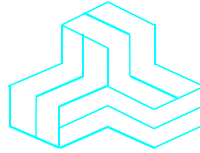


ENGINEERING TEST REPORT



RS-350 Backpack Radiation Detector

Model(s): RS-350

FCC ID: 2BHJ6-SDPAC

Applicant:

Radiation Solutions Inc

5875 Whittle Road

Mississauga, ON L4Z 2H4

Canada

In Accordance With

Part 15, Subpart E, Section 15.407

Unlicensed National Information Infrastructure Devices

UltraTech's File No.: 24RASI045FCC15E407

This Test report is Issued under the Authority of
Tri M. Luu
Vice President of Engineering
UltraTech Group of Labs

Date: November 11, 2024

Report Prepared by: Dan Huynh

Tested by: Angus Au

Issued Date: November 11, 2024

Test Dates:
July 18 - October 29, 2024

- The results in this Test Report apply only to the sample(s) tested, and the sample tested is randomly selected.
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UltraTech

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#0685
ISO/IEC 17065
Product Certification Body

0685



APEC TEL CA0001



1309



Innovation, Science and
Economic Development Canada

CA 0001/2049



AT-1945



SL2-IN-E-1119R



Korea KCC-RRR

CA0001

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EXHIBIT 1. INTRODUCTION

1.1. SCOPE

Reference:	FCC Part 15, Subpart E, Section 15.407
Title:	Code of Federal Regulations (CFR), Title 47 – Telecommunication, Part 15 – Radio Frequency Devices
Purpose of Test:	Class II Permissive Changes for integration of transmitter module into a portable host with new antenna type.
Test Procedures:	▪ ANSI C63.4 ▪ ANSI C63.10
Environmental Classification:	☒ Commercial, industrial or business environment ☐ Residential environment

1.2. RELATED SUBMITTAL(S)/GRANT(S)

None.

1.3. NORMATIVE REFERENCES

Publication	Year	Title
47 CFR Parts 0-19	2024	Code of Federal Regulations (CFR), Title 47 – Telecommunication
ANSI C63.4	2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40 GHz
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

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EXHIBIT 2. PERFORMANCE ASSESSMENT

2.1. CLIENT INFORMATION

Applicant	
Name:	Radiation Solutions Inc
Address:	5875 Whittle Road Mississauga, ON L4Z 2H4 Canada

Manufacturer	
Name:	Radiation Solutions Inc
Address:	5875 Whittle Road Mississauga, ON L4Z 2H4 Canada

2.2. EQUIPMENT UNDER TEST (EUT) INFORMATION

The following information (with the exception of the Date of Receipt) has been supplied by the applicant.

Brand Name:	Radiation Solutions Inc
Product Name:	RS-350 Backpack Radiation Detector
Model(s):	RS-350
Serial Number:	Test Sample
Type of Equipment:	Unlicensed National Information Infrastructure TX (NII)
Input Power Supply Type:	AC main and Lithium Ion Battery
Primary User Functions of EUT:	The RS-350 Backpack Radiation Detector is a Human Portable Radiation Detector. It is a rugged, self-contained, fast deployable gamma and neutron radiation monitoring and detection system with radionuclide identification features.

2.3. EUT'S TECHNICAL SPECIFICATIONS

Transmitter				
Equipment Type:	Portable			
Intended Operating Environment:	Commercial, industrial or business environment			
Power Supply Requirement:	AC main 100 – 240V, Lithium-Ion Battery 12V 7 Ah			
RF Output Power Rating:	802.11a	5180 - 5240 MHz	13.65 dBm	0.02317 W
		5260 - 5320 MHz	12.62 dBm	0.01828 W
		5500 - 5700 MHz	13.47 dBm	0.02223 W
		5745 - 5825 MHz	13.49 dBm	0.02234 W
	802.11n-20M	5180 - 5240 MHz	13.64 dBm	0.02312 W
		5260 - 5320 MHz	12.06 dBm	0.01607 W
		5500 - 5700 MHz	12.81 dBm	0.01910 W
		5745 - 5825 MHz	13.77 dBm	0.02382 W
	802.11n-40M	5190 - 5230 MHz	13.48 dBm	0.02228 W
		5270 - 5310 MHz	11.93 dBm	0.01560 W
		5510 - 5670 MHz	13.79 dBm	0.02393 W
		5755 - 5795 MHz	14.35 dBm	0.02723 W
	802.11ac-80M	5210 MHz	11.39 dBm	0.01377 W
		5290 MHz	10.42 dBm	0.01102 W
		5530 - 5610 MHz	12.76 dBm	0.01888 W
		5775 MHz	13.41 dBm	0.02193 W
Operating Frequency Range:	802.11a	5180 - 5240 MHz, 5260 - 5320 MHz, 5500 - 5700 MHz, 5745 - 5825 MHz		
	802.11n-20M	5180 - 5240 MHz, 5260 - 5320 MHz, 5500 - 5700 MHz, 5745 - 5825 MHz		
	802.11n-40M	5190 - 5230 MHz, 5270 - 5310 MHz, 5510 - 5670 MHz, 5755 - 5795 MHz		
	802.11ac-80M	5210MHz, 5290 MHz, 5530 - 5610 MHz, 5775MHz		
Number of Channels:	802.11a	5180 - 5240 MHz, 5745 - 5825 MHz		9 Ch
		5260 - 5320 MHz, 5500 - 5720 MHz		16 Ch
	802.11n-20M	5180 - 5240 MHz, 5745 - 5825 MHz		9 Ch
		5260 - 5320 MHz, 5500 -5720 MHz		16 Ch
	802.11n-40M	5190 - 5230 MHz, 5755 - 5795 MHz		4 Ch
		5270 - 5310 MHz, 5510 - 5710 MHz		8 Ch
	802.11ac-80M	5210 MHz, 5775 MHz		2 Ch
		5290 MHz, 5530 MHz, 5610MHz, 5690 MHz		4 Ch
RF Output Impedance:	50 Ω			
Duty Cycle:	Continuous			
Modulation Type(s):	OFDM			
Antenna Connector Type:	Integral			

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2.4. ASSOCIATED ANTENNA DESCRIPTION

Manufacturer	Antenna Type	Part Number	Maximum Gain (dBi)
Molex	On-metal external Wi-Fi dual-band antenna	2158680011	1.8 (2.4 – 2.485 GHz) 5.5 (5.15 – 5.85 GHz)

2.5. LIST OF EUT'S PORTS

Port Number	EUT's Port Description	Number of Identical Ports	Connector Type	Cable Type (Shielded/Non-shielded)
1	Ethernet Port	1	RJ-45	Non-shielded
2	USB Port	1	USB	Shielded
3	Battery	2	Screw-on connector	Non-shielded
4	AC Power supply	1	3 Pin Circular Connector	Shielded
5	GPS Port	1	SMA Connector	Terminated

2.6. ANCILLARY EQUIPMENT

The EUT was tested while connected to the following representative configuration of ancillary equipment necessary to exercise the ports during tests:

Ancillary Equipment # 1	
Description:	Switching Power Supply/Charger
Brand name:	Xinsu Global
Model Name or Number:	XSG1464000
Connected to EUT's Port:	Battery Port

EXHIBIT 3. EUT OPERATING CONDITIONS AND CONFIGURATIONS DURING TESTS

3.1. CLIMATE TEST CONDITIONS

The climate conditions of the test environment are as follows:

Temperature:	21 to 23 °C
Humidity:	45 to 58%
Pressure:	102 kPa
Power Input Source:	120 VAC or 12 VDC

3.2. OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TESTS

Operating Modes:	Each of lowest, middle and highest channel frequencies transmits continuously for tests which required the unit to operate in single channel mode.
Special Test Software:	Test software provided by the Applicant to operate the EUT at each channel frequency continuously and in the range of typical modes of operation.
Special Hardware Used:	N/A
Transmitter Test Antenna:	The EUT is tested with the antenna fitted in a manner typical of normal intended use as integral antenna equipment as described with the test results.

Transmitter Test Signals		
Frequency Band(s):	802.11a	5180 - 5240 MHz, 5260 - 5320 MHz, 5500 - 5700 MHz, 5745 - 5825 MHz
	802.11n-20M	5180 - 5240 MHz, 5260 - 5320 MHz, 5500 - 5700 MHz, 5745 - 5825 MHz
	802.11n-40M	5190 - 5230 MHz, 5270 - 5310 MHz, 5510 - 5670 MHz, 5755 - 5795 MHz
	802.11ac-80M	5210MHz, 5290 MHz, 5530 - 5610 MHz, 5775MHz
Frequency(ies) Tested:	802.11a	5180 MHz, 5200 MHz, 5240 MHz 5260 MHz, 5280 MHz, 5320 MHz 5500 MHz, 5580 MHz, 5700 MHz 5745 MHz, 5785 MHz, 5825 MHz
	802.11n-20M	5180 MHz, 5200 MHz, 5240 MHz 5260 MHz, 5280 MHz, 5320 MHz 5500 MHz, 5580 MHz, 5700 MHz 5745 MHz, 5785 MHz, 5825 MHz
	802.11n-40M	5190 MHz, 5230 MHz 5270 MHz, 5310 MHz 5510 MHz, 5590 MHz, 5670 MHz 5755 MHz, 5795 MHz
	802.11ac-80M	5210 MHz 5290 MHz 5530 MHz, 5610 MHz 5775 MHz

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Transmitter Test Signals				
RF Power Output: (measured maximum output power at antenna terminals)	Operating Mode	Frequency (MHz)	Output Power at Antenna Terminal	
			(dBm)	(W)
	802.11a	5180 - 5240 MHz	13.65 dBm	0.02317 W
		5260 - 5320 MHz	12.62 dBm	0.01828 W
		5500 - 5700 MHz	13.47 dBm	0.02223 W
		5745 - 5825 MHz	13.49 dBm	0.02234 W
	802.11n-20M	5180 - 5240 MHz	13.64 dBm	0.02312 W
		5260 - 5320 MHz	12.06 dBm	0.01607 W
		5500 - 5700 MHz	12.81 dBm	0.01910 W
		5745 - 5825 MHz	13.77 dBm	0.02382 W
	802.11n-40M	5190 - 5230 MHz	13.48 dBm	0.02228 W
		5270 - 5310 MHz	11.93 dBm	0.01560 W
		5510 - 5670 MHz	13.79 dBm	0.02393 W
		5755 - 5795 MHz	14.35 dBm	0.02723 W
	802.11ac-80M	5210 MHz	11.39 dBm	0.01377 W
		5290 MHz	10.42 dBm	0.01102 W
		5530 - 5610 MHz	12.76 dBm	0.01888 W
		5775 MHz	13.41 dBm	0.02193 W
Normal Test Modulation:	OFDM			
Modulating Signal Source:	Internal			

EXHIBIT 4. SUMMARY OF TEST RESULTS

4.1. LOCATION OF TESTS

All of the measurements described in this report were performed at Ultratech Group of Labs located in the city of Oakville, Province of Ontario, Canada.

- AC Power Line Conducted Emissions were performed in UltraTech's shielded room, 24'(L) by 16'(W) by 8'(H).
- Radiated Emissions were performed at the Ultratech's 3-10 TDK Semi-Anechoic Chamber situated in the Town of Oakville, province of Ontario. This test site been calibrated in accordance with ANSI C63.4, and found to be in compliance with the requirements of Sec. 2.948 of the FCC Rules. The descriptions and site measurement data of the Oakville 3-10 TDK Semi-Anechoic Chamber has been filed with ANAB File No.: AT-1945.

4.2. APPLICABILITY & SUMMARY OF EMC EMISSION TEST RESULTS

FCC Section(s)	Test Requirements	Compliance (Yes/No)
15.203	Antenna requirements	Yes*
15.207(a)	AC Power Line Conducted Emissions	Yes
15.407(a)(1)(ii) & (a)(3)(i)	Maximum Conducted Out Power	Yes
15.407(b)	Undesirable Emission	Yes
15.407(c)	Transmission discontinuation requirement	Yes
15.407(d)	Operational restrictions for 6 GHz U-NII devices	N/A
15.407(e)	6 dB Bandwidth	N/A
15.407(f)	RF Exposure	Yes*
15.407(g)	Frequency Stability	N/A
15.407(h)(1)	Transmit Power Control (TPC)	N/A
15.407(h)(2)	Dynamic Frequency Selection (DFS)	N/A

*Refer to SAR test report.

4.3. MODIFICATIONS INCORPORATED IN THE EUT FOR COMPLIANCE PURPOSES

None.

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EXHIBIT 5. TEST DATA

5.1. POWER LINE CONDUCTED EMISSIONS [§15.207(a)]

5.1.1. Limit(s)

The equipment shall meet the limits of the following table:

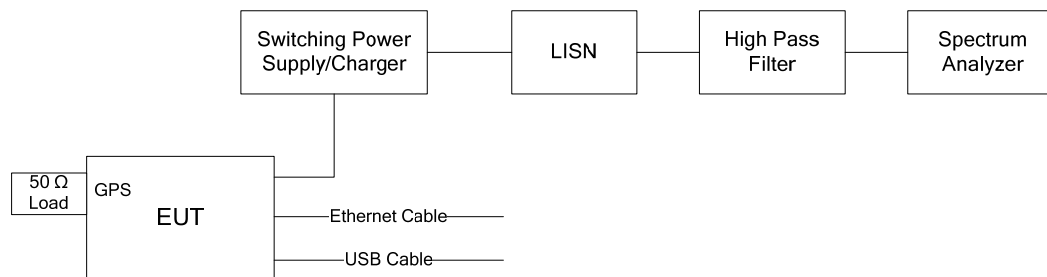
Frequency of emission (MHz)	Conducted Limits (dB μ V)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases linearly with the logarithm of the frequency

5.1.2. Method of Measurements

ANSI C63.4

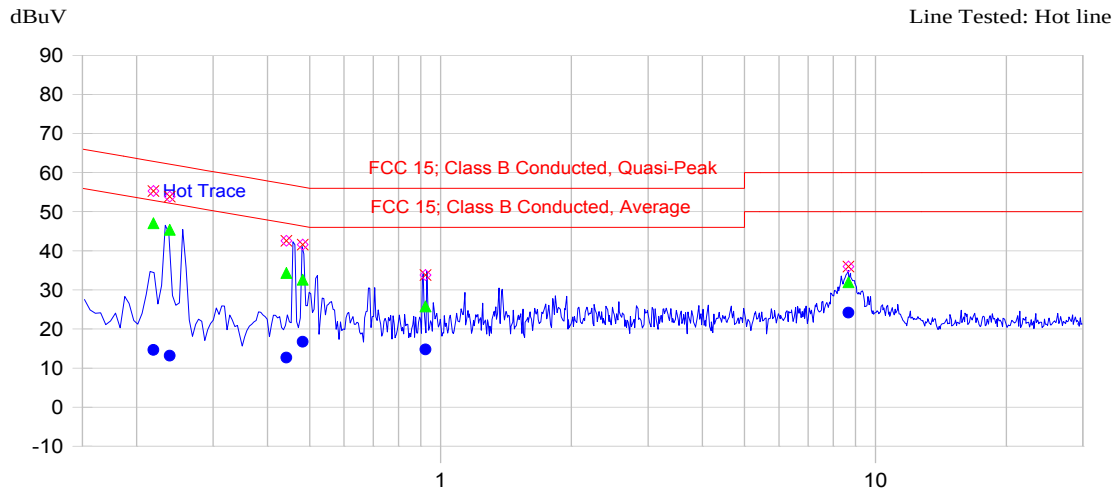
5.1.3. Test Arrangement



5.1.4. Test Data

Plot 5.1.4.1. Power Line Conducted Emissions, Tx Mode
Line Voltage: 120 VAC, 60 Hz; Line Tested: Hot Line

Current Graph

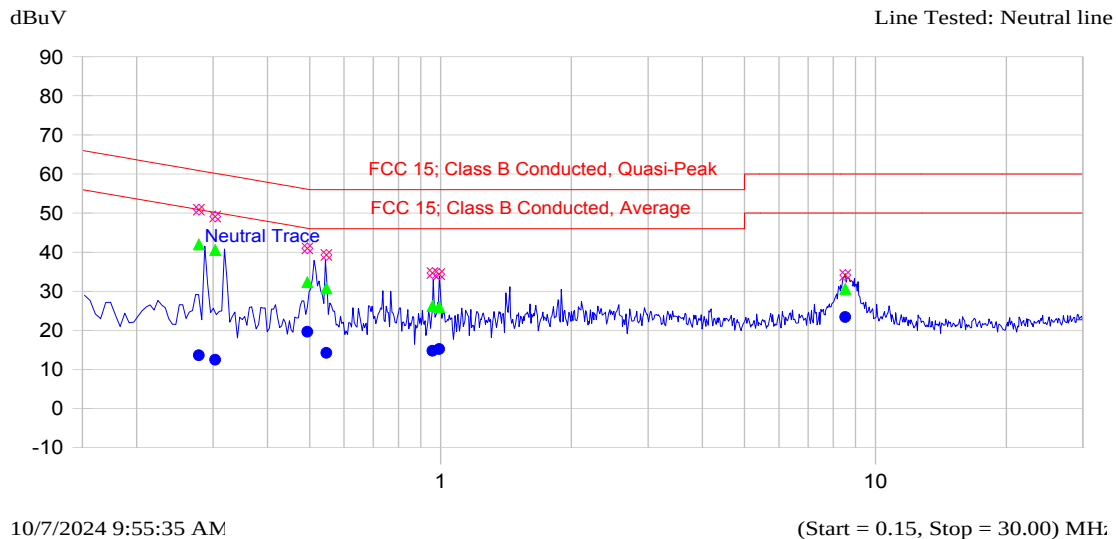


Current List

Frequency MHz	Peak dBuV	QP dBuV	QP-QP Limit dB	Avg dBuV	Avg-Avg Limit dB	Trace Name
0.219	55.3	47.1	-15.8	14.6	-38.2	Hot Trace
0.238	53.9	45.4	-16.8	13.2	-39.0	Hot Trace
0.442	42.6	34.3	-22.7	12.7	-34.3	Hot Trace
0.482	41.6	32.6	-23.7	16.7	-29.6	Hot Trace
0.923	33.8	25.8	-30.2	14.7	-31.3	Hot Trace
8.668	36.0	31.9	-28.1	24.2	-25.8	Hot Trace

Plot 5.1.4.2. Power Line Conducted Emissions, Tx Mode
Line Voltage: 120 VAC, 60 Hz; Line Tested: Neutral Line

Current Graph

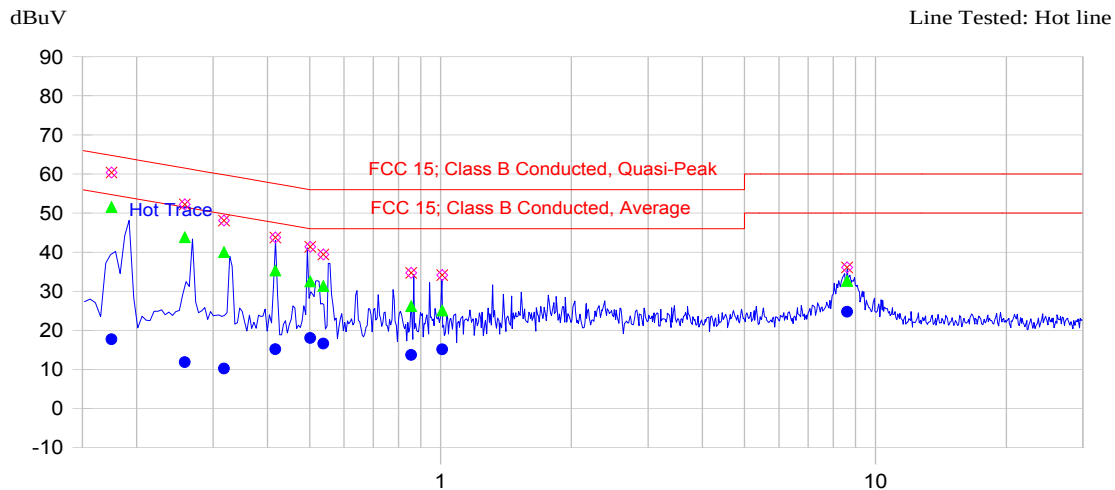


Current List

Frequency MHz	Peak dBuV	QP dBuV	QP-QP Limit dB	Avg dBuV	Avg-Avg Limit dB	Trace Name
0.278	50.9	42.0	-18.9	13.6	-37.3	Neutral Trace
0.303	49.1	40.5	-19.6	12.5	-37.7	Neutral Trace
0.493	41.0	32.3	-23.8	19.6	-26.5	Neutral Trace
0.546	39.3	30.7	-25.3	14.2	-31.8	Neutral Trace
0.958	34.6	26.2	-29.8	14.8	-31.2	Neutral Trace
0.993	34.4	26.0	-30.0	15.2	-30.8	Neutral Trace
8.520	34.1	30.6	-29.4	23.4	-26.6	Neutral Trace

Plot 5.1.4.3. Power Line Conducted Emissions, Rx Mode
Line Voltage: 120 VAC, 60 Hz; Line Tested: Hot Line

Current Graph

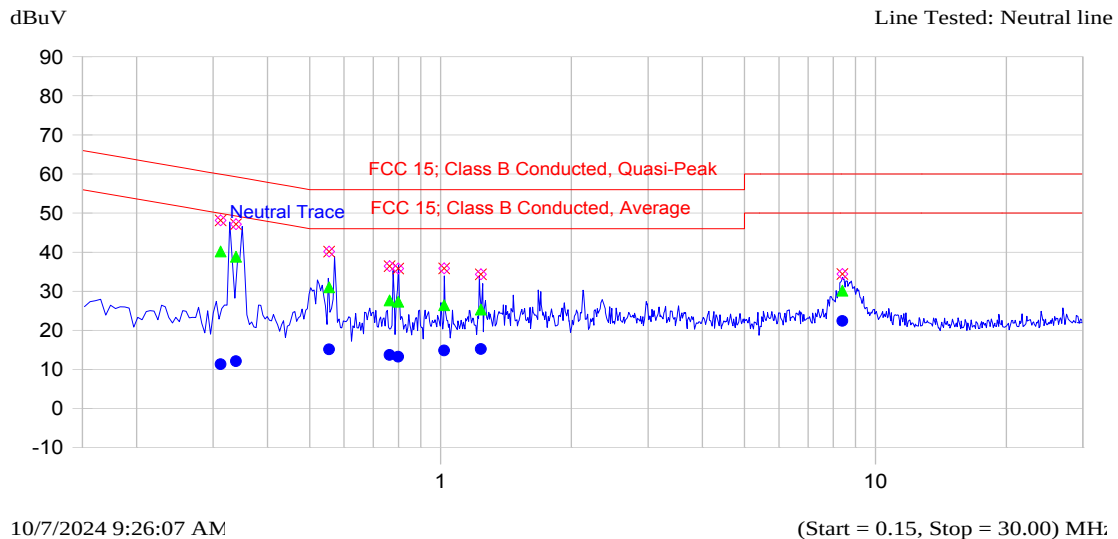


Current List

Frequency MHz	Peak dBuV	QP dBuV	QP-QP Limit dB	Avg dBuV	Avg-Avg Limit dB	Trace Name
0.175	60.3	51.5	-13.2	17.7	-37.0	Hot Trace
0.258	52.2	43.8	-17.7	11.9	-39.6	Hot Trace
0.317	48.1	40.0	-19.8	10.2	-39.6	Hot Trace
0.417	43.7	35.3	-22.2	15.2	-32.3	Hot Trace
0.502	41.4	32.5	-23.5	18.0	-28.0	Hot Trace
0.538	39.4	31.3	-24.7	16.6	-29.4	Hot Trace
0.856	34.7	26.2	-29.8	13.7	-32.3	Hot Trace
1.009	34.1	25.1	-30.9	15.1	-30.9	Hot Trace
8.607	36.1	32.6	-27.4	24.7	-25.3	Hot Trace

Plot 5.1.4.4. Power Line Conducted Emissions, Rx Mode
Line Voltage: 120 VAC, 60 Hz; Line Tested: Neutral Line

Current Graph



Current List

Frequency MHz	Peak dBuV	QP dBuV	QP-QP Limit dB	Avg dBuV	Avg-Avg Limit dB	Trace Name
0.312	48.1	40.2	-19.7	11.3	-38.6	Neutral Trace
0.339	47.2	38.8	-20.4	12.1	-37.1	Neutral Trace
0.554	40.1	31.0	-25.0	15.1	-30.9	Neutral Trace
0.763	36.4	27.6	-28.4	13.7	-32.3	Neutral Trace
0.800	35.8	27.3	-28.7	13.3	-32.7	Neutral Trace
1.018	35.8	26.4	-29.6	14.8	-31.2	Neutral Trace
1.237	34.3	25.3	-30.7	15.2	-30.8	Neutral Trace
8.394	34.4	30.1	-29.9	22.4	-27.6	Neutral Trace

5.3. OUTPUT POWER [§ 15.407(a)]

5.3.1. Limit(s)

§15.407(a)(1)(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

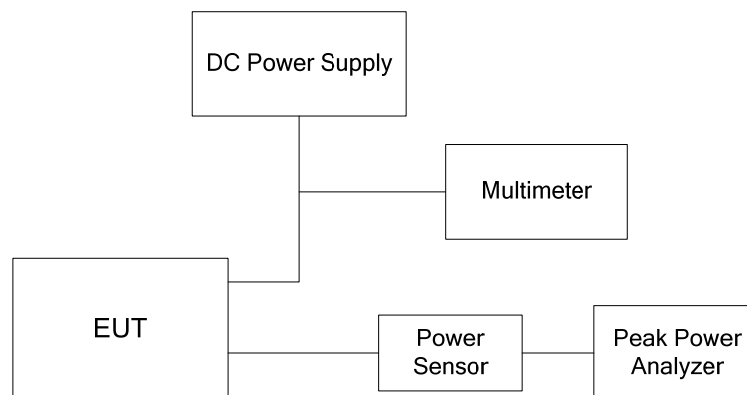
§ 15.407(a)(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

§15.407(a)(3)(i) For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

5.3.2. Method of Measurements

ANSI 63.10-2020, Section 12.4.3.1

5.3.3. Test Arrangement



5.3.4. Test Data

U-NII-1 Band (5.15 - 5.25 GHz)				
Operating Mode	Frequency (MHz)	Output Power at Antenna Terminal		Limit (W)
		(dBm)	(W)	
802.11a	5180	13.03	0.02009	1
	5200	13.65	0.02317	1
	5240	12.10	0.01622	1
802.11n-20M	5180	12.64	0.01837	1
	5200	13.64	0.02312	1
	5240	12.29	0.01694	1
802.11n-40M	5190	13.48	0.02228	1
	5230	13.46	0.02218	1
802.11ac-80M	5210	11.39	0.01377	1

U-NII-2A Band (5.25 - 5.35 GHz)				
Operating Mode	Frequency (MHz)	Output Power at Antenna Terminal		Limit (W)
		(dBm)	(W)	
802.11a	5260	11.86	0.01535	0.250
	5280	11.97	0.01574	0.250
	5320	12.62	0.01828	0.250
802.11n-20M	5260	11.66	0.01466	0.250
	5280	11.75	0.01496	0.250
	5320	12.06	0.01607	0.250
802.11n-40M	5270	11.93	0.01560	0.250
	5310	11.04	0.01271	0.250
802.11ac-80M	5290	10.42	0.01102	0.250

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U-NII-2C Band (5.47 - 5.725 GHz)				
Operating Mode	Frequency (MHz)	Output Power at Antenna Terminal		Limit (W)
		(dBm)	(W)	
802.11a	5500	13.47	0.02223	0.250
	5580	11.67	0.01469	0.250
	5700	11.94	0.01563	0.250
802.11n-20M	5500	12.81	0.01910	0.250
	5580	11.33	0.01358	0.250
	5700	11.65	0.01462	0.250
802.11n-40M	5510	13.74	0.02366	0.250
	5550	11.82	0.01521	0.250
	5670	13.79	0.02393	0.250
802.11ac-80M	5530	12.44	0.01754	0.250
	5610	12.76	0.01888	0.250

U-NII-3 Band (5.725 - 5.850 GHz)				
Operating Mode	Frequency (MHz)	Output Power at Antenna Terminal		Limit (W)
		(dBm)	(W)	
802.11a	5745	12.56	0.01803	1
	5785	13.49	0.02234	1
	5825	12.74	0.01879	1
802.11n-20M	5745	12.53	0.01791	1
	5785	13.77	0.02382	1
	5825	13.37	0.02173	1
802.11n-40M	5755	13.89	0.02449	1
	5795	14.35	0.02723	1
802.11ac-80M	5775	13.41	0.02193	1

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5.4. TRANSMITTER SPURIOUS RADIATED EMISSIONS AT 3 METERS [§§ 15.407(b), 15.209 & 15.205]

5.4.1. Limit(s)

§ 15.407(b)

- (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 solely in the 5.725-5.850 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.

