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Phone: +1 (949) 393-1123
Web: www.vista-compliance.com
Email: info@vista-compliance.com

RF Test Report

Test Report Number	STA-22050632-LCG-FCC-IC-RF-5G
FCC ID	N6C-SXPCEAC2
IC	4908A-SXPCEAC2
Applicant	Silex Technology, Inc.
Applicant Address	2-3-1 Hikaridai, Seika-cho, Soraku-gun, Kyoto, 619-0237 Japan
Product Name	SX-PCEAC2
Model (s)	SX-PCEAC2
Date of Receipt	12/15/2022
Date of Test	12/28/2022 – 02/27/2023
Report Issue Date	02/27/2023
Test Standards	47CFR Part 15.407 RSS-247 Issue 2, Feb 2017
Test Result	**PASS**

Issued by:

Vista Compliance Laboratories
1261 Puerta Del Sol, San Clemente, CA 92673 USA
www.vista-compliance.com

Zach Peng

Zach Peng (Test Technician)

David Zhang (Technical Manager)

REVISION HISTORY

Report Number	Version	Description	Issued Date
STA-22050632-LCG-FCC-IC-RF-5G	01	Initial report	02/27/2023

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1 Test Summary

Test Item	Test Requirement	Test Method	Result
Antenna Requirement	47CFR Part 15.203	N/A	N/A
26 dB Bandwidth	47CFR Part 15.407 (a) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	N/A
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
Maximum Conducted Output Power	47CFR Part 15.407 (a) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	N/A
Power Spectral Density	47CFR Part 15.407 (a) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	N/A
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
Radiated Spurious Emission	47CFR Part 15.407 (b) RSS-247 Issue 2, Feb 2017	ANSI C63.10 (2013)	Pass
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	N/A

Note: N/A. The EUT is a certified BT and WLAN module, for more test details please see FCC ID: N6C-SXPCEAC2 and IC ID: 4908A-SXPCEAC2. Current report is additional evaluation due to adding new antenna.

2 General Information

2.1 Applicant

Applicant	Silex Technology, Inc.
Applicant Address	2-3-1 Hikaridai, Seika-cho, Soraku-gun, Kyoto, 619-0237 Japan
Manufacturer	Silex Technology, Inc.
Manufacturer Address	2-3-1 Hikaridai, Seika-cho, Soraku-gun, Kyoto, 619-0237 Japan

2.2 Product information

Product Name	SX-PCEAC2
Model Number	SX-PCEAC2
Serial Number	4253FAE794D
Frequency Band	BT BDR/EDR: 2402-2480MHz BT BLE: 2402-2480MHz WLAN: 2.4GHz/5GHz 11a/b/g/n/ac
Type of modulation	BT BDR/EDR: GFSK, π/4DQPSK, 8DPSK BLE: GFSK 802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g: OFDM-CCK (BPSK, QPSK, 16QAM, 64QAM) 802.11a/n/ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Equipment Class	DSS, DTS, NII
Antenna Information	Taoglass GW.05.0153 monopole antenna (Peak gain: 3.686 dBi in 2.4GHz band, 4.267 dBi in 5 GHz band)
Clock Frequencies	N/A
Input Power	+3.3VDC
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	This device is a certified Bluetooth and WLAN module. - Brand: Silex - Model: SX-PCEAC2 - FCC ID: N6C-SXPCEAC2 - IC ID: 4908A-SXPCEAC2

2.3 Test standard and method

Test standard	47 CFR Part 15.407 RSS-247 Issue 2, Feb 2017
Test method	ANSI C63.10-2013

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	23.5°C	58.2%	996 mbar
Radiated Emission Testing	23.5°C	58.2%	996 mbar

4 Modification of EUT / Deviations from Standards

N/A

5 Test Configuration and Operation

5.1 EUT Test Configuration

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

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
QRCT	Set WiFi of EUT into continuous TX and RX mode under different modulation, data rate and channel, etc.

5.2 Supporting Equipment

Description	Manufacturer	Model #	Serial #	Remark
Jetson Nano Developer Kit	Nvidia	P3450	1420621000784	-
AC adapter	SCEPTRE	ATS030-A050	PS2D-5050APL05	-
Laptop	DELL	PP30LA	24672796489	-
AC adapter	DELL	AA90PM111	CN-099H58-70163-31J-08EW-A01	-

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 Radiated Spurious Emission

7.1.1 Requirement

§ 15.407 (b)

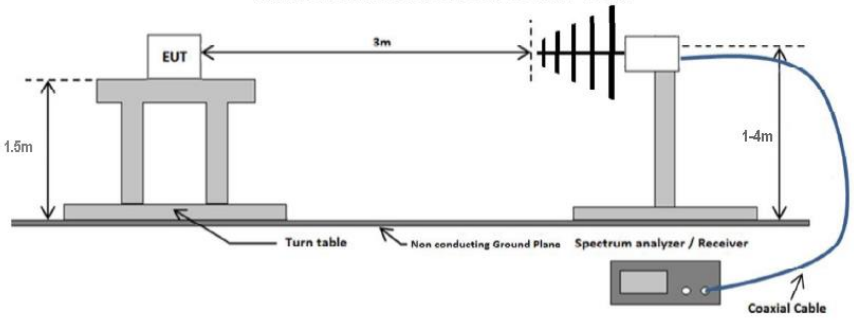
1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
3) For 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) 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)).

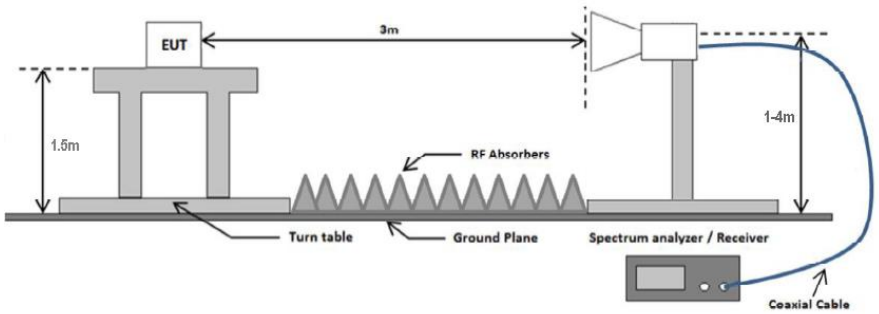
Frequency Range (MHZ)	Field Strength (μV/m)	Measurement Distance (m)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 960	200	3
Above 960	500	3

7.1.2 Test Setup

Radiated emissions test setup 30 MHz - 1 GHz



Radiated emissions test setup above 1 GHz



7.1.3 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.

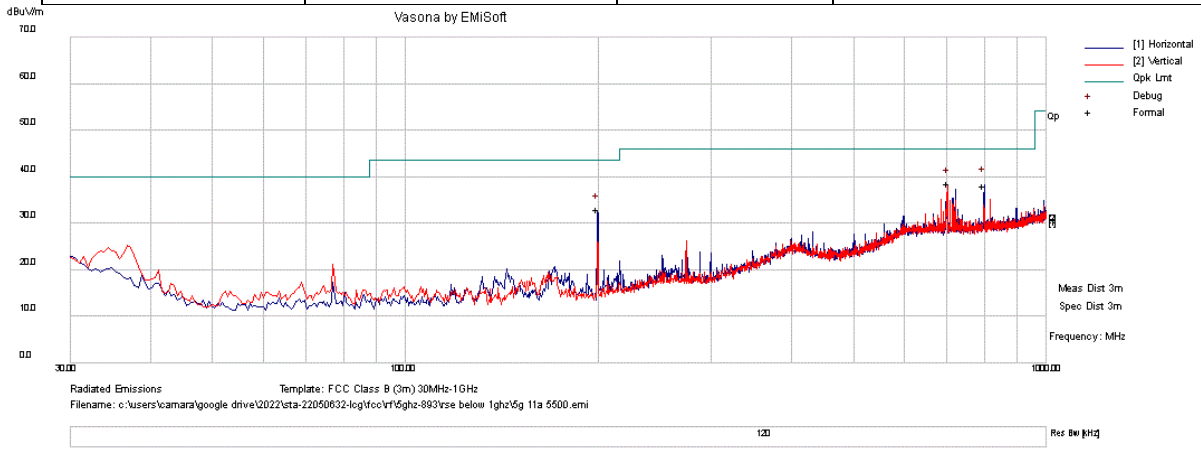
7.1.4 Test Result

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:	FCC15.247, 15.209	Mode:	RSE-Below 1GHz_802.11a
Frequency Range:	30 MHz - 1 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Zach Peng
Remark:	5500MHz	Test Result:	Pass



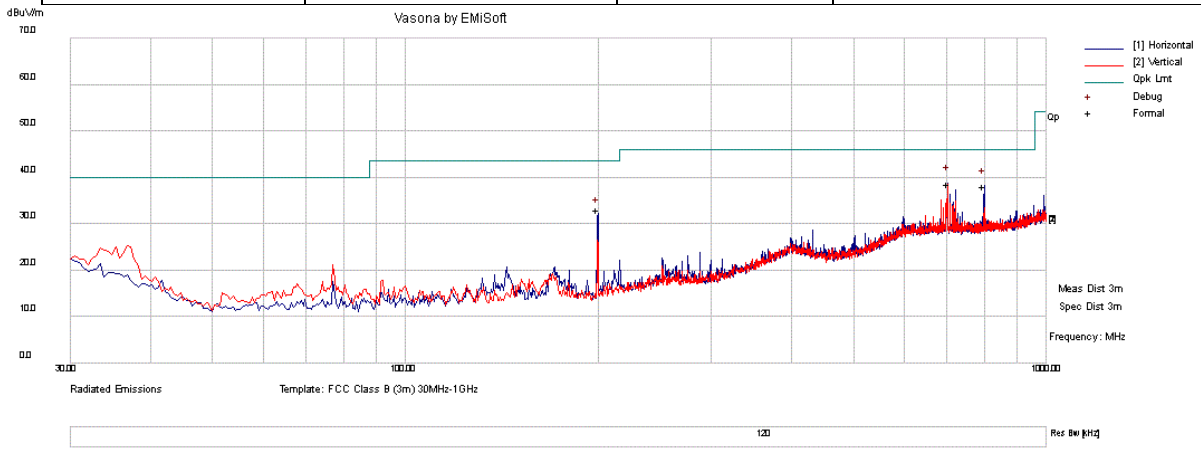
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	799.695	35.2	7.2	-4.2	38.3	Quasi Max	H	100	0	46.0	-7.7	Pass
2	702.210	36.1	7.3	-5.4	38.0	Quasi Max	H	100	0	46.0	-8.0	Pass
3	199.327	44.9	4.7	-17.0	32.6	Quasi Max	V	100	360	43.5	-10.9	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 SPURIOUS EMISSION BELOW 1GHZ

Test Standard:	FCC15.247, 15.209	Mode:	RSE-Below 1GHz_802.11n
Frequency Range:	30 MHz - 1 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Zach Peng
Remark:	5500MHz	Test Result:	Pass



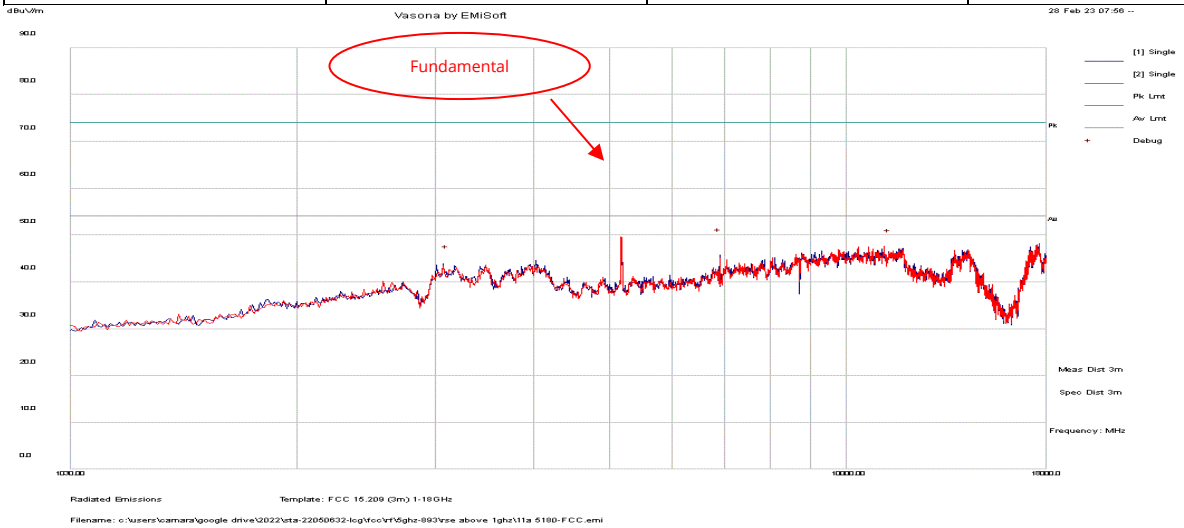
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	702.210	36.8	7.3	-5.4	38.7	Quasi Max	H	101	44	46.0	-7.3	Pass
2	799.695	35.1	7.2	-4.2	38.2	Quasi Max	H	152	320	46.0	-7.8	Pass
3	199.533	44.2	4.7	-17.0	31.9	Quasi Max	V	168	143	43.5	-11.6	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 SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 36	Test Result:	Pass



