



RF Test Report

Test Report Number	STA-21092043-LC-FCC-IC-5G
FCC ID IC Applicant Applicant Address Product Name Model (s) Date of Receipt Date of Test Report Issue Date Test Standards Test Result	U6YRDNA130201 216P-RDNA130201 Panasonic Avionics Corporation 26200 Enterprise Way Lake Forest, California, United States 92630 NEXT WSCU Tablet RD-NA1302-01 03/08/2022 03/25/2022- 04/08/2022 09/19/2022 47CFR Part 15.407 RSS 247 Issue 2: February 2017 RSS GEN Issue 5 Amd 2 February 2021 PASS
	<p>Issued by:</p> <p>Vista Compliance Laboratories 1261 Puerta Del Sol, San Clemente, CA 92673 USA www.vista-compliance.com</p>
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REVISION HISTORY

Report Number	Version	Description	Issued Date
STA-21092043-LC-FCC IC-5G	Original	Initial report	09/19/2022

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1 Test Summary

Test Item	Test Requirement	Test Method	Result
Antenna Requirement	47CFR Part 15.203	N/A	Pass
26 dB Bandwidth	47CFR Part 15.407 (a) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	N/A ¹⁾
Occupied Bandwidth	47CFR Part 15.407 (a) RSS-Gen Issue 5, Mar 2019	ANSI C63.10 (2013) RSS-Gen Issue 5, Mar 2019	N/A ¹⁾
Maximum Conducted Output Power	47CFR Part 15.407 (a) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	Pass
Power Spectral Density	47CFR Part 15.407 (a) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	N/A ¹⁾
Radiated Spurious Emission	47CFR Part 15.407 (b) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	Pass
Radiated Band-Edge into Restricted Frequency Bands	47CFR Part 15.205, 15.209 47CFR Part 15.407 (b) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	N/A ¹⁾
AC Power Line Conducted Emissions	47CFR Part 15.207 RSS-Gen Issue 5, Mar 2019	ANSI C63.10 (2013) RSS-Gen Issue 5, Mar 2019	Pass

Note:

1. These test cases are not tested. The device uses the certified RF module. (Model No.: SX-PCEAC2, FCC ID: N6C-SXPCEAC2; IC ID: 4908A-SXPCEAC2).
2. This device uses antenna different than in the original module. The new antenna is internal PCB antenna with lower antenna gain. Only output power, power line conducted emission and radiated spurious emission test in this report, for the other test, please refer to original module's test report.

2 General Information

2.1 Applicant

Applicant	Panasonic Avionics Corporation
Applicant address	26200 Enterprise Way Lake Forest, California, United States 92630
Manufacturer	Panasonic Avionics Corporation
Manufacturer Address	26200 Enterprise Way Lake Forest, California, United States 92630

2.2 Product information

Product Name	NEXT WSCU Tablet
Model Number	RD-NA1302-01
Family Models	N/A
Serial Number	J552687
Frequency Band	WLAN_5G: 5180 ~ 5240MHz; 5260 ~5320MHz 5500 ~ 5720MHz; 5745 ~ 5825MHz
Type of modulation	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Equipment Class	U-NII
Antenna Information	2 x Internal PCB antenna (MIMO) Peak gain: <ul style="list-style-type: none"> - 1.70 dBi @ 5.2G - 2.18 dBi @ 5.3G - 2.73 dBi @ 5.45G - 2.27 dBi @ 5.6G
Clock Frequencies	N/A
Input Power	Charging from the cradle docking station 28 Vdc 2A
Power Adapter Manufacturer/Model	N/A
Power Adapter SN	N/A
Hardware version	N/A
Software version	N/A
Simultaneous Transmission	N/A
Additional Info	EUT is powered by internal battery. It can be recharged through the cradle docking station which is installed onboard and only powered by the onboard battery or DC power line. The AC line conducted emission is evaluated additionally for reference.

2.3 Test standard and method

Test standard	47CFR Part 15.407 RSS 247 Issue 2: February 2017 RSS GEN Issue 5 Amd 2 February 2021
Test method	ANSI C63.10 (2013) 789033 D02 General UNII Test Procedures New Rules v02r01

3 Test Site Information

Lab performing tests	Vista Laboratories, Inc.
Lab Address	1261 Puerta Del Sol, San Clemente, CA 92673 USA
Phone Number	+1 (949) 393-1123
Website	www.vista-compliance.com

Test Condition	Temperature	Humidity	Atmospheric Pressure
RF Testing	23.2°C	57.5%	1002 mbar
Radiated Emission Testing	23.2°C	57.5%	1002 mbar

4 Modification of EUT / Deviations from Standards

The EUT is an engineering test sample loaded with RF testing firmware specifically designed to support the RF TX/RX measurement in different aspects.

5 Test Configuration and Operation

5.1 EUT Test Configuration

EUT is powered by internal battery. The test software is used to set EUT to different transmission mode in terms of radio mode, test channel, data rate, etc.

The following software was used for testing and to monitor EUT performance

Software	Description
EMISoft Vasona	EMC/RF Spurious emission test software used during testing
Tera Term	Send command to set the module work at different mode, channel, bandwidth, etc

5.2 Supporting Equipment

Description	Manufacturer	Model #	Serial #
AC/DC Adapter	MANGNING	WT2402500	N/A

6 Uncertainty of Measurement

Test item	Measurement Uncertainty (dB)
RF Output Power (Conducted)	±1.2 dB
Power Spectral Density	±0.9 dB
Unwanted Emission (conducted)	±2.6 dB
Occupied Channel Bandwidth	±5 %
Radiated Emission (9KHz-30MHz)	±3.5 dB
Radiated Emission (30MHz-1GHz)	±4.6 dB
Radiated Emission (1-18GHz)	±4.9 dB
Radiated Emission (18-40GHz)	±3.5 dB

7 Test Results

7.1 Antenna Requirements

7.1.1 Requirement

Per § 15.203, 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.

7.1.2 Conclusion

Analysis:

EUT has internal PCB antennas.

- For Internal antennas, the connector type is U.FL. No standard RF connector or coupling is used.

Conclusion:

- EUT complies with antenna requirement in § 15.203.

7.2 Maximum Conducted Output Power

7.2.1 Requirement

§ 15.407 (a)

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

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

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

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247

6.2.1 Frequency band 5150-5250 MHz:

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10\log_{10}B$, dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log_{10}B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

6.2.2 Frequency band 5250-5350 MHz:

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10\log_{10}B$, dBm, whichever is less. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other than devices installed in vehicles, shall comply with the following:

- a) The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10}B$, dBm, whichever is less.
- b) The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10}B$, dBm, whichever is less. B is the 99% emission bandwidth in MHz.

6.2.3 Frequency bands 5470-5600 MHz and 5650-5725 MHz

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less.

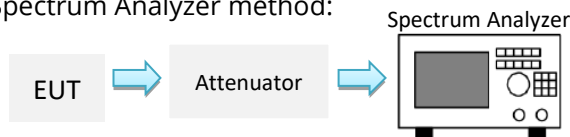
The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in MHz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

6.2.4 Frequency band 5725-5850 MHz

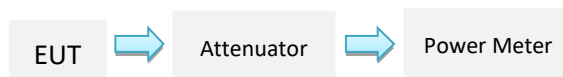
The maximum conducted output power shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.2.2 Test Setup

Spectrum Analyzer method:



Power Meter



7.2.3 Test Procedure

Spectrum Analyzer Method (for peak power measurement)

According to subclause 12.3.2.2 of ANSI C63.10-2013:

subclause E.2.b of 789033 D02 General UNII Test Procedures New Rules v02r01

- 1) Set span to encompass the entire 26 dB EBW or 99% OBW of the signal.
- 2) Set RBW = 1MHz
- 3) Set VBW \geq 3 MHz.
- 4) Number of points in sweep \geq $[2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing \leq RBW / 2, so that narrow band signals are not lost between frequency bins.)
- 5) Sweep time = auto
- 6) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- 7) If transmit duty cycle < 98%, use a video trigger with the trigger level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty cycle \geq 98%, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run."

- 8) Trace average at least 100 traces in power averaging (rms) mode.
- 9) Compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument's band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

Power Meter Method (for average power measurement)

According to subclause 12.3.3.2 of ANSI C63.10-2013:

subclause E.3.b of 789033 D02 General UNII Test Procedures New Rules v02r01

Method PM-G is measurement using a gated RF average power meter.

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

7.2.4 Test Result

Conducted Output power measurement result

UNII-1 Band

Mode	Frequency (MHz)	Data rate	Measured Average Output Power (dBm)		Highest/ Total Power (dBm)	Output Power Limit (dBm)	Result
			Chain 0	Chain 1			
11a	5180	6Mbps	14.31	14.52	14.52	23.98	PASS
	5200	6Mbps	14.78	14.57	14.78	23.98	PASS
	5240	6Mbps	15.24	15.24	15.24	23.98	PASS
11n-20M	5180	HT20-MCS0	15.15	15.03	18.10	23.98	PASS
	5200	HT20-MCS0	14.47	14.21	17.35	23.98	PASS
	5240	HT20-MCS0	14.24	14.52	17.39	23.98	PASS
11n-40M	5190	HT40-MCS0	10.57	10.42	13.51	23.98	PASS
	5230	HT40-MCS0	10.46	10.12	13.30	23.98	PASS
11ac-80M	5210	VHT80-MCS0	9.11	9.42	12.28	23.98	PASS

UNII-2a Band

Mode	Frequency (MHz)	Data rate	Measured Average Output Power (dBm)		Highest/ Total Power (dBm)	Output Power Limit (dBm)	Result
			Chain 0	Chain 1			
11a	5260	6Mbps	15.14	15.57	15.57	23.98	PASS
	5280	6Mbps	15.24	15.42	15.42	23.98	PASS
	5320	6Mbps	13.52	13.51	13.52	23.98	PASS
11n-20M	5260	HT20-MCS0	14.22	14.56	17.40	23.98	PASS
	5280	HT20-MCS0	15.66	15.23	18.46	23.98	PASS
	5320	HT20-MCS0	14.5	14.24	17.38	23.98	PASS
11n-40M	5270	HT40-MCS0	13.01	13.58	16.31	23.98	PASS
	5310	HT40-MCS0	12.24	12.63	15.45	23.98	PASS
11ac-80M	5290	VHT80-MCS0	9.23	9.57	12.41	23.98	PASS

UNII-2c Band

Mode	Frequency (MHz)	Data rate	Measured Average Output Power (dBm)		Highest/ Total Power (dBm)	Output Power Limit (dBm)	Result
			Chain 0	Chain 1			
11a	5500	6Mbps	14.19	14.82	14.82	23.98	PASS
	5580	6Mbps	13.98	14.42	14.42	23.98	PASS
	5700	6Mbps	13.23	13.52	13.52	23.98	PASS
	5720	6Mbps	9.24	9.11	9.24	23.98	PASS
11n-20M	5500	HT20-MCS0	14.03	13.83	16.94	23.98	PASS
	5580	HT20-MCS0	14.11	13.74	16.94	23.98	PASS
	5700	HT20-MCS0	13.87	13.99	16.94	23.98	PASS
	5720	HT20-MCS0	9.23	9.33	12.29	23.98	PASS
11n-40M	5510	HT40-MCS0	13.53	13.01	16.29	23.98	PASS
	5550	HT40-MCS0	12.52	12.55	15.55	23.98	PASS
	5670	HT40-MCS0	10.52	10.38	13.46	23.98	PASS
	5710	HT40-MCS0	8.1	8.52	11.33	23.98	PASS
11ac-80M	5530	VHT80-MCS0	10.32	10.53	13.44	23.98	PASS
	5690	VHT80-MCS0	10.42	10.38	13.41	23.98	PASS

