Emissions
Test Report Part 2

EUT Name: SkydioLink 5GHz Radio

Model No.: SMO5GV1

CFR 47 Part 15.407 2021

Prepared for:

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Prepared by:

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Revisions

Revision No.	Date MM/DD/YYYY	Reason for Change	Author
0	04/08/2021	Original Document	N/A

Note: Latest revision report will replace all previous reports.

Statement of Compliance

Manufacturer:	Skydio, Inc. 114 Hazel Avenue Redwood City CA 94061
Requester / Applicant:	Skydio, Inc. 925-766-1258
Name of Equipment:	SkydioLink 5GHz Radio
Model No.	SMO5GV1
Type of Equipment:	Intentional Radiator
Application of Regulations:	CFR 47 Part 15.407 2021
Test Dates:	February 16, 2021 to April 4, 2021

Guidance Documents:

Emissions: ANSI C63.10-2013, KDB 789033 D02 General UNII Test Procedures New Rules v02r01, KDB 662911 D01 Multiple Transmitter Output v02r01

Test Methods:

Emissions: ANSI C63.10-2013, KDB 789033 D02 General UNII Test Procedures New Rules v02r01, KDB 662911 D01 Multiple Transmitter Output v02r01

The electromagnetic compatibility test and documented data described in this report has been performed and recorded by TUV Rheinland, in accordance with the standards and procedures listed herein. As the responsible authorized agent of the EMC laboratory, I hereby declare that the equipment described above has been shown to be compliant with the EMC requirements of the stated regulations and standards based on these results. If any special accessories and/or modifications were required for compliance, they are listed in the Executive Summary of this report.

This report must not be used to claim product endorsement by A2LA or any agency of the U.S. Government. This report contains data that are not covered by A2LA accreditation. This report shall not be reproduced except in full, without the written authorization of TUV Rheinland of North America.

Osvaldo Casorla		Richard Decker	
Test Engineer	Date April 8th, 2021	Reviewer Signature	Date April 8th, 2021

Testing Cert #3331.02 **US1131** **2932M**

1 Executive Summary

1.1 Scope

This report is intended to document the status of conformance with the requirements of the CFR 47 Part 15.407 2021 based on the results of testing performed on February 16, 2021 to April 4, 2021 on the SkydioLink 5GHz Radio Model SMO5GV1 manufactured by Skydio, Inc. This report only applies to the specific samples tested under the stated test conditions. It is the responsibility of the manufacturer to assure that additional production units of this model are manufactured with identical or EMI equivalent electrical and mechanical components. This report is further intended to document changes and modifications to the EUT throughout its life cycle. All documentation will be included as a supplement.

1.2 Purpose

Testing was performed to evaluate the EMC performance of the EUT in accordance with the applicable requirements, procedures, and criteria defined in the application of regulations and application of standards listed in this report. The 5170.5 MHz – 5240.5 MHz and 5730.5 MHz to 5825.5 MHz frequency bands are covered in this document.

1.3 Summary of Test Results

Table 1: Summary of Test Results

Test	Test Method ANSI C63.10:2013	Test Parameters	Measured Value	Result
Duty Cycle	Information Only	N/A	See Section 3.5	N/A
Spurious Emission in Transmit Mode	CFR47 15.209, CFR47 15.407 (b)	Class B	-0.14 dB Margin	**Complied**
Restricted Bands of Operation	CFR47 15.205	Class B		**Complied**
AC Power Conducted Emission	CFR47 15.207	Class B	N/A	**Note 3**
Occupied Bandwidth	CFR47 15.407 (a) & (e)	DTS ≥ 500 kHz	DTS BW: 4.05 MHz	**Complied**
Maximum Output Power	CFR47 15.407 (a)	UNII1: 1W UNII3: 1W	UNII1: 20.90 UNII3: 25.18	**Complied**
Power Spectral Density	CFR47 15.407 (a)	UNII1: 17dBm/MHz UNII3: 30dBm/0.5MHz	UNII1: 16.90 dBm/ MHz UNII3: 18.93 dBm/ 500kHz	**Complied**
Conducted Emission – Antenna Port	CFR47 15.407 (b)(1) (2)(3)	< -27 dBm/MHz	-1.89 dB Margin	**Complied**
	CFR47 15.407 (b)(4)	Spectrum Mask	-1.81 dB Margin	**Complied**

Note: 1. Measurements are conducted 2x2 total power for non-correlated.
2. UNII-1 band measurements are conducted max power for non-correlated.
* = max PSD for non-correlated.
3. Not applicable due to the unit's power source is Vdc: 12VDC.

1.4 Special Accessories

No special accessories were necessary in order to achieve compliance.

1.5 Equipment Modifications

None

2 Laboratory Information

2.1.1 US Federal Communications Commission

TUV Rheinland of North America EMC test facilities located at 1279 Quarry Lane, Ste. A, Pleasanton, CA, 94566, and 5015 Brandin Ct, Fremont, CA. 94538, are recognized by the Commission for performing testing services for the general public on a fee basis. These laboratory test facilities have been fully described in reports submitted to and accepted by the FCC (Pleasanton Registration No. US1131, Fremont Registration No. US1131). The laboratory Scopes of Accreditation include Title 47 CFR Parts 15, 18 and 90. The accreditations are updated every three years.

2.1.2 A2LA

TUV Rheinland of North America EMC test facilities are accredited by the American Association for Laboratory Accreditation (A2LA). The laboratories have been assessed and accredited by A2LA in accordance with ISO Standard 17025:2017 (Testing Certificate #3331.02). The Scope of Laboratory Accreditation includes emission and immunity testing. The accreditations are updated annually.

2.1.3 Industry Canada

The Pleasanton 5-meter Semi-Anechoic Chamber, Registration No. 2932M-1, has been accepted by Industry Canada to perform testing to 3 and 5 meters based on the test procedures described in ANSI C63.4-2014. The Fremont 10-meter Semi-Anechoic Chamber, Registration No. 2932D-1, has been accepted by Industry Canada to perform testing to 3 and 10 meters based on the test procedures described in ANSI C63.4-2014.

2.1.4 Japan – VCCI

The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) is a group that consists of Information Technology Equipment (ITE) manufacturers and EMC test laboratories. The purpose of the Council is to take voluntary control measures against electromagnetic interference from Information Technology Equipment, and thereby contribute to the development of a socially beneficial and responsible state of affairs in the realm of Information Technology Equipment in Japan. TUV Rheinland of North America EMC test facilities located at 1279 Quarry Lane, Ste. A, Pleasanton, CA, 94566, and 5051 Brandin Ct, Fremont, CA. 94538, have been assessed and approved in accordance with the Regulations for Voluntary Control Measures.
VCCI Registration No. for Pleasanton: A-0326
VCCI Registration No. for Fremont: A-0327

2.1.5 Acceptance by Mutual Recognition Arrangement

The United States has an established agreement with specific countries under the Asia Pacific Laboratory Accreditation Corporation (APLAC) Mutual Recognition Arrangement. Under this agreement, all TUV Rheinland at 1279 Quarry Ln, Pleasanton, CA 94566 test results and test reports within the scope of the laboratory NIST / A2LA accreditation will be accepted by each member country.

2.2 Test Facilities & EMC Software

Test facilities are located at 1279 Quarry Lane, Ste. A, Pleasanton, California 94566, U.S.A. and 5015 Brandin Ct, Fremont, CA. 94538, U.S.A. (Fremont is the Pleasanton Annex).

2.2.1 Emission Test Facility

The Semi-Anechoic Chambers and AC Line Conducted measurement facilities used to collect radiated and conducted emissions data have been constructed in accordance with ANSI C63.7:1992. The Fremont 10 meter semi-anechoic chamber has been measured in accordance with and verified to comply with the theoretical volumetric normalized site attenuation of ANSI C63.4-2014 and SVSWR requirements of CISPR 16-1-4 Consol. Ed. 3.0 (2010-04), at test distances of 3 and 10 meters. This site has been described in reports dated November 1st, 2006, submitted to the FCC, and accepted by letter dated November 28, 2006. The site is listed with the FCC and accredited by A2LA (Testing Certificate #3331.02). The Pleasanton 5 meter semi-anechoic chamber has been verified to comply with the theoretical volumetric normalized site attenuation of ANSI C63.4-2014 and SVSWR requirements of CISPR 16-1-4 Consol. Ed. 3.0 (2010-04) at a test distance of 3 meters. This site has been described in reports dated November 1st, 2006, submitted to the FCC, and accepted by letter dated November 28, 2006. The site is listed with the FCC and accredited by A2LA (Testing Certificate #3331.02).

2.2.2 Immunity Test Facility

ESD, EFT, Surge, PQF: These tests are performed in an environmentally controlled room with a 3.7 m x 4.8 m x 3.175 mm thick aluminum floor connected to PE ground.

For ESD testing, tabletop equipment is placed on an insulated mat with a surface resistivity of 10^9 Ohms/square on a 1.6 m x 0.8 m x 0.8 m high non-conductive table with a 3.175 mm aluminum top (Horizontal Coupling Plane). The HCP is connected to the main ground plane via a low impedance ground strap through two 470-kΩ resistors. The Vertical Coupling Plane consists of an aluminum plate 50 cm x 50 cm x 3.175 mm thick. The VCP is connected to the main ground plane via a low impedance ground strap through two 470-kΩ resistors.

For EFT, Surge, PQF, the HCP and VCP are removed.

RF Field Immunity testing is performed in a 7.3 m x 4.3 m x 4.1 m anechoic chamber.

RF Conducted and Magnetic Field Immunity testing is performed on a 4.8 m x 3.7 m x 3.175 mm thick aluminum ground plane.

All test areas allow a minimum distance of 1 meter from the EUT to walls or conducting objects.

2.2.3 Sample Calculation – radiated & conducted emissions

The field strength is calculated by subtracting the Amplifier Gain and adding the Cable Loss and Antenna Correction Factor to the measured reading. The basic equation is as follows:

Field Strength (dBμV/m) = RAW - AMP + CBL + ACF

Where: RAW = Measured level before correction (dBμV)

AMP = Amplifier Gain (dB)

CBL = Cable Loss (dB)

ACF = Antenna Correction Factor (dB/m)

$$\mu V/m = 10^{\frac{dB\mu V/m}{20}}$$

Sample radiated emissions calculation @ 30 MHz

Measurement +Antenna Factor–Amplifier Gain+Cable loss=Radiated Emissions (dBuV/m)

25 dBuV/m + 17.5 dB – 20 dB + 1.0 dB = 23.5 dBuV/m

2.2.4 Measurement Uncertainty

Per CISPR 16-4-2	**U_{lab}**	**U_{cispr}**
Radiated Disturbance @ 10 meters		
30 – 1,000 MHz	2.25 dB	4.51 dB
Radiated Disturbance @ 3 meters		
30 – 1,000 MHz	2.26 dB	4.52 dB
1 – 6 GHz	2.12 dB	4.25 dB
6 – 40 GHz	2.47 dB	4.93 dB
Conducted Disturbance @ Mains Terminals		
150 kHz – 30 MHz	1.09 dB	2.18 dB
Disturbance Power		
30 MHz – 300 MHz	3.92 dB	4.3 dB

Voltech PM6000A

The estimated combined standard uncertainty for harmonic current and flicker measurements is ± 5.0%.	Per CISPR 16-4-2 Methods

Measurement Uncertainty - EMC Immunity

The estimated combined standard uncertainty for ESD immunity measurements is ± 8.2%.	Per IEC 61000-4-2
The estimated combined standard uncertainty for radiated immunity measurements is ± 4.10 dB.	Per IEC 61000-4-3
The estimated combined standard uncertainty for conducted immunity measurements with CDN is ± 3.66 dB	Per IEC 61000-4-6
The estimated combined standard uncertainty for power frequency magnetic field immunity is ± 2.9%.	Per IEC 61000-4-8
The estimated combined standard uncertainty for EFT fast transient immunity measurements is ± 2.6%.	Per IEC 61000-4-4
The estimated combined standard uncertainty for surge immunity measurements is ± 2.6%.	Per IEC 61000-4-5
The estimated combined standard uncertainty for voltage variation and interruption measurements is ± 1.74%.	Per IEC 61000-4-11

Measurement Uncertainty – Radio Testing

The estimated combined standard uncertainty for frequency error measurements is ± 3.88 Hz
The estimated combined standard uncertainty for carrier power measurements is ± 0.70 dB.
The estimated combined standard uncertainty for adjacent channel power measurements is ± 1.47 dB.
The estimated combined standard uncertainty for modulation frequency response measurements is ± 0.46 dB.
The estimated combined standard uncertainty for transmitter conducted emission measurements is ± 2.06 dB

The expanded uncertainty at a level of 95% confidence is obtained by multiplying the combined standard uncertainty by a coverage factor of 2. Compliance criteria are not based on measurement uncertainty. on measurement uncertainty.

2.3 Calibration Traceability

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Measurement method complies with ANSI/NCSL Z540-1-1994 and ISO Standard 17025:2017. Equipment calibration records are kept on file at the test facility.

3 Product Information

3.1 Product Description

The Model SMO5GV1, SkydioLink 5GHz Radio, is a 2x2 5GHz Drone. It is intended to operate as a 5GHz band wireless over 5 MHz, 10 MHz, 20 MHz, 40 MHz channels. The router will be in compliance with regulatory standards of regions it will be operating in.

3.2 Equipment Configuration

A description of the equipment configuration is given in the Test Plan Section. The EUT was tested as called for in the test standard and was configured and operated in a manner consistent with its intended use. The EUT was connected to rated power and allowed to reach intended operating conditions. The placement of the EUT system components was guided by the test standard and selected to represent typical installation conditions.

In the case of an EUT that can operate in more than one configuration, preliminary testing was performed to determine the configuration that produced maximum radiation.

The final configuration was selected to produce the worst case radiation for emissions testing and to place the EUT in the most susceptible state for immunity testing.

3.3 Operating Mode

A description of the operation mode is given in the Test Plan Section. In the case of an EUT that can operate in more than one state, preliminary testing was performed to determine the operating mode that produced maximum radiation.

The final operating mode was selected to produce the worst case radiation for emissions testing and to place the EUT in the most susceptible state for immunity testing.

3.4 Unique Antenna Connector

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of CFR47 Parts 15.211, 15.213, 15.217, 15.219, or 15.221.

3.4.1 Results

The SMO5GV1 has 2 external antennas. 2 Omni Antennas dedicated for WiFi in the band 5 GHz that has a maximum gain of 5.14 dBi in Unii 1 and 5.35 dBi in Unii 3.

Refer to Table 22 for additional antenna information.

