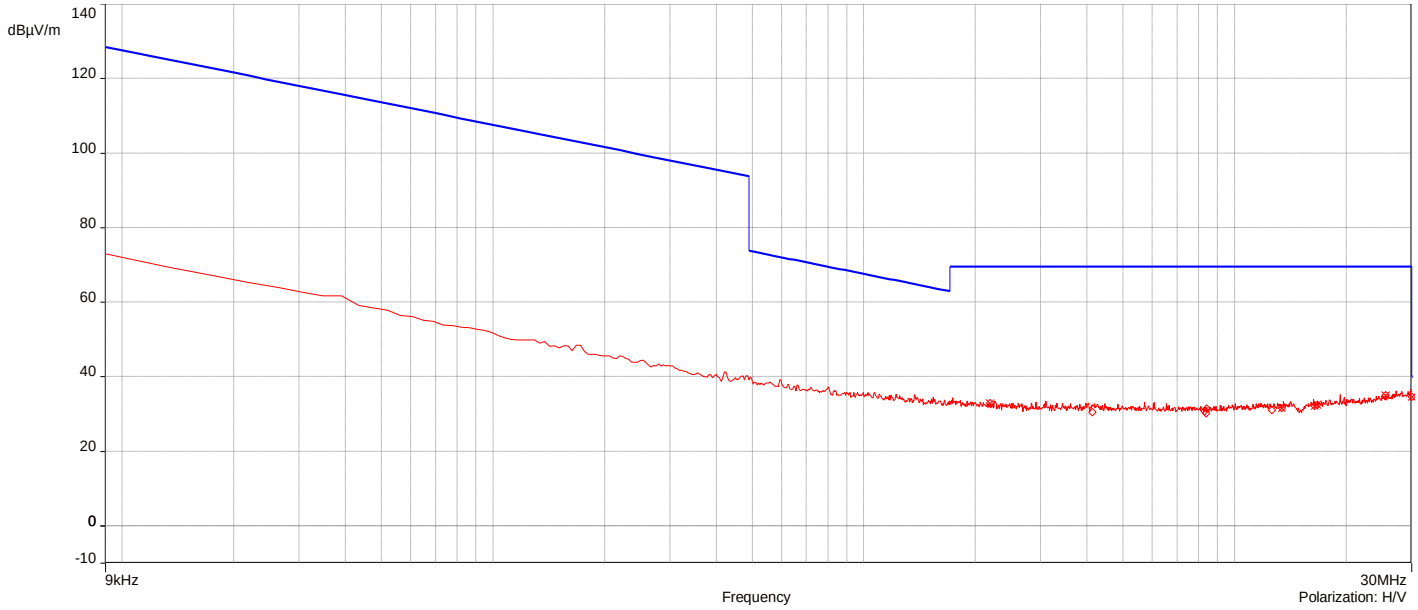


J24179#1_5G UNII-1 802.11n_MCS0_Ch 40_9kHz-30MHz_Perpendicular

12/17/2024 16:11:08

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	32.97	19.59	69.54	-36.57	1.00	200.30	H/V	Passed
2.	13.395467MHz	31.62	19.90	69.54	-37.92	1.00	0.10	H/V	Passed
3.	16.420706MHz	32.24	20.07	69.54	-37.30	1.00	244.40	H/V	Passed
4.	16.694949MHz	32.46	20.11	69.54	-37.08	1.00	207.00	H/V	Passed
5.	25.517847MHz	35.12	21.14	69.54	-34.42	1.00	339.50	H/V	Passed
6.	30MHz	34.67	22.04	40.00	-5.33	1.00	256.90	H/V	Passed

Overall Graphs:

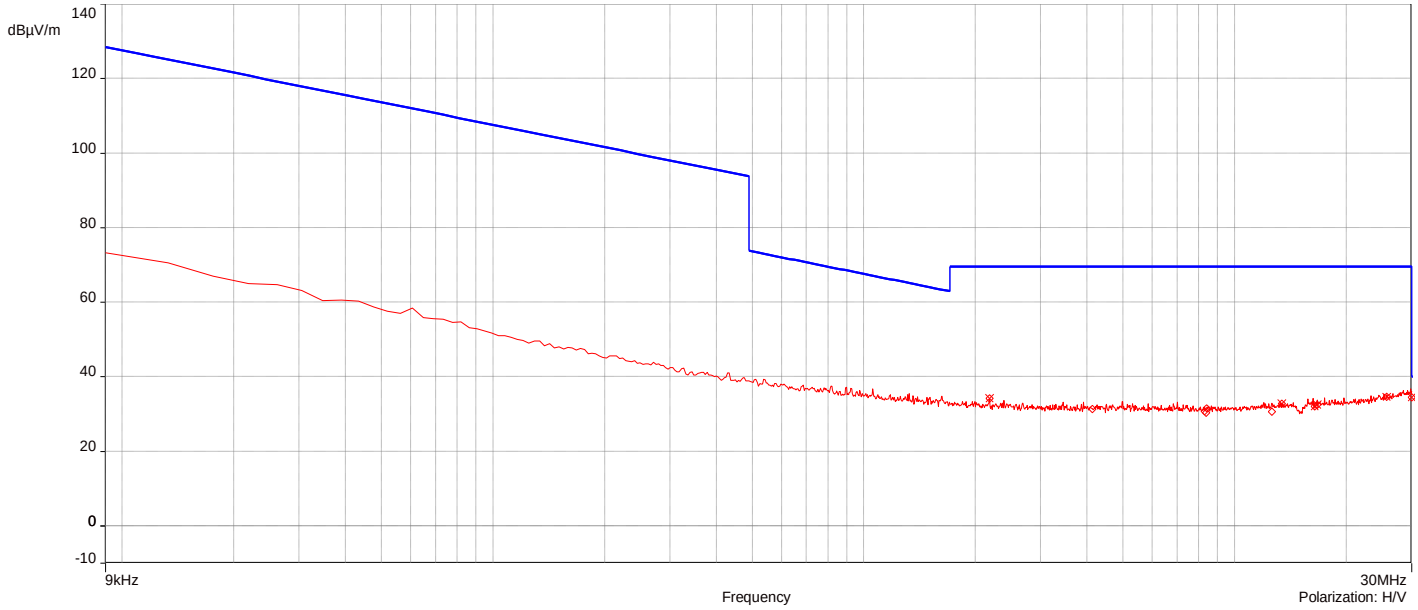


J24179#1_5G UNII-3 802.11a_6Mbps_Ch 157_9kHz-30MHz_Ground-Parallel

12/17/2024 16:22:00

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.177231MHz	34.15	19.59	69.54	-35.39	1.00	352.00	H/V	Passed
2.	13.395467MHz	32.75	19.90	69.54	-36.79	1.00	280.50	H/V	Passed
3.	16.420706MHz	32.12	20.07	69.54	-37.42	1.00	329.70	H/V	Passed
4.	16.694949MHz	32.49	20.11	69.54	-37.05	1.00	67.60	H/V	Passed
5.	25.646399MHz	34.58	21.15	69.54	-34.96	1.00	305.80	H/V	Passed
6.	30MHz	34.45	22.04	40.00	-5.55	1.00	83.10	H/V	Passed

Overall Graphs:

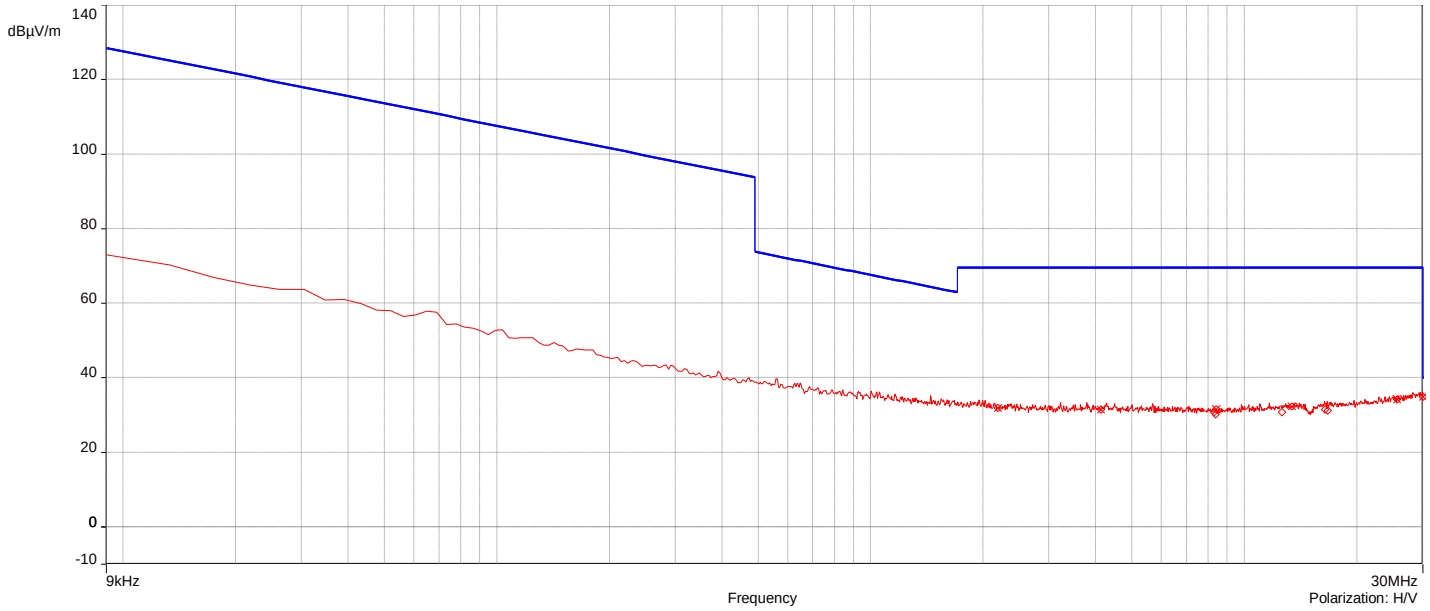


J24179#1_5G UNII-3 802.11a_6Mbps_Ch 157_9kHz-30MHz_Parallel

12/17/2024 16:37:25

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	32.00	19.59	69.54	-37.54	1.00	206.20	H/V	Passed
2.	4.126924MHz	31.52	19.74	69.54	-38.02	1.00	92.60	H/V	Passed
3.	8.386255MHz	31.64	19.52	69.54	-37.90	1.00	192.70	H/V	Passed
4.	13.404037MHz	32.42	19.90	69.54	-37.12	1.00	277.00	H/V	Passed
5.	25.620688MHz	34.17	21.15	69.54	-35.37	1.00	167.10	H/V	Passed
6.	30MHz	34.97	22.04	40.00	-5.03	1.00	318.40	H/V	Passed

Overall Graphs:

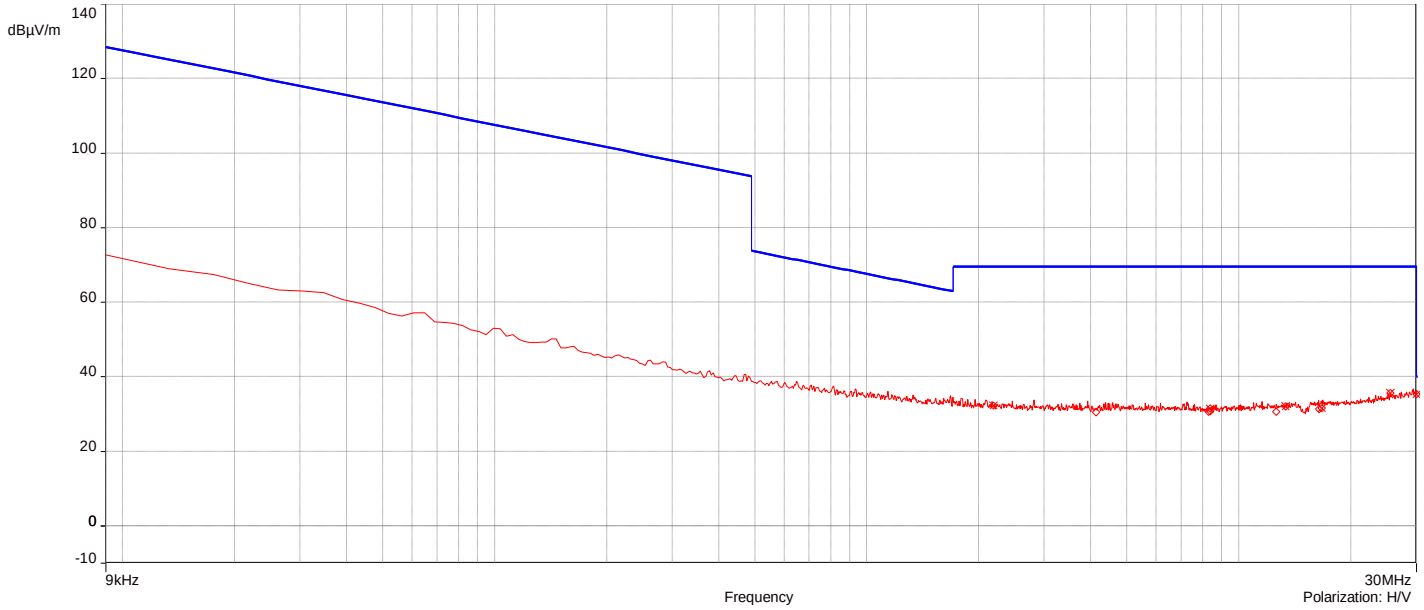


J24179#1_5G UNII-3 802.11a_6Mbps_Ch 157_9kHz-30MHz_Perpendicular

12/17/2024 16:19:24

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.185801MHz	32.42	19.59	69.54	-37.12	1.00	55.90	H/V	Passed
2.	8.364829MHz	31.51	19.52	69.54	-38.03	1.00	230.80	H/V	Passed
3.	13.361187MHz	32.08	19.90	69.54	-37.46	1.00	241.60	H/V	Passed
4.	16.694949MHz	31.70	20.11	69.54	-37.84	1.00	234.80	H/V	Passed
5.	25.513562MHz	35.57	21.14	69.54	-33.97	1.00	220.30	H/V	Passed
6.	30MHz	35.29	22.04	40.00	-4.71	1.00	143.90	H/V	Passed

Overall Graphs:

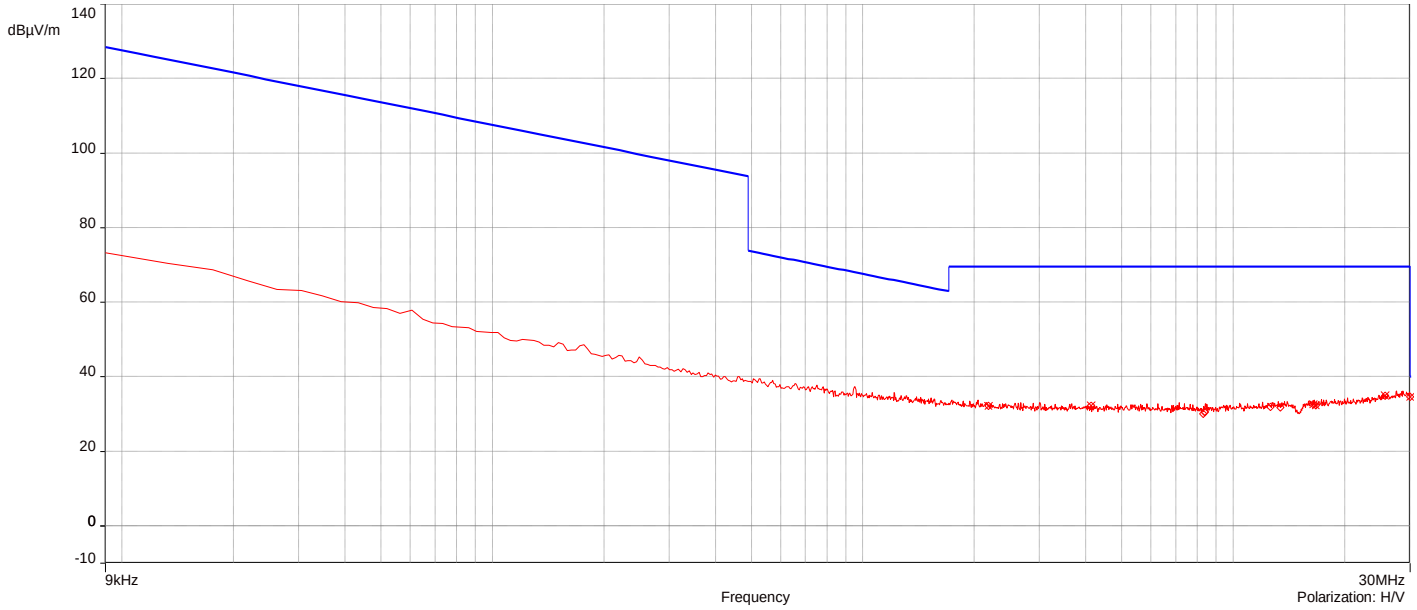


J24179#1_5G UNII-3 802.11n_MCS0_Ch 157_9kHz-30MHz_Ground-Parallel

12/17/2024 16:51:37

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.177231MHz	32.23	19.59	69.54	-37.31	1.00	26.10	H/V	Passed
2.	4.126924MHz	32.29	19.74	69.54	-37.25	1.00	256.60	H/V	Passed
3.	16.420706MHz	32.69	20.07	69.54	-36.85	1.00	112.10	H/V	Passed
4.	16.694949MHz	32.39	20.11	69.54	-37.15	1.00	269.70	H/V	Passed
5.	25.654969MHz	34.93	21.15	69.54	-34.61	1.00	247.90	H/V	Passed
6.	30MHz	34.65	22.04	40.00	-5.35	1.00	0.60	H/V	Passed

Overall Graphs:

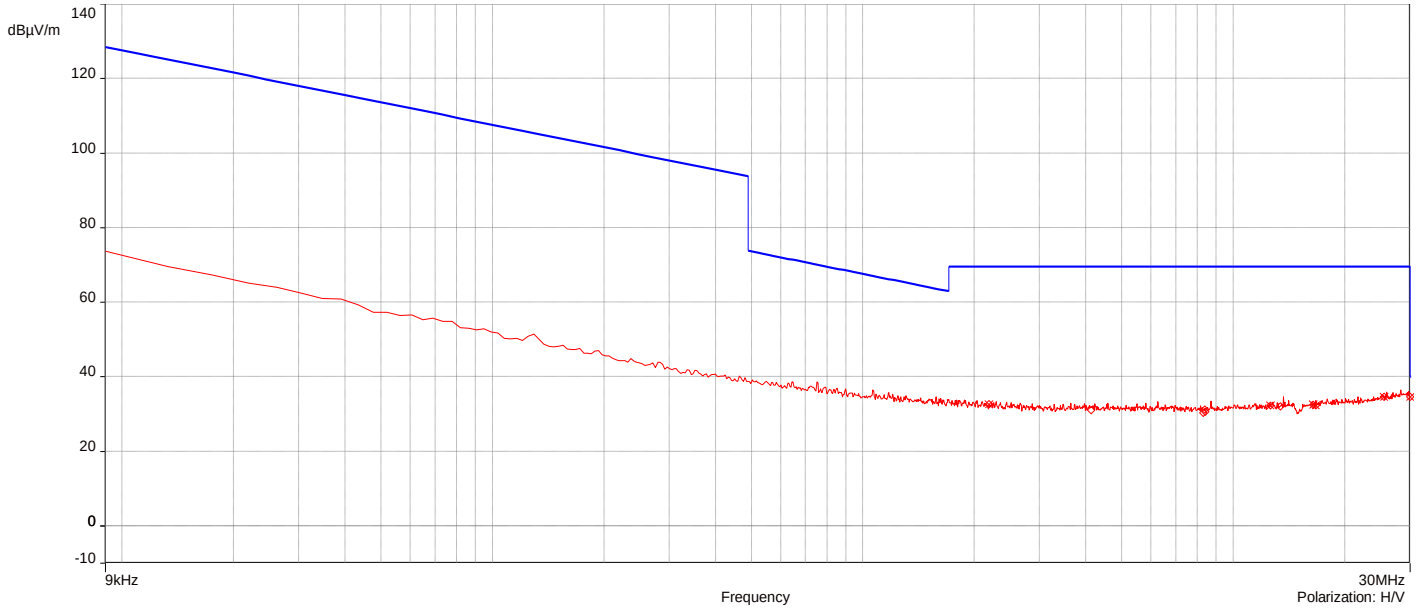


J24179#1_5G UNII-3 802.11n_MCS0_Ch 157_9kHz-30MHz_Parallel

12/17/2024 16:43:58

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.190086MHz	32.71	19.59	69.54	-36.83	1.00	60.80	H/V	Passed
2.	12.577024MHz	32.40	19.84	69.54	-37.14	1.00	0.10	H/V	Passed
3.	16.420706MHz	32.48	20.07	69.54	-37.06	1.00	227.10	H/V	Passed
4.	16.694949MHz	32.33	20.11	69.54	-37.21	1.00	131.10	H/V	Passed
5.	25.530703MHz	34.63	21.14	69.54	-34.91	1.00	101.10	H/V	Passed
6.	30MHz	34.69	22.04	40.00	-5.31	1.00	311.60	H/V	Passed

Overall Graphs:

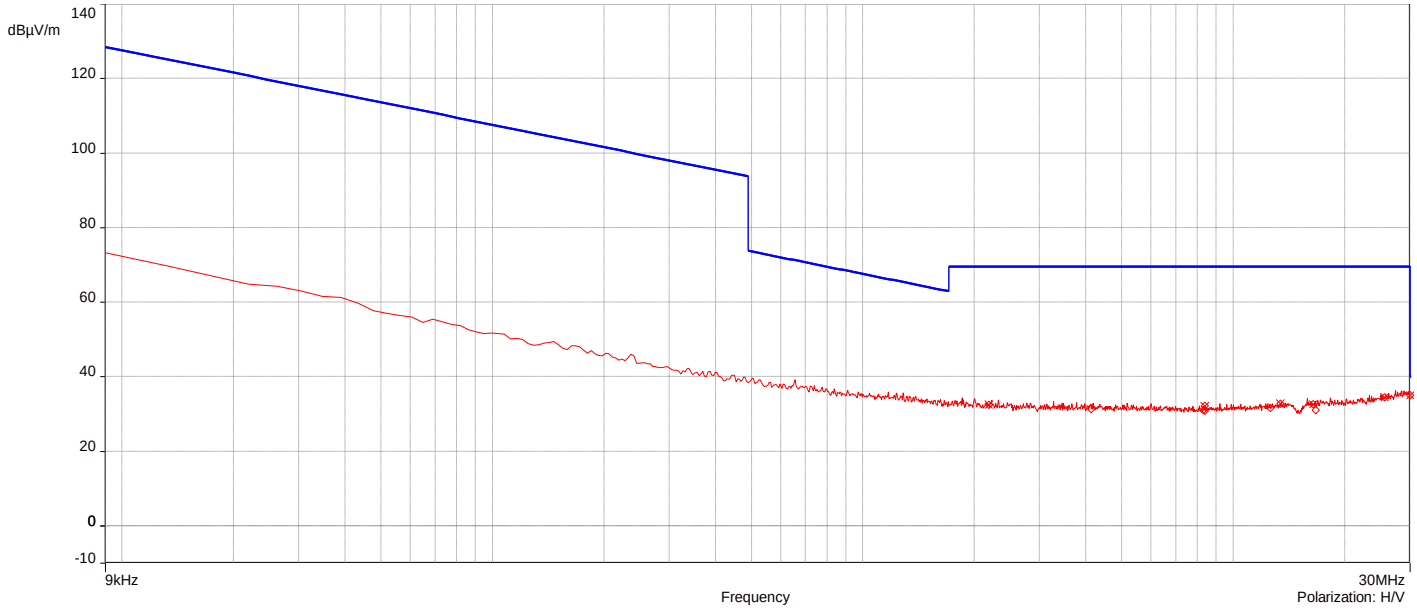


J24179#1_5G UNII-3 802.11n_MCS0_Ch 157_9kHz-30MHz_Perpendicular

12/17/2024 16:54:01

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.185801MHz	32.57	19.59	69.54	-36.97	1.00	0.10	H/V	Passed
2.	8.377685MHz	32.21	19.52	69.54	-37.33	1.00	287.20	H/V	Passed
3.	13.408322MHz	32.76	19.91	69.54	-36.78	1.00	186.80	H/V	Passed
4.	16.420706MHz	32.63	20.07	69.54	-36.91	1.00	113.40	H/V	Passed
5.	25.590693MHz	34.54	21.15	69.54	-35.00	1.00	117.50	H/V	Passed
6.	30MHz	35.03	22.04	40.00	-4.97	1.00	199.70	H/V	Passed

Overall Graphs:

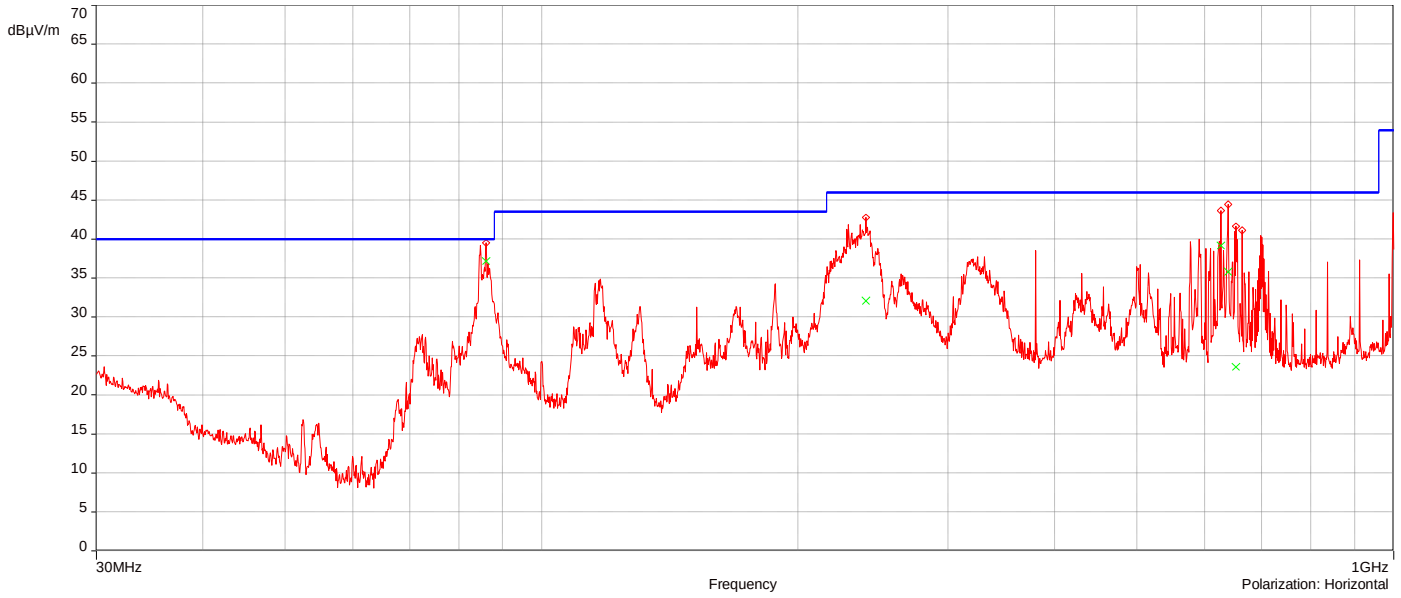


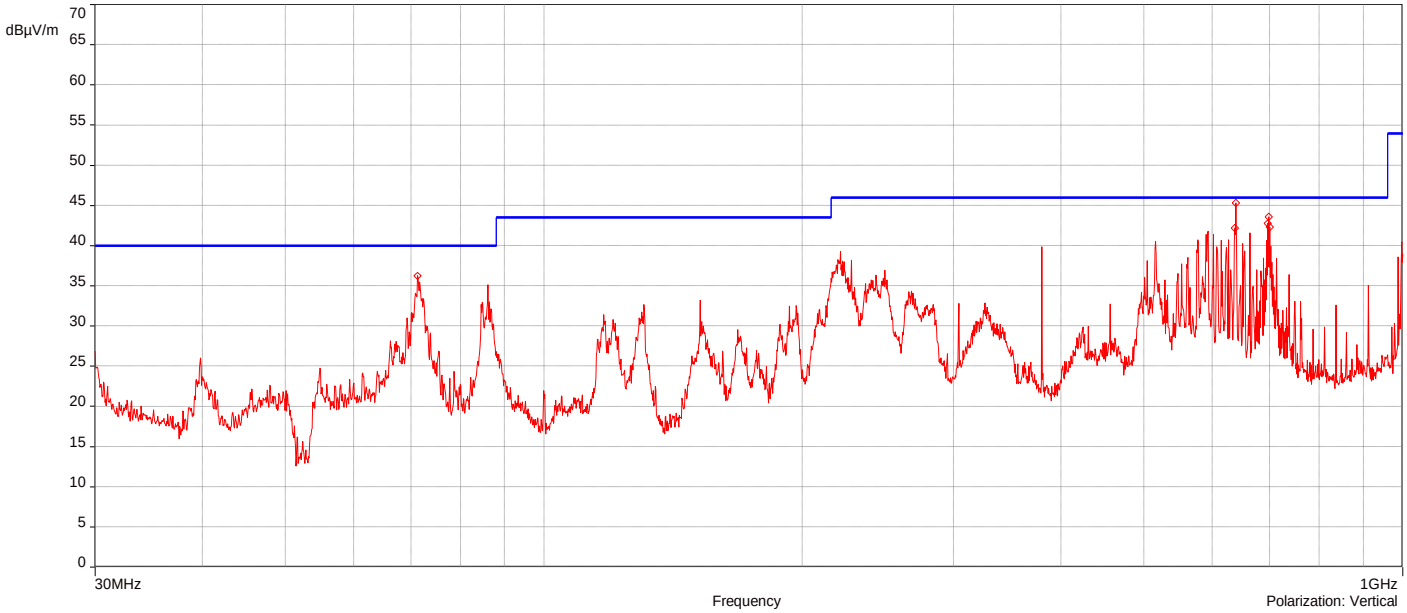
J24179#1_5G UNII-1 802.11a_6Mbps_20MHz_Ch 36_30MHz-1GHz

12/20/2024 14:24:09

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	85.977999MHz	37.20	-16.49	40.00	-2.80	3.75	358.90	Horizontal	Passed
2.	240.27413MHz	32.10	-15.59	46.00	-13.90	1.50	177.90	Horizontal	Passed
3.	626.69922MHz	39.22	-7.09	46.00	-6.78	1.25	60.10	Horizontal	Passed
4.	639.02465MHz	35.78	-6.91	46.00	-10.22	1.25	286.10	Horizontal	Passed
5.	652.77663MHz	23.64	-6.57	46.00	-22.36	1.25	294.90	Horizontal	Passed
6.	240.274134	42.810	-15.589	46.00	-3.190	1.50	178.00	Horizontal	Passed

Overall Graphs:



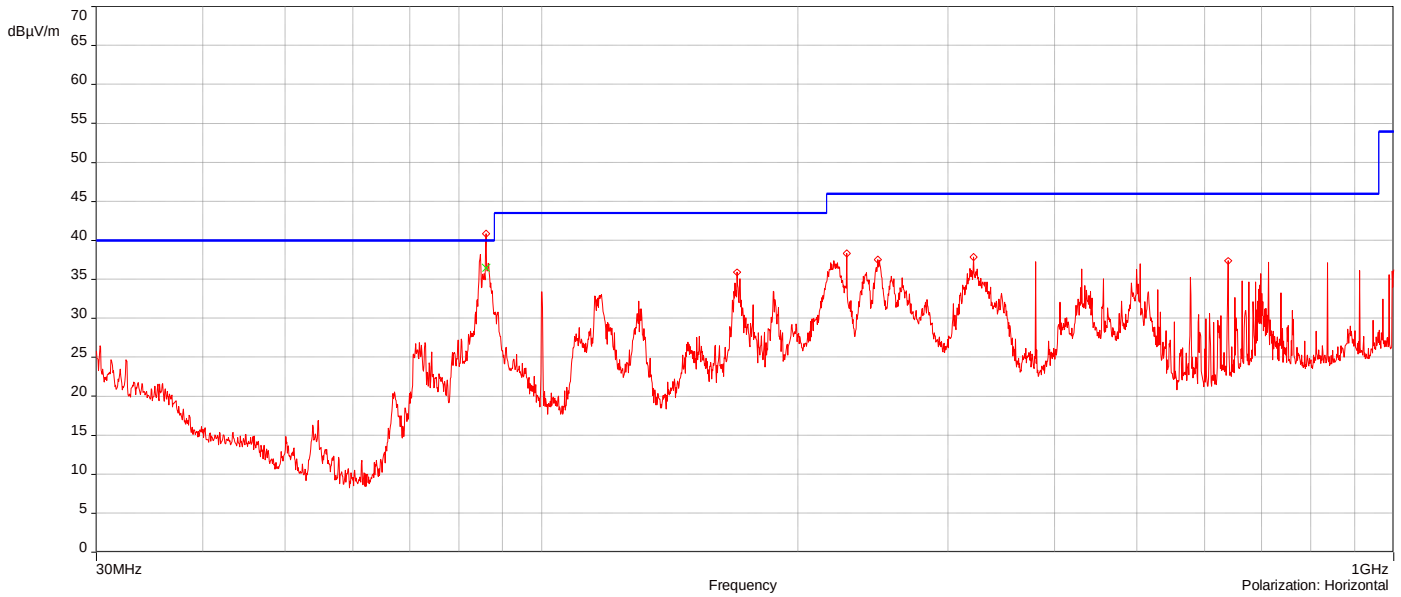

dBµV/m
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30MHz
Frequency
1GHz
Polarization: Vertical