UNII-3 Band

Mode	Frequency (MHz)	Data rate	Measured Peak Output Power (dBm)		Highest/ Total Power (dBm)	Output Power Limit (dBm)	Result
			Chain 0	Chain 1			
11a	5745	6Mbps	20.11	21.03	21.03	30.0	PASS
	5785	6Mbps	20.48	20.98	20.98	30.0	PASS
	5825	6Mbps	21.04	20.85	21.04	30.0	PASS
11n-20M	5745	HT20-MCS0	21.14	20.8	23.98	30.0	PASS
	5785	HT20-MCS0	21.09	20.91	24.01	30.0	PASS
	5825	HT20-MCS0	20.77	20.87	23.83	30.0	PASS
11n-40M	5755	HT40-MCS0	19.74	19.12	22.45	30.0	PASS
	5795	HT40-MCS0	19.41	19.71	22.57	30.0	PASS
11ac-80M	5775	VHT80-MCS0	17.5	17.8	20.66	30.0	PASS

Mode	Frequency (MHz)	Data rate	Measured Average Output Power (dBm)		Highest/ Total Power (dBm)	Output Power Limit (dBm)	Result
			Chain 0	Chain 1			
11a	5745	6Mbps	14.11	14.03	14.11	30.0	PASS
	5785	6Mbps	15.3	15.29	15.30	30.0	PASS
	5825	6Mbps	15.15	15.52	15.52	30.0	PASS
11n-20M	5745	HT20-MCS0	13.88	13.12	16.53	30.0	PASS
	5785	HT20-MCS0	14.49	14.87	17.69	30.0	PASS
	5825	HT20-MCS0	14.32	14.11	17.23	30.0	PASS
11n-40M	5755	HT40-MCS0	12.55	12.23	15.40	30.0	PASS
	5795	HT40-MCS0	12.11	12.53	15.34	30.0	PASS
11ac-80M	5775	VHT80-MCS0	9.2	10.11	12.69	30.0	PASS

Note:

- 1) For 802.11a, the highest output power is recorded.
- 2) For 5GHz non-11a mode, it's under 2x2 MIMO mode, the output power is combined together to compare to limit. Directional gain is calculated per KDB 662911 D01. The output power limit is reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. After calculating, the directional gain is less than 6 dBi, no limitation reduced requirement.

EIRP measurement result (For ISSED requirement)

U-NII-1 Band

Mode	Frequency (MHz)	Data rate	Highest/ Total Power (dBm)	Antenna / Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
802.11a	5180	6Mbps	14.52	1.70	16.22	23	PASS
	5200	6Mbps	14.78	1.70	16.48	23	PASS
	5240	6Mbps	15.24	1.70	16.94	23	PASS
802.11n	5180	HT20_MCS0	18.10	4.71	22.81	23	PASS
	5200	HT20_MCS0	17.35	4.71	22.06	23	PASS
	5240	HT20_MCS0	17.39	4.71	22.10	23	PASS
802.11n40	5190	HT40_MCS0	13.51	4.71	18.22	23	PASS
	5230	HT40_MCS0	13.30	4.71	18.01	23	PASS
802.11ac80	5210	VHT80_MCS0	12.28	4.71	16.99	23	PASS

U-NII-2a Band

Mode	Frequency (MHz)	Data rate	Highest/ Total Power (dBm)	Antenna / Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
802.11a	5260	6Mbps	15.57	2.18	17.75	30	PASS
	5280	6Mbps	15.42	2.18	17.60	30	PASS
	5320	6Mbps	13.52	2.18	15.70	30	PASS
802.11n	5260	HT20_MCS0	17.40	5.19	22.59	30	PASS
	5280	HT20_MCS0	18.46	5.19	23.65	30	PASS
	5320	HT20_MCS0	17.38	5.19	22.57	30	PASS
802.11n40	5270	HT40_MCS0	16.31	5.19	21.50	30	PASS
	5310	HT40_MCS0	15.45	5.19	20.64	30	PASS
802.11ac80	5290	VHT80_MCS0	12.41	5.19	17.60	30	PASS

U-NII-2C Band

Mode	Frequency (MHz)	Data rate	Highest/ Total Power (dBm)	Antenna / Directional Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
802.11a	5500	6Mbps	14.82	2.27	17.09	30	PASS
	5580	6Mbps	14.42	2.27	16.69	30	PASS
	5700	6Mbps	13.52	2.27	15.79	30	PASS
	5720	6Mbps	9.24	2.27	11.51	30	PASS
802.11n	5500	HT20_MCS0	16.94	5.28	22.22	30	PASS
	5580	HT20_MCS0	16.94	5.28	22.22	30	PASS
	5700	HT20_MCS0	16.94	5.28	22.22	30	PASS
	5720	HT20_MCS0	12.29	5.28	17.57	30	PASS
802.11n40	5510	HT40_MCS0	16.29	5.28	21.57	30	PASS
	5550	HT40_MCS0	15.55	5.28	20.83	30	PASS
	5670	HT40_MCS0	13.46	5.28	18.74	30	PASS
	5710	HT40_MCS0	11.33	5.28	16.61	30	PASS
802.11ac80	5530	VHT80_MCS0	13.44	5.28	18.72	30	PASS
	5690	VHT80_MCS0	13.41	5.28	18.69	30	PASS

7.3 Radiated Spurious Emission

7.3.1 Requirement

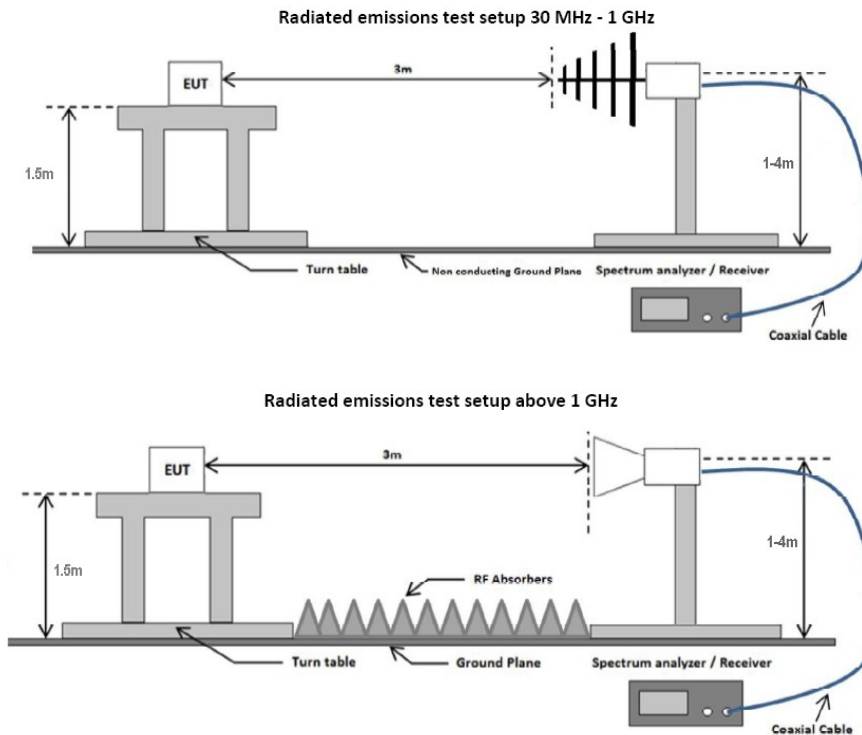
§ 15.407 (b) RSS-247 6.2

- 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.
- 2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- 3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- 4) For transmitters operating in the 5.725-5.825 GHz band: all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- 5) Restricted band, emission must also comply with the radiated emission limits specified in 15.209

Attenuation below the general limits specified in §15.209(a) and RSS-Gen is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Frequency Range (MHZ)	Field Strength ($\mu\text{V}/\text{m}$)	Measurement Distance (m)
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

7.3.2 Test Setup



7.3.3 Test Procedure

According to subclause 12.7, radiated spurious emission measurements, in ANSI C63.10-2013:

- 1) The EUT was switched on and allowed to warm up to its normal operating condition.
- 2) The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
 - a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT was chosen.
 - b. The EUT was then rotated to the direction that gave the maximum emission.
 - c. Finally, the antenna height was adjusted to the height that gave the maximum emission.
- 3) The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 300Hz for frequencies below 150kHz.
- 4) The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 10kHz for frequency between 150kHz-30MHz.
- 5) The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection at frequency between 30MHz-1GHz.
- 6) The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with peak detection for peak and average measurement at frequency above 1GHz.
- 7) Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.

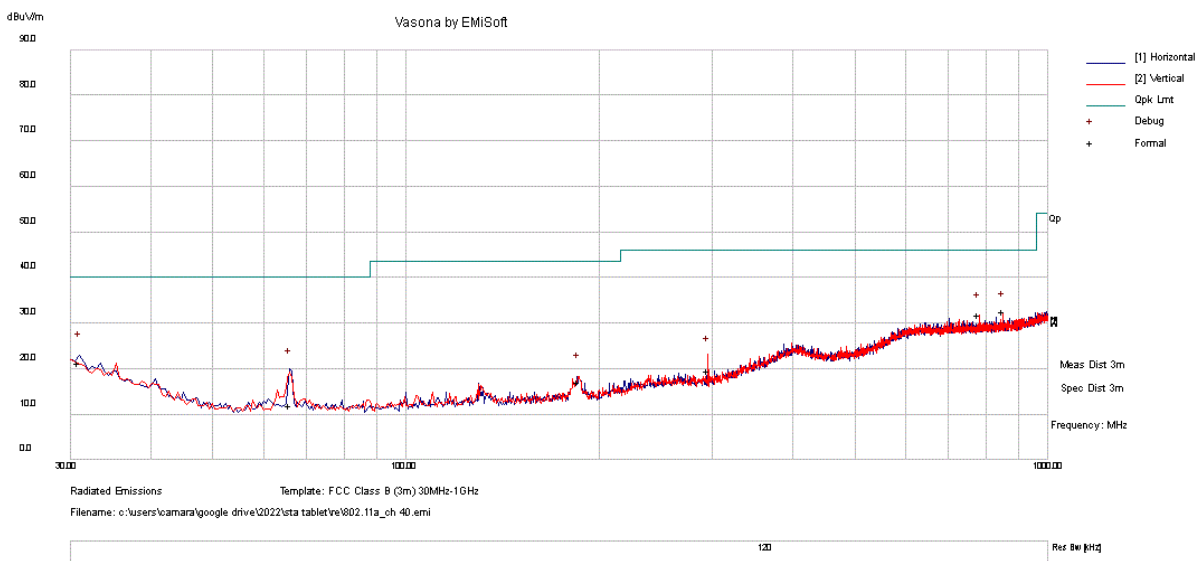
7.3.4 Test Result

Radiated Emission between 9KHz – 30MHz test result

Note: no substantial emission is found other than the noise floor. Different modes have been verified.

