



RF Test Report

Standard(s): FCC Part 15 Subpart 15.407,

Unlicensed Intentional Radiators

Issued To: VusionGroup GmbH
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Fernitz-Mellach, Styria, 8072
Austria

Product Name: TopStock Gen 2.0
Model: TSR2-0120-A
FCC ID: 2ACQM-TSR2-0120-A

Report No. ML303884C-RF01 (DTS - UNII-2C)
Date of Issue: June 29, 2026

Report Prepared By:

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Amir Emami, Project Engineer

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TRRF_FCC-ICES-247-DTS_v1

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1. Revision History

Project No. & Revision	Report Date	Initials	Description
ML303884C-RF00 (DTS - UNII-2C)	June 22, 2026	MX	Initial Release
ML303884C-RF00 (DTS - UNII-2C)	June 29, 2026	MX	Updated address to match address in FCC database.

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			
15.203 15.407(a)	Antenna Gain and Requirement	Pass	SMD with 2.8 dBi Gain
15. 407(a) FCC 2.1049	Emission Bandwidth	Pass	26dB and/or 99 Bandwidth Fall within allowed Band
15. 407(a)	Output Power	Pass	< 250 mW (24 dBm)
15.407(a)	Power Spectral Density	Pass	< 11 dBm/MHz
15.407(b)(1)	Spurious Out of Band Emissions	Pass	-27 dBm/MHz e.i.r.p Peak
15.407(b)(10) 15.205 15.209	Transmitter Spurious Radiated Emissions in restricted bands	Pass	QuasiPeak < 1 GHz Peak & Average > 1GHz
15.207	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 5470 - 5725 MHz UNII-2C transceiver.

For the Antenna requirement specified in FCC 15.203 and 15.407 (a)), the unit uses a permanently connected SMD with 2.8 dBi which is less than 6 dBi gain. Antenna details obtained from Manufacturer's Datasheet.

For the Restricted Bands of operation, the EUT's UNII-1 band is designed to only operate between 5470 - 5725 MHz.

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 TopStock FreqStab_DiscTX exhibit for additional details.

TopStock FreqStab_DiscTX exhibit also details how the device complies with 15.407 (c).

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
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	VusionGroup GmbH
Address	Kalsdorfer strasse 12 Fernitz-Mellach, Styria, 8072 Austria
Contact	Gayatri Sirure
Phone	+43 (0) 5 9460 - 400

3.2 Device Under Test (DUT)

3.2.1 DUT Information

DUT Name	TopStock Gen 2.0
DUT Model(s)	TSR2-0120-A
Power Source (AC / DC / Battery)	Battery
Input Voltage (V) or Range	9V DC
Frequency (Hz) or Range	N/A
Rated Current (A)	sleep: 25uA, wake: ~150mA AVG
Mode(s) of Operation	Sleep, Awake
Transmitter Information	
FCC ID	2ACQM-TSR2-0120-A
Technology Used	802.11 a/n
Operating Frequency	5500 MHz to 5700 MHz
Modulation Type	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Number of Channels	4
Antenna Manufacturer	Abracon
Antenna Model	ACAG0301-24505500-T
Antenna Type	Surface Mount (SMD)
Antenna Gain	5GHz: 2.8 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

The Topstock is a shelf-monitoring system designed to deliver real-time visibility into product availability across both shelves and overhead storage.

The DUT contains BLE, WIFI 2.4 GHz 801.11 b/g/n, WIFI 5 GHz a/n transmitters.

This report documents the compliance of the 5470 -5725 MHz UNII-2C transmitter. The UNII-2C is a SISO transmitter with two antennas, a main antenna and a diversity antenna.

3.3 Test Setup of DUT

3.3.1 Carrier Frequency Channel

Channel Number	Channel Frequency (MHz)	Channel Number	Channel Frequency (MHz)
100	5500	116	5580
104	5520	132	5660
108	5540	136	5680
112	5560	140	5700

TDWR Channels

Channel Number	Channel Frequency (MHz)	Channel Number	Channel Frequency (MHz)
120	5600	128	5640
124	5620	--	--

Straddle Channel

Channel Number	Channel Frequency (MHz)	Channel Number	Channel Frequency (MHz)
144	5720	--	--

3.3.2 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 >98% duty cycle

Modulation	Data Rate
802.11 a	6 Mbps
802.11 n HT20	MCS0

Modulation	Test Channel	Power Setting
802.11 a	100	16
	116	16
	140	16
	144	15
802.11 n HT20	100	16
	116	16
	140	16
	144	15

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

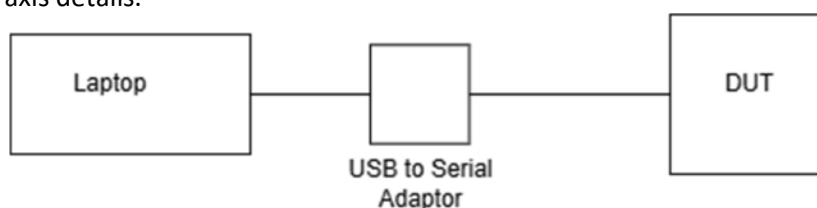


Figure 1 – Configuration Block Diagram

Description of I/O Cables			
Cable Function	Length of Cable (m)	Shielded (Y/N)	Outdoor Use (Y/N)
None	N/A	N/A	N/A

3.3.3 Support Equipment

Device	Manufacturer	Model	S/N
Laptop with the Terminal and UI_mptool Software	Lenovo	---	---

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:	June 13, 2026
Temperature (°C)	25.7
Relative Humidity (%)	39.4
Barometric Pressure (kPa)	101.0

Initials: MX

4.1.1 Limits

The requirement is as specified in FCC Part 15.407.

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

4.1.2 Test Procedure

Tested according to ANSI C63.10 Section 12.5 and 6.9

For the 26 dB Bandwidth:

- Set RBW = 1% to 5% of 26 dB bandwidth
- $VBW \geq [3 \times RBW]$
- Detector = Peak
- Trace Mode = Max Hold.
- Sweep = Auto Couple.
- Span = 2 to 5 times the 26 dB bandwidth
- 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:

- Set RBW in the range of 1% to 5% of the actual occupied bandwidth.
- Set $VBW \geq [3 \times RBW]$.
- Span set to 1.5 to 5 times the occupied bandwidth.
- 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 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
5500	20.559	17.36	Pass
5580	19.421	16.20	Pass
5700	19.361	16.21	Pass
5720	19.361	16.21	Pass

802.11 n (20 MHz)			
26dB & 99% Bandwidth			
Frequency (MHz)	26dB DTS Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Test Result
5500	20.589	17.36	Pass
5580	20.440	17.36	Pass
5700	20.500	17.35	Pass
5720	20.44	17.34	Pass