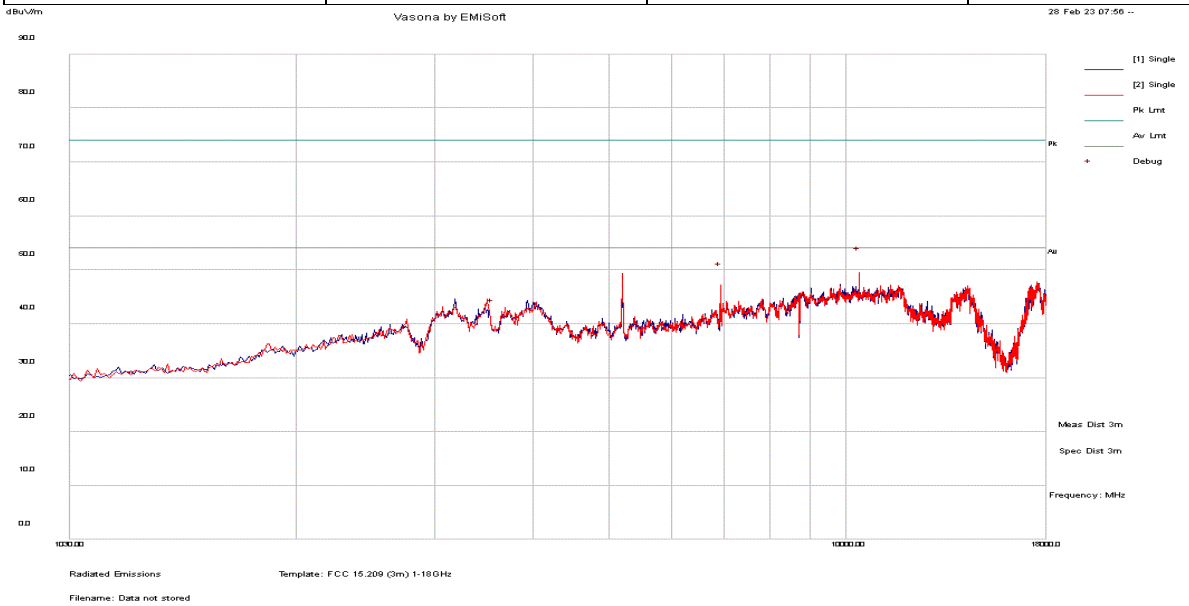
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	11340.161	32.8	17.6	-4.8	45.6	Peak Max	V	188	260	54	-8.4	Pass
2	3103.102	35.3	7.7	-0.9	42.1	Peak Max	V	315	238	54	-11.9	Pass
3	6907.416	39.9	12.4	-6.6	45.7	Peak Max	H	294	219	54	-8.3	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 40	Test Result:	Pass



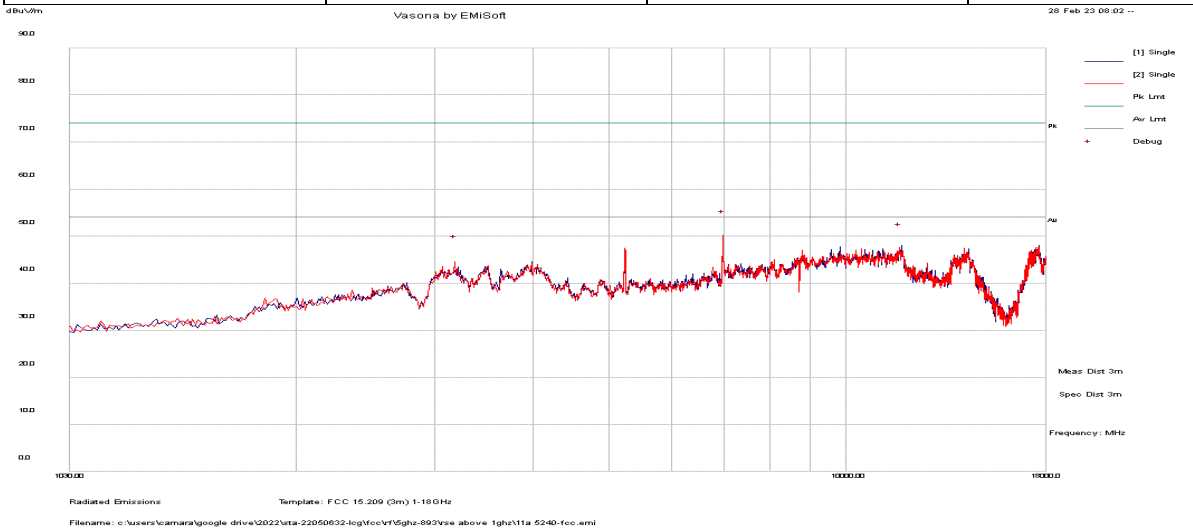
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3549.69	30.2	8.3	0.4	39	Peak Max	H	157	344	54	-15	Pass
2	6930.664	39.9	12.4	-6.5	45.8	Peak Max	V	159	314	54	-8.2	Pass
3	10402.361	36.8	16.9	-5.1	48.6	Peak Max	H	194	139	54	-5.4	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 48	Test Result:	Pass



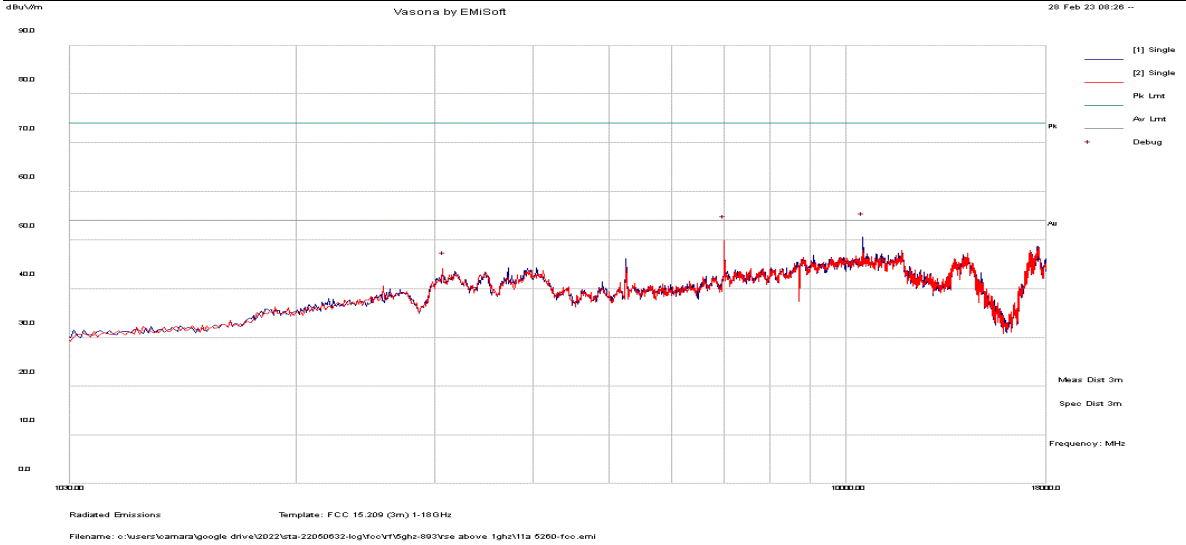
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3188.653	42.2	7.9	-5.6	44.6	Peak Max	V	153	359	54	-9.5	Pass
2	6982.559	43.7	12.6	-6.3	50	Peak Max	V	286	227	54	-4.1	Pass
3	11717.468	33	18.3	-4.2	47.1	Peak Max	V	283	85	54	-6.9	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 52	Test Result:	Pass



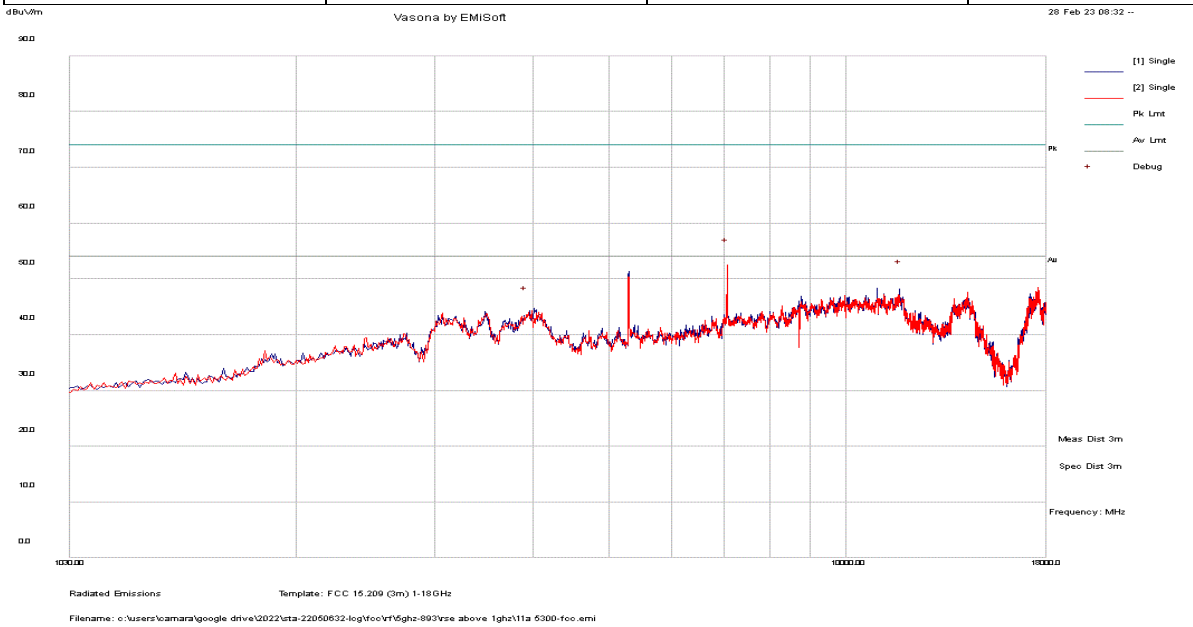
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3089.814	34.6	7.7	-0.2	42.1	Peak Max	H	238	351	54	-11.9	Pass
2	7013.727	43.1	12.6	-6.2	49.5	Peak Max	H	179	38	54	-4.5	Pass
3	10521.65	38	17.2	-5.2	50	Peak Max	H	187	44	54	-4	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 56	Test Result:	Pass



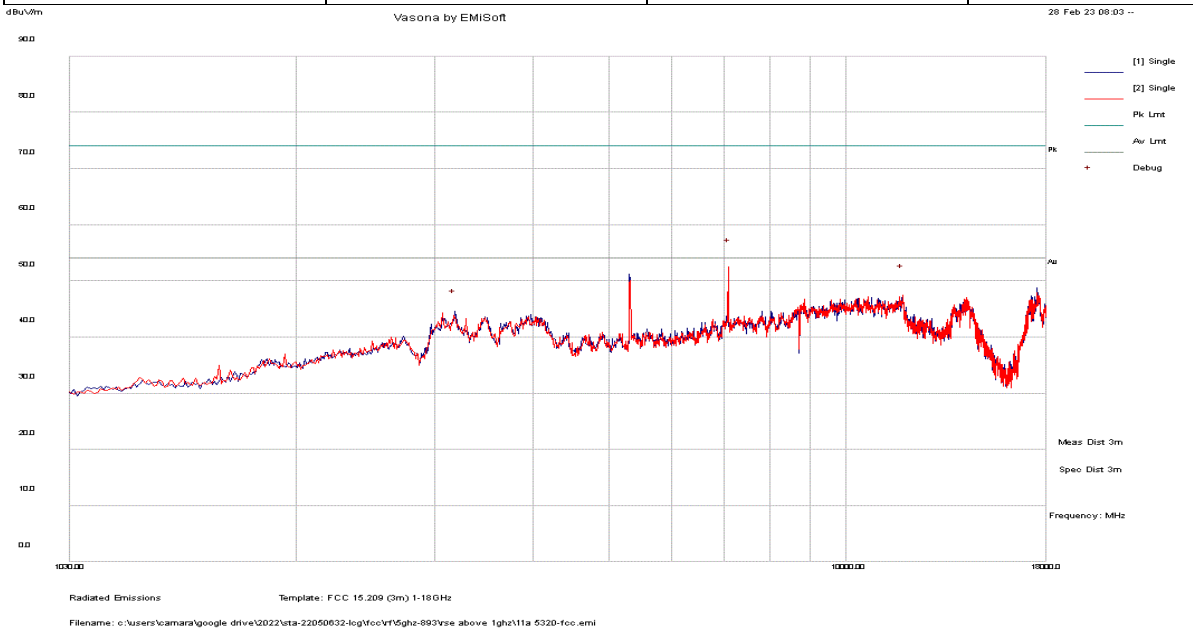
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3923.519	27.7	9.6	5.8	43.1	Peak Max	H	265	20	54	-10.9	Pass
2	7066.862	45	12.6	-6	51.6	Peak Max	V	106	274	54	-2.4	Pass
3	11721.994	33.7	18.3	-4.2	47.8	Peak Max	H	304	187	54	-6.2	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 64	Test Result:	Pass



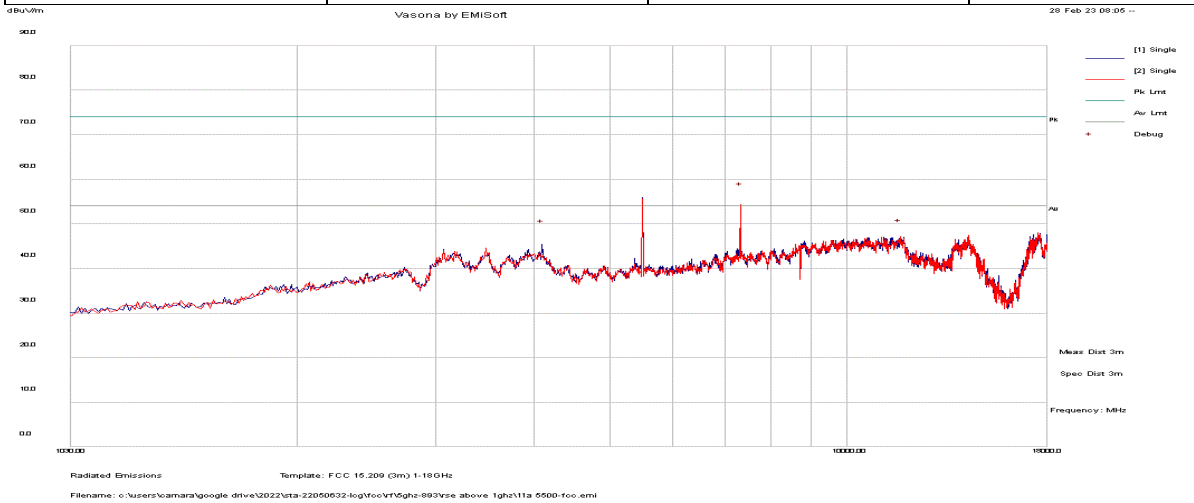
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7098.819	45.2	12.6	-5.9	52	Peak Max	H	281	322	54	-2	Pass
2	3174.94	39.8	7.9	-4.8	42.8	Peak Max	V	124	99	54	-11.2	Pass
3	11814.15	33.1	18.3	-4.1	47.3	Peak Max	V	156	115	54	-6.7	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 100	Test Result:	Pass



