

TEST REPORT

Applicant: SEUIC Technologies Co., Ltd.
Address: NO.15 Xinghuo Road, Nanjing New & High
Technology Industry Development Zone, 210061,
Nanjing City, Jiangsu Province, China
Equipment Type: Portable Data Collection Terminal
Model Name: CRUISE3 (refer to section 2.3)
Brand Name: Seuic
FCC ID: 2AC68-CRUISE3
Test Standard: 47 CFR Part 15 Subpart C
(refer to section 3.1)
Sample Arrival Date: Jun. 30, 2026
Test Date: Jul. 22, 2026 - Aug. 26, 2026
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ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** He Yuyang*He Yu Yang***Checked by:** Li Ganming*Li Ganming***Approved by:** Liao Jianming
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Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Sep. 16, 2026</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	601, Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen, Guangdong
	☒ 1/F., Building B, Ganghongji High-Tech Intelligent Industrial Park, No.1008, Songbai Road, Yangguang Community, Xili Subdistrict, Nanshan District, Shenzhen, Guangdong
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	SEUIC Technologies Co., Ltd.
Address	NO.15 Xinghuo Road, Nanjing New & High Technology Industry Development Zone,210061, Nanjing City, Jiangsu Province, China

2.2 Manufacturer Information

Manufacturer	SEUIC Technologies Co., Ltd.
Address	NO.15 Xinghuo Road, Nanjing New & High Technology Industry Development Zone,210061, Nanjing City, Jiangsu Province, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Portable Data Collection Terminal
Model Name Under Test	CRUISE3
Series Model Name	CRUISE3-HC, CRUISE3-C, CRUISE Air
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model name. (this information provided by the applicant)
Hardware Version	00000
Software Version	D770_U_V0.3.6
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 3G Network WCDMA/HSDPA/HSUPA/HSPA+ Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/13/14/17/25/26/66/71 LTE TDD Band 38/41/48 5G Network SA: n2/n5/n7/n12/n13/n14/n25/n26/n38/n41/n48/n66/n71/n77/n78 NSA(EN-DC): DC_2A_n5A, DC_66A_n5A, DC_2A_n66A, DC_5A_n66A, DC_12A_n66A, DC_5A_n2A, DC_12A_n2A, DC_66A_n2A, DC_2A_n77A, DC_66A_n77A, DC_12A_n77A, DC_66A_n71A, DC_2A_n71A, DC_2A_n41A, DC_12A_n25A, DC_66A_n25A, DC_66A_n41A, DC_48A_n66A, DC_13A_n2A, DC_13A_n66A, DC_48A_n5A, DC_13A_n77A, DC_5A_n77A Bluetooth (BR+EDR+BLE) WiFi 802.11a, 802.11b, 802.11g, 802.11n(HT20/40), 802.11ac(VHT20/40/80), 802.11ax(HE20/40/80/160), 802.11be(EHT20/40/80/160/320) BeiDou, Galileo, GLONASS, GPS, SBAS RFID, NFC
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The requirement for the following technical information of the EUT was tested in this report:

Modulation Technology	Frequency hopping system
Modulation Type	RFID
Product Type	☐ Mobile ☒ Portable ☐ Fix Location
Frequency Range	The frequency range used is 902 MHz to 928 MHz.
Number of channel	50
Tested Channel	0 (902.75 MHz), 32 (914.75 MHz), 63 (927.25 MHz)
Antenna Type	Internal Antenna
Antenna Gain	-0.53 dBi
Antenna System(MIMO Smart Antenna)	N/A

All channel was listed on the following table:

Channel Number	Freq. (MHz)	Channel Number	Freq. (MHz)	Channel Number	Freq. (MHz)	Channel Number	Freq. (MHz)
1	902.75	14	909.25	27	915.75	40	922.25
2	903.25	15	909.75	28	916.25	41	922.75
3	903.75	16	910.25	29	916.75	42	923.25
4	904.25	17	910.75	30	917.25	43	923.75
5	904.75	18	911.25	31	917.75	44	924.25
6	905.25	19	911.75	32	918.25	45	924.75
7	905.75	20	912.25	33	918.75	46	925.25
8	906.25	21	912.75	34	919.25	47	925.75
9	906.75	22	913.25	35	919.75	48	926.25
10	907.25	23	913.75	36	920.25	49	926.75
11	907.75	24	914.25	37	920.75	50	927.25
12	908.25	25	914.75	38	921.25	--	--
13	908.75	26	915.25	39	921.75	--	--

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C	Intentional radiators of radio frequency equipment
2	KDB Publication 558074 D01v05r02	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES
3	ANSI C63.10-2020+ Cor. 1-2023+ C63.10a-2024 + Errata to C63.10a-2024	American National Standard for Procedures for Compliance Testing of Unlicensed Wireless Devices

3.2 Test Verdict

No.	Description	FCC Part No.	Modulation Technology	Channel	Test Result	Verdict
1	Antenna Requirement	15.203	N/A	N/A	--	Pass ^{Note}
2	Number of Hopping Frequencies	15.247(a)	Frequency hopping system	Hopping Mode	ANNEX A.1	Pass
3	Peak Output Power	15.247(b)	Frequency hopping system	Low/Middle/High	ANNEX A.2	Pass
4	Occupied Bandwidth	15.247(a)	Frequency hopping system	Low/Middle/High	ANNEX A.3	Pass
5	Carrier Frequency Separation	15.247(a)	Frequency hopping system	Hopping Mode	ANNEX A.4	Pass
6	Time of Occupancy (Dwell time)	15.247(a)	Frequency hopping system	Hopping Mode	ANNEX A.5	Pass
7	Conducted Spurious Emission & Authorized-band band-edge	15.247(d)	Frequency hopping system	Low/Middle/High, Hopping Mode	ANNEX A.6	Pass
8	Conducted Emission	15.207	Frequency hopping system	Low/Middle/High	ANNEX A.7	Pass
9	Radiated Spurious Emission	15.209 15.247(d)	Frequency hopping system	Low/Middle/High, Hopping Mode	ANNEX A.8	Pass
10	Band Edge(Restricted-band band-edge)	15.209 15.247(d)	Frequency hopping system	Low/Middle/High, Hopping Mode	ANNEX A.9	Pass
Note: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.						

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	45% to 59%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+19.3℃ to +23.5℃
Working Voltage of the EUT	NV (Normal Voltage)	3.85V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	MY54420186	2026.05.11	2027.05.10
Spectrum Analyzer	KEYSIGHT	N9020A	MY56060127	2025.12.25	2026.12.24
Test Antenna-Horn	A-INFO	LB-180400KF	J211060273	2024.06.15	2027.06.14
Test Antenna-Bi-Log	Schwarzbeck	VULB 9163	01414	2023.11.03	2026.11.02
Test Antenna-Horn	Schwarzbeck	BBHA 9120D	02459	2023.10.26	2026.10.25
Test Antenna-Loop	Schwarzbeck	FMZB 1513-60	00015	2026.05.12	2028.05.11
Anechoic Chamber	YIHENG	C8-966	107	2024.05.12	2027.05.11
EMI Receiver	Keysight	N9038A	MY55330121	2025.12.26	2026.12.25
Filtering unit	BALUN	SU319F	LW-SZ19D0001F01	N/A	N/A
Switching unit	BALUN	SU319	LW-SZ19D0001S01	N/A	N/A
EMI Receiver	Keysight	N9038B	MY61380132	2025.12.26	2026.12.25
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK8127	01009	2026.06.22	2027.06.21
Shielded Enclosure	YiHeng Electronic Co., Ltd	4.3m*2.9m*2.4 m	235	2024.11.05	2027.11.04

Description	Manufacturer	Model	Parameter
Power Adapter	SHEN ZHEN HUAJIN ELECTRONICS CO., LTD.	HJ-0902000-US	100-240V/AC 50/60Hz 0.6A

4.3 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Parameters	Uncertainty
Occupied Channel Bandwidth	2.8%
RF output power, conducted	1.28 dB
Power Spectral Density, conducted	1.30 dB
Unwanted Emissions, conducted	1.84 dB
All emissions, radiated	5.36 dB
Temperature	0.8°C
Humidity	4%

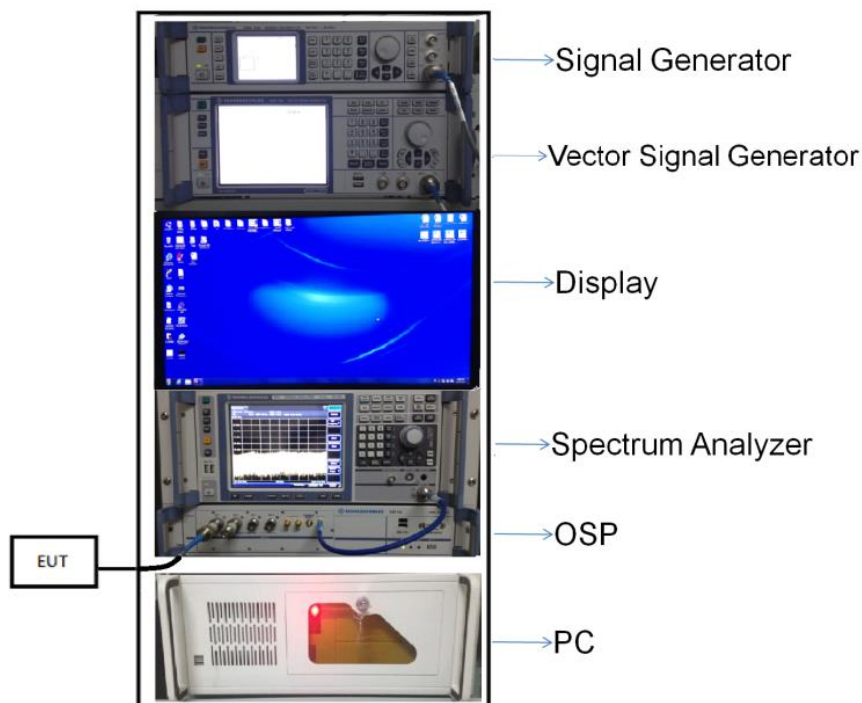
4.4 Description of Test Setup

4.4.1 For Antenna Port Test

Conducted value (dBm) = Measurement value (dBm) + cable loss (dB)

