

RF Test Report

Test Report Number STA-24072634-LC-FCC-IC-RF-DTS

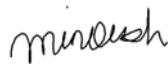
FCC ID N6C-PCEAXAP
ISED ID 4908A-PCEAXAP

Applicant Silex technology, Inc.
Applicant Address 2-3-1 Hikaridai, Seika-cho, Kyoto 619-0237, Japan
Product Name Embedded wireless module
Model Number SX-PCEAX-AP
Date of Receipt 08/14/2024
Date of Test 80/30/2024- 09/13/2024
Report Issue Date 09/20/2024
Test Standards 47 CFR Part 15.247
 RSS-247 Issue 3, Aug 2023
Test Result PASS



Issued by:

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



Minoush Niknam (Test Engineer)



David Zhang (Technical Manager)

This report is for the exclusive use of the applicant. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. Note that the results contained in this report pertain only to the test samples identified herein, and the results relate only to the items tested and the results that were obtained in the period between the date of initial receipt of samples and the date of issue of the report. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested and the results thereof based upon the information provided to us. The applicant has 60 days from date of issuance of this report to notify us of any material error or omission. Failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by any government agencies. This report is not to be reproduced by any means except in full and in any case not without the written approval of Vista Laboratories.

REVISION HISTORY

Report Number	Version	Description	Issued Date
STA-24072634-LC-FCC-IC-RF-DTS	01	Initial report	09/20/2024

TABLE OF CONTENTS

1	TEST SUMMARY	4
2	GENERAL INFORMATION.....	5
2.1	Applicant	5
2.2	Product information	5
2.3	Test standard and method.....	6
3	TEST SITE INFORMATION.....	6
4	MODIFICATION OF EUT / DEVIATIONS FROM STANDARDS.....	6
5	TEST CONFIGURATION AND OPERATION	6
5.1	EUT Test Configuration	6
5.2	Supporting Equipment.....	7
6	UNCERTAINTY OF MEASUREMENT	7
7	TEST SUMMARY AND RESULT.....	8
7.1	Antenna Requirements	8
7.2	Radiated Spurious Emissions into Restricted Frequency Bands.....	9
8	EUT AND TEST SETUP PHOTOS.....	51
9	TEST INSTRUMENT LIST	54

1 Test Summary

Test Item	Test Requirement	Test Method	Result
Antenna Requirement	47 CFR Part 15.203	N/A	Pass
AC Power Line Conducted Emissions	47 CFR Part 15.207 RSS-Gen Issue 5, Feb 2021	ANSI C63.10 (2013) RSS-Gen Issue 5, Feb 2021	N/A
DTS (6 dB) Channel Bandwidth	47 CFR Part 15.247 RSS-247 Issue 3, Aug 2023	ANSI C63.10 (2013)	N/A
Occupied Bandwidth	RSS-Gen Issue 5, Feb 2021	RSS-Gen Issue 5, Feb 2021	N/A
Conducted Maximum Output Power	47 CFR Part 15.247 RSS-247 Issue 3, Aug 2023	ANSI C63.10 (2013)	N/A
Power Spectral Density	47 CFR Part 15.247 RSS-247 Issue 3, Aug 2023	ANSI C63.10 (2013)	N/A
Conducted Band-Edge & Unwanted Emissions	47 CFR Part 15.247 RSS-247 Issue 3, Aug 2023	ANSI C63.10 (2013)	N/A
Radiated Emissions & Unwanted Emissions into Restricted Frequency Bands	47 CFR Part 15.247 RSS-247 Issue 3, Aug 2023	ANSI C63.10 (2013)	Pass

Note: N/A. The EUT is a certified BT and WLAN module, for more test details please see FCC ID: N6C-PCEAXAP and ISSED ID: 4908A-PCEAXAP. The current report is an additional evaluation due to adding new antenna for C2PC filing.

2 General Information

2.1 Applicant

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

2.2 Product information

Product Name	Embedded wireless module
Model Number	SX-PCEAX-AP
Family Models	N/A
Serial Number	1CBCEC2A9913
Frequency Band	WLAN 2.4G: 2412-2462MHz WLAN 5G: U-NII-1: 5150-5250MHz, U-NII-2A: 5250-5350MHz U-NII-2C: 5470-5725MHz, U-NII-3: 5725-5850MHz
Type of modulation	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g: OFDM-CCK (BPSK, QPSK, 16QAM, 64QAM) 802.11a/n/ac/ax: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Antenna (S) Information	Antenna type 1 - 2.4/5GHz PCB Adhesive Antenna - Model: 2JF0188P, Brand: 2J Antenna - Antenna Peak Gain: 2.4G WLAN, 0.8 dBi; 5G WLAN: 4.7 dB Antenna type 2 - 2.4/5GHz Broadband Omnidirectional Antenna - Model: 1399.17.0224, Brand: Huber+Suhner - Antenna Peak Gain: 2.4G WLAN, 2 dBi; 5G WLAN: 2.5 dB
Input Power	3.30 VDC
Power Adapter Manufacturer/Model	N/A
Power Adapter SN	N/A
Hardware version	N/A
Software version	N/A
Additional Info	The EUT has u.FL connector for direct RF conducted measurement. Both 2JF0188P (2J antenna) and 1399.17.0224 (Huber+Suhner) are with pigtail RF cable with u.FL connector to connect to the EUT. 1399.17.0224 (Huber+Suhner) may use longer RF cable in the actual application. The shortest cable with least loss has been used in this test report as worst.

2.3 Test standard and method

Test standard	47 CFR Part 15.247 RSS-247 Issue 3, Aug 2023
Test method	ANSI C63.10-2013 558074 D01 15.247 Meas Guidance v05r02

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%	996 mbar
Radiated Emission Testing	23.2°C	57.5%	996 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

The EUT is mounted onto a MCIMX8M-EVK Kit to support testing. EUT is set to different transmission modes in terms of radio mode bandwidth, power level, test channel, 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	Set the module work at WLAN mode
QRCT Application	Set the module into different mode, channel, data rate, etc.

5.2 Supporting Equipment

Description	Manufacturer	Model #	Serial #	Remark
Laptop	Dell	P57F	P57F002	Send command
MCIMX8M- EVK Kit	N/A	N/A	N/A	Test Fixture
AC Adapter	EDAC	EA10682N-120	400-7606	Power to MCIMX8M-EVK Kit

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 Summary and Result

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. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site.

7.1.2 Conclusion

Analysis:

- EUT has u.FL antenna connector which is a unique type that is acceptable for FCC.
The added PCB antenna (P/N: 2JF0188P-2.4) has soldered pigtail RF cable with u.FL connectors for connecting to the EUT, which is a unique coupling that is acceptable for FCC.
The external Broadband omnidirectional Wifi antenna (P/N: 1399.17.0224), have suitable antenna RF cable with u.FL connectors, for connecting to EUT. To meet FCC requirements, this entire antenna assembly must be either inseparable to ensure a broken antenna cannot be replaced by the user, or the antenna is subject to professional installation.

Conclusion:

- EUT and its antennas meet FCC requirements.

7.2 Radiated Spurious Emissions into Restricted Frequency Bands

7.2.1 Requirement

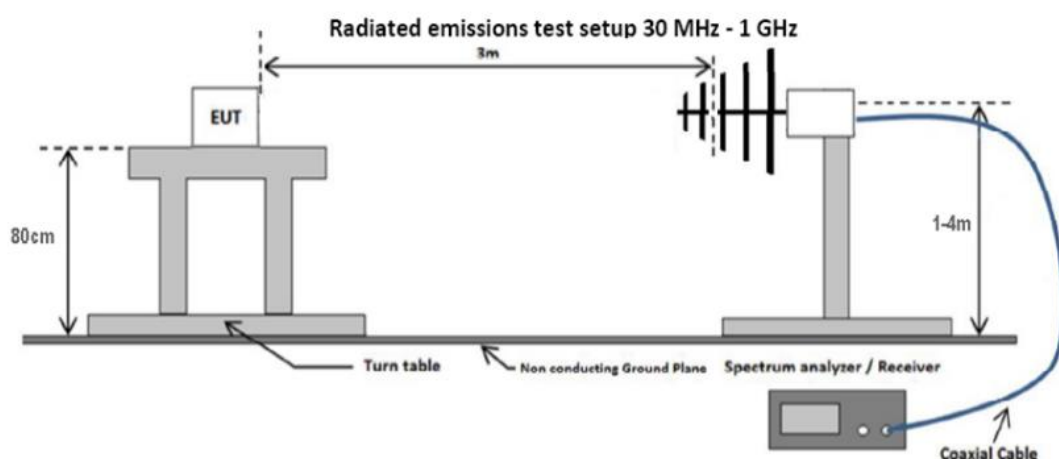
§ 15.247 (d), RSS-247 (5.5)

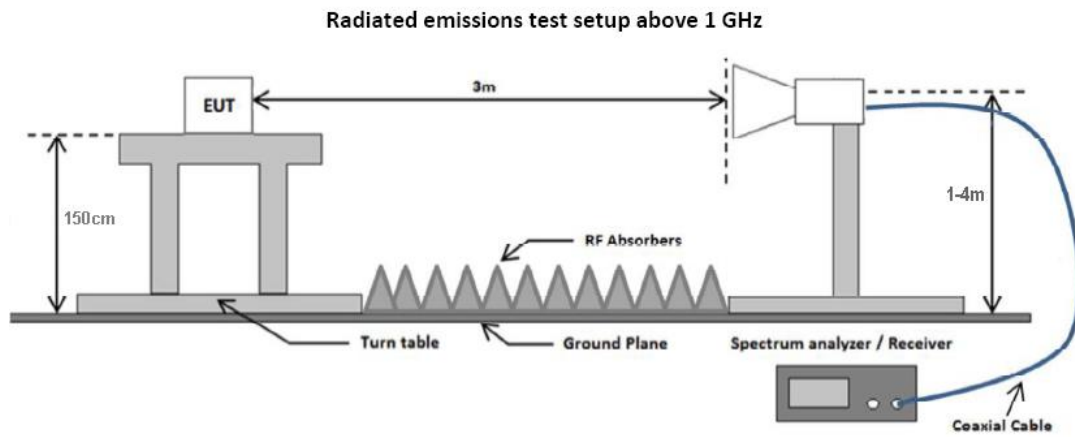
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

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 ($\mu\text{V/m}$)	Measurement Distance (m)
0.009~0.490	$2400/F(\text{kHz})$	300
0.490~1.705	$24000/F(\text{kHz})$	30
1.705~30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 960	200	3
Above 960	500	3

7.2.2 Test Setup





7.2.3 Test Procedure

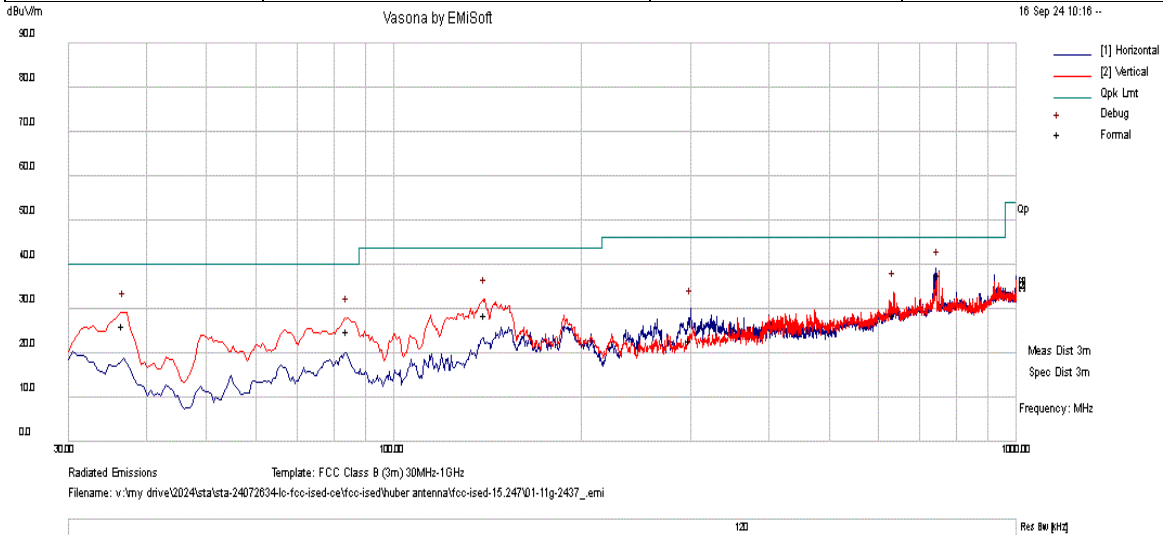
According to section 8.6 in KDB 558074 D01 DTS Meas Guidance v05r02 and subclause 11.12.2.7 Radiated spurious emission measurements in ANSI C63.10-2013 as well as the procedures for maximizing and measuring radiated emissions that are described in ANSI C63.10 was followed. Boresight antenna mast was used during the scanning to point to EUT to maximize the emission. The process will be repeated in 3 EUT orientations.

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 300 Hz for frequency below 150KHz.
4. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 10 kHz for frequency between 150KHz – 30MHz.
5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz 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.

