Vista Labs
TEST • CERTIFY • COMPLY

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

RF Test Report

Test Report Number	STA-25011432-LC-FCC-IC-RF-DTS
FCC ID	N6C-SDMAX
ISED ID	4908A-SDMAX
Applicant	Silex technology, Inc.
Applicant Address	2-3-1 Hikaridai, Seika-cho, Kyoto 619-0237, Japan
Product Name	Embedded Wireless Module
Model Number	SX-SDMAX
Date of Receipt	02/18/2025
Date of Test	03/14/2025 - 04/09/2025
Report Issue Date	04/10/2025
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

Lining	David Zhang
Lining Li (Test Engineer)	**David Zhang (Technical Manager)**

REVISION HISTORY

Report Number	Version	Description	Issued Date
STA-25011432-LC-FCC-IC-RF-DTS	01	Initial report	04/10/2025

TABLE OF CONTENTS

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-SDMAX and ISED ID: 4908A-SDMAX. Current report is 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-SDMAX
Family Models	N/A
Serial Number	1CBCEC3064CA
Frequency Band	Bluetooth_Classic: 2402-2480MHz BLE: 2402-2480MHz WLAN 2.4G: 2412-2462MHz WLAN 5G: 5180-5240MHz, 5260-5320MHz 5500-5720MHz, 5725-5825MHz
Type of modulation	GFSK, π/4DQPSK, 8DPSK for Bluetooth Classic GFSK for BLE CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax mode
Equipment Class	DTS
Antenna Information	External dual-band WiFi antenna Manufacturer: PANOPRAMA ANTENNAS, Model: LG-IN2929 Frequency Range (MHz) / Peak Gain without cable (dBi) / Net Peak Gain with cable loss (dBi) 2396-2485 / 4.9 / 3.16 5150-5250 / 4.7 / 2.2 5250-5350 / 5.2 / 2.7 5470-5725 / 6.1 / 3.6 5725-5900 / 6.3 / 3.8 (only WiFi1 element will be used in this antenna; RF cable is 2m CS32 external cable)
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
Additional Info	Antenna information is for the new antenna to be added and used with this radio module.

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
Radiated Emission Testing	23.5°C	45.1%	1003 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 measurement in different aspects.

5 Test Configuration and Operation

5.1 EUT Test Configuration

The EUT is mounted onto an i.MX 93 EVK 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

5.2 Supporting Equipment

Description	Manufacturer	Model #	Serial #	Remark
Laptop	Lenovo	81WA	PF2AJYV1	Send command
i.MX 93 EVK	N/A	N/A	TR24500332	Test Fixture
AC Adapter	EDAC	EA1045CR	N/A	Power to Support board
Type C to USB Cable	N/A	N/A	N/A	Communication with Test PC

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 Results

7.1 Antenna Requirement

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 Result

Analysis:

- EUT has u.FL antenna connector which is a unique type that is acceptable for FCC. The added external dual-band WiFi antenna, has reversed-SMA connector, which connects to SX-USBAC through a u.FL to RSMA adapter or pigtail cable. The entire connection is considered unique coupling.
-

Conclusion:

- EUT and its antenna meet FCC requirements.

7.2 Radiated Spurious Emissions into Restricted Frequency Bands

7.2.1 Requirement

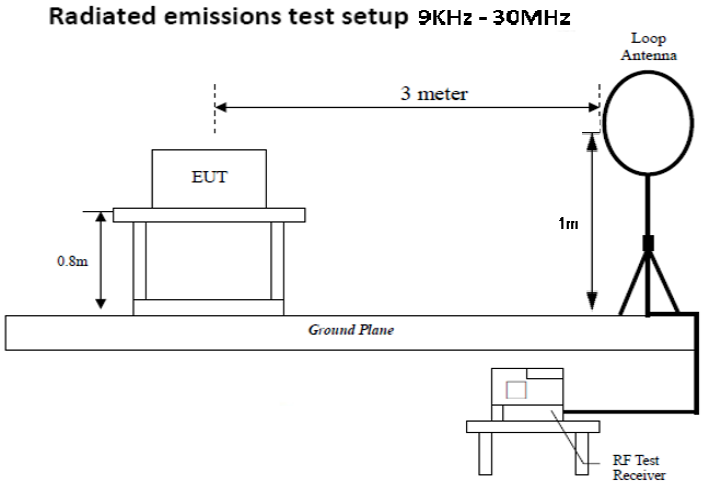
§ 15.247 (d); RSS-247 §5.5

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.

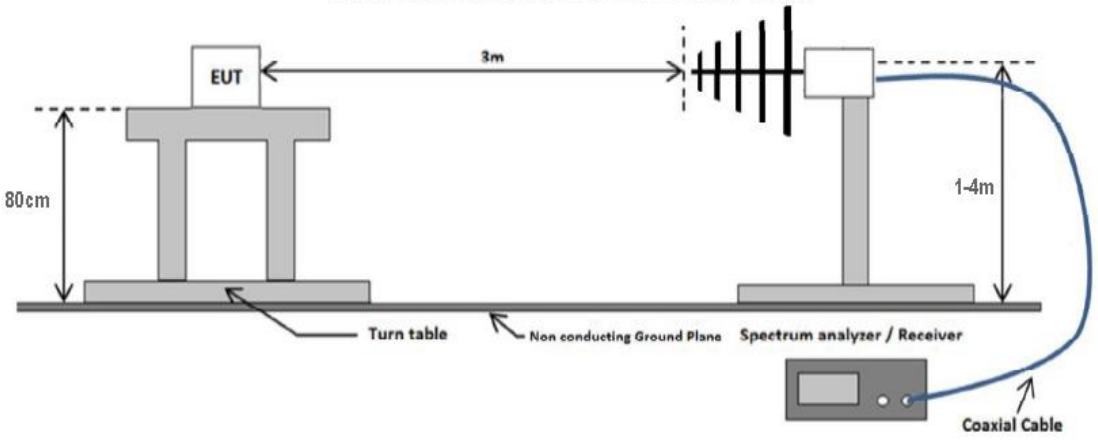
Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

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

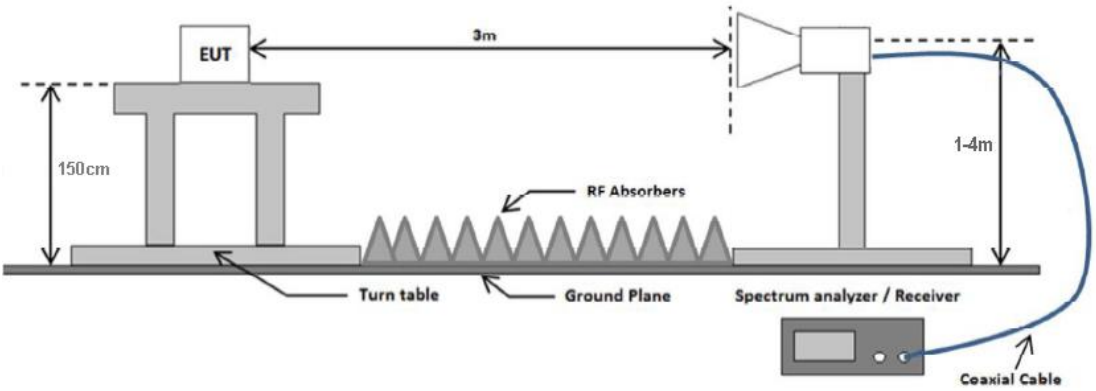
7.2.2 Test Setup



Radiated emissions test setup 30 MHz - 1 GHz



Radiated emissions test setup above 1 GHz



7.2.3 Test Procedure

According to 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.

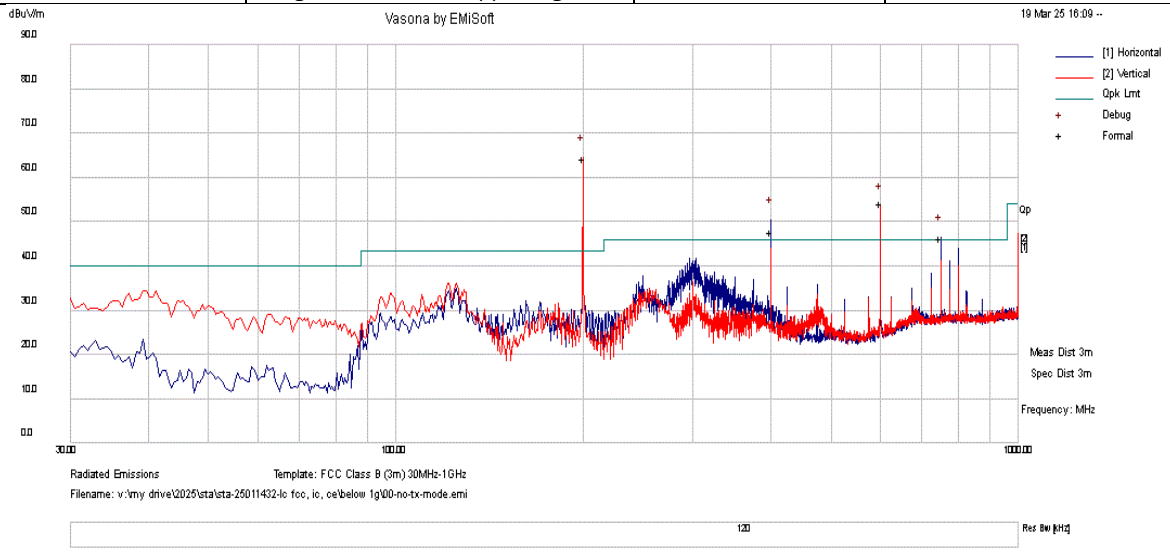
7.2.4 Test Result

Radiated Emission between 9KHz – 30MHz test result

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

RADIATED EMISSIONS BELOW 1 GHZ

Test Standard:	15.209, 15.247, RSS-247	Mode:	WLAN Non TX Mode
Frequency Range:	30 MHz - 1 GHz	Test Date:	03/19/2025
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Lining
Remark:	Digital noise from supporting EVK	Test Result:	Pass