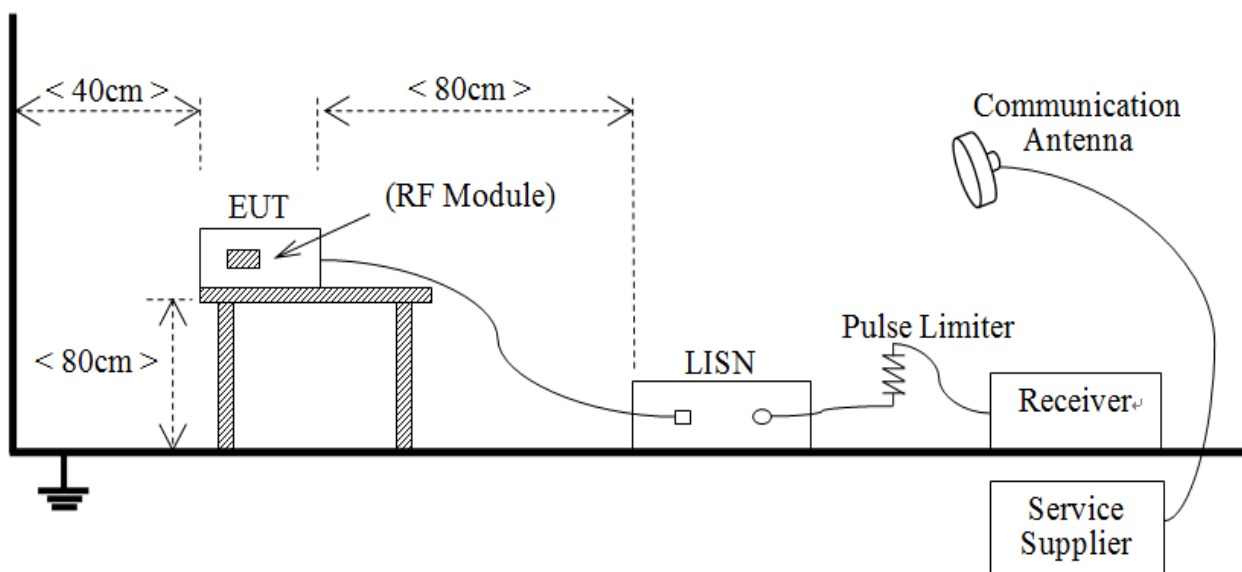
For example: the measurement value is 10 dBm and the cable 0.5dBm used, then the final result of EUT:

Conducted value (dBm) = 10 dBm + 0.5 dB = 10.5 dBm



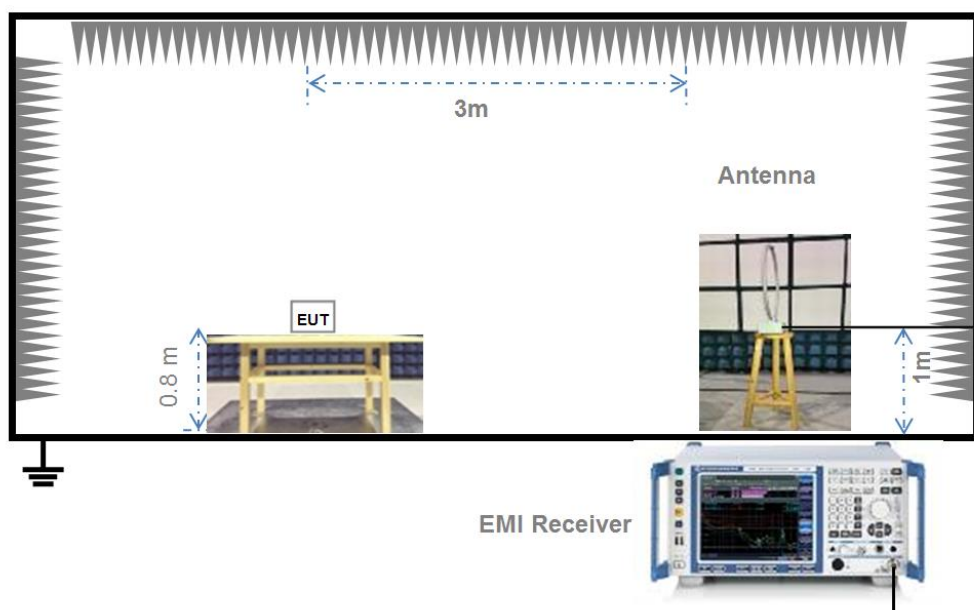
(Diagram 1)

4.4.2 For AC Power Supply Port Test



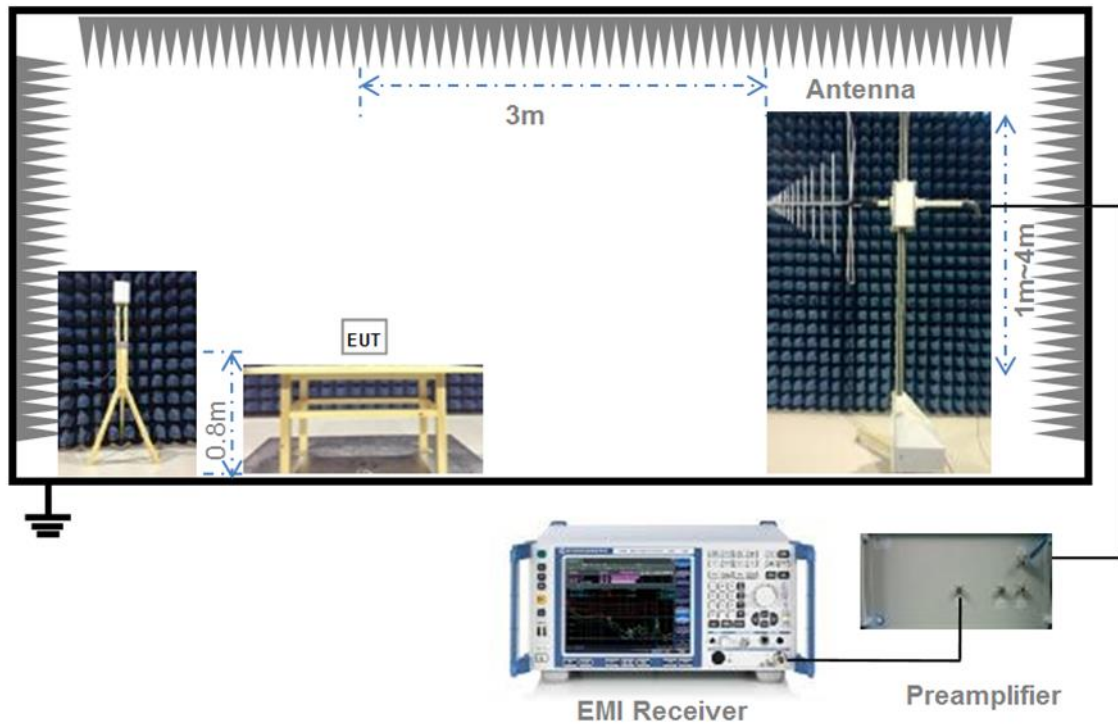
(Diagram 2)

4.4.3 For Radiated Test (Below 30 MHz)



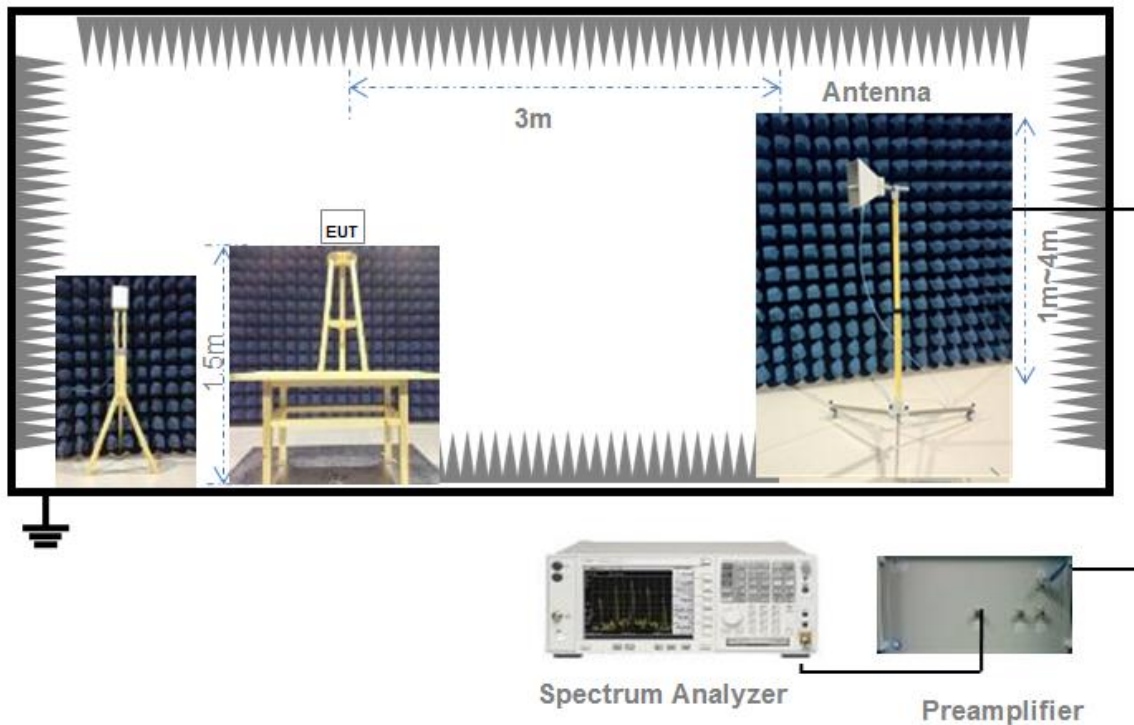
(Diagram 3)

4.4.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.4.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.5 Measurement Results Explanation Example

4.5.1 For conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

FCC §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. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. 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. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product	The antenna is welded on the mainboard, can't be replaced by the consumer

Reference Documents	Item
Photo	Please refer to the EUT Photo documents.

5.1.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 Number of Hopping Frequencies

5.2.1 Limit

FCC §15.247(a)

For FHSs in the band 902-928 MHz: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 20-second period. If the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 10-second period. The maximum 20 dB bandwidth of the hopping channel shall be 500 kHz.

5.2.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = the frequency band of operation

RBW $\geq$ 1% of the span

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize

5.2.4 Test Result

Please refer to ANNEX A.1.

5.3 Peak Output Power

5.3.1 Test Limit

FCC § 15.247(b)

For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.

5.3.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

The Module operates at hopping-off test mode. The lowest, middle and highest channels are selected to perform testing to verify the conducted RF output peak power of the Module.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

RBW > the 20 dB bandwidth of the emission being measured

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize.

5.3.4 Test Result

Please refer to ANNEX A.2.

5.4 Occupied Bandwidth

5.4.1 Limit

FCC §15.247(a)

5.4.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel

RBW = in the range of 1% to 5% of the OBW

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate, Allow the trace to stabilize.

5.4.4 Test Result

Please refer to ANNEX A.3.

5.5 Carrier Frequency Separation

5.5.1 Limit

FCC §15.247(a)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

5.5.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = wide enough to capture the peaks of two adjacent channels

Resolution (or IF) Bandwidth (RBW) $\geq 1\%$ of the span

Video (or Average) Bandwidth (VBW) $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

5.5.4 Test Result

Please refer to ANNEX A.4.