7.2.4 Test Result

RADIATED SPURIOUS EMISSION BELOW 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11g-20m-2437 MHz
Frequency Range:	30 MHz - 1 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



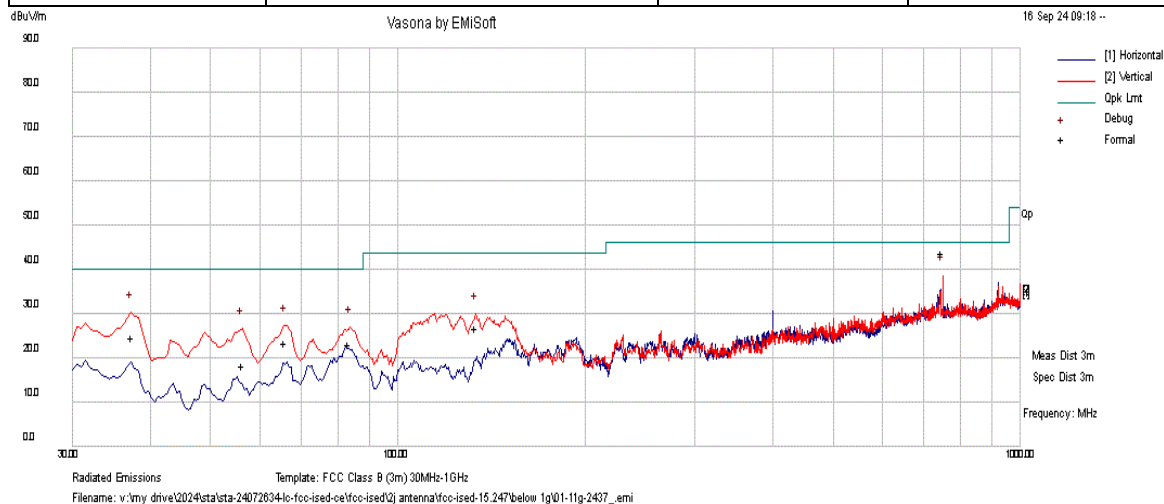
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	750.08	24.71	7.28	5.79	37.78	Quasi Max	H	322	334	46.00	-8.22	Pass
2	36.78	32.70	2.45	-8.97	26.18	Quasi Max	V	110	147	40.00	-13.82	Pass
3	139.94	37.07	4.13	-12.53	28.68	Quasi Max	V	101	172	43.50	-14.82	Pass
4	84.09	36.63	3.37	-14.95	25.05	Quasi Max	V	143	93	40.00	-14.95	Pass
5	635.87	16.42	7.22	4.86	28.50	Quasi Max	V	123	154	46.00	-17.50	Pass
6	299.61	24.18	5.68	-7.08	22.77	Quasi Max	H	102	58	46.00	-23.23	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 SPURIOUS EMISSION BELOW 1GHZ

Test Standard:	15.209, 15.247	Mode:	802.11g-20M, 2437MHz
Frequency Range:	30 MHz - 1 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



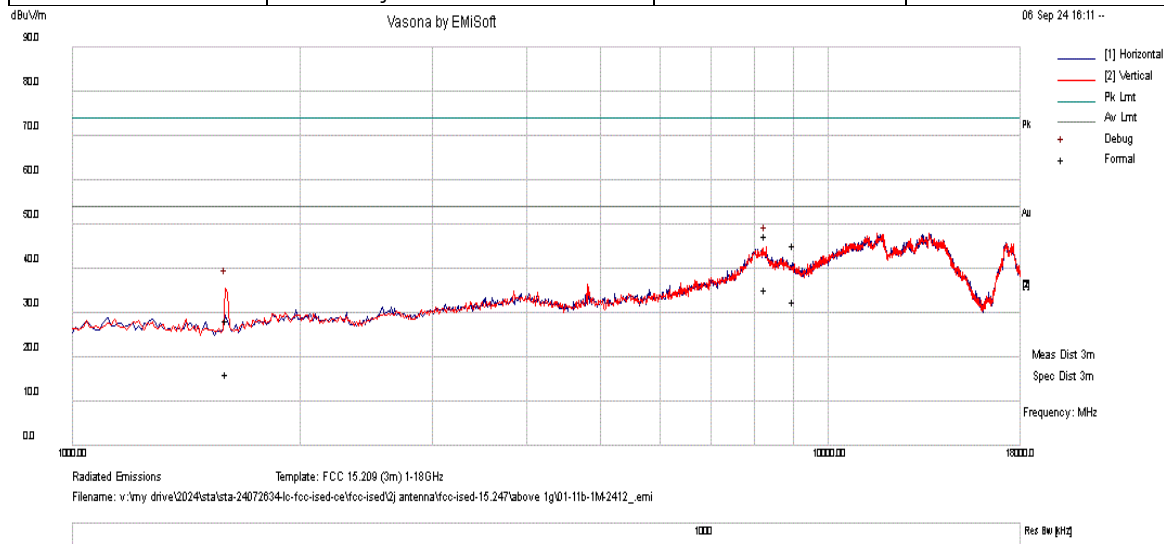
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	750.08	30.74	7.28	5.79	43.80	Quasi Max	V	368	268	46.00	-2.20	Pass
2	37.51	31.55	2.47	-9.39	24.64	Quasi Max	V	138	213	40.00	-15.36	Pass
3	66.03	34.70	3.10	-14.41	23.39	Quasi Max	V	195	78	40.00	-16.61	Pass
4	83.63	34.73	3.36	-14.93	23.17	Quasi Max	V	117	354	40.00	-16.83	Pass
5	56.37	30.55	2.93	-15.15	18.32	Quasi Max	V	348	194	40.00	-21.68	Pass
6	133.34	35.57	4.05	-12.79	26.82	Quasi Max	V	107	78	43.50	-16.68	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 SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11b-20M-2412MHZ
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/06/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



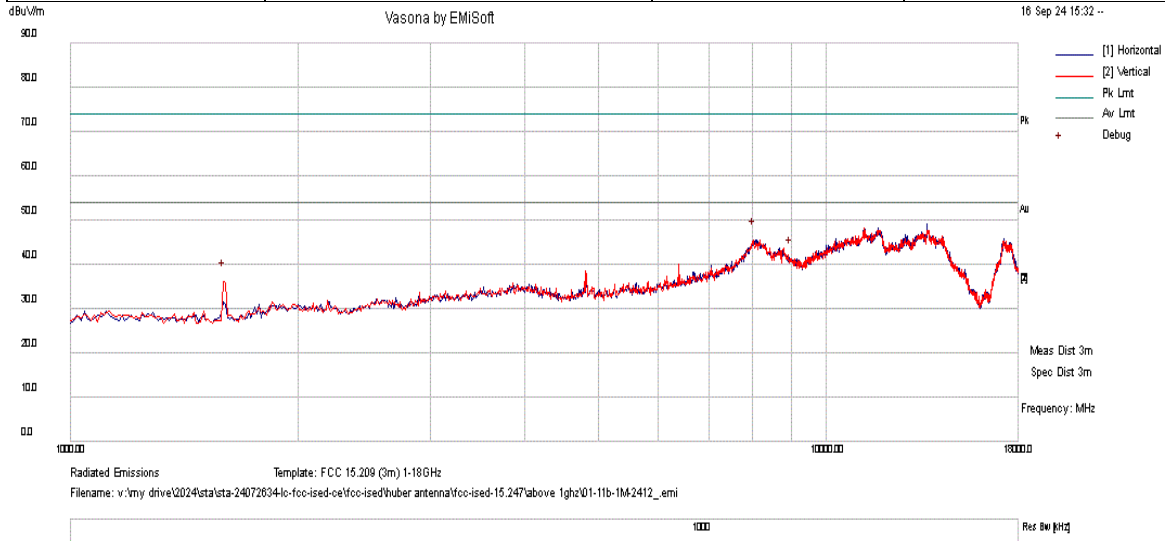
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8288.23	18.01	14.17	15.24	47.42	Peak Max	V	174	14	74.00	-26.59	Pass
2	9011.78	18.55	15.14	11.46	45.16	Peak Max	H	100	83	74.00	-28.85	Pass
3	1598.45	24.31	5.54	-1.59	28.26	Peak Max	V	207	160	74.00	-45.74	Pass
4	8288.23	5.95	14.17	15.24	35.36	Average Max	V	174	14	54.00	-18.64	Pass
5	9011.78	6.01	15.14	11.46	32.61	Average Max	H	100	83	54.00	-21.39	Pass
6	1598.45	12.23	5.54	-1.59	16.19	Average Max	V	207	160	54.00	-37.81	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11b-20M-2412MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



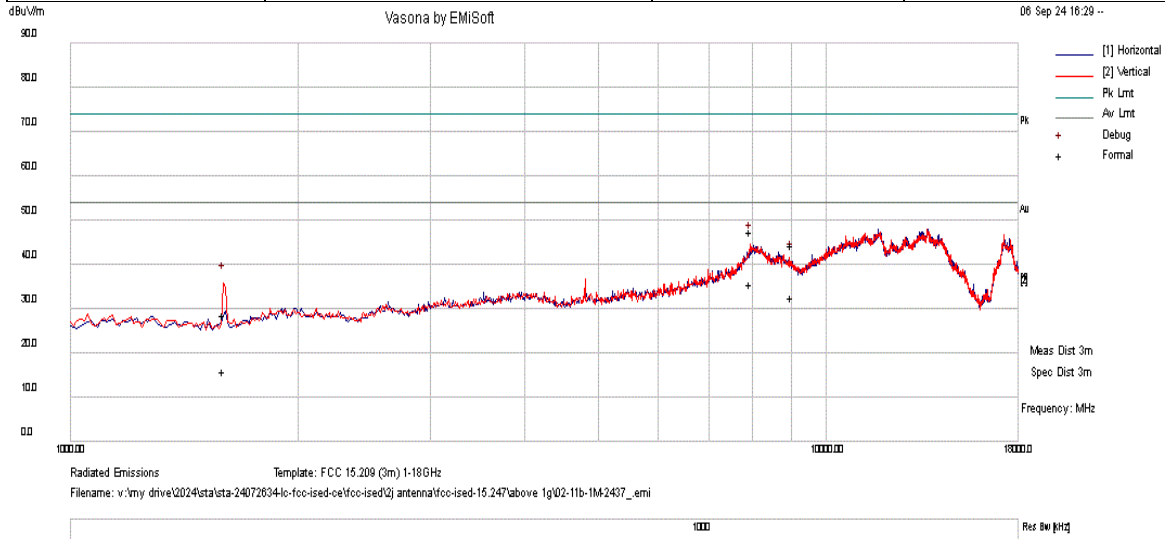
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8023.12	15.36	14.26	15.84	45.46	Peak	V	200	0	54.00	-8.54	Pass
2	1597.78	32.10	5.50	-1.60	36.02	Peak	V	100	360	54.00	-18.00	Pass
3	9000.23	14.47	15.14	11.51	41.12	Peak	H	100	360	54.00	-12.88	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11b-20M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/06/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



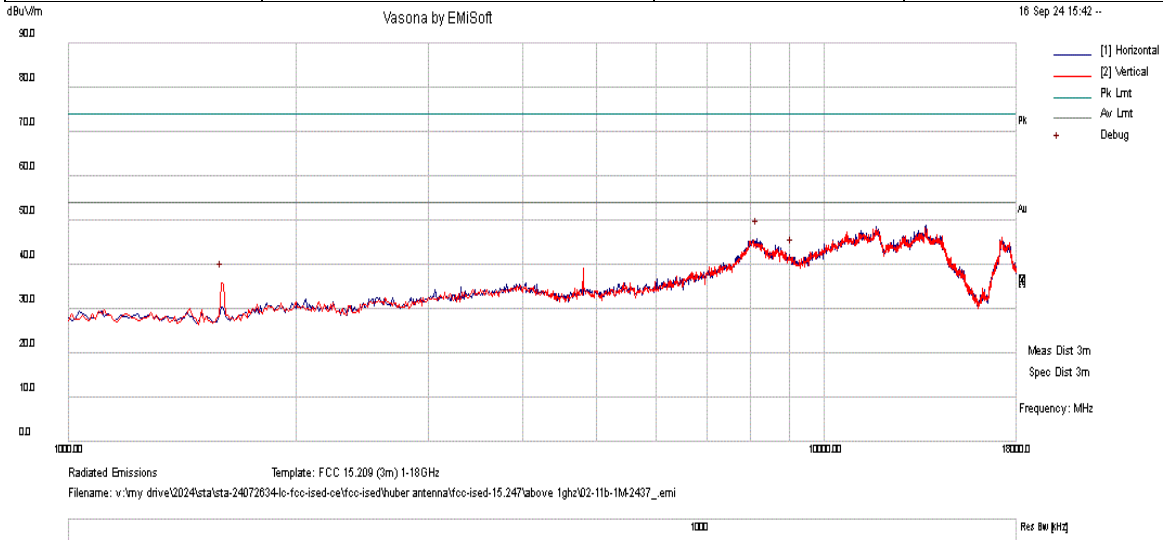
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7949.31	18.07	14.16	15.13	47.35	Peak Max	V	110	127	74.00	-26.65	Pass
2	9024.51	17.72	15.14	11.41	44.28	Peak Max	H	146	170	74.00	-29.72	Pass
3	1595.93	24.57	5.53	-1.60	28.51	Peak Max	H	112	0	74.00	-45.49	Pass
4	7949.31	6.37	14.16	15.13	35.66	Average Max	V	110	127	54.00	-18.34	Pass
5	9024.51	6.06	15.14	11.41	32.61	Average Max	H	146	170	54.00	-21.39	Pass
6	1595.93	11.96	5.53	-1.60	15.90	Average Max	H	112	0	54.00	-38.10	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11b-20M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



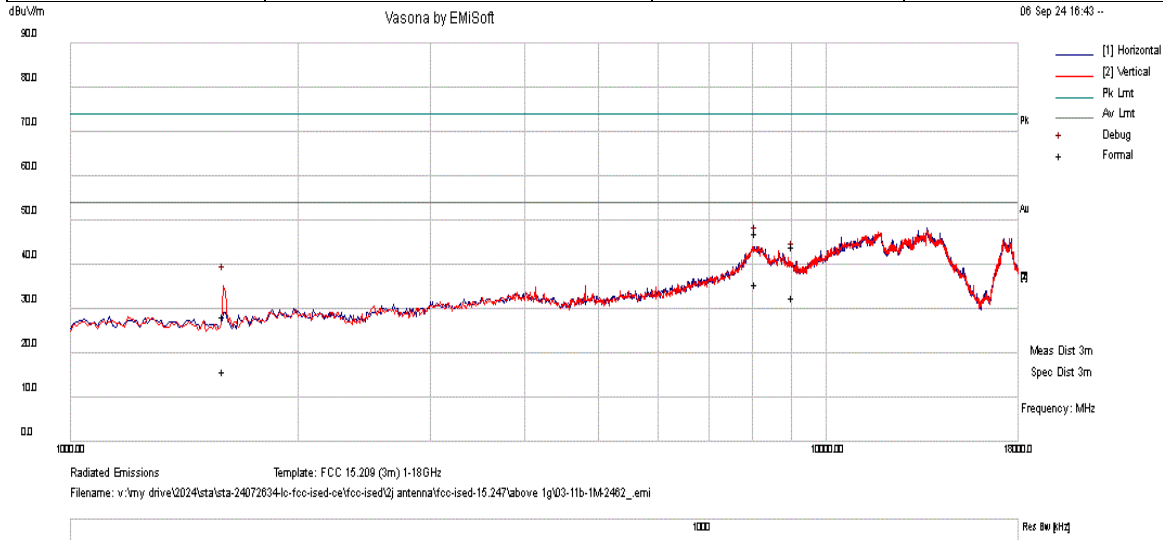
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8161.25	15.75	14.20	15.63	45.58	Peak	H	200	0	54.00	-8.42	Pass
2	1597.7	31.70	5.50	-1.60	35.70	Peak	V	100	360	54.00	-18.30	Pass
3	9066.7	14.90	15.10	11.30	41.34	Peak	V	100	360	54.00	-12.70	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11b-20M-2462MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/06/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



