



RF Test Report

Standard(s): FCC Part 15 Subpart 15.407,
RSS-247 Issue 3:2023

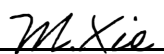
Unlicensed Intentional Radiators

Issued To: Ecobee Inc
207 Queens Quay Suite 600
Toronto, ON M5J 1A7
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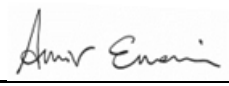
Product Name: Smart Thermostat
Model: ECB601/ECB501
FCC ID: WR92025AA2060G
IC: 7981A-2025AA2060G

Report No. ML302480F-RF00 (DTS - UNII-1)
Date of Issue: January 13, 2026

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TRRF_FCC-ICES-247-DTS_v1

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1. Revision History

Project No. & Revision	Report Date	Initials	Description
ML302480F-RF00 (DTS - UNII-I)	January 13, 2026	MX	Initial Release
-	-	-	-

NOTE:

- Latest reports marked as a revision replace any previous report and/or report revision issued under the same project number.

2. Summary of Test Results

2.1 Test Verdict

Unless otherwise stated, the test data and results in this test report relate only to the sample(s) tested.

Requirement		Test Type	Result	Remark
FCC	ISED			
15.203 15.407(a)	RSS-247 5.4(d)	Antenna Gain and Requirement	Pass	LDS Antenna on Plastic Frame -1.88 dBi
15. 407(a) FCC 2.1049	RSS-247 7.3.1.3 RSS-GEN 6.7	Emission Bandwidth	Pass	26dB and/or 99% Bandwidth Fall within allowed Band
15. 407(a)	--	Output Power	Pass	< 250 mW (24 dBm)
--	RSS-247 7.3.1.2		Pass	e.i.r.p < 200 mW (23 dBm) or 10 + 10log(B) dBm
15.407(a)	--	Power Spectral Density	Pass	< 11 dBm/MHz
--	RSS-247 7.3.1.2		Pass	< 10 dBm/MHz e.i.r.p
15.407(b)(1)	RSS-247 7.3.1.3	Spurious Out of Band Emissions	Pass	-27 dBm/MHz e.i.r.p Peak
	RSS-247 7.3.1.3	Out of Band Emissions	Pass	-26 dBc @ >upper edge of 26 dB bandwidth
15.407(b)(10) 15.205 15.209	RSS-247 7.3.1.3 RSS-GEN 8.10	Transmitter Spurious Radiated Emissions in restricted bands	Pass	QuasiPeak < 1 GHz Peak & Average > 1GHz
15.207	RSS-GEN (Table 4)	Power Line Conducted Emissions	Pass	--

2.1.1 Test Verdict Notes and Justifications

The DUT was mounted as in normal usage. See the Test Setup Photos for details.

This DTS report documents the 5150 – 5250 MHz UNII-1 transceiver.

For the Antenna requirement specified in FCC 15.203 and 15.407 (a)), the unit uses a permanently connected LDS Antenna on Plastic Frame with -1.88 dBi which is less than 6 dBi gain. Antenna details obtained from Manufacturer's Datasheet.

For the Restricted Bands of operation, the EUT is designed to only operate between 5150 – 5250 MHz.

For DFS, the 26 dB BW of modulations that were within 5250-5350 MHz band, the 99% BW were outside this band and the DUT does not implement 802.11 channel 50. Thus, DFS testing are not require as per RSS-247 and FCC KDB 789033 Section III B. 2. (a)(i).

As per FCC KDB 789033, "Section 15.407(g) specifies that U-NII devices are required to ensure frequency stability...the applications for equipment certification are not required to include test reports with explicit demonstration of compliance." Temperature stability measurements were not performed. See ECB601 FRQ_STB + DC_TX exhibit for additional details.

ECB601 FRQ_STB + DC_TX exhibit also details how the device complies with 15.407 (c) and RSS 247 Section 6.4.

2.2 Test Standards

Standard	Description
47 CFR FCC Part 15 Subpart E	Code of Federal Regulations – Radio Frequency Devices, Intentional Radiators
FCC KDB 414788 D01	Radiated Test Site v01r01
FCC KDB 789033 D02	General U-NII Test Procedures New Rules v02r01
FCC KDB 447498	RF exposure procedures and equipment authorization policies for mobile and portable devices
RSS-247 Issue 3:2025	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
RSS-GEN Issue 5:2021	General Requirements for Compliance of Radio Apparatus
ANSI C63.4:2014	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/A1:2024	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
ISO 17025:2017	General Requirements for the Competence of Testing and Calibration Laboratories

2.3 Test Facility

All tests were performed at Megalab Group Inc., located at 150 Addison Hall Circle, Aurora, ON, L4G 3X8, Canada.

The 10-meter semi-anechoic chamber for radiated emission and radiated immunity is designed to handle weights of up to 10,000lb and has power capability of over 100A. The turntable is capable of supporting test devices or systems either floor standing or table top of up to 4 meters wide and 3m tall. Conducted emissions, unless otherwise specified, are performed on a 2.44m x 2.48m ground plane and using a 2.44m x 2.48m vertical ground plane if applicable.

2.3.1 Accreditations

This report does not indicate any product endorsement by any government, accreditation agency, or Megalab Group Inc. Megalab Group Inc. shall have no liability for any deductions, interpretations or generalizations drawn by the client or others from the issued reports. If any opinions or interpretations are expressed in this report, they are outside Megalab Group Inc.'s scope of accreditation and do not necessarily reflect the opinions of Megalab Group Inc., unless otherwise specified.



A2LA (Certificate #5179.02)

Megalab Group Inc. is accredited to ISO/IEC 17025:2017 by the American Association for Laboratory Accreditation (A2LA) with Testing Certificate #5179.02. The laboratories current scope of accreditation can be found as listed on A2LA's website.



Innovation, Science and
Economic Development Canada

ISED

Megalab Group Inc. is registered with and recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.
Company Number: 28697



FCC

Megalab Group Inc. is registered with and recognized by the Federal Communications Commission (FCC) as an accredited testing laboratory.
Registration No. 200040



VCCI

The Semi-anechoic chamber of Megalab Group Inc. is registered with the Regulations for Voluntary Control Council for Interference (VCCI). Registration No.: R-20173, G-20174, C-20132, T-20133.

2.3.2 Measurement Uncertainty

As per ISO/IEC 17025 requirements, an evaluation of the measurement uncertainties associated with the emission test results should be included in the test report.

Where relevant, the following measurement uncertainty levels have been estimated for the tests performed on the DUT as specified in CISPR 16-4-2. The measurement uncertainties given below are based on a coverage factor $k = 2$ which yields approximately a 95% level of confidence for the near-normal distribution typical of most measurement results.

Measurement	Frequency Range	Uncertainty
Conducted Emissions at AC Mains Power Port	150kHz to 30MHz	2.27 dB
Radiated Emissions	30MHz to 1GHz	5.22 dB
	1GHz to 18GHz	4.76 dB

2.3.3 Sample Calculations

Conducted Emissions

$$\begin{aligned}
 \text{Emission Level (dB}\mu\text{V)} &= \text{Read Level (dB}\mu\text{V)} + \text{LISN Factor (dB)} + \text{Attenuation Factor (dB)} + \text{Cable Loss (dB)} \\
 &= 34.8 + 0.1 + 10.0 + 0.2 \\
 &= 45.1
 \end{aligned}$$

$$\begin{aligned}
 \text{Margin (dB)} &= \text{Limit (dB}\mu\text{V)} - \text{Emission Level (dB}\mu\text{V)} \\
 &= 60.0 - 45.1 \\
 &= 14.9
 \end{aligned}$$

Radiated Emissions

$$\begin{aligned}
 \text{Emission Level (dB}\mu\text{V/m)} &= \text{Read Level (dB}\mu\text{V)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Pre-Amp Gain (dB)} \\
 &= 52.4 + 9.4 + 1.3 - 29.2 \\
 &= 33.9
 \end{aligned}$$

$$\begin{aligned}
 \text{Margin (dB)} &= \text{Limit (dB}\mu\text{V/m)} - \text{Emission Level (dB}\mu\text{V/m)} \\
 &= 50.0 - 33.9 \\
 &= 16.1
 \end{aligned}$$

2.3.4 Terms, Definitions and Abbreviations

AE	Auxiliary Equipment
DUT	Device Under Test
DTS	Digital Transmission System
EMC	Electro-Magnetic Compatibility
FHSS	Frequency Hopping Spread Spectrum
ISM	Industrial, Scientific and Medical
LISN	Line Impedance Stabilization Network
N/A	Not Applicable
NCR	No Calibration Required
RF	Radio Frequency
RBW	Resolution Bandwidth
VBW	Video Bandwidth

Auxiliary Equipment/Support Equipment

Equipment needed to exercise and/or monitor the operation of the DUT.

Artificial Mains Network

Network that provides a defined impedance to the DUT at radio frequencies, couples the disturbance voltage to the measuring receiver and decouples the test circuit from the supply mains.

Class A Equipment

Equipment suitable for use in all locations other than those allocated in residential environments and those directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.

Class B Equipment

Equipment suitable for use in all locations, including in residential environments and in establishments directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.

Device Under Test

Device or system being evaluated for compliance with the requirements of the Test Standards listed in this report.

Electro-Magnetic Compatibility

Ability of equipment or system to function satisfactorily in its EM environment without introducing intolerable electromagnetic disturbances to anything in that environment.

Electromagnetic Disturbance

Any electromagnetic phenomenon which may degrade the performance of a device, equipment or system.

3. General Information

3.1 Client Information

Company	Ecobee Inc
Address	207 Queens Quay Suite 600 Toronto, ON M5J 1A7 Canada
Contact	John Russomanno
Email	john@ecobee.com

3.2 Device Under Test (DUT)

3.2.1 DUT Information

DUT Name	Smart Thermostat
DUT Model(s)	ECB601/ECB501
Serial Number	Production samples
Power Source (AC / DC / Battery)	AC
Input Voltage (V) or Range	24Vac
Frequency (Hz) or Range	60Hz
Mode(s) of Operation	Continuous transmission, > 98% Duty Cycle
Connectors Available on DUT	Standard thermostat connections
Transmitter Information	
FCC ID	WR92025AA2060G
IC	7981A-2025AA2060G
Technology Used	802.11 a/n/ac
Operating Frequency	5180 MHz to 5240 MHz
Modulation Type	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Number of Channels	4
Antenna Manufacturer	LDS Antenna on Plastic Frame
Antenna Model	N/A
Antenna Type	Custom antenna
Antenna Gain	-1.88 dBi

Note: Above antenna information is provided by the client. The characteristics and gain are obtained from the Antenna Manufacturer's Data Sheet.

3.2.2 DUT Description

EUT is a smart thermostat; it contains 2400 – 2483.5 MHz DTS (802.11 b/g/n and BLE), 2400 – 2483.5 MHz FHSS (Bluetooth Classic), 5150-5250 MHz, and 5725-5850 MHz transmitters on one chip, and a 920 – 928 MHz FHSS/Hybrid transmitter on second chip.

This report documents the compliance test results of the UNII-1 transmitter.

3.3 Test Setup of DUT

3.3.1 Configuration

The DUT was configured in a direct test mode with the following parameters

- For all the tests, the DUT was set to transmit continuously with maximum duty cycle
- Power setting: 17 for 20 MHz bandwidth and 16 for 40 MHz bandwidth.
- Channels – 20 MHz Bandwidth:
 - o Low, 5218 MHz
 - o Mid, 5220 MHz
 - o High, 5240 MHz
- Channels - 40 MHz Bandwidth:
 - o Low, 5190 MHz
 - o Hight 5230 MHz

During all radiated emission measurements, the DUT was mounted in its normal orientation. See Test Setup Photos for axis details.

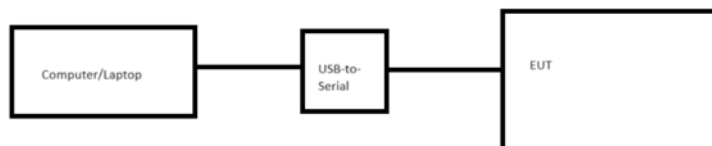


Figure 1 – Configuration Block Diagram

Description of I/O Cables			
Cable Function	Length of Cable (m)	Shielded (Y/N)	Outdoor Use (Y/N)
Thermostat control	>3	N	N

3.3.2 Support Equipment

Device	Manufacturer	Model	S/N
Custom USB Interface	Ecobee	--	---

3.4 Modifications for Compliance

No modifications were made to the device under test to comply with the testing requirements.

4. Test Results

4.1 Emission Bandwidth

Test Date:	September 5, 2025	Initials:	MX
Temperature (°C)	24.6		
Relative Humidity (%)	34.1		
Barometric Pressure (kPa)	97.7		

4.1.1 Limits

The requirement is as specified in FCC Part 15.407 and RSS-247 7.3.1

There is no limit specified for bandwidths. This section is for reporting purpose only.

Even though there is no specified limit, these measurements are used to determine compliance to RSS-247 Section 7.3.1.3:

- any unwanted emissions that fall between the upper edge of the 26 dB bandwidth and 5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth.
- if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing DFS (see section 7.3.6) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

4.1.2 Test Procedure

Tested according to ANSI C63.10 Section 12.5 and 6.9

For the 26 dB Bandwidth:

- a) Set RBW = 1% to 5% of 26 dB bandwidth
- b) VBW $\geq [3 \times \text{RBW}]$
- c) Detector = Peak
- d) Trace Mode = Max Hold.
- e) Sweep = Auto Couple.
- f) Span = 2 to 5 times the 26 dB bandwidth
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26dB relative to the maximum level measured in the fundamental emission.

For the 99% Bandwidth:

- a) Set RBW in the range of 1% to 5% of the actual occupied bandwidth.
- b) Set VBW $\geq [3 \times \text{RBW}]$.
- c) Span set to 1.5 to 5 times the occupied bandwidth.
- d) Use the 99% power bandwidth function of the instrument to measure bandwidth.

4.1.3 Test Results

The 26 dB and 99% bandwidth of the transmitter were measured for informational purposes. There is no limit specified for 26 dB and 99% bandwidth.

The EUT supports 802.11 a/n/ac protocols for UNII-I WIFI. For every protocol, three channels were measured. The 26 dB and 99% bandwidth are documented in the following tables

802.11 a			
26dB & 99% Bandwidth			
Frequency (MHz)	26dB DTS Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Test Result
5180	32.670	19.03	Pass
5220	32.370	18.80	Pass
5240	32.570	18.79	Pass
F _H (26 dB BW) = 5256.83 MHz			
F _H (99% BW) = 5249.40 MHz			

802.11 n (20 MHz)			
26dB & 99% Bandwidth			
Frequency (MHz)	26dB DTS Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Test Result
5180	31.270	18.89	Pass
5220	30.220	18.56	Pass
5240	30.070	18.52	Pass
F _H (26 dB BW) = 5255.78 MHz			
F _H (99% BW) = 5249.32 MHz			

802.11 ac (20 MHz)			
26dB & 99% Bandwidth			
Frequency (MHz)	26dB DTS Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Test Result
5180	31.120	18.68	Pass
5220	30.270	18.58	Pass
5240	30.120	18.53	Pass
F _H (26 dB BW) = 5255.83 MHz			
F _H (99% BW) = 5249.32 MHz			

802.11 n (40 MHz)			
26dB & 99% Bandwidth			
Frequency (MHz)	26dB DTS Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Test Result
5190	42.180	36.08	Pass
5230	42.260	36.40	Pass
F _H (26 dB BW) = 5251.35 MHz			
F _H (99% BW) = 5248.20 MHz			

802.11 ac (40 MHz)			
26dB & 99% Bandwidth			
Frequency (MHz)	26dB DTS Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Test Result
5190	41.810	36.47	Pass
5230	41.580	36.42	Pass
F _H (26 dB BW) = 5250.68 MHz			
F _H (99% BW) = 5248.21 MHz			