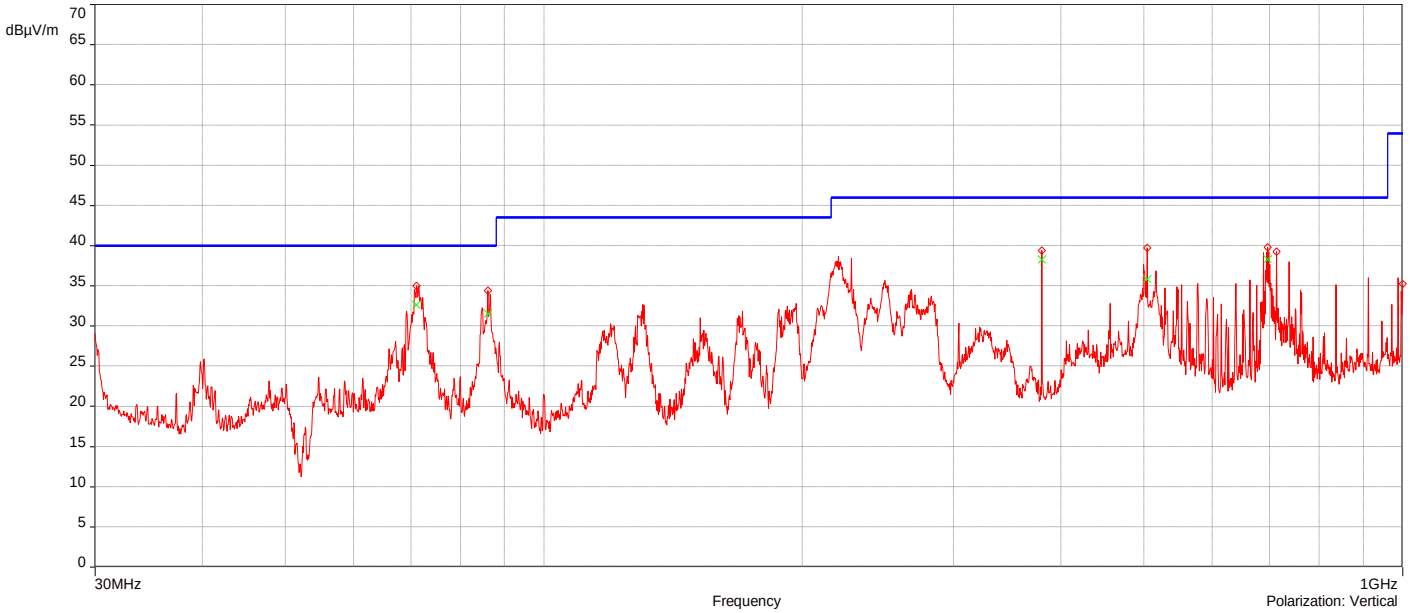
J24179#1_5G UNII-1 802.11n_MCS0_20MHz_Ch 36_30MHz-1GHz

12/20/2024 15:59:25

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	71.027708MHz	32.67	-17.93	40.00	-7.33	1.25	55.90	Vertical	Passed
2.	85.977999MHz	31.52	-16.39	40.00	-8.48	3.00	70.90	Vertical	Passed
3.	380.01941MHz	38.24	-12.65	46.00	-7.76	1.25	25.10	Vertical	Passed
4.	503.84434MHz	35.85	-9.91	46.00	-10.15	1.25	336.90	Vertical	Passed
5.	696.02977MHz	38.36	-7.38	46.00	-7.64	1.50	16.10	Vertical	Passed
6.	85.977999MHz	36.45	-16.49	40.00	-3.55	3.75	0.10	Horizontal	Passed

Overall Graphs:



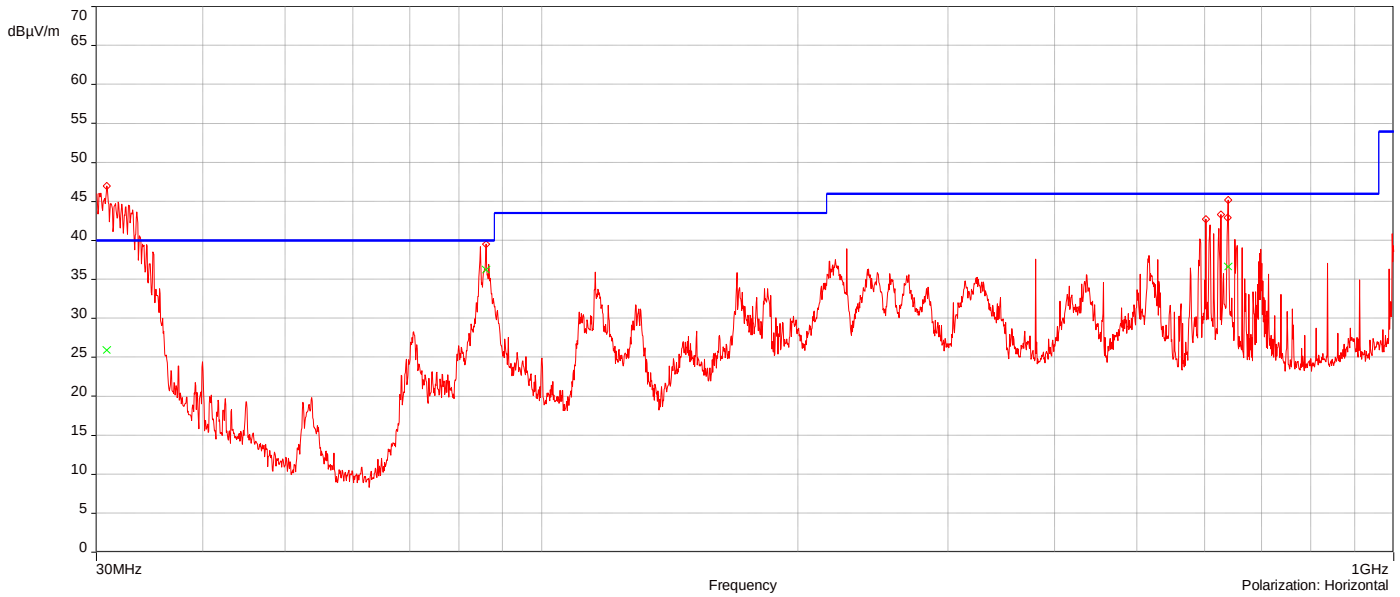

dBµV/m
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30MHz
Frequency
1GHz
Polarization: Vertical

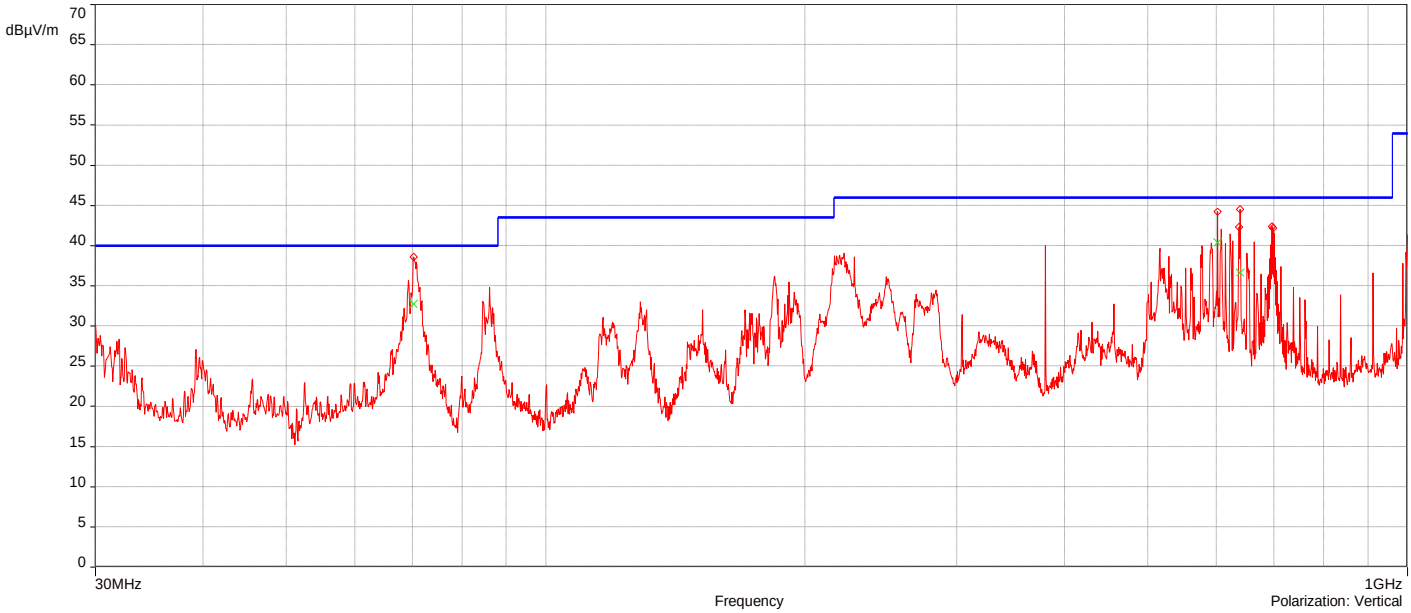
J24179#1_5G UNII-1 802.11ac_MCS0_40MHz_Ch 38_30MHz-1GHz

12/23/2024 10:37:54

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	70.228837MHz	32.74	-18.15	40.00	-7.26	1.50	358.90	Vertical	Passed
2.	602.16248MHz	40.41	-8.37	46.00	-5.59	1.00	325.90	Vertical	Passed
3.	639.02465MHz	36.66	-8.11	46.00	-9.34	1.50	39.10	Vertical	Passed
4.	30.855933MHz	25.98	-4.71	40.00	-14.02	1.25	358.90	Horizontal	Passed
5.	85.977999MHz	36.25	-16.49	40.00	-3.75	3.75	358.90	Horizontal	Passed
6.	639.02465MHz	36.69	-6.91	46.00	-9.31	1.25	77.10	Horizontal	Passed

Overall Graphs:



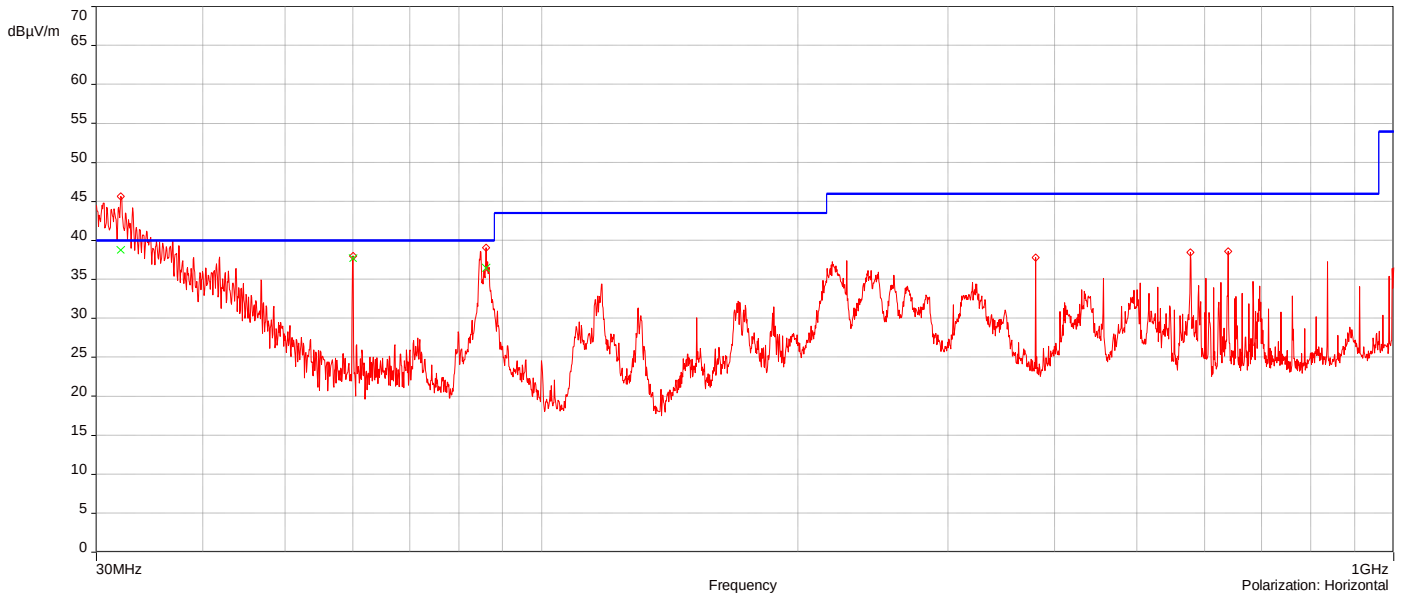

dBµV/m
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30MHz
Frequency
1GHz
Polarization: Vertical

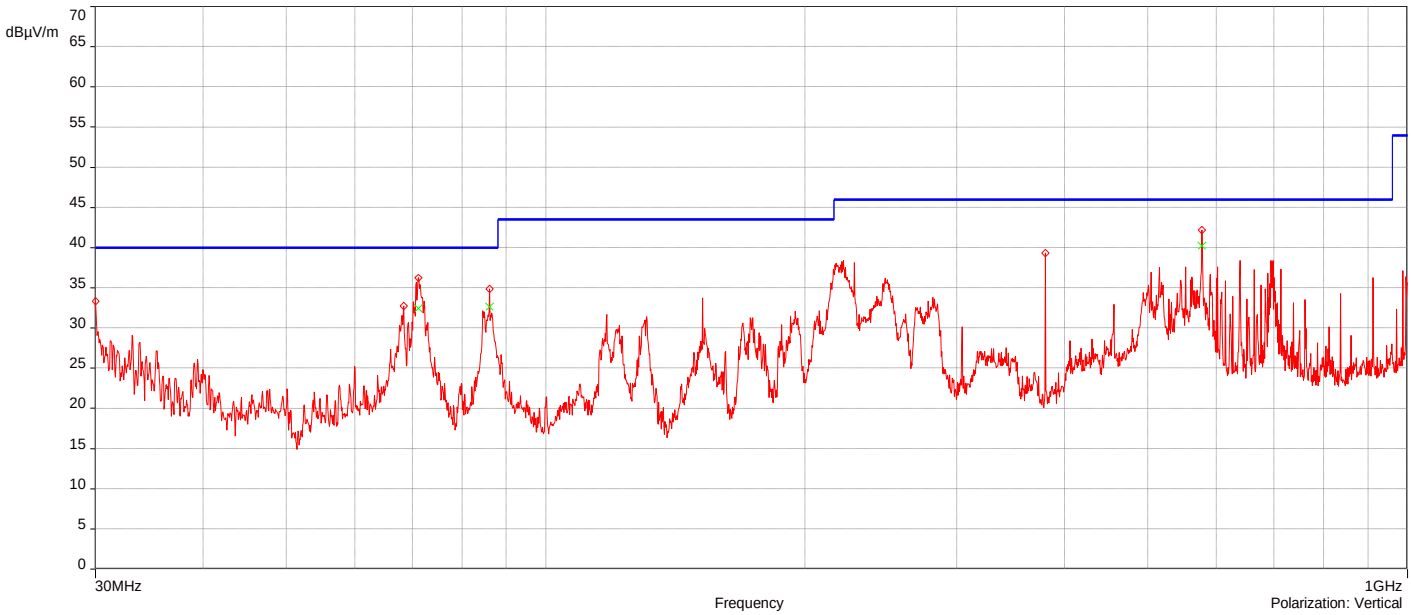
J24179#1_5G UNII-1 802.11ac_MCS0_80MHz_Ch 42_30MHz-1GHz

12/23/2024 12:04:32

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	71.08477MHz	32.48	-17.92	40.00	-7.52	1.25	14.10	Vertical	Passed
2.	85.977999MHz	32.69	-16.39	40.00	-7.31	3.25	90.10	Vertical	Passed
3.	577.51162MHz	40.25	-8.78	46.00	-5.75	1.25	322.90	Vertical	Passed
4.	32.054238MHz	38.79	-5.57	40.00	-1.21	1.00	355.10	Horizontal	Passed
5.	60.014707MHz	37.74	-21.25	40.00	-2.26	1.00	358.90	Horizontal	Passed
6.	85.977999MHz	36.48	-16.49	40.00	-3.52	3.50	1.10	Horizontal	Passed

Overall Graphs:



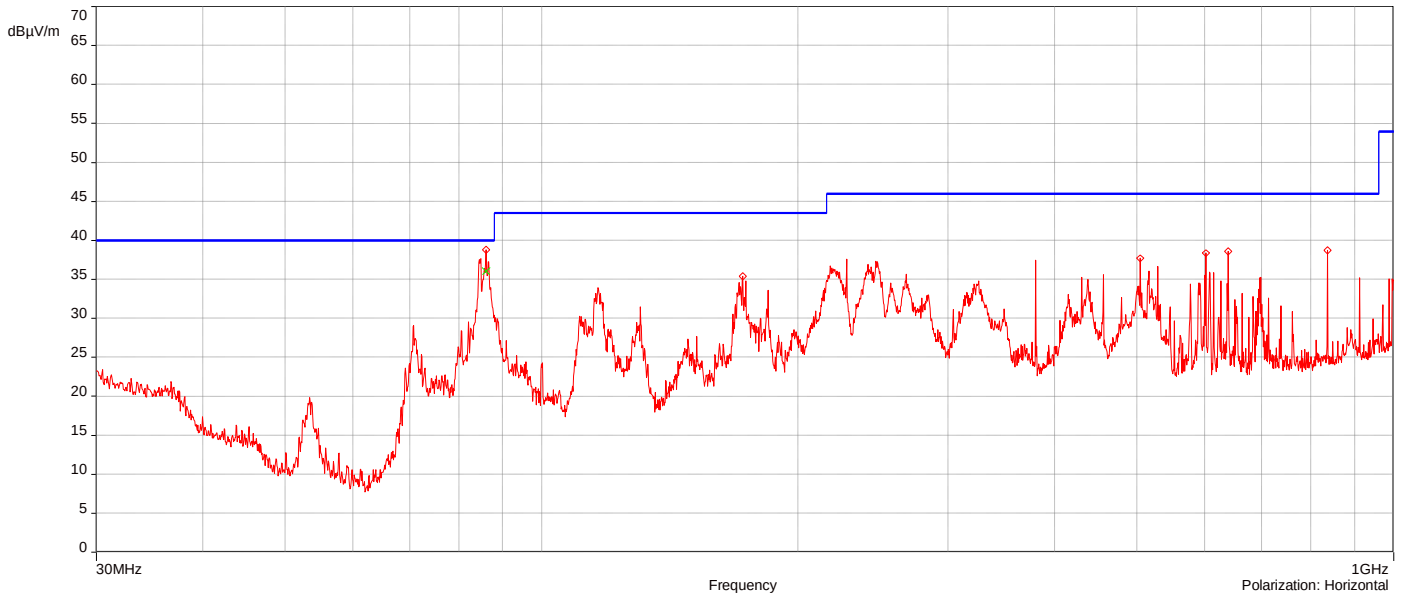

dBµV/m
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30MHz
Frequency
1GHz
Polarization: Vertical

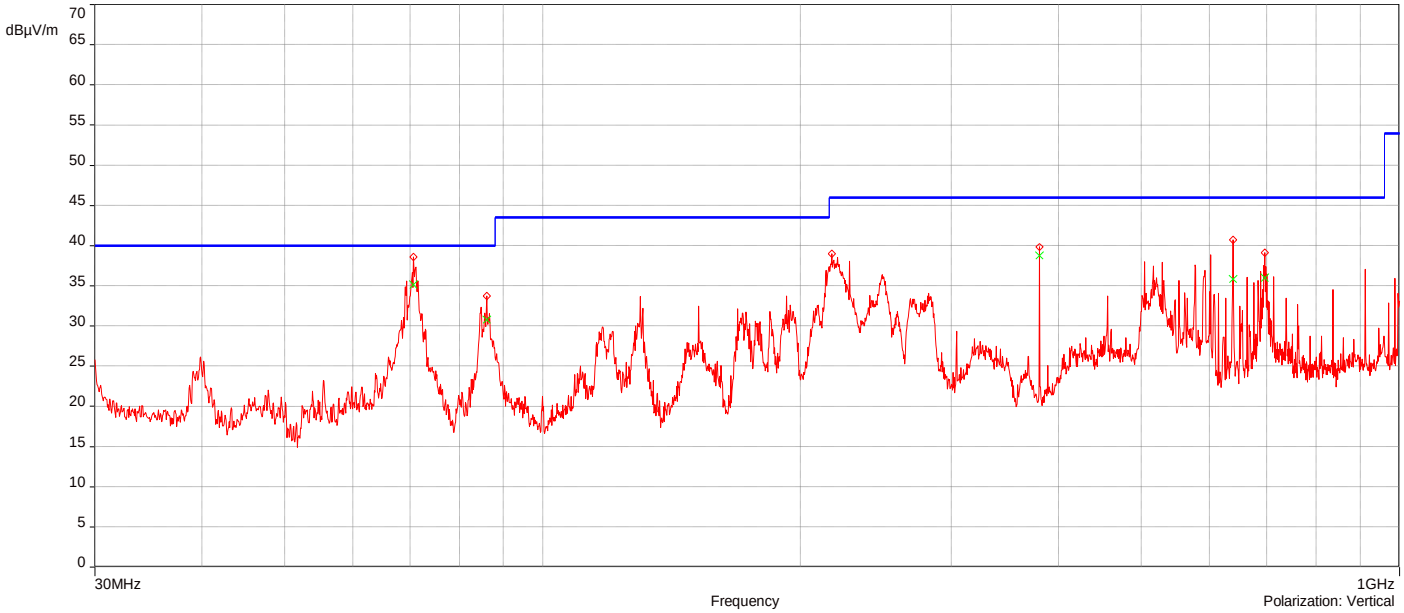
J24179#1_5G UNII-3 802.11a_MCS0_Ch 165_20MHz_30MHz-1GHz

12/23/2024 12:54:20

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	70.628272MHz	35.11	-18.04	40.00	-4.89	1.25	164.90	Vertical	Passed
2.	85.977999MHz	30.83	-16.39	40.00	-9.17	1.00	282.90	Vertical	Passed
3.	380.01941MHz	38.83	-12.65	46.00	-7.17	1.25	16.10	Vertical	Passed
4.	639.02465MHz	35.87	-8.11	46.00	-10.13	1.50	54.10	Vertical	Passed
5.	696.08683MHz	35.99	-7.37	46.00	-10.01	1.00	44.10	Vertical	Passed
6.	85.977999MHz	36.09	-16.49	40.00	-3.91	3.75	8.10	Horizontal	Passed

Overall Graphs:



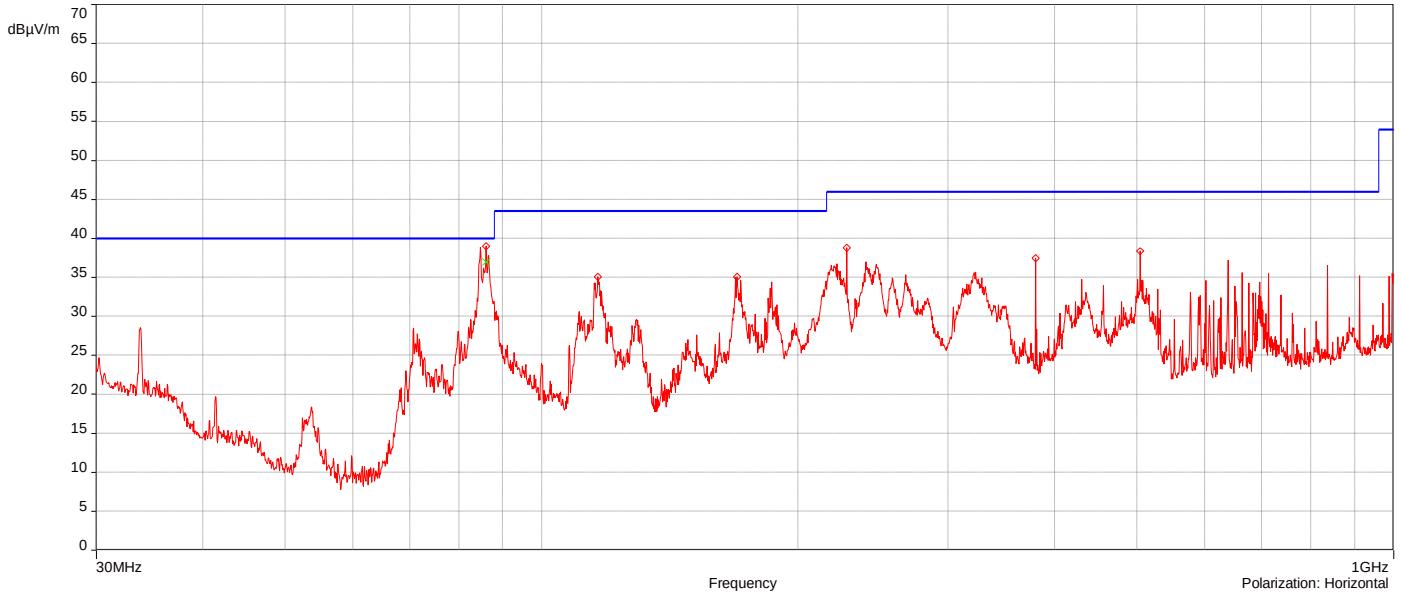

dBµV/m
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30MHz
Frequency
1GHz
Polarization: Vertical

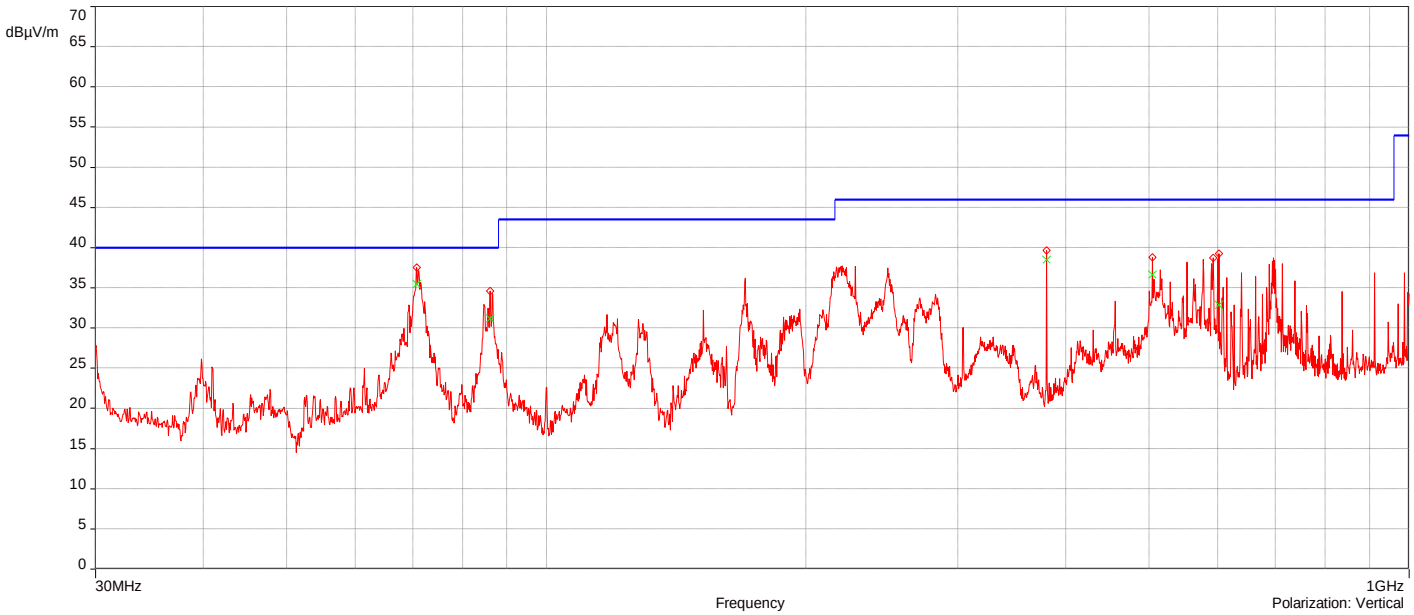
J24179#1_5G UNII-3 802.11n_MCS0_Ch 165_20MHz_30MHz-1GHz

12/23/2024 13:35:04

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	70.685334MHz	35.44	-18.02	40.00	-4.56	1.25	192.10	Vertical	Passed
2.	85.977999MHz	31.23	-16.39	40.00	-8.77	2.50	91.10	Vertical	Passed
3.	380.01941MHz	38.51	-12.65	46.00	-7.49	1.50	0.10	Vertical	Passed
4.	503.84434MHz	36.68	-9.91	46.00	-9.32	1.25	346.90	Vertical	Passed
5.	602.16248MHz	32.85	-8.37	46.00	-13.15	1.00	18.90	Vertical	Passed
6.	86.035061MHz	37.00	-16.48	40.00	-3.00	3.75	353.90	Horizontal	Passed

Overall Graphs:



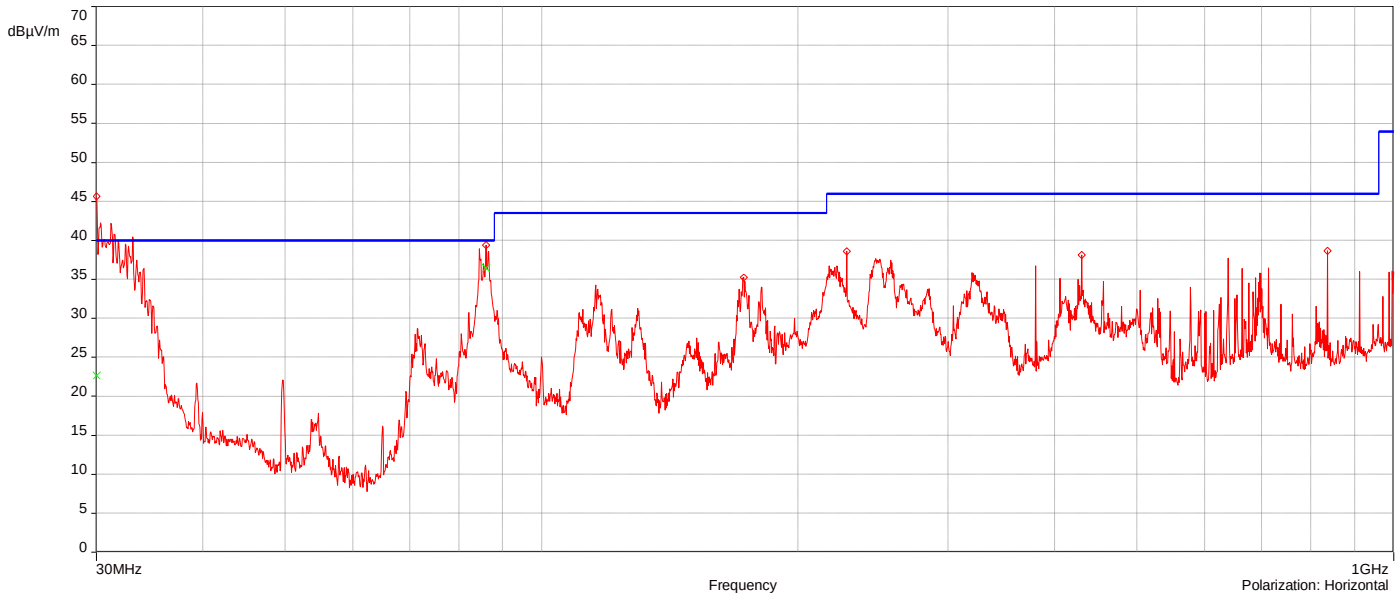

dBµV/m
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30MHz
Frequency
1GHz
Polarization: Vertical