RADIATED SPURIOUS EMISSION BELOW 1GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11a
Frequency Range:	30 MHz - 1 GHz	Test Date:	03/25/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 40	Test Result:	Pass



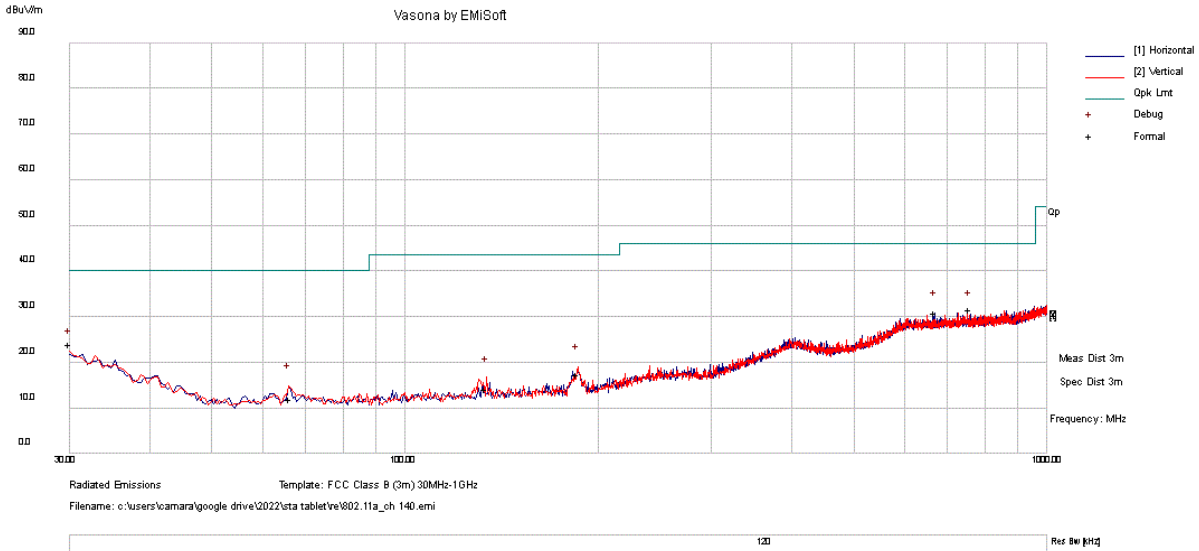
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	851.364	29.2	7.4	-3.9	32.7	Quasi Max	V	322	63	46	-13.3	Pass
2	780.733	29.1	7.3	-4.4	31.9	Quasi Max	V	196	360	46	-14.1	Pass
3	30.89	31.1	2.3	-12	21.3	Quasi Max	H	400	194	40	-18.7	Pass
4	66.061	29.2	3.1	-20.3	12	Quasi Max	H	363	214	40	-28	Pass
5	295.345	28.2	5.6	-14.2	19.6	Quasi Max	V	365	0	46	-26.4	Pass
6	185.546	29.9	4.6	-17.2	17.3	Quasi Max	V	273	68	43.5	-26.2	Pass

Remarks:

1. Level (dBuV/m) = Raw (dBuV) + Cable loss(dB) + AF (dB/m).
2. AF (dB/m) = Antenna Factor (dB) - Pre-amplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED SPURIOUS EMISSION BELOW 1GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11a
Frequency Range:	30 MHz - 1 GHz	Test Date:	03/28/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 140	Test Result:	Pass



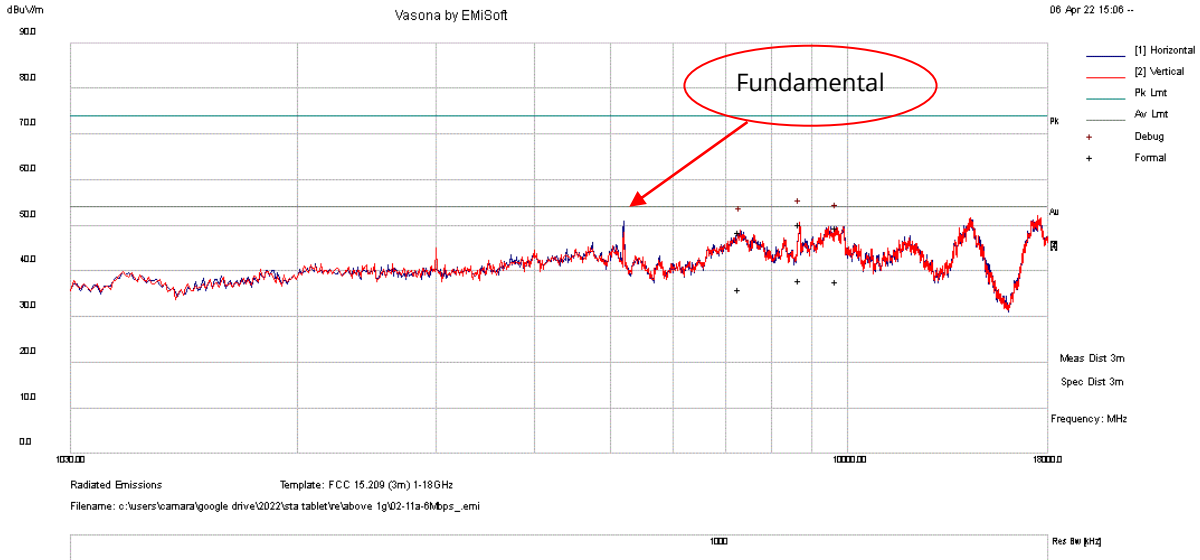
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	668.323	28.9	7.3	-5.2	30.9	Quasi Max	H	130	31	46	-15.1	Pass
2	758.756	29.1	7.3	-4.7	31.7	Quasi Max	H	129	217	46	-14.3	Pass
3	30.003	33.4	2.2	-11.5	24.1	Quasi Max	V	214	150	40	-15.9	Pass
4	185.779	29.9	4.6	-17.2	17.3	Quasi Max	V	121	155	43.5	-26.2	Pass
5	66.09	29.3	3.1	-20.3	12.1	Quasi Max	V	229	204	40	-27.9	Pass
6	133.795	28.4	4.1	-18.2	14.3	Quasi Max	V	154	296	43.5	-29.2	Pass

Remarks:

1. Level (dBuV/m) = Raw (dBuV) + Cable loss(dB) + AF (dB/m).
2. AF (dB/m) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED EMISSIONS 1 - 18 GHZ

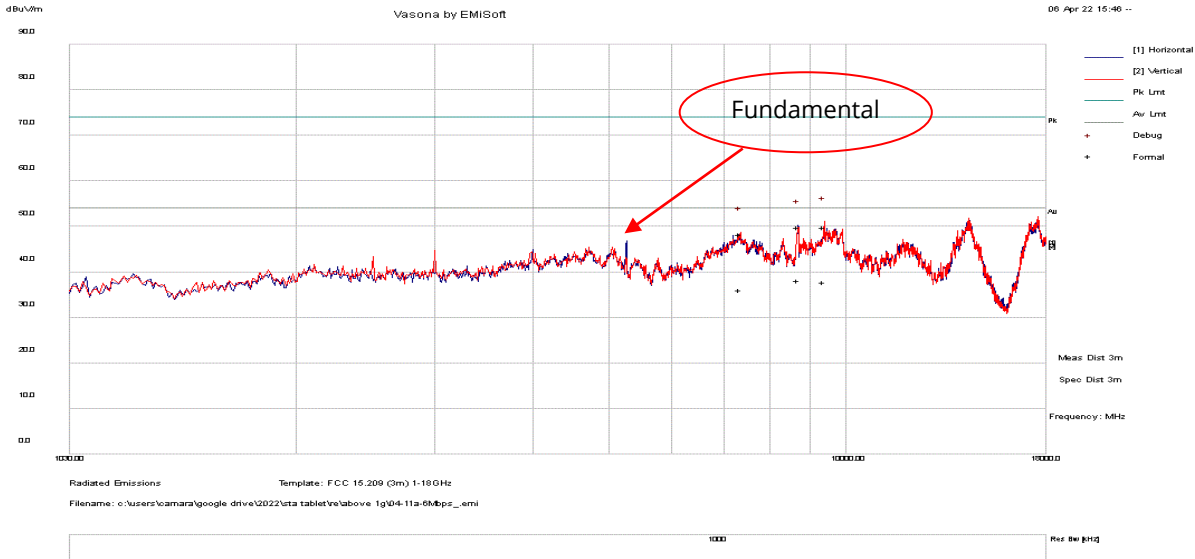
Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11a
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 36 / CH 40 / CH 48	Test Result:	Pass



Mode: 802.11a_ch 36												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8709.278	27	17.5	5.1	49.7	Peak Max	V	186	106	74	-24.3	Pass
2	7286.538	31	11.8	5	47.9	Peak Max	V	323	160	74	-26.1	Pass
3	4731.794	33.4	8.9	2.2	44.6	Peak Max	H	390	149	74	-29.4	Pass
4	8709.278	15.2	17.5	5.1	37.9	Average Max	V	186	106	54	-16.1	Pass
5	7286.538	19.5	11.8	5	36.4	Average Max	V	323	160	54	-17.6	Pass
6	4731.794	22	8.9	2.2	33.1	Average Max	H	390	149	54	-20.9	Pass
Mode: 802.11a_ch 40												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8696.594	27.4	17.8	5	50.3	Peak Max	V	245	307	74	-23.8	Pass
2	9697.171	28.9	14.7	6.1	49.6	Peak Max	H	177	190	74	-24.4	Pass
3	7307.25	31.6	11.9	5.1	48.5	Peak Max	H	276	20	74	-25.5	Pass
4	8696.594	15.3	17.8	5	38.1	Average Max	V	245	307	54	-15.9	Pass
5	9697.171	17.2	14.7	6.1	37.9	Average Max	H	177	190	54	-16.1	Pass
6	7307.25	19.2	11.9	5.1	36.2	Average Max	H	276	20	54	-17.8	Pass
Mode: 802.11a_ch 48												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9686.28	29.4	14.6	6	50	Peak Max	V	309	360	74	-24	Pass
2	8699.654	26.6	17.9	5	49.5	Peak Max	V	158	147	74	-24.5	Pass
3	7318.939	31.1	11.9	5.2	48.2	Peak Max	H	155	216	74	-25.8	Pass
4	9686.28	17.1	14.6	6	37.7	Average Max	V	309	360	54	-16.3	Pass
5	8699.654	15.2	17.9	5	38.1	Average Max	V	158	147	54	-15.9	Pass
6	7318.939	19.2	11.9	5.2	36.2	Average Max	H	155	216	54	-17.8	Pass

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11a
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 52 / CH 56 / CH 64	Test Result:	Pass



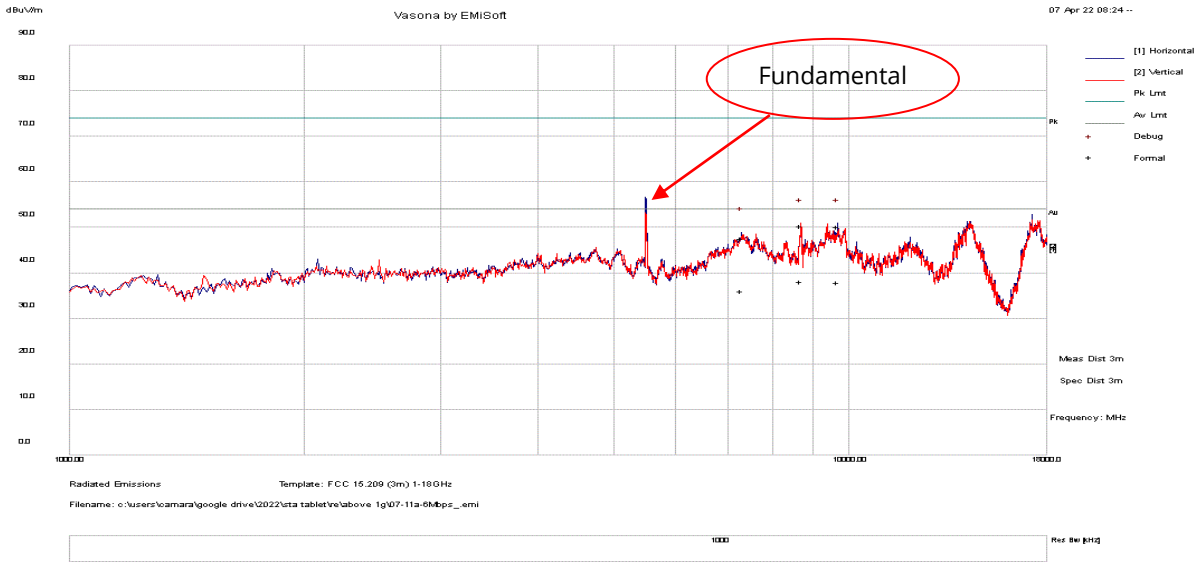
Mode: 802.11a_ch 52												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9396.559	28.1	14.7	7	49.9	Peak Max	V	100	360	74	-24.1	Pass
2	8698.734	27	17.9	5	49.9	Peak Max	H	262	0	74	-24.1	Pass
3	7349.485	31	11.9	5.4	48.4	Peak Max	V	247	0	74	-25.6	Pass
4	9396.559	16	14.7	7	37.8	Average Max	V	100	360	54	-16.2	Pass
5	8698.734	15.2	17.9	5	38.1	Average Max	H	262	0	54	-15.9	Pass
6	7349.485	18.7	11.9	5.4	36.1	Average Max	V	247	0	54	-17.9	Pass
Mode: 802.11a_ch 56												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9686.583	28.7	14.6	6	49.3	Peak Max	V	220	0	74	-24.7	Pass
2	8700.054	27.6	17.9	5	50.6	Peak Max	V	165	72	74	-23.4	Pass
3	7191.576	31	11.7	5.1	47.7	Peak Max	H	400	96	74	-26.3	Pass
4	9686.583	17.1	14.6	6	37.8	Average Max	V	220	0	54	-16.3	Pass
5	8700.054	15.3	17.9	5	38.3	Average Max	V	165	72	54	-15.7	Pass
6	7191.576	18.7	11.7	5.1	35.5	Average Max	H	400	96	54	-18.5	Pass
Mode: 802.11a_ch 64												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9863.774	28.4	14.4	6.9	49.7	Peak Max	H	400	332	74	-24.3	Pass
2	8721.159	26	17	5.3	48.3	Peak Max	V	146	108	74	-25.7	Pass
3	7340.891	31.2	11.9	5.4	48.5	Peak Max	H	269	120	74	-25.5	Pass
4	9863.774	16.2	14.4	6.9	37.5	Average Max	H	400	332	54	-16.5	Pass
5	8721.159	14.1	17	5.3	36.4	Average Max	V	146	108	54	-17.6	Pass
6	7340.891	19.3	11.9	5.4	36.6	Average Max	H	269	120	54	-17.4	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED EMISSIONS 1 - 18 GHZ