5.6 Time of Occupancy (Dwell time)

5.6.1 Limit

FCC §15.247(a)

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

5.6.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.6.3 Test Procedure

The lowest, middle and highest channels are selected to perform testing to record the dwell time of each occupation measured in this channel, which is called Pulse Time here.

5.6.4 Test Result

Please refer to ANNEX A.5.

5.7 Conducted Spurious Emission & Authorized-band band-edge

5.7.1 Limit

FCC §15.247(d)

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.

5.7.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

RBW = 100 kHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize

5.7.4 Test Result

Please refer to ANNEX A.6.

5.8 Conducted Emission

5.8.1 Limit

FCC §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

5.8.2 Test Setup

See section 4.4.2 for test setup description for the AC power supply port. The photo of test setup please refer to ANNEX B.

5.8.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.8.4 Test Result

Please refer to ANNEX A.7.

5.9 Radiated Spurious Emission

5.9.1 Limit

FCC §15.209&15.247(d)

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	902/F(kHz)	300
0.490 - 1.705	9020/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note:

1. Field Strength (dBμV/m) = 20*log[Field Strength (μV/m)].
2. In the emission tables above, the tighter limit applies at the band edges.
3. For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
4. For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.9.2 Test Setup

See section 4.4.3 to 4.4.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.9.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.9.4 Test Result

Please refer to ANNEX A.8.

5.10 Band Edge (Restricted-band band-edge)

5.10.1 Limit

FCC §15.209&15.247(d)

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

5.10.2 Test Setup

See section 4.4.3 to 4.4.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.10.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.10.4 Test Result

Please refer to ANNEX A.9.

ANNEX A TEST RESULT

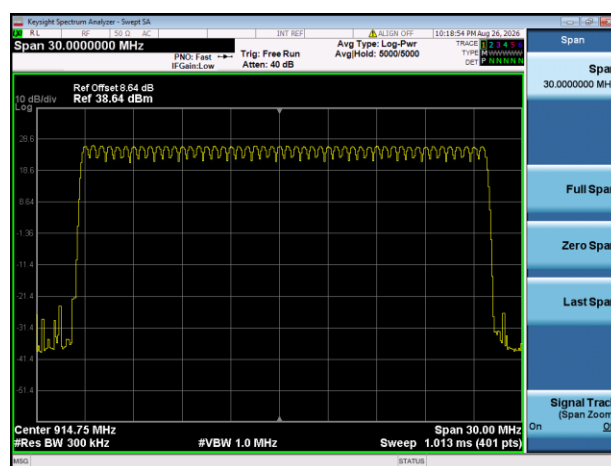
A.1 Number of Hopping Frequency

Test Data

Test Mode	Frequency Block (MHz)	Measured Channel Numbers	Min. Limit	Verdict
RFID	902-928	50	50	Pass

Test Plots

RFID



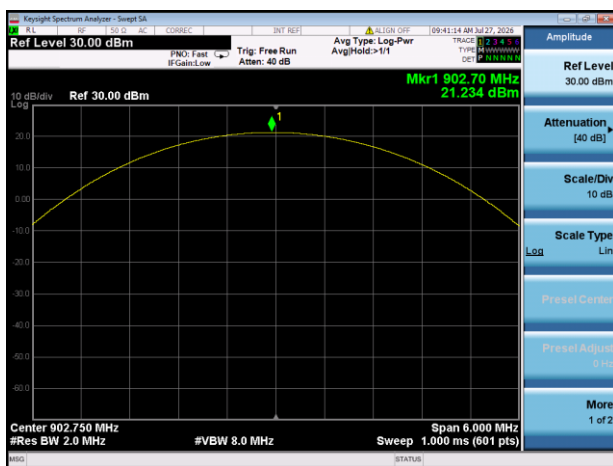
A.2 Peak Output Power

Peak Power Test Data

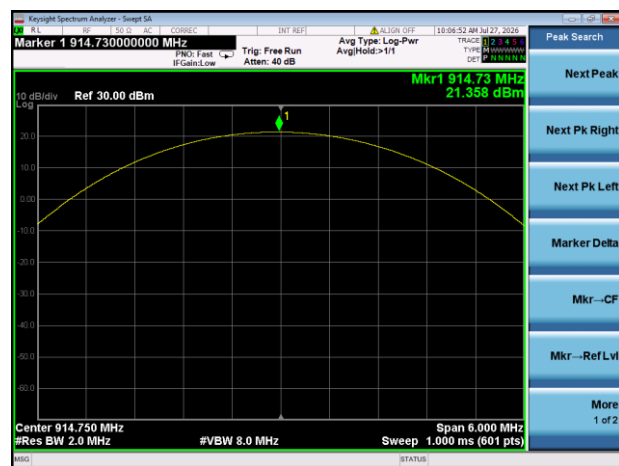
Channel	Measured Output Peak Power		Limit		Verdict
	RFID		dBm	mW	
	dBm	mW			
Low	21.23	132.86	30	1000	Pass
Middle	21.36	136.71			Pass
High	21.32	135.43			Pass

Test Plots

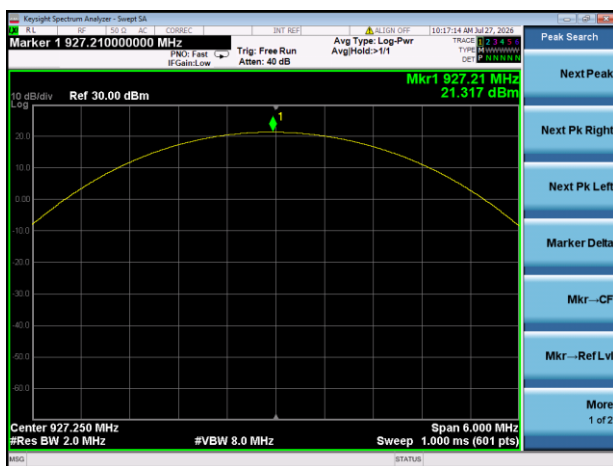
LOW CHANNEL



MIDDLE CHANNEL



HIGH CHANNEL



A.3 20 dB and 99% bandwidth

Test Data

RFID		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	0.095000	0.078190
Middle	0.095000	0.078147
High	0.095000	0.078073

Test Plots

20 dB Bandwidth

LOW CHANNEL



MIDDLE CHANNEL

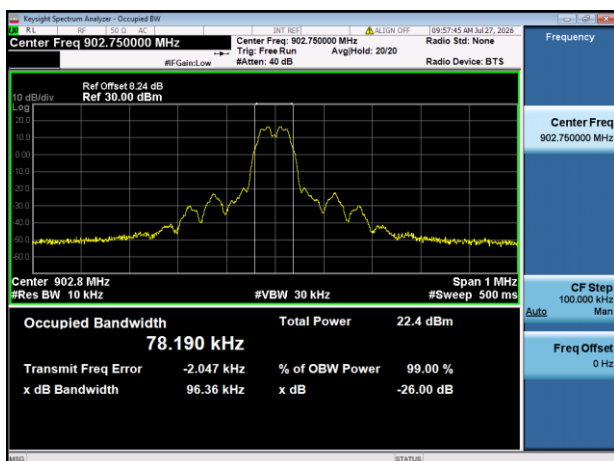


HIGH CHANNEL

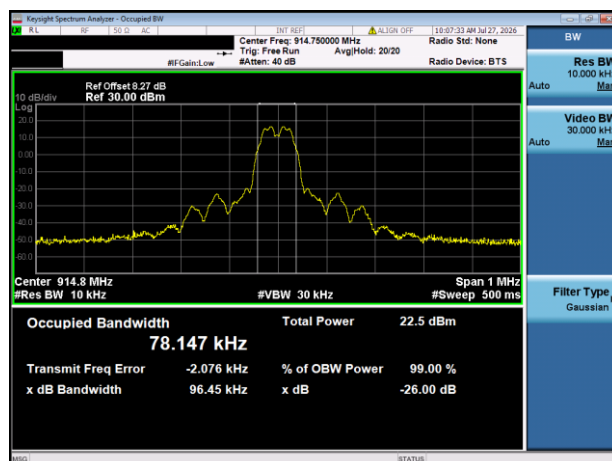


99% Bandwidth

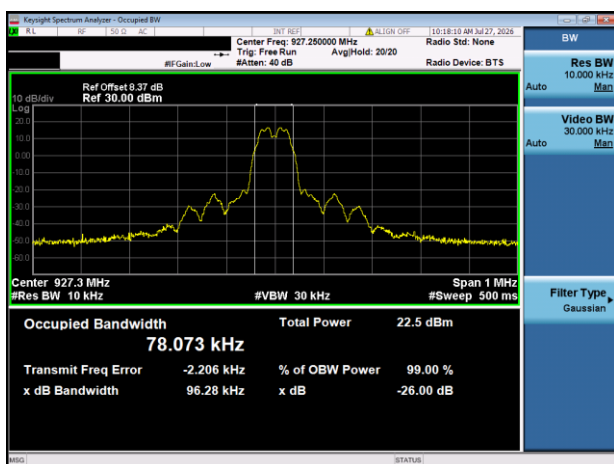
LOW CHANNEL



MIDDLE CHANNEL



HIGH CHANNEL



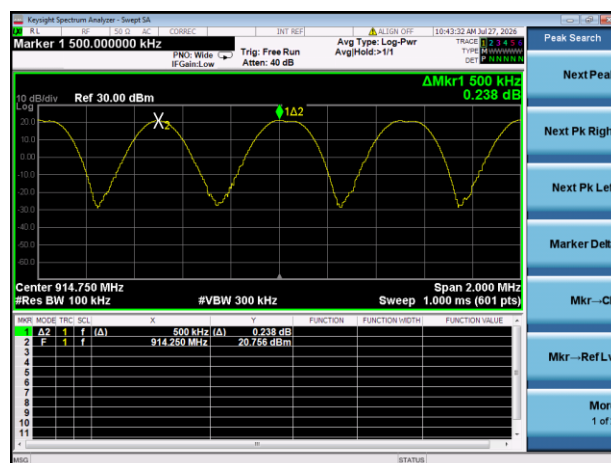
A.4 Hopping Frequency Separation

Test Data

Mode	Frequency separation (MHz)	20 dB Bandwidth (MHz)	Verdict
RFID	0.500	0.063	Pass