4.1.3.1. 802.11 a Plots

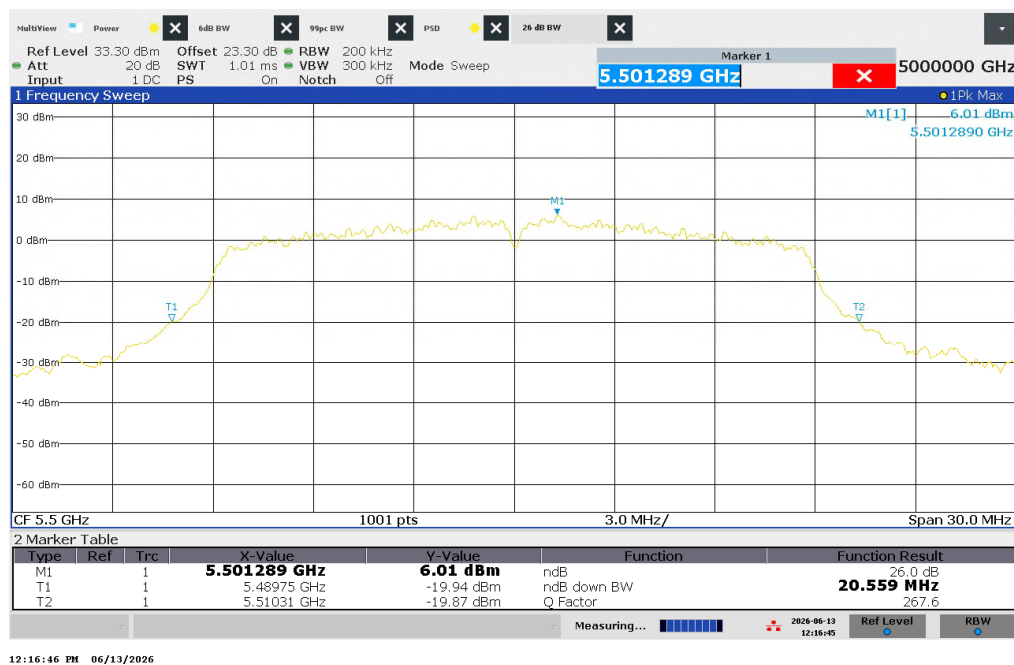


Figure 2 – 26dB Bandwidth – Low Channel

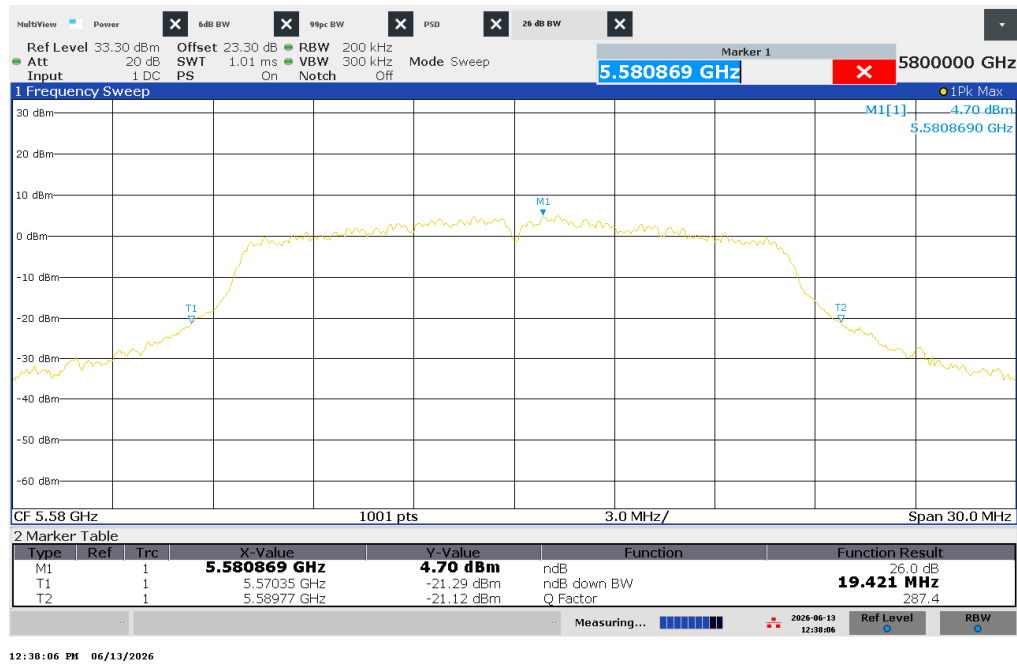


Figure 3 – 26dB Bandwidth – Mid Channel



Figure 4 – 26dB Bandwidth – High Channel

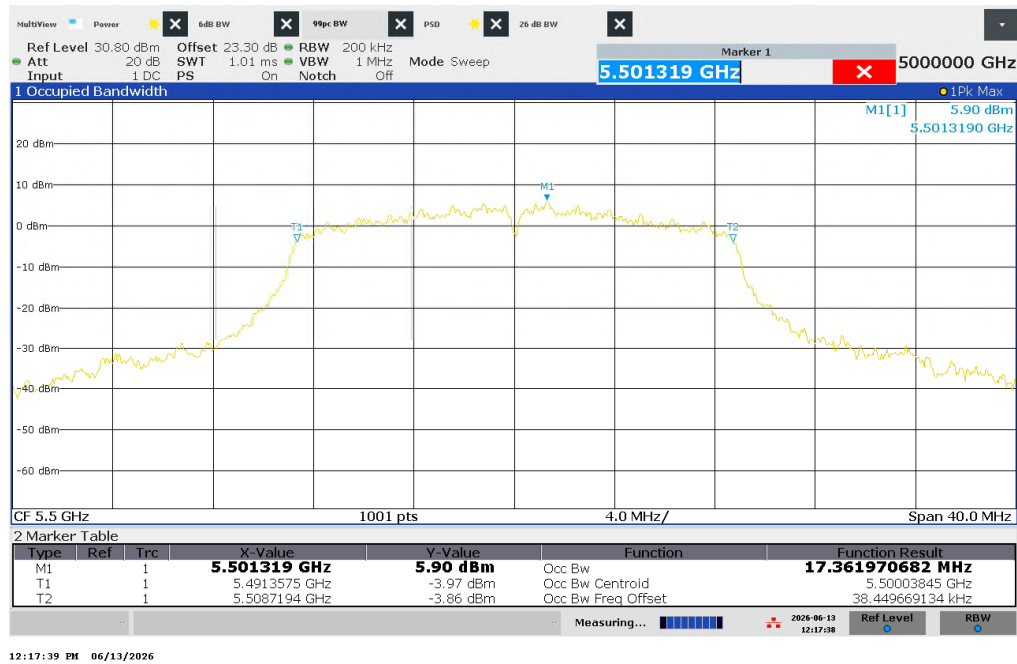


Figure 5 – 99% Bandwidth – Low Channel

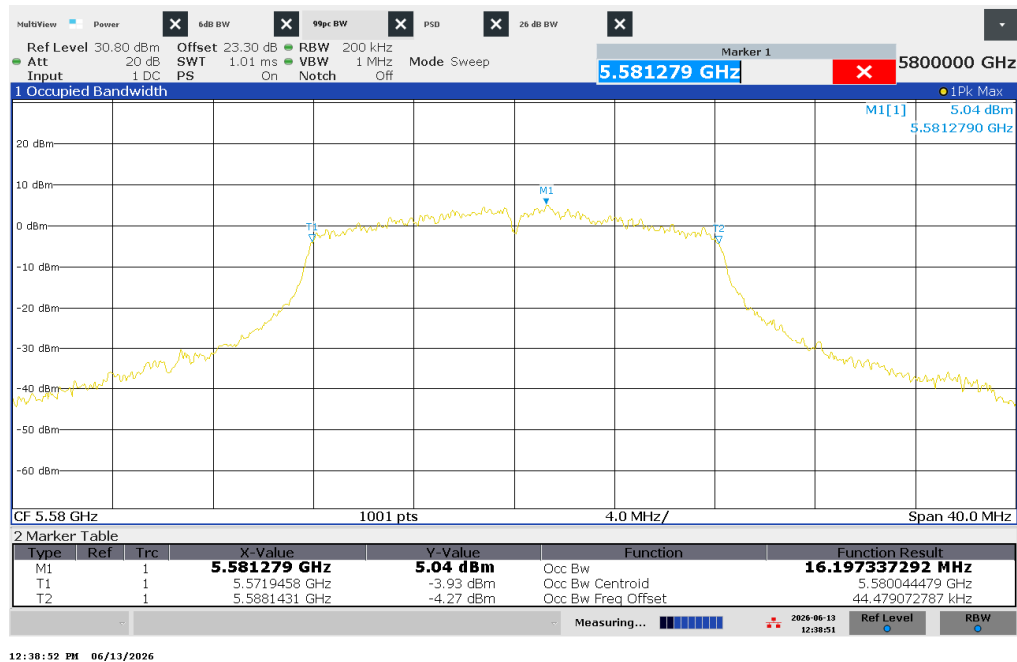


Figure 6 – 99% Bandwidth – Mid Channel

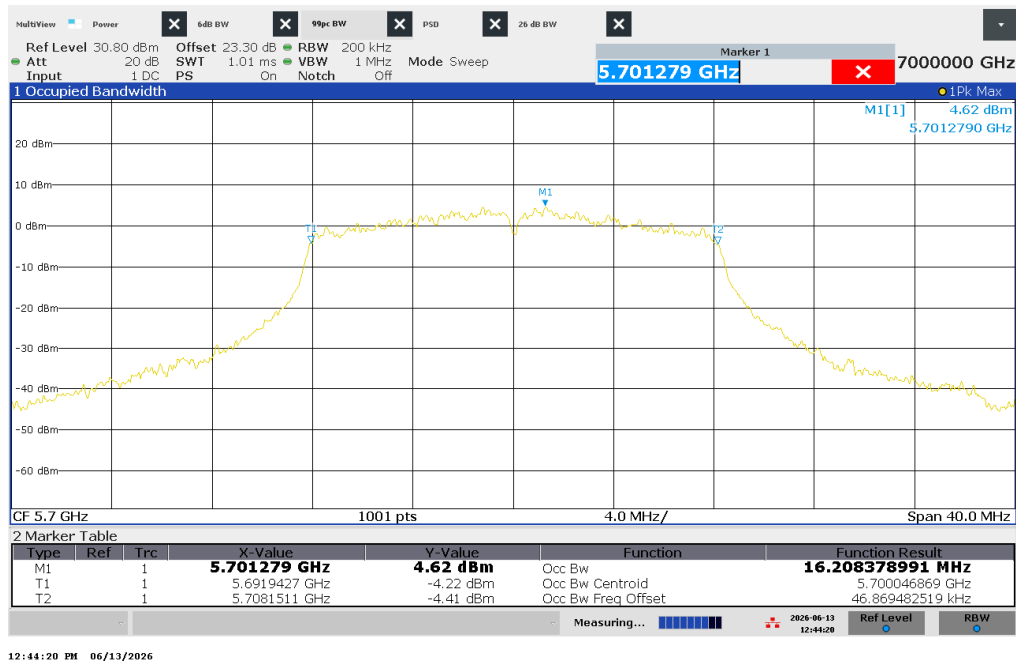


Figure 7 – 99% Bandwidth – High Channel

4.1.3.2. 802.11 n Plots

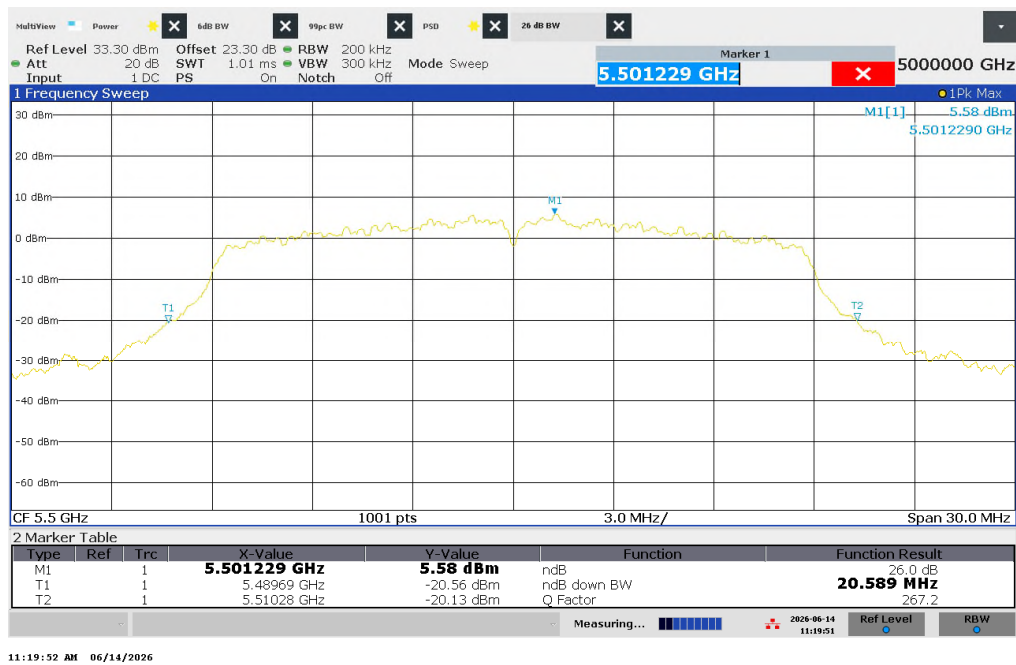


Figure 8 – 26dB Bandwidth – Low Channel

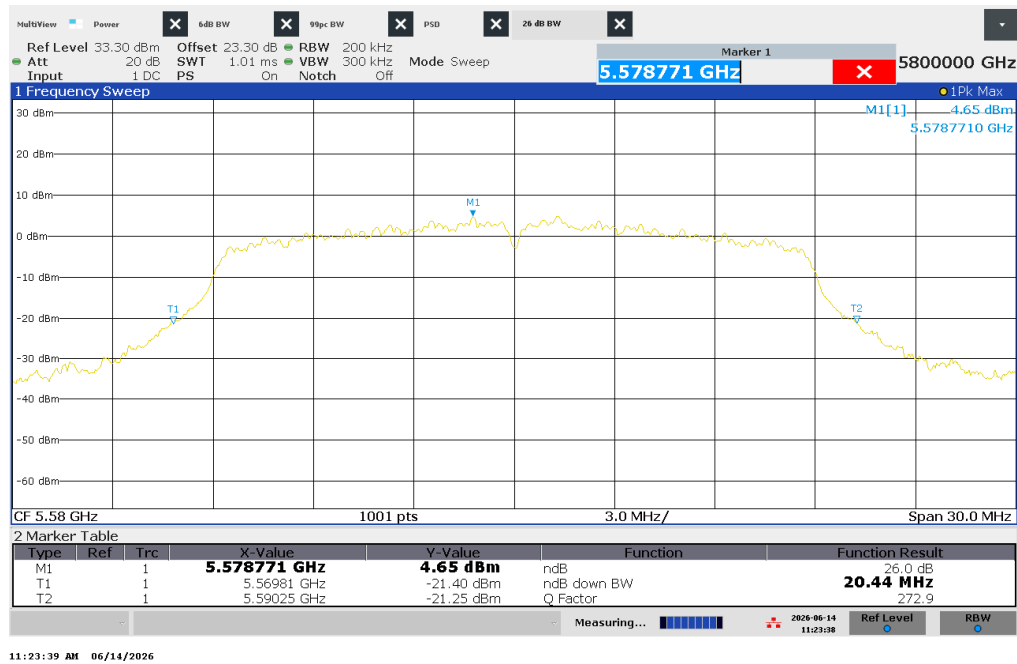


Figure 9 – 26dB Bandwidth – Mid Channel

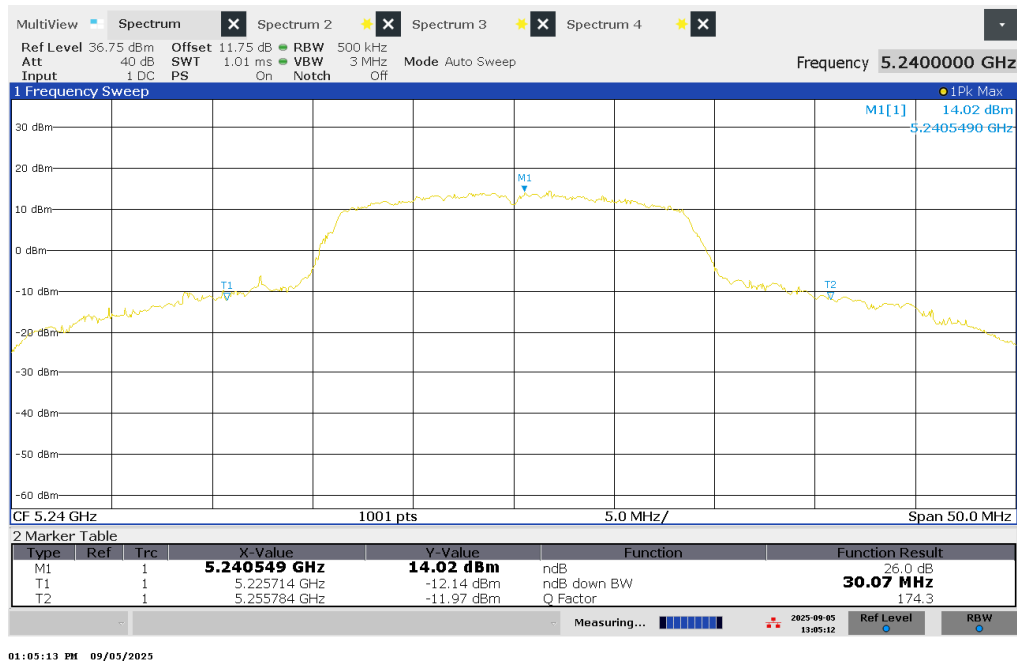


Figure 10 – 26dB Bandwidth – High Channel

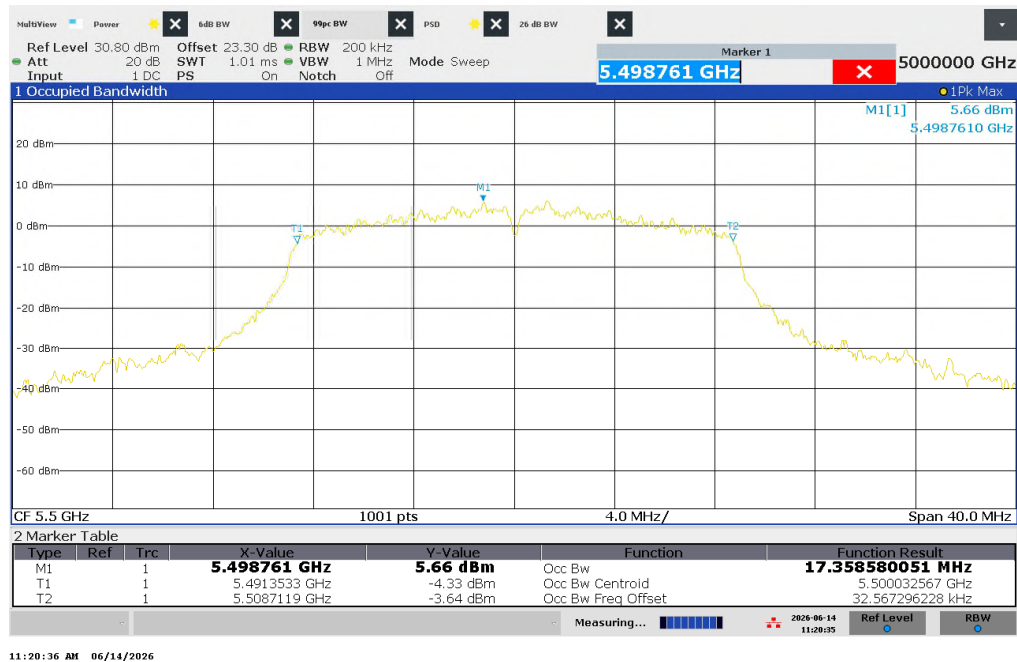


Figure 11 – 99% Bandwidth – Low Channel

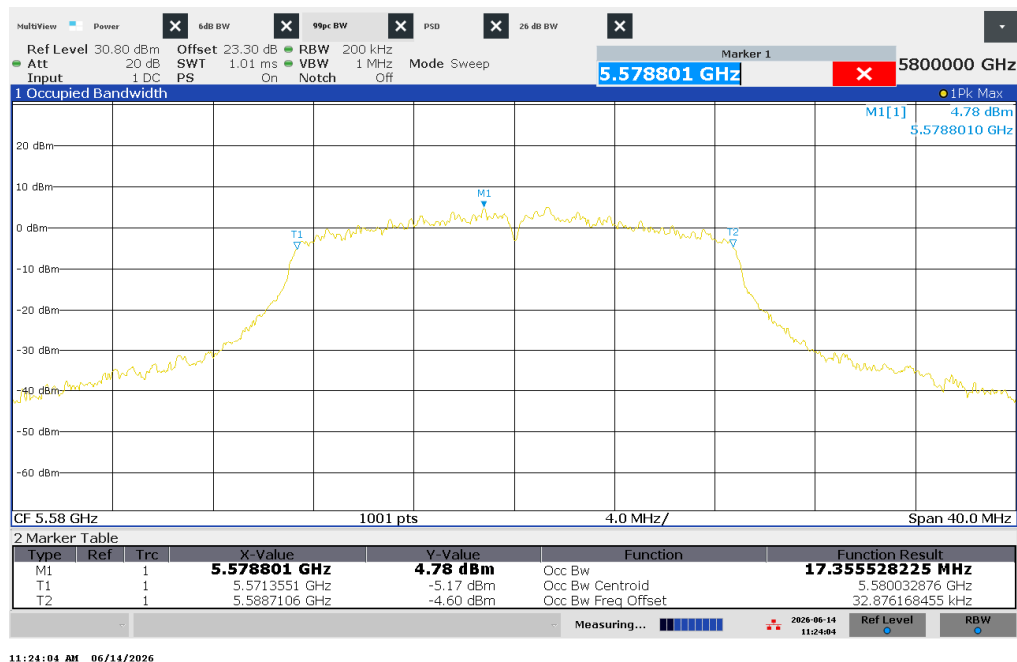


Figure 12 – 99% Bandwidth – Mid Channel

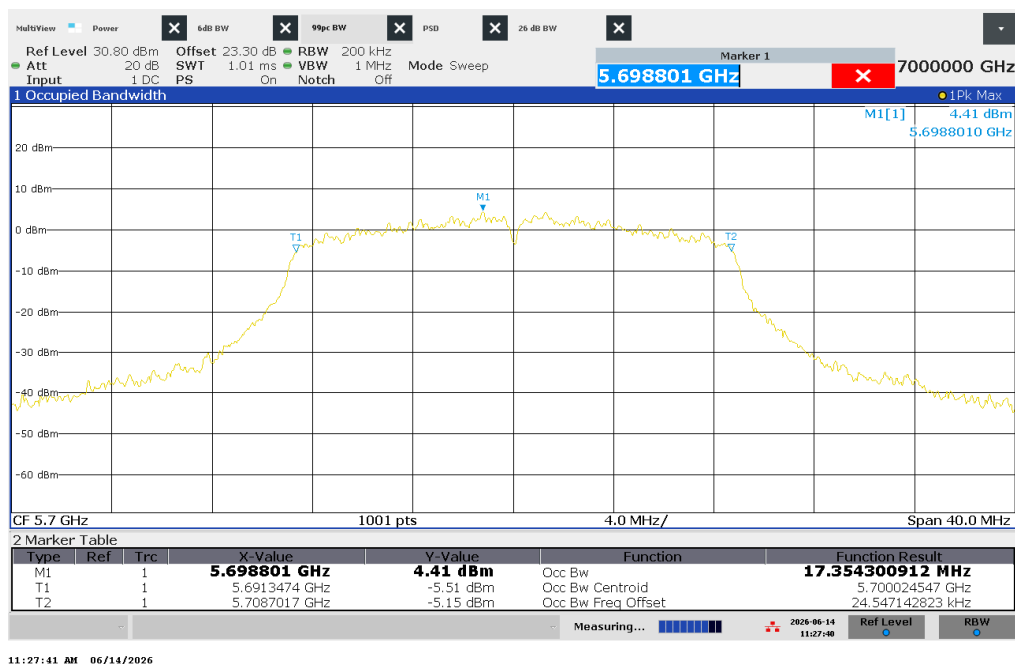


Figure 13 – 99% Bandwidth – High Channel

4.1.4 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration Date	Calibration Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 6, 2026	Mar 6, 2028
EQ_EMC_115	10dB Attenuator	Fairview Microwave	SA18E-10	Feb 20, 2026	Feb 20, 2027
EQ_EMC_176	10dB Attenuator	Centric RF	C18S2-10	Feb 20, 2026	Feb 20, 2027

4.2 Maximum Conducted Output Power

Test Date: June 13, 2026
Temperature (°C) 25.7
Relative Humidity (%) 39.4
Barometric Pressure (kPa) 101.0

Initials: MX

4.2.1 Limits

The limits are defined in FCC Part 15.407(a)(2). The EUT is a client device and is not installed in vehicles. Thus, applicable limits are:

FCC Part 15.407(a)(1)(iv)	
Max Conducted Output Power	Lesser of 24 dBm (250 mW) or $11 \text{ dBm} + 10 \log B$ Where B is the 26 dB Bandwidth

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 compute power by integrating the spectrum across the OBW.

4.2.3 Test Results

The EUT passed.