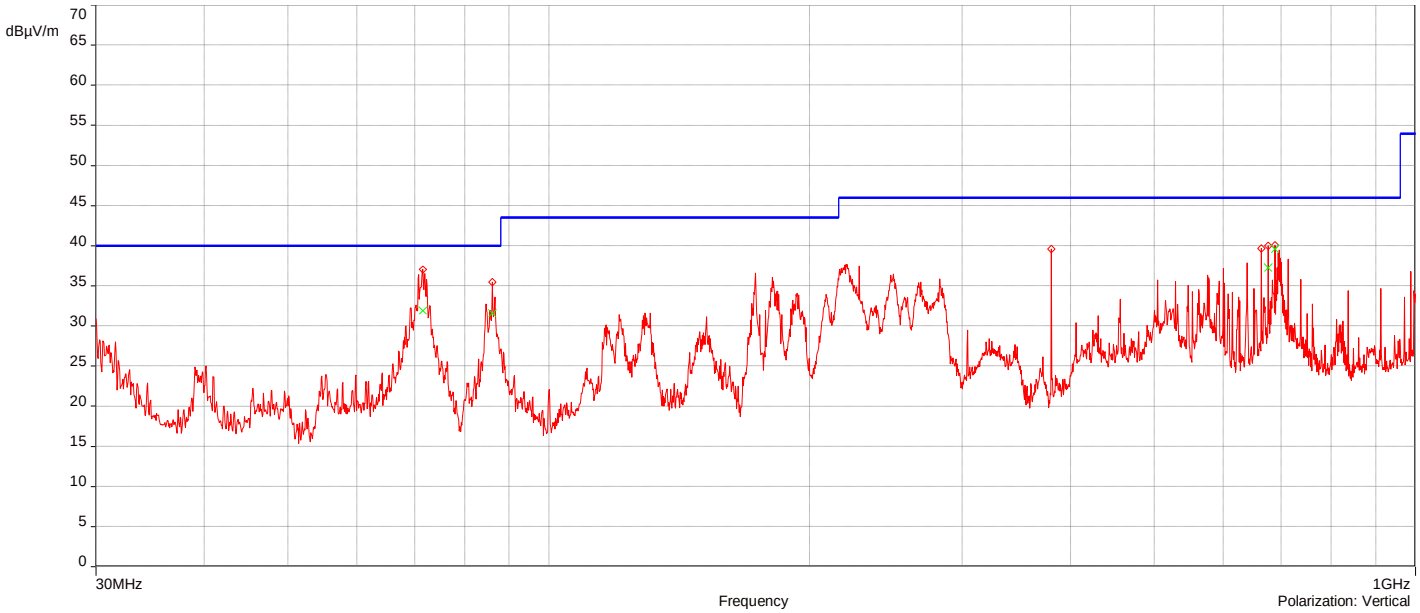
J24179#1_5G UNII-3 802.11ac_MCS0_Ch 151_40MHz_30MHz-1GHz

12/23/2024 14:20:51

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	71.484205MHz	31.92	-17.85	40.00	-8.08	1.00	244.10	Vertical	Passed
2.	85.977999MHz	31.64	-16.39	40.00	-8.36	2.75	108.10	Vertical	Passed
3.	675.88682MHz	37.27	-7.64	46.00	-8.73	1.00	29.10	Vertical	Passed
4.	688.09812MHz	39.60	-7.39	46.00	-6.40	1.00	38.10	Vertical	Passed
5.	30MHz	22.73	-4.10	40.00	-17.27	1.25	358.90	Horizontal	Passed
6.	85.977999MHz	36.47	-16.49	40.00	-3.53	3.50	6.10	Horizontal	Passed

Overall Graphs:



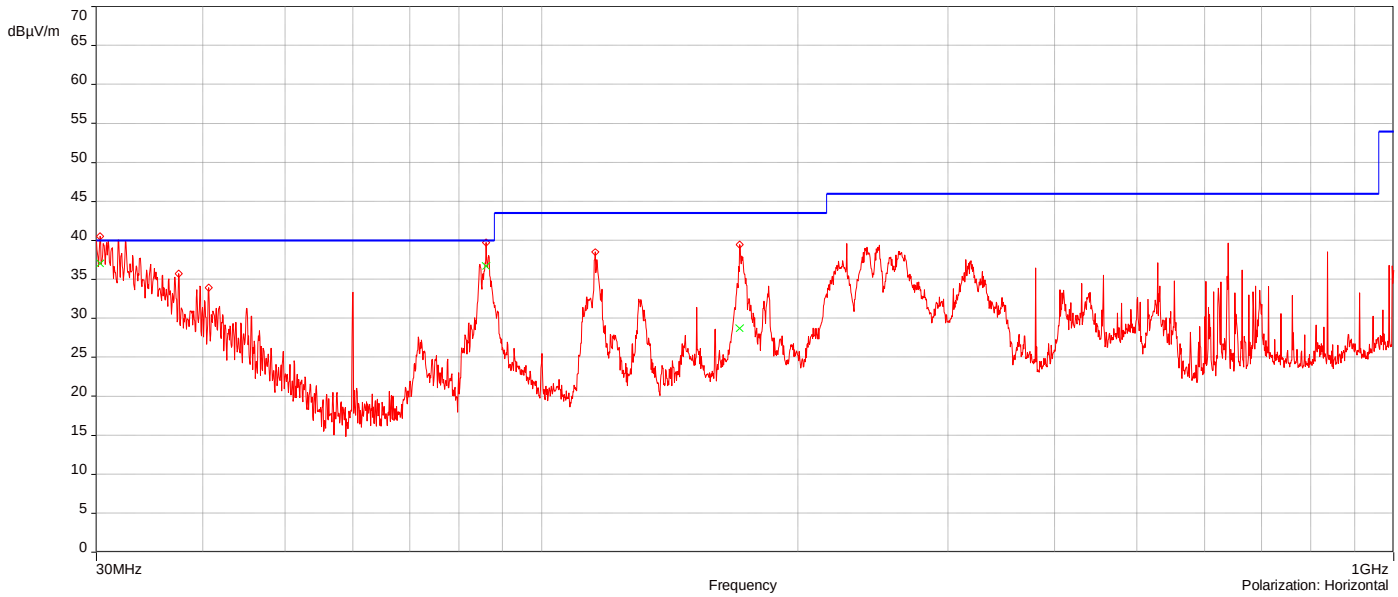

dBµV/m
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30MHz
Frequency
1GHz
Polarization: Vertical

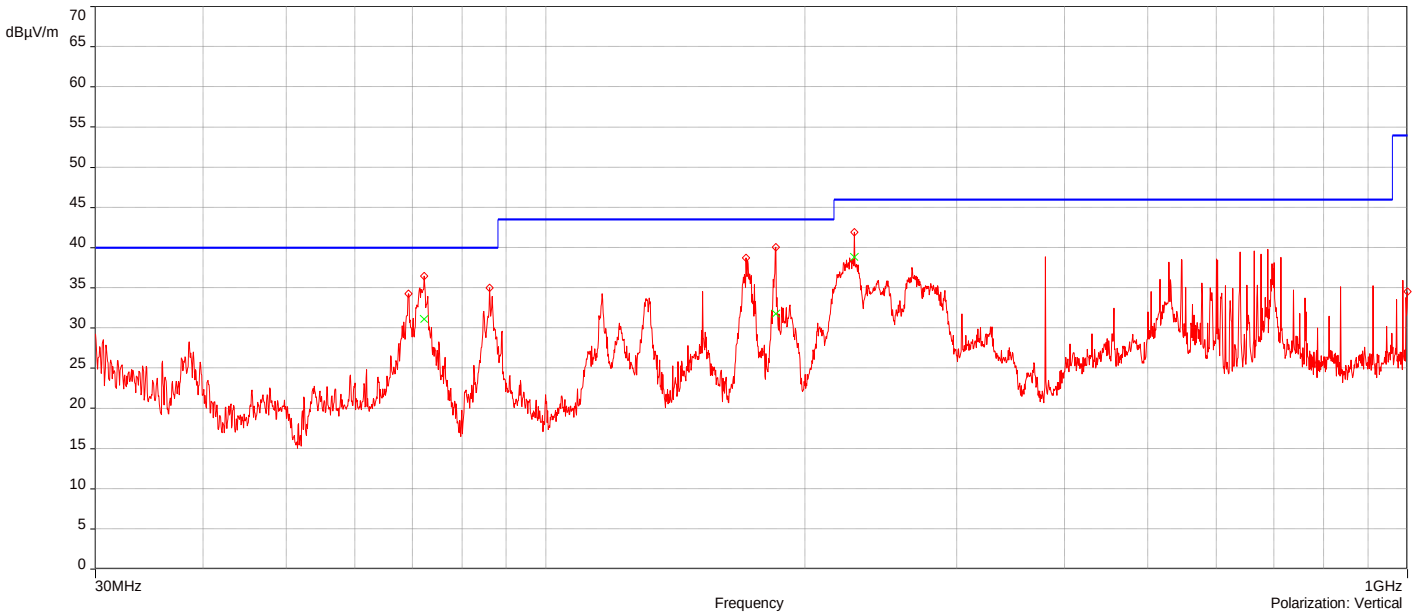
J24179#1_5G UNII-3 802.11ac_MCS0_Ch 155_80MHz_30MHz-1GHz

12/26/2024 14:39:54

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	72.226013MHz	31.17	-17.68	40.00	-8.83	1.50	358.90	Vertical	Passed
2.	184.75263MHz	31.79	-17.85	43.50	-11.71	1.00	30.10	Vertical	Passed
3.	228.00576MHz	38.86	-16.81	46.00	-7.14	2.25	146.10	Vertical	Passed
4.	30.285311MHz	37.07	-4.30	40.00	-2.93	1.00	358.90	Horizontal	Passed
5.	85.977999MHz	36.76	-16.49	40.00	-3.24	3.75	358.90	Horizontal	Passed
6.	170.7724MHz	28.78	-17.56	43.50	-14.72	1.75	358.90	Horizontal	Passed

Overall Graphs:




dBµV/m
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30MHz
Frequency
1GHz
Polarization: Vertical

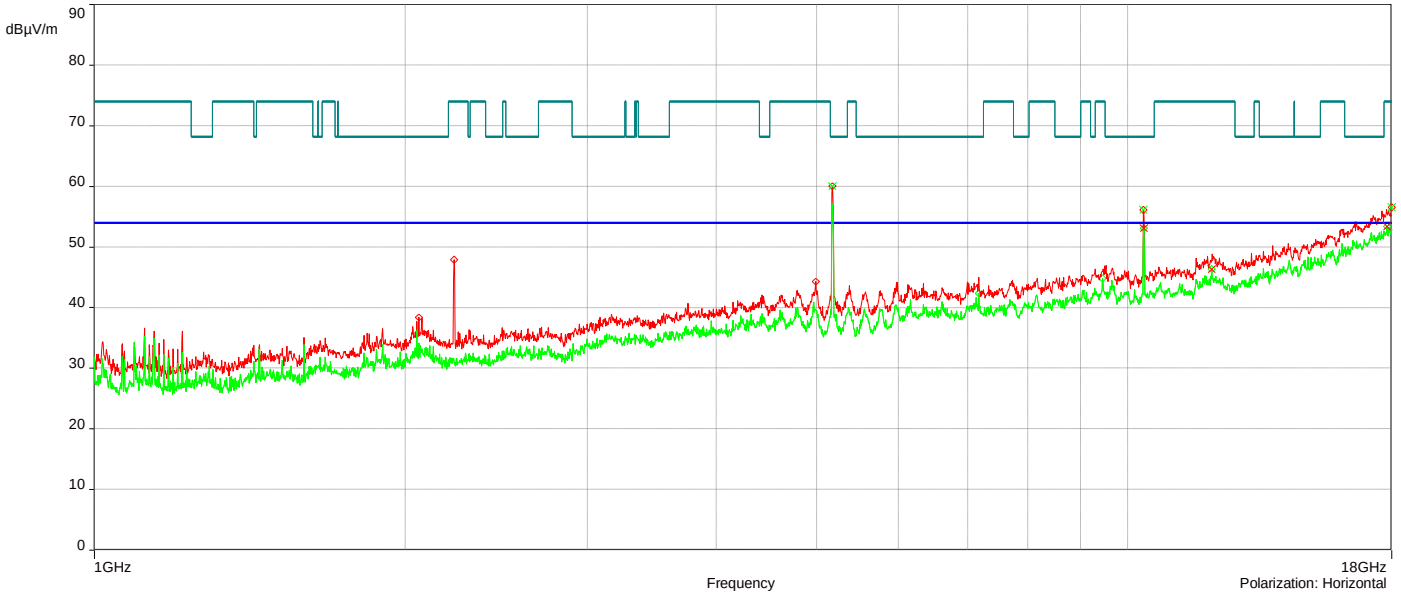
J24179#1_5G UNII-1 802.11a_6Mbps_20MHz_Ch 36_1-18GHz

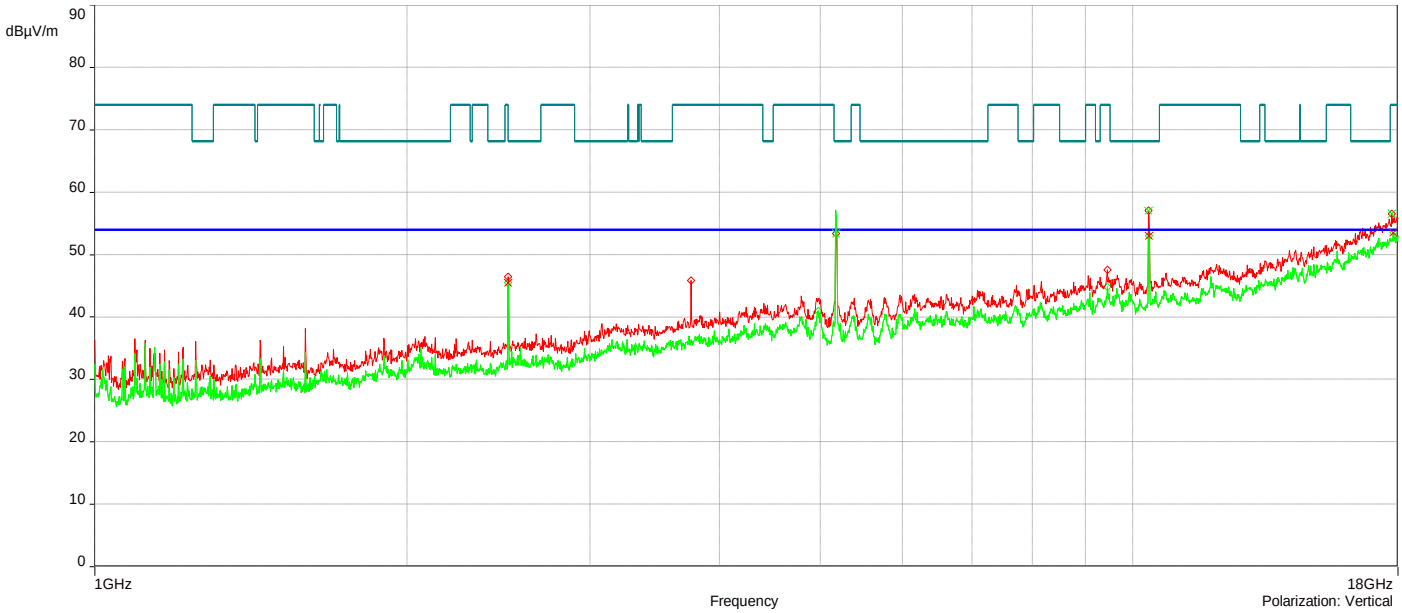
12/10/2024 18:37:48

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1756228GHz	53.37	6.60	68.23	-14.86	1.00	130.00	Vertical	Passed
2.	10.354275GHz	57.09	10.37	68.23	-11.14	1.00	43.90	Vertical	Passed
3.	17.745993GHz	56.53	21.18	74.00	-17.47	4.00	97.80	Vertical	Passed
4.	5.1771229GHz	60.04	6.61	68.23	-8.19	1.50	359.90	Horizontal	Passed
5.	10.353275GHz	56.16	10.39	68.23	-12.07	1.50	14.40	Horizontal	Passed
6.	17.998GHz	56.58	22.74	74.00	-17.42	2.50	0.10	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	2.5020442GHz	45.50	-1.26	54.00	-8.50	3.00	359.90	Vertical	Passed
2.	10.360775GHz	46.42	10.48	54.00	-7.58	1.50	0.10	Vertical	Passed
3.	17.817495GHz	53.02	21.33	54.00	-0.98	4.00	359.90	Vertical	Passed
4.	10.360775GHz	48.69	10.50	54.00	-5.31	1.50	318.30	Horizontal	Passed
5.	12.049825GHz	46.35	12.79	54.00	-7.65	2.00	70.50	Horizontal	Passed
6.	17.811494GHz	53.05	21.32	54.00	-0.95	3.00	0.10	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

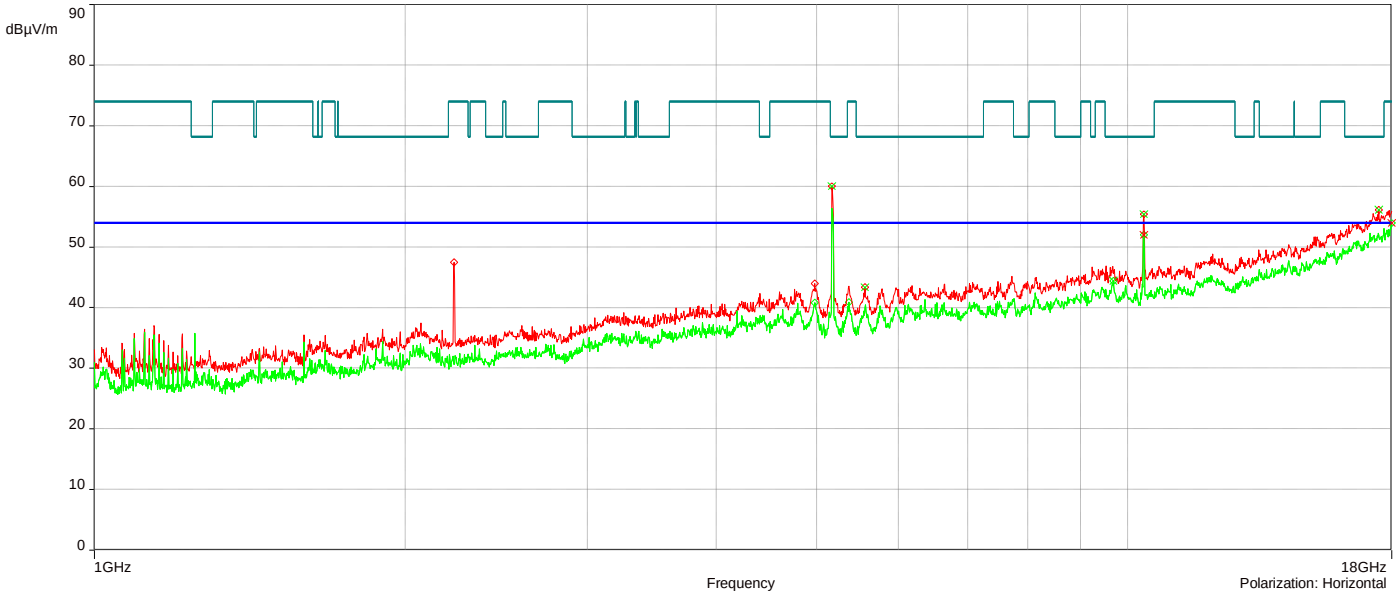
J24179#1_5G UNII-1 802.11n_MCS0_20MHz_Ch 36_1-18GHz

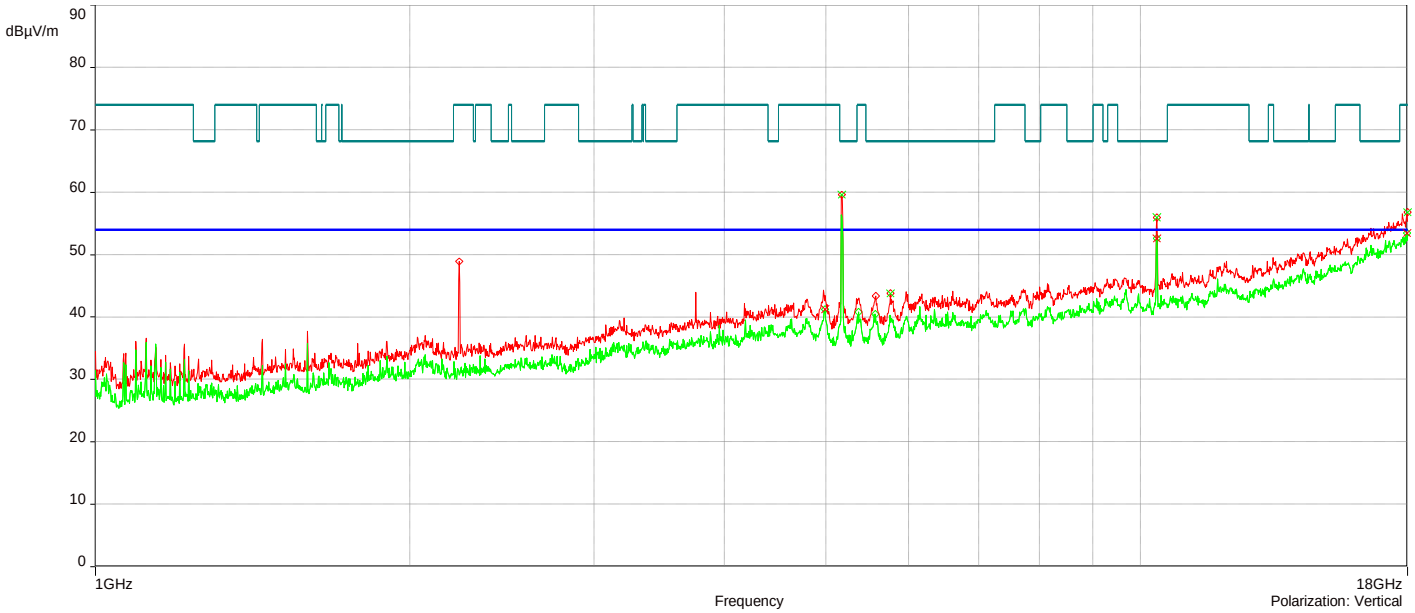
12/10/2024 17:37:14

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1771229GHz	59.62	6.60	68.23	-8.61	1.02	41.50	Vertical	Passed
2.	10.361275GHz	55.95	10.49	68.23	-12.28	3.50	33.30	Vertical	Passed
3.	17.992GHz	56.85	22.59	74.00	-17.15	2.50	196.60	Vertical	Passed
4.	5.1726227GHz	60.10	6.60	68.23	-8.13	1.50	40.90	Horizontal	Passed
5.	10.359275GHz	55.46	10.48	68.23	-12.77	1.02	314.80	Horizontal	Passed
6.	17.489485GHz	56.13	20.87	68.23	-12.10	3.50	138.80	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	4.9866173GHz	41.26	6.91	54.00	-12.74	2.50	314.70	Vertical	Passed
2.	10.361275GHz	48.66	10.49	54.00	-5.34	3.50	33.30	Vertical	Passed
3.	17.971499GHz	52.66	22.00	54.00	-1.34	1.02	173.40	Vertical	Passed
4.	9.6767552GHz	44.37	11.01	54.00	-9.63	3.00	0.00	Horizontal	Passed
5.	10.364775GHz	43.53	10.55	54.00	-10.47	1.50	330.60	Horizontal	Passed
6.	18GHz	53.56	22.80	54.00	-0.44	3.00	293.00	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

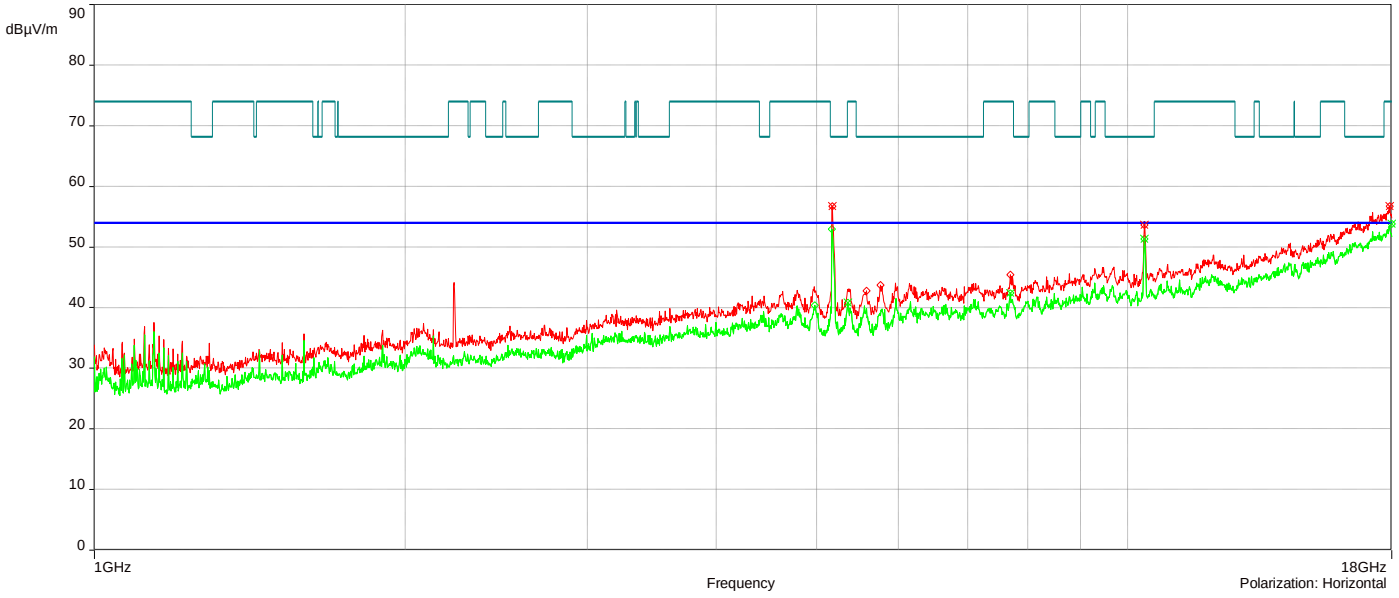
J24179#1_5G UNII-1 802.11ac_MCS0_40MHz_Ch 38_1-18GHz

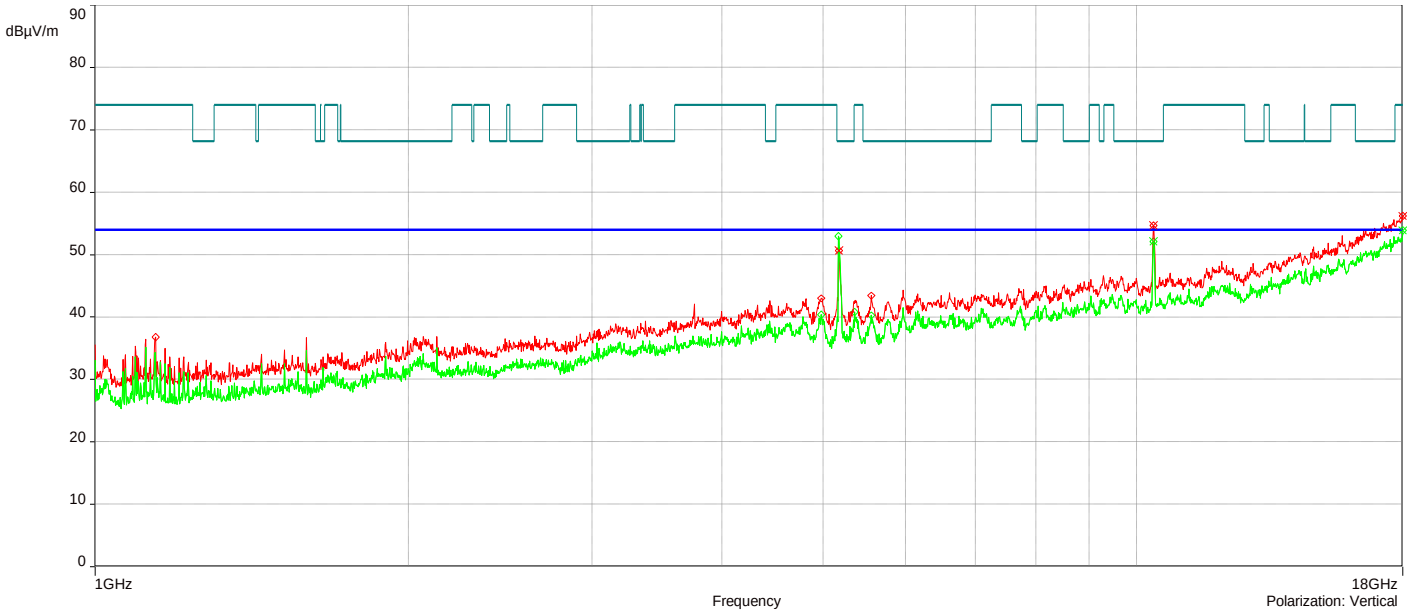
12/10/2024 19:09:42

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1756228GHz	50.63	6.60	68.23	-17.60	1.00	133.70	Vertical	Passed
2.	10.378276GHz	54.68	10.56	68.23	-13.55	3.00	52.40	Vertical	Passed
3.	18GHz	56.24	22.85	74.00	-17.76	1.50	232.90	Vertical	Passed
4.	5.1751228GHz	56.77	6.61	68.23	-11.46	1.00	45.20	Horizontal	Passed
5.	10.376276GHz	53.63	10.55	68.23	-14.60	1.50	12.50	Horizontal	Passed
6.	17.926498GHz	56.69	21.38	74.00	-17.31	4.00	43.60	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	10.378276GHz	46.34	10.56	54.00	-7.66	3.00	52.40	Vertical	Passed
2.	17.9945GHz	53.75	22.67	54.00	-0.25	2.50	0.00	Vertical	Passed
3.	5.3581282GHz	40.84	6.76	54.00	-13.16	2.50	182.50	Horizontal	Passed
4.	7.6941969GHz	42.47	9.37	54.00	-11.53	4.00	170.60	Horizontal	Passed
5.	10.377776GHz	51.32	10.55	54.00	-2.68	3.00	0.00	Horizontal	Passed
6.	17.9945GHz	53.01	22.63	54.00	-0.99	2.50	288.50	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

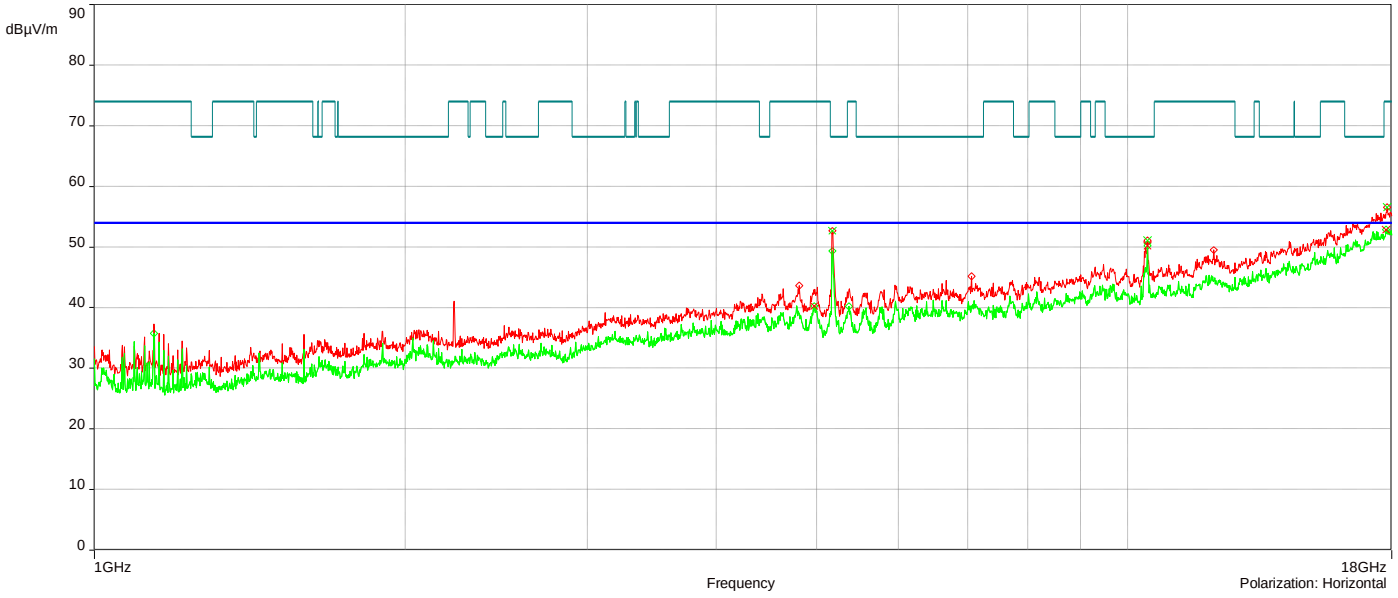
J24179#1_5G UNII-1 802.11ac_MCS0_80MHz_Ch 42_1-18GHz

