

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: RFID Reader (ADPM)
Model Name: AUTOID UF40 (refer to section 2.3)
Brand Name: Seuic
FCC ID: 2AC68-AUTOIDUF40
Test Standard: 47 CFR Part 15 Subpart C
(refer to section 3.1)
Sample Arrival Date: Jul. 16, 2025
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ISSUED BY:

Shanghai Tejet Communications Technology Co., Ltd. Testing Center



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Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Aug. 26, 2025</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Address	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China

1.2 Test Location

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Location	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1352.

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	RFID Reader (ADPM)
Model Name Under Test	AUTOID UF40
Series Model Name	AUTOID UF20, AUTOID UF30, AUTOID UF50
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model names and the colours of the appearance. (this information provided by the applicant)
Sample Number	SC-SZ2570175-S16 (conducted) SC-SZ2570175-S14 (radiated)
Hardware Version	1.0.0.5
Software Version	1.0.0.121
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) RFID
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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	ASK
Frequency Range	The frequency range used is 902 MHz to 928 MHz.
Number of channel	50
Tested Channel	1 (902.75 MHz), 26 (915.25 MHz), 50 (927.25 MHz)
Antenna Type	Bar Antenna
Antenna Gain	9.0 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	17	910.75	33	918.75	49	926.75
2	903.25	18	911.25	34	919.25	50	927.25
3	903.75	19	911.75	35	919.75	--	--
4	904.25	20	912.25	36	920.25	--	--
5	904.75	21	912.75	37	920.75	--	--
6	905.25	22	913.25	38	921.25	--	--
7	905.75	23	913.75	39	921.75	--	--
8	906.25	24	914.25	40	922.25	--	--
9	906.75	25	914.75	41	922.75	--	--
10	907.25	26	915.25	42	923.25	--	--
11	907.75	27	915.75	43	923.75	--	--
12	908.25	28	916.25	44	924.25	--	--
13	908.75	29	916.75	45	924.75	--	--
14	909.25	30	917.25	46	925.25	--	--
15	909.75	31	917.75	47	925.75	--	--
16	910.25	32	918.25	48	926.25	--	--

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 C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

3.2 Test Verdict

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

Note ¹: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203

Note ²: Compared with the EUT of test report No. 18220WC30002601 the EUT of this report has changed as below:

1. Change the applicant information and the manufacturer information.
2. Change the equipment type from RFID module to RFID Reader(ADPM).
3. Change the model name from SIM7200 to AUTOID UF40.
4. Add hardware version 1.0.0.5.

5. Add software version 1.0.0.121.

Therefore, Peak Output Power, Conducted Emission, Radiated Emission and Band Edge (Restricted-band band-edge) were tested in this report, other test projects refer to the original report No.

18220WC30002601 which issued by Shenzhen Anbotek Compliance Laboratory Limited on Feb. 04, 2023.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

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

Relative Humidity	52% to 57%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+22.8°C to +24.9°C
Working Voltage of the EUT	NV (Normal Voltage)	24 V

4.2 Test Equipment List

Description	Manufacturer	Model	Equipment No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	BH-EMC-L066	2025.02.12	2026.02.11
Spectrum Analyzer	KEYSIGHT	N9010B	BH-EMC-L099	2025.02.12	2026.02.11
Signal Generator	Anritsu	MG3710E	BH-EMC-L131	2025.02.12	2026.02.11
Wideband Radio Communication Tester	R&S	CMW500	BH-EMC-L094	2025.02.11	2026.02.10
EMI Receiver	KEYSIGHT	N9038A	BH-EMC-L015	2025.07.04	2026.07.03
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519 B	BH-EMC-L067	2024.03.11	2027.03.10
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	BH-EMC-L008	2024.03.11	2027.03.10
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	BH-EMC-L044	2024.03.11	2027.03.10
Test Antenna-Horn (18-40 GHz)	A-INFO	LB-180400-KF	BH-EMC-L061	2024.03.11	2027.03.10
Anechoic Chamber	YiHeng	9m*6m*6m	BH-EMC-L001	2024.04.18	2027.04.17
EMI Receiver	KEYSIGHT	N9038A	BH-EMC-L127	2025.02.12	2026.02.11
LISN	SCHWARZBECK	NSLK 8127	BH-EMC-L011	2025.02.11	2026.02.10
10dB Limiter	SCHWARZBECK	VTSD 9561-F	BH-EMC-L014	2025.02.11	2026.02.10
Shielded Room	YiHeng	5m*4m*3.2m	BH-EMC-L006	2024.02.22	2027.02.21