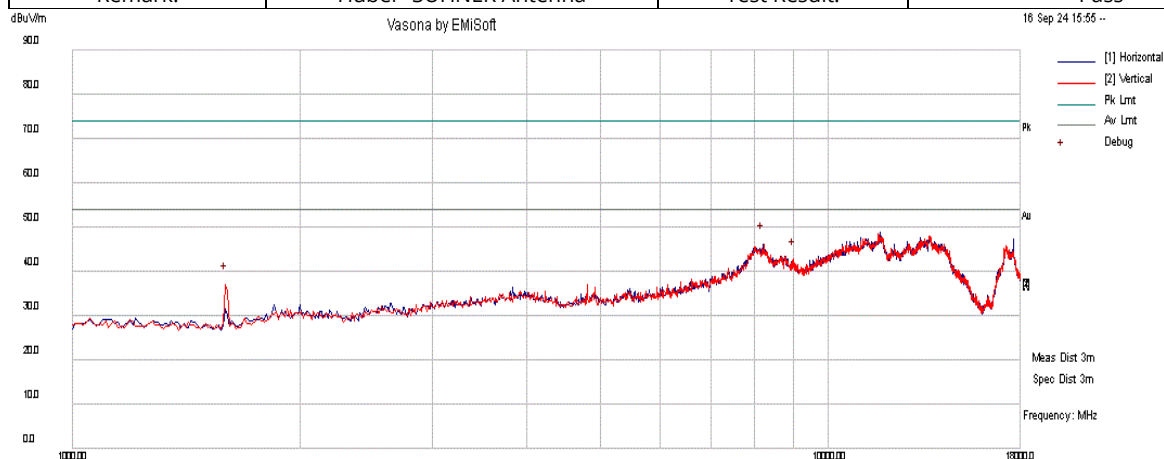
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8099.11	16.99	14.23	15.72	46.94	Peak Max	H	121	170	74.00	-27.06	Pass
2	9035.7	17.55	15.14	11.37	44.06	Peak Max	H	120	132	74.00	-29.94	Pass
3	1593.62	24.42	5.53	-1.60	28.34	Peak Max	V	117	19	74.00	-45.66	Pass
4	8099.11	5.65	14.23	15.72	35.59	Average Max	H	121	170	54.00	-18.41	Pass
5	9035.7	5.95	15.14	11.37	32.45	Average Max	H	120	132	54.00	-21.55	Pass
6	1593.62	12.10	5.53	-1.60	16.03	Average Max	V	117	19	54.00	-37.97	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11b-20M-2462MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



Radiated Emissions
Template: FCC 15.209 (3m) 1-18GHz
Filename: v:\my drive\2024\sta-24072634-lc-fcc-ic-issd-0e1fcc-issd\huber antenna\fcc-issd-15.247\above 1ghz\03-11b-1M-2462_emi

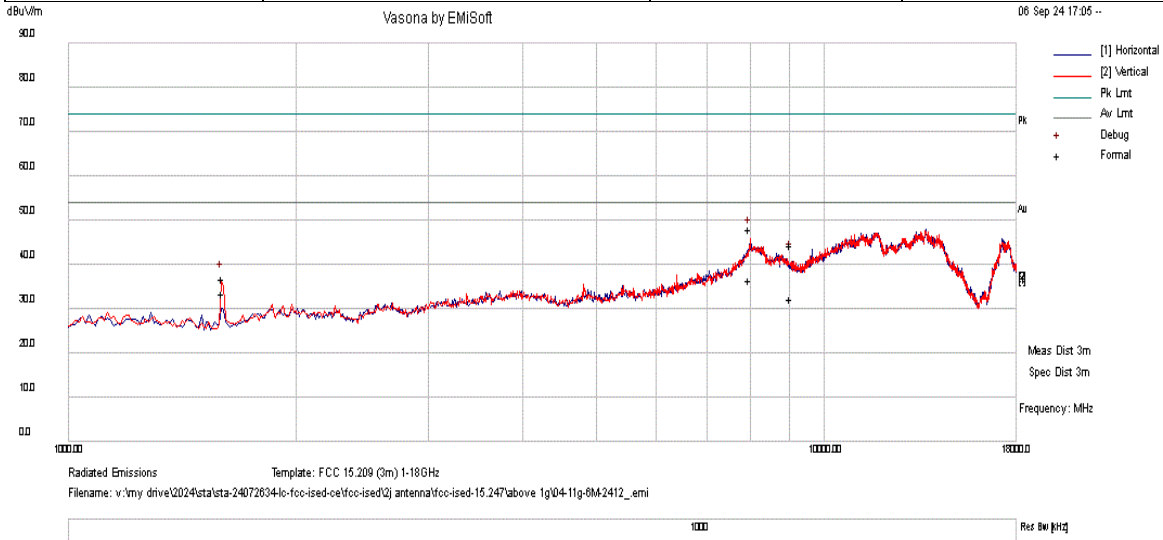
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8203.75	16.28	14.18	15.60	46.07	Peak	H	100	0	54.00	-7.93	Pass
2	1595.21	32.90	5.50	-1.60	36.86	Peak	V	100	360	54.00	-17.10	Pass
3	9011.52	15.90	15.10	11.50	42.51	Peak	V	100	360	54.00	-11.50	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11g-20M-2412MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/10/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



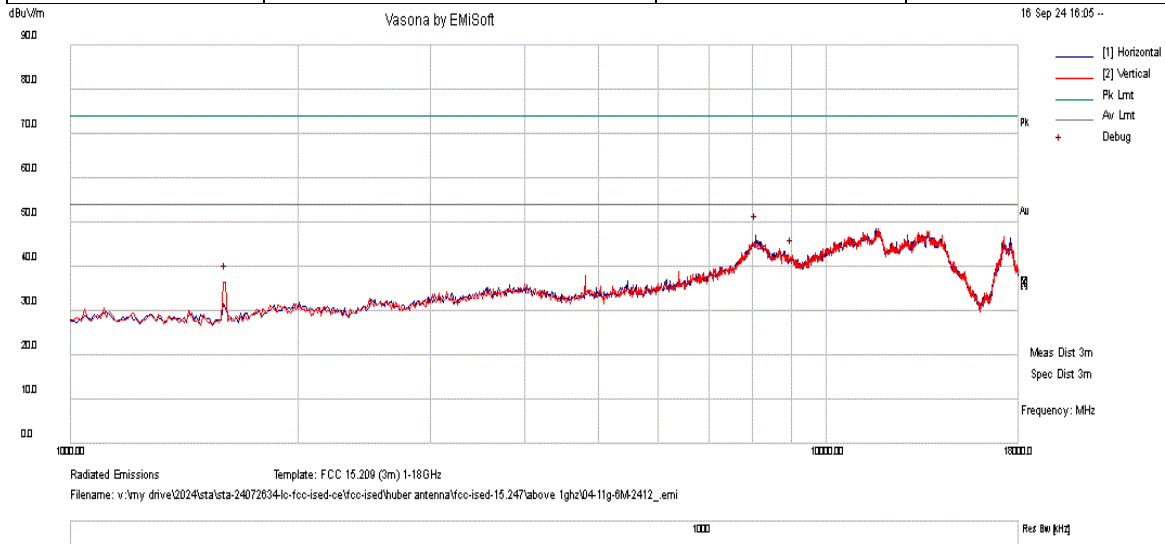
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7989.38	17.96	14.25	15.71	47.91	Peak Max	V	128	58	74.00	-26.09	Pass
2	9054.9	18.00	15.13	11.30	44.44	Peak Max	V	143	56	74.00	-29.57	Pass
3	1599.87	32.72	5.55	-1.58	36.69	Peak Max	V	116	32	74.00	-37.32	Pass
4	7989.38	6.41	14.25	15.71	36.37	Average Max	V	128	58	54.00	-17.64	Pass
5	9054.9	5.74	15.13	11.30	32.17	Average Max	V	143	56	54.00	-21.83	Pass
6	1599.87	29.53	5.55	-1.58	33.50	Average Max	V	116	32	54.00	-20.50	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11g-20M-2412MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



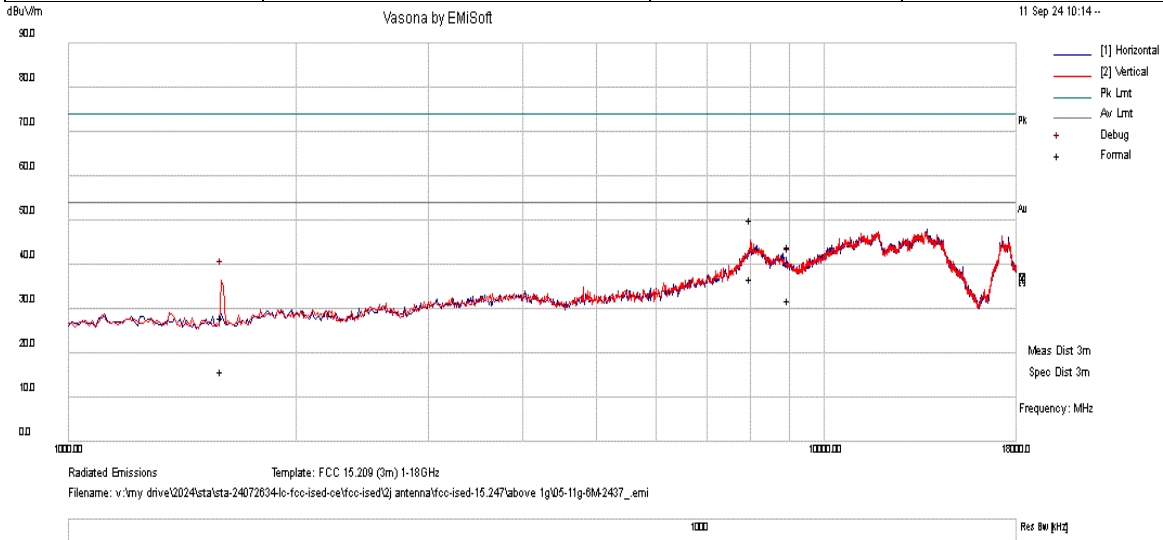
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8086.88	17.02	14.23	15.75	47.00	Peak	H	100	0	54.00	-7.01	Pass
2	1606.35	31.70	5.60	-1.60	35.70	Peak	V	100	360	54.00	-18.30	Pass
3	9025.02	14.80	15.10	11.40	41.36	Peak	V	100	360	54.00	-12.60	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11g-20M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



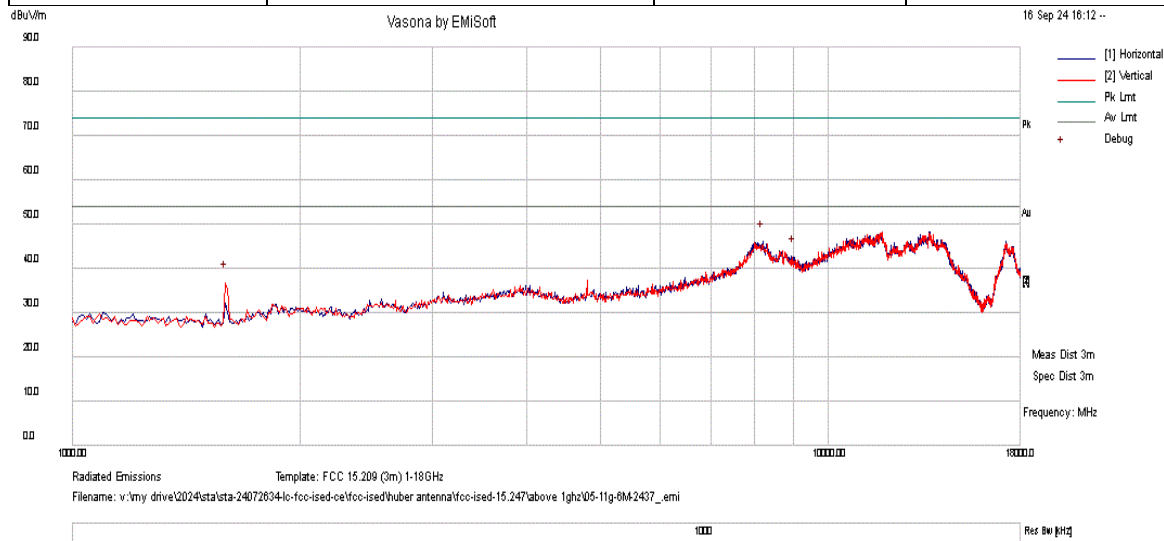
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8002.77	19.98	14.27	15.86	50.11	Peak Max	V	174	24	74.00	-23.89	Pass
2	9001.98	17.26	15.14	11.50	43.90	Peak Max	H	173	49	74.00	-30.10	Pass
3	1595.16	24.04	5.53	-1.60	27.97	Peak Max	V	146	0	74.00	-46.03	Pass
4	8002.77	6.51	14.27	15.86	36.64	Average Max	V	174	24	54.00	-17.37	Pass
5	9001.98	5.23	15.14	11.50	31.87	Average Max	H	173	49	54.00	-22.13	Pass
6	1595.16	12.04	5.53	-1.60	15.97	Average Max	V	146	0	54.00	-38.03	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11g-20M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