4.1.3.1. 802.11 a Plots

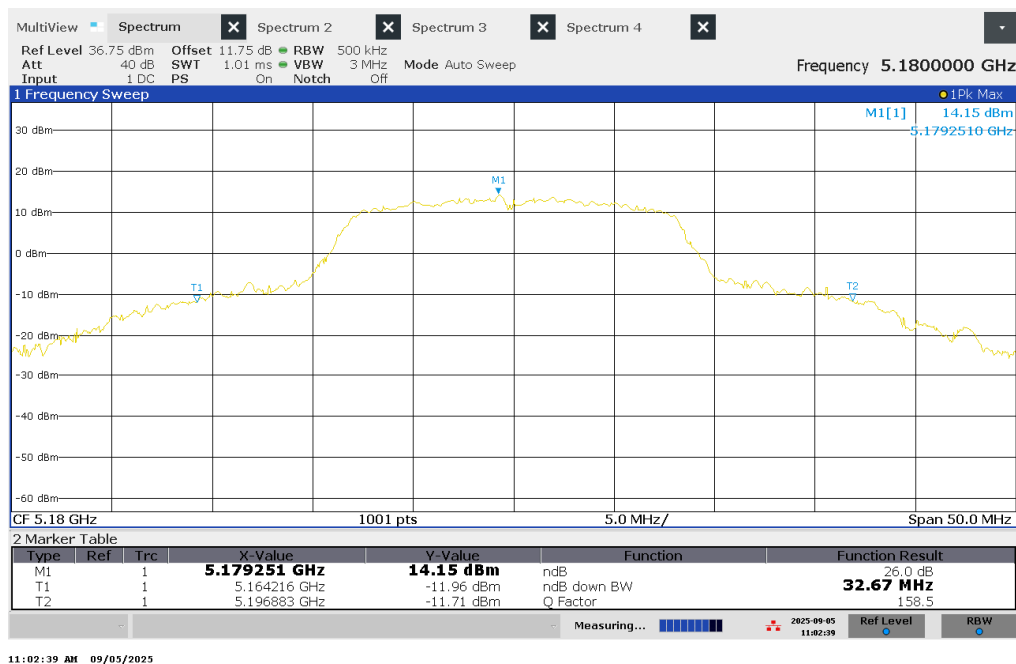


Figure 2 – 26dB Bandwidth – Low Channel

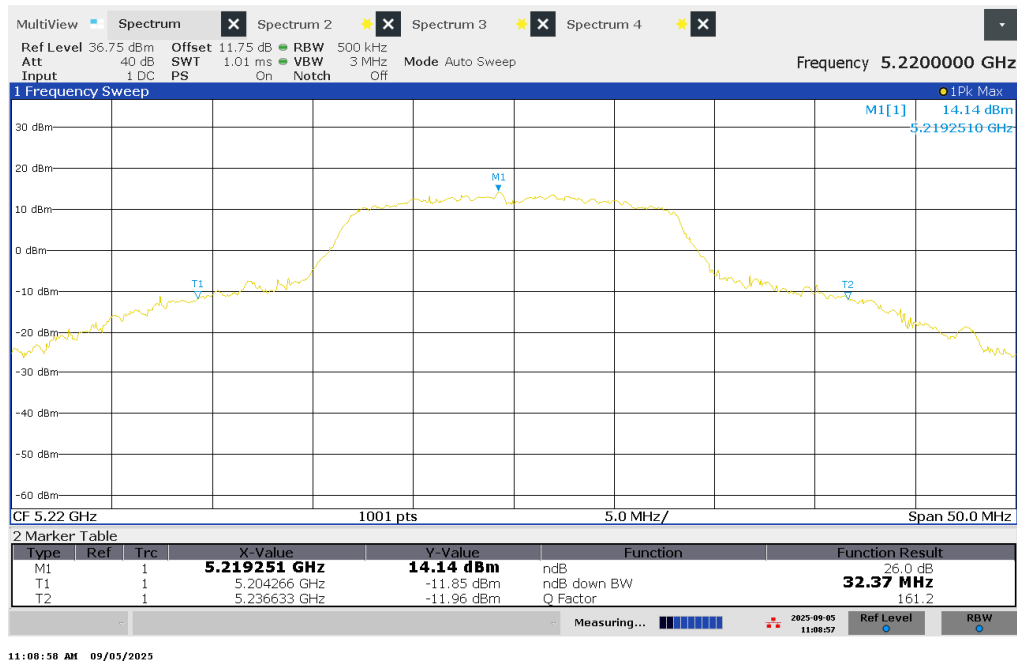


Figure 3 – 26dB Bandwidth – Mid Channel

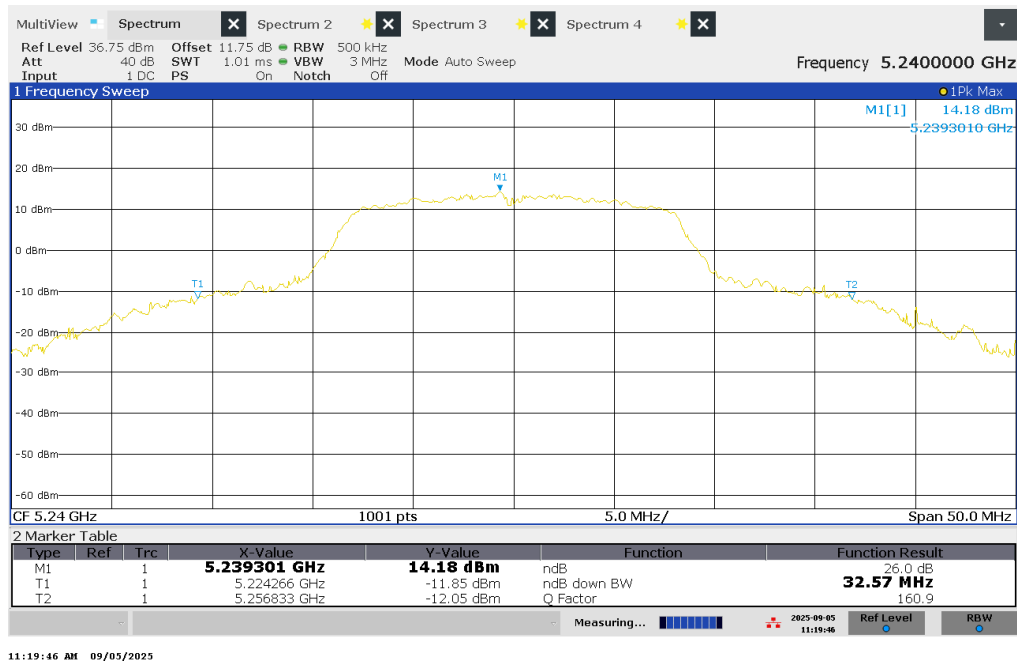


Figure 4 – 26dB Bandwidth – High Channel

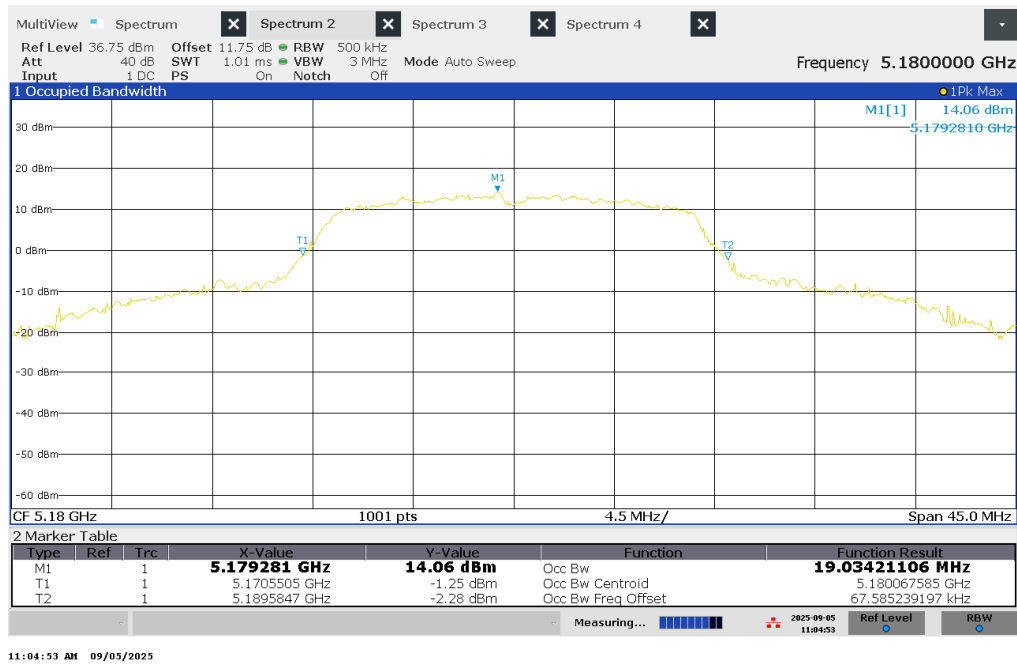


Figure 5 – 99% Bandwidth – Low Channel

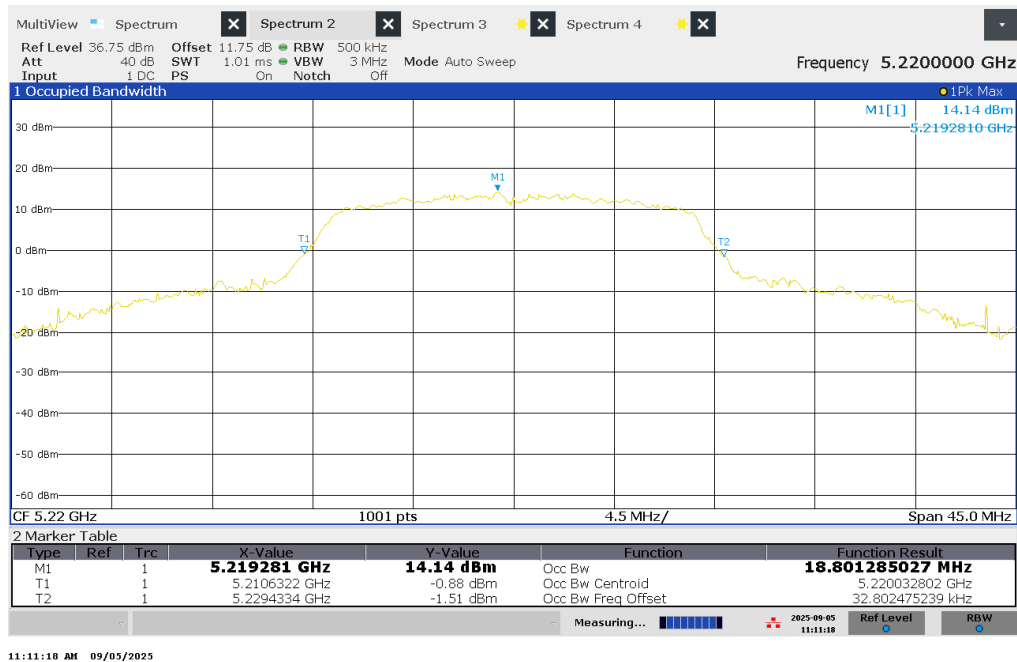


Figure 6 – 99% Bandwidth – Mid Channel

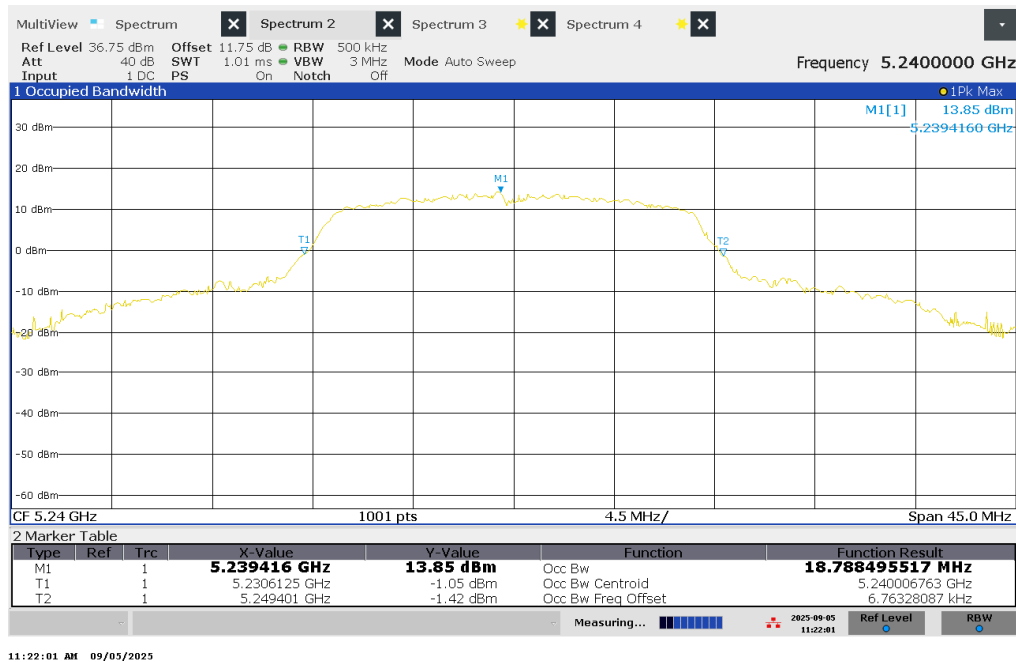


Figure 7 – 99% Bandwidth – High Channel

4.1.3.2. 802.11 ac/20 MHz Plots

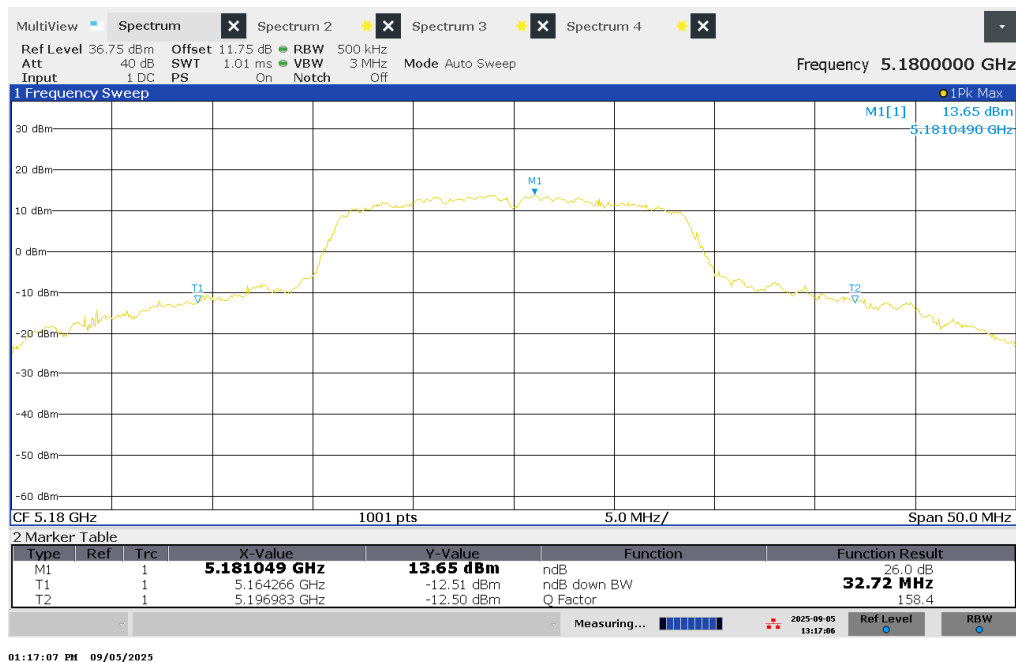


Figure 8 – 26dB Bandwidth – Low Channel

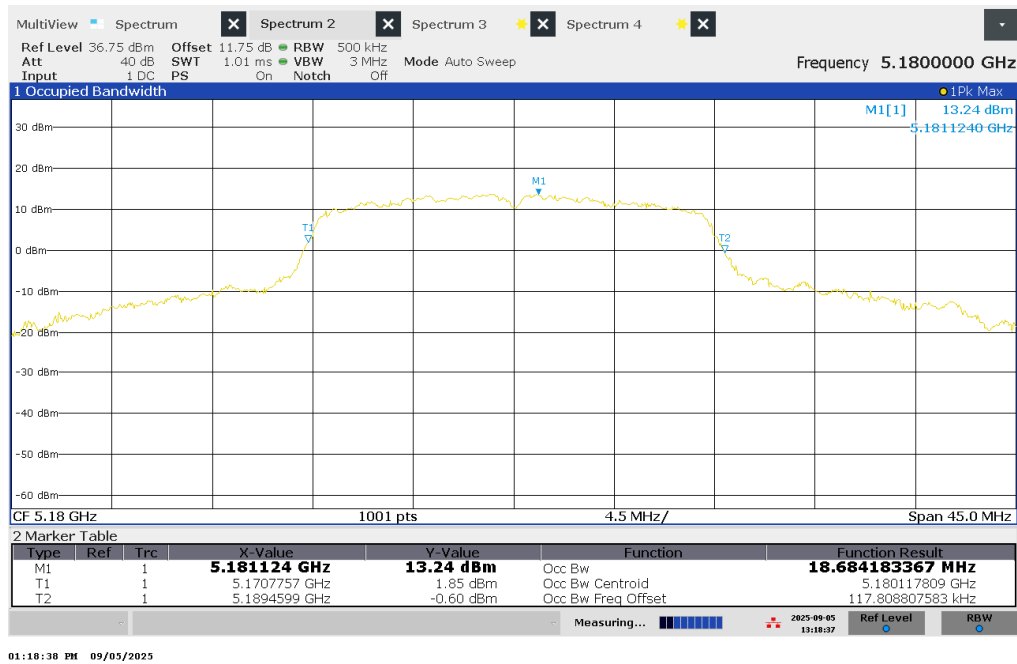


Figure 9 – 26dB Bandwidth – Mid Channel

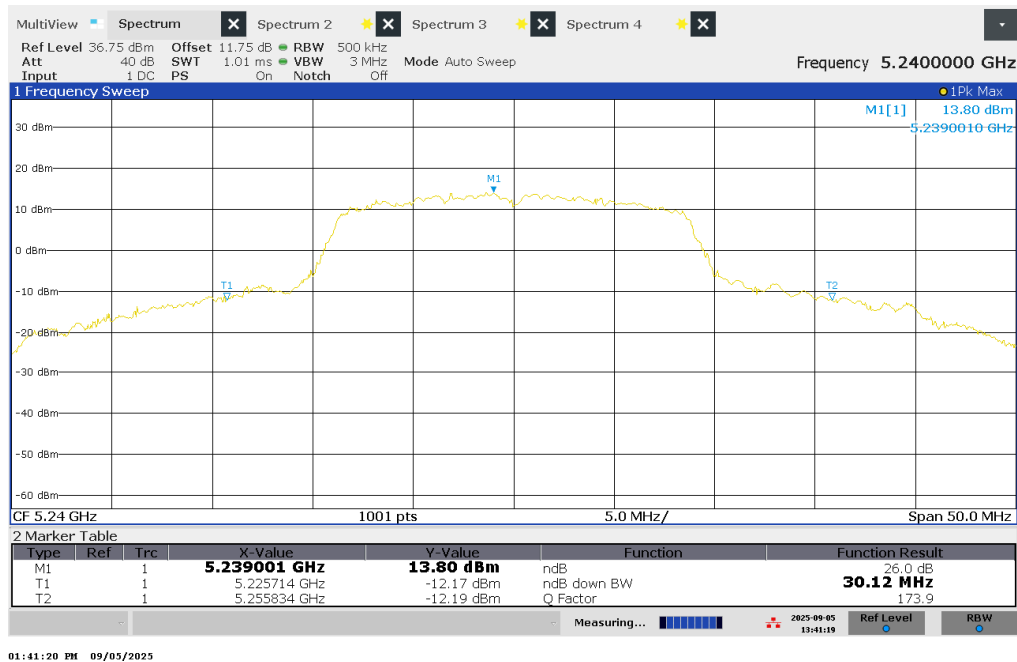


Figure 10 – 26dB Bandwidth – High Channel

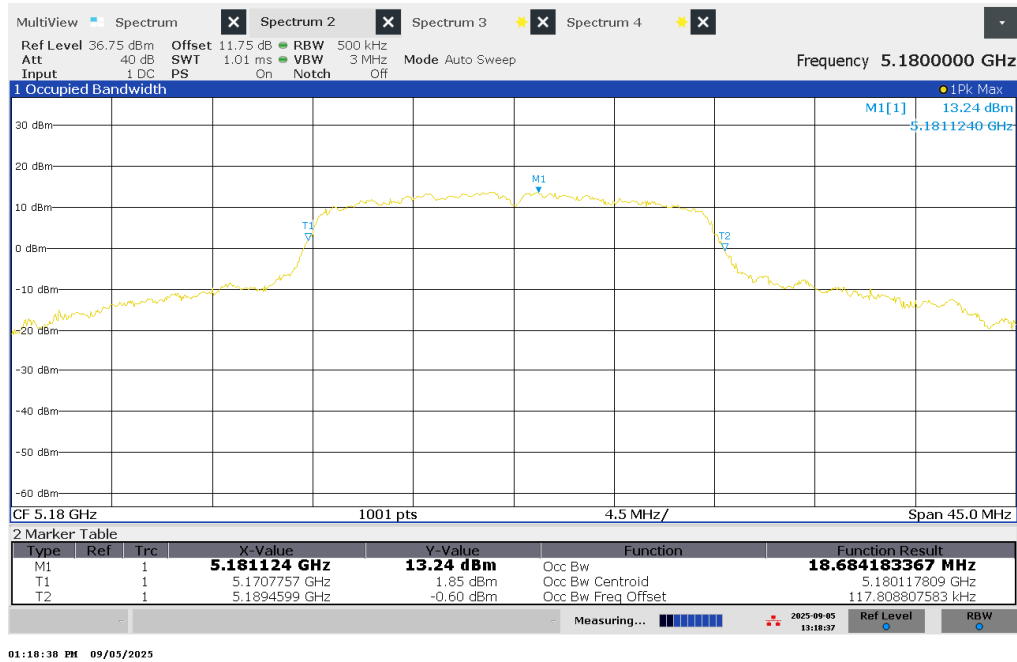


Figure 11 – 99% Bandwidth – Low Channel

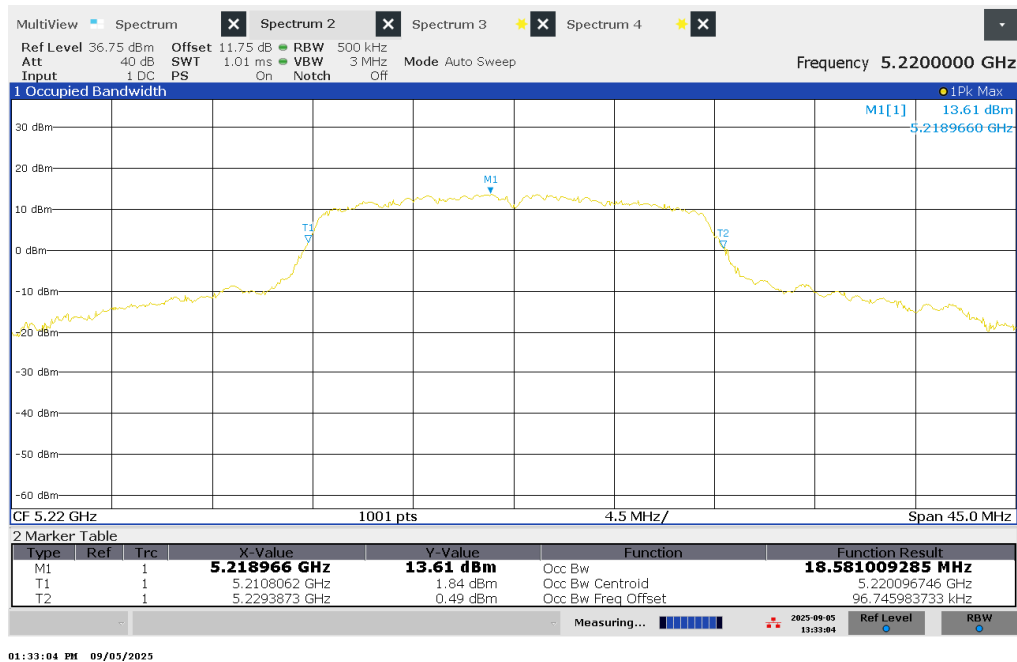


Figure 12 – 99% Bandwidth – Mid Channel

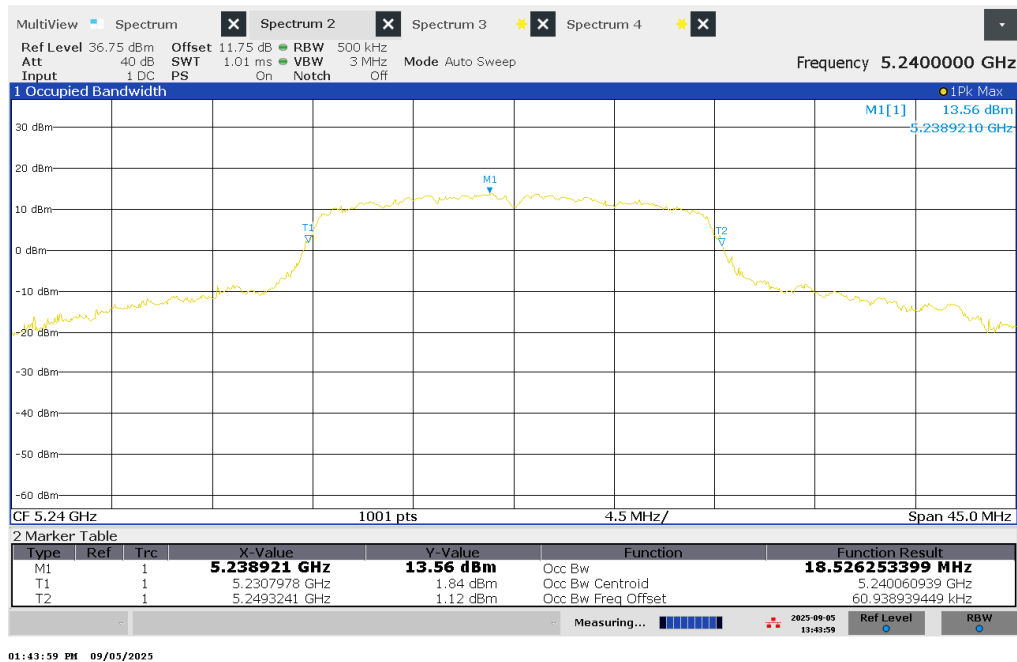


Figure 13 – 99% Bandwidth – High Channel

4.1.3.3. 802.11 ac/40 MHz Plots

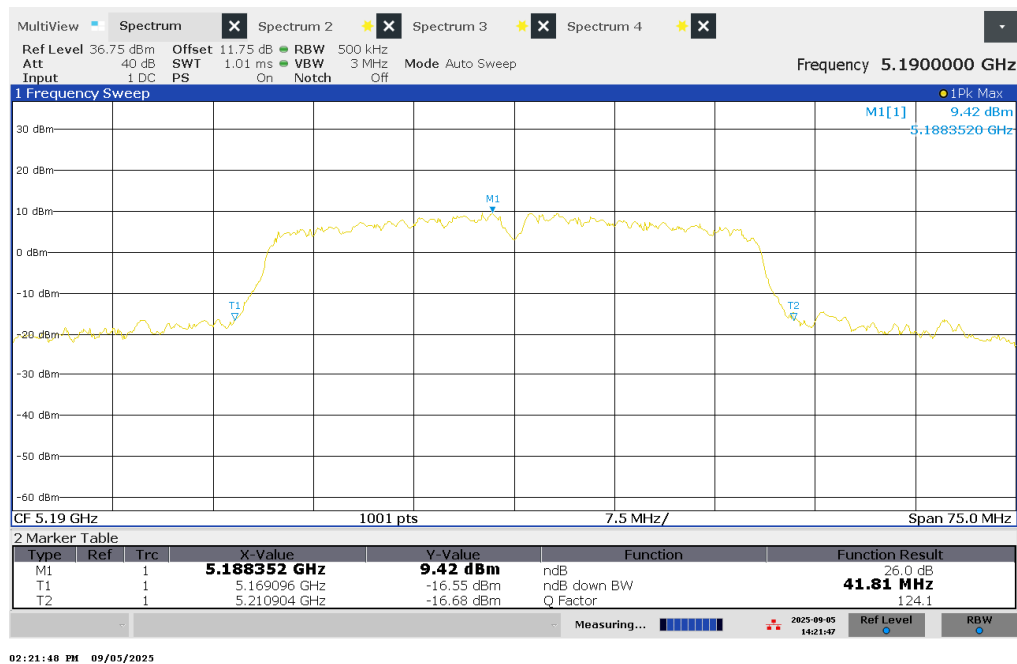


Figure 14 – 26dB Bandwidth – Low Channel

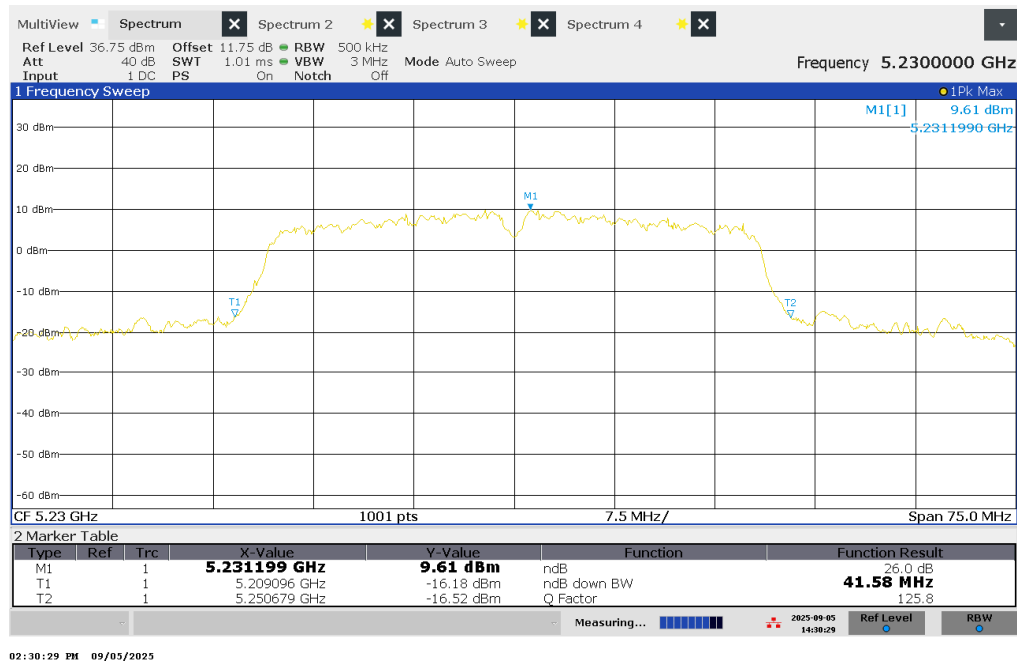


Figure 15 – 26dB Bandwidth – High Channel

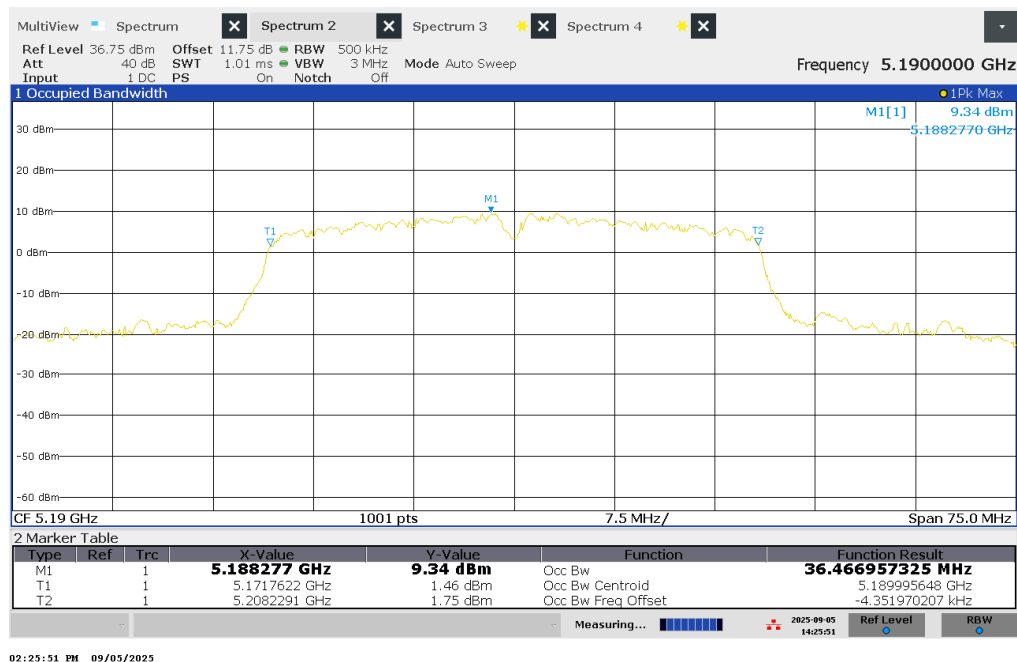


Figure 16 – 99% Bandwidth – Low Channel

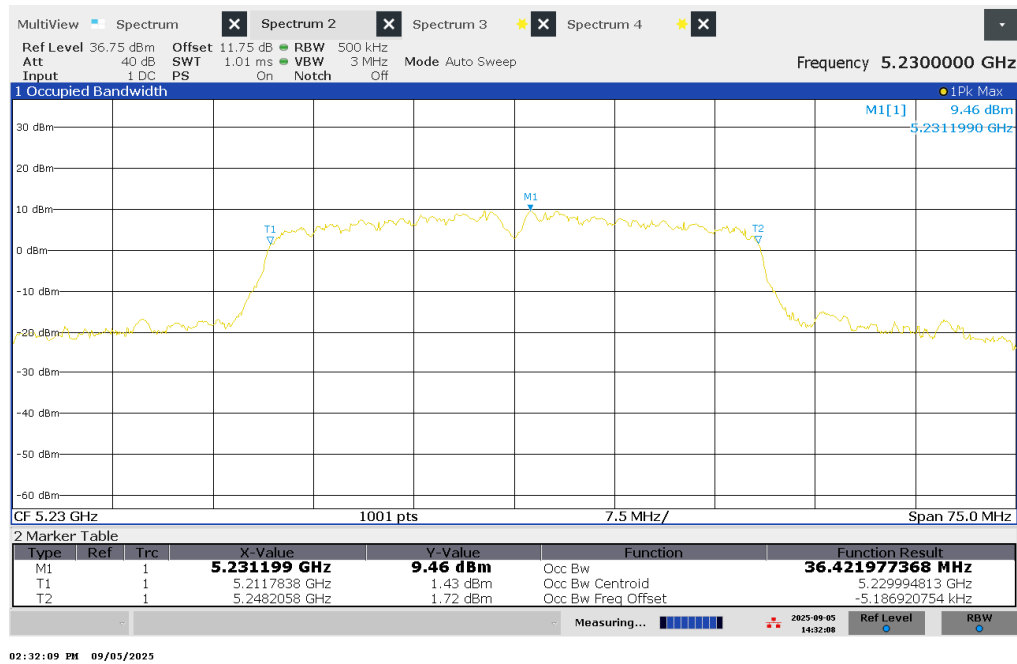


Figure 17 – 99% Bandwidth – High Channel

4.1.3.4. 802.11 n Plots

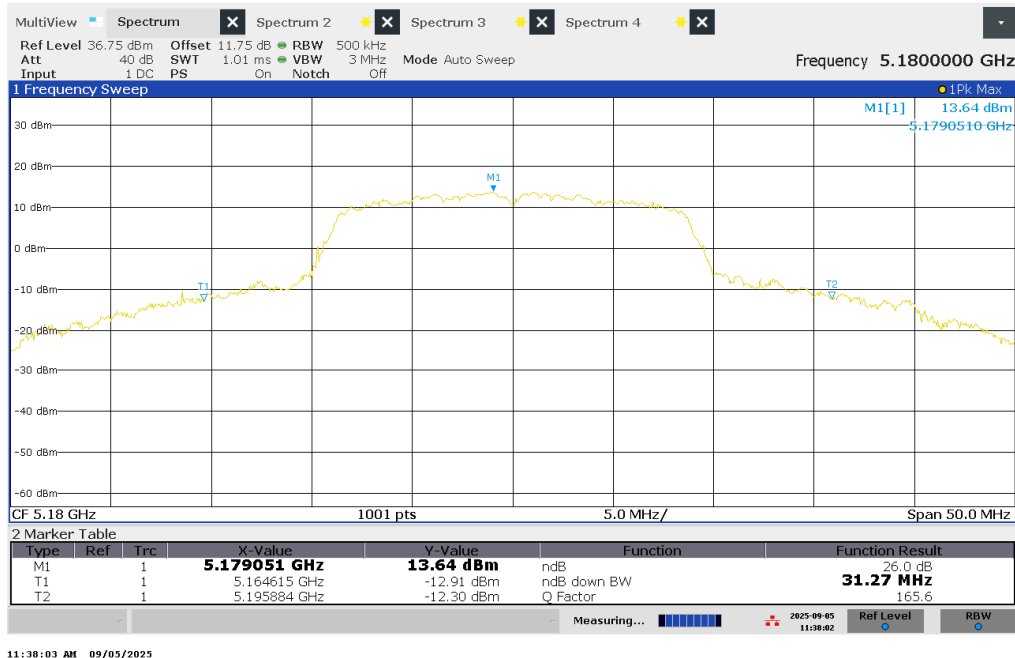


Figure 18 – 26dB Bandwidth – Low Channel

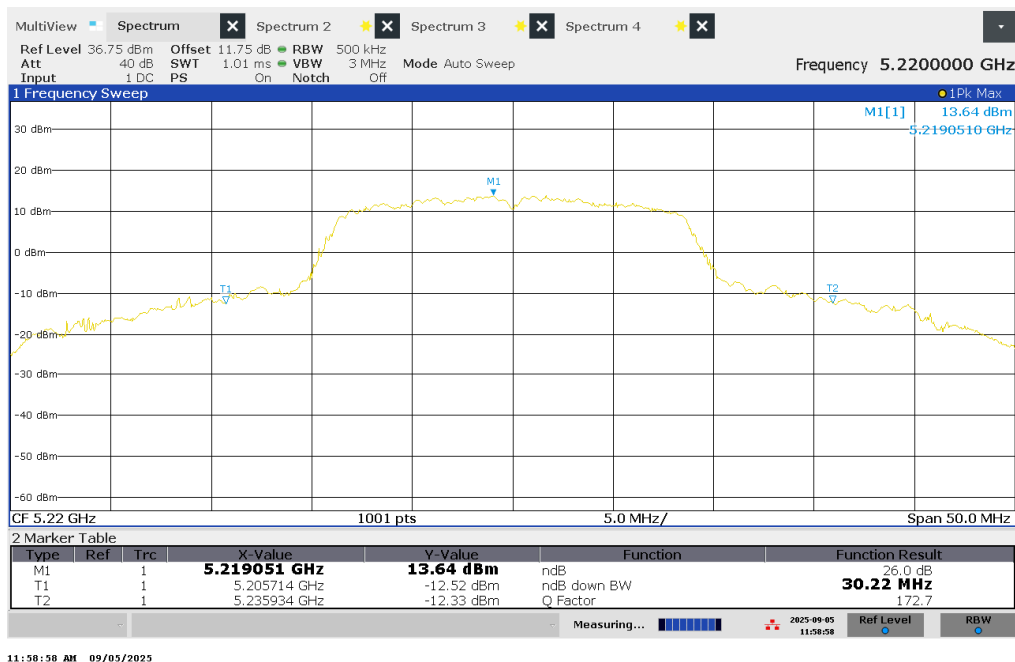


Figure 19 – 26dB Bandwidth – Mid Channel

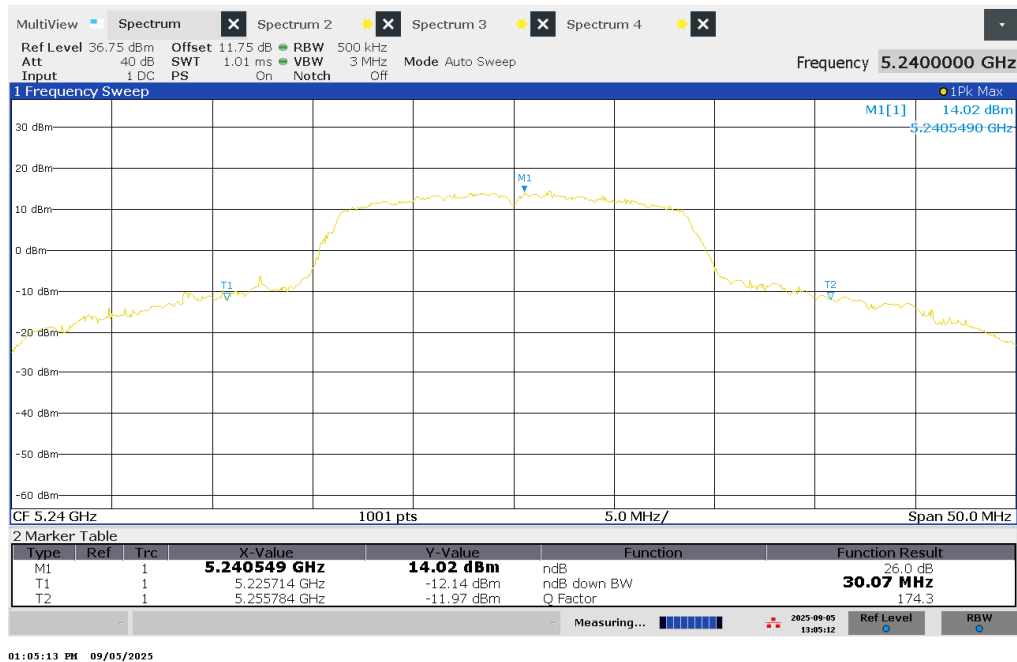


Figure 20 – 26dB Bandwidth – High Channel

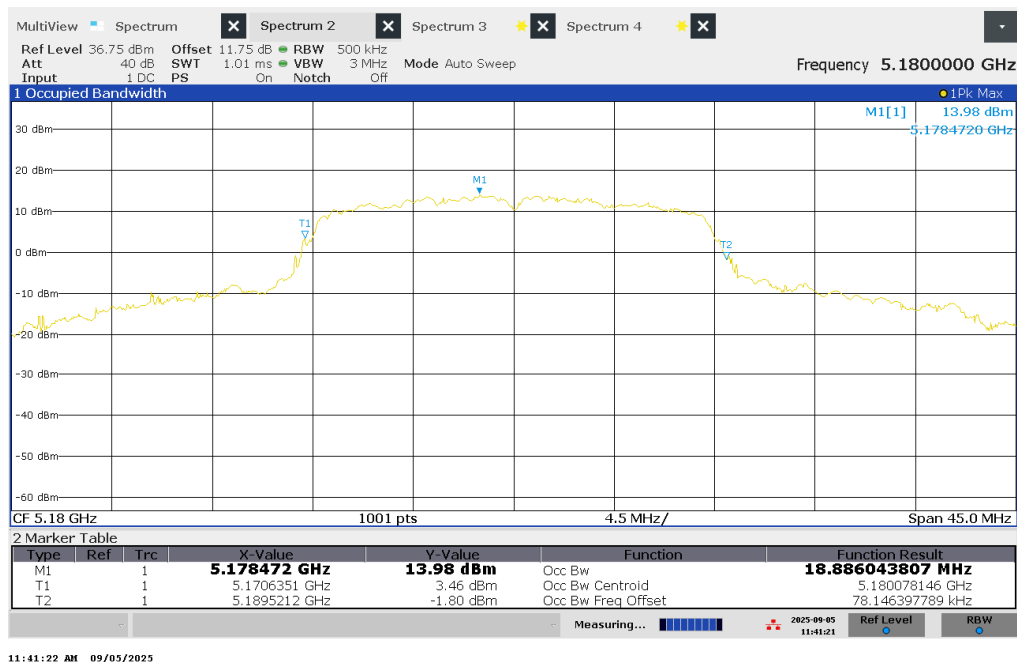


Figure 21 – 99% Bandwidth – Low Channel

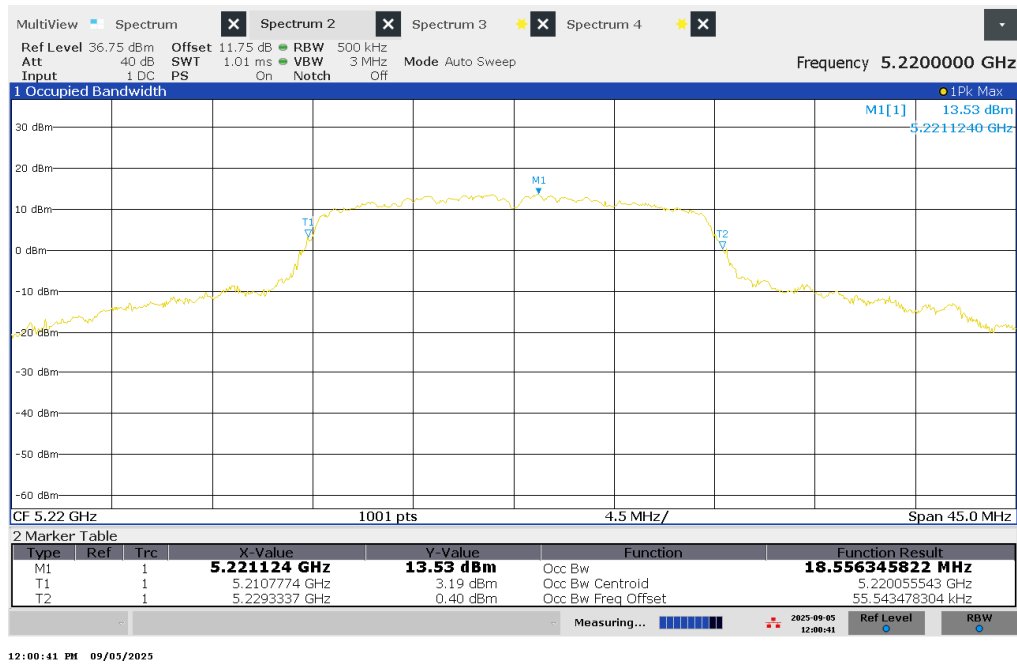


Figure 22 – 99% Bandwidth – Mid Channel

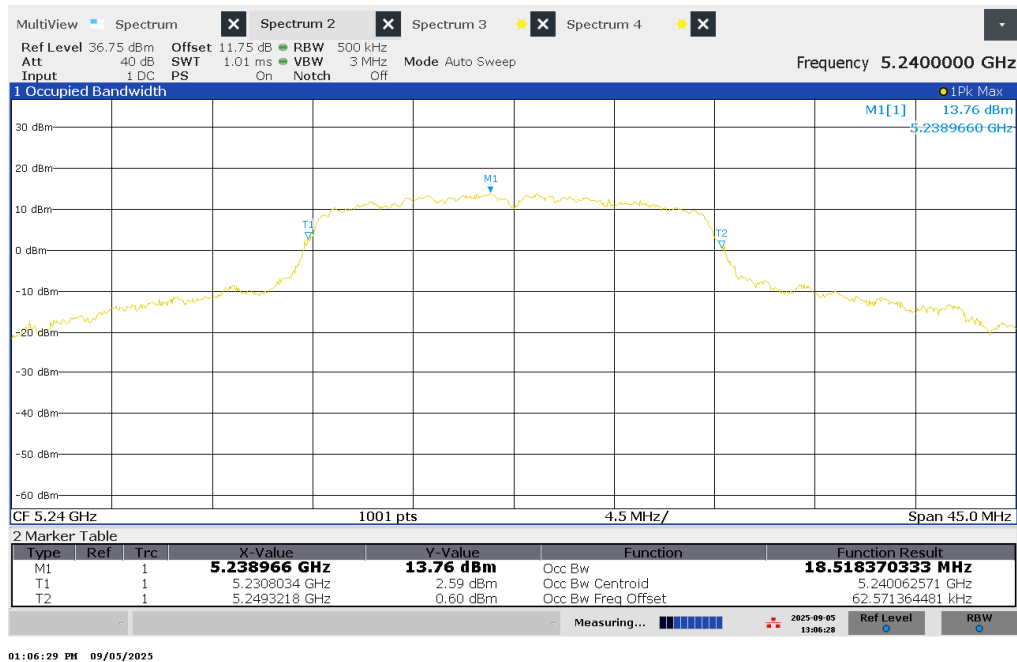


Figure 23 – 99% Bandwidth – High Channel

4.1.3.5. 802.11 n/40 MHz Plots

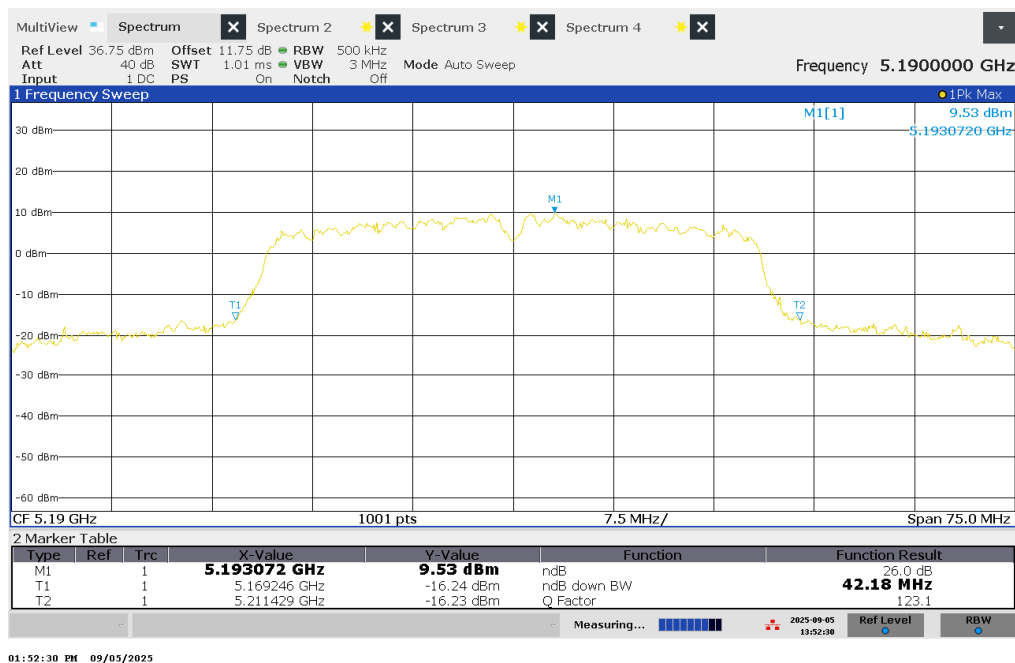


Figure 24 – 26dB Bandwidth – Low Channel

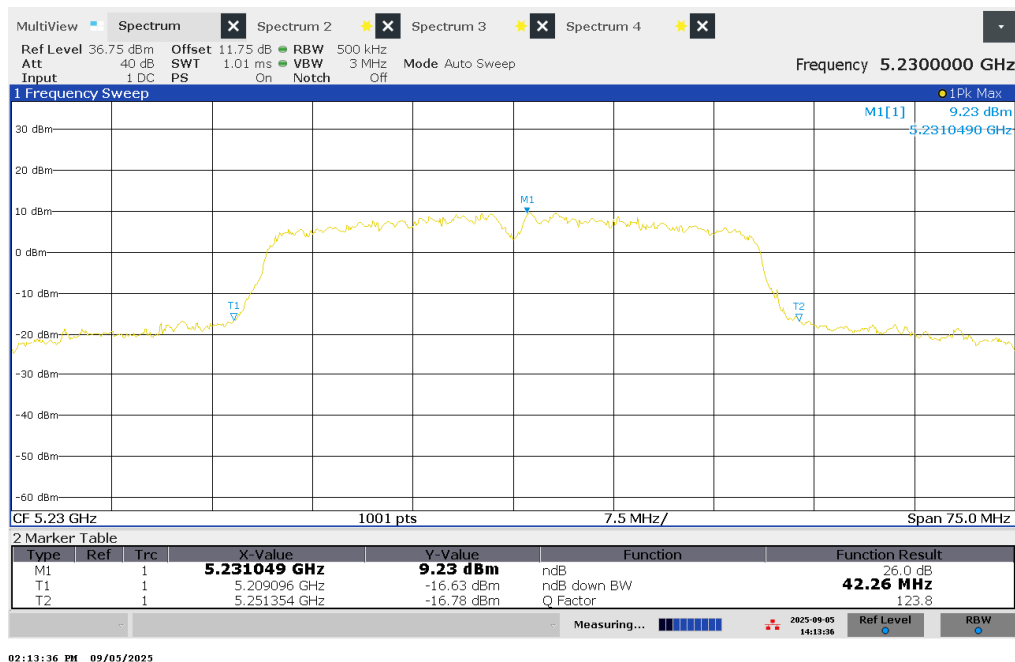


Figure 25 – 26dB Bandwidth – High Channel

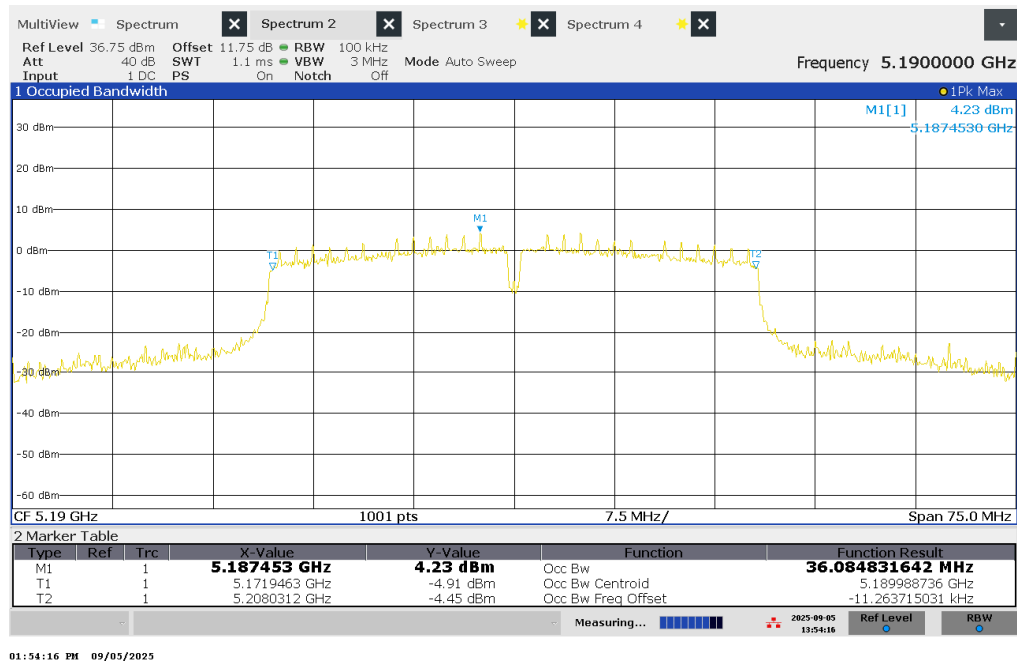


Figure 26 – 99% Bandwidth – Low Channel

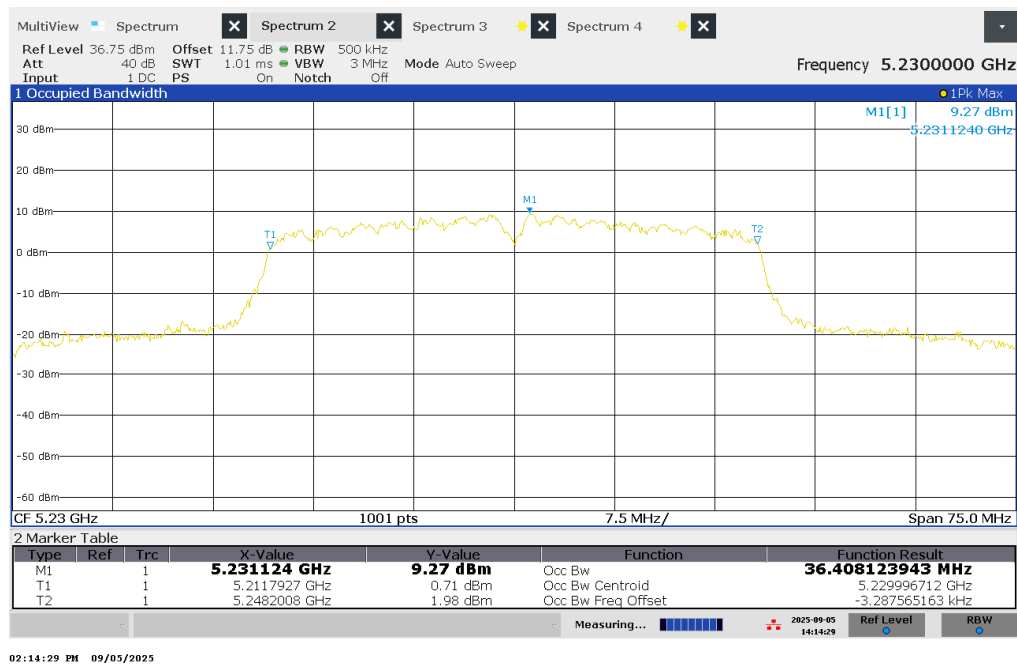


Figure 27 – 99% Bandwidth – High Channel

4.1.4 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration Date	Calibration Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 1, 2024	Mar 1, 2026
EQ_EMC_115	10dB Attenuator	Fairview Microwave	SA18E-10	NCR	NCR

4.2 Maximum Conducted Output Power

Test Date: September 5, 2025
Temperature (°C) 24.6
Relative Humidity (%) 34.1
Barometric Pressure (kPa) 97.7

Initials: MX

4.2.1 Limits

The limits are defined in FCC Part 15.407(a)(1)(iv) and RSS-247 7.3.1.2. The EUT is a client device and is not installed in vehicles. Thus, applicable limits are:

FCC Part 15.407(a)(1)(iv)		RSS-247 7.3.1.2	
Max Conducted Output Power	24 dBm (250 mW) for Client Device	Max_EIRP	23 dBm (200 mW) or 10 +10 log B in dBm whichever is lower

Where B is the 99% bandwidth in MHz.

For FCC, if the antenna gain is above 6 dBi, the output power shall be reduced by the amount in dB that the antenna gain exceeds 6 dB.

4.2.2 Test Procedure

Tested according to ANSI C63.10 Section 12.4.2.2 Method SA-1 and FCC KDB 789033 D02

The RF output of the DUT was connected to the spectrum analyzer with sufficient attenuation in front. The total path loss was set as reference offset to correct the final reading.

For Maximum Conducted Output (Average) Power

- Set RBW = 1 MHz
- Set VBW $\geq 3 \times$ RBW
- Detector: RMS
- Span: At least 1.5 times the OBW
- Trace: Average
- Average Sweep Count: At least 100 times
- Trace Mode: Single
- Use instrument's band power measurement function to computer power by integrating the spectrum across the OBW.

4.2.3 Test Results

The EUT passed. The antenna gain is -1.88 dBi.

The EUT supports 802.11 a/n/ac protocols for UNII-1 WIFI. For each protocol, three channels were measured. The maximum conducted power is documented in the following tables

802.11 a					
Frequency (MHz)	Avg Power (dBm)	15.407 Limit (dBm)	EIRP (dBm)	RSS-247 EIRP Limit (dBm)	Pass/Fail
5180	19.28	24.0	17.40	22.74	Pass
5220	19.34	24.0	17.46	22.74	Pass
5240	19.54	24.0	17.66	22.74	Pass

802.11 n – 20 MHz					
Frequency (MHz)	Avg Power (dBm)	15.407 Limit (dBm)	EIRP (dBm)	RSS-247 EIRP Limit (dBm)	Pass/Fail
5180	18.34	24.0	16.46	22.68	Pass
5220	18.31	24.0	16.43	22.68	Pass
5240	18.50	24.0	16.62	22.68	Pass

802.11 ac – 20 MHz					
Frequency (MHz)	Avg Power (dBm)	15.407 Limit (dBm)	EIRP (dBm)	RSS-247 EIRP Limit (dBm)	Pass/Fail
5180	18.34	24.0	16.46	22.68	Pass
5220	18.31	24.0	16.43	22.68	Pass
5240	18.57	24.0	16.69	22.68	Pass

802.11 n – 40 MHz					
Frequency (MHz)	Avg Power (dBm)	15.407 Limit (dBm)	EIRP (dBm)	RSS-247 EIRP Limit (dBm)	Pass/Fail
5190	16.84	24.0	14.96	23.0	Pass
5230	16.73	24.0	14.85	23.0	Pass

802.11 ac – 40 MHz					
Frequency (MHz)	Avg Power (dBm)	15.407 Limit (dBm)	EIRP (dBm)	RSS-247 EIRP Limit (dBm)	Pass/Fail
5190	16.77	24.0	14.89	23.0	Pass
5230	16.92	24.0	15.04	23.0	Pass