Section 15.205(a) - Restricted Bands of Operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41.			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

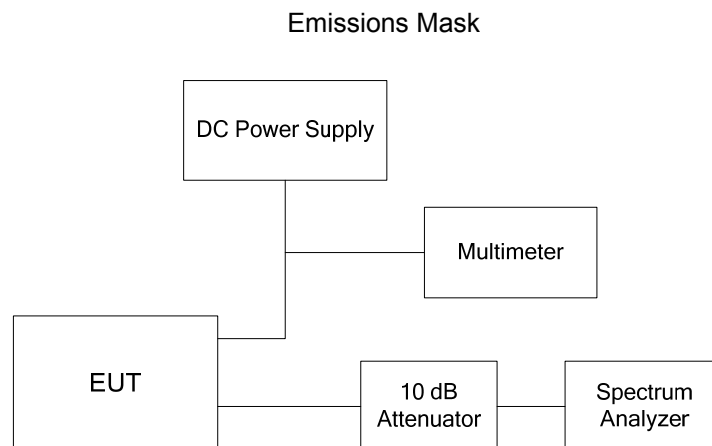
Section 15.209(a) - Field Strength Limits within Restricted Frequency Bands

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 - 0.490	2,400 / F (kHz)	300
0.490 - 1.705	24,000 / F (kHz)	30
1.705 - 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 – 960	200	3
Above 960	500	3

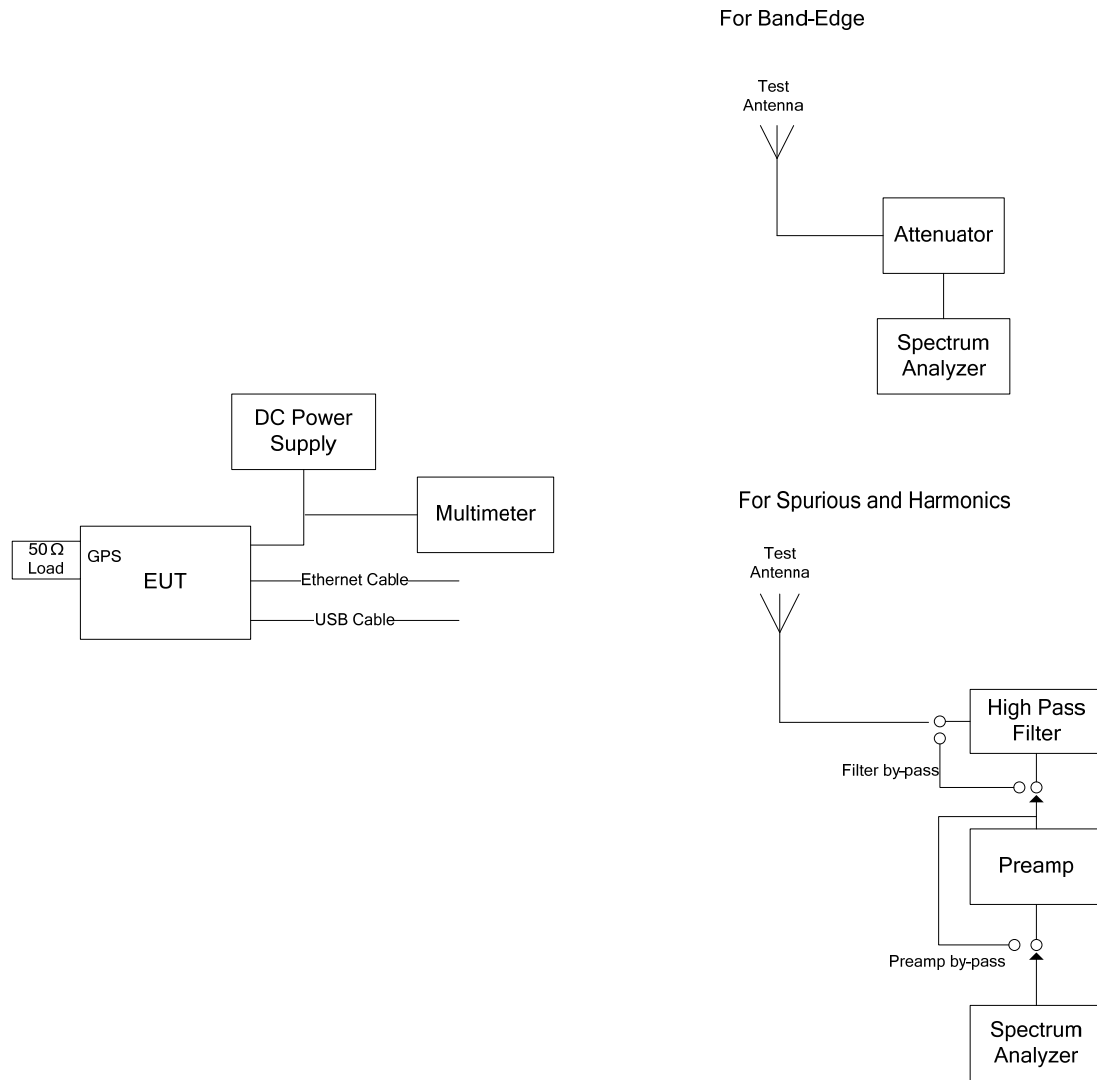
5.4.2. Method of Measurements

ANSI C63.10-2020 Section 12.7 and ANSI 63.4 procedures.

5.4.3. Test Arrangement



Spurious Radiated Emissions and Band-Edge Radiated Emissions



5.4.4. Test Data

Remark(s):

- All spurious emissions that are in excess of 20 dB below the specified limit shall be recorded.
- The following test data represent the worst-case derived from exploratory tests.
- For field strength measured at 3 m distance, EIRP shall be computed using: $EIRP[dBm] = E[dB\mu V/m] - 95.2$

5.4.4.1. Spurious Radiated Emission

5.4.4.1.1. U-NII-1 Band (5.15 - 5.25 GHz)

Operating Mode:		802.11a					
Fundamental Frequency:		5180 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dB μ V/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dB μ V/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5180.0	92.36	V	-2.84	--	--	--	--
5180.0	85.55	H	-9.65	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11a					
Fundamental Frequency:		5200 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dB μ V/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dB μ V/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5200.0	94.59	V	-0.61	--	--	--	--
5200.0	90.34	H	-4.86	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11a					
Fundamental Frequency:		5240 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dB μ V/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dB μ V/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5240.0	96.91	V	1.71	--	--	--	--
5240.0	95.28	H	0.08	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

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Operating Mode:		802.11n-20M					
Fundamental Frequency:		5180 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5180.0	96.66	V	1.46	--	--	--	--
5180.0	91.01	H	-4.19	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5200 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5200.0	96.75	V	1.55	--	--	--	--
5200.0	92.66	H	-2.54	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5240 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5240.0	97.00	V	1.80	--	--	--	--
5240.0	95.09	H	-0.11	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5190 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5190.0	96.41	V	1.21	--	--	--	--
5190.0	90.89	H	-4.31	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5230 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5230.0	92.76	V	-2.44	--	--	--	--
5230.0	86.13	H	-9.07	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11ac-80M					
Fundamental Frequency:		5210 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5210.0	92.79	V	-2.41	--	--	--	--
5210.0	88.00	H	-7.20	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

5.4.4.1.2. U-NII-2A Band (5.25 - 5.35 GHz)

Operating Mode:		802.11a					
Fundamental Frequency:		5260 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5260.0	92.35	V	-2.85	--	--	--	--
5260.0	91.09	H	-4.11	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11a					
Fundamental Frequency:		5280 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5280.0	92.88	V	-2.32	--	--	--	--
5280.0	91.65	H	-3.55	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11a					
Fundamental Frequency:		5320 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5320.0	93.42	V	-1.78	--	--	--	--
5320.0	92.05	H	-3.15	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

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Operating Mode:		802.11n-20M					
Fundamental Frequency:		5260 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5260.0	91.47	V	-3.73	--	--	--	--
5260.0	90.30	H	-4.90	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5280 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5280.0	92.42	V	-2.78	--	--	--	--
5280.0	90.79	H	-4.41	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5320 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5320.0	93.15	V	-2.05	--	--	--	--
5320.0	91.65	H	-3.55	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5270 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5270.0	90.31	V	-4.89	--	--	--	--
5270.0	89.47	H	-5.73	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5310 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5310.0	90.73	V	-4.47	--	--	--	--
5310.0	90.09	H	-5.11	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11ac-80M					
Fundamental Frequency:		5290 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5290.0	89.80	V	-5.40	--	--	--	--
5290.0	88.39	H	-6.81	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

5.4.4.1.3. U-NII-2C Band (5.47 - 5.725 GHz)

Operating Mode:		802.11a					
Fundamental Frequency:		5500 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5500.0	93.62	V	-1.58	--	--	--	--
5500.0	91.09	H	-4.11	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11a					
Fundamental Frequency:		5580 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5580.0	93.54	V	-1.66	--	--	--	--
5580.0	91.12	H	-4.08	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11a					
Fundamental Frequency:		5700 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5700.0	93.39	V	-1.81	--	--	--	--
5700.0	91.18	H	-4.02	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5500 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5500.0	93.36	V	-1.84	--	--	--	--
5500.0	91.40	H	-3.80	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5580 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5580.0	92.93	V	-2.27	--	--	--	--
5580.0	91.20	H	-4.00	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5700 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5700.0	92.74	V	-2.46	--	--	--	--
5700.0	91.16	H	-4.04	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5510 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5510.0	92.92	V	-2.28	--	--	--	--
5510.0	91.78	H	-3.42	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5550 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5550.0	93.18	V	-2.02	--	--	--	--
5550.0	91.43	H	-3.77	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5670 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5670.0	93.58	V	-1.62	--	--	--	--
5670.0	91.32	H	-3.88	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11ac-80M					
Fundamental Frequency:		5530 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5530.0	92.21	V	-2.99	--	--	--	--
5530.0	90.08	H	-5.12	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11ac-80M					
Fundamental Frequency:		5610 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5610.0	91.77	V	-3.43	--	--	--	--
5610.0	89.95	H	-5.25	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

5.4.4.1.4. U-NII-3 Band (5.725 - 5.850 GHz)

Operating Mode:		802.11a					
Fundamental Frequency:		5745 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5745.0	90.80	V	-4.40	--	--	--	--
5745.0	88.95	H	-6.25	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11a					
Fundamental Frequency:		5785 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5785.0	90.46	V	-4.74	--	--	--	--
5785.0	88.92	H	-6.28	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11a					
Fundamental Frequency:		5825 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBμV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBμV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5825.0	90.07	V	-5.13	--	--	--	--
5825.0	88.90	H	-6.30	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5745 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5745.0	91.75	V	-3.45	--	--	--	--
5745.0	88.11	H	-7.09	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5785 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5785.0	91.68	V	-3.52	--	--	--	--
5785.0	89.90	H	-5.30	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-20M					
Fundamental Frequency:		5825 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5825.0	91.73	V	-3.47	--	--	--	--
5825.0	91.74	H	-3.46	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5755 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5755.0	91.41	V	-3.79	--	--	--	--
5755.0	90.11	H	-5.09	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11n-40M					
Fundamental Frequency:		5795 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5795.0	95.07	V	-0.13	--	--	--	--
5795.0	88.86	H	-6.34	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

Operating Mode:		802.11ac-80M					
Fundamental Frequency:		5775 MHz					
Frequency Test Range:		30 MHz – 40 GHz					
Frequency (MHz)	RF Peak Level at 3 m (dBµV/m)	Antenna Plane (H/V)	EIRP (dBm)	Limit 15.209(a) (dBµV/m)	Limit 15.407(b) (dBm/MHz)	Margin (dB)	Pass/Fail
5775.0	92.79	V	-2.41	--	--	--	--
5775.0	90.07	H	-5.13	--	--	--	--
30 - 40000	*	V/H	*	*	*	*	*

*No spurious emissions detected.

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3000 Bristol Circle, Oakville, Ontario, Canada L6H 6G4
Tel. #: 905-829-1570, Fax. #: 905-829-8050, Email: vic@ultratech-labs.com, Website: <http://www.ultratech-labs.com>

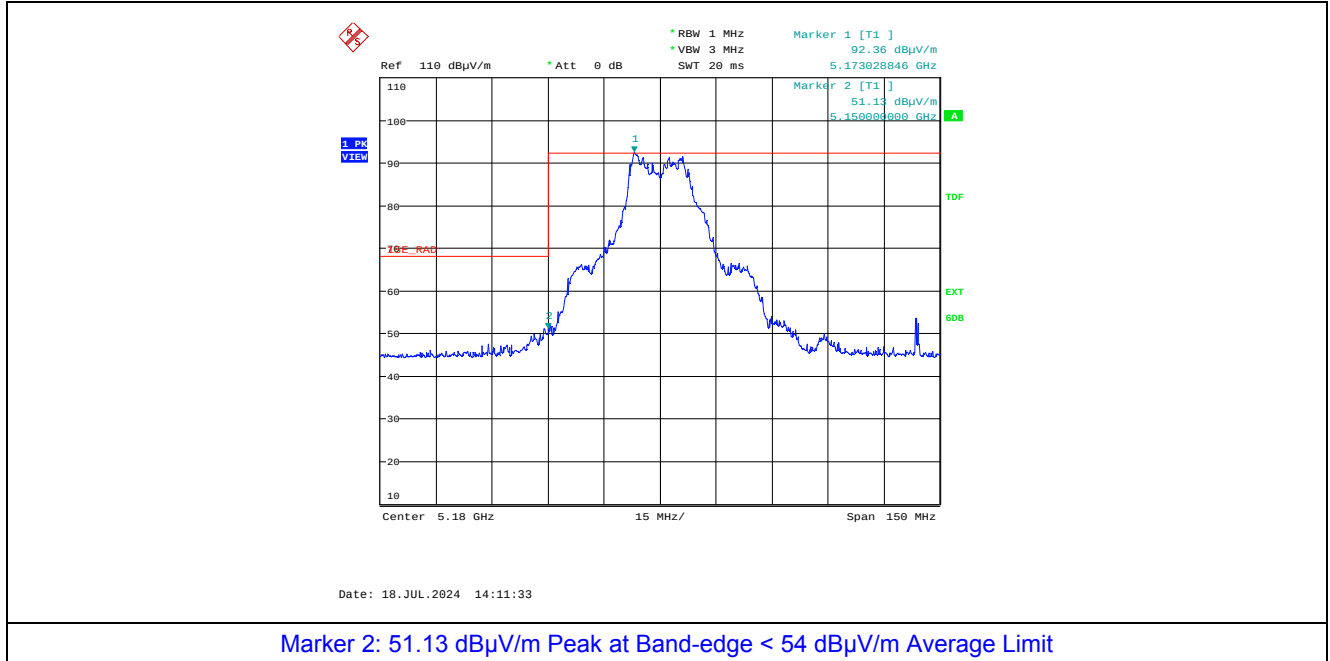
File #: 24RASI045FCC15E407

November 11, 2024

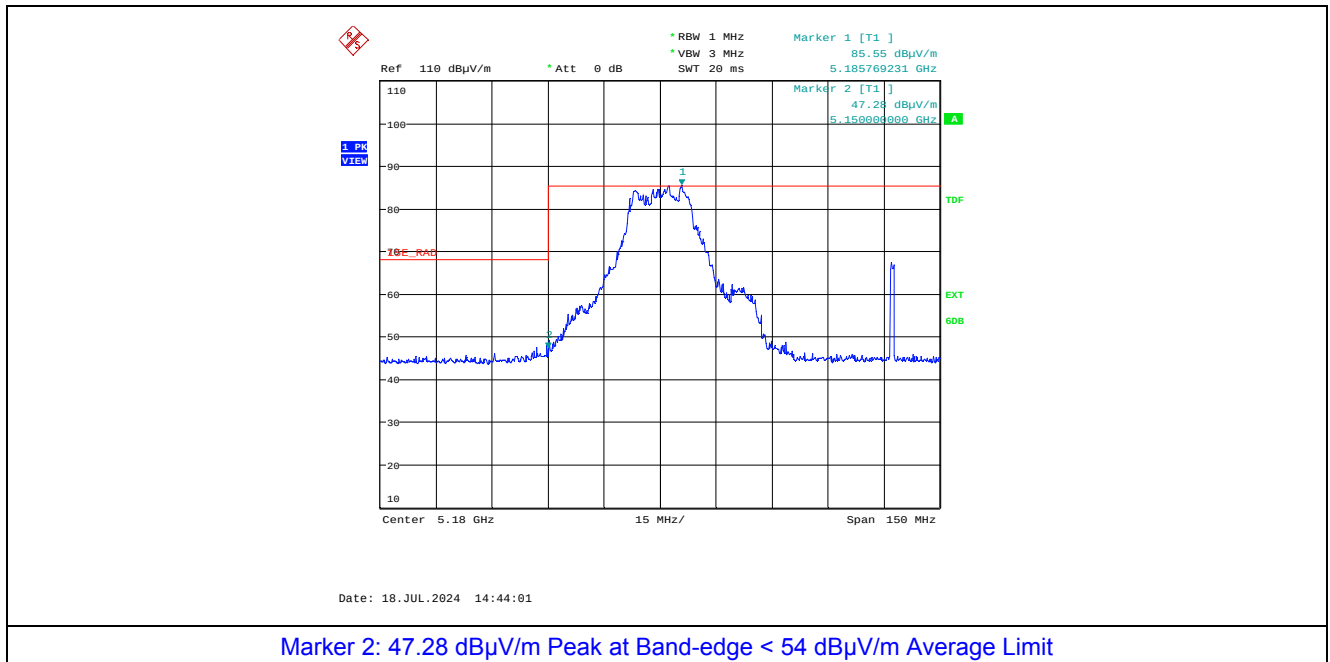
All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

5.4.4.2. Band-Edge RF Radiated Emissions

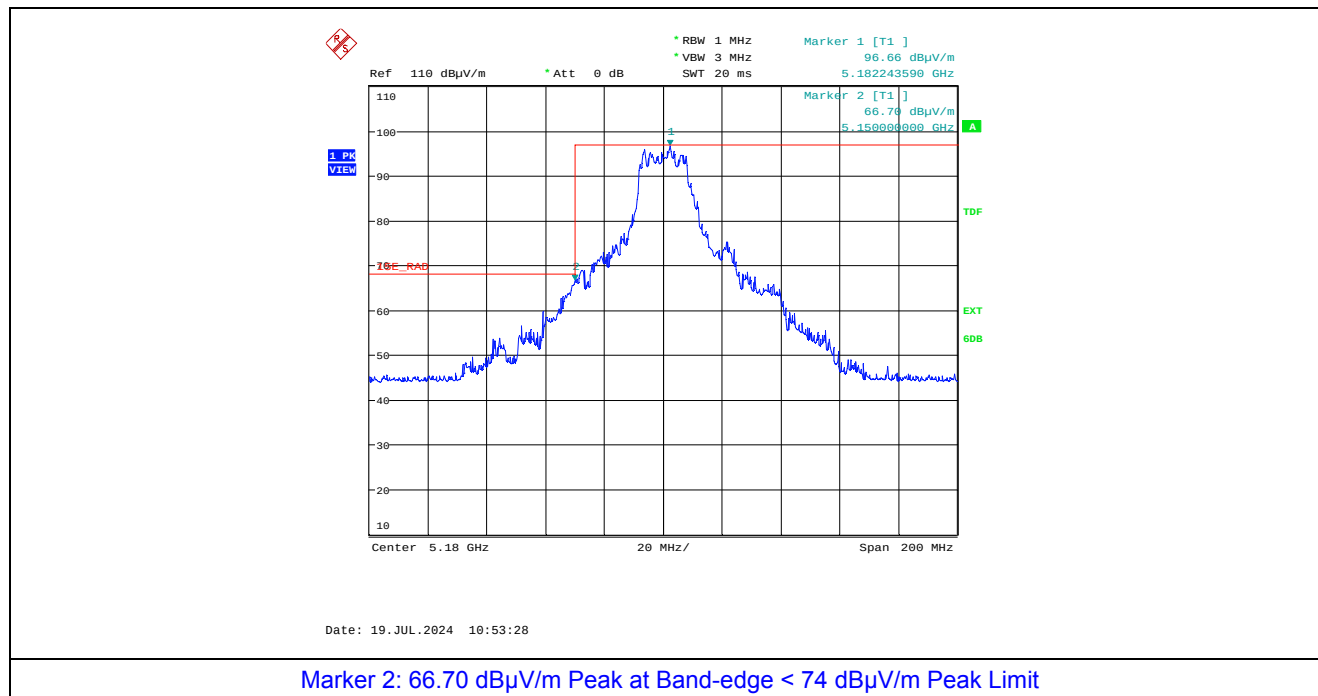
Plot 5.4.4.2.1. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak U-NII-1 Band 802.11a, Low End of Frequency Band, 5180 MHz



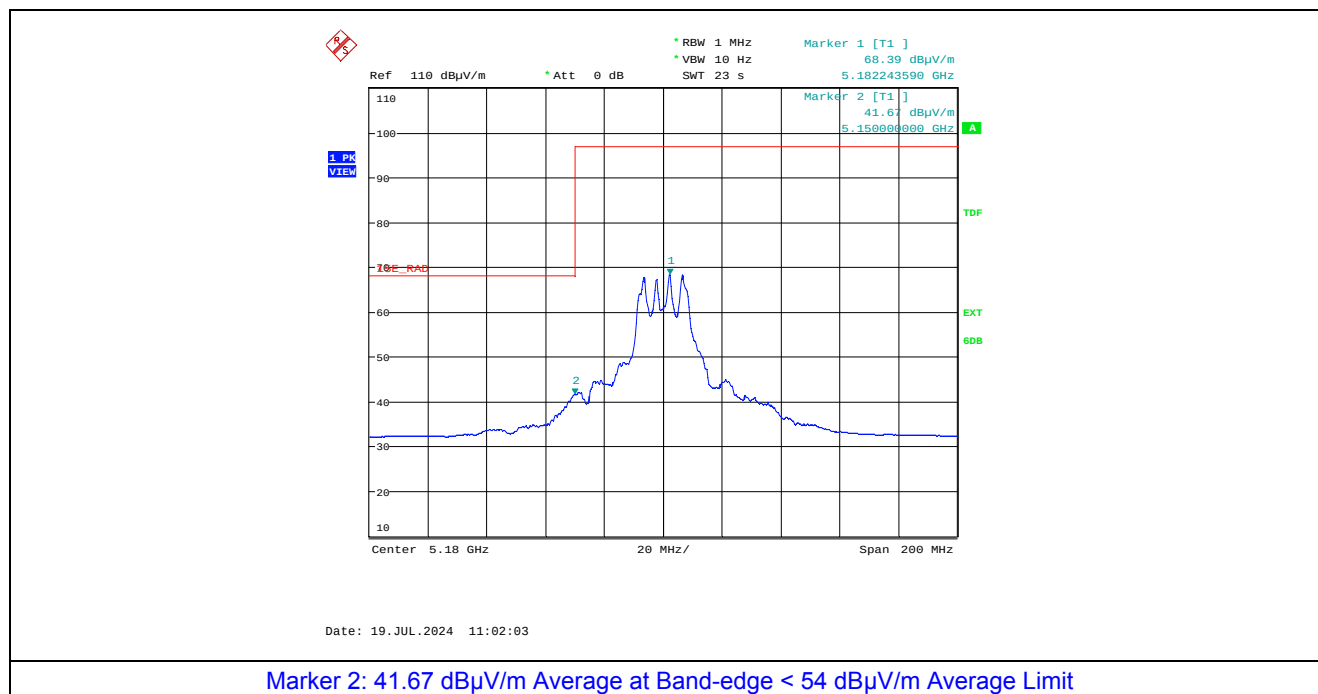
Plot 5.4.4.2.2. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak U-NII-1 Band 802.11a, Low End of Frequency Band, 5180 MHz



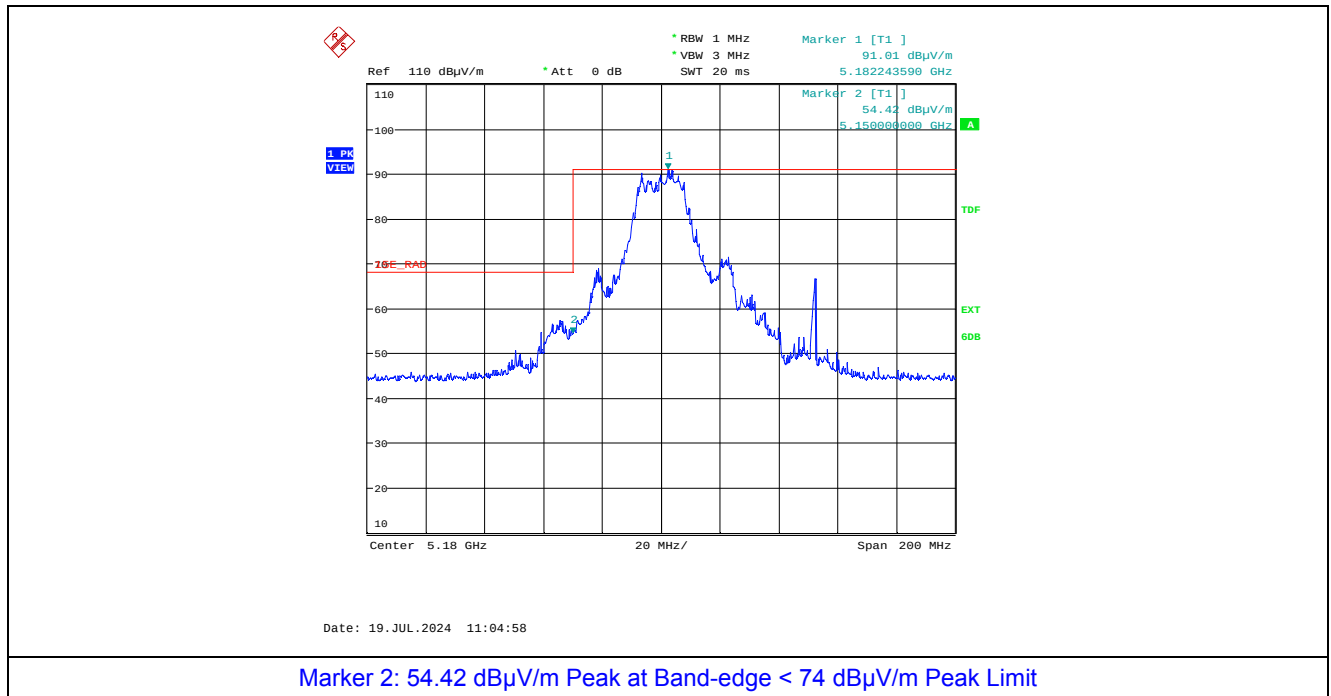
Plot 5.4.4.2.3. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-1 Band 802.11n-20M, Low End of Frequency Band, 5180 MHz



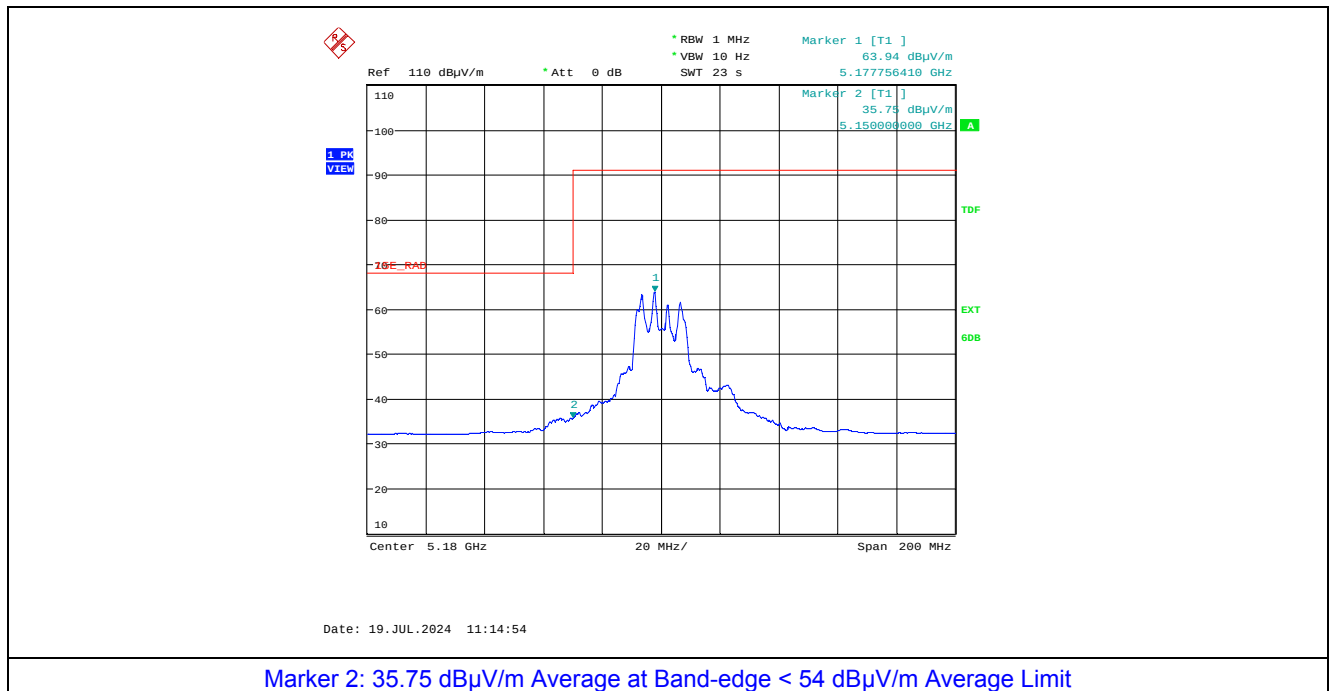
Plot 5.4.4.2.4. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Average
U-NII-1 Band 802.11n-20M, Low End of Frequency Band, 5180 MHz



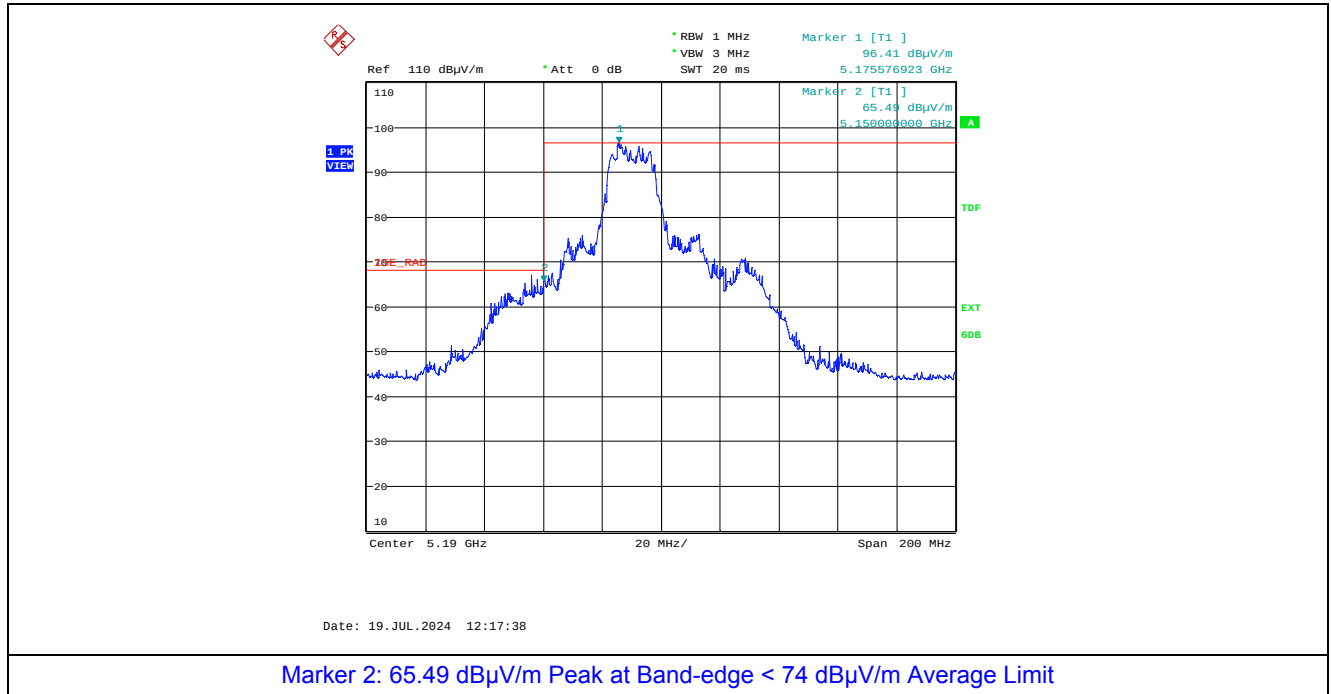
Plot 5.4.4.2.5. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-1 Band 802.11n-20M, Low End of Frequency Band, 5180 MHz