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)	Pass/Fail
5500	14.15	26.00	Pass
5580	13.41	21.93	Pass
5700	13.19	20.84	Pass
5720	12.23	16.71	Pass

802.11 n – 20 MHz			
Frequency (MHz)	Avg Power (dBm)	15.407 Limit (dBm)	Pass/Fail
5500	14.17	26.12	Pass
5580	13.21	20.94	Pass
5700	12.82	19.14	Pass
5720	11.97	15.74	Pass

4.2.3.1. 802.11 a Plots

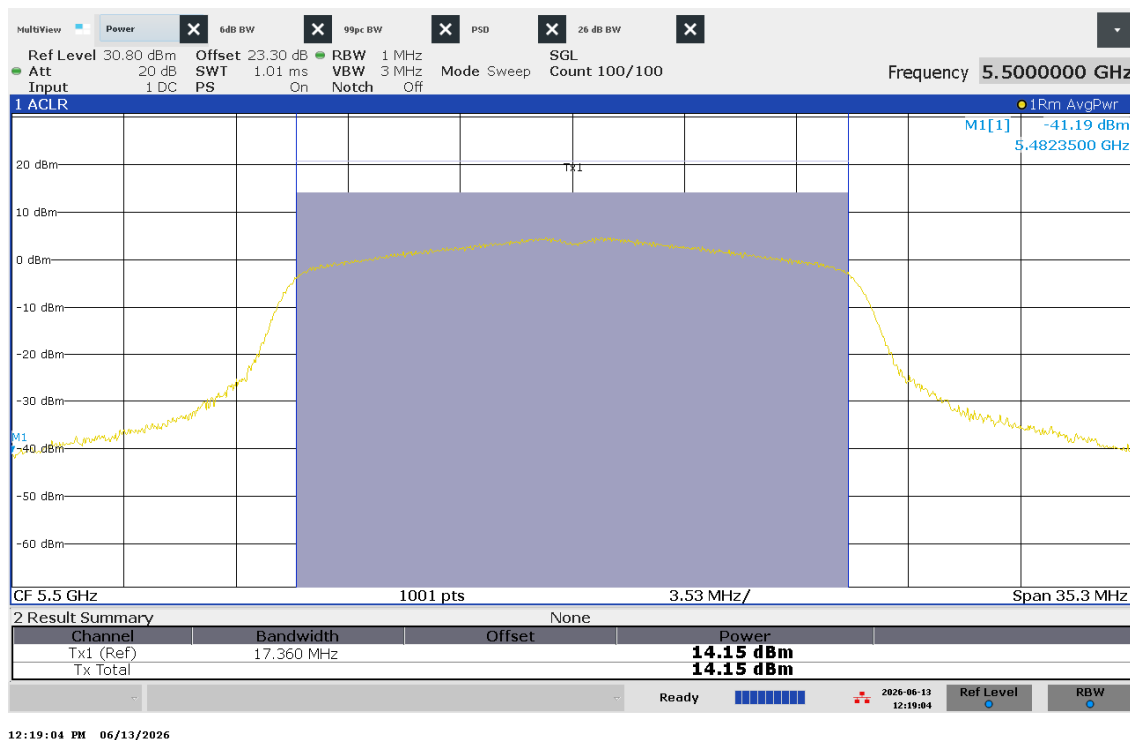


Figure 14 – Average Power - Low Channel

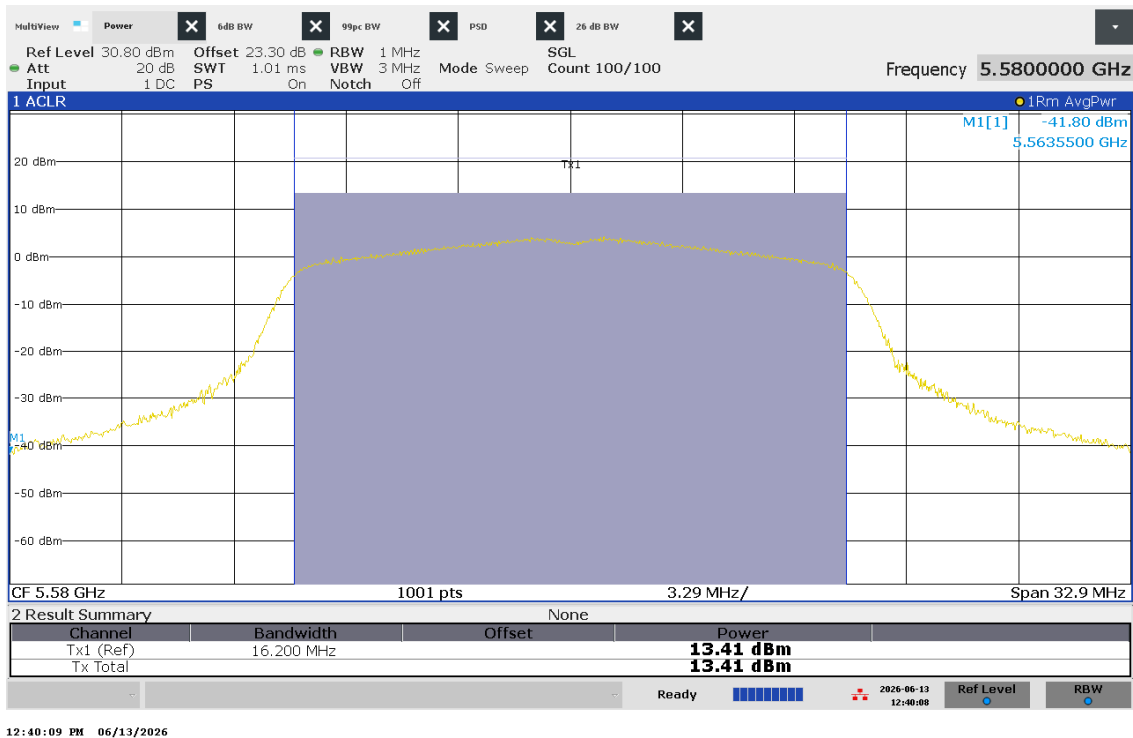


Figure 15 – Average Power - Mid Channel

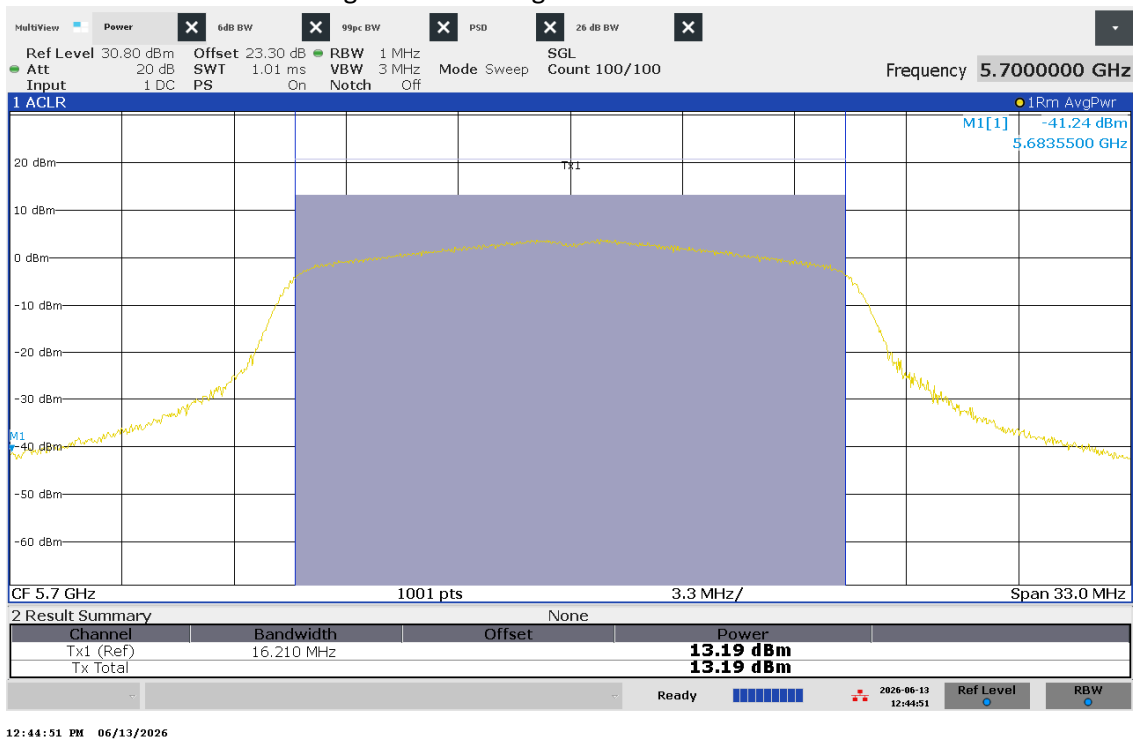


Figure 16 – Average Power - High Channel

4.2.3.2. 802.11 n HT20 Plots

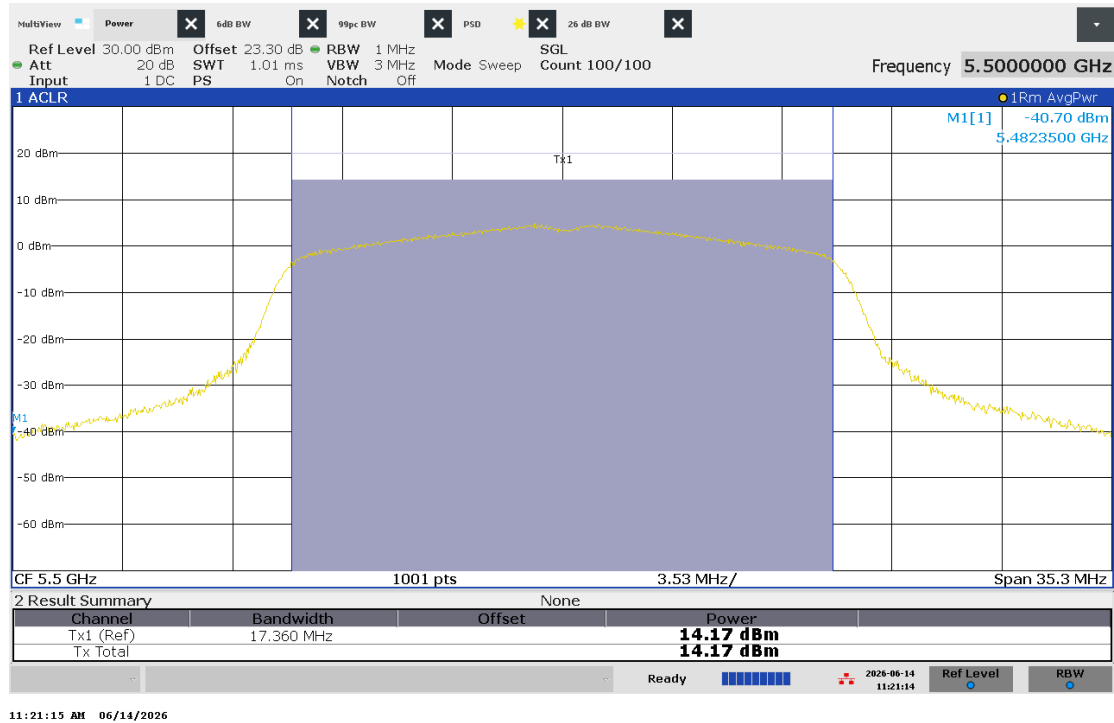


Figure 17 – Average Power - Low Channel

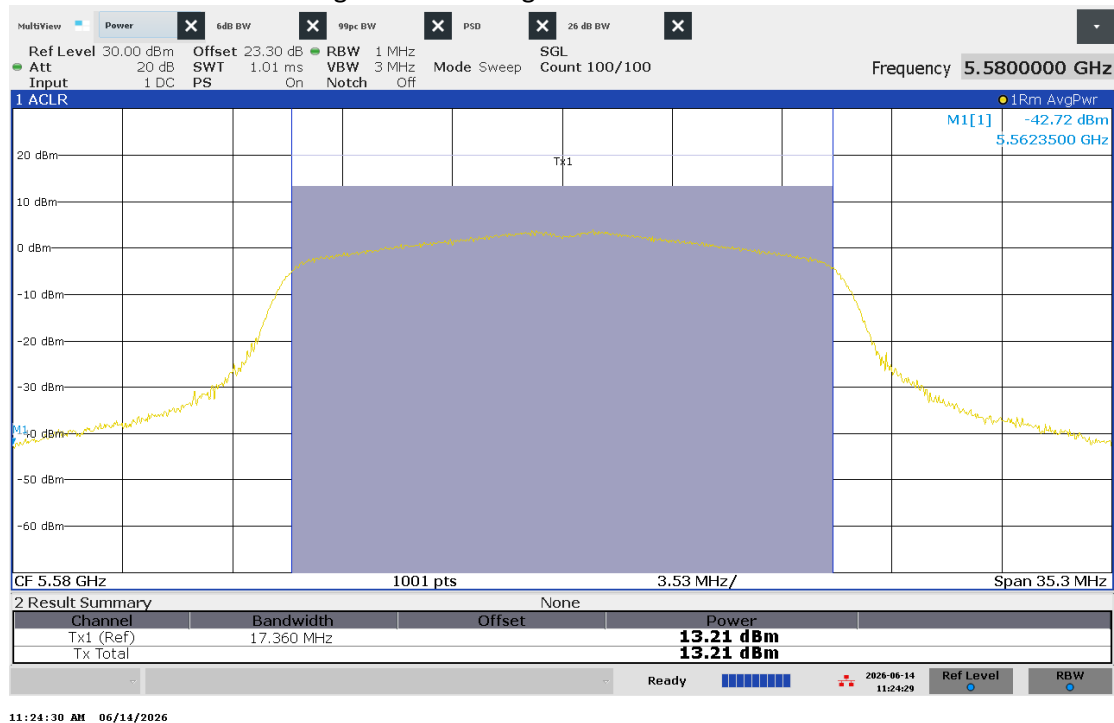


Figure 18 – Average Power - Mid Channel

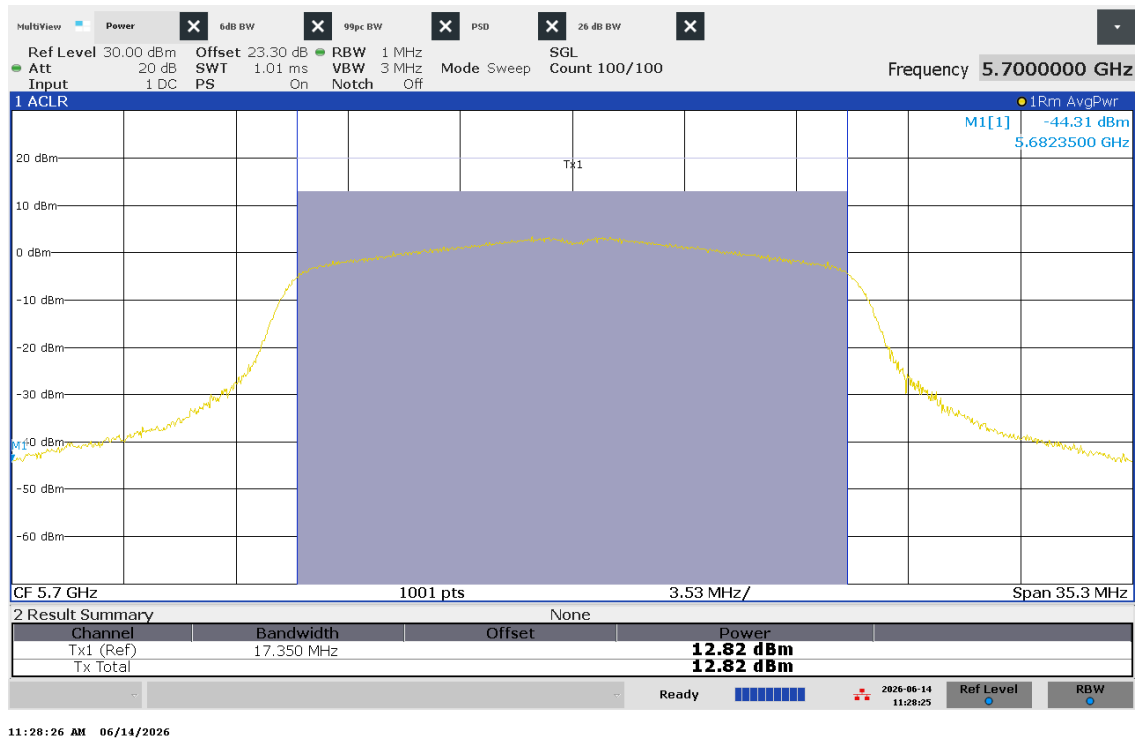


Figure 19 – Average Power - High Channel

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 6, 2026	Mar 6, 2028
EQ_EMC_115	10dB Attenuator	Fairview Microwave	SA18E-10	Feb 20, 2026	Feb 20, 2027
EQ_EMC_176	10dB Attenuator	Centric RF	C18S2-10	Feb 20, 2026	Feb 20, 2027