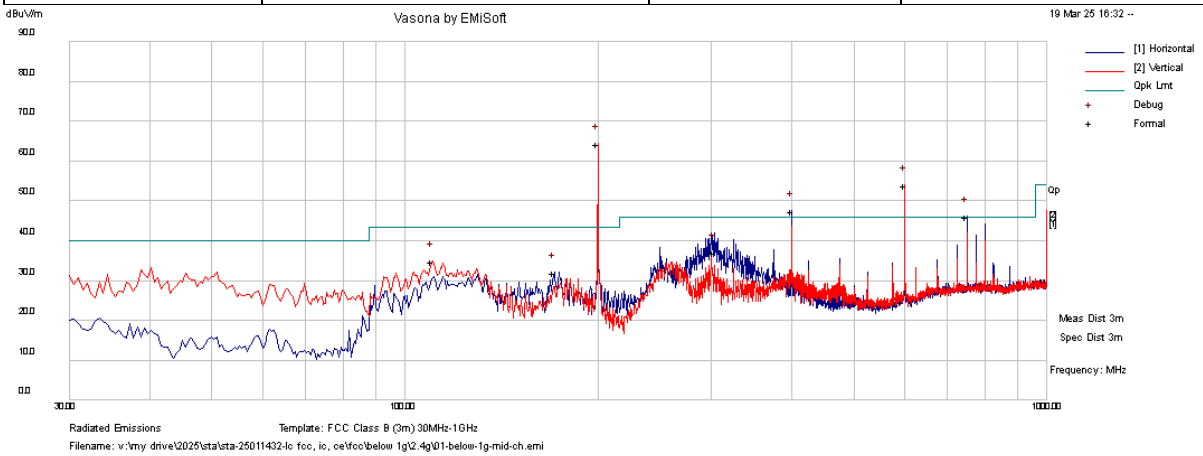


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	199.99	69.56	4.73	-10.05	64.24	Quasi Max	V	100	236	43.50	20.74	N/A
2	599.98	45.94	7.16	1.03	54.13	Quasi Max	V	166	63	46.00	8.13	N/A
3	399.99	43.29	6.37	-1.89	47.77	Quasi Max	H	100	314	46.00	1.77	N/A
4	750.03	35.61	7.28	3.53	46.42	Quasi Max	H	103	223	46.00	0.42	N/A

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. These results measured under WLAN non-TX mode are for comparison purpose only as proof of digital emission from the high speed PCIE port of the EVK (i.MX 93 EVK) after the driver is loaded and PCIE is activated. No Pass/Fail conclusion is given. These identified digital emission will be ignored in the TX mode measurement.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11g Mode
Frequency Range:	30 MHz - 1 GHz	Test Date:	03/19/2025
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Lining
Remark:	Mid Ch	Test Result:	Pass

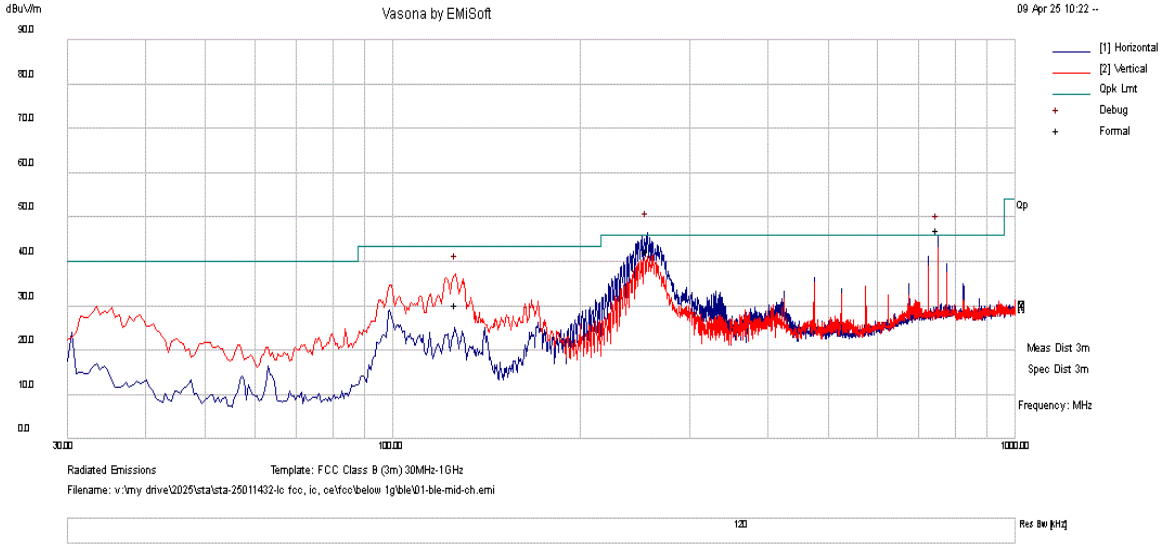


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	199.99	69.03	4.73	-10.05	63.71	Quasi Max	V	134	304	43.50	20.21	N/A
2	599.99	46.15	7.16	1.03	54.34	Quasi Max	V	170	58	46.00	8.34	N/A
3	400.06	43.07	6.37	-1.89	47.55	Quasi Max	H	117	158	46.00	1.55	N/A
4	750.02	35.81	7.28	3.53	46.62	Quasi Max	H	107	218	46.00	0.62	N/A
5	110.375	40.59	4.03	-9.87	34.75	Quasi Max	V	129	311	43.50	-8.75	Pass
6	302.43	34.36	5.26	-2.54	37.08	Quasi Max	H	167	134	46.00	-8.92	Pass
7	170.611	38.34	4.37	-10.61	32.1	Quasi Max	H	103	23	43.50	-11.4	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)
4. These results of No.1 to No.4 are digital emission from the high speed PCIE port of the EVK (i.MX 93 EVK) which exists when radio is not operating. See the previous result for comparison. No Pass/Fail conclusion is given.

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Mode
Frequency Range:	30 MHz - 1 GHz	Test Date:	04/09/2025
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Lining
Remark:	Mid Ch	Test Result:	Pass



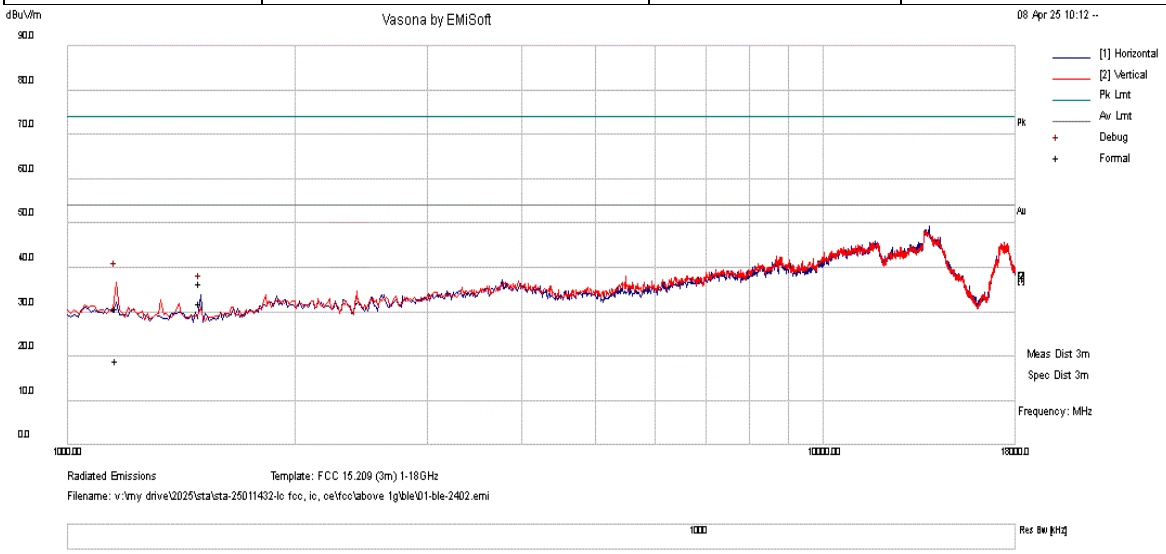
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	255.85	44.67	5.31	-7.57	42.41	Quasi Max	H	135	108	46.00	-3.59	Pass
2	750.01	33.51	7.28	3.53	44.32	Quasi Max	H	112	226	46.00	-1.68	Pass
3	126.24	37.76	3.96	-11.41	30.31	Quasi Max	V	212	160	43.50	-13.19	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. Reported emissions here are mainly from digital circuit because of similar result when Bluetooth is not in TX mode. The emission profile is different from WLAN non-TX mode due to lower speed digital communication is used for Bluetooth and PCIE is not actiaved by loading the driver.