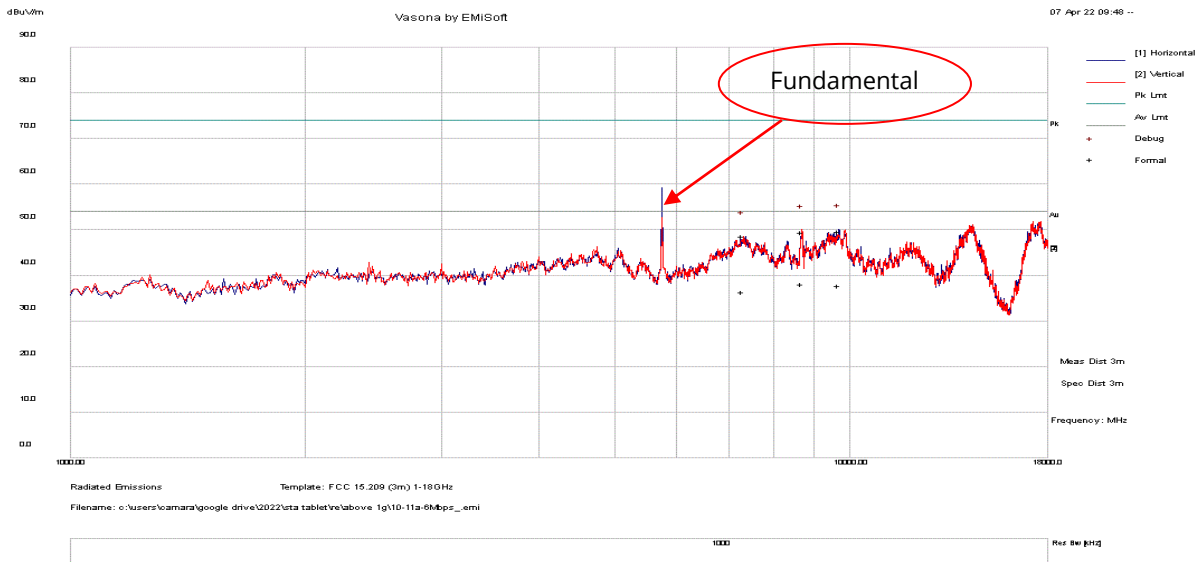
Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11a
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 100 / CH 116 / CH 140	Test Result:	Pass



Mode: 802.11a_ch 100												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9700.768	29.5	14.7	6.1	50.3	Peak Max	H	176	6	74	-23.7	Pass
2	8690.655	27.9	17.5	5	50.4	Peak Max	V	100	72	74	-23.6	Pass
3	7299.533	30.7	11.8	5	47.6	Peak Max	H	270	40	74	-26.4	Pass
4	9700.768	17.2	14.7	6.1	37.9	Average Max	H	176	6	54	-16.1	Pass
5	8690.655	15.6	17.5	5	38.2	Average Max	V	100	72	54	-15.9	Pass
6	7299.533	19.2	11.8	5	36.1	Average Max	H	270	40	54	-17.9	Pass
Mode: 802.11a_ch 116												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8703.44	27	17.8	5.1	49.9	Peak Max	V	304	0	74	-24.2	Pass
2	1734.113	39.2	5.4	-6.2	38.5	Peak Max	V	121	336	74	-35.5	Pass
3	2498.052	37	6.3	-4.5	38.8	Peak Max	V	302	0	74	-35.2	Pass
4	8703.44	15.2	17.8	5.1	38	Average Max	V	304	0	54	-16	Pass
5	1734.113	27.2	5.4	-6.2	26.4	Average Max	V	121	336	54	-27.6	Pass
6	2498.052	25.4	6.3	-4.5	27.2	Average Max	V	302	0	54	-26.8	Pass
Mode: 802.11a_ch 140												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9711.855	29.4	14.6	6	50	Peak Max	H	288	194	74	-24	Pass
2	8704.168	27.2	17.8	5.1	50	Peak Max	H	373	125	74	-24	Pass
3	7343.318	30.9	11.9	5.4	48.2	Peak Max	V	282	30	74	-25.8	Pass
4	9711.855	17.5	14.6	6	38.1	Average Max	H	288	194	54	-15.9	Pass
5	8704.168	15.2	17.8	5.1	38.1	Average Max	H	373	125	54	-15.9	Pass
6	7343.318	19.3	11.9	5.4	36.6	Average Max	V	282	30	54	-17.4	Pass

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11a
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 149 / CH 157 / CH 165	Test Result:	Pass



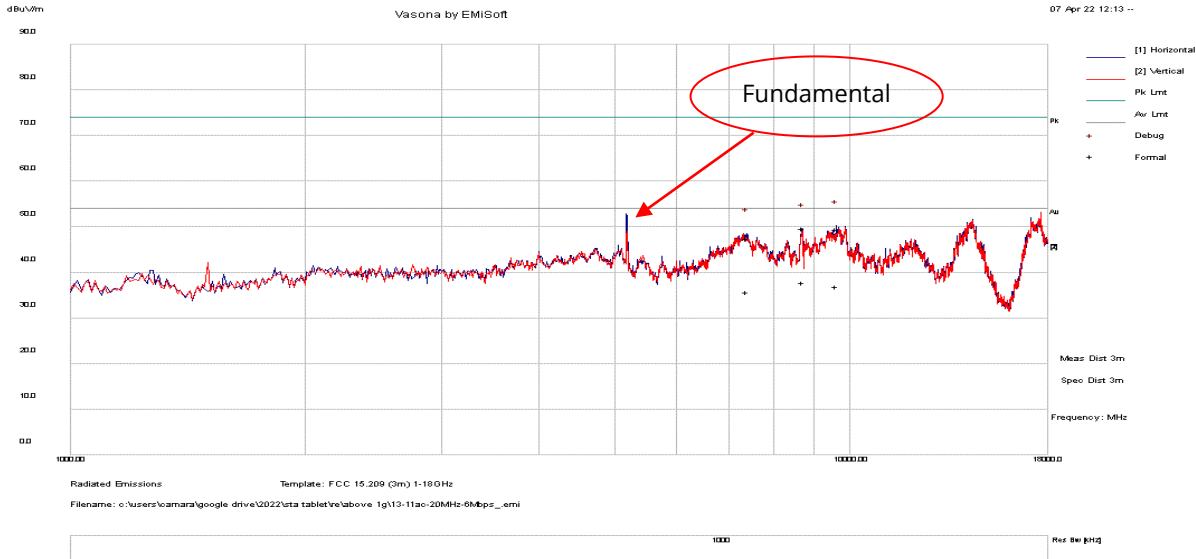
Mode: 802.11a_ch 149												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9702.48	29.1	14.7	6.1	49.8	Peak Max	H	104	242	74	-24.2	Pass
2	8691.14	27	17.6	5	49.5	Peak Max	V	358	61	74	-24.5	Pass
3	7310.16	31.8	11.9	5.1	48.8	Peak Max	V	313	62	74	-25.2	Pass
4	9702.48	17.1	14.7	6.1	37.8	Average Max	H	104	242	54	-16.2	Pass
5	8691.14	15.5	17.6	5	38.1	Average Max	V	358	61	54	-15.9	Pass
6	7310.16	19.5	11.9	5.1	36.4	Average Max	V	313	62	54	-17.6	Pass
Mode: 802.11a_ch 157												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8683.725	27.6	17.2	5	49.8	Peak Max	H	316	180	74	-24.2	Pass
2	9521.06	28.1	13.9	7.4	49.4	Peak Max	V	387	0	74	-24.6	Pass
3	7342.678	31	11.9	5.4	48.3	Peak Max	H	115	248	74	-25.7	Pass
4	8683.725	15.2	17.2	5	37.4	Average Max	H	316	180	54	-16.6	Pass
5	9521.06	16	13.9	7.4	37.3	Average Max	V	387	0	54	-16.7	Pass
6	7342.678	19.2	11.9	5.4	36.5	Average Max	H	115	248	54	-17.5	Pass
Mode: 802.11a_ch 165												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9700.175	28.8	14.7	6.1	49.5	Peak Max	V	158	360	74	-24.5	Pass
2	8683.113	26.5	17.2	5	48.7	Peak Max	H	270	160	74	-25.3	Pass
3	7416.948	29	12	5.5	46.5	Peak Max	H	151	256	74	-27.5	Pass
4	9700.175	17.2	14.7	6.1	37.9	Average Max	V	158	360	54	-16.1	Pass
5	8683.113	15.1	17.2	5	37.3	Average Max	H	270	160	54	-16.7	Pass
6	7416.948	17.9	12	5.5	35.4	Average Max	H	151	256	54	-18.6	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED EMISSIONS 1 - 18 GHZ

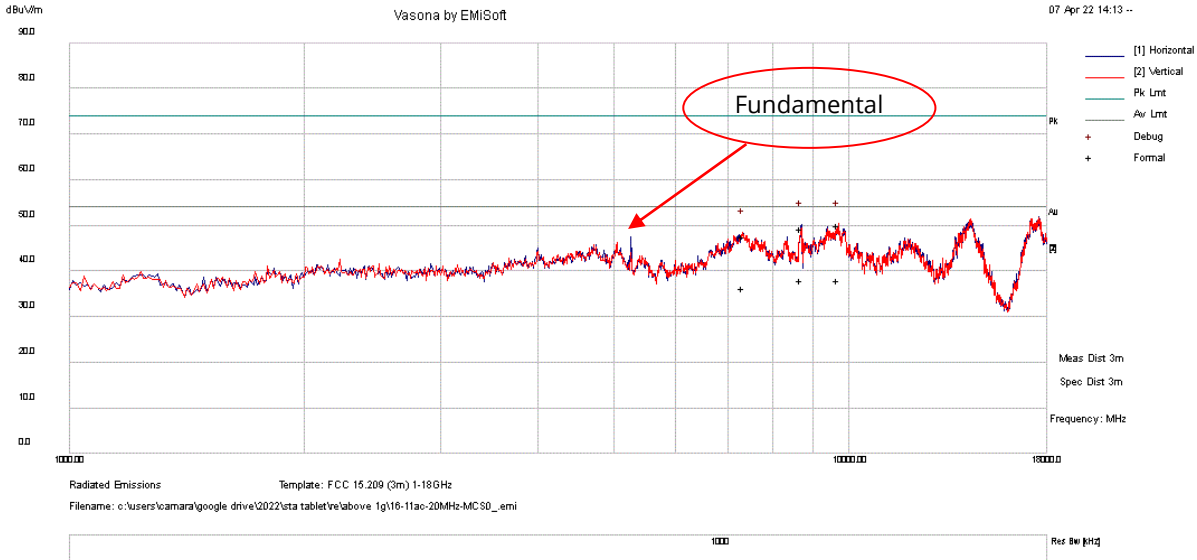
Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11ac
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 36 / CH 40 / CH 48	Test Result:	Pass