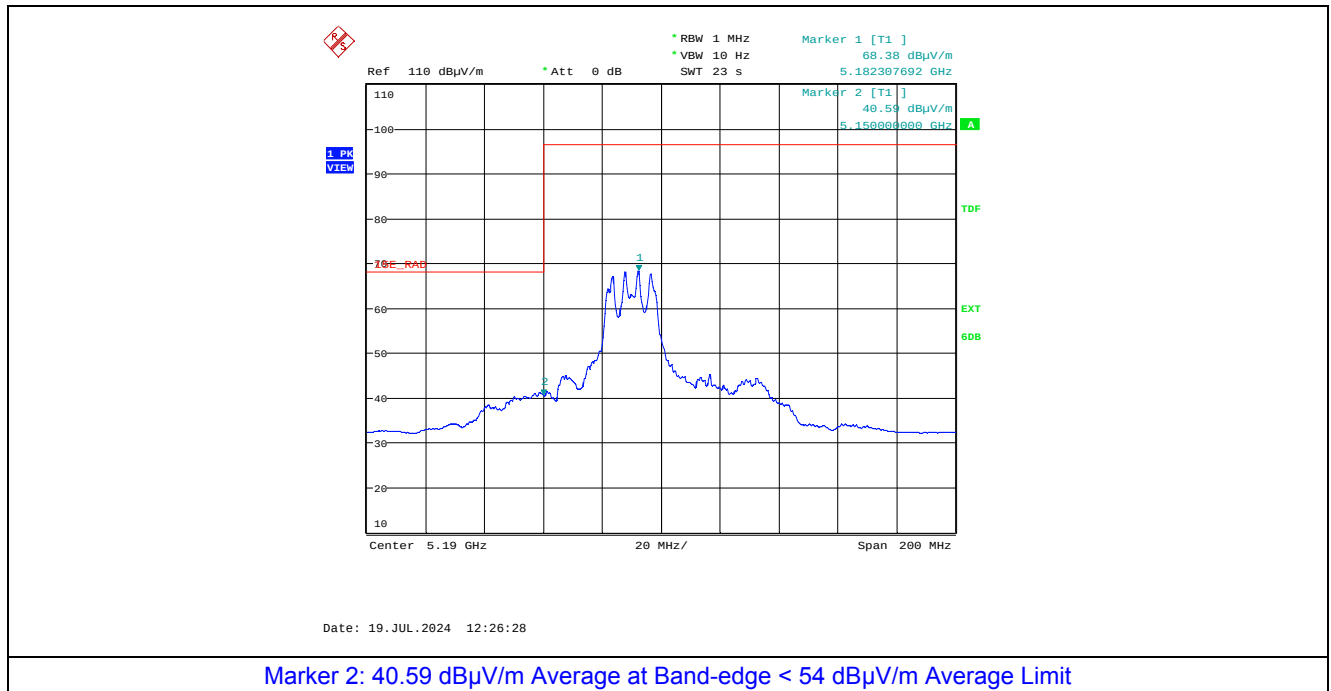
Plot 5.4.4.2.6. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Average
U-NII-1 Band 802.11n-20M, Low End of Frequency Band, 5180 MHz



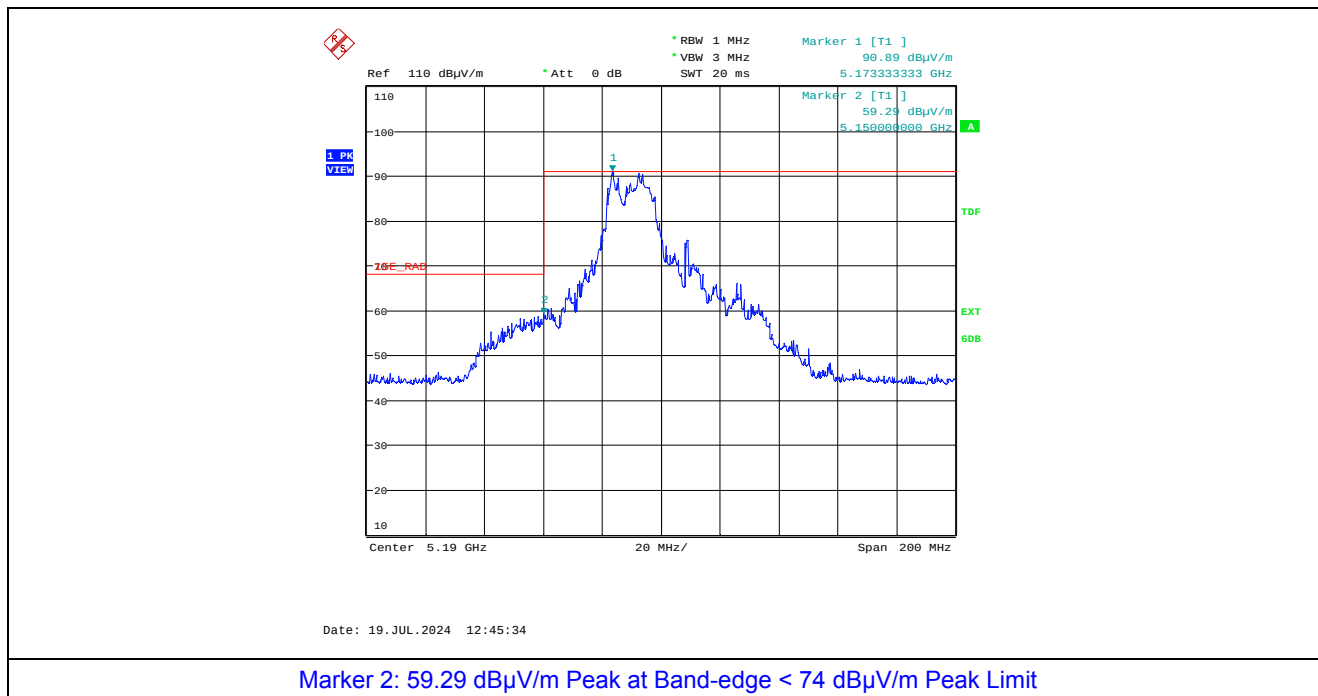
Plot 5.4.4.2.7. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-1 Band 802.11n-40M, Low End of Frequency Band, 5190 MHz



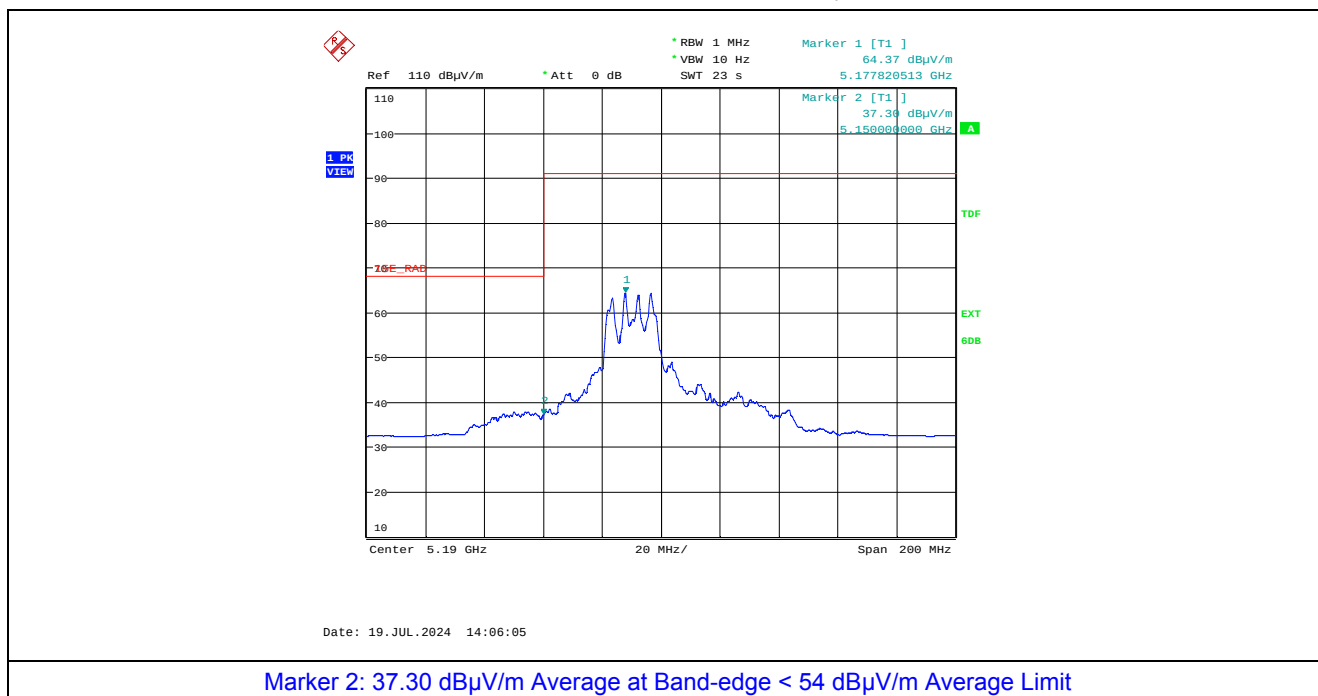
Plot 5.4.4.2.8. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Average
U-NII-1 Band 802.11n-40M, Low End of Frequency Band, 5190 MHz



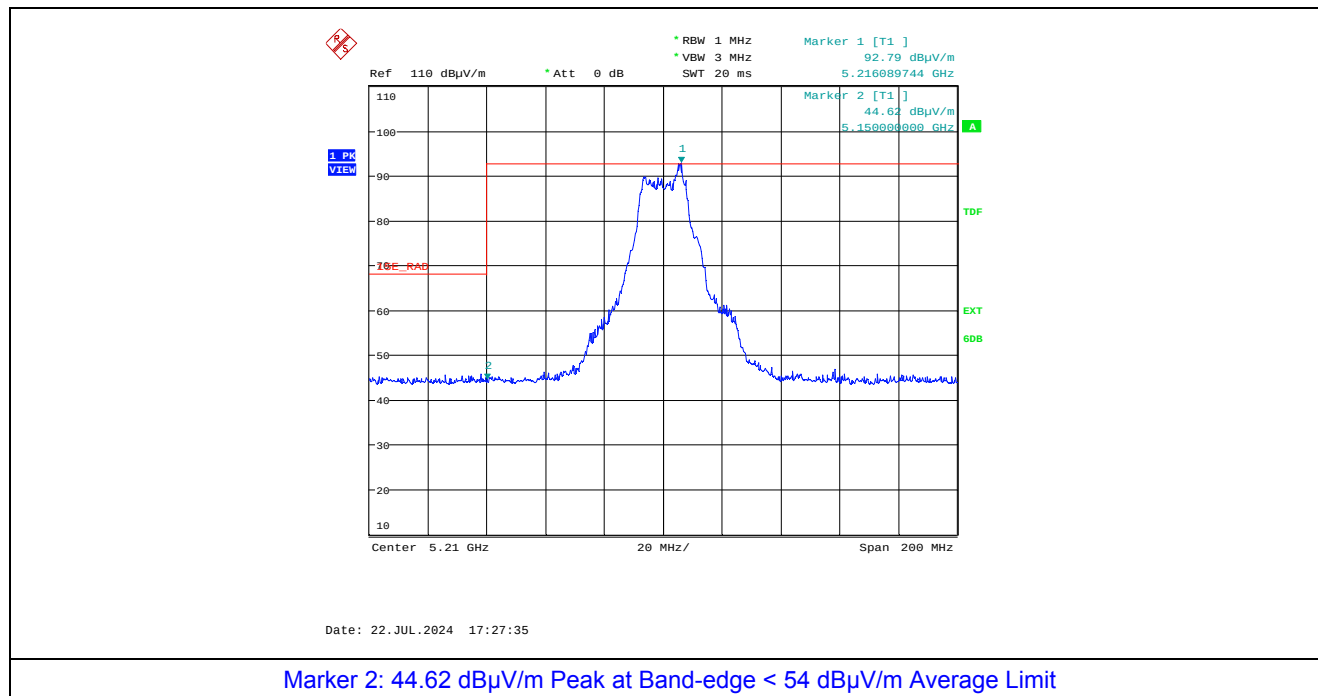
Plot 5.4.4.2.9. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-1 Band 802.11n-40M, Low End of Frequency Band, 5190 MHz



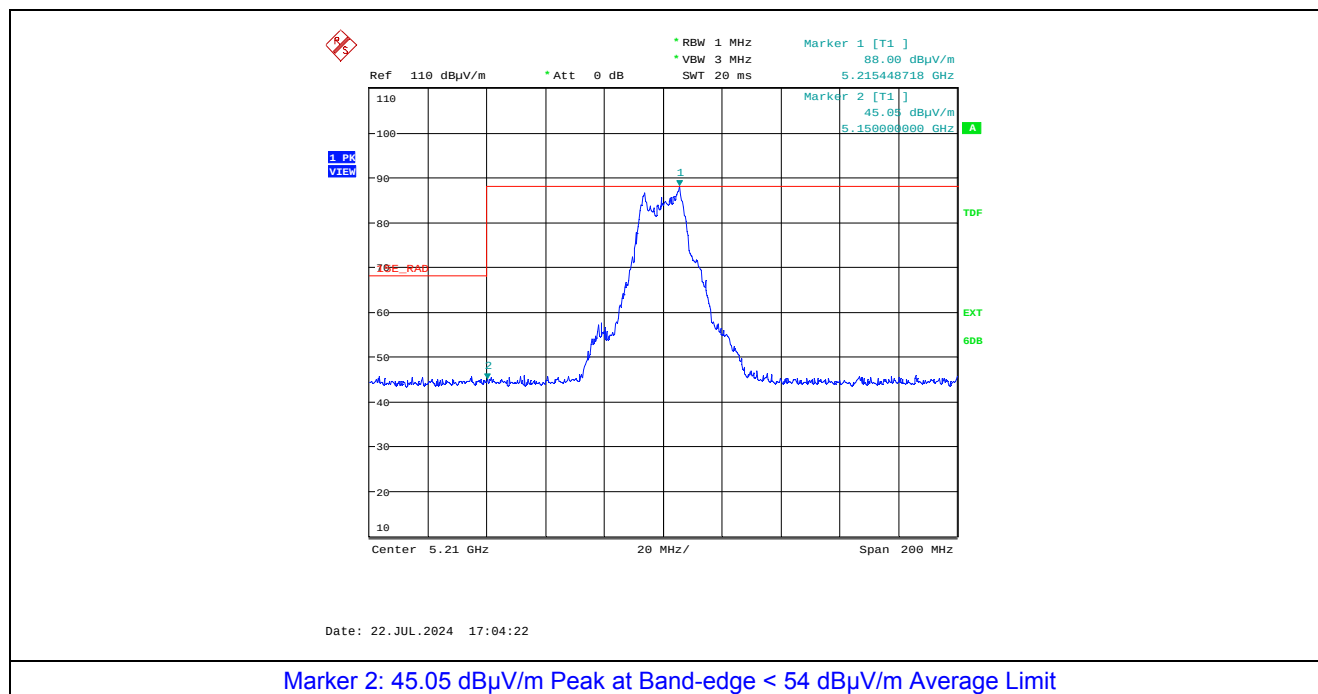
Plot 5.4.4.2.10. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Average
U-NII-1 Band 802.11n-40M, Low End of Frequency Band, 5190 MHz



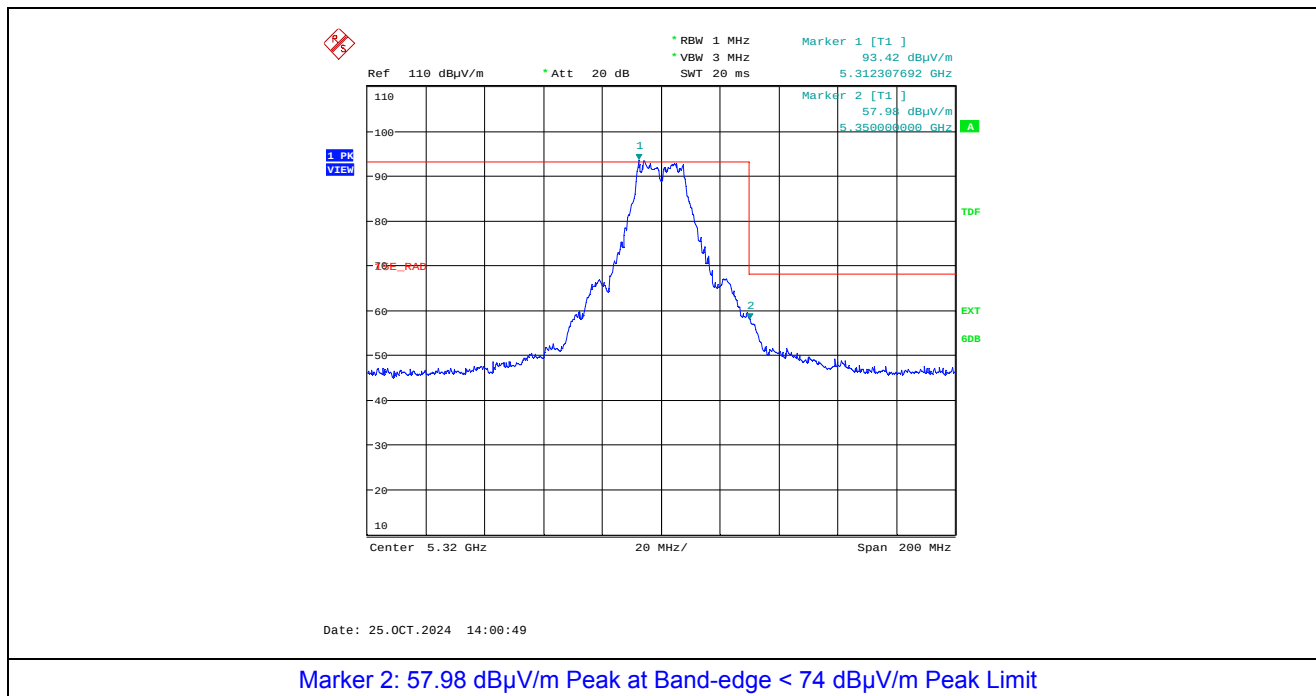
Plot 5.4.4.2.11. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-1 Band 802.11ac-80M, 5210 MHz



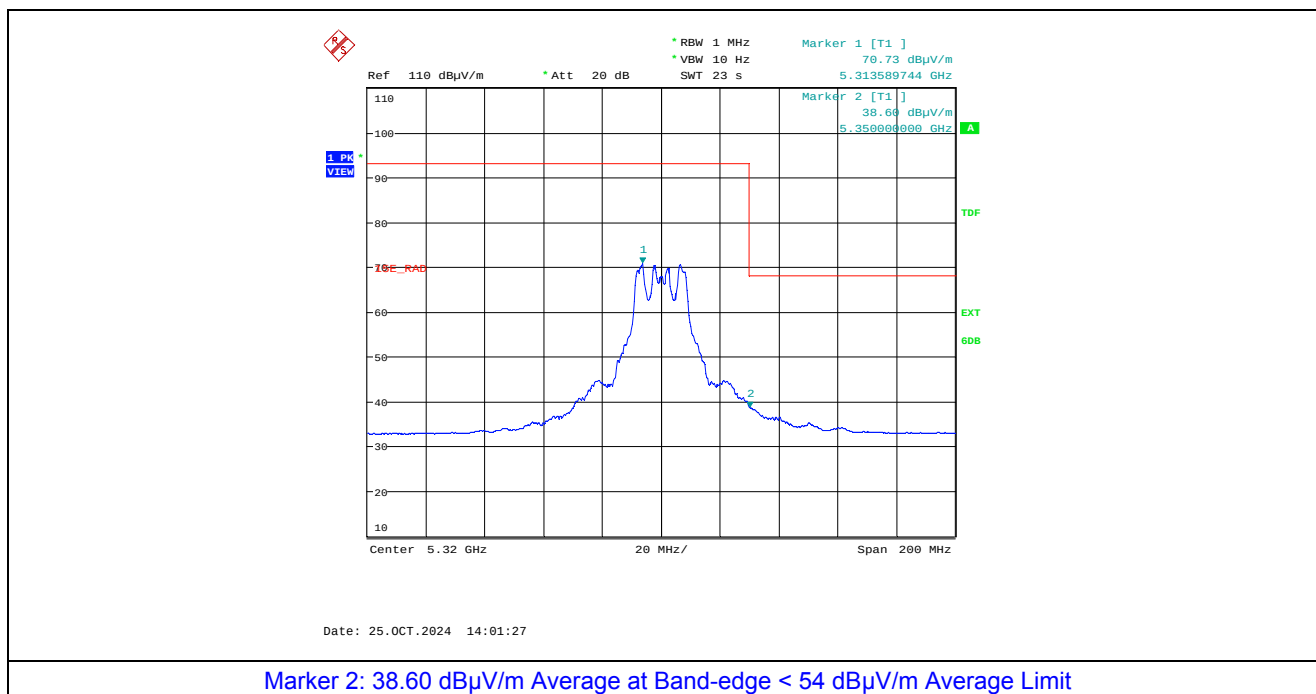
Plot 5.4.4.2.12. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization
U-NII-1 Band 802.11ac-80M, 5210 MHz



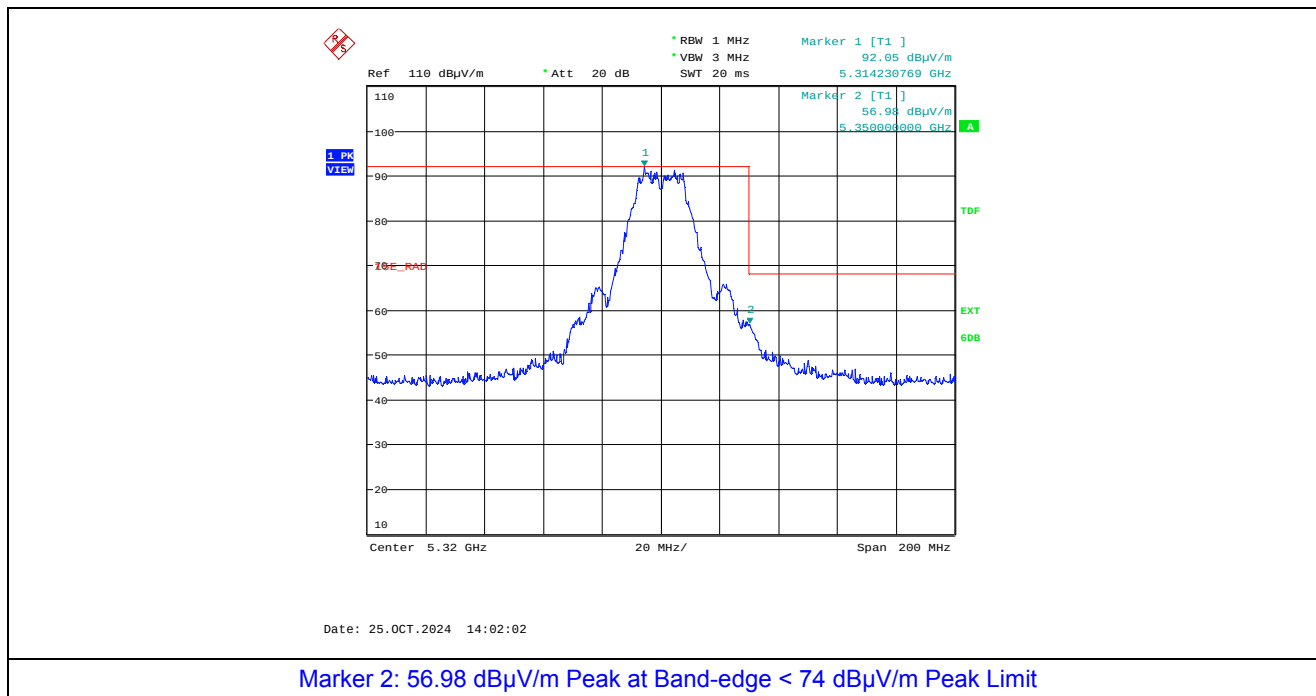
Plot 5.4.4.2.13. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2A Band 802.11a, High End of Frequency Band, 5320 MHz



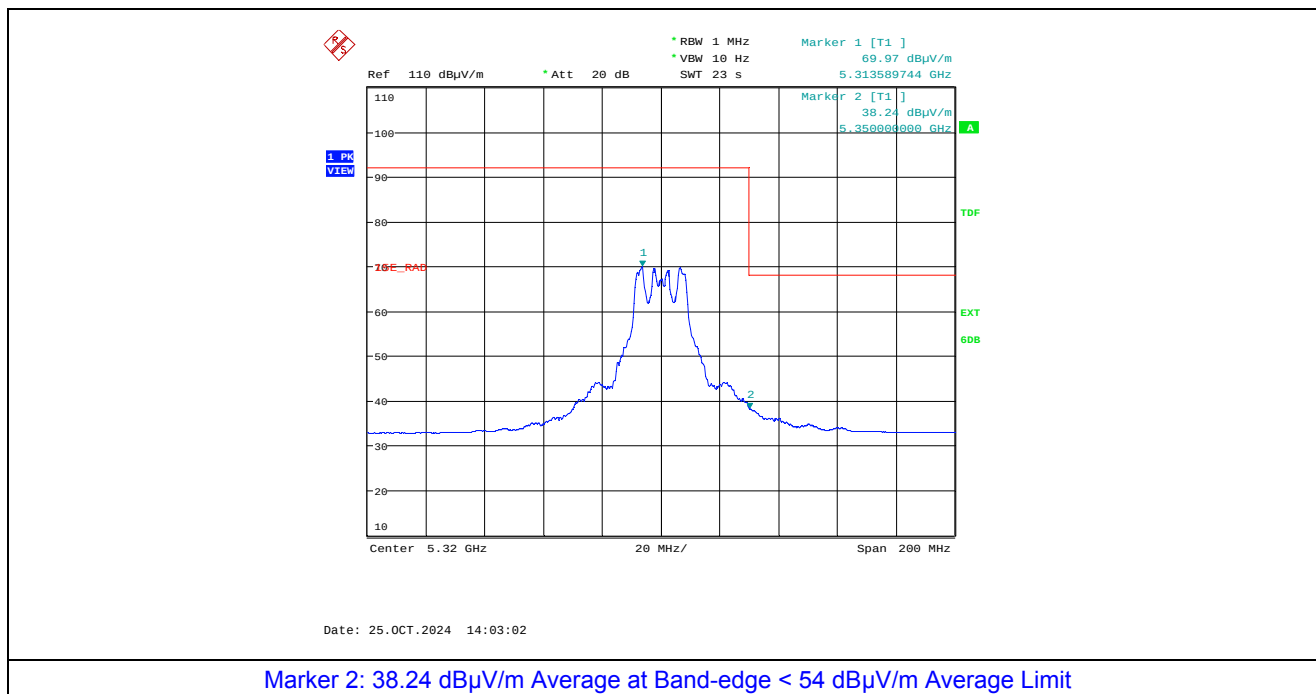
Plot 5.4.4.2.14. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Average
U-NII-2A Band 802.11a, High End of Frequency Band, 5320 MHz



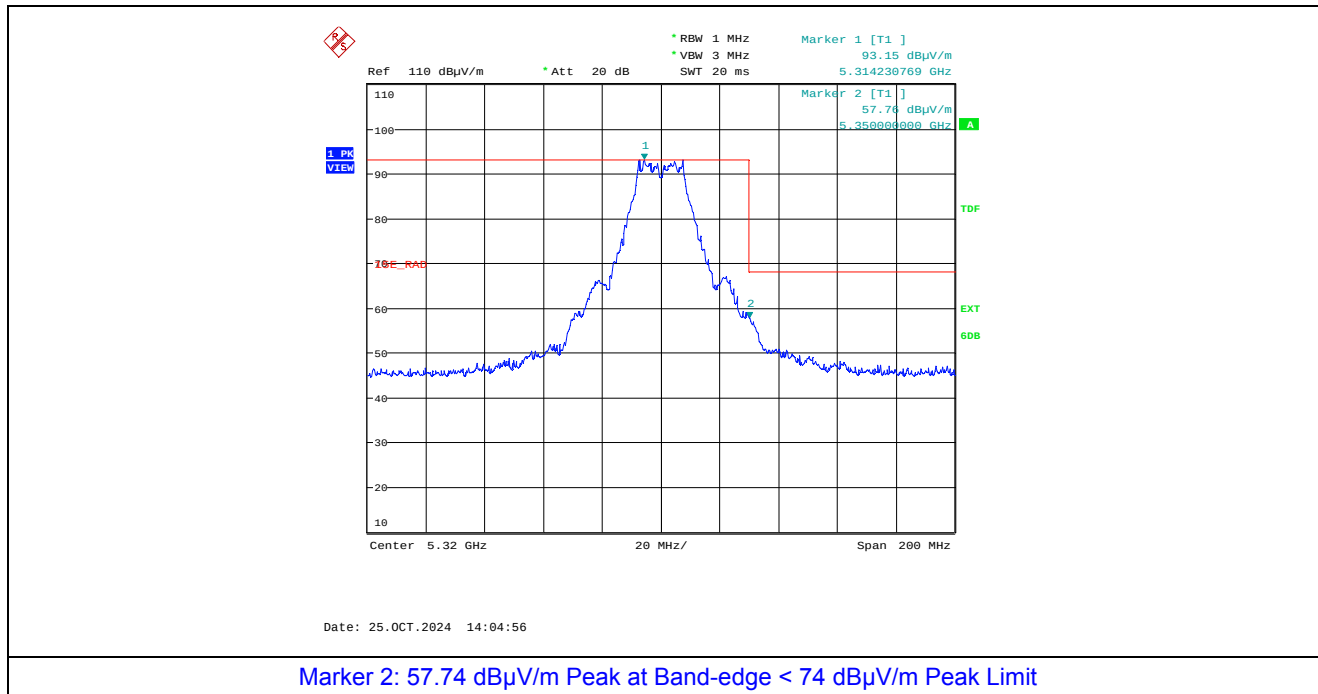
Plot 5.4.4.2.15. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2A Band 802.11a, High End of Frequency Band, 5320 MHz