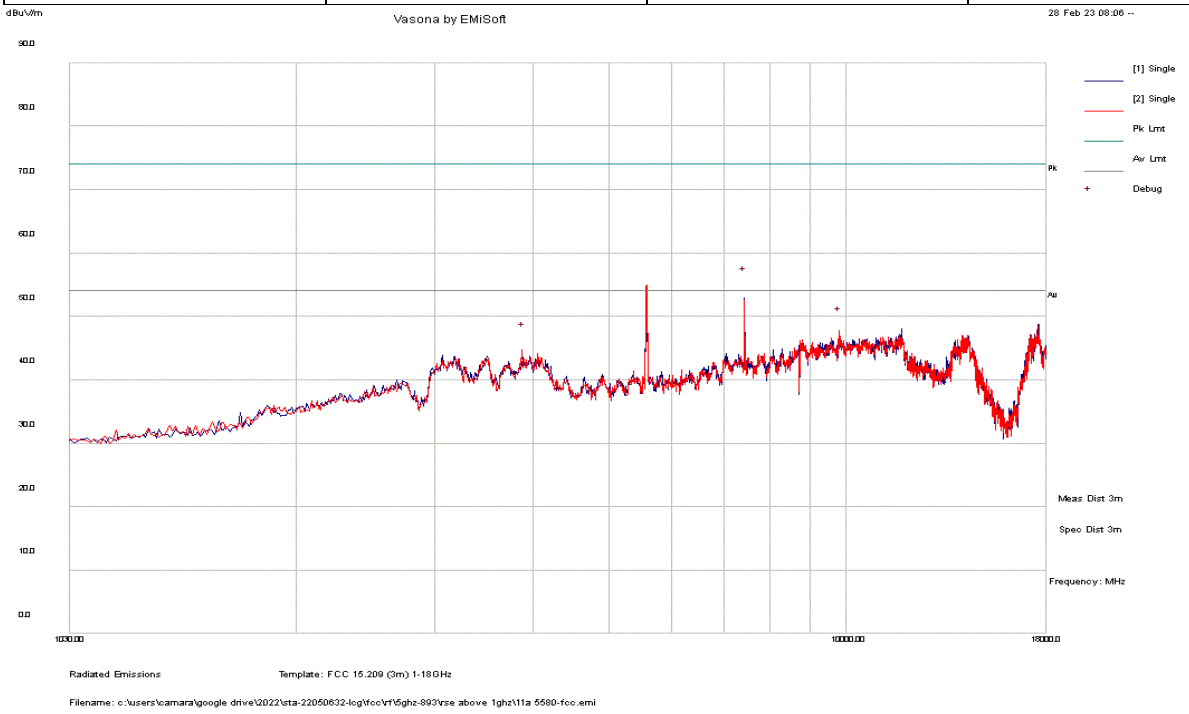
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	4099.333	31.2	9.8	4.3	45.3	Peak Max	H	106	110	54	-8.7	Pass
2	7332.592	46.1	12.9	-5.5	53.6	Peak Max	V	202	44	54	-0.4	Pass
3	11669.267	31.6	18.2	-4.3	45.5	Peak Max	V	142	227	54	-8.5	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 116	Test Result:	Pass



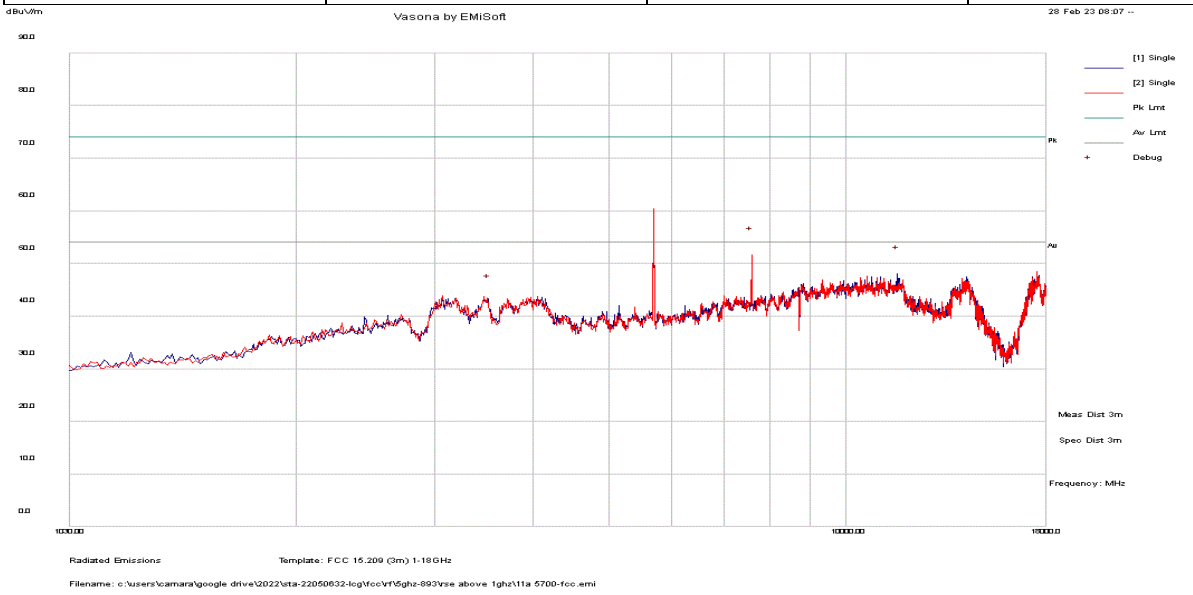
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3889.989	28.3	9.5	5.8	43.5	Peak Max	H	259	69	54	-10.5	Pass
2	7439.438	44.6	13.2	-5.6	52.2	Peak Max	V	221	62	54	-1.8	Pass
3	9833.247	34.7	16.4	-5.1	46	Peak Max	V	288	181	54	-8	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 140	Test Result:	Pass



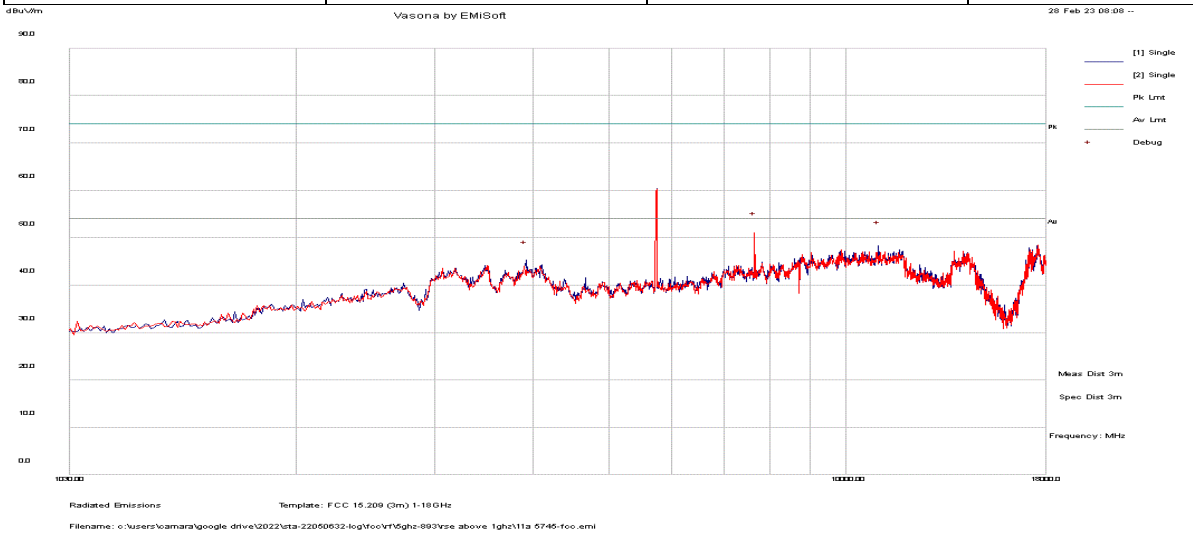
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3514.325	34.5	8.2	-0.5	42.3	Peak Max	H	294	284	54	-11.7	Pass
2	7598.102	43.6	13.5	-5.8	51.3	Peak Max	V	149	312	54	-2.7	Pass
3	11634.856	34	18.1	-4.3	47.8	Peak Max	V	175	334	54	-6.2	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 149	Test Result:	Pass



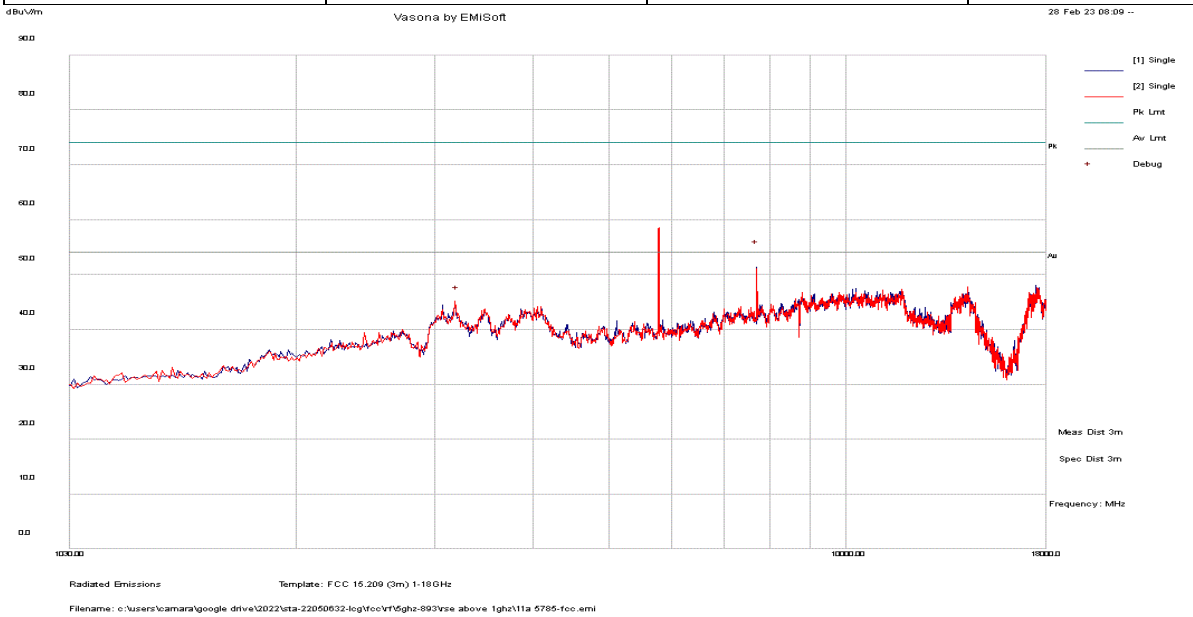
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3923.519	28.4	9.6	5.8	43.8	Peak Max	H	302	183	54	-10.2	Pass
2	7662.147	41.9	13.6	-5.7	49.7	Peak Max	V	239	121	54	-4.3	Pass
3	11018.013	35.2	17.2	-4.5	47.9	Peak Max	H	277	213	54	-6.1	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 157	Test Result:	Pass



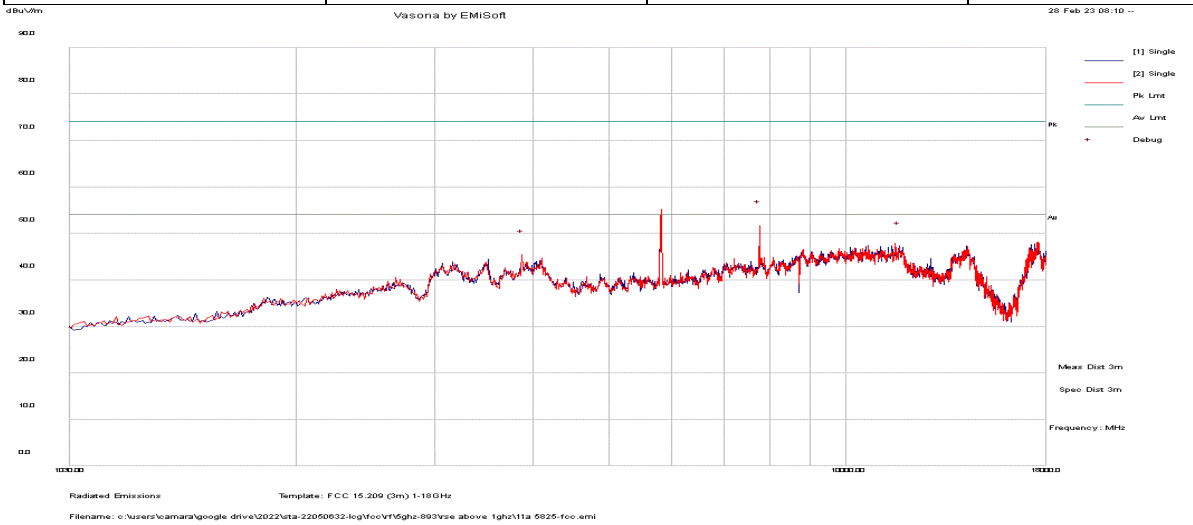
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3206.89	41	7.9	-6.6	42.4	Peak Max	V	251	217	54	-11.6	Pass
2	7715.869	42.6	13.7	-5.7	50.6	Peak Max	V	113	302	54	-3.4	Pass
3	10437.31	33.8	17	-5.1	45.7	Peak Max	H	237	211	54	-8.3	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11a
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 165	Test Result:	Pass



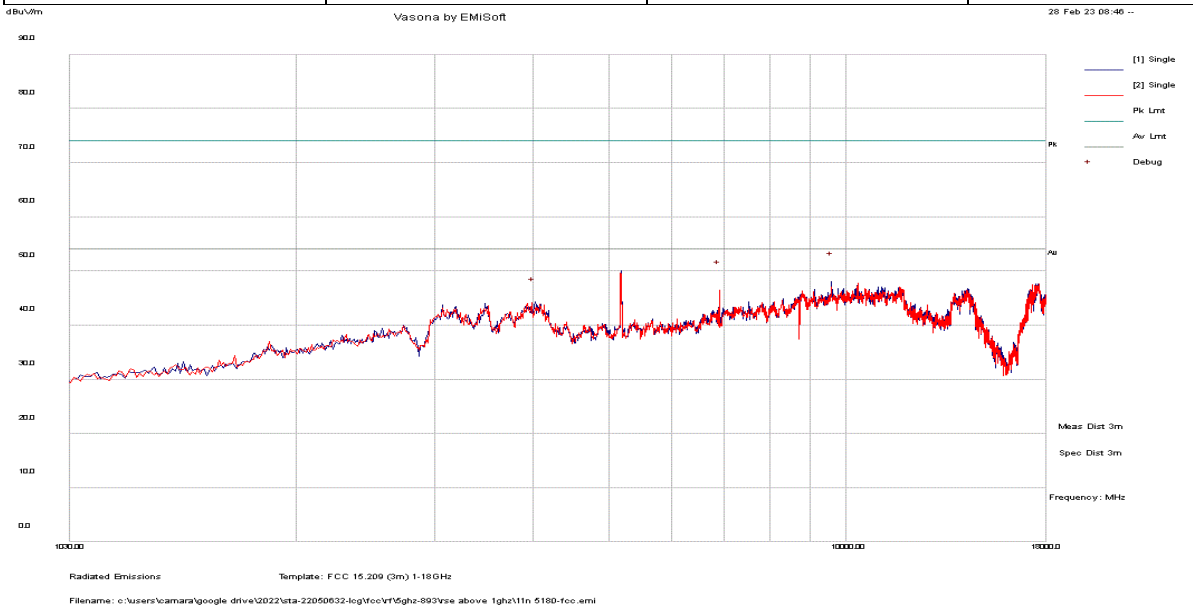
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3878.654	30	9.4	5.7	45.2	Peak Max	H	300	297	54	-8.8	Pass
2	7768.291	43.4	13.7	-5.6	51.5	Peak Max	V	125	316	54	-2.5	Pass
3	11704.02	32.8	18.2	-4.2	46.9	Peak Max	V	311	33	54	-7.2	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 36	Test Result:	Pass