4.2.3.1. 802.11 a Plots

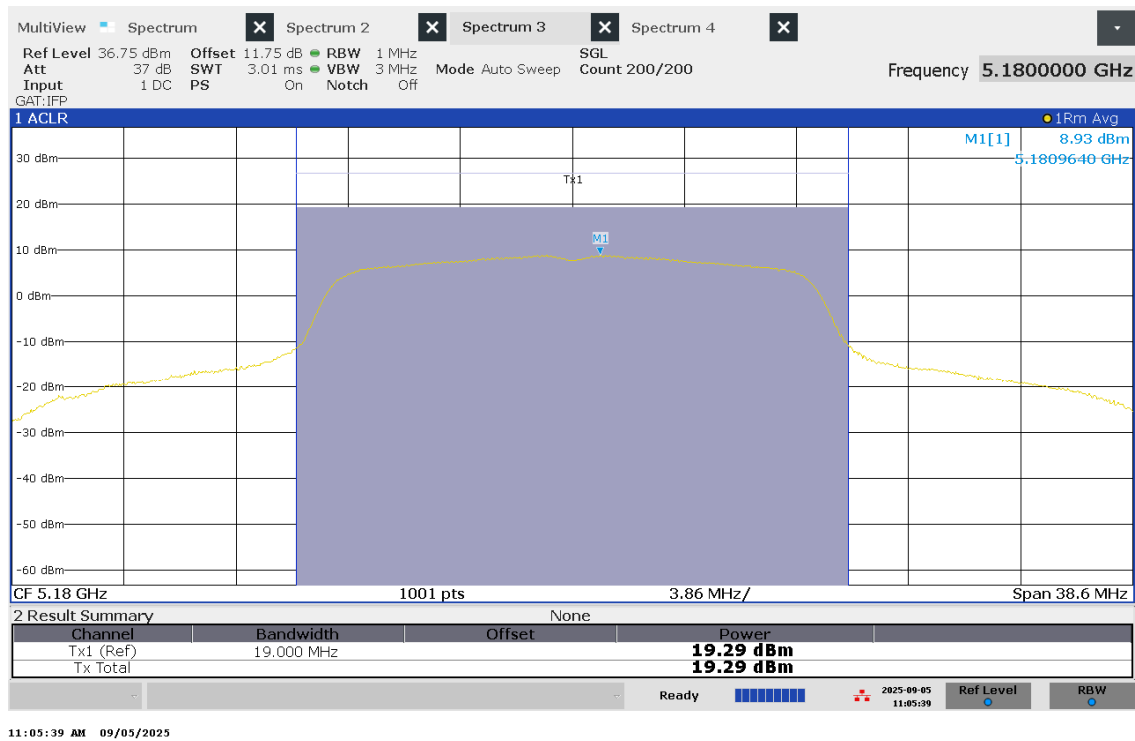


Figure 28 – Average Power - Low Channel

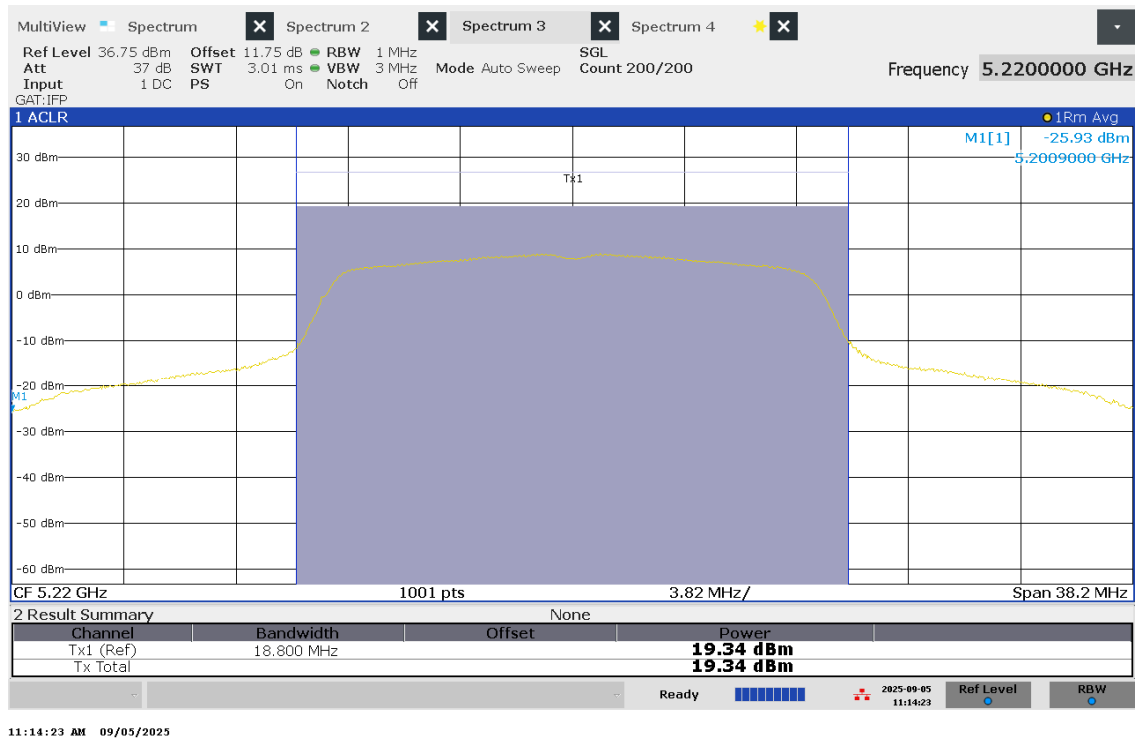


Figure 29 – Average Power - Mid Channel

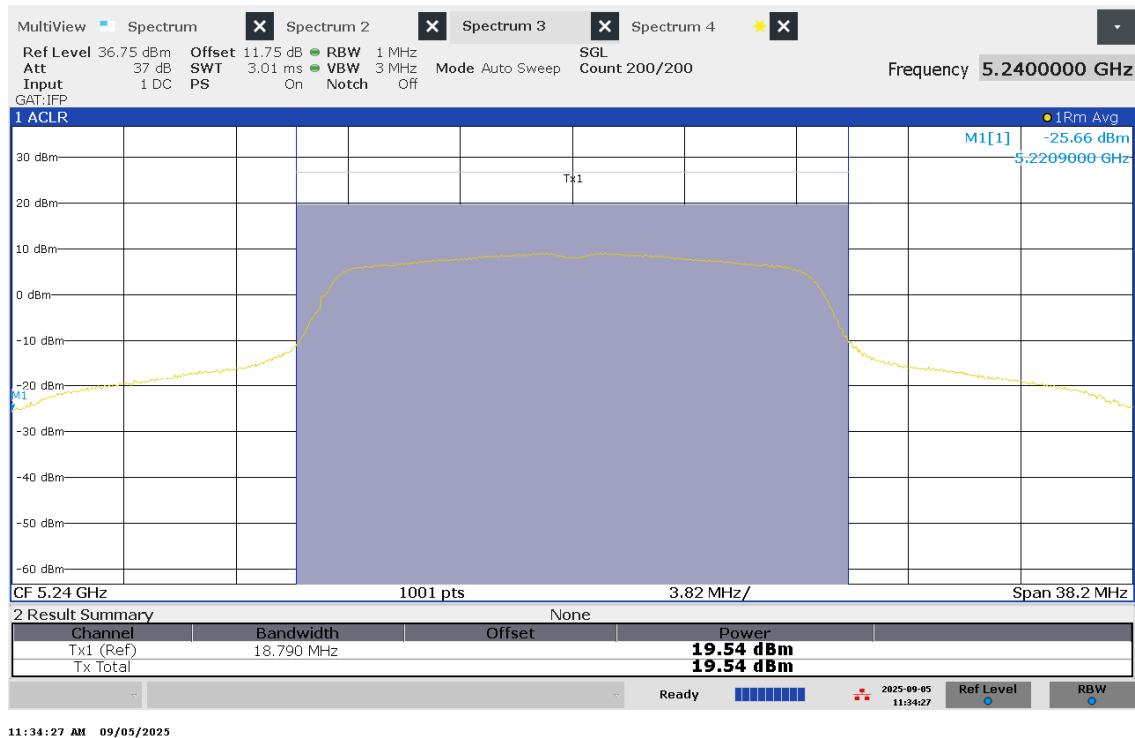


Figure 30 – Average Power - High Channel

4.2.3.2. 802.11 n/20 MHz Plots

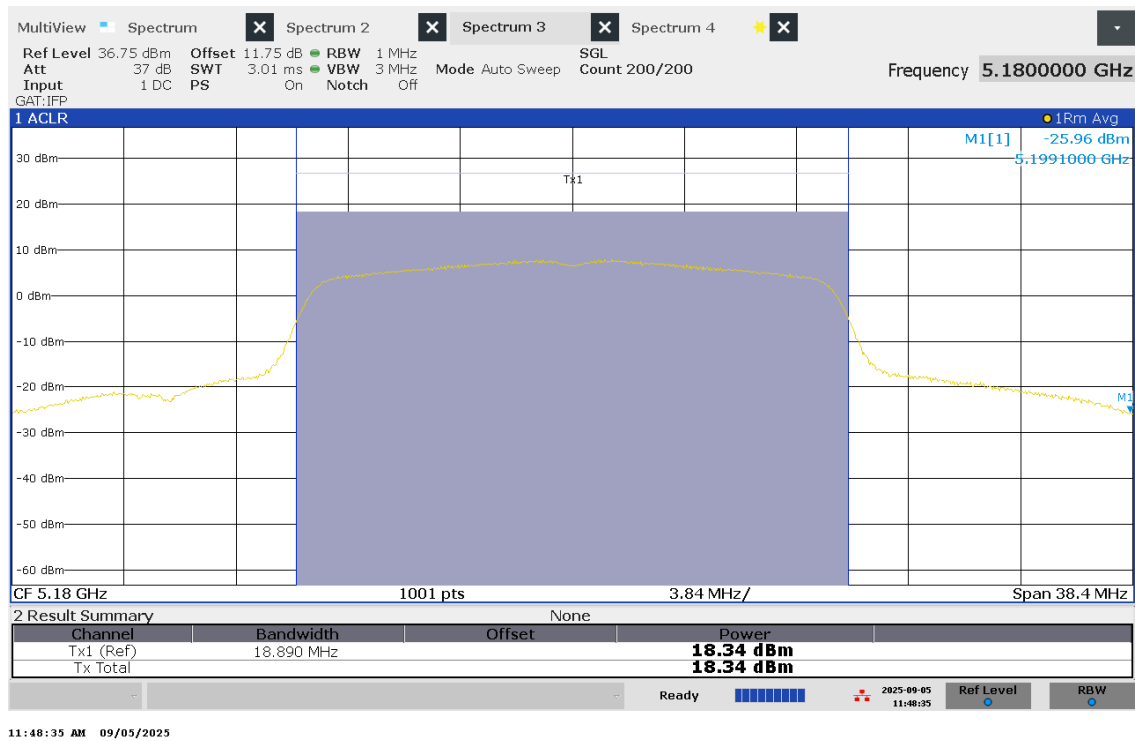


Figure 31 – Average Power - Low Channel

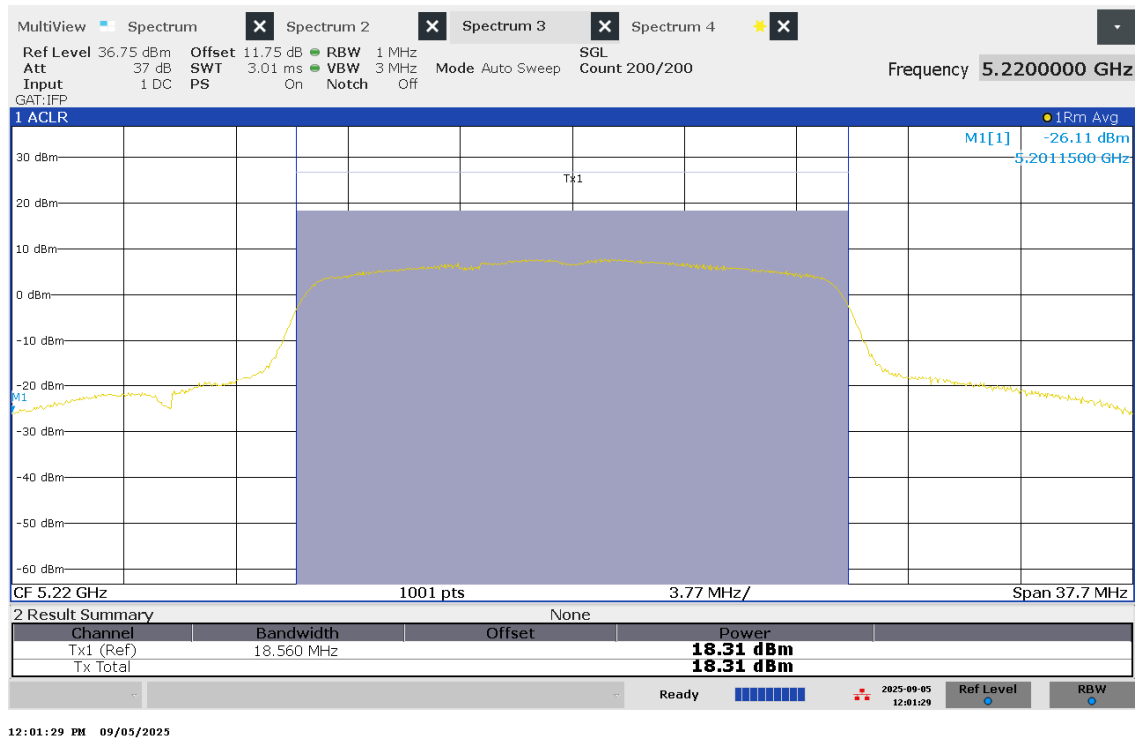


Figure 32 – Average Power - Mid Channel

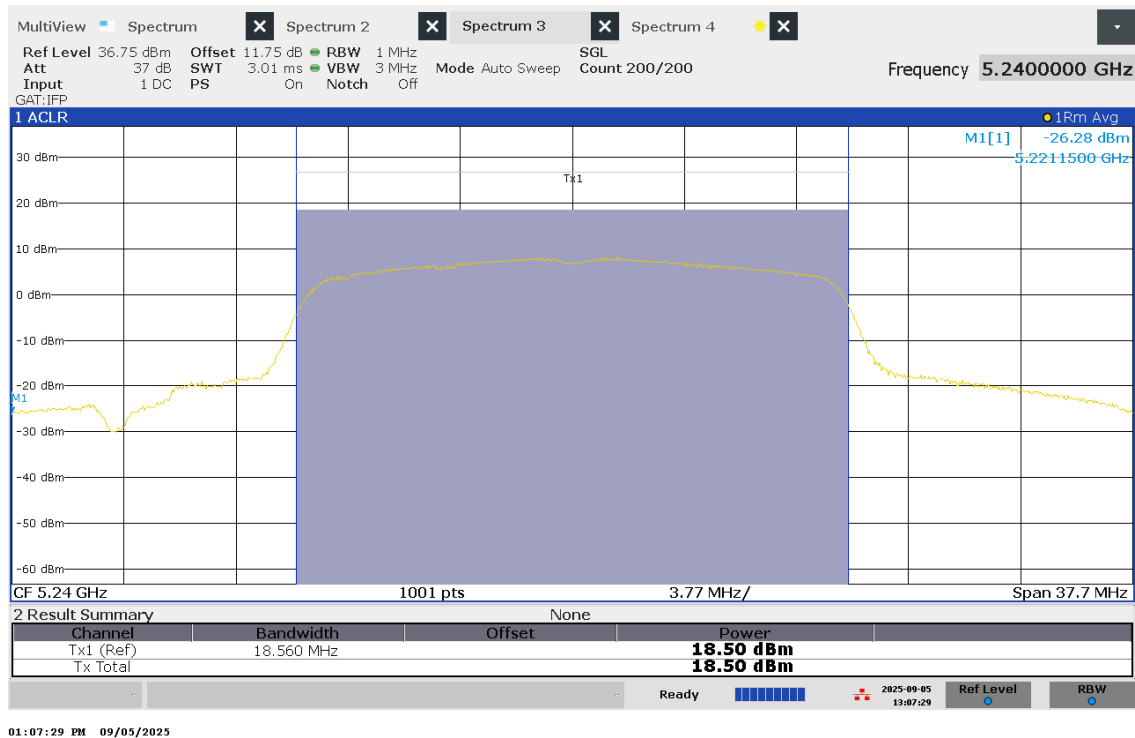
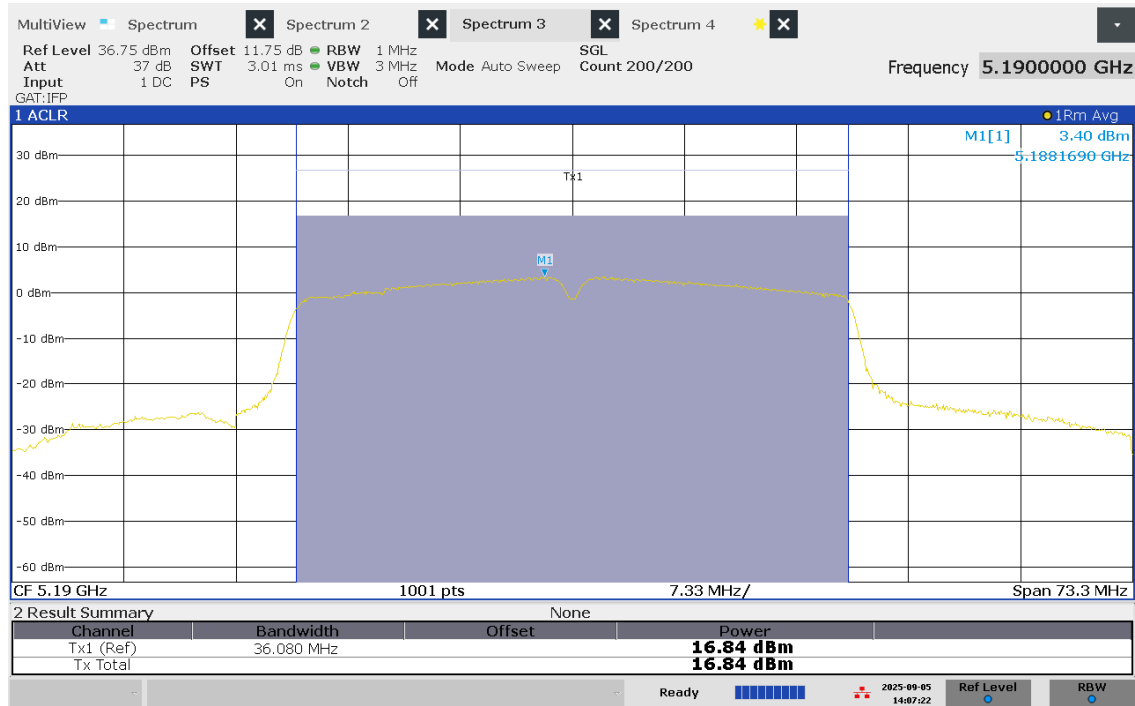


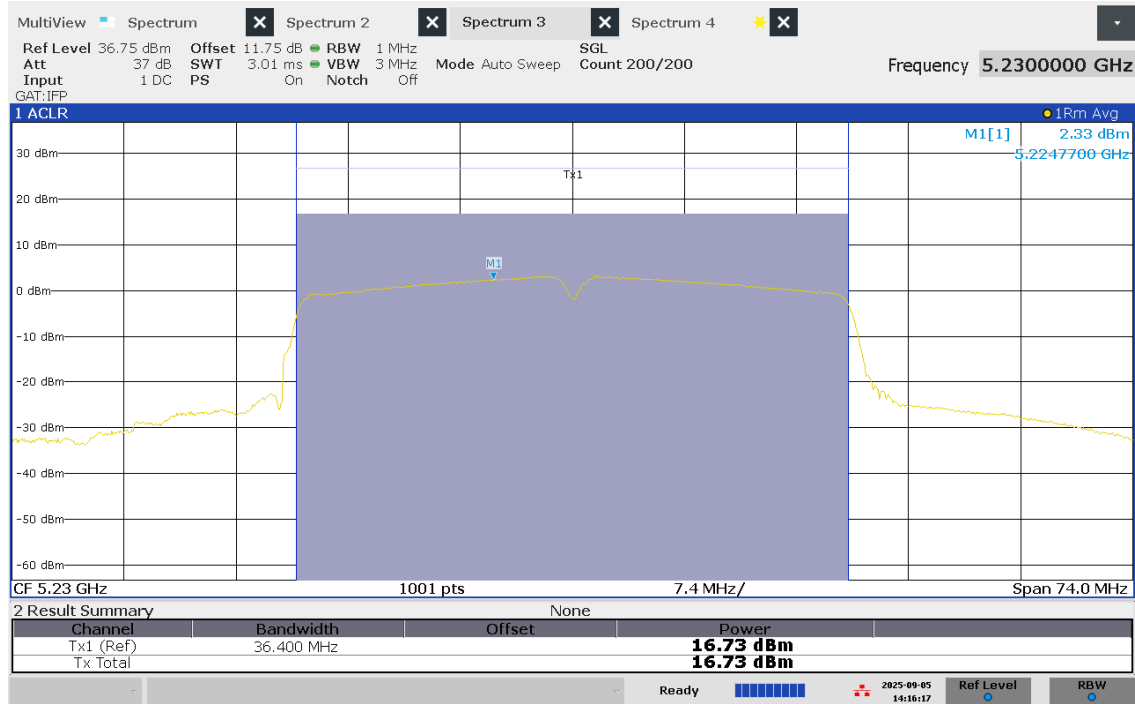
Figure 33 – Average Power - High Channel

4.2.3.3. 802.11 n/40 MHz Plots



02:07:22 PM 09/05/2025

Figure 34 – Average Power - Low Channel



02:16:17 PM 09/05/2025

Figure 35 – Average Power - High Channel

4.2.3.4. 802.11 ac/20 Plots

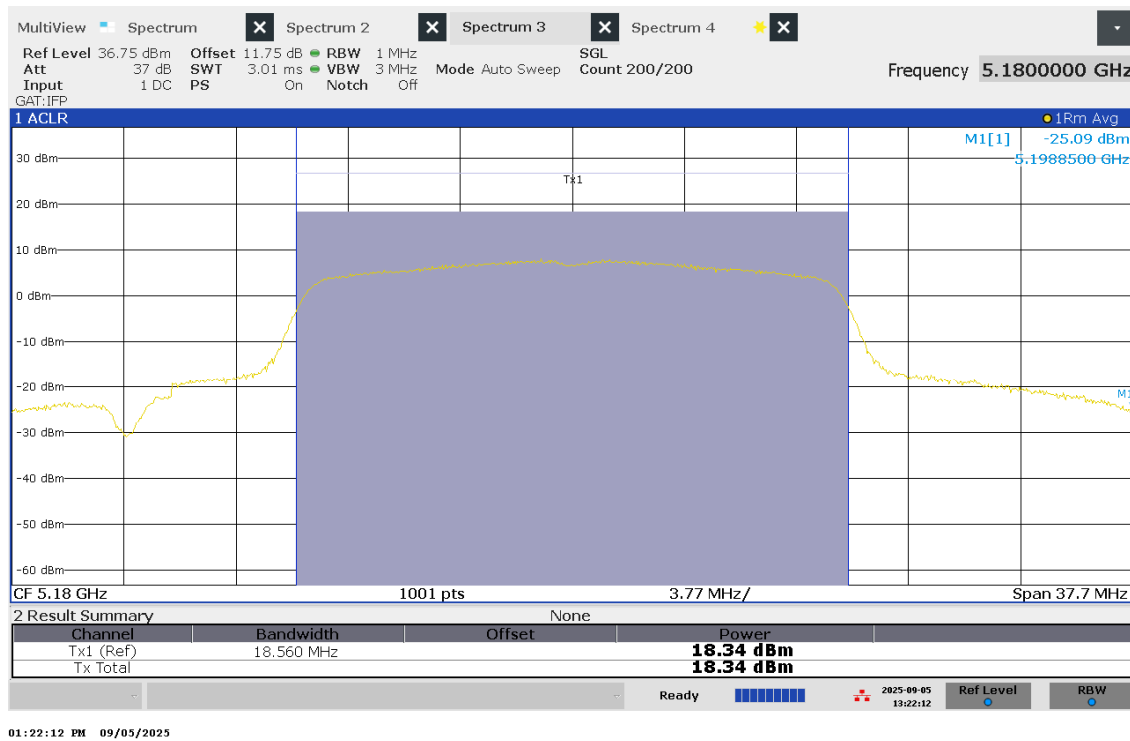


Figure 36 – Average Power - Low Channel

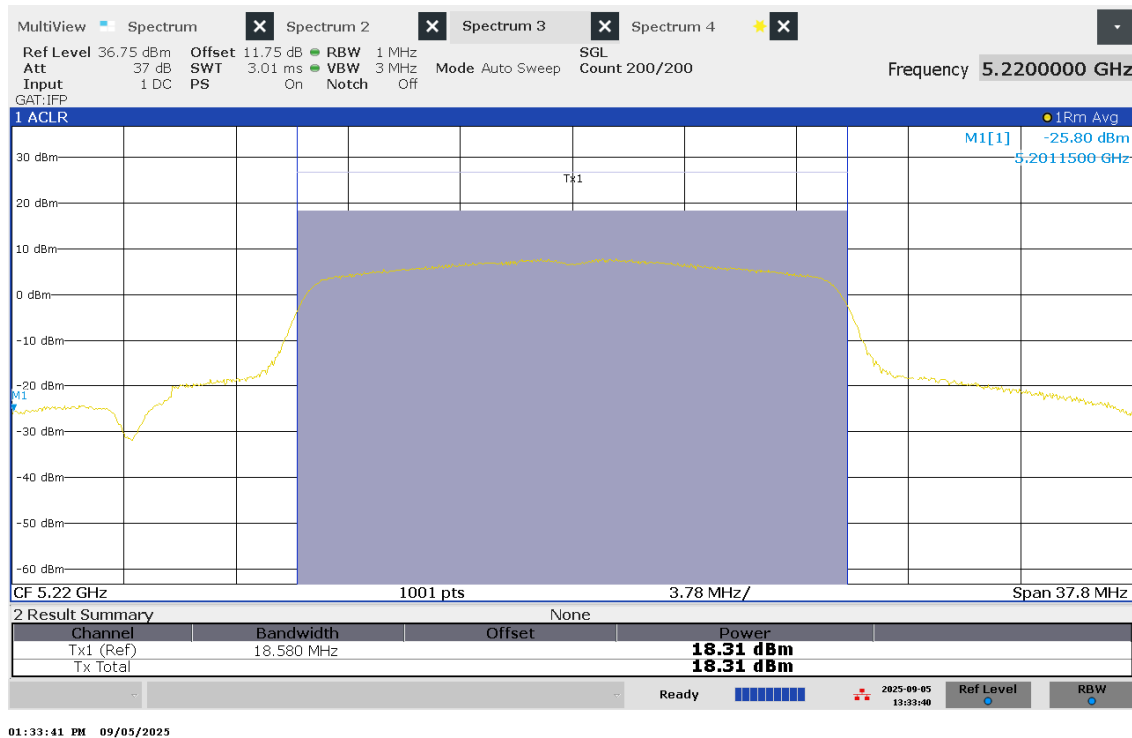


Figure 37 – Average Power - Mid Channel

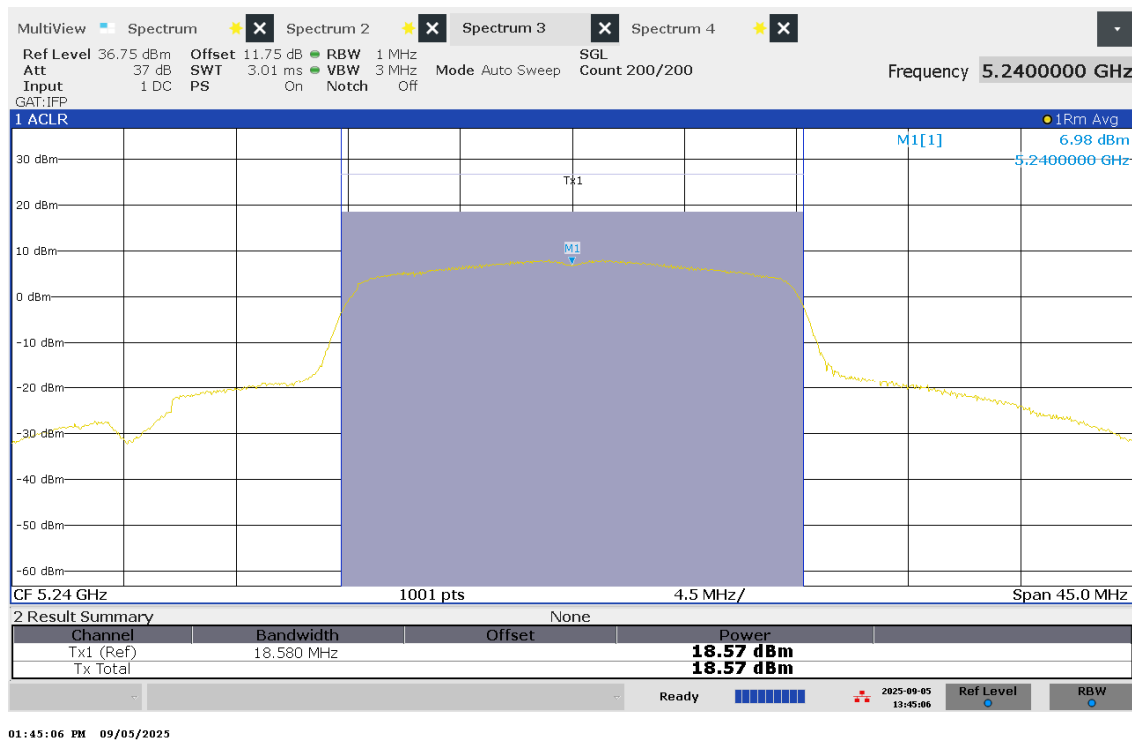


Figure 38 – Average Power - High Channel

4.2.3.5. 802.11 ac/40 MHz Plots

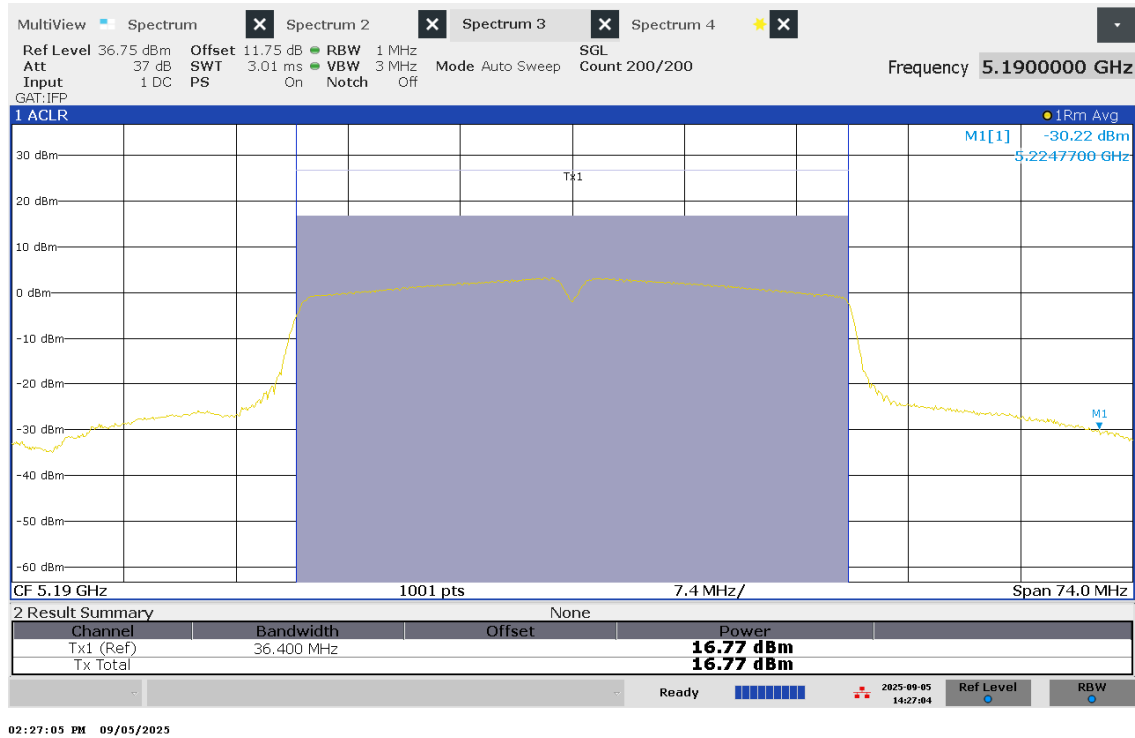


Figure 39 – Average Power - Low Channel

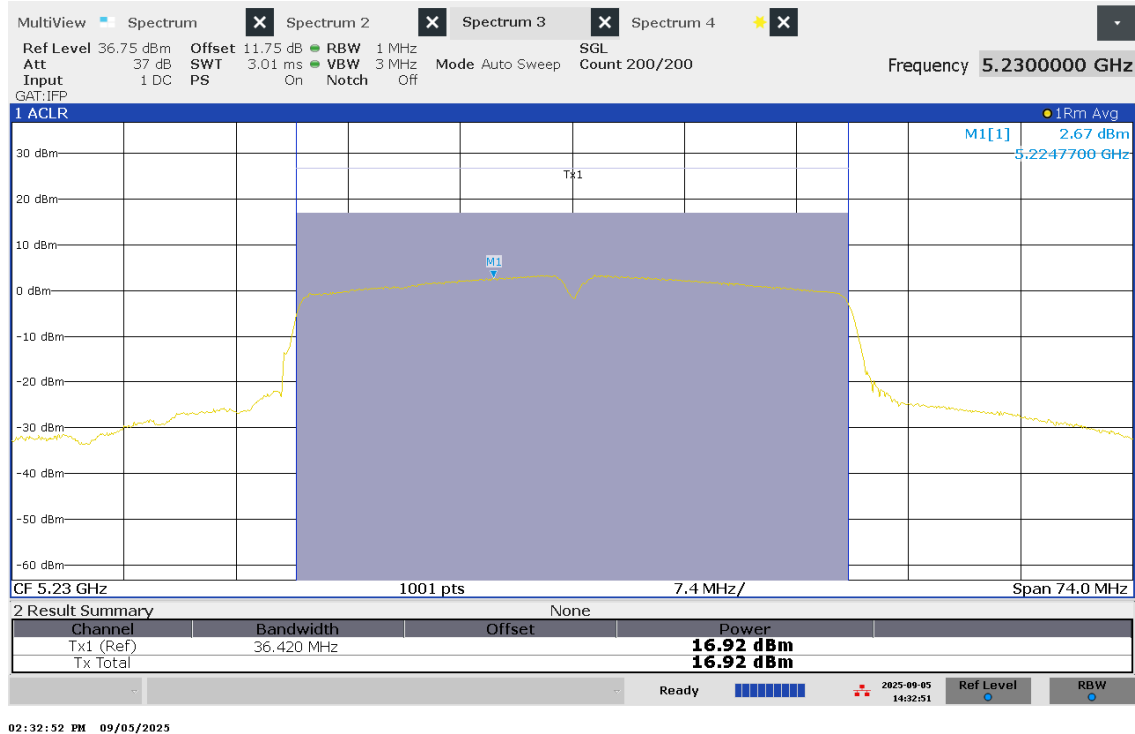


Figure 40 – Average Power - High Channel

4.2.4 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration Date	Calibration Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 1, 2024	Mar 1, 2026
EQ_EMC_115	10dB Attenuator	Fairview Microwave	SA18E-10	NCR	NCR

4.3 Power Spectral Density

Test Date: September 5, 2025
Temperature (°C) 24.6
Relative Humidity (%) 34.1
Barometric Pressure (kPa) 97.7

Initials: MX

4.3.1 Limits

The limits are defined in FCC Part 15.407(a)(1)(iv) and RSS-247 7.3.1.2. The EUT is a client device and is not installed in vehicles. Thus, applicable limits are:

FCC Part 15.407(a)(1)(iv)		RSS-247 7.3.1.2	
PSD	11 dBm/MHz	EIRP PSD	10 dBm/MHz

For FCC, if the antenna gain is above 6 dBi, the power density shall be reduced by the amount in dB that the antenna gain exceeds 6 dB.

4.3.2 Test Procedure

Tested according to ANSI C63.10 Section 12.6

- Set RBW = 1 MHz and VBW $\geq [3 \times \text{RBW}]$.
- Set Span to greater than 99% Bandwidth.
- Detector = RMS
- Trace Mode = Average.
- Sweep = Auto Couple.
- Trace average at least 100 traces in power averaging (rms) mode.
- Use the peak marker function to determine the maximum level.

The RF output of the DUT was connected to the spectrum analyzer with sufficient attenuation in front. External attenuator and cable loss were accounted for as reference offset in the spectrum analyzer.

The DUT was set to transmit at maximum tuned power. The DUT supports 802.11 a/n/ac. Three Channels for each mode were measured for 20 MHz bandwidth and two channels were measured for 40 MHz bandwidth.

4.3.3 Test Results

The EUT passed. The antenna gain is -1.88 dBi

The following tables show the power spectral density:

802.11 a					
Frequency (MHz)	PSD (dBm/MHz)	15.407 Limit (dBm/MHz)	EIRP_PSD (dBm/MHz)	RSS-247 EIRP Limit (dBm/MHz)	Pass/Fail
5180	8.96	11.0	7.08	10.0	Pass
5220	9.06	11.0	7.18	10.0	Pass
5240	9.19	11.0	7.31	10.0	Pass

802.11 n – 20 MHz					
Frequency (MHz)	PSD (dBm/MHz)	15.407 Limit (dBm/MHz)	EIRP_PSD (dBm/MHz)	RSS-247 EIRP Limit (dBm/MHz)	Pass/Fail
5180	7.89	11.0	6.01	10.0	Pass
5220	7.89	11.0	6.01	10.0	Pass
5240	8.19	11.0	6.31	10.0	Pass

802.11 ac – 20 MHz					
Frequency (MHz)	PSD (dBm/MHz)	15.407 Limit (dBm/MHz)	EIRP_PSD (dBm/MHz)	RSS-247 EIRP Limit (dBm/MHz)	Pass/Fail
5180	7.99	11.0	6.11	10.0	Pass
5220	7.98	11.0	6.10	10.0	Pass
5240	8.20	11.0	6.32	10.0	Pass

802.11 n – 40 MHz					
Frequency (MHz)	PSD (dBm/MHz)	15.407 Limit (dBm/MHz)	EIRP_PSD (dBm/MHz)	RSS-247 EIRP Limit (dBm/MHz)	Pass/Fail
5190	3.29	11.0	1.41	10.0	Pass
5230	3.26	11.0	1.38	10.0	Pass

802.11 ac – 40 MHz					
Frequency (MHz)	PSD (dBm/MHz)	15.407 Limit (dBm/MHz)	EIRP_PSD (dBm/MHz)	RSS-247 EIRP Limit (dBm/MHz)	Pass/Fail
5190	3.23	11.0	1.35	10.0	Pass
5230	3.31	11.0	1.43	10.0	Pass