3.5 Duty Cycle

The SMO5GV1 was measured for the duty cycle.
Calculation of transmit duty cycle. Duty cycle (%) = (ON time / Period) * 100%

3.5.1 Results

Mode	Measured Duty Cycle (%)	Duty Cycle Correction Factor (dB)
802.11a 5 MHz (No HT) – UNII 1	96	- 0.18
802.11a 10 MHz (No HT) – UNII 1	95	- 0.22
802.11a 20 MHz (No HT) – UNII 1	90	- 0.46
802.11n HT20 5 MHz – UNII 1	90	- 0.46
802.11n HT20 10 MHz – UNII 1	93	- 0.32
802.11n HT20 20 MHz – UNII 1	88	- 0.56
802.11n HT40 – UNII 1	86	- 0.66
802.11ac VHT20 – UNII 1	89	- 0.51
802.11ac VHT40 – UNII 1	84	- 0.76
802.11a 5 MHz (No HT) – UNII 3	95	- 0.22
802.11a 10 MHz (No HT) – UNII 3	96	- 0.18
802.11a 20 MHz (No HT) – UNII 3	92	- 0.36
802.11n HT20 5 MHz – UNII 3	94	- 0.27
802.11n HT20 10 MHz – UNII 3	93	- 0.32
802.11n HT20 20 MHz – UNII 3	89	- 0.51
802.11n HT40 – UNII 3	89	- 0.51
802.11ac VHT20 – UNII 3	88	- 0.56
802.11ac VHT40 – UNII 3	82	- 0.86

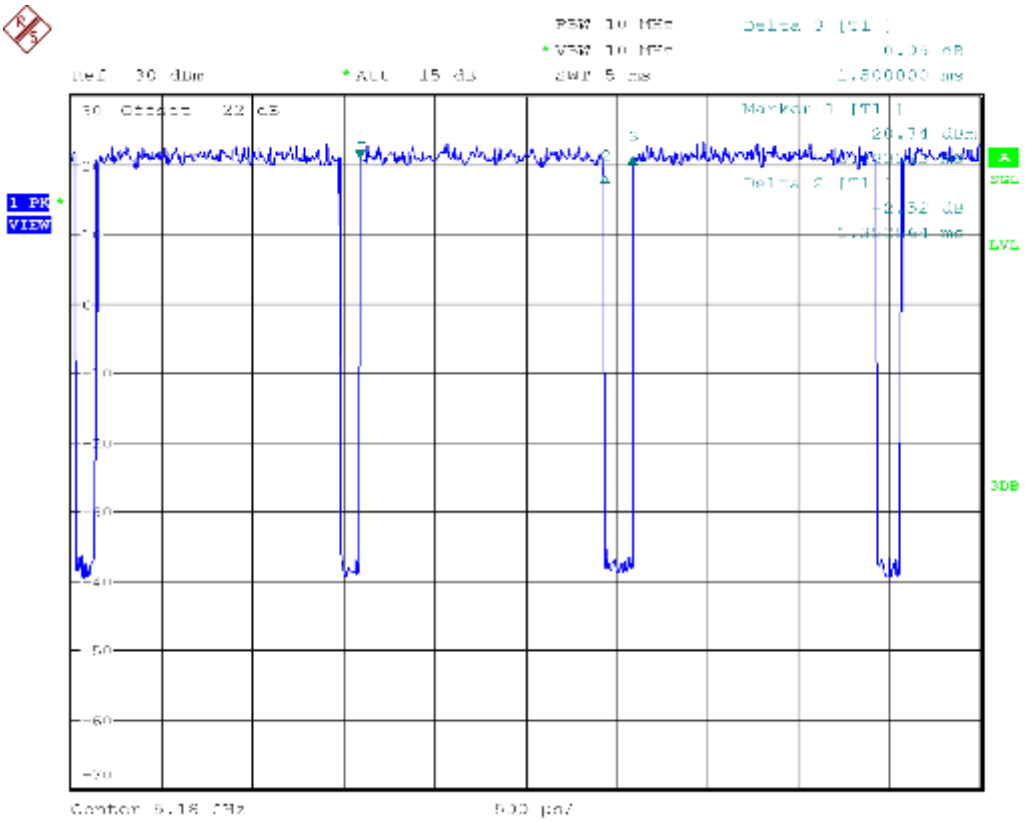


Figure 1: Duty Cycle for 802.11a 20 MHz

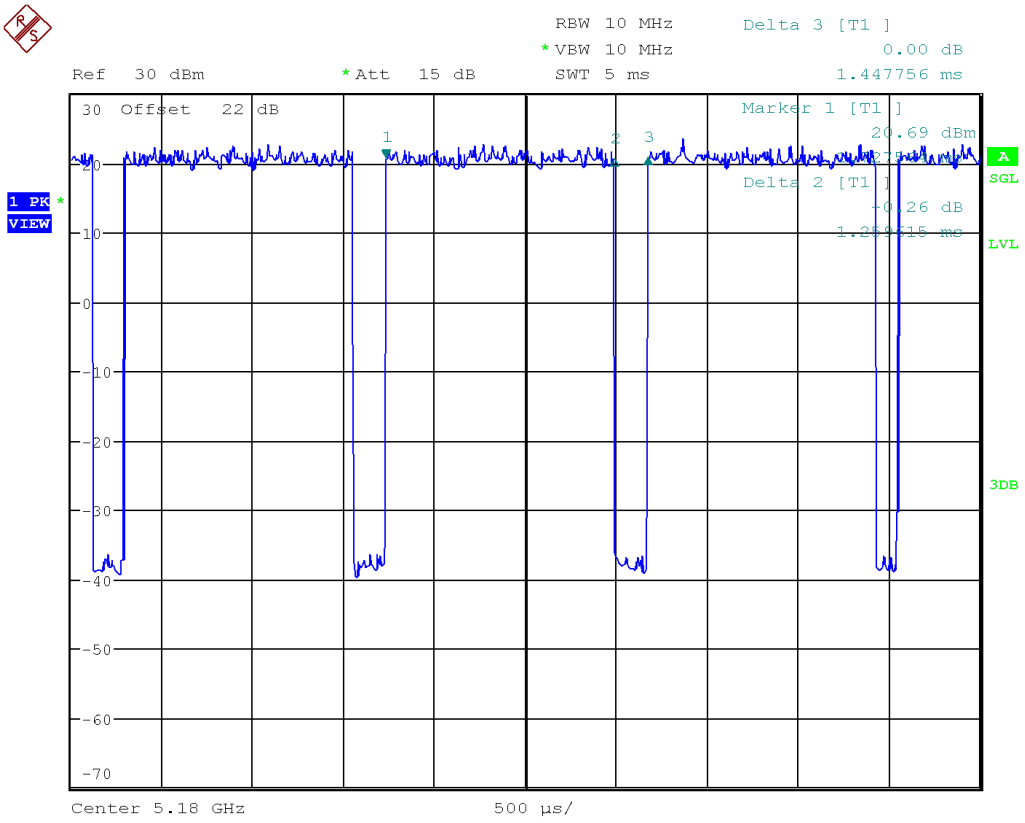


Figure 2: Duty Cycle for 802.11n HT20 20 MHz

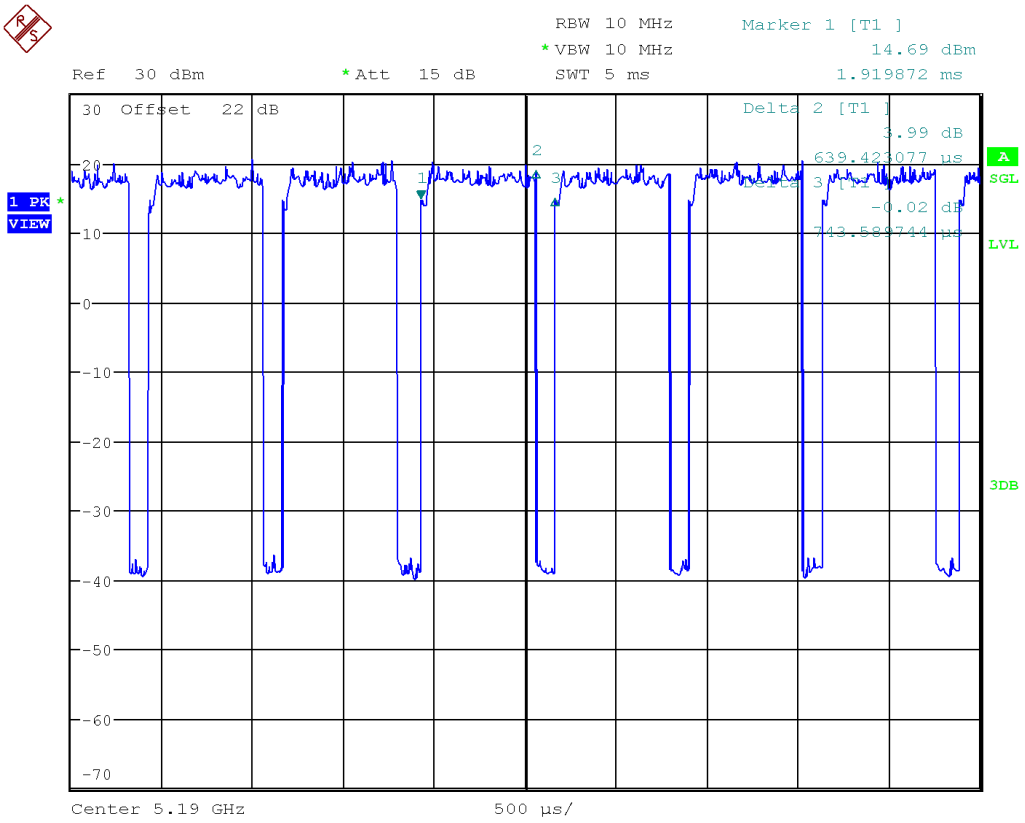


Figure 3: Duty Cycle for 802.11n HT40

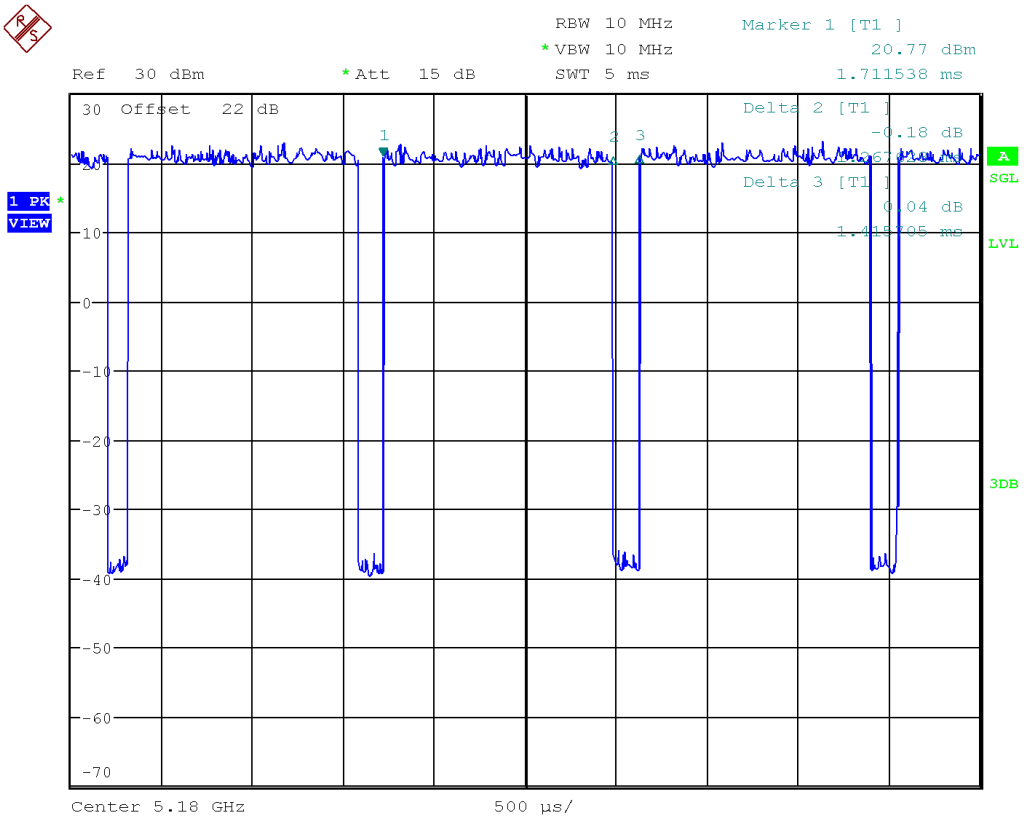


Figure 4: Duty Cycle for 802.11ac VHT20

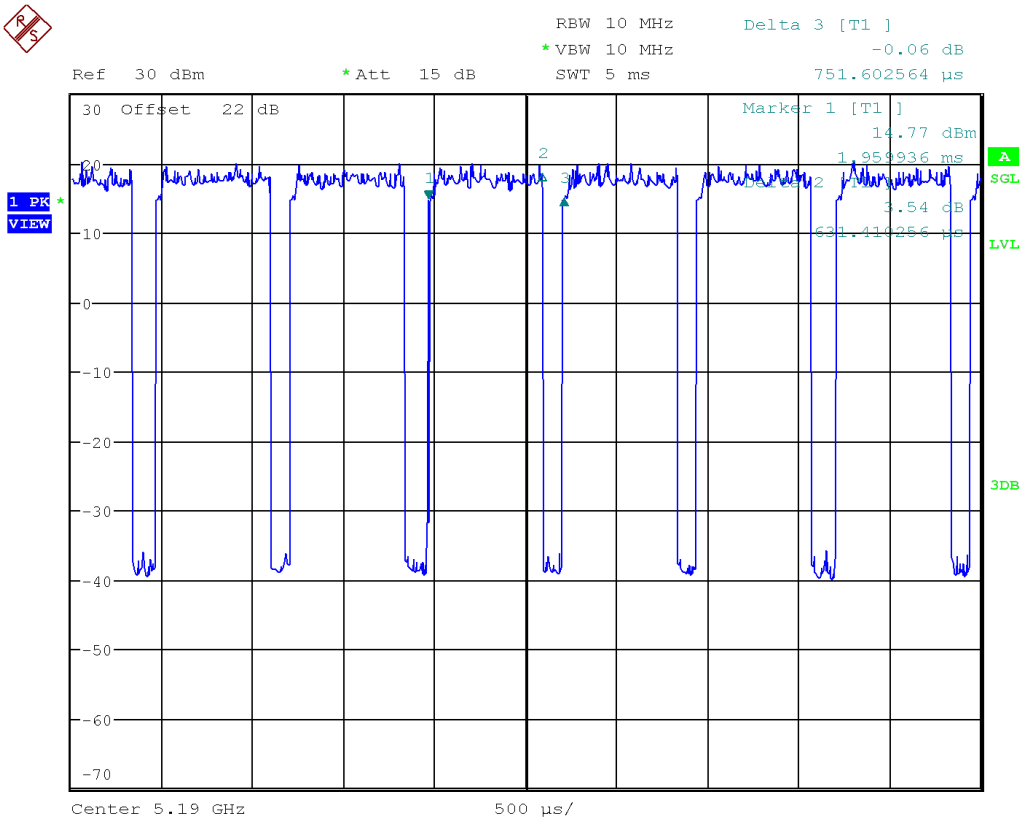


Figure 5: Duty Cycle for 802.11ac VHT40

4 Emissions

Testing was performed in accordance with CFR 47 Part 15.407: 2021 and RSS 247: 2017. These test methods are listed under the laboratory's A2LA Scope of Accreditation. This test measures the levels emanating from the EUT, thus evaluating the potential for the EUT to cause radio frequency interference to other electronic devices. Procedures described in section 8 of the standard were used.

4.1 Transmitter Spurious Emissions

Transmitter spurious emissions are emissions outside the frequency range of the equipment when the equipment is in transmit mode; per requirement of CFR47 15.205:2021, 15.209:2021, 15.407(b):2021, RSS 247 Sect. 6:2017, RSS GEN Sect.8.9 and 8.10:2019

4.1.1 Test Methodology

4.1.1.1 Preliminary Test

A test program that controls instrumentation and data logging was used to automate the preliminary RF emission test procedure. The frequency range of interest was divided into sub-ranges to yield a frequency resolution of approximately 120 kHz and provide a reading at each frequency for no more than 12° of turntable rotation. For each frequency sub-range the turntable was rotated 360° while peak emission data was recorded and plotted over the frequency range of interest in horizontal and vertical antenna polarization's.

Preliminary emission profile testing was performed inside the anechoic chamber. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm (<1 GHz) and 150cm (>1 GHz) above the floor. The EUT was positioned as shown in the setup photographs. The receiving antenna was placed at a distance of 3m at a fixed height of 1m. Measurement equipment was located outside of the chamber. A video camera was placed inside the chamber to view the EUT.

Pres-scans were performed to determine the worst.

4.1.1.2 Final Test

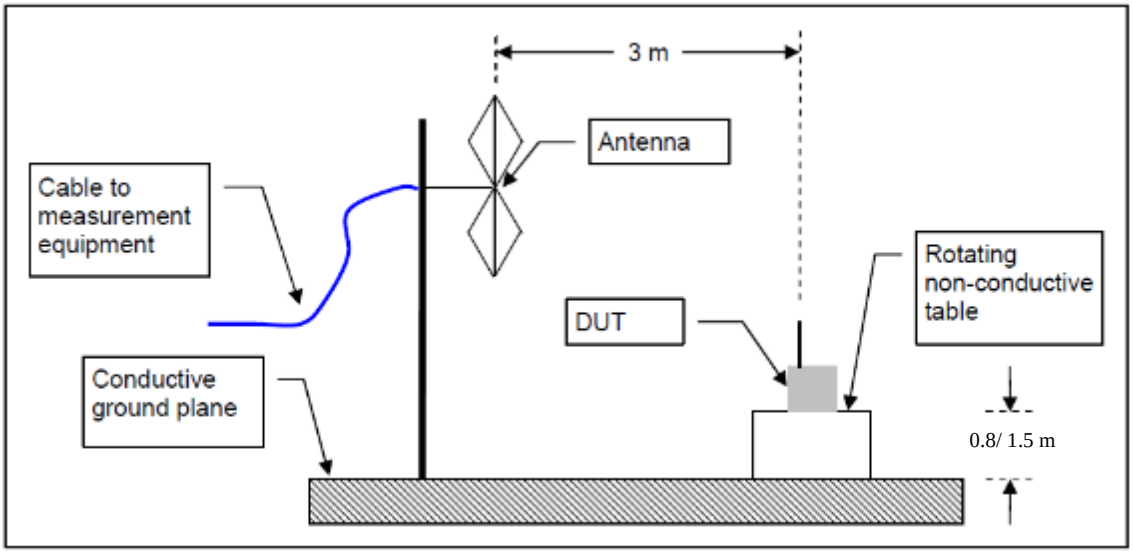
For each frequency measured, the peak emission was maximized by manipulating the receiving antenna from 1 to 4 meters above the ground plane and placing it at the position that produced the maximum signal strength reading. The turntable was then rotated through 360° while observing the peak signal and placing the EUT at the position that produced maximum radiation. The six highest emissions relative to the limit were measured unless such emissions were more than 20 dB below the limit. If less than six emissions are within 20 dB of the limit, than the noise level of the receiver is measured at frequencies where emissions are expected. Multiples of all oscillator and microprocessor frequencies were also checked.