Mode: 802.11ac_ch 36												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9637.073	29.3	14.3	5.9	49.5	Peak Max	H	293	151	74	-24.5	Pass
2	8714.308	27.1	17.3	5.2	49.7	Peak Max	H	294	14	74	-24.3	Pass
3	7387.31	29.8	12	5.7	47.4	Peak Max	H	121	15	74	-26.6	Pass
4	9637.073	16.7	14.3	5.9	37	Average Max	H	293	151	54	-17	Pass
5	8714.308	15.3	17.3	5.2	37.8	Average Max	H	294	14	54	-16.2	Pass
6	7387.31	18.1	12	5.7	35.8	Average Max	H	121	15	54	-18.2	Pass
Mode: 802.11ac_ch 40												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9905.51	26.9	14.4	7.7	49	Peak Max	V	116	132	74	-25	Pass
2	8715.025	26.8	17.3	5.2	49.3	Peak Max	H	282	64	74	-24.7	Pass
3	7312.238	31.6	11.9	5.1	48.6	Peak Max	H	156	58	74	-25.4	Pass
4	9905.51	15.3	14.4	7.7	37.4	Average Max	V	116	132	54	-16.6	Pass
5	8715.025	15.2	17.3	5.2	37.7	Average Max	H	282	64	54	-16.3	Pass
6	7312.238	19.5	11.9	5.1	36.5	Average Max	H	156	58	54	-17.5	Pass
Mode: 802.11ac_ch 48												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9872.85	27.9	14.4	7.1	49.5	Peak Max	V	392	360	74	-24.5	Pass
2	8692.205	27.7	17.6	5	50.3	Peak Max	H	322	156	74	-23.7	Pass
3	7342.288	31.9	11.9	5.4	49.2	Peak Max	V	358	68	74	-24.8	Pass
4	9872.85	16.1	14.4	7.1	37.7	Average Max	V	392	360	54	-16.3	Pass
5	8692.205	15.5	17.6	5	38.2	Average Max	H	322	156	54	-15.8	Pass
6	7342.288	19.3	11.9	5.4	36.6	Average Max	V	358	68	54	-17.4	Pass

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11ac
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 52 / CH 56 / CH 64	Test Result:	Pass



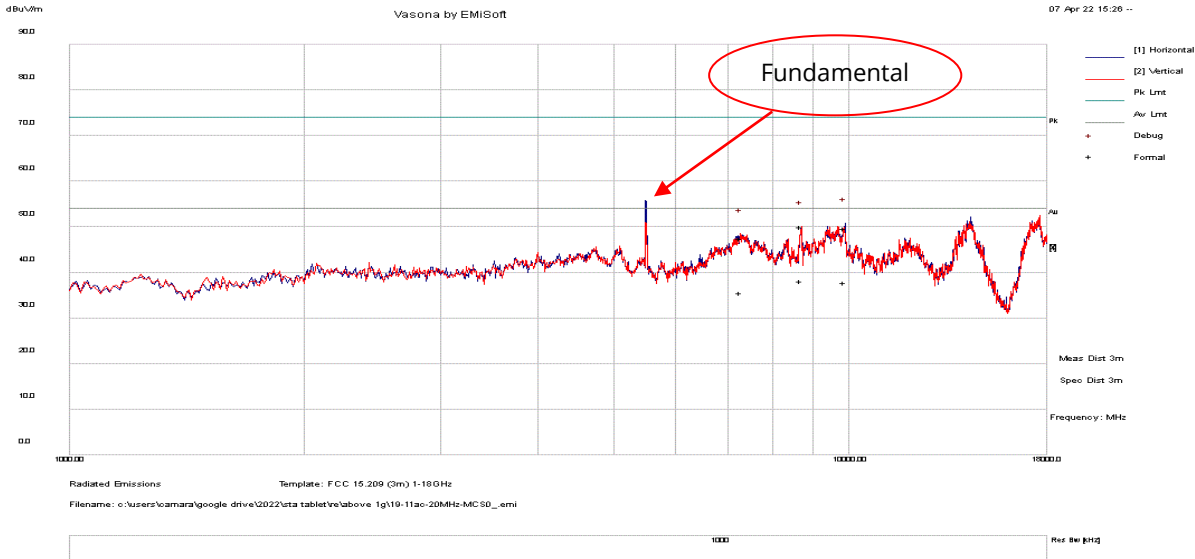
Mode: 802.11ac_ch 52												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9710.855	29.3	14.6	6.0	50.0	Peak Max	V	367	206	74.0	-24.0	Pass
2	8702.490	26.4	17.8	5.0	49.3	Peak Max	H	250	248	74.0	-24.7	Pass
3	7321.323	30.6	11.9	5.2	47.7	Peak Max	H	237	180	74.0	-26.3	Pass
4	9710.855	17.4	14.6	6.0	38.1	Average Max	V	367	206	54.0	-15.9	Pass
5	8702.490	15.3	17.8	5.0	38.2	Average Max	H	250	248	54.0	-15.8	Pass
6	7321.323	19.2	11.9	5.2	36.3	Average Max	H	237	180	54.0	-17.7	Pass
Mode: 802.11ac_ch 56												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8692.578	27.9	17.6	5	50.5	Peak Max	H	257	258	74	-23.5	Pass
2	9702.243	29	14.7	6.1	49.7	Peak Max	H	319	29	74	-24.3	Pass
3	7333.075	30.8	11.9	5.3	48	Peak Max	V	100	340	74	-26	Pass
4	8692.578	15.5	17.6	5	38.1	Average Max	H	257	258	54	-15.9	Pass
5	9702.243	17.2	14.7	6.1	38	Average Max	H	319	29	54	-16	Pass
6	7333.075	18.8	11.9	5.3	36	Average Max	V	100	340	54	-18	Pass
Mode: 802.11ac_ch 64												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9871.25	29	14.4	7.1	50.5	Peak Max	H	393	296	74	-23.5	Pass
2	8702.115	26.8	17.9	5	49.7	Peak Max	H	345	148	74	-24.3	Pass
3	7343.905	31.2	11.9	5.4	48.5	Peak Max	H	178	253	74	-25.5	Pass
4	9871.25	16.3	14.4	7.1	37.8	Average Max	H	393	296	54	-16.2	Pass
5	8702.115	15.3	17.9	5	38.2	Average Max	H	345	148	54	-15.8	Pass
6	7343.905	19.4	11.9	5.4	36.7	Average Max	H	178	253	54	-17.3	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) – Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED EMISSIONS 1 - 18 GHZ

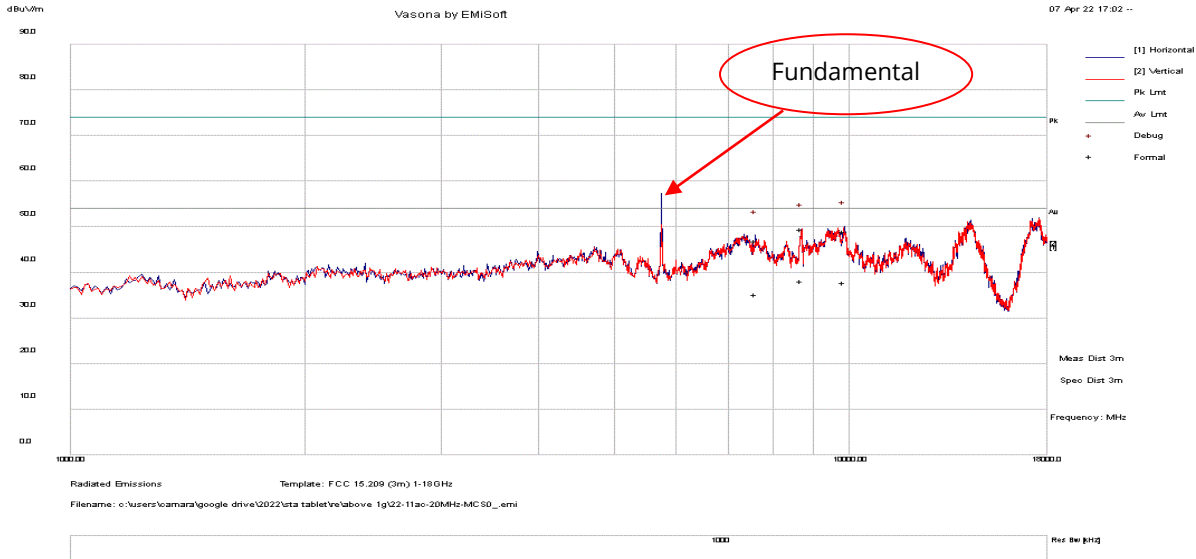
Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11ac
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 100 / CH 116 / CH 140	Test Result:	Pass



Mode: 802.11ac_ch 100												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9903.77	27.5	14.5	7.7	49.6	Peak Max	H	151	8	74	-24.4	Pass
2	8702.075	27.1	17.9	5	50	Peak Max	V	400	175	74	-24	Pass
3	7268.648	30.7	11.8	5.1	47.5	Peak Max	V	151	350	74	-26.5	Pass
4	9903.77	15.7	14.5	7.7	37.9	Average Max	H	151	8	54	-16.1	Pass
5	8702.075	15.3	17.9	5	38.2	Average Max	V	400	175	54	-15.8	Pass
6	7268.648	18.8	11.8	5.1	35.6	Average Max	V	151	350	54	-18.4	Pass
Mode: 802.11ac_ch 116												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9902.35	27.8	14.5	7.7	50.1	Peak Max	H	320	48	74	-24	Pass
2	8694.393	27.7	17.7	5	50.4	Peak Max	V	210	232	74	-23.6	Pass
3	7312.56	31.2	11.9	5.1	48.2	Peak Max	H	248	179	74	-25.8	Pass
4	9902.35	15.8	14.5	7.7	38.1	Average Max	H	320	48	54	-15.9	Pass
5	8694.393	15.5	17.7	5	38.2	Average Max	V	210	232	54	-15.8	Pass
6	7312.56	19.6	11.9	5.1	36.6	Average Max	H	248	179	54	-17.4	Pass
Mode: 802.11ac_ch 140												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9893.833	27.3	14.5	7.6	49.4	Peak Max	H	155	336	74	-24.6	Pass
2	8703.443	26.3	17.8	5.1	49.2	Peak Max	H	142	231	74	-24.8	Pass
3	7374.708	31.1	11.9	5.6	48.7	Peak Max	V	160	93	74	-25.3	Pass
4	9893.833	15.6	14.5	7.6	37.8	Average Max	H	155	336	54	-16.2	Pass
5	8703.443	15.2	17.8	5.1	38.1	Average Max	H	142	231	54	-15.9	Pass
6	7374.708	18.6	11.9	5.6	36.2	Average Max	V	160	93	54	-17.8	Pass

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11ac
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 149 / CH 157 / CH 165	Test Result:	Pass