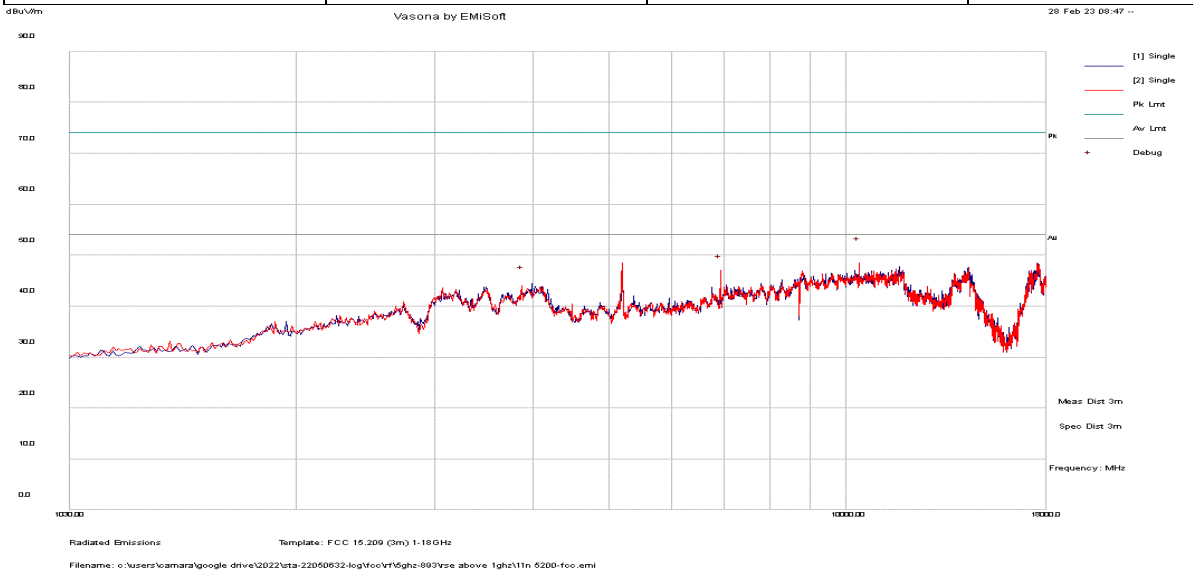
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	4014.35	27.8	9.9	5.4	43.1	Peak Max	H	103	86	54	-10.9	Pass
2	6907.178	40.5	12.4	-6.6	46.3	Peak Max	V	255	18	54	-7.7	Pass
3	9607.063	37	16	-5.2	47.9	Peak Max	H	249	84	54	-6.2	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 40	Test Result:	Pass



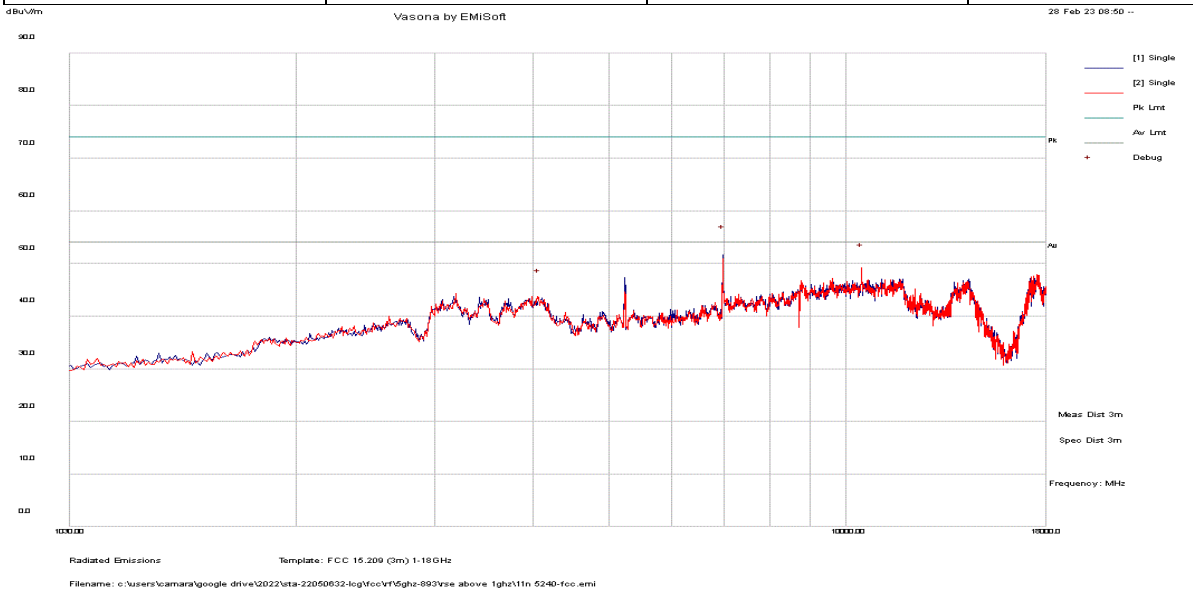
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3879.568	27.2	9.4	5.7	42.3	Peak Max	V	255	18	54	-11.7	Pass
2	6925.475	38.5	12.4	-6.5	44.5	Peak Max	H	249	84	54	-9.5	Pass
3	10402.685	36.2	16.9	-5.1	48	Peak Max	H	259	325	54	-6	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 48	Test Result:	Pass



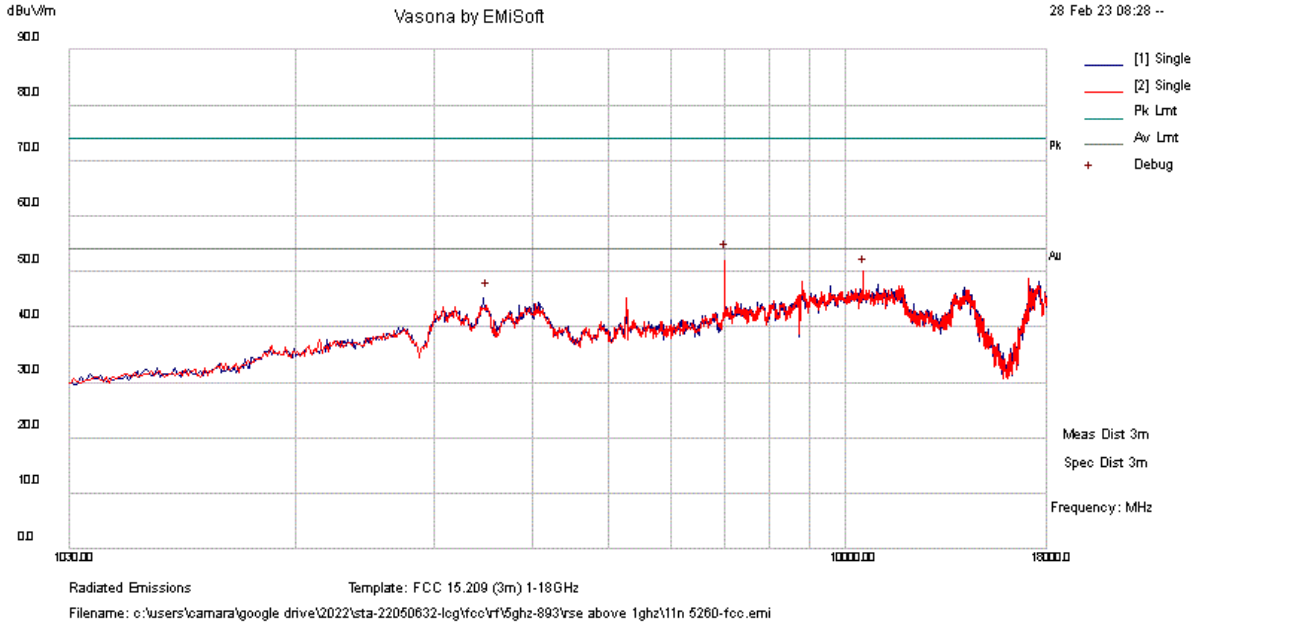
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	4072.184	28.9	9.8	4.6	43.3	Peak Max	V	319	224	54	-10.7	Pass
2	6981.874	45.4	12.6	-6.3	51.6	Peak Max	V	200	312	54	-2.4	Pass
3	10477.884	36.2	17.1	-5.2	48.2	Peak Max	V	161	114	54	-5.9	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 52	Test Result:	Pass



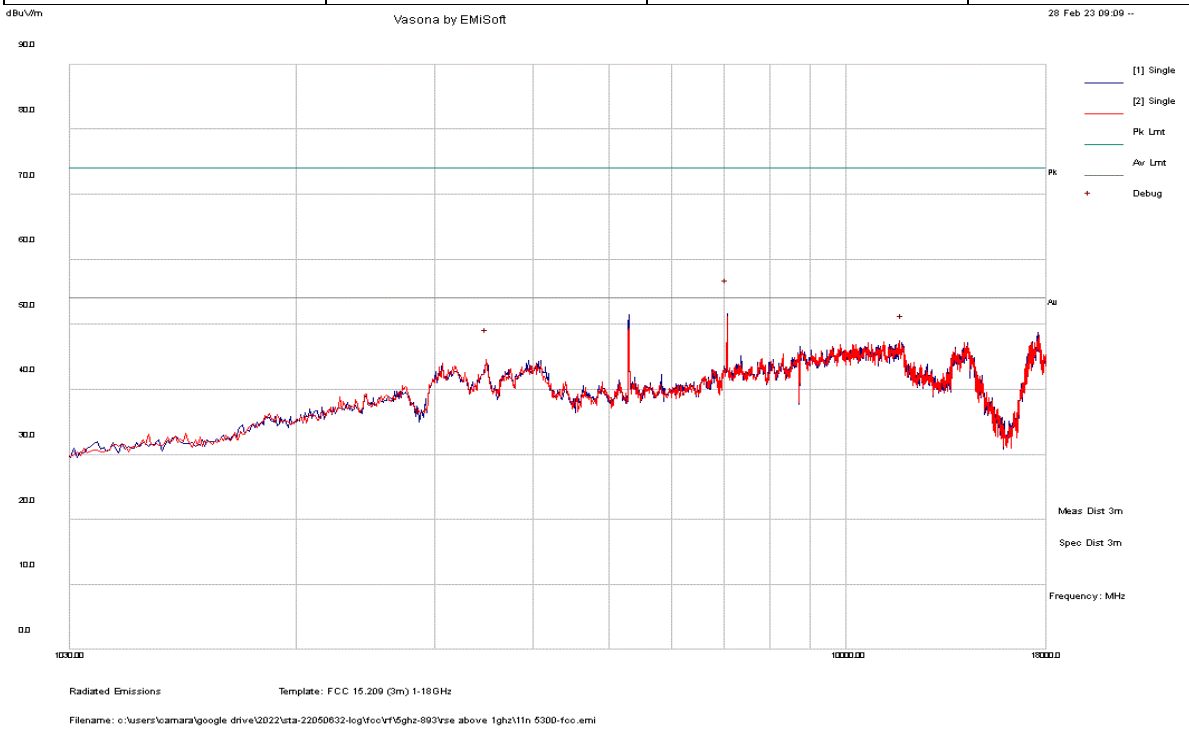
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3489.28	36.5	8.2	-1.1	43.5	Peak Max	H	147	346	54	-10.5	Pass
2	7012.743	44.1	12.6	-6.2	50.4	Peak Max	H	162	95	54	-3.6	Pass
3	10520.433	35.9	17.2	-5.2	47.9	Peak Max	V	223	76	54	-6.1	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 56	Test Result:	Pass



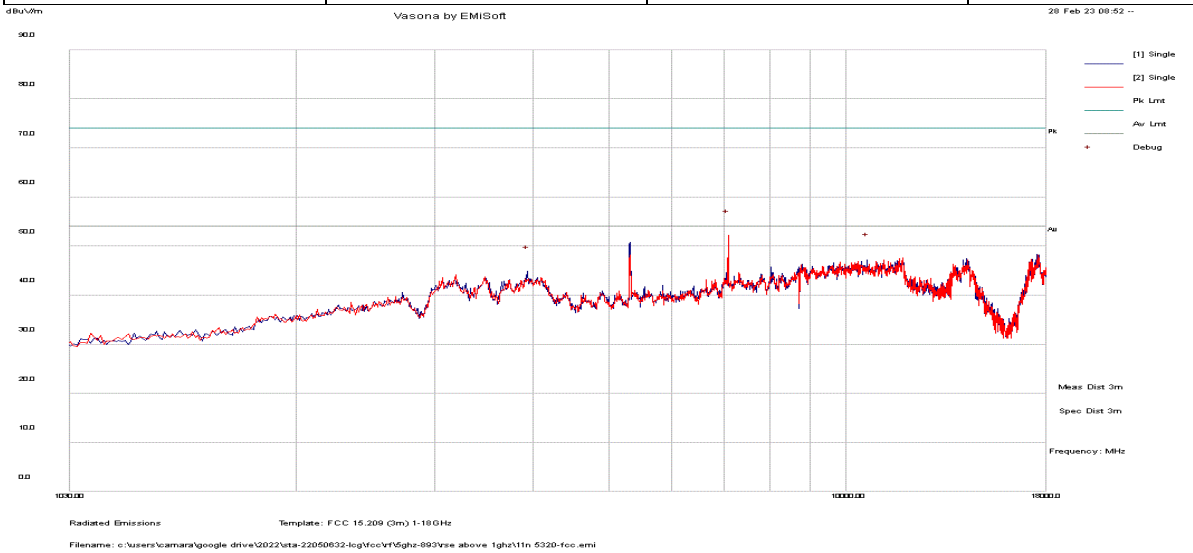
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3489.28	36.7	8.2	-1.1	43.7	Peak Max	H	312	356	54	-10.3	Pass
2	7067.256	44.7	12.6	-6	51.3	Peak Max	H	267	317	54	-2.7	Pass
3	11786.696	31.5	18.4	-4.1	45.9	Peak Max	V	279	194	54	-8.1	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 64	Test Result:	Pass