Final testing was performed on an NSA compliant test site. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm (<1 GHz) and 150cm (>1 GHz) above the ground plane. The placement of EUT and cables were the same as for preliminary testing and is shown in the setup photographs.
RBW is set to 200 Hz and VBW is set to 1 kHz for 9 kHz-150 kHz.
RBW is set to 9 kHz and VBW is set to 30 kHz for 150 kHz-30 MHz
RBW is set to 100 kHz, VBW is set to 300 kHz for 30 MHz-1 GHz.
RBW is set to 1 MHz, VBW is set to 3 MHz for above 1 GHz.

4.1.1.3 Deviations

None.

Test Setup:



4.1.2 Transmitter Spurious Emission Limit

The spurious emissions of the transmitter shall not exceed the values in CFR47 Part 15.205, 15.209, RSS 247 Sect. 6, RSS GEN Sect. 8.9 and 8.10

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

According to CFR47 15.407 (b) and RSS 247 Sect. 6.2, all harmonics and spurious emissions which are outside the 5150 MHz - 5250 MHz, 5250 MHz – 5350 MHz, or 5470 MHz – 5725 MHz shall not exceed -27 dBm/MHz. This is equivalent to 68.2 dBuV/m at 3 meter distance.

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 note 3 applies.

4.1.3 Results

The final measurement data was taken under the worst case operating modes, configurations, and/or cable positions. It also reflects the results including any modifications and/or special accessories listed in Sections 1.4 and test plan.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

4.1.3.1 UNII-1 Low Band Edge: Results and Plots

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5122.81	---	43.86	54	10.14	10000	1000	155	V	-1	5.5	
5122.81	58.69	---	74	15.31	10000	1000	155	V	-1	5.5	
5132.29	---	46.15	54	7.85	10000	1000	150	V	66	5.5	
5132.29	61.57	---	74	12.43	10000	1000	150	V	66	5.5	
5140.71	---	45.2	54	8.8	10000	1000	155	V	85	5.5	
5140.71	60.21	---	74	13.79	10000	1000	155	V	85	5.5	
5145.22	---	45.25	54	8.75	10000	1000	104	V	130	5.5	
5145.22	60.29	---	74	13.71	10000	1000	104	V	130	5.5	
5149.99	62.39	---	74	11.61	10000	1000	154	V	-1	5.5	
5149.99	---	45.49	54	8.51	10000	1000	154	V	-1	5.5	

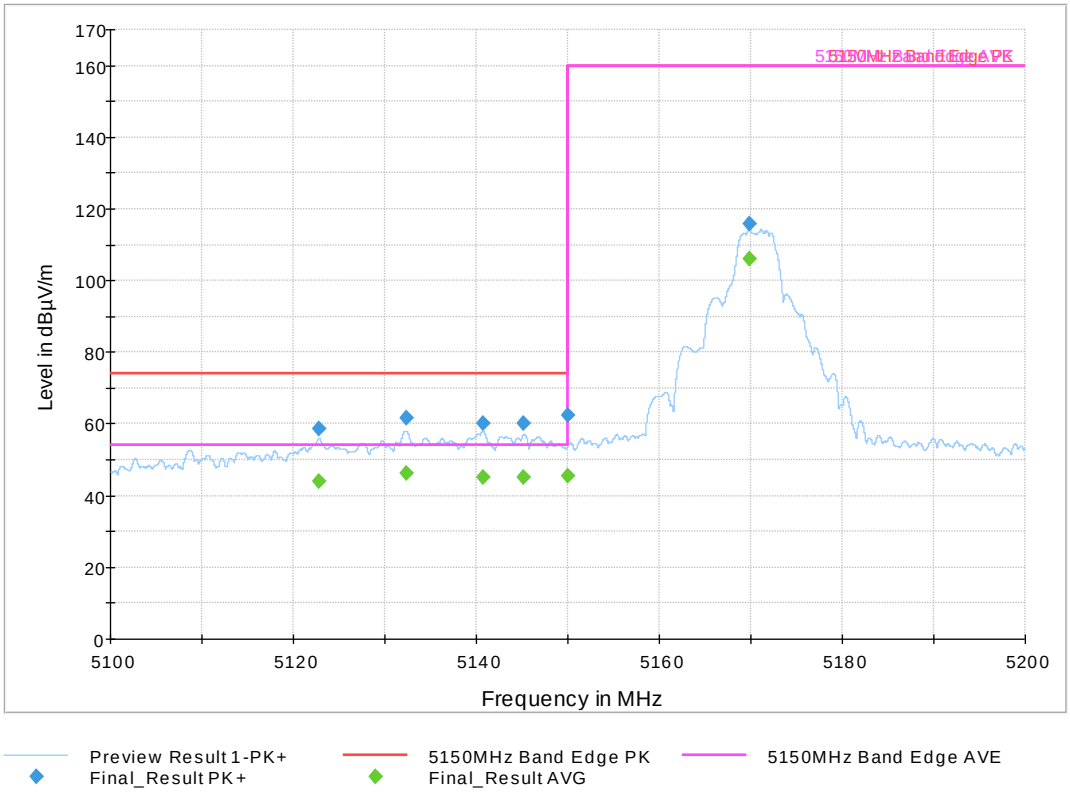


Figure 6: Low Band Edge 802.11a Mode 5 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
4821.09	---	42.58	54	11.42	10000	1000	151	V	-140	-0.1	
4821.09	56.17	---	74	17.83	10000	1000	151	V	-140	-0.1	
4906.56	---	43.14	54	10.86	10000	1000	152	V	-12	0.2	
4906.56	56.89	---	74	17.11	10000	1000	152	V	-12	0.2	
4945.2	---	44.04	54	9.96	10000	1000	152	V	-95	0.5	
4945.2	57.61	---	74	16.39	10000	1000	152	V	-95	0.5	
4994.2	---	46.65	54	7.35	10000	1000	152	V	-63	0.6	
4994.2	60.09	---	74	13.91	10000	1000	152	V	-63	0.6	
5032.77	---	42.46	54	11.54	10000	1000	154	V	-12	0.8	
5032.77	56.18	---	74	17.82	10000	1000	154	V	-12	0.8	
5081.63	---	45.5	54	8.5	10000	1000	150	V	-180	1.1	
5081.63	59.39	---	74	14.61	10000	1000	150	V	-180	1.1	
5115.72	---	47.76	54	6.24	10000	1000	152	V	41	1.1	
5115.72	61.36	---	74	12.64	10000	1000	152	V	41	1.1	
5125.94	---	49.87	54	4.13	10000	1000	154	V	41	1.1	
5125.94	63.49	---	74	10.51	10000	1000	154	V	41	1.1	
5132.59	---	48.95	54	5.05	10000	1000	150	V	20	1.1	
5132.59	62.93	---	74	11.07	10000	1000	150	V	20	1.1	
5146.31	---	46.38	54	7.62	10000	1000	152	V	0	1.1	
5146.31	60.02	---	74	13.98	10000	1000	152	V	0	1.1	
5150	---	51.51	54	2.49	10000	1000	152	V	132	1.1	
5150	67.24	---	74	6.76	10000	1000	152	V	132	1.1	

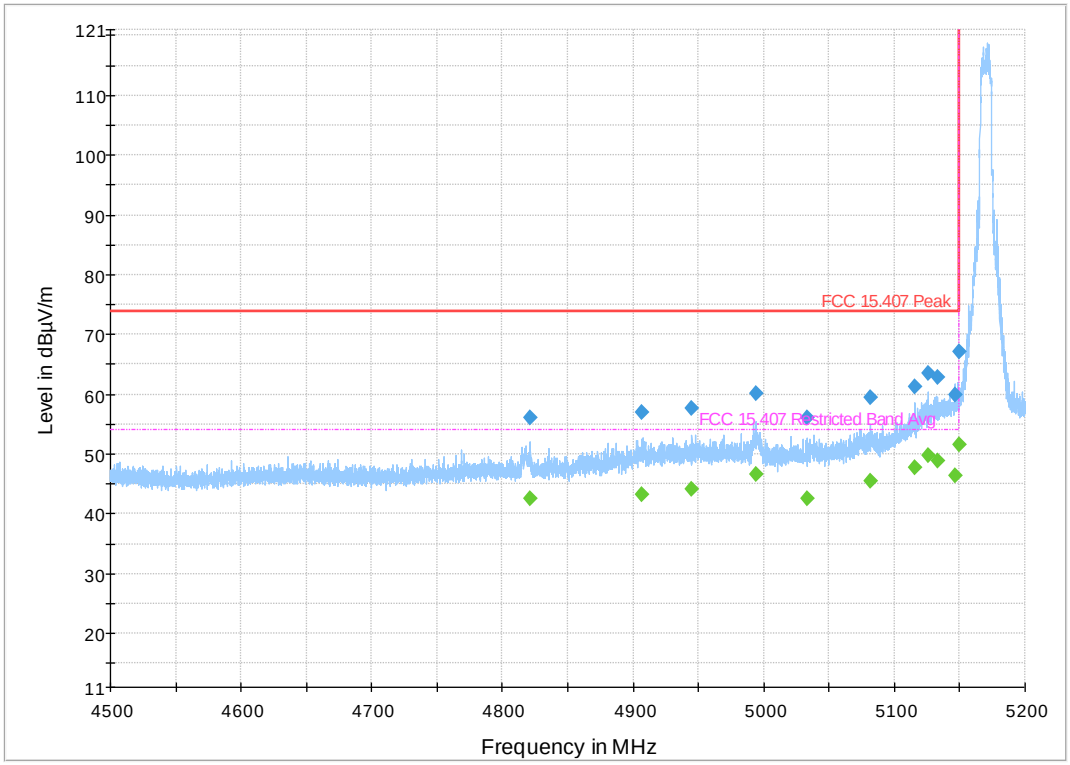


Figure 7: Low Band Edge 802.11a Mode 10 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5148.17	---	42.94	54	11.06	10000	1000	153	V	241	5.5	
5148.17	57.4	---	74	16.6	10000	1000	153	V	241	5.5	
5149.99	---	42.93	54	11.07	10000	1000	155	V	241	5.5	
5149.99	57.53	---	74	16.47	10000	1000	155	V	241	5.5	

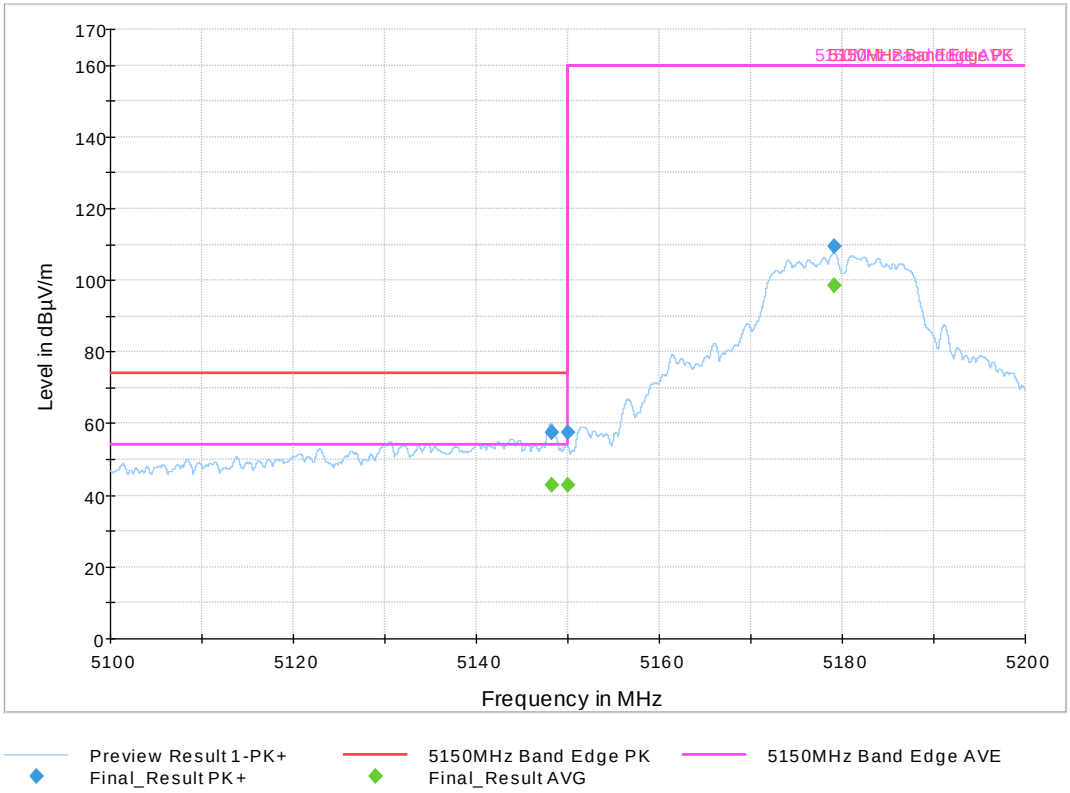


Figure 8: Low Band Edge 802.11a Mode 20 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5123.38	---	44.46	54	9.54	10000	1000	100	V	140	5.5	
5123.38	59.76	---	74	14.24	10000	1000	100	V	140	5.5	
5145.48	---	45.41	54	8.59	10000	1000	153	V	346	5.5	
5145.48	61.7	---	74	12.3	10000	1000	153	V	346	5.5	
5149.99	---	45.59	54	8.41	10000	1000	150	V	203	5.5	
5149.99	62.34	---	74	11.66	10000	1000	150	V	203	5.5	

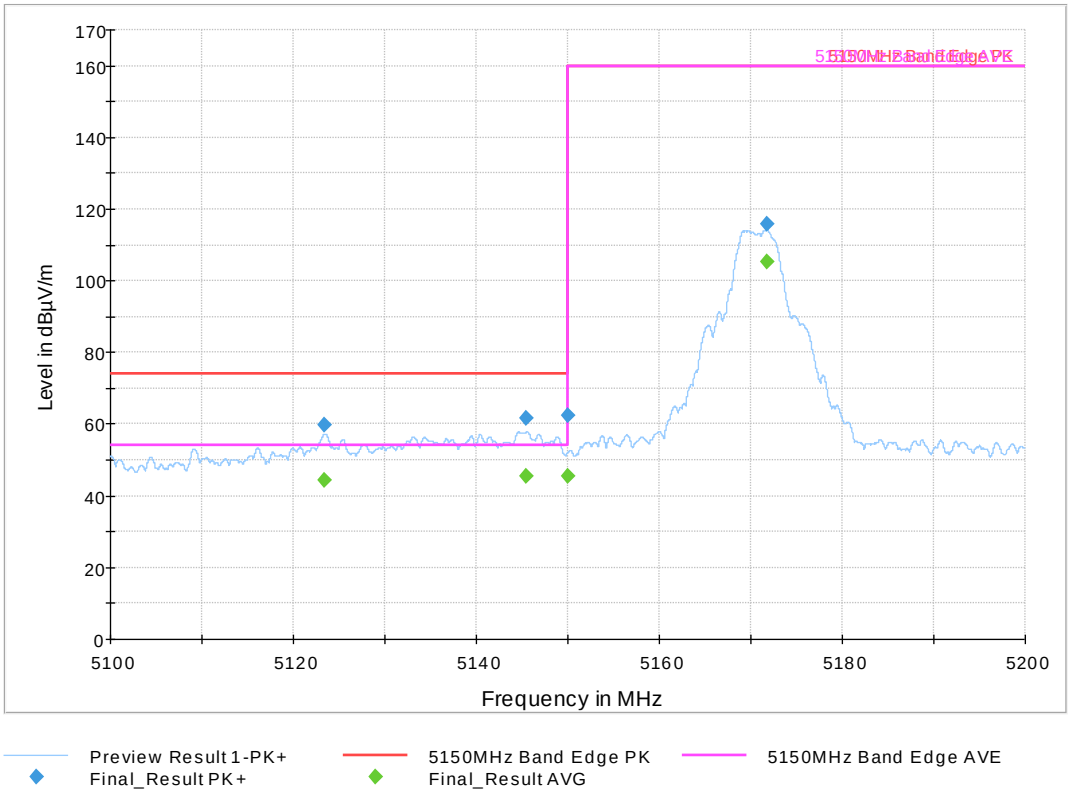


Figure 9: Low Band Edge 802.11n HT Mode 5 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5135.96	---	46.1	54	7.9	10000	1000	150	V	323	5.5	
5135.96	61.07	---	74	12.93	10000	1000	150	V	323	5.5	
5146.58	---	46.49	54	7.51	10000	1000	155	V	236	5.5	
5146.58	66.31	---	74	7.69	10000	1000	155	V	236	5.5	
5149.99	---	45.59	54	8.41	10000	1000	156	V	3	5.5	
5149.99	62.57	---	74	11.43	10000	1000	156	V	3	5.5	