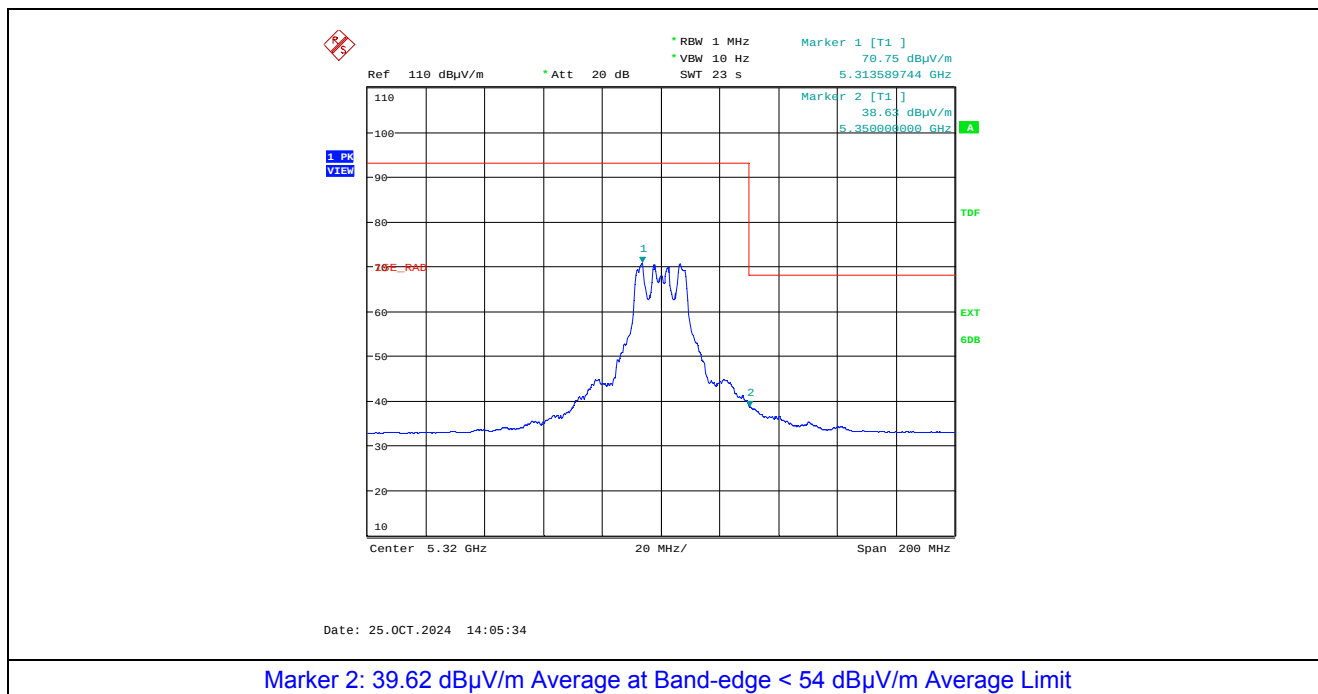
Plot 5.4.4.2.16. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Average
U-NII-2A Band 802.11a, High End of Frequency Band, 5320 MHz



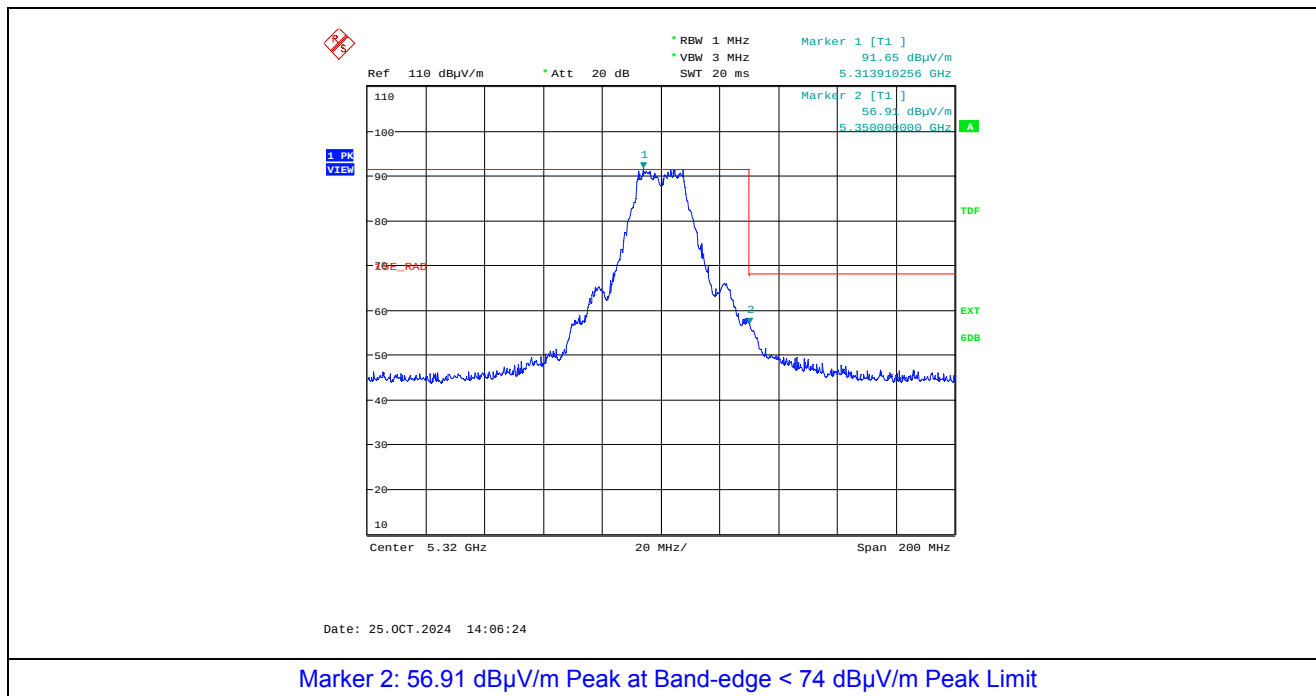
Plot 5.4.4.2.17. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2A Band 802.11n-20M, High End of Frequency Band, 5320 MHz



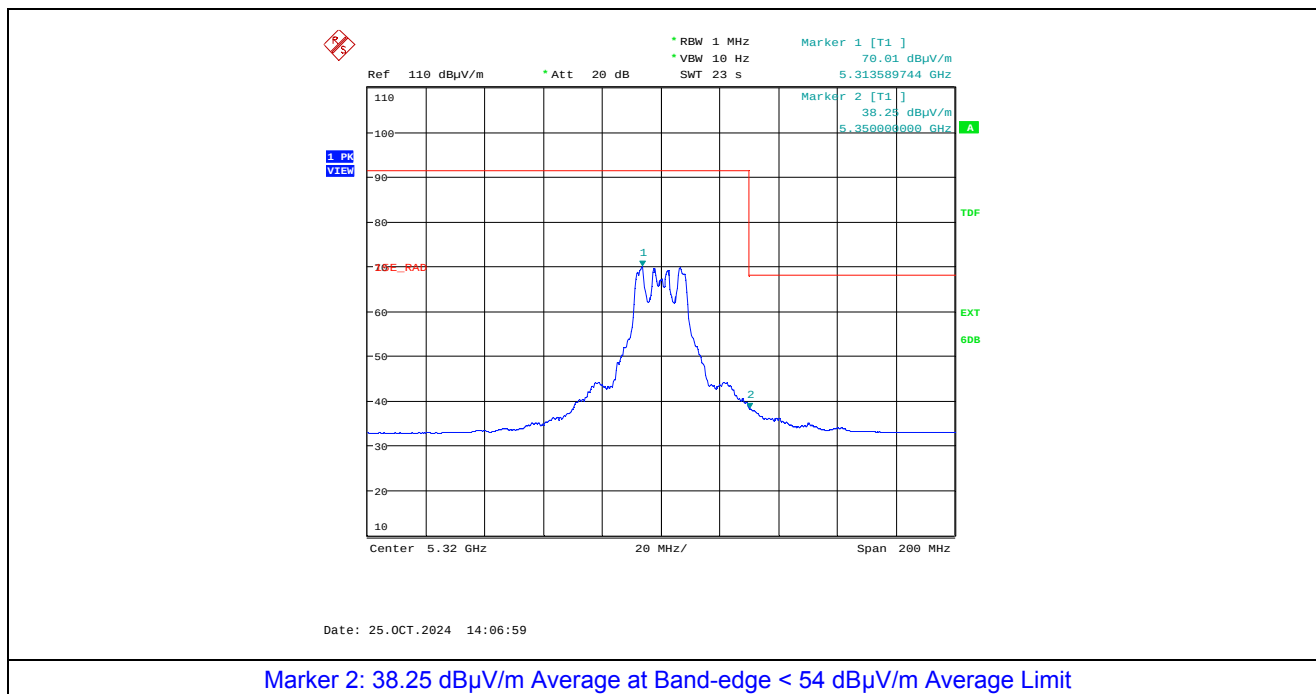
Plot 5.4.4.2.18. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Average
U-NII-2A Band 802.11n-20M, High End of Frequency Band, 5320 MHz



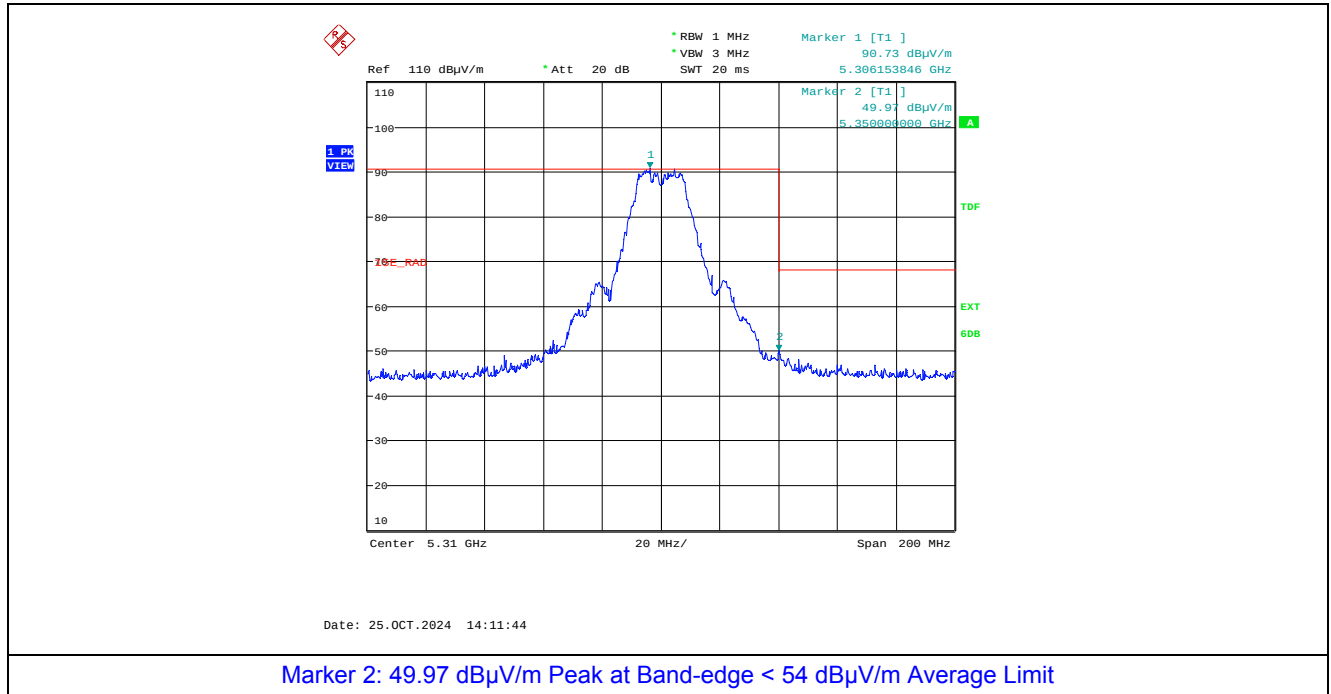
Plot 5.4.4.2.19. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2A Band 802.11n-20M, High End of Frequency Band, 5320 MHz



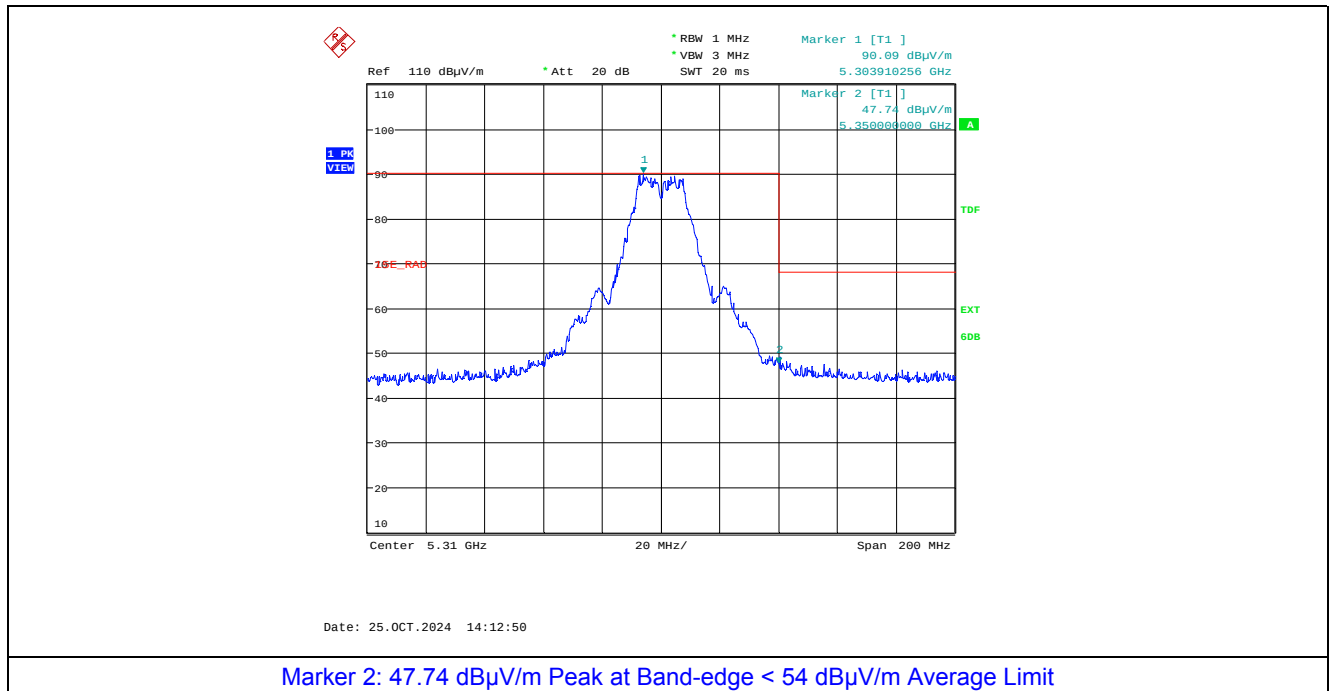
Plot 5.4.4.2.20. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Average
U-NII-2A Band 802.11n-20M, High End of Frequency Band, 5320 MHz



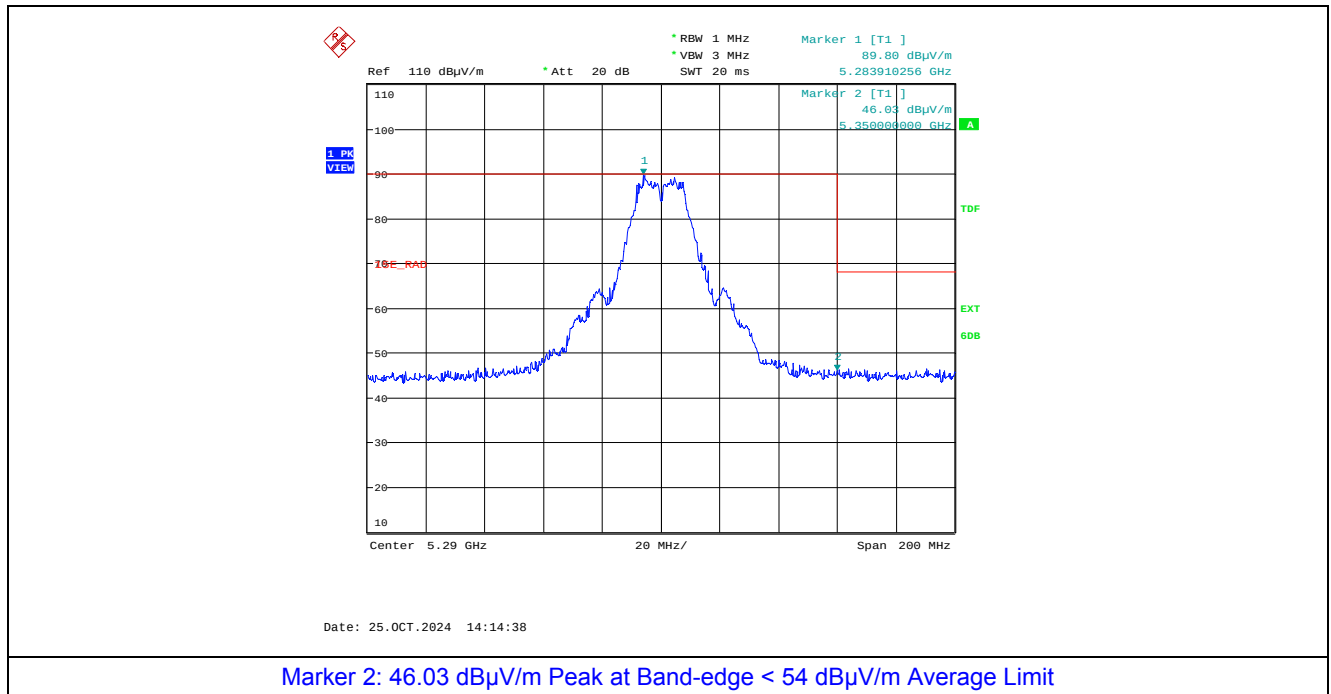
Plot 5.4.4.2.21. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2A Band 802.11n-40M, High End of Frequency Band, 5310 MHz



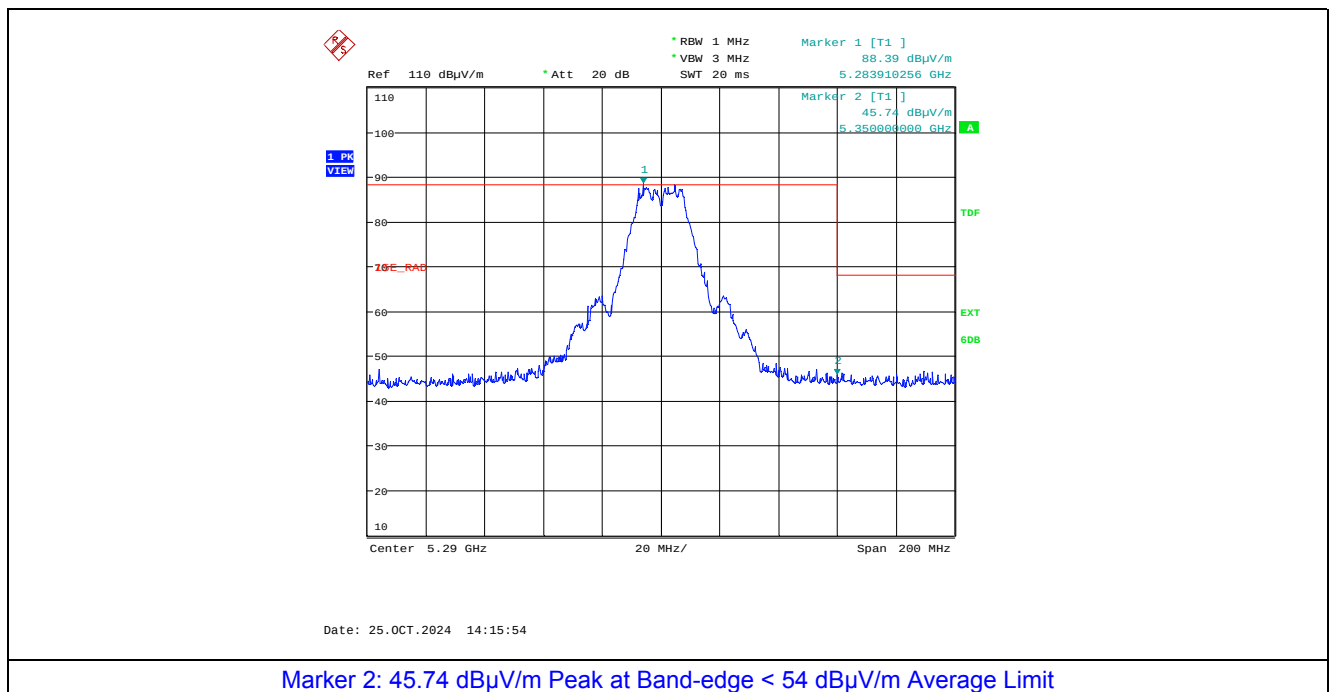
Plot 5.4.4.2.22. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2A Band 802.11n-40M, High End of Frequency Band, 5310 MHz



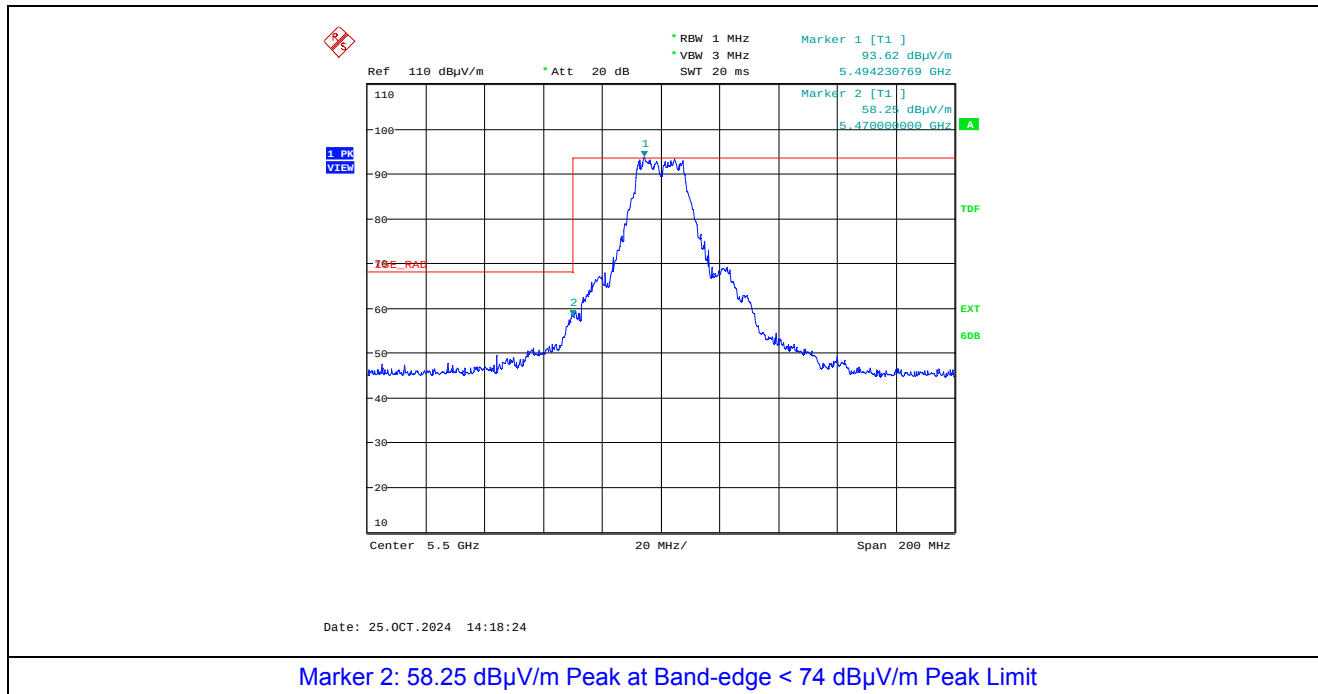
Plot 5.4.4.2.23. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2A Band 802.11ac-80M, 5290 MHz



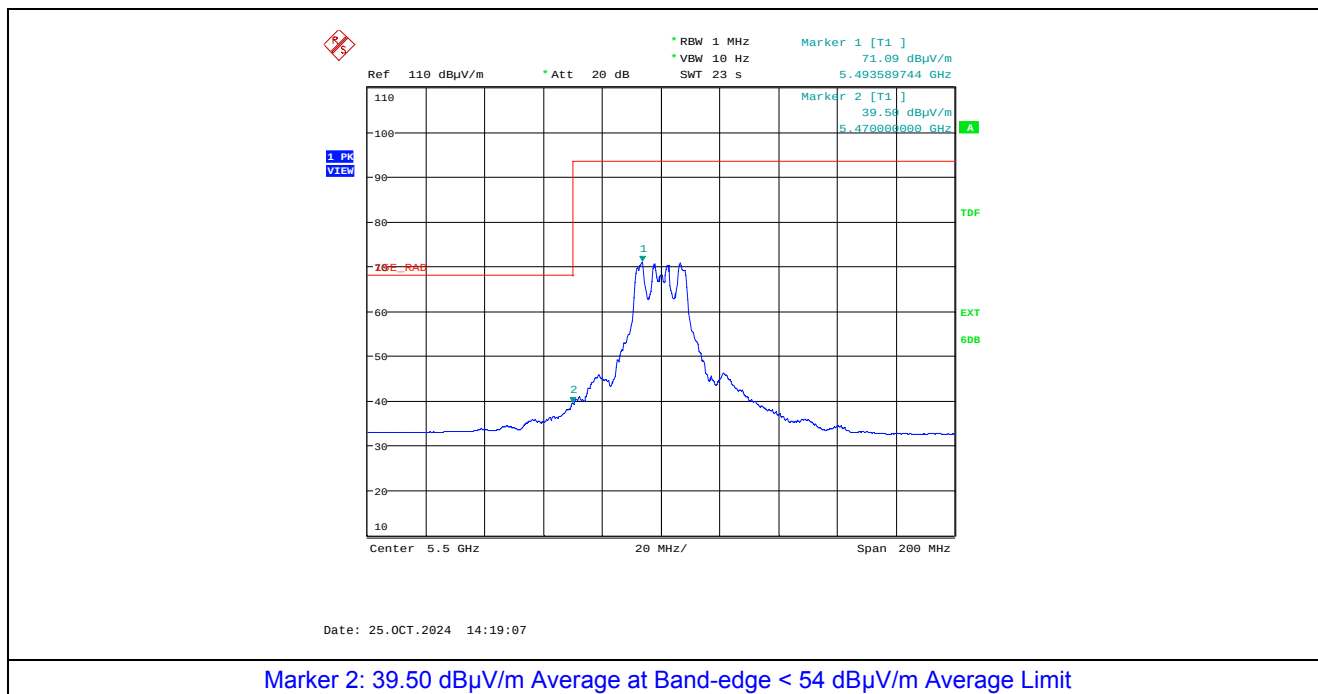
Plot 5.4.4.2.24. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2A Band 802.11ac-80M, 5290 MHz



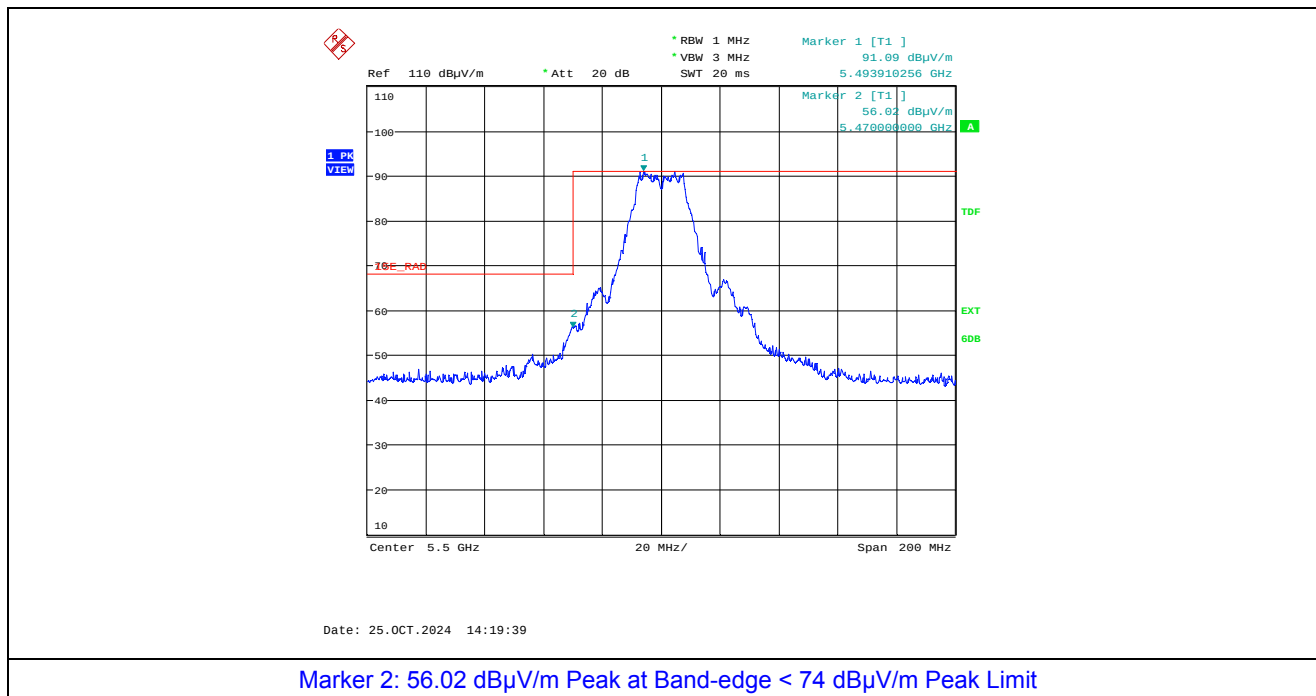
Plot 5.4.4.2.25. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2C Band 802.11a, Low End of Frequency Band, 5500 MHz



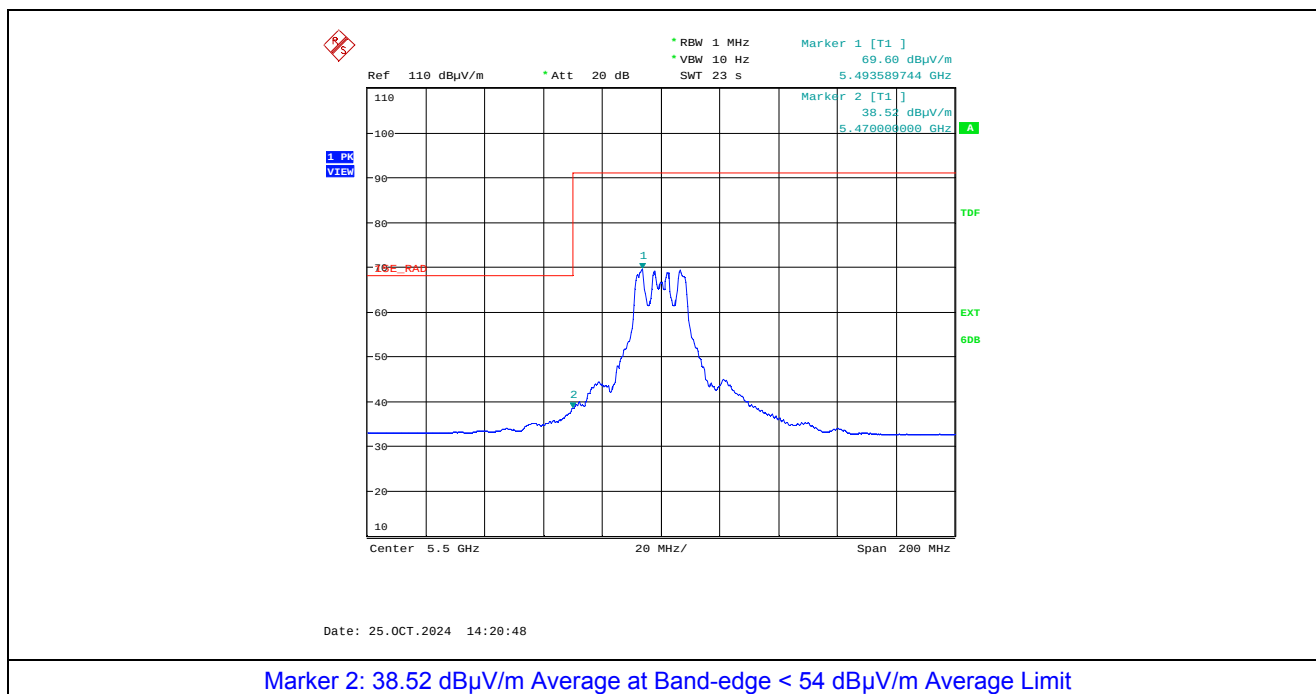
Plot 5.4.4.2.26. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Average
U-NII-2C Band 802.11a, Low End of Frequency Band, 5500 MHz