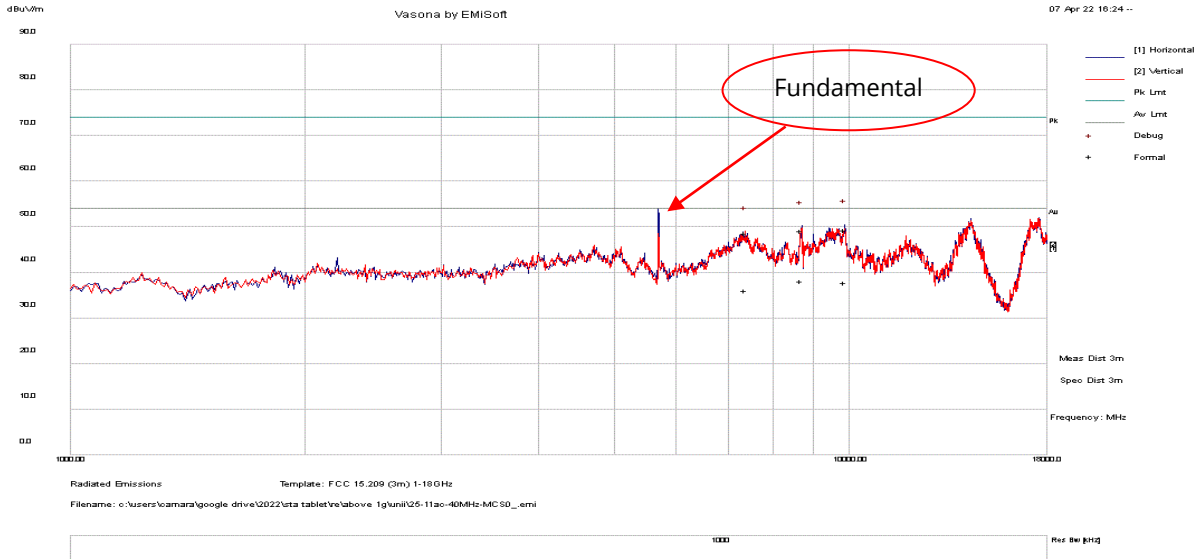
Mode: 802.11ac_ch 149												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9872.9	27.5	14.4	7.1	49.1	Peak Max	H	389	189	74	-24.9	Pass
2	8701.505	26.6	17.9	5	49.5	Peak Max	H	153	144	74	-24.5	Pass
3	7597.309	29.5	12.3	5.1	46.9	Peak Max	V	367	3	74	-27.1	Pass
4	9872.9	16.2	14.4	7.1	37.8	Average Max	H	389	189	54	-16.2	Pass
5	8701.505	15.3	17.9	5	38.2	Average Max	H	153	144	54	-15.8	Pass
6	7597.309	17.9	12.3	5.1	35.3	Average Max	V	367	3	54	-18.7	Pass
Mode: 802.11ac_ch 157												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7275.674	36.9	11.8	5.1	53.8	Peak Max	V	128	213	74	-20.2	Pass
2	9395.522	16.4	14.7	7.1	38.2	Peak Max	H	212	115	74	-35.8	Pass
3	6242.368	16.9	10.7	4.9	32.5	Peak Max	V	236	36	74	-41.5	Pass
4	7275.674	25.4	11.8	5.1	42.3	Average Max	V	128	213	54	-11.7	Pass
5	9395.522	4.3	14.7	7.1	26.1	Average Max	H	212	115	54	-27.9	Pass
6	6242.368	5.2	10.7	4.9	20.8	Average Max	V	236	36	54	-33.2	Pass
Mode: 802.11ac_ch 165												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7414.581	23.3	19	11.2	53.5	Peak Max	V	178	225	74	-20.5	Pass
2	8708.463	18.8	23.1	7.6	49.5	Peak Max	H	151	97	74	-24.5	Pass
3	5991.544	21.7	18.4	7.6	47.7	Peak Max	H	145	76	74	-26.3	Pass
4	7414.581	10.6	19	11.2	40.8	Average Max	V	178	225	54	-13.2	Pass
5	8708.463	7.2	23.1	7.6	37.9	Average Max	H	151	97	54	-16.1	Pass
6	5991.544	10.4	18.4	7.6	36.4	Average Max	H	145	76	54	-17.6	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) – Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED EMISSIONS 1 - 18 GHZ

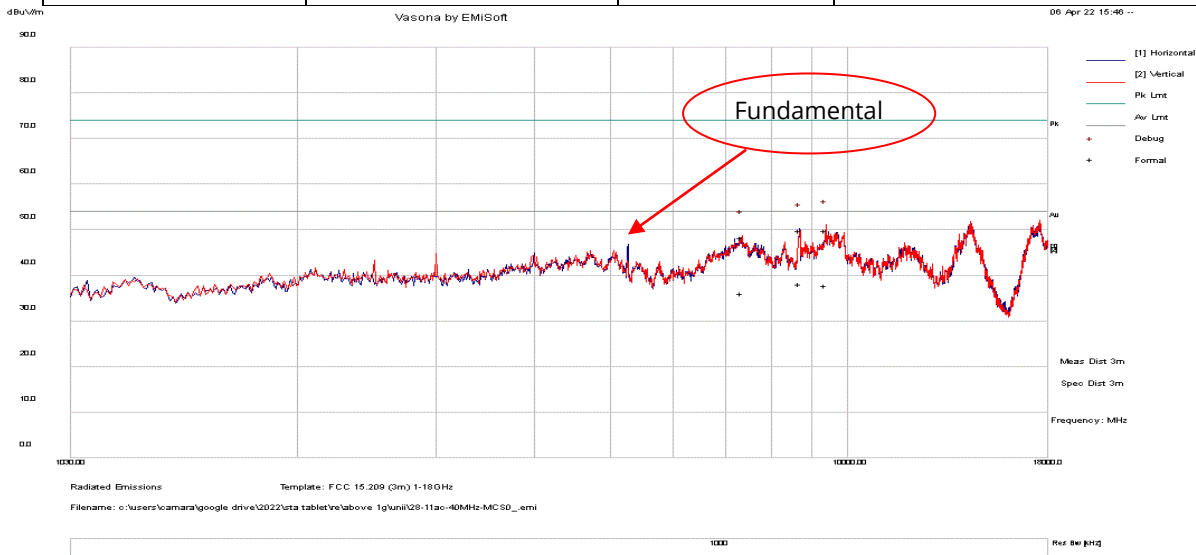
Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11ac40
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 38 / CH 46 / CH 54	Test Result:	Pass



Mode: 802.11ac40_ch 38												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7343.452	34.4	11.9	5.4	51.7	Peak Max	V	138	349	74	-22.3	Pass
2	6293.438	37	10.5	4.5	52	Peak Max	H	119	271	74	-22	Pass
3	4189.148	34	8.1	1	43.1	Peak Max	V	132	226	74	-30.9	Pass
4	7343.452	27.5	11.9	5.4	44.8	Average Max	V	138	349	54	-9.2	Pass
5	6293.438	25.3	10.5	4.5	40.3	Average Max	H	119	271	54	-13.7	Pass
6	4189.148	21.7	8.1	1	30.8	Average Max	V	132	226	54	-23.2	Pass
Mode: 802.11ac40_ch 46												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7532.726	22.5	18.8	11.6	52.9	Peak Max	H	255	42	74	-21.1	Pass
2	5993.948	22.4	18.5	7.7	48.6	Peak Max	V	197	244	74	-25.4	Pass
3	8703.131	22	23.5	7.6	53.1	Peak Max	H	161	122	74	-20.9	Pass
4	7532.726	9.9	18.8	11.6	40.3	Average Max	H	255	42	54	-13.7	Pass
5	5993.948	10.4	18.5	7.7	36.6	Average Max	V	197	244	54	-17.4	Pass
6	8703.131	9.9	23.5	7.6	41	Average Max	H	161	122	54	-13	Pass
Mode: 802.11ac40_ch 54												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7456.724	24.1	19	11.5	54.6	Peak Max	H	246	254	74	-19.4	Pass
2	8698.441	20.2	23.4	7.6	51.2	Peak Max	V	314	235	74	-22.8	Pass
3	3816.281	25.8	16.2	1.8	43.8	Peak Max	H	254	105	74	-30.2	Pass
4	7456.724	9.2	19	11.5	39.7	Average Max	H	246	254	54	-14.3	Pass
5	8698.441	10	23.4	7.6	41	Average Max	V	314	235	54	-13	Pass
6	3816.281	14.3	16.2	1.8	32.3	Average Max	H	254	105	54	-21.7	Pass

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11ac40
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 62 / CH 102 / CH 118	Test Result:	Pass



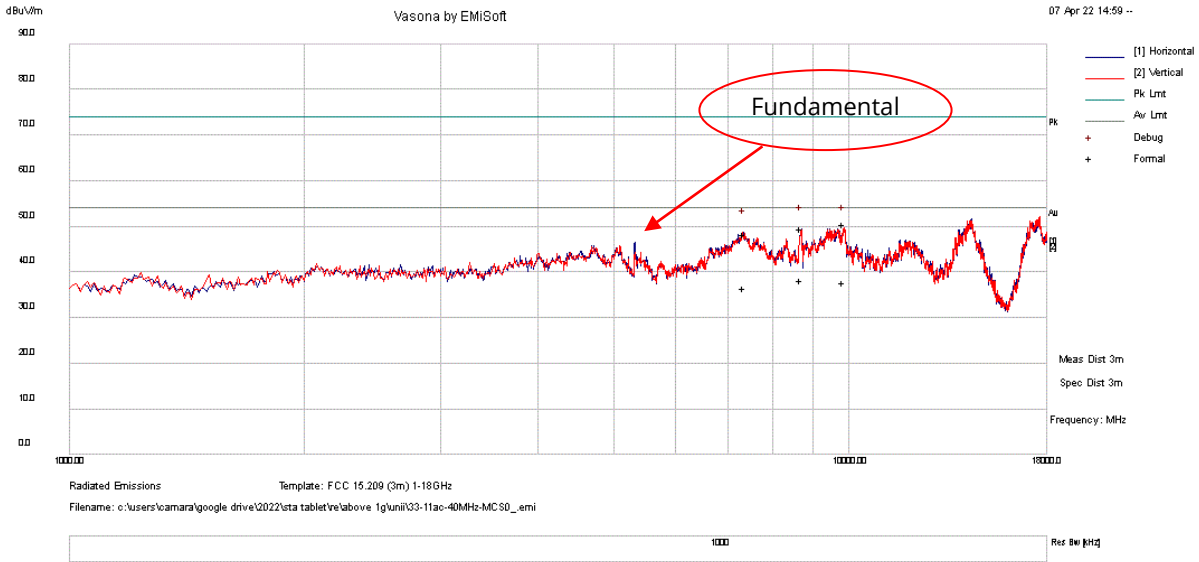
Mode: 802.11ac40_ch 62												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7456.724	24.1	19	11.5	54.6	Peak Max	H	246	254	74	-19.4	Pass
2	8698.441	20.2	23.4	7.6	51.2	Peak Max	V	314	235	74	-22.8	Pass
3	3816.281	25.8	16.2	1.8	43.8	Peak Max	H	254	105	74	-30.2	Pass
4	7456.724	9.2	19	11.5	39.7	Average Max	H	246	254	54	-14.3	Pass
5	8698.441	10	23.4	7.6	41	Average Max	V	314	235	54	-13	Pass
6	3816.281	14.3	16.2	1.8	32.3	Average Max	H	254	105	54	-21.7	Pass
Mode: 802.11ac40_ch 102												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7502.215	22.8	19	11.8	53.6	Peak Max	V	284	235	74	-20.4	Pass
2	8710.051	21.8	23.1	7.6	52.5	Peak Max	V	119	238	74	-21.5	Pass
3	5973.714	22.4	18.3	7.4	48.1	Peak Max	H	184	34	74	-25.9	Pass
4	7502.215	10.9	19	11.8	41.7	Average Max	V	284	235	54	-12.3	Pass
5	8710.051	8.6	23.1	7.6	39.3	Average Max	V	119	238	54	-14.7	Pass
6	5973.714	10.4	18.3	7.4	36.1	Average Max	H	184	34	54	-17.9	Pass
Mode: 802.11ac40_ch 118												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7812.231	41.1	12.5	4.7	58.3	Peak Max	V	121	328	74	-15.7	Pass
2	8928.138	36	13.5	6.4	55.9	Peak Max	V	305	56	74	-18.1	Pass
3	4464.297	45	8.6	1.9	55.5	Peak Max	H	143	110	74	-18.5	Pass
4	7812.231	27.7	12.5	4.7	44.9	Average Max	V	121	328	54	-9.1	Pass
5	8928.138	26	13.5	6.4	45.9	Average Max	V	305	56	54	-8.1	Pass
6	4464.297	37.8	8.6	1.9	48.3	Average Max	H	143	110	54	-5.7	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) – Pre-amplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED EMISSIONS 1 - 18 GHZ