Test Plots

RFID



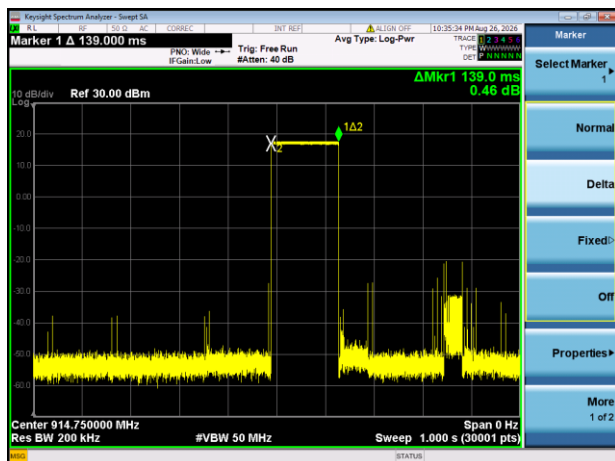
A.5 Average Time of Occupancy

Test Data

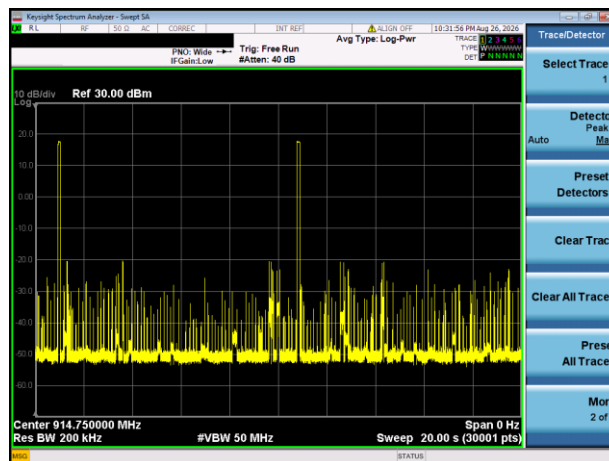
Total of Dwell (ms)	Limit (sec)	Verdict
278.000	0.4	Pass

Test Plots

burst time



burst number



A.6 Conducted Spurious Emissions & Authorized-band band-edge

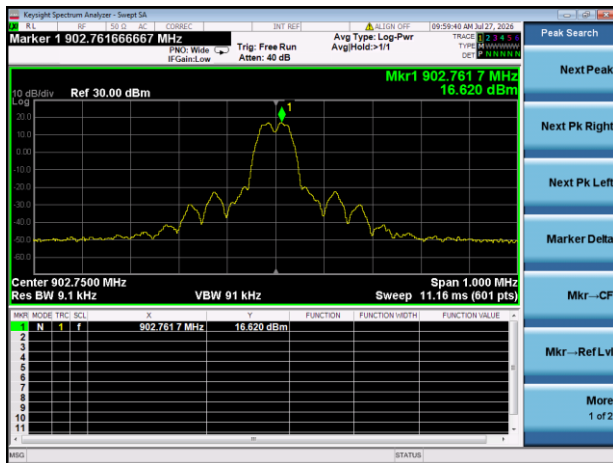
Test Data

RFID				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-20.99	16.62	-3.38	Pass
Middle	-20.41	16.69	-3.31	Pass
High	-19.29	16.63	-3.37	Pass

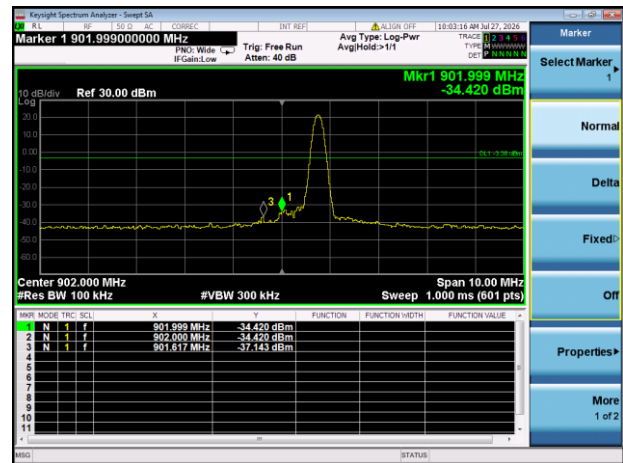
RFID				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Hopping	-22.28	25.15	5.15	Pass

Test Plots

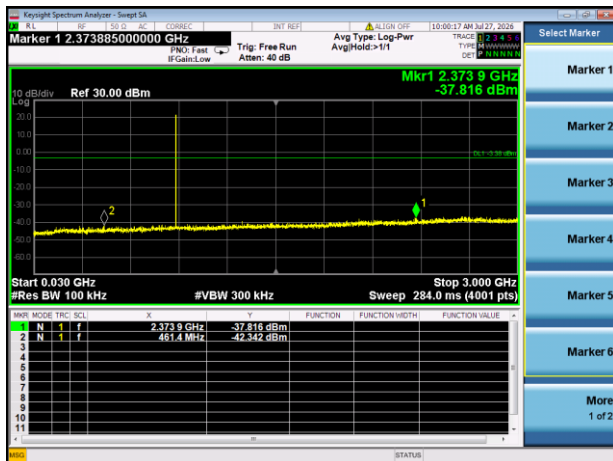
LOW CHANNEL, CARRIER LEVEL



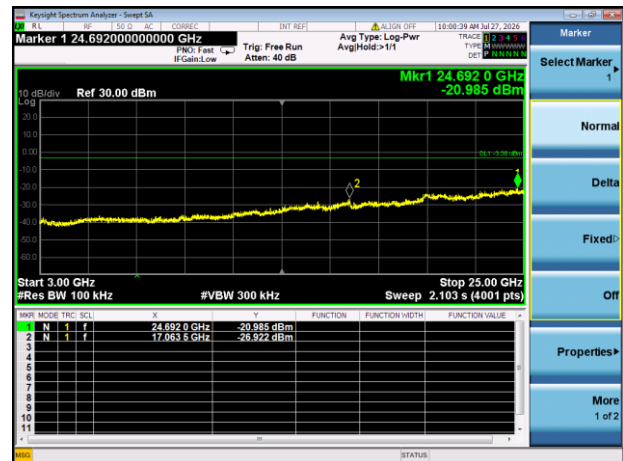
LOW CHANNEL, BAND EDGE



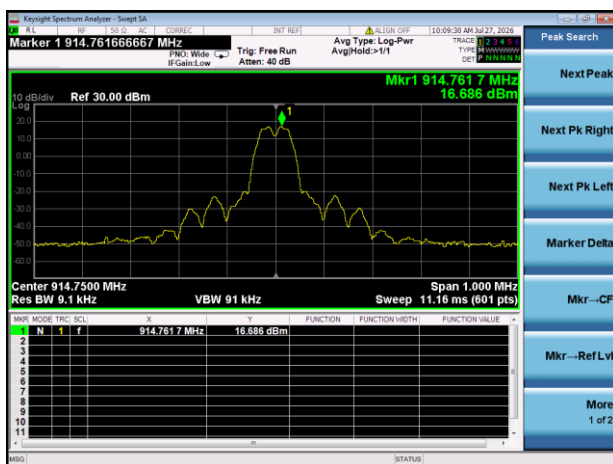
LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



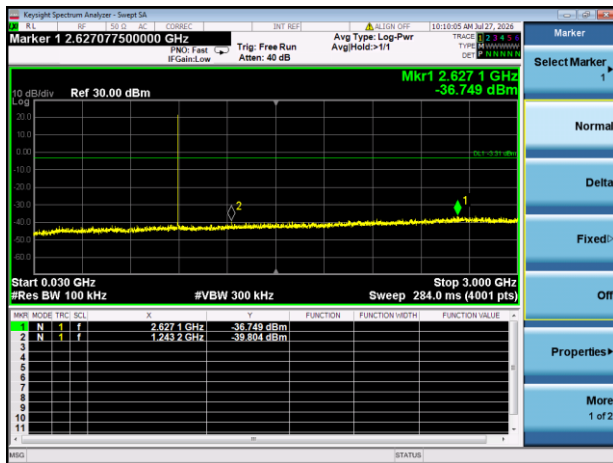
LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



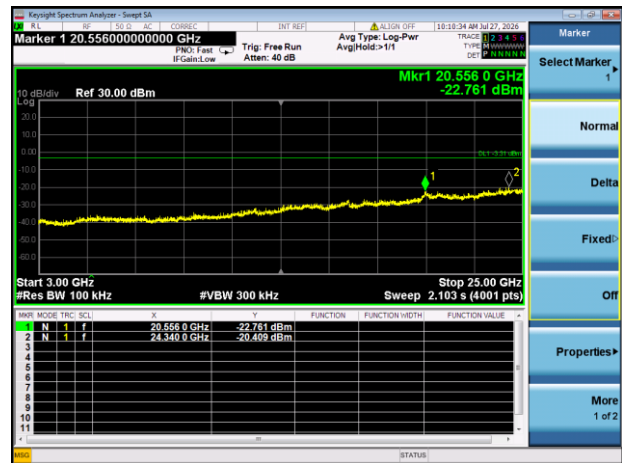
MIDDLE CHANNEL, CARRIER LEVEL



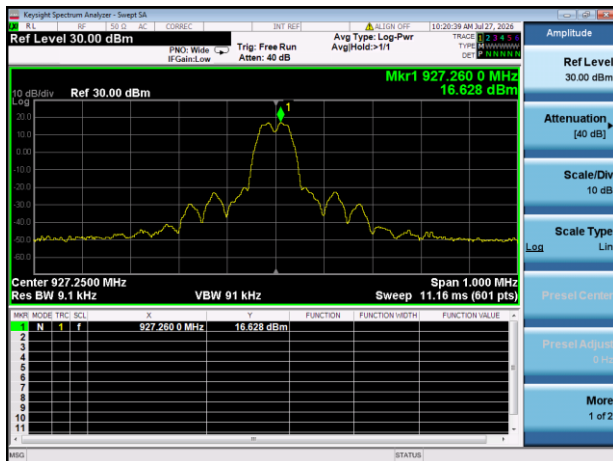
MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



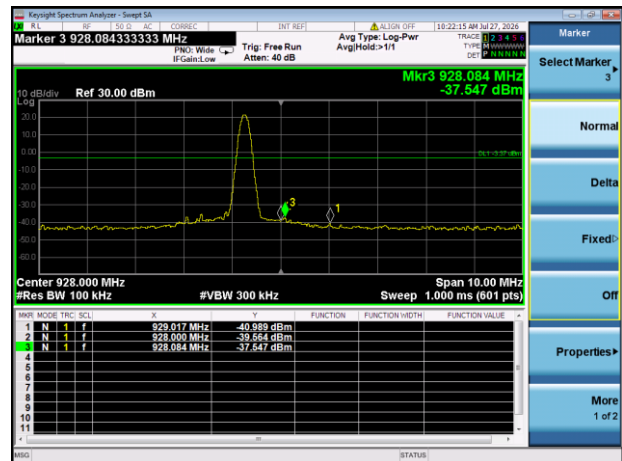
MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