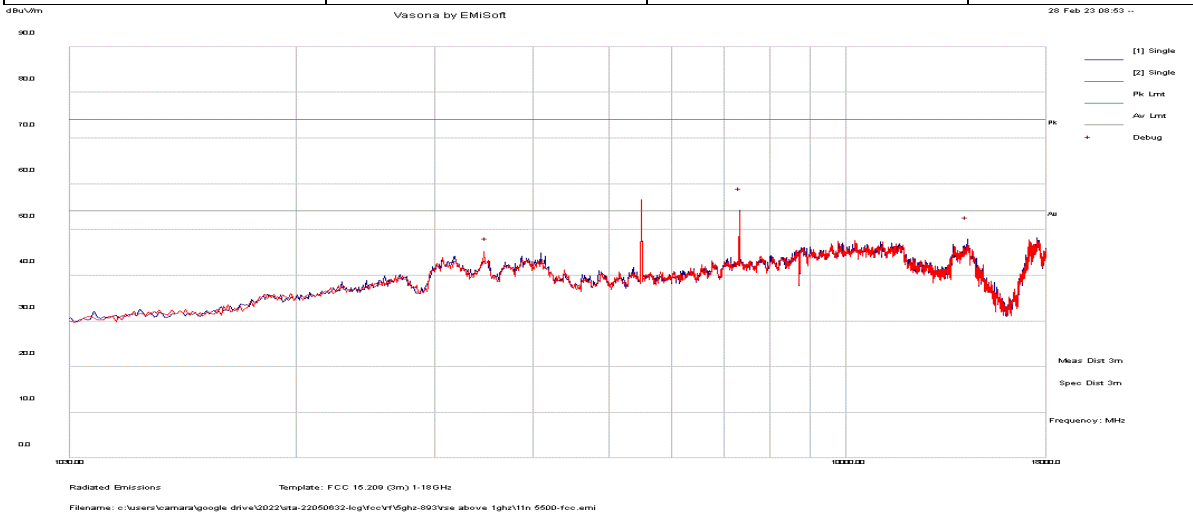
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3944.537	29	9.7	5.8	44.5	Peak Max	V	292	232	54	-9.5	Pass
2	7089.592	45	12.6	-5.9	51.7	Peak Max	V	149	343	54	-2.3	Pass
3	10648.431	35.2	17.2	-5.3	47.1	Peak Max	V	156	217	54	-6.9	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 100	Test Result:	Pass



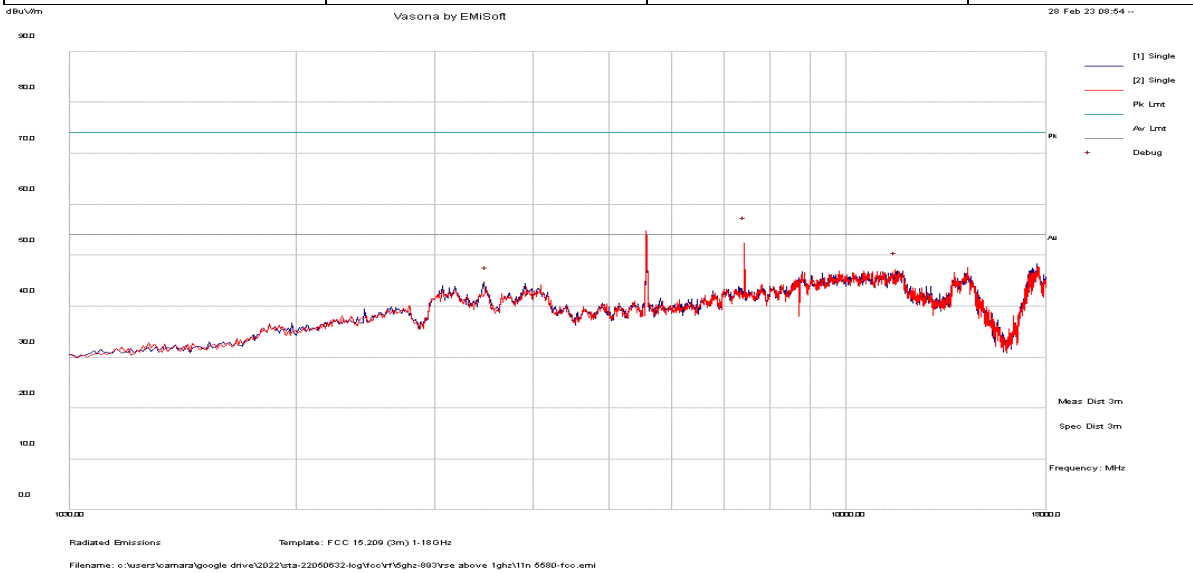
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3499.277	35.3	8.2	-0.8	42.7	Peak Max	V	220	318	54	-11.3	Pass
2	7331.835	46.1	12.9	-5.5	53.5	Peak Max	V	309	189	54	-0.5	Pass
3	14286.4	29.7	16.4	1.1	47.2	Peak Max	V	115	181	54	-6.8	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 116	Test Result:	Pass



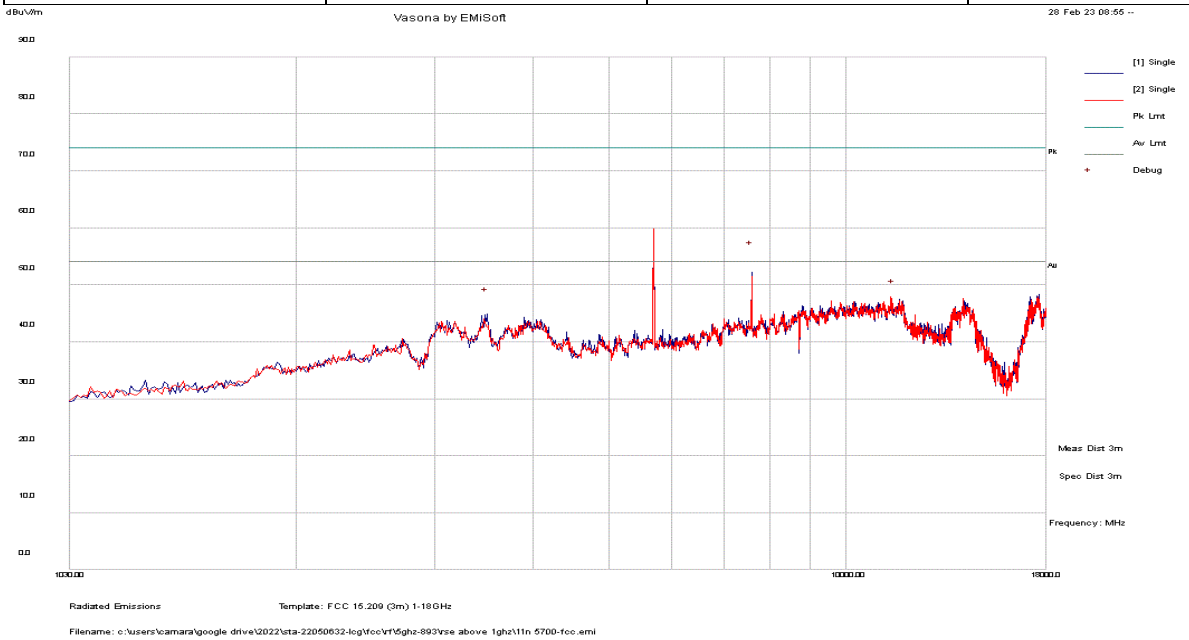
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3499.277	34.8	8.2	-0.8	42.2	Peak Max	H	326	103	54	-11.8	Pass
2	7438.185	44.3	13.2	-5.6	51.9	Peak Max	V	318	249	54	-2.1	Pass
3	11553.007	31.7	17.9	-4.5	45.1	Peak Max	V	254	70	54	-8.9	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 140	Test Result:	Pass



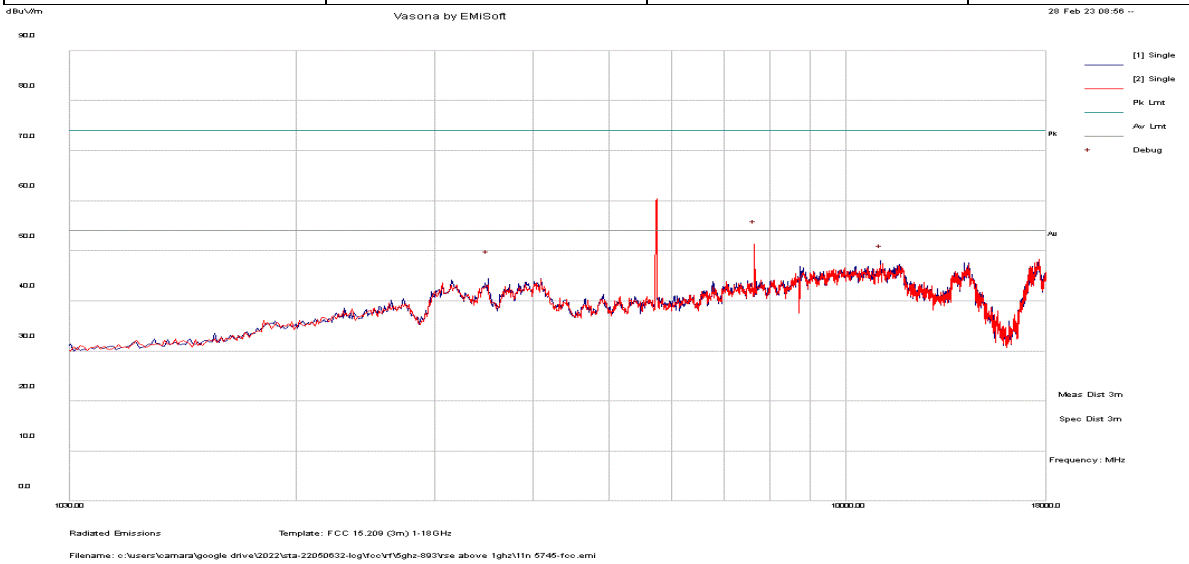
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3489.28	36.9	8.2	-1.1	43.9	Peak Max	V	310	130	54	-10.1	Pass
2	7598.045	44.5	13.5	-5.8	52.1	Peak Max	V	317	258	54	-1.9	Pass
3	11487.094	32.2	17.8	-4.7	45.3	Peak Max	V	227	35	54	-8.7	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 149	Test Result:	Pass



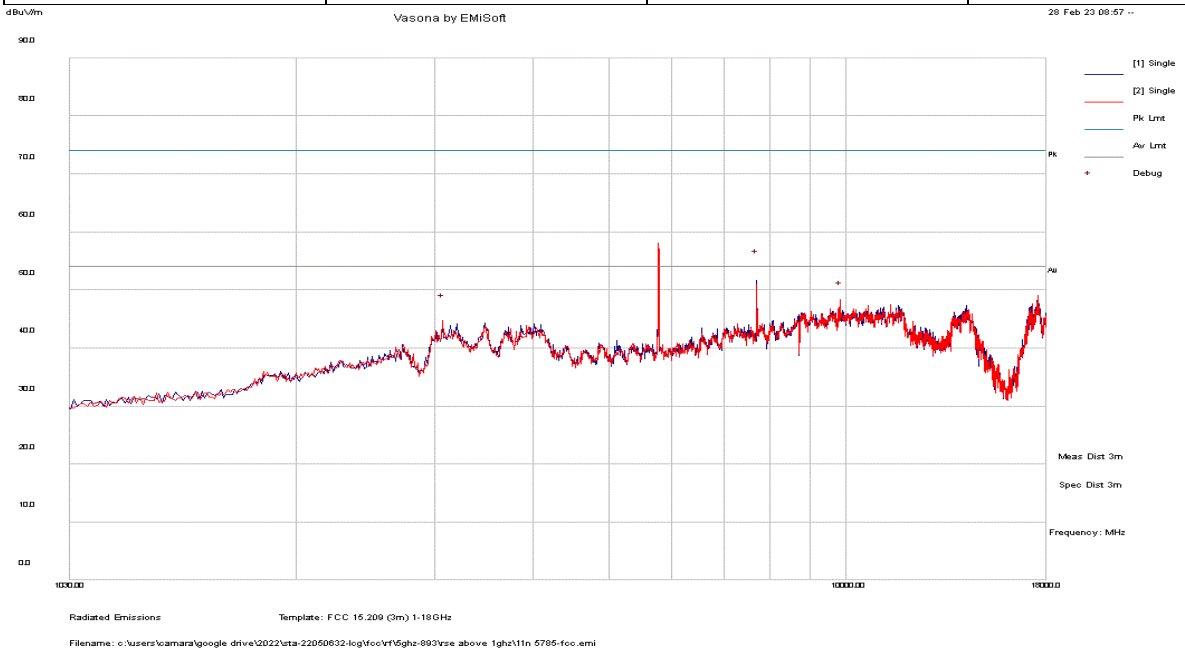
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3507.648	36.9	8.2	-0.6	44.5	Peak Max	H	250	256	54	-9.5	Pass
2	7661.909	42.7	13.6	-5.7	50.5	Peak Max	H	129	346	54	-3.5	Pass
3	11083.571	32.8	17.3	-4.5	45.6	Peak Max	H	189	306	54	-8.5	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 157	Test Result:	Pass