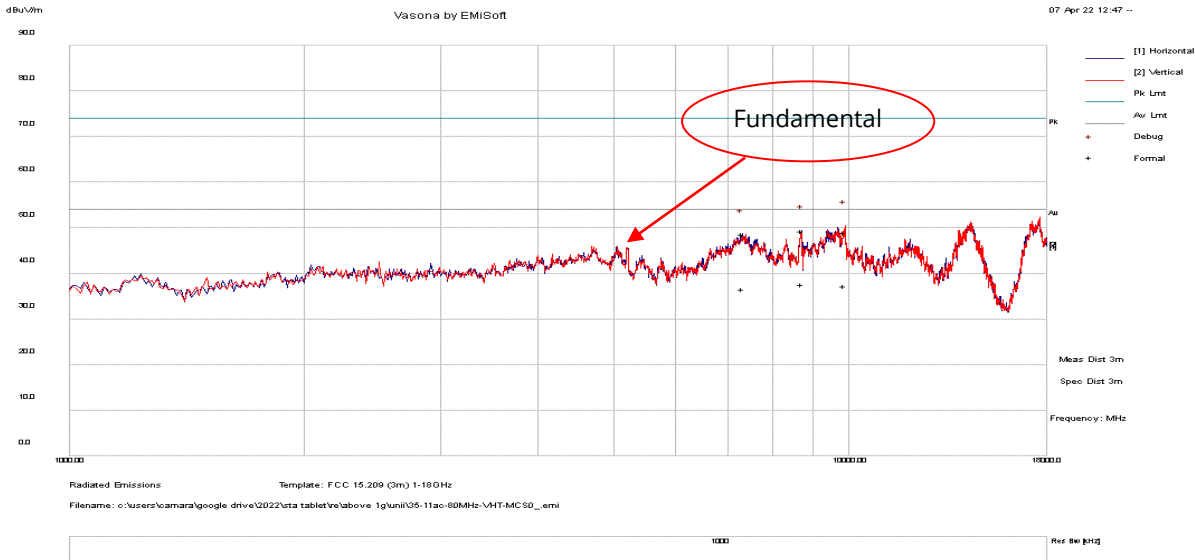
Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz 802.11ac40
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 134 / CH 151 / CH 159	Test Result:	Pass



Mode: 802.11ac40_ch 134												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7406.151	21	18.9	11.1	51	Peak Max	V	307	51	74	-23	Pass
2	9871.25	28.4	14.4	7.1	49.9	Peak Max	H	393	296	74	-24.1	Pass
3	8695.129	19.1	23.3	7.6	50	Peak Max	V	185	236	74	-24	Pass
4	7406.151	10	18.9	11.1	40	Average Max	V	307	51	54	-14	Pass
5	9871.25	15.1	14.4	7.1	36.6	Average Max	H	393	296	54	-17.4	Pass
6	8695.129	8.5	23.3	7.6	39.4	Average Max	V	185	236	54	-14.6	Pass
Mode: 802.11ac40_ch 151												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8709.12	26.8	17.9	5	49.7	Peak Max	V	232	34	74	-24.3	Pass
2	9403.145	28.1	14.7	7.1	49.9	Peak Max	H	338	68	74	-24.1	Pass
3	3454.828	34.6	7.6	-0.5	41.7	Peak Max	H	332	126	74	-32.3	Pass
4	8709.12	15.3	17.9	5	38.2	Average Max	V	232	34	54	-15.8	Pass
5	9403.145	16.7	14.7	7.1	38.5	Average Max	H	338	68	54	-15.5	Pass
6	3454.828	21.6	7.6	-0.5	28.7	Average Max	H	332	126	54	-25.3	Pass
Mode: 802.11ac40_ch 159												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7413.13	21.2	19	11.2	51.4	Peak Max	V	112	335	74	-22.6	Pass
2	4626.567	27.9	16.9	0.6	45.4	Peak Max	H	320	130	74	-28.6	Pass
3	8678.513	18.8	22.5	7.6	48.9	Peak Max	V	146	347	74	-25.1	Pass
4	7413.13	10.3	19	11.2	40.5	Average Max	V	112	335	54	-13.5	Pass
5	4626.567	19.5	16.9	0.6	37	Average Max	H	320	130	54	-17	Pass
6	8678.513	8.5	22.5	7.6	38.6	Average Max	V	146	347	54	-15.4	Pass

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11ac80
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 42 / CH 58 / CH 106	Test Result:	Pass



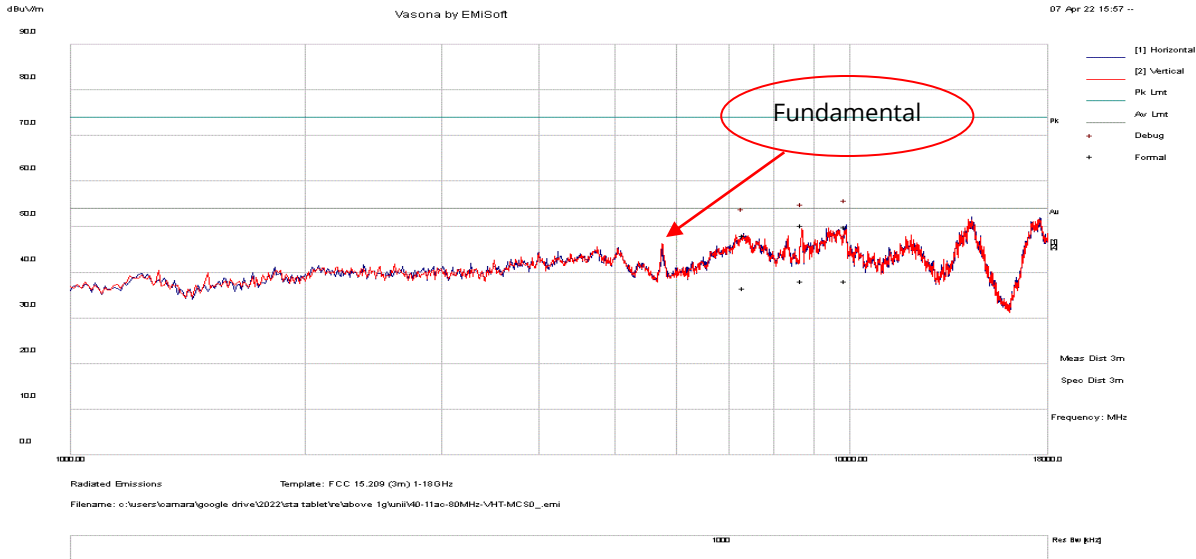
Mode: 802.11ac80_ch 42												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7424.53	21	19	11.2	51.2	Peak Max	H	291	84	74	-22.8	Pass
2	8697.121	23.9	23.4	7.6	54.9	Peak Max	V	184	91	74	-19.1	Pass
3	9905.51	26.7	14.4	7.7	48.8	Peak Max	V	116	132	74	-25.2	Pass
4	7424.53	11.3	19	11.2	41.5	Average Max	H	291	84	54	-12.5	Pass
5	8697.121	9.9	23.4	7.6	40.9	Average Max	V	184	91	54	-13.1	Pass
6	9905.51	15.2	14.4	7.7	37.3	Average Max	V	116	132	54	-16.7	Pass
Mode: 802.11ac80_ch 58												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7458.512	22.8	19	11.5	53.3	Peak Max	H	316	204	74	-20.7	Pass
2	8683.183	18.8	23	7.6	49.4	Peak Max	V	269	231	74	-24.6	Pass
3	6008.102	21.2	18.4	7.7	47.3	Peak Max	V	160	102	74	-26.7	Pass
4	7458.512	11.2	19	11.5	41.7	Average Max	H	316	204	54	-12.3	Pass
5	8683.183	7.2	23	7.6	37.8	Average Max	V	269	231	54	-16.2	Pass
6	6008.102	9.4	18.4	7.7	35.5	Average Max	V	160	102	54	-18.5	Pass
Mode: 802.11ac80_ch 106												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7446.988	23.5	19	11.4	53.9	Peak Max	H	162	110	74	-20.1	Pass
2	7744.73	19.7	18.7	10.2	48.6	Peak Max	V	320	76	74	-25.4	Pass
3	8677.098	18.3	22.5	7.6	48.4	Peak Max	H	243	156	74	-25.6	Pass
4	7446.988	11.2	19	11.4	41.6	Average Max	H	162	110	54	-12.4	Pass
5	7744.73	7.9	18.7	10.2	36.8	Average Max	V	320	76	54	-17.2	Pass
6	8677.098	6.6	22.5	7.6	36.7	Average Max	H	243	156	54	-17.3	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Pre-amplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	FCC15.407, 15.209, RSS-247	Mode:	RSE-Below 1GHz_802.11ac80
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/06/2022-04/08/2022
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Devin Tai
Remark:	Ch 122 / CH 138 / CH 155	Test Result:	Pass



Mode: 802.11ac80_ch 122												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7332.07	36.4	11.9	5.3	53.6	Peak Max	H	323	45	74	-20.4	Pass
2	6293.1	38.4	10.5	4.5	53.4	Peak Max	V	147	294	74	-20.6	Pass
3	9436.365	27.6	14.4	7.4	49.4	Peak Max	V	197	48	74	-24.6	Pass
4	7332.07	23.6	11.9	5.3	40.8	Average Max	H	323	45	54	-13.2	Pass
5	6293.1	26	10.5	4.5	41	Average Max	V	147	294	54	-13	Pass
6	9436.365	16	14.4	7.4	37.8	Average Max	V	197	48	54	-16.2	Pass
Mode: 802.11ac80_ch 138												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7359.019	31.6	11.9	5.5	49	Peak Max	V	164	143	74	-25	Pass
2	8697.021	27.6	17.8	5	50.4	Peak Max	V	250	269	74	-23.6	Pass
3	7434.529	30.4	11.9	5.3	47.6	Peak Max	H	169	210	74	-26.4	Pass
4	7359.019	18.3	11.9	5.5	35.7	Average Max	V	164	143	54	-18.3	Pass
5	8697.021	15.3	17.8	5	38.1	Average Max	V	250	269	54	-15.9	Pass
6	7434.529	19	11.9	5.3	36.2	Average Max	H	169	210	54	-17.8	Pass
Mode: 802.11ac80_ch 155												
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	9913.42	27.6	14.5	7.7	49.8	Peak Max	H	174	262	74	-24.2	Pass
2	8698.123	27.3	17.7	5.5	50.5	Peak Max	V	166	215	74	-23.5	Pass
3	7332.5	31.1	11.9	5.1	48.1	Peak Max	H	319	37	74	-25.9	Pass
4	9913.42	15.3	14.5	7.7	37.5	Average Max	H	174	262	54	-16.5	Pass
5	8698.123	15.1	17.7	5.4	38.2	Average Max	V	166	215	54	-15.8	Pass
6	7332.5	19.9	11.9	5.1	36.9	Average Max	H	319	37	54	-17.1	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) – Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

18GHz - 40GHz test result

Note: no substantial emission is found other than the noise floor.

7.4 Conducted Emissions

7.4.1 Requirement

Per § 15.207 (a), RSS Gen 8.8

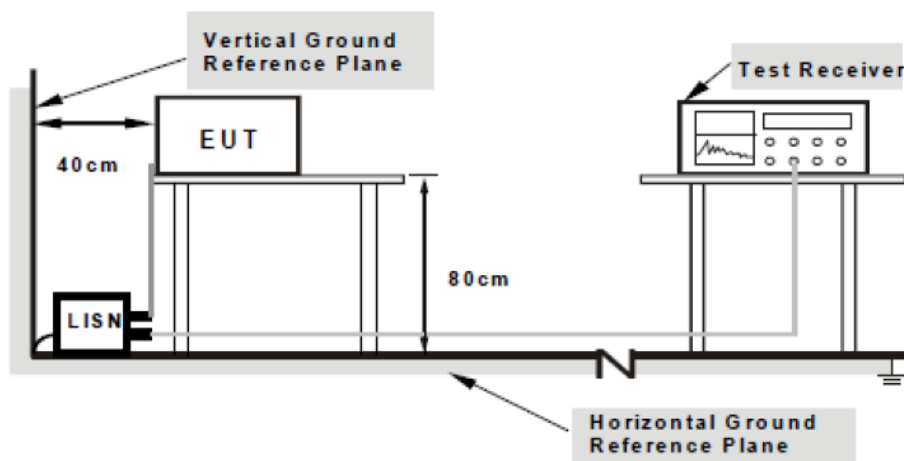
An intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Limits for Conducted Emissions at the Mains Ports

Section	Frequency ranges (MHz)	Limit (dBuV)	
		QP	Average
Class B devices	0.15 – 0.5	66 – 56	56 – 46
	0.5 – 5	56	46
	5 - 30	60	50

NOTE 1 The lower limit shall apply at the transition frequencies.