4.3 Power Spectral Density

Test Date: June 13, 2026
Temperature (°C) 25.7
Relative Humidity (%) 39.4
Barometric Pressure (kPa) 101.0

Initials: MX

4.3.1 Limits

The limits are defined in FCC Part 15.407(a)(2). The EUT is a client device and is not installed in vehicles. Thus, applicable limits are:

FCC Part 15.407(a)(1)(iv)	
PSD	11 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 following tables show the power spectral density:

802.11 a			
Frequency (MHz)	PSD (dBm/MHz)	15.407 Limit (dBm/MHz)	Pass/Fail
5500	4.98	11.0	Pass
5580	4.34	11.0	Pass
5700	3.89	11.0	Pass
5720	3.05	11.0	Pass

802.11 n – 20 MHz			
Frequency (MHz)	Avg Power (dBm)	15.407 Limit (dBm)	Pass/Fail
5500	4.89	11.0	Pass
5580	3.83	11.0	Pass
5700	3.54	11.0	Pass
5720	2.39	11.0	Pass

4.3.3.1. 802.11 a Plots

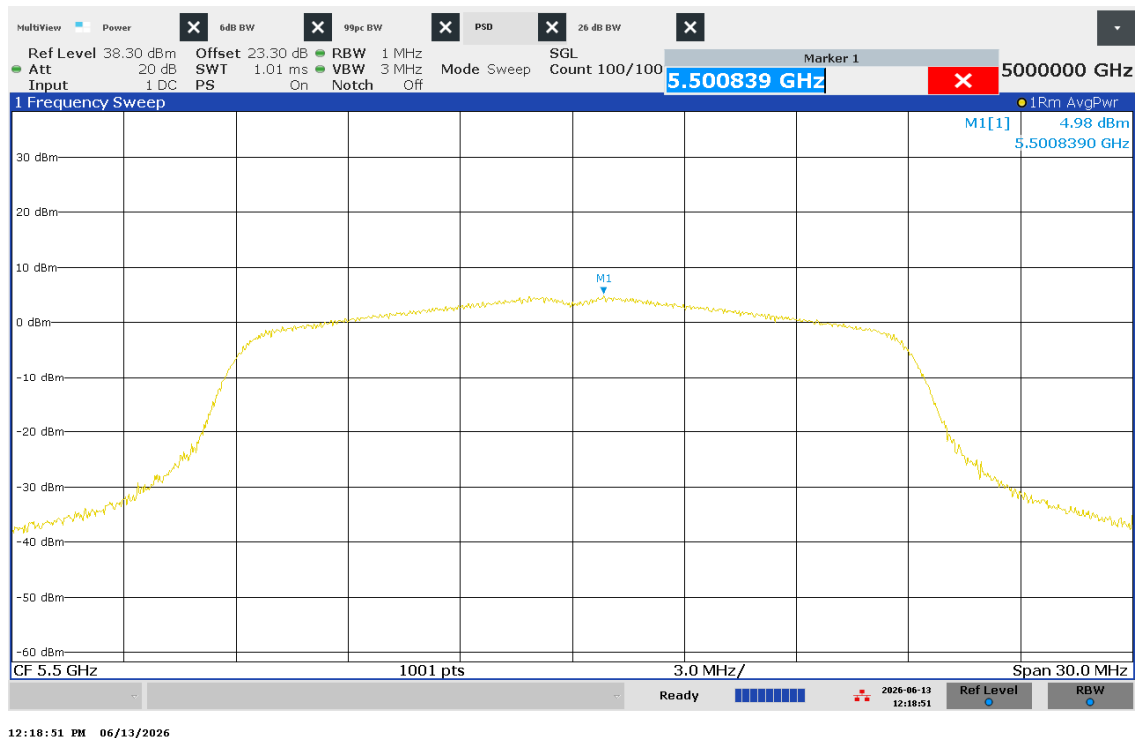


Figure 20 – PSD - Low Channel

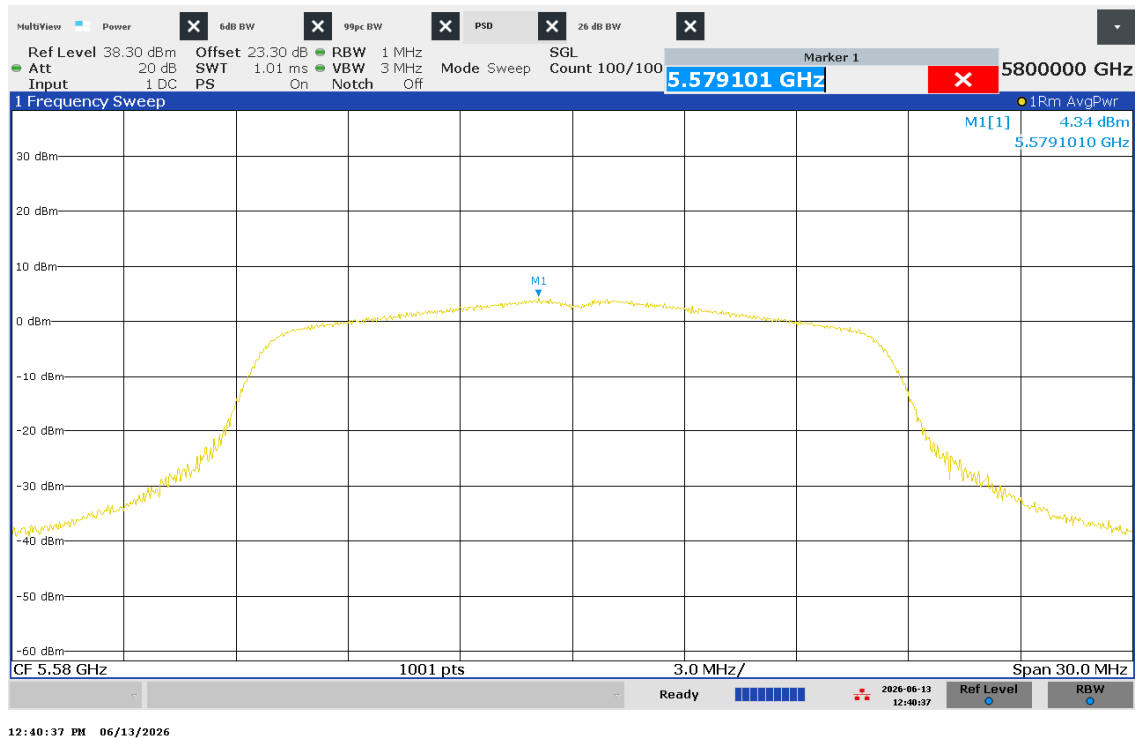


Figure 21 – PSD - Mid Channel



Figure 22 – PSD - High Channel

4.3.3.2. 802.11 n HT20 Plots

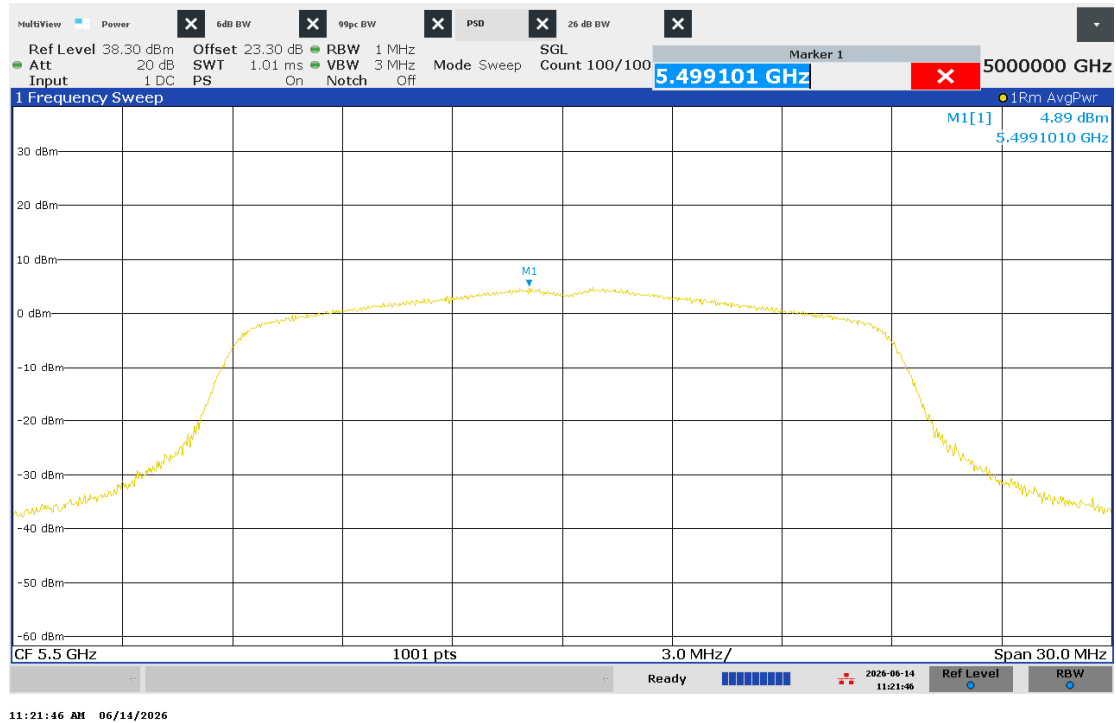


Figure 23 – PSD - Low Channel

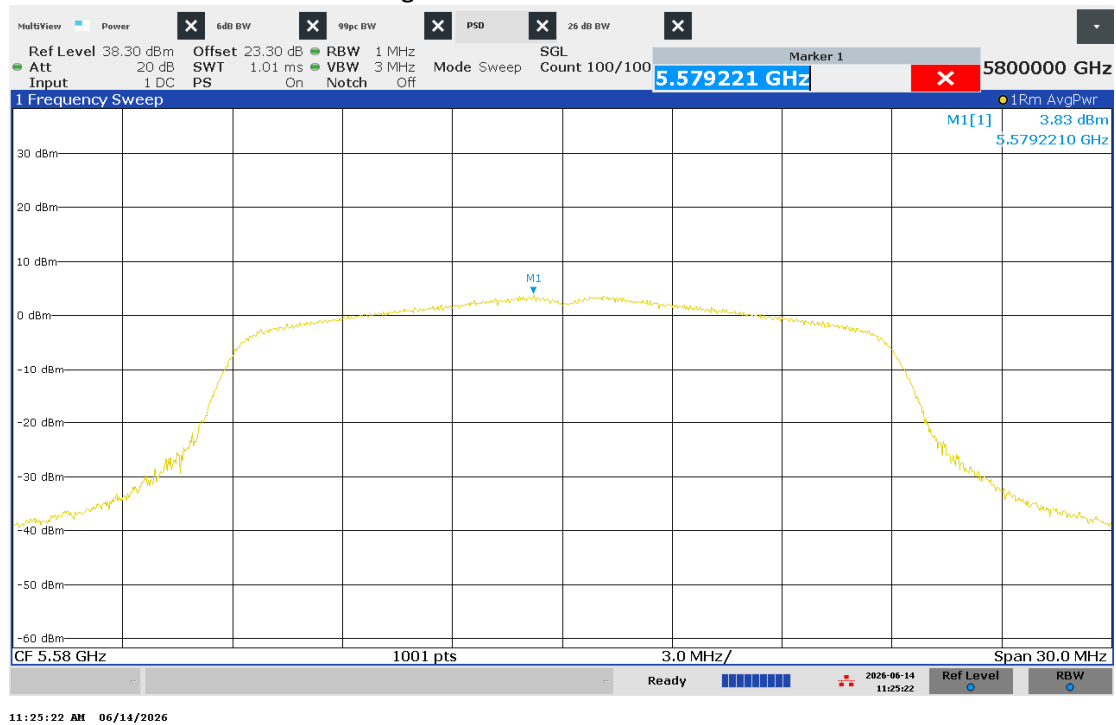


Figure 24 – PSD - Mid Channel



Figure 25 – 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 6, 2026	Mar 6, 2028
EQ_EMC_115	10dB Attenuator	Fairview Microwave	SA18E-10	Feb 20, 2026	Feb 20, 2027
EQ_EMC_176	10dB Attenuator	Centric RF	C18S2-10	Feb 20, 2026	Feb 20, 2027

4.4 Transmitter Spurious Radiated Emissions

Test Date: June 21, 2026
Temperature (°C) 25.5
Relative Humidity (%) 53.6
Barometric Pressure (kPa) 99.6

Initials: MX

4.4.1 Limits

The limits are defined in FCC Part 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 EIRP of -27 dBm/MHz. The emission limits are based on a peak detector. The EIRP limits of FCC Section 15.407(b) 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.

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).

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‡ / 200kHz
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.

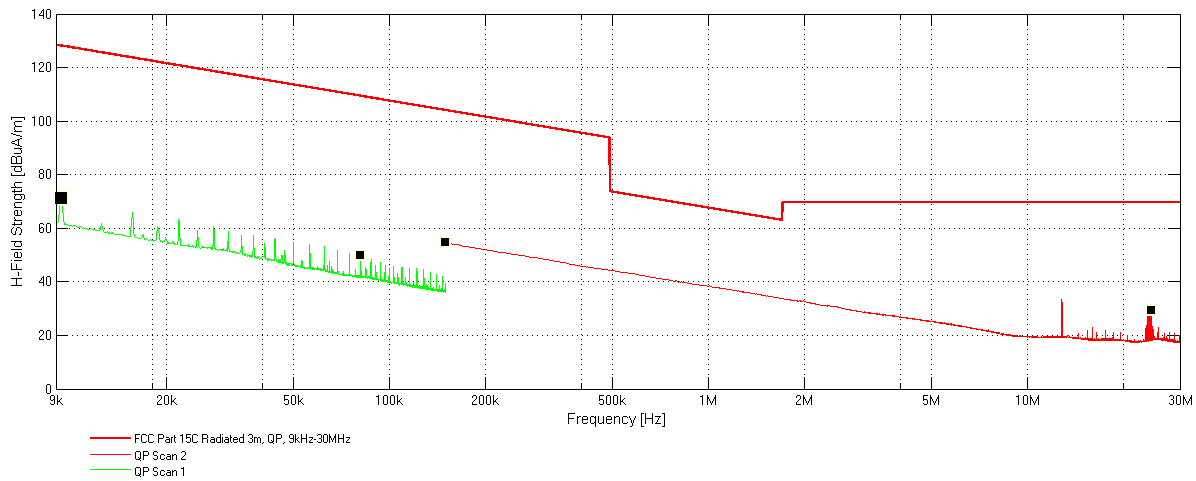
As per FCC Part 15.33(a), the DUT was scanned to the 10th harmonic of the highest fundamental frequency.