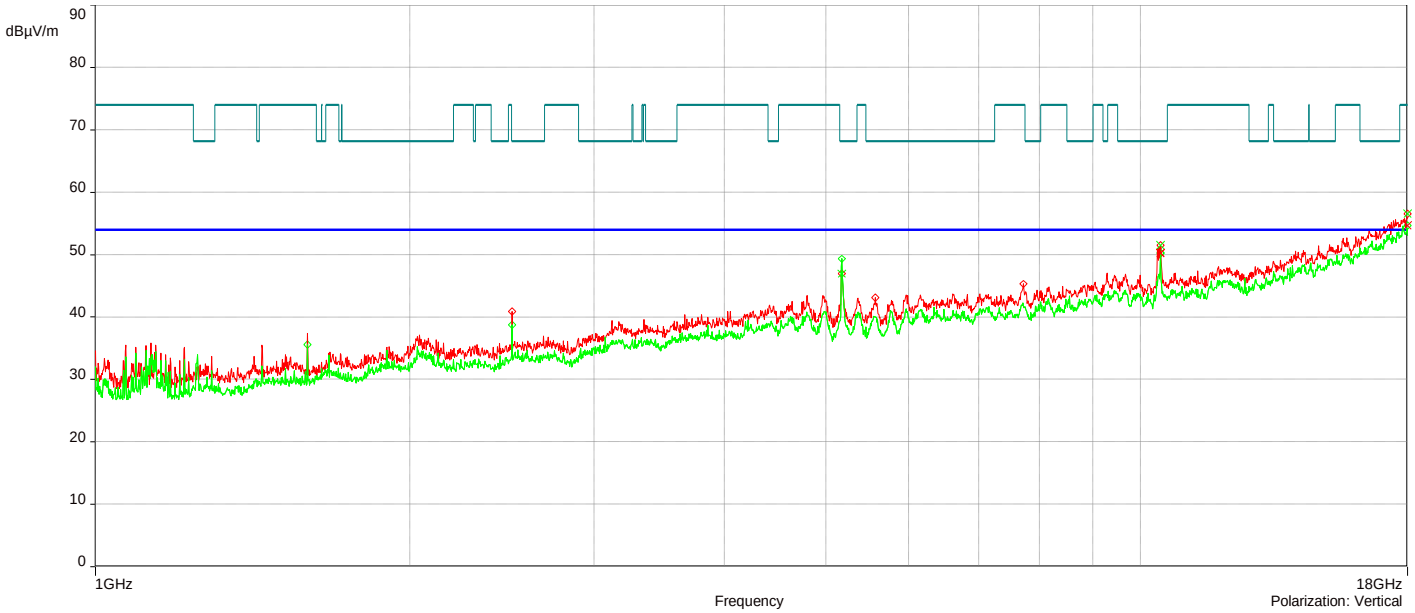
12/10/2024 21:23:17

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1766228GHz	46.97	6.60	68.23	-21.26	1.00	142.90	Vertical	Passed
2.	10.451278GHz	51.52	10.68	68.23	-16.71	1.50	9.80	Vertical	Passed
3.	17.995GHz	56.54	22.69	74.00	-17.46	1.00	314.90	Vertical	Passed
4.	5.1781229GHz	52.72	6.61	68.23	-15.51	1.00	21.00	Horizontal	Passed
5.	10.441278GHz	51.08	10.63	68.23	-17.15	1.50	22.60	Horizontal	Passed
6.	17.809494GHz	56.56	21.31	74.00	-17.44	1.50	6.50	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correctio n Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	10.441278GHz	50.30	10.67	54.00	-3.70	1.50	3.70	Vertical	Passed
2.	10.451278GHz	50.26	10.68	54.00	-3.74	1.50	9.80	Vertical	Passed
3.	17.99450GHz	53.14	22.67	54.00	-0.86	4.00	0.10	Vertical	Passed
4.	4.9706168GHz	40.34	6.97	54.00	-13.66	4.00	1.40	Horizontal	Passed
5.	10.441278GHz	50.21	10.63	54.00	-3.79	1.50	22.60	Horizontal	Passed
6.	17.773993GHz	52.26	21.18	54.00	-1.74	1.50	358.40	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

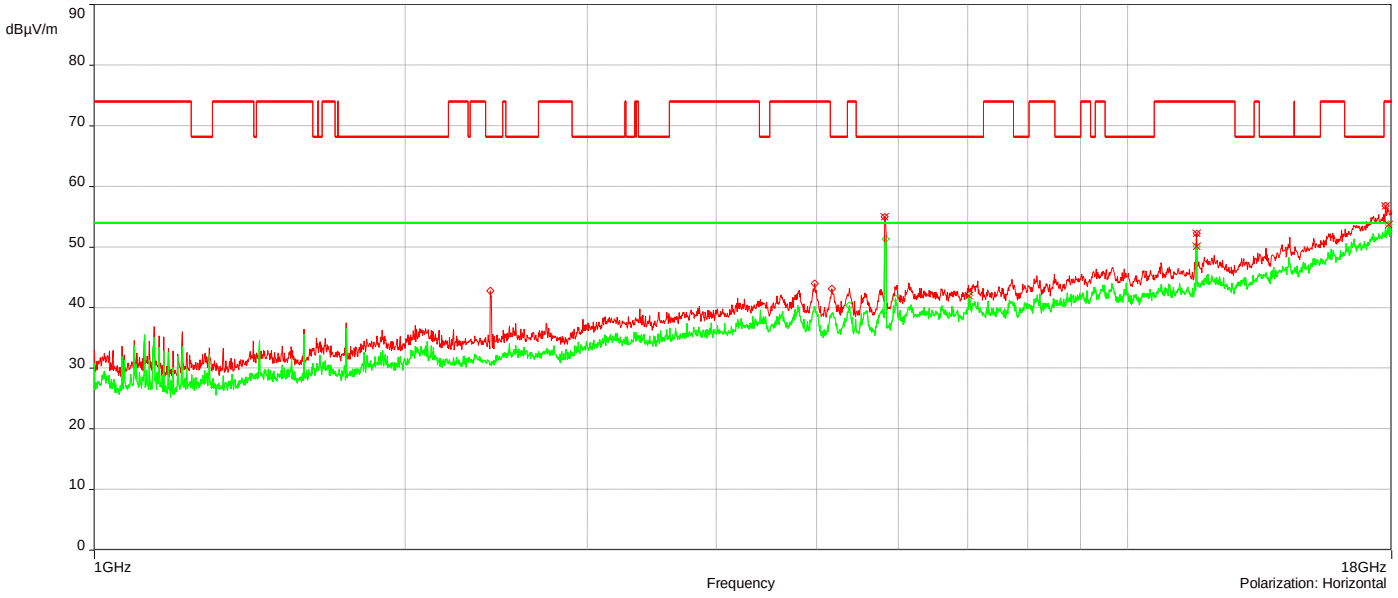
J24179#1_5G UNII-3 802.11a_6Mbps_20MHz_Ch 165_1-18GHz

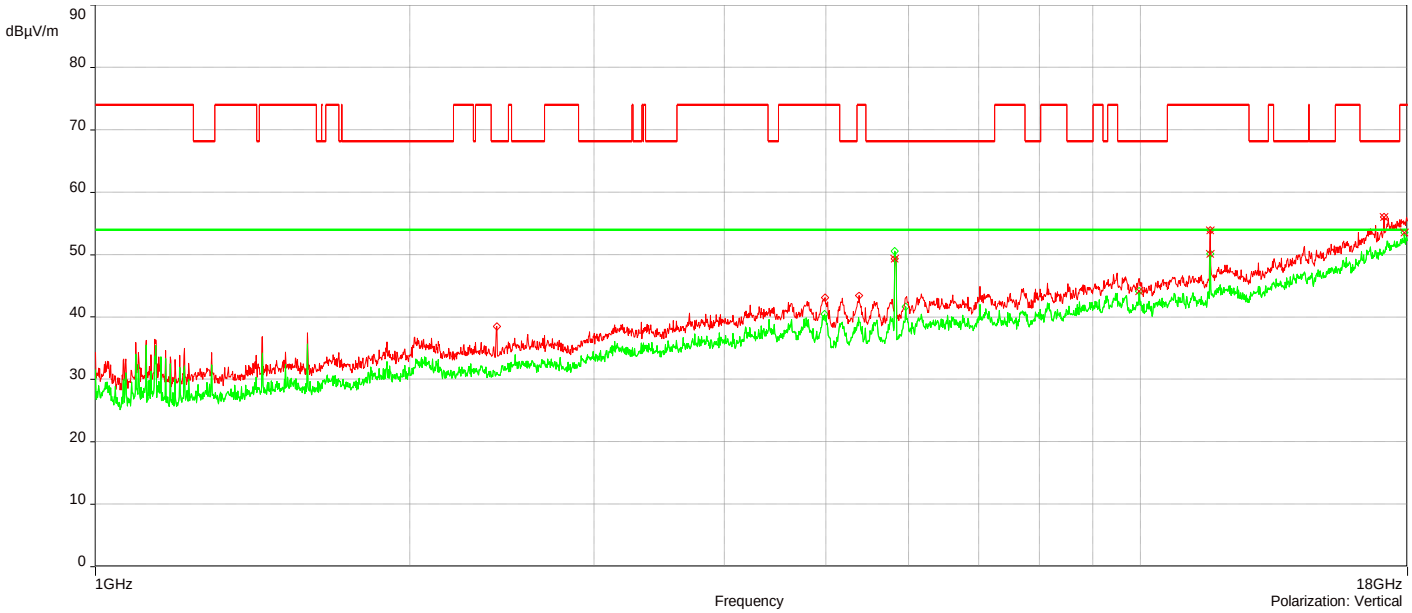
12/10/2024 21:59:19

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.8186417GHz	49.34	7.19	68.23	-18.89	1.00	126.20	Vertical	Passed
2.	11.654813GHz	53.92	12.23	74.00	-20.08	1.00	303.30	Vertical	Passed
3.	17.088473GHz	56.02	19.76	68.23	-12.21	3.50	160.90	Vertical	Passed
4.	5.8181417GHz	55.01	7.19	68.23	-13.22	1.00	38.70	Horizontal	Passed
5.	11.650313GHz	52.27	12.20	74.00	-21.73	1.50	319.50	Horizontal	Passed
6.	17.753993GHz	56.81	21.12	74.00	-17.19	3.00	307.50	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	9.9602635GHz	44.15	11.50	54.00	-9.85	3.00	221.80	Vertical	Passed
2.	11.653313GHz	50.15	12.21	54.00	-3.85	1.00	312.80	Vertical	Passed
3.	17.872996GHz	53.29	21.38	54.00	-0.71	1.50	359.90	Vertical	Passed
4.	7.0156769GHz	42.03	8.22	54.00	-11.97	3.00	0.00	Horizontal	Passed
5.	11.653313GHz	50.18	12.24	54.00	-3.82	1.00	359.90	Horizontal	Passed
6.	17.872996GHz	53.16	21.49	54.00	-0.84	1.50	243.50	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

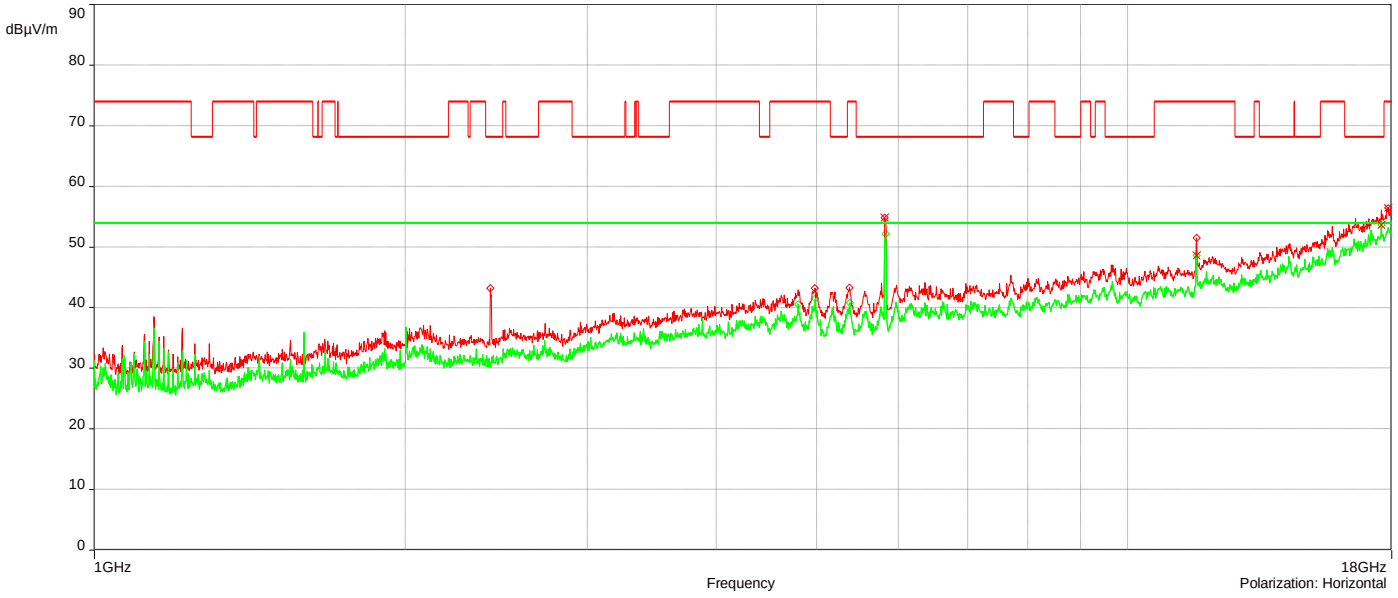
J24179#1_5G UNII-3 802.11n_MCS0_20MHz_Ch 165_1-18GHz

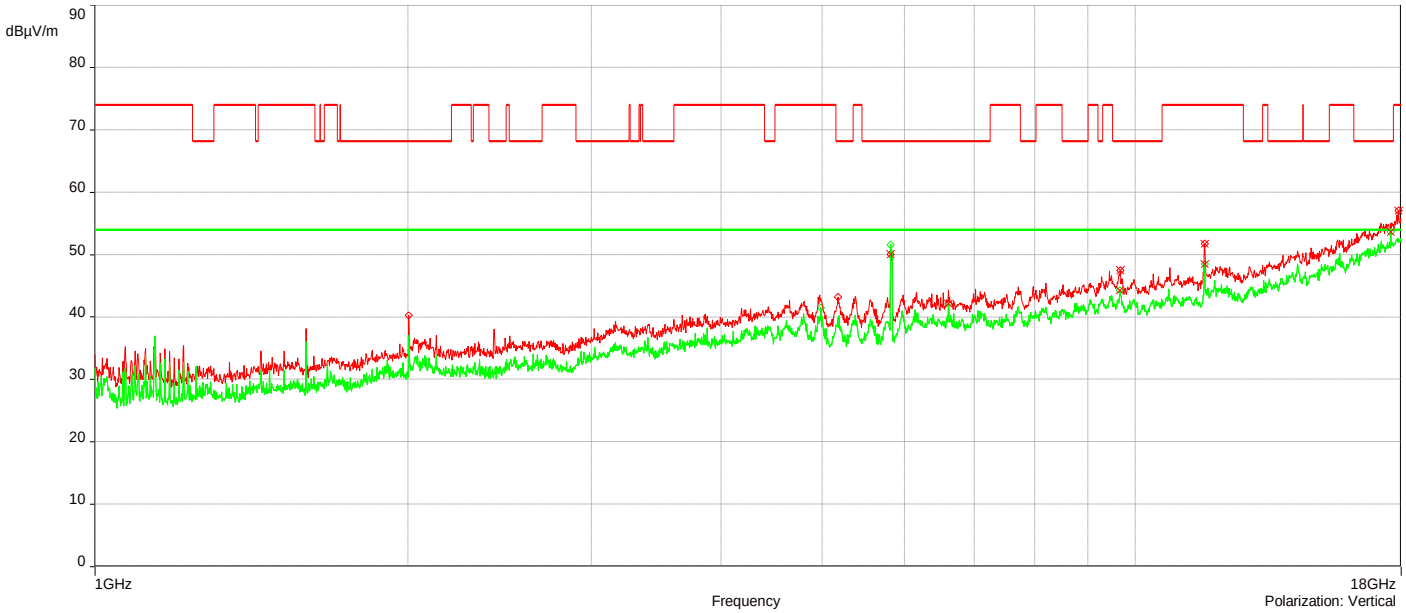
12/10/2024 22:30:23

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.8176417GHz	50.09	7.18	68.23	-18.14	1.50	346.20	Vertical	Passed
2.	9.6732551GHz	47.48	11.08	68.23	-20.75	2.50	22.50	Vertical	Passed
3.	11.651313GHz	51.78	12.18	74.00	-22.22	1.00	291.70	Vertical	Passed
4.	17.891997GHz	57.10	21.37	74.00	-16.90	3.50	111.80	Vertical	Passed
5.	5.8166417GHz	54.82	7.18	68.23	-13.41	1.50	33.10	Horizontal	Passed
6.	17.847996GHz	56.50	21.52	74.00	-17.50	4.00	128.60	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	6.6121651GHz	42.18	7.49	54.00	-11.82	2.50	108.20	Vertical	Passed
2.	9.6592547GHz	44.33	11.07	54.00	-9.67	1.00	300.90	Vertical	Passed
3.	11.654813GHz	48.56	12.23	54.00	-5.44	1.00	291.70	Vertical	Passed
4.	17.585488GHz	51.29	20.98	54.00	-2.71	3.50	0.00	Vertical	Passed
5.	11.654813GHz	48.59	12.26	54.00	-5.41	1.00	0.10	Horizontal	Passed
6.	17.585488GHz	51.21	20.98	54.00	-2.79	3.50	117.90	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

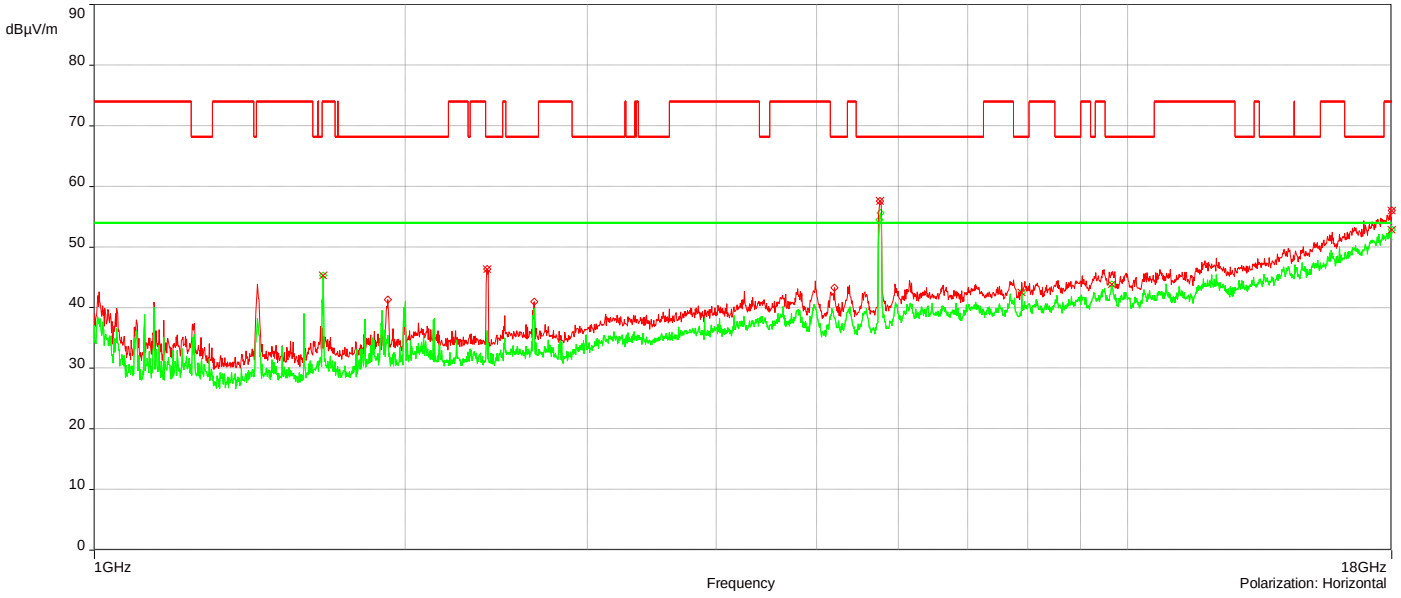
J24179#1_5G UNII-3 802.11ac_MCS0_40MHz_Ch 151_1-18GHz

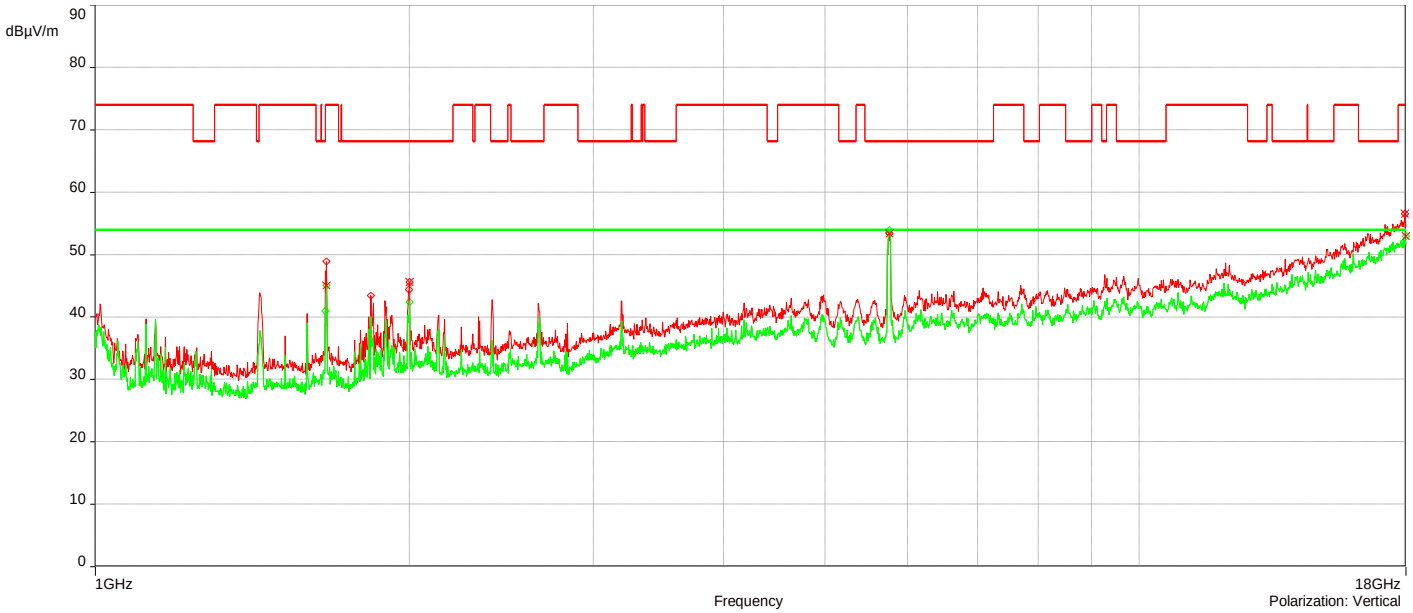
12/11/2024 10:42:49

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	1.9990294GHz	45.65	-2.41	68.23	-22.58	3.50	271.30	Vertical	Passed
2.	5.76114GHz	53.38	6.95	68.23	-14.85	1.00	161.50	Vertical	Passed
3.	17.958499GHz	56.56	21.68	74.00	-17.44	1.00	224.80	Vertical	Passed
4.	2.4000412GHz	46.40	-1.87	68.23	-21.83	1.00	359.90	Horizontal	Passed
5.	5.7571399GHz	57.61	6.90	68.23	-10.62	1.00	31.90	Horizontal	Passed
6.	17.9935GHz	56.03	22.60	74.00	-17.97	3.00	243.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	1.6645195GHz	45.09	-5.01	54.00	-8.91	3.00	292.60	Vertical	Passed
2.	17.9985GHz	52.92	22.80	54.00	-1.08	1.50	359.90	Vertical	Passed
3.	1.6645195GHz	45.38	-4.72	54.00	-8.62	3.00	0.00	Horizontal	Passed
4.	7.8927027GHz	42.52	8.44	54.00	-11.48	2.00	81.90	Horizontal	Passed
5.	9.6492544GHz	43.86	10.93	54.00	-10.14	3.00	72.30	Horizontal	Passed
6.	17.9985GHz	52.88	22.76	54.00	-1.12	1.50	106.00	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

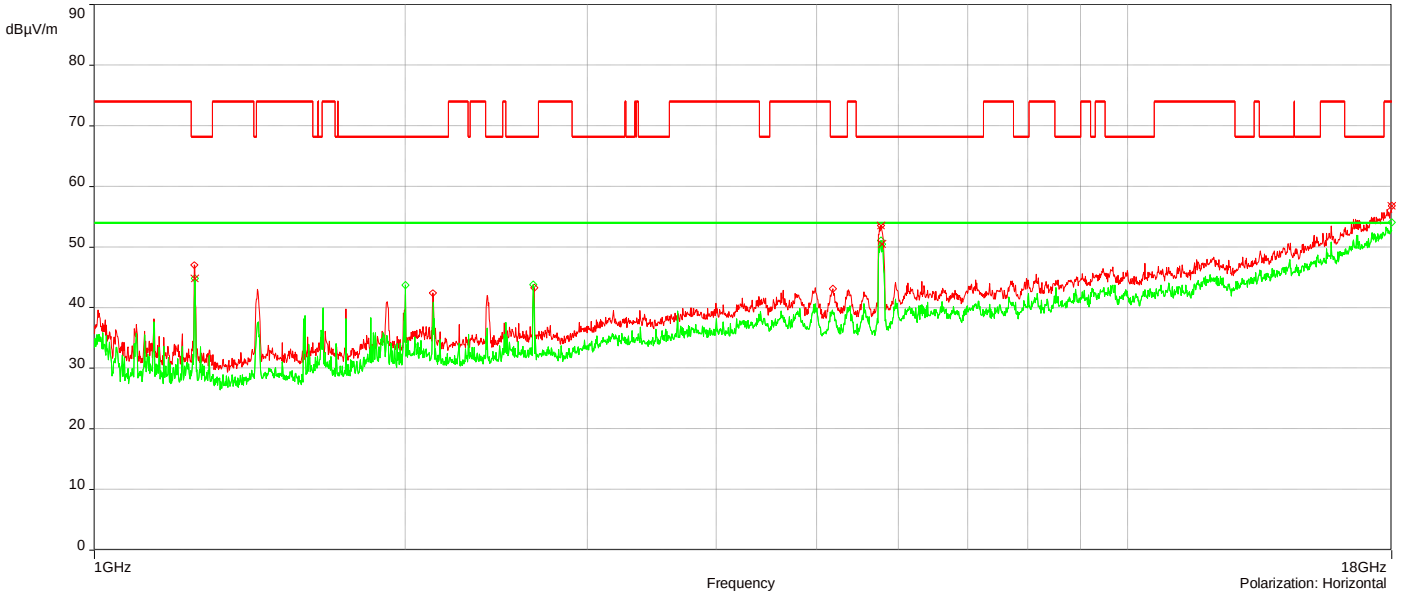
J24179#1_5G UNII-3 802.11ac_MCS0_80MHz_Ch 155_1-18GHz

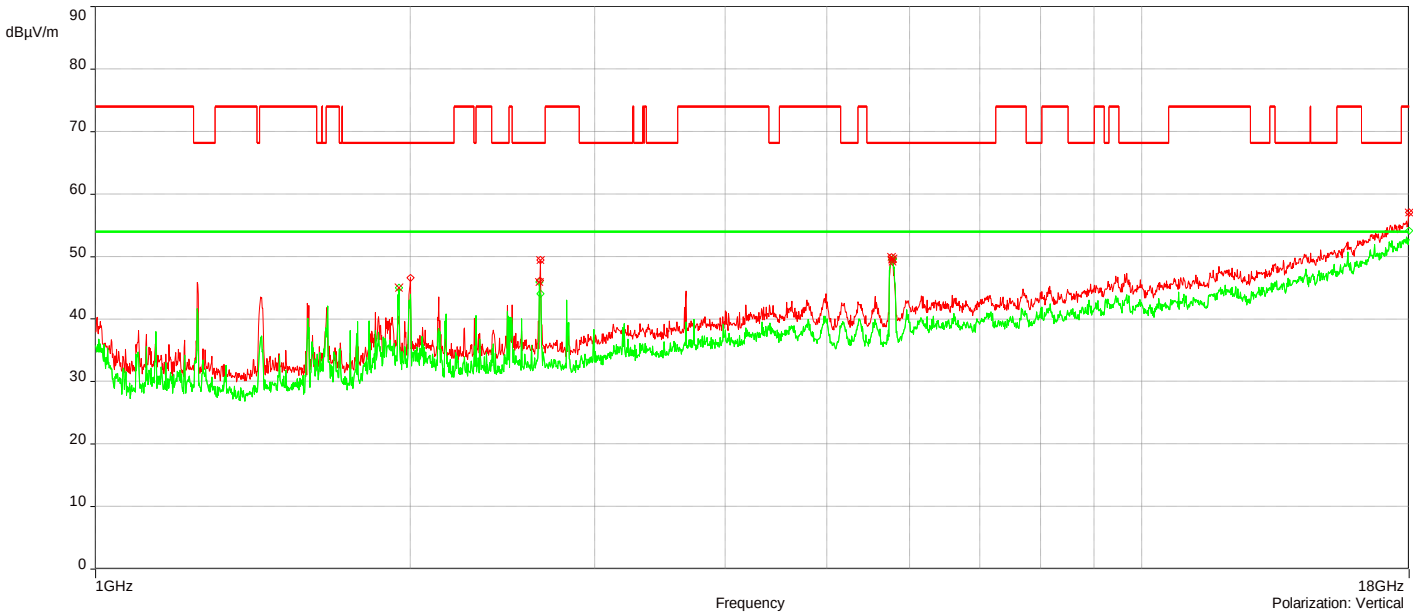
12/11/2024 11:18:29

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	2.6625489GHz	49.42	-0.37	68.23	-18.81	2.50	319.00	Vertical	Passed
2.	5.7651402GHz	50.01	6.96	68.23	-18.22	1.00	113.10	Vertical	Passed
3.	5.7761405GHz	49.18	6.99	68.23	-19.05	1.00	113.10	Vertical	Passed
4.	18GHz	57.09	22.85	74.00	-16.91	3.00	0.00	Vertical	Passed
5.	5.7716403GHz	53.55	6.95	68.23	-14.68	1.00	54.90	Horizontal	Passed
6.	17.9945GHz	56.82	22.63	74.00	-17.18	2.50	31.10	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	1.9485279GHz	45.00	-2.96	54.00	-9.00	1.00	359.90	Vertical	Passed
2.	2.6565487GHz	45.93	-0.33	54.00	-8.07	1.00	359.90	Vertical	Passed
3.	5.7706403GHz	49.51	6.98	54.00	-4.49	3.50	0.20	Vertical	Passed
4.	5.7791406GHz	49.62	7.00	54.00	-4.38	1.50	0.10	Vertical	Passed
5.	1.2505074GHz	44.82	-7.46	54.00	-9.18	3.00	32.10	Horizontal	Passed
6.	5.7836407GHz	50.47	6.99	54.00	-3.53	1.50	359.90	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