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/08/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low Ch	Test Result:	Pass

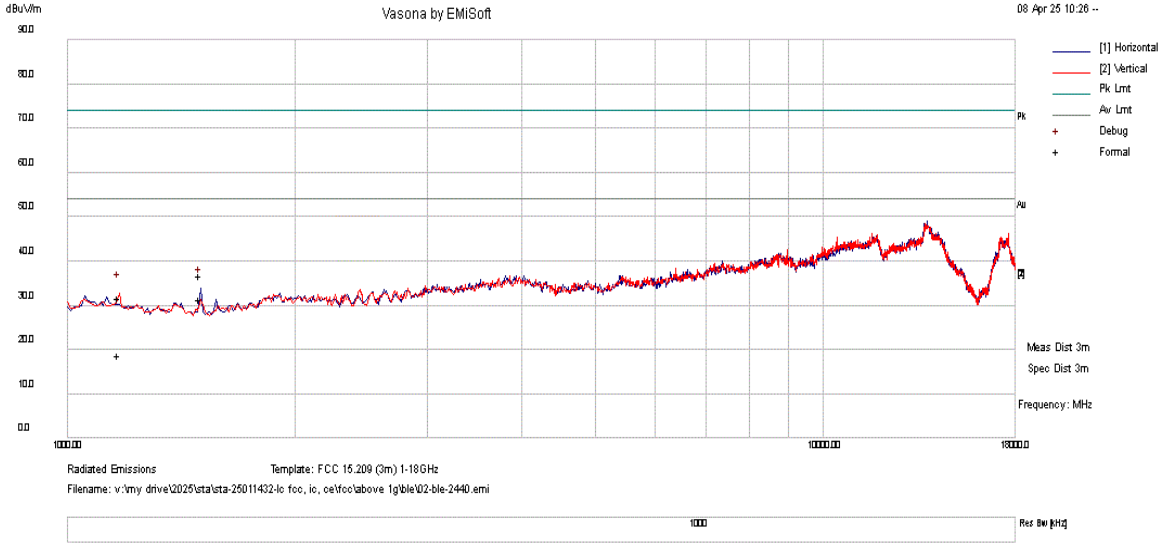


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1160.1	28.16	4.52	-1.64	31.04	Peak Max	V	140	107	74.00	-42.96	Pass
2	1500.07	33.49	5.24	-2.13	36.60	Peak Max	H	104	0	74.00	-37.40	Pass
3	1160.1	16.10	4.52	-1.64	18.98	Average Max	V	140	107	54.00	-35.02	Pass
4	1500.07	28.81	5.24	-2.13	31.92	Average Max	H	104	0	54.00	-22.08	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/08/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid Ch	Test Result:	Pass

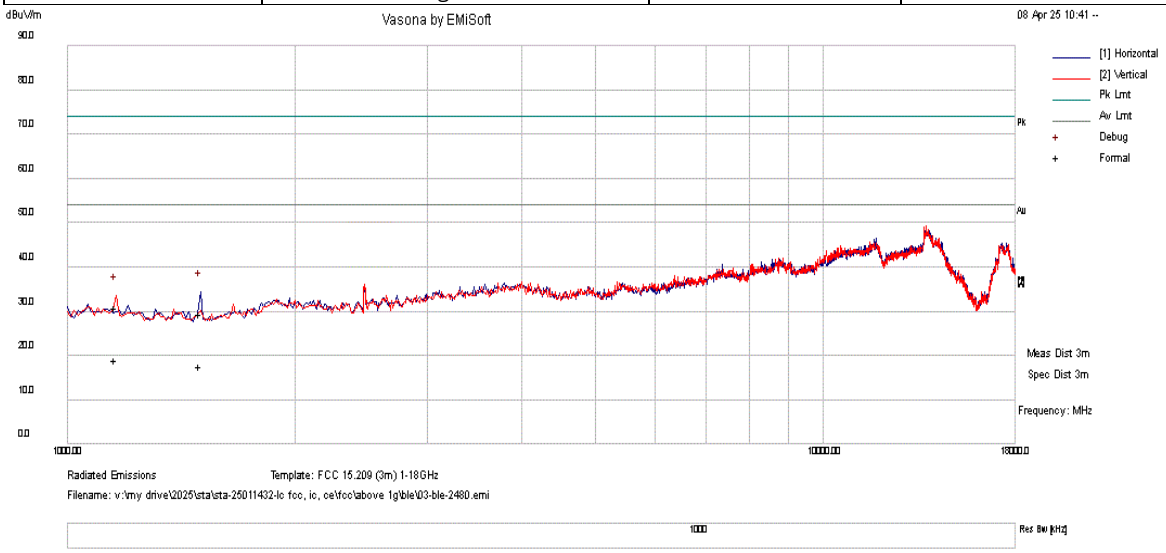


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1500.05	33.62	5.24	-2.13	36.73	Peak Max	H	102	79	74.00	-37.27	Pass
2	1168.47	28.83	4.54	-1.59	31.78	Peak Max	V	100	97	74.00	-42.22	Pass
3	1500.05	28.30	5.24	-2.13	31.41	Average Max	H	102	79	54.00	-22.59	Pass
4	1168.47	15.82	4.54	-1.59	18.77	Average Max	V	100	97	54.00	-35.23	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)
4. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/08/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High Ch	Test Result:	Pass

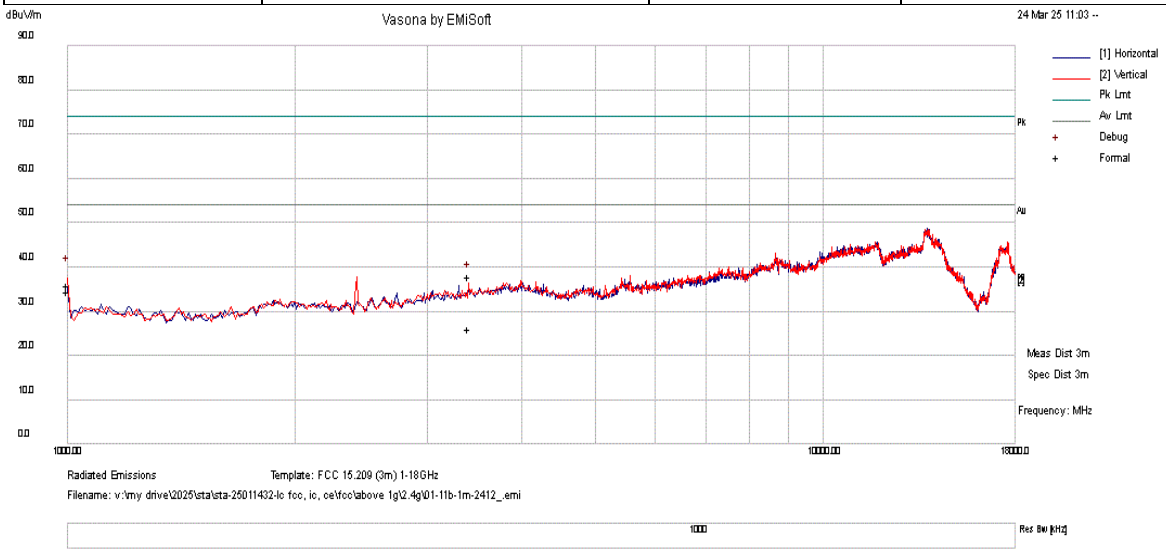


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1497.38	26.31	5.23	-2.12	29.42	Peak Max	H	179	0	74.00	-44.58	Pass
2	1159.72	28.05	4.52	-1.64	30.93	Peak Max	H	146	134	74.00	-43.07	Pass
3	1497.38	14.56	5.23	-2.12	17.67	Average Max	H	179	0	54.00	-36.33	Pass
4	1159.72	16.13	4.52	-1.64	19.01	Average Max	H	146	134	54.00	-34.99	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11b Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low channel	Test Result:	Pass