4.3.3.1. 802.11 a Plots

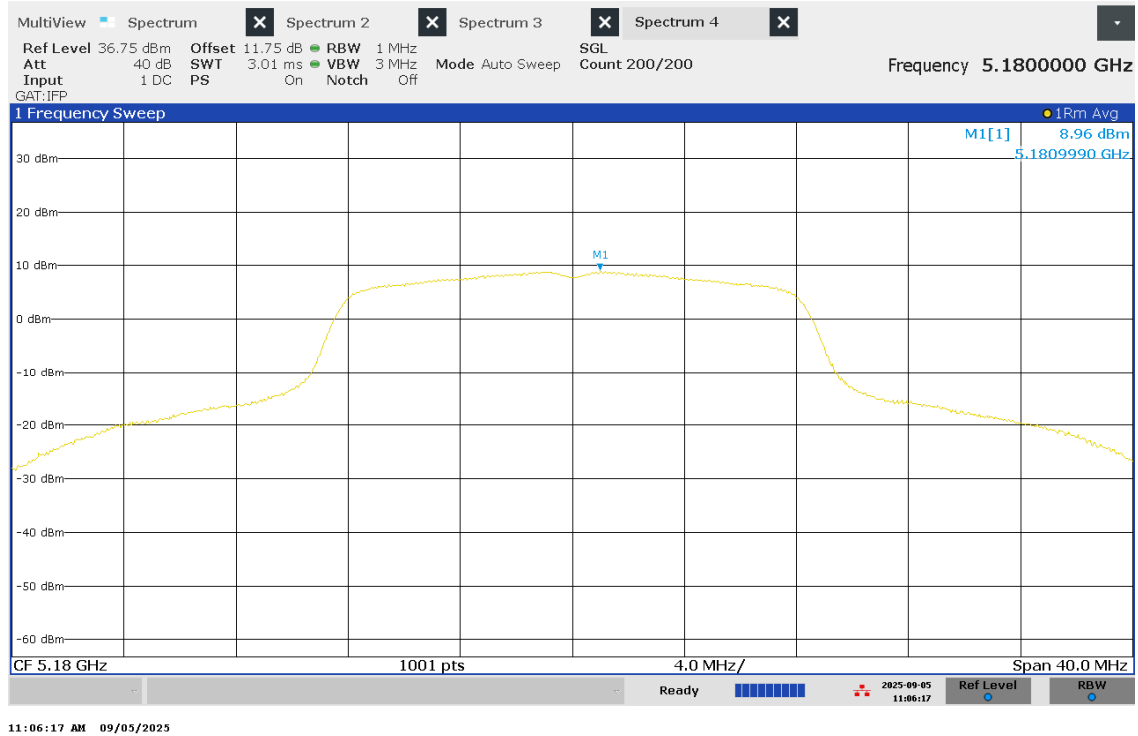


Figure 41 – PSD - Low Channel

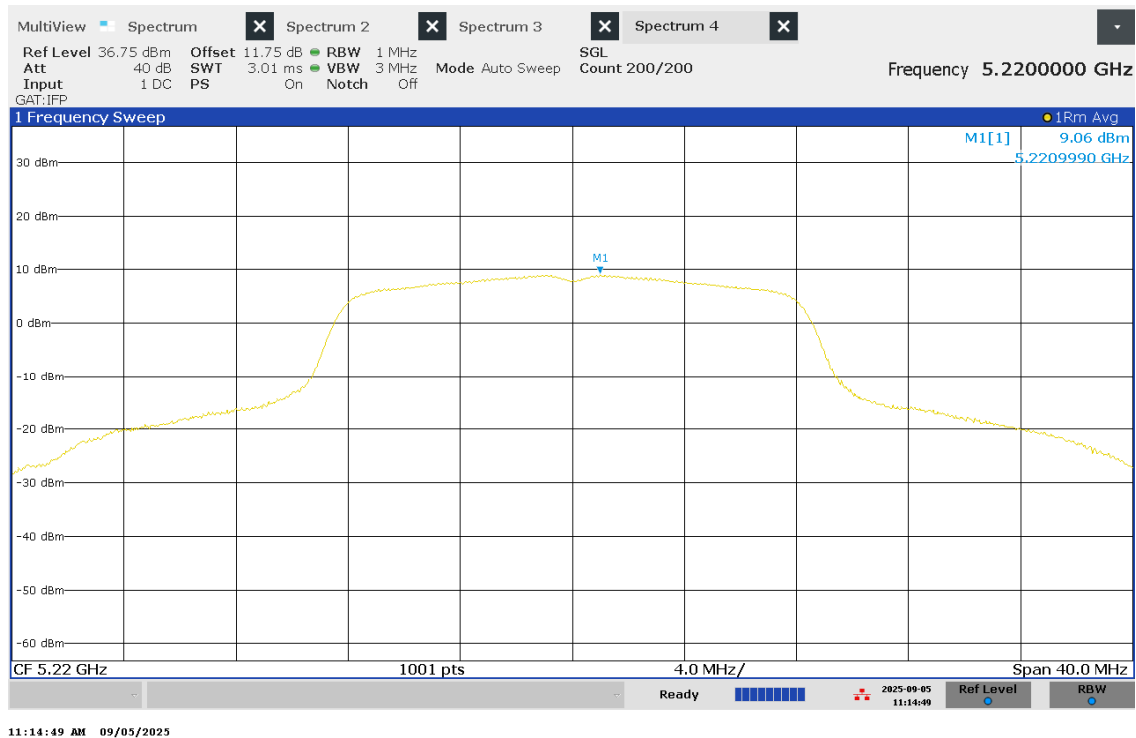


Figure 42 – PSD - Mid Channel

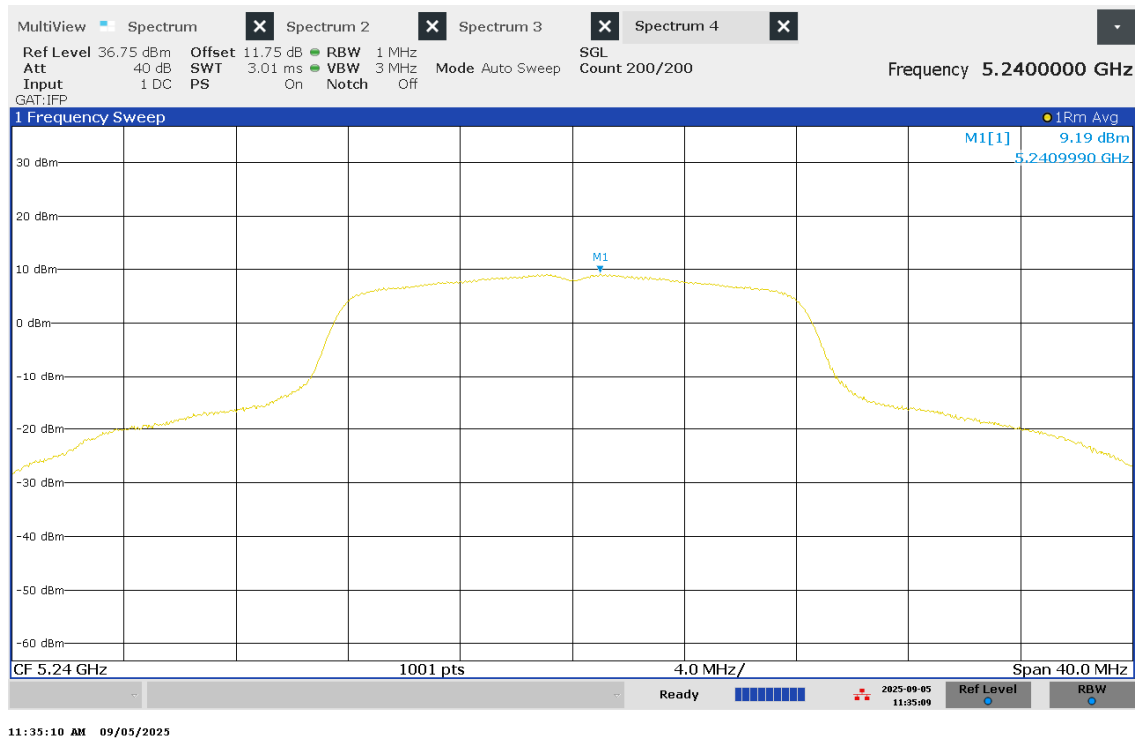


Figure 43 – PSD - High Channel

4.3.3.2. 802.11 n/20 MHz Plots

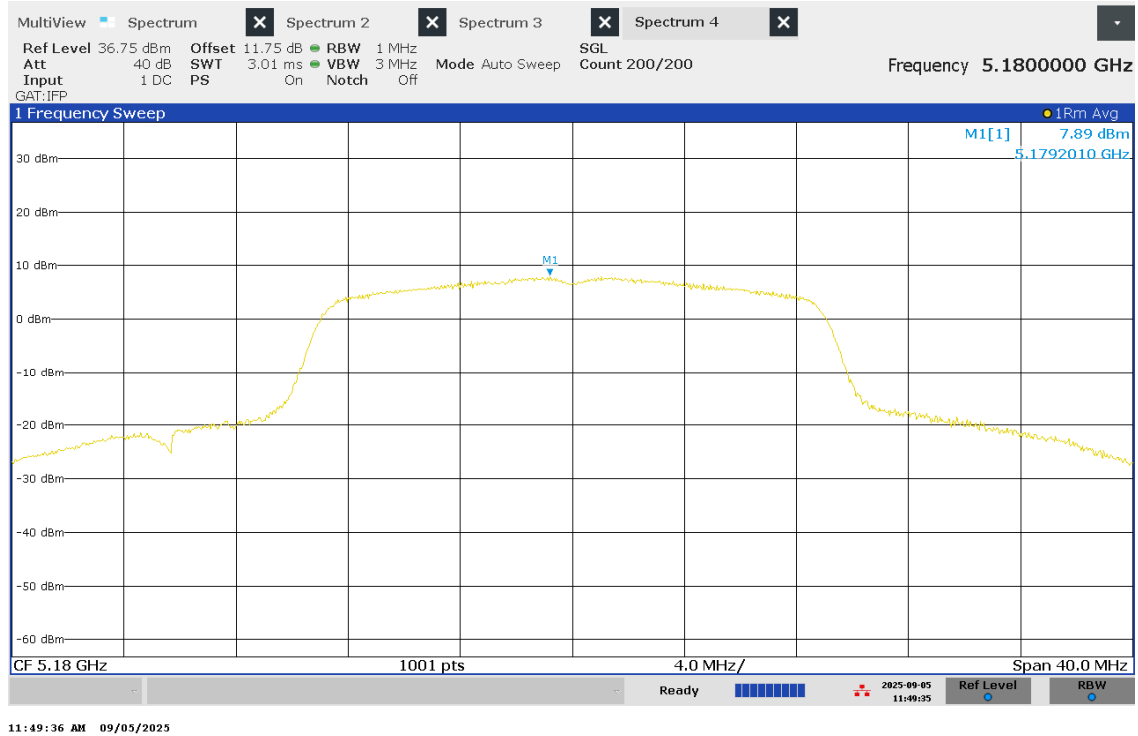


Figure 44 – PSD - Low Channel

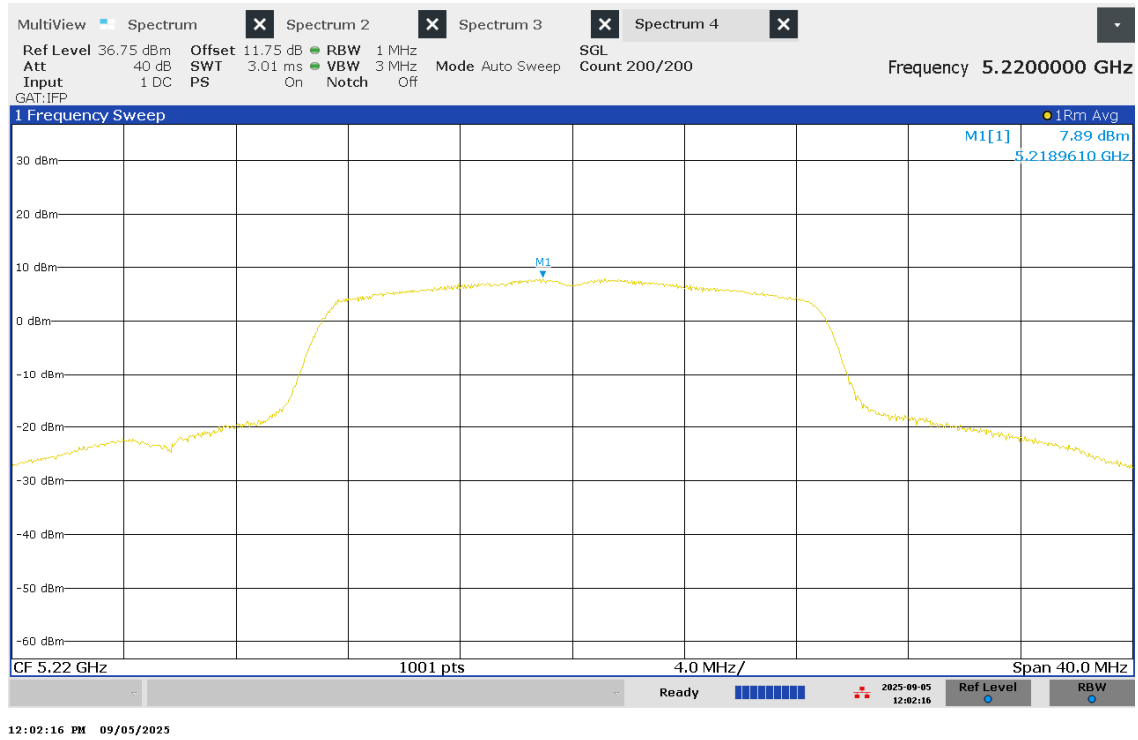


Figure 45 – PSD - Mid Channel

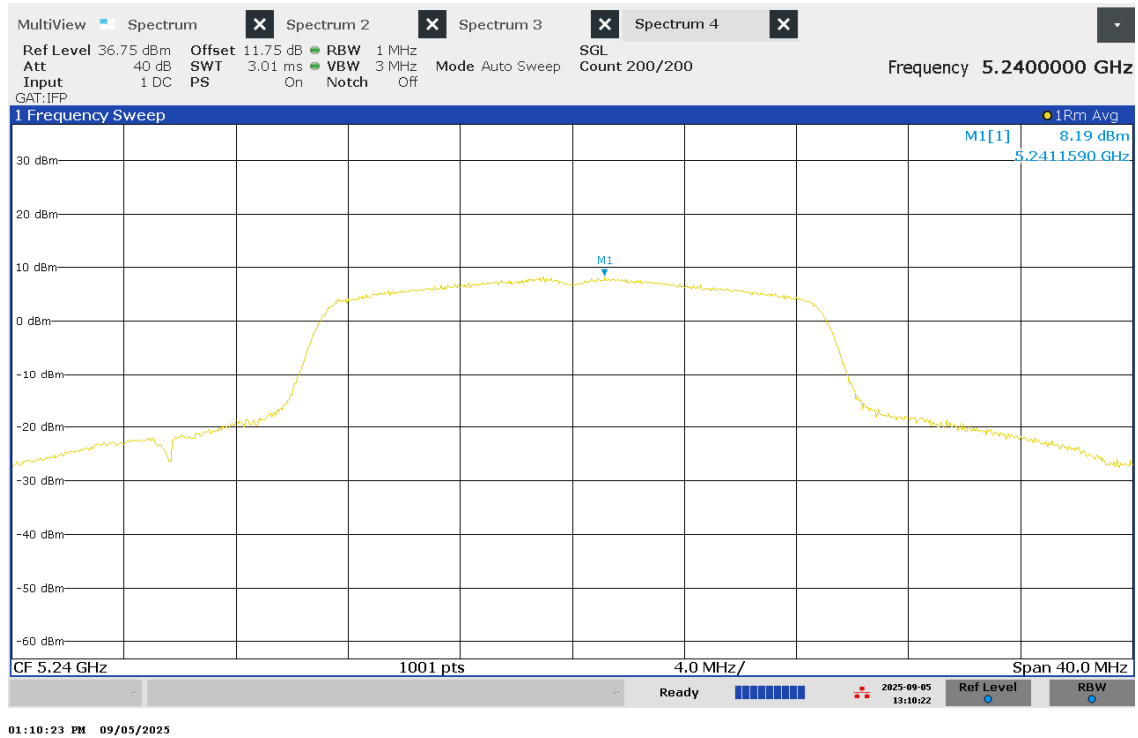


Figure 46 – PSD - High Channel

4.3.3.3. 802.11 n/40 MHz Plots

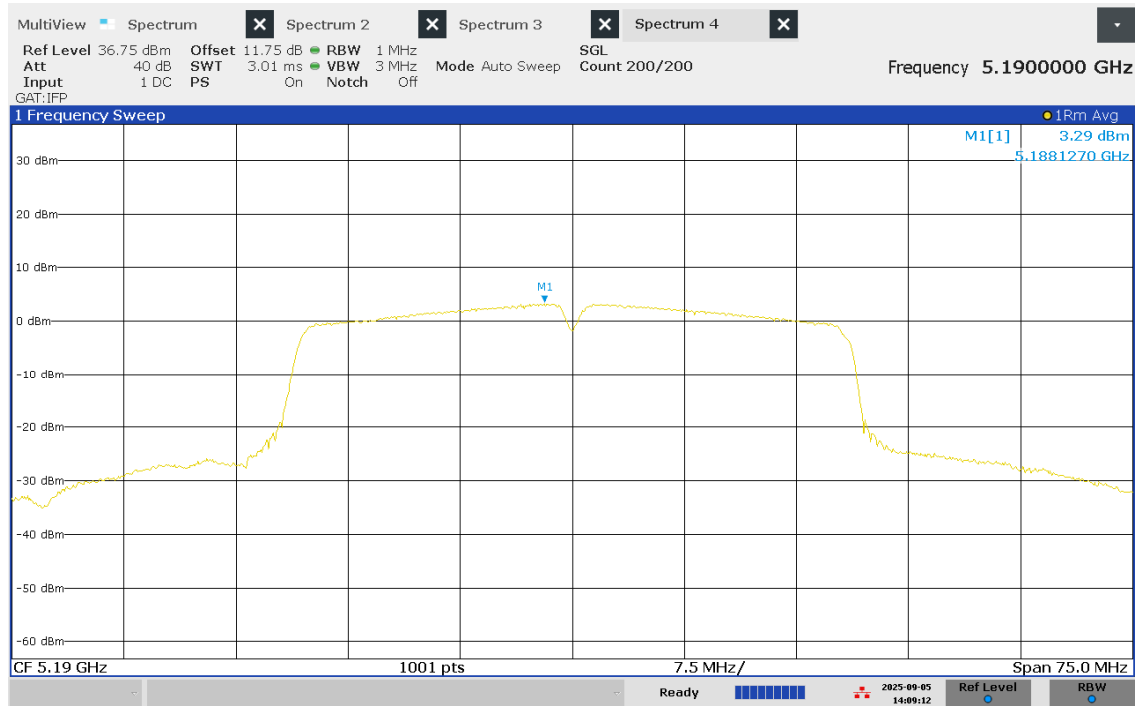


Figure 47 – PSD - Low Channel

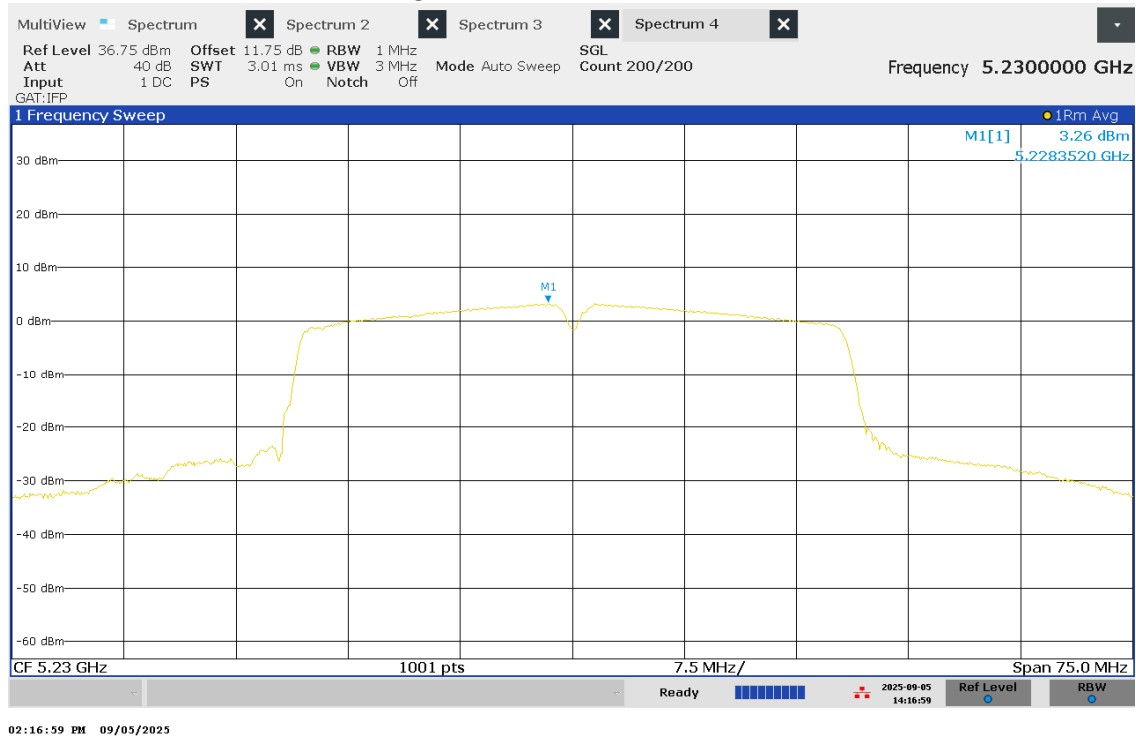
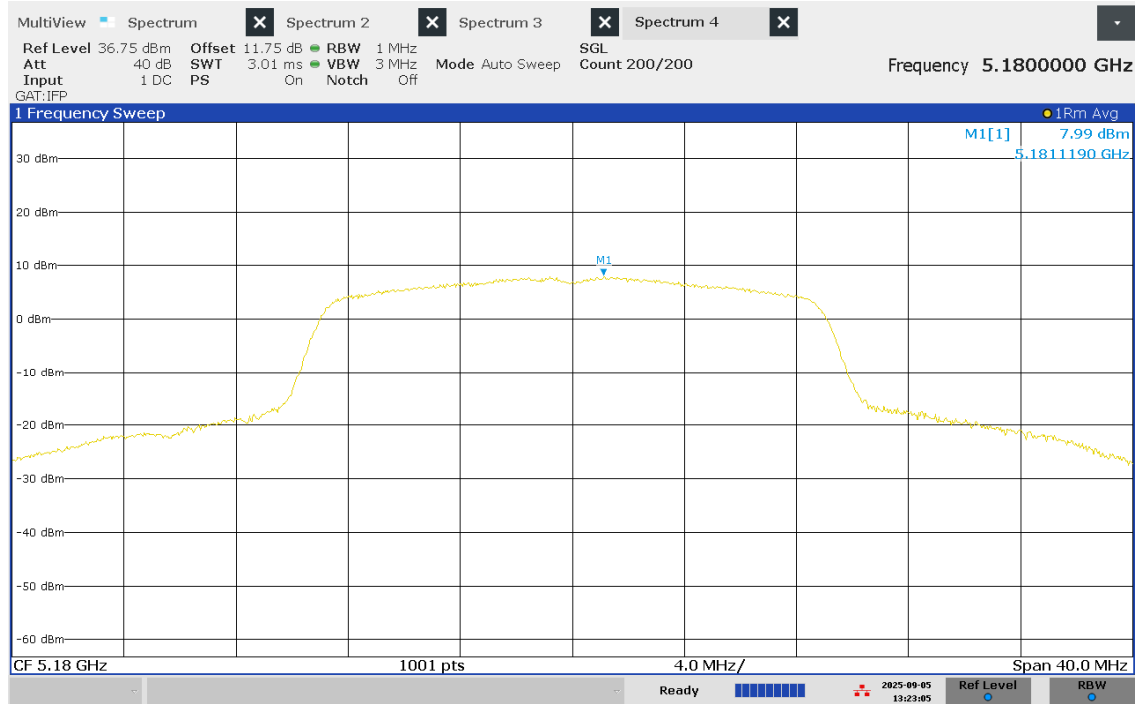


Figure 48 – PSD - High Channel

4.3.3.4. 802.11 ac/20 MHz Plots



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Figure 49 – PSD - Low Channel

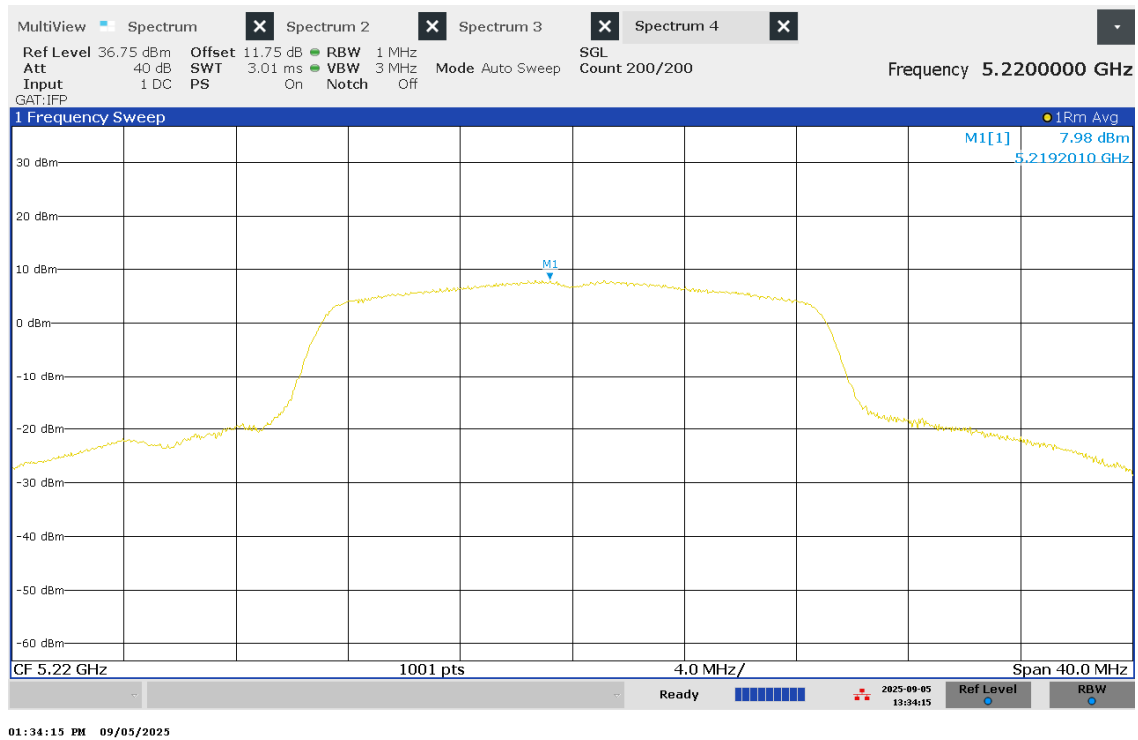


Figure 50 – PSD - Mid Channel

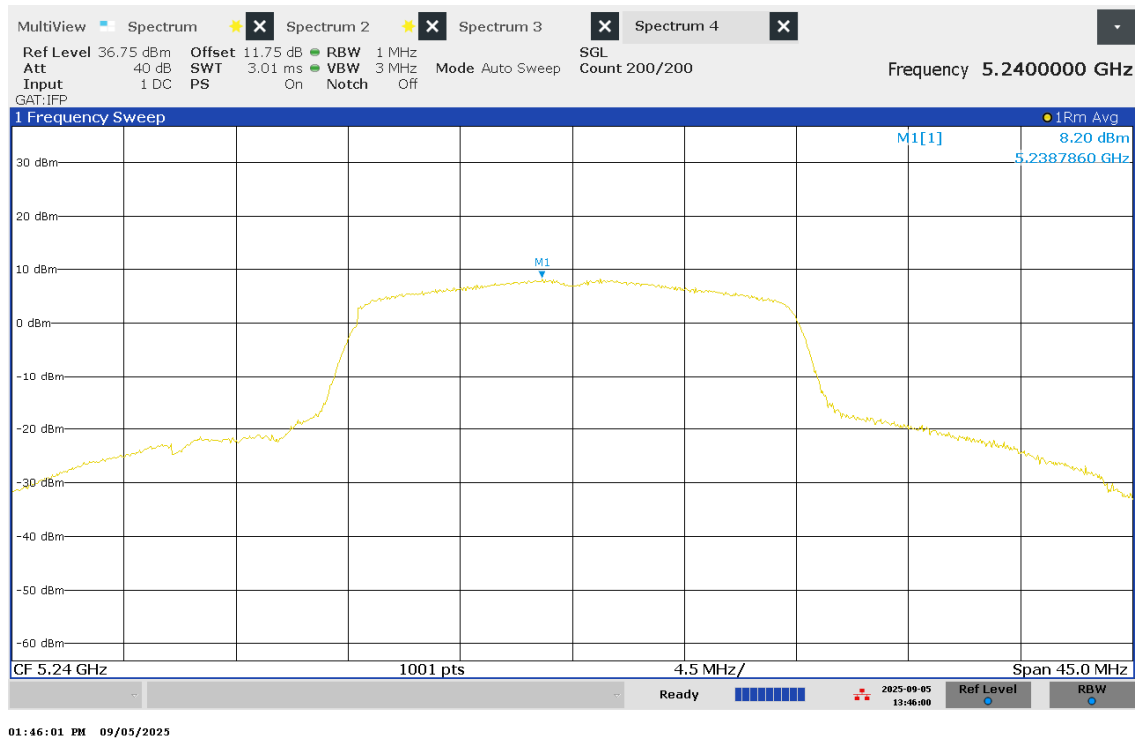
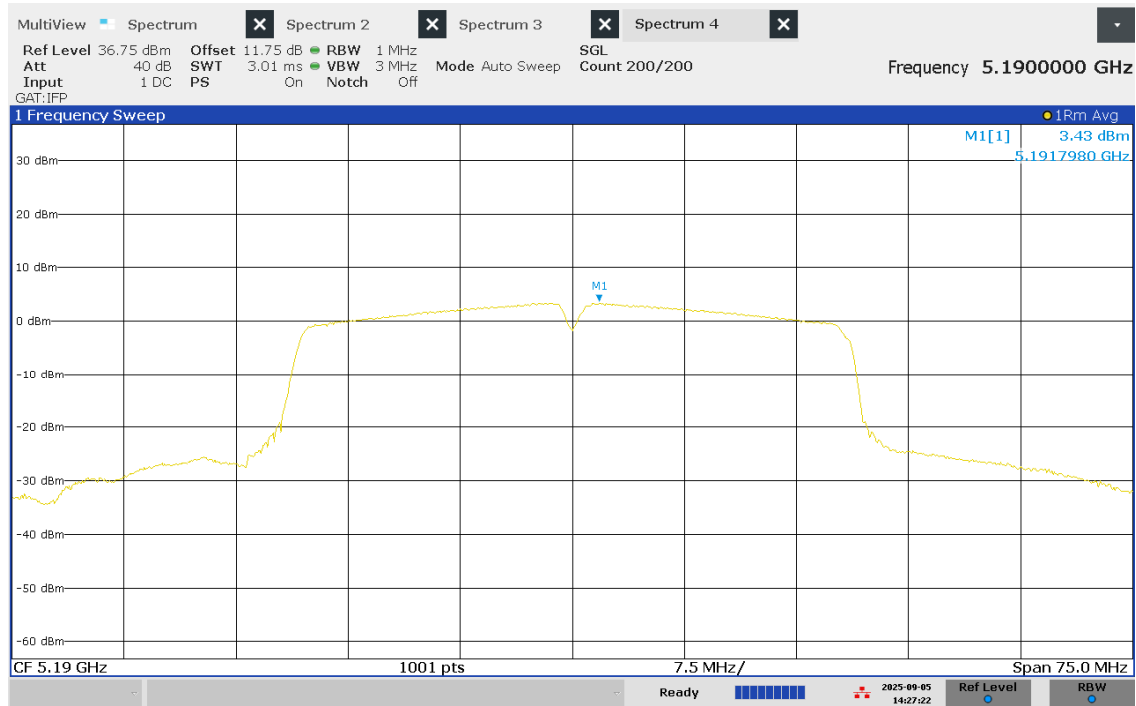


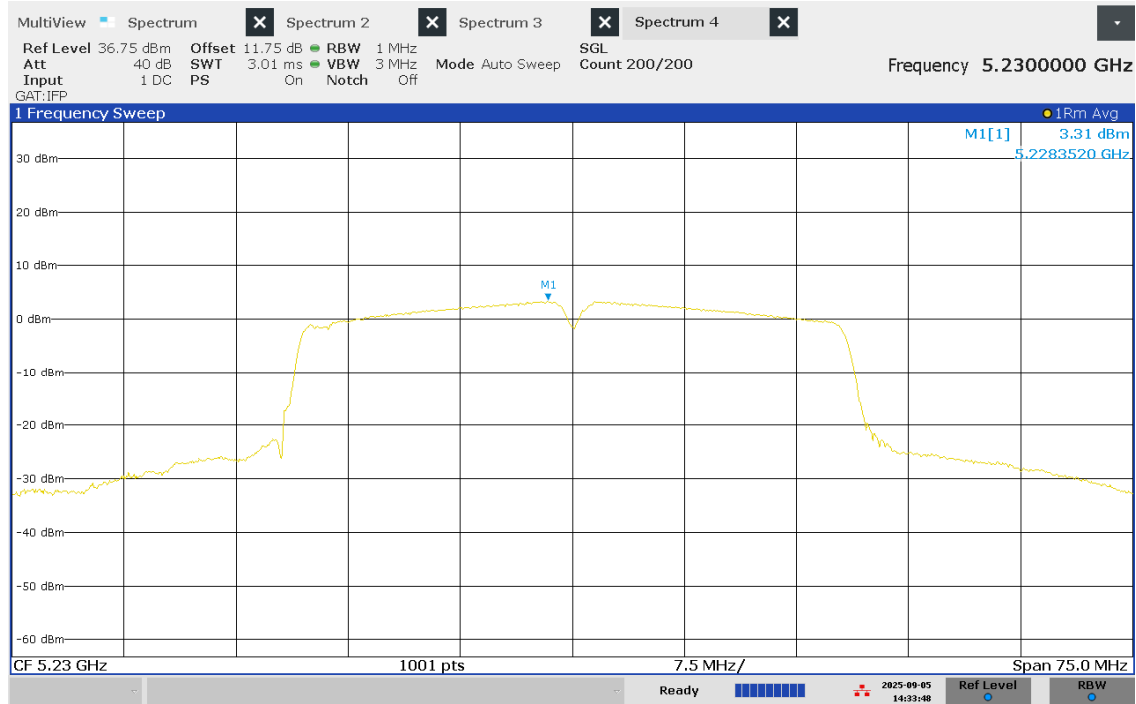
Figure 51 – PSD - High Channel

4.3.3.5. 802.11 ac/40 MHz Plots



02:27:23 PM 09/05/2025

Figure 52 – PSD - Low Channel



02:33:48 PM 09/05/2025

Figure 53 – PSD - High Channel

4.3.4 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration Date	Calibration Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 1, 2024	Mar 1, 2026
EQ_EMC_115	10dB Attenuator	Fairview Microwave	SA18E-10	NCR	NCR

4.4 Transmitter Spurious Radiated Emissions

Test Date: August 20 & 21, 2025
Temperature (°C) 25.8 / 25.9
Relative Humidity (%) 50.5 / 45.1
Barometric Pressure (kPa) 97.9 / 98.2

Initials: MX

4.4.1 Limits

The limits are defined in FCC Part 15.407(b)(1) and RSS-247 7.3.1.3.

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 EIRP of -27 dBm/MHz. The emission limits are based on a peak detector. The EIRP limits of FCC Section 15.407(b) / RSS-247 7.3.1.3 were converted to field strength limits using a correction factor of 95.2 dB.

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-27	68.3 ^c

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in FCC15.209 and RSS-Gen Section 8.9.

Unwanted emissions above 1 GHz must also comply with the general field strength limits set forth in FCC 15.209 for any emissions which fall in the restricted band as defined in FCC 15.205 (a) and RSS-Gen Table 7.

The general field strength limits are given in the table below:

Frequency Range (MHz)	Field Strength Limit		Field Strength at 3m (dBμV/m)	Detector Type / Measurement Bandwidth
	μV/m	Distance		
0.009 – 0.150	2400/F(kHz)	300	128.5 – 104.1	Quasi-Peak‡ / 200Hz
0.150 – 0.490	2400/F(kHz)	300	104.1 – 93.8	Quasi-Peak‡ / 9kHz
0.490 – 1.705	24000/F(kHz)	30	73.8 – 63.0	Quasi-Peak / 9kHz
1.705 – 30	30	30	69.5	Quasi-Peak / 9kHz
30 – 88	100	3	40.0	Quasi-Peak / 120kHz
88 – 216	150	3	43.5	Quasi-Peak / 120kHz
216 – 960	200	3	46.0	Quasi-Peak / 120kHz
960 – 1000	500	3	54.0	Quasi-Peak / 120kHz
Above 1000	500	3	54.0	Average / 1MHz
Above 1000	5000	3	74.0	Peak / 1MHz

‡The emission limits below 1GHz shown in the above table are based on measurements employing a CISPR Quasi-Peak detector except for the frequency bands 9-90 kHz and 110-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

As per ANSI C63.10 Section 4.1, if the Peak detector measurements do not exceed the Quasi-Peak limits, or Average limits where defined, then the DUT is considered to have passed the requirements.

4.4.2 Test Procedure

Tested according to ANSI C63.10 Section 12.7.

The device under test was setup inside a semi-anechoic chamber with remotely controlled turntable and antenna positioner at a 3m test distance. The DUT was placed on top of a 0.8m high non-conductive table above the reference ground plane for frequencies below 1GHz and 1.5m high for frequencies above 1GHz.

To determine the emission characteristics of the DUT, exploratory radiated emission scans were made while rotating the turntable 0° to 360° and using a Peak detector. The results were recorded in graphical form.

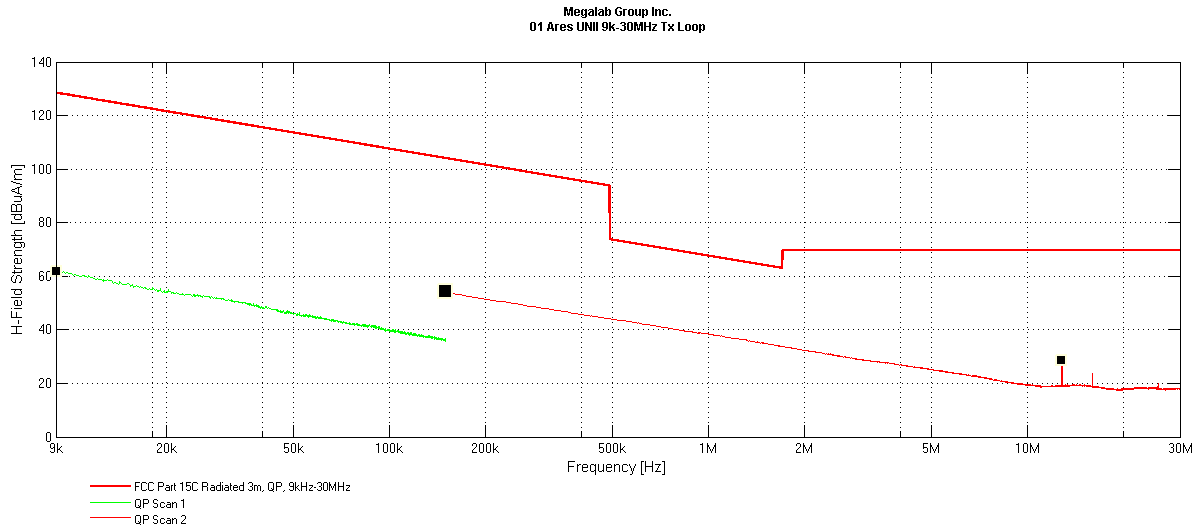
For each suspected emission, final measurements of the DUT radiated emissions with the Quasi-Peak, Average or Peak detector, as defined in the limit tables above, were made with the turntable azimuth rotated 0° to 360° and antenna height varied from 1m to 4m. The antenna was positioned to receive emissions in the vertical and horizontal polarizations such that the maximum radiated emission levels were detected.

As per FCC Part 15.33(a), the DUT was scanned to the 10th harmonic of the highest fundamental frequency.

Testing for 9 kHz – 30 MHz was performed with 3 orthogonal antenna polarities. The worst case results were present in this report.

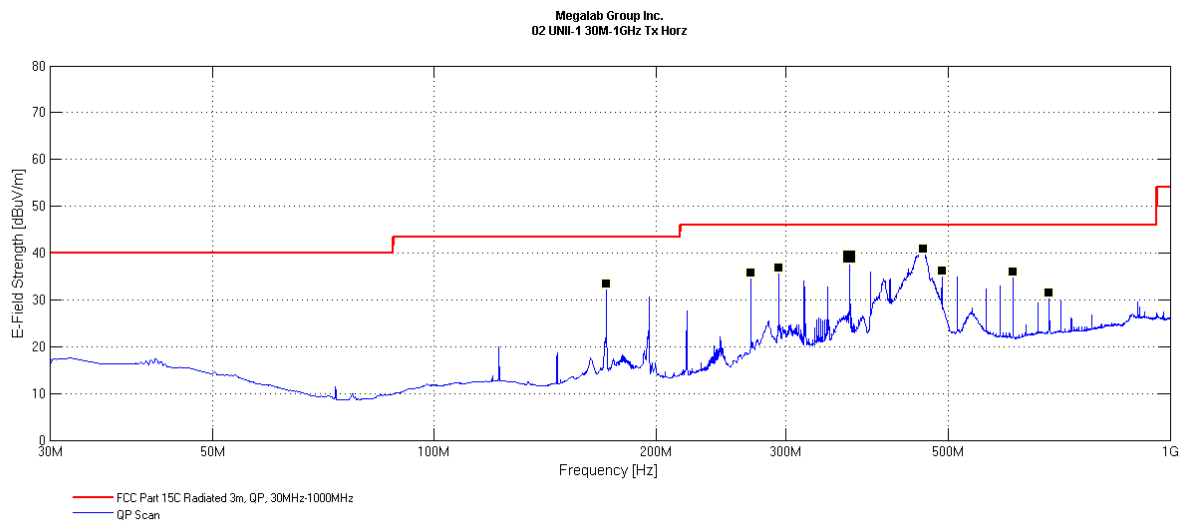
4.4.3 Test Results – ECB601

Range:	9kHz to 30 MHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	XZ-Plane



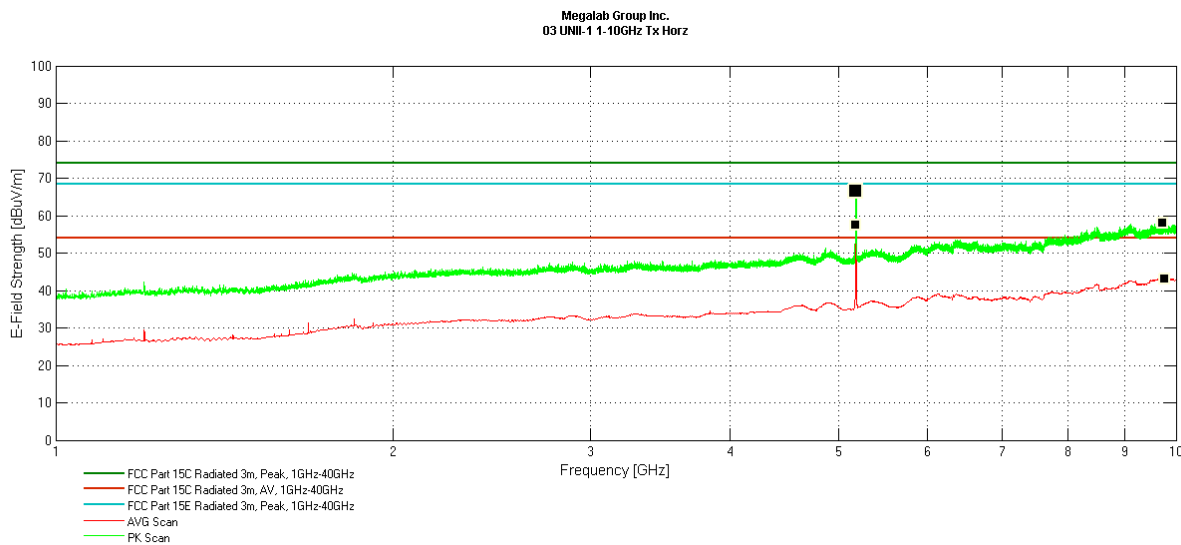
Remark: Quasi-Peak Emission Plot

Range:	30MHz to 1GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - Quasi-Peak Emission Plot
- A Notch filter was used to filter out the fundamental

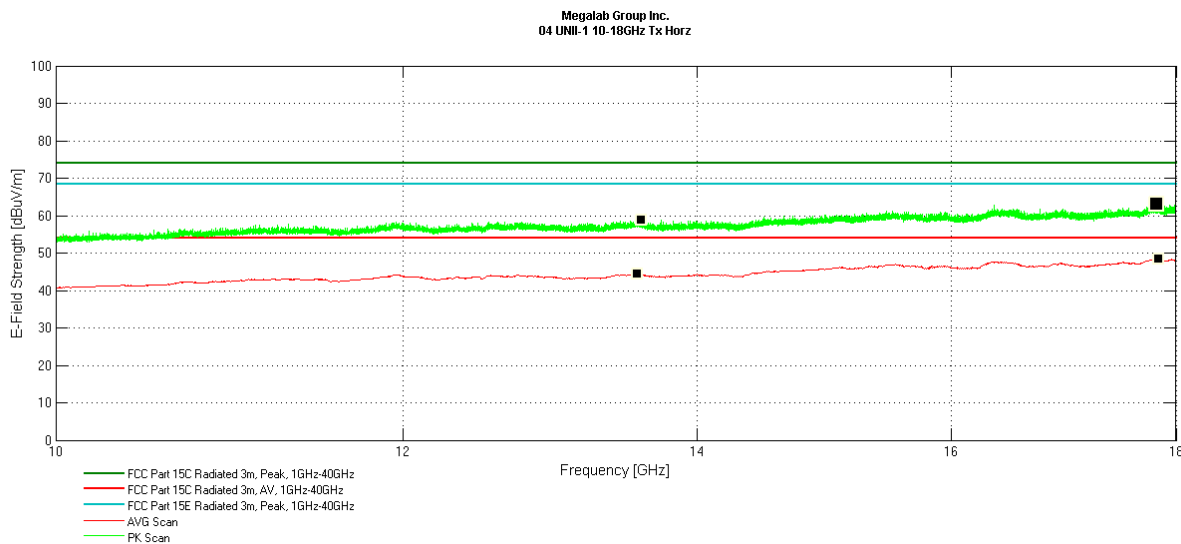
Range:	1GHz to 10GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Project: Ecobee_Ares2_ML302480_UNIL-1.S64

Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

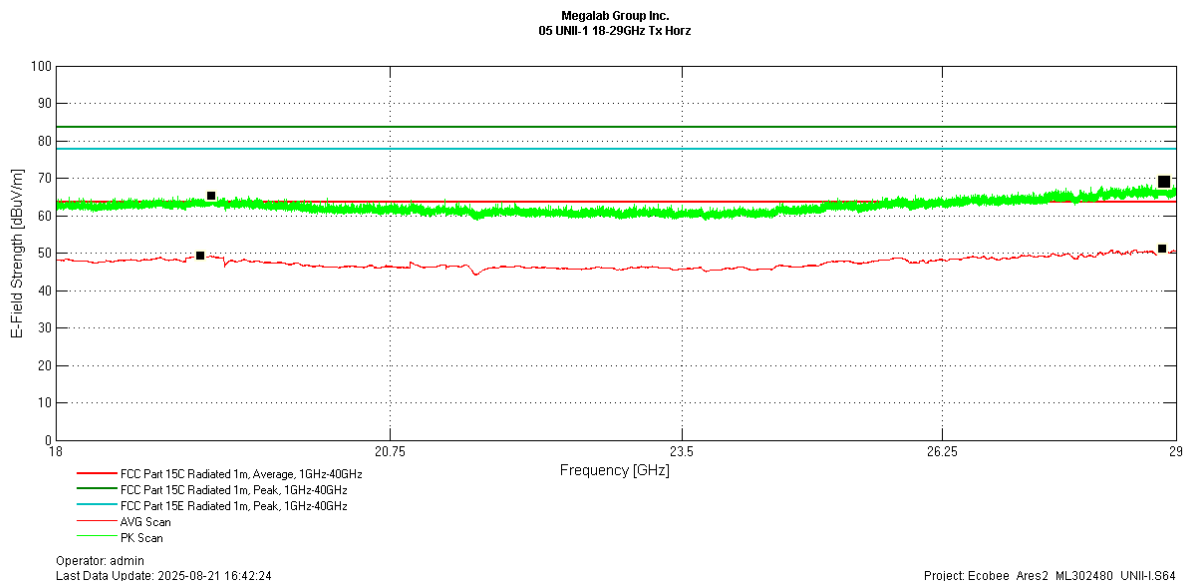
Range:	10GHz to 18GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Project: Ecobee_Ares2_ML302480_UNIL-1.S64

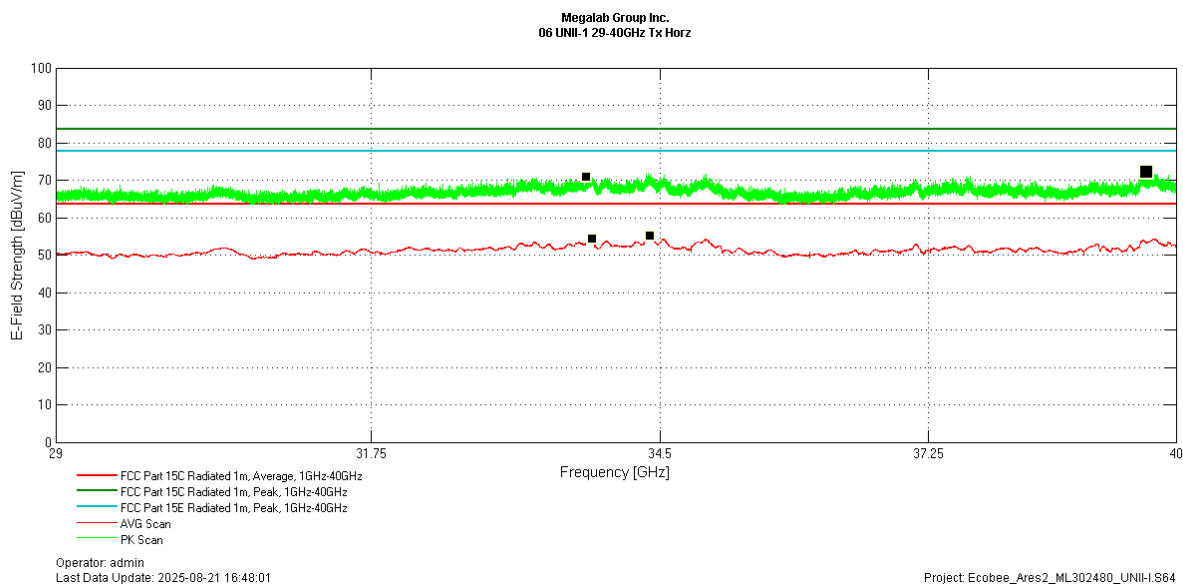
Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	18GHz to 29GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - **Peak** and **Average** Emission Plot

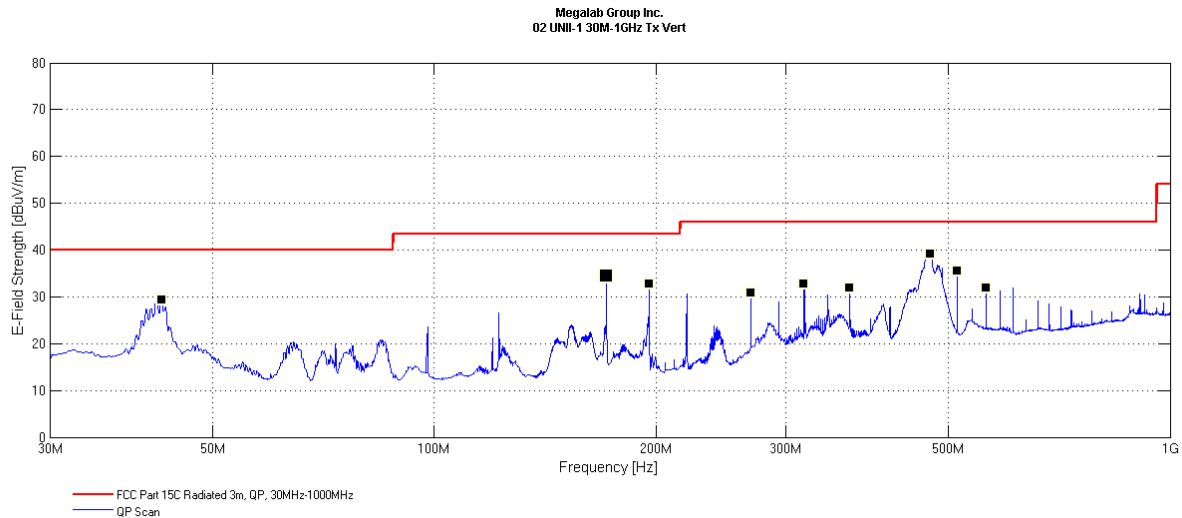
Range:	29GHz to 40GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - **Peak** and **Average** Emission Plot

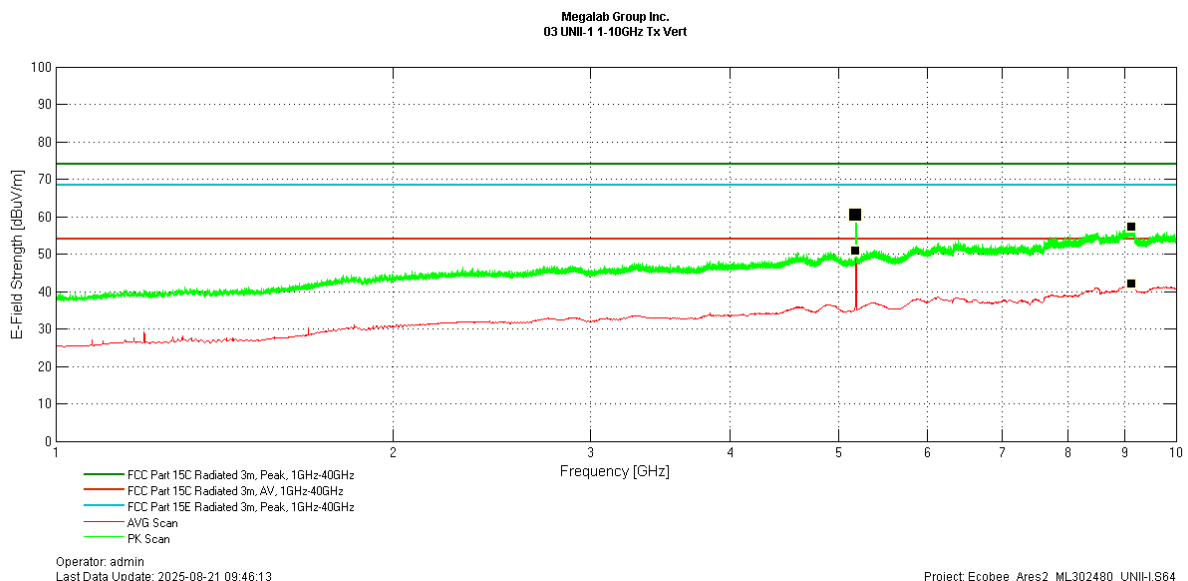
Horizontal Antenna Polarization							
Frequency (MHz)	Detector	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
461.75	QP	57.01	-16.15	40.86	46.00	5.14	Pass
171.40	QP	57.15	-23.76	33.39	43.50	10.11	Pass
293.80	QP	57.03	-20.24	36.79	46.00	9.21	Pass
612.05	QP	49.77	-13.92	35.85	46.00	10.15	Pass
685.50	QP	44.50	-13.04	31.46	46.00	14.54	Pass
367.25	QP	57.40	-18.31	39.09	46.00	6.91	Pass