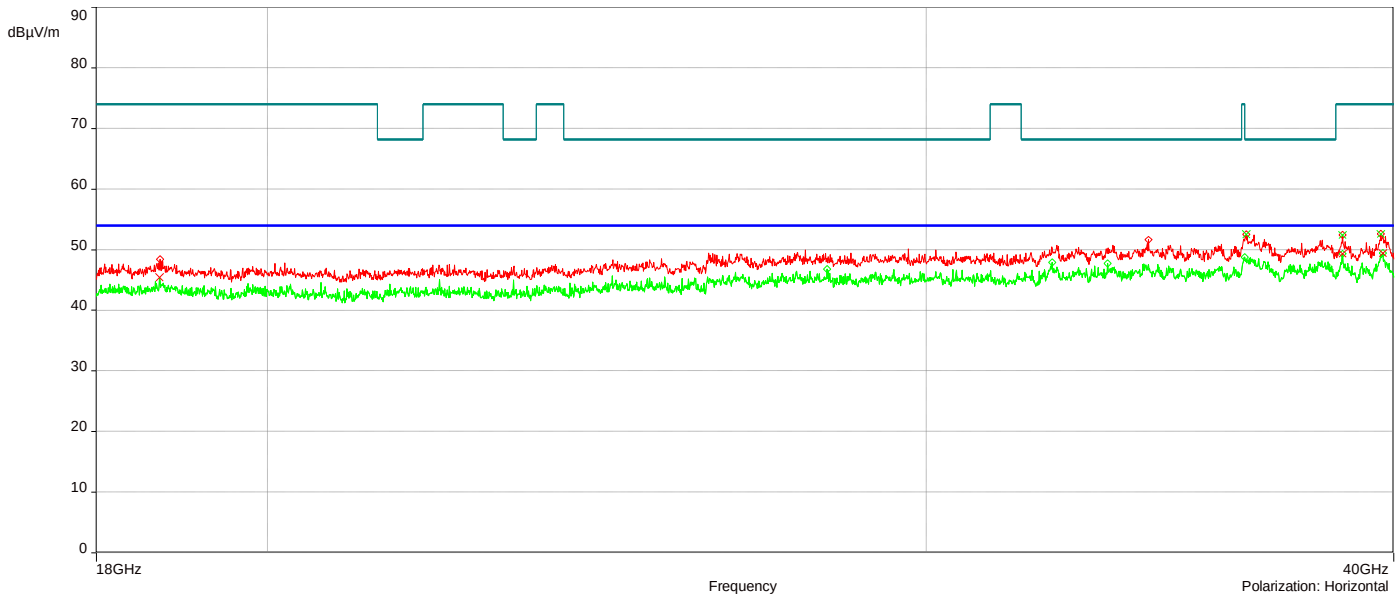
J24179#1_5G UNII-1 802.11n_MCS0_Ch 36_18-40GHz

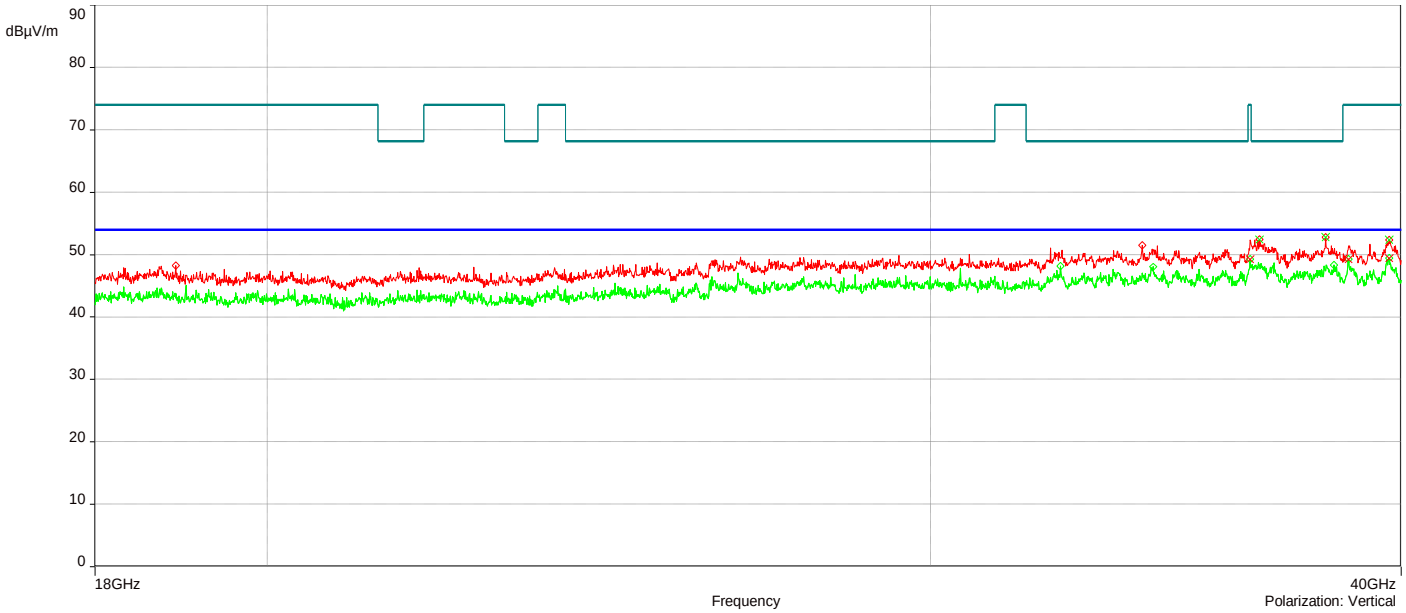
12/13/2024 19:56:30

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	36.675424GHz	52.43	3.49	68.23	-15.80	1.03	134.90	Vertical	Passed
2.	38.191959GHz	52.79	5.78	68.23	-15.44	1.21	224.90	Vertical	Passed
3.	39.703993GHz	52.33	6.71	74.00	-21.67	3.39	22.40	Vertical	Passed
4.	36.527921GHz	52.50	3.40	68.23	-15.73	4.00	337.40	Horizontal	Passed
5.	38.752472GHz	52.47	5.49	74.00	-21.53	3.21	224.90	Horizontal	Passed
6.	39.688493GHz	52.61	6.78	74.00	-21.39	1.64	314.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.47642GHz	49.25	3.83	54.00	-4.75	2.99	337.40	Vertical	Passed
2.	38.732471GHz	49.27	5.41	54.00	-4.73	3.11	224.90	Vertical	Passed
3.	39.705993GHz	49.48	6.72	54.00	-4.52	3.50	179.90	Vertical	Passed
4.	18.710516GHz	45.44	-0.29	54.00	-8.56	1.41	44.90	Horizontal	Passed
5.	38.752472GHz	49.33	5.49	54.00	-4.67	3.21	224.90	Horizontal	Passed
6.	39.732994GHz	49.47	6.68	54.00	-4.53	1.41	44.90	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

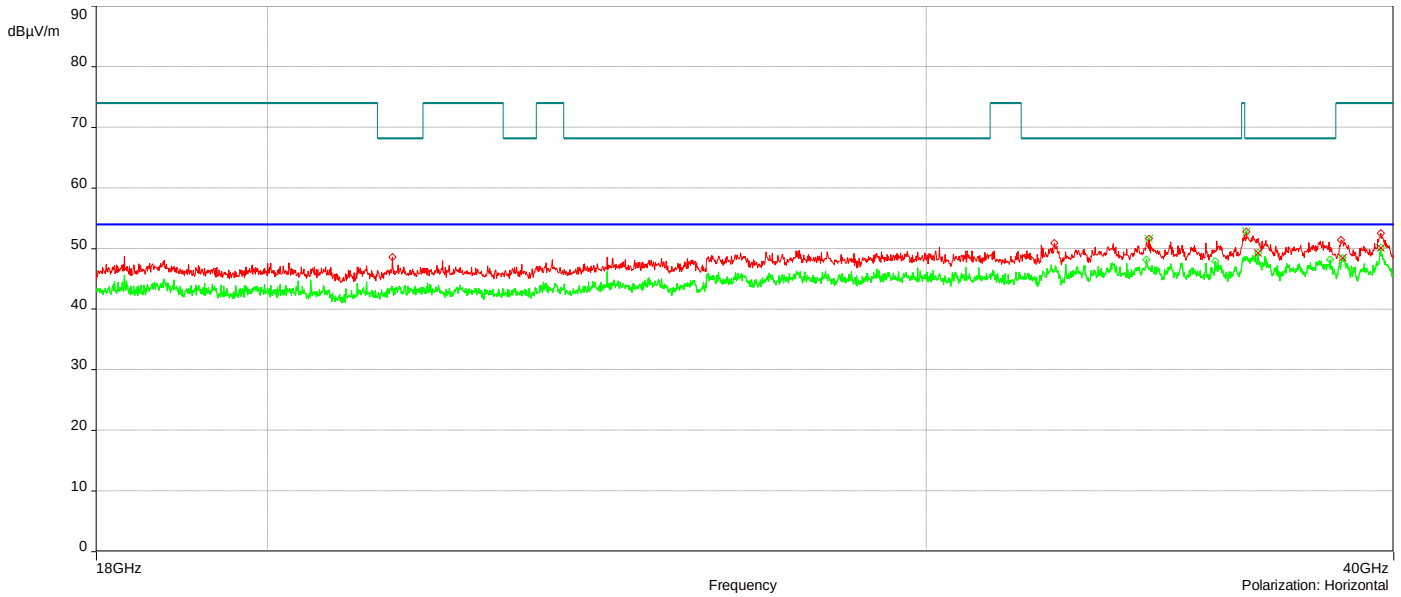
J24179#1_5G UNII-1 802.11ac_MCS0_Ch 38_40MHz_18-40GHz

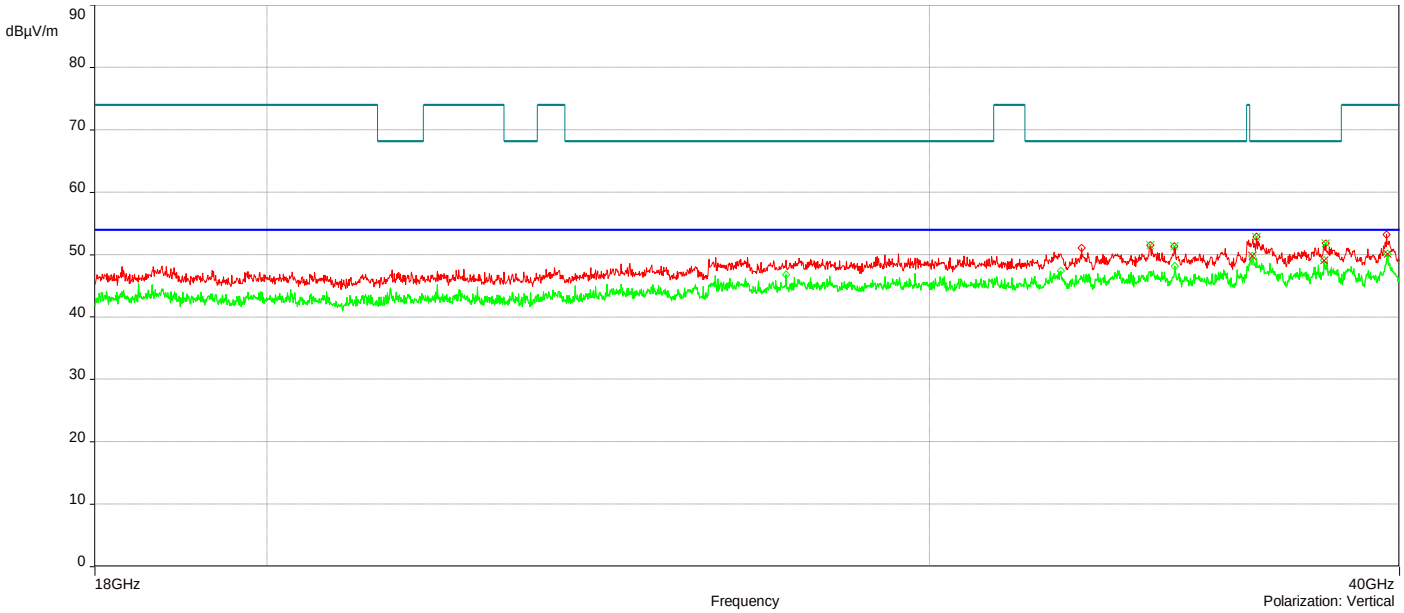
12/13/2024 20:27:34

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	34.335371GHz	51.47	6.37	68.23	-16.76	1.03	112.50	Vertical	Passed
2.	34.843883GHz	51.34	5.72	68.23	-16.89	1.09	315.10	Vertical	Passed
3.	36.644424GHz	52.86	3.35	68.23	-15.37	2.90	157.50	Vertical	Passed
4.	38.22946GHz	51.89	5.59	68.23	-16.34	3.23	337.40	Vertical	Passed
5.	34.406373GHz	51.69	6.20	68.23	-16.54	2.04	292.60	Horizontal	Passed
6.	36.523921GHz	52.83	3.42	68.23	-15.40	1.59	337.40	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.551422GHz	49.76	3.42	54.00	-4.24	2.62	135.20	Vertical	Passed
2.	38.200959GHz	49.08	5.93	54.00	-4.92	2.69	22.60	Vertical	Passed
3.	39.705493GHz	50.16	6.72	54.00	-3.84	3.44	202.60	Vertical	Passed
4.	36.795927GHz	49.27	4.11	54.00	-4.73	1.00	202.60	Horizontal	Passed
5.	38.755472GHz	48.52	5.44	54.00	-5.48	1.26	292.60	Horizontal	Passed
6.	39.689493GHz	50.17	6.77	54.00	-3.83	3.97	292.60	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

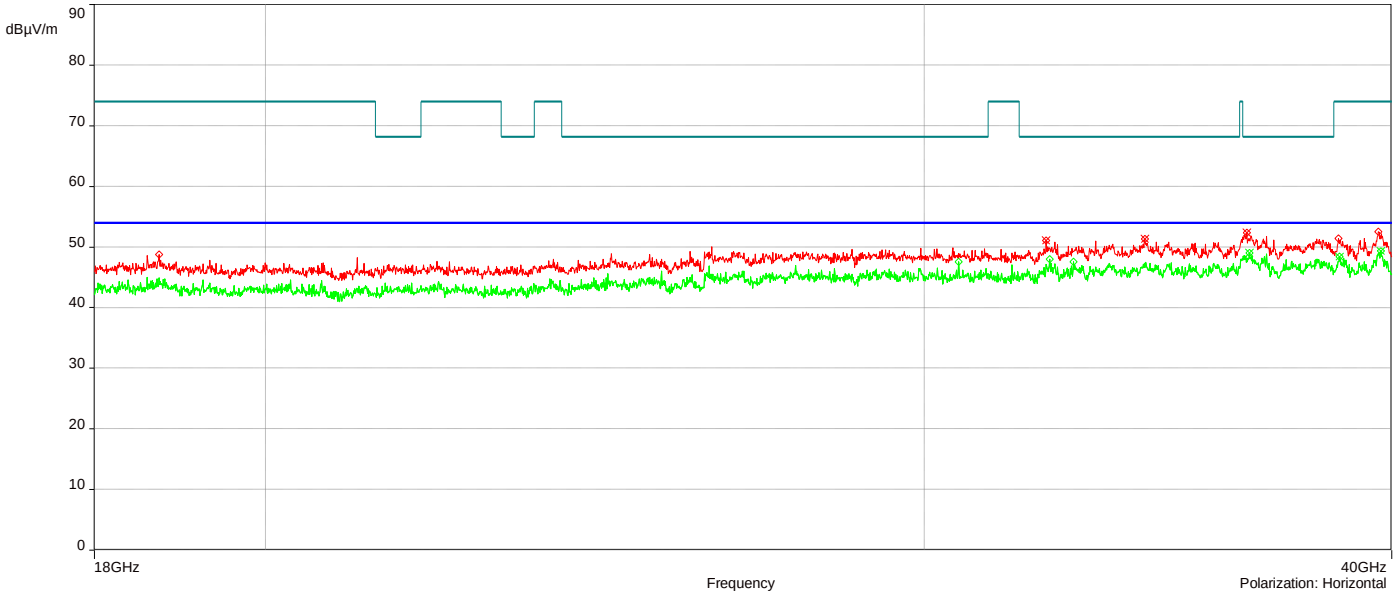
J24179#1_5G UNII-1 802.11ac_MCS0_Ch 42_80MHz_18-40GHz

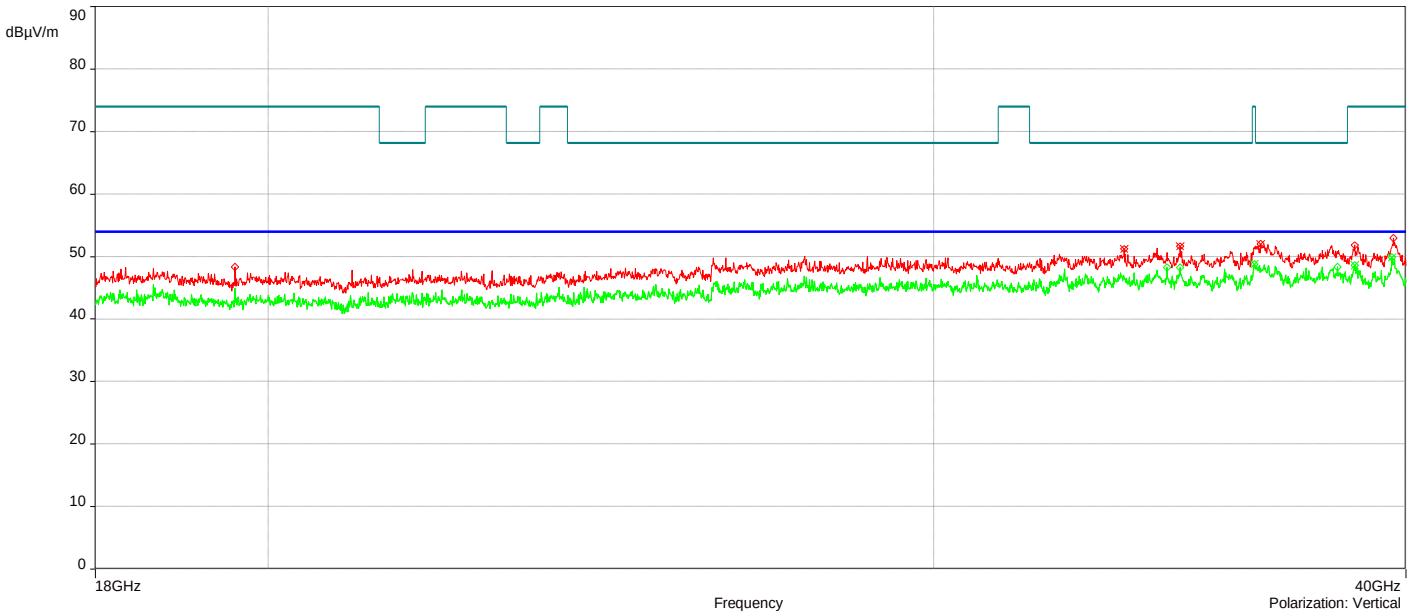
12/13/2024 20:58:30

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	33.692357GHz	51.29	6.31	68.23	-16.94	2.32	179.90	Vertical	Passed
2.	34.859383GHz	51.66	5.62	68.23	-16.57	2.32	179.90	Vertical	Passed
3.	36.609923GHz	52.01	3.18	68.23	-16.22	1.06	22.40	Vertical	Passed
4.	32.332326GHz	51.10	6.20	68.23	-17.13	3.82	247.40	Horizontal	Passed
5.	34.365872GHz	51.36	6.34	68.23	-16.87	2.72	157.40	Horizontal	Passed
6.	36.582422GHz	52.36	3.22	68.23	-15.87	3.59	314.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.46542GHz	48.81	3.81	54.00	-5.19	3.60	0.00	Vertical	Passed
2.	38.771472GHz	48.57	5.22	54.00	-5.43	1.03	134.90	Vertical	Passed
3.	39.658992GHz	49.87	6.45	54.00	-4.13	3.41	202.40	Vertical	Passed
4.	36.644924GHz	49.06	3.35	54.00	-4.94	1.03	247.40	Horizontal	Passed
5.	38.740471GHz	48.42	5.50	54.00	-5.58	2.53	157.40	Horizontal	Passed
6.	39.739494GHz	49.36	6.67	54.00	-4.64	3.00	134.90	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

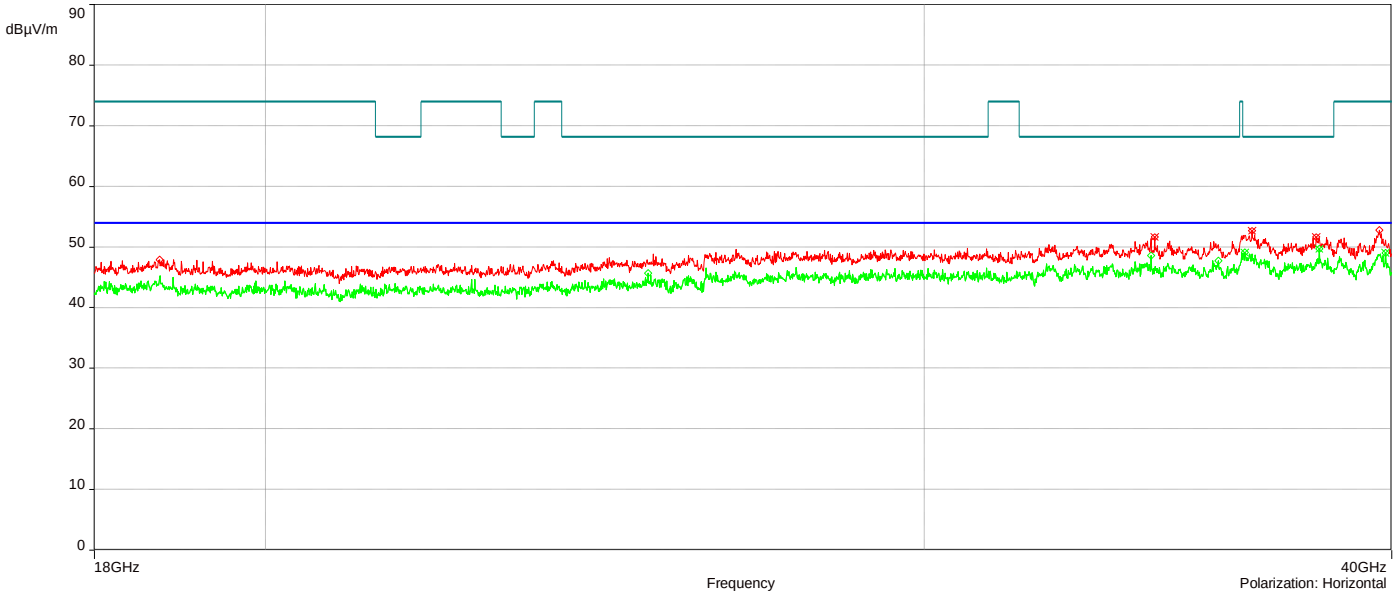
J24179#1_5G UNII-3 802.11n_MCS0_Ch 165_18-40GHz

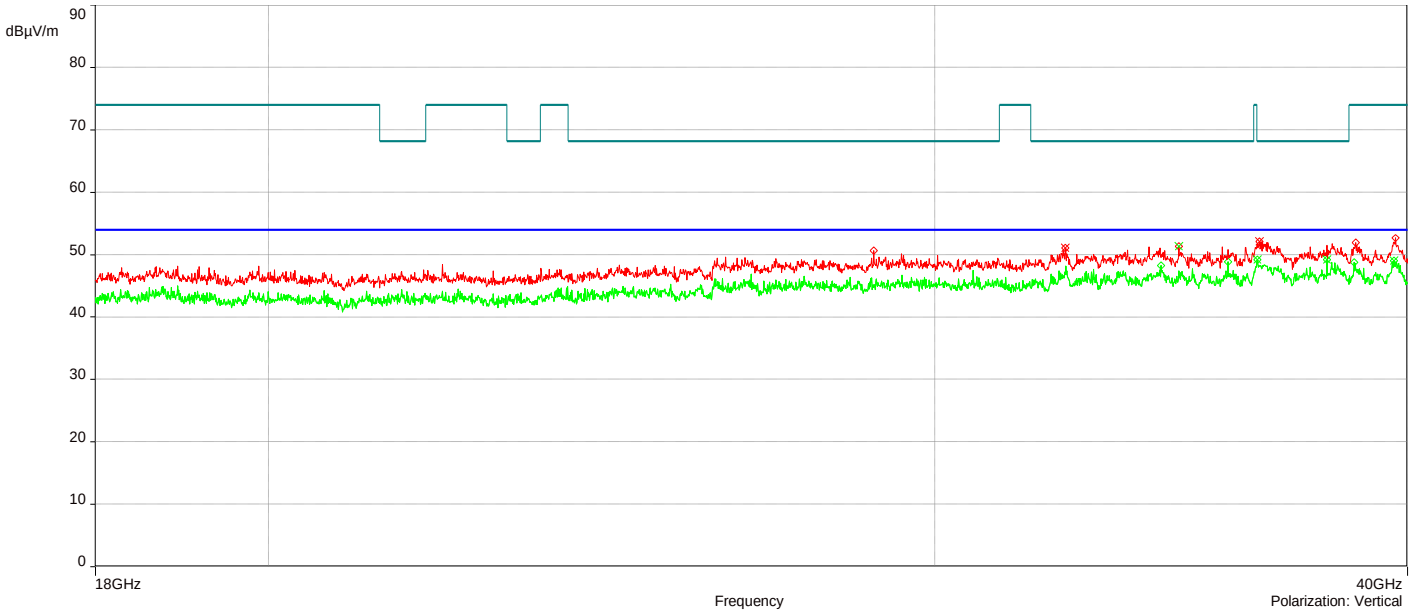
12/13/2024 21:22:57

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	32.475329GHz	51.12	6.20	68.23	-17.11	1.42	180.00	Vertical	Passed
2.	34.802882GHz	51.37	5.64	68.23	-16.86	2.44	0.00	Vertical	Passed
3.	36.549422GHz	52.14	3.43	68.23	-16.09	2.50	112.60	Vertical	Passed
4.	34.573377GHz	51.66	5.89	68.23	-16.57	2.32	135.00	Horizontal	Passed
5.	36.700925GHz	52.71	3.57	68.23	-15.52	1.03	180.00	Horizontal	Passed
6.	38.182459GHz	51.71	5.46	68.23	-16.52	2.82	112.60	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.507921GHz	49.18	3.67	54.00	-4.82	2.22	225.10	Vertical	Passed
2.	38.087457GHz	49.22	4.85	54.00	-4.78	1.29	45.20	Vertical	Passed
3.	39.668492GHz	49.04	6.58	54.00	-4.96	3.39	135.00	Vertical	Passed
4.	36.543921GHz	49.12	3.43	54.00	-4.88	1.68	67.50	Horizontal	Passed
5.	38.25446GHz	49.68	5.15	54.00	-4.32	1.48	22.60	Horizontal	Passed
6.	39.853997GHz	49.05	6.59	54.00	-4.95	1.87	22.60	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

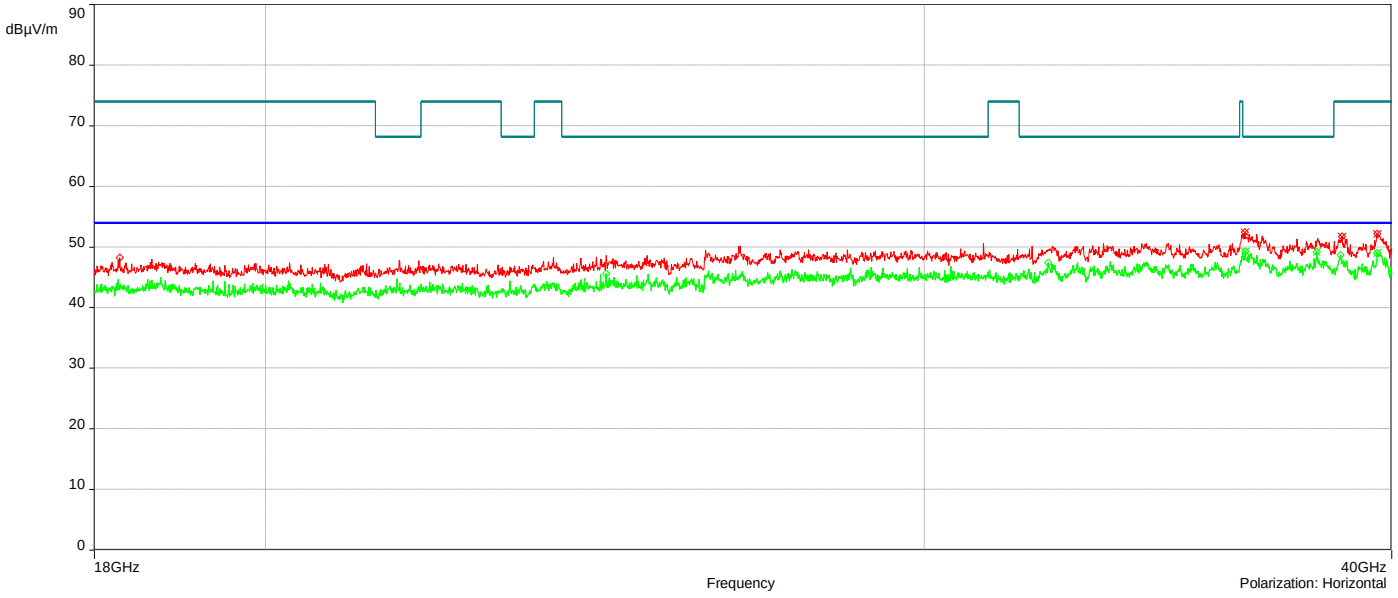
J24179#1_5G UNII-3 802.11ac_MCS0_Ch 151_40MHz_18-40GHz

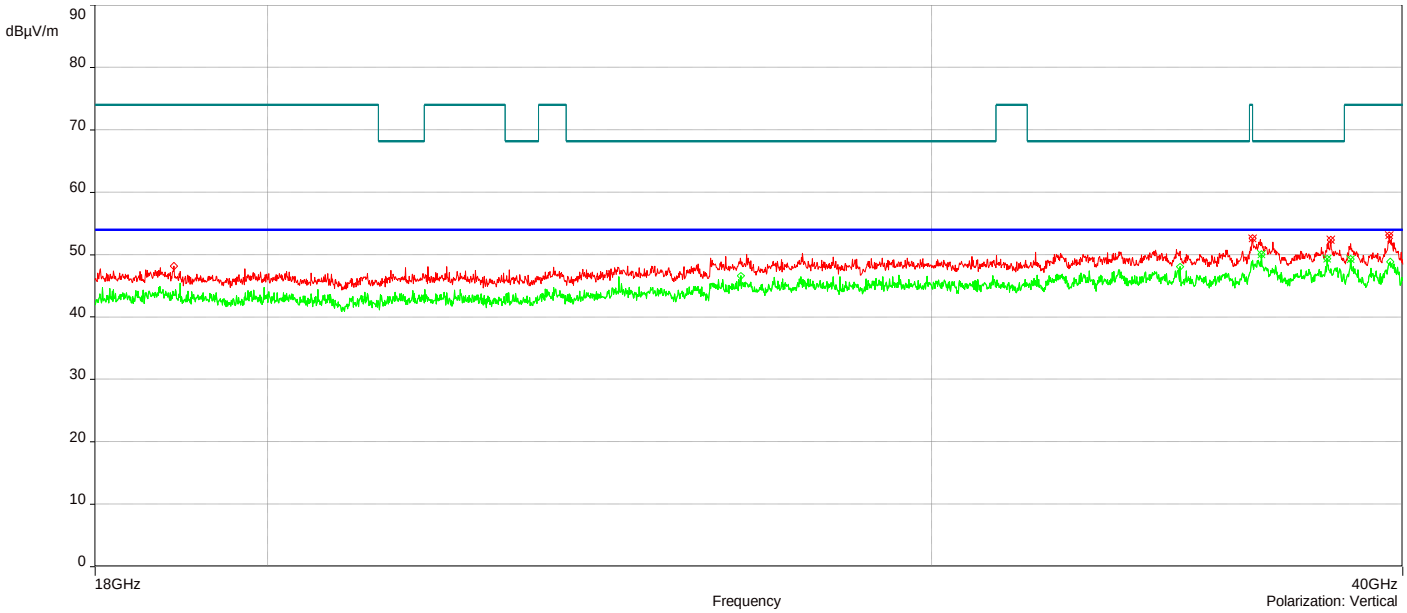
12/13/2024 21:49:32

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	36.50042GHz	52.62	3.80	68.23	-15.61	1.00	112.40	Vertical	Passed
2.	38.284961GHz	52.35	4.85	68.23	-15.88	4.00	269.90	Vertical	Passed
3.	39.675993GHz	53.11	6.68	74.00	-20.89	3.45	89.90	Vertical	Passed
4.	36.540421GHz	52.43	3.42	68.23	-15.80	2.34	247.40	Horizontal	Passed
5.	38.793973GHz	51.79	4.89	74.00	-22.21	1.03	67.40	Horizontal	Passed
6.	39.643992GHz	52.19	6.23	74.00	-21.81	1.88	44.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.689425GHz	50.07	3.53	54.00	-3.93	1.03	134.90	Vertical	Passed
2.	38.198959GHz	49.36	5.92	54.00	-4.64	3.21	22.40	Vertical	Passed
3.	38.746972GHz	49.28	5.59	54.00	-4.72	3.45	89.90	Vertical	Passed
4.	36.551422GHz	49.31	3.43	54.00	-4.69	1.99	0.00	Horizontal	Passed
5.	38.193959GHz	49.22	5.67	54.00	-4.78	1.59	22.40	Horizontal	Passed
6.	39.644992GHz	49.04	6.24	54.00	-4.96	1.00	44.90	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