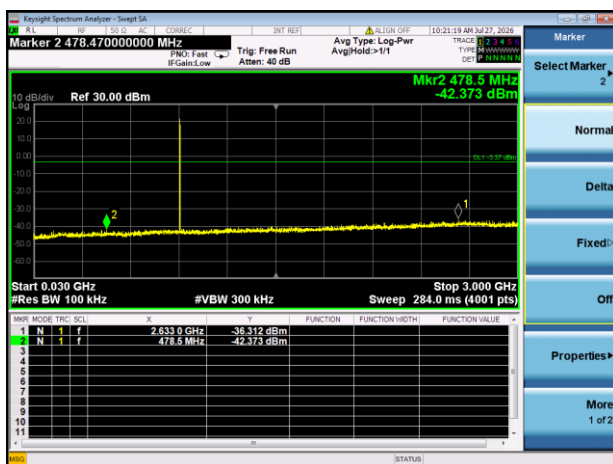
HIGH CHANNEL, CARRIER LEVEL



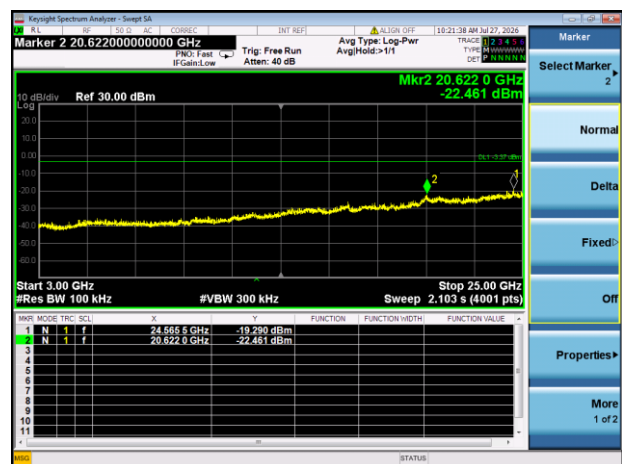
HIGH CHANNEL, BAND EDGE



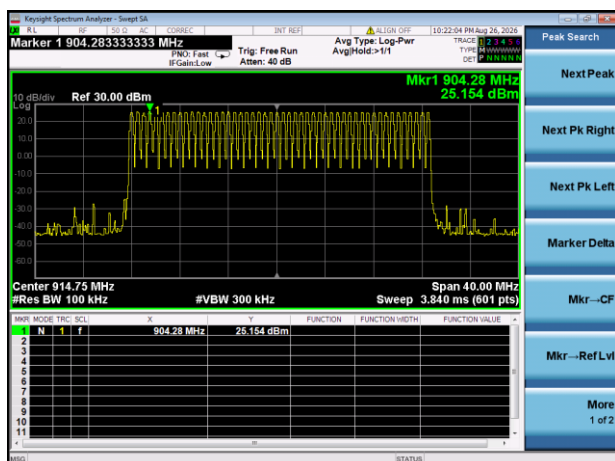
HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



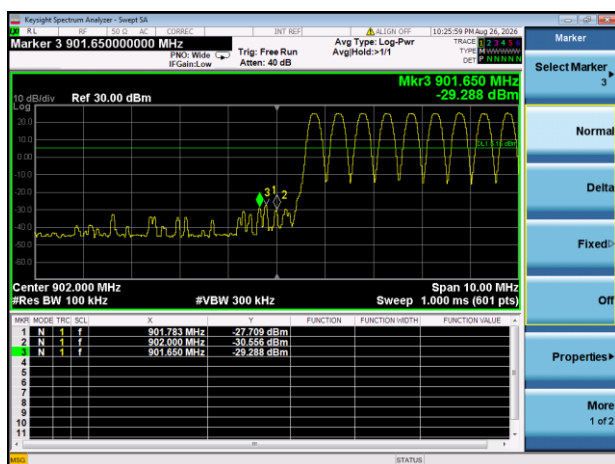
HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



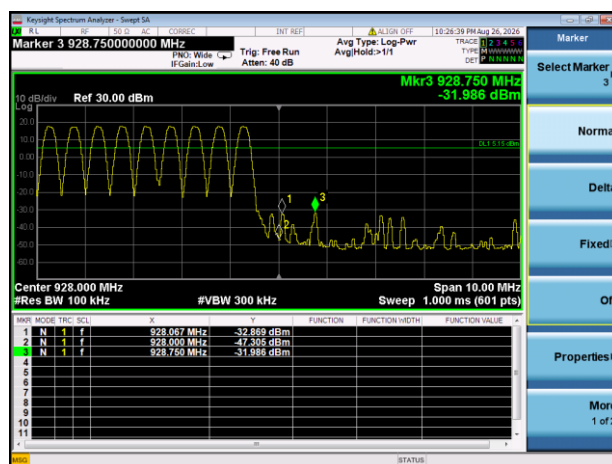
HOPPING, CARRIER LEVEL



HOPPING BAND EDGE (LOW)



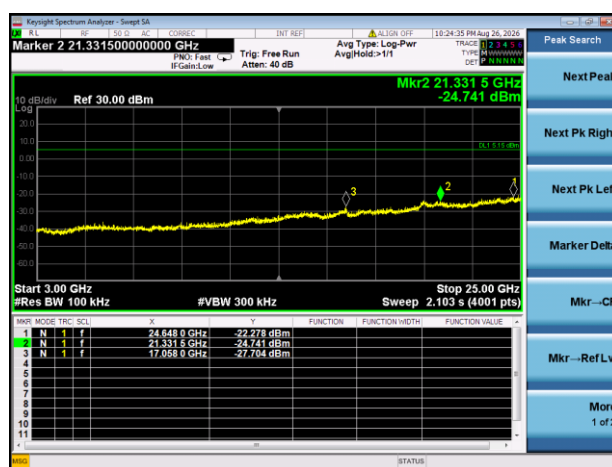
HOPPING BAND EDGE (HIGH)



Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



Hopping Mode, SPURIOUS 3GHz ~ 25 GHz



A.7 Conducted Emissions

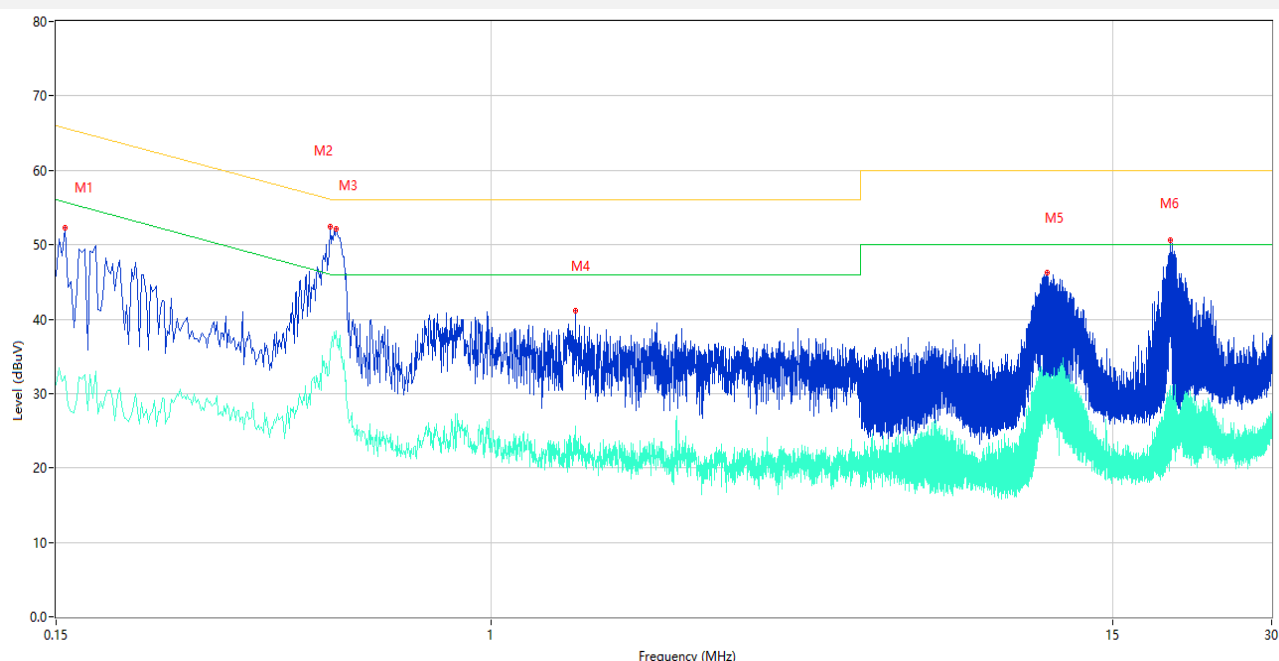
Note¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

Note²: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Note³: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