Range:	30MHz to 1GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



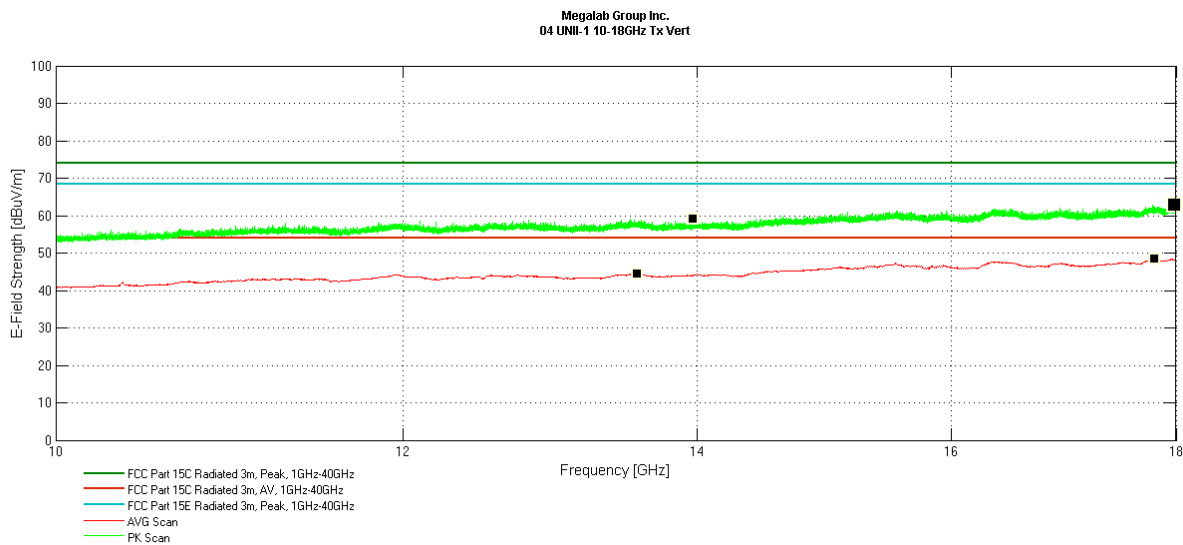
Remark: - Quasi-Peak Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	1GHz to 10GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



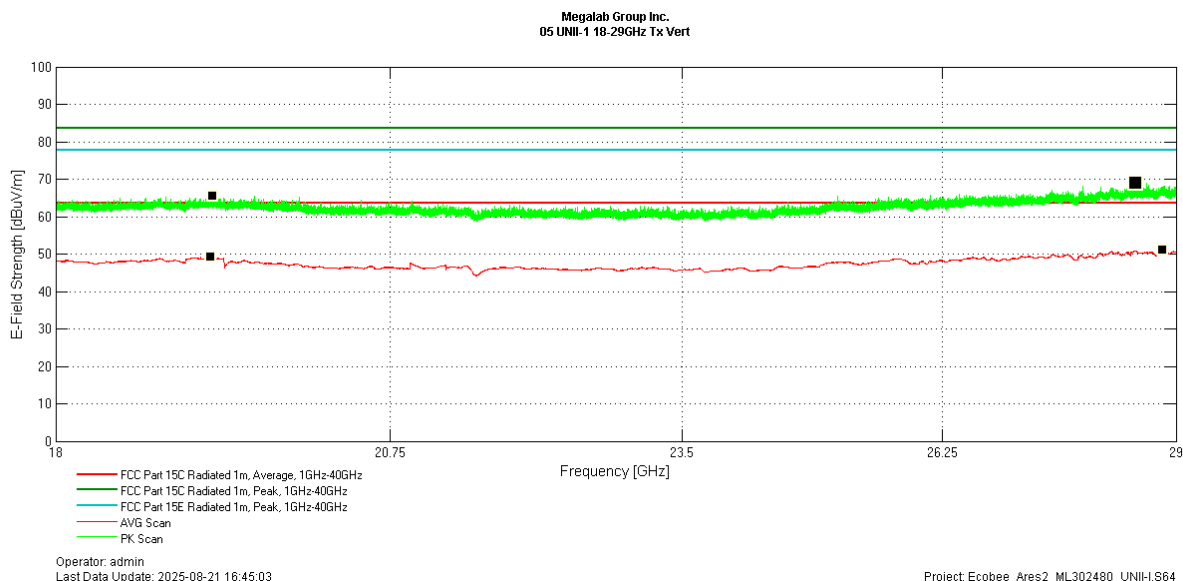
Remark: - Peak and Average Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	10GHz to 18GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



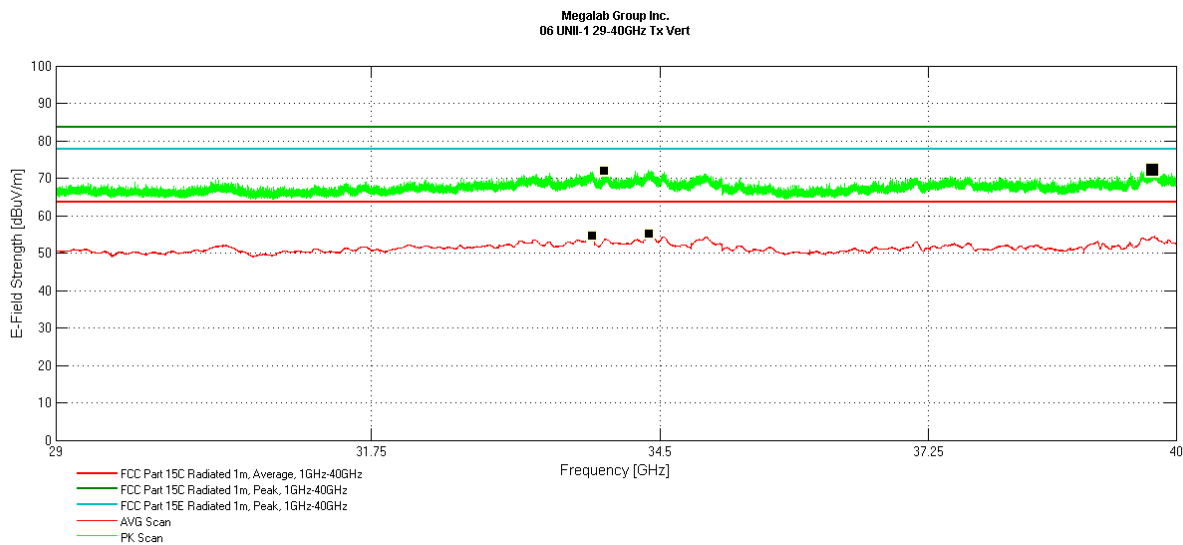
Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	18GHz to 29GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



Remark: **Peak** and **Average** Emission Plot

Range:	29GHz to 40GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



Operator: admin
Last Data Update: 2025-08-21 16:50:52

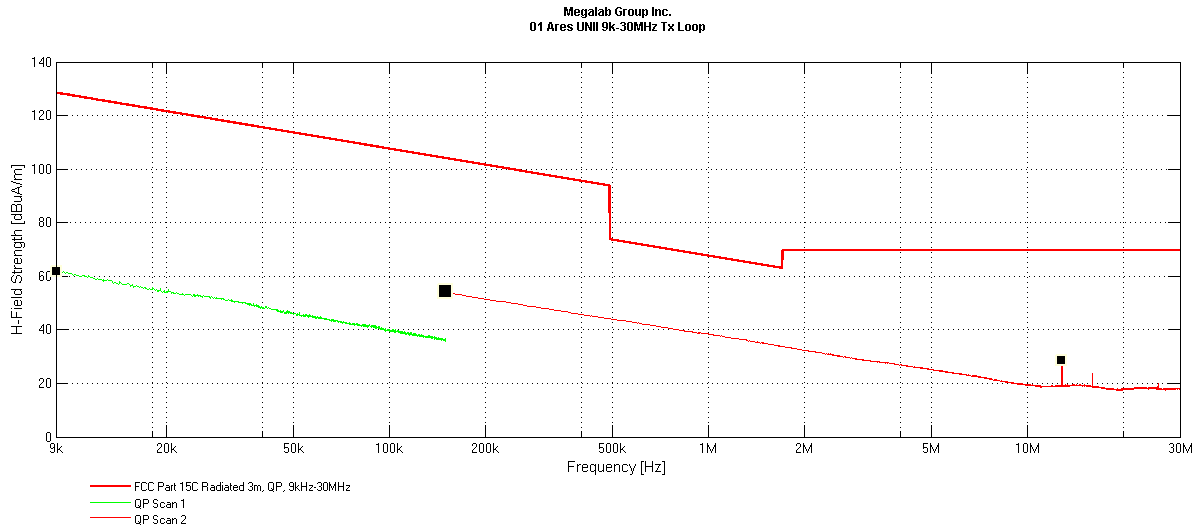
Project: Ecobee_Ares2_ML302480_UNII-1.S64

Remark: **Peak** and **Average** Emission Plot

Vertical Antenna Polarization							
Frequency (MHz)	Detector	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
472.35	QP	54.67	-15.58	39.09	46.00	6.91	Pass
42.60	QP	48.53	-19.27	29.26	40.00	10.74	Pass
171.40	QP	58.19	-23.76	34.43	43.50	9.07	Pass
195.80	QP	55.91	-23.23	32.68	43.50	10.82	Pass
562.95	QP	46.58	-14.77	31.81	46.00	14.19	Pass
514.05	QP	50.84	-15.21	35.63	46.00	10.37	Pass

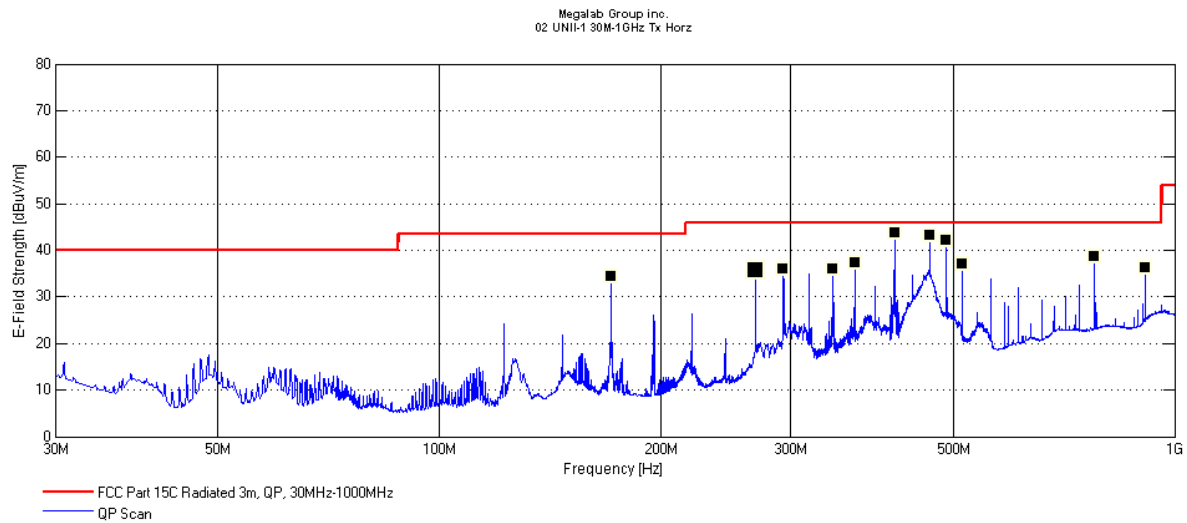
4.4.4 Test Results – ECB601 PLC

Range:	9kHz to 30 MHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	XZ-Plane



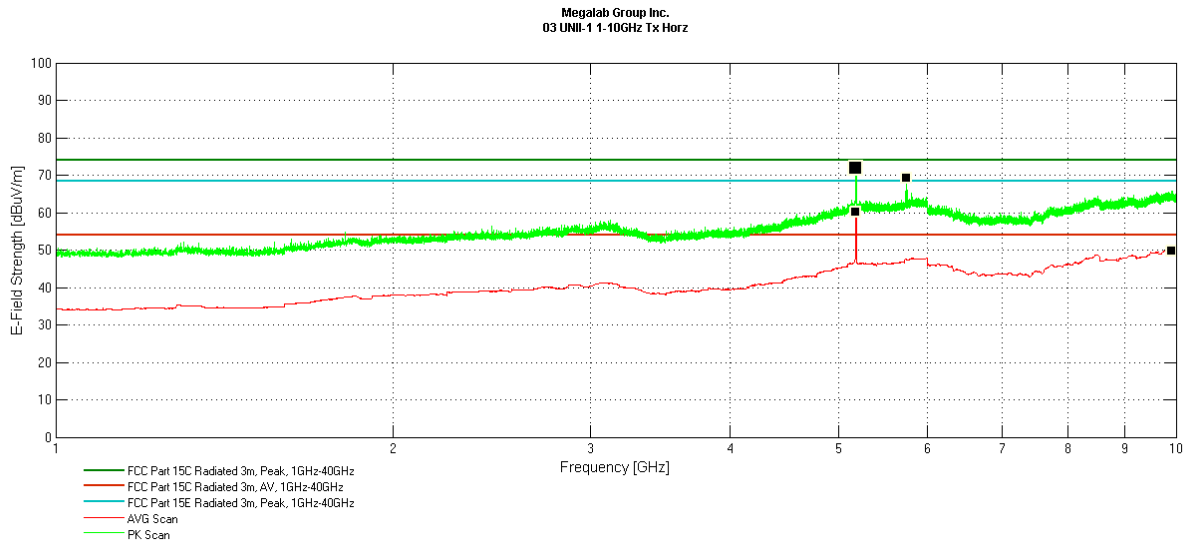
Remark: Quasi-Peak Emission Plot

Range:	30MHz to 1GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - Quasi-Peak Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	1GHz to 10GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal

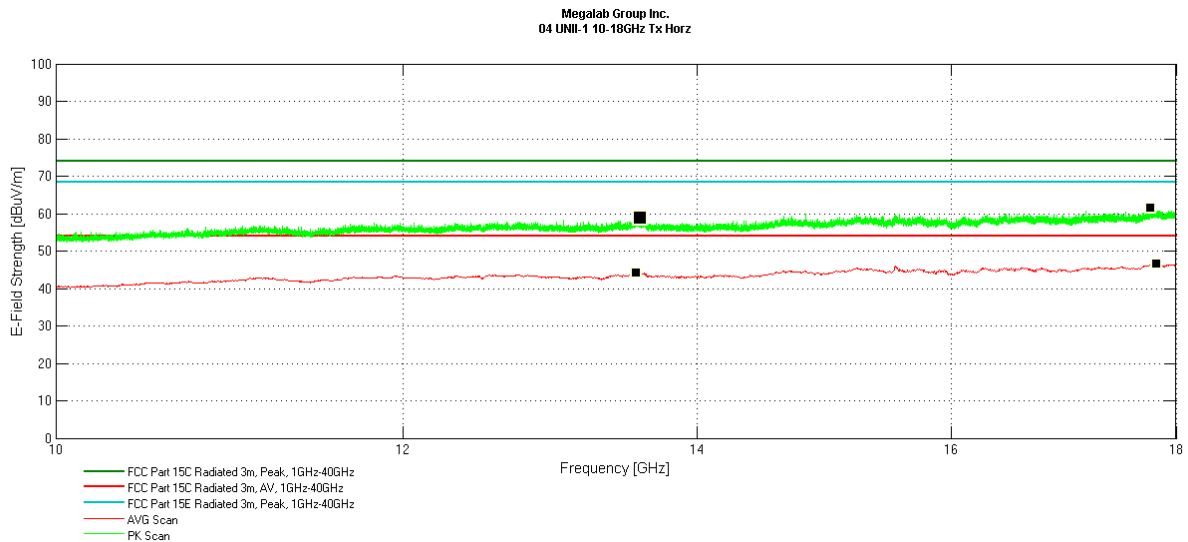


Operator: admin
Last Data Update: 2025-11-23 15:36:28

Project: Ecobee_Ares2_PLC_ML303040_UNIL-1.S64

Remark: - **Peak** and **Average** Emission Plot
 - A Notch filter was used to filter out the fundamental

Range:	10GHz to 18GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal

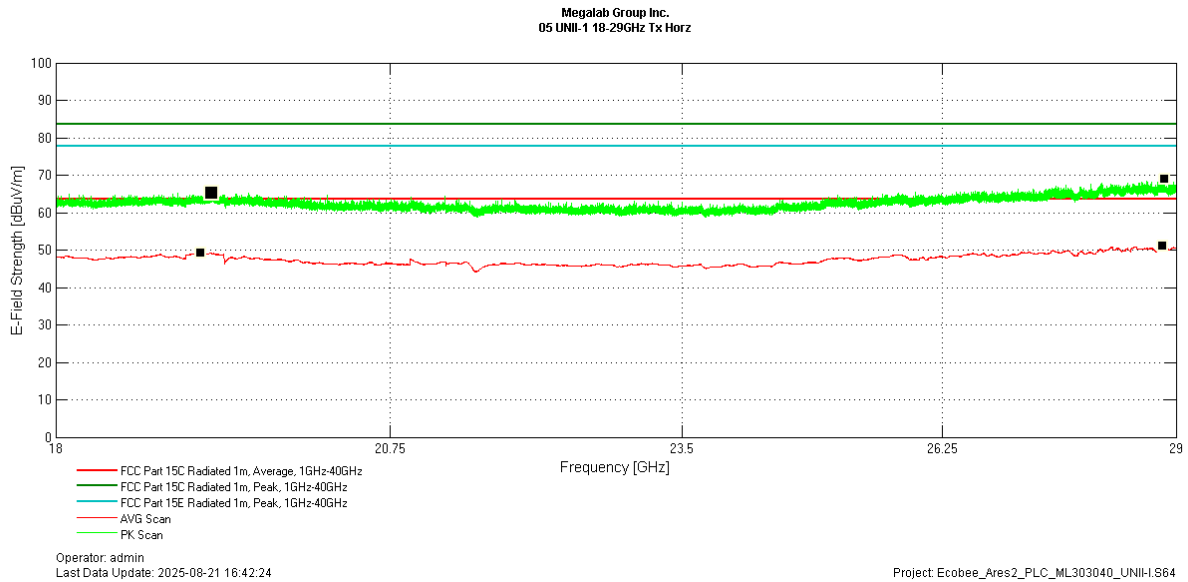


Operator: admin
Last Data Update: 2025-11-23 15:48:15

Project: Ecobee_Ares2_PLC_ML303040_UNIL-1.S64

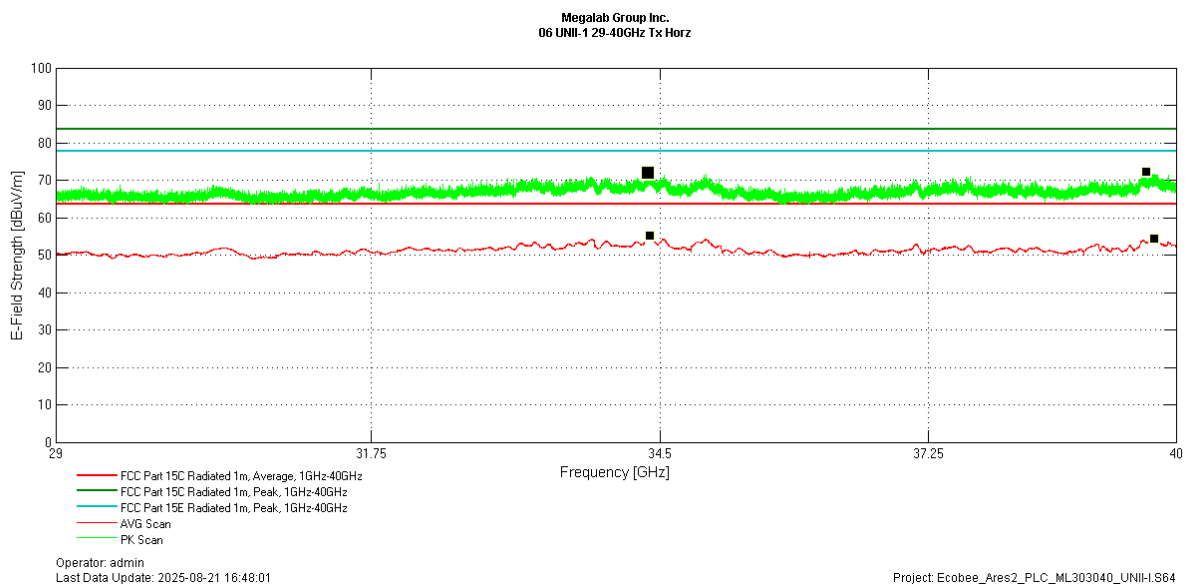
Remark: - **Peak** and **Average** Emission Plot
 - A Notch filter was used to filter out the fundamental

Range:	18GHz to 29GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - Peak and Average Emission Plot

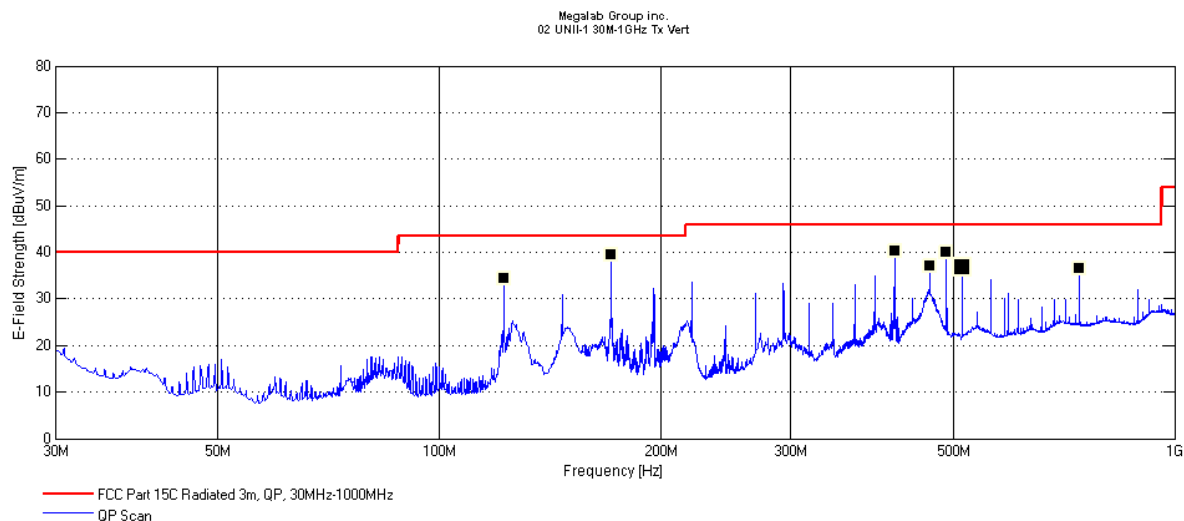
Range:	29GHz to 40GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - Peak and Average Emission Plot

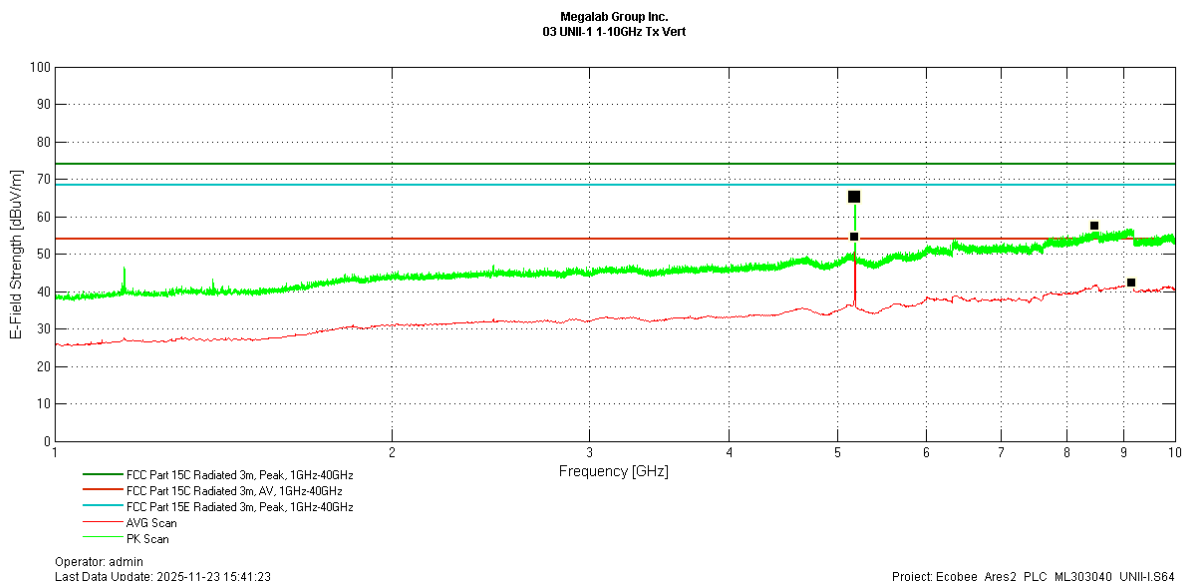
Horizontal Antenna Polarization							
Frequency (MHz)	Detector	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
416.20	QP	46.21	-2.37	43.84	46.00	2.16	Pass
465.10	QP	45.58	-2.25	43.33	46.00	2.67	Pass
489.65	QP	44.32	-2.27	42.05	46.00	3.95	Pass
778.20	QP	35.81	2.90	38.71	46.00	7.29	Pass
367.25	QP	41.26	-3.83	37.43	46.00	8.57	Pass
514.05	QP	38.09	-1.01	37.08	46.00	8.92	Pass

Range:	30MHz to 1GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



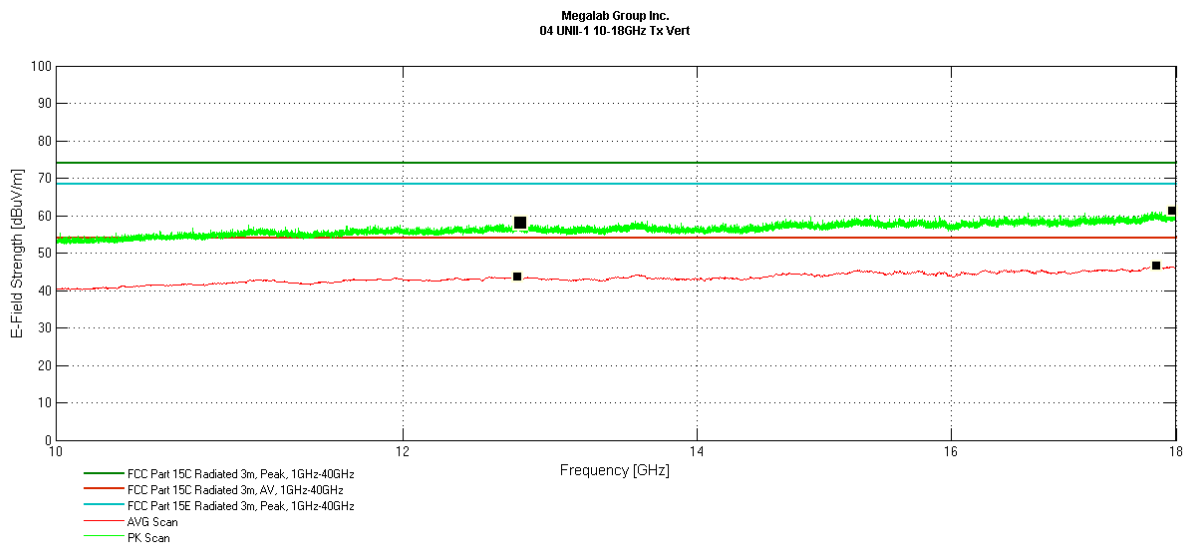
Remark: - Quasi-Peak Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	1GHz to 10GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	10GHz to 18GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical

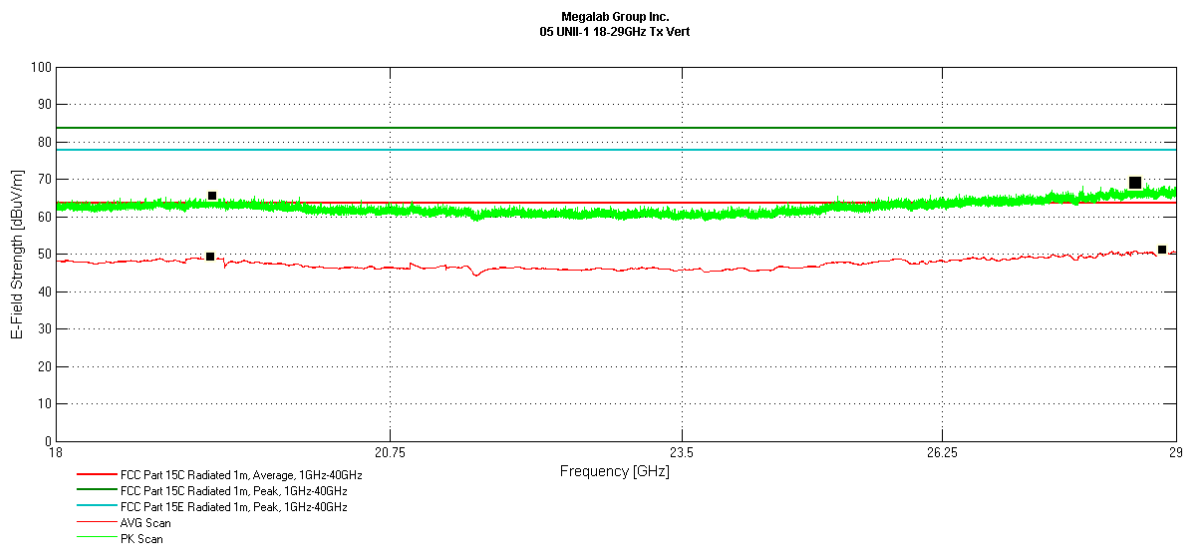


Operator: admin
Last Data Update: 2025-11-23 15:55:18

Project: Ecobee_Ares2_PLC_ML303040_UNII-I.S64

Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	18GHz to 29GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical

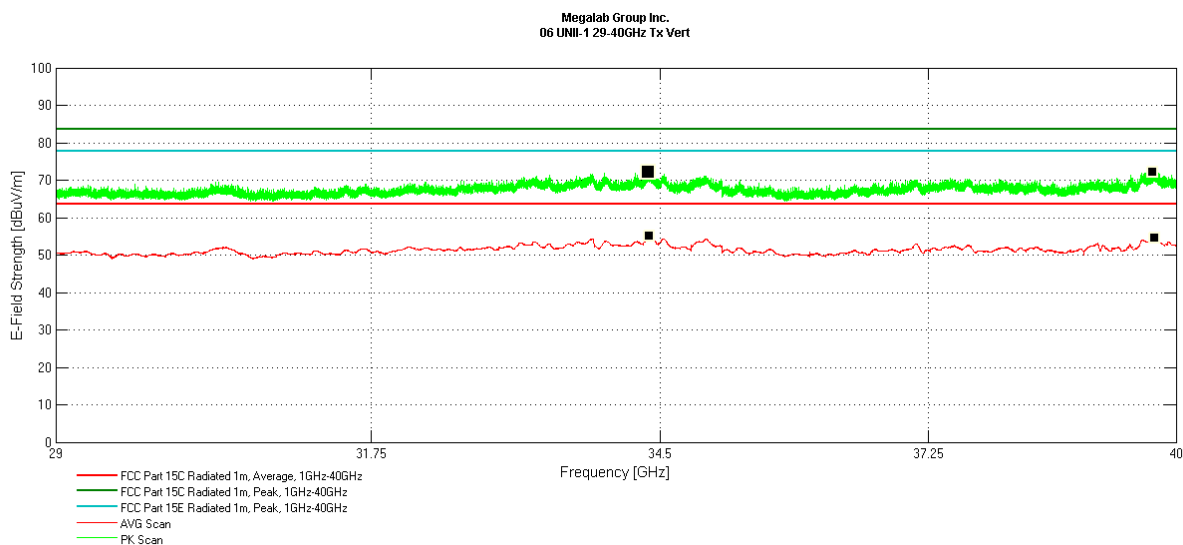


Operator: admin
Last Data Update: 2025-08-21 16:45:03

Project: Ecobee_Ares2_PLC_ML303040_UNII-I.S64

Remark: **Peak** and **Average** Emission Plot

Range:	29GHz to 40GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



Operator: admin
Last Data Update: 2025-08-21 16:50:52

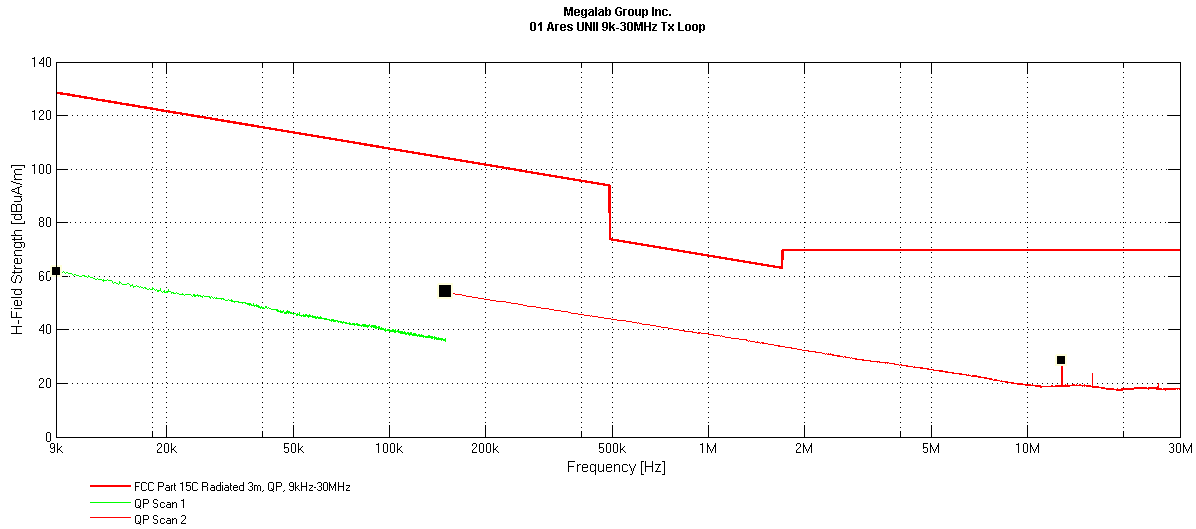
Project: Ecobee_Ares2_PL3_ML303040_UNII-1.864

Remark: **Peak** and **Average** Emission Plot

Vertical Antenna Polarization							
Frequency (MHz)	Detector	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
171.40	QP	49.92	-10.41	39.51	43.50	3.99	Pass
416.20	QP	42.56	-2.37	40.19	46.00	5.81	Pass
489.65	QP	42.20	-2.27	39.93	46.00	6.07	Pass
465.10	QP	39.36	-2.25	37.11	46.00	8.89	Pass
122.30	QP	47.46	-13.12	34.34	43.50	9.16	Pass
514.05	QP	37.82	-1.01	36.81	46.00	9.19	Pass

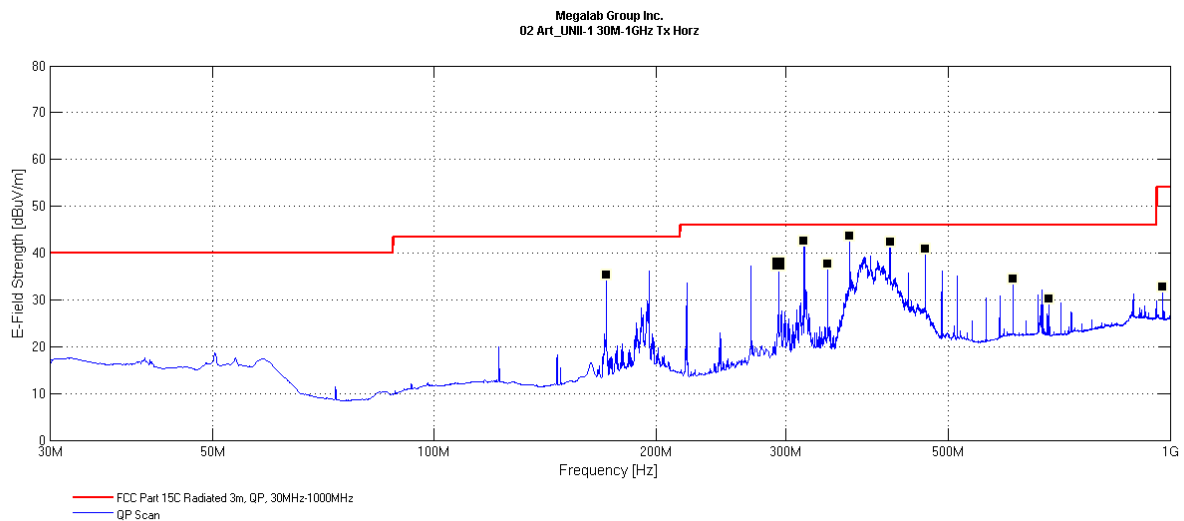
4.4.5 Test Results – ECB501

Range:	9kHz to 30 MHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	XZ-Plane



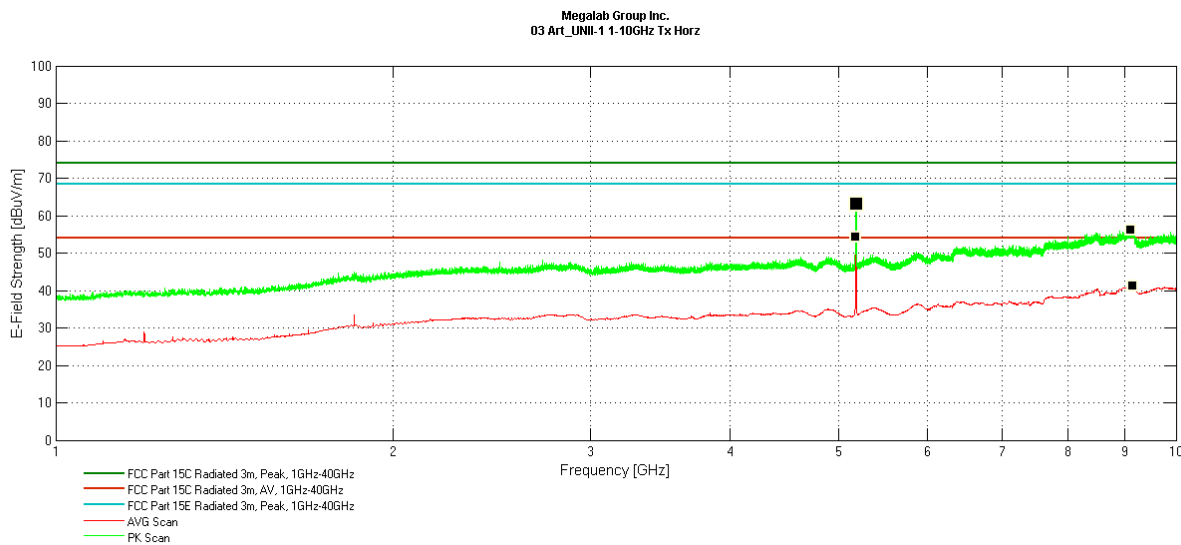
Remark: Quasi-Peak Emission Plot

Range:	30MHz to 1GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - Quasi-Peak Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	1GHz to 10GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal

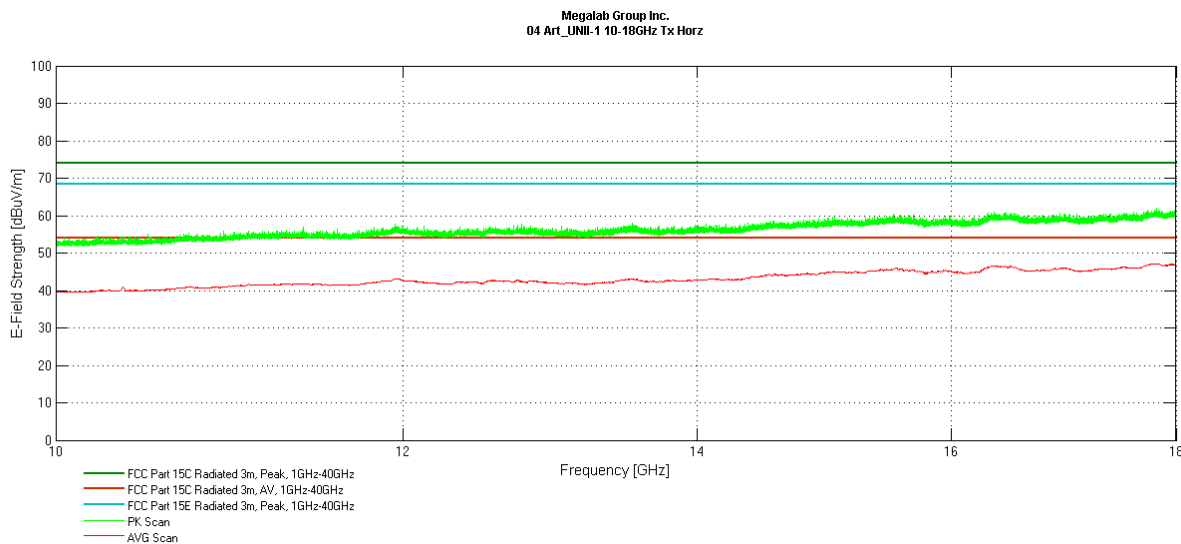


Operator: admin
Last Data Update: 2025-08-21 11:10:31

Project Ecobee_Artemis2_ML302480_UNII-1.S64

Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	10GHz to 18GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal

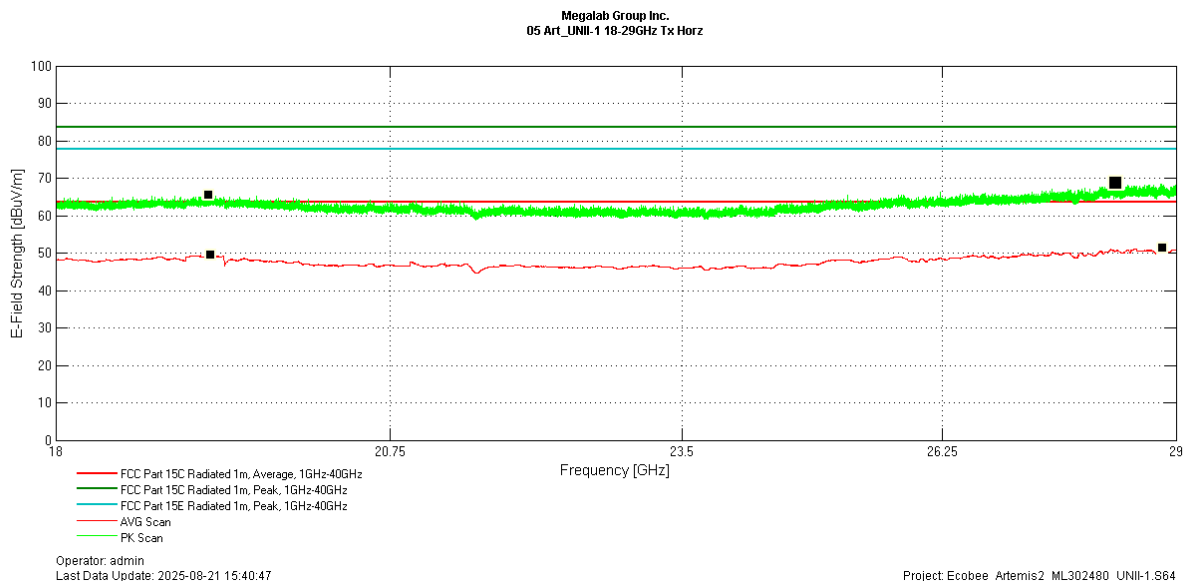


Operator: admin
Last Data Update: 2025-08-21 11:39:49

Project Ecobee_Artemis2_ML302480_UNII-1.S64

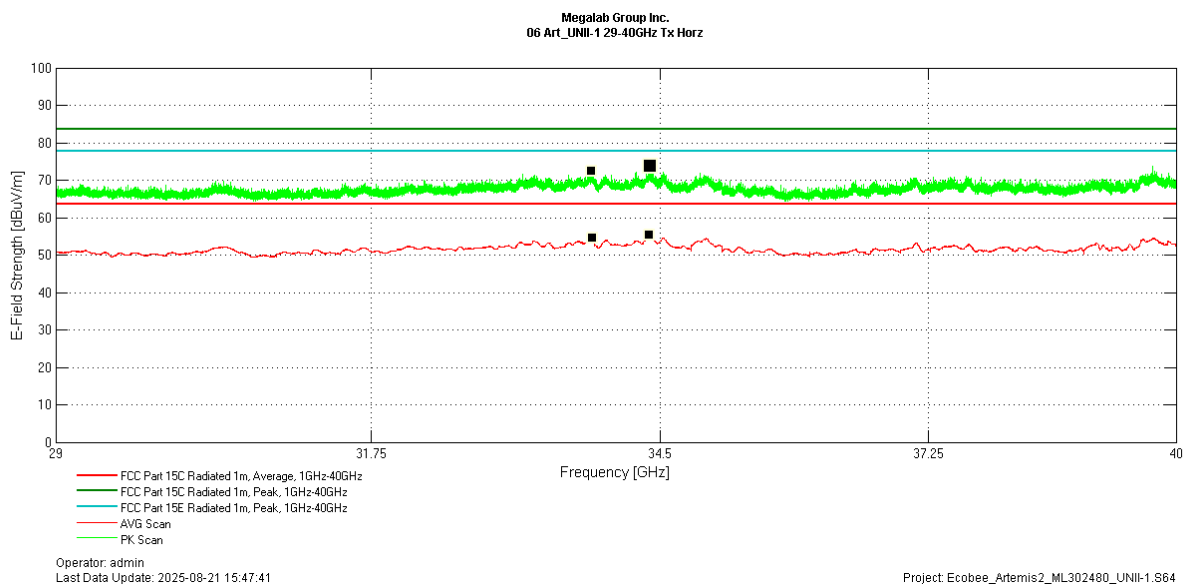
Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	18GHz to 29GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - **Peak** and **Average** Emission Plot