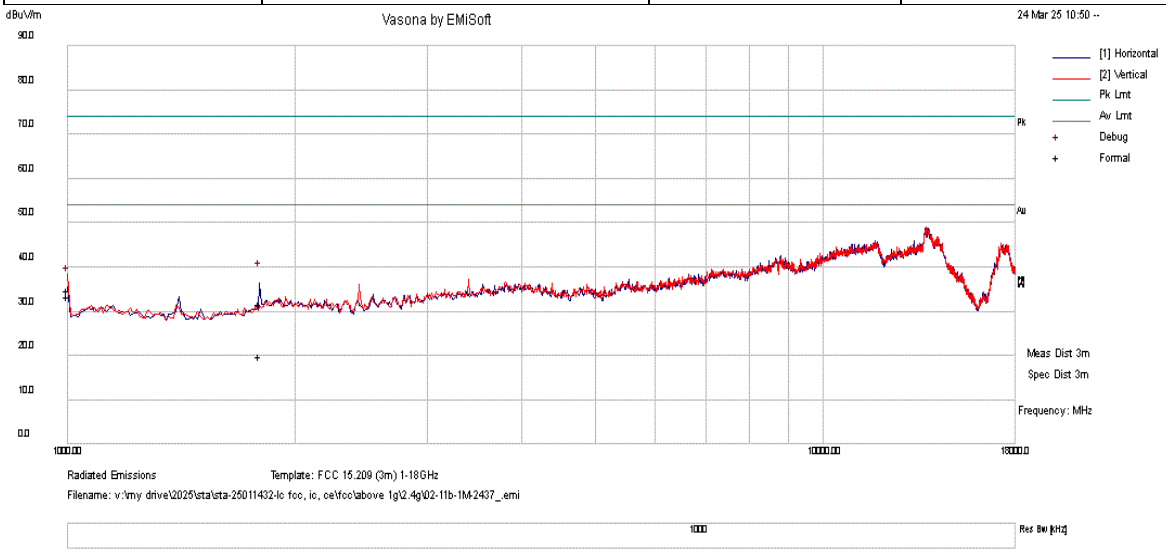


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1000.0	34.14	4.01	-2.27	35.88	Peak Max	V	196	0	74.00	-38.12	Pass
2	3399.62	26.12	8.12	3.57	37.81	Peak Max	V	196	0	74.00	-36.19	Pass
3	1000.0	32.93	4.01	-2.27	34.67	Average Max	V	196	0	54.00	-19.33	Pass
4	3399.62	14.40	8.12	3.57	26.09	Average Max	V	196	0	54.00	-27.91	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11b Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid channel	Test Result:	Pass

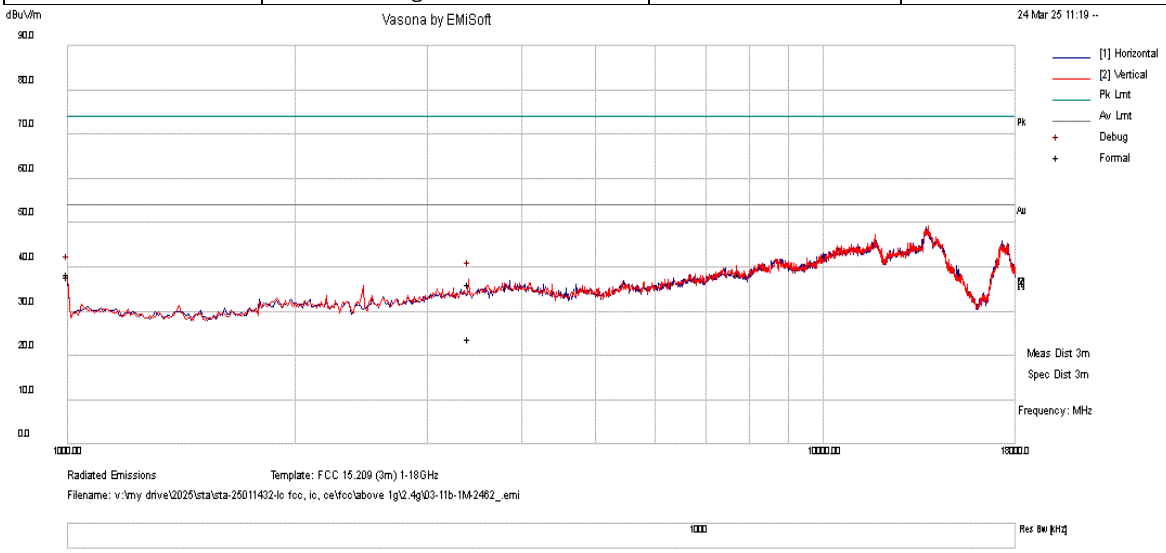


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1797.22	26.03	6.06	-0.47	31.62	Peak Max	H	152	0	74.00	-42.38	Pass
2	1000.0	33.17	4.01	-2.27	34.91	Peak Max	V	100	48	74.00	-39.09	Pass
3	1797.22	14.30	6.06	-0.47	19.89	Average Max	H	152	0	54.00	-34.11	Pass
4	1000.0	31.75	4.01	-2.27	33.49	Average Max	V	100	48	54.00	-20.51	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11b Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High channel	Test Result:	Pass

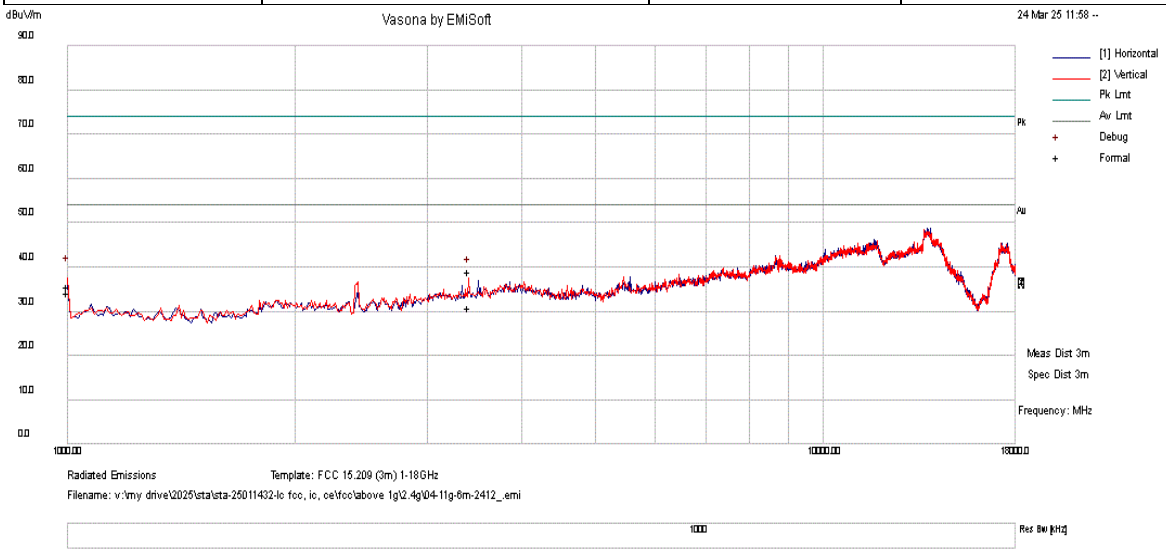


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1000.0	36.86	4.01	-2.27	38.60	Peak Max	H	128	127	74.00	-35.40	Pass
2	3401.39	24.48	8.13	3.58	36.19	Peak Max	H	161	0	74.00	-37.81	Pass
3	1000.0	36.25	4.01	-2.27	37.99	Average Max	H	128	127	54.00	-16.01	Pass
4	3401.39	12.30	8.13	3.58	24.01	Average Max	H	161	0	54.00	-29.99	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11g Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low channel	Test Result:	Pass

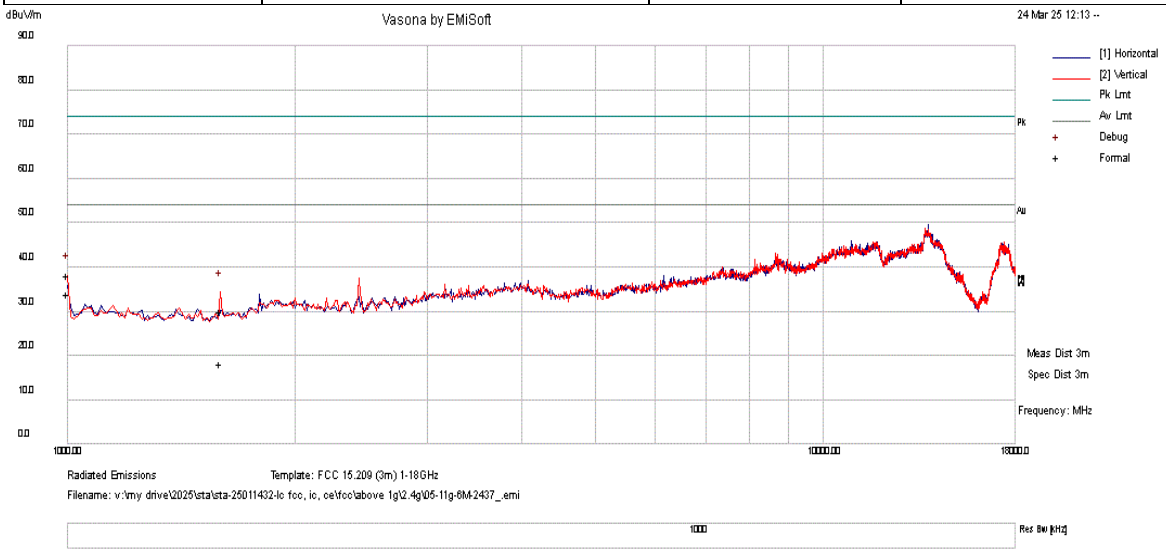


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1000.0	33.93	4.01	-2.27	35.67	Peak Max	V	194	30	74.00	-38.33	Pass
2	3399.76	27.33	8.12	3.57	39.02	Peak Max	V	131	7	74.00	-34.98	Pass
3	1000.0	32.62	4.01	-2.27	34.36	Average Max	V	194	30	54.00	-19.64	Pass
4	3399.76	19.19	8.12	3.57	30.88	Average Max	V	131	7	54.00	-23.12	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11g Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid channel	Test Result:	Pass