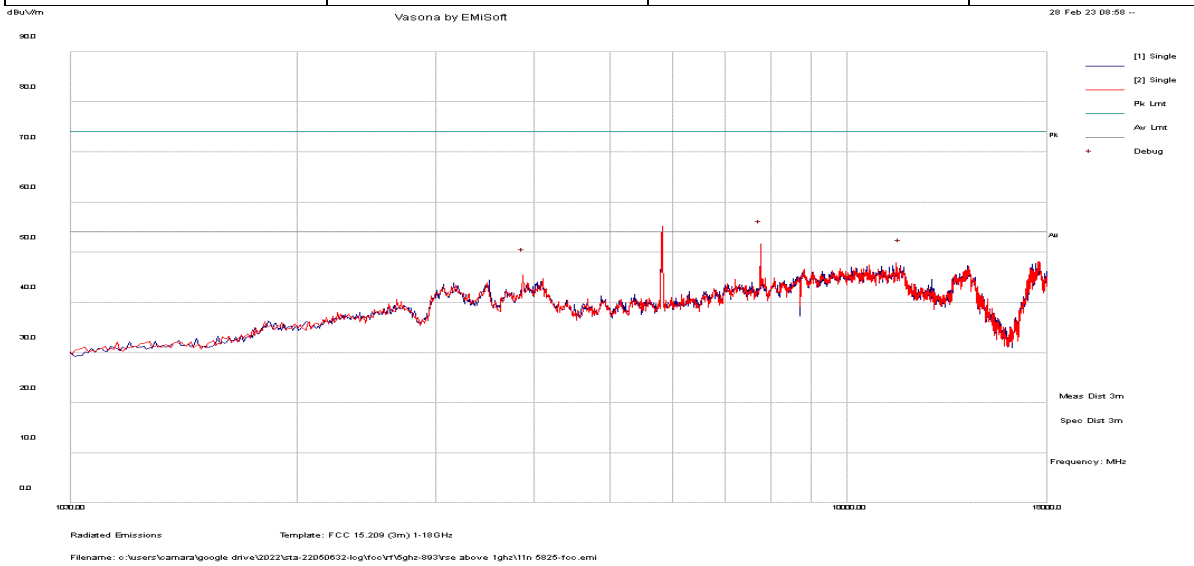
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3071.932	35.3	7.7	0.7	43.7	Peak Max	H	295	94	54	-10.3	Pass
2	7715.403	43.3	13.7	-5.7	51.3	Peak Max	H	296	215	54	-2.7	Pass
3	9843.758	34.7	16.4	-5.1	46	Peak Max	V	124	253	54	-8	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 165	Test Result:	Pass



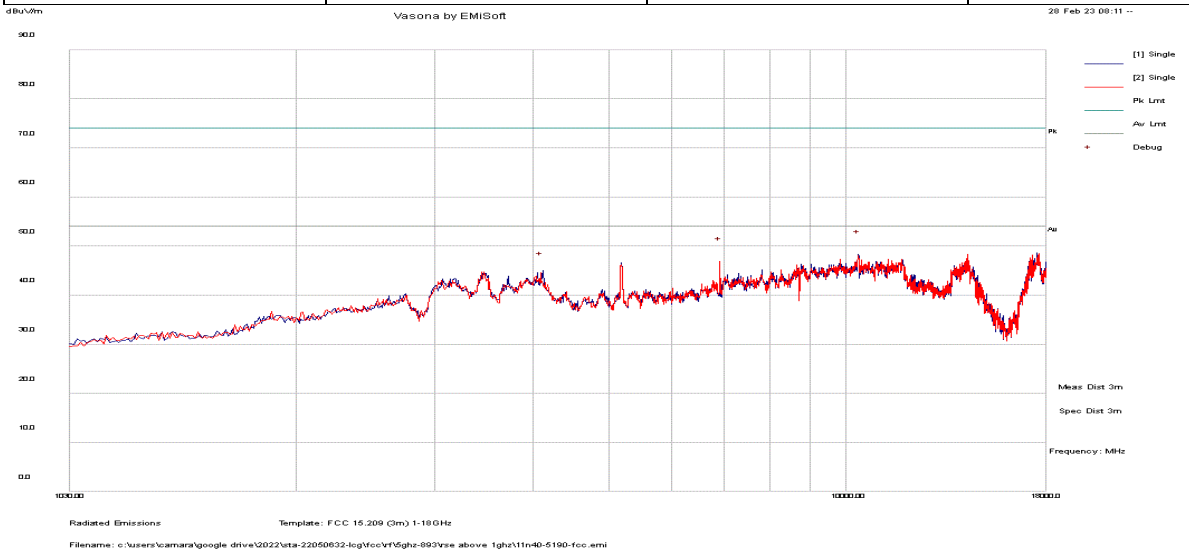
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3880.279	30	9.4	5.8	45.1	Peak Max	V	105	356	54	-8.9	Pass
2	7769.093	42.7	13.8	-5.6	50.8	Peak Max	H	274	48	54	-3.2	Pass
3	11696.516	33	18.2	-4.2	47	Peak Max	H	164	89	54	-7	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 38	Test Result:	Pass



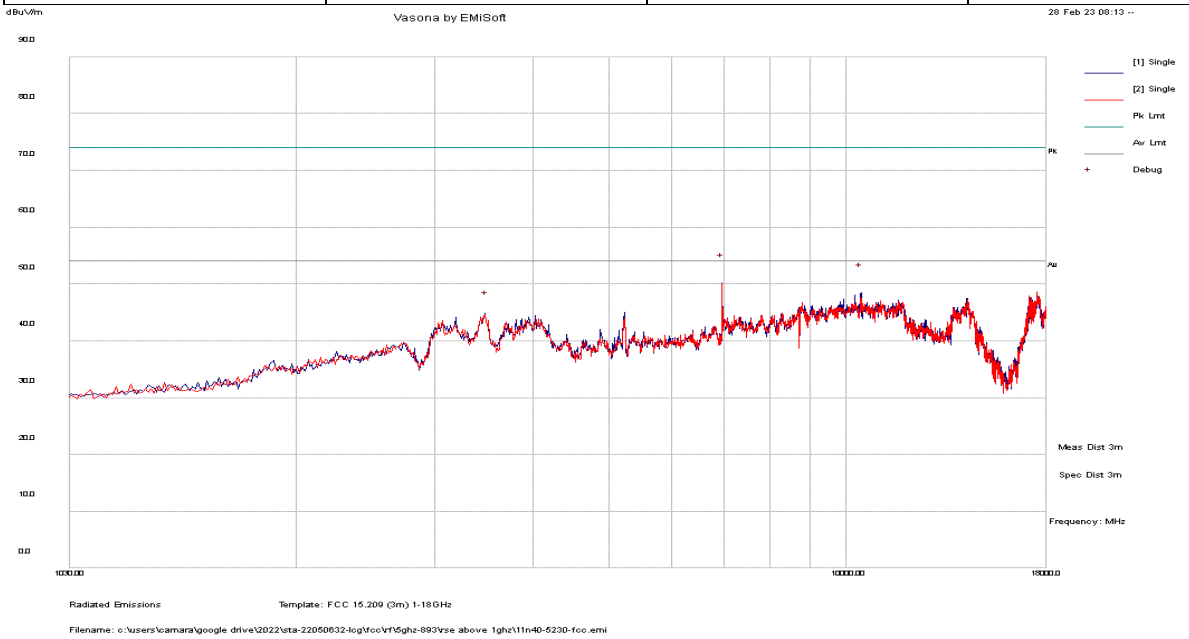
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	4107.284	29.2	9.8	4.2	43.1	Peak Max	H	133	341	54	-10.9	Pass
2	6917.186	40.3	12.4	-6.5	46.2	Peak Max	V	233	56	54	-7.8	Pass
3	10373.471	35.9	16.8	-5.1	47.6	Peak Max	H	220	173	54	-6.4	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 46	Test Result:	Pass



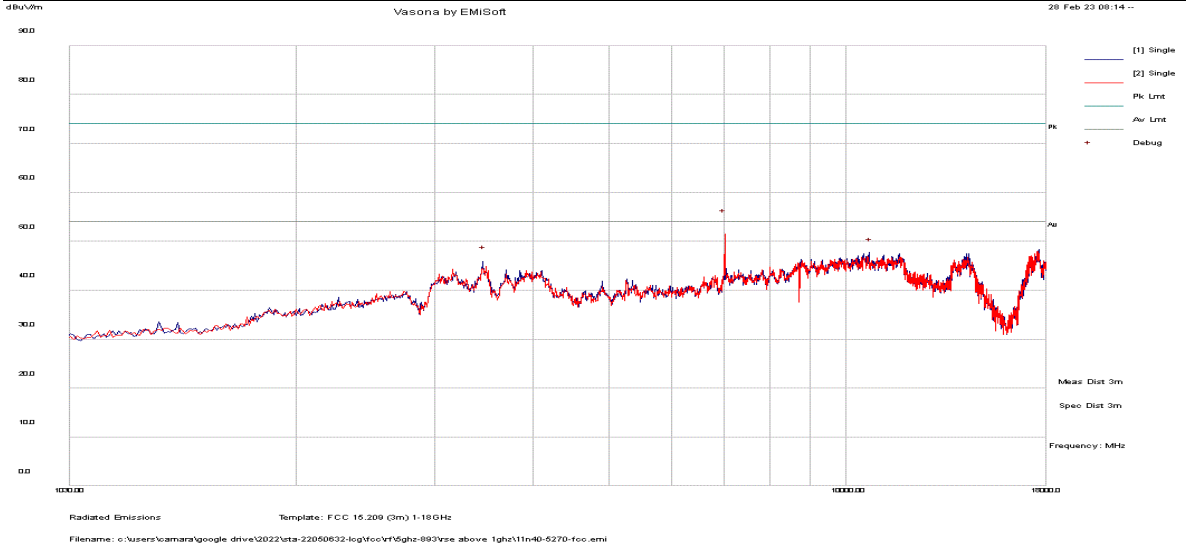
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	0	0	0	0	0	Peak Max	V	253	258	0	0	Pass
2	3489.28	36.2	8.2	-1.1	43.2	Peak Max	V	315	63	54	-10.8	Pass
3	6970.861	43.6	12.5	-6.4	49.8	Peak Max	V	217	291	54	-4.3	Pass

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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 54	Test Result:	Pass



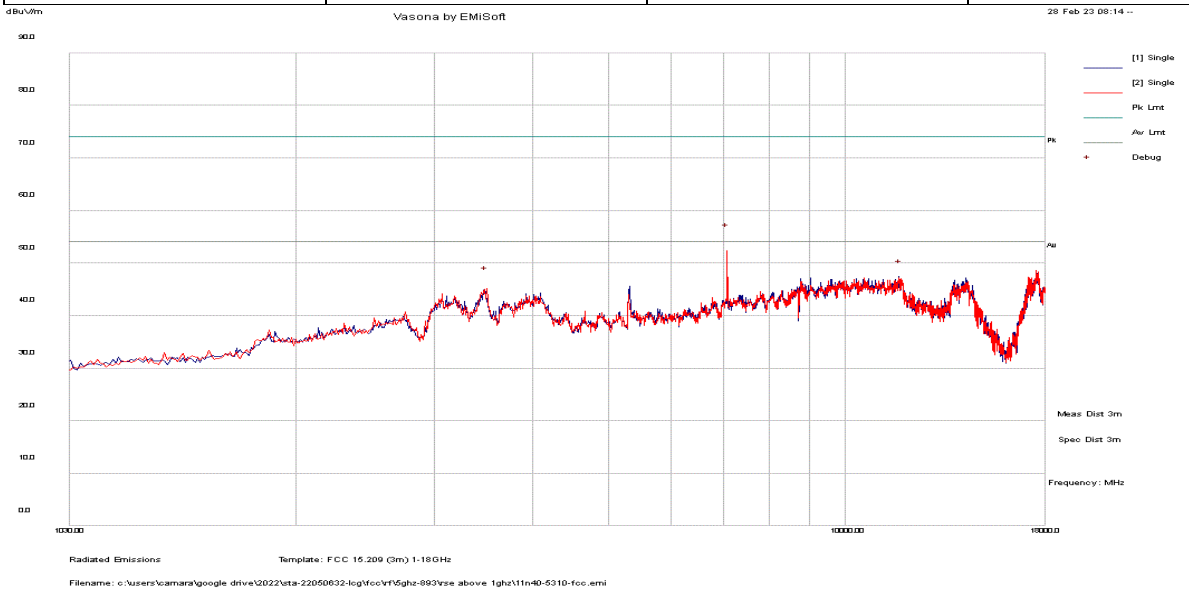
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3469.373	37	8.2	-1.7	43.4	Peak Max	V	196	254	54	-10.6	Pass
2	7024.239	44.5	12.6	-6.2	50.9	Peak Max	H	257	182	54	-3.1	Pass
3	10755.588	33.1	17.3	-5.3	45	Peak Max	H	185	160	54	-9	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 62	Test Result:	Pass



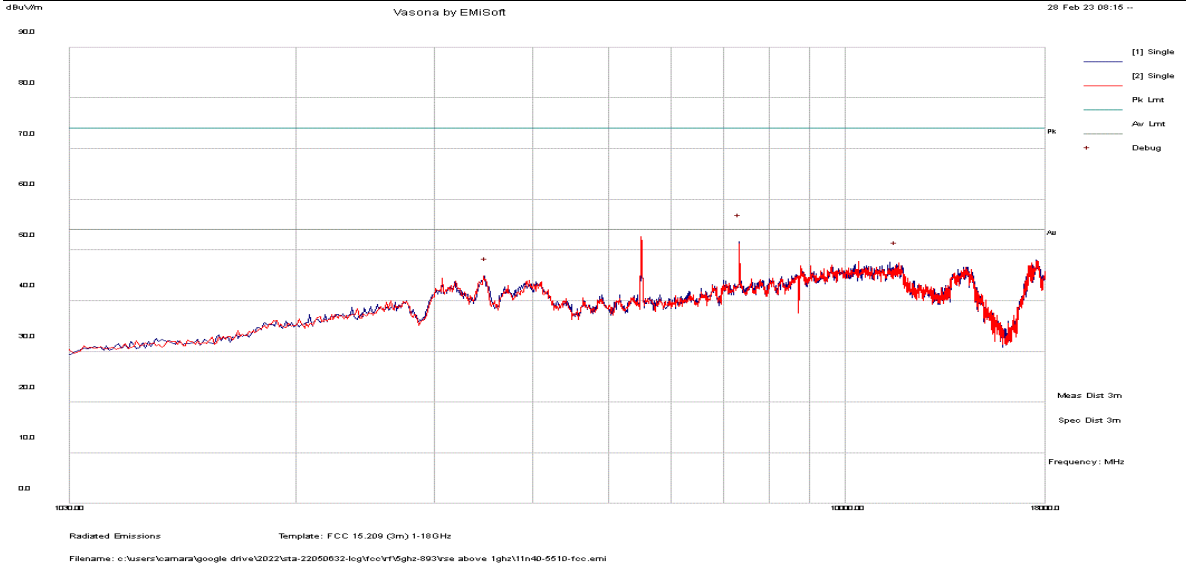
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3489.28	36.7	8.2	-1.1	43.8	Peak Max	V	137	239	54	-10.2	Pass
2	7077.39	45.2	12.6	-6	51.9	Peak Max	H	233	354	54	-2.1	Pass
3	11753.025	30.8	18.4	-4.1	45.1	Peak Max	V	225	156	54	-9	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 102	Test Result:	Pass