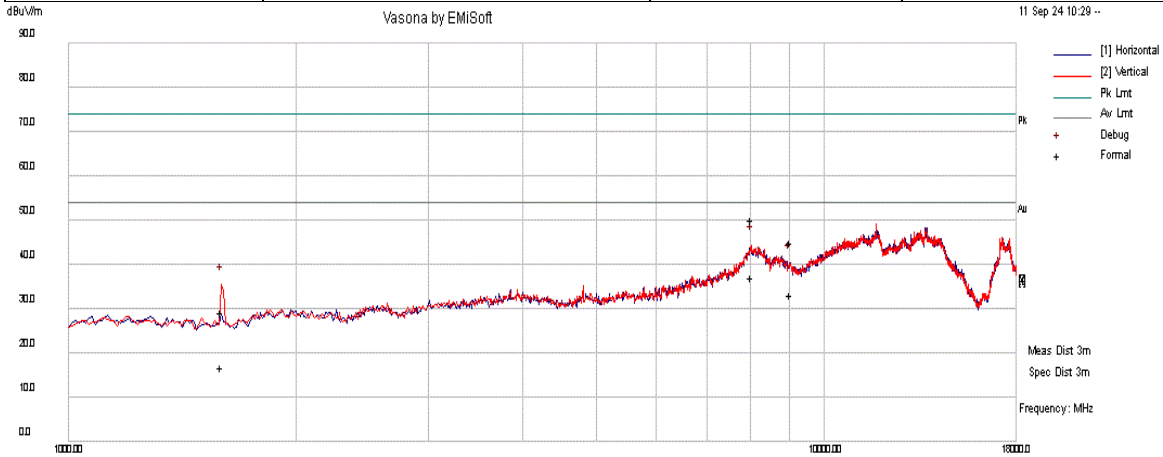
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8203.75	16.06	14.18	15.60	45.85	Peak	H	100	0	54.00	-8.16	Pass
2	1595.0	32.60	5.53	-1.60	36.54	Peak	V	200	0	54.00	-17.47	Pass
3	9030.15	15.80	15.10	11.40	42.33	Peak	V	100	360	54.00	-11.70	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11g-20M-2462MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



Radiated Emissions Template: FCC 15.209 (3m) 1-18GHz
Filename: v:\my drive\2024\sta\sta-24072634-lc-fcc-ic-rf-dts\2 antenna\fcc-ic-rf-dts-15.247\above 1g\06-11g-6M2462_emi

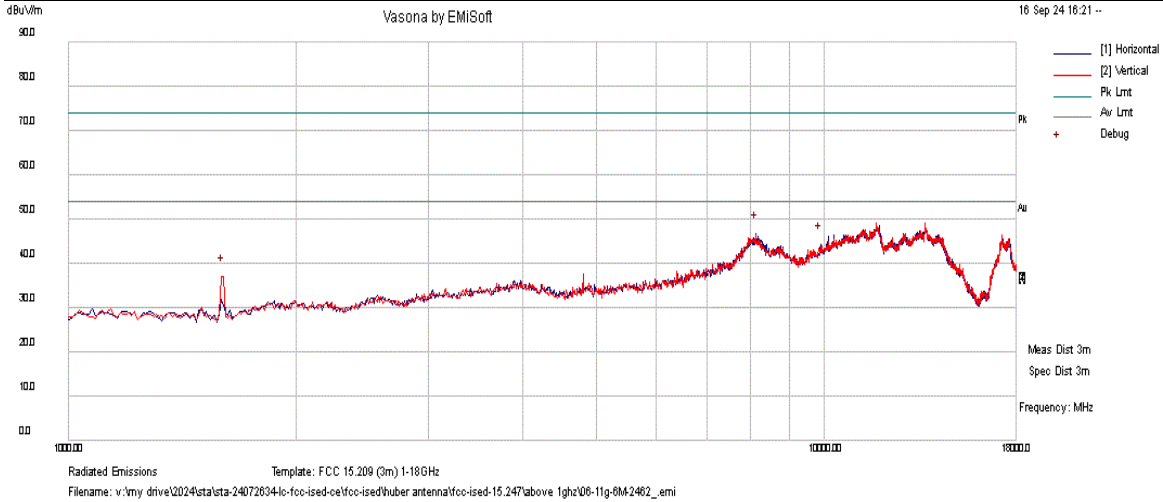
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8021.66	20.09	14.26	15.84	50.19	Peak Max	V	152	0	74.00	-23.81	Pass
2	9035.91	18.55	15.14	11.37	45.05	Peak Max	H	126	0	74.00	-28.95	Pass
3	1595.14	25.38	5.53	-1.60	29.32	Peak Max	V	154	124	74.00	-44.69	Pass
4	8021.66	6.95	14.26	15.84	37.05	Average Max	V	152	0	54.00	-16.95	Pass
5	9035.91	6.71	15.14	11.37	33.21	Average Max	H	126	0	54.00	-20.79	Pass
6	1595.14	12.76	5.53	-1.60	16.69	Average Max	V	154	124	54.00	-37.31	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11g-20M-2462MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



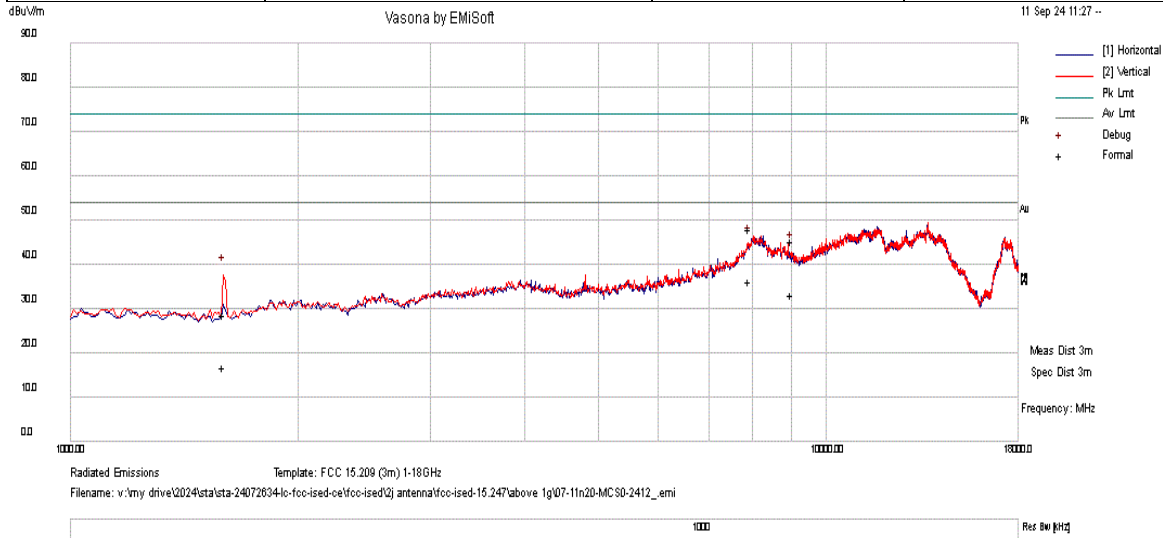
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8129.38	16.78	14.21	15.67	46.66	Peak	H	200	0	54.00	-7.34	Pass
2	1598.59	33.01	5.54	-1.59	36.97	Peak	H	100	360	54.00	-17.03	Pass
3	9902.9	15.09	16.50	12.60	44.19	Peak	H	100	360	54.00	-9.81	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n-20M-2412MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



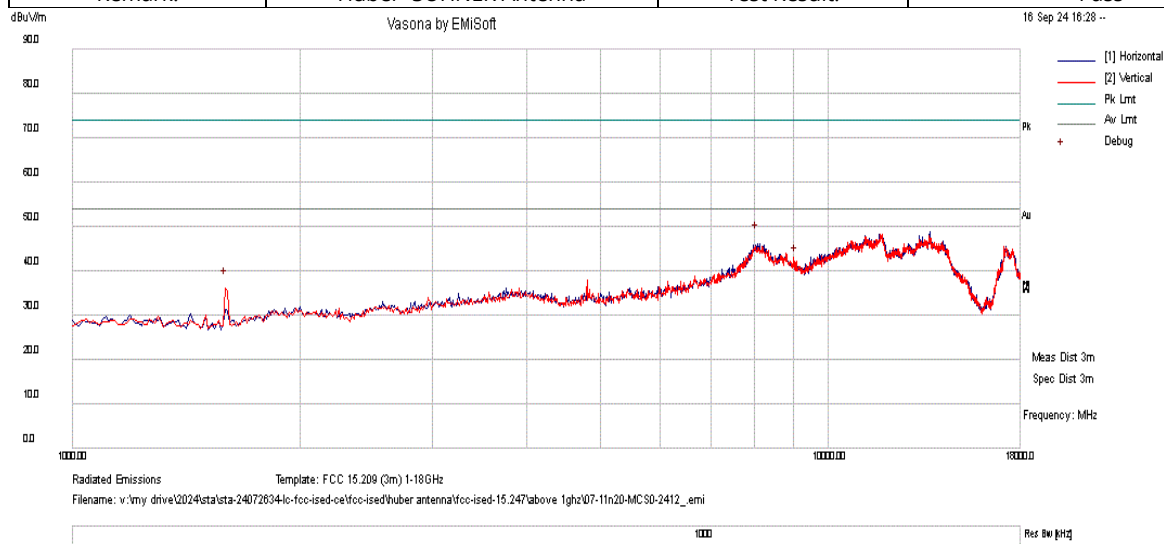
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7937.72	18.93	14.13	14.97	48.02	Peak Max	H	181	0	74.00	-25.98	Pass
2	9027.05	18.65	15.14	11.40	45.19	Peak Max	H	139	0	74.00	-28.81	Pass
3	1595.95	24.80	5.54	-1.60	28.74	Peak Max	H	140	158	74.00	-45.26	Pass
4	7937.72	7.05	14.13	14.97	36.15	Average Max	H	181	0	54.00	-17.86	Pass
5	9027.05	6.75	15.14	11.40	33.30	Average Max	H	139	0	54.00	-20.71	Pass
6	1595.95	12.92	5.54	-1.60	16.86	Average Max	H	140	158	54.00	-37.14	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n-20M-2412MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



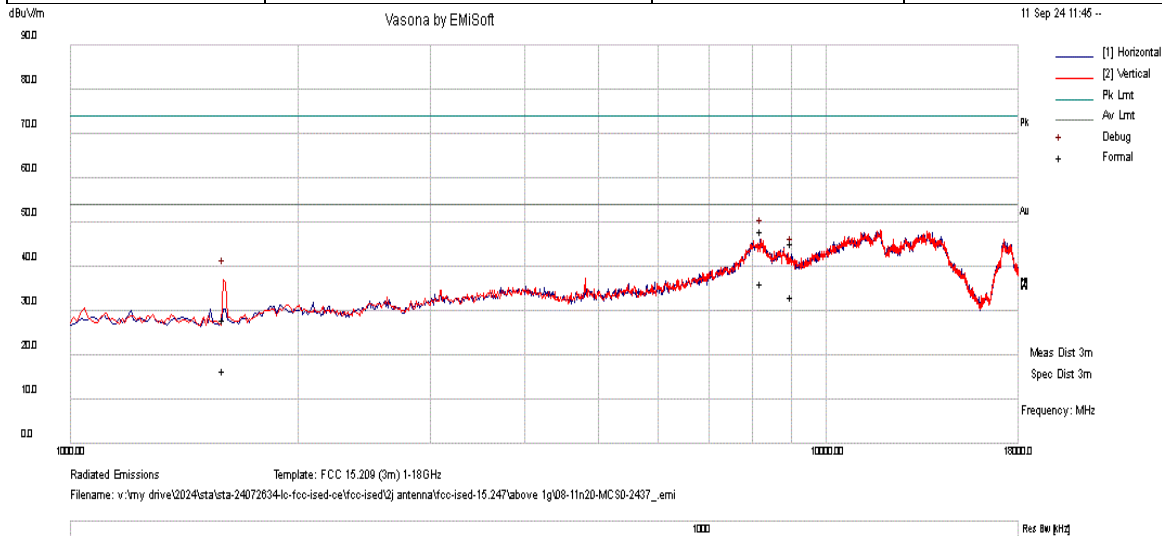
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8065.62	16.10	14.24	15.79	46.13	Peak	H	200	0	54.00	-7.87	Pass
2	1597.28	31.90	5.50	-1.60	35.89	Peak	V	100	360	54.00	-18.10	Pass
3	9068.2	14.51	15.13	11.26	40.90	Peak	H	100	360	54.00	-13.10	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n20M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



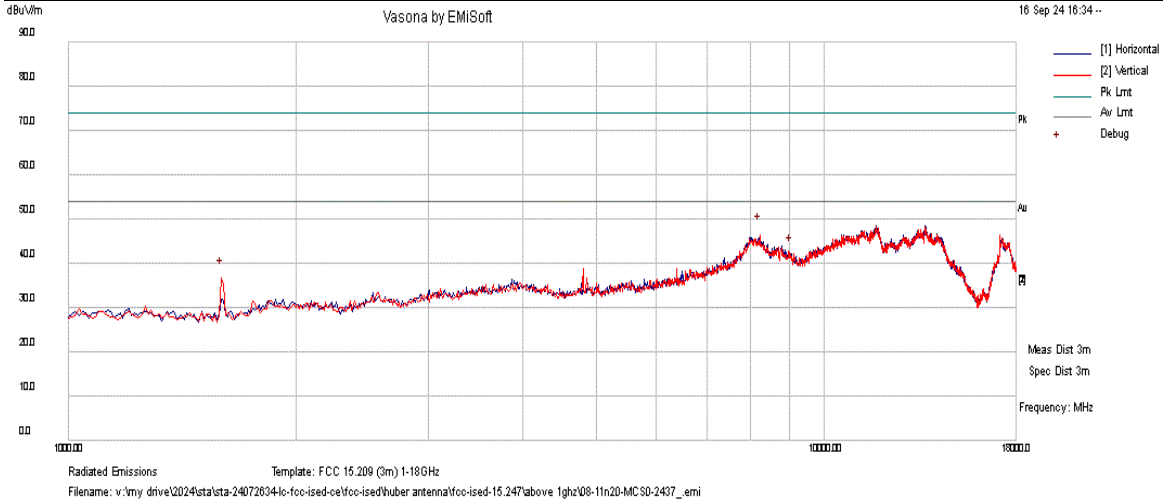
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8223.67	18.24	14.17	15.61	48.02	Peak Max	V	135	28	74.00	-25.98	Pass
2	9034.23	18.78	15.14	11.38	45.30	Peak Max	H	158	32	74.00	-28.70	Pass
3	1594.6	23.92	5.53	-1.60	27.85	Peak Max	V	430	180	74.00	-46.15	Pass
4	8223.67	6.48	14.17	15.61	36.26	Average Max	V	135	28	54.00	-17.74	Pass
5	9034.23	6.59	15.14	11.38	33.10	Average Max	H	158	32	54.00	-20.90	Pass
6	1594.6	12.45	5.53	-1.60	16.38	Average Max	V	430	180	54.00	-37.62	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n20-M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