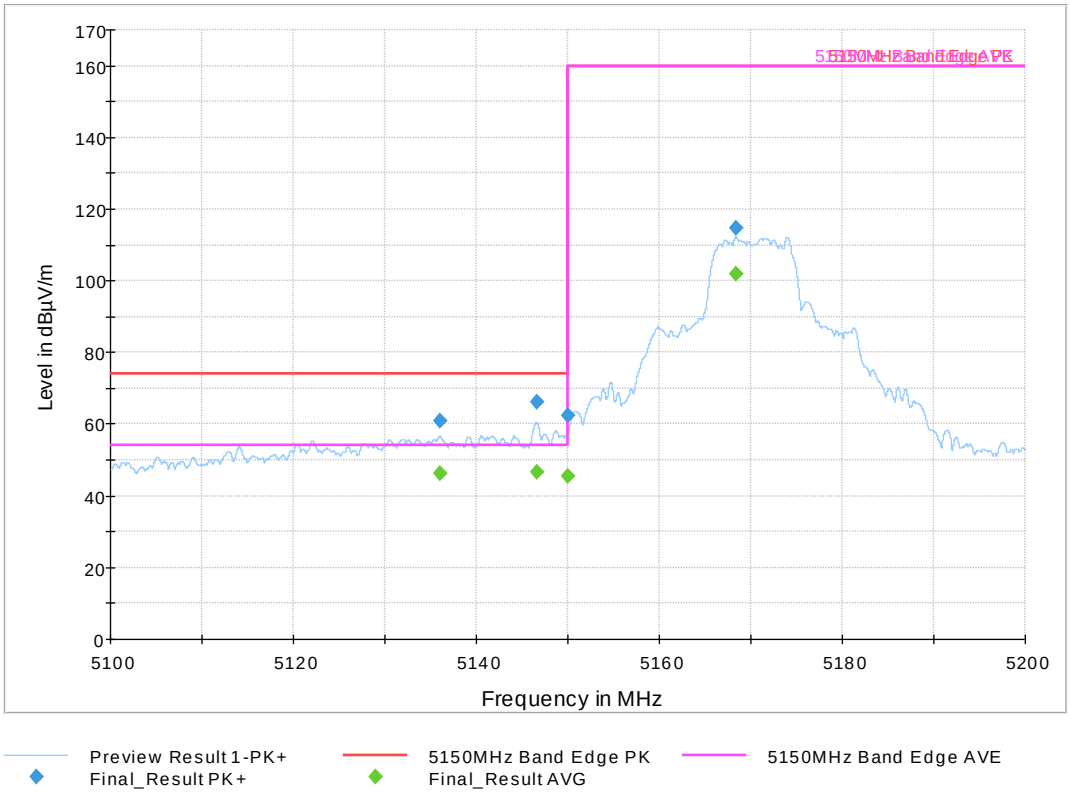


Figure 10: Low Band Edge 802.11n HT Mode 10 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5142.65	---	43.93	54	10.07	10000	1000	150	V	212	5.5	
5142.65	58.16	---	74	15.84	10000	1000	150	V	212	5.5	
5147.8	---	39.12	54	14.88	10000	1000	153	V	349	5.5	
5147.8	53.64	---	74	20.36	10000	1000	153	V	349	5.5	
5149.04	---	43.77	54	10.23	10000	1000	104	V	87	5.5	
5149.04	58.12	---	74	15.88	10000	1000	104	V	87	5.5	
5149.99	---	43.23	54	10.77	10000	1000	255	V	262	5.5	
5149.99	57.82	---	74	16.18	10000	1000	255	V	262	5.5	

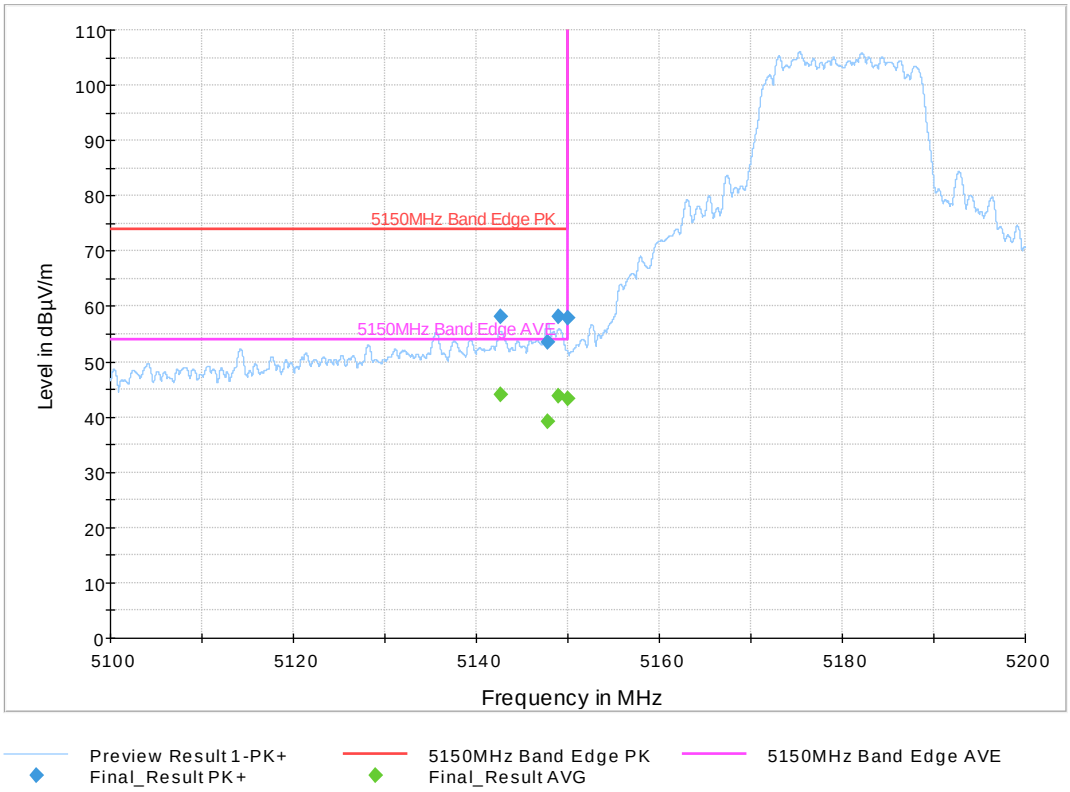


Figure 11: Low Band Edge 802.11n HT Mode 20 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5129.87	---	44.4	54	9.6	10000	1000	155	V	1	5.5	
5129.87	59.62	---	74	14.38	10000	1000	155	V	1	5.5	
5136.14	---	45.02	54	8.98	10000	1000	154	V	0	5.5	
5136.14	60.39	---	74	13.61	10000	1000	154	V	0	5.5	
5140.89	---	46.93	54	7.07	10000	1000	103	V	113	5.5	
5140.89	65.64	---	74	8.36	10000	1000	103	V	113	5.5	
5143.81	---	49.08	54	4.92	10000	1000	155	V	1	5.5	
5143.81	68.78	---	74	5.22	10000	1000	155	V	1	5.5	
5146.85	73.05	---	74	0.95	10000	1000	153	V	39	5.5	
5146.85	---	52.21	54	1.79	10000	1000	153	V	39	5.5	
5149.76	---	53.94	54	0.06	10000	1000	153	V	37	5.5	
5149.76	73.08	---	74	0.92	10000	1000	153	V	37	5.50	

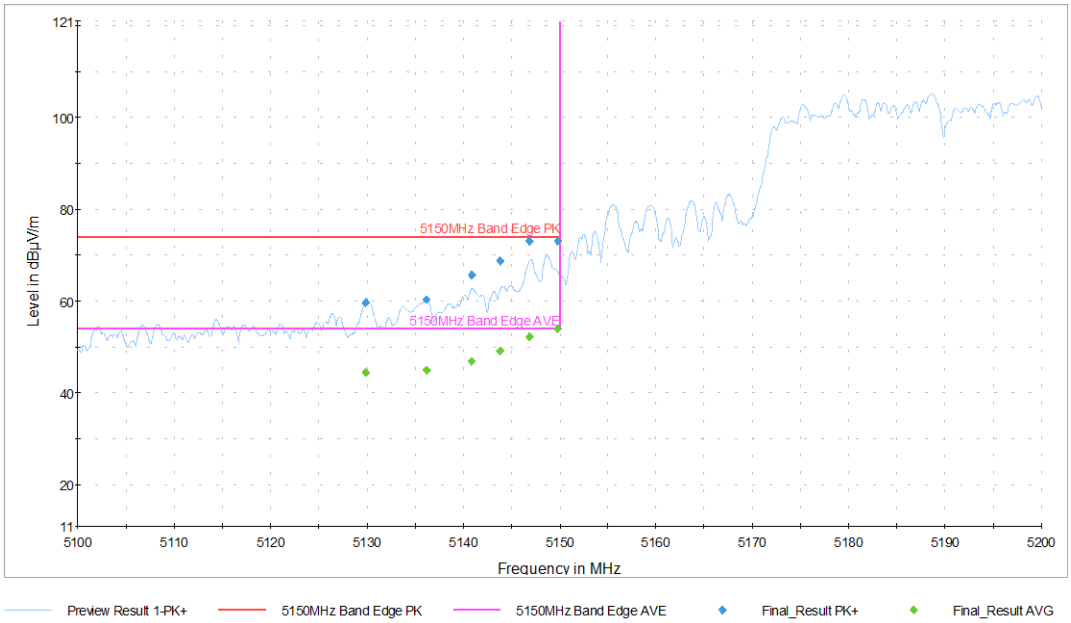


Figure 12: Low Band Edge 802.11n HT Mode 40 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5137.85	---	44.64	54	9.36	10000	1000	152	V	339	5.5	
5137.85	59.67	---	74	14.33	10000	1000	152	V	339	5.5	
5142.45	---	45.74	54	8.26	10000	1000	153	V	339	5.5	
5142.45	64.66	---	74	9.34	10000	1000	153	V	339	5.5	
5144.78	72.57	---	74	1.43	10000	1000	153	V	341	5.5	
5144.78	---	49.5	54	4.5	10000	1000	153	V	341	5.5	
5148.42	70.23	---	74	3.77	10000	1000	153	V	339	5.5	
5148.42	---	48.45	54	5.55	10000	1000	153	V	339	5.5	
5149.99	71.26	---	74	2.74	10000	1000	153	V	339	5.5	
5149.99	---	49.62	54	4.38	10000	1000	153	V	339	5.5	

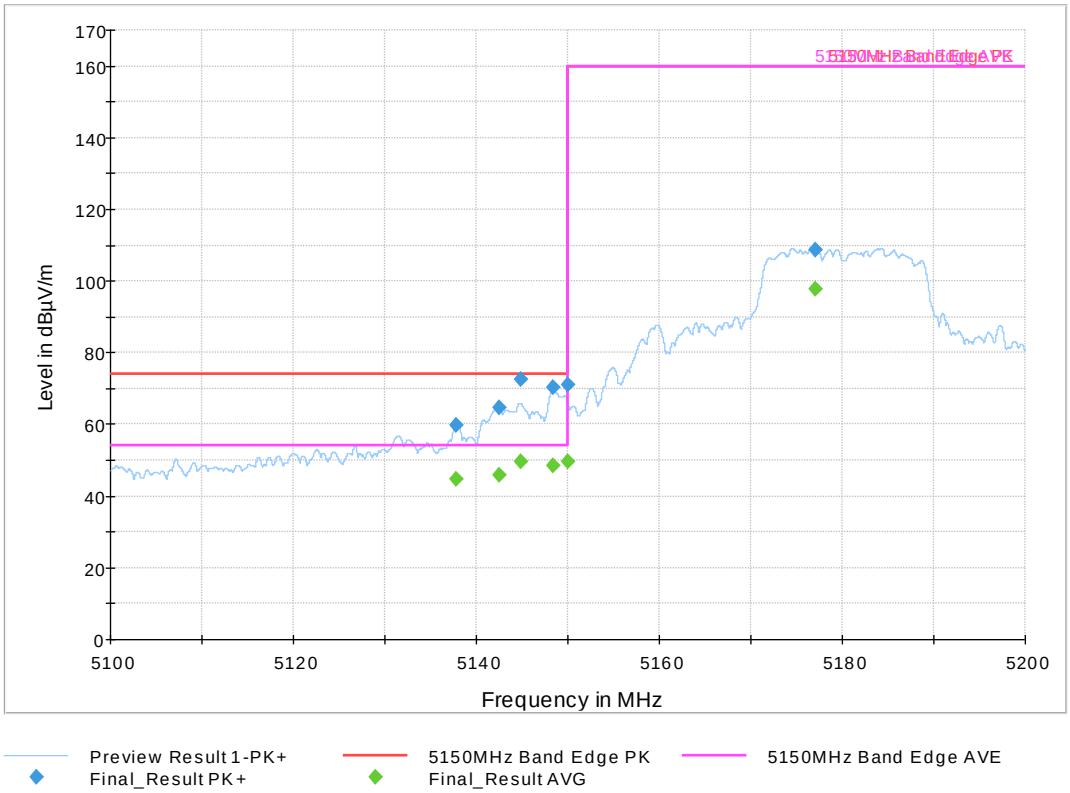


Figure 13: Low Band Edge 802.11ac VHT Mode 20 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5134.25	62.97	---	74	11.03	10000	1000	153	V	37	5.5	
5134.25	---	44.31	54	9.69	10000	1000	153	V	37	5.5	
5137.95	---	46.66	54	7.34	10000	1000	154	V	61	5.5	
5137.95	65.64	---	74	8.36	10000	1000	154	V	61	5.5	
5138.8	---	47.29	54	6.71	10000	1000	156	V	61	5.5	
5138.8	67.01	---	74	6.99	10000	1000	156	V	61	5.5	
5140.5	---	47.14	54	6.86	10000	1000	155	V	39	5.5	
5140.5	64.22	---	74	9.78	10000	1000	155	V	39	5.5	
5144.11	---	49.15	54	4.85	10000	1000	155	V	37	5.5	
5144.11	68.4	---	74	5.6	10000	1000	155	V	37	5.5	
5148.22	---	51.2	54	2.8	10000	1000	155	V	-3	5.5	
5148.22	71.87	---	74	2.13	10000	1000	155	V	-3	5.5	

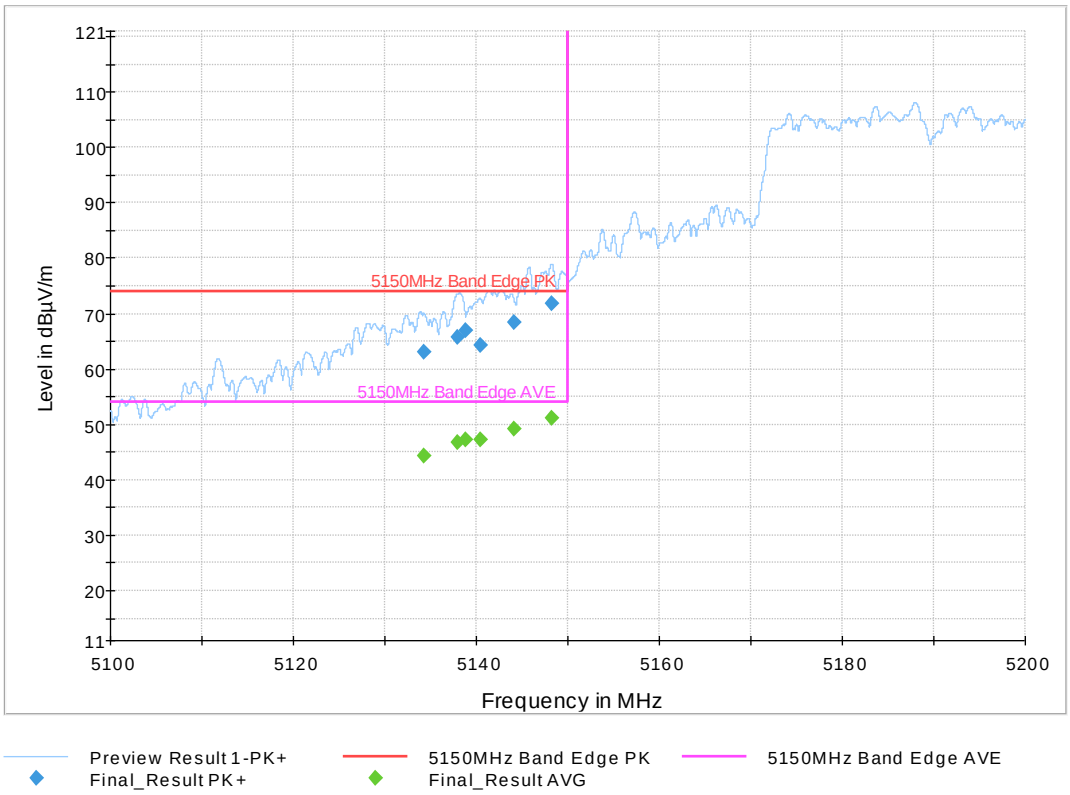


Figure 14: Low Band Edge 802.11ac VHT Mode 40 MHz, Low Channel

4.1.3.2 UNII-3 Low Band Edge: Results and Plots

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5556.47	---	44.07	---	---	10000	1000	104	V	30	2.2	
5556.47	57.84	---	68.16	10.32	10000	1000	104	V	30	2.2	
5634.58	---	44.35	---	---	10000	1000	105	V	173	2.2	
5634.58	57.72	---	68.16	10.44	10000	1000	105	V	173	2.2	
5643.20	---	46.74	---	---	10000	1000	153	V	20	2.2	
5643.20	59.95	---	68.16	8.21	10000	1000	153	V	20	2.2	