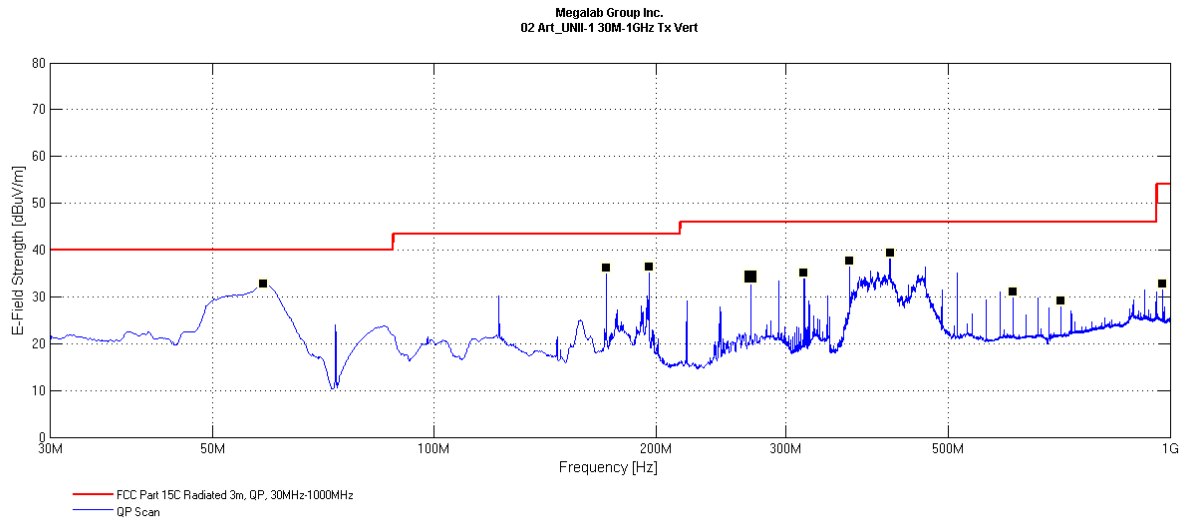
Range:	29GHz to 40GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Horizontal



Remark: - **Peak** and **Average** Emission Plot

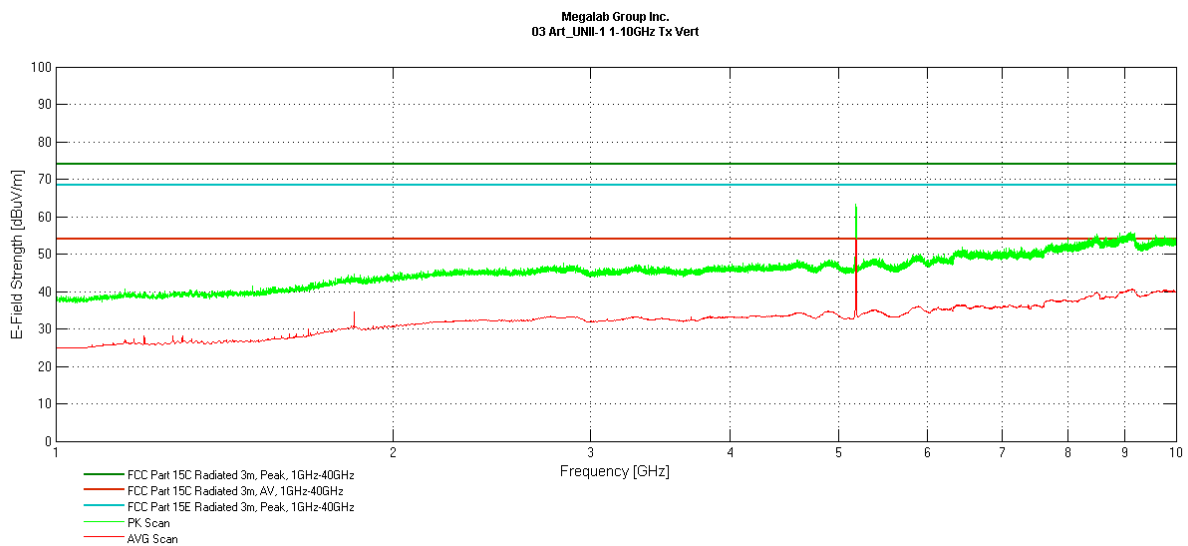
Horizontal Antenna Polarization							
Frequency (MHz)	Detector	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
367.25	QP	61.98	-18.31	43.67	46.00	2.33	Pass
318.15	QP	62.21	-19.57	42.64	46.00	3.36	Pass
416.20	QP	59.05	-16.81	42.24	46.00	3.76	Pass
465.10	QP	56.82	-16.02	40.80	46.00	5.20	Pass
342.70	QP	56.42	-18.68	37.74	46.00	8.26	Pass
171.40	QP	58.99	-23.76	35.23	43.50	8.27	Pass
293.80	QP	57.79	-20.24	37.55	46.00	8.45	Pass
612.05	QP	48.33	-13.92	34.41	46.00	11.59	Pass
685.50	QP	43.16	-13.04	30.12	46.00	15.88	Pass
975.75	QP	41.96	-9.12	32.84	54.00	21.16	Pass

Range:	30MHz to 1GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



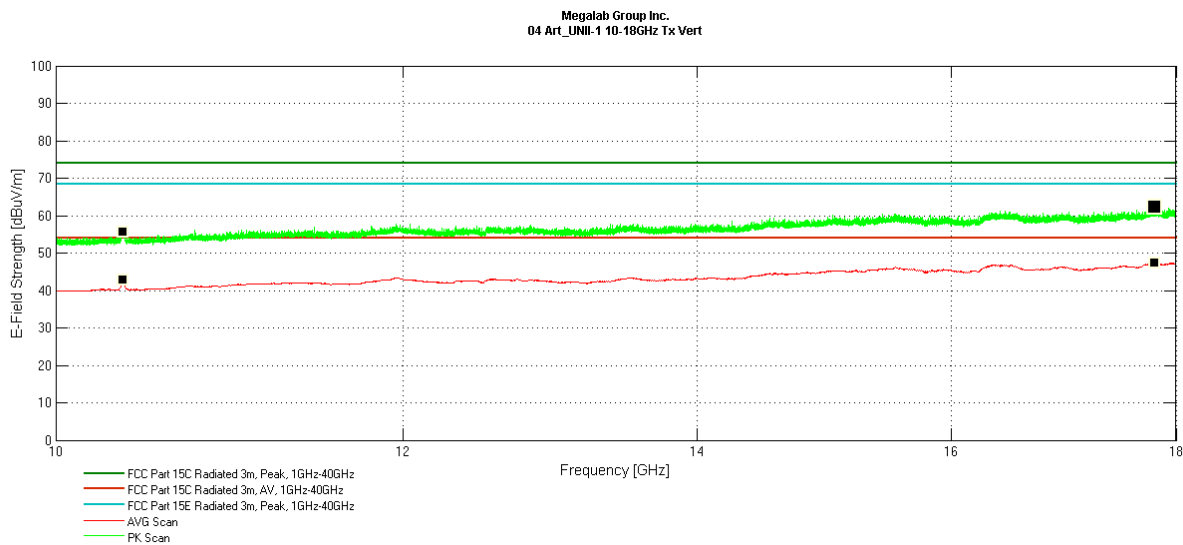
Remark: - Quasi-Peak Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	1GHz to 10GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



Remark: - Peak and Average Emission Plot
- A Notch filter was used to filter out the fundamental

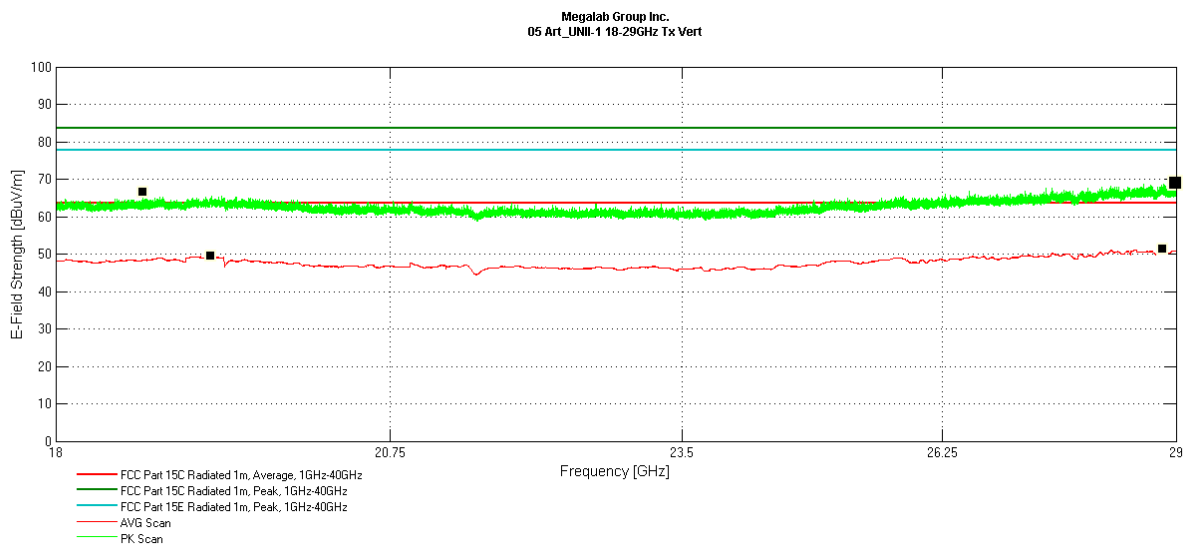
Range:	10GHz to 18GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



Project Ecobee_Artemis2_ML302480_UNII-1.S64

Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

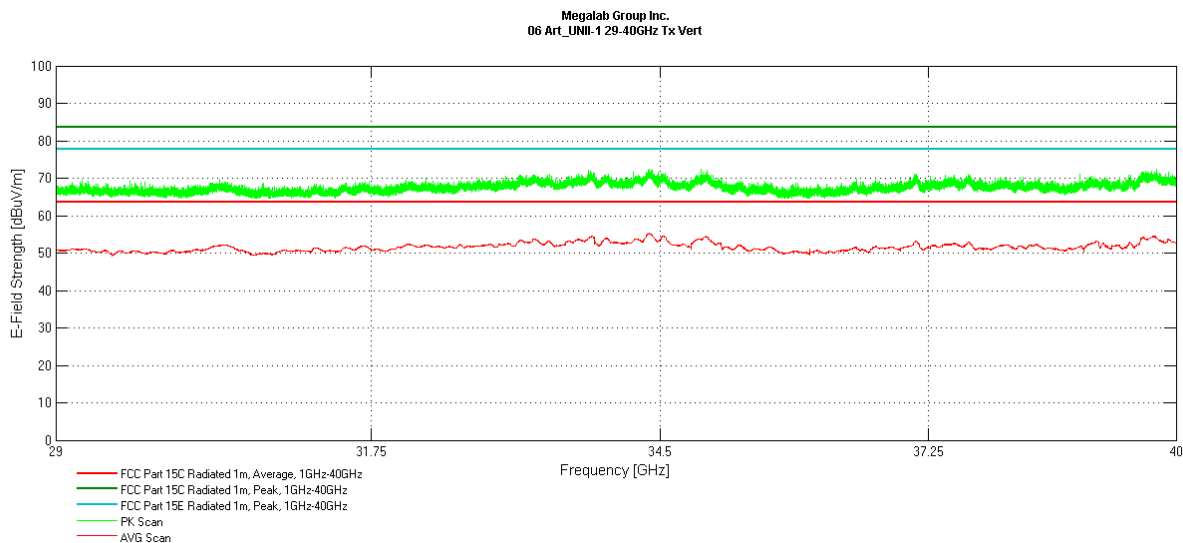
Range:	18GHz to 29GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



Project Ecobee_Artemis2_ML302480_UNII-1.S64

Remark: **Peak** and **Average** Emission Plot

Range:	29GHz to 40GHz	Tx Frequency	5180 MHz
Test Voltage:	24Vac 60Hz	Antenna Polarization	Vertical



Project: Ecobee_Artemis2_ML302480_UNII-1.S64

Remark: **Peak** and **Average** Emission Plot

Vertical Antenna Polarization							
Frequency (MHz)	Detector	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
416.20	QP	56.07	-16.81	39.26	46.00	6.74	Pass
195.75	QP	59.56	-23.23	36.33	43.50	7.17	Pass
58.60	QP	56.53	-23.78	32.75	40.00	7.25	Pass
171.40	QP	59.94	-23.76	36.18	43.50	7.32	Pass
367.25	QP	55.93	-18.31	37.62	46.00	8.38	Pass
318.15	QP	54.59	-19.57	35.02	46.00	10.98	Pass
269.25	QP	55.05	-20.71	34.34	46.00	11.66	Pass

4.4.6 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration Date	Calibration Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 1, 2024	Mar 1, 2026
EQ_EMC_132	EMI Test Receiver (v6.91.2)	Gauss Instruments	TDEMI X40	Nov 29, 2023	Nov 29, 2025
EQ_EMC_48	Loop Antenna	Com-Power	AL-130R	Apr 9, 2024	Apr 9, 2026
EQ_EMC_59	BiLog Antenna	ETS Lindgren	3142E	Apr 19, 2024	Apr 19, 2026
EQ_EMC_60	Horn Antenna	ETS Lindgren	3117	Apr 9, 2024	Apr 9, 2026
EQ_EMC_56	DRG Horn Antenna 18GHz-40GHz	A.H Systems	SAS-574	Apr 8, 2024	Apr 8, 2026
EQ_EMC_68	6dB Attenuator	Fairview Microwave	SA3NS-06	Apr 19, 2024	Apr 19, 2026
EQ_EMC_85	RF Cable <1GHz	Times Microwave	LMR-400	NCR	NCR
EQ_EMC_75	RF Cable >1GHz	MegaPhase	EMC2	NCR	NCR
EQ_EMC_123	Preamplifier 30MHz-9GHz	RF Bay	EPA-250T	Jan 23, 2024	Jan 23, 2026
EQ_EMC_42	Preamplifier 1GHz-18GHz	Com-Power	PAM-118A	Jan 17, 2024	Jan 17, 2026
EQ_EMC_43	Preamplifier 18GHz-40GHz	Com-Power	PAM-840A	Jan 31, 2024	Jan 31, 2026
EQ_EMC_108	2400 - 2500MHz Notch Filter	Micro-Tronics	BRM50702	NCR	NCR
EQ_EMC_149	Emission Software RE/CE	Gauss Instruments	EMI64k v6.31.2	NCR	NCR

4.5 Lower and Upper Band Edges

Test Date: August 25 & 26, 2025
Temperature (°C) 25.9 / 24.6
Relative Humidity (%) 36.6 / 36.6
Barometric Pressure (kPa) 97.4 / 98.0

Initials: MX

4.5.1 Limits

Any radiated emissions which fall in the restricted bands adjacent to operating band, as defined in FCC 15.205(a) and RSS-Gen Table 7, must comply with the general transmitter radiated emission limits specified in FCC 15.209(a) and RSS-Gen Section 8.9.

The general transmitter radiated emission limits is given in the table below:

Frequency Range (MHz)	Field Strength Limit		Field Strength at 3m (dBμV/m)	Detector Type / Measurement Bandwidth
	μV/m	Distance		
0.009 – 0.150	2400/F(kHz)	300	128.5 – 104.1	Quasi-Peak‡ / 200Hz
0.150 – 0.490	2400/F(kHz)	300	104.1 – 93.8	Quasi-Peak‡ / 9kHz
0.490 – 1.705	24000/F(kHz)	30	73.8 – 63.0	Quasi-Peak / 9kHz
1.705 – 30	30	30	69.5	Quasi-Peak / 9kHz
30 – 88	100	3	40.0	Quasi-Peak / 120kHz
88 – 216	150	3	43.5	Quasi-Peak / 120kHz
216 – 960	200	3	46.0	Quasi-Peak / 120kHz
960 – 1000	500	3	54.0	Quasi-Peak / 120kHz
Above 1000	500	3	54.0	Average / 1MHz
Above 1000	5000	3	74.0	Peak / 1MHz

‡The emission limits below 1GHz shown in the above table are based on measurements employing a CISPR Quasi-Peak detector except for the frequency bands 9-90 kHz and 110-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

As per ANSI C63.10 Section 4.1, if the Peak detector measurements do not exceed the Quasi-Peak limits, or Average limits where defined, then the DUT is considered to have passed the requirements.

4.5.2 Test Procedure

Tested according to ANSI C63.10 Section 12.7

The device under test was setup inside a semi-anechoic chamber with remotely controlled turntable and antenna positioner at a 3m test distance. The DUT was placed on top of a 0.8m high non-conductive table above the reference ground plane for frequencies below 1GHz and 1.5m high for frequencies above 1GHz.

For both the lower and upper radiated band edges, the radiated emission was first maximized on the center frequency of the low and high channels with the turntable azimuth rotated 0° to 360° and

antenna height varied from 1m to 4m. Once maximized, the start and stop frequency were adjusted to capture that channel's lower and upper band edges inside the restricted bands.

The antenna was positioned to receive emissions in the vertical and horizontal polarizations such that the maximum radiated emission levels were detected.

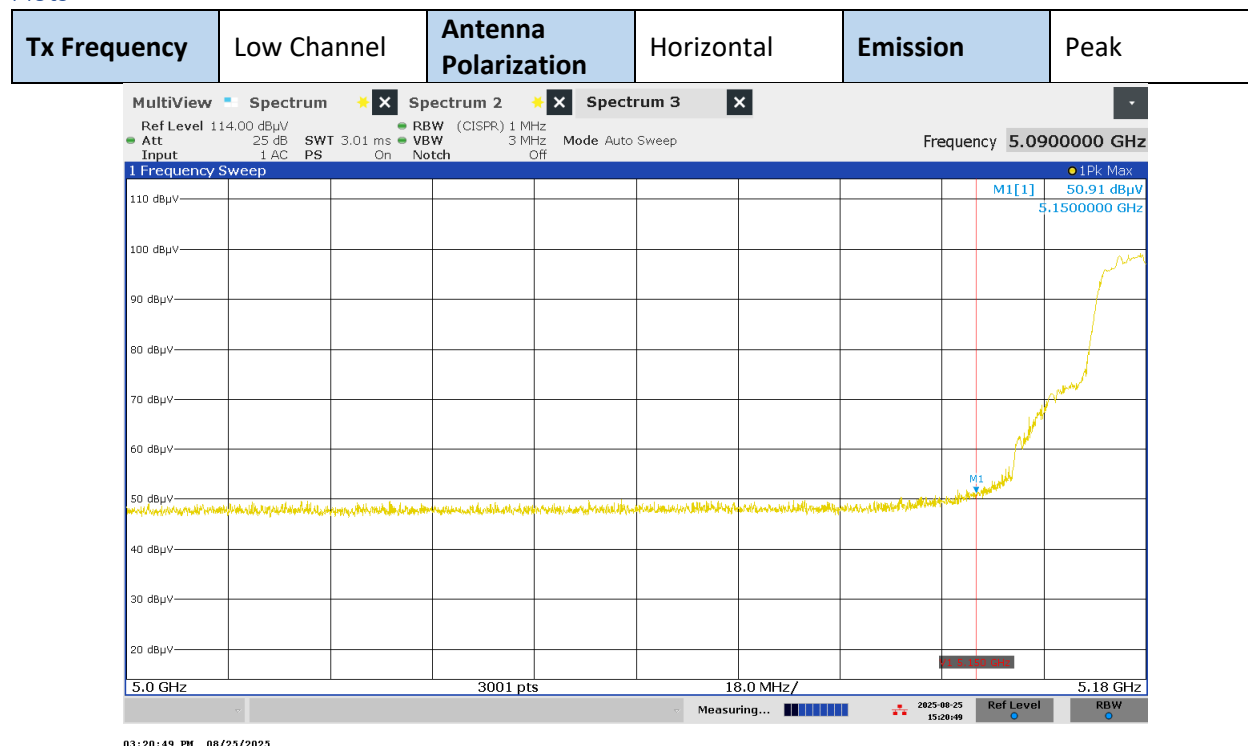
The radiated band edge measurements were made with the DUT in normal operation position.

4.5.3 Test Results – ECB601

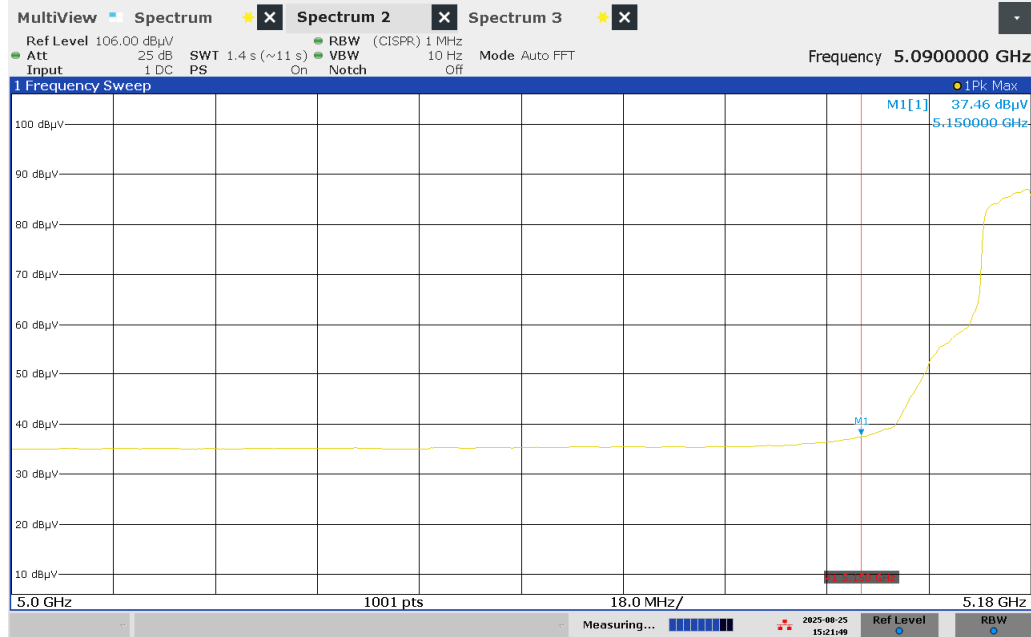
4.5.3.1. Test Results – 802.11 a

The DUT met the band edge requirements. Peak output power for low, mid and high channels were measured and the Plots Section below contains the maximum radiated emission levels captured on the spectrum analyzer at the band edges. The Final Measurements Section contains the final results with the correction factors added in.

Plots

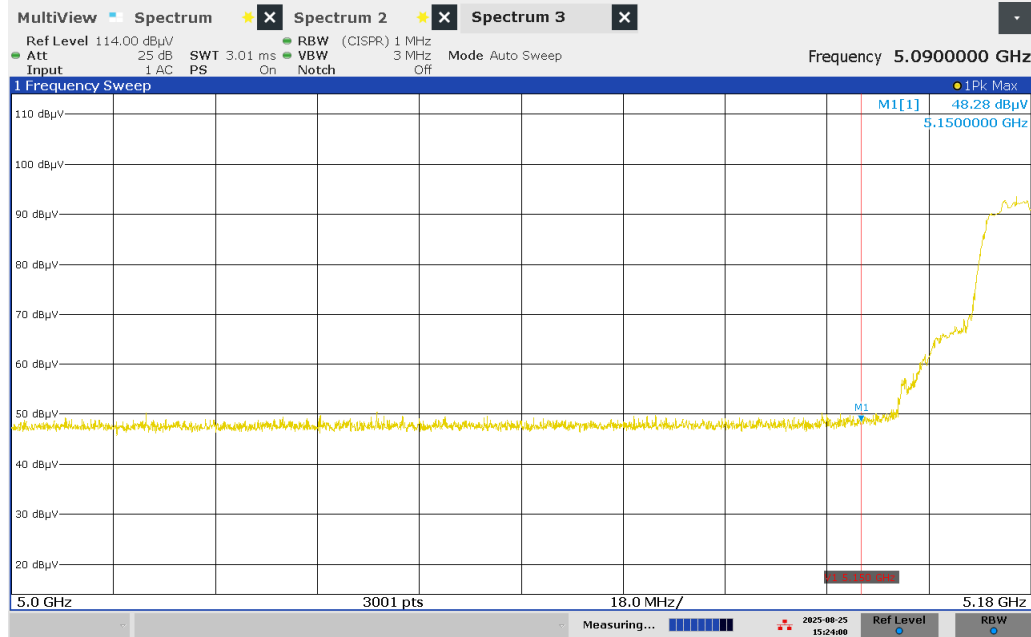


Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Average
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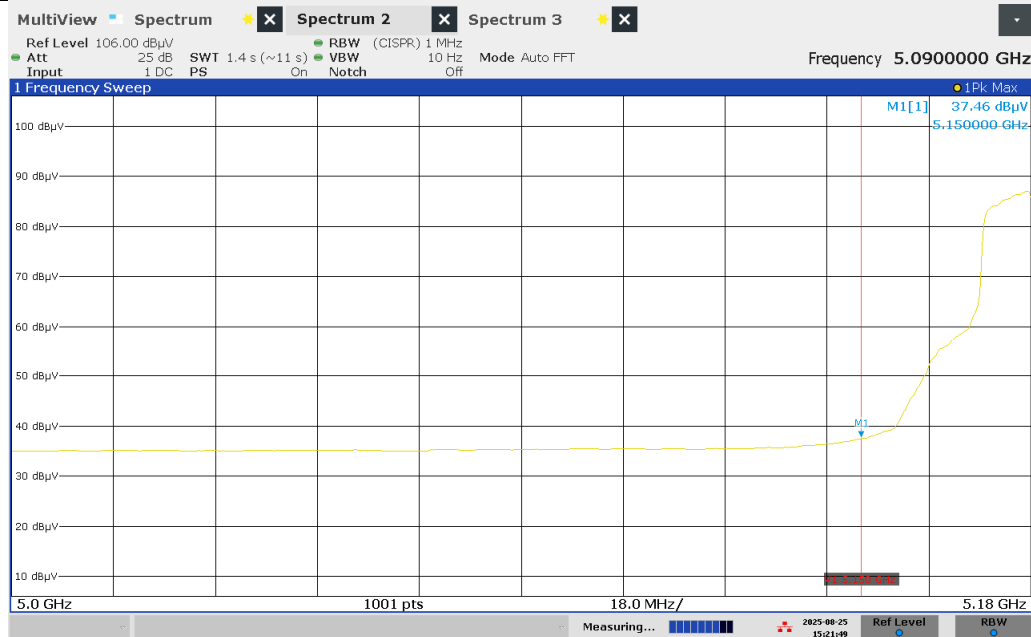
03:21:50 PM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Peak
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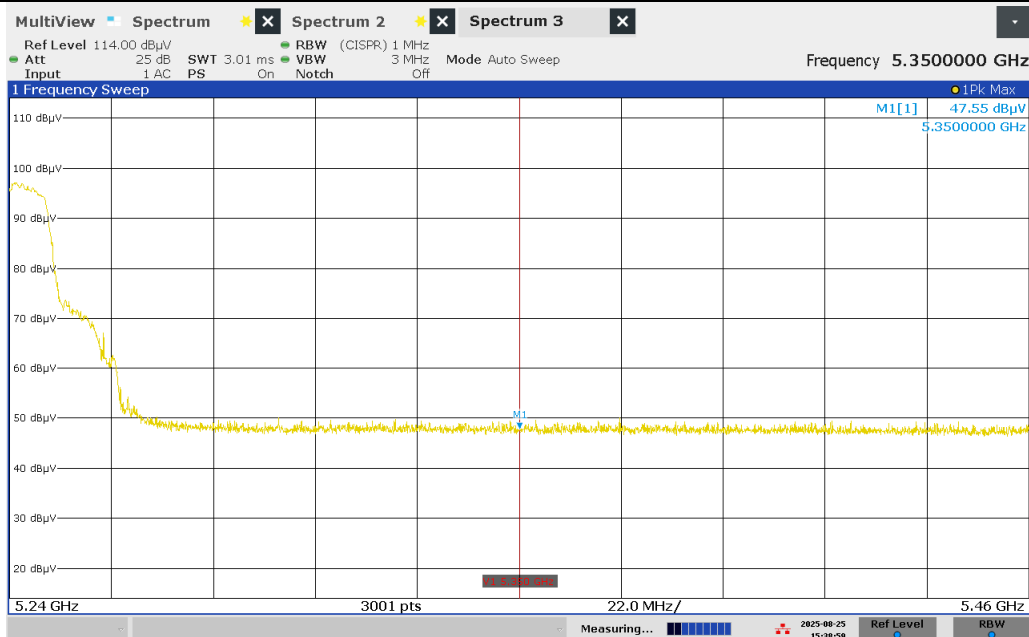
03:24:01 PM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Average
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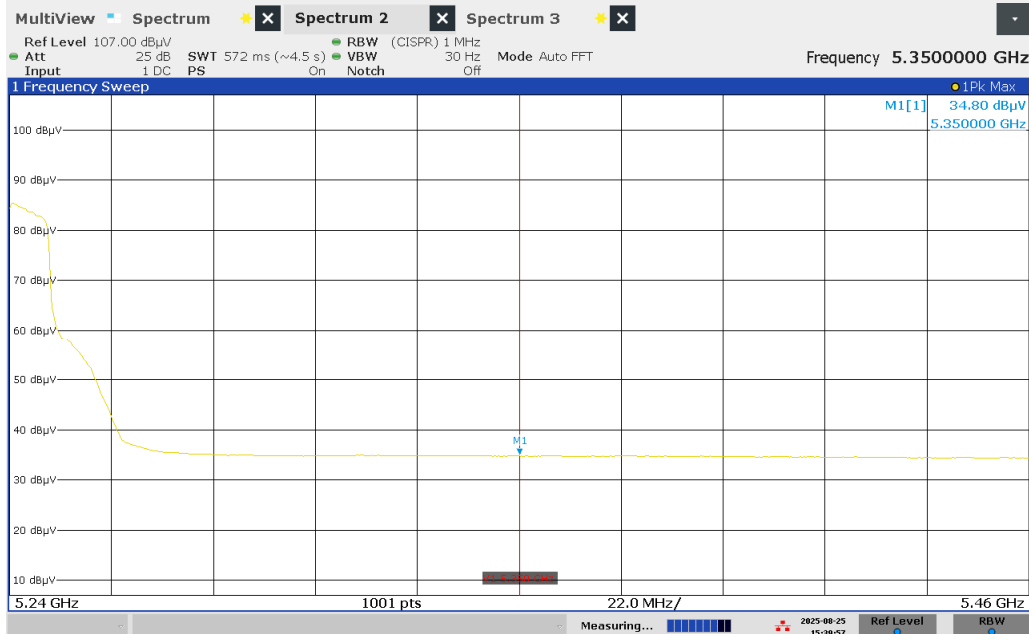
03:21:50 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Peak
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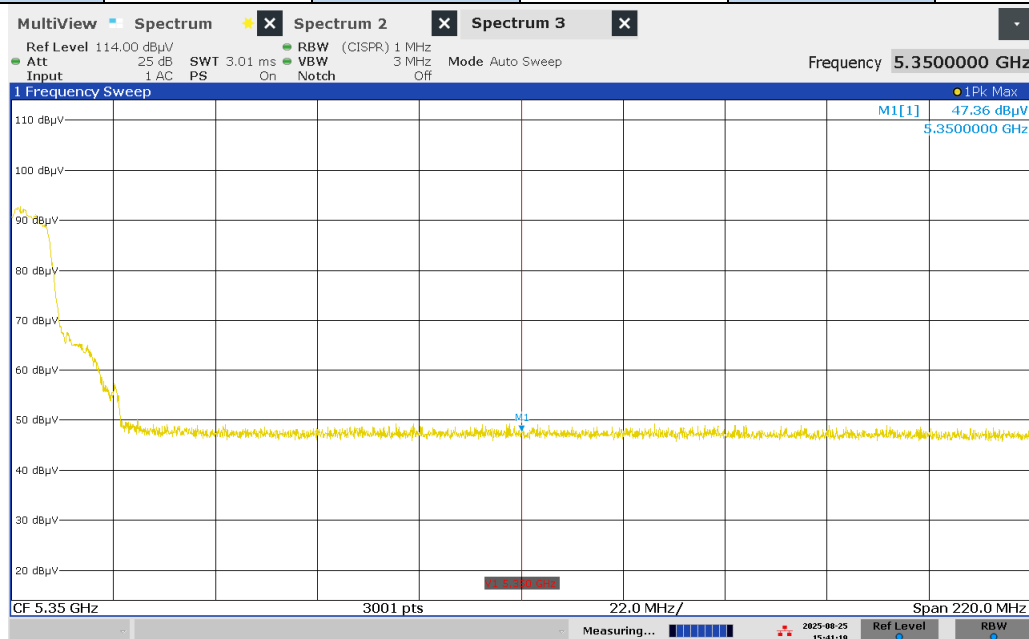
03:39:00 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Average
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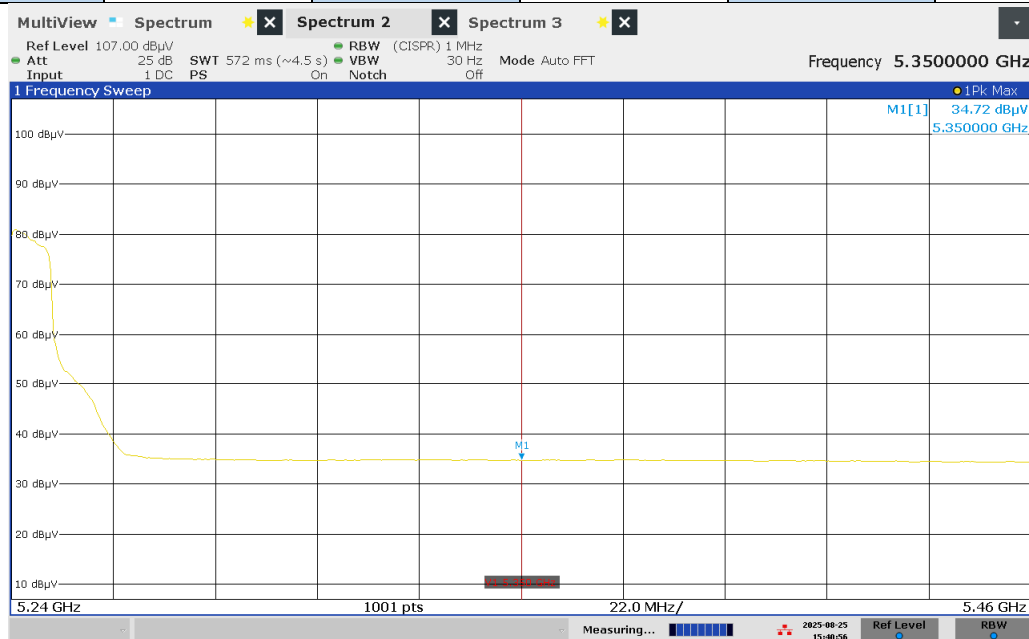
03:39:58 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Peak
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03:41:20 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Average
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03:40:57 PM 08/25/2025

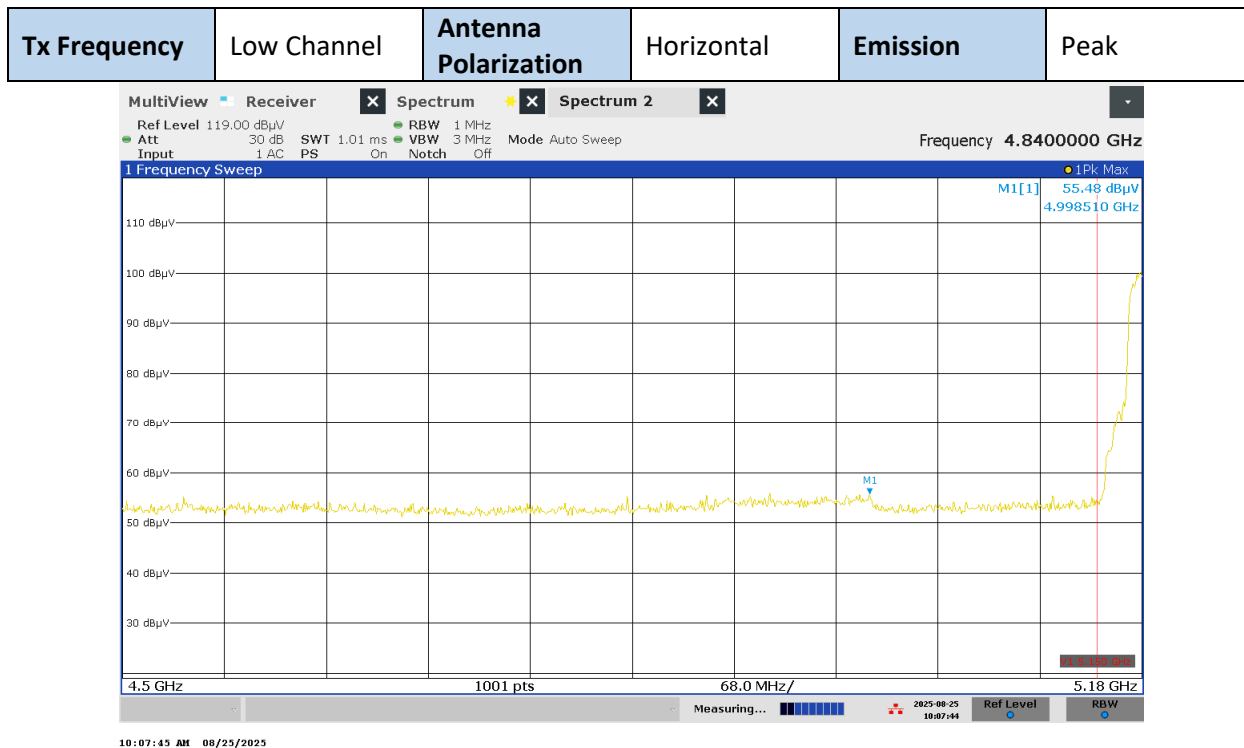
Final Measurements

Frequency (MHz)	Detector	Antenna Polarity	Reading (dBμV)	Antenna Factor (dB/m)	Cable Factor (dB)	Attenuator (dB)	Pre-Amp Gain (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
Low Channel											
20 MHz											
5180	PEAK	Horz	101.1	34.2	8.3	10.0	-41.1	112.5			Pass
5180	AVG	Horz	89.3	34.2	8.3	10.0	-41.1	100.7			Pass
5180	PEAK	Vert	94.8	34.2	8.3	10.0	-41.1	106.2			Pass
5180	AVG	Vert	83.9	34.2	8.3	10.0	-41.1	95.3			Pass
5150	PEAK	Horz	51.5	34.2	8.2	10.0	-41.1	62.9	74.0	11.1	Pass
5150	AVG	Horz	37.4	34.2	8.2	10.0	-41.1	48.8	54.0	5.2	Pass
5150	PEAK	Vert	48.3	34.2	8.2	10.0	-41.1	59.6	74.0	14.4	Pass
5150	AVG	Vert	35.7	34.2	8.2	10.0	-41.1	47.1	54.0	6.9	Pass
High Channel											
20 MHz BW											
5240	PEAK	Horz	99.51	34.2	8.2	10.0	-41.1	110.9			Pass
5240	AVG	Horz	88.52	34.2	8.2	10.0	-41.1	99.9			Pass
5240	PEAK	Vert	94.6	34.2	8.2	10.0	-41.1	106.0			Pass
5240	AVG	Vert	83.7	34.2	8.2	10.0	-41.1	95.1			Pass
5350	PEAK	Horz	47.6	34.5	8.3	10.0	-41.1	59.3	74.0	14.7	Pass
5350	AVG	Horz	34.8	34.5	8.3	10.0	-41.1	46.5	54.0	7.5	Pass
5350	PEAK	Vert	45.8	34.5	8.3	10.0	-41.1	57.5	74.0	16.5	Pass
5350	AVG	Vert	34.7	34.5	8.3	10.0	-41.1	46.5	54.0	7.5	Pass

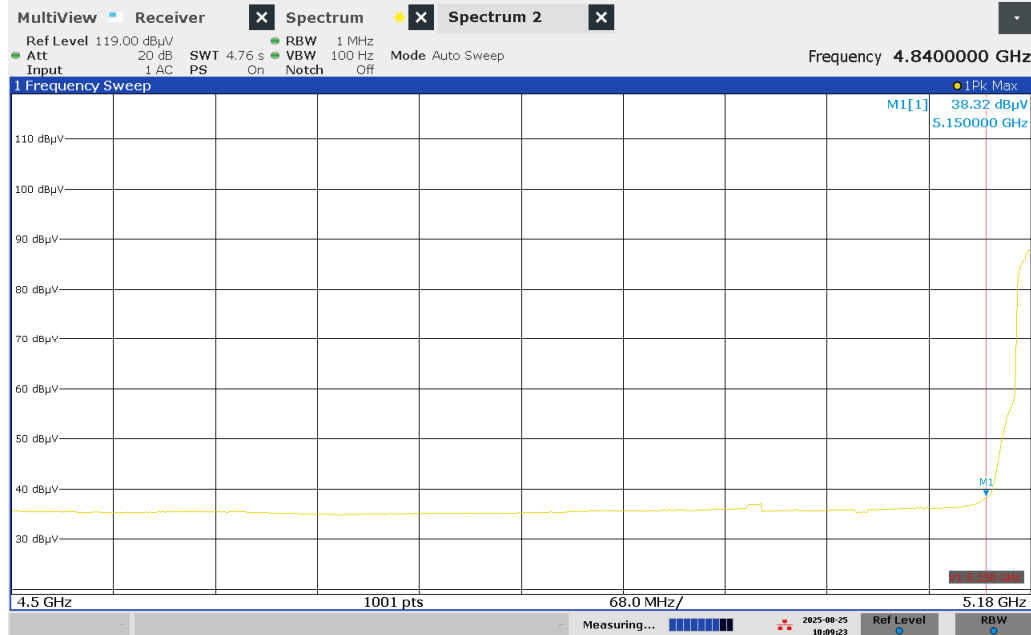
4.5.3.2. Test Results – 802.11 n/20 MHz

The DUT met the band edge requirements. Peak output power for low, mid and high channels were measured and the Plots Section below contains the maximum radiated emission levels captured on the spectrum analyzer at the band edges. The Final Measurements Section contains the final results with the correction factors added in.