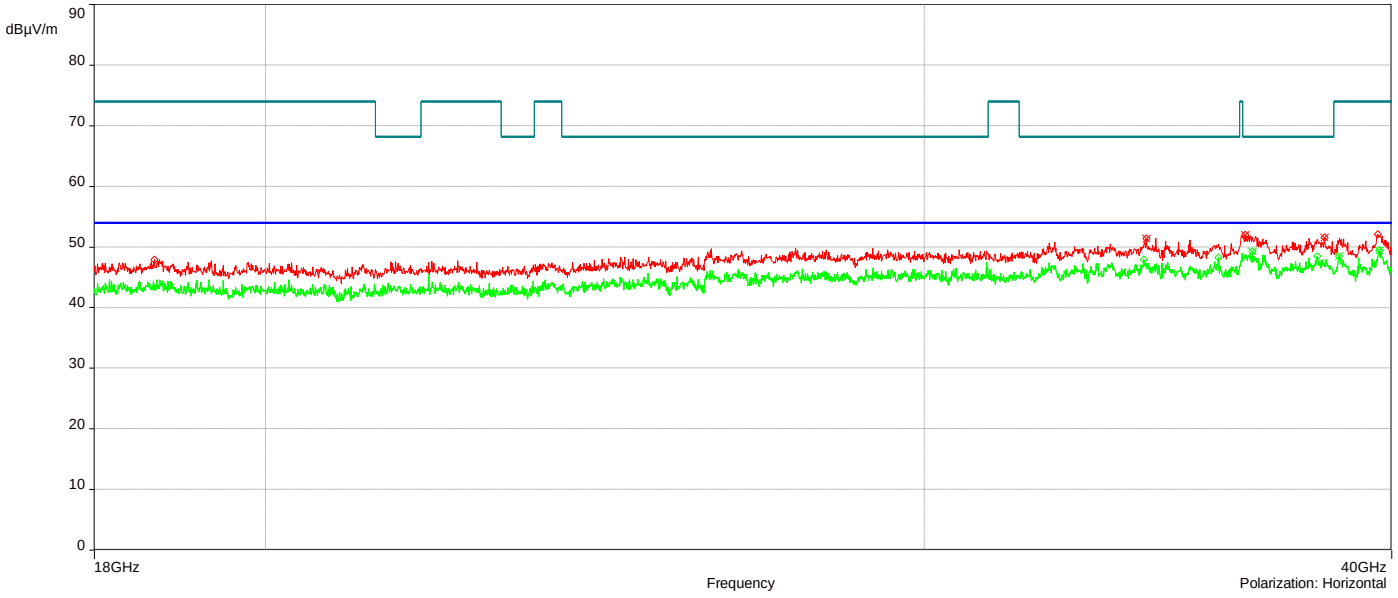
J24179#1_5G UNII-3 802.11ac_MCS0_Ch 151_80MHz_18-40GHz

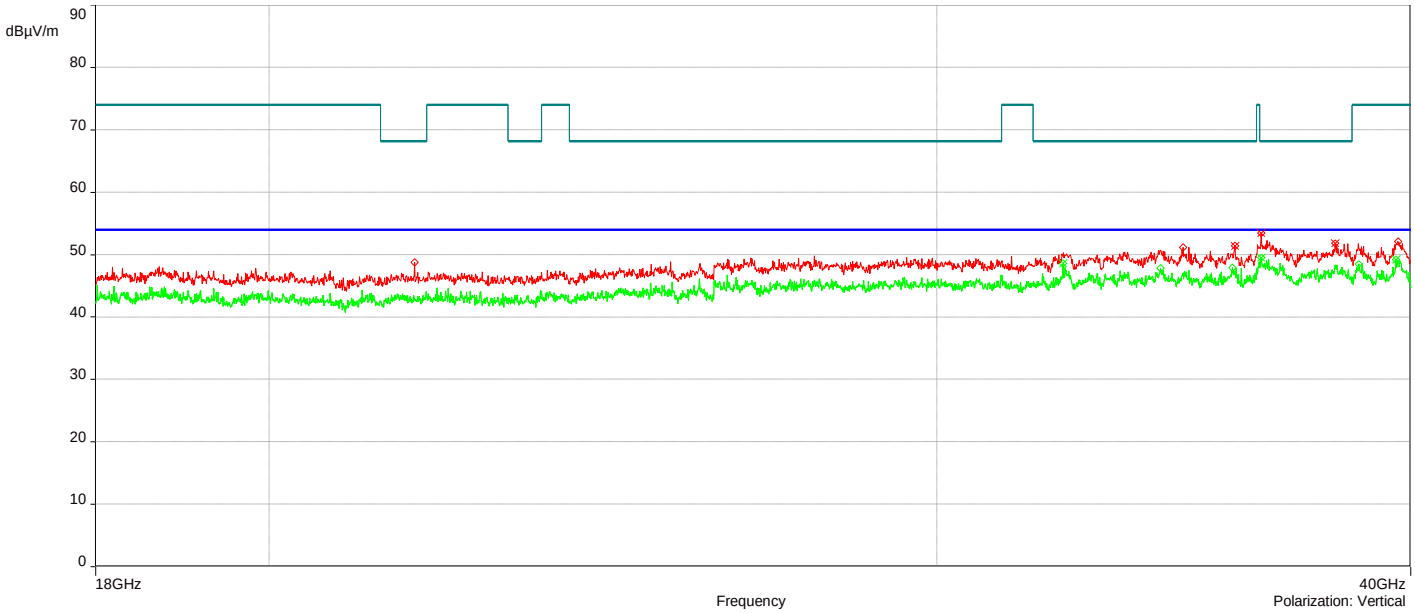
12/13/2024 22:19:11

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	35.946408GHz	51.41	4.81	68.23	-16.82	1.20	247.50	Vertical	Passed
2.	36.527421GHz	53.44	3.37	68.23	-14.79	1.45	315.10	Vertical	Passed
3.	38.201959GHz	51.88	5.92	68.23	-16.35	3.39	180.10	Vertical	Passed
4.	34.393373GHz	51.44	6.24	68.23	-16.79	3.79	157.60	Horizontal	Passed
5.	36.547922GHz	52.00	3.44	68.23	-16.23	3.79	112.60	Horizontal	Passed
6.	38.374463GHz	51.61	4.88	68.23	-16.62	1.58	135.10	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	32.382327GHz	48.59	6.38	54.00	-5.41	3.78	45.10	Vertical	Passed
2.	36.527421GHz	49.58	3.37	54.00	-4.42	1.45	315.10	Vertical	Passed
3.	39.647492GHz	49.21	6.28	54.00	-4.79	1.76	157.60	Vertical	Passed
4.	36.713425GHz	49.26	3.56	54.00	-4.74	3.02	112.60	Horizontal	Passed
5.	38.725971GHz	48.53	5.29	54.00	-5.47	1.06	247.50	Horizontal	Passed
6.	39.689993GHz	49.49	6.77	54.00	-4.51	1.31	157.60	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

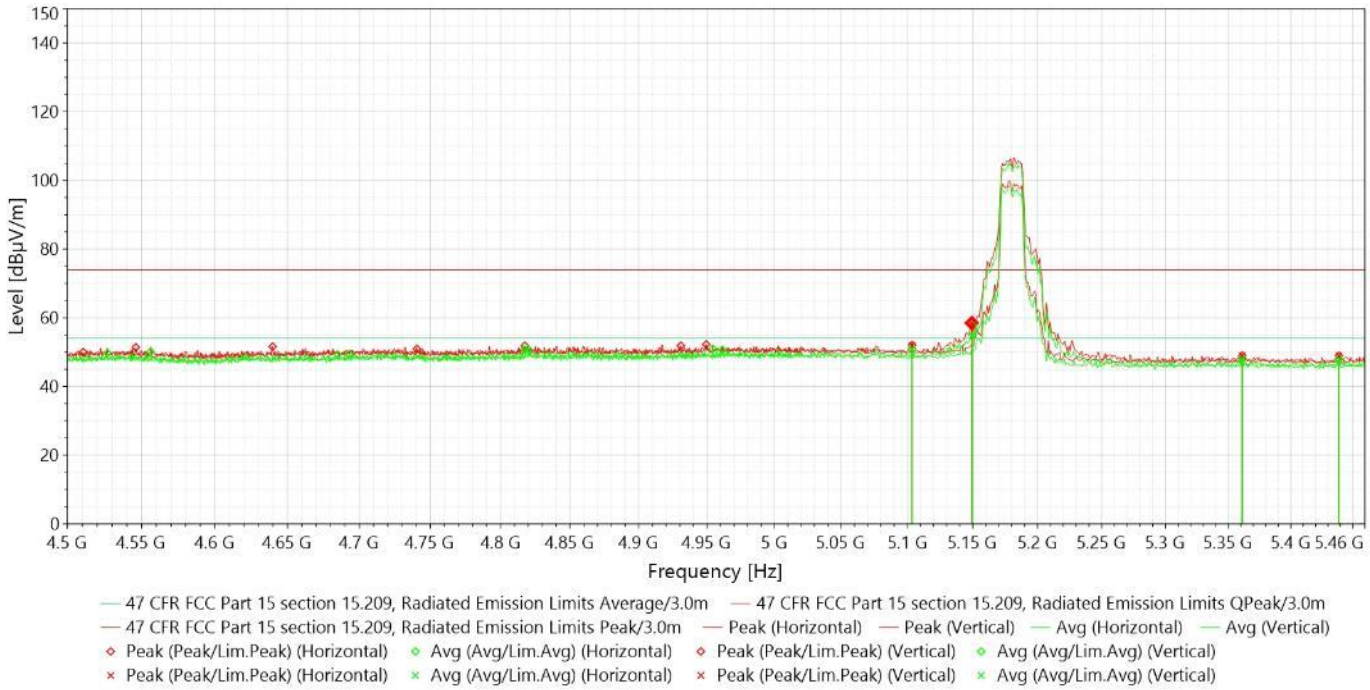
J24179#1_Restricted Bandedge_5G UNII-1 802.11a_Ch 36

12/9/2024 14:34:48

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1492846GHz	58.48	5.13	74.00	-15.52	3.50	358.90	Horizontal	Passed
2.	5.3610705GHz	49.00	5.45	74.00	-25.00	3.00	101.00	Horizontal	Passed
3.	5.1036618GHz	52.03	4.52	74.00	-21.97	2.50	293.40	Vertical	Passed
4.	5.4388694GHz	48.98	5.33	74.00	-25.02	2.50	266.10	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1497649GHz	42.94	5.14	54.00	-11.06	4.00	358.90	Horizontal	Passed
2.	5.3610705GHz	48.02	5.45	54.00	-5.98	3.00	101.00	Horizontal	Passed
3.	5.1036618GHz	50.95	4.52	54.00	-3.05	2.50	293.40	Vertical	Passed
4.	5.4388694GHz	47.88	5.33	54.00	-6.12	2.50	266.10	Vertical	Passed

Overall Graphs:



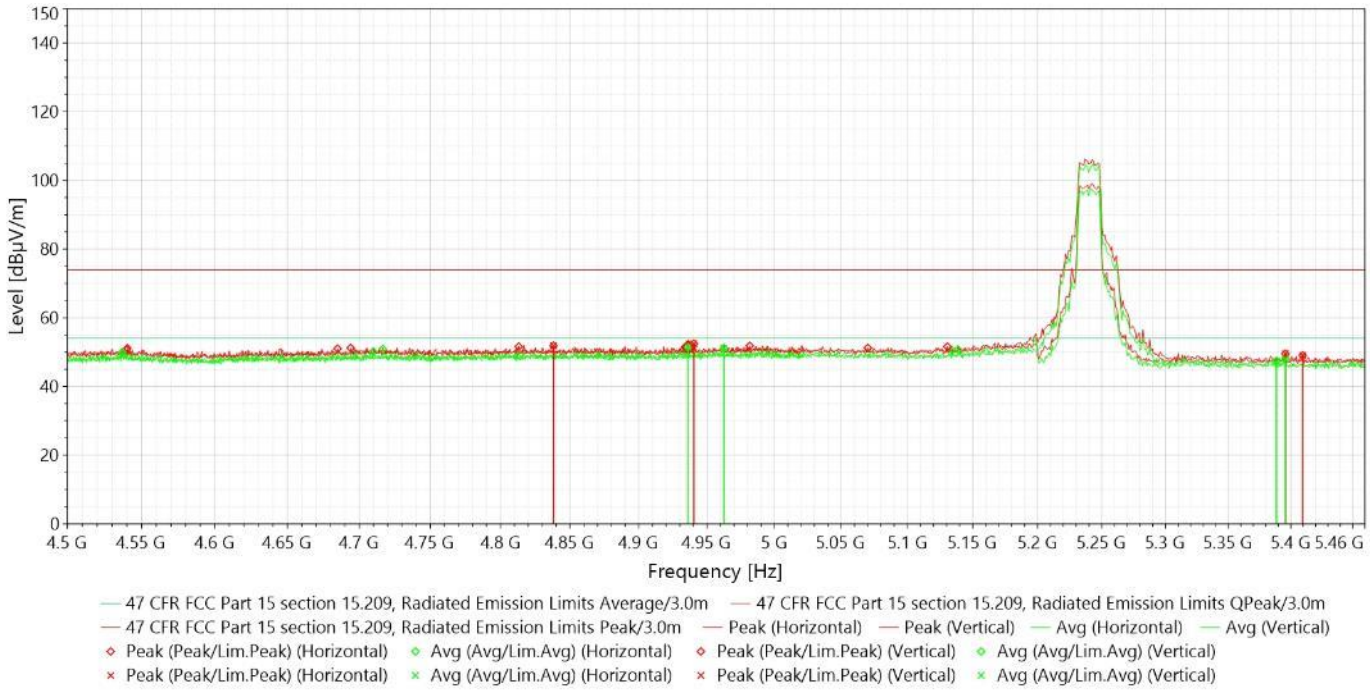
J24179#1_Restricted Bandedge_5G UNII-1 802.11a_Ch 48

12/9/2024 15:03:00

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	4.9403802GHz	52.46	5.38	74.00	-21.54	1.00	329.80	Horizontal	Passed
2.	5.3956478GHz	49.53	5.39	74.00	-24.47	4.00	18.30	Horizontal	Passed
3.	4.838089GHz	51.89	5.06	74.00	-22.11	1.50	147.00	Vertical	Passed
4.	5.4095748GHz	49.05	5.32	74.00	-24.95	4.00	291.30	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	4.936058GHz	51.40	5.32	54.00	-2.60	2.00	217.10	Horizontal	Passed
2.	5.3956478GHz	48.00	5.39	54.00	-6.00	4.00	18.30	Horizontal	Passed
3.	4.9624712GHz	51.18	5.62	54.00	-2.82	1.50	40.90	Vertical	Passed
4.	5.3884442GHz	47.40	5.39	54.00	-6.60	2.00	131.00	Vertical	Passed

Overall Graphs:



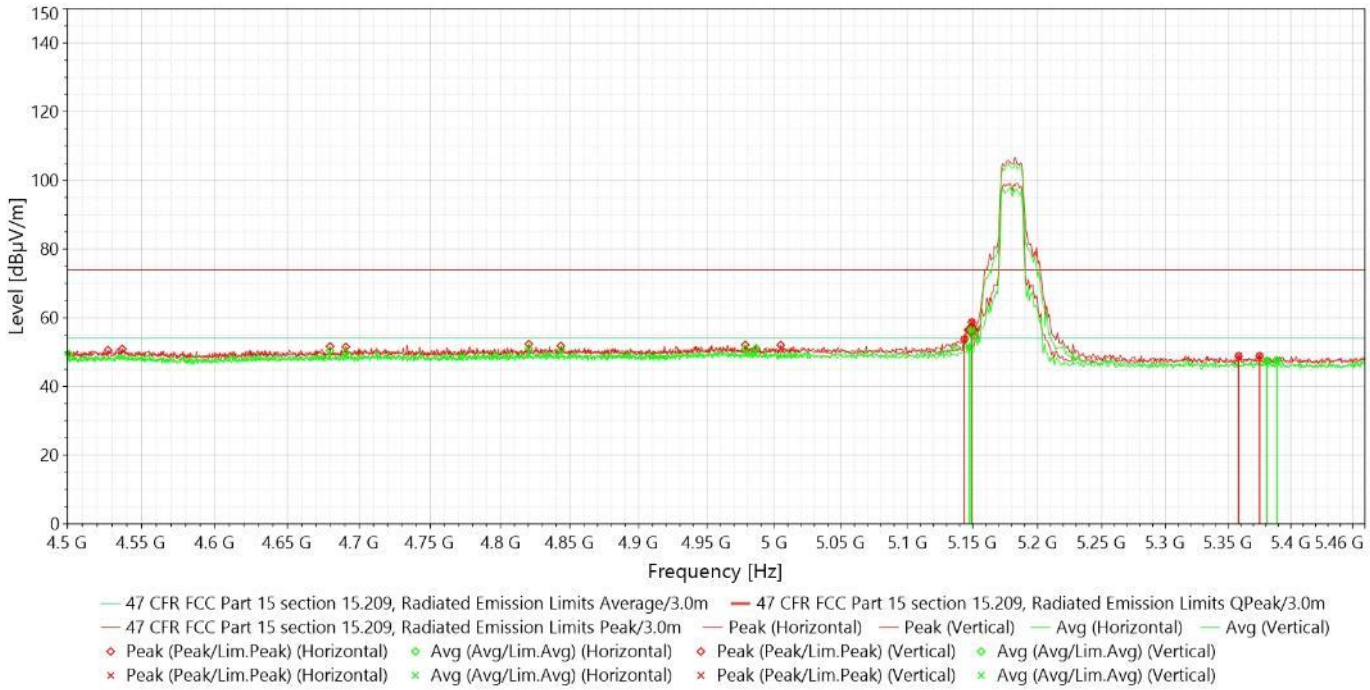
J24179#1_Restricted Bandedge_5G UNII-1 802.11n_Ch 36

12/9/2024 15:17:11

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1492846GHz	58.72	5.13	74.00	-15.28	4.00	350.40	Horizontal	Passed
2.	5.3581891GHz	48.86	5.45	74.00	-25.14	3.50	24.70	Horizontal	Passed
3.	5.1435218GHz	53.65	4.96	74.00	-20.35	3.50	70.10	Vertical	Passed
4.	5.3749975GHz	48.89	5.44	74.00	-25.11	1.00	343.20	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1488044GHz	43.17	5.12	54.00	-10.83	4.00	357.20	Horizontal	Passed
2.	5.3807604GHz	47.49	5.44	54.00	-6.51	2.50	197.30	Horizontal	Passed
3.	5.1473637GHz	51.33	5.02	54.00	-2.67	3.50	73.10	Vertical	Passed
4.	5.3889245GHz	47.61	5.39	54.00	-6.39	2.50	252.30	Vertical	Passed

Overall Graphs:



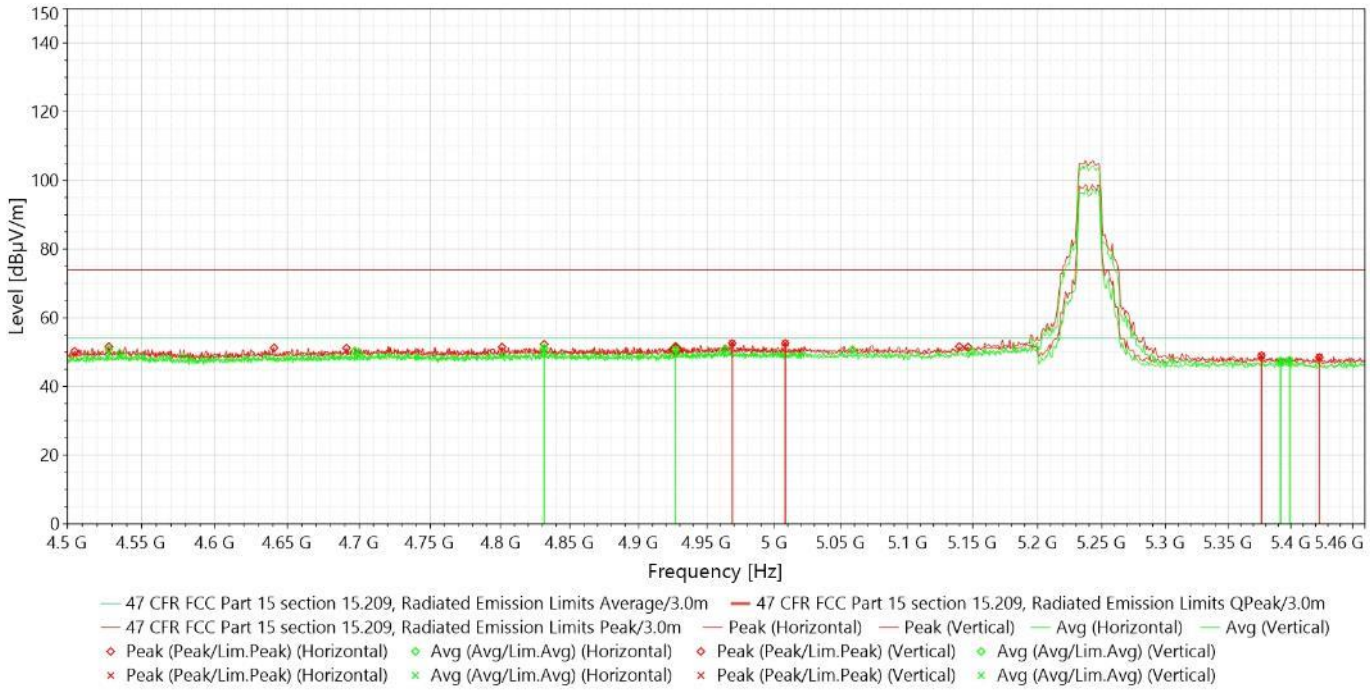
J24179#1_Restricted Bandedge_5G UNII-1 802.11n_Ch 48

12/9/2024 15:37:38

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	4.9687144GHz	52.59	5.64	74.00	-21.41	1.50	358.90	Horizontal	Passed
2.	5.3764382GHz	49.00	5.46	74.00	-25.00	1.50	358.90	Horizontal	Passed
3.	5.008094GHz	52.57	5.49	74.00	-21.43	2.50	64.10	Vertical	Passed
4.	5.4230215GHz	48.49	5.27	74.00	-25.51	2.00	358.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	4.9269335GHz	50.78	5.19	54.00	-3.22	3.00	4.60	Horizontal	Passed
2.	5.3990095GHz	47.62	5.38	54.00	-6.38	3.00	16.90	Horizontal	Passed
3.	4.8313657GHz	51.12	4.99	54.00	-2.88	2.00	114.80	Vertical	Passed
4.	5.3918059GHz	47.41	5.38	54.00	-6.59	3.50	222.00	Vertical	Passed

Overall Graphs:



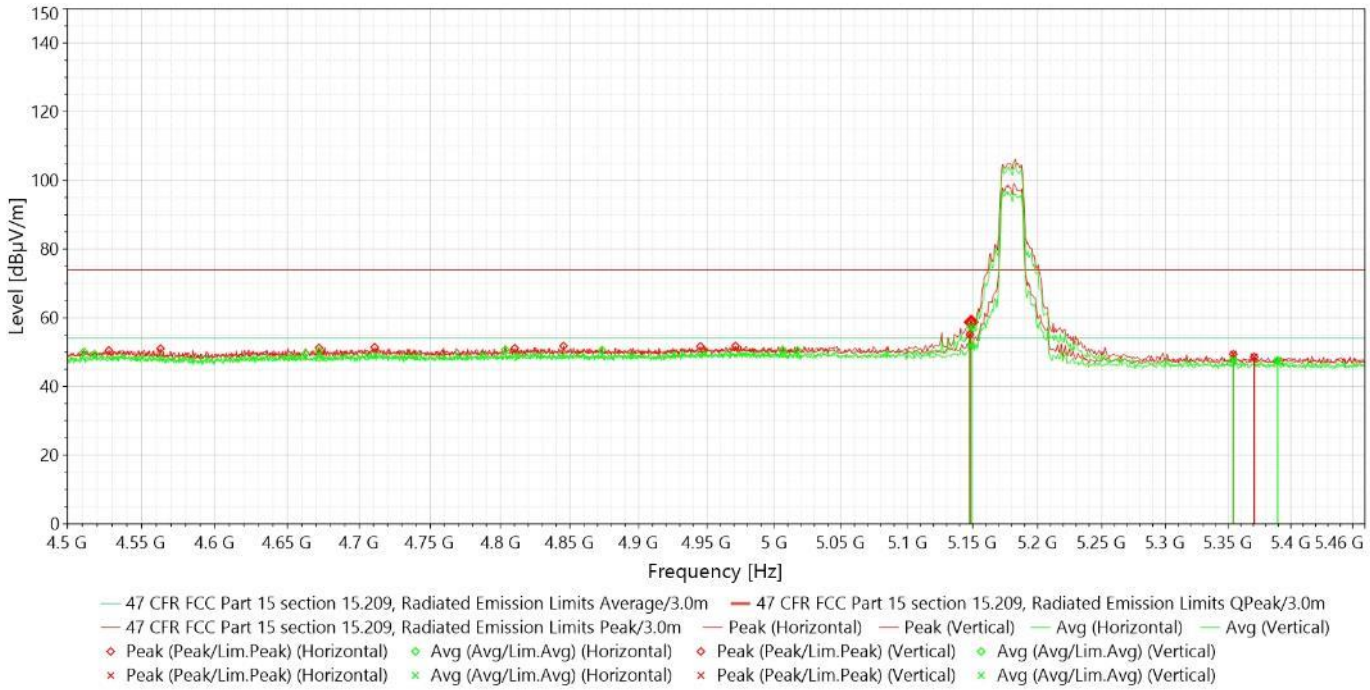
J24179#1_Restricted Bandedge_5G UNII-1 802.11ac_40MHz_Ch 38

12/9/2024 15:55:42

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1488044GHz	58.74	5.12	74.00	-15.26	4.00	6.30	Horizontal	Passed
2.	5.3706753GHz	48.61	5.47	74.00	-25.39	3.50	358.90	Horizontal	Passed
3.	5.1478439GHz	55.12	5.03	74.00	-18.88	3.50	75.00	Vertical	Passed
4.	5.3538669GHz	49.39	5.41	74.00	-24.61	3.00	140.60	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1488044GHz	51.07	5.12	54.00	-2.93	4.00	6.30	Horizontal	Passed
2.	5.3894047GHz	47.60	5.41	54.00	-6.40	4.00	217.30	Horizontal	Passed
3.	5.1488044GHz	51.89	5.04	54.00	-2.11	2.00	128.00	Vertical	Passed
4.	5.3538669GHz	47.76	5.41	54.00	-6.24	3.00	140.60	Vertical	Passed

Overall Graphs:



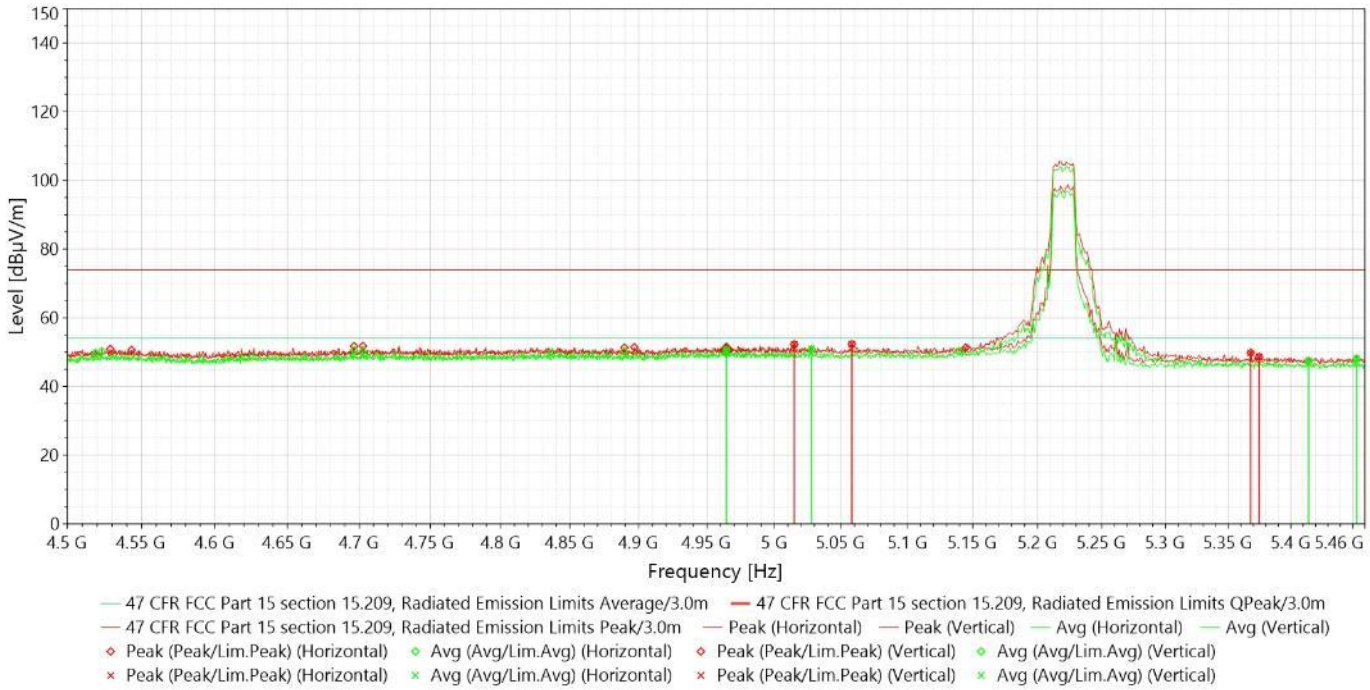
J24179#1_Restricted Bandedge_5G UNII-1 802.11ac_40MHz_Ch 46

12/9/2024 16:16:45

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.058039GHz	52.33	4.74	74.00	-21.67	4.00	114.70	Horizontal	Passed
2.	5.3745173GHz	48.62	5.47	74.00	-25.38	1.50	358.90	Horizontal	Passed
3.	5.0148174GHz	52.26	5.44	74.00	-21.74	4.00	183.50	Vertical	Passed
4.	5.3677939GHz	49.79	5.43	74.00	-24.21	3.00	358.90	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	4.9643922GHz	50.63	5.66	54.00	-3.37	3.50	115.10	Horizontal	Passed
2.	5.4143772GHz	47.49	5.27	54.00	-6.51	2.00	9.20	Horizontal	Passed
3.	5.0277839GHz	50.86	5.28	54.00	-3.14	2.50	263.70	Vertical	Passed
4.	5.4532766GHz	48.10	5.43	54.00	-5.90	2.50	215.40	Vertical	Passed

Overall Graphs:



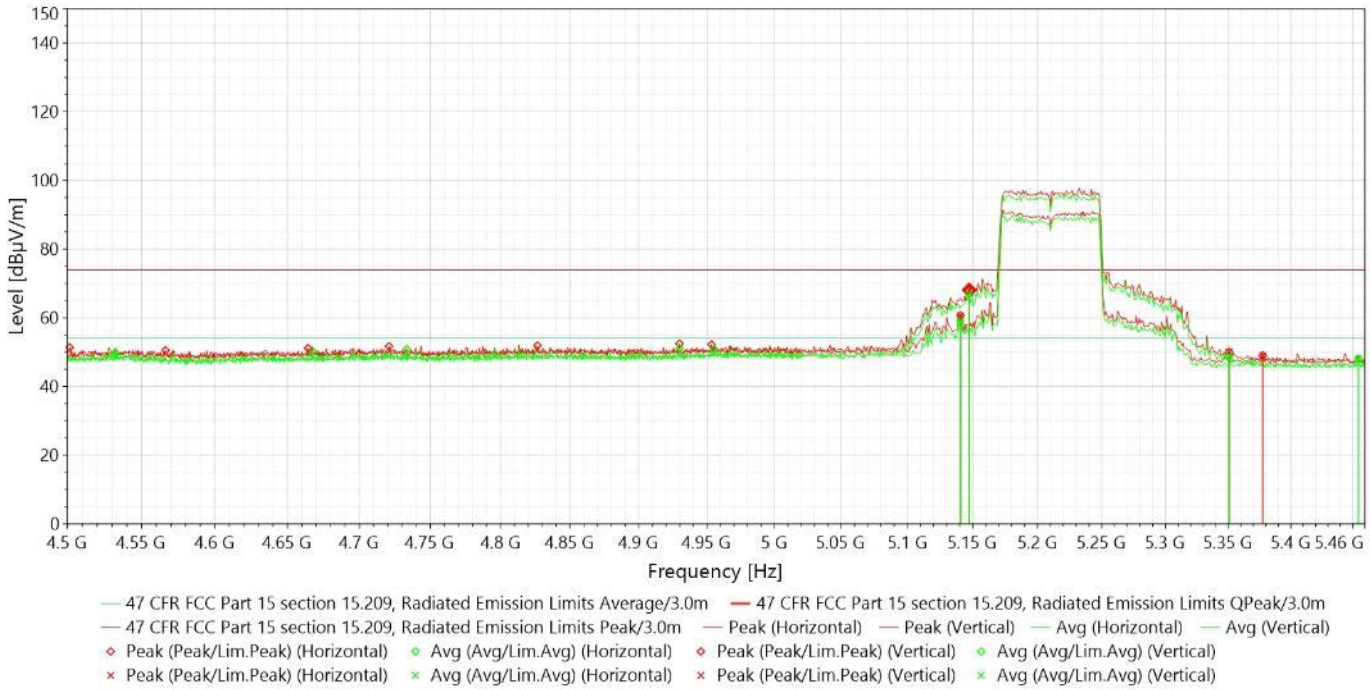
J24179#1_Restricted Bandedge_5G UNII-1 802.11ac_80MHz_Ch 42