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

Range:	9kHz to 30 MHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	XZ-Plane

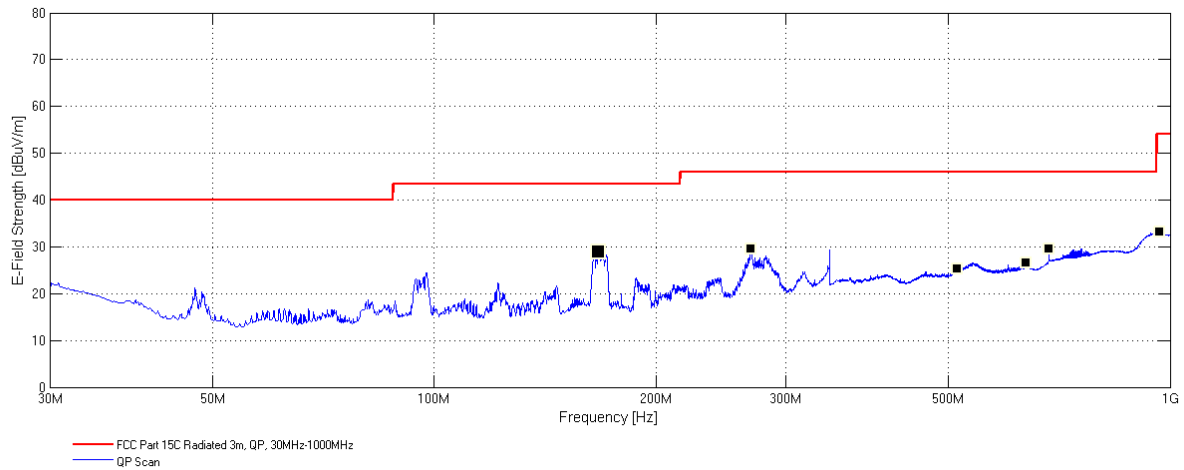
Megalab Group Inc.
01 9K-30MHz Tx Loop



Remark: Quasi-Peak Emission Plot

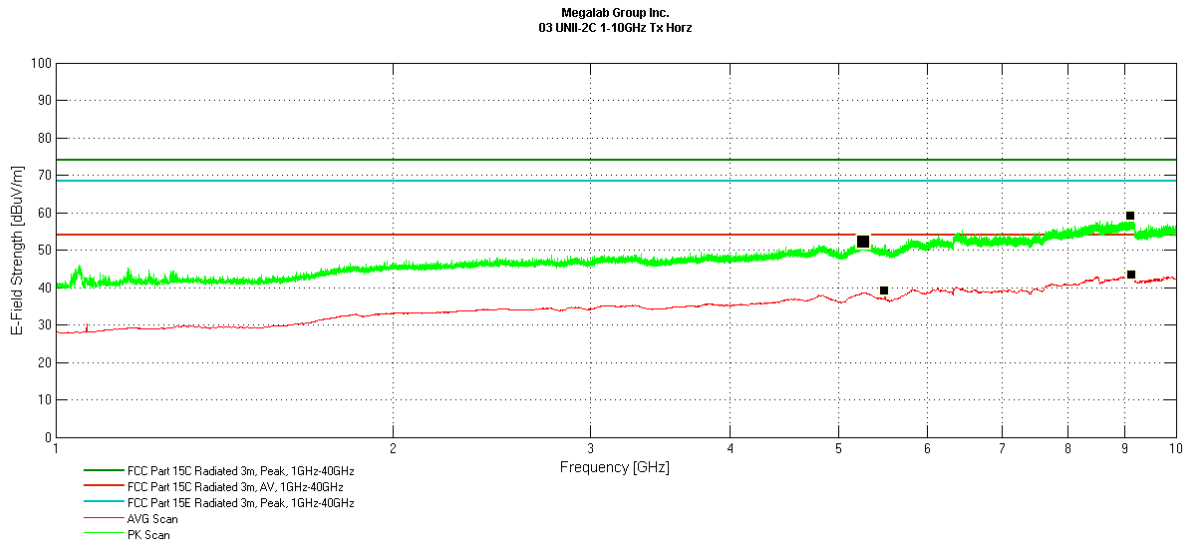
Range:	30MHz to 1GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Horizontal

Megalab Group Inc.
02 WIFI 30M-1GHz Tx Horiz



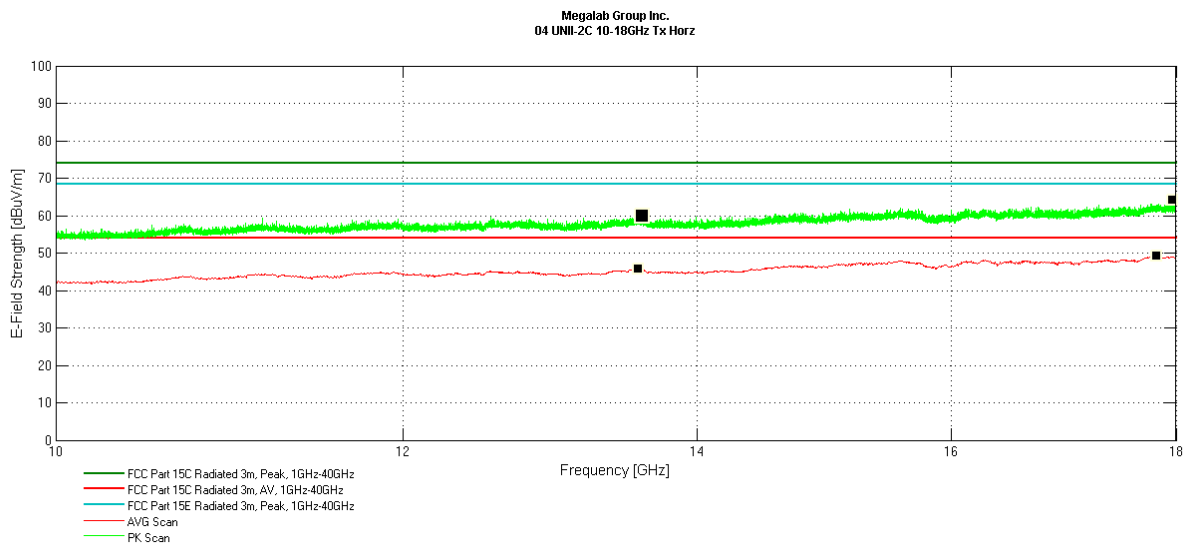
Remark: - Quasi-Peak Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	1GHz to 10GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Horizontal



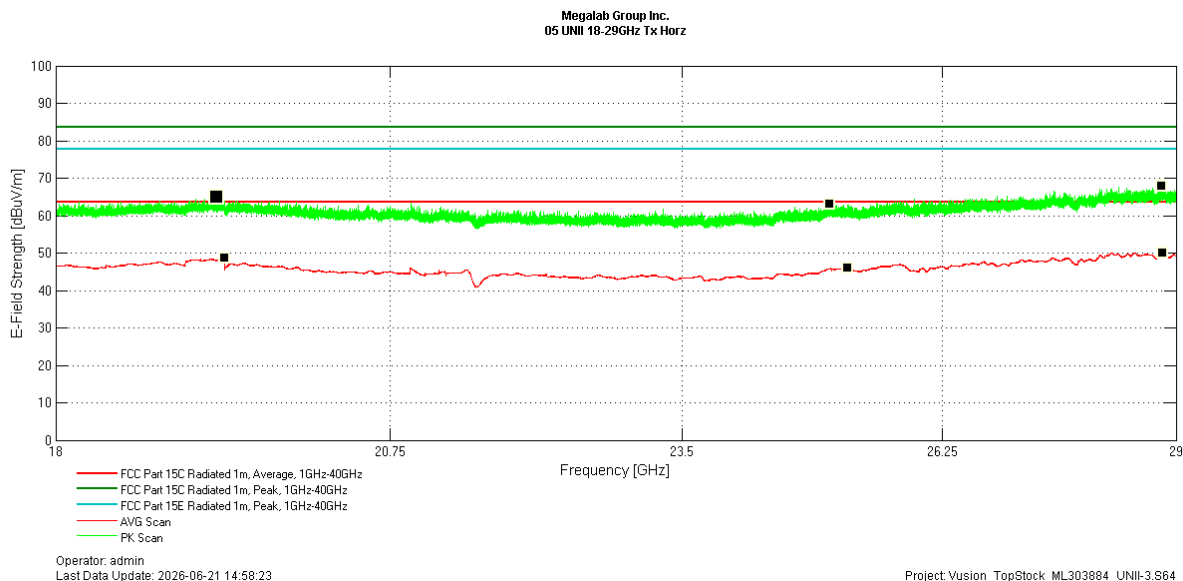
Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	10GHz to 18GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Horizontal



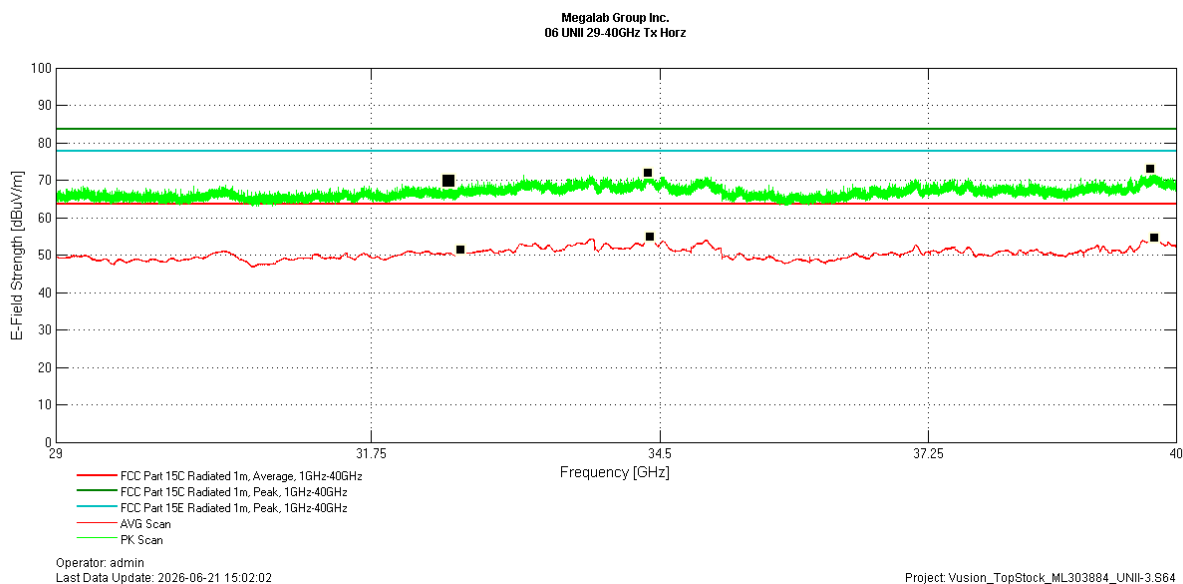
Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	18GHz to 29GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Horizontal



Remark: - Peak and Average Emission Plot

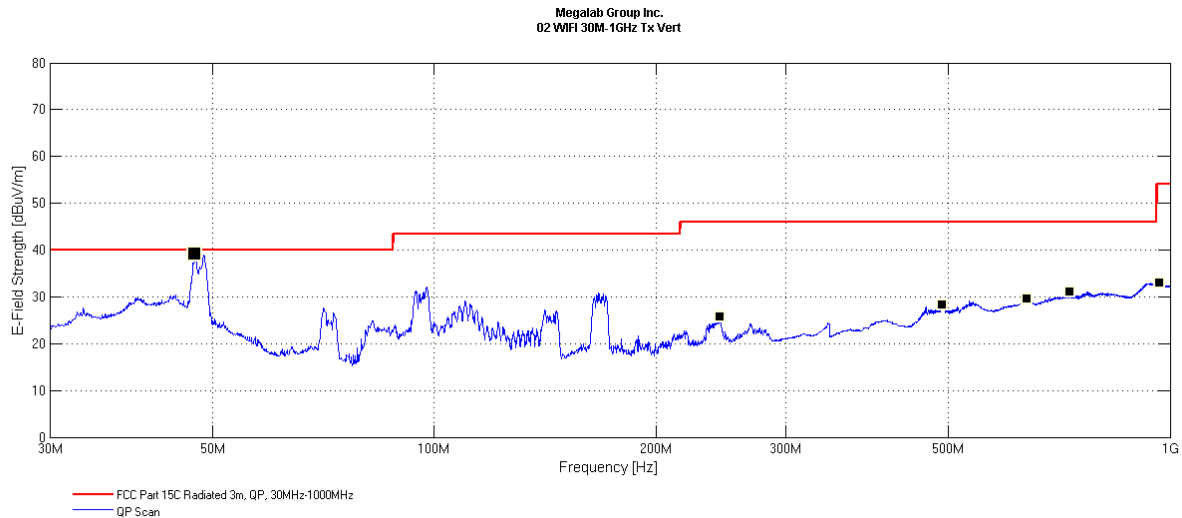
Range:	29GHz to 40GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Horizontal



Remark: - Peak and Average Emission Plot

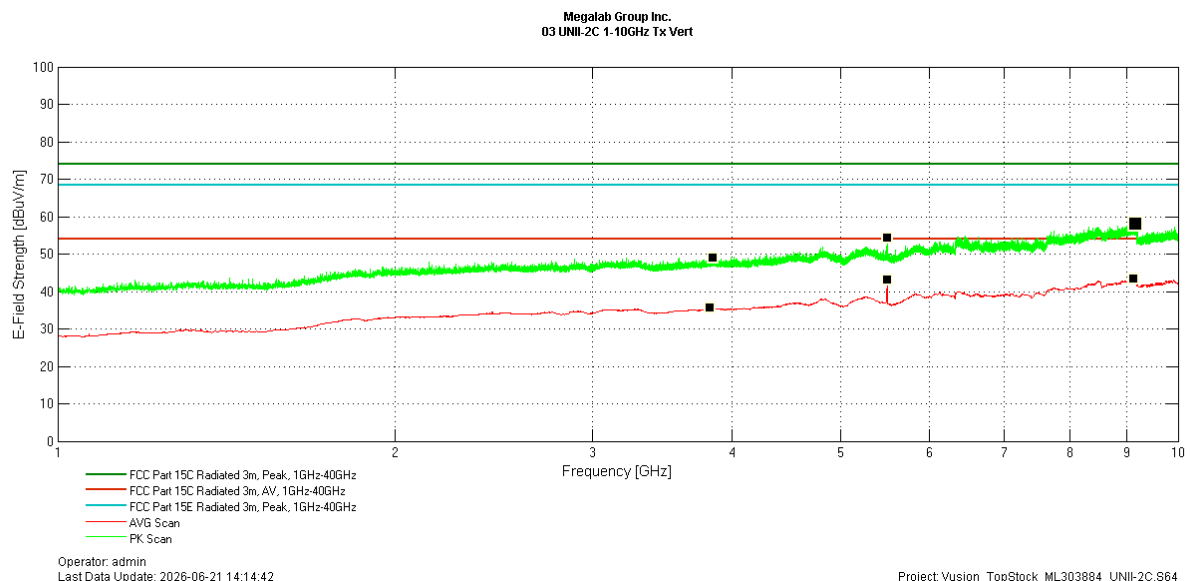
Horizontal Antenna Polarization							
Frequency (MHz)	Detector	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
167.20	QP	40.39	-11.54	28.85	43.50	14.65	Pass
269.10	QP	35.61	-6.10	29.51	46.00	16.49	Pass
514.40	QP	23.69	1.48	25.17	46.00	20.83	Pass
636.95	QP	21.10	5.50	26.60	46.00	19.40	Pass
685.00	QP	23.36	6.27	29.63	46.00	16.37	Pass
966.50	QP	20.58	12.51	33.09	54.00	20.91	Pass

Range:	30MHz to 1GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Vertical



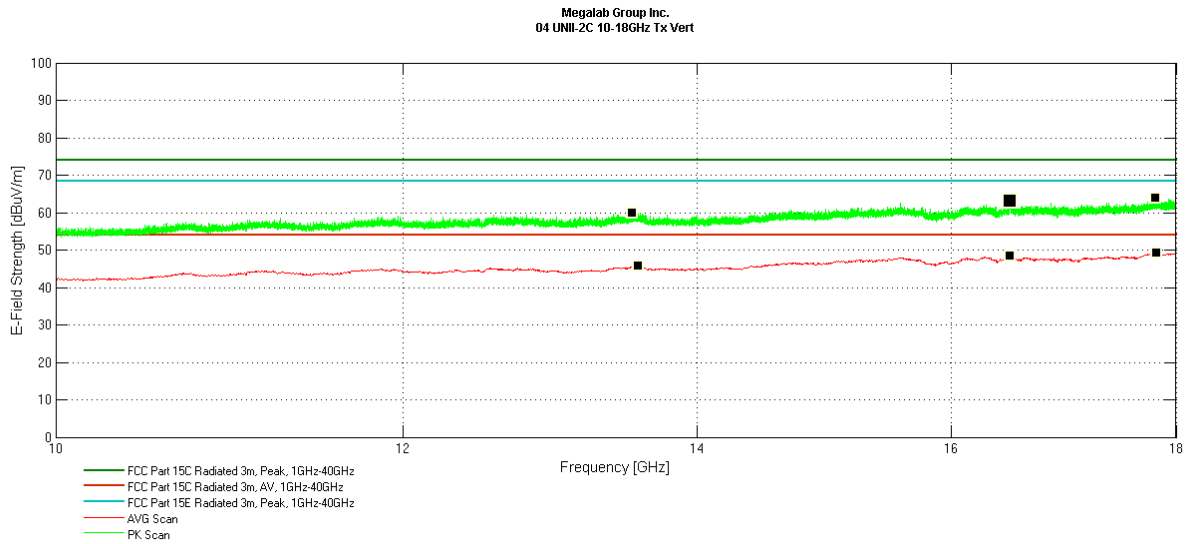
Remark: - Quasi-Peak Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	1GHz to 10GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Vertical