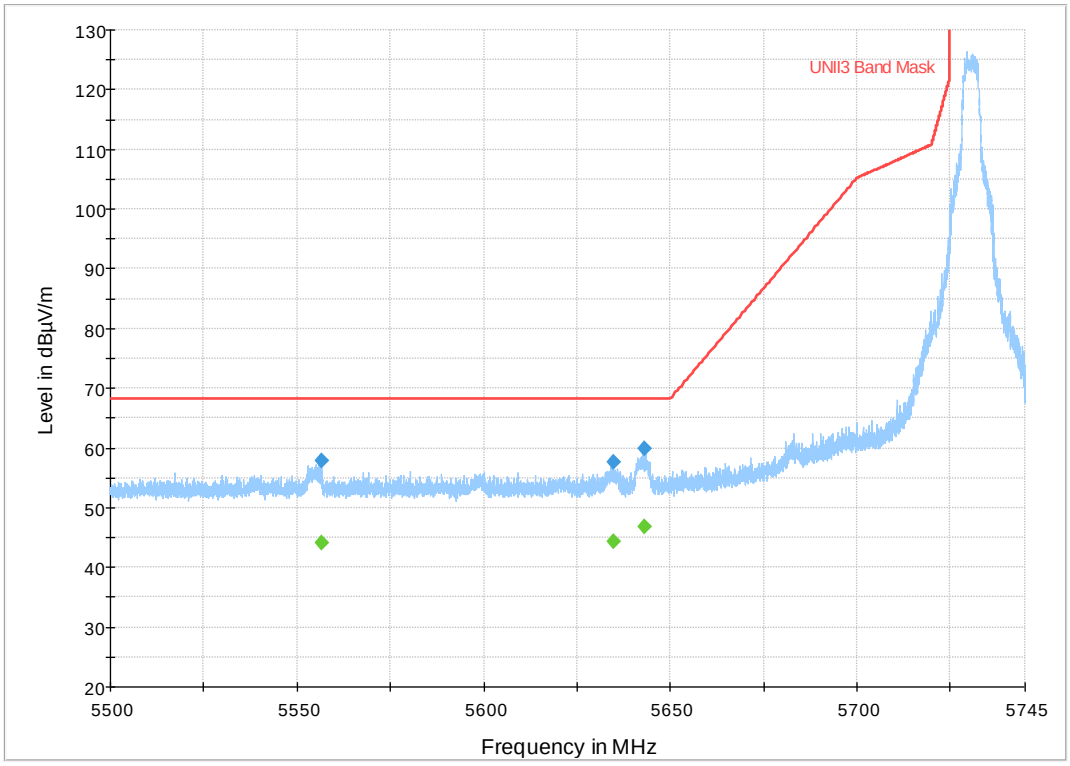


Figure 15: Low Band Edge 802.11a Mode 5 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5555.20	55.63	---	68.16	12.53	10000	1000	103	V	-60	2.2	
5555.20	---	42.37	---	---	10000	1000	103	V	-60	2.2	
5641.95	55.93	---	68.16	12.23	10000	1000	104	V	104	2.2	
5641.95	---	42.15	---	---	10000	1000	104	V	104	2.2	
5720.43	---	80.66	---	---	10000	1000	105	V	-65	2.2	
5720.43	101.54	---	111.73	10.19	10000	1000	105	V	-65	2.2	

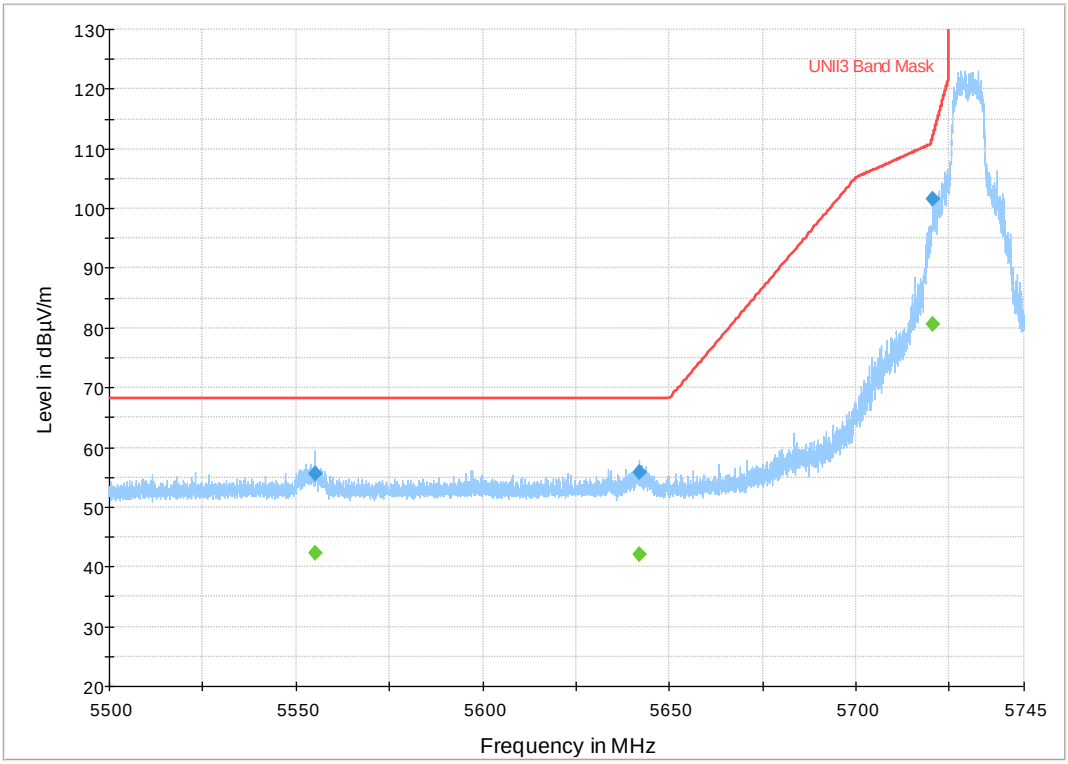


Figure 16: Low Band Edge 802.11a Mode 10 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5569.04	---	44.29	---	---	10000	1000	104	V	55	2.2	
5569.04	58.05	---	68.16	10.11	10000	1000	104	V	55	2.2	
5574.75	---	44.06	---	---	10000	1000	154	V	135	2.2	
5574.75	57.84	---	68.16	10.32	10000	1000	154	V	135	2.2	
5650.19	---	45.04	---	---	10000	1000	154	V	112	2.2	
5650.19	59.08	---	68.3	9.22	10000	1000	154	V	112	2.2	

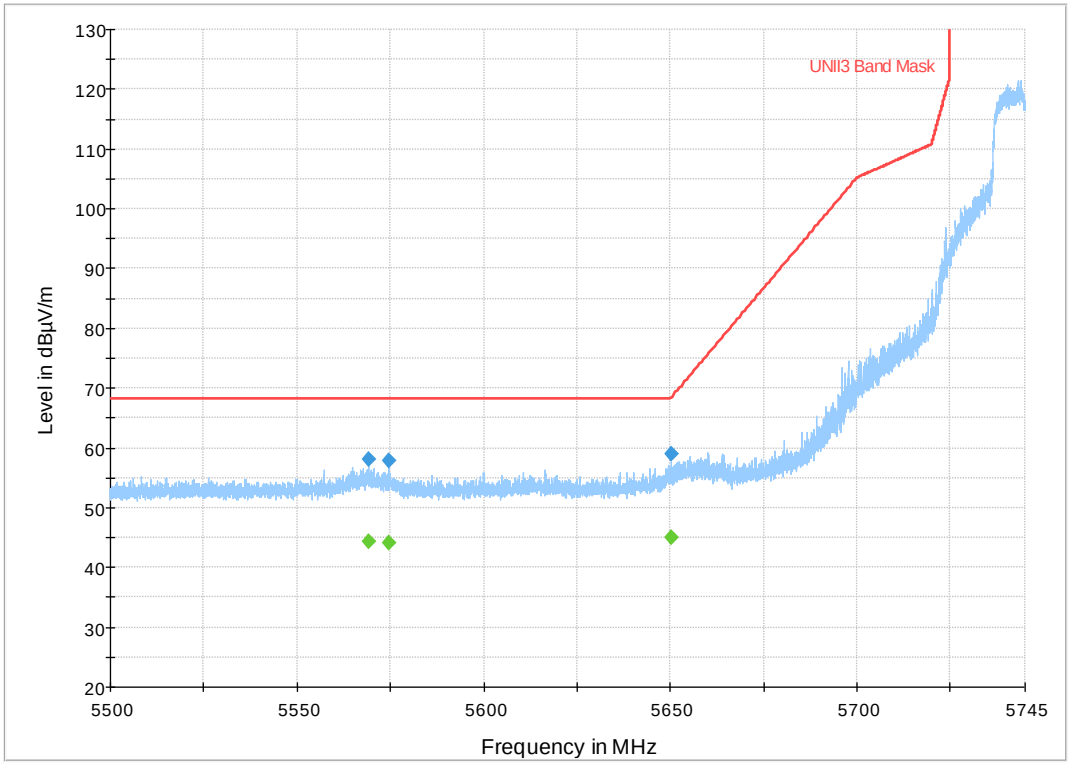


Figure 17: Low Band Edge 802.11a Mode 20 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5553.827	58.95	---	68.16	9.21	10000	1000	202	V	36	2.2	
5553.827	---	46.07	---	---	10000	1000	202	V	36	2.2	
5597.290	57.44	---	68.16	10.72	10000	1000	153	V	-177	2.2	
5597.290	---	44.05	---	---	10000	1000	153	V	-177	2.2	
5643.178	---	45.6	---	---	10000	1000	104	V	138	2.2	
5643.178	59.11	---	68.16	9.05	10000	1000	104	V	138	2.2	

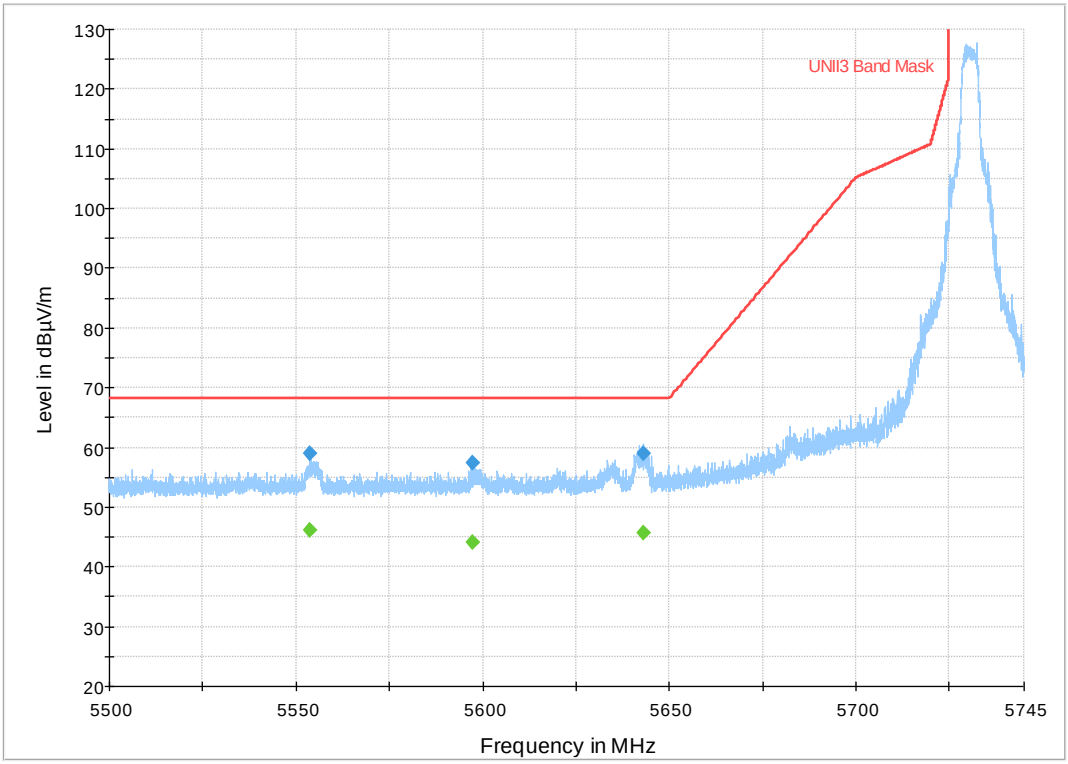


Figure 18: Low Band Edge 802.11n HT Mode 5 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5566.13	---	42.27	---	---	10000	1000	200	H	71	2.2	
5566.13	55.71	---	68.16	12.45	10000	1000	200	H	71	2.2	
5600.82	---	42.26	---	---	10000	1000	154	H	16	2.2	
5600.82	55.71	---	68.16	12.45	10000	1000	154	H	16	2.2	
5637.00	---	43.28	---	---	10000	1000	104	V	149	2.2	
5637.00	56.82	---	68.16	11.34	10000	1000	104	V	149	2.2	
5718.88	---	81.06	---	---	10000	1000	202	V	89	2.2	
5718.88	100.35	---	110.45	10.1	10000	1000	202	V	89	2.2	

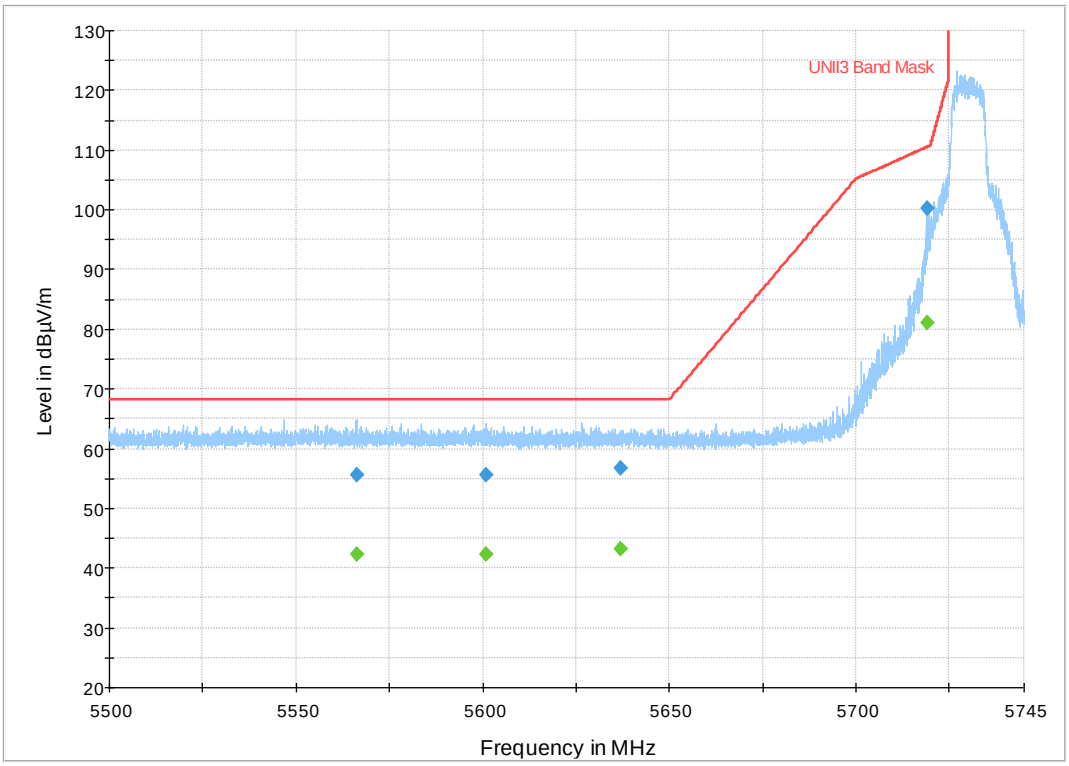


Figure 19: Low Band Edge 802.11n HT Mode 10 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5579.63	---	42.39	---	---	10000	1000	104	V	57	2.2	
5579.63	56	---	68.16	12.16	10000	1000	104	V	57	2.2	
5649.35	---	44.05	---	---	10000	1000	154	V	68	2.2	
5649.35	58.24	---	68.16	9.92	10000	1000	154	V	68	2.2	
5655.13	---	44.73	---	---	10000	1000	155	V	-16	2.2	
5655.13	59.06	---	71.96	12.9	10000	1000	155	V	-16	2.2	