12/12/2024 13:20:32

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1473637GHz	68.12	5.09	74.00	-5.88	1.00	73.90	Horizontal	Passed
2.	5.3505053GHz	50.03	5.44	74.00	-23.97	1.50	64.40	Horizontal	Passed
3.	5.1406403GHz	60.66	4.92	74.00	-13.34	4.00	112.10	Vertical	Passed
4.	5.3773987GHz	49.02	5.43	74.00	-24.98	4.00	244.00	Vertical	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.1473637GHz	53.08	5.09	54.00	-0.92	1.00	73.90	Horizontal	Passed
2.	5.3505053GHz	48.97	5.44	54.00	-5.03	1.50	64.40	Horizontal	Passed
3.	5.1406403GHz	47.09	4.92	54.00	-6.91	4.00	112.10	Vertical	Passed
4.	5.4547174GHz	48.13	5.44	54.00	-5.87	2.00	100.10	Vertical	Passed

Overall Graphs:



J24179#1_UnRestricted Bandedge_5G UNII-1 802.11a_Ch 36

12/9/2024 14:34:48

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1492846GHz	58.48	5.13	68.23	-9.75	3.50	358.90	Horizontal	Passed
2.	5.3610705GHz	49.00	5.45	68.23	-19.23	3.00	101.00	Horizontal	Passed
3.	5.1036618GHz	52.03	4.52	68.23	-16.20	2.50	293.40	Vertical	Passed
4.	5.4388694GHz	48.98	5.33	68.23	-19.25	2.50	266.10	Vertical	Passed

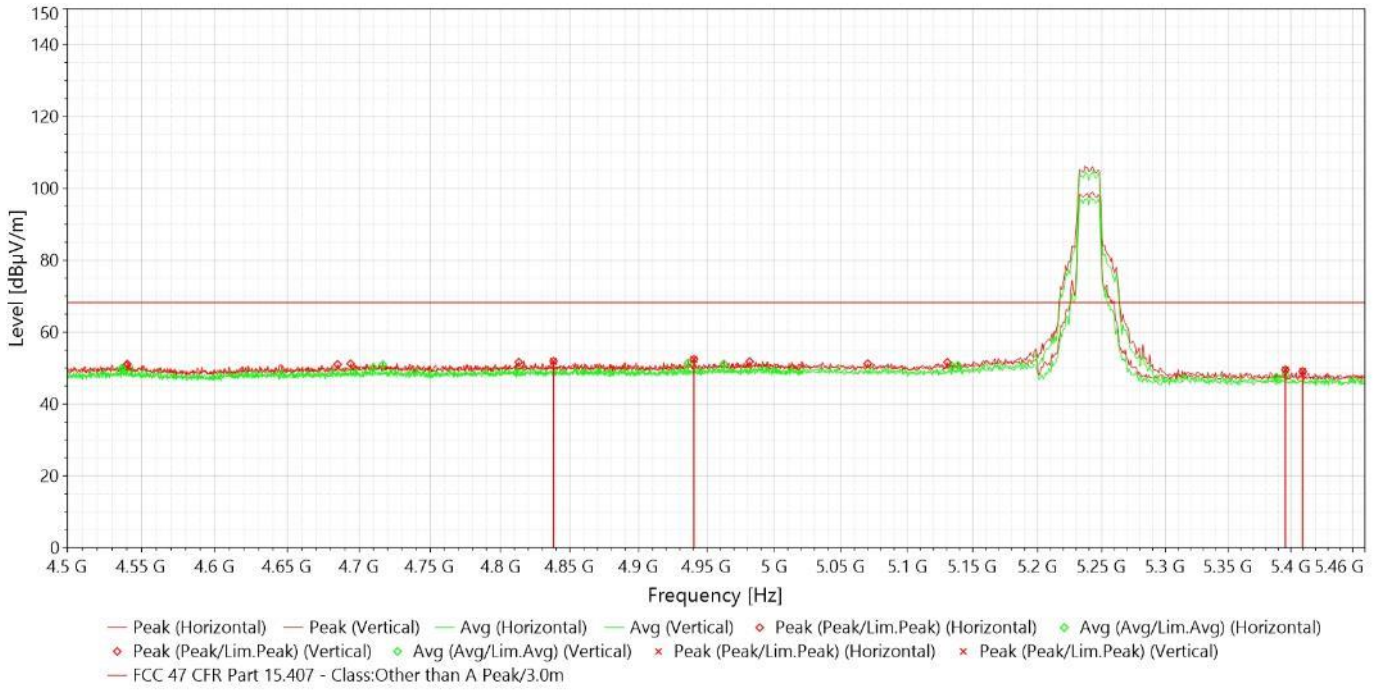
Overall Graphs:

J24179#1_UnRestricted Bandedge_5G UNII-1 802.11a_Ch 48

12/9/2024 15:03:00

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	4.9403802GHz	52.46	5.38	68.23	-15.77	1.00	329.80	Horizontal	Passed
2.	5.3956478GHz	49.53	5.39	68.23	-18.70	4.00	18.30	Horizontal	Passed
3.	4.838089GHz	51.89	5.06	68.23	-16.34	1.50	147.00	Vertical	Passed
4.	5.4095748GHz	49.05	5.32	68.23	-19.18	4.00	291.30	Vertical	Passed

Overall Graphs:



J24179#1_UnRestricted Bandedge_5G UNII-1 802.11n_Ch 36

12/9/2024 15:17:11

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1492846GHz	58.72	5.13	68.23	-9.51	4.00	350.40	Horizontal	Passed
2.	5.3581891GHz	48.86	5.45	68.23	-19.37	3.50	24.70	Horizontal	Passed
3.	5.1435218GHz	53.65	4.96	68.23	-14.58	3.50	70.10	Vertical	Passed
4.	5.3749975GHz	48.89	5.44	68.23	-19.34	1.00	343.20	Vertical	Passed

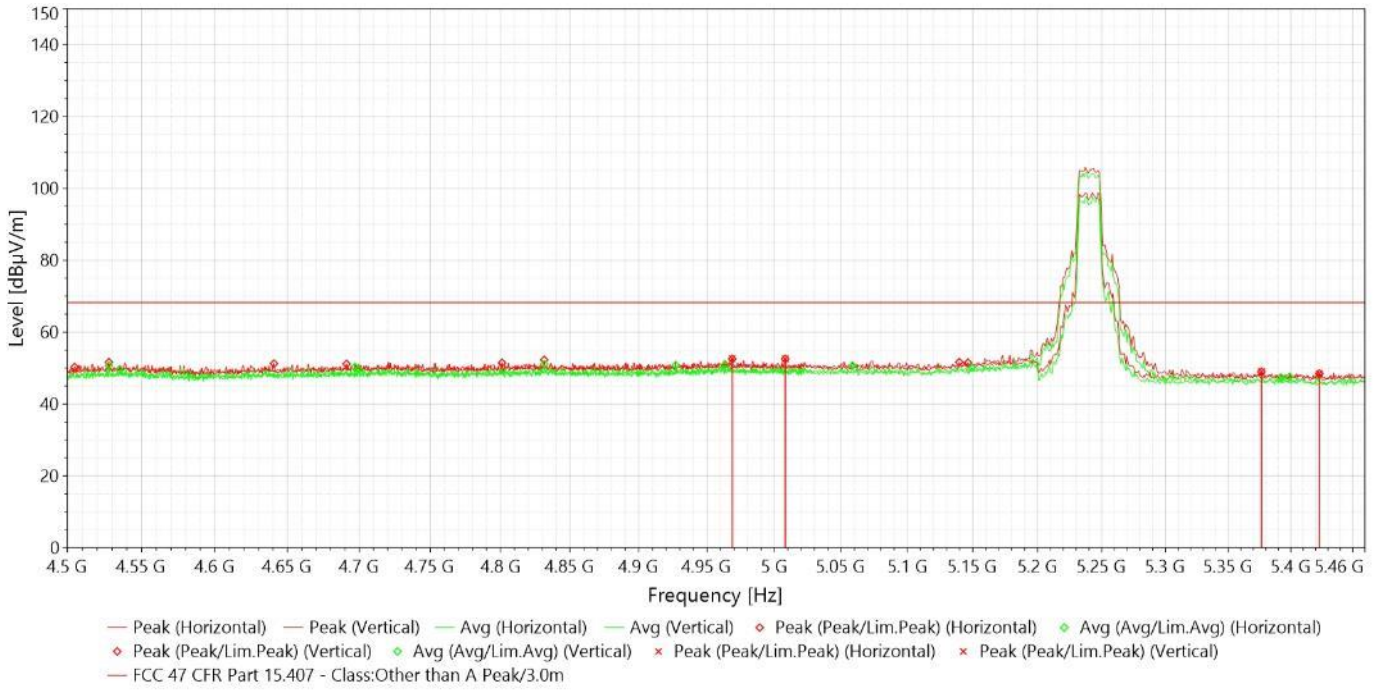
Overall Graphs:

J24179#1_UnRestricted Bandedge_5G UNII-1 802.11n_Ch 48

12/9/2024 15:37:38

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	4.9687144GHz	52.59	5.64	68.23	-15.64	1.50	358.90	Horizontal	Passed
2.	5.3764382GHz	49.00	5.46	68.23	-19.23	1.50	358.90	Horizontal	Passed
3.	5.008094GHz	52.57	5.49	68.23	-15.66	2.50	64.10	Vertical	Passed
4.	5.4230215GHz	48.49	5.27	68.23	-19.74	2.00	358.90	Vertical	Passed

Overall Graphs:

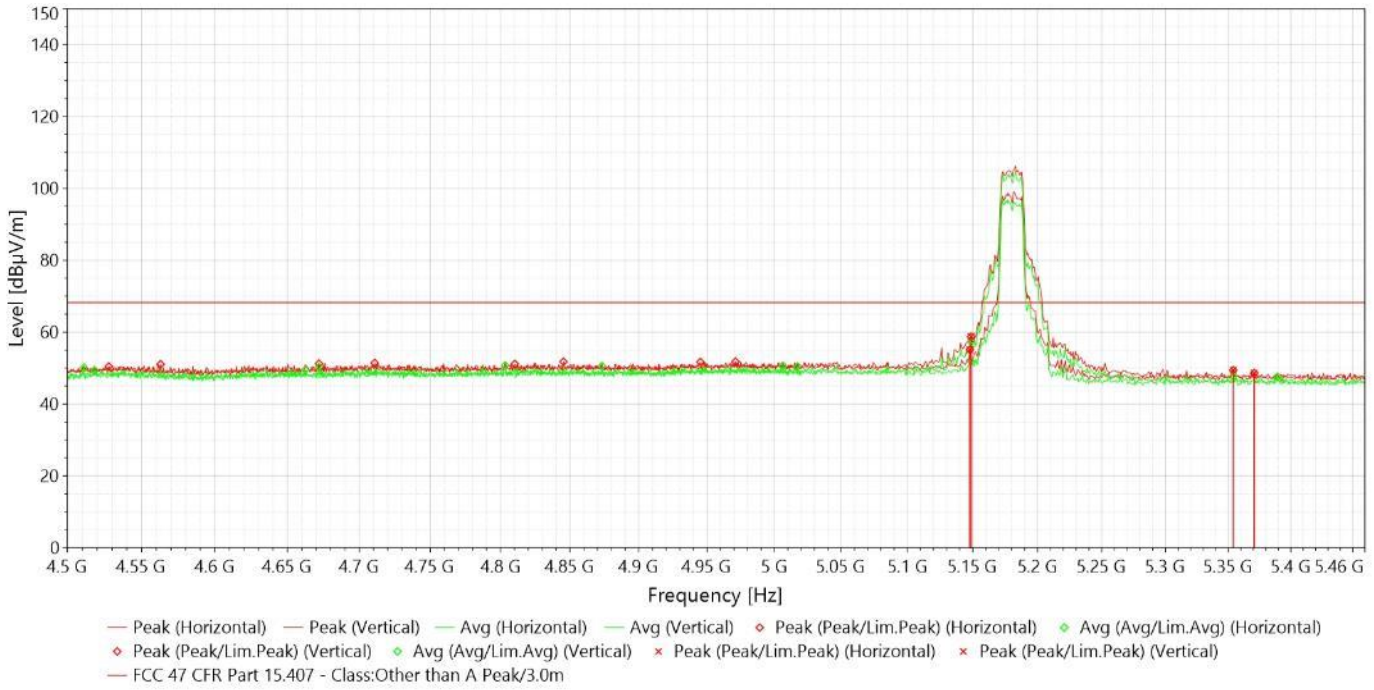


J24179#1_UnRestricted Bandedge_5G UNII-1 802.11ac_40MHz_Ch 38

12/9/2024 15:55:42

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1488044GHz	58.74	5.12	68.23	-9.49	4.00	6.30	Horizontal	Passed
2.	5.3706753GHz	48.61	5.47	68.23	-19.62	3.50	358.90	Horizontal	Passed
3.	5.1478439GHz	55.12	5.03	68.23	-13.11	3.50	75.00	Vertical	Passed
4.	5.3538669GHz	49.39	5.41	68.23	-18.84	3.00	140.60	Vertical	Passed

Overall Graphs:

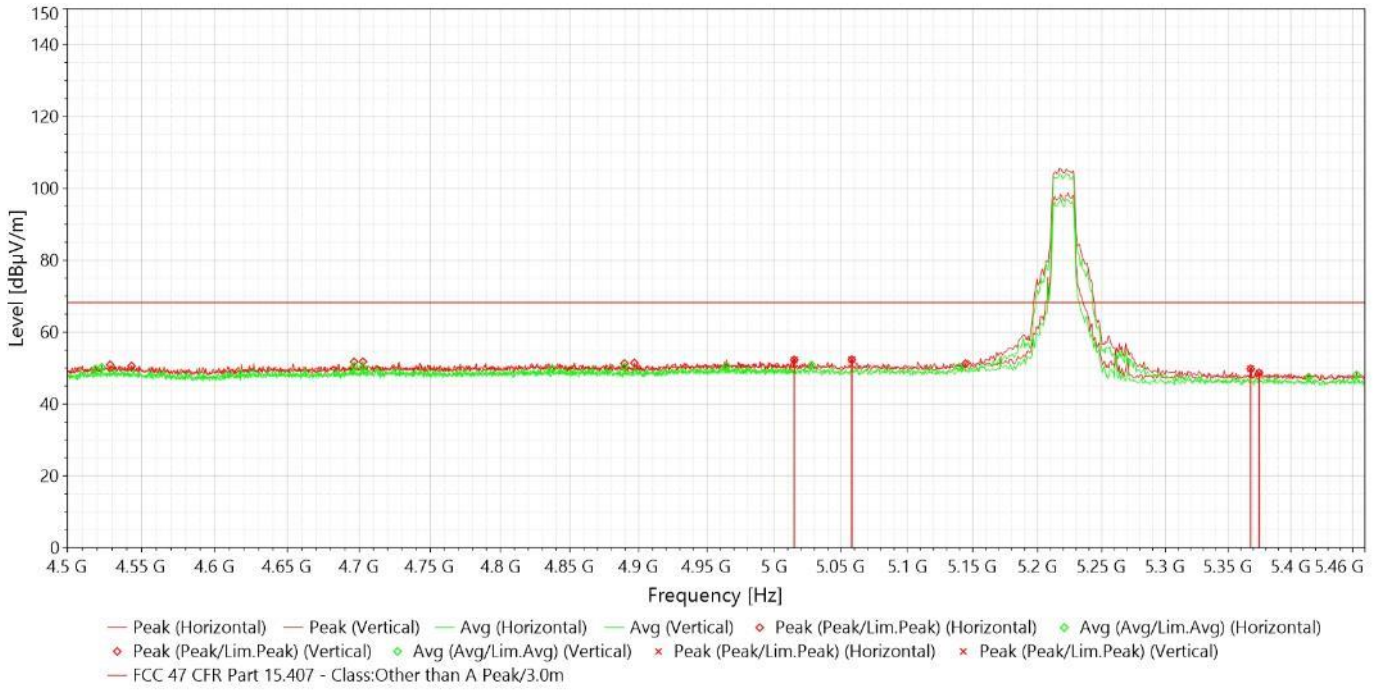


J24179#1_UnRestricted Bandedge_5G UNII-1 802.11ac_40MHz_Ch 46

12/9/2024 16:16:45

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.0580390GHz	52.33	4.74	68.23	-15.90	4.00	114.70	Horizontal	Passed
2.	5.3745173GHz	48.62	5.47	68.23	-19.61	1.50	358.90	Horizontal	Passed
3.	5.0148174GHz	52.26	5.44	68.23	-15.97	4.00	183.50	Vertical	Passed
4.	5.3677939GHz	49.79	5.43	68.23	-18.44	3.00	358.90	Vertical	Passed

Overall Graphs:

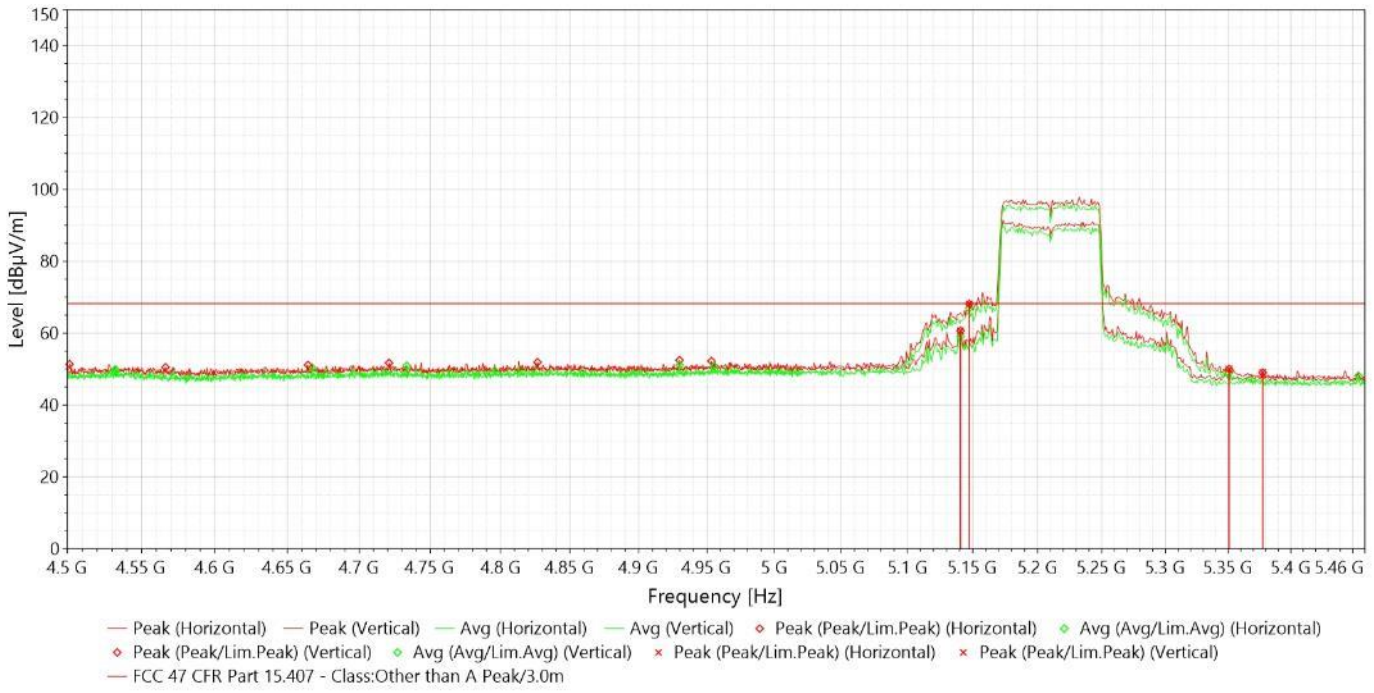


J24179#1_UnRestricted Bandedge_5G UNII-1 802.11ac_80MHz_Ch 42

12/12/2024 13:20:32

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.1473637GHz	68.12	5.09	68.23	-0.11	1.00	73.90	Horizontal	Passed
2.	5.3505053GHz	50.03	5.44	68.23	-18.20	1.50	64.40	Horizontal	Passed
3.	5.1406403GHz	60.66	4.92	68.23	-7.57	4.00	112.10	Vertical	Passed
4.	5.3773987GHz	49.02	5.43	68.23	-19.21	4.00	244.00	Vertical	Passed

Overall Graphs:

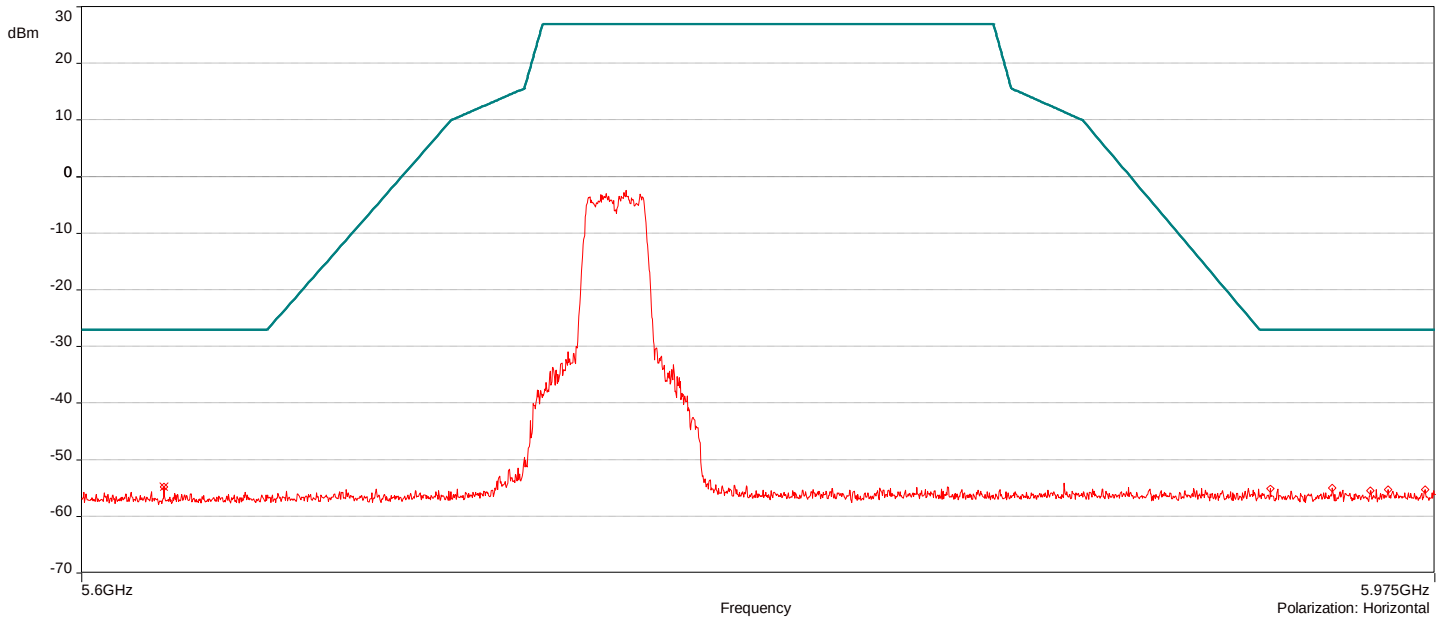


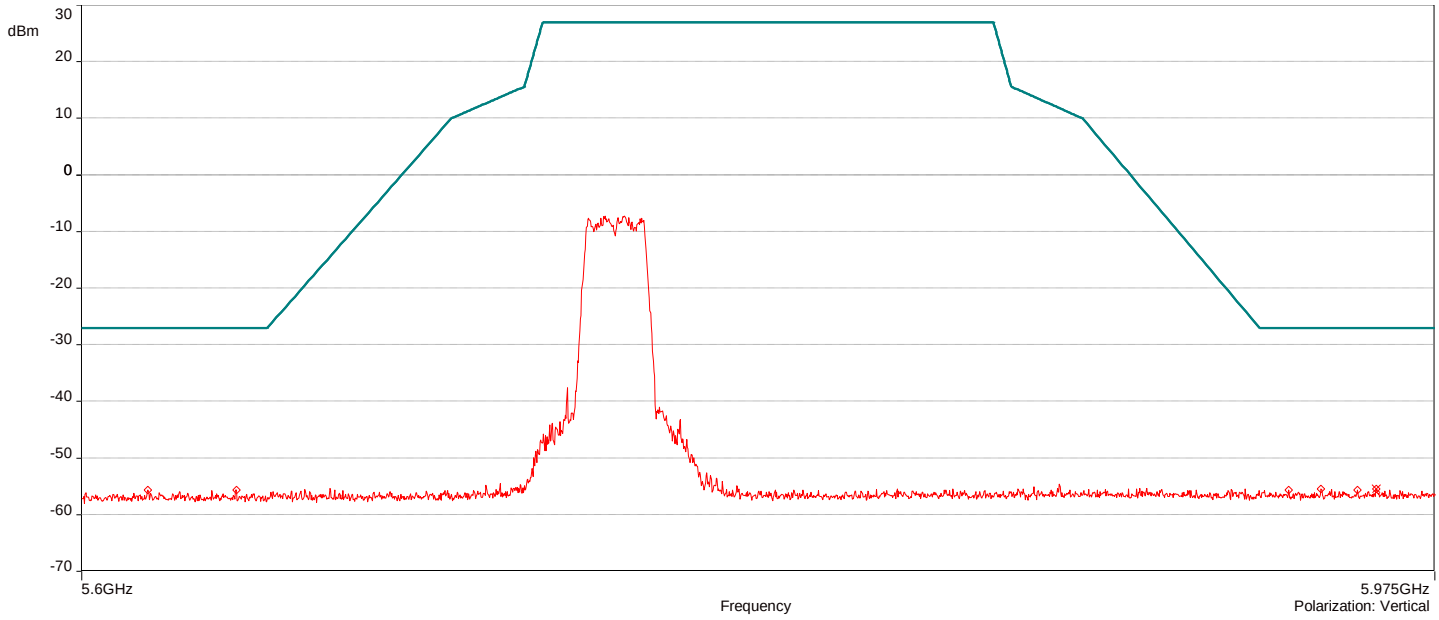
J24179#1_Restricted Bandedge_5G_UNII-3 802.11a_6Mbps_20MHz_Ch 149

12/9/2024 18:47:31

No	Frequency (MHz)	Level Peak Reading (dBm)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.622125GHz	-54.79	5.58	-27.00	-27.79	3.00	345.90	Horizontal	Passed
2.	5.9583125GHz	-55.48	5.97	-27.00	-28.48	1.50	315.90	Vertical	Passed

Overall Graphs:



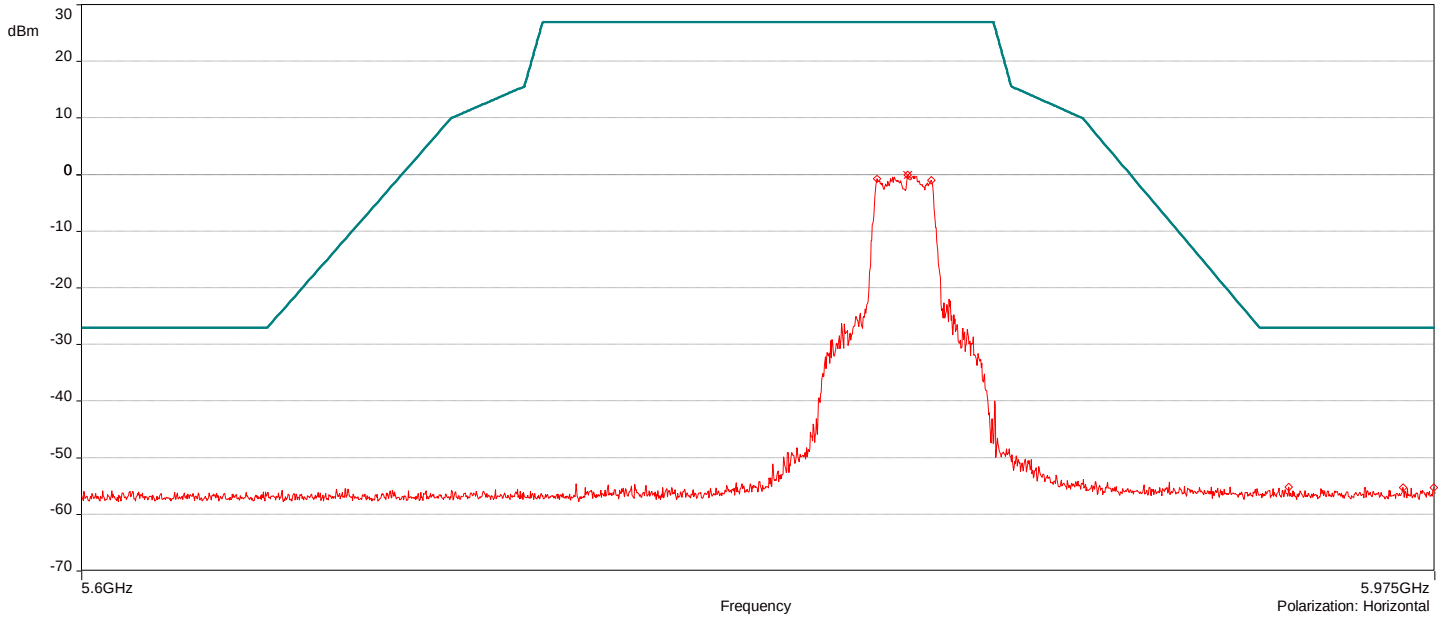


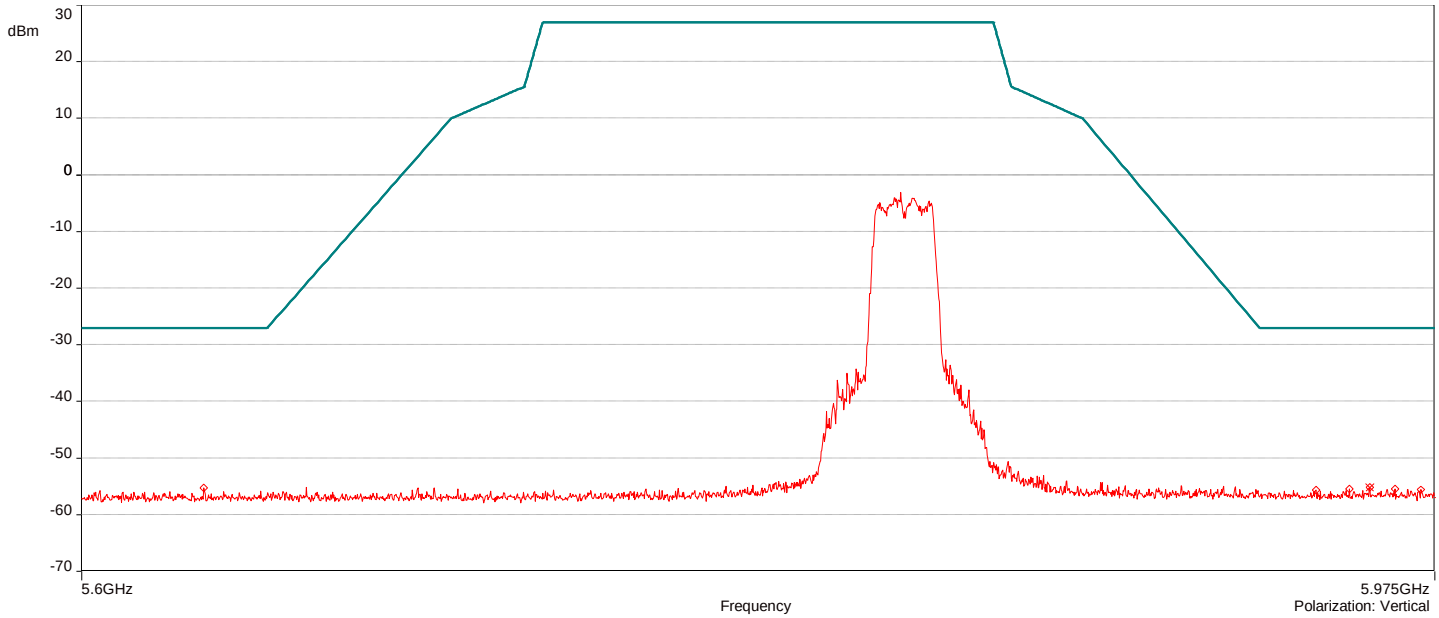
J24179#1_Restricted Bandedge_5G_UNII-3 802.11a_6Mbps_20MHz_Ch 165