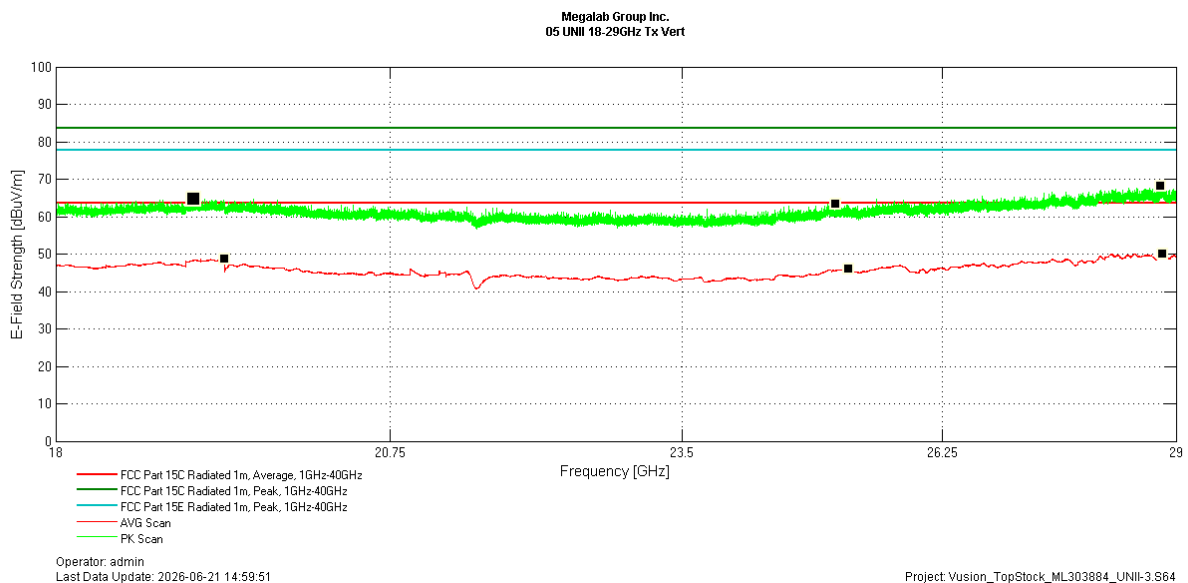
Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	10GHz to 18GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Vertical



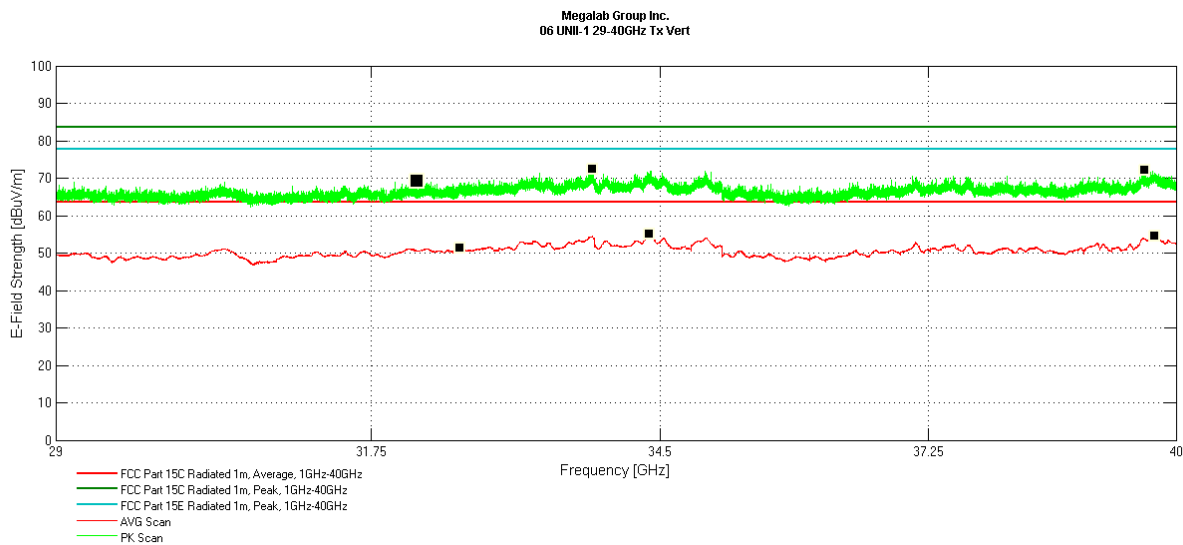
Remark: - **Peak** and **Average** Emission Plot
- A Notch filter was used to filter out the fundamental

Range:	18GHz to 29GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Vertical



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

Range:	29GHz to 40GHz	Tx Frequency	5500 MHz
Test Voltage:	9VDC Battery	Antenna Polarization	Vertical



Project: Vusion_TopStock_ML303884_UNII-3.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
47.30	QP	54.10	-15.04	39.06	40.00	0.94	Pass
244.70	QP	33.03	-7.42	25.61	46.00	20.39	Pass
490.50	QP	28.20	0.03	28.23	46.00	17.77	Pass
639.95	QP	24.06	5.44	29.50	46.00	16.50	Pass
730.80	QP	23.70	7.30	31.00	46.00	15.00	Pass
967.40	QP	20.51	12.52	33.03	54.00	20.97	Pass

4.4.4 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration Date	Calibration Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 6, 2026	Mar 6, 2028
EQ_EMC_132	EMI Receiver	Gauss Instruments	TDEMI X40	Jan 28, 2026	Jan 28, 2028
EQ_EMC_48	Loop Antenna 9kHz – 30MHz	Com-Power	AL-130R	Apr 15, 2026	Apr 15, 2028
EQ_EMC_59	BiLog Antenna 30MHz – 1GHz	ETS Lindgren	3142E	Apr 22, 2026	Apr 22, 2028
EQ_EMC_68	6dB Attenuator	Fairview Microwave	SA3NS-06	Apr 22, 2026	Apr 22, 2028
EQ_EMC_60	Horn Antenna 1GHz – 18GHz	ETS Lindgren	3117	April 14, 2026	April 14, 2028
EQ_EMC_56	Horn Antenna 18GHz – 40GHz	A.H Systems	SAS-574	April 17, 2026	April 17, 2028
EQ_EMC_85	RF Cable <1GHz	Times Microwave	LMR-400	Mar 31, 2026	Mar 31, 2027
EQ_EMC_75	RF Cable >1GHz	MegaPhase	EMC2	Mar 31, 2026	Mar 31, 2027
EQ_EMC_197	Preamplifier 30MHz – 1GHz	Agilent	8447D	Jan 29, 2026	Jan 29, 2027
EQ_EMC_42	Preamplifier 1GHz – 18GHz	Com-Power	PAM-118A	Feb 20, 2026	Feb 20, 2027
EQ_EMC_43	Preamplifier 18GHz – 40GHz	Com-Power	PAM-840A	Feb 20, 2026	Feb 20, 2027
EQ_EMC_109	5150 - 5880MHz Notch Filter	Micro-Tronics	BRM50716	Feb 20, 2026	Feb 20, 2027
EQ_EMC_149	Emission Software RE/CE	Gauss Instruments	EMI64k v6.31.2	NCR	NCR

4.5 Lower and Upper Band Edges

Test Date: June 17, 2026
Temperature (°C) 26.6
Relative Humidity (%) 45.4
Barometric Pressure (kPa) 100.4

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), must comply with the general transmitter radiated emission limits specified in FCC 15.209(a).

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.

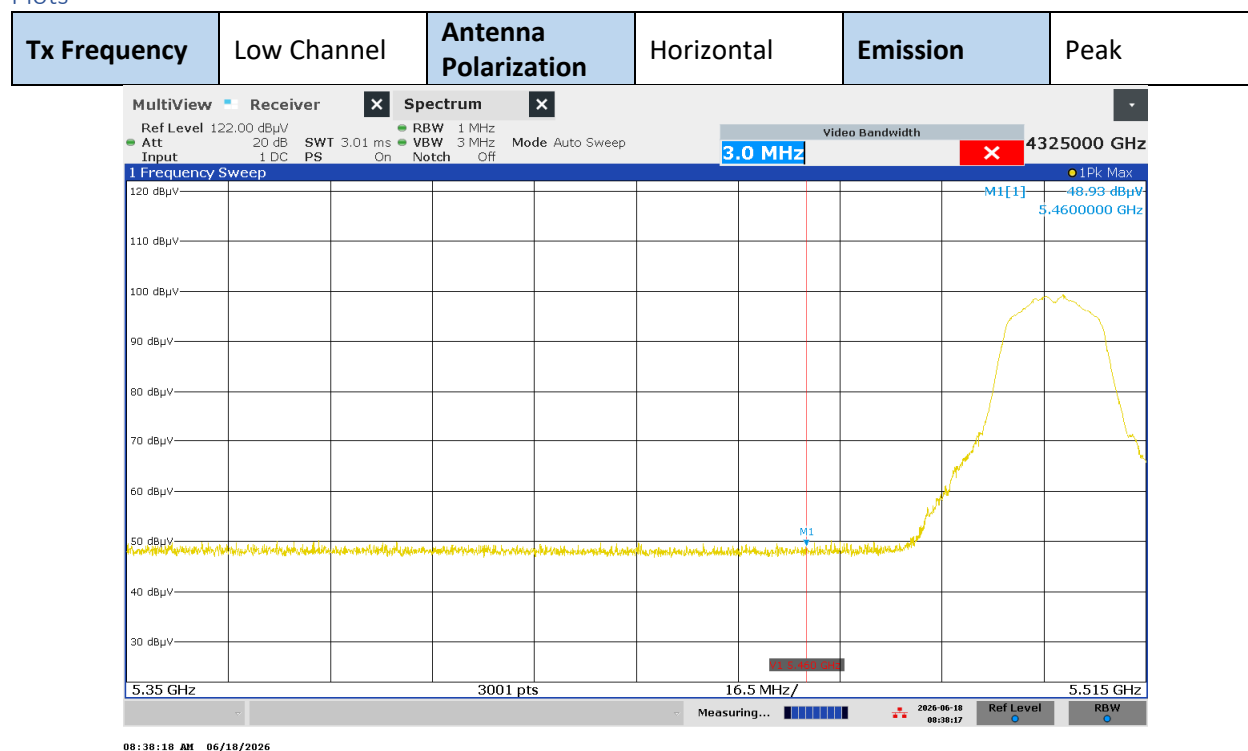
The radiated band edge measurements were made with the DUT in normal operation position.

4.5.3 Test Results

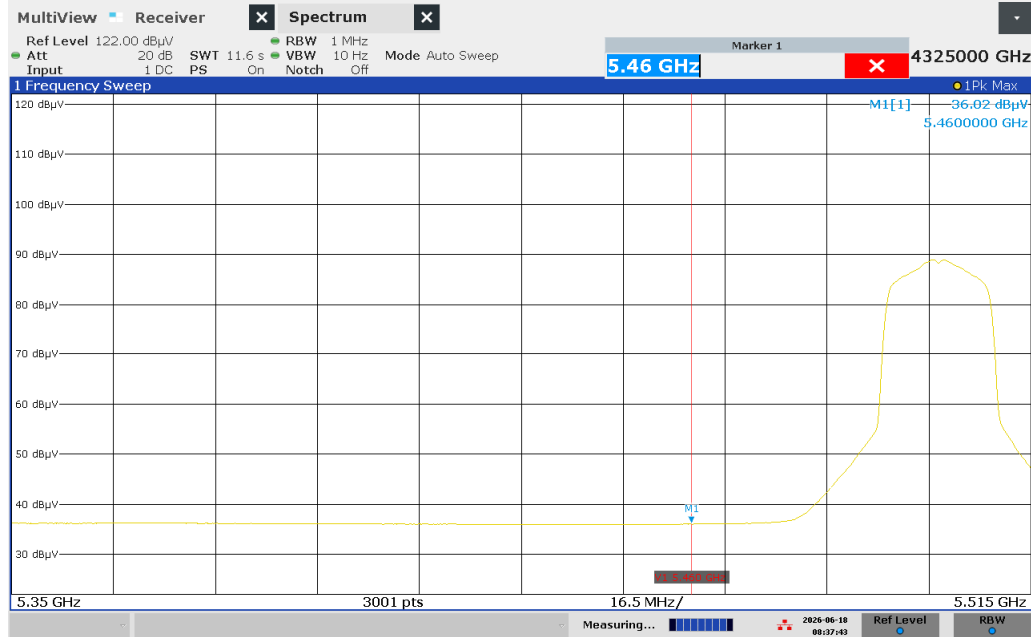
4.5.3.1. Test Results – 802.11 a

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

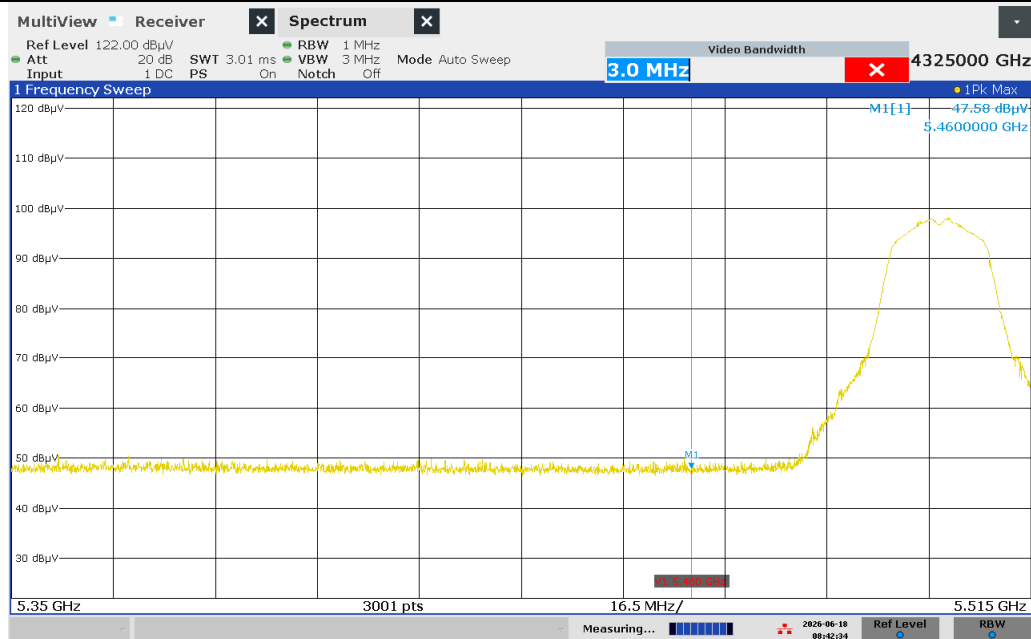


Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Average
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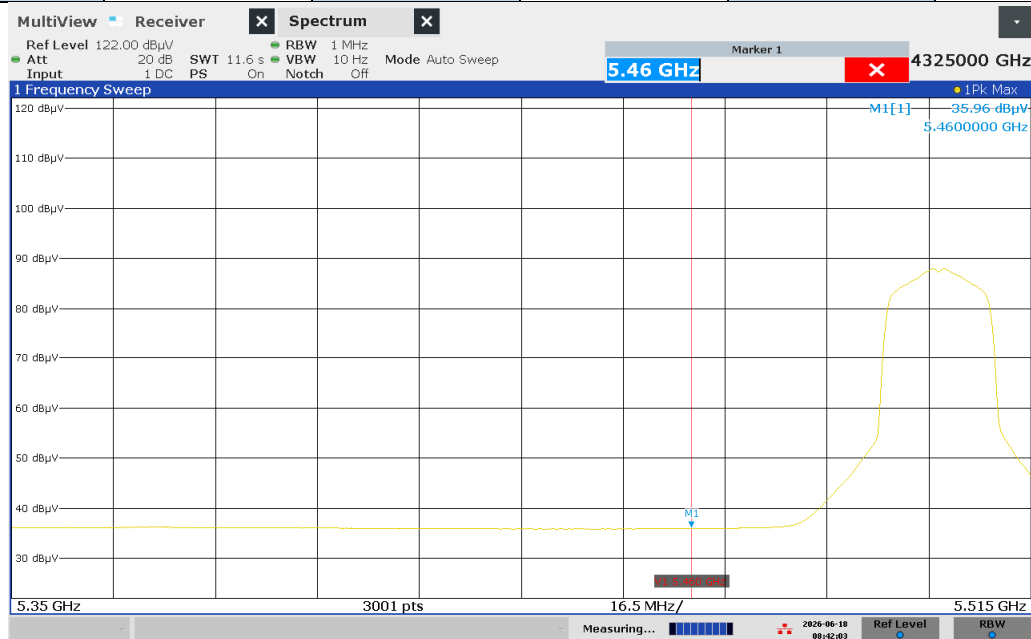
08:37:43 AM 06/18/2026