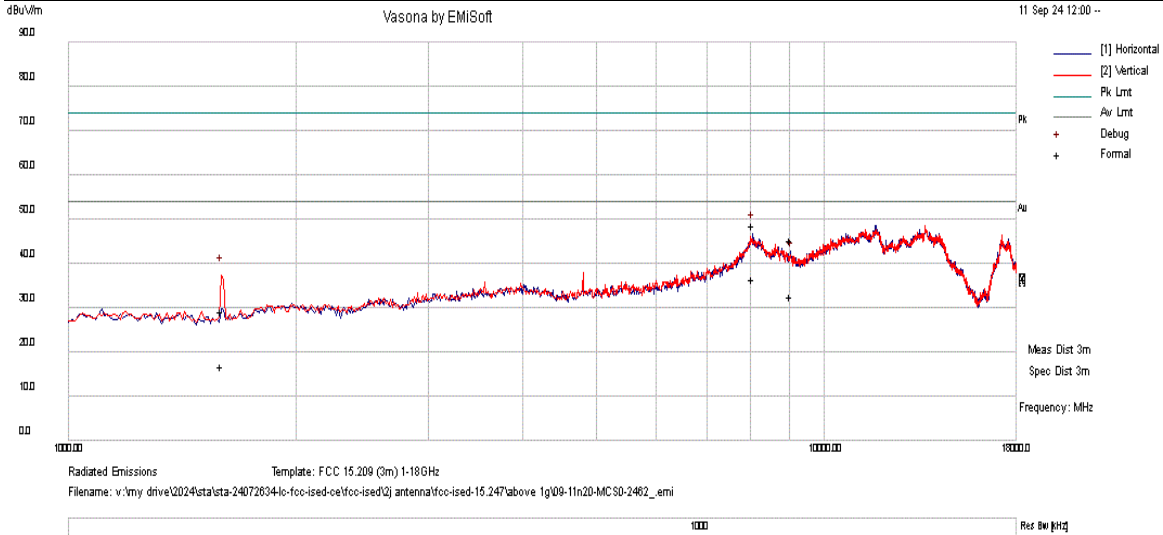
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8235.62	16.54	14.16	15.62	46.33	Peak	V	100	0	54.00	-7.68	Pass
2	1596.5	32.40	5.50	-1.60	36.37	Peak	V	100	360	54.00	-17.60	Pass
3	9038.28	14.88	15.14	11.36	41.38	Peak	H	100	360	54.00	-12.62	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n20M-2462MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



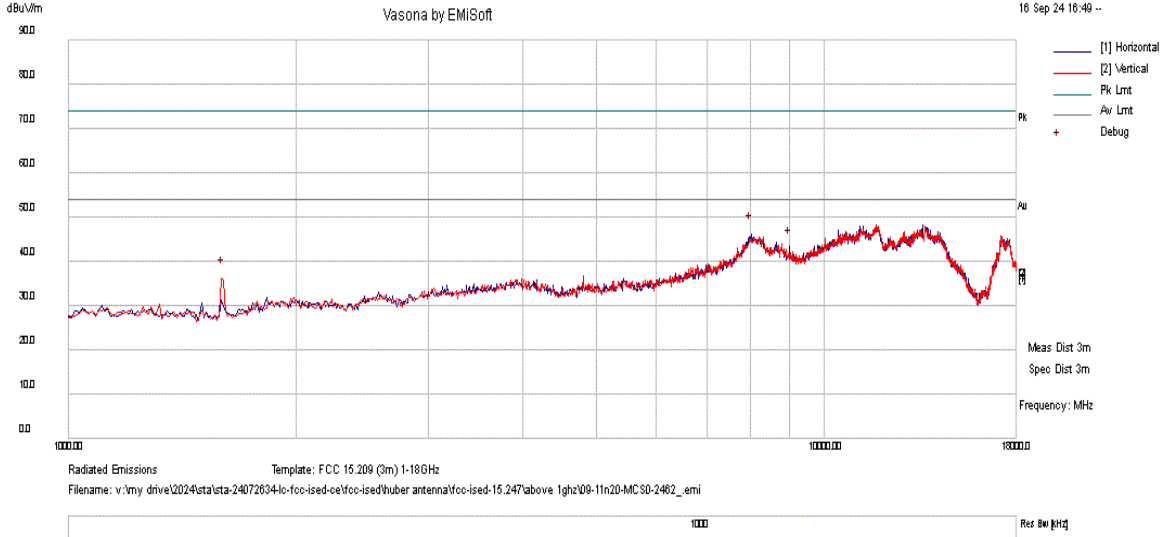
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8056.59	18.40	14.24	15.81	48.46	Peak Max	H	126	36	74.00	-25.54	Pass
2	9063.18	18.77	15.13	11.27	45.18	Peak Max	H	107	84	74.00	-28.82	Pass
3	1593.98	25.21	5.53	-1.60	29.13	Peak Max	V	100	158	74.00	-44.87	Pass
4	8056.59	6.43	14.24	15.81	36.48	Average Max	H	126	36	54.00	-17.52	Pass
5	9063.18	6.22	15.13	11.27	32.63	Average Max	H	107	84	54.00	-21.37	Pass
6	1593.98	12.80	5.53	-1.60	16.73	Average Max	V	100	158	54.00	-37.27	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n20M-2462MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



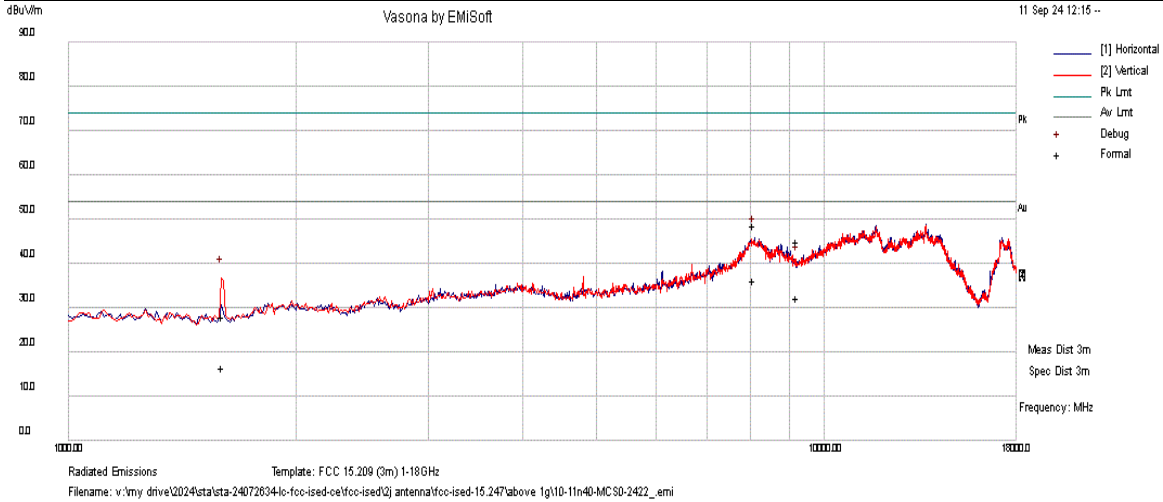
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8012.5	15.81	14.26	15.85	45.92	Peak	H	100	0	54.00	-8.08	Pass
2	1598.37	32.00	5.50	-1.60	35.93	Peak	V	100	360	54.00	-18.10	Pass
3	9013.57	16.21	15.14	11.46	42.81	Peak	H	100	360	54.00	-11.19	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n40M-2422MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



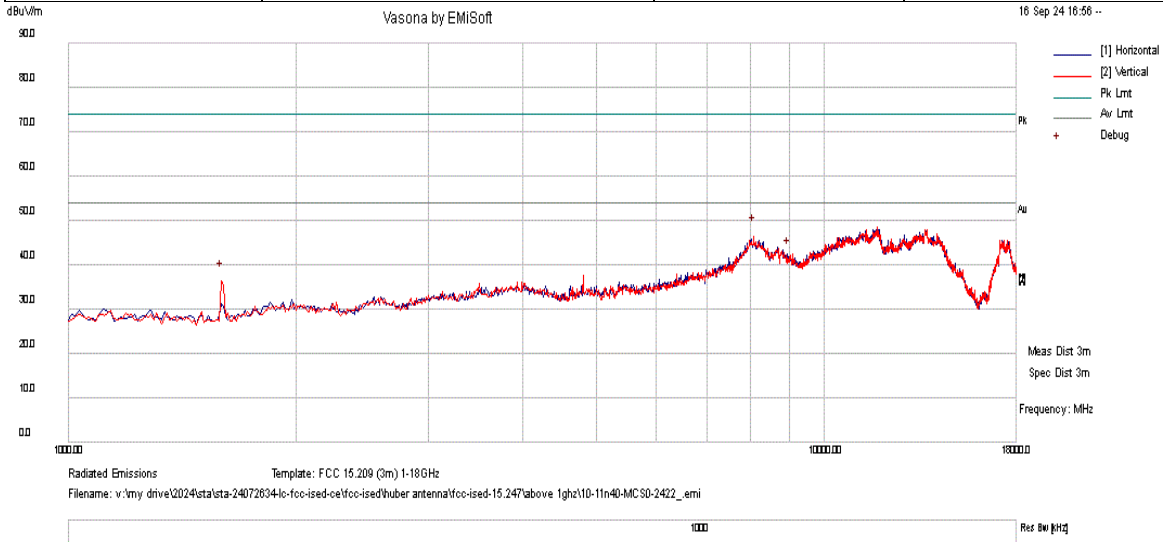
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8099.32	18.71	14.23	15.72	48.66	Peak Max	H	100	24	74.00	-25.34	Pass
2	9218.16	18.82	15.12	10.94	44.88	Peak Max	H	184	108	74.00	-29.12	Pass
3	1598.28	24.18	5.54	-1.59	28.13	Peak Max	H	198	108	74.00	-45.87	Pass
4	8099.32	6.27	14.23	15.72	36.21	Average Max	H	100	24	54.00	-17.79	Pass
5	9218.16	6.09	15.12	10.94	32.15	Average Max	H	184	108	54.00	-21.85	Pass
6	1598.28	12.44	5.54	-1.59	16.39	Average Max	H	198	108	54.00	-37.61	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n40-M-2422MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



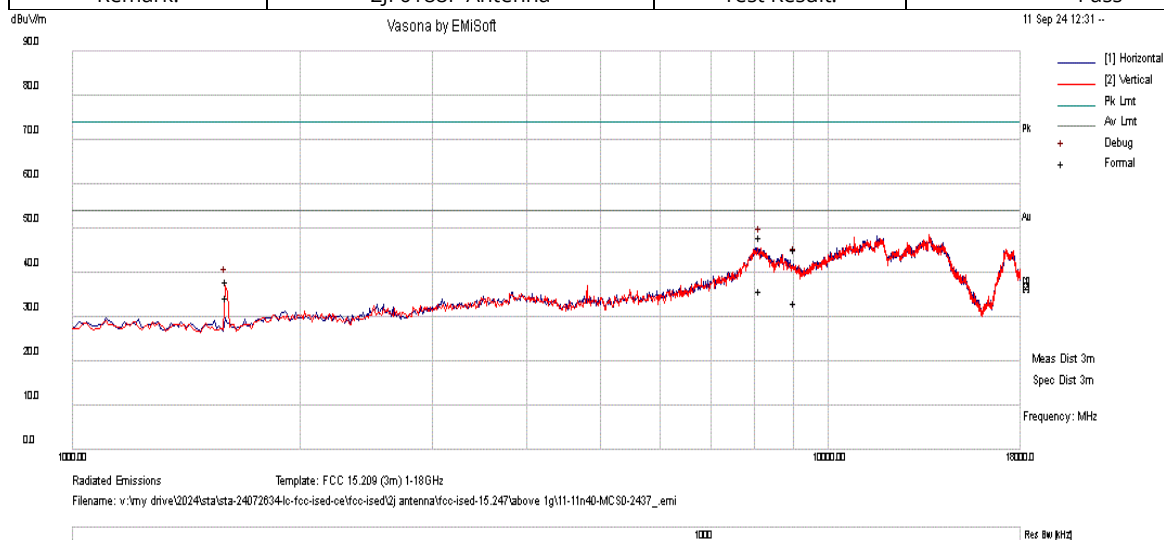
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8076.25	16.37	14.24	15.77	46.38	Peak	V	200	0	54.00	-7.62	Pass
2	1596.91	32.10	5.50	-1.60	36.05	Peak	V	100	360	54.00	-18.00	Pass
3	8978.72	14.37	15.28	11.57	41.22	Peak	H	100	360	54.00	-12.78	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n40-M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