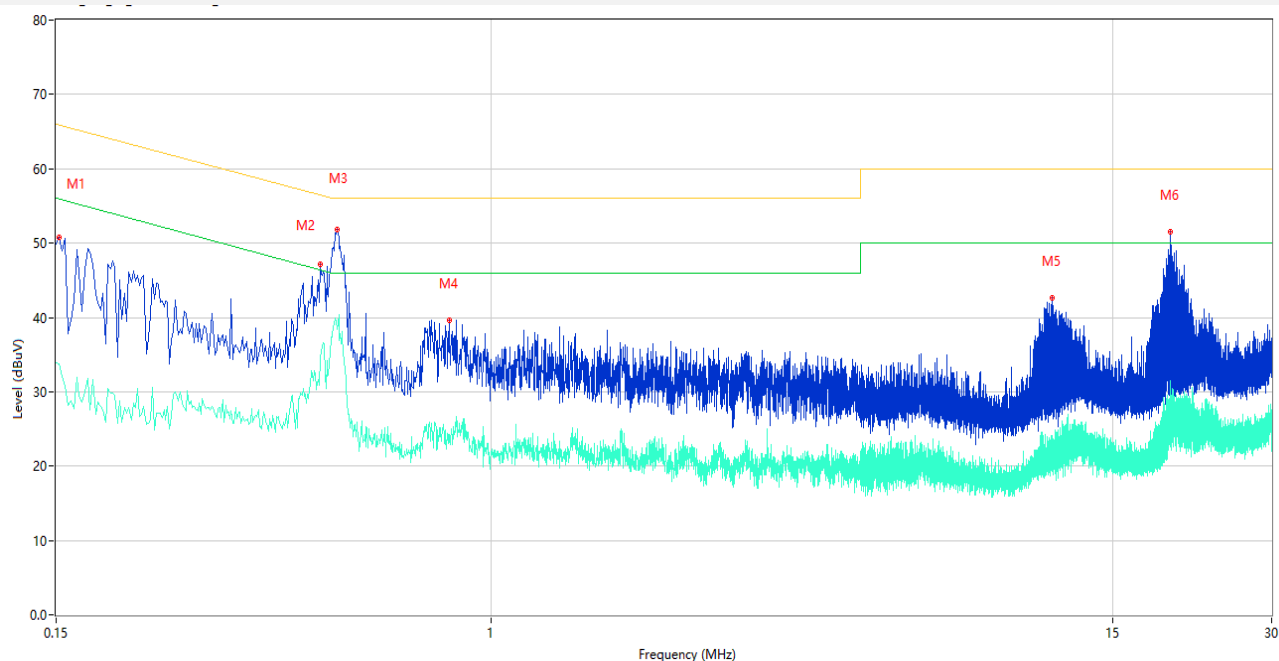
Test Data and Plots

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.156	52.27	10.23	65.67	13.40	Peak	L	Pass
1**	0.156	32.42	10.23	55.67	23.25	AV	L	Pass
2	0.496	52.44	10.25	56.07	3.63	Peak	L	Pass
2**	0.496	35.93	10.25	46.07	10.14	AV	L	Pass
3	0.508	52.18	10.25	56.00	3.82	Peak	L	Pass
3**	0.508	38.40	10.25	46.00	7.60	AV	L	Pass
4	1.446	41.14	10.37	56.00	14.86	Peak	L	Pass
4**	1.446	21.88	10.37	46.00	24.12	AV	L	Pass
5	11.268	46.23	12.83	60.00	13.77	Peak	L	Pass
5**	11.268	31.04	12.83	50.00	18.96	AV	L	Pass
6	19.292	50.62	14.90	60.00	9.38	Peak	L	Pass
6**	19.292	29.42	14.90	50.00	20.58	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.152	50.83	10.23	65.89	15.06	Peak	N	Pass
1**	0.152	33.71	10.23	55.89	22.18	AV	N	Pass
2	0.474	47.14	10.23	56.44	9.30	Peak	N	Pass
2**	0.474	34.69	10.23	46.44	11.75	AV	N	Pass
3	0.510	51.84	10.23	56.00	4.16	Peak	N	Pass
3**	0.510	38.36	10.23	46.00	7.64	AV	N	Pass
4	0.832	39.66	10.27	56.00	16.34	Peak	N	Pass
4**	0.832	24.22	10.27	46.00	21.78	AV	N	Pass
5	11.514	42.59	12.91	60.00	17.41	Peak	N	Pass
5**	11.514	22.66	12.91	50.00	27.34	AV	N	Pass
6	19.272	51.46	14.98	60.00	8.54	Peak	N	Pass
6**	19.272	24.75	14.98	50.00	25.25	AV	N	Pass

A.8 Radiated Spurious Emission

Note ¹: The symbol of “--” in the table which means not application.

Note ²: For the test data above 1 GHz, according the ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

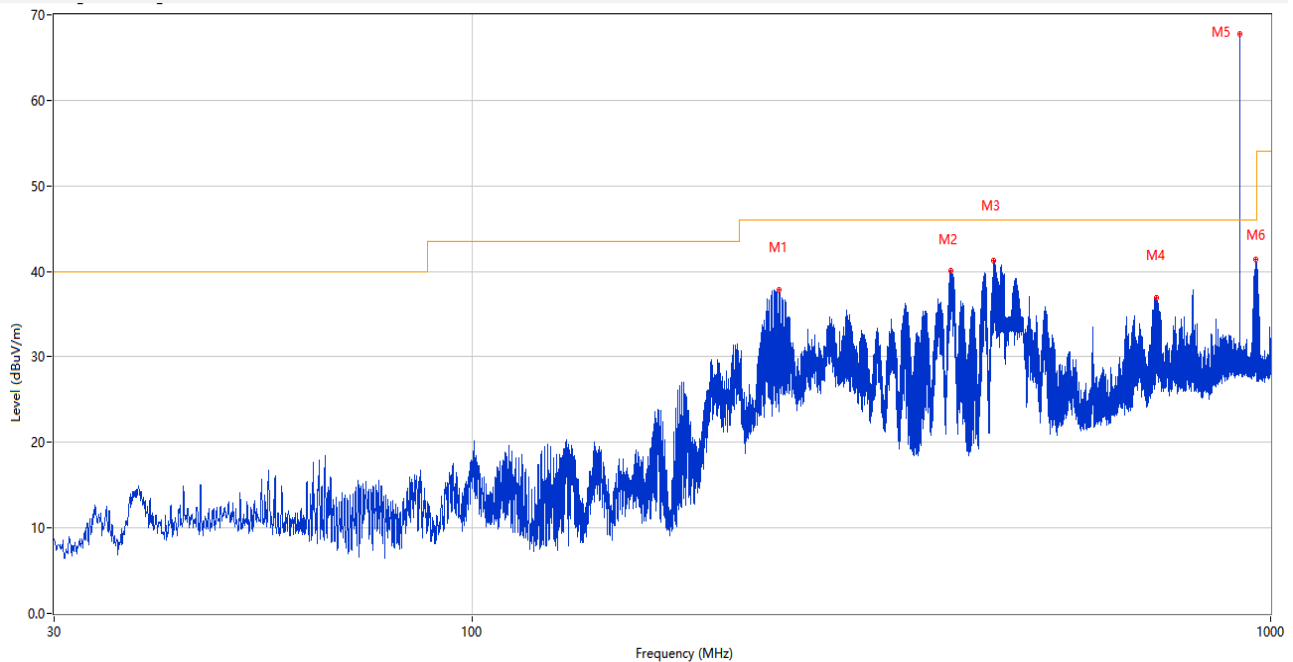
Note ³: Results (dBuV/m) = Original reading level of Spectrum Analyzer (dBuV/m) + Factor (dB)

Note ⁴: The worst configurations is below 1 GHz, only the worst configuration (Low Channel) shown here.

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

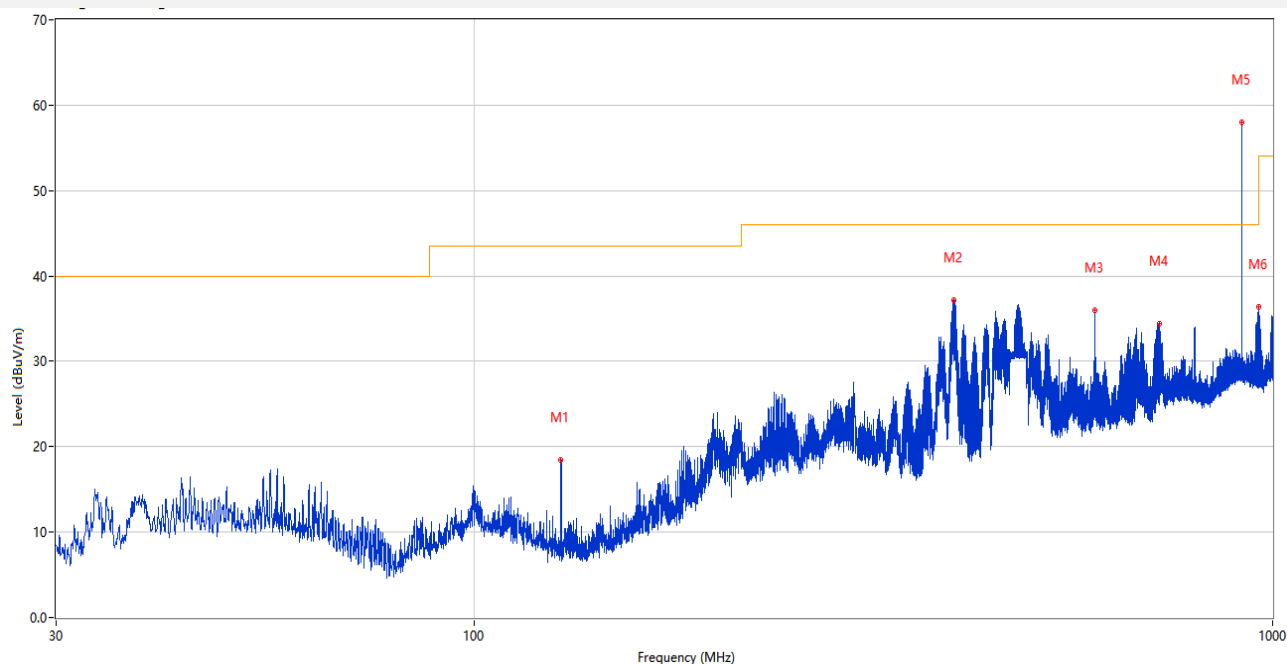
Test Data and Plots

MIDDLE CHANNEL 30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	242.188	37.82	-24.46	46.0	8.18	Peak	74.00	100	Horizontal	Pass
2	397.970	40.01	-20.75	46.0	5.99	Peak	22.00	100	Horizontal	Pass
3	450.543	41.31	-19.59	46.0	4.69	Peak	111.00	200	Horizontal	Pass
4	718.943	36.93	-13.49	46.0	9.07	Peak	217.00	100	Horizontal	Pass
5	914.737	67.76	-8.56	46.0	-21.76	Peak	113.00	100	Horizontal	N/A
6	958.920	41.40	-9.16	46.0	4.60	Peak	110.00	100	Horizontal	Pass

MIDDLE CHANNEL 30 MHz to 1 GHz, ANT V

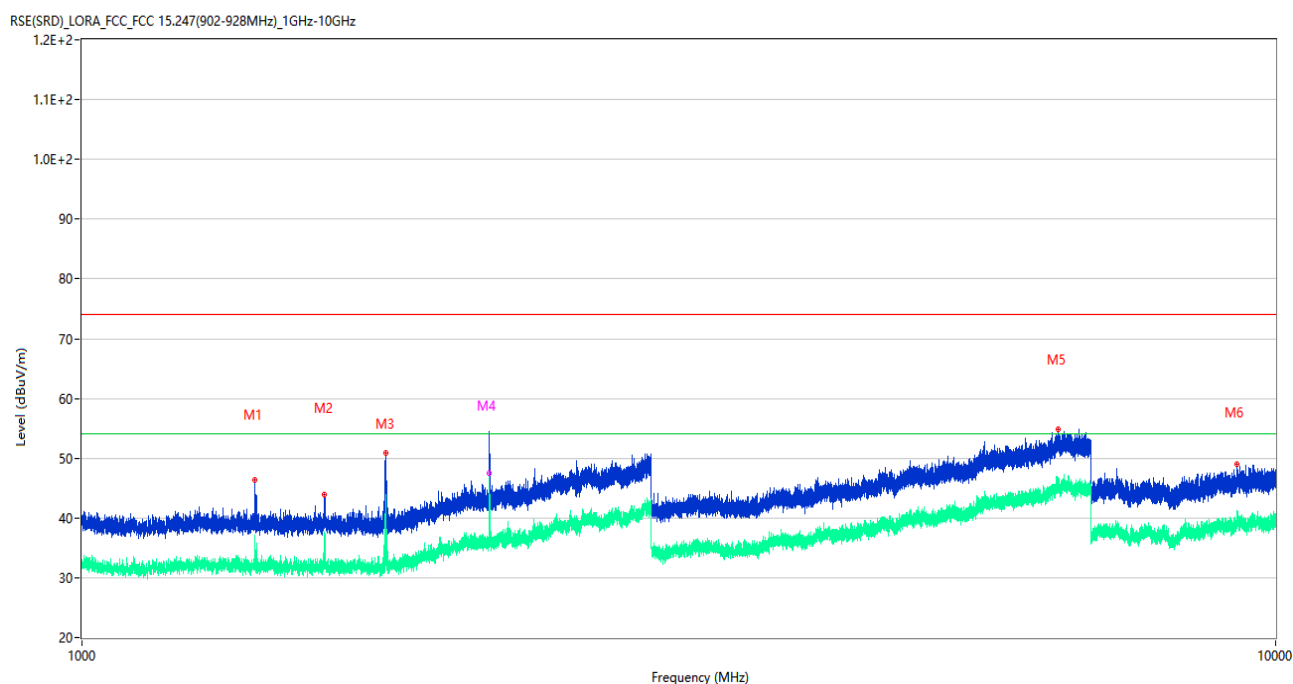


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	128.600	18.43	-29.40	43.5	25.07	Peak	204.00	100	Vertical	Pass
2	399.085	37.23	-20.75	46.0	8.77	Peak	102.00	100	Vertical	Pass
3	599.148	36.00	-15.21	46.0	10.00	Peak	305.00	100	Vertical	Pass
4	721.125	34.47	-13.36	46.0	11.53	Peak	18.00	100	Vertical	Pass
5	914.737	57.99	-8.56	46.0	-11.99	Peak	129.00	200	Vertical	N/A
6	961.103	36.40	-9.14	54.0	17.60	Peak	152.00	200	Vertical	Pass

Note¹: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

Note²: The spurious from 18GHz-25GHz is noise only, do not show on the report.