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Peak
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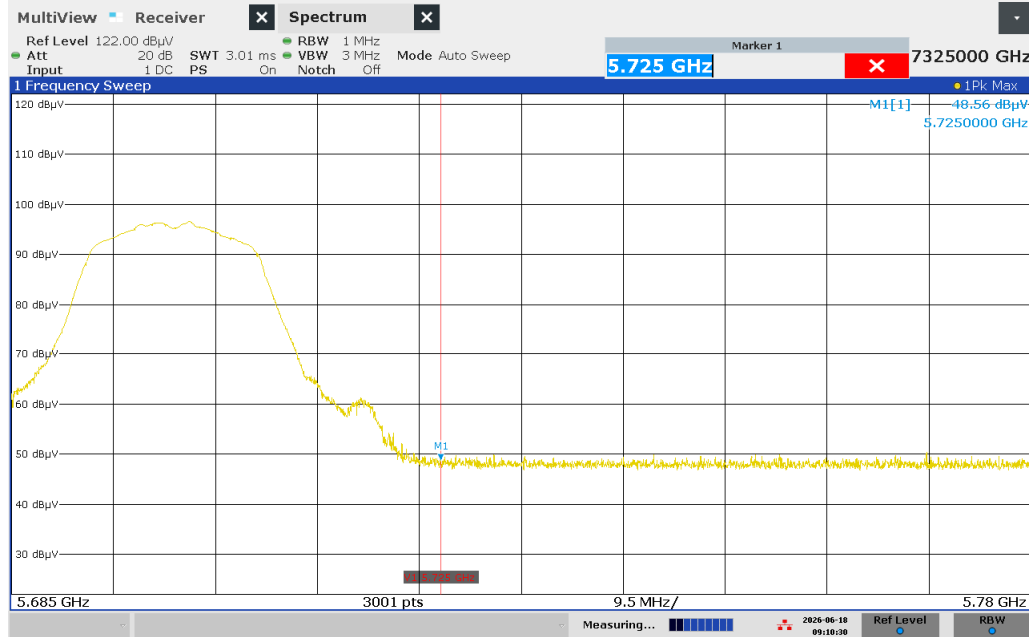
08:42:35 AM 06/18/2026

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Average
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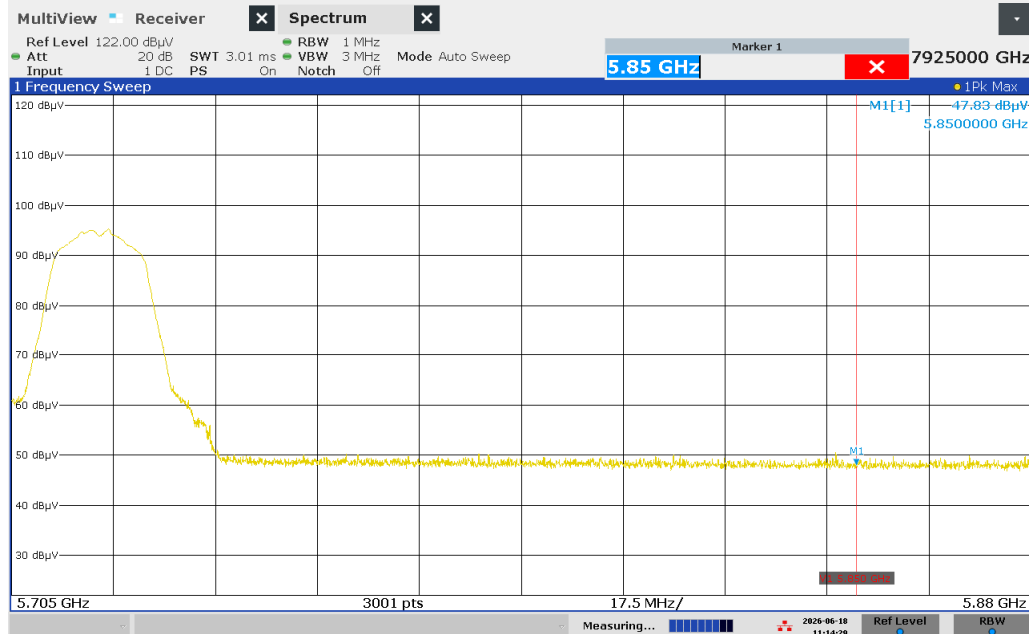
08:42:04 AM 06/18/2026

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Peak
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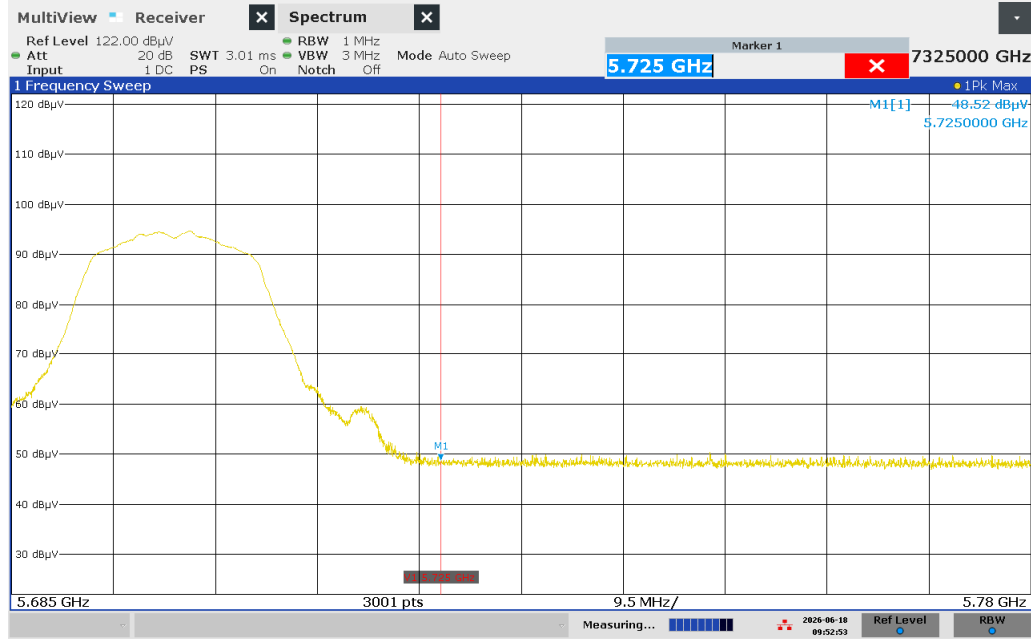
09:10:31 AM 06/18/2026

Tx Frequency	5720	Antenna Polarization	Horizontal	Emission	Peak
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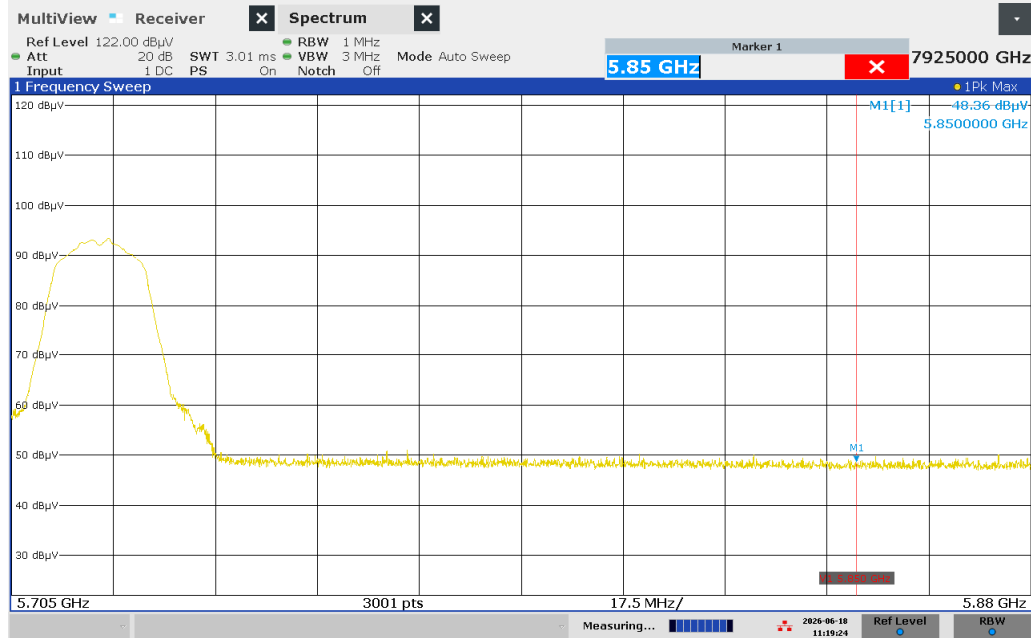
11:14:29 AM 06/18/2026

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Peak
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09:52:54 AM 06/18/2026

Tx Frequency	5720	Antenna Polarization	Vertical	Emission	Peak
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11:19:24 AM 06/18/2026

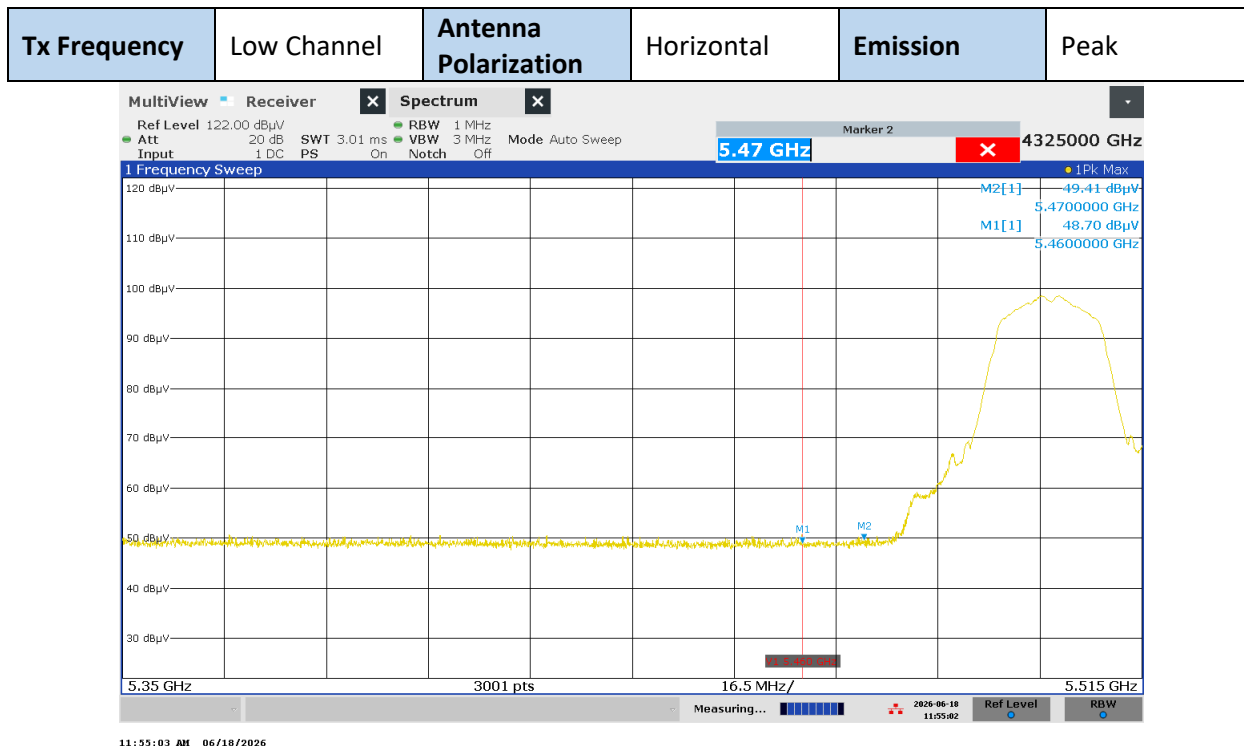
Final Measurements

Frequency (MHz)	Detector	Antenna Polarity	Reading (dBμV)	Correction Factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
802.11 A - Low Channel								
5500.0	PEAK	Horz	99.3	12.5	111.8	--	--	--
5500.0	AVG	Horz	59.0	12.5	71.5	--	--	--
5500.0	PEAK	Vert	98.1	12.5	110.6	--	--	--
5500.0	AVG	Vert	88.0	12.5	100.5	--	--	--
5460.0	PEAK	Horz	48.9	12.4	61.3	74.0	12.7	Pass
5460.0	AVG	Horz	36.0	12.4	48.4	54.0	5.6	Pass
5460.0	PEAK	Vert	47.5	12.4	59.9	74.0	14.1	Pass
5460.0	AVG	Vert	36.0	12.4	48.3	54.0	5.7	Pass
5470.0	PEAK	Horz	49.6	12.4	62.0	68.3	6.3	Pass
5470.0	PEAK	Vert	47.9	12.4	60.2	68.3	8.1	Pass
802.11 A - High Channel (140)								
5700.0	PEAK	Horz	96.5	12.8	109.3	--	--	--
5700.0	AVG	Horz	86.5	12.8	99.3	--	--	--
5700.0	PEAK	Vert	94.8	12.8	107.6	--	--	--
5700.0	AVG	Vert	84.5	12.8	97.3	--	--	--
5725.0	PEAK	Horz	48.6	12.9	61.5	68.3	6.8	Pass
5725.0	PEAK	Vert	48.5	12.9	61.4	68.3	6.9	Pass
802.11 A - High Channel (144)								
5720.0	PEAK	Horz	95.2	12.9	108.1	--	--	--
5720.0	AVG	Horz	85.2	12.9	98.1	--	--	--
5720.0	PEAK	Vert	93.4	12.9	106.3	--	--	--
5720.0	AVG	Vert	83.2	12.9	96.1	--	--	--
5850.0	PEAK	Horz	47.8	13.3	61.2	68.3	7.1	Pass
5850.0	PEAK	Vert	48.4	13.3	61.7	68.3	6.6	Pass