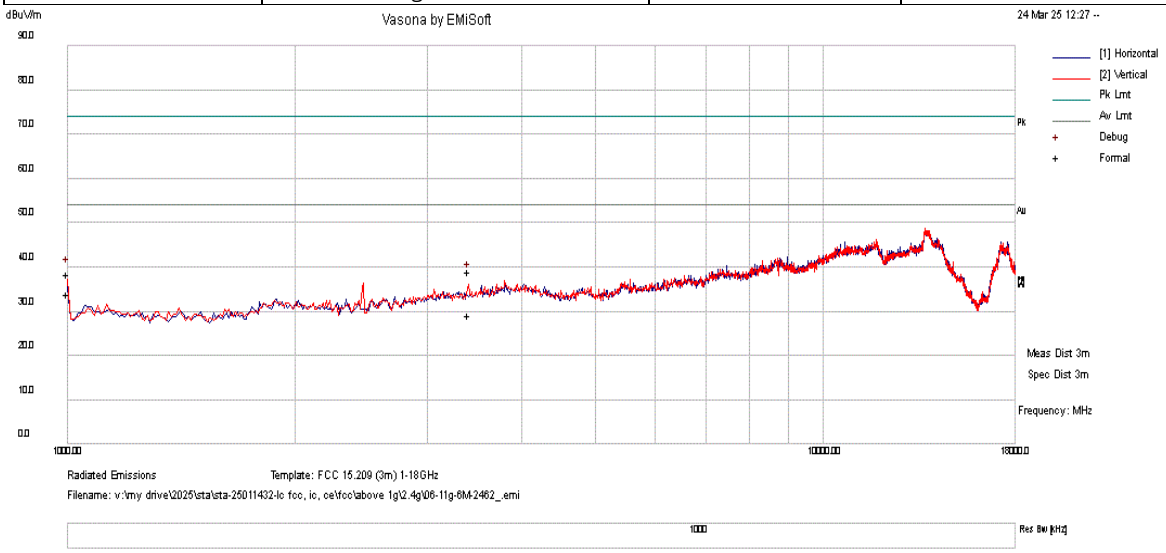


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1000.0	36.43	4.01	-2.27	38.17	Peak Max	V	147	33	74.00	-35.83	Pass
2	1593.48	26.48	5.53	-1.85	30.16	Peak Max	V	158	42	74.00	-43.84	Pass
3	1000.0	32.38	4.01	-2.27	34.12	Average Max	V	147	33	54.00	-19.88	Pass
4	1593.48	14.56	5.53	-1.85	18.24	Average Max	V	158	42	54.00	-35.76	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11g Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High channel	Test Result:	Pass

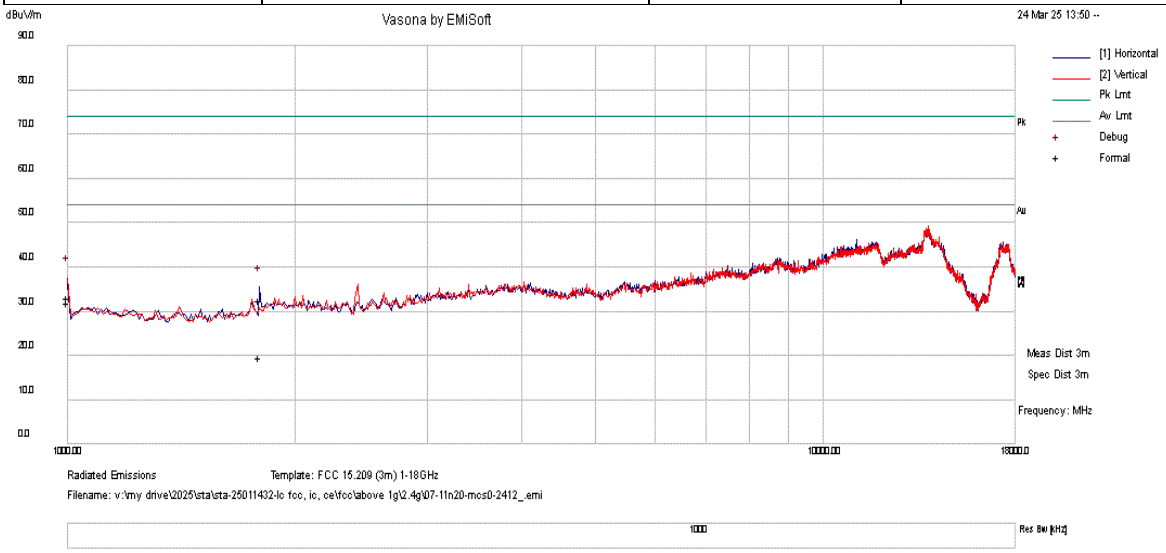


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1000.01	36.76	4.01	-2.27	38.50	Peak Max	V	151	30	74.00	-35.50	Pass
2	3400.04	27.29	8.12	3.57	38.98	Peak Max	V	122	0	74.00	-35.02	Pass
3	1000.01	32.24	4.01	-2.27	33.98	Average Max	V	151	30	54.00	-20.02	Pass
4	3400.04	17.63	8.12	3.57	29.32	Average Max	V	122	0	54.00	-24.68	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)
4. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11n Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low channel	Test Result:	Pass

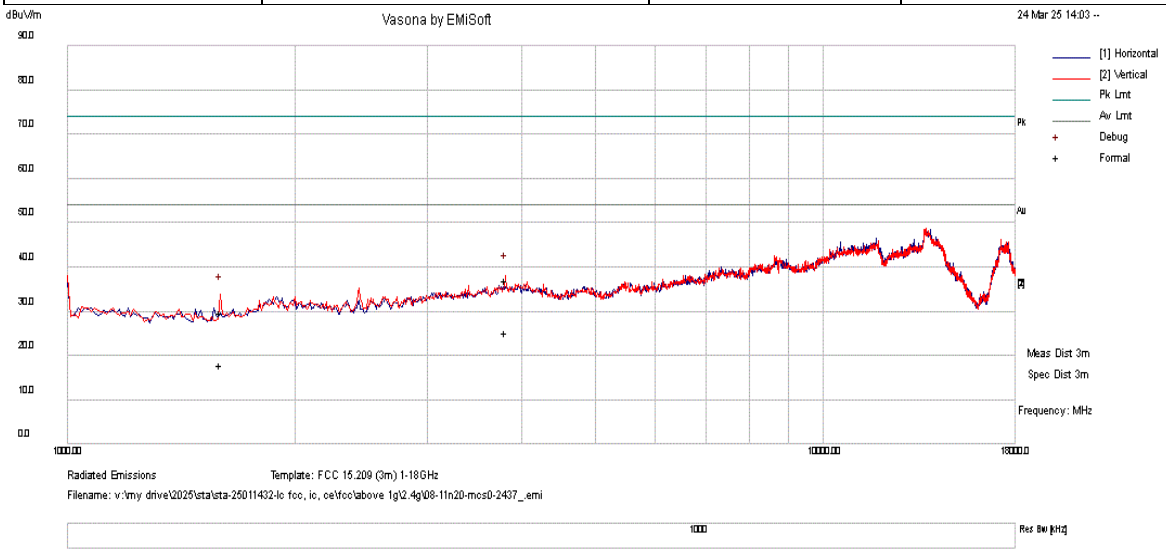


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1000.0	31.47	4.01	-2.27	33.21	Peak Max	V	158	30	74.00	-40.79	Pass
2	1797.83	26.87	6.06	-0.46	32.47	Peak Max	H	133	0	74.00	-41.53	Pass
3	1000.0	30.17	4.01	-2.27	31.91	Average Max	V	158	30	54.00	-22.09	Pass
4	1797.83	14.13	6.06	-0.46	19.73	Average Max	H	133	0	54.00	-34.27	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11n Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid channel	Test Result:	Pass