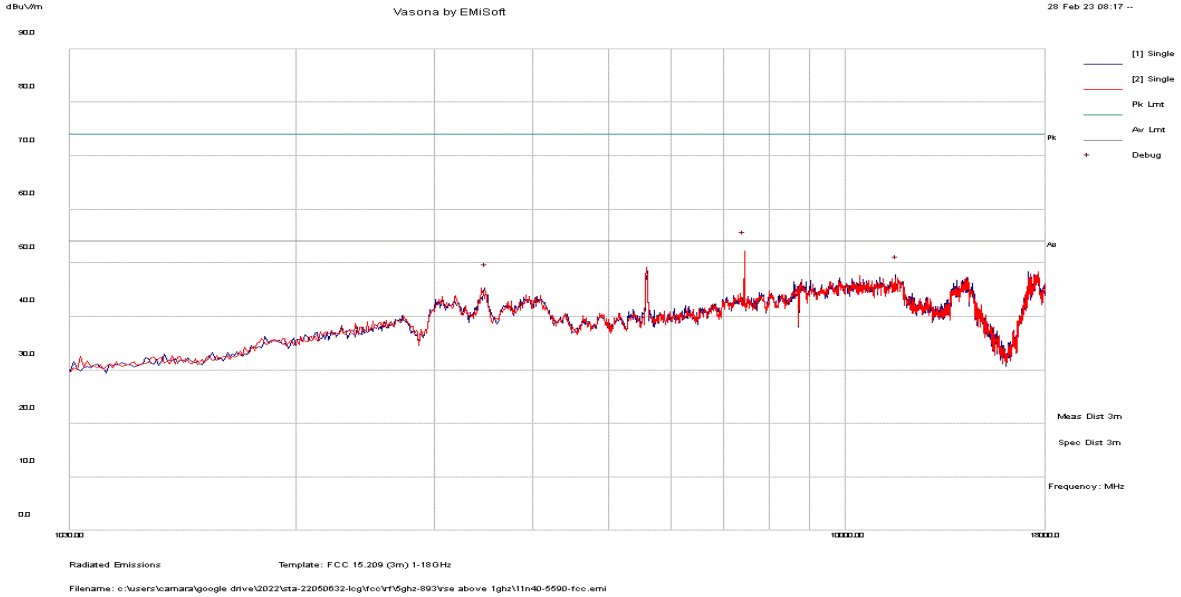


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3489.28	35.8	8.2	-1.1	42.9	Peak Max	H	204	20	54	-11.1	Pass
2	7343.059	44.1	12.9	-5.5	51.6	Peak Max	H	285	144	54	-2.5	Pass
3	11602.69	32.4	18	-4.4	46	Peak Max	V	205	132	54	-8	Pass

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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 116	Test Result:	Pass



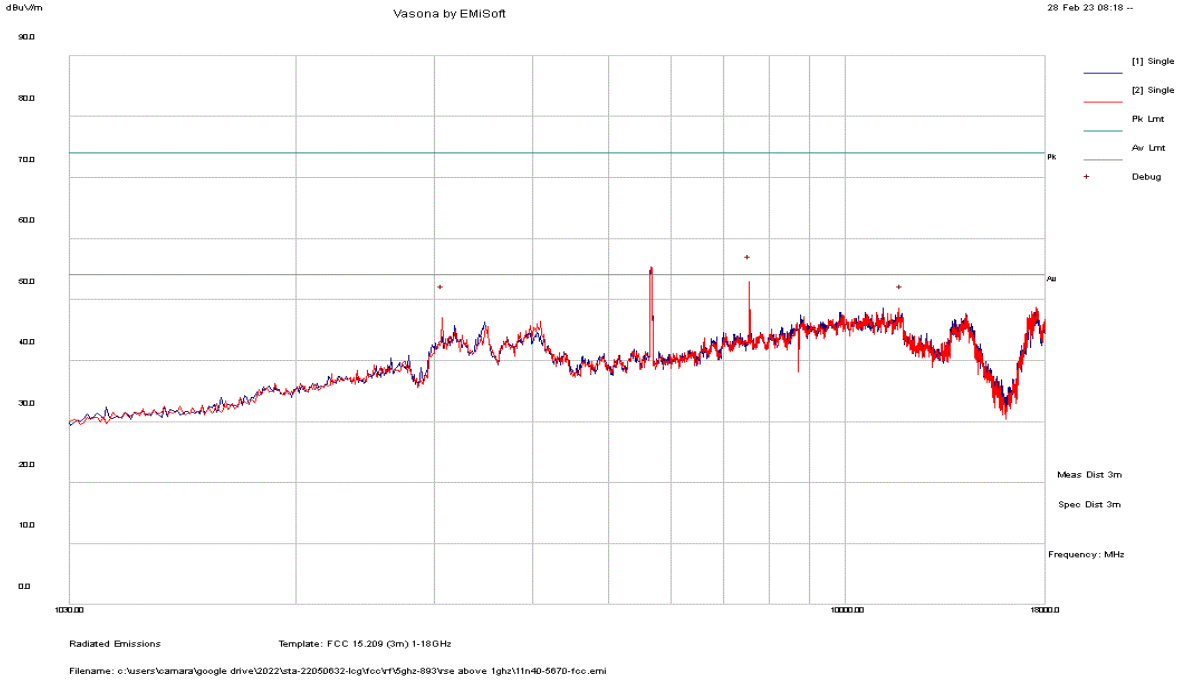
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3489.28	37.2	8.2	-1.1	44.3	Peak Max	H	278	13	54	-9.7	Pass
2	7449.716	42.7	13.2	-5.6	50.3	Peak Max	H	299	109	54	-3.7	Pass
3	11635.931	31.9	18.1	-4.3	45.7	Peak Max	V	163	21	54	-8.3	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 134	Test Result:	Pass



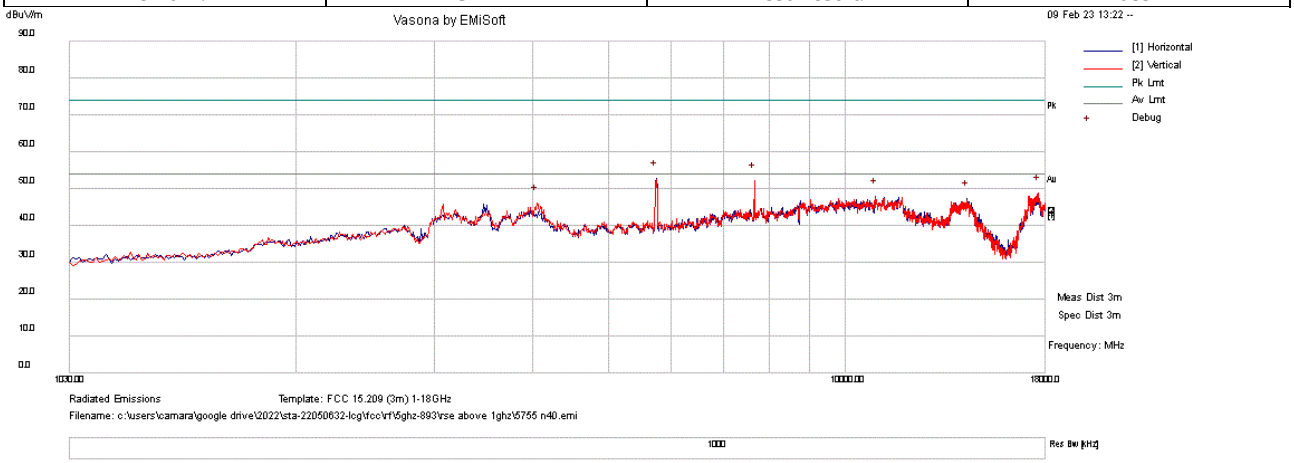
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3072.46	38.4	7.7	0.7	46.8	Peak Max	V	317	237	54	-7.2	Pass
2	7557.12	44	13.4	-5.8	51.6	Peak Max	H	119	279	54	-2.4	Pass
3	11820.464	32.6	18.2	-4.1	46.7	Peak Max	V	173	37	54	-7.3	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 151	Test Result:	Pass



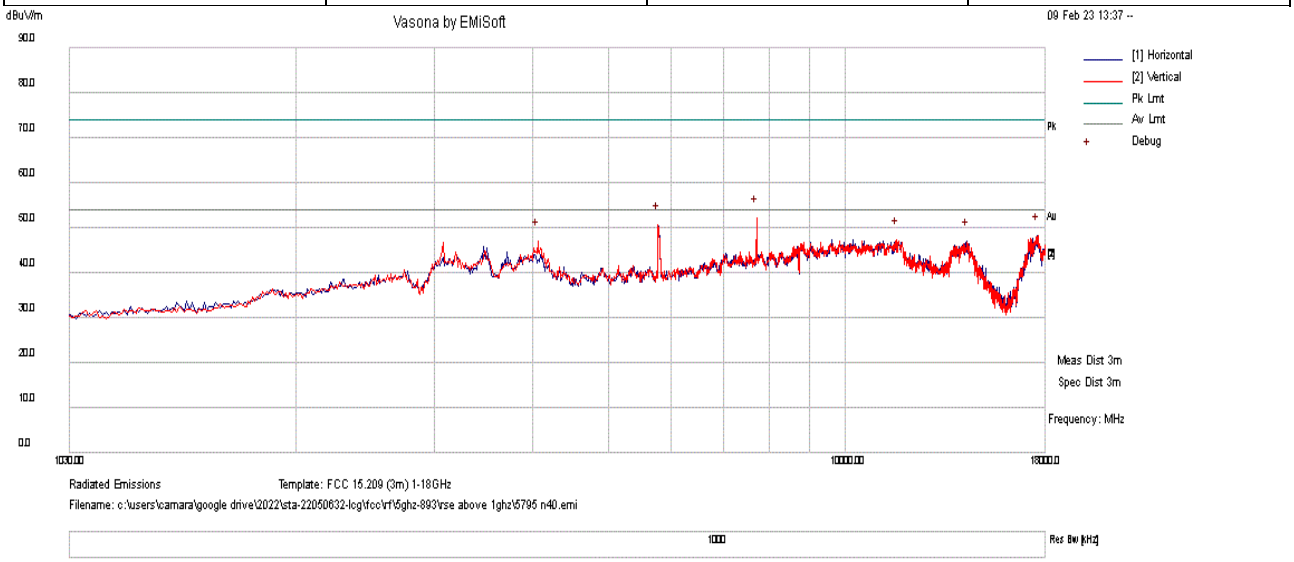
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7669.513	44.2	13.6	-5.7	52	Peak Max	H	168	150	54	-2	Pass
2	17628.781	23.1	21.9	3.8	48.9	Peak Max	V	162	279	54	-5.1	Pass
3	10946.844	35.3	17.2	-4.6	47.9	Peak Max	H	153	161	54	-6.1	Pass
4	14298.419	29.6	16.4	1.1	47.1	Peak Max	V	167	21	54	-6.9	Pass
5	4052.781	31.2	9.9	4.9	45.9	Peak Max	H	321	0	54	-8.1	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac40
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 159	Test Result:	Pass



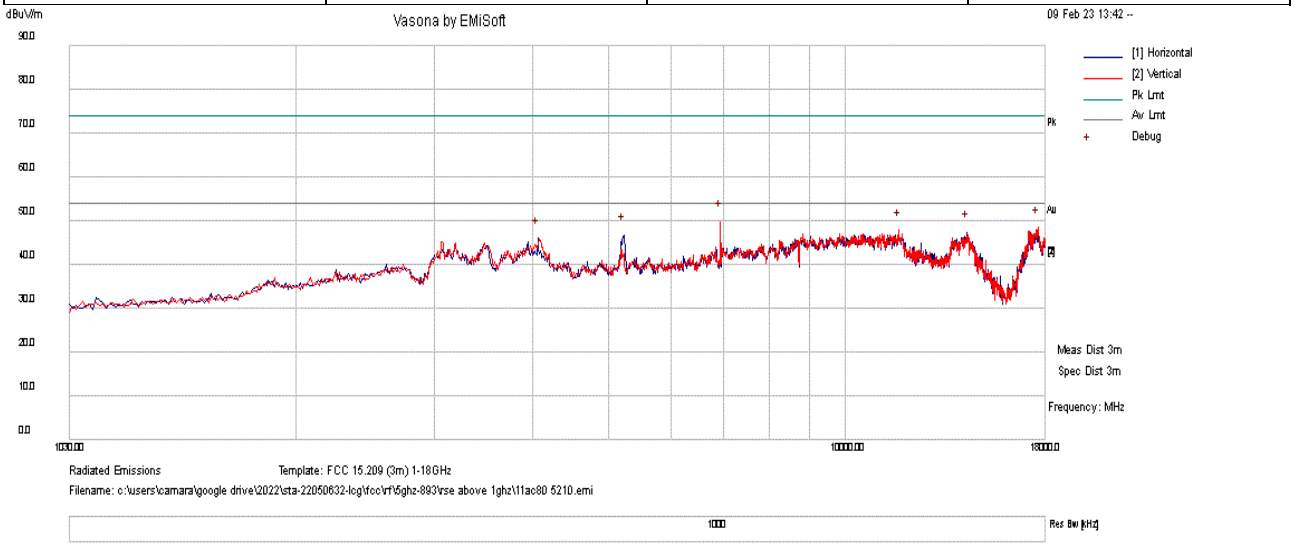
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7722.544	44.2	13.7	-5.7	52.2	Peak Max	H	249	150	54	-1.8	Pass
2	5781.6	49.4	11.5	-10.4	50.5	Peak Max	H	308	145	54	-3.5	Pass
3	17575.75	22.1	22	4.1	48.2	Peak Max	H	175	332	54	-5.8	Pass
4	11636.25	33.5	18.1	-4.3	47.3	Peak Max	V	132	318	54	-6.7	Pass
5	4063.388	32.3	9.9	4.7	46.9	Peak Max	H	261	230	54	-7.1	Pass
6	14298.419	29.3	16.4	1.1	46.8	Peak Max	H	249	150	54	-7.2	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac80
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 42	Test Result:	Pass