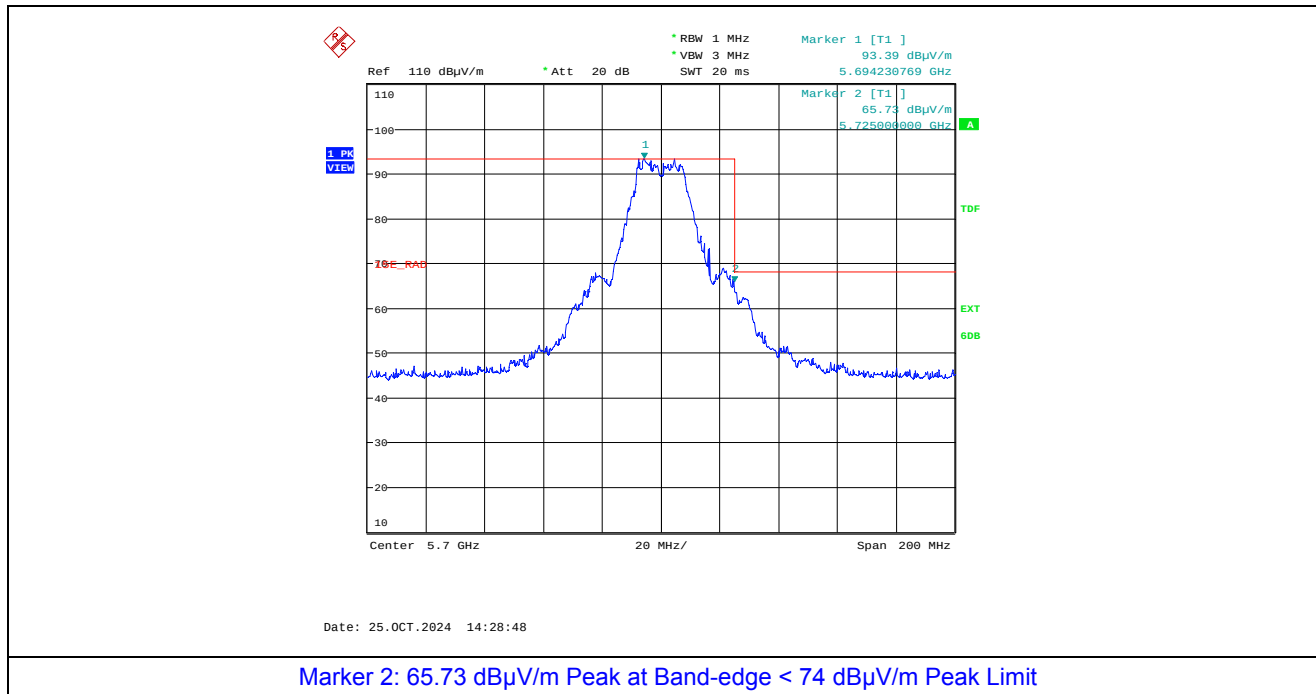
Plot 5.4.4.2.27. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2C Band 802.11a, Low End of Frequency Band, 5500 MHz



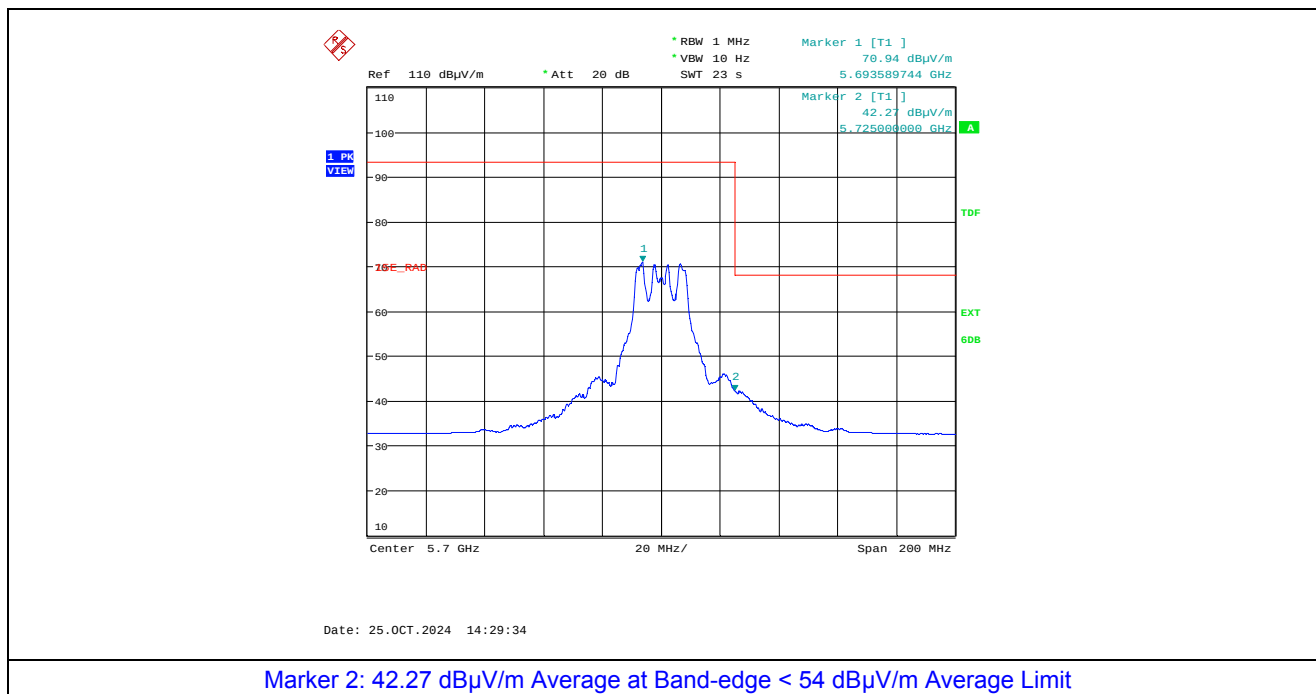
Plot 5.4.4.2.28. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Average
U-NII-2C Band 802.11a, Low End of Frequency Band, 5500 MHz



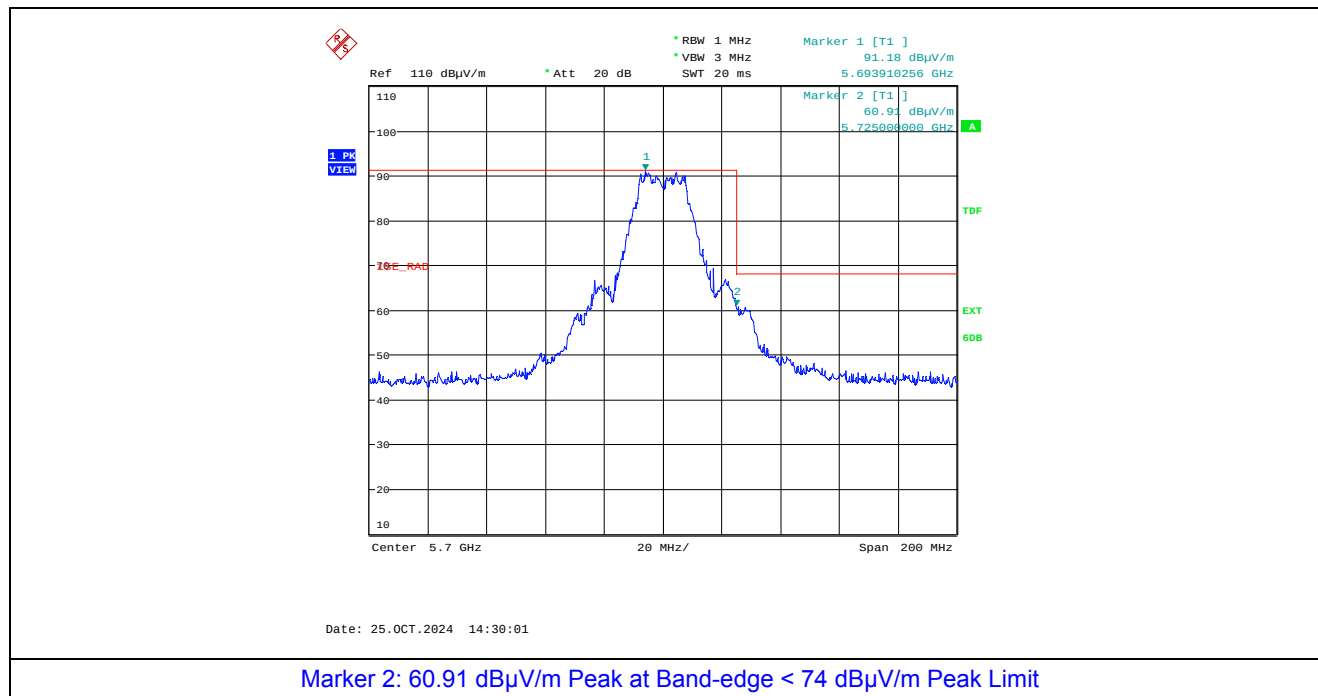
Plot 5.4.4.2.29. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2C Band 802.11a, High End of Frequency Band, 5700 MHz



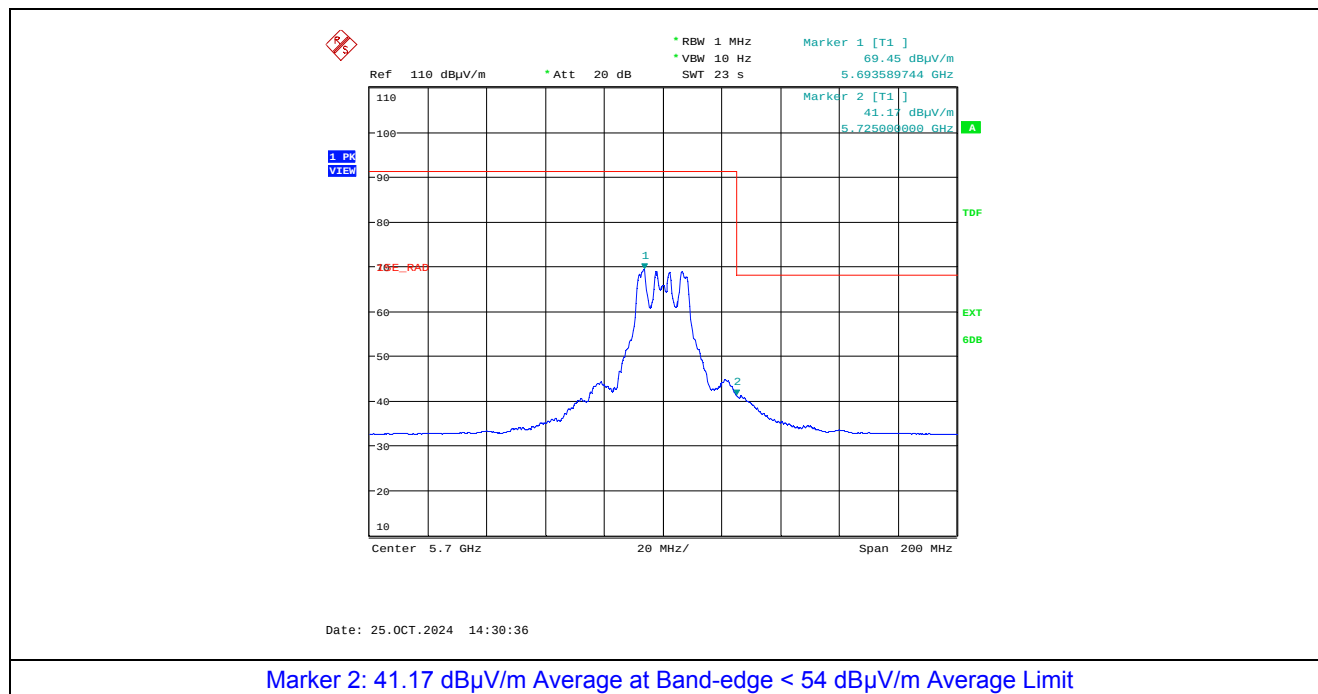
Plot 5.4.4.2.30. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Average
U-NII-2C Band 802.11a, High End of Frequency Band, 5700 MHz



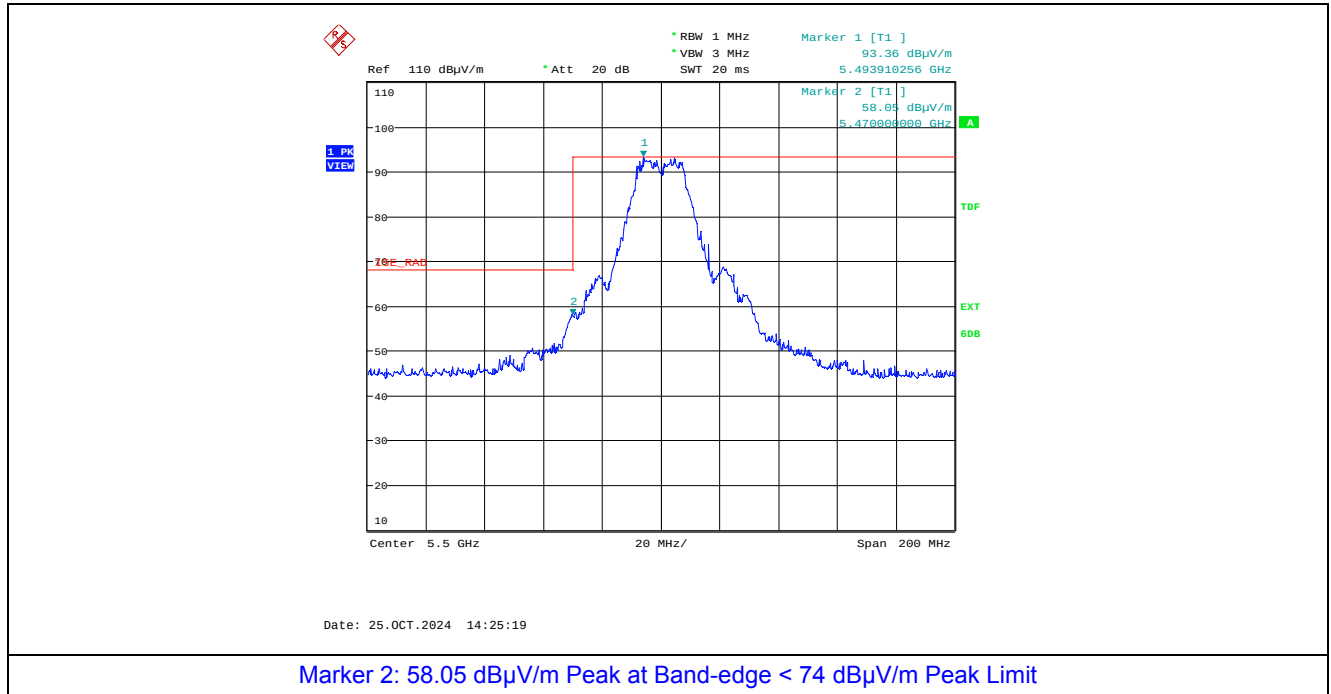
Plot 5.4.4.2.31. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2C Band 802.11a, High End of Frequency Band, 5700 MHz



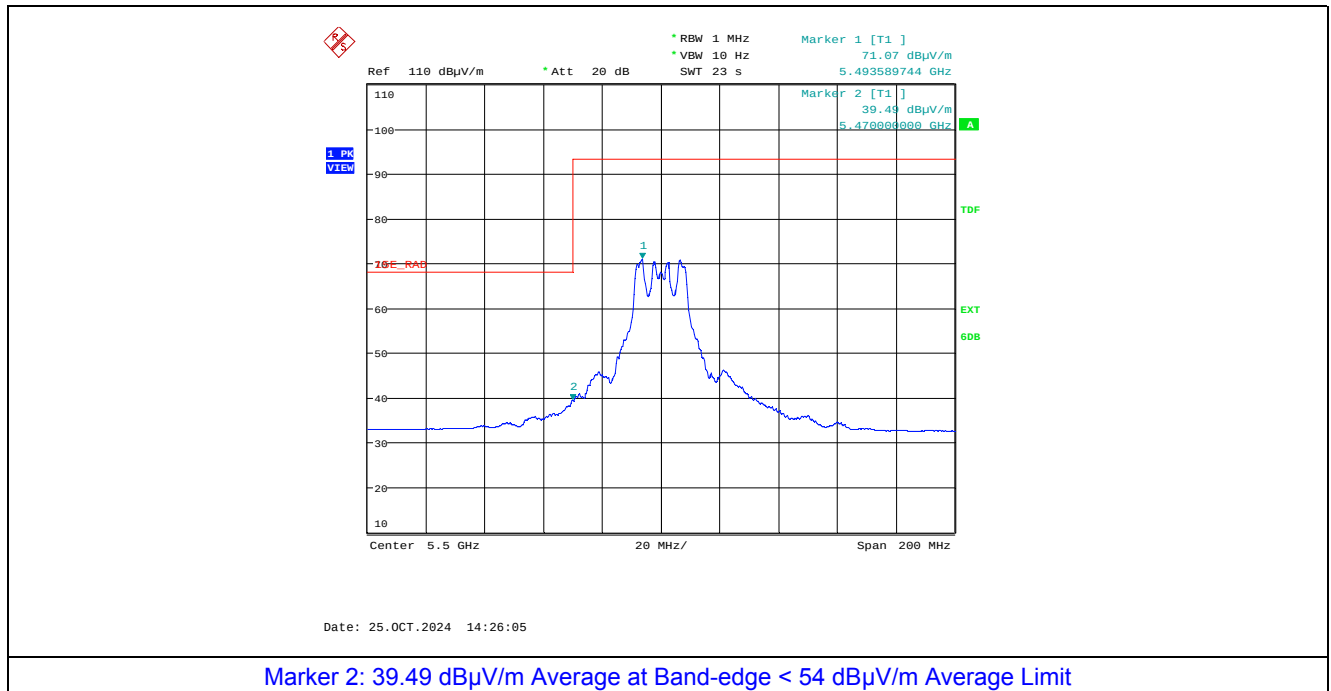
Plot 5.4.4.2.32. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Average
U-NII-2C Band 802.11a, High End of Frequency Band, 5700 MHz



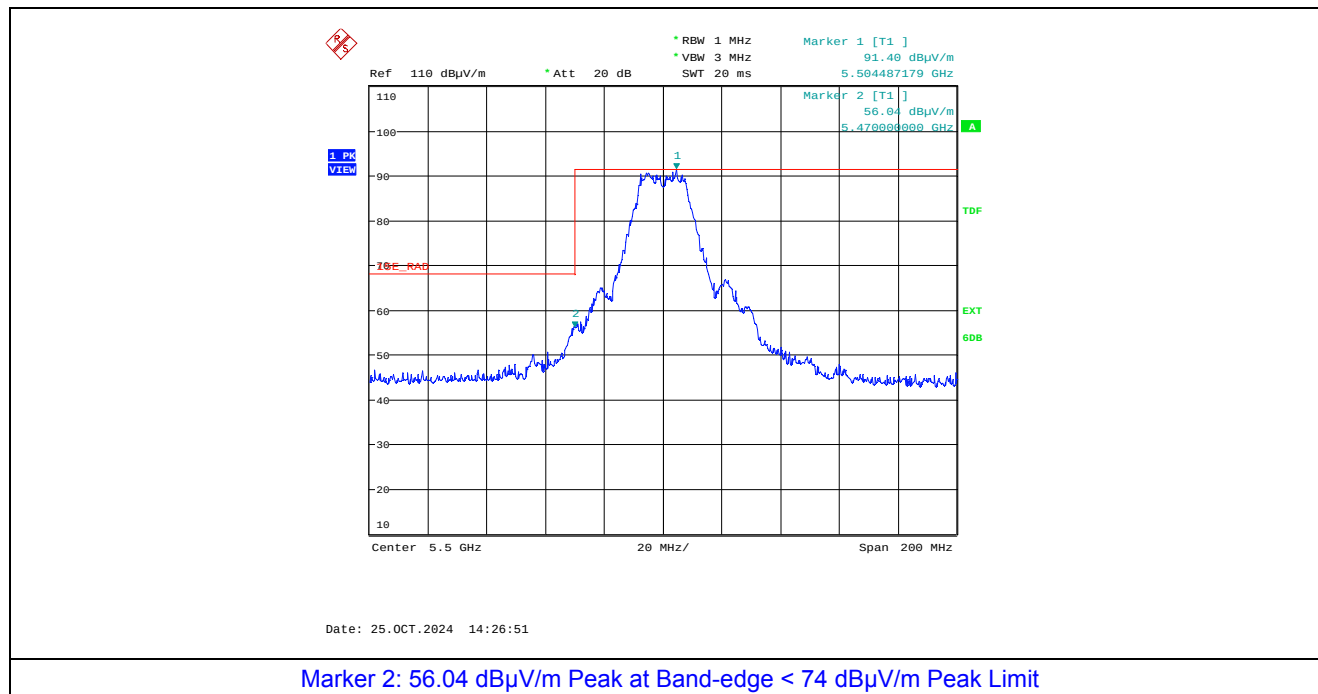
Plot 5.4.4.2.33. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2C Band 802.11n-20M, Low End of Frequency Band, 5500 MHz



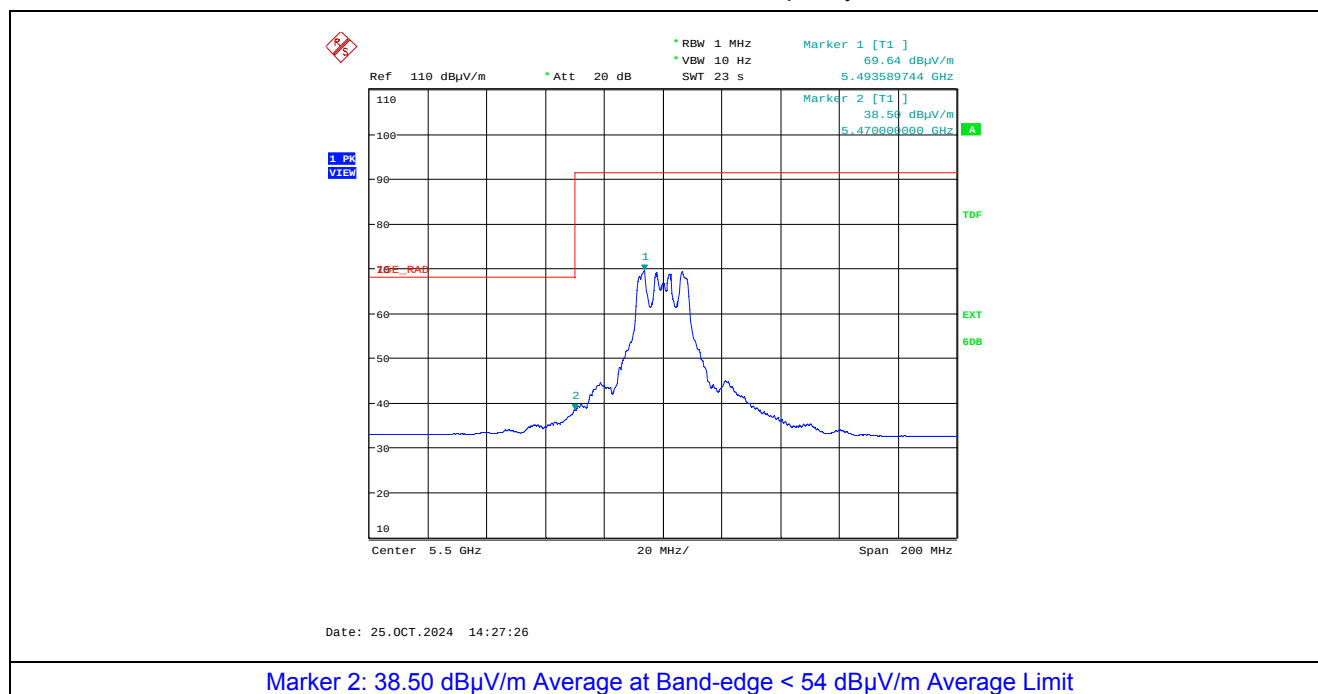
Plot 5.4.4.2.34. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Average
U-NII-2C Band 802.11n-20M, Low End of Frequency Band, 5500 MHz



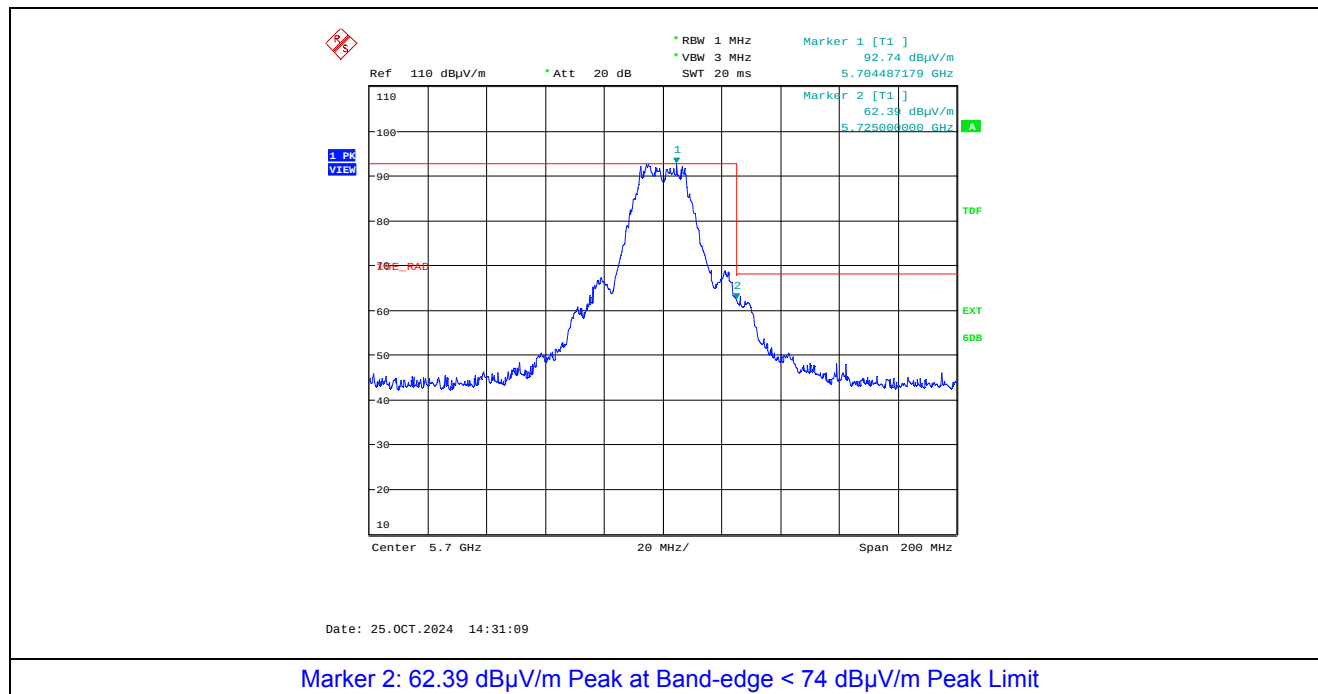
Plot 5.4.4.2.35. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2C Band 802.11n-20M, Low End of Frequency Band, 5500 MHz



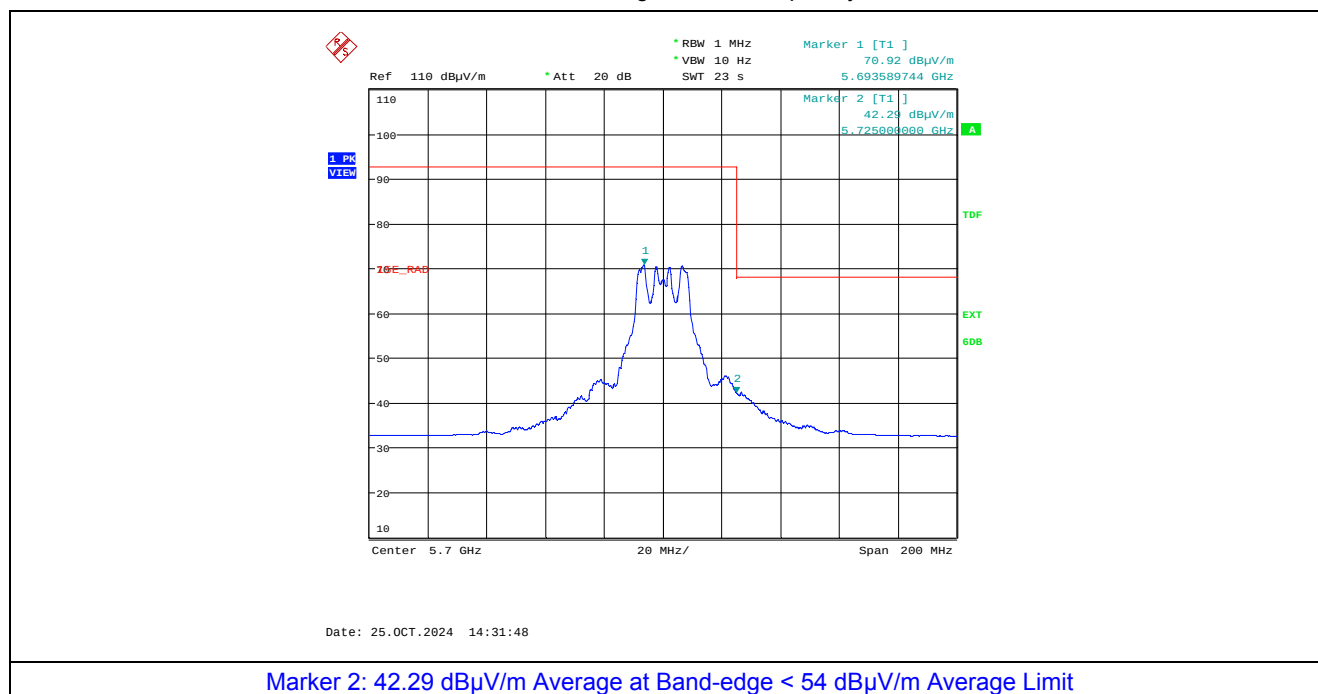
Plot 5.4.4.2.36. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Average
U-NII-2C Band 802.11n-20M, Low End of Frequency Band, 5500 MHz