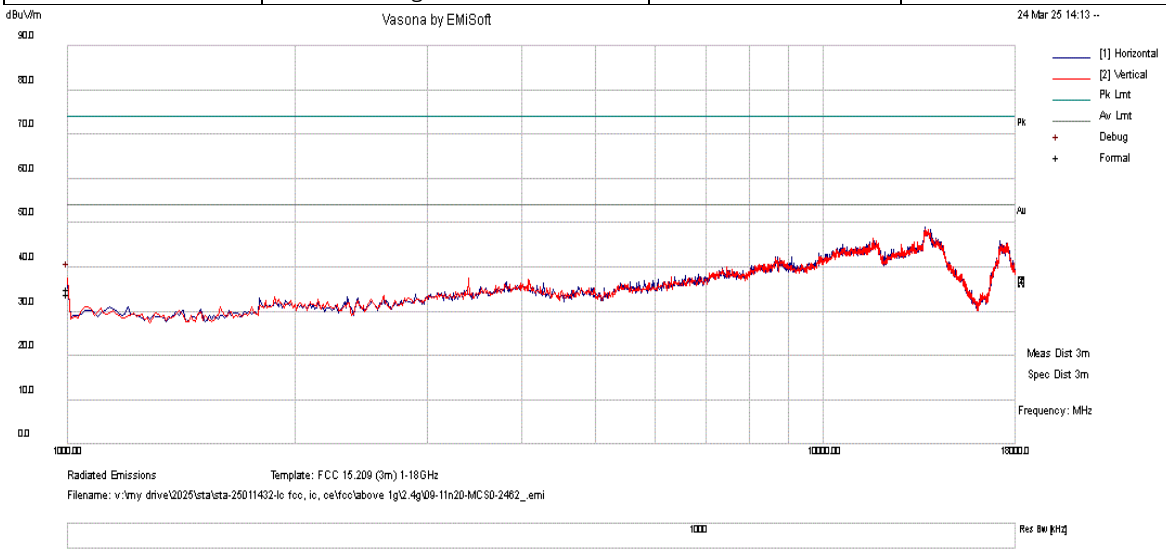


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3803.43	23.09	9.06	4.97	37.12	Peak Max	V	207	150	74.00	-36.88	Pass
2	1594.17	26.14	5.53	-1.85	29.82	Peak Max	V	148	35	74.00	-44.18	Pass
3	3803.43	11.19	9.06	4.97	25.22	Average Max	V	207	150	54.00	-28.78	Pass
4	1594.17	14.41	5.53	-1.85	18.09	Average Max	V	148	35	54.00	-35.91	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11n Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High channel	Test Result:	Pass

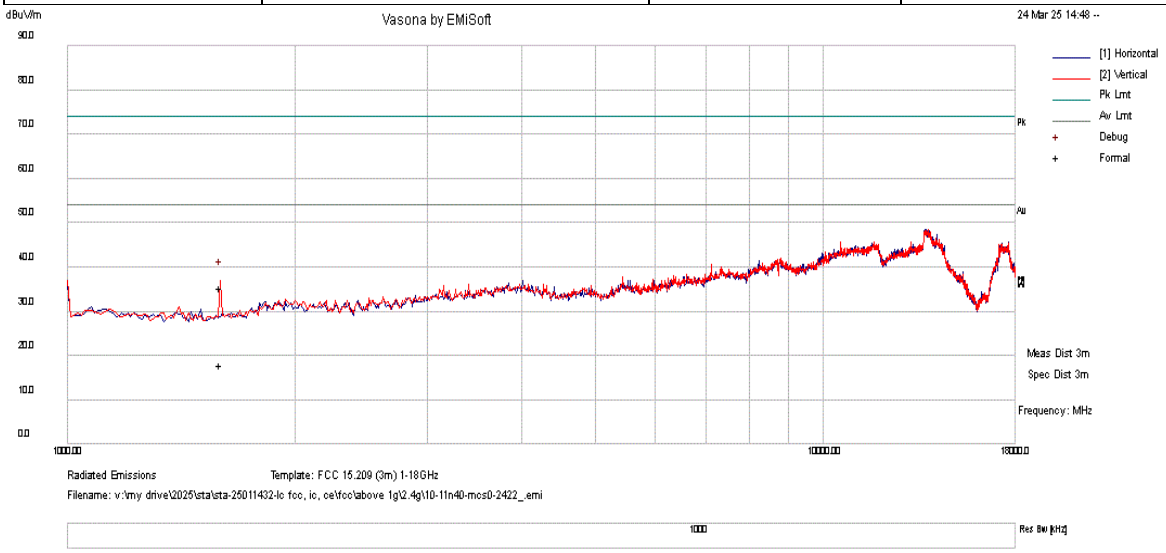


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1000.0	33.38	4.01	-2.27	35.12	Peak Max	V	127	0	74.00	-38.88	Pass
2	1000.0	32.24	4.01	-2.27	33.98	Average Max	V	127	0	54.00	-20.02	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11n40 Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low channel	Test Result:	Pass

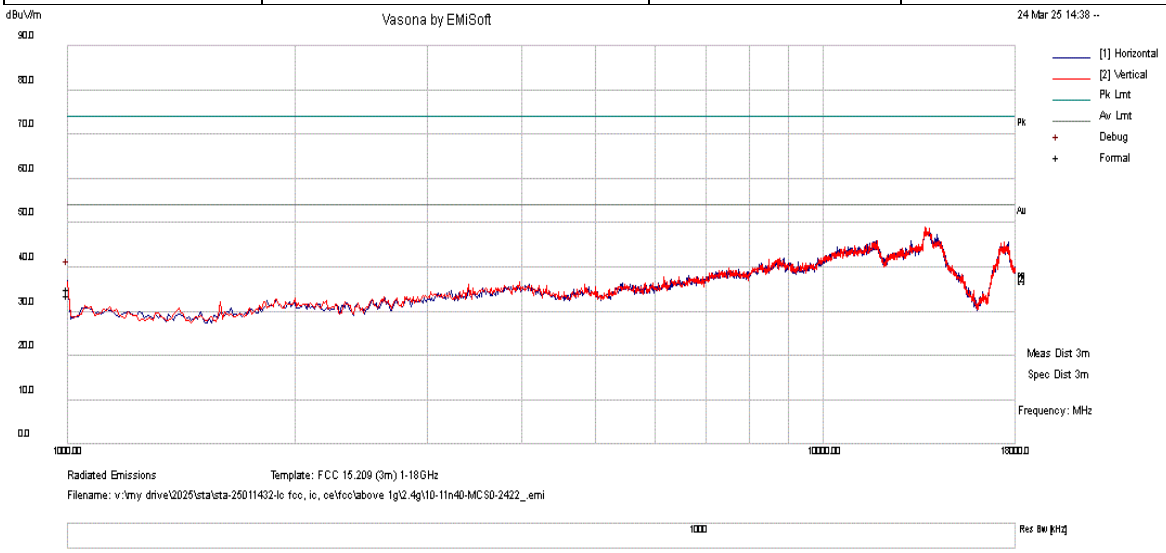


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1595.21	31.84	5.53	-1.85	35.52	Peak Max	V	104	57	74.00	-38.48	Pass
2	1595.21	14.41	5.53	-1.85	18.09	Average Max	V	104	57	54.00	-35.91	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11n40 Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid channel	Test Result:	Pass

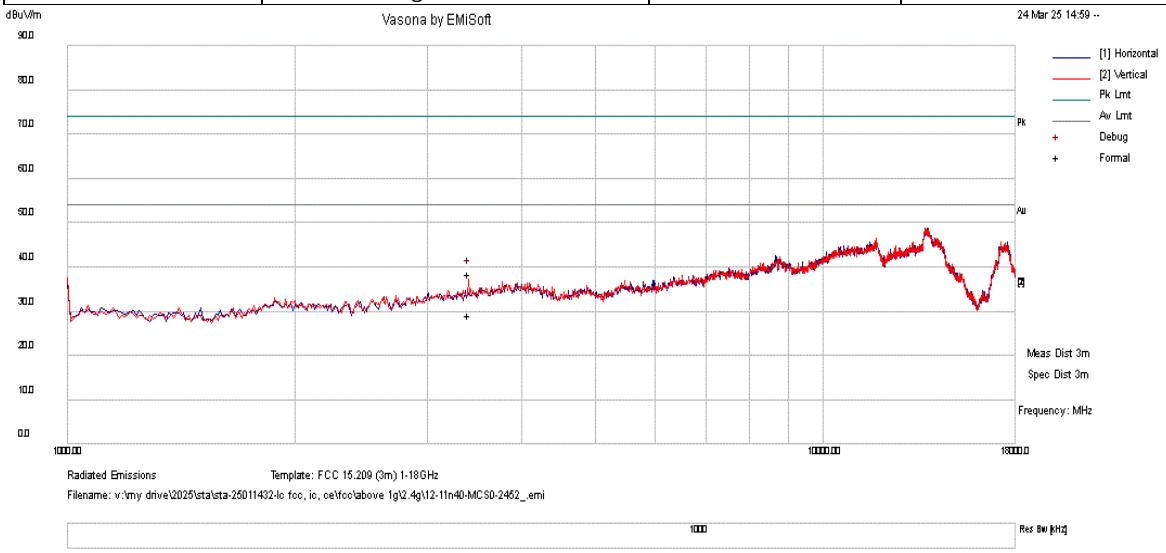


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1000.0	33.27	4.01	-2.27	35.01	Peak Max	V	127	58	74.00	-38.99	Pass
2	1000.0	32.05	4.01	-2.27	33.79	Average Max	V	127	58	54.00	-20.21	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11n40 Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	03/24/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High channel	Test Result:	Pass