Plots

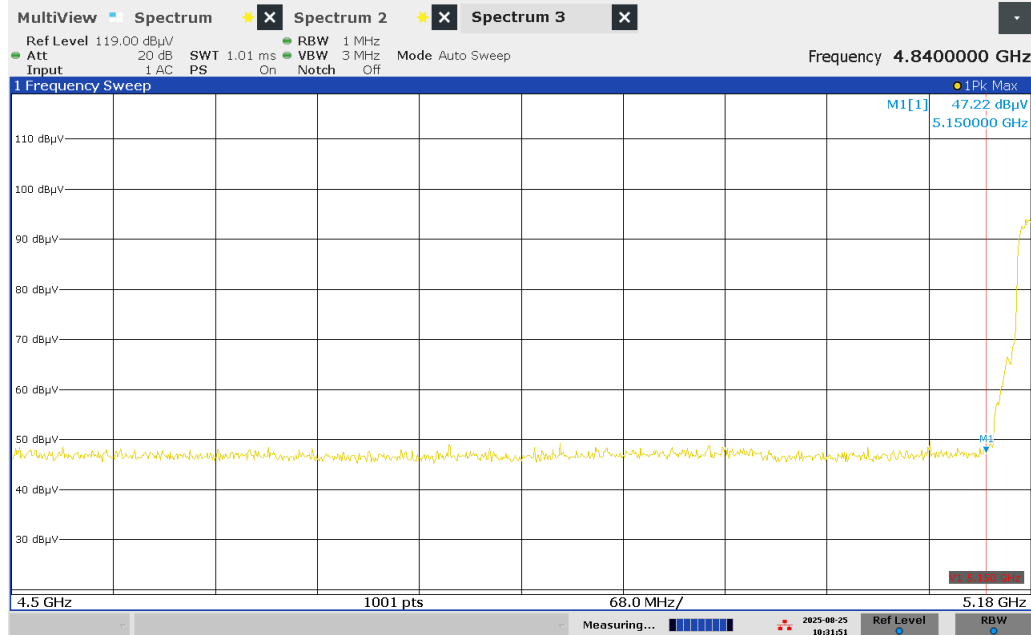


Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Average
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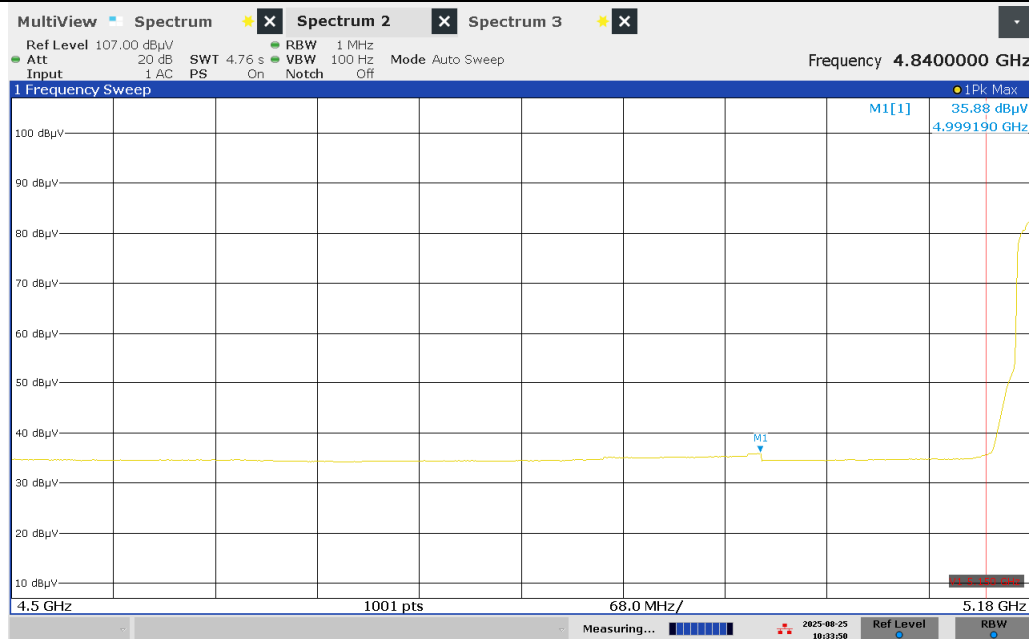
10:09:24 AM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Peak
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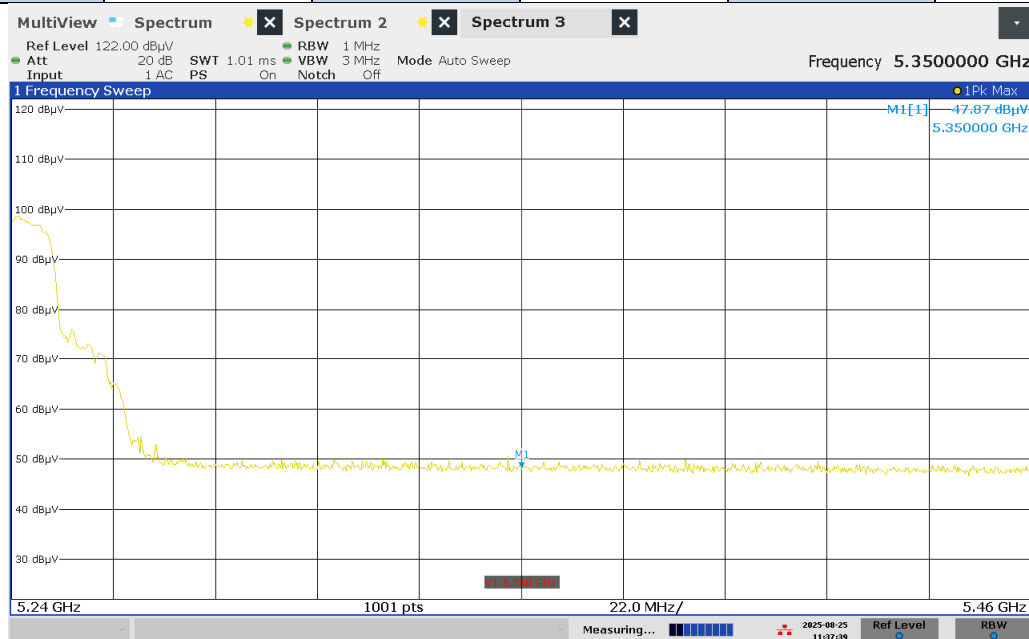
10:31:52 AM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Average
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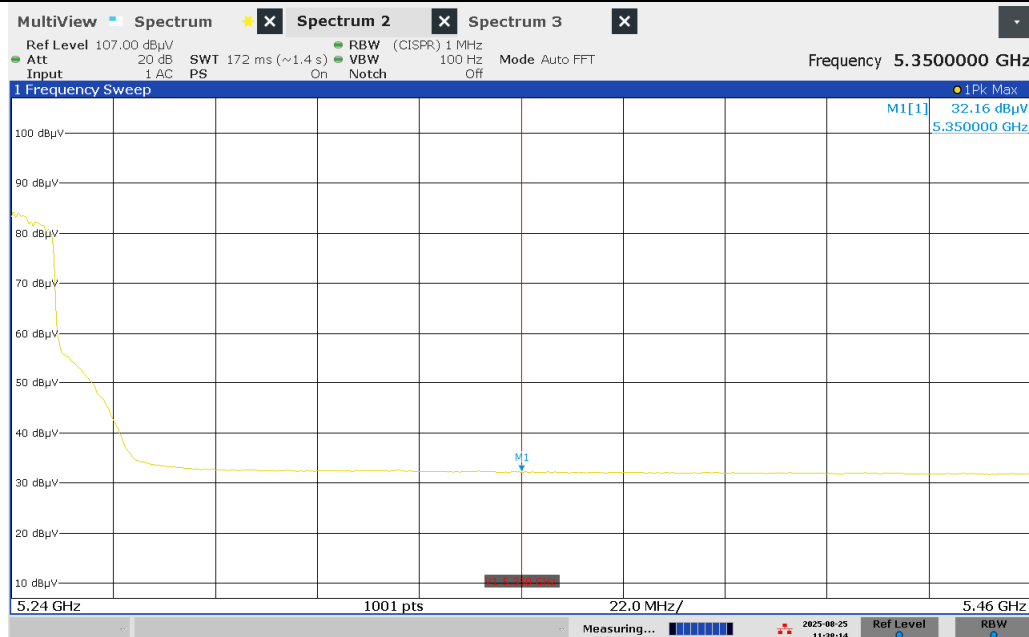
10:33:51 AM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Peak
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11:37:39 AM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Average
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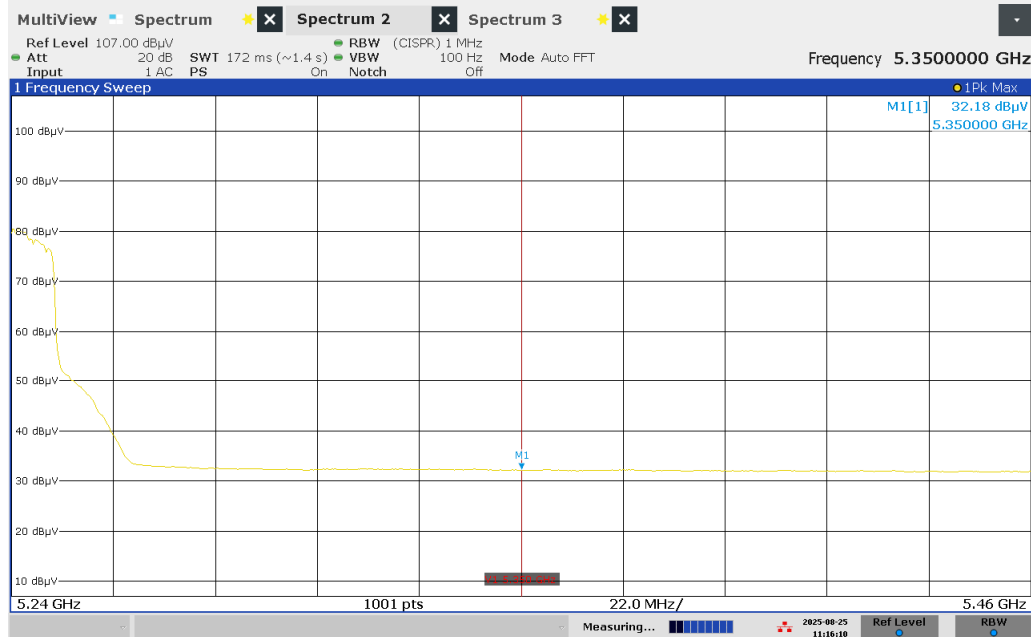
11:38:15 AM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Peak
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11:16:51 AM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Average
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11:16:11 AM 08/25/2025

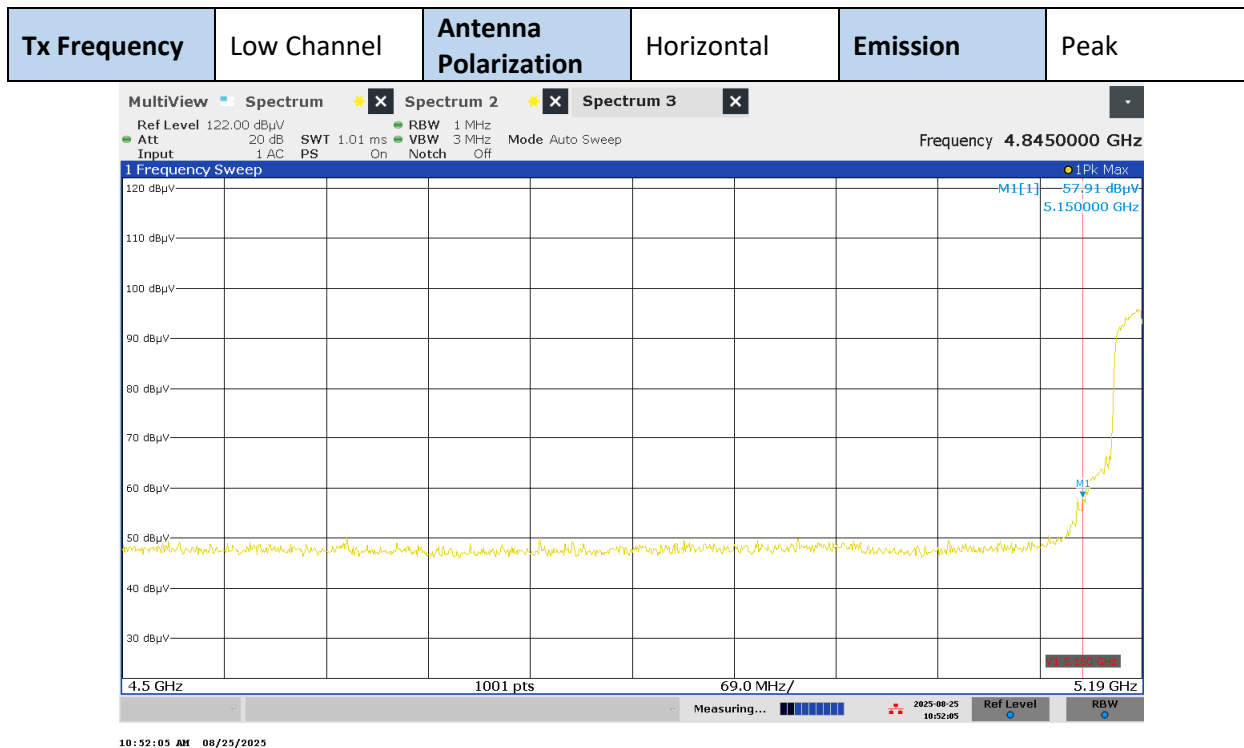
Final Measurements

Frequency (MHz)	Detector	Antenna Polarity	Reading (dBμV)	Antenna Factor (dB/m)	Cable Factor (dB)	Attenuator (dB)	Pre-Amp Gain (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
Low Channel											
20 MHz											
5180	PEAK	Horz	100.7	34.2	8.3	10.0	-41.1	112.1			Pass
5180	AVG	Horz	87.5	34.2	8.3	10.0	-41.1	99.0			Pass
5180	PEAK	Vert	95.0	34.2	8.3	10.0	-41.1	106.4			Pass
5180	AVG	Vert	81.7	34.2	8.3	10.0	-41.1	93.1			Pass
5150	PEAK	Horz	55.5	34.2	8.2	10.0	-41.1	66.8	74.0	7.2	Pass
5150	AVG	Horz	38.3	34.2	8.2	10.0	-41.1	49.7	54.0	4.3	Pass
5150	PEAK	Vert	47.2	34.2	8.2	10.0	-41.1	58.6	74.0	15.4	Pass
5150	AVG	Vert	35.9	34.2	8.2	10.0	-41.1	47.2	54.0	6.8	Pass
High Channel											
20 MHz BW											
5240	PEAK	Horz	99.47	34.2	8.2	10.0	-41.1	110.8			Pass
5240	AVG	Horz	85.83	34.2	8.2	10.0	-41.1	97.2			Pass
5240	PEAK	Vert	95.7	34.2	8.2	10.0	-41.1	107.0			Pass
5240	AVG	Vert	82.4	34.2	8.2	10.0	-41.1	93.8			Pass
5350	PEAK	Horz	47.9	34.5	8.3	10.0	-41.1	59.6	74.0	14.4	Pass
5350	AVG	Horz	32.2	34.5	8.3	10.0	-41.1	43.9	54.0	10.1	Pass
5350	PEAK	Vert	47.3	34.5	8.3	10.0	-41.1	59.0	74.0	15.0	Pass
5350	AVG	Vert	32.2	34.5	8.3	10.0	-41.1	43.9	54.0	10.1	Pass

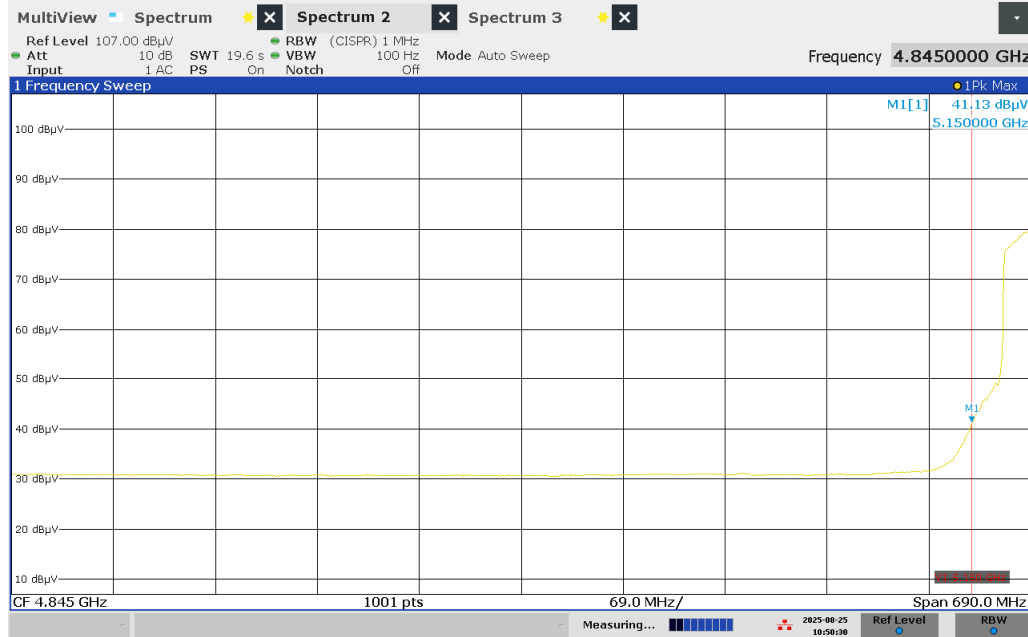
4.5.3.3. Test Results – 802.11 n/40 MHz

The DUT met the band edge requirements. Peak output power for low, mid and high channels were measured and the Plots Section below contains the maximum radiated emission levels captured on the spectrum analyzer at the band edges. The Final Measurements Section contains the final results with the correction factors added in.

Plots

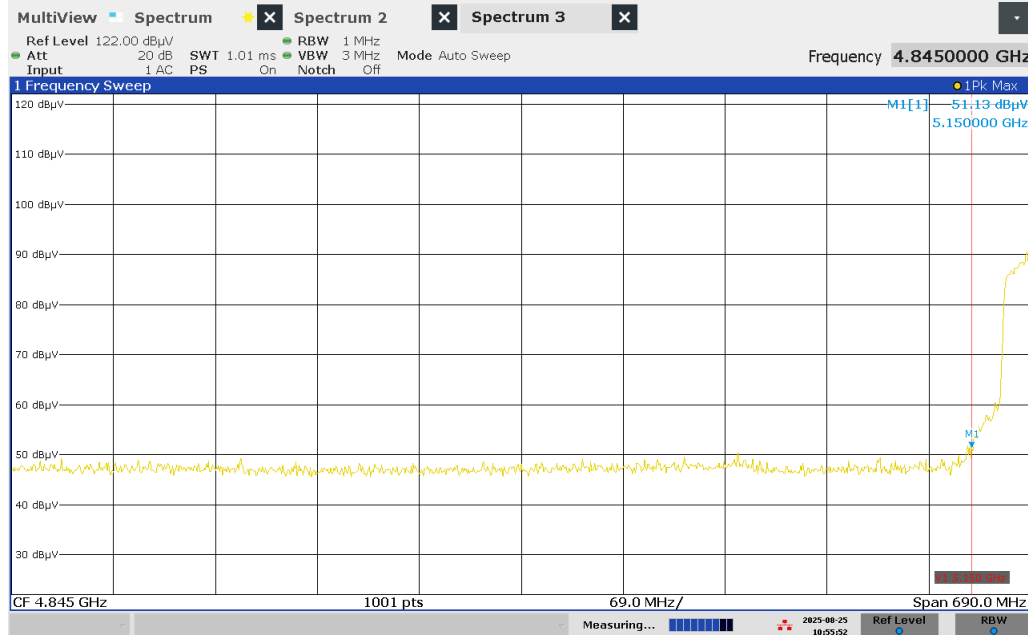


Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Average
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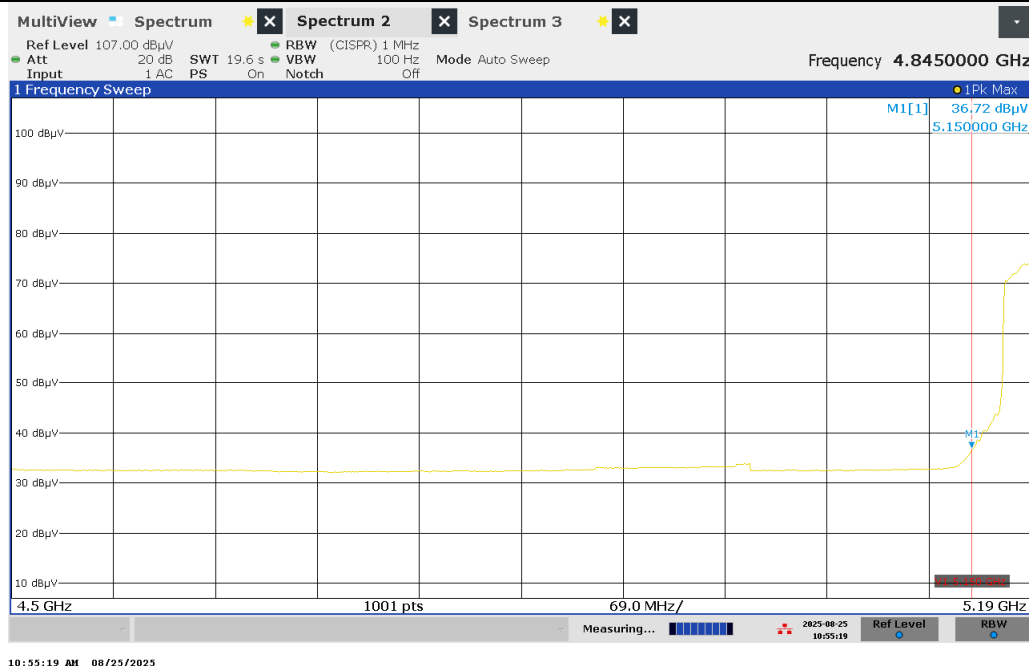
10:50:31 AM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Peak
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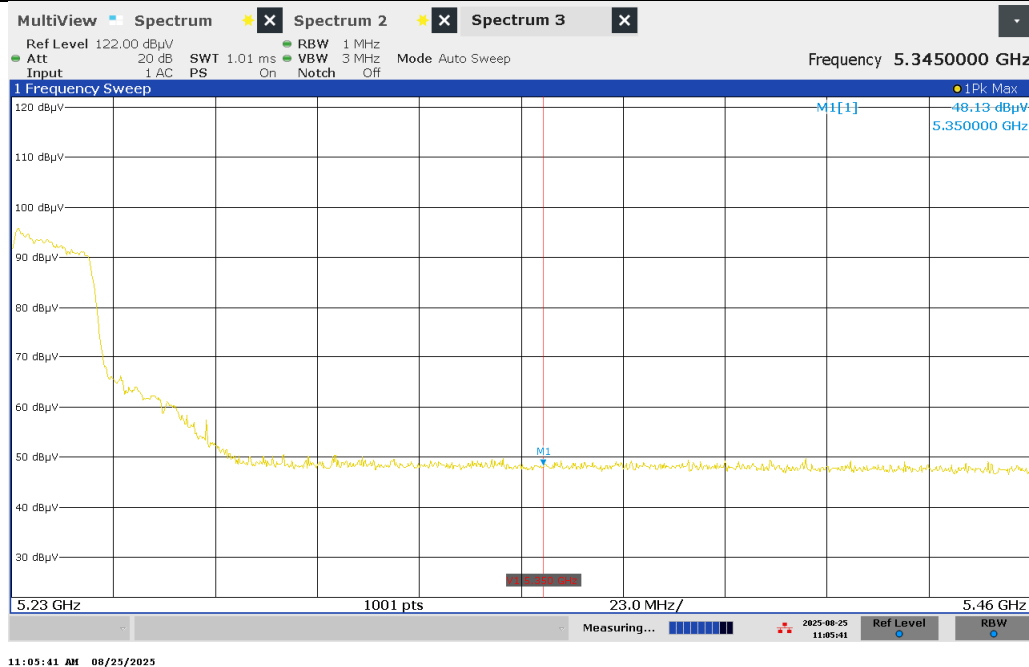


10:55:52 AM 08/25/2025

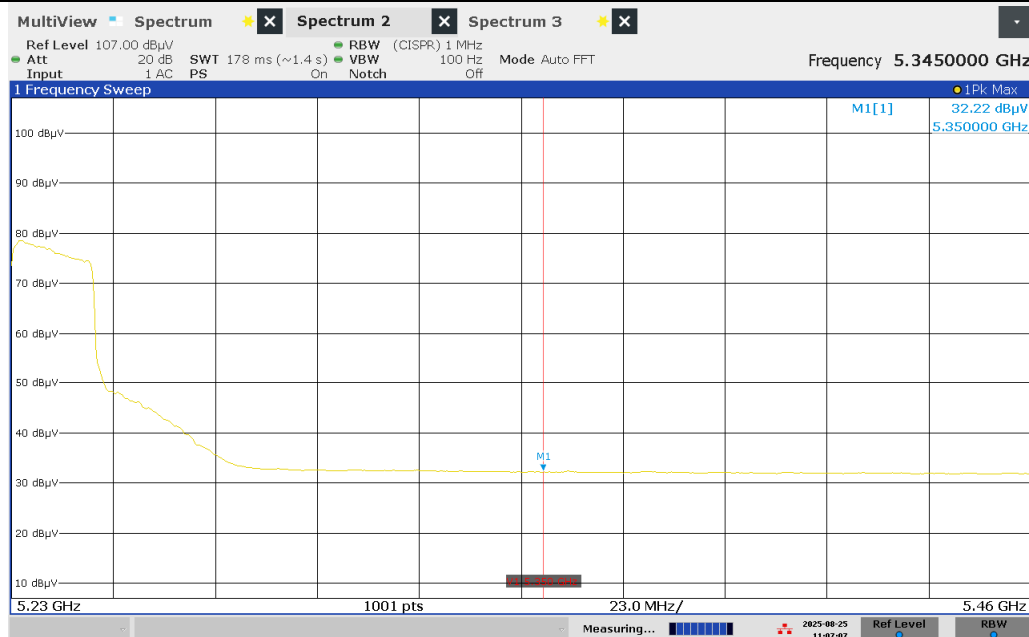
Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Average
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Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Peak
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Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Average
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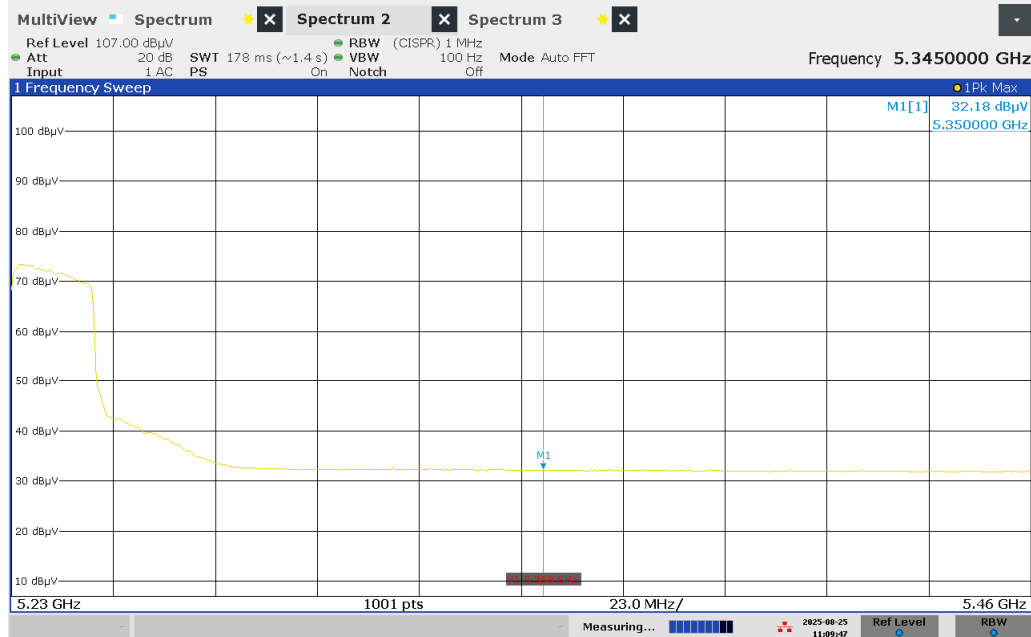
11:07:07 AM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Peak
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11:10:32 AM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Average
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11:09:47 AM 08/23/2025

Final Measurements

Frequency (MHz)	Detector	Antenna Polarity	Reading (dBμV)	Antenna Factor (dB/m)	Cable Factor (dB)	Attenuator (dB)	Pre-Amp Gain (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
Low Channel											
40 MHz											
5190	PEAK	Horz	96.4	34.2	8.3	10.0	-41.1	107.8			Pass
5190	AVG	Horz	81.4	34.2	8.3	10.0	-41.1	92.8			Pass
5190	PEAK	Vert	90.4	34.2	8.3	10.0	-41.1	101.8			Pass
5190	AVG	Vert	75.6	34.2	8.3	10.0	-41.1	87.0			Pass
5150	PEAK	Horz	53.1	34.2	8.2	10.0	-41.1	64.4	74.0	9.6	Pass
5150	AVG	Horz	41.1	34.2	8.2	10.0	-41.1	52.5	54.0	1.5	Pass
5150	PEAK	Vert	51.1	34.2	8.2	10.0	-41.1	62.5	74.0	11.5	Pass
5150	AVG	Vert	36.7	34.2	8.2	10.0	-41.1	48.1	54.0	5.9	Pass
High Channel											
40 MHz BW											
5230	PEAK	Horz	95.8	34.2	8.2	10.0	-41.1	107.1			Pass
5230	AVG	Horz	80.2	34.2	8.2	10.0	-41.1	91.5			Pass
5230	PEAK	Vert	90.4	34.2	8.2	10.0	-41.1	101.7			Pass
5230	AVG	Vert	75.4	34.2	8.2	10.0	-41.1	86.7			Pass
5350	PEAK	Horz	48.1	34.5	8.3	10.0	-41.1	59.9	74.0	14.1	Pass
5350	AVG	Horz	32.2	34.5	8.3	10.0	-41.1	44.0	54.0	10.0	Pass
5350	PEAK	Vert	49.1	34.5	8.3	10.0	-41.1	60.8	74.0	13.2	Pass
5350	AVG	Vert	32.2	34.5	8.3	10.0	-41.1	43.9	54.0	10.1	Pass

4.5.3.4. Test Results – 802.11 ac/20 MHz

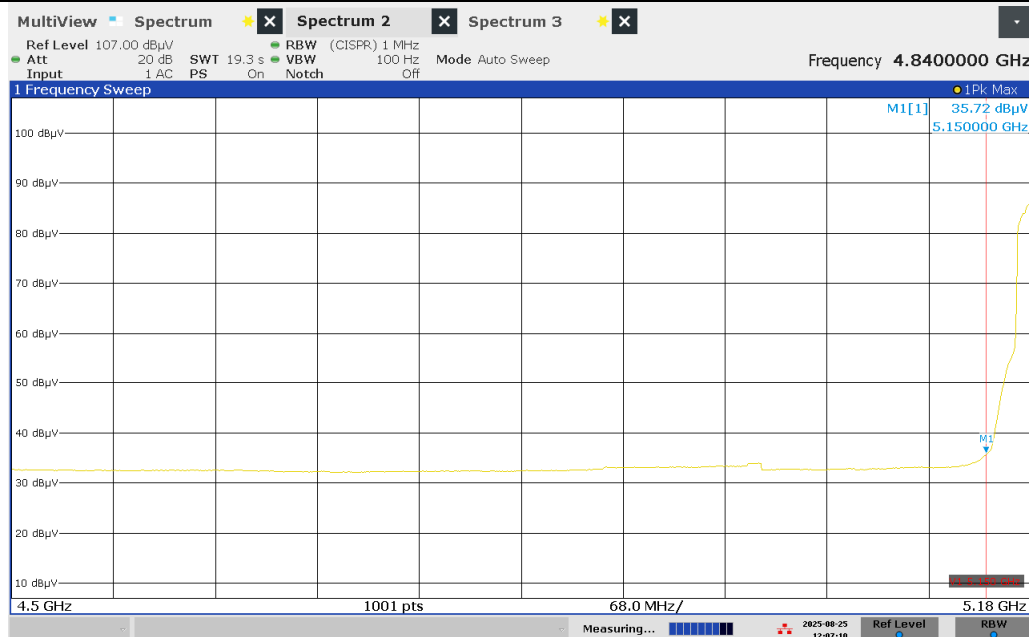
The DUT met the band edge requirements. Peak output power for low, mid and high channels were measured and the Plots Section below contains the maximum radiated emission levels captured on the spectrum analyzer at the band edges. The Final Measurements Section contains the final results with the correction factors added in.

Plots

Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Peak
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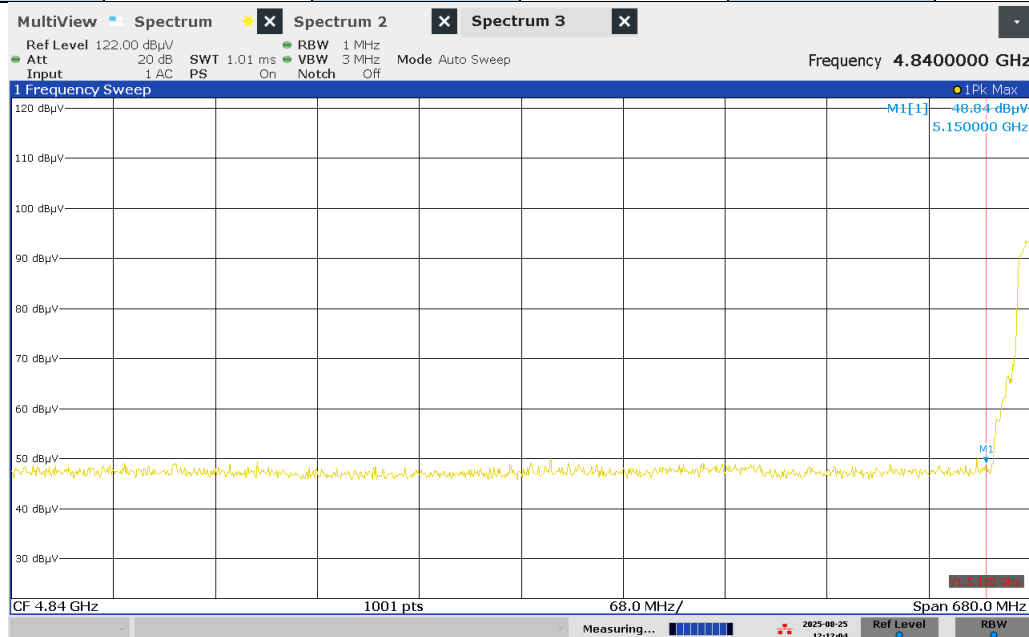


Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Average
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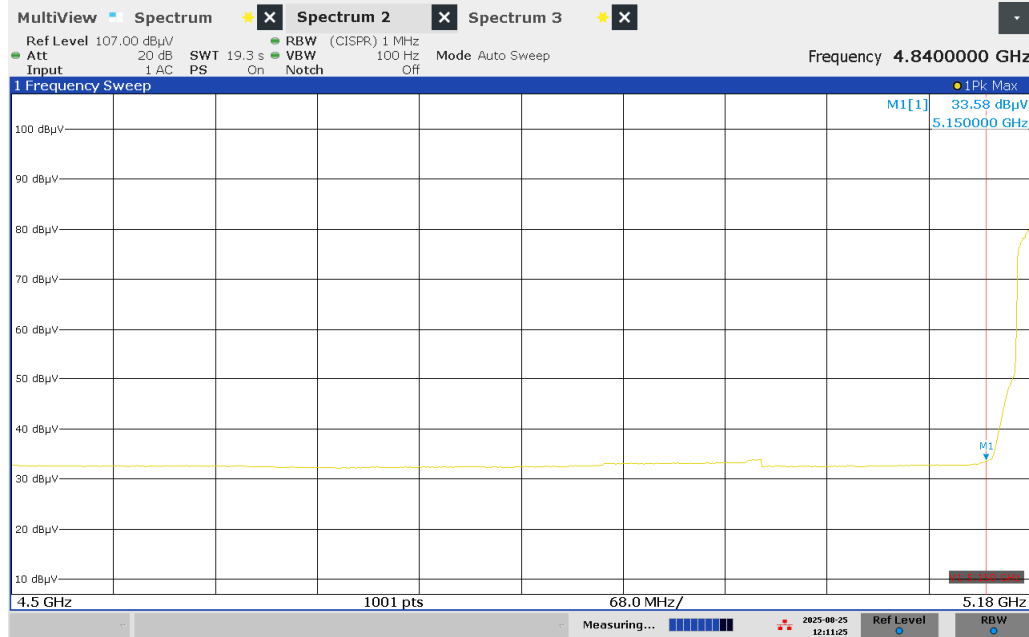
12:07:11 PM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Peak
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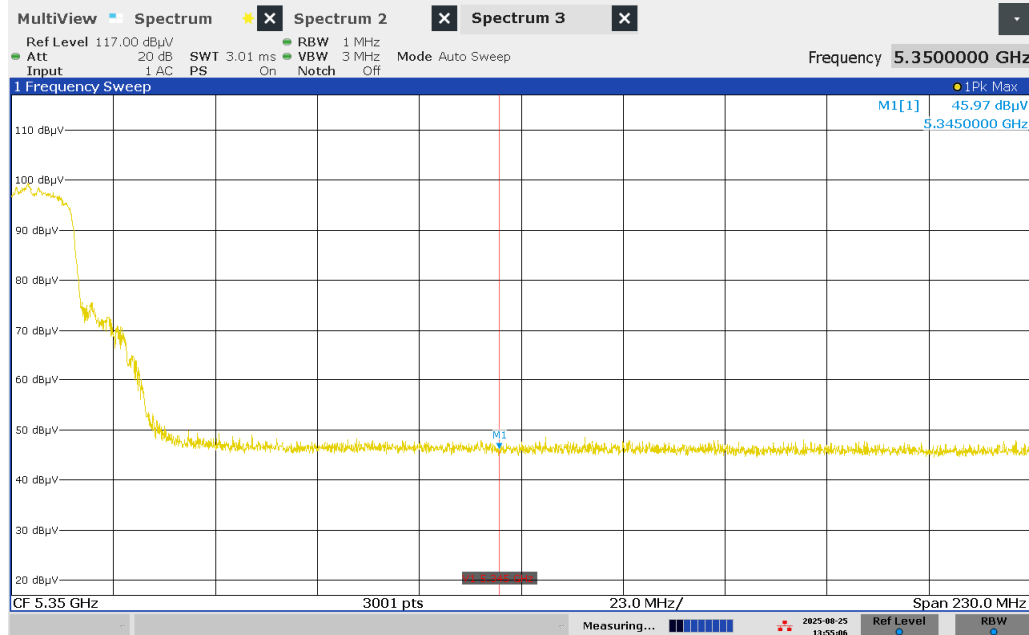
12:12:05 PM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Average
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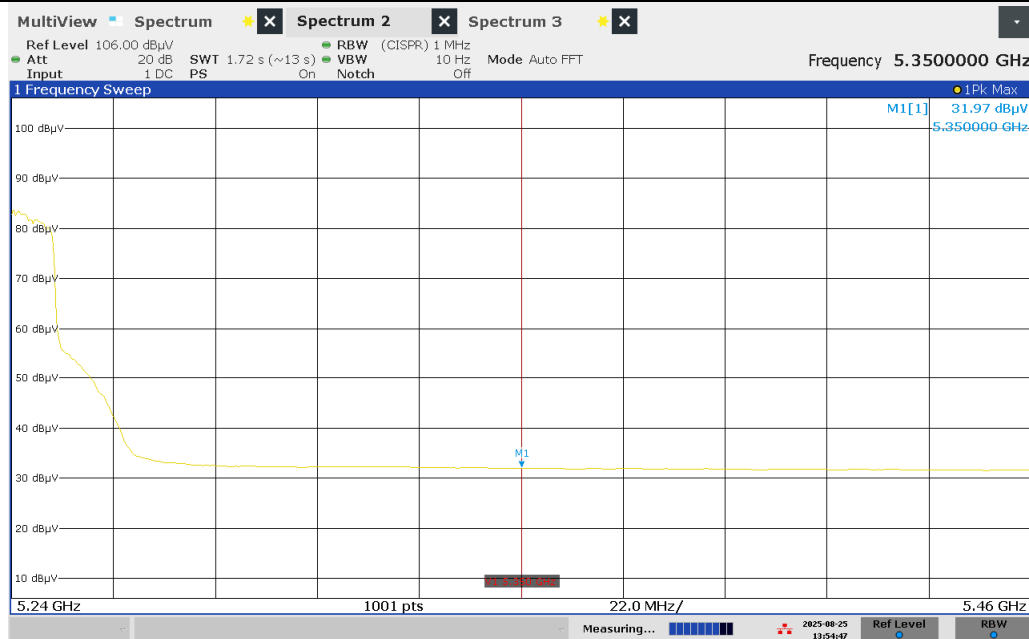
12:11:26 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Peak
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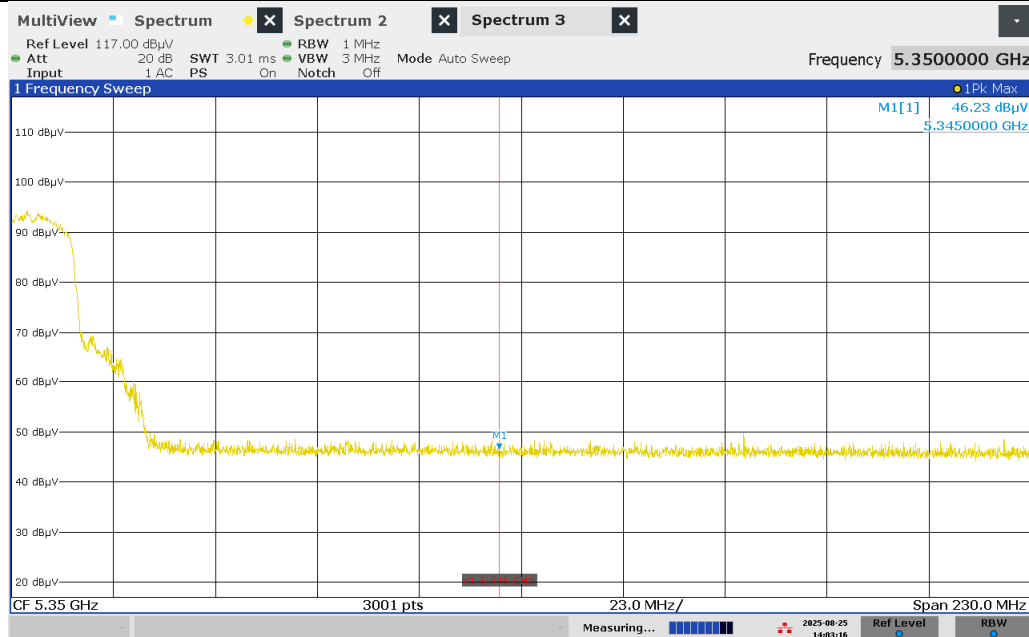
01:55:06 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Average
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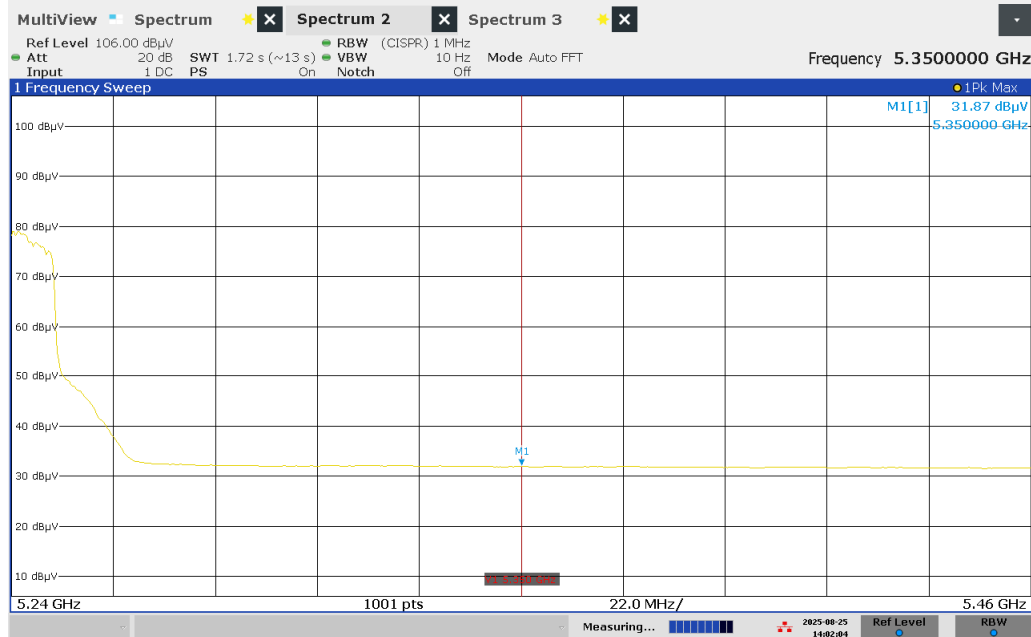
01:54:47 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Peak
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02:03:17 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Average
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02:02:05 PM 08/25/2025