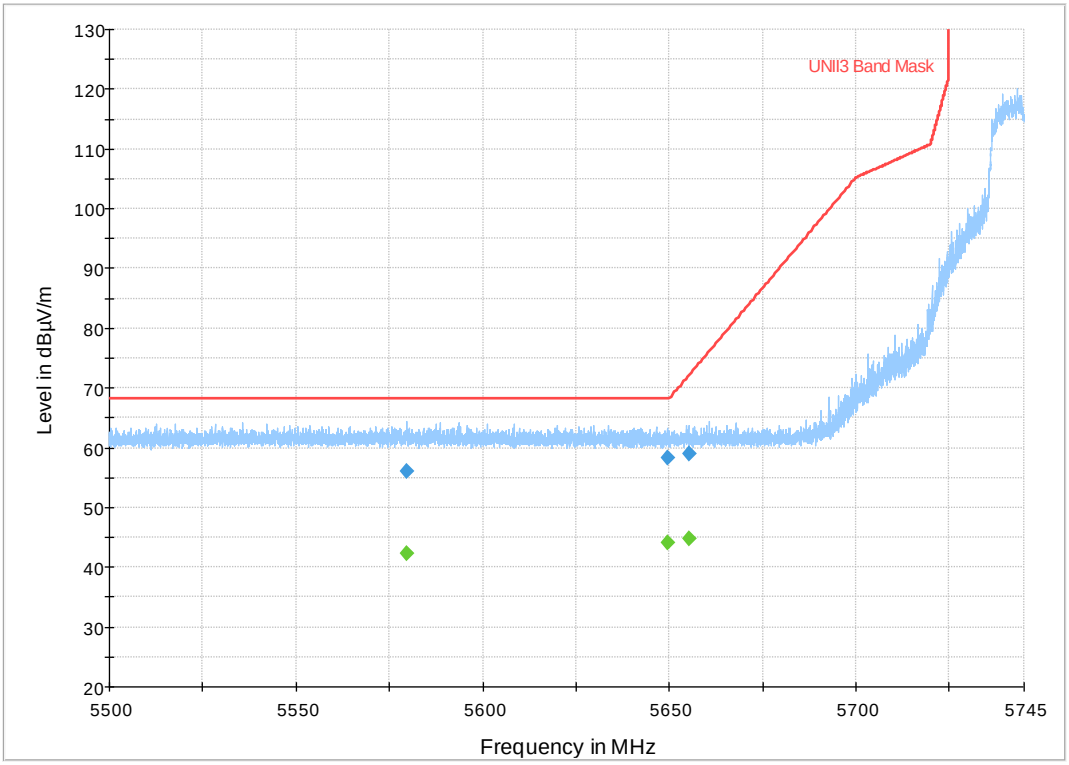


Figure 20: Low Band Edge 802.11n HT Mode 20 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5533.15	---	42.23	---	---	10000	1000	103	H	118	2.1	
5533.15	55.82	---	68.16	12.34	10000	1000	103	H	118	2.1	
5625.32	---	43.6	---	---	10000	1000	104	V	-35	2.2	
5625.32	58.25	---	68.16	9.91	10000	1000	104	V	-35	2.2	
5647.91	---	47.97	---	---	10000	1000	154	V	-167	2.2	
5647.91	65.52	---	68.16	2.64	10000	1000	154	V	-167	2.2	
5657.76	---	51.28	---	---	10000	1000	201	V	36	2.2	
5657.76	68.07	---	73.9	5.83	10000	1000	201	V	36	2.2	

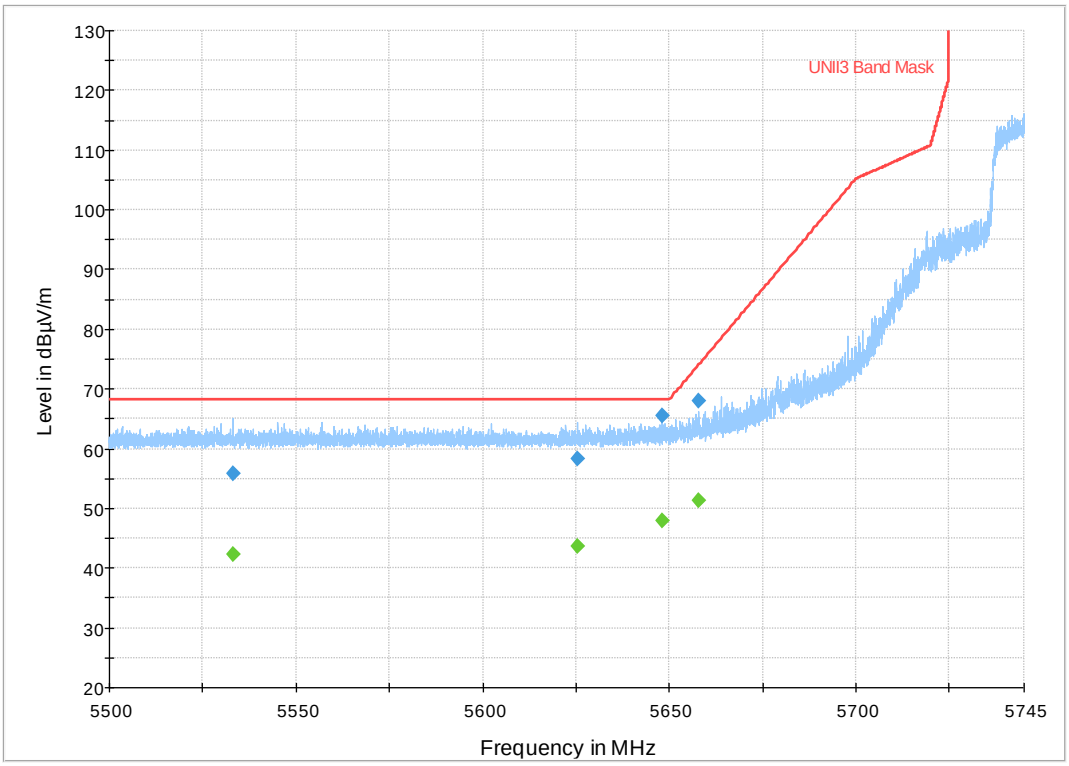


Figure 21: Low Band Edge 802.11n HT Mode 40 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5607.78	---	43.02	---	---	10000	1000	104	V	-118	2.2	
5607.78	56.72	---	68.16	11.44	10000	1000	104	V	-118	2.2	
5642.12	---	43.47	---	---	10000	1000	154	V	-118	2.2	
5642.12	56.84	---	68.16	11.32	10000	1000	154	V	-118	2.2	
5651.61	---	44.38	---	---	10000	1000	156	V	2	2.2	
5651.61	57.84	---	69.35	11.51	10000	1000	156	V	2	2.2	

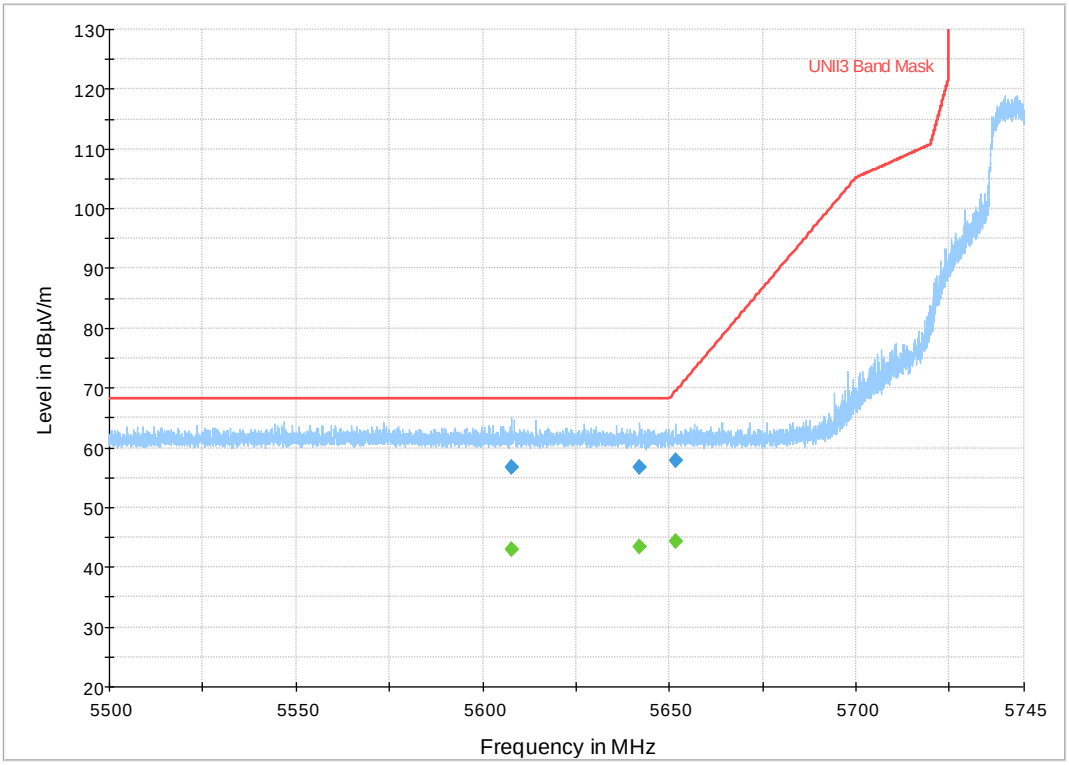


Figure 22: Low Band Edge 802.11ac VHT Mode 20 MHz, Low Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5596.11	---	43.63	---	---	10000	1000	103	V	161	2.2	
5596.11	58	---	68.16	10.16	10000	1000	103	V	161	2.2	
5645.90	---	48.22	---	---	10000	1000	154	V	55	2.2	
5645.90	64.69	---	68.16	3.47	10000	1000	154	V	55	2.2	
5649.23	---	47.03	---	---	10000	1000	155	V	22	2.2	
5649.23	63.65	---	68.16	4.51	10000	1000	155	V	22	2.2	
5656.43	---	49.68	---	---	10000	1000	156	V	55	2.2	
5656.43	65.69	---	72.92	7.23	10000	1000	156	V	55	2.2	
5669.20	---	53.17	---	---	10000	1000	201	V	80	2.2	
5669.20	70.55	---	82.37	11.82	10000	1000	201	V	80	2.2	
5713.96	---	74.47	---	---	10000	1000	201	V	82	2.2	
5713.96	96.07	---	109.07	12.99	10000	1000	201	V	82	2.2	

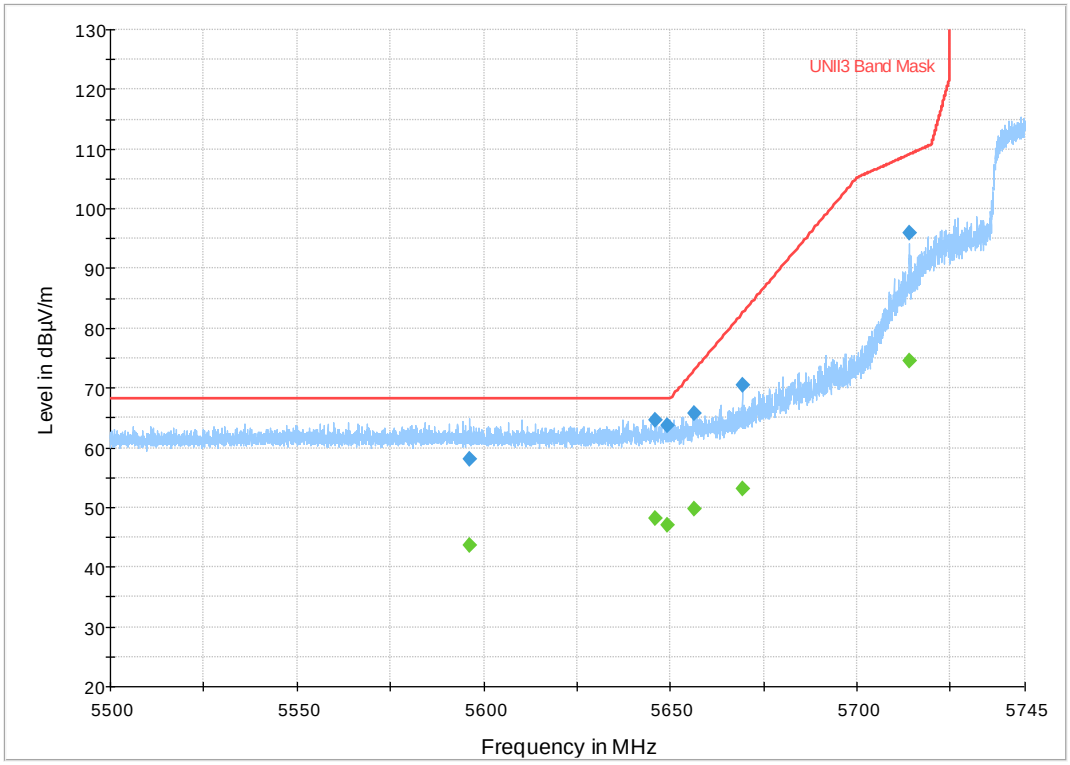


Figure 23: Low Band Edge 802.11ac VHT Mode 40 MHz, Low Channel

4.1.3.3 UNII-3 High Band Edge: Results and Plots

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5934.06	56.71	---	68.16	11.45	10000	1000	204	V	8	2.6	
5934.06	---	42.97	---	---	10000	1000	204	V	8	2.6	
5961.82	56.16	---	68.16	12	10000	1000	153	V	137	2.6	
5961.82	---	42.75	---	---	10000	1000	153	V	137	2.6	
5976.18	56.11	---	68.16	12.05	10000	1000	104	V	69	2.7	
5976.18	---	42.72	---	---	10000	1000	104	V	69	2.7	
5995.84	56.3	---	68.16	11.86	10000	1000	103	V	-139	2.8	
5995.84	---	42.81	---	---	10000	1000	103	V	-139	2.8	

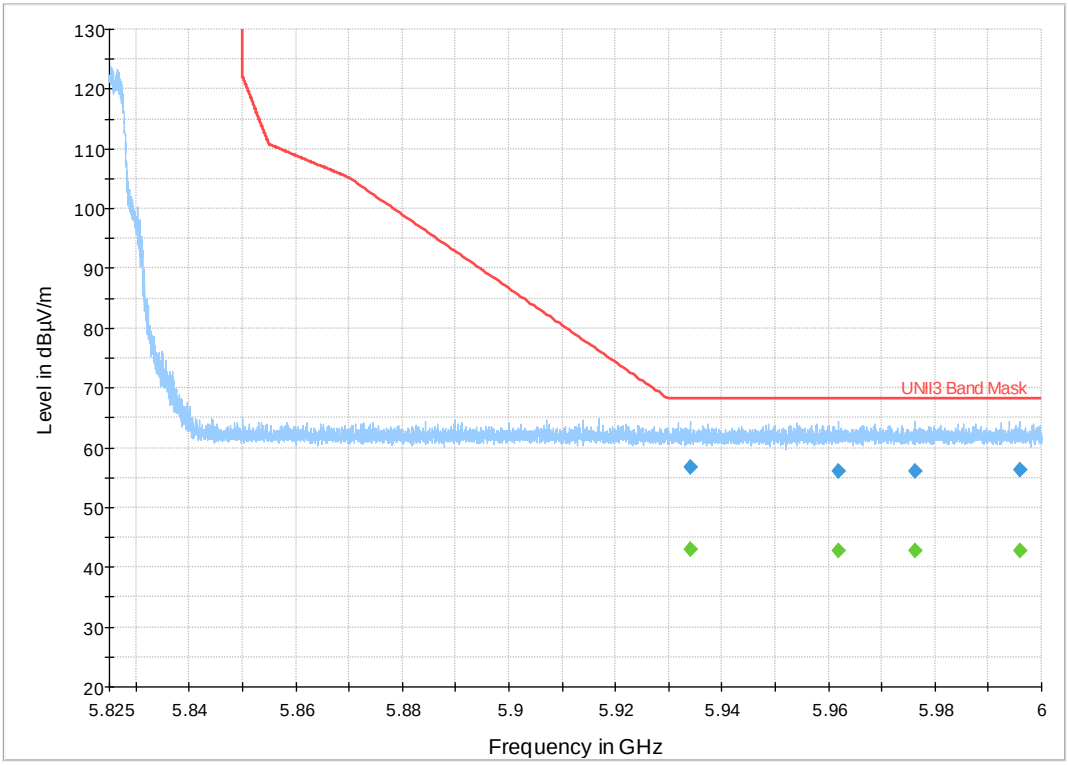


Figure 24: High Band Edge 802.11a Mode 5 MHz, High Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5930.95	---	42.62	---	---	10000	1000	153	H	-160	2.6	
5930.95	56.06	---	68.16	12.1	10000	1000	153	H	-160	2.6	
5957.79	---	43.18	---	---	10000	1000	104	V	128	2.6	
5957.79	57.2	---	68.16	10.96	10000	1000	104	V	128	2.6	
5972.77	---	42.83	---	---	10000	1000	154	V	46	2.7	
5972.77	57.12	---	68.16	11.04	10000	1000	154	V	46	2.7	
5997.78	---	44.28	---	---	10000	1000	203	V	105	2.8	
5997.78	57.58	---	68.16	10.58	10000	1000	203	V	105	2.8	