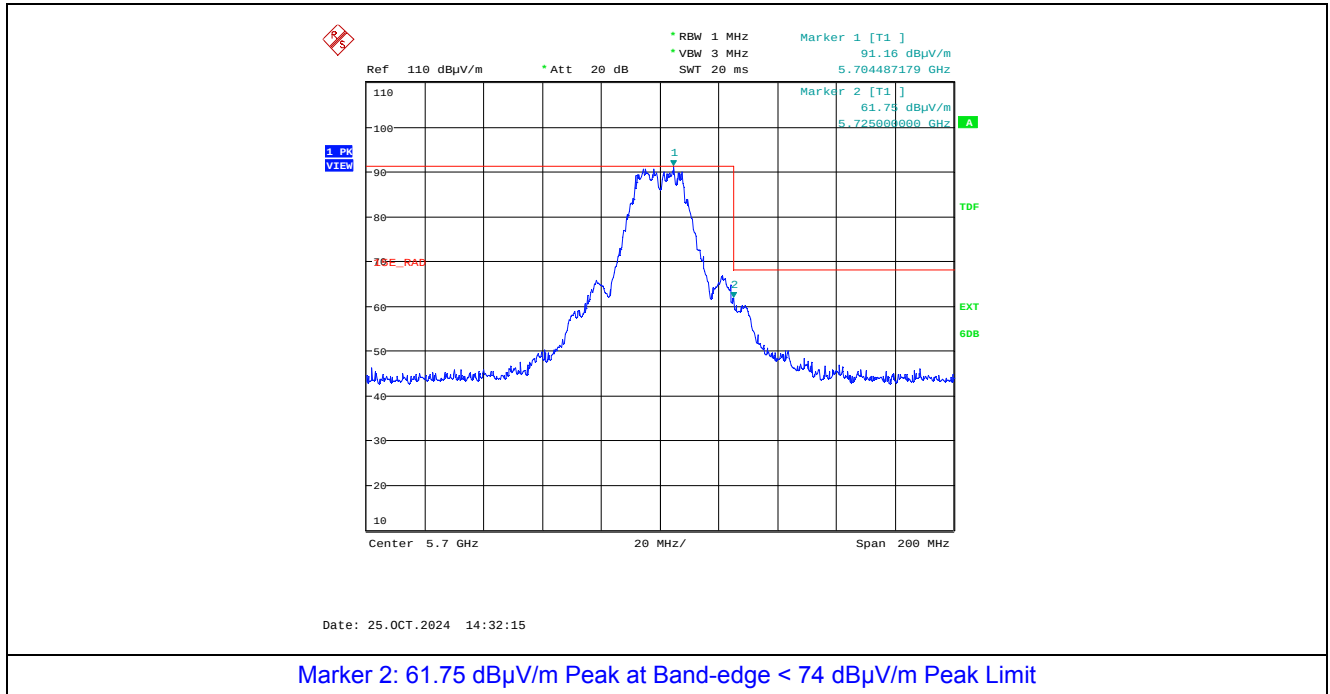
Plot 5.4.4.2.37. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2C Band 802.11n-20M, High End of Frequency Band, 5700 MHz



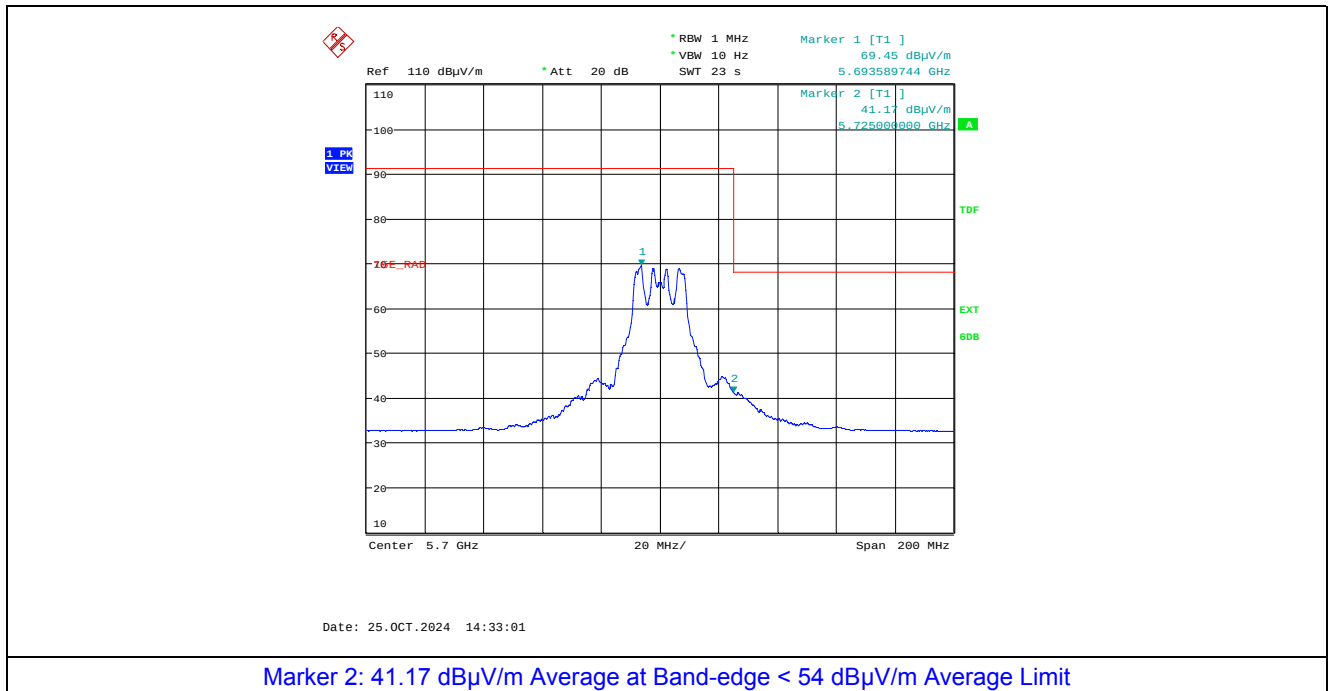
Plot 5.4.4.2.38. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Average
U-NII-2C Band 802.11n-20M, High End of Frequency Band, 5700 MHz



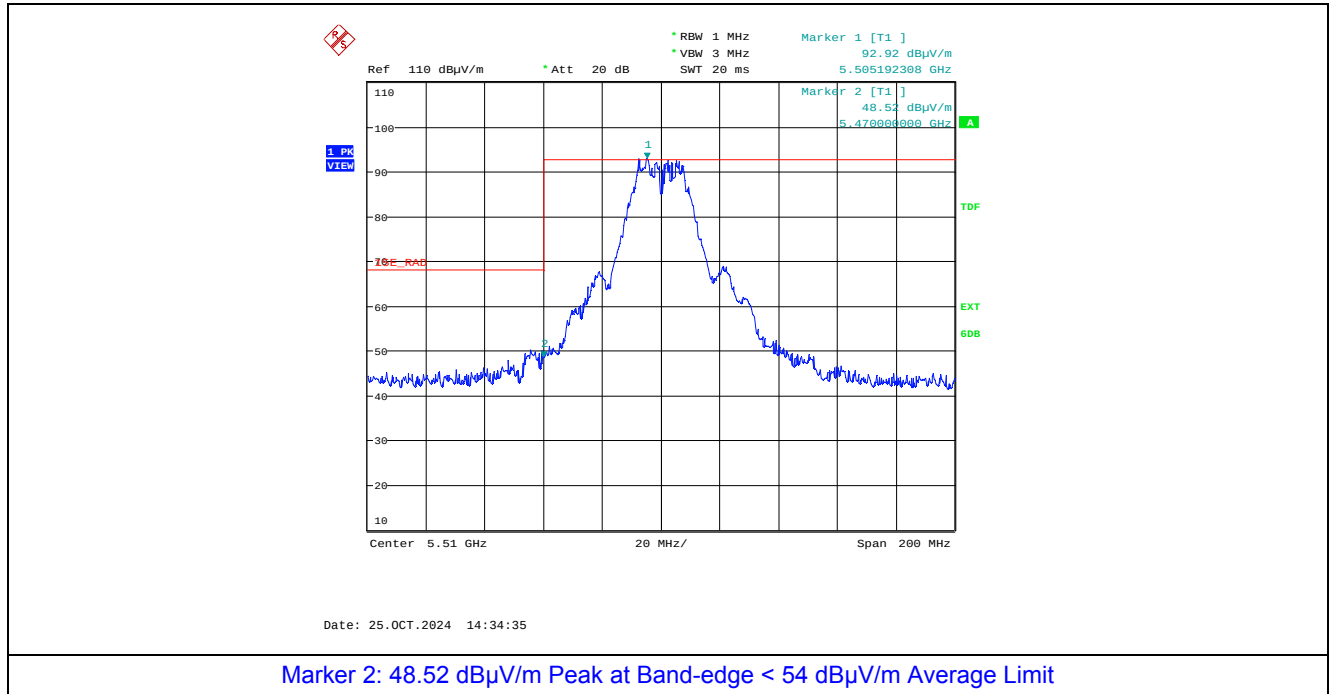
Plot 5.4.4.2.39. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2C Band 802.11n-20M, High End of Frequency Band, 5700 MHz



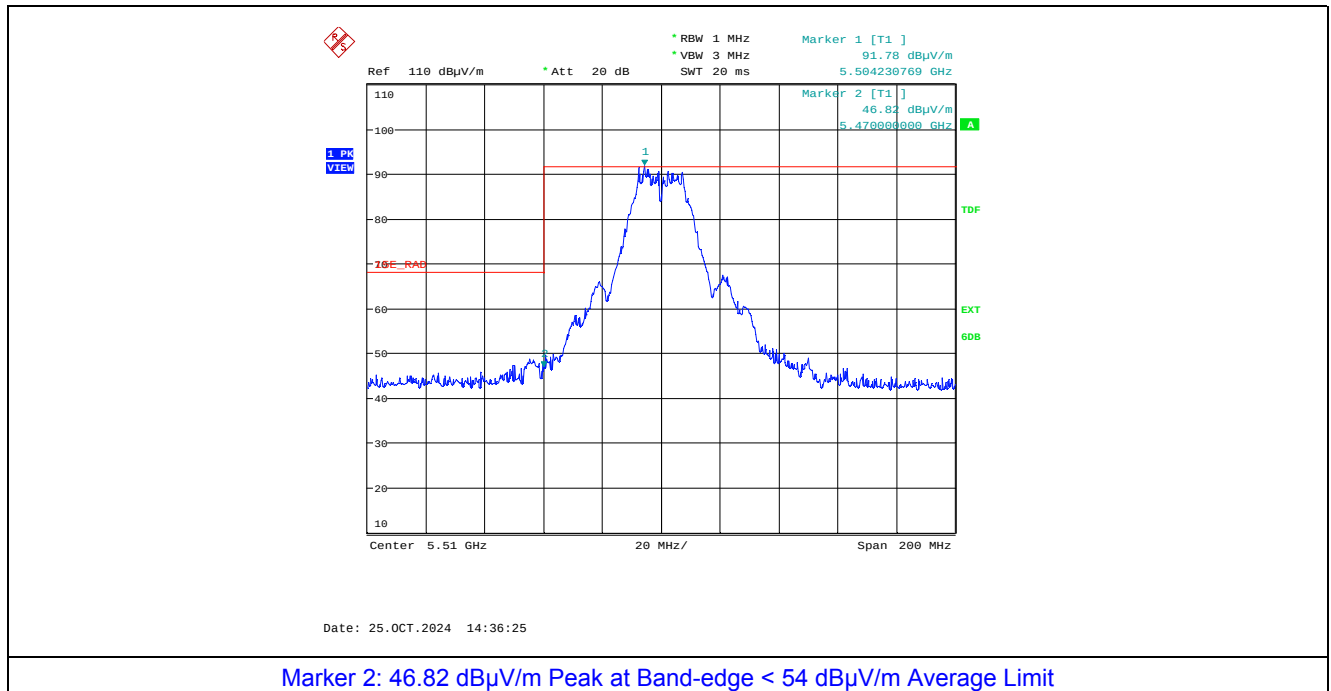
Plot 5.4.4.2.40. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Average
U-NII-2C Band 802.11n-20M, High End of Frequency Band, 5700 MHz



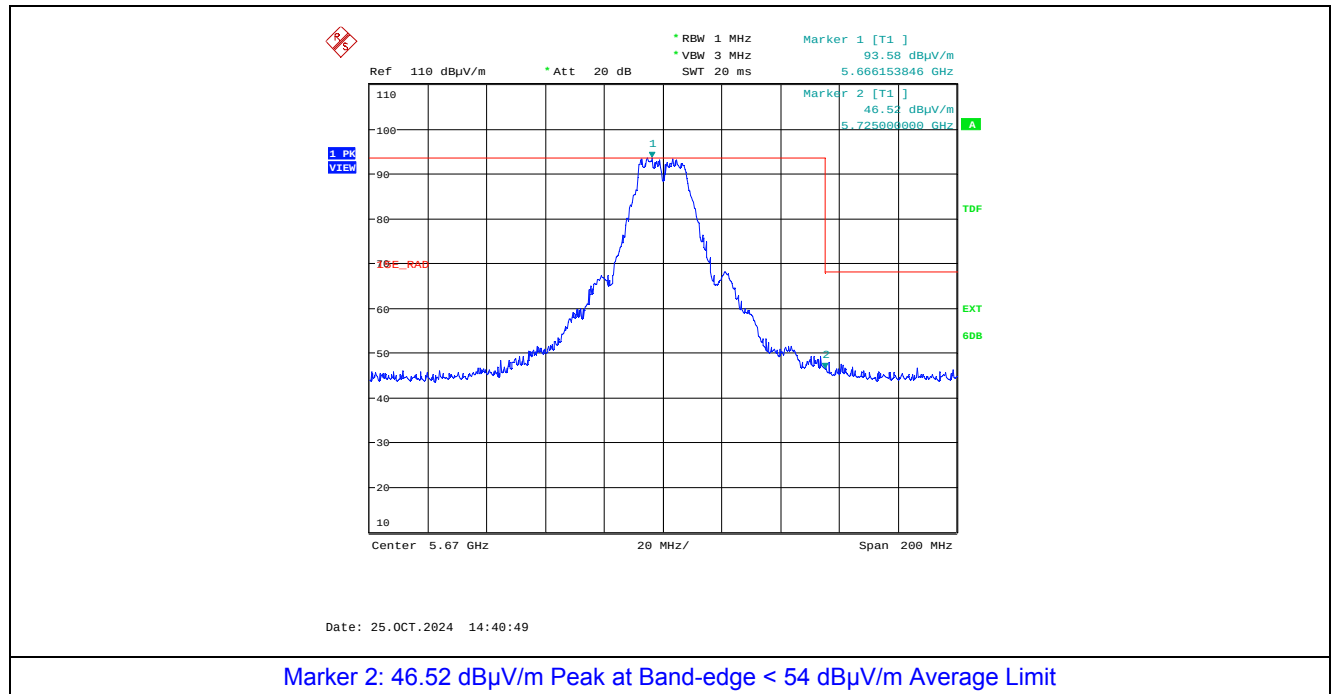
Plot 5.4.4.2.41. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2C Band 802.11n-40M, Low End of Frequency Band, 5510 MHz



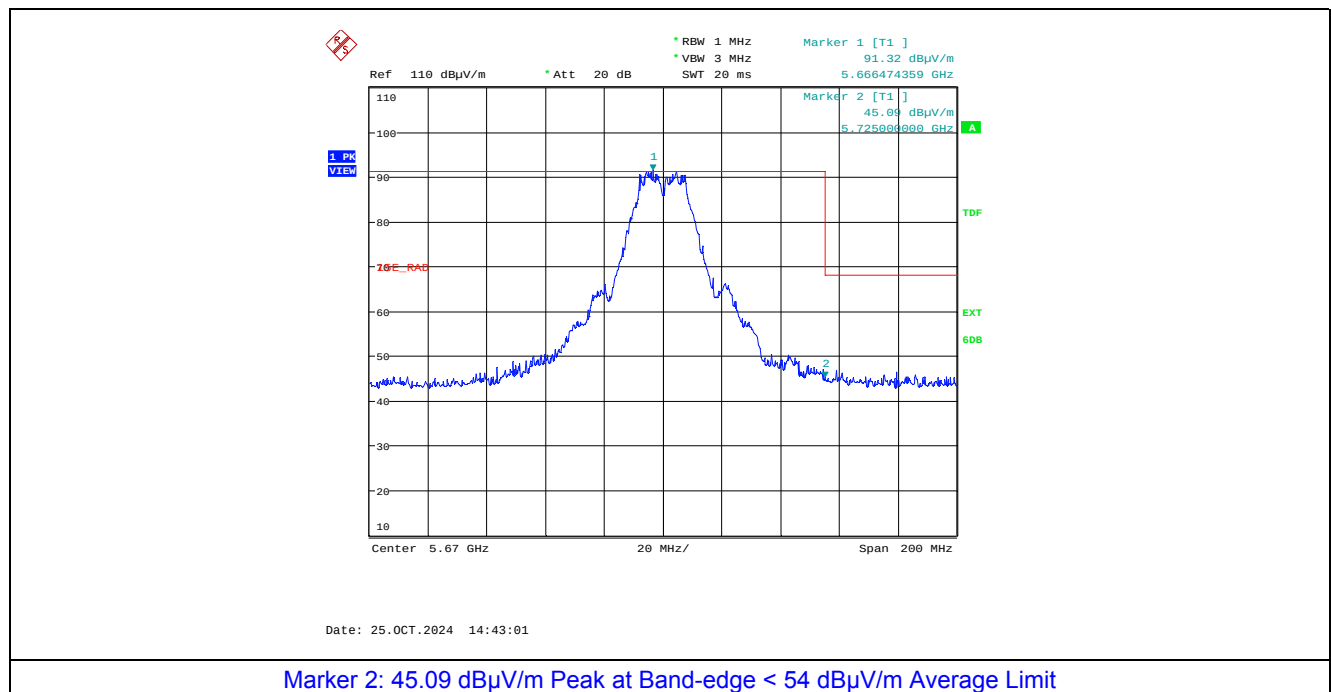
Plot 5.4.4.2.42. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2C Band 802.11n-40M, Low End of Frequency Band, 5510 MHz



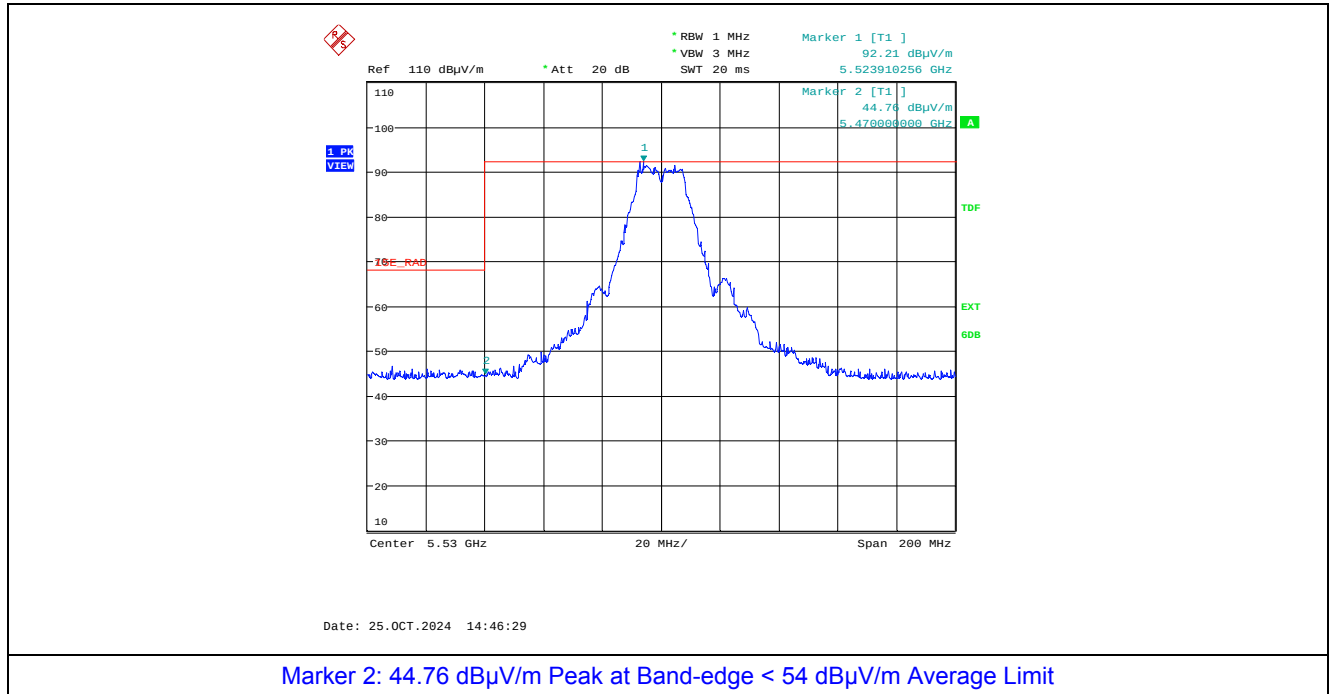
Plot 5.4.4.2.43. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2C Band 802.11n-40M, High End of Frequency Band, 5670 MHz



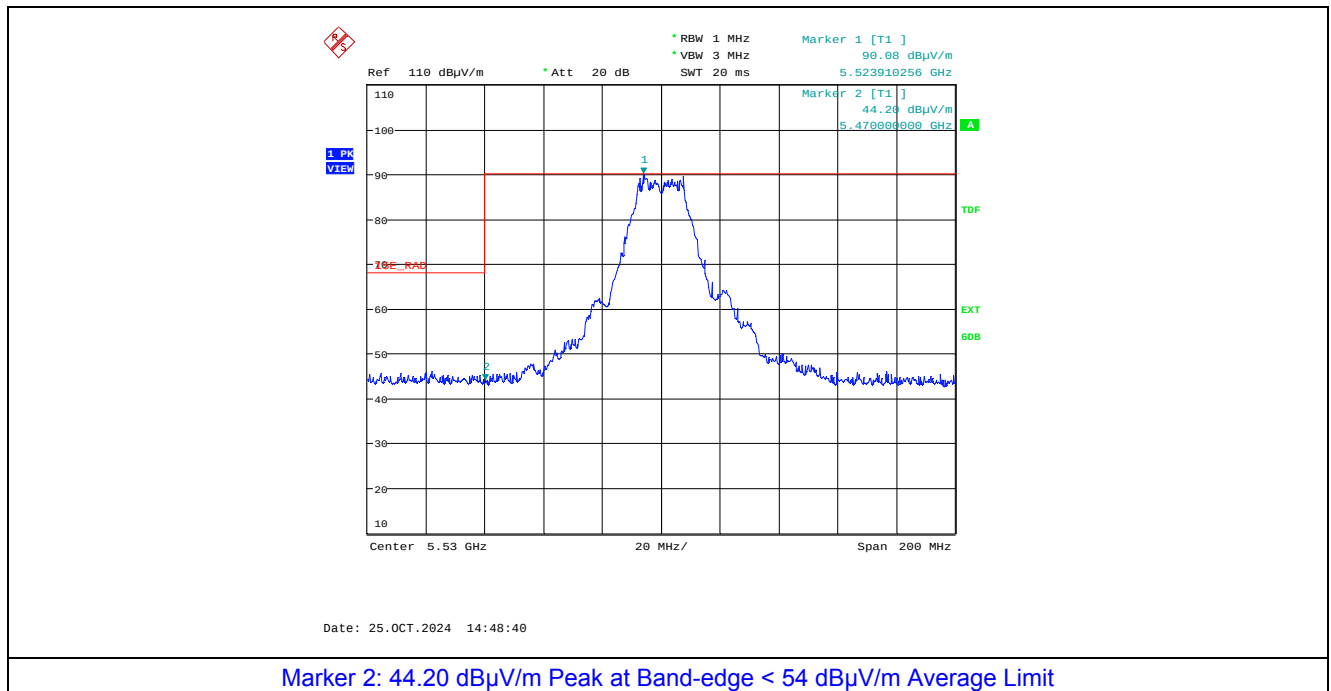
Plot 5.4.4.2.44. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2C Band 802.11n-40M, High End of Frequency Band, 5670 MHz



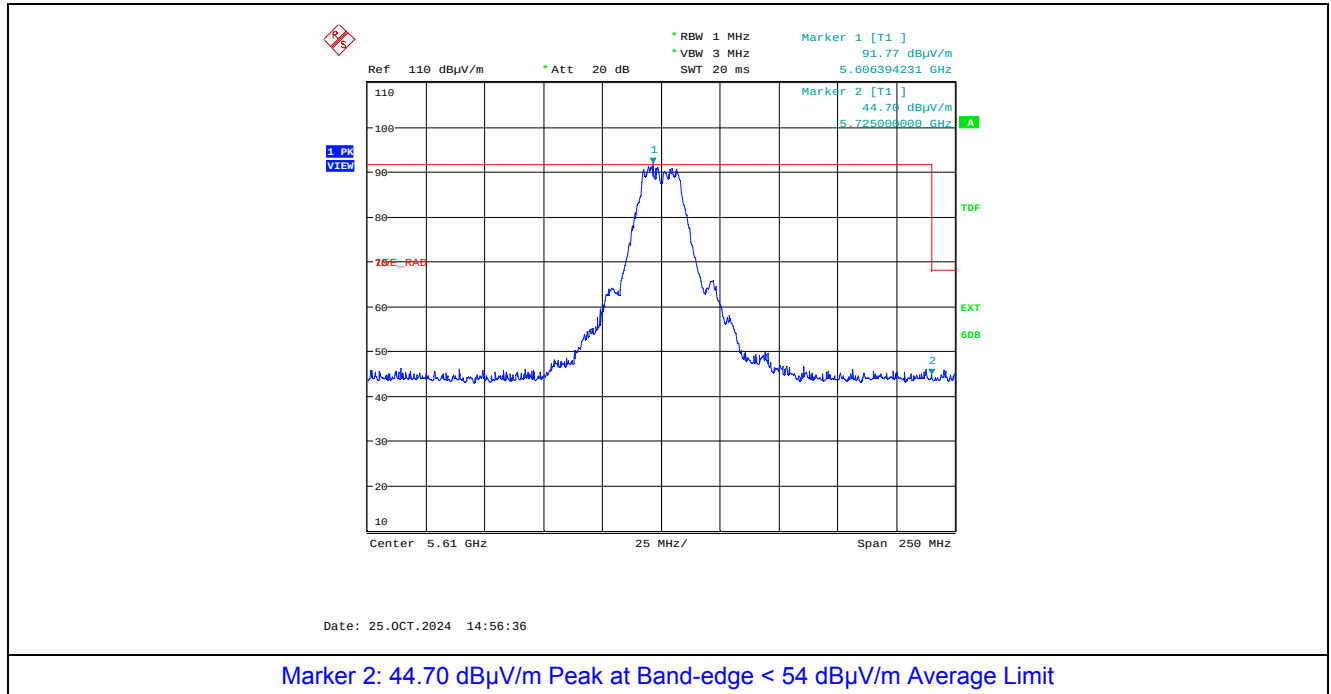
Plot 5.4.4.2.45. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2C Band 802.11ac-80M, Low End of Frequency Band, 5530 MHz



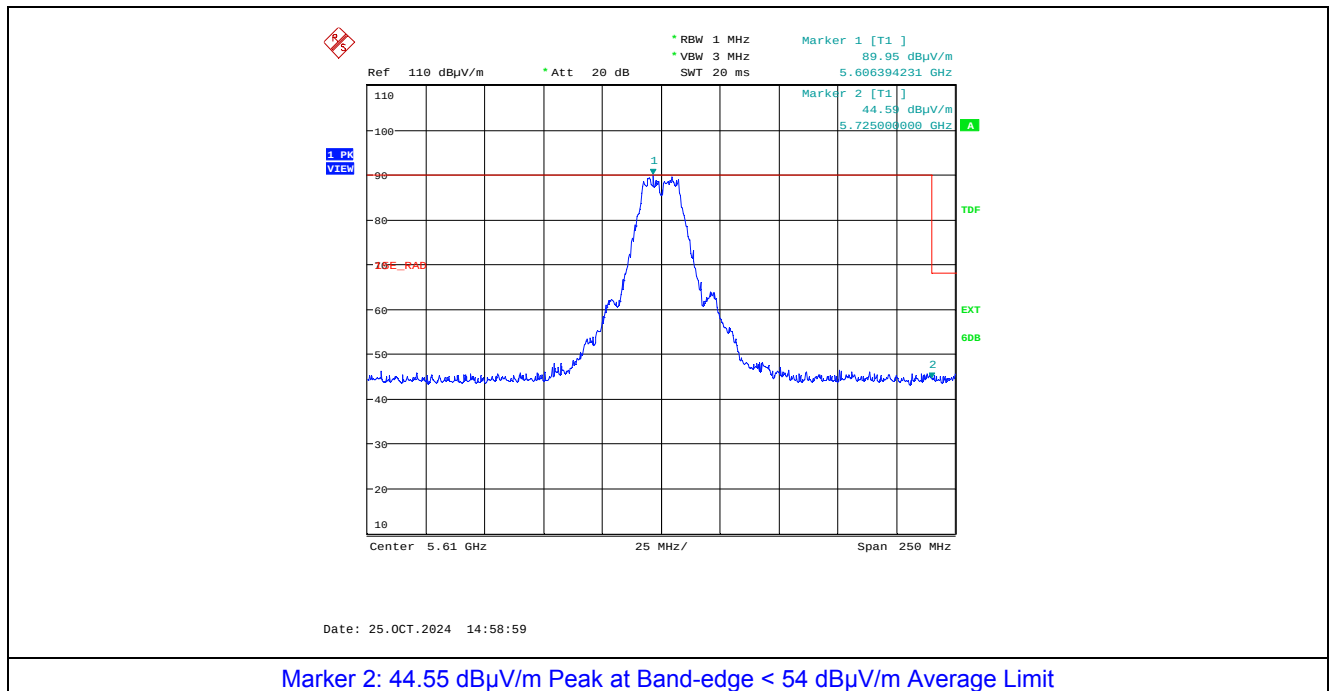
Plot 5.4.4.2.46. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2C Band 802.11ac-80M, Low End of Frequency Band, 5530 MHz