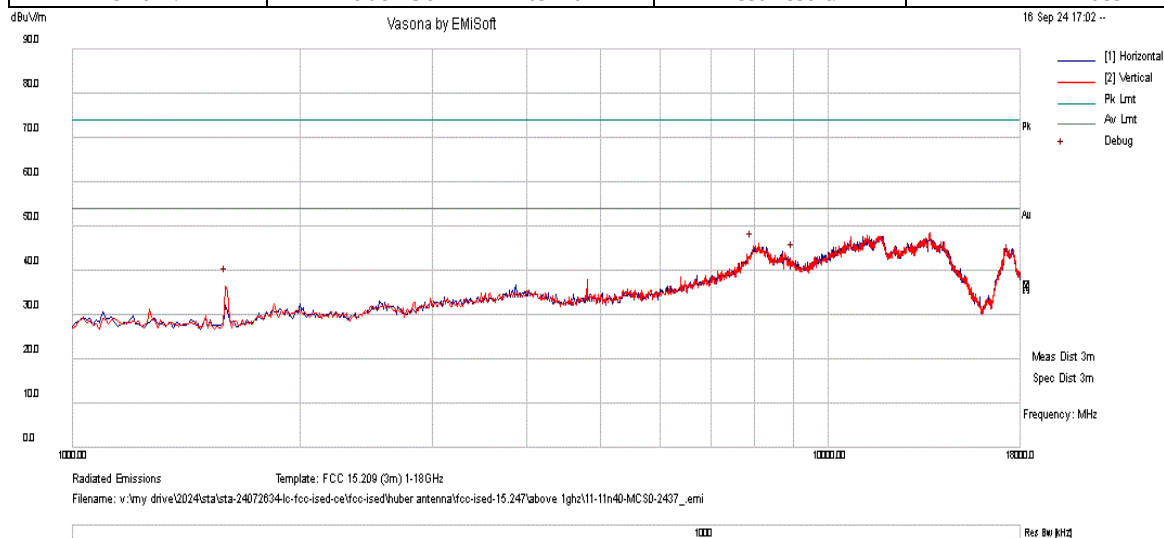
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8148.72	18.03	14.20	15.64	47.87	Peak Max	V	158	175	74.00	-26.13	Pass
2	9034.55	18.83	15.14	11.37	45.34	Peak Max	H	168	70	74.00	-28.66	Pass
3	1599.99	33.94	5.55	-1.58	37.90	Peak Max	V	127	0	74.00	-36.10	Pass
4	8148.72	6.09	14.20	15.64	35.93	Average Max	V	158	175	54.00	-18.07	Pass
5	9034.55	6.55	15.14	11.37	33.06	Average Max	H	168	70	54.00	-20.94	Pass
6	1599.99	30.50	5.55	-1.58	34.47	Average Max	V	127	0	54.00	-19.53	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n40-M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/16/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



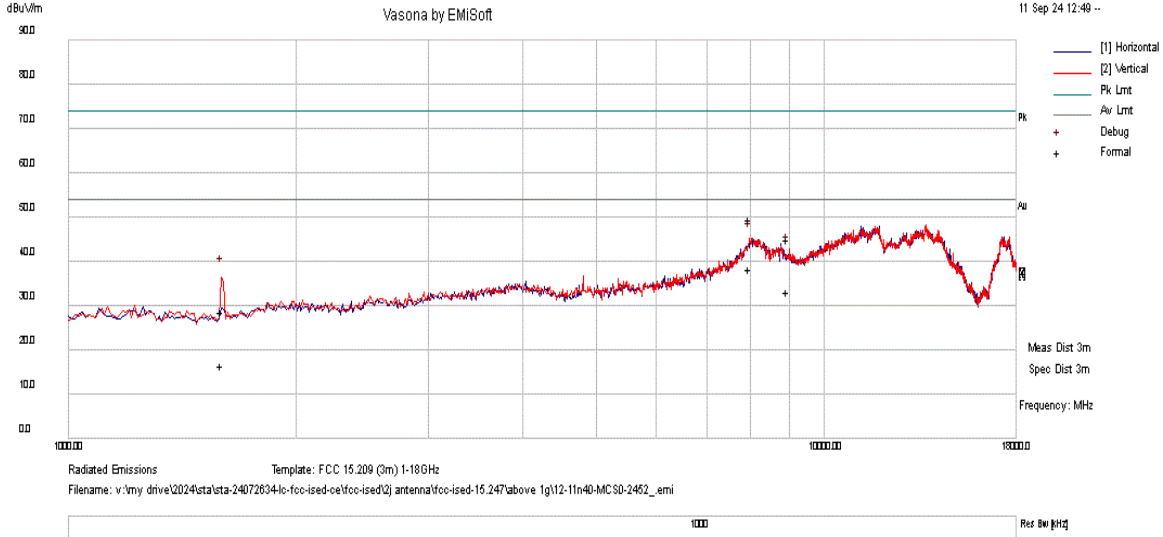
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1595.0	32.26	5.53	-1.60	36.19	Peak	V	200	0	54.00	-17.81	Pass
2	7916.53	15.20	14.08	14.67	43.96	Peak	H	100	360	54.00	-10.04	Pass
3	9004.4	14.99	15.14	11.49	41.62	Peak	H	100	360	54.00	-12.38	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n40M-2452MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



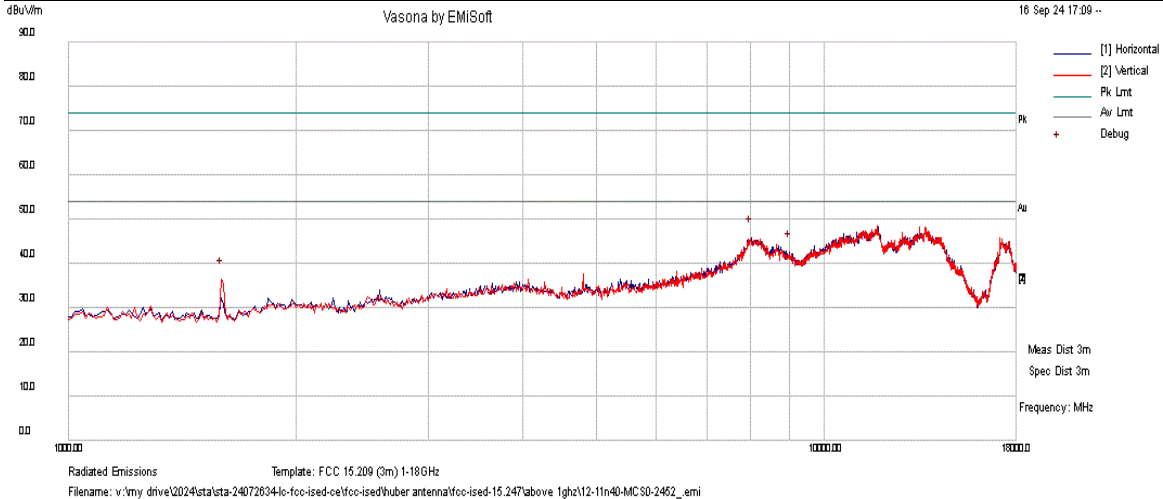
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7986.95	19.45	14.24	15.67	49.36	Peak Max	H	160	174	74.00	-24.64	Pass
2	8968.31	17.91	15.35	11.60	44.86	Peak Max	H	158	20	74.00	-29.14	Pass
3	1595.13	24.73	5.53	-1.60	28.66	Peak Max	V	182	26	74.00	-45.34	Pass
4	7986.95	8.39	14.24	15.67	38.30	Average Max	H	160	174	54.00	-15.70	Pass
5	8968.31	6.10	15.35	11.60	33.06	Average Max	H	158	20	54.00	-20.94	Pass
6	1595.13	12.44	5.53	-1.60	16.37	Average Max	V	182	26	54.00	-37.63	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11n40M-2452MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/17/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



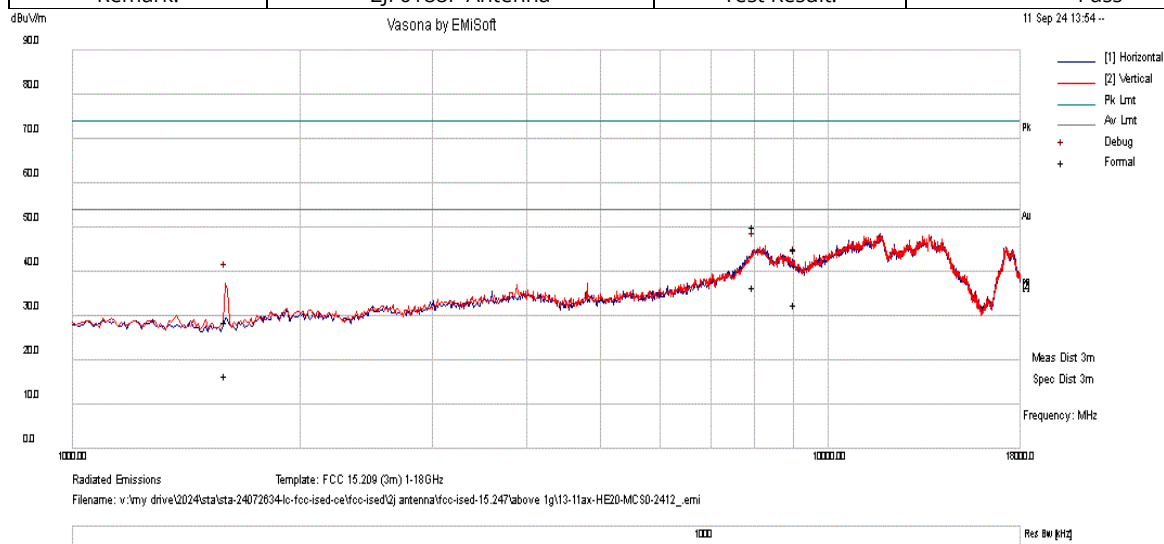
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8012.5	15.66	14.26	15.85	45.78	Peak	H	200	0	54.00	-8.22	Pass
2	1595.0	32.46	5.53	-1.60	36.39	Peak	V	200	0	54.00	-17.61	Pass
3	9019.47	15.84	15.14	11.43	42.41	Peak	H	100	360	54.00	-11.59	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11ax-HE20M-2412MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



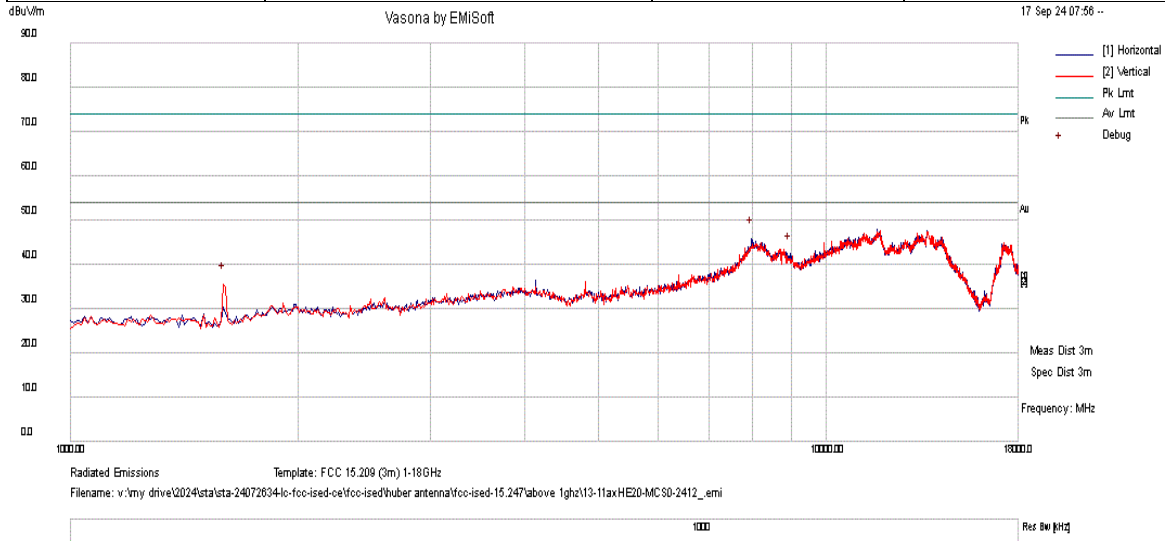
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7972.6	20.40	14.21	15.46	50.08	Peak Max	H	177	49	74.00	-23.92	Pass
2	9054.38	18.40	15.13	11.30	44.83	Peak Max	H	118	0	74.00	-29.17	Pass
3	1595.79	24.54	5.53	-1.60	28.47	Peak Max	V	109	16	74.00	-45.53	Pass
4	7972.6	6.89	14.21	15.46	36.56	Average Max	H	177	49	54.00	-17.44	Pass
5	9054.38	6.19	15.13	11.30	32.63	Average Max	H	118	0	54.00	-21.37	Pass
6	1595.79	12.60	5.53	-1.60	16.54	Average Max	V	109	16	54.00	-37.46	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE20M-2412MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/17/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



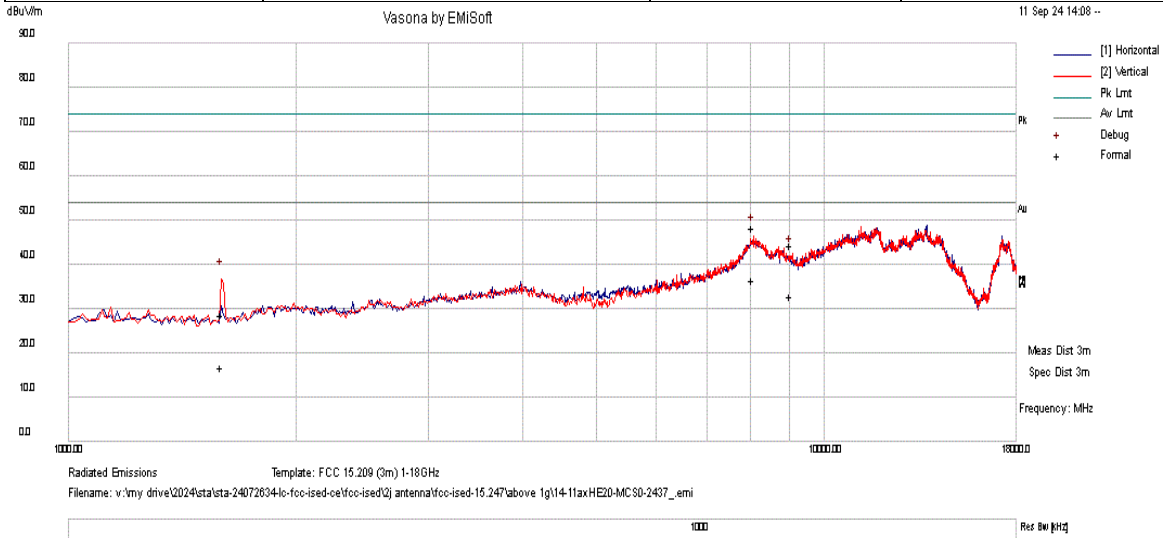
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7980.62	15.81	14.23	15.58	45.61	Peak	H	100	0	54.00	-8.39	Pass
2	1595.0	31.48	5.53	-1.60	35.42	Peak	V	200	0	54.00	-18.58	Pass
3	8971.32	15.05	15.33	11.59	41.97	Peak	H	100	360	54.00	-12.03	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE20M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