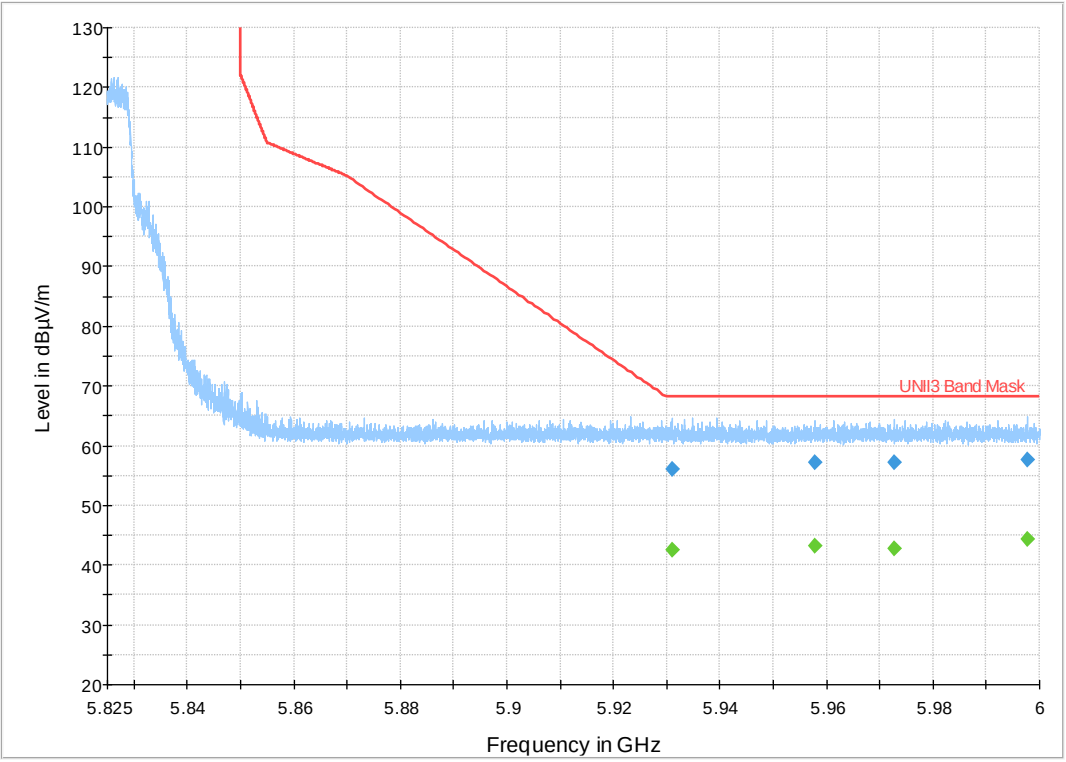


Figure 25: High Band Edge 802.11a Mode 10 MHz, High Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5932.10	---	42.6	---	---	10000	1000	103	H	63	2.6	
5932.10	55.82	---	68.16	12.34	10000	1000	103	H	63	2.6	
5961.99	---	42.9	---	---	10000	1000	103	V	168	2.6	
5961.99	56.49	---	68.16	11.67	10000	1000	103	V	168	2.6	
5972.77	---	42.67	---	---	10000	1000	203	H	-74	2.7	
5972.77	56.7	---	68.16	11.46	10000	1000	203	H	-74	2.7	
5993.51	---	42.78	---	---	10000	1000	153	H	156	2.8	
5993.51	56.17	---	68.16	11.99	10000	1000	153	H	156	2.8	

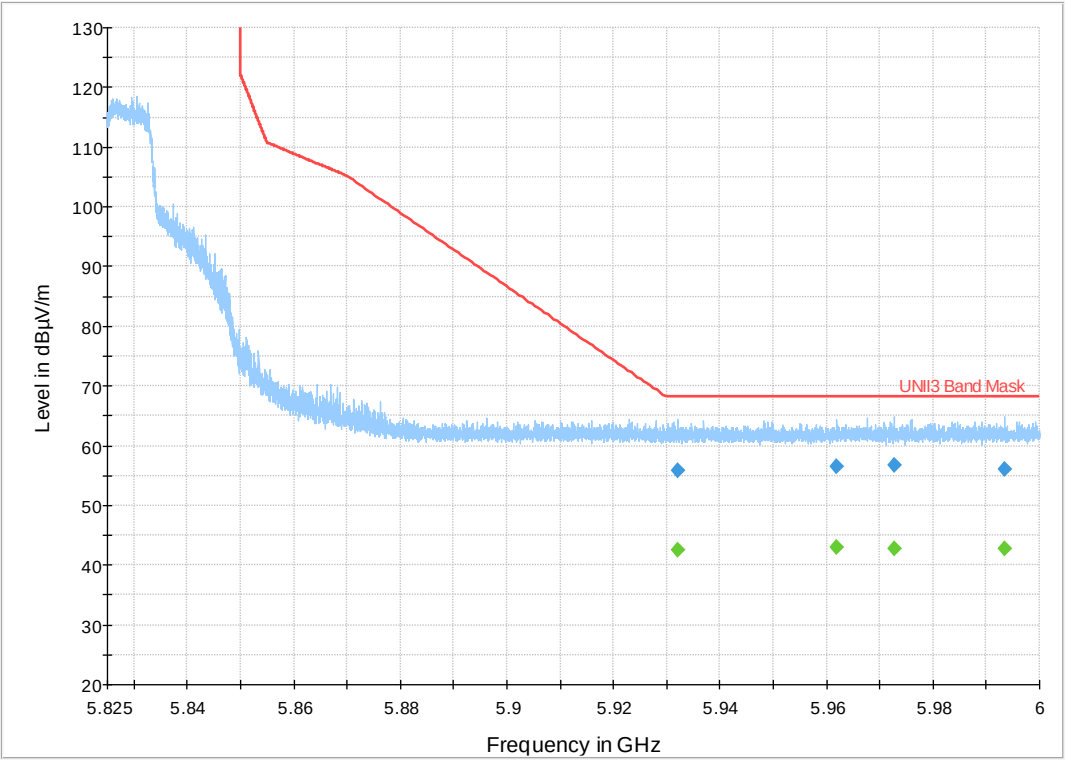


Figure 26: High Band Edge 802.11a Mode 20 MHz, High Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5942.16	---	42.59	---	---	10000	1000	104	V	-38	2.6	
5942.16	56.02	---	68.16	12.14	10000	1000	104	V	-38	2.6	
5958.39	---	42.6	---	---	10000	1000	104	H	-63	2.6	
5958.39	56.88	---	68.16	11.28	10000	1000	104	H	-63	2.6	
5981.61	---	42.82	---	---	10000	1000	104	V	25	2.7	
5981.61	57.16	---	68.16	11	10000	1000	104	V	25	2.7	
5988.14	---	42.76	---	---	10000	1000	154	V	14	2.7	
5988.14	56.24	---	68.16	11.92	10000	1000	154	V	14	2.7	

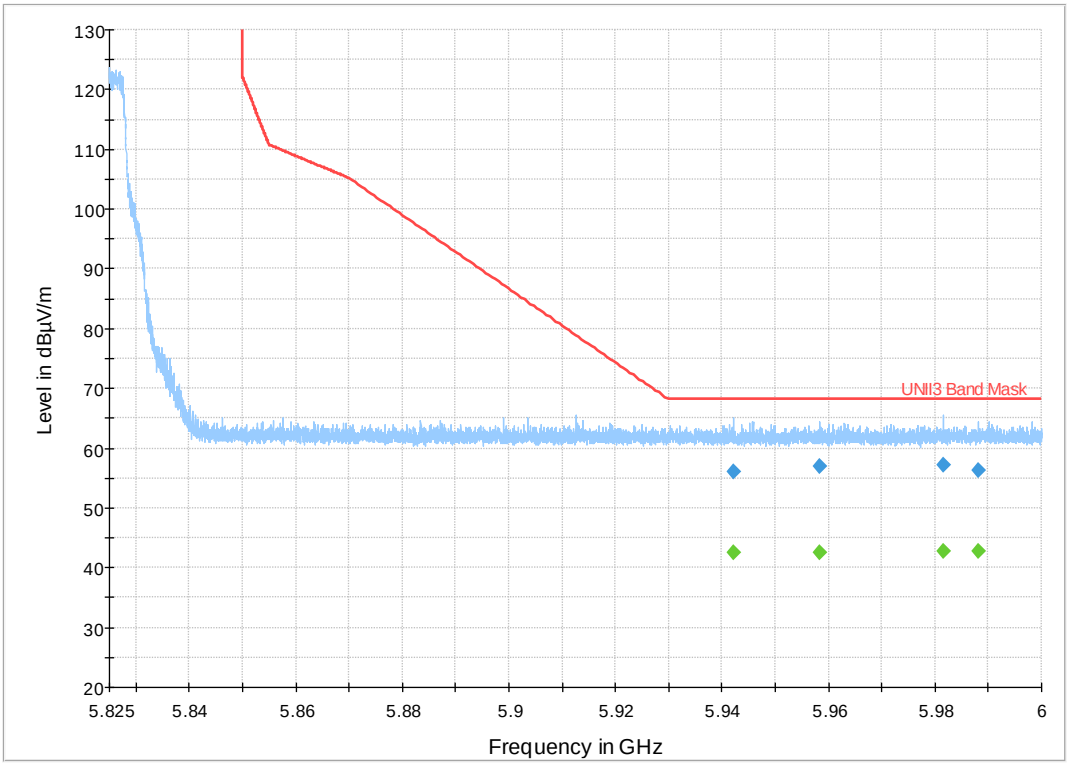


Figure 27: High Band Edge 802.11n HT Mode 5 MHz, High Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5936.51	---	42.95	---	---	10000	1000	153	H	104	2.6	
5936.51	56.27	---	68.16	11.89	10000	1000	153	H	104	2.6	
5964.14	---	42.78	---	---	10000	1000	104	H	4	2.6	
5964.14	56.54	---	68.16	11.62	10000	1000	104	H	4	2.6	
5970.93	---	42.81	---	---	10000	1000	204	H	-127	2.7	
5970.93	56.28	---	68.16	11.88	10000	1000	204	H	-127	2.7	
5998.50	---	43.19	---	---	10000	1000	104	H	121	2.8	
5998.50	56.67	---	68.16	11.49	10000	1000	104	H	121	2.8	

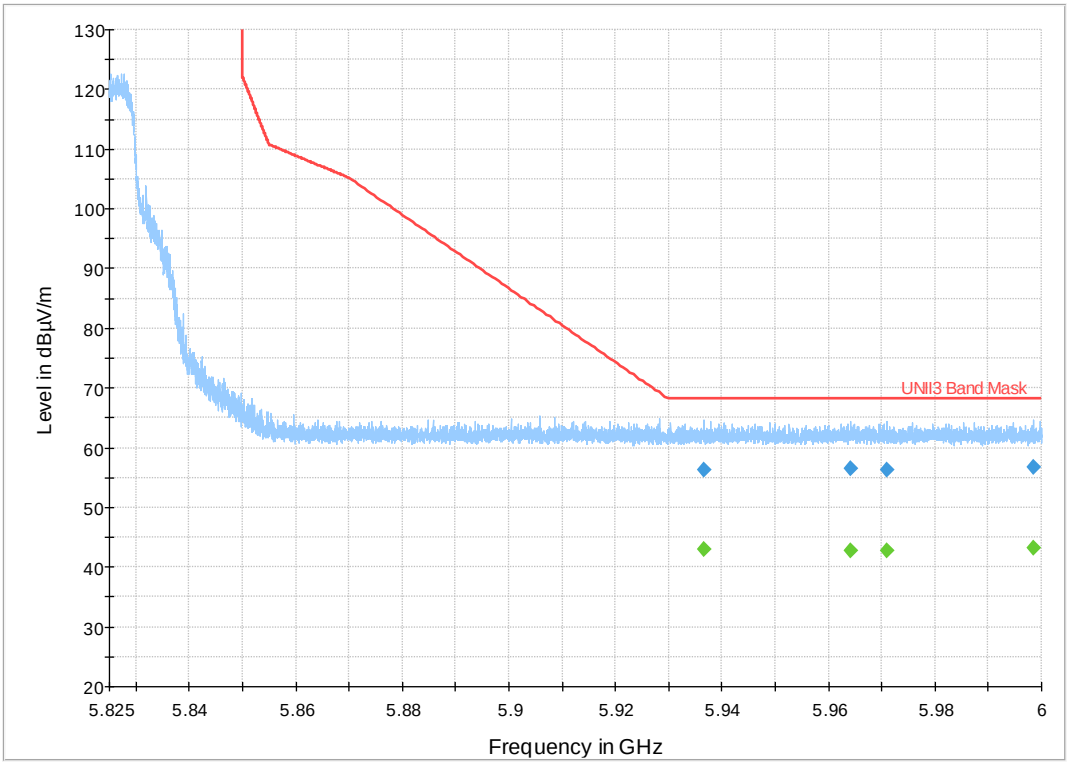


Figure 28: High Band Edge 802.11n HT Mode 10 MHz, High Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5933.99	---	42.76	---	---	10000	1000	154	H	173	2.6	
5933.99	56.07	---	68.16	12.09	10000	1000	154	H	173	2.6	
5954.78	---	42.88	---	---	10000	1000	104	V	109	2.6	
5954.78	56.26	---	68.16	11.9	10000	1000	104	V	109	2.6	
5969.92	---	42.79	---	---	10000	1000	104	H	-87	2.7	
5969.92	56.07	---	68.16	12.09	10000	1000	104	H	-87	2.7	
5984.65	---	42.87	---	---	10000	1000	105	V	72	2.7	
5984.65	56.79	---	68.16	11.37	10000	1000	105	V	72	2.7	

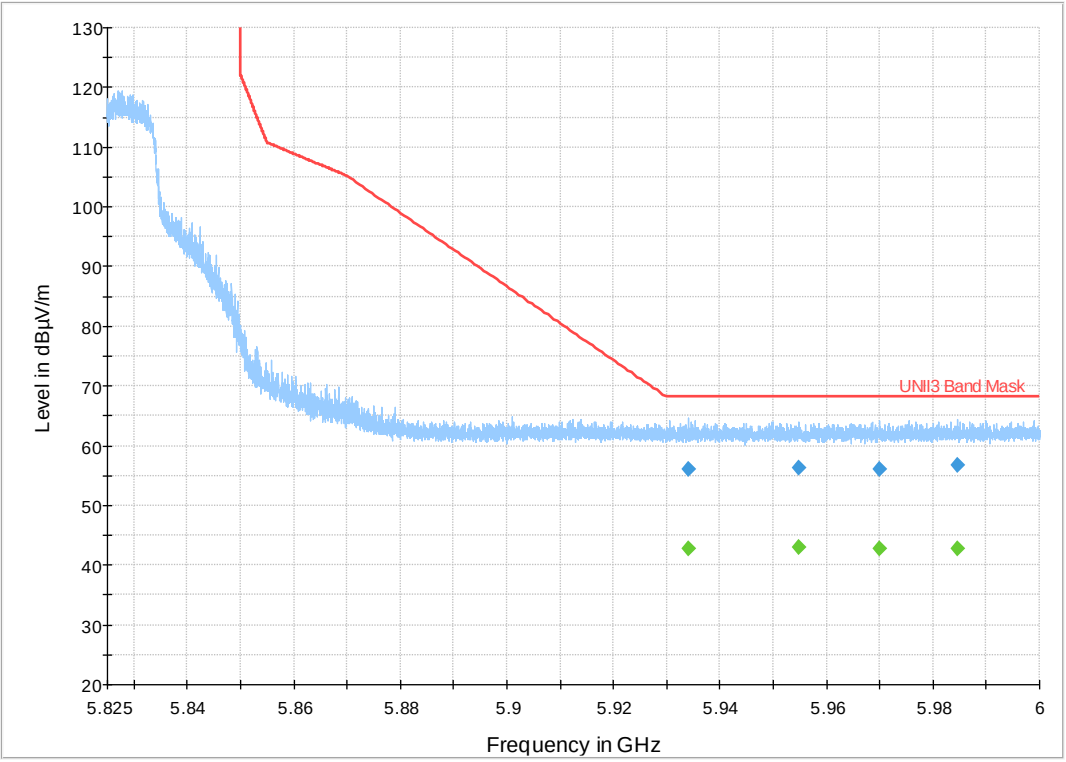


Figure 29: High Band Edge 802.11n HT Mode 20 MHz, High Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5934.40	---	42.79	---	---	10000	1000	154	H	-38	2.6	
5934.40	56.22	---	68.16	11.94	10000	1000	154	H	-38	2.6	
5942.70	---	43.25	---	---	10000	1000	203	V	-135	2.6	
5942.70	57.2	---	68.16	10.96	10000	1000	203	V	-135	2.6	
5960.68	---	43.91	---	---	10000	1000	153	V	103	2.6	
5960.68	57.93	---	68.16	10.23	10000	1000	153	V	103	2.6	
5982.39	---	42.9	---	---	10000	1000	104	H	155	2.7	
5982.39	56.37	---	68.16	11.79	10000	1000	104	H	155	2.7	