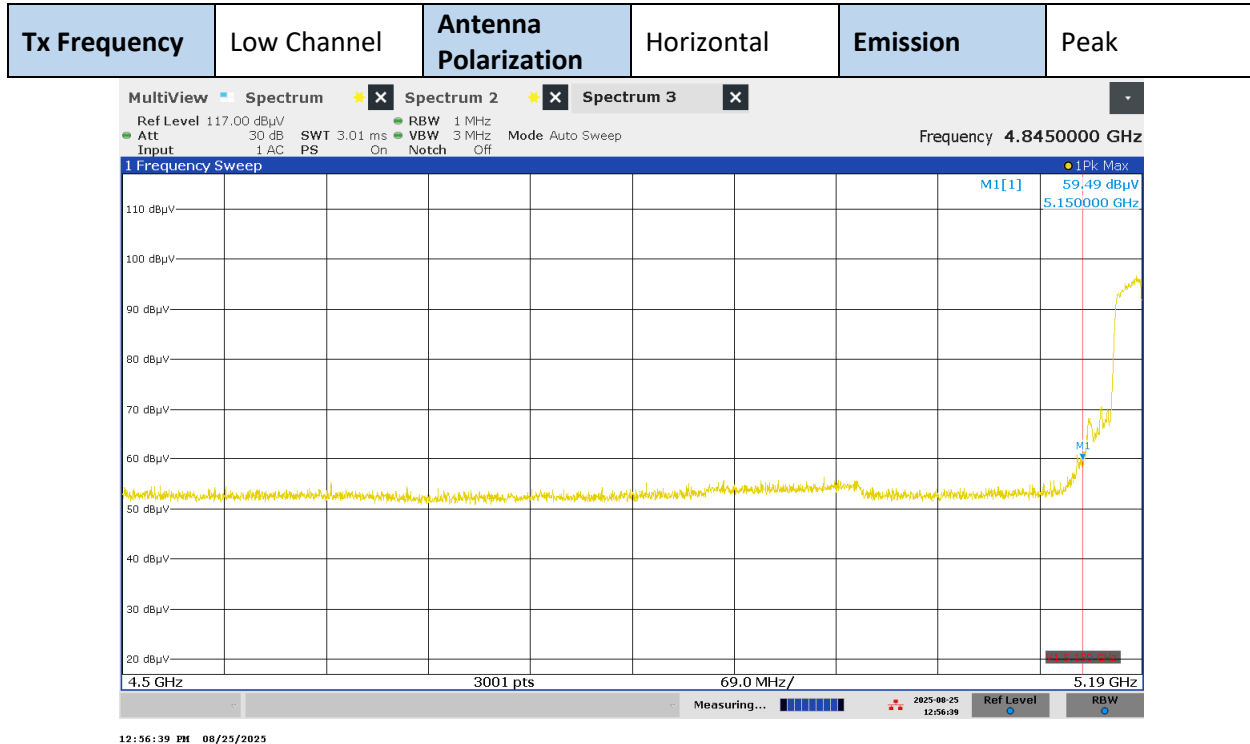
Final Measurements

Frequency (MHz)	Detector	Antenna Polarity	Reading (dBμV)	Antenna Factor (dB/m)	Cable Factor (dB)	Attenuator (dB)	Pre-Amp Gain (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
Low Channel											
20 MHz											
5180	PEAK	Horz	101.1	34.2	8.3	10.0	-41.1	112.5			Pass
5180	AVG	Horz	87.6	34.2	8.3	10.0	-41.1	99.0			Pass
5180	PEAK	Vert	95.3	34.2	8.3	10.0	-41.1	106.7			Pass
5180	AVG	Vert	81.6	34.2	8.3	10.0	-41.1	93.0			Pass
5150	PEAK	Horz	51.0	34.2	8.2	10.0	-41.1	62.4	74.0	11.6	Pass
5150	AVG	Horz	35.7	34.2	8.2	10.0	-41.1	47.1	54.0	6.9	Pass
5150	PEAK	Vert	47.9	34.2	8.2	10.0	-41.1	59.2	74.0	14.8	Pass
5150	AVG	Vert	33.6	34.2	8.2	10.0	-41.1	44.9	54.0	9.1	Pass
High Channel											
20 MHz BW											
5240	PEAK	Horz	99.46	34.2	8.2	10.0	-41.1	110.8			Pass
5240	AVG	Horz	85.73	34.2	8.2	10.0	-41.1	97.1			Pass
5240	PEAK	Vert	94.6	34.2	8.2	10.0	-41.1	106.0			Pass
5240	AVG	Vert	81.2	34.2	8.2	10.0	-41.1	92.6			Pass
5350	PEAK	Horz	46.0	34.5	8.3	10.0	-41.1	57.7	74.0	16.3	Pass
5350	AVG	Horz	32.0	34.5	8.3	10.0	-41.1	43.7	54.0	10.3	Pass
5350	PEAK	Vert	45.6	34.5	8.3	10.0	-41.1	57.4	74.0	16.6	Pass
5350	AVG	Vert	31.9	34.5	8.3	10.0	-41.1	43.6	54.0	10.4	Pass

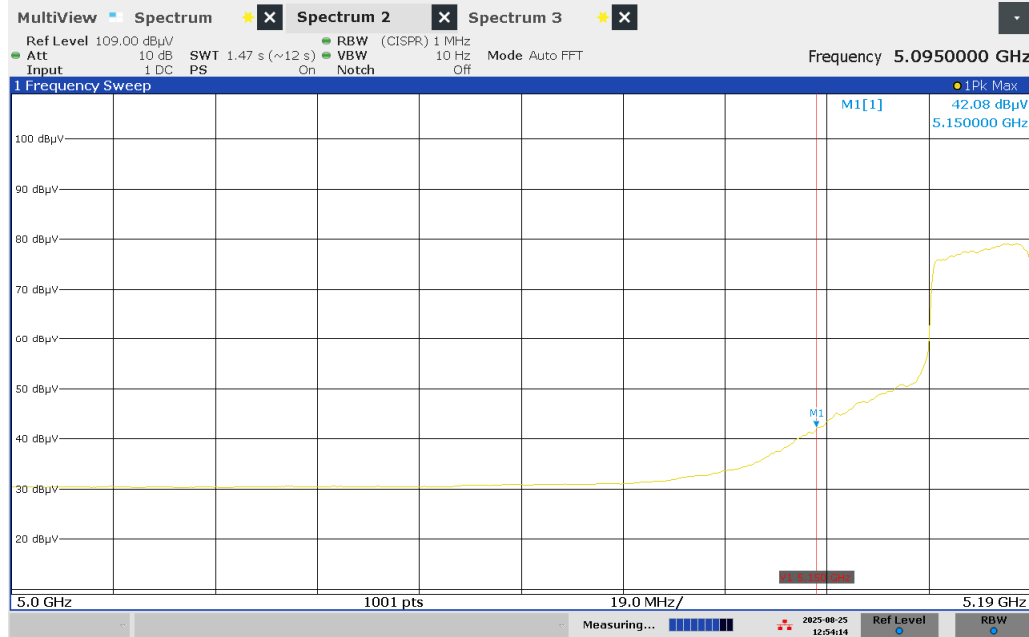
4.5.3.5. Test Results – 802.11 ac/40 MHz

The DUT met the band edge requirements. Peak output power for low, mid and high channels were measured and the Plots Section below contains the maximum radiated emission levels captured on the spectrum analyzer at the band edges. The Final Measurements Section contains the final results with the correction factors added in.

Plots

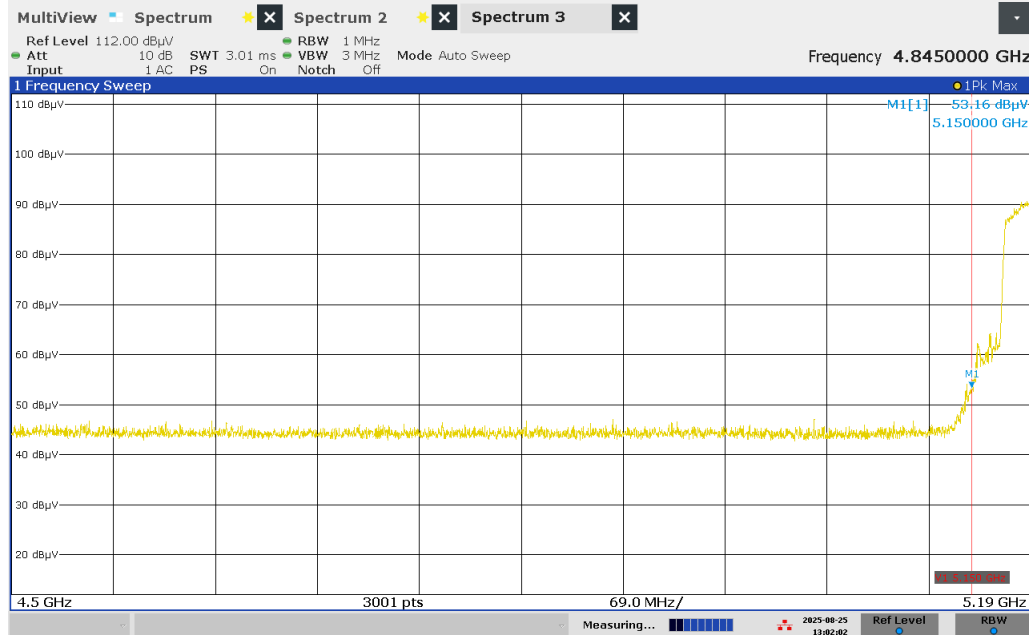


Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Average
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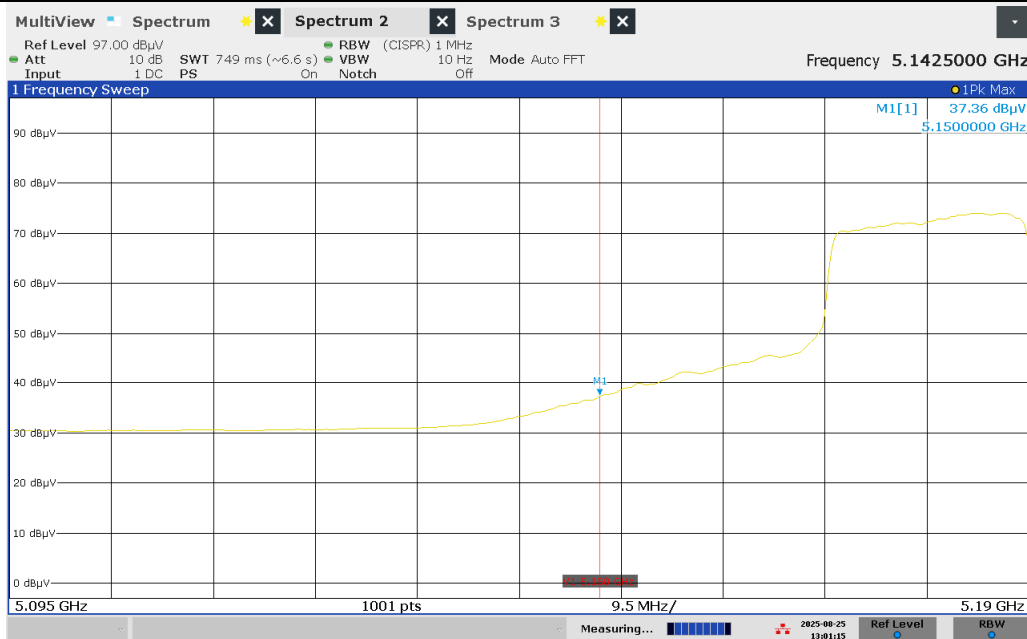
12:54:15 PM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Peak
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01:02:03 PM 08/25/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Average
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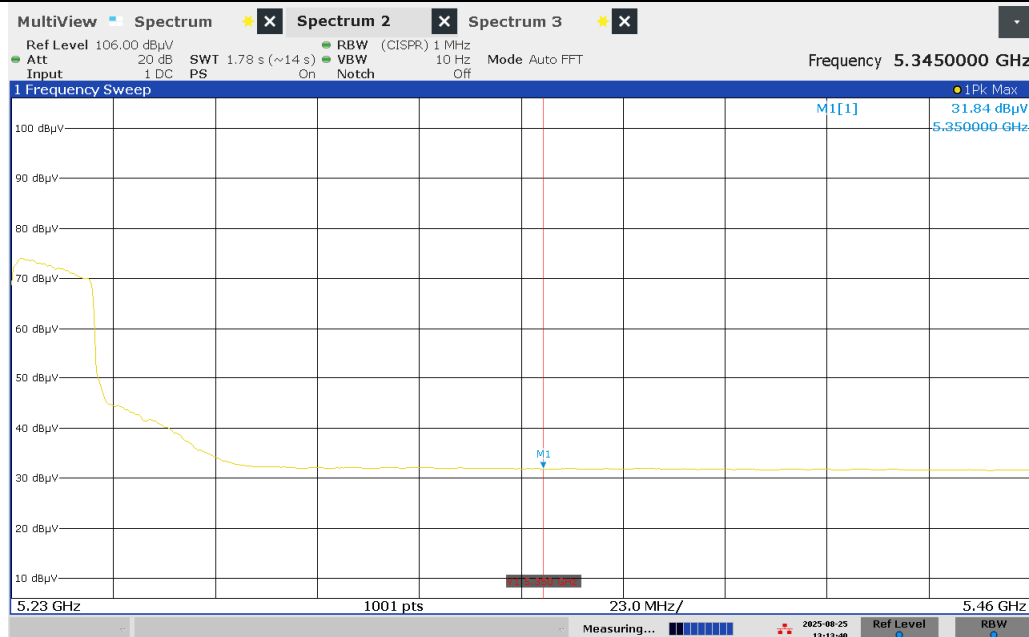
01:01:16 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Peak
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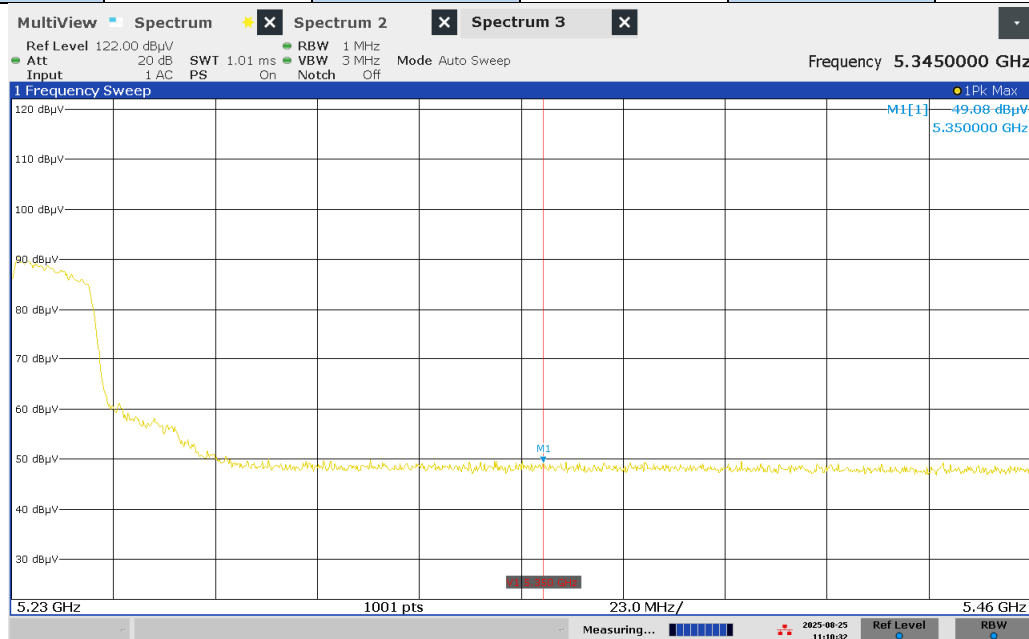
01:10:07 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Average
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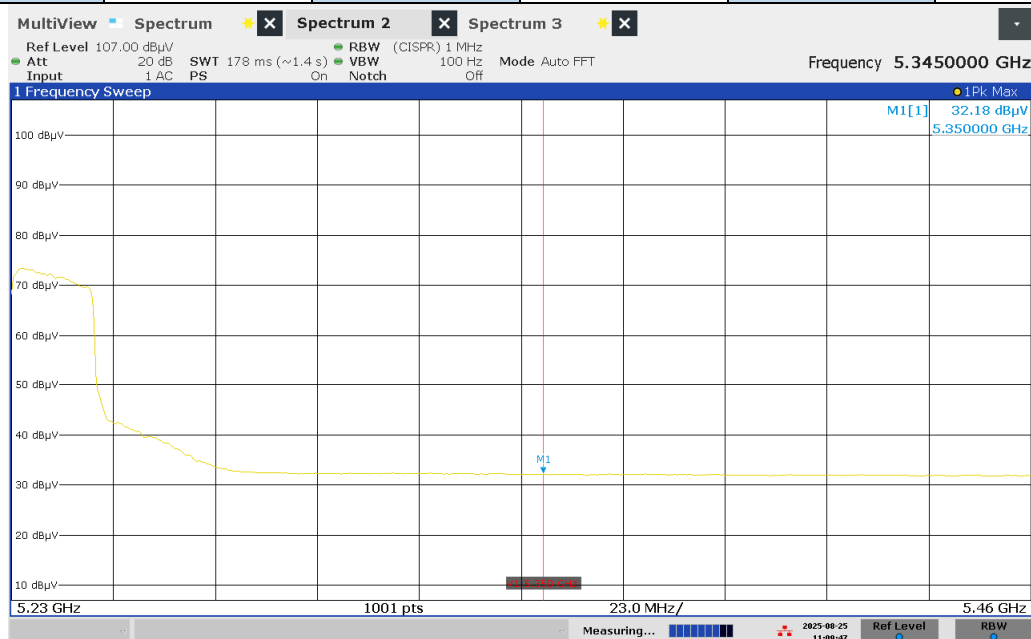
01:13:40 PM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Peak
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11:10:32 AM 08/25/2025

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Average
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11:09:47 AM 08/23/2025

Final Measurements

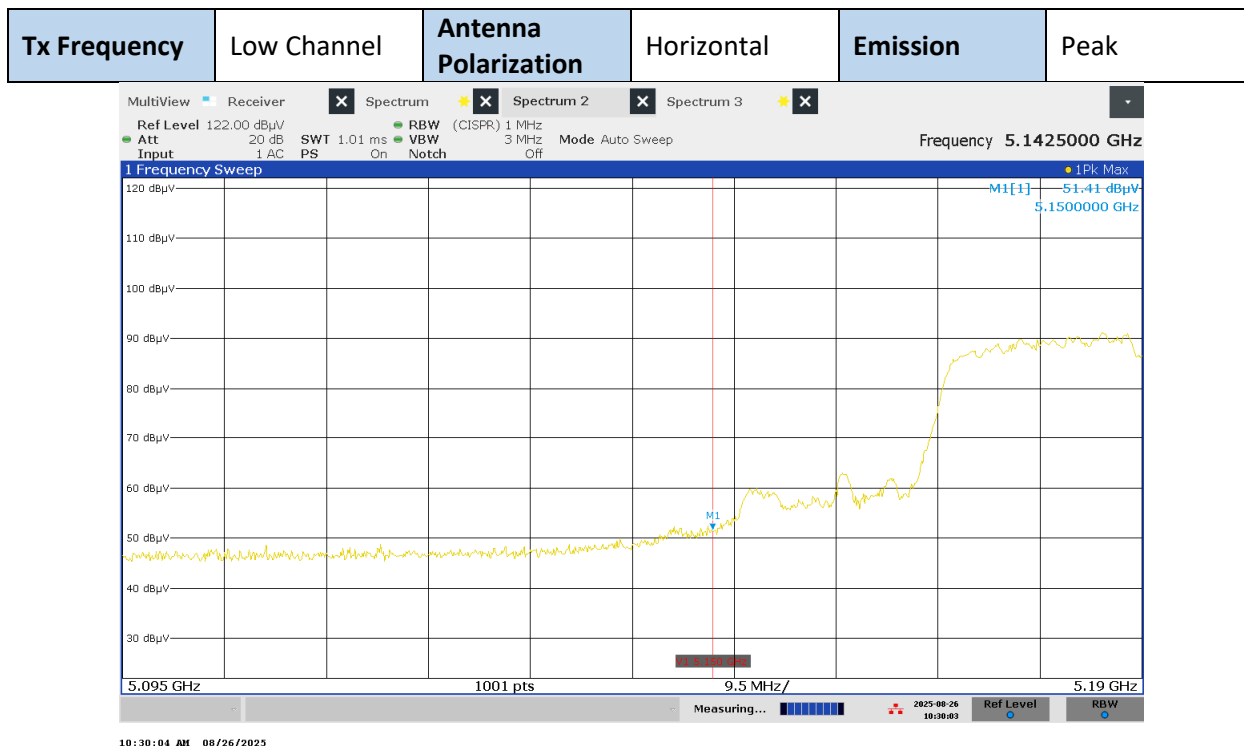
Frequency (MHz)	Detector	Antenna Polarity	Reading (dBμV)	Antenna Factor (dB/m)	Cable Factor (dB)	Attenuator (dB)	Pre-Amp Gain (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
Low Channel											
40 MHz											
5190	PEAK	Horz	97.3	34.2	8.3	10.0	-41.1	108.7			Pass
5190	AVG	Horz	82.4	34.2	8.3	10.0	-41.1	93.8			Pass
5190	PEAK	Vert	91.2	34.2	8.3	10.0	-41.1	102.6			Pass
5190	AVG	Vert	76.8	34.2	8.3	10.0	-41.1	88.2			Pass
5150	PEAK	Horz	54.8	34.2	8.2	10.0	-41.1	66.1	68.3	2.2	Pass
5150	AVG	Horz	42.1	34.2	8.2	10.0	-41.1	53.4	54.0	0.6	Pass
5150	PEAK	Vert	53.2	34.2	8.2	10.0	-41.1	64.5	74.0	9.5	Pass
5150	AVG	Vert	37.3	34.2	8.2	10.0	-41.1	48.7	54.0	5.3	Pass
High Channel											
40 MHz BW											
5230	PEAK	Horz	96.5	34.2	8.2	10.0	-41.1	107.8			Pass
5230	AVG	Horz	81.5	34.2	8.2	10.0	-41.1	92.9			Pass
5230	PEAK	Vert	91.1	34.2	8.2	10.0	-41.1	102.4			Pass
5230	AVG	Vert	76.2	34.2	8.2	10.0	-41.1	87.5			Pass
5350	PEAK	Horz	53.8	34.5	8.3	10.0	-41.1	65.5	74.0	8.5	Pass
5350	AVG	Horz	31.9	34.5	8.3	10.0	-41.1	43.6	54.0	10.4	Pass
5350	PEAK	Vert	47.1	34.5	8.3	10.0	-41.1	58.8	74.0	15.2	Pass
5350	AVG	Vert	31.8	34.5	8.3	10.0	-41.1	43.6	54.0	10.4	Pass

4.5.4 Test Results – ECB501

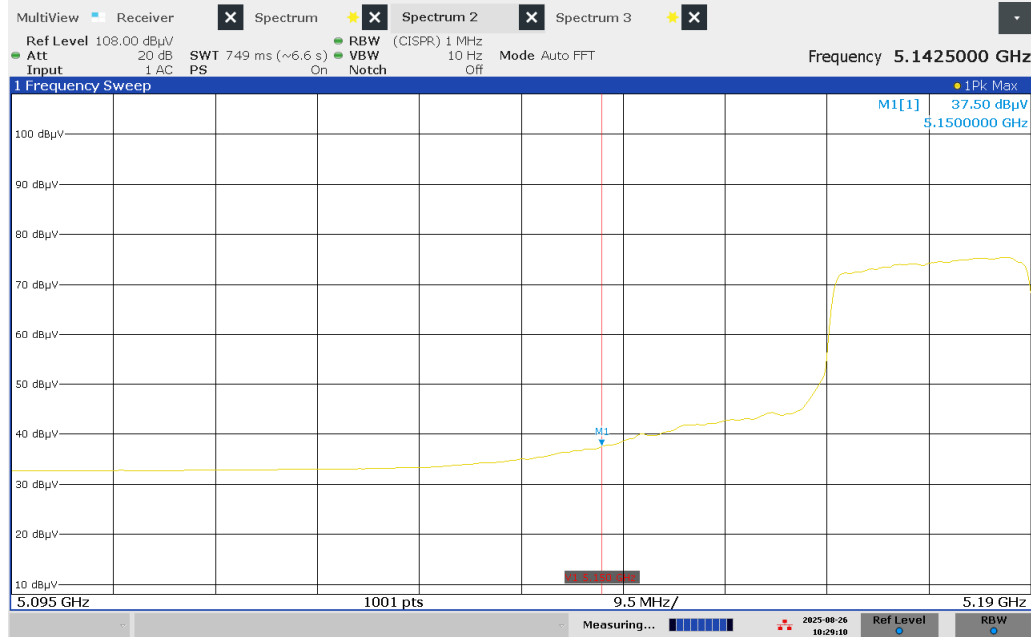
4.5.4.1. Test Results – 802.11 ac/40 MHz

The DUT met the band edge requirements. Peak output power for low, mid and high channels were measured and the Plots Section below contains the maximum radiated emission levels captured on the spectrum analyzer at the band edges. The Final Measurements Section contains the final results with the correction factors added in.

Plots



Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Average
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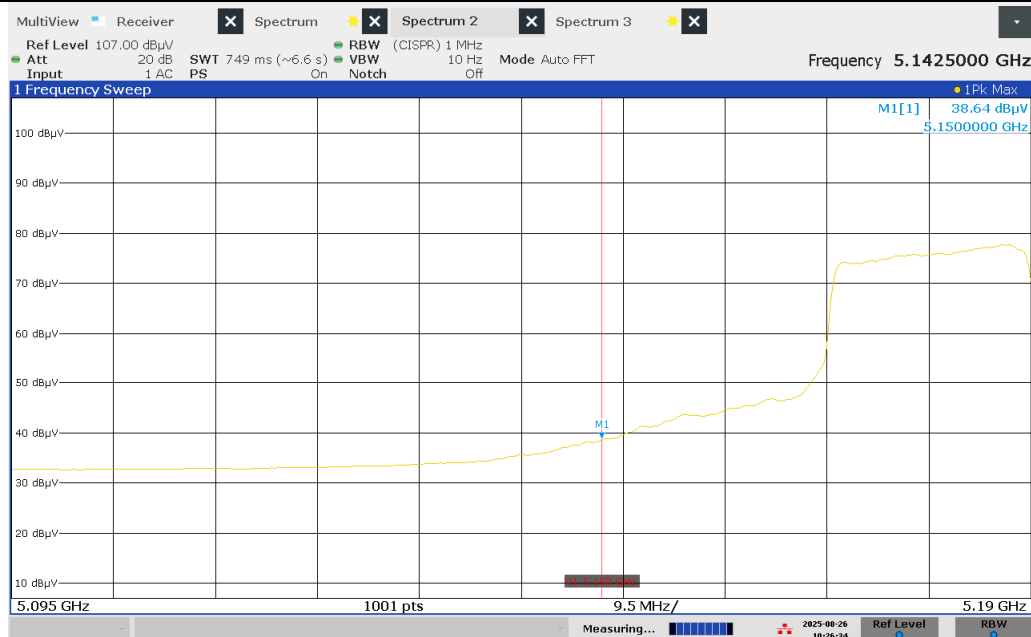
10:29:10 AM 08/26/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Peak
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10:25:35 AM 08/26/2025

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Average
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10:26:34 AM 08/26/2025

Final Measurements

Frequency (MHz)	Detector	Antenna Polarity	Reading (dBμV)	Antenna Factor (dB/m)	Cable Factor (dB)	Attenuator (dB)	Pre-Amp Gain (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
Low Channel											
40 MHz											
5190	PEAK	Horz	93.0	34.2	8.3	10.0	-41.1	104.4			Pass
5190	AVG	Horz	78.8	34.2	8.3	10.0	-41.1	90.2			Pass
5190	PEAK	Vert	95.5	34.2	8.3	10.0	-41.1	106.9			Pass
5190	AVG	Vert	81.0	34.2	8.3	10.0	-41.1	92.4			Pass
5150	PEAK	Horz	51.4	34.2	8.2	10.0	-41.1	62.8	68.3	5.5	Pass
5150	AVG	Horz	37.5	34.2	8.2	10.0	-41.1	48.9	54.0	5.1	Pass
5150	PEAK	Vert	52.4	34.2	8.2	10.0	-41.1	63.7	68.3	4.6	Pass
5150	AVG	Vert	38.6	34.2	8.2	10.0	-41.1	50.0	54.0	4.0	Pass

4.5.5 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration Date	Calibration Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 1, 2024	Mar 1, 2026
EQ_EMC_60	Horn Antenna	ETS Lindgren	3117	Apr 9, 2024	Apr 9, 2026
EQ_EMC_75	RF Cable >1GHz	MegaPhase	EMC2	NCR	NCR
EQ_EMC_115	10 dB Attenuator SMA	Fairview Microwave	SA18E-10	NCR	NCR
EQ_EMC_42	Preamplifier 1GHz-18GHz	Com-Power	PAM-118A	Jan 17, 2024	Jan 17, 2026

4.6 Power Line Conducted Emissions

Test Date: September 24, 2025
Temperature (°C) 25.1
Relative Humidity (%) 54.1
Barometric Pressure (kPa) 98.0

Initials: MX

The conducted emission test is to measure radio-frequency (RF) signals and noise emitted from electrical and electronic devices in the frequency range of 150kHz to 30MHz.

4.6.1 Limits

Base Standard(s): FCC Subpart C 15.207 and RSS-GEN Section 8.8.

Frequency Range (MHz)	Coupling Device	Detector Type / Bandwidth	Limit (dBμV)
0.15 to 0.50	LISN	Quasi-Peak / 9kHz	66 to 56*
0.50 to 5			56
5 to 30			60
0.15 to 0.50	LISN	Average / 9kHz	56 to 46*
0.50 to 5			46
5 to 30			50

* Decreases linearly with the logarithm of the frequency

As per ANSI C63.4 Section 4.2, if the Peak or Quasi-Peak detector measurements do not exceed the Average limits, then the DUT is considered to have passed the requirements.

4.6.2 Test Procedure

Tested according to ANSI C63.10 Section 6.2.

Conducted emissions were measured on the DUT's power port via an Artificial Mains Network (AMN), also known as Line Impedance Stabilization Network (LISN), and maximum conducted emissions are checked on all the DUT's AC lines in the frequency range of 150kHz to 30MHz. All other support equipment were powered via another LISN. The LISNs provide 50Ω/50μH of coupling impedance for the measuring receiver.

To determine the emission characteristics of the DUT, the conducted emission scans were made using a Peak detector and the results were recorded in graphical form.

For each suspected emission, final measurements of the DUT conducted emissions were made with the Quasi-Peak or Average detector as defined in the limits table above.

For Table-Top Equipment, the device under test is configured on a 0.8m high non-conductive table above the reference ground plane and 0.4m away from the vertical reference ground plane.

4.6.3 Setup Diagram

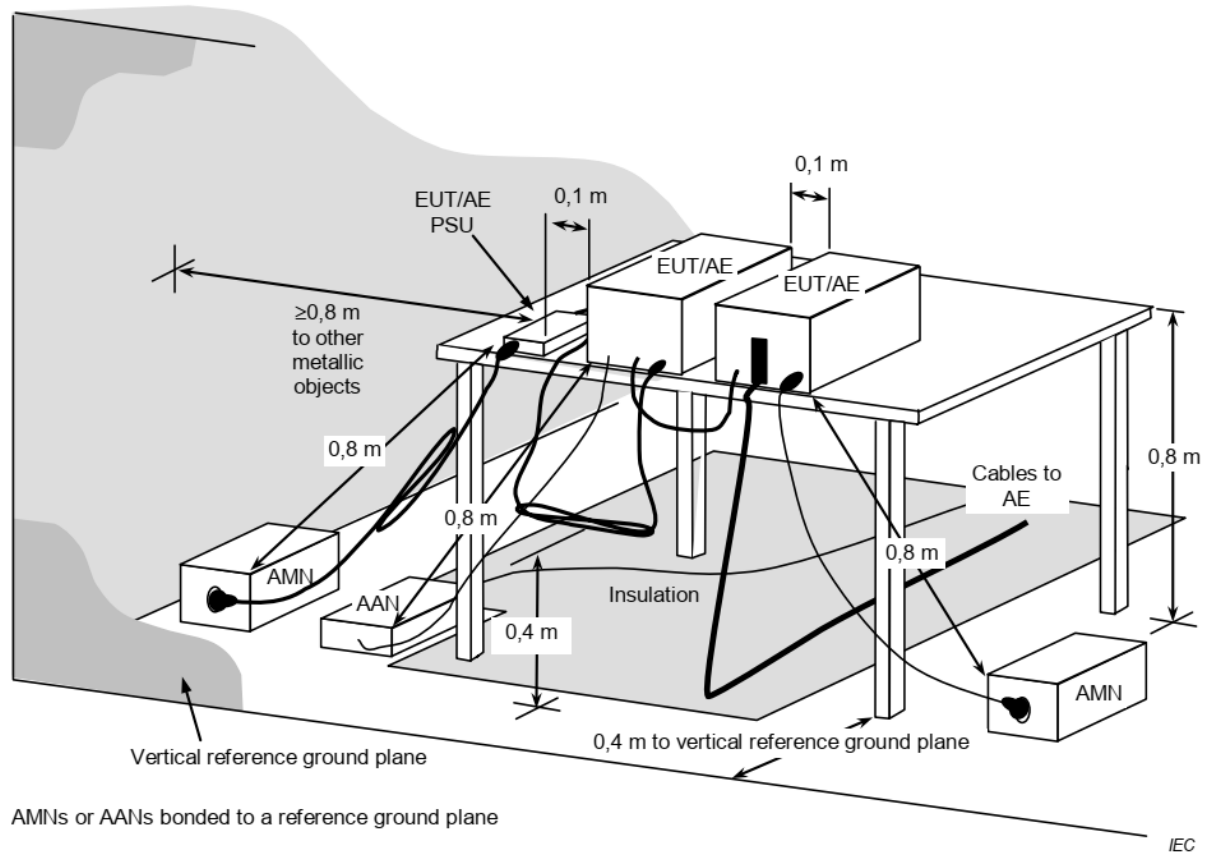
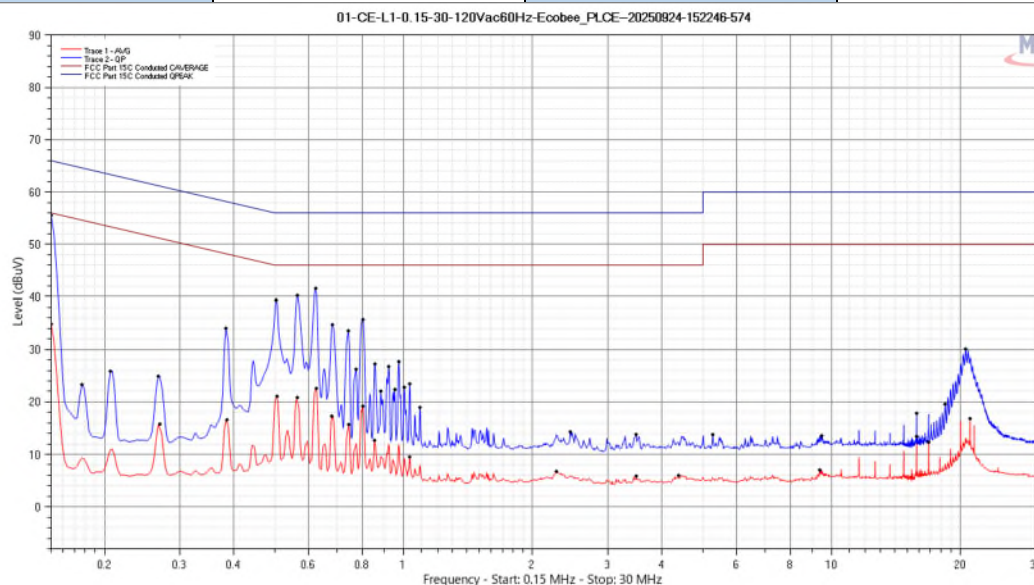


Figure 54 – Sample Measurement Arrangement for DUT

4.6.4 Test Results

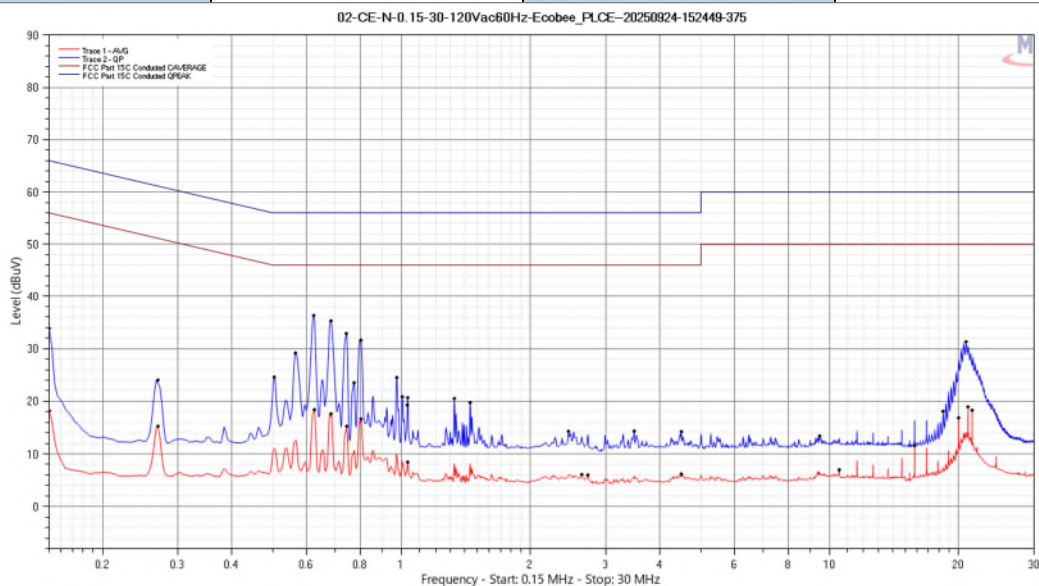
Range:	150kHz to 30MHz	DUT	ECB601/WIFI
Test Voltage:	120Vac 60Hz	Phase	Line



Remark: Quasi-Peak and Average Emission Plot

Line 1							
Frequency (MHz)	Detector	Reading (dBuV)	Correction Factor (dB)	Emissions Level (dBuV)	Limit (dBuV)	Margin (dB)	Test Result
0.15	CAVG	24.74	10.11	34.85	56	21.15	Pass
0.625	CAVG	12.5	10.08	22.58	46	23.42	Pass
0.505	CAVG	11.02	10.08	21.1	46	24.9	Pass
0.15	QP	45.45	10.11	55.56	66	10.44	Pass
0.622	QP	31.48	10.08	41.56	56	14.44	Pass
0.564	QP	30.15	10.08	40.23	56	15.77	Pass

Range:	150kHz to 30MHz	DUT	ECB601/WIFI
Test Voltage:	120Vac 60Hz	Phase	Neutral



Remark: Peak Emission Plot

Neutral							
Frequency (MHz)	Detector	Reading (dBuV)	Correction Factor (dB)	Emissions Level (dBuV)	Limit (dBuV)	Margin (dB)	Test Result
0.625	CAVG	8.33	10.08	18.41	46	27.59	Pass
0.683	CAVG	7.55	10.08	17.63	46	28.37	Pass
0.802	CAVG	6.55	10.08	16.63	46	29.37	Pass
0.622	QP	26.23	10.08	36.31	56	19.69	Pass
0.683	QP	25.21	10.08	35.29	56	20.71	Pass
0.742	QP	22.79	10.08	32.87	56	23.13	Pass

4.6.5 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration/ (Verification) Date	Calibration/ (Verification) Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 1, 2024	Mar 1, 2026
EQ_EMC_61	LISN	FCC	50/250-16-2-01	Jan 16, 2024	Jan 16, 2026
EQ_EMC_174	10dB Attenuator	Centric RF	C6N10-10	(Apr 2, 2025)	(Apr 2, 2026)
EQ_EMC_84	RF Cable	Times Microwave	LMR-400	(Apr 2, 2025)	(Apr 2, 2026)
EQ_EMC_195	Emissions Software	Megalab Group	Electro V3.1.3	NCR	NCR

----- End of Test Report -----