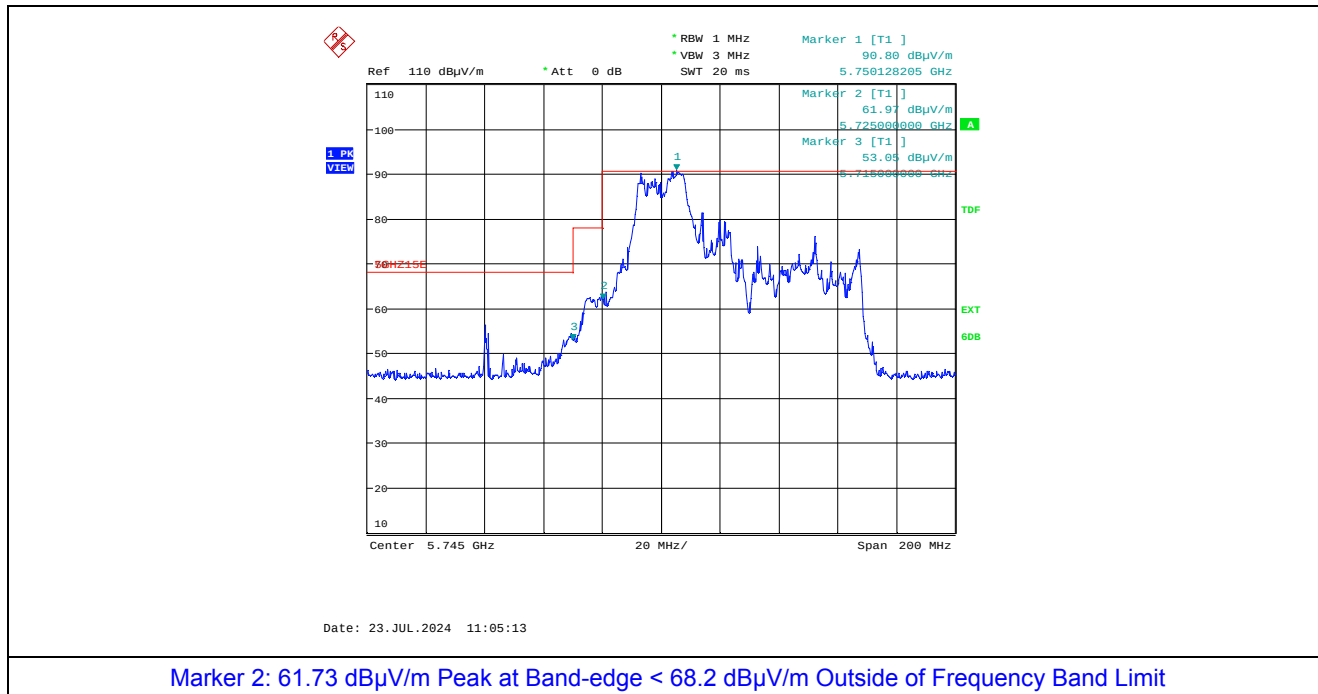
Plot 5.4.4.2.47. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-2C Band 802.11ac-80M, High End of Frequency Band, 5610 MHz



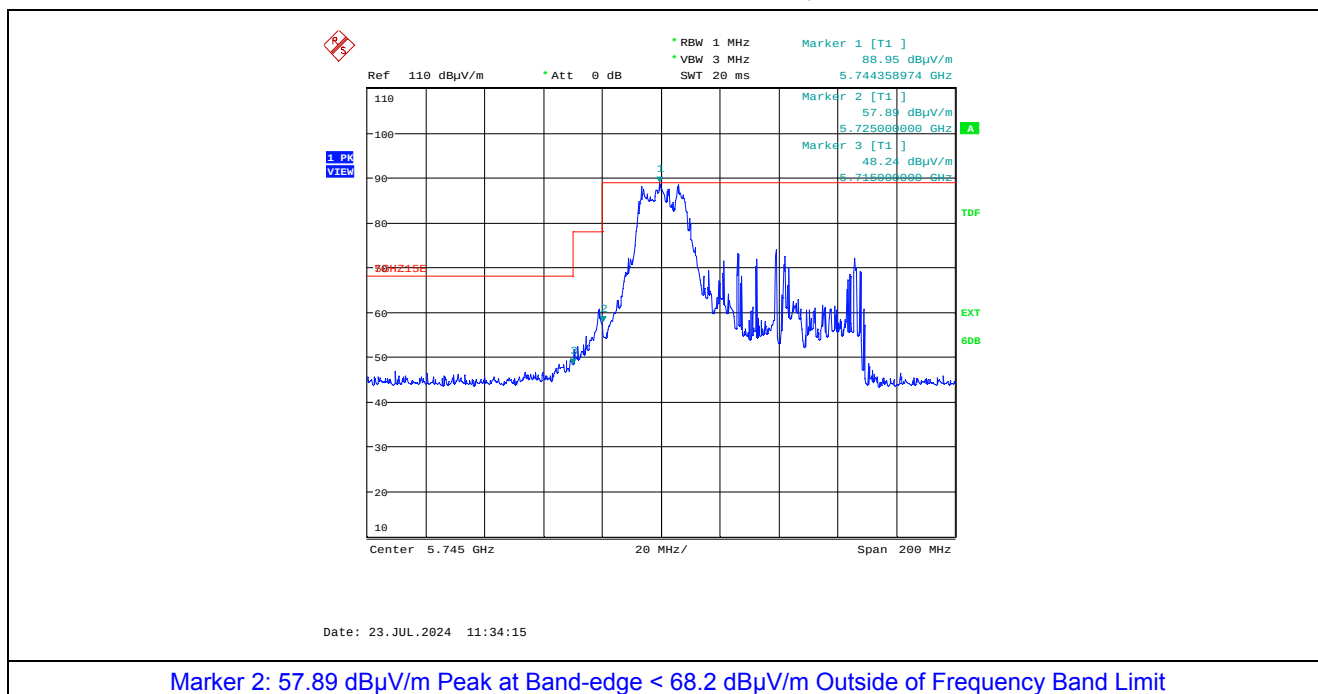
Plot 5.4.4.2.48. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-2C Band 802.11ac-80M, High End of Frequency Band, 5610 MHz



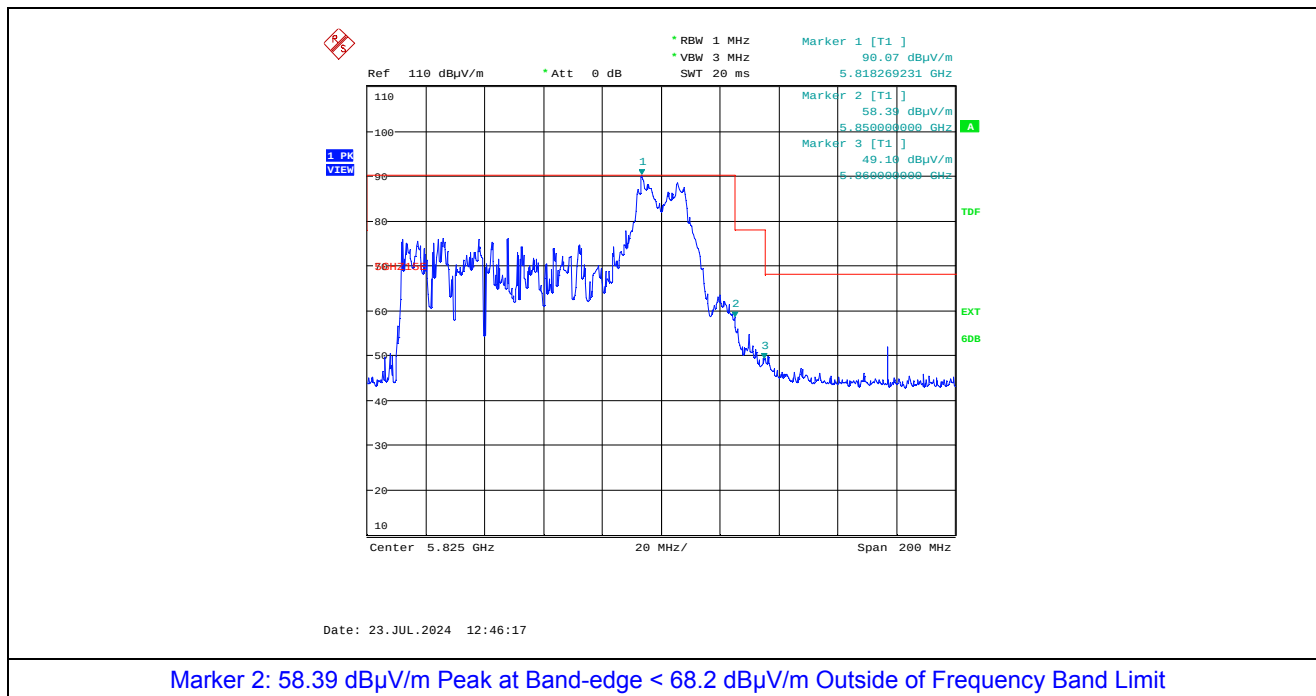
Plot 5.4.4.2.49. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-3 Band 802.11a, Low End of Frequency Band, 5745 MHz



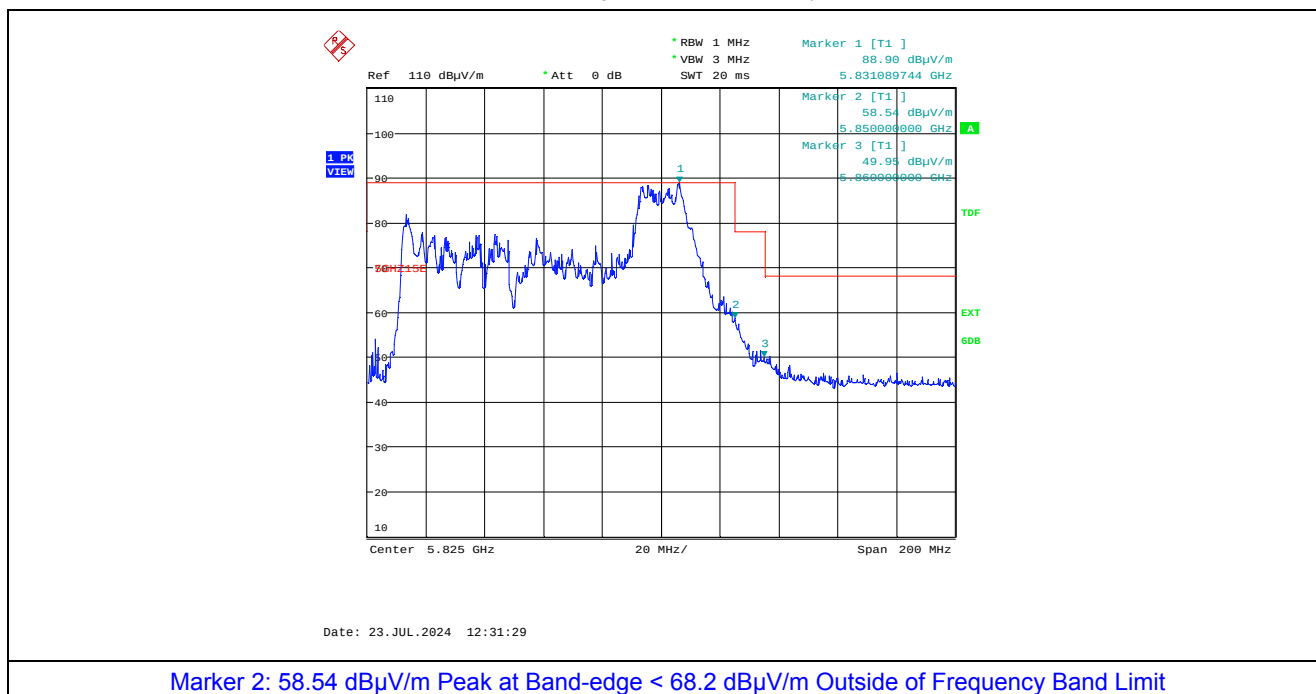
Plot 5.4.4.2.50. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-3 Band 802.11a, Low End of Frequency Band, 5745 MHz



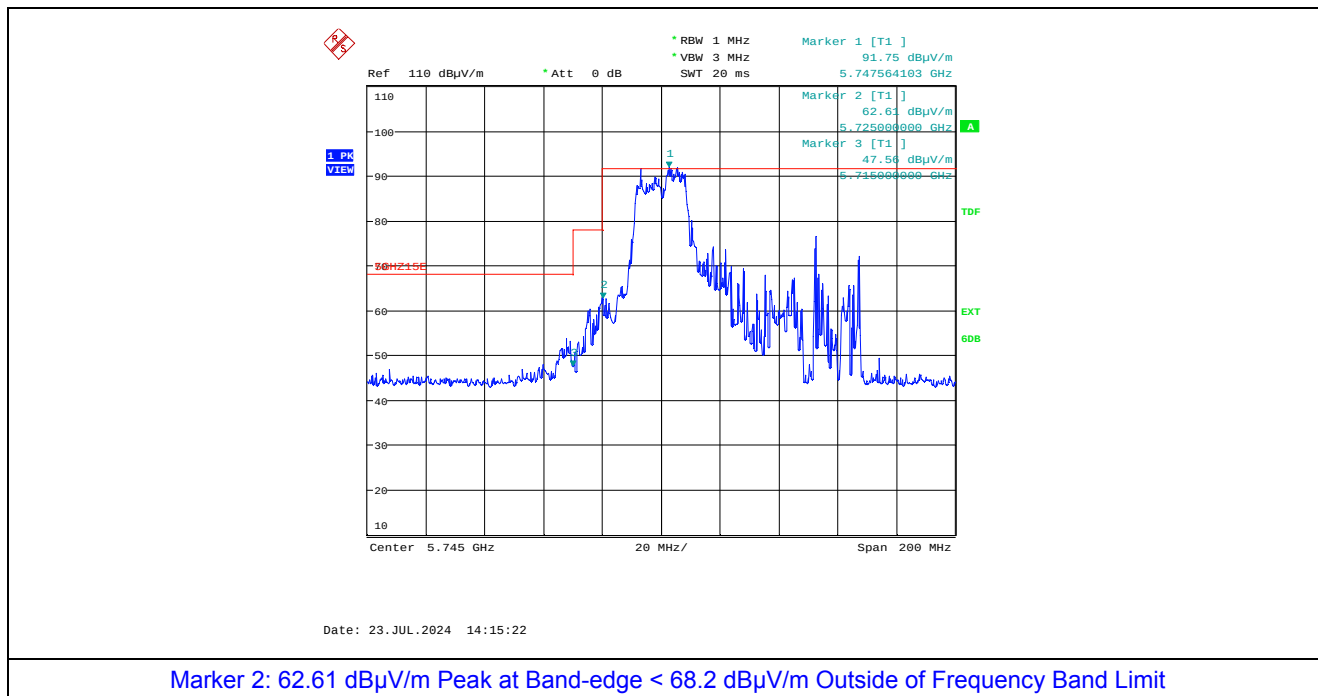
Plot 5.4.4.2.51. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-3 Band 802.11a, High End of Frequency Band, 5825 MHz



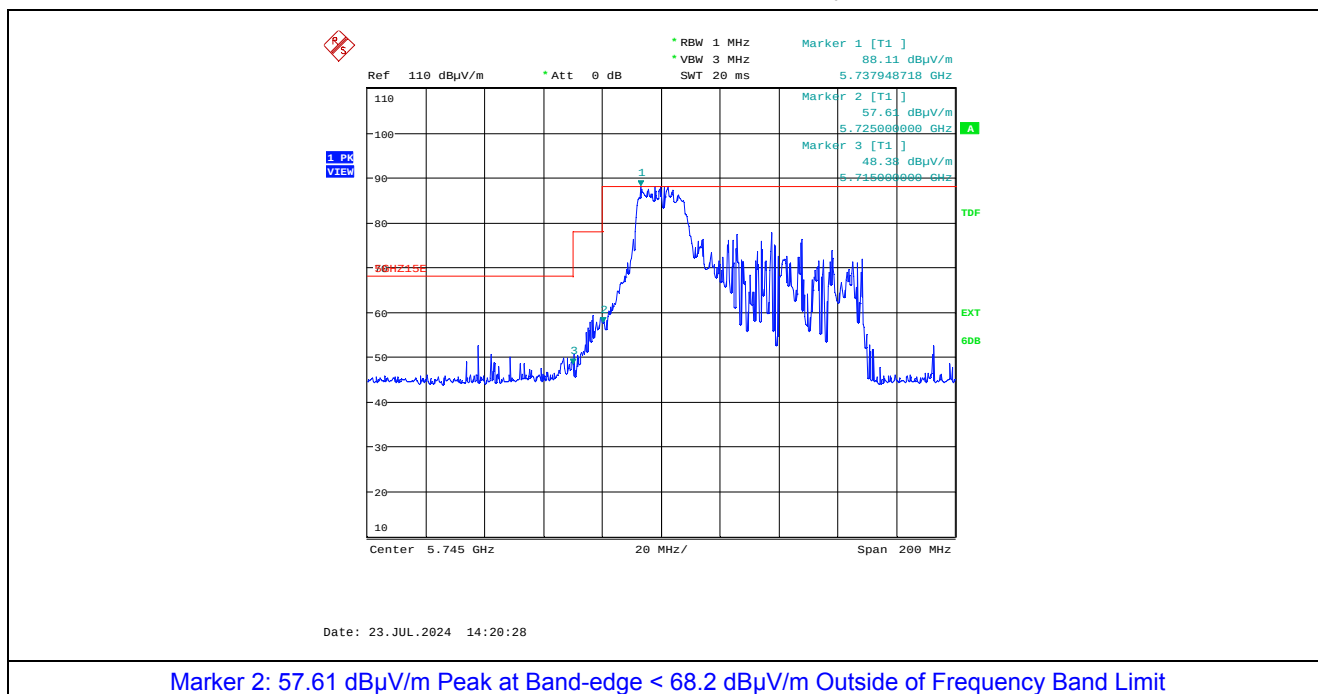
Plot 5.4.4.2.52. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-3 Band 802.11a, High End of Frequency Band, 5825 MHz



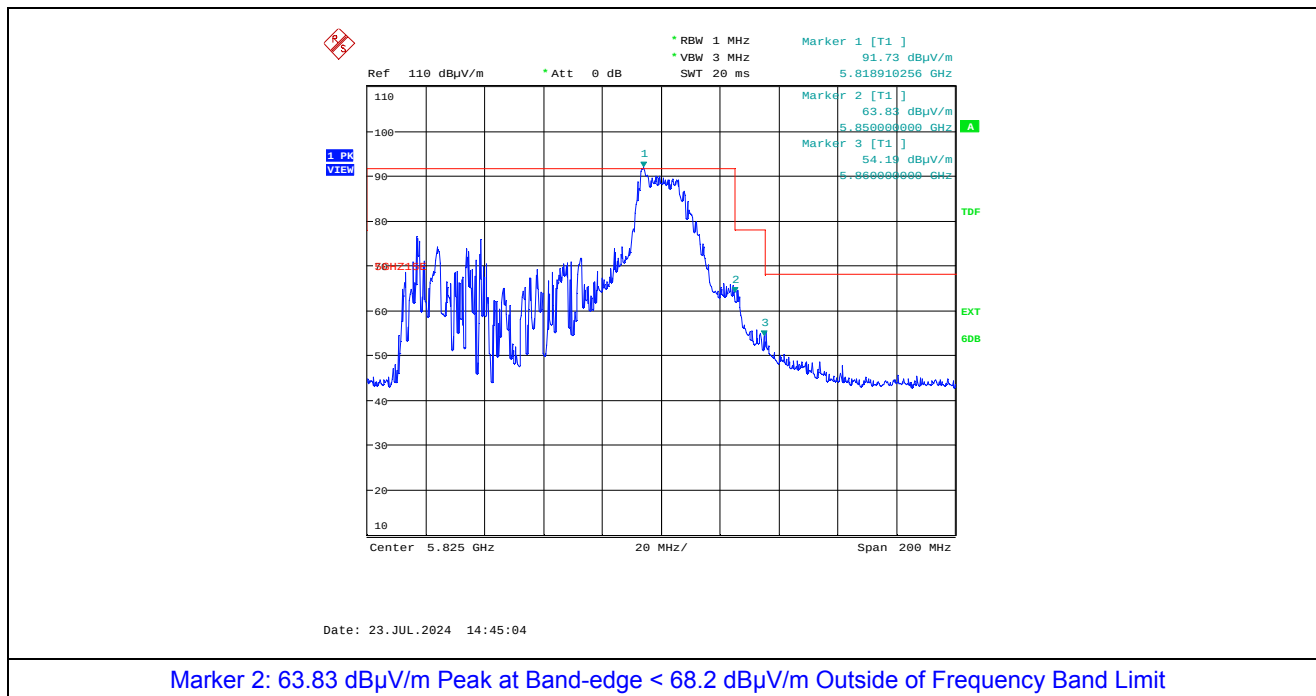
Plot 5.4.4.2.53. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-3 Band 802.11n-20M, Low End of Frequency Band, 5745 MHz



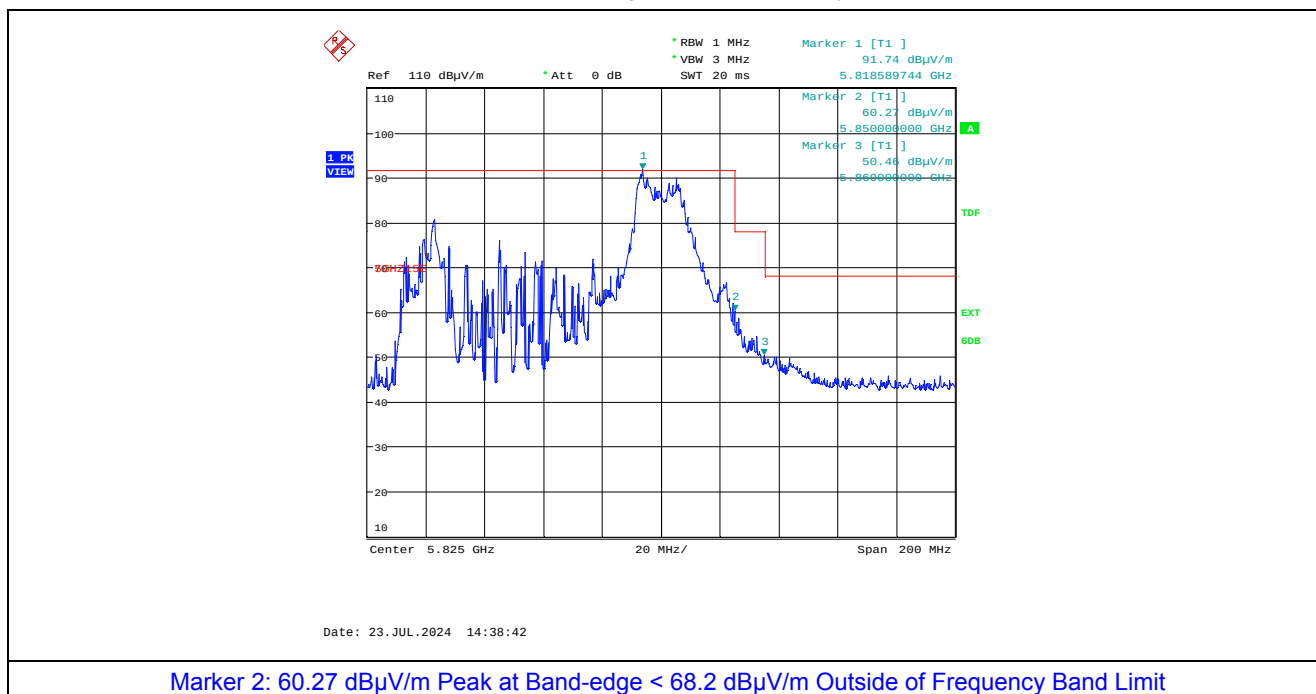
Plot 5.4.4.2.54. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-3 Band 802.11n-20M, Low End of Frequency Band, 5745 MHz



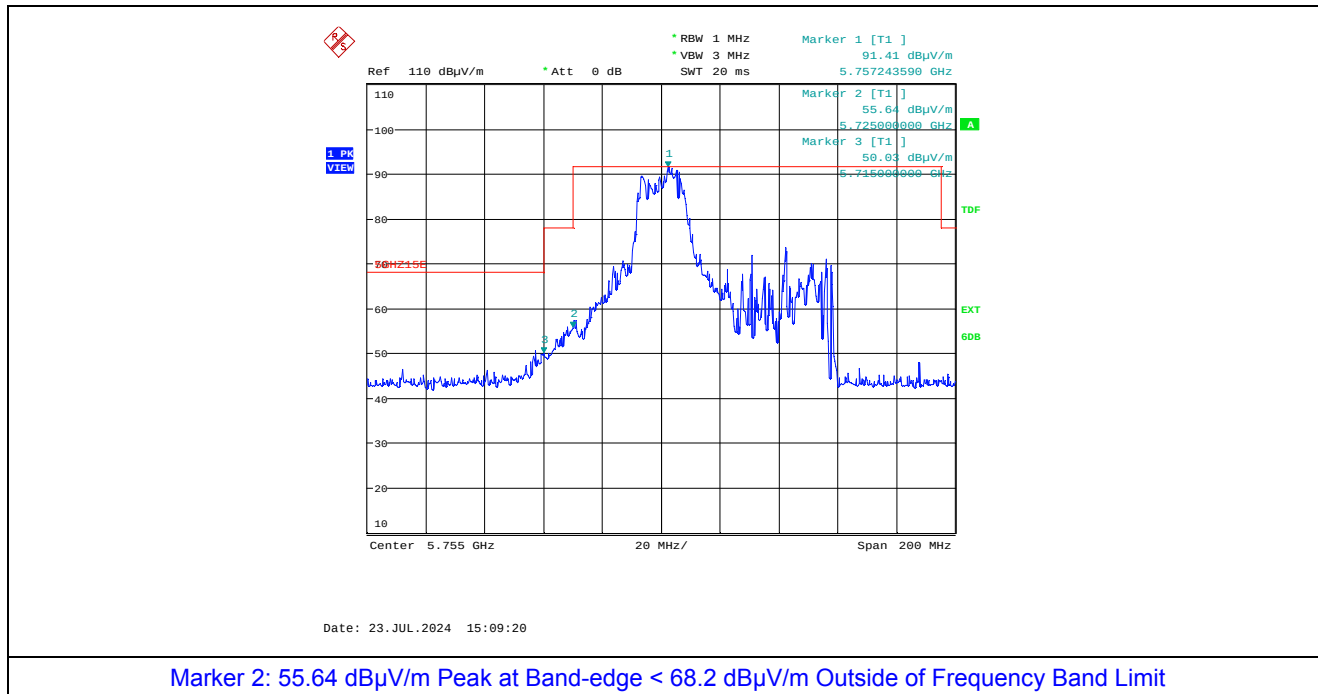
Plot 5.4.4.2.55. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-3 Band 802.11n-20M, High End of Frequency Band, 5825 MHz



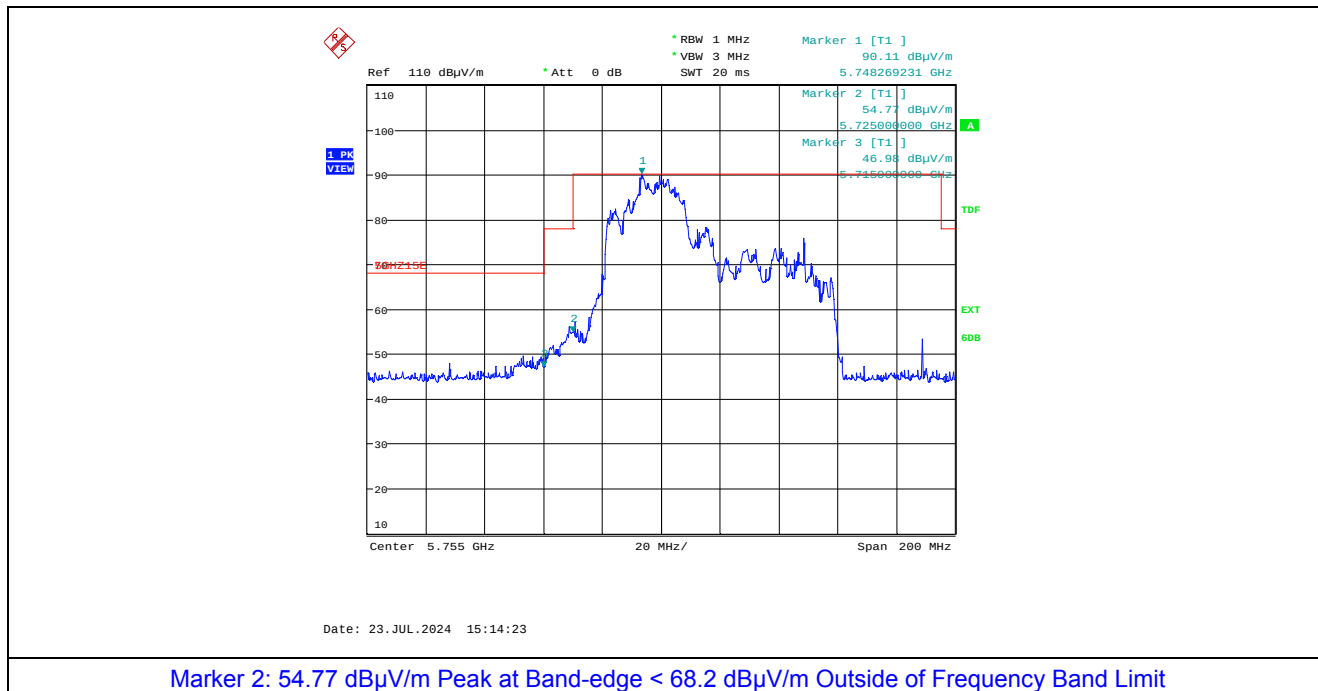
Plot 5.4.4.2.56. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-3 Band 802.11n-20M, High End of Frequency Band, 5825 MHz



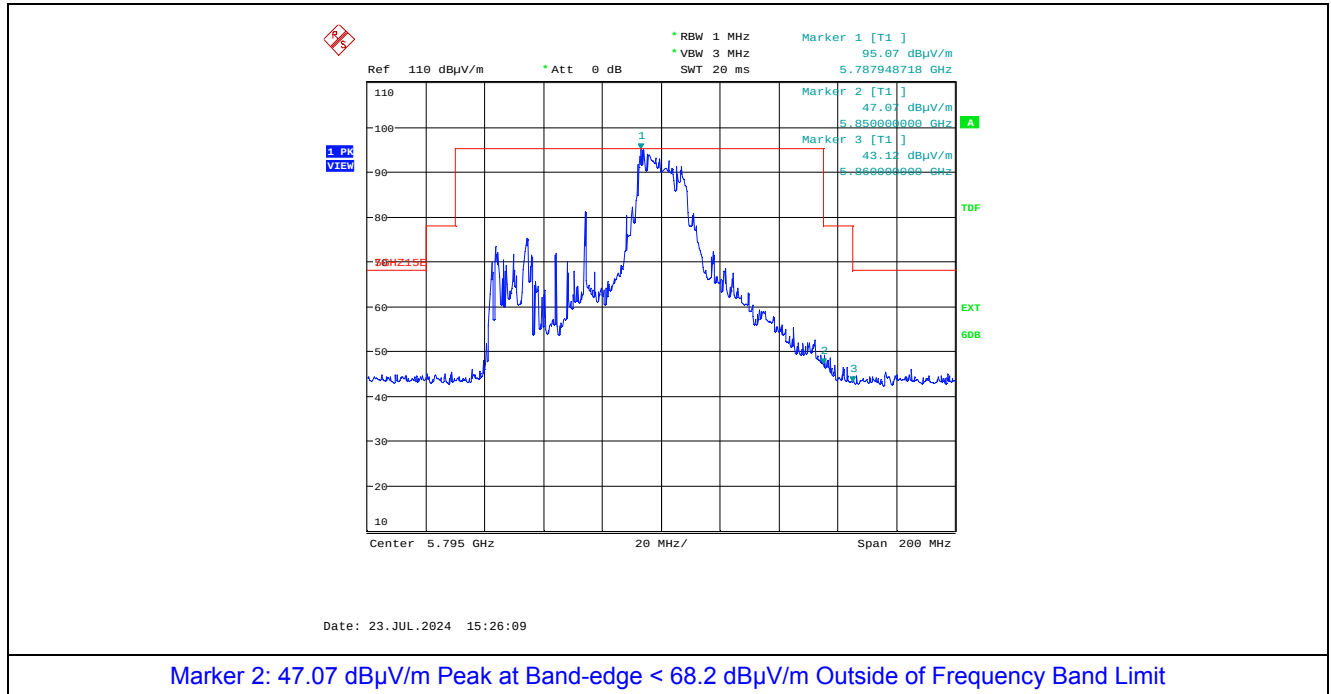
Plot 5.4.4.2.57. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-3 Band 802.11n-40M, Low End of Frequency Band, 5755 MHz