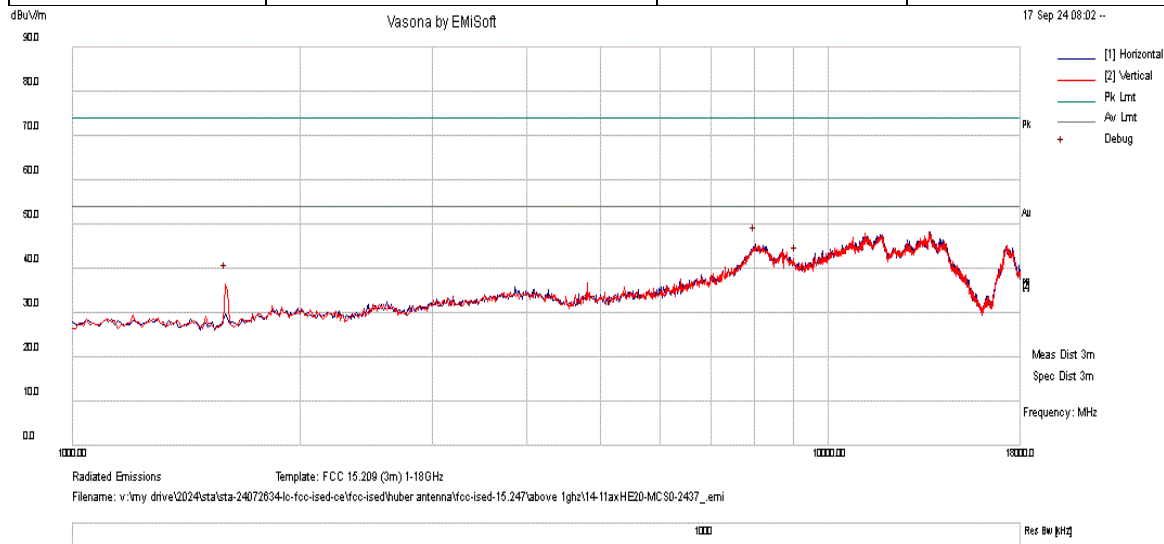
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8066.98	18.40	14.24	15.79	48.43	Peak Max	V	207	106	74.00	-25.57	Pass
2	9036.89	17.90	15.14	11.37	44.40	Peak Max	V	111	60	74.00	-29.60	Pass
3	1593.44	24.74	5.53	-1.61	28.67	Peak Max	V	178	148	74.00	-45.33	Pass
4	8066.98	6.34	14.24	15.79	36.37	Average Max	V	207	106	54.00	-17.63	Pass
5	9036.89	6.48	15.14	11.37	32.98	Average Max	V	111	60	54.00	-21.02	Pass
6	1593.44	12.80	5.53	-1.61	16.73	Average Max	V	178	148	54.00	-37.27	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE20M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/17/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



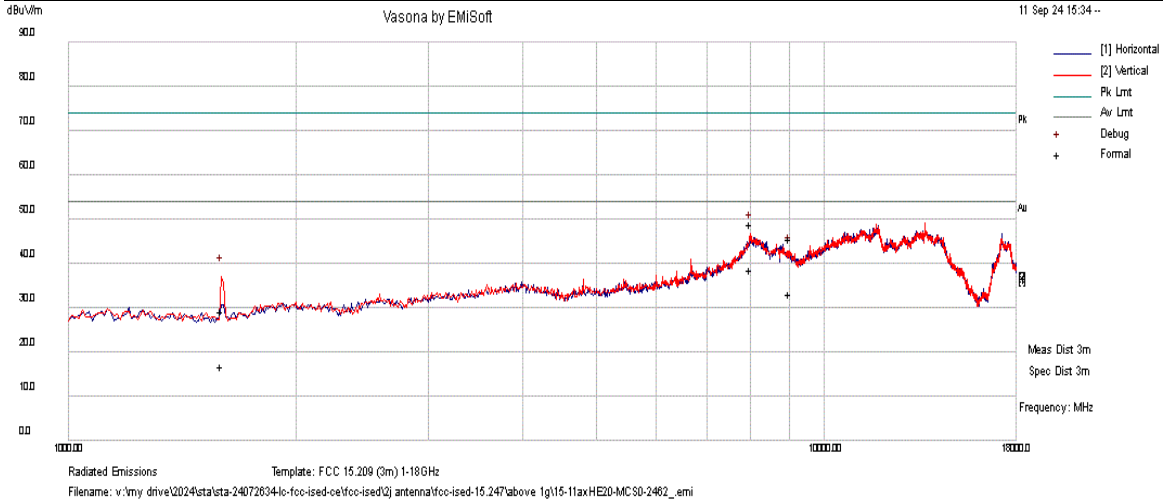
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1595.0	32.41	5.53	-1.60	36.34	Peak	V	200	0	54.00	-17.66	Pass
2	8018.47	14.80	14.30	15.80	44.92	Peak	V	100	360	54.00	-9.10	Pass
3	9068.2	13.92	15.13	11.26	40.31	Peak	H	100	360	54.00	-13.69	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE20M-2462MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



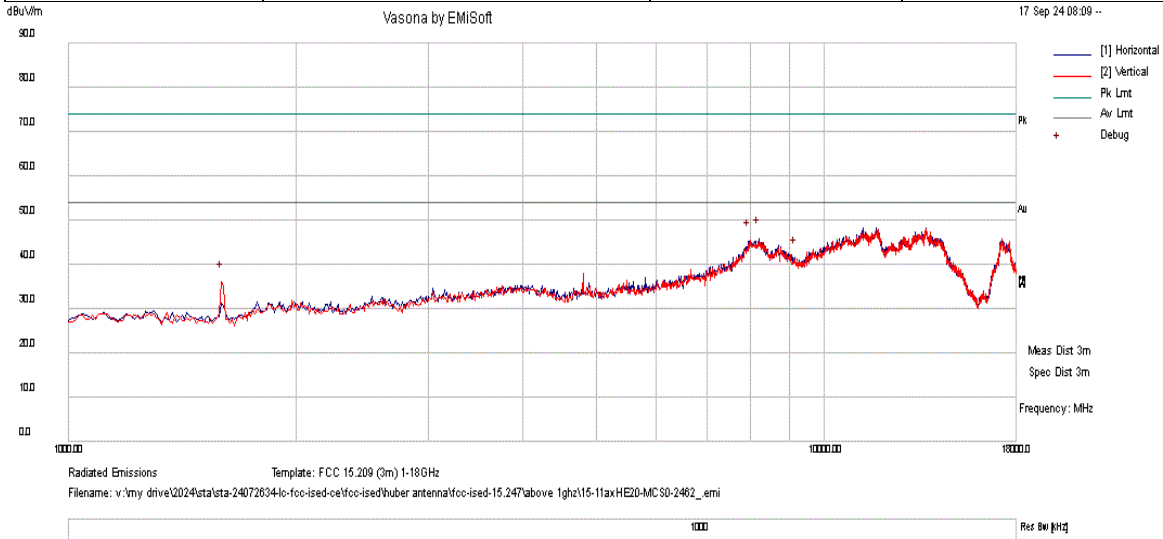
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8002.0	18.88	14.27	15.86	49.01	Peak Max	V	145	0	74.00	-25.00	Pass
2	9027.61	18.97	15.14	11.40	45.51	Peak Max	H	119	27	74.00	-28.49	Pass
3	1594.79	25.14	5.53	-1.60	29.07	Peak Max	V	102	20	74.00	-44.93	Pass
4	8002.0	8.52	14.27	15.86	38.65	Average Max	V	145	0	54.00	-15.35	Pass
5	9027.61	6.70	15.14	11.40	33.24	Average Max	H	119	27	54.00	-20.76	Pass
6	1594.79	12.79	5.53	-1.60	16.72	Average Max	V	102	20	54.00	-37.28	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE20M-2462MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/17/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



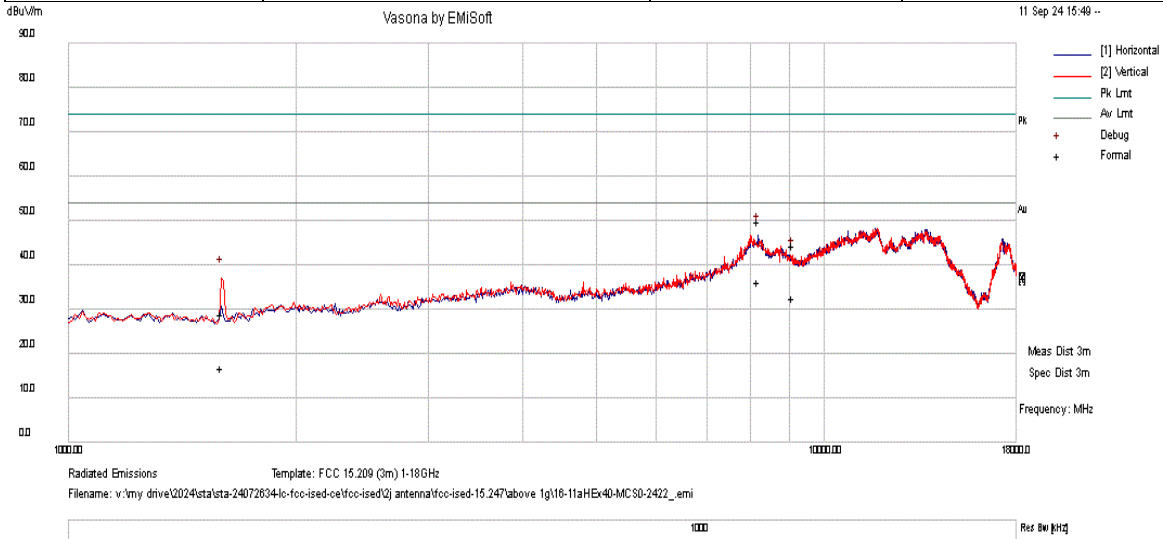
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7957.62	15.74	14.18	15.25	45.16	Peak	H	100	360	54.00	-8.84	Pass
2	9158.58	14.96	15.12	11.05	41.14	Peak	H	100	360	54.00	-12.86	Pass
3	1597.44	31.76	5.54	-1.59	35.71	Peak	H	100	360	54.00	-18.29	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11aHEx40M-2422MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



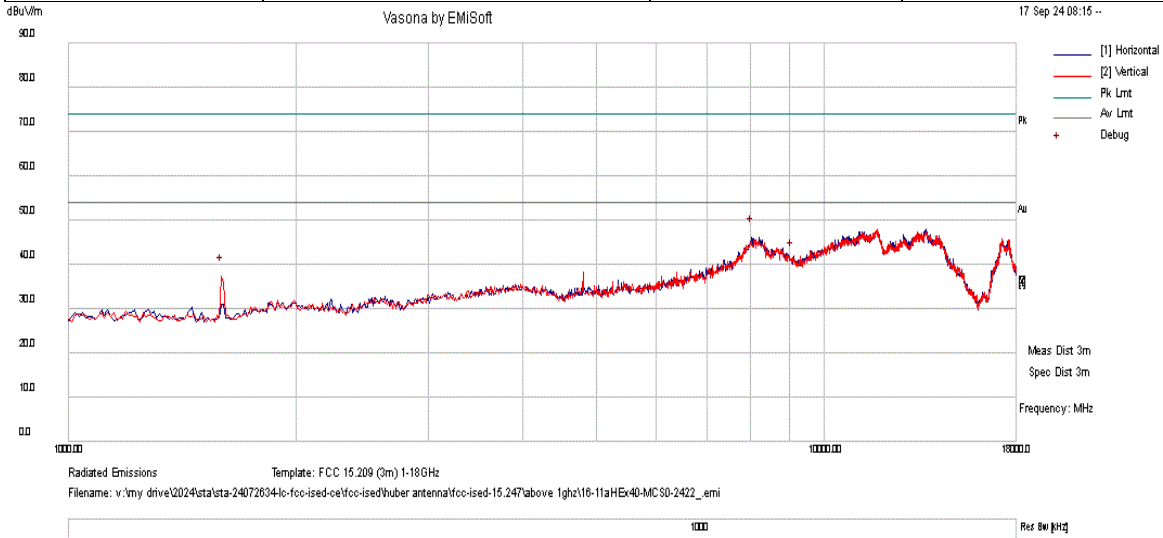
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8194.94	20.05	14.18	15.60	49.84	Peak Max	H	156	90	74.00	-24.16	Pass
2	9103.71	17.97	15.13	11.16	44.25	Peak Max	H	137	107	74.00	-29.75	Pass
3	1594.06	24.99	5.53	-1.60	28.92	Peak Max	V	176	168	74.00	-45.08	Pass
4	8194.94	6.50	14.18	15.60	36.29	Average Max	H	156	90	54.00	-17.71	Pass
5	9103.71	6.26	15.13	11.16	32.55	Average Max	H	137	107	54.00	-21.45	Pass
6	1594.06	12.94	5.53	-1.60	16.87	Average Max	V	176	168	54.00	-37.13	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11aHEX40M-2422MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/17/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