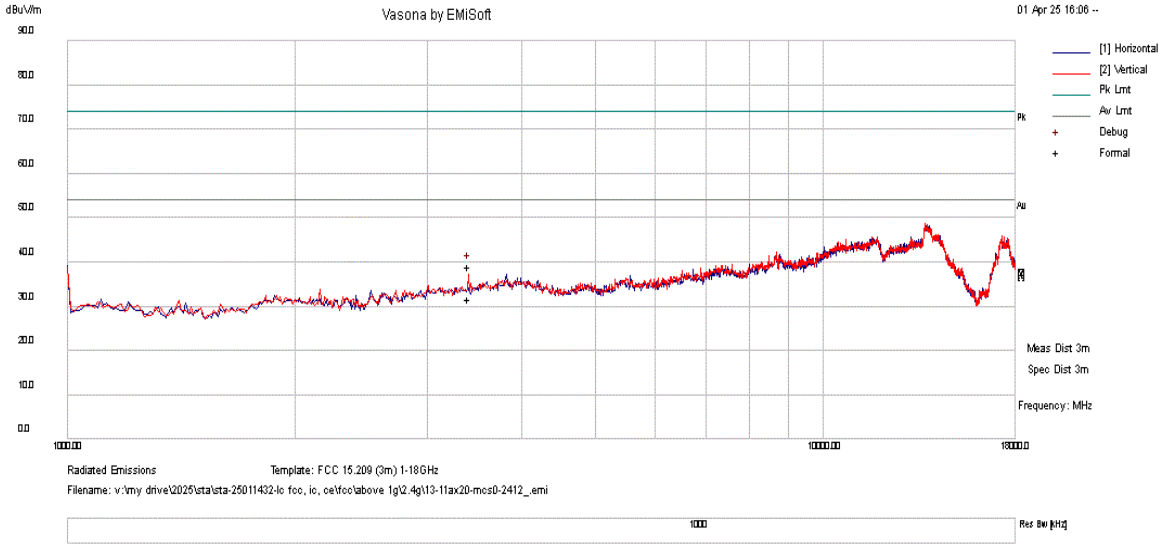


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3400.03	26.66	8.12	3.57	38.35	Peak Max	V	151	34	74.00	-35.65	Pass
2	3400.03	17.41	8.12	3.57	29.10	Average Max	V	151	34	54.00	-24.90	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11ax Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/01/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low channel	Test Result:	Pass

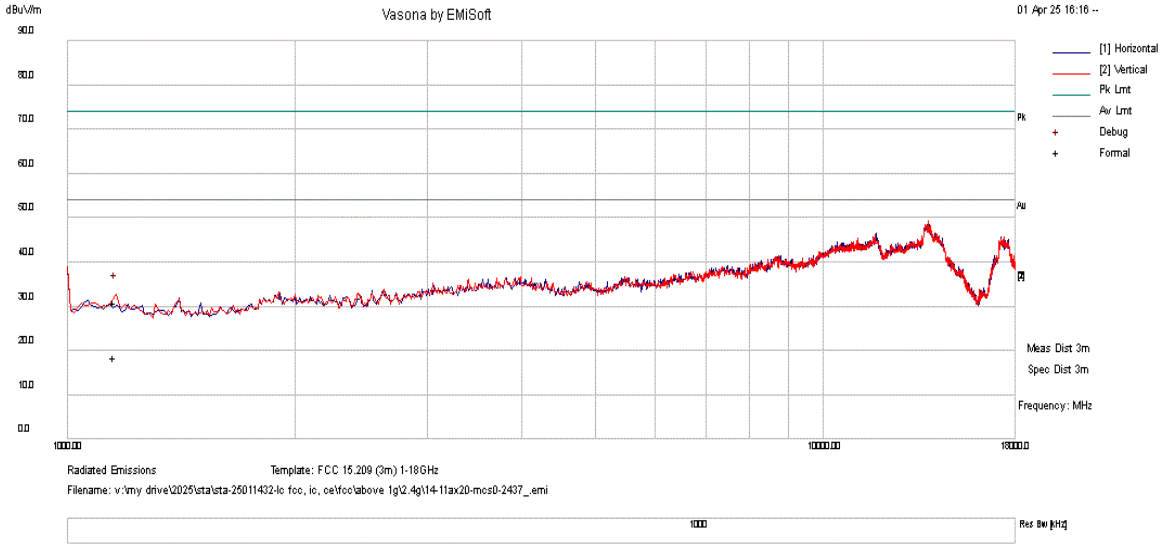


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3399.9	27.36	8.12	3.57	39.05	Peak Max	V	170	0	74.00	-34.95	Pass
2	3399.9	20.17	8.12	3.57	31.86	Average Max	V	170	0	54.00	-22.14	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11ax Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/01/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid channel	Test Result:	Pass

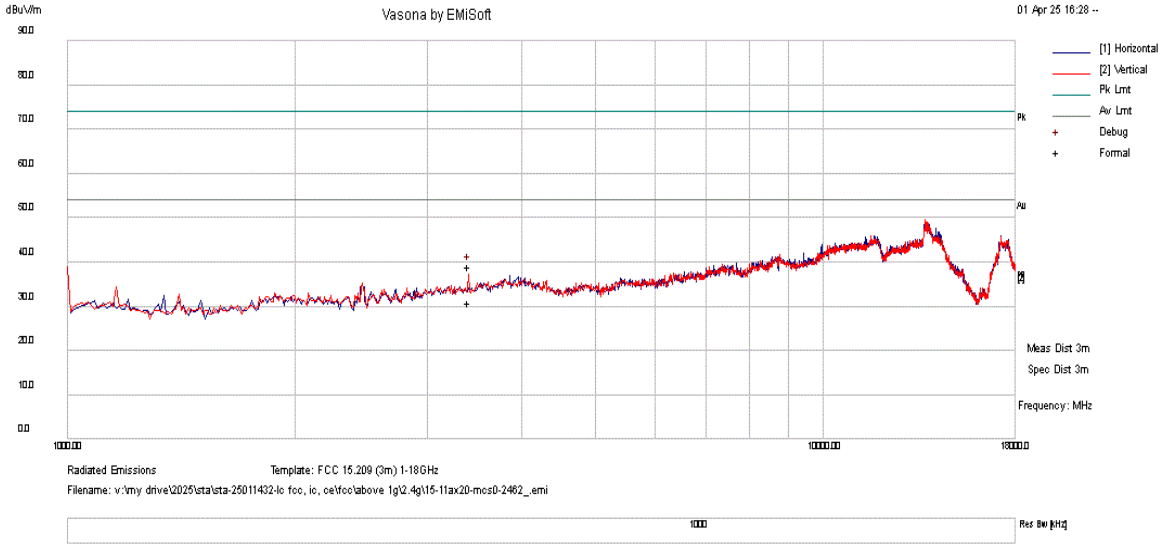


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1155.75	28.14	4.51	-1.67	30.98	Peak Max	V	131	1	74.00	-43.02	Pass
2	1155.75	15.67	4.51	-1.67	18.51	Average Max	V	131	1	54.00	-35.49	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11ax Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/01/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High channel	Test Result:	Pass

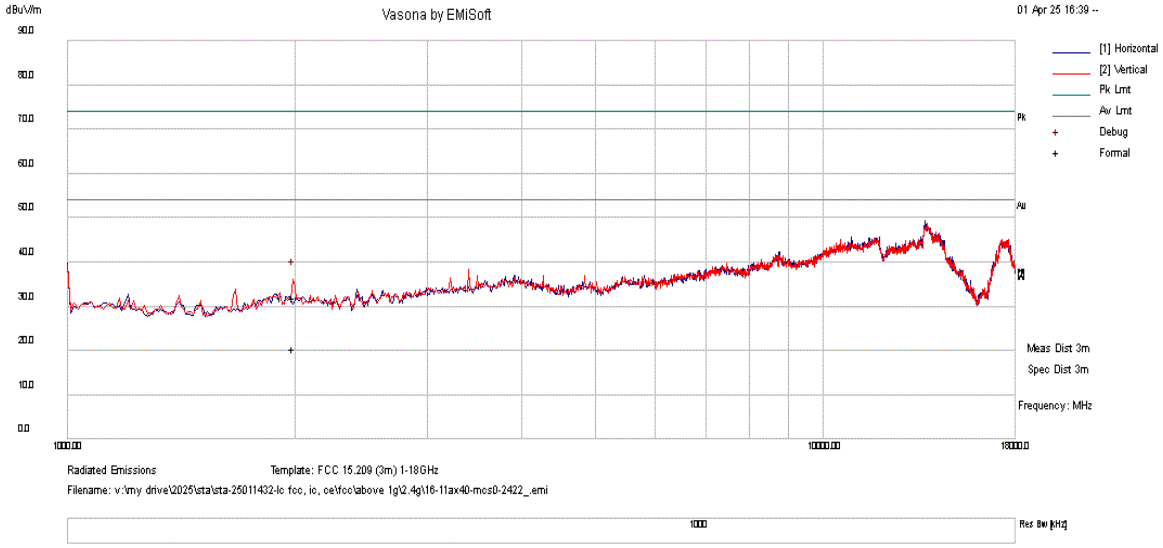


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	3400.16	27.35	8.12	3.57	39.04	Peak Max	V	155	0	74.00	-34.96	Pass
2	3400.16	19.10	8.12	3.57	30.79	Average Max	V	155	0	54.00	-23.21	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11ax40 Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/01/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low channel	Test Result:	Pass