7.4.2 Test setup



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.

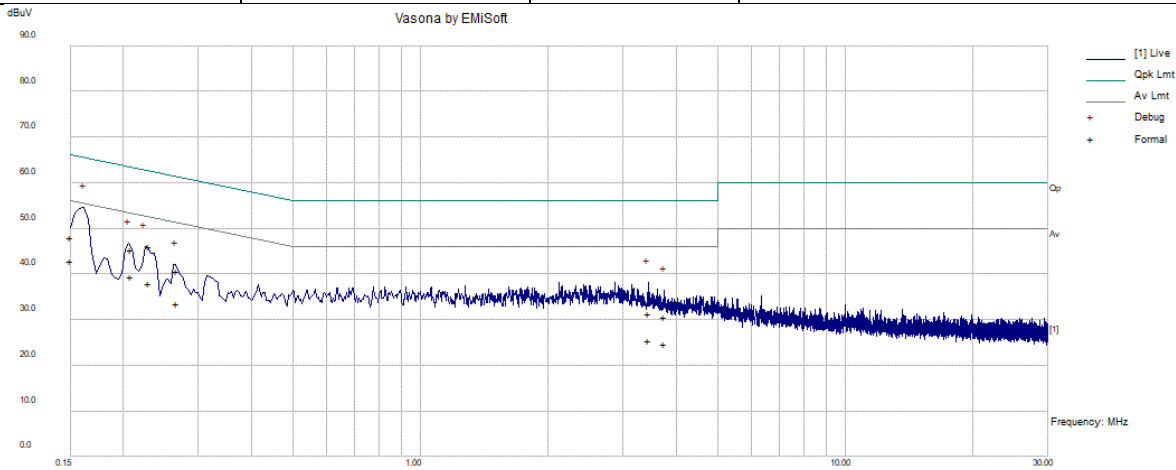
7.4.3 Test Procedure

1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50 Ω /50 μ H EUT LISN, connected to filtered mains.
3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable. The LISN bonded to the reference ground plane used has a direct current (dc) resistance of less than 2.5 m Ω .
4. All other supporting equipment was powered separately from another main supply.
5. The EUT was switched on and allowed to warm up to its normal operating condition.
6. A scan was made on the Live / Neutral line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver.
7. High peaks, relative to the limit line, were then selected.
8. The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. For FCC tests, both Quasi-peak and Average measurements were made
9. All possible modes of operation were investigated. Only the worst case emissions were measured and reported. All other emissions were relatively insignificant.

7.4.4 Test Result

CONDUCTED EMISSIONS

Test Standard:	LISN B Cond Class B	Mode:	Normal Operation _ Charging mode
Frequency Range:	0.15 - 30MHz	Test Date:	03/22/2022
Line:	Live	Test Personnel:	Devin Tai
Remark:	N/A	Test Result:	Pass



Power Line Conducted Emissions
Filename: c:\test data\L.emi

Template: LISN B Cond Class B

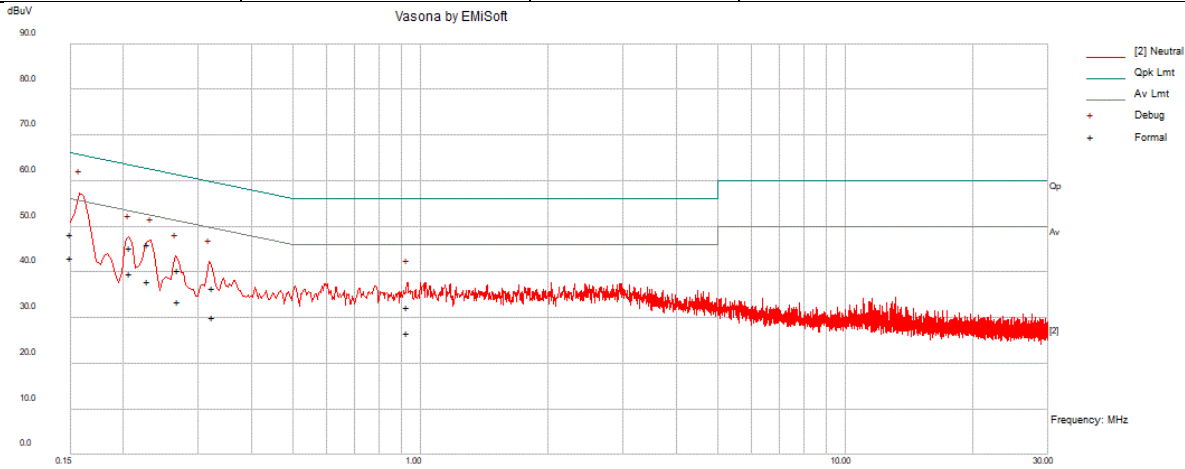
	9	9	9	9	Res BW (Hz)
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No.	Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	Factors (dB)	Level (dBuV)	Meas. Type	Line	Limit (dBuV)	Margin (dB)	Pass /Fail
1	0.15	37.9	10.1	0.2	48.2	Quasi Peak	Live	66	-17.8	Pass
2	0.208	35.1	10.1	0.2	45.4	Quasi Peak	Live	63.3	-17.9	Pass
3	0.23	35.9	10.1	0.2	46.1	Quasi Peak	Live	62.5	-16.3	Pass
4	3.446	21.1	10.3	0.1	31.5	Quasi Peak	Live	56	-24.5	Pass
5	0.267	30.5	10.1	0.1	40.7	Quasi Peak	Live	61.2	-20.5	Pass
6	3.762	20.3	10.3	0.1	30.7	Quasi Peak	Live	56	-25.3	Pass
7	0.15	32.7	10.1	0.2	43	Average	Live	56	-13	Pass
8	0.208	29.4	10.1	0.2	39.6	Average	Live	53.3	-13.7	Pass
9	0.23	27.7	10.1	0.2	38	Average	Live	52.5	-14.5	Pass
10	3.446	15.2	10.3	0.1	25.6	Average	Live	46	-20.4	Pass
11	0.267	23.5	10.1	0.1	33.7	Average	Live	51.2	-17.5	Pass
12	3.762	14.4	10.3	0.1	24.8	Average	Live	46	-21.2	Pass

REMARKS:

1. The emission levels of other frequencies were very low against the limit.
2. Factor = Inert loss of LISN
3. Margin value = Emission level - Limit value
4. Emission Level = Raw Value + Cable loss + Factors Value.

Test Standard:	LISN B Cond Class B	Mode:	Normal Operation _ Charging mode
Frequency Range:	0.15 - 30MHz	Test Date:	03/22/2022
Line:	Neutral	Test Personnel:	Devin Tai
Remark:	N/A	Test Result:	Pass



Res BW (kHz) 9 9 9 9

No.	Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	Factors (dB)	Level (dBuV)	Meas. Type	Line	Limit (dBuV)	Margin (dB)	Pass /Fail
1	0.15	38	10.1	0.2	48.3	Quasi Peak	Neutral	66	-17.7	Pass
2	0.229	35.9	10.1	0.2	46.1	Quasi Peak	Neutral	62.5	-16.4	Pass
3	0.208	35.3	10.1	0.2	45.5	Quasi Peak	Neutral	63.3	-17.8	Pass
4	0.325	26.3	10.1	0.1	36.5	Quasi Peak	Neutral	59.6	-23	Pass
5	0.268	30.2	10.1	0.1	40.4	Quasi Peak	Neutral	61.2	-20.7	Pass
6	0.93	22.3	10.1	0.1	32.5	Quasi Peak	Neutral	56	-23.5	Pass
7	0.15	32.9	10.1	0.2	43.3	Average	Neutral	56	-12.7	Pass
8	0.229	27.9	10.1	0.2	38.1	Average	Neutral	52.5	-14.4	Pass
9	0.208	29.6	10.1	0.2	39.9	Average	Neutral	53.3	-13.4	Pass
10	0.325	20	10.1	0.1	30.2	Average	Neutral	49.6	-19.4	Pass
11	0.268	23.4	10.1	0.1	33.6	Average	Neutral	51.2	-17.5	Pass
12	0.93	16.5	10.1	0.1	26.7	Average	Neutral	46	-19.3	Pass

REMARKS:

1. The emission levels of other frequencies were very low against the limit.
2. Factor = Inert loss of LISN
3. Margin value = Emission level - Limit value
4. Emission Level = Raw Value + Cable loss + Factors Value.

8 EUT and Test Setup Photos

See FCC/ISED exhibits

9 Test Instrument List

Equipment	Manufacturer	Model	Instrument Number	Cal. Date	Cal. Due
Semi-Anechoic Chamber	ETS-Lindgren	10M	VL001	10/18/2020	10/18/2022
Shielding Control Room	ETS-Lindgren	Series 81	VL006	N/A	N/A
Spectrum Analyzer	Keysight	N9020A	MY50110074	06/17/2021	06/17/2022
Spectrum Analyser (9kHz-43GHz)	Anritsu	MS2830A	6201145210	6/9/2021	6/9/2022
EMC Test Receiver	R&S	ESL6	100230	06/14/2021	06/14/2022
LISN (9KHz – 30MHz)	EMCO	3816/2	9705-1066	05/04/2021	05/04/2022
Bi-Log Antenna	ETS-Lindgren	3142E	217921	11/15/2021	11/15/2022
Horn Antenna (1-18GHz)	Electro-Metrics	EM-6961	6292	05/14/2021	05/14/2022
Horn Antenna (18-40GHz)	Com-Power	AH-840	101109	06/24/2021	06/24/2022
Preamplifier	RF Bay, Inc.	LPA-10-20	11180621	07/16/2021	07/16/2022
True RMS Multi-meter	UNI-T	UT181A	C173014829	05/05/2021	05/05/2022
Temp / Humidity / Pressure Meter	PCE Instruments	PCE-THB 40	R062028	05/15/2021	05/15/2022
RF Attenuator	Pasternack	PE7005-3	VL061	07/16/2021	07/16/2022
Preamplifier 100KHz - 40GHz	Aeroflex	33711-392-77150-11	064	07/16/2021	07/16/2022
EM Center Control	ETS-Lindgren	7006-001	160136	N/A	N/A
Turn Table	ETS-Lindgren	2181-3.03	VL002	N/A	N/A
Boresight Antenna Tower	ETS-Lindgren	2171B	VL003	N/A	N/A
Loop Antenna (9k-30MHz)	Com-Power	AL-130	121012	05/16/2021	05/16/2022
RE test cable(below 6GHz)	Vista	RE-6GHz-01	RE-6GHz-01	07/16/2021	07/16/2022
RE test cable (1-18GHz)	PhaseTrack	II-240	RE-18GHz-01	07/16/2021	07/16/2022
RE test cable (>18GHz)	Sucoflex	104	344903/4	07/16/2021	07/16/2022
Pulse limiter	Com-Power	LIT-930A	531727	07/16/2021	07/16/2022
CE test cable #1	FIRST RF	FRF-C-1002-001	CE-6GHz-01	07/16/2021	07/16/2022
CE test cable#2	FIRST RF	FRF-C-1002-001	CE-6GHz-02	07/16/2021	07/16/2022
Vector Signal Generator	Keysight	N5182A	US47080548	06/17/2021	06/17/2022
USB RF Power Sensor	ETS-Lindgren	7002-006	SN 00151268	05/15/2019	05/15/2022

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