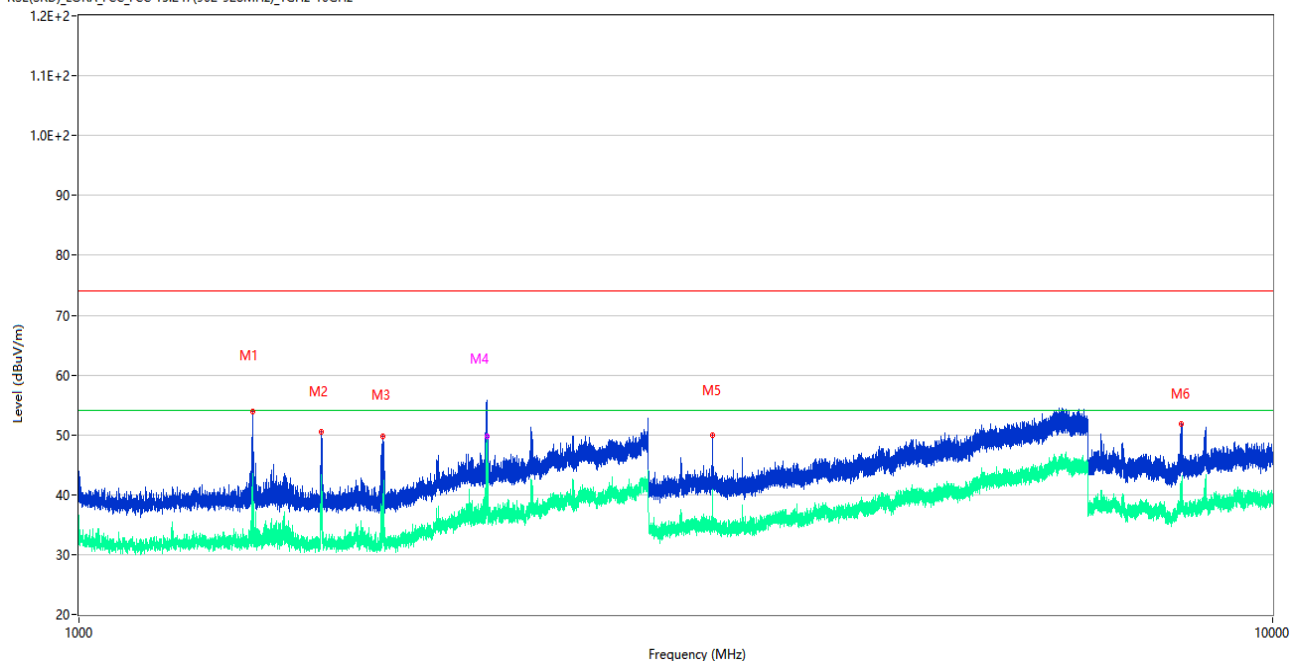
LOW CHANNEL 1 GHz to 18 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1395.100	46.36	-17.90	74.0	27.64	Peak	0.00	150	Horizontal	Pass
1**	1395.100	33.73	-17.90	54.0	20.27	AV	0.00	150	Horizontal	Pass
2	1594.600	43.88	-17.91	74.0	30.12	Peak	108.00	150	Horizontal	Pass
2**	1594.600	32.91	-17.91	54.0	21.09	AV	108.00	150	Horizontal	Pass
3	1798.000	50.84	-17.83	74.0	23.16	Peak	46.00	150	Horizontal	Pass
3**	1798.000	39.54	-17.83	54.0	14.46	AV	46.00	150	Horizontal	Pass
4	2192.400	45.88	-14.38	74.0	28.12	Peak	139.00	150	Horizontal	Pass
4**	2192.400	47.52	-14.38	54.0	6.48	AV	139.00	150	Horizontal	Pass
5	6569.000	54.75	0.86	74.0	19.25	Peak	0.00	150	Horizontal	Pass
5**	6569.000	45.54	0.86	54.0	8.46	AV	0.00	150	Horizontal	Pass
6	9274.750	48.98	2.93	74.0	25.02	Peak	265.00	150	Horizontal	Pass
6**	9274.750	38.94	2.93	54.0	15.06	AV	265.00	150	Horizontal	Pass

LOW CHANNEL 1 GHz to 18 GHz, ANT V

RSE(SRD)_LORA_FCC_FCC 15.247(902-928MHz)_1GHz-10GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1397.000	53.98	-17.97	74.0	20.02	Peak	81.00	150	Vertical	Pass
1**	1397.000	43.10	-17.97	54.0	10.90	AV	81.00	150	Vertical	Pass
2	1595.900	50.52	-17.96	74.0	23.48	Peak	111.00	150	Vertical	Pass
2**	1595.900	37.67	-17.96	54.0	16.33	AV	111.00	150	Vertical	Pass
3	1796.000	49.80	-17.74	74.0	24.20	Peak	111.00	150	Vertical	Pass
3**	1796.000	33.30	-17.74	54.0	20.70	AV	111.00	150	Vertical	Pass
4	2196.000	50.22	-14.56	74.0	23.78	Peak	88.00	150	Vertical	Pass
4**	2196.000	49.73	-14.56	54.0	4.27	AV	88.00	150	Vertical	Pass
5	3397.000	49.90	-8.75	74.0	24.10	Peak	41.00	150	Vertical	Pass
5**	3397.000	36.53	-8.75	54.0	17.47	AV	41.00	150	Vertical	Pass
6	8377.901	51.84	0.63	74.0	22.16	Peak	97.00	150	Vertical	Pass
6**	8377.901	37.76	0.63	54.0	16.24	AV	97.00	150	Vertical	Pass

MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1398.300	45.03	-17.91	74.0	28.97	Peak	262.00	150	Horizontal	Pass
1**	1398.300	36.82	-17.91	54.0	17.18	AV	262.00	150	Horizontal	Pass
2	1798.500	49.37	-17.92	74.0	24.63	Peak	43.00	150	Horizontal	Pass
2**	1798.500	34.18	-17.92	54.0	19.82	AV	43.00	150	Horizontal	Pass
3	1991.000	45.98	-15.81	74.0	28.02	Peak	145.00	150	Horizontal	Pass
3**	1991.000	34.54	-15.81	54.0	19.46	AV	145.00	150	Horizontal	Pass
4	2194.900	52.33	-14.58	74.0	21.67	Peak	106.00	150	Horizontal	Pass
4**	2194.900	36.10	-14.58	54.0	17.90	AV	106.00	150	Horizontal	Pass
5	6568.600	54.99	0.69	74.0	19.01	Peak	25.00	150	Horizontal	Pass
5**	6568.600	45.30	0.69	54.0	8.70	AV	25.00	150	Horizontal	Pass
6	9581.799	49.56	2.69	74.0	24.44	Peak	199.00	150	Horizontal	Pass
6**	9581.799	39.67	2.69	54.0	14.33	AV	199.00	150	Horizontal	Pass

MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1395.000	54.43	-17.92	74.0	19.57	Peak	83.00	150	Vertical	Pass
1**	1395.000	34.02	-17.92	54.0	19.98	AV	83.00	150	Vertical	Pass
2	1798.500	53.04	-17.92	74.0	20.96	Peak	106.00	150	Vertical	Pass
2**	1798.500	42.01	-17.92	54.0	11.99	AV	106.00	150	Vertical	Pass
3	2198.900	48.66	-14.40	74.0	25.34	Peak	90.00	150	Vertical	Pass
3**	2198.900	48.31	-14.40	54.0	5.69	AV	90.00	150	Vertical	Pass
4	3395.600	50.54	-8.47	74.0	23.46	Peak	57.00	150	Vertical	Pass
4**	3395.600	36.10	-8.47	54.0	17.90	AV	57.00	150	Vertical	Pass
5	6701.400	54.97	0.85	74.0	19.03	Peak	244.00	150	Vertical	Pass
5**	6701.400	46.66	0.85	54.0	7.34	AV	244.00	150	Vertical	Pass
6	8772.850	51.41	1.64	74.0	22.59	Peak	86.00	150	Vertical	Pass
6**	8772.850	37.70	1.64	54.0	16.30	AV	86.00	150	Vertical	Pass

HIGH CHANNEL 1 GHz to 18 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1395.600	47.36	-17.77	74.0	26.64	Peak	248.00	150	Horizontal	Pass
1**	1395.600	31.69	-17.77	54.0	22.31	AV	248.00	150	Horizontal	Pass
2	1595.400	44.68	-17.61	74.0	29.32	Peak	360.00	150	Horizontal	Pass
2**	1595.400	35.52	-17.61	54.0	18.48	AV	360.00	150	Horizontal	Pass
3	1799.200	51.94	-18.35	74.0	22.06	Peak	19.00	150	Horizontal	Pass
3**	1799.200	35.04	-18.35	54.0	18.96	AV	19.00	150	Horizontal	Pass
4	2195.700	54.14	-14.67	74.0	19.86	Peak	120.00	150	Horizontal	Pass
4**	2195.700	43.59	-14.67	54.0	10.41	AV	120.00	150	Horizontal	Pass
5	6566.200	55.09	0.36	74.0	18.91	Peak	135.00	150	Horizontal	Pass
5**	6566.200	45.46	0.36	54.0	8.54	AV	135.00	150	Horizontal	Pass
6	9579.099	48.95	2.65	74.0	25.05	Peak	91.00	150	Horizontal	Pass
6**	9579.099	39.25	2.65	54.0	14.75	AV	91.00	150	Horizontal	Pass