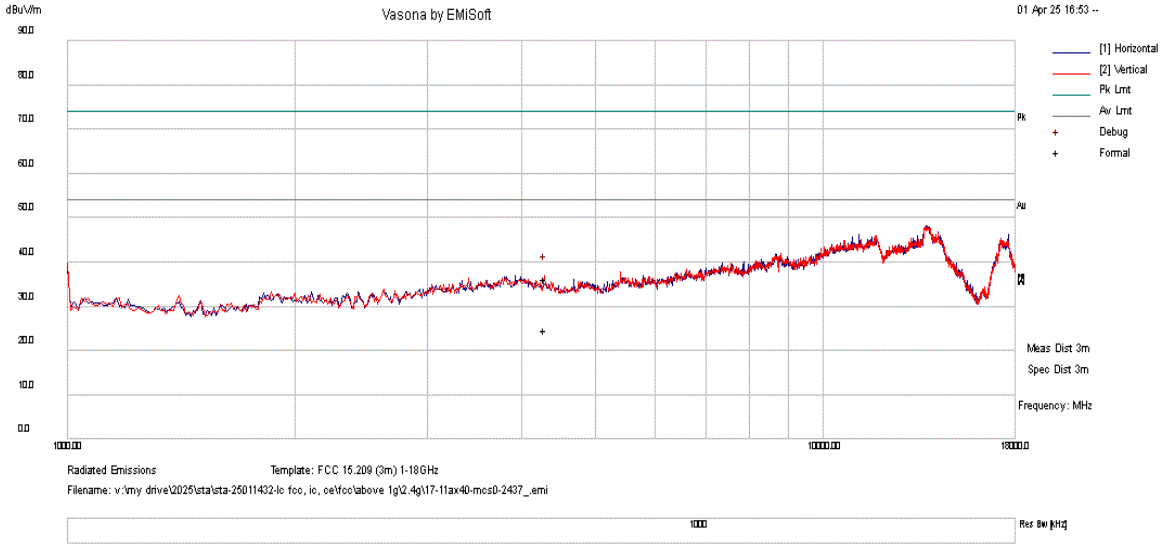


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	1990.55	25.30	6.35	0.42	32.07	Peak Max	H	120	142	74.00	-41.93	Pass
2	1990.55	13.60	6.35	0.42	20.37	Average Max	H	120	142	54.00	-33.63	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11ax40 Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/01/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid channel	Test Result:	Pass

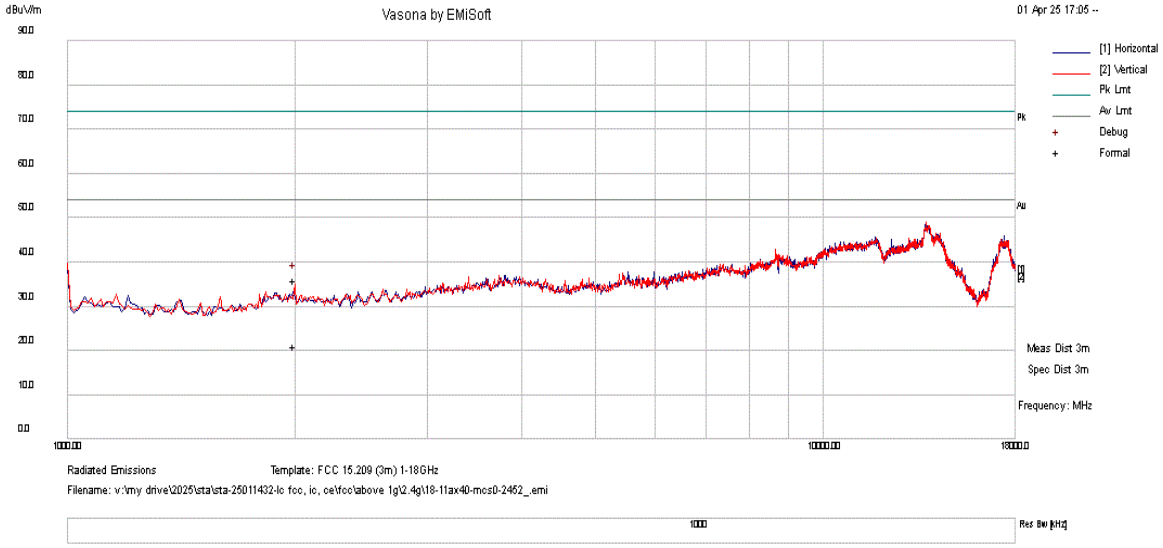


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	4282.95	21.98	9.44	4.80	36.22	Peak Max	V	146	142	74.00	-37.78	Pass
2	4282.95	10.38	9.44	4.80	24.62	Average Max	V	146	142	54.00	-29.38	Pass

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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Test Standard:	15.209, 15.247, RSS-247	Mode:	802.11ax40 Mode
Frequency Range:	1 GHz - 18 GHz	Test Date:	04/01/2025
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High channel	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	1998.07	29.05	6.36	0.44	35.85	Peak Max	V	112	90	74.00	-38.15	Pass
2	1998.07	14.25	6.36	0.44	21.05	Average Max	V	112	90	54.00	-32.95	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. Notch filter is used during testing to block the RF fundamental not to overload preamplifier.

Radiated Emission between 18GHz – 40GHz test result

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

8 EUT and Test Setup Photos

Refer to FCC exhibit

9 Test Instrument List

Equipment	Manufacturer	Model	Instrument Number	Cal. Date	Cal. Due
Semi-Anechoic Chamber	ETS-Lindgren	10M	VL001	05/19/2024	05/19/2026
Shielding Control Room	ETS-Lindgren	Series 81	VL006	N/A	N/A
Spectrum Analyzer	Keysight	N9020A	MY50110074	05/15/2024	05/15/2025
Spectrum Analyzer	Anritsu	MS2830A	6201145210	05/16/2024	05/16/2025
EMC Test Receiver	R&S	ESL6	100230	05/14/2024	05/14/2025
LISN (9KHz – 30MHz)	EMCO	3816/2	9705-1066	05/28/2024	05/28/2025
Impedance Stabilization Network	Teseq GmbH	ISN T8-CAT 6	41576	05/28/2024	05/28/2025
Bi-Log Antenna	ETS-Lindgren	3142E	217921	07/25/2024	07/19/2025
Horn Antenna (1-18GHz)	Electro-Metrics	EM-6961	6292	07/22/2024	07/21/2025
Horn Antenna (18-40GHz)	Com-Power	AH-840	101109	7/22/2024	7/22/2025
Preamplifier	RF Bay, Inc.	LPA-10-20	11180621	07/22/2024	07/21/2025
True RMS Multi-meter	UNI-T	UT181A	C173014829	05/15/2024	05/15/2025
Temp / Humidity / Pressure Meter	PCE Instruments	PCE-THB 40	R062028	05/17/2024	05/17/2025
RF Attenuator	Pasternack	PE7005-3	VL061	N/A	N/A
EM Center Control	ETS-Lindgren	7006-001	160136	N/A	N/A
Turn Table	ETS-Lindgren	2181-3.03	VL002	N/A	N/A
Boresight Antenna Tower	ETS-Lindgren	2171B	VL003	N/A	N/A
Loop Antenna (9k-30MHz)	Com-Power	AL-130	121012	05/17/2024	05/17/2025
RE test cable (below 6GHz)	Vista	RE-6GHz-01	RE-6GHz-01	05/17/2024	05/17/2025
RE test cable (1-18GHz)	PhaseTrack	II-240	RE-18GHz-01	05/17/2024	05/17/2025
RE test cable (>18GHz)	Sucoflex	104	344903/4	05/17/2024	05/17/2025
Pulse limiter	Com-Power	LIT-930A	531727	05/17/2024	05/17/2025
CE test cable #1	FIRST RF	FRF-C-1002-001	CE-6GHz-01	05/17/2024	05/17/2025
CE test cable#2	FIRST RF	FRF-C-1002-001	CE-6GHz-02	05/17/2024	05/17/2025

---END---