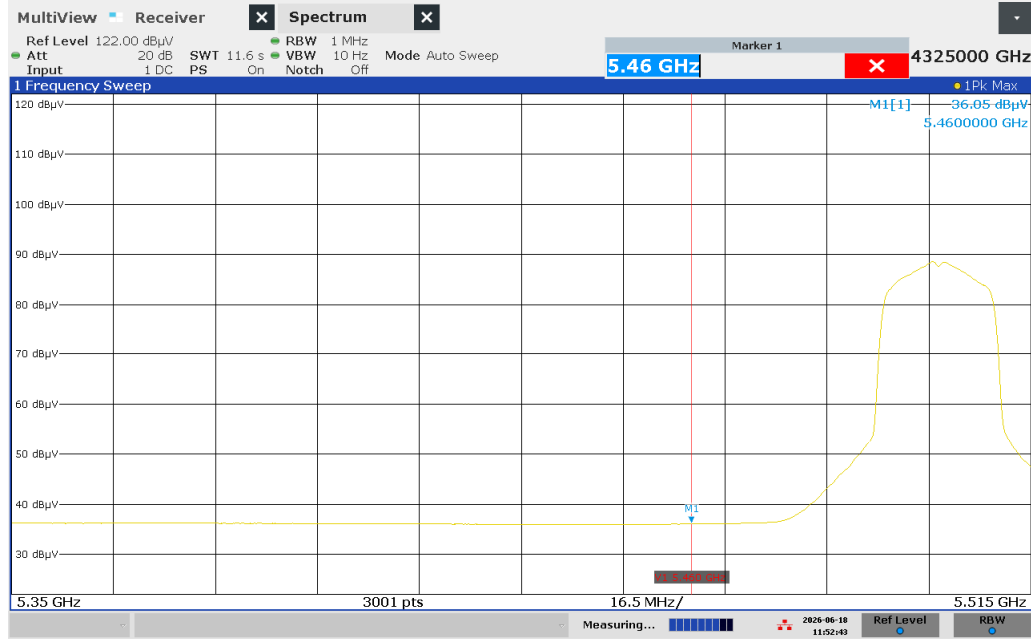
4.5.3.2. Test Results – 802.11 n HT20

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

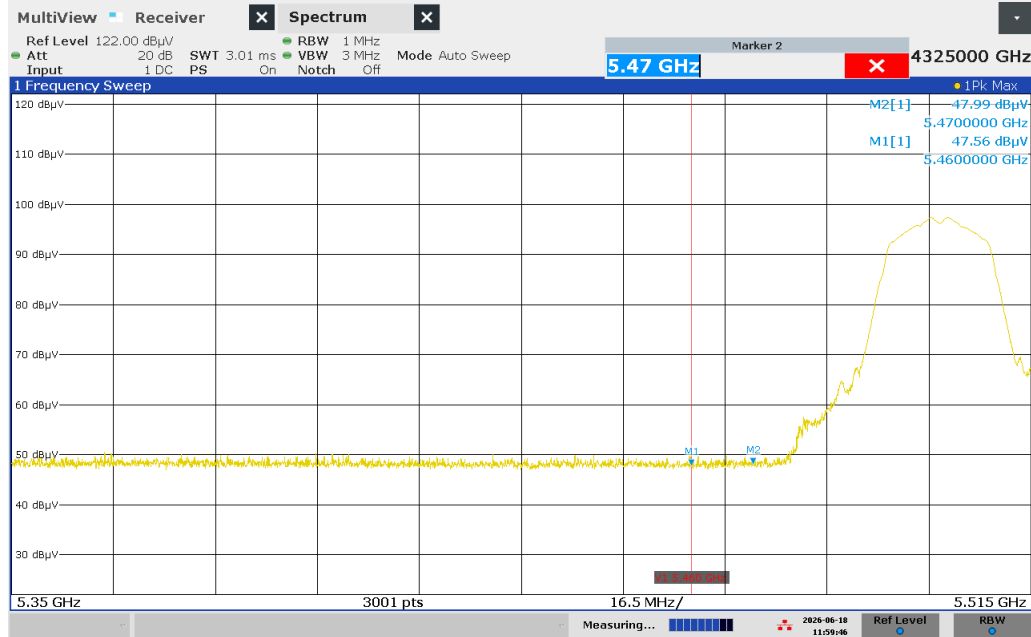


Tx Frequency	Low Channel	Antenna Polarization	Horizontal	Emission	Average
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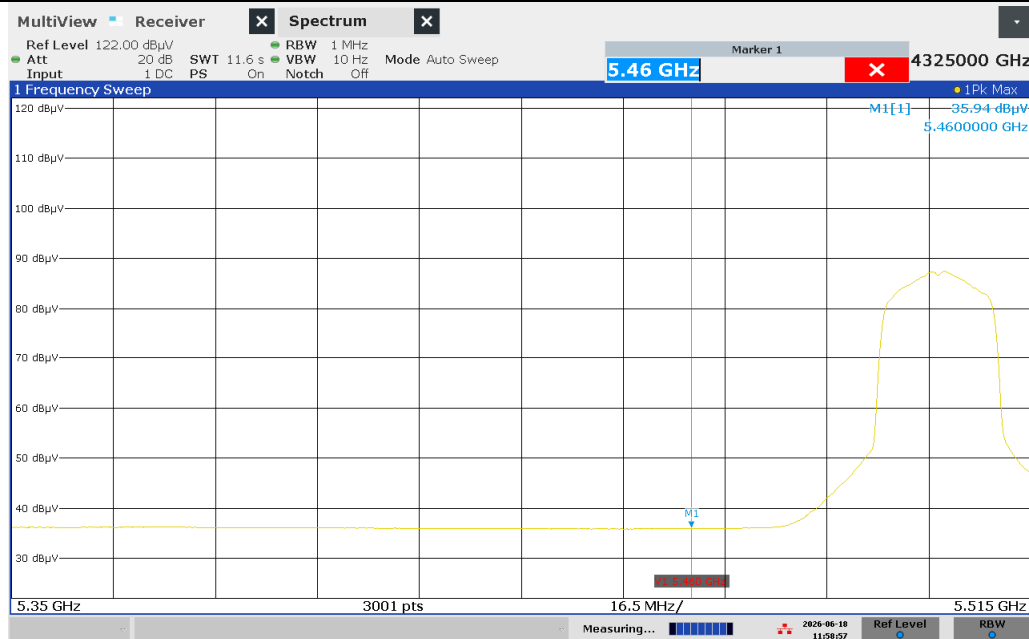
11:52:44 AM 06/18/2026

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Peak
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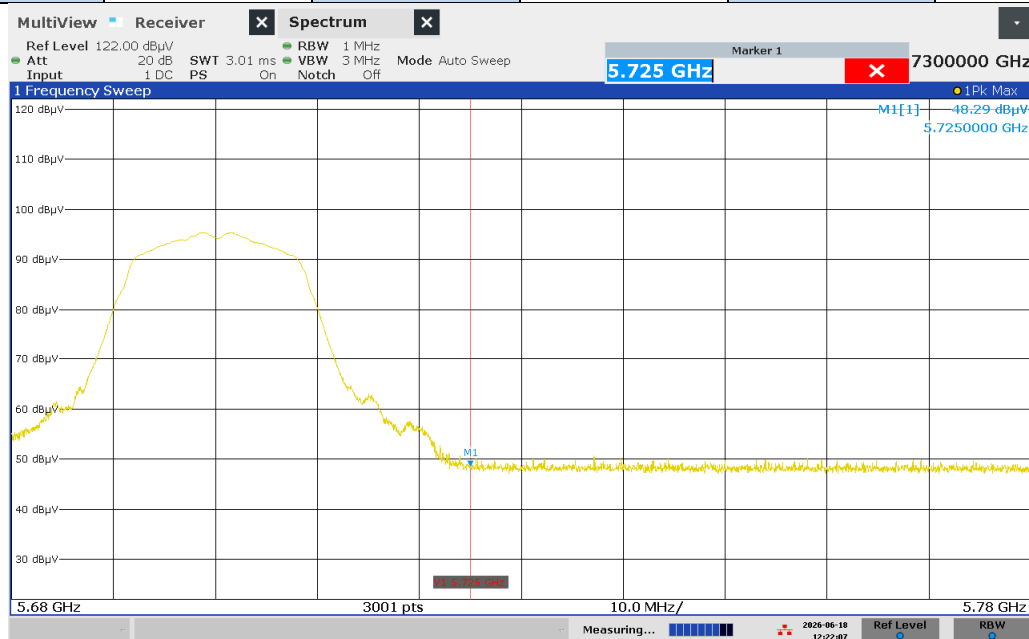
11:59:47 AM 06/18/2026

Tx Frequency	Low Channel	Antenna Polarization	Vertical	Emission	Average
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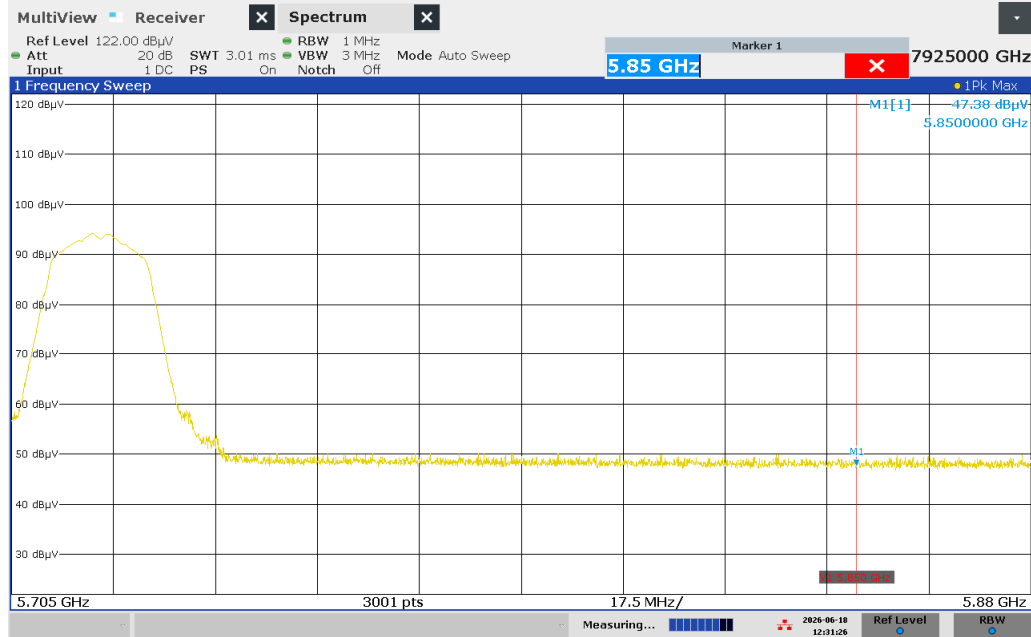
11:58:57 AM 06/18/2026

Tx Frequency	High Channel	Antenna Polarization	Horizontal	Emission	Peak
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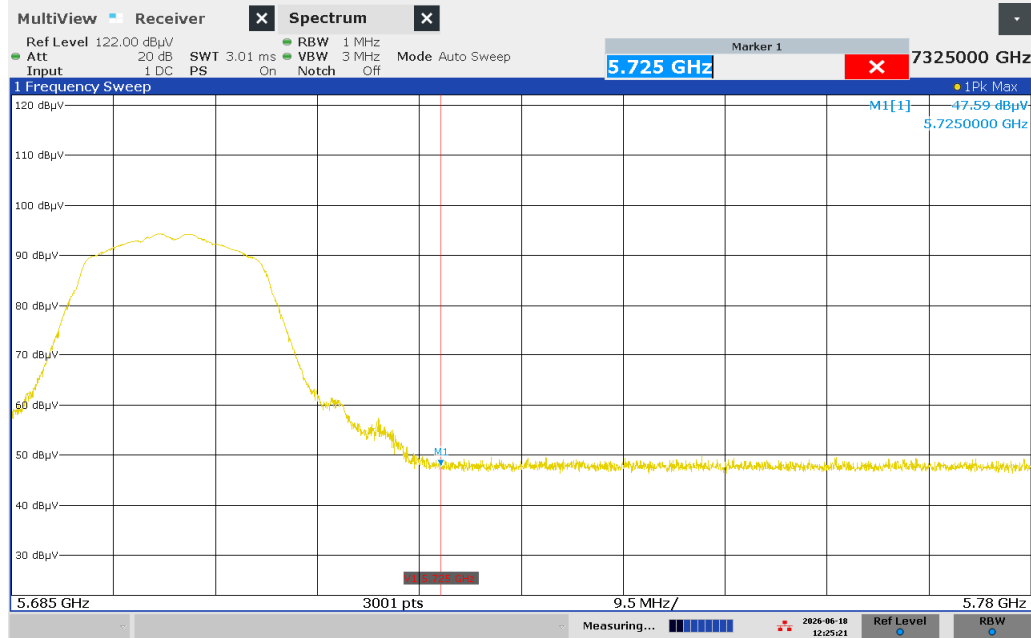
12:22:08 PM 06/18/2026

Tx Frequency	5720	Antenna Polarization	Horizontal	Emission	Peak
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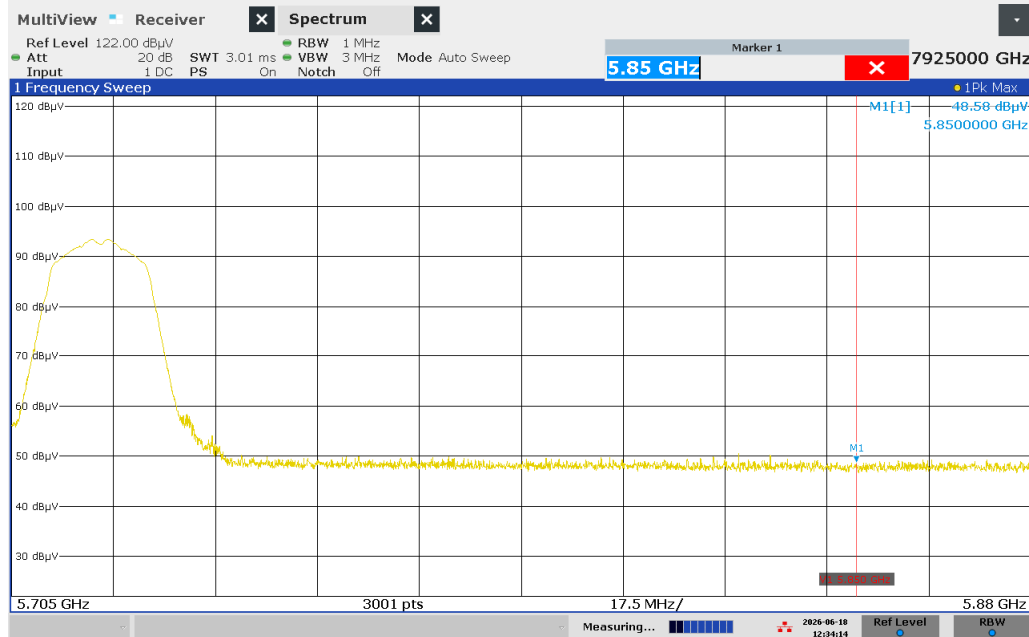
12:31:27 PM 06/18/2026

Tx Frequency	High Channel	Antenna Polarization	Vertical	Emission	Peak
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12:25:21 PM 06/18/2026

Tx Frequency	5720	Antenna Polarization	Vertical	Emission	Peak
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12:34:15 PM 06/18/2026

Final Measurements

Frequency (MHz)	Detector	Antenna Polarity	Reading (dBμV)	Correction Factor (dB)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Test Result
802.11 N - Low Channel								
5500.0	PEAK	Horz	98.4	12.5	110.8	--	--	--
5500.0	AVG	Horz	88.4	12.5	100.9	--	--	--
5500.0	PEAK	Vert	97.4	12.5	109.8	--	--	--
5500.0	AVG	Vert	87.5	12.5	99.9	--	--	--
5460.0	PEAK	Horz	48.7	12.4	61.1	74.0	12.9	Pass
5460.0	AVG	Horz	36.1	12.4	48.4	54.0	5.6	Pass
5460.0	PEAK	Vert	47.6	12.4	59.9	74.0	14.1	Pass
5460.0	AVG	Vert	35.9	12.4	48.3	54.0	5.7	Pass
5470.0	PEAK	Horz	49.4	12.4	61.8	68.3	6.5	Pass
5470.0	PEAK	Vert	48.0	12.4	60.4	68.3	7.9	Pass
802.11 N - High Channel (140)								
5700.0	PEAK	Horz	95.5	12.8	108.3	--	--	--
5700.0	AVG	Horz	85.6	12.8	98.4	--	--	--
5700.0	PEAK	Vert	94.4	12.8	107.2	--	--	--
5700.0	AVG	Vert	84.4	12.8	97.2	--	--	--
5725.0	PEAK	Horz	48.3	12.9	61.2	68.3	7.1	Pass
5725.0	PEAK	Vert	47.6	12.9	60.5	68.3	7.8	Pass
802.11 N - High Channel (144)								
5720.0	PEAK	Horz	94.2	12.9	107.0	--	--	--
5720.0	AVG	Horz	84.3	12.9	97.1	--	--	--
5720.0	PEAK	Vert	93.5	12.9	106.4	--	--	--
5720.0	AVG	Vert	83.6	12.9	96.4	--	--	--
5850.0	PEAK	Horz	47.4	13.3	60.7	68.3	7.6	Pass
5850.0	PEAK	Vert	48.6	13.3	61.9	68.3	6.4	Pass

4.5.4 Test Equipment List

Equipment ID	Description	Manufacturer	Model	Calibration Date	Calibration Due
EQ_EMC_58	EMI Receiver	Rohde & Schwarz	ESW 44	Mar 6, 2026	Mar 6, 2028
EQ_EMC_60	Horn Antenna	ETS Lindgren	3117	April 14, 2026	April 14, 2028
EQ_EMC_75	RF Cable >1GHz	MegaPhase	EMC2	Mar 31, 2026	Mar 31, 2027
EQ_EMC_176	10dB Attenuator	Centric RF	C18S2-10	Feb 20, 2026	Feb 20, 2027
EQ_EMC_42	Preamplifier 1GHz-18GHz	Com-Power	PAM-118A	Feb 20, 2026	Feb 20, 2027