HIGH CHANNEL 1 GHz to 18 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1399.200	53.44	-18.32	74.0	20.56	Peak	87.00	150	Vertical	Pass
1**	1399.200	34.05	-18.32	54.0	19.95	AV	87.00	150	Vertical	Pass
2	2193.000	53.66	-14.23	74.0	20.34	Peak	0.00	150	Vertical	Pass
2**	2193.000	49.63	-14.23	54.0	4.37	AV	0.00	150	Vertical	Pass
3	2590.300	54.64	-11.94	74.0	19.36	Peak	64.00	150	Vertical	Pass
3**	2590.300	39.37	-11.94	54.0	14.63	AV	64.00	150	Vertical	Pass
4	3398.800	49.92	-8.85	74.0	24.08	Peak	52.00	150	Vertical	Pass
4**	3398.800	40.33	-8.85	54.0	13.67	AV	52.00	150	Vertical	Pass
5	7498.750	50.77	-0.37	74.0	23.23	Peak	134.00	150	Vertical	Pass
5**	7498.750	38.90	-0.37	54.0	15.10	AV	134.00	150	Vertical	Pass
6	8770.150	51.44	1.62	74.0	22.56	Peak	88.00	150	Vertical	Pass
6**	8770.150	38.70	1.62	54.0	15.30	AV	88.00	150	Vertical	Pass

A.9 Band Edge (Restricted-band band-edge)

Note ¹: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Note ²: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note ³: According the ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

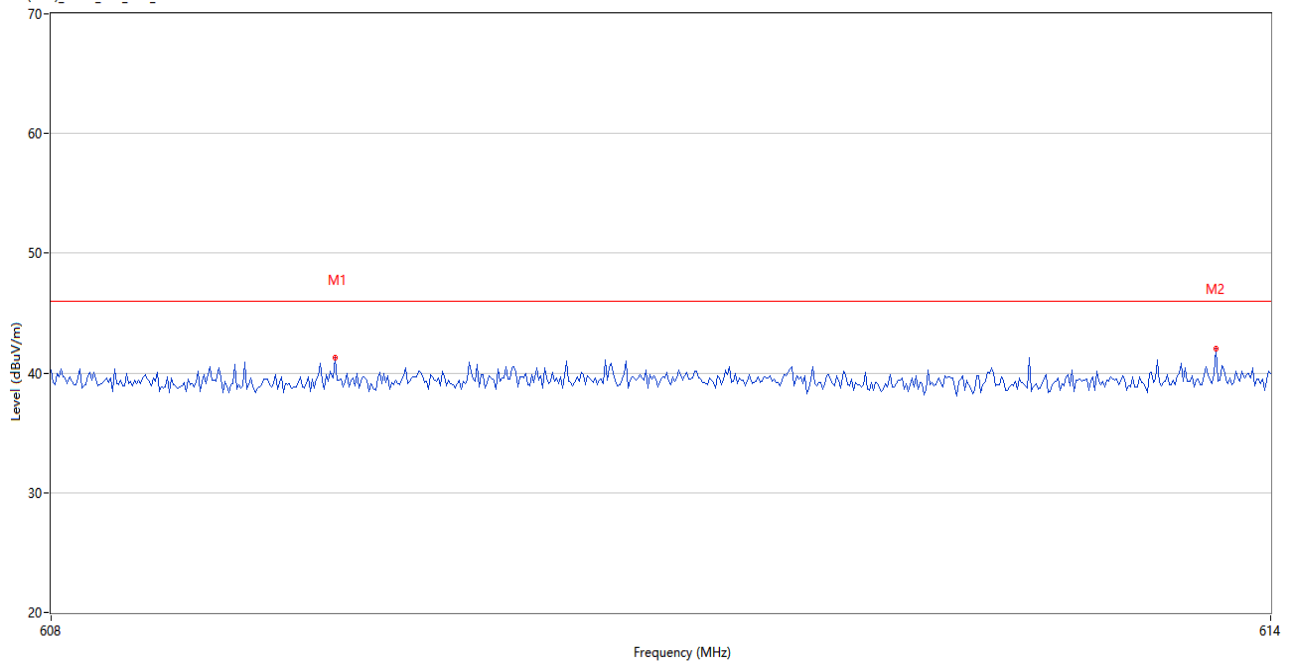
Note ⁴: The Level (dBuV/m) has been corrected by factor.

Note ⁵: Both horizontal and vertical directions were pre tested, only the worst configuration has been reported in this report.

Test Data

608 MHz to 614 MHz

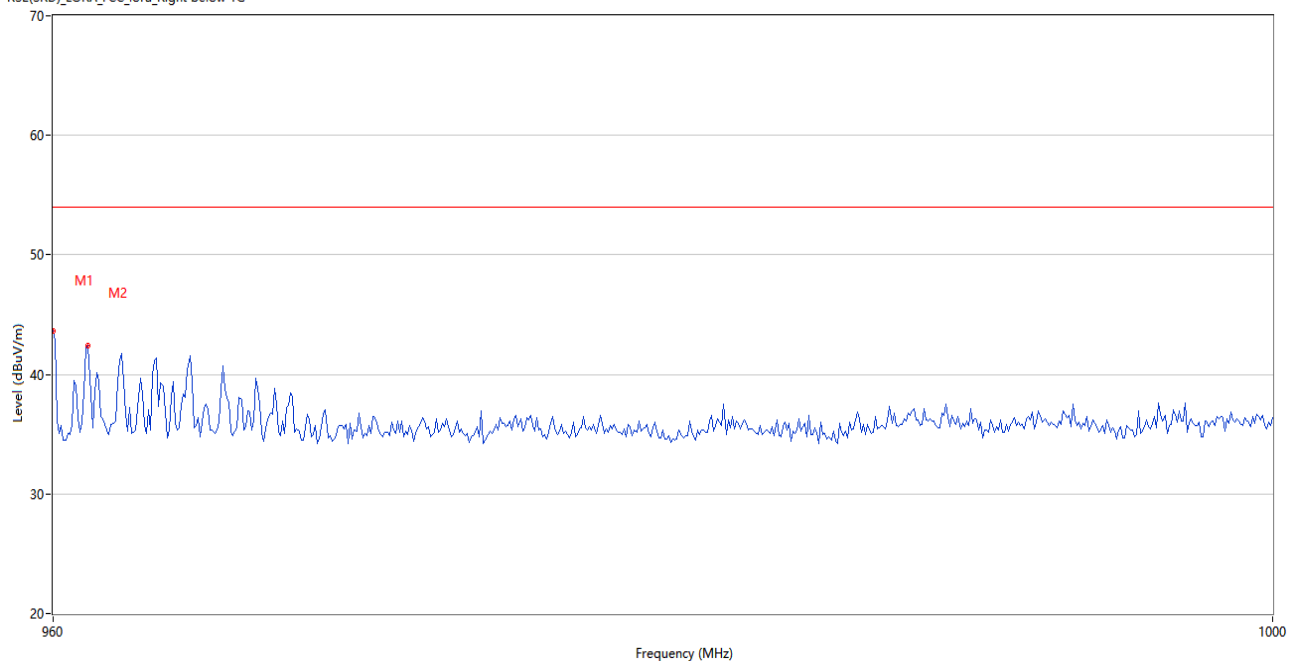
RSE(SRD)_LORA_FCC_lora_Left below 1G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	609.390	41.32	-4.58	46.0	4.68	Peak	72.00	150	Horizontal	Pass
2	613.730	42.04	-4.21	46.0	3.96	Peak	105.00	150	Horizontal	Pass

960 MHz to 1 GHz

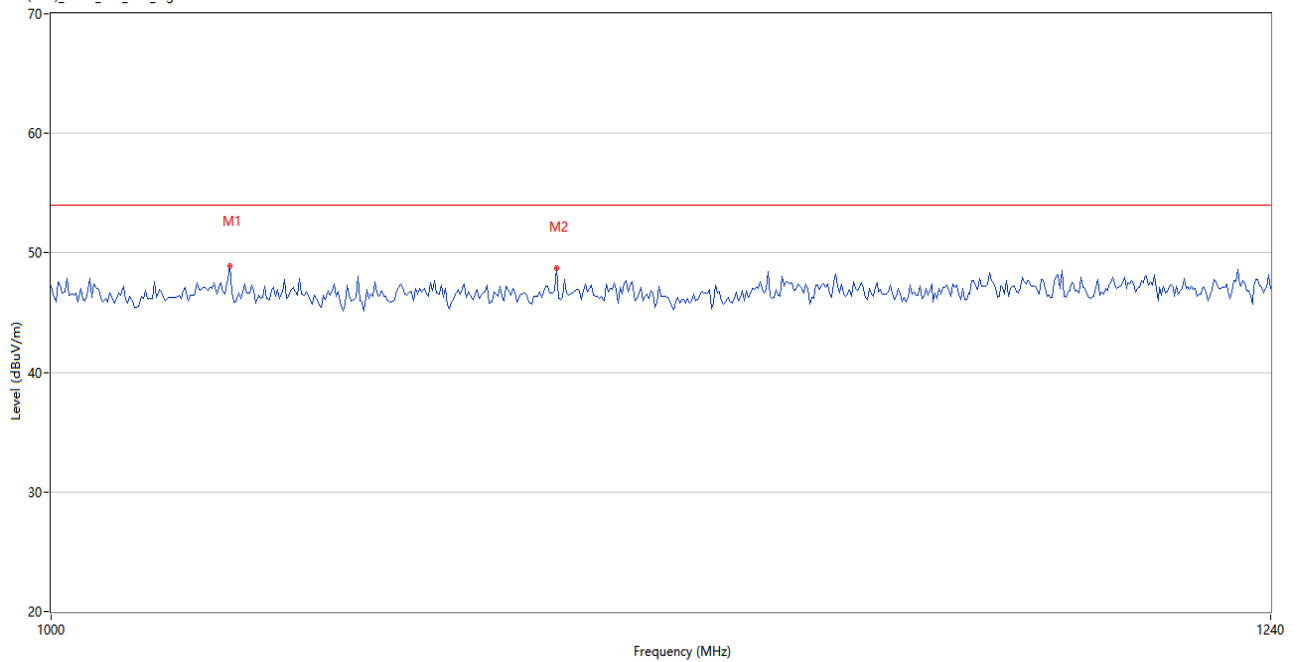
RSE(SRD)_LORA_FCC_lora_Right below 1G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	960.000	43.60	1.81	54.0	10.40	Peak	274.00	150	Horizontal	Pass
2	961.133	42.42	2.15	54.0	11.58	Peak	279.00	150	Horizontal	Pass

1 GHz to 1.24 GHz

RSE(SRD)_LORA_FCC_lora_Right above 1G



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1032.000	48.90	-6.35	54.0	5.10	Peak	232.00	150	Horizontal	Pass
2	1093.200	48.72	-7.01	54.0	5.28	Peak	272.00	150	Horizontal	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “Ti-CC26060557-AR-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “Ti-CC26060557-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “Ti-CC26060557-AI.PDF”.

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--END OF REPORT--