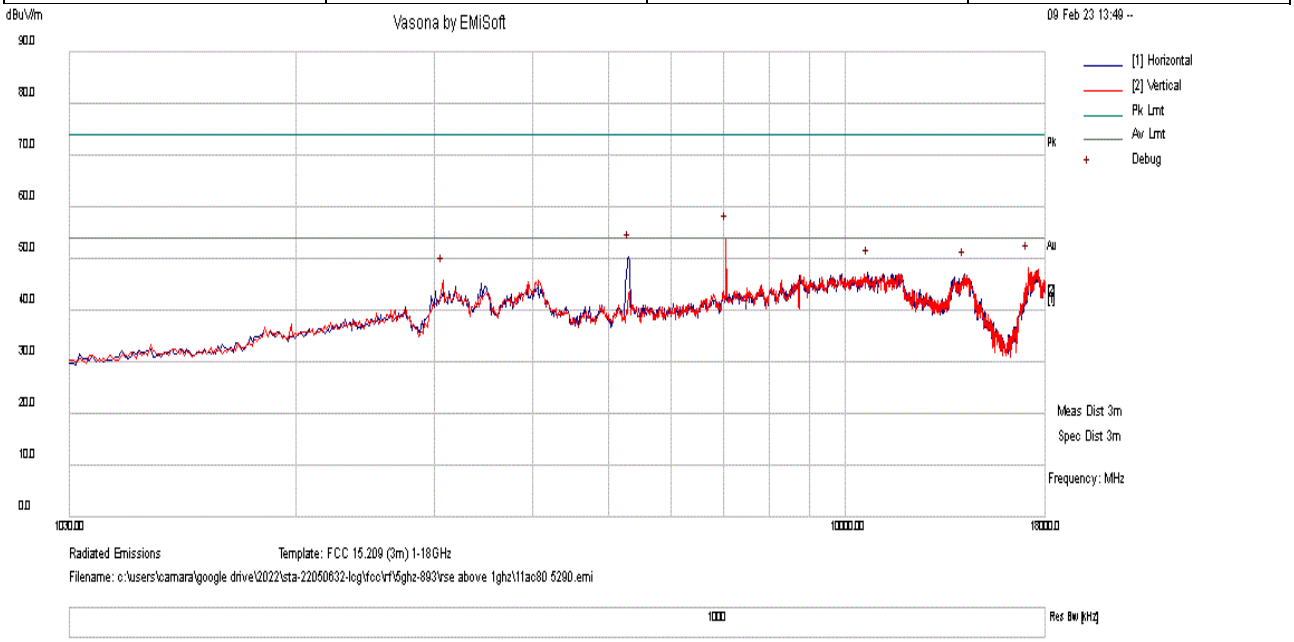
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	6948.288	43.6	12.5	-6.4	49.6	Peak Max	H	312	302	54	-4.4	Pass
2	17618.175	22.3	22	4	48.3	Peak Max	V	125	339	54	-5.7	Pass
3	11710.494	33.6	18.3	-4.2	47.7	Peak Max	V	182	46	54	-6.3	Pass
4	14298.419	29.7	16.4	1.1	47.2	Peak Max	V	157	18	54	-6.8	Pass
5	5230.075	45.3	10	-8.6	46.6	Peak Max	V	158	83	54	-7.4	Pass
6	4063.388	31.3	9.9	4.7	45.9	Peak Max	H	106	163	54	-8.1	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac80
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 58	Test Result:	Pass



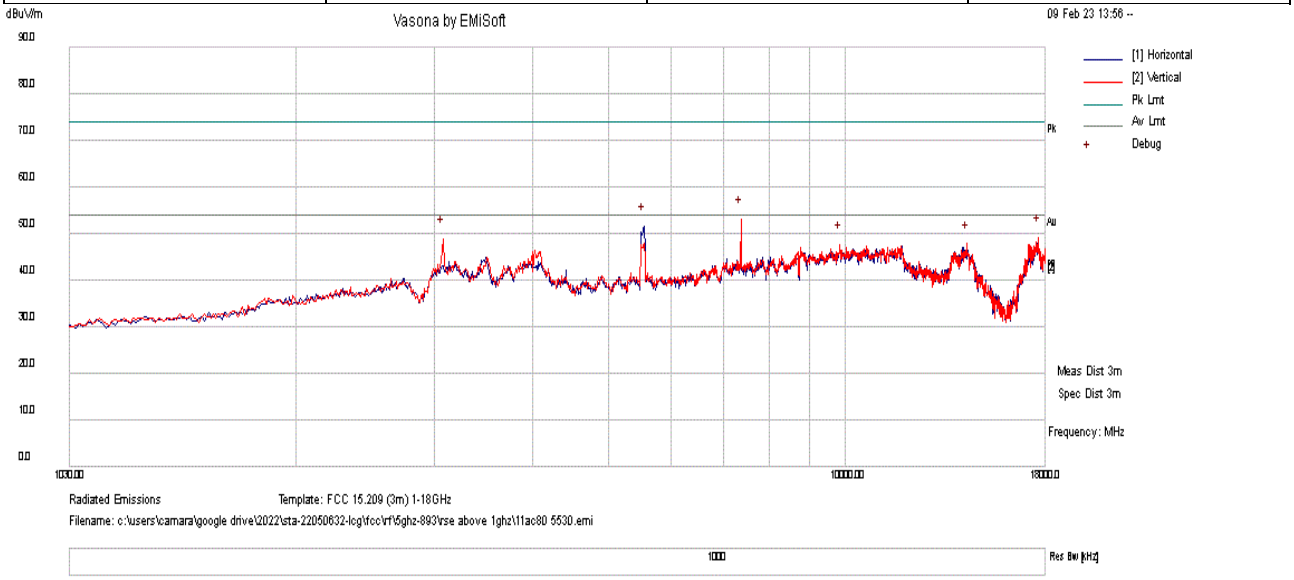
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7054.35	47.3	12.6	-6	53.9	Peak Max	V	258	206	54	-0.1	Pass
2	5304.319	49	10.2	-8.9	50.3	Peak Max	V	215	349	54	-3.7	Pass
3	17098.469	24.1	22.5	1.7	48.2	Peak Max	V	256	339	54	-5.8	Pass
4	10681.688	35.2	17.2	-5.3	47.2	Peak Max	H	323	232	54	-6.8	Pass
5	14181.75	29.7	16.4	0.9	47	Peak Max	H	142	148	54	-7	Pass
6	3077.006	37.5	7.7	0.5	45.6	Peak Max	V	312	82	54	-8.4	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac80
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 106	Test Result:	Pass



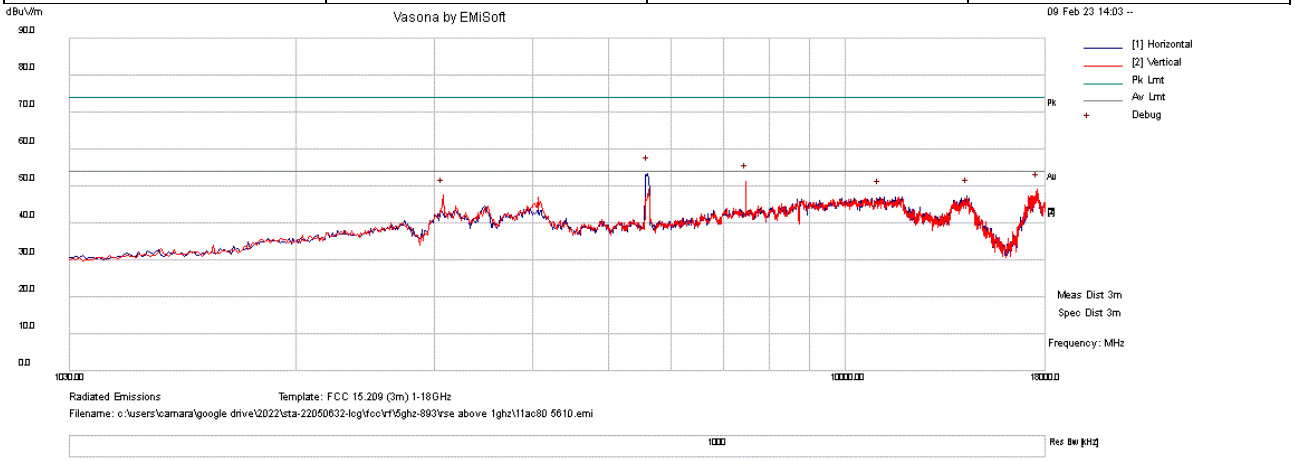
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7372.538	45.4	13	-5.5	53	Peak Max	V	231	7	54	-1	Pass
2	5548.263	50.7	10.9	-10.1	51.5	Peak Max	H	160	35	54	-2.5	Pass
3	17628.781	23.2	21.9	3.8	49	Peak Max	H	180	349	54	-5	Pass
4	3077.006	40.6	7.7	0.5	48.8	Peak Max	V	311	307	54	-5.2	Pass
5	14298.419	30.2	16.4	1.1	47.7	Peak Max	V	122	171	54	-6.3	Pass
6	9854.4	36.2	16.4	-5.2	47.5	Peak Max	V	248	51	54	-6.5	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac80
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 122	Test Result:	Pass



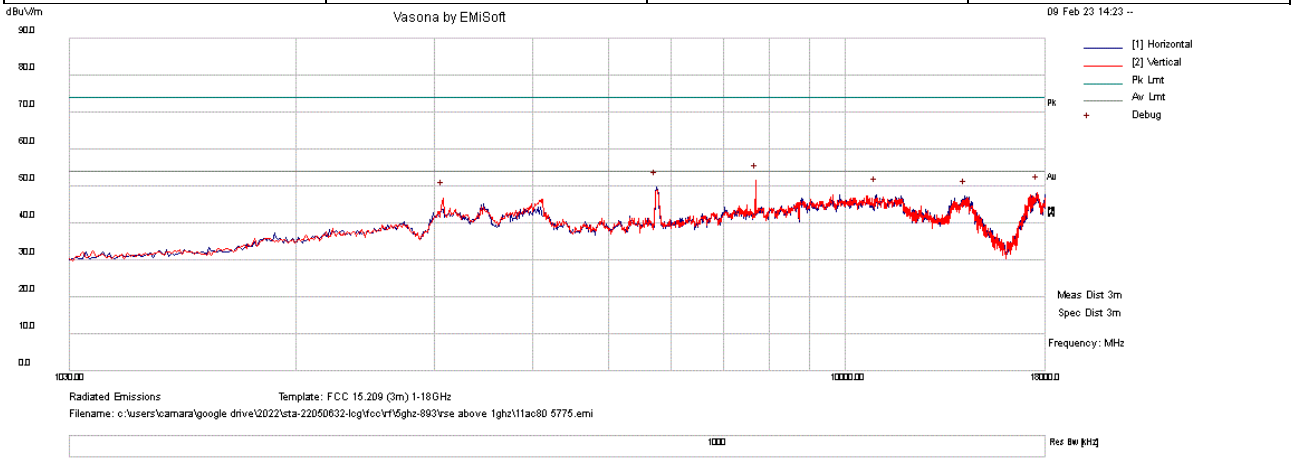
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB/m	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7478.6	43.6	13.3	-5.7	51.2	Peak Max	H	192	239	54	-2.8	Pass
2	17575.75	22.8	22	4.1	48.9	Peak Max	V	326	248	54	-5.1	Pass
3	3077.006	39.2	7.7	0.5	47.4	Peak Max	H	334	110	54	-6.6	Pass
4	14298.419	29.7	16.4	1.1	47.2	Peak Max	V	169	122	54	-6.8	Pass
5	11063.513	34.2	17.3	-4.5	47	Peak Max	V	281	135	54	-7	Pass
6	7478.6	43.6	13.3	-5.7	51.2	Peak Max	V	309	325	54	-2.8	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)
4. Final average measurement is not necessary since peak level is below average limit

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	FCC15.407, 15.209; RSS-247	Mode:	RSE-Above 1GHz-802.11ac80
Frequency Range:	1 GHz - 18 GHz	Test Date:	12/28/2022 – 02/27/2023
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Zach Peng
Remark:	Ch 155	Test Result:	Pass



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	7701.331	43.4	13.6	-5.7	51.3	Peak Max	H	301	286	54	-2.7	Pass
2	5749.781	48.6	11.4	-10.5	49.5	Peak Max	H	125	195	54	-4.5	Pass
3	17565.144	22.1	22	4	48.1	Peak Max	H	300	67	54	-5.9	Pass
4	10957.45	35	17.2	-4.6	47.6	Peak Max	H	301	34	54	-6.4	Pass
5	14224.175	29.6	16.4	1	47.1	Peak Max	H	322	79	54	-6.9	Pass
6	3077.006	38.6	7.7	0.5	46.7	Peak Max	H	241	220	54	-7.3	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)
4. Final average measurement is not necessary since peak level is below average limit

18GHz – 40GHz test result

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

8 EUT and Test Setup Photos

See FCC exhibits

9 Test Instrument List

Equipment	Manufacturer	Model	Instrument Number	Cal. Date	Cal. Due
Semi-Anechoic Chamber	ETS-Lindgren	10M	VL001	10/18/2022	10/18/2023
Shielding Control Room	ETS-Lindgren	Series 81	VL006	N/A	N/A
Spectrum Analyzer	Keysight	N9020A	MY50110074	06/09/2022	06/09/2023
EMC Test Receiver	R&S	ESL6	100230	06/07/2022	06/07/2023
LISN (9KHz – 30MHz)	EMCO	3816/2	9705-1066	07/12/2022	07/12/2023
Bi-Log Antenna	ETS-Lindgren	3142E	217921	07/19/2022	07/19/2023
Horn Antenna (1-18GHz)	Electro-Metrics	EM-6961	6292	07/21/2022	07/21/2023
Horn Antenna (18-40GHz)	Com-Power	AH-840	101109	07/21/2022	07/21/2023
Preamplifier	RF Bay, Inc.	LPA-10-20	11180621	07/16/2022	07/16/2023
True RMS Multi-meter	UNI-T	UT181A	C173014829	06/07/2022	06/07/2023
Temp / Humidity / Pressure Meter	PCE Instruments	PCE-THB 40	R062028	06/07/2022	06/07/2023
RF Attenuator	Pasternack	PE7005-3	VL061	07/16/2022	07/16/2023
Preamplifier 100KHz - 40GHz	Aeroflex	33711-392-77150-11	064	07/16/2022	07/16/2023
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	06/10/2022	06/10/2023
RE test cable(below 6GHz)	Vista	RE-6GHz-01	RE-6GHz-01	07/16/2022	07/16/2023
RE test cable (1-18GHz)	PhaseTrack	II-240	RE-18GHz-01	07/16/2022	07/16/2023
RE test cable (>18GHz)	Sucoflex	104	344903/4	07/16/2022	07/16/2023
Pulse limiter	Com-Power	LIT-930A	531727	07/16/2022	07/16/2023
CE test cable #1	FIRST RF	FRF-C-1002-001	CE-6GHz-01	07/16/2022	07/16/2023
CE test cable#2	FIRST RF	FRF-C-1002-001	CE-6GHz-02	07/16/2022	07/16/2023

Note:

1) This equipment is not for measurement purpose and only require functional verification. Calibration is not required.

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