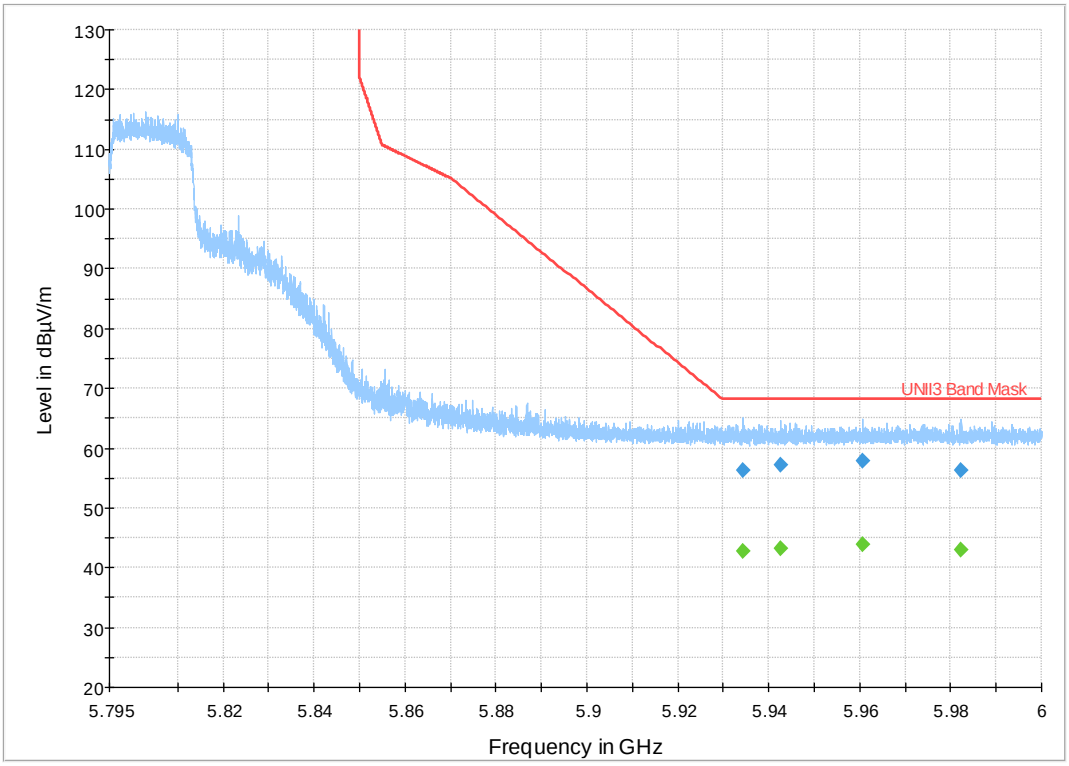


Figure 30: High Band Edge 802.11n HT Mode 40 MHz, High Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5930.59	---	42.97	---	---	10000	1000	203	V	-174	2.6	
5930.59	56.13	---	68.16	12.03	10000	1000	203	V	-174	2.6	
5941.31	---	42.69	---	---	10000	1000	154	H	-50	2.6	
5941.31	56.45	---	68.16	11.71	10000	1000	154	H	-50	2.6	
5966.18	---	42.91	---	---	10000	1000	203	V	105	2.6	
5966.18	57.51	---	68.16	10.65	10000	1000	203	V	105	2.6	
5980.32	---	42.92	---	---	10000	1000	204	V	81	2.7	
5980.32	56.63	---	68.16	11.53	10000	1000	204	V	81	2.7	

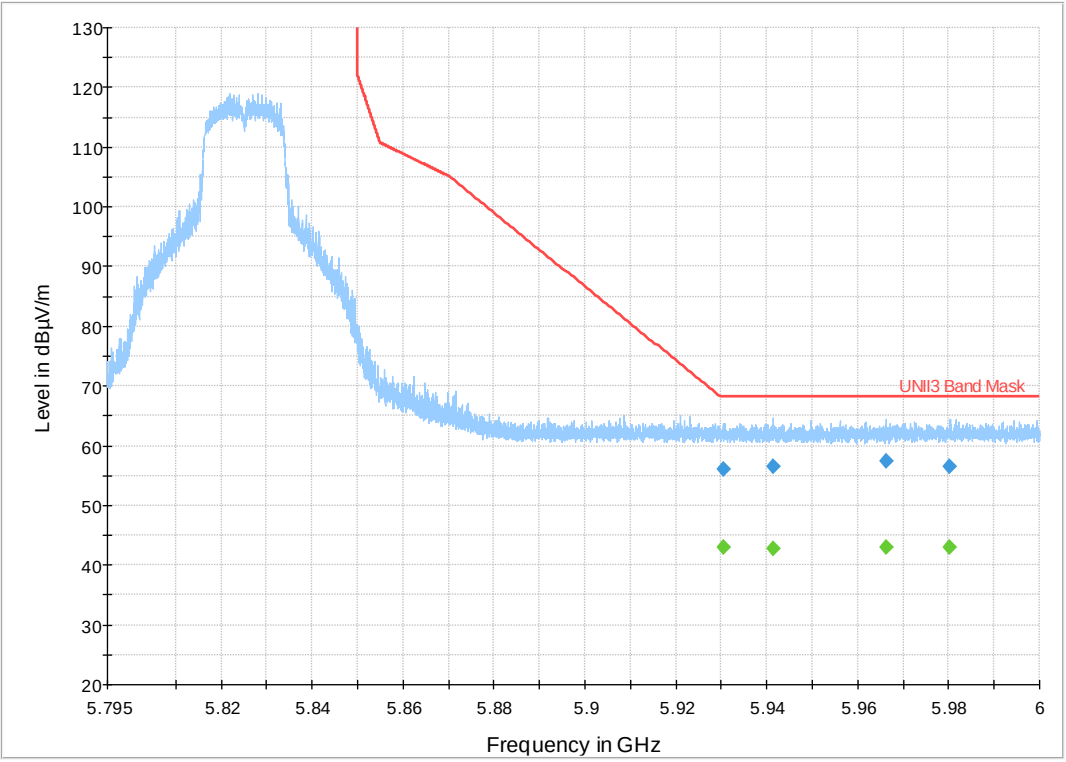


Figure 31: High Band Edge 802.11ac VHT Mode 20 MHz, High Channel

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
5933.76	---	44.16	---	---	10000	1000	203	V	119	2.6	
5933.76	60.28	---	68.16	7.88	10000	1000	203	V	119	2.6	
5944.20	---	42.68	---	---	10000	1000	103	H	-160	2.6	
5944.20	56.84	---	68.16	11.32	10000	1000	103	H	-160	2.6	
5969.43	---	43.22	---	---	10000	1000	154	V	69	2.7	
5969.43	56.68	---	68.16	11.48	10000	1000	154	V	69	2.7	
5997.03	---	42.85	---	---	10000	1000	103	V	-152	2.8	
5997.03	56.41	---	68.16	11.75	10000	1000	103	V	-152	2.8	

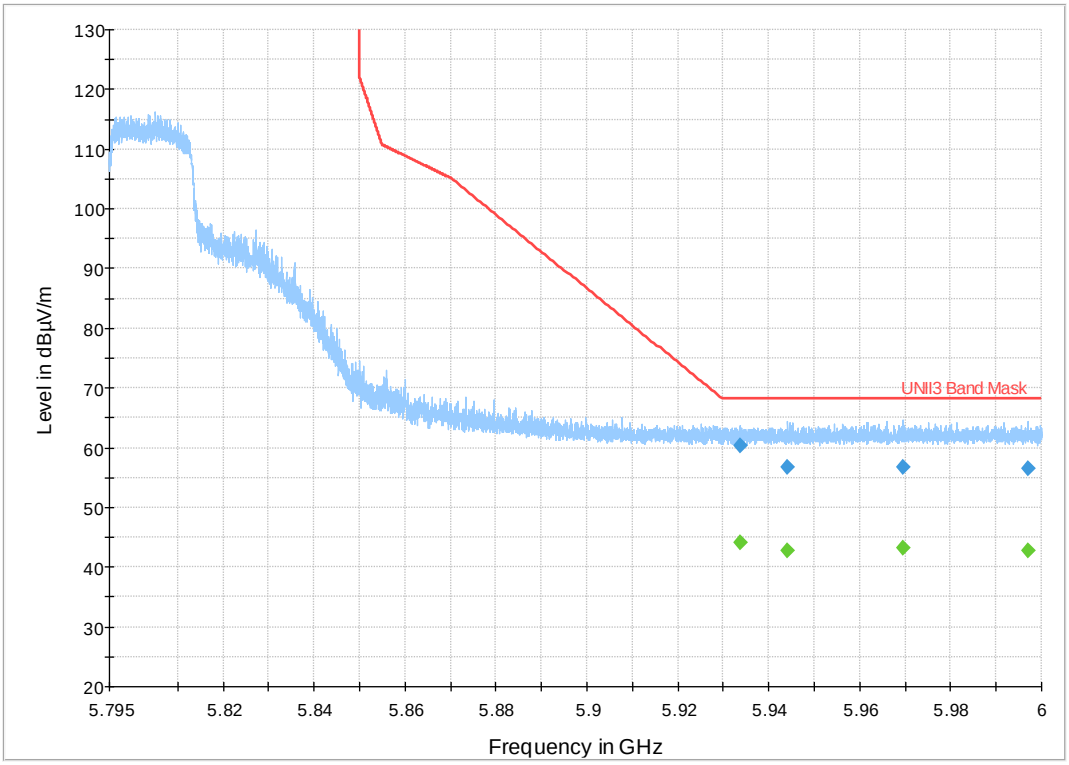


Figure 32: High Band Edge 802.11ac VHT Mode 40 MHz, High Channel

5 Test Equipment List

5.1 Equipment List

Equipment	Manufacturer	Model #	Serial/Inst #	Last Cal mm/dd/yy	Next Cal mm/dd/yy
EMI Receiver	Rohde & Schwarz	ESW, 2 Hz-44GHz	5000-2455-0027	2/28/2021	2/28/2022
Preamplifier, 30 MHz – 8 GHz	Rohde & Schwarz	TS-PR8	102353	2/26/2021	2/26/2022
Trilog Antenna	Rohde & Schwarz	VULB 9162	A102606	2/27/2021	2/27/2022
Preamplifier, 1-18GHz	Rohde & Schwarz	SFUNIT-RX	102143	3/23/2021	3/23/2022
Preamplifier, 1-18GHz	Rohde & Schwarz	TS-PR18	101649	3/23/2021	3/23/2022
Horn, 1-18GHz	Rohde & Schwarz	HF907	20-817094-C	7/10/2019	7/10/2021
Preamplifier, 18 – 40GHz	Rohde & Schwarz	TS-PR1840	100067	2/26/2020	2/26/2021
Horn, 18-40GHz	Rohde & Schwarz	180-442-KF	132596-01	4/17/2020	4/13/2021
Spectrum Analyzer	Rohde & Schwarz	FSU26.5	200050	2/24/2021	2/24/2022
1.6 GHz Low Pass Filter	K&L Microwave	8L120-X1600-0/09135-0249	UA691-35	N/A (See Note)	
3.5 GHz High Pass Filter	Hewlett Packard	84300-80038	820004	N/A (See Note)	
2.4 GHz Notch Filter	Micro-Tronics	BRM50702	009	N/A (See Note)	

Note: Equipment is characterized before use.

* Calibration of equipment past due for re-calibration will be performed expeditiously. If any equipment is found to be out of tolerance at that time, affected customers will be notified accordingly.

VBU = Verify Before Use.

6 EMC Test Plan

6.1 Introduction

This section provides a description of the Equipment Under Test (EUT), configurations, operating conditions, and performance acceptance criteria. It is an overview of information provided by the manufacturer so that the test laboratory may perform the requested testing.

6.2 Customer

Table 2: Customer Information

Company Name	Skydio, Inc.
Address	114 Hazel Avenue
City, State, Zip	Redwood City CA 94061
Country	U.S.A.
Phone	925-766-1258

Table 3: Technical Contact Information

Name	Skydio, Inc.
E-mail	joe@skydio.com
Phone	925-766-1258

6.3 Equipment Under Test (EUT)

Table 4: EUT Specifications

EUT Specifications	
DC Input	12 VDC, 3 Amps
Environment (Indoor / Outdoor)	Indoor / Outdoor
Operating Temperature Range:	0 - 40°°C
Multiple Feeds:	☒ Yes and how many 2 ☐ No
Product Marketing Name (PMN)	SkydioLink 5GHz Radio
Model No.	SMO5GV1
Hardware Version Identification Number (HVIN)	720-205639-000-B
Firmware Version Identification Number (FVIN)	Version 2.02_revb_bdf.bin
RF Test Software Version	Version 4.0.00147.0
Operating Modes	802.11a (5MHz, 10 MHz, 20 MHz Bandwidth) 802.11n HT20 (5MHz, 10 MHz, 20 MHz Bandwidth) 802.11n HT40 (40 MHz Bandwidth) 802.11ac VHT20 (20 MHz Bandwidth) 802.11ac VHT40 (40 MHz Bandwidth)
Transmitter Frequency Band	5.15-5.25 GHz, U-NII-1 Band 5.725-5.85GHz, U-NII-3 Band
Modulation Type	☐ BLE ☒ DSSS ☒ OFDM ☐ Other describe:
Directional Gain Type	☐ Correlated ☒ Uncorrelated ☐ Other describe:
Type of Equipment	☐ Table Top ☐ Wall-mount ☐ Floor standing cabinet ☒ Other: Radio Module

Table 5: EUT Channel Power Specifications

Freq. (MHz)	802.11a 5	802.11a 10	802.11a 20	802.11n HT5	802.11n HT10	802.11n HT20	802.11n HT40	802.11ac VHT20	802.11ac VHT40
Power Setting									
5170.5	20			20					
5200.5	20			20					
5240.5	20			20					
5170		20			20				
5200		20			20				
5240		20			20				
5180			20			20		20	
5220			20			20		20	
5240			20			20		20	
5190							15.2		15.5
5230							20		20
5730.5	27			27					
5795.5	27			27					
5825.5	27			27					
5730		27			27				
5795		27			27				
5825		27			27				
5745			27			27		27	
5785			27			27		27	
5825			27			27		27	
5755							27		27
5795							27		27

Table 6: Antenna Information

Number	Antenna Type	Max Gain (dBi)	
		5150-5250 MHz	5725-5850 MHz
Antenna 1	Omni	5.14	5.35
Antenna 2	Omni		

Table 7: Interface Specifications

Interface Type	Cabled with what type of cable?	Is the cable shielded?	Maximum potential length of the cable?	Metallic (M), Coax (C), Fiber (F), or Not Applicable?
USB-C	Terminated to laptop	☒ No	☒ Metric:<1m	☒ N/A

Table 8: Supported Equipment

Equipment	Manufacturer	Model	Serial	Used for
Laptop	Dell	Precision 5510	-	Set test mode

Table 9: Description of Sample used for Testing

Device	Serial Number	Configuration	Used For
SMO5GV1	U21	Radiated Sample	Radiated Emissions
SMO5GV1	U28	Conducted Sample	Output Power, Occupied Bandwidth, Conducted Spurious Emissions, Peak Power Spectral Density
Note: None			

Table 10: Description of Test Configuration used for Radiated Measurement.

Device	Antenna	Mode	Setup Description
SMO5GV1	External	Transmit	positioned tabletop.
Note: This is the final setup configuration used for testing on its normal positioned.			

6.4 Test Specifications

Table 11: Test Specifications

Emissions	
Regulation Rules / Standards	**Requirement**
CFR 47 Part 15.407: 2021	All

END OF REPORT