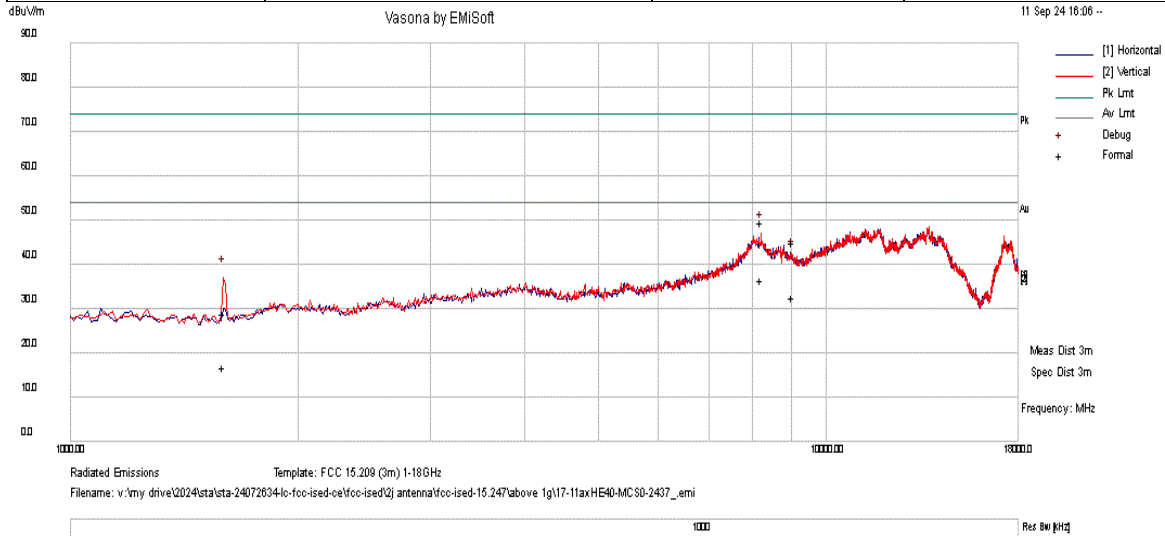
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8023.12	16.03	14.26	15.84	46.13	Peak	H	200	0	54.00	-7.87	Pass
2	1595.0	33.30	5.53	-1.60	37.23	Peak	V	200	0	54.00	-16.77	Pass
3	9068.2	14.28	15.13	11.26	40.67	Peak	H	100	360	54.00	-13.33	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE40M2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



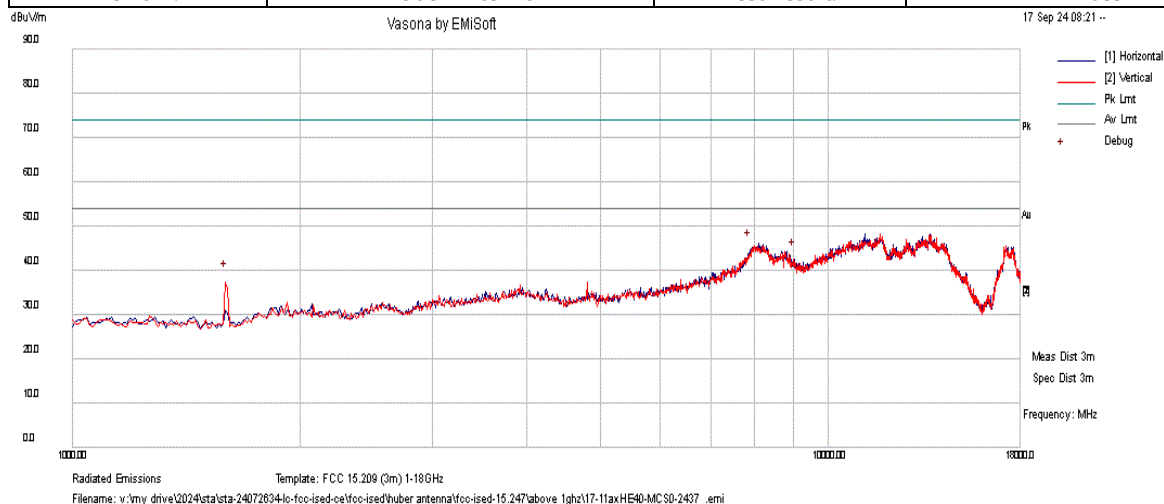
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8214.68	19.83	14.17	15.61	49.61	Peak Max	V	136	18	74.00	-24.39	Pass
2	9056.05	18.57	15.13	11.30	45.00	Peak Max	H	161	94	74.00	-29.00	Pass
3	1594.93	24.89	5.53	-1.60	28.83	Peak Max	V	100	149	74.00	-45.17	Pass
4	8214.68	6.67	14.17	15.61	36.45	Average Max	V	136	18	54.00	-17.55	Pass
5	9056.05	6.24	15.13	11.30	32.67	Average Max	H	161	94	54.00	-21.33	Pass
6	1594.93	12.74	5.53	-1.60	16.68	Average Max	V	100	149	54.00	-37.33	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE40M-2437MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/17/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber Antenna	Test Result:	Pass



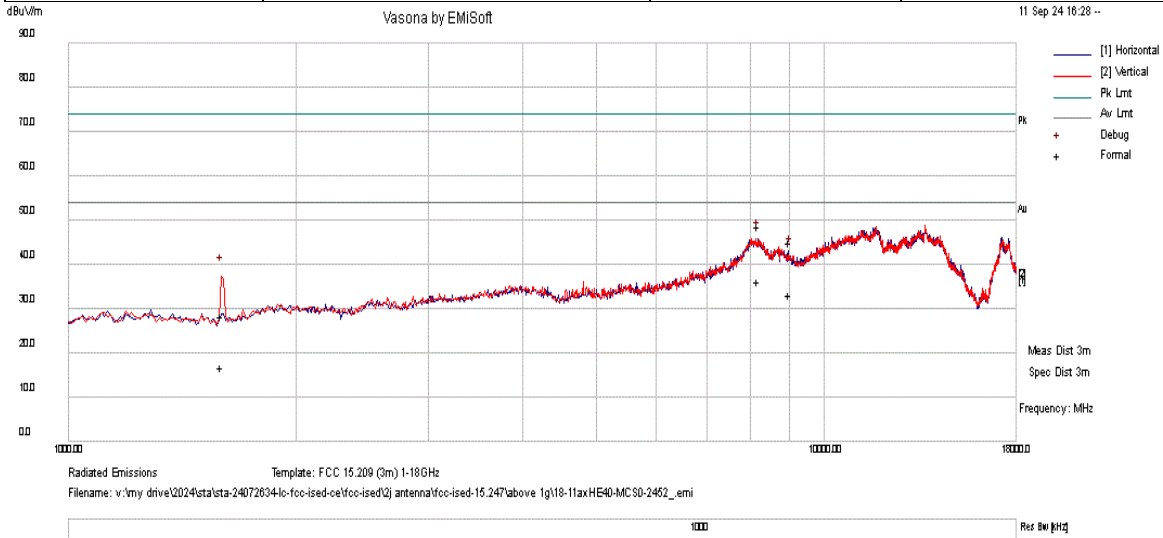
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1595.0	33.31	5.53	-1.60	37.25	Peak	V	200	0	54.00	-16.75	Pass
2	7886.96	16.09	14.02	14.25	44.36	Peak	H	100	360	54.00	-9.64	Pass
3	9008.45	15.49	15.14	11.48	42.11	Peak	H	100	360	54.00	-11.89	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE40M-2452MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/11/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	2JF0188P Antenna	Test Result:	Pass



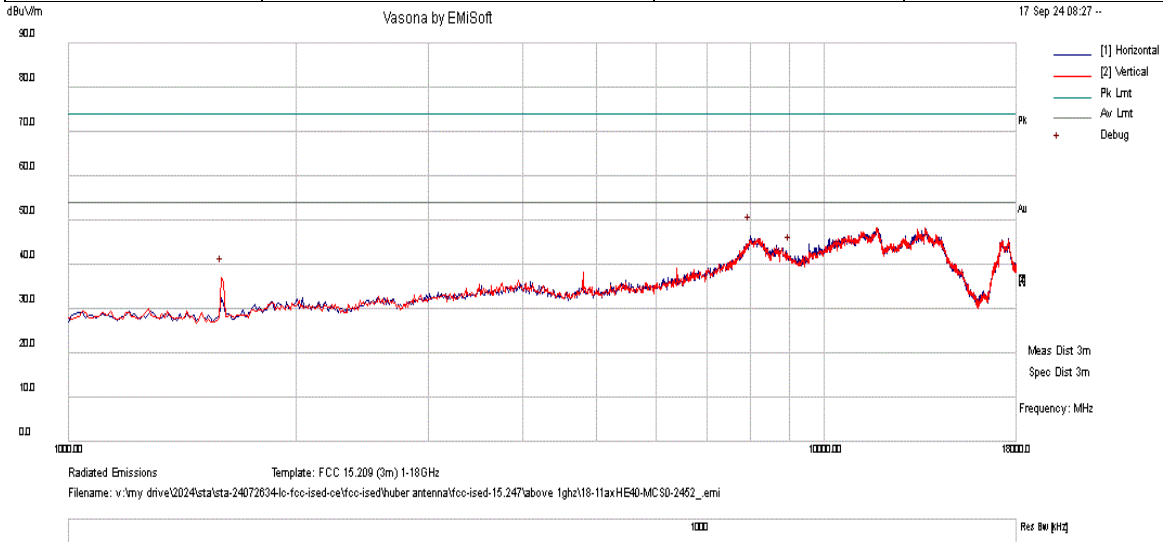
No.	Frequency MHz	Raw dBuV	Cable Loss dB	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8194.95	18.80	14.18	15.60	48.59	Peak Max	H	100	2	74.00	-25.41	Pass
2	9034.28	18.40	15.14	11.38	44.92	Peak Max	H	160	120	74.00	-29.08	Pass
3	1593.13	24.50	5.53	-1.61	28.42	Peak Max	V	118	136	74.00	-45.58	Pass
4	8194.95	6.35	14.18	15.60	36.14	Average Max	H	100	2	54.00	-17.86	Pass
5	9034.28	6.59	15.14	11.38	33.10	Average Max	H	160	120	54.00	-20.90	Pass
6	1593.13	12.83	5.53	-1.61	16.75	Average Max	V	118	136	54.00	-37.25	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.

RADIATED SPURIOUS EMISSION ABOVE 1GHZ

Test Standard:	15.209, 15.247	Mode:	802-11axHE40-M-2452MHz
Frequency Range:	1 GHz - 18 GHz	Test Date:	09/17/2024
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Minoush Niknam
Remark:	Huber+SUHNER Antenna	Test Result:	Pass



No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	7991.25	16.38	14.25	15.73	46.36	Peak	H	100	0	54.00	-7.64	Pass
2	1595.0	33.00	5.53	-1.60	36.94	Peak	V	200	0	54.00	-17.06	Pass
3	9033.89	15.16	15.14	11.38	41.67	Peak	H	100	360	54.00	-12.33	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)
- 4) RF notch filter was used during RF testing to block the high power RF fundamental that is not subject to spurious emission limit requirement.
- 5) Measurement of Average max is not required if peak result is already below average limit of 54 dBuV/m.

Radiated Emission between 9KHz – 30MHz test result

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

18GHz – 40GHz test result

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

9 Test Instrument List

Equipment	Manufacturer	Model	Instrument Number	Cal. Date	Cal. Due
Semi-Anechoic Chamber	ETS-Lindgren	10M	VL001	5/24/2024	5/24/2027
Shielding Control Room	ETS-Lindgren	Series 81	VL006	N/A1)	N/A1)
Spectrum Analyzer	Keysight	N9020A	MY50110074	5/15/2024	5/15/2026
EMC Test Receiver	R&S	ESL6	100230	5/14/2024	5/14/2025
LISN (9KHz – 30MHz)	EMCO	3816/2	9705-1066	5/28/2024	5/28/2025
Bi-Log Antenna	ETS-Lindgren	3142E	217921	7/25/2024	7/25/2025
Horn Antenna (1-18GHz)	Electro-Metrics	EM-6961	6292	7/22/2024	7/22/2025
Horn Antenna (18-40GHz)	Com-Power	AH-840	101109	7/22/2024	7/22/2025
Temp / Humidity / Pressure Meter	PCE Instruments	PCE-THB 40	R062028	5/17/2024	5/17/2025
RF Attenuator	Pasternack	PE7005-3	VL061	07/29/2024	07/29/2025
EM Center Control	ETS-Lindgren	7006-001	160136	N/A1)	N/A1)
Turn Table	ETS-Lindgren	2181-3.03	VL002	N/A1)	N/A1)
Boresight Antenna Tower	ETS-Lindgren	2171B	VL003	N/A1)	N/A1)
Loop Antenna (9k-30MHz)	Com-Power	AL-130	121012	6/13/2024	6/13/2026
RE test cable (below 6GHz)	Vista	RE-6GHz-01	RE-6GHz-01	07/29/2024	07/29/2025
RE test cable (1-18GHz)	PhaseTrack	II-240	RE-18GHz-01	07/29/2024	07/29/2025
RE test cable (>18GHz)	Sucoflex	104	344903/4	07/29/2024	07/29/2025
Pulse limiter	Com-Power	LIT-930A	531727	07/29/2024	07/29/2025
CE test cable #1	FIRST RF	FRF-C-1002-001	CE-6GHz-01	07/29/2024	07/29/2025
CE test cable#2	FIRST RF	FRF-C-1002-001	CE-6GHz-02	07/29/2024	07/29/2025
USB RF Power Sensor	ETS-Lindgren	7002-006	SN 00151268	5/14/2024	5/14/2026
Agilent Signal Generator	MXG N5182A	N5182A	US47080548	5/15/2024	5/15/2025
Power Splitter/Combiner	Mini-Circuits	ZFSC-2-9G+	VL052	N/A1)	N/A1)
Power Splitter/Combiner	Mini-Circuits	ZFSC-2-9G+	VL053	N/A1)	N/A1)
Power Splitter/Combiner	Mini-Circuits	ZFSC-2-9G+	VL054	N/A1)	N/A1)
Power Splitter/Combiner	Mini-Circuits	ZFSC-2-9G+	VL055	N/A1)	N/A1)
2.4GHz Notch Filter	Micro-Tronics	BRM50702	VL063	N/A1)	N/A1)
5GHz Notch Filter	Micro-Tronics	BRM50716	VL064	N/A1)	N/A1)

Note:

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

---END---