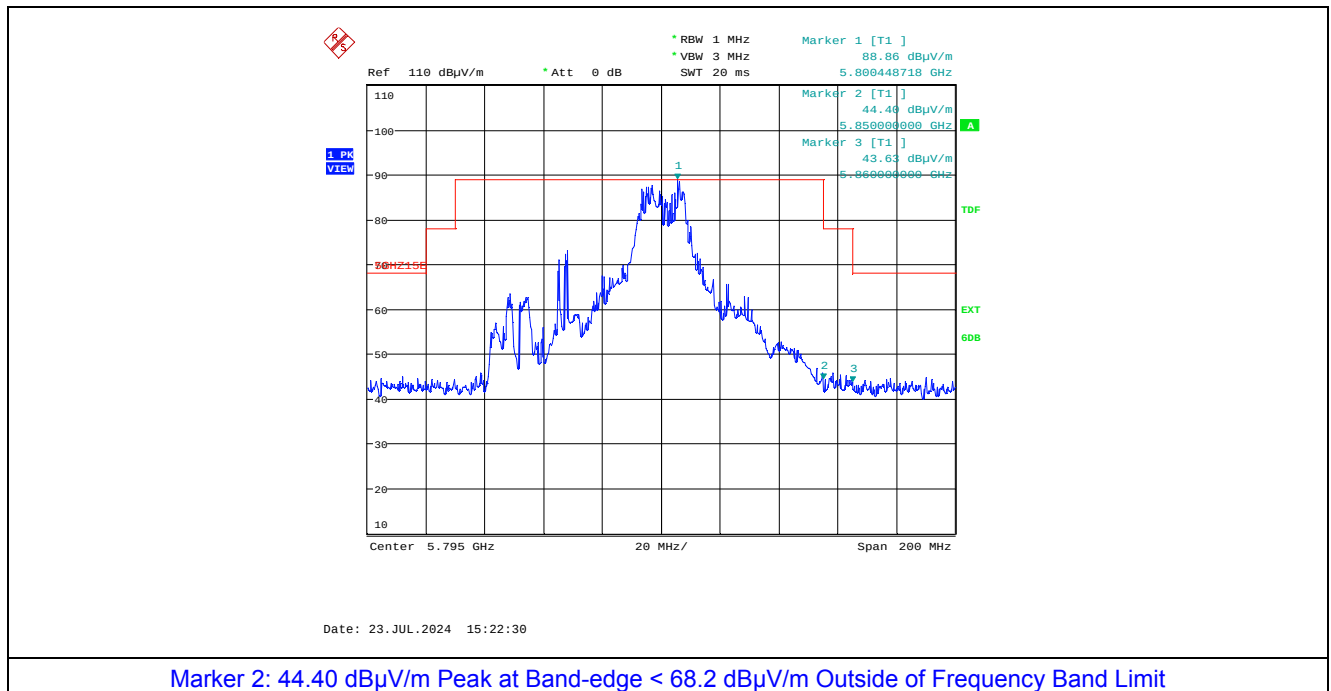
Plot 5.4.4.2.58. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-3 Band 802.11n-40M, Low End of Frequency Band, 5755 MHz



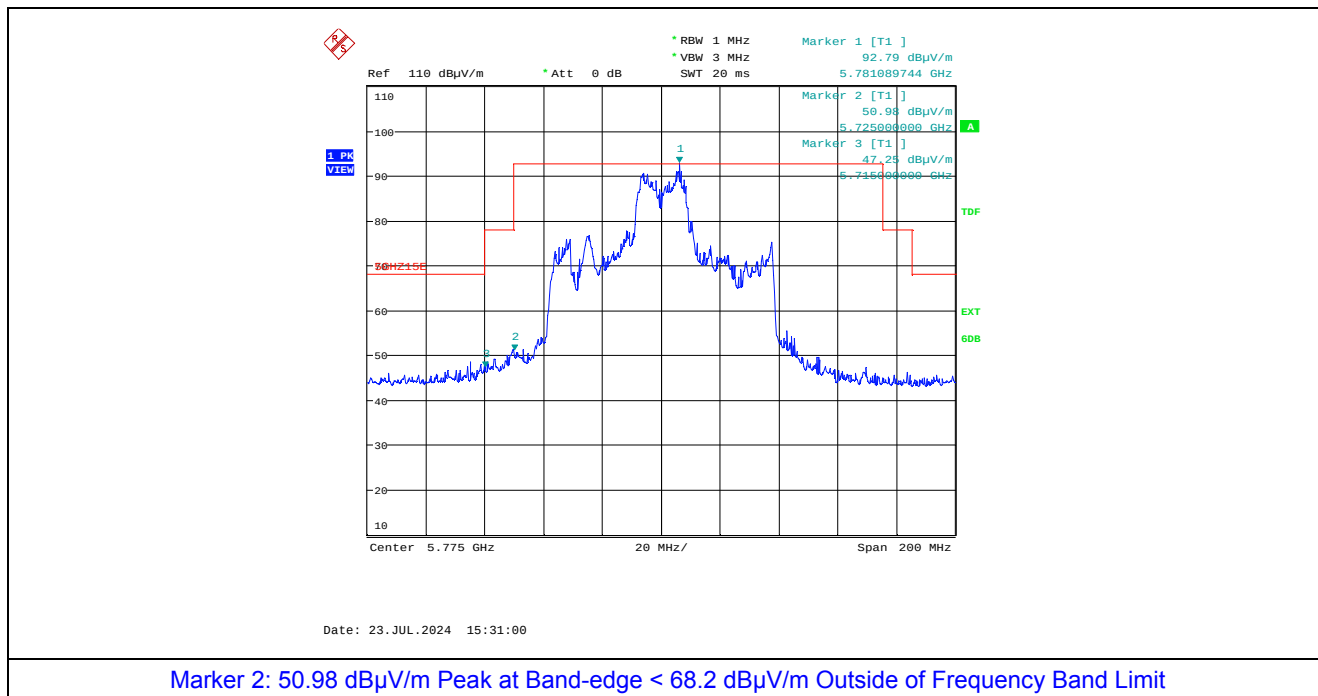
Plot 5.4.4.2.59. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-3 Band 802.11n-40M, High End of Frequency Band, 5795 MHz



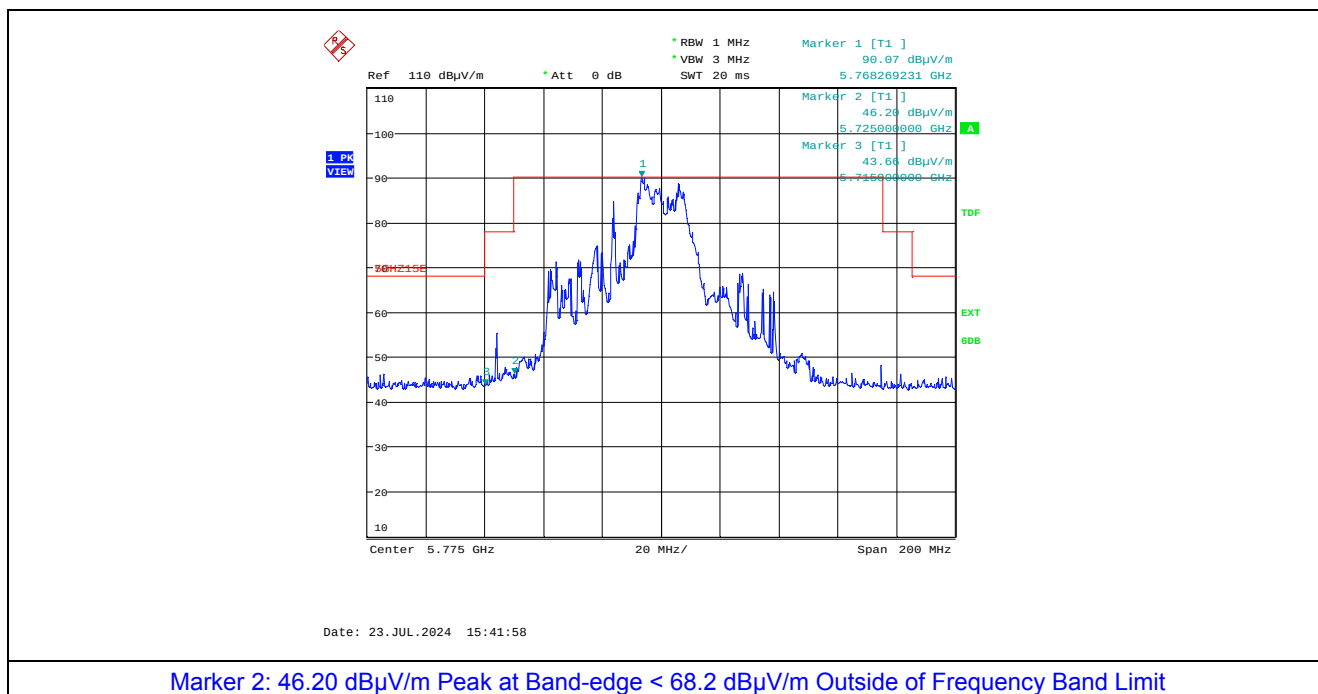
Plot 5.4.4.2.60. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-3 Band 802.11n-40M, High End of Frequency Band, 5795 MHz



Plot 5.4.4.2.61. Band-Edge RF Radiated Emissions at 3 m, Vertical Polarization, Peak
U-NII-3 Band 802.11ac-80M, 5775 MHz

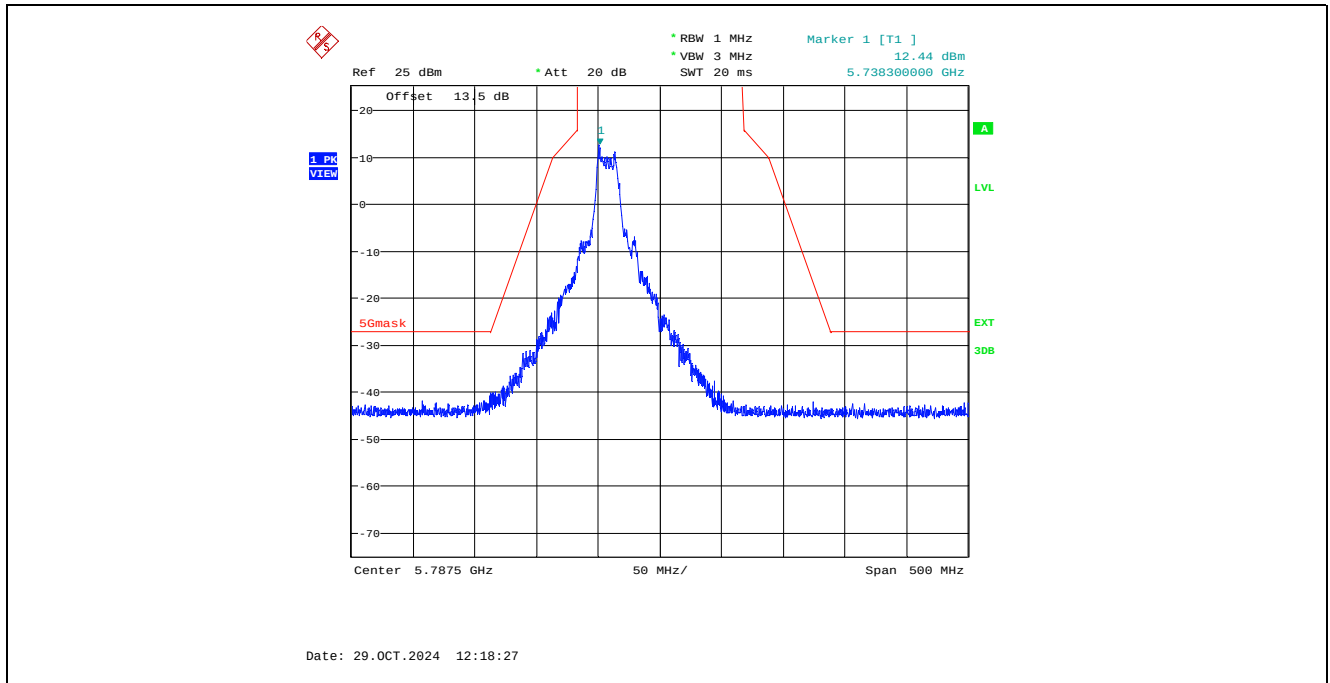


Plot 5.4.4.2.62. Band-Edge RF Radiated Emissions at 3 m, Horizontal Polarization, Peak
U-NII-3 Band 802.11ac-80M, 5775 MHz

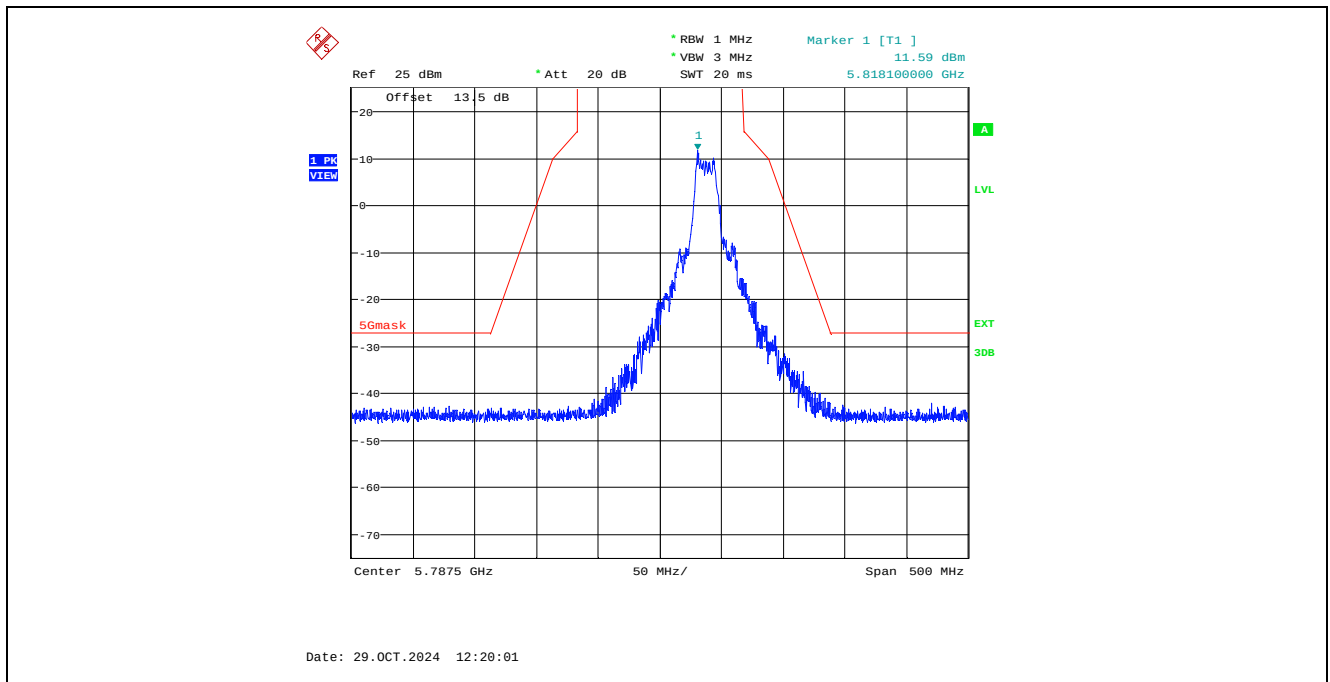


5.4.4.3. U-NII-3 (5725-5850 MHz) Emissions Mask [§15.407(b)(4)(i)]

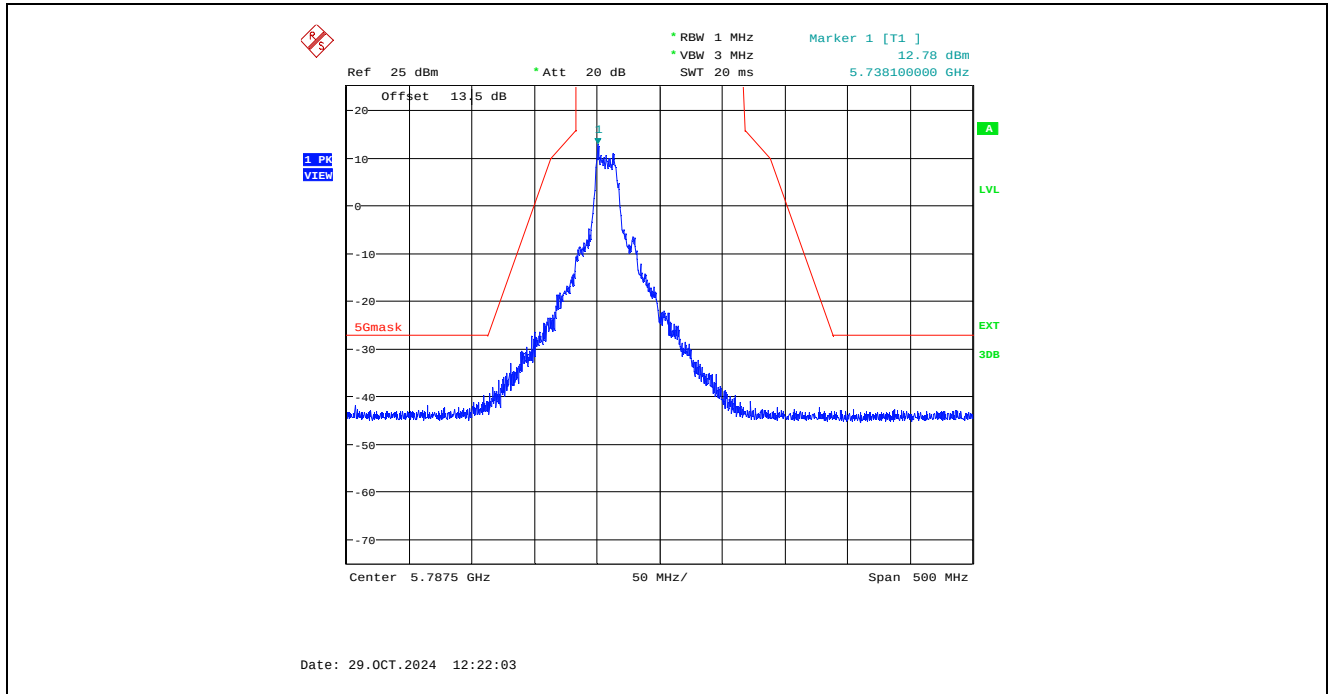
Plot 5.4.4.3.1. U-NII-3 (5725-5850 MHz) Emissions Mask
802.11a, Low End of Frequency Band, 5745 MHz



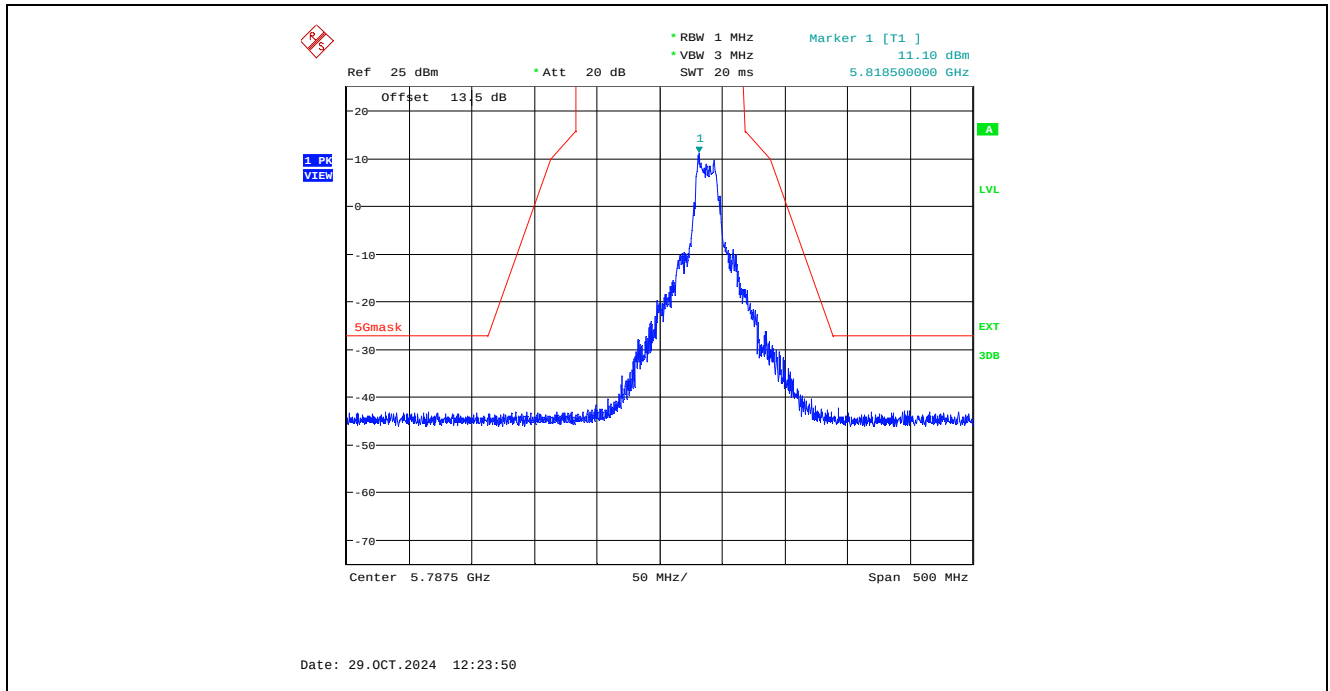
Plot 5.4.4.3.2. U-NII-3 (5725-5850 MHz) Emissions Mask
802.11a, High End of Frequency Band, 5825MHz



Plot 5.4.4.3.3. U-NII-3 (5725-5850 MHz) Emissions Mask
802.11n-20M, Low End of Frequency Band, 5745 MHz



Plot 5.4.4.3.4. U-NII-3 (5725-5850 MHz) Emissions Mask
802.11n-20M, High End of Frequency Band, 5825MHz



Ref 25 dBm * Att 20 dB

RBW 1 MHz VBW 3 MHz SWT 20 ms

Marker 1 [T1] 12.03 dBm

5.758300000 GHz

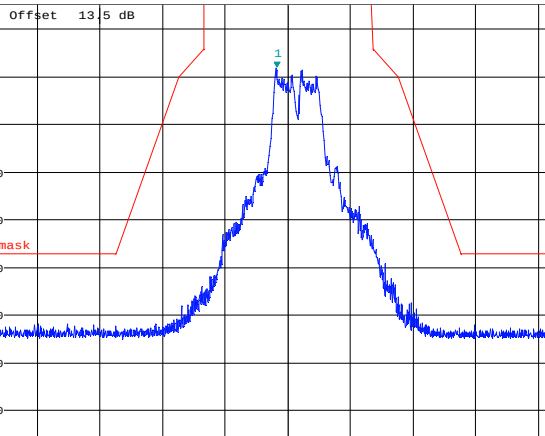
Offset 13.5 dB

1 PK View

5Gmask

Center 5.7875 GHz 50 MHz/ Span 500 MHz

Date: 29.OCT.2024 12:25:55



RBW 1 MHz
 VBW 3 MHz
 SWT 20 ms
 Marker 1 [T1]
 11.70 dBm
 5.778300000 GHz

Ref 25 dBm
 Att 20 dB
 Offset 13.5 dB

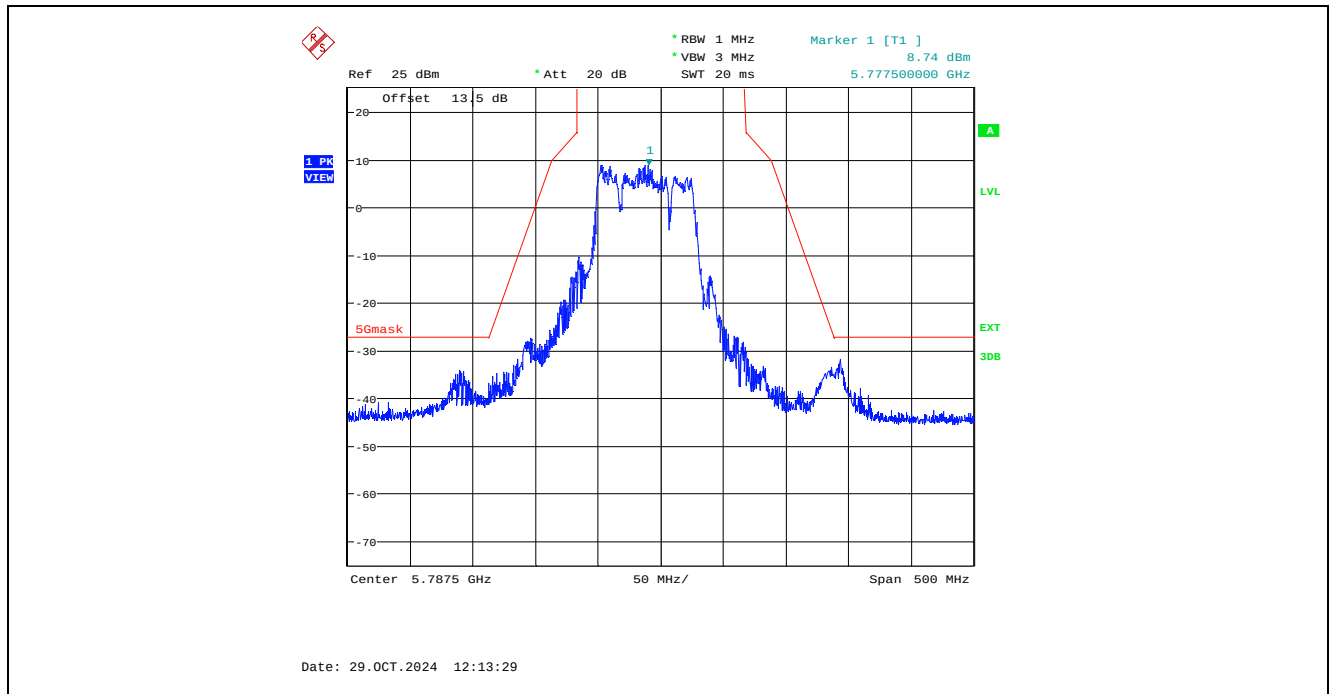
1 PK
 View

5Gmask

Center 5.7875 GHz
 50 MHz/
 Span 500 MHz

Date: 29.OCT.2024 12:28:57

Plot 5.4.4.3.7. U-NII-3 (5725-5850 MHz) Emissions Mask
802.11ac-80M, 5775 MHz



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File #: 24RASI045FCC15E407

November 11, 2024

All test results contained in this engineering test report are traceable to National Institute of Standards and Technology (NIST)

EXHIBIT 6. TEST EQUIPMENT LIST

Test Instruments	Manufacturer	Model No.	Serial No.	Frequency Range	Cal. Due Date
Spectrum Analyzer	Agilent	E7401A	US40240432	9 kHz–22 GHz	06 Nov 2024
High Pass filter	Rohde & Schwarz	EZ-25	830164/007	Cut off 150kHz	12 Oct 2024*
LISN	NSLK 8127	NSLK 8127	8127276	9 kHz–30 MHz	11 Dec 2024
Multimeter	Fluke	8842A	5436283	-	28 Aug 2025
Spectrum Analyzer	Rohde & Schwarz	FSU26	200946	20Hz–26.5 GHz	26 Mar 2026
Attenuator	Pasternack	PE7024-10	3	DC–26.5 GHz	See Note 1
DC Power Supply	HQ Power	PS613U	-	0-30Vdc	See Note 1
Peak Power Analyzer	HP	8991A	3342A00657	0.5 - 40GHz	05 Sep 2026
Peak Power Sensor	HP	84814A	3205A00175	0.5 - 40GHz	05 Sep 2026
Horn Antenna	ETS	3115	9701-5061	1-18GHz	09 Aug 2026
EMI Receiver	Rohde & Schwarz	ESU40	100037	20Hz–40 GHz	18 Sep 2025
Biconilog Antenna	EMCO	3142C	00034792	26-2000MHz	16 Dec 2025
Preamp	Com-Power	PAM-118A	551016	500MHz-18GHz	20 Feb 2025
Preamp	Hewlett Packard	8449B	3003A00769	1000MHz-26.5GHz	08 Nov 2024
High Pass Filter	K & L	11SH10-1500/T8000	2	1.0 – 1.5GHz	See Note 1
Horn Antenna	EMCO	3115	5955	1GHz – 18 GHz	04 Nov 2024
Horn Antenna	EMCO	3160-09	118385	18 - 26.5 GHz	23 Feb 2025
Horn Antenna	EMCO	3160-10	102686	26.5 - 40 GHz	23 Feb 2025
Pre-Amplifier	Com-Power	PAM-840A	18050002	18 - 40 GHz	25 Oct 2024*
Spectrum Analyzer	Rohde & Schwarz	FSEK30	100077	20Hz-40GHz	17 Jun 2025
Note 1: Internal Verification/Calibration Check					

* Equipment used before calibration due date.

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EXHIBIT 7. MEASUREMENT UNCERTAINTY

The measurement uncertainties stated were calculated in accordance with the requirements of CISPR 16-4-2 @ IEC:2003 and JCGM 100:2008 (GUM 1995) – Guide to the Expression of Uncertainty in Measurement.

Test Description	Expanded Uncertainty, K=2 for 95% Confidence Level
Power Line Conducted Emissions	± 2.62 dB
Conducted Output Power	± 0.62 dB
Emissions Mask	± 0.62 dB
Transmitter Spurious Radiated Emissions	± 4.20 dB (30 MHz - 1 GHz)
	± 2.70 dB (1 - 18 GHz)
	± 3.11 dB (Above 18 GHz)
Transmitter Radiated Band-edge Emissions	± 2.76 dB

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