12/9/2024 18:32:51

No	Frequency (MHz)	Level Peak Reading (dBm)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.8259375GHz	-0.07	5.95	27.00	-27.07	1.00	42.60	Horizontal	Passed
2.	5.9564375GHz	-55.12	5.97	-27.00	-28.12	1.00	182.70	Vertical	Passed

Overall Graphs:



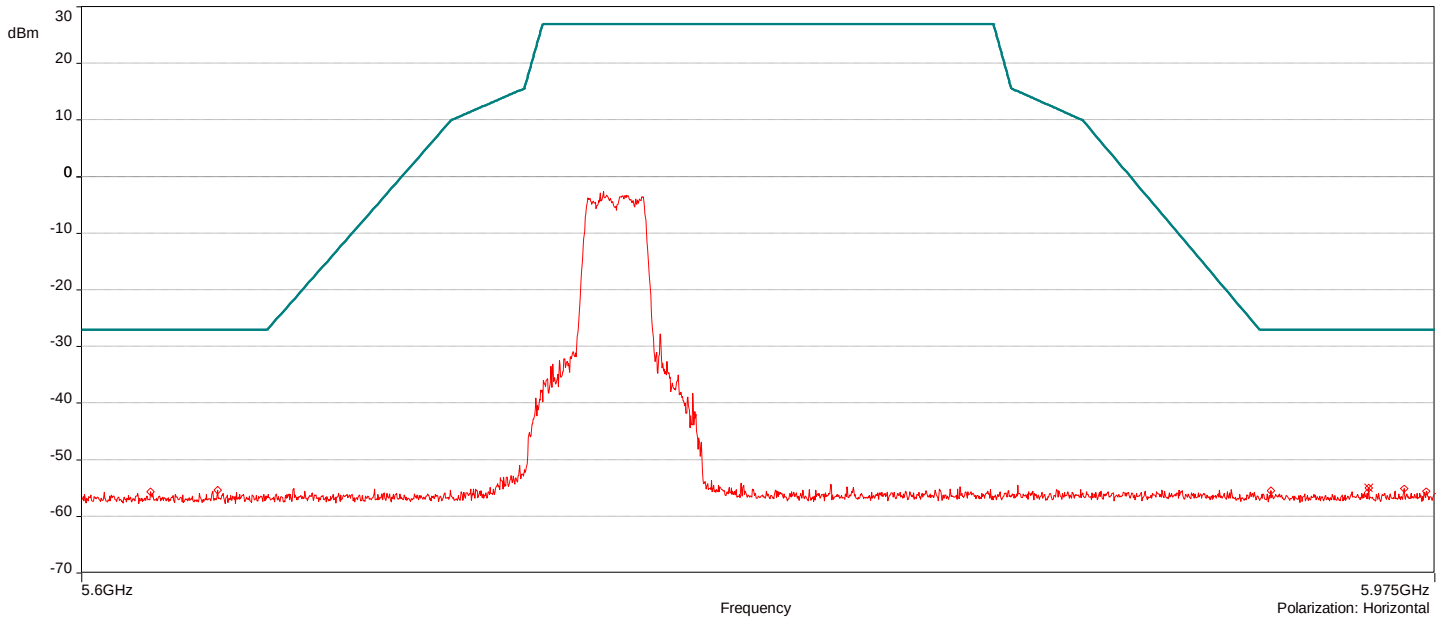


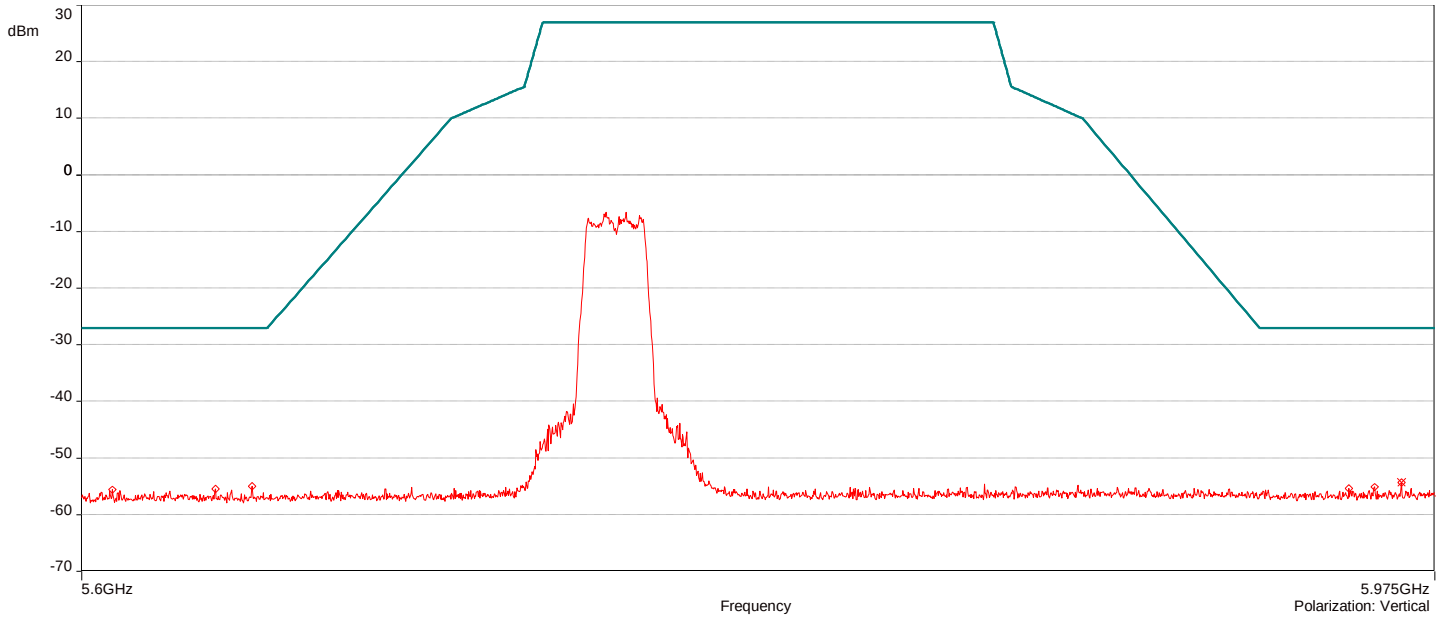
J24179#1_Restricted Bandedge_5G_UNII-3 802.11n_MCS0_20MHz_Ch 149

12/9/2024 19:02:08

No	Frequency (MHz)	Level Peak Reading (dBm)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9560625GHz	-55.01	5.92	-27.00	-28.01	3.50	133.60	Horizontal	Passed
2.	5.9654375GHz	-54.32	5.99	-27.00	-27.32	1.00	81.80	Vertical	Passed

Overall Graphs:



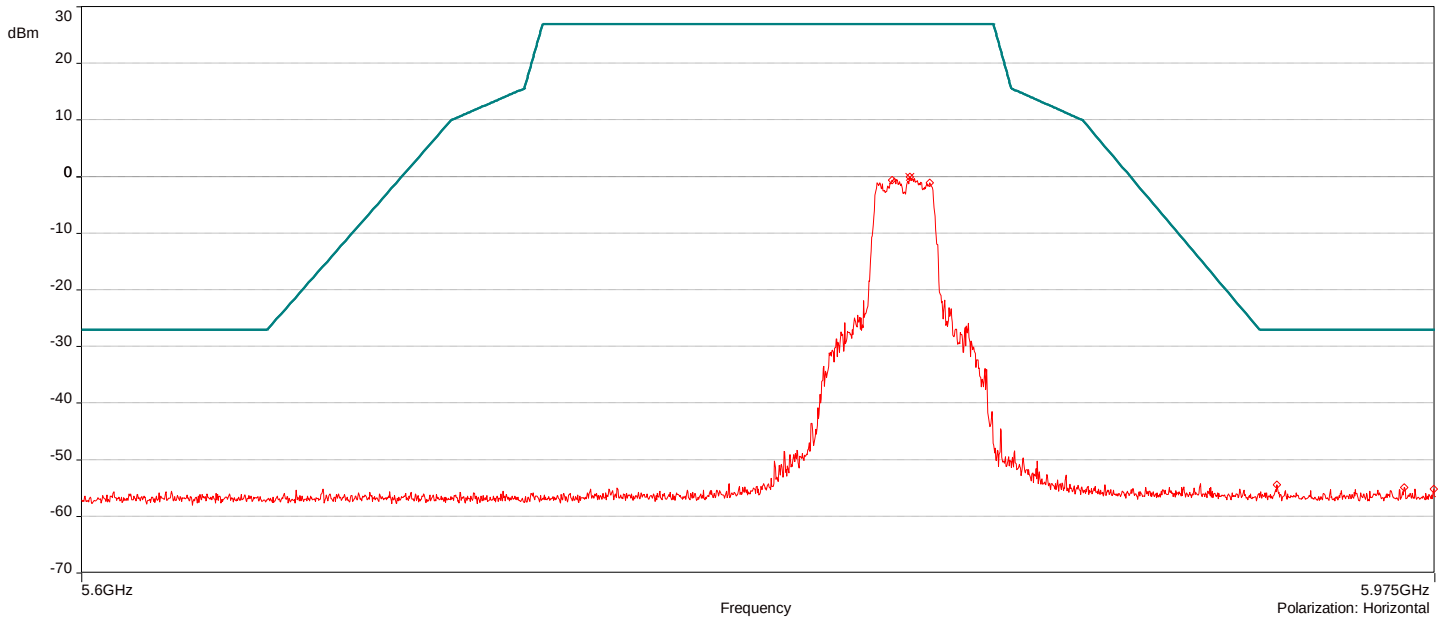


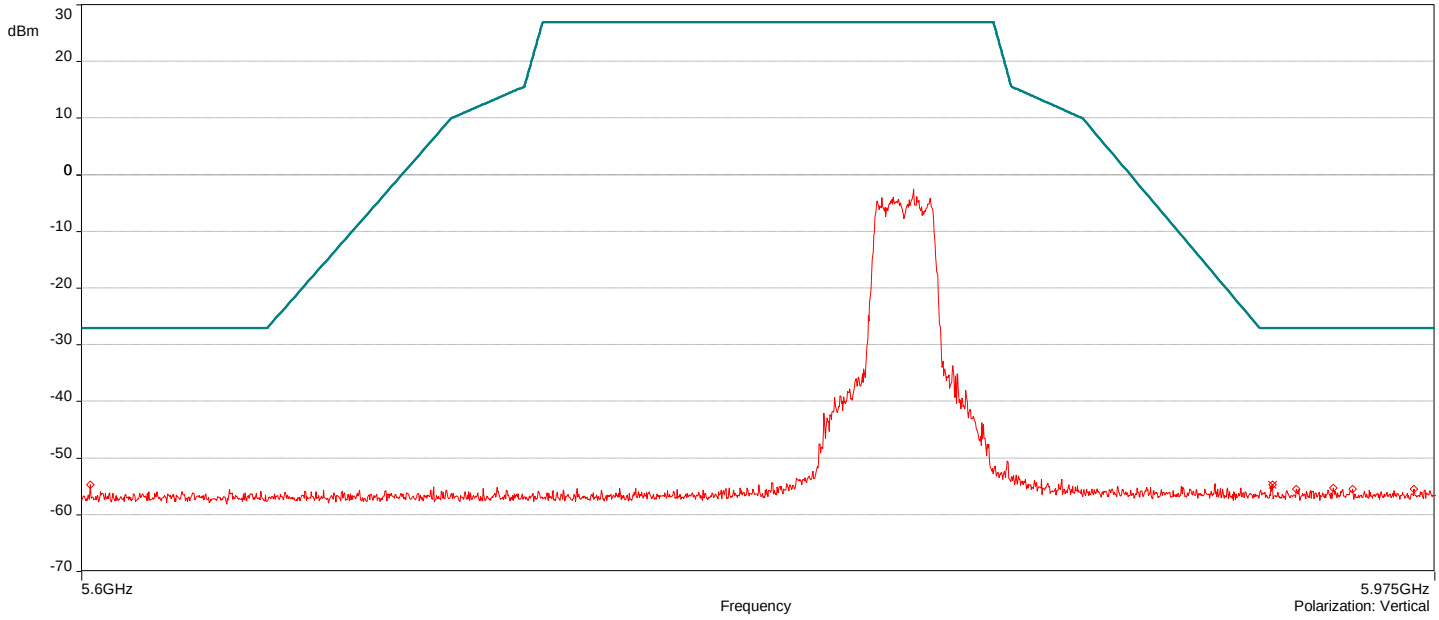
J24179#1_Restricted Bandedge_5G_UNII-3 802.11n_MCS0_20MHz_Ch 165

12/9/2024 19:24:33

No	Frequency (MHz)	Level Peak Reading (dBm)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.8266875GHz	-0.08	5.95	27.00	-27.08	1.00	45.30	Horizontal	Passed
2.	5.9286875GHz	-54.65	5.97	-27.00	-27.65	2.50	120.80	Vertical	Passed

Overall Graphs:



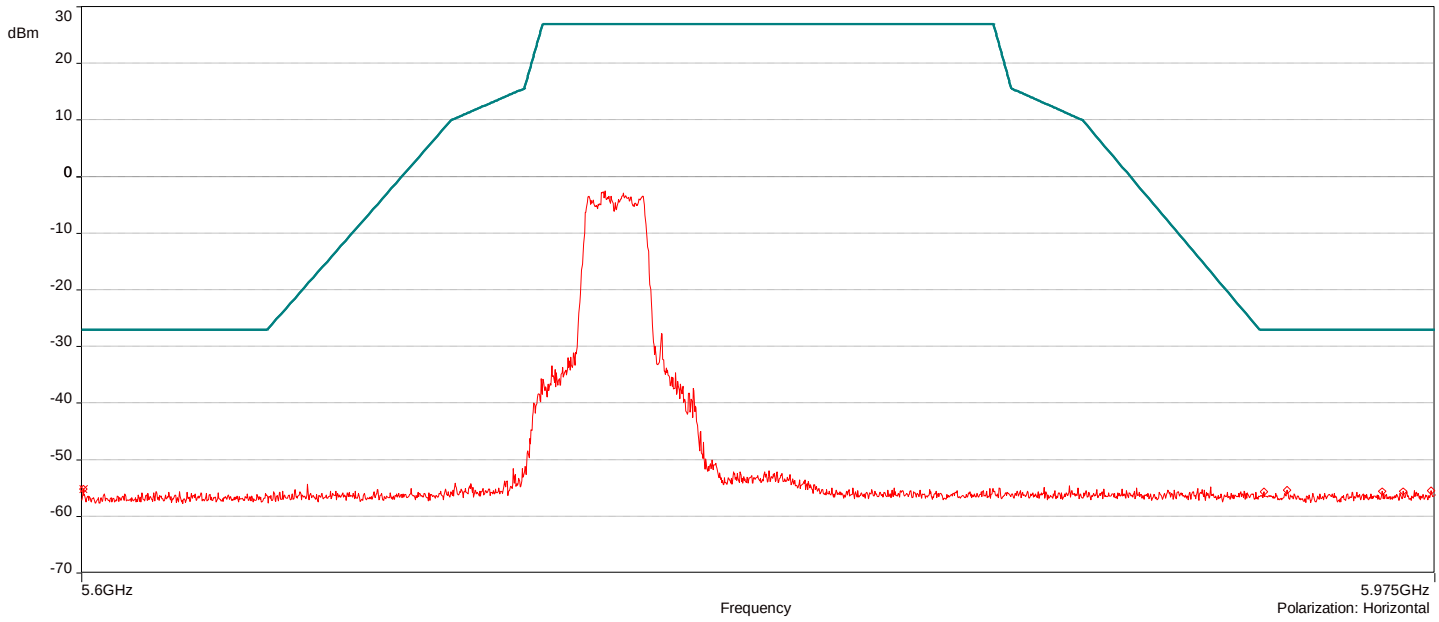


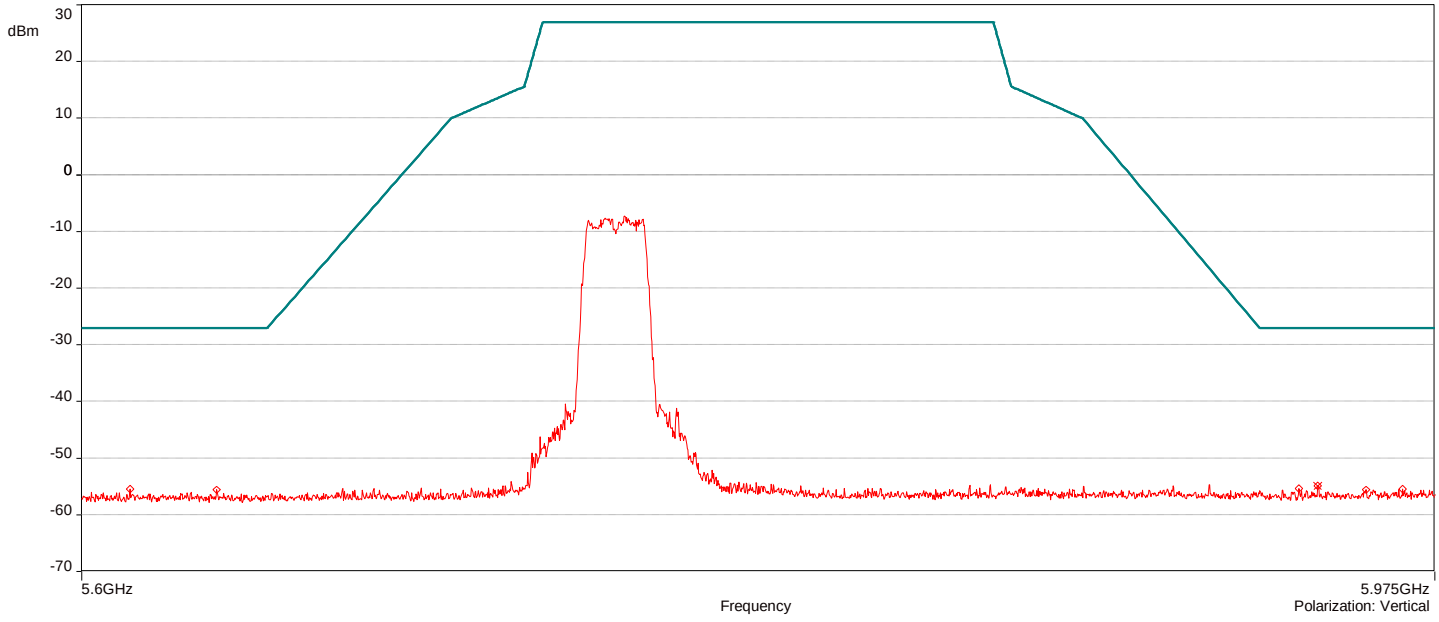
J24179#1_Restricted Bandedge_5G_UNII-3 802.11ac_MCS0_40MHz_Ch 151

12/9/2024 19:43:26

No	Frequency (MHz)	Level Peak Reading (dBm)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.600375GHz	-55.20	5.54	-27.00	-28.20	1.50	0.10	Horizontal	Passed
2.	5.941625GHz	-54.87	5.93	-27.00	-27.87	1.50	85.50	Vertical	Passed

Overall Graphs:



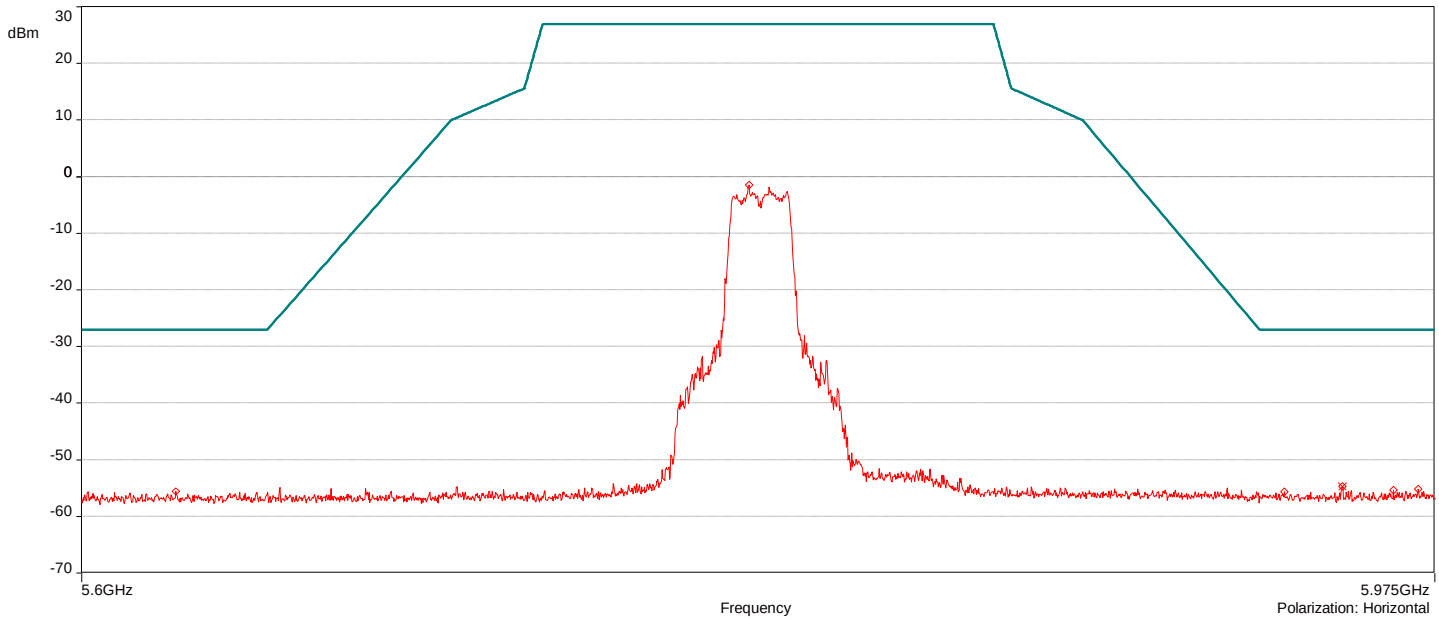


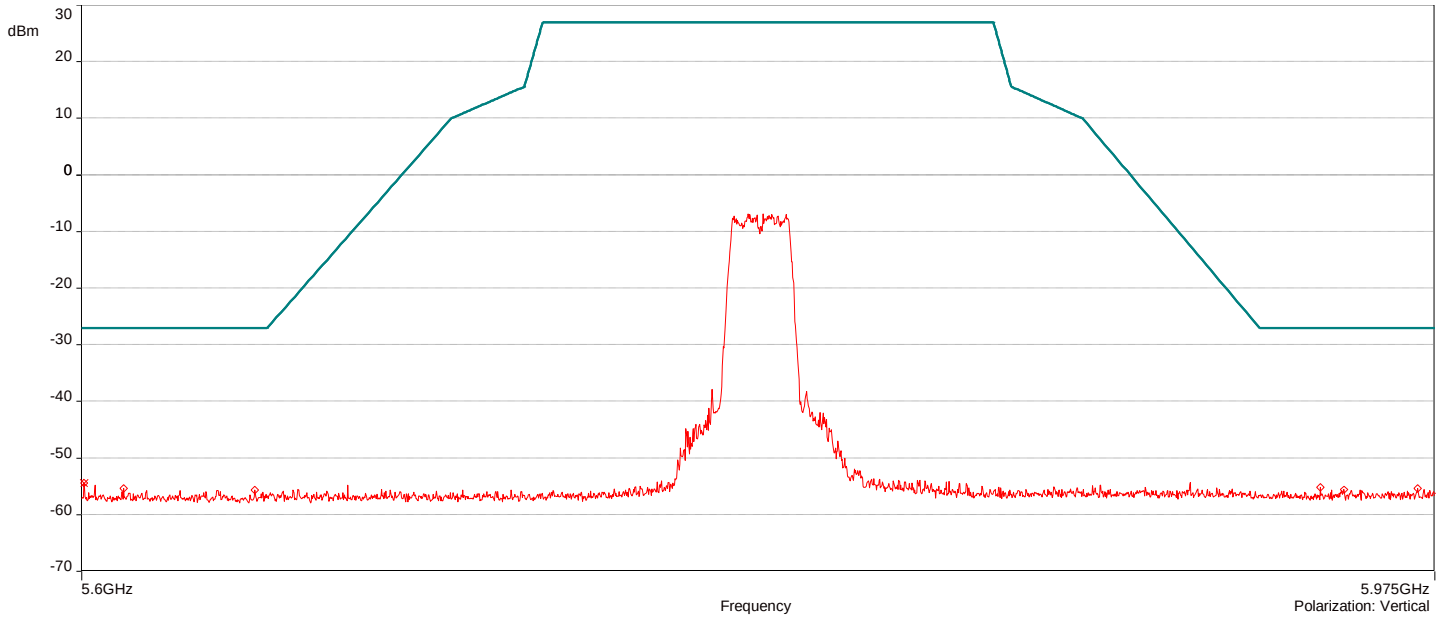
J24179#1_Restricted Bandedge_5G_UNII-3 802.11ac_MCS0_40MHz_Ch 159

12/9/2024 20:02:31

No	Frequency (MHz)	Level Peak Reading (dBm)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.9485625GHz	-54.73	5.90	-27.00	-27.73	2.50	96.90	Horizontal	Passed
2.	5.6005625GHz	-54.44	5.50	-27.00	-27.44	1.00	210.40	Vertical	Passed

Overall Graphs:



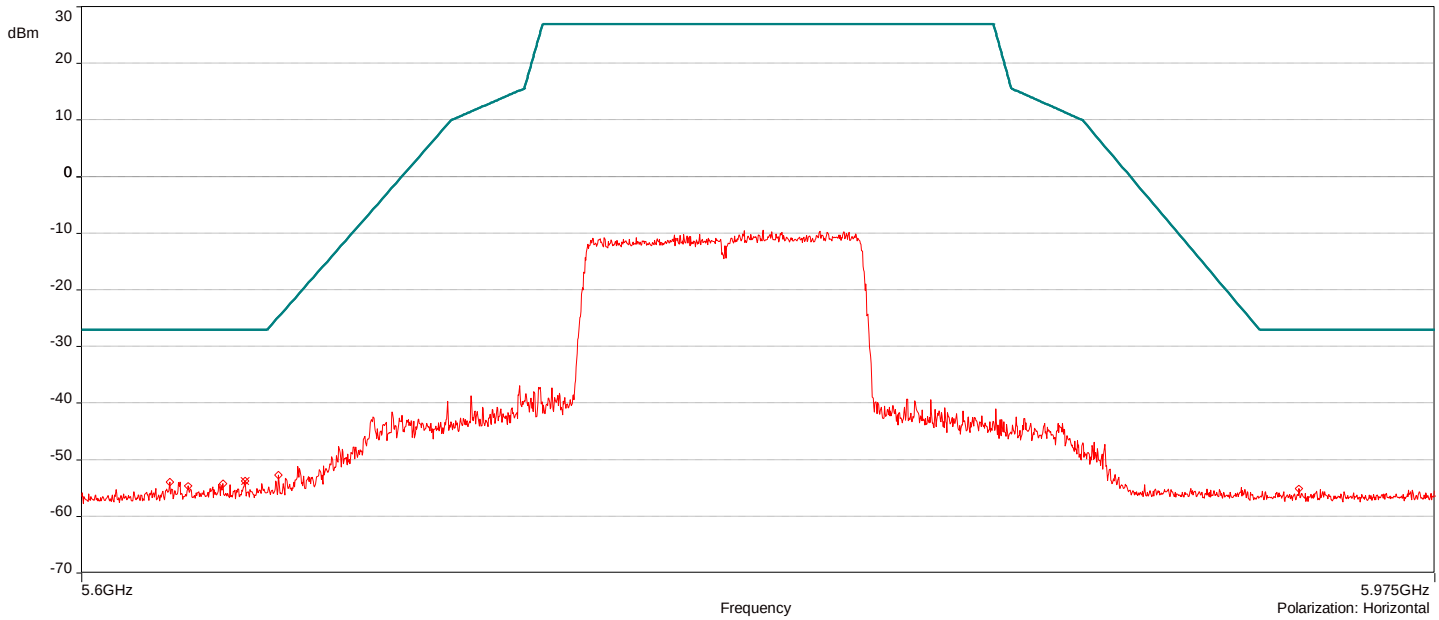


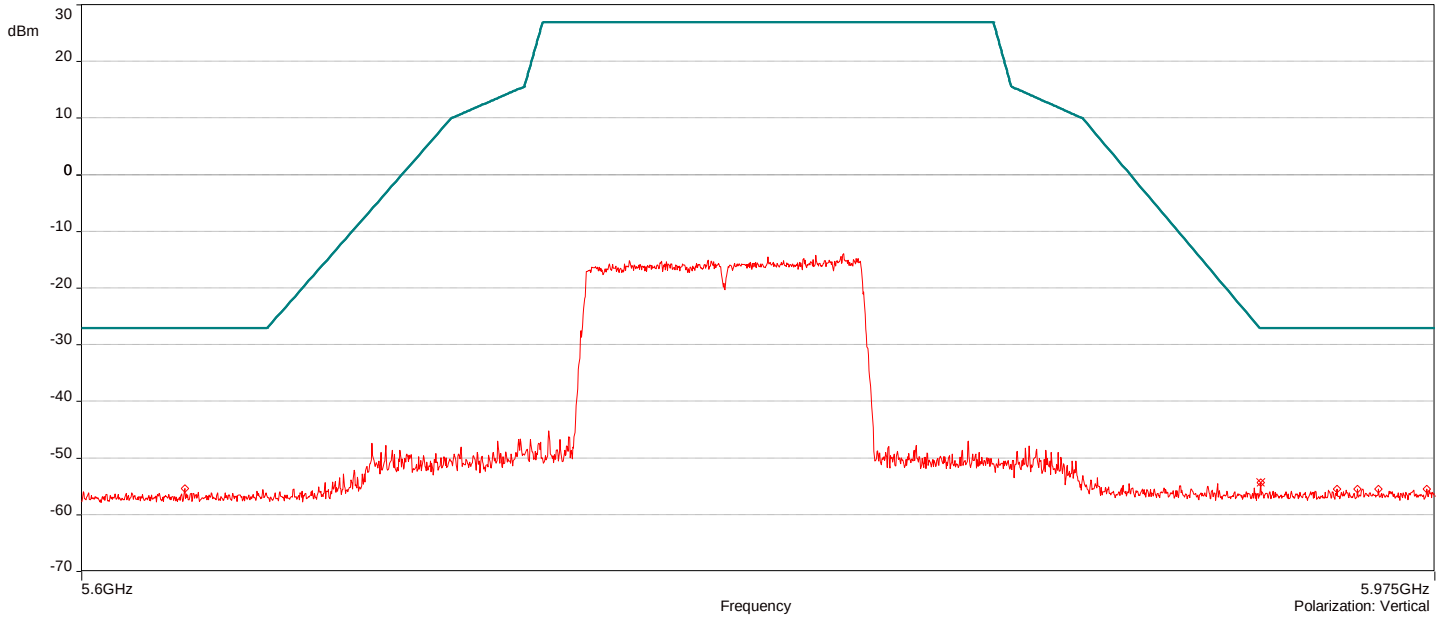
J24179#1_Restricted Bandedge_5G_UNII-3 802.11ac_MCS0_80MHz_Ch 155

12/9/2024 20:28:41

No	Frequency (MHz)	Level Peak Reading (dBm)	Correction Factor (dB)	Limit dBm	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.6440625GHz	-53.71	5.62	-27.00	-26.71	1.50	67.90	Horizontal	Passed
2.	5.9253125GHz	-54.35	5.99	-27.00	-27.35	1.00	90.30	Vertical	Passed

Overall Graphs:





Document Revisions

Version	Date	Modifier	Changes
1.0	1/06/2025	Sharon Spratt	• Initial Draft
2.0	03/19/2025	Aravind Buddana	• Added a Note in Section 4.3 under Test Equipment table on conducted tests completion date to avoid discrepancies on over testing completion date indicated on cover page. • Image compression applied to all plots in the Test report to reduce document size.

End of Report