4.3 Test Software List

Description	Manufacturer	Software Version	Serial No.	Applicable Test Setup
BL410R	BALUN	V2.1.1.496	N/A	The section 4.6.1
BL410E	BALUN	V21.919	N/A	The section 4.6.2&4.6.3&4.6.4&4.6.5

4.4 Decision Rule

- ☐ No Need
- ☒ Use General conformity decision rule (Consider uncertainty or not ☒No ☐Yes)
- ☐ Use Special Conformity Decision Rule (Consider uncertainty or not ☐No ☐Yes)

4.5 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	2.4 %
RF output power, conducted	0.41 dB
Power Spectral Density, conducted	1.73 dB
Unwanted Emissions, conducted	1.73 dB
All emissions, radiated	3.70 dB
Temperature	0.82 °C
Humidity	4.1 %

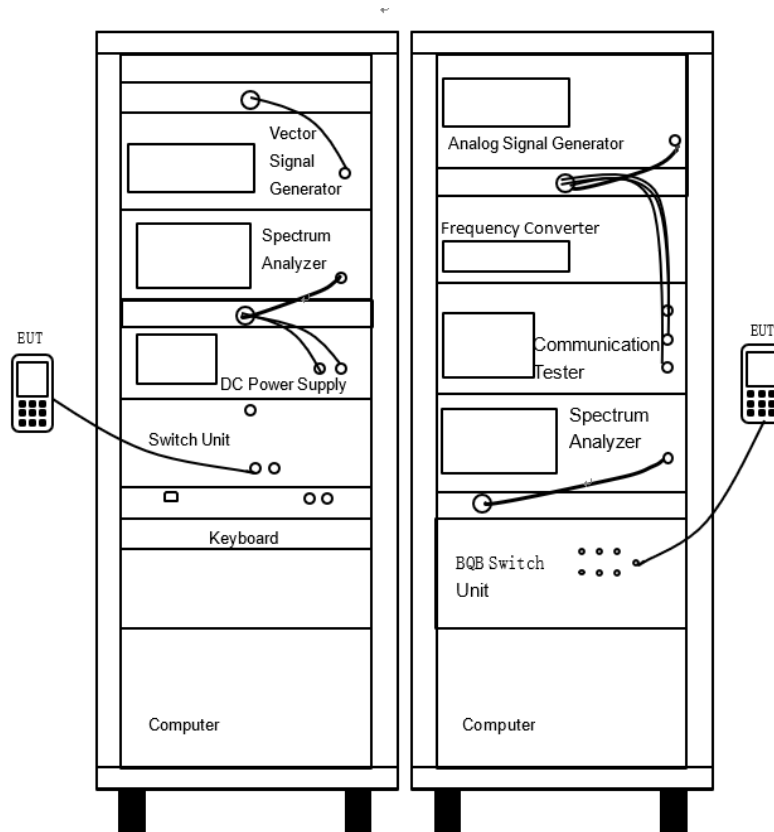
4.6 Description of Test Setup

4.6.1 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



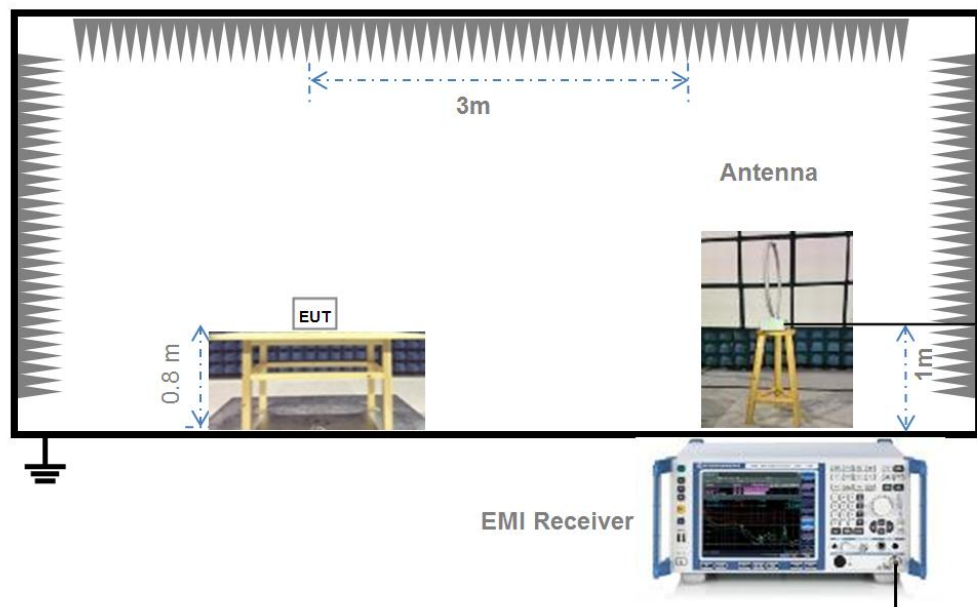
(Diagram 1)

4.6.2 For AC Power Supply Port Test



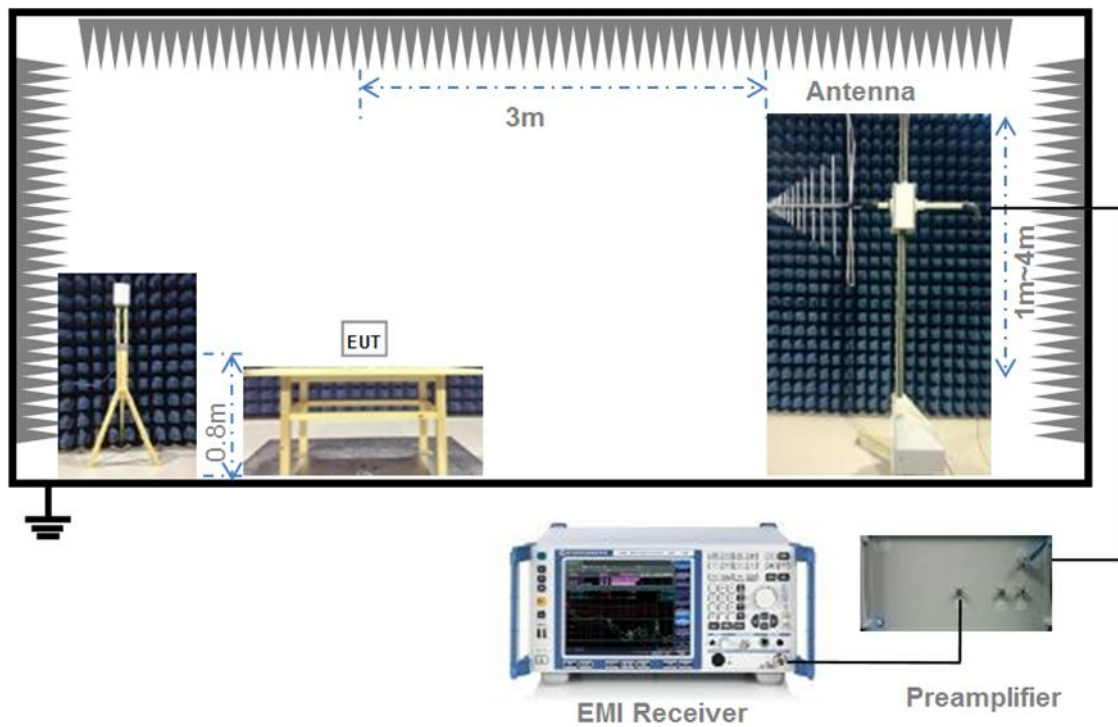
(Diagram 2)

4.6.3 For Radiated Test (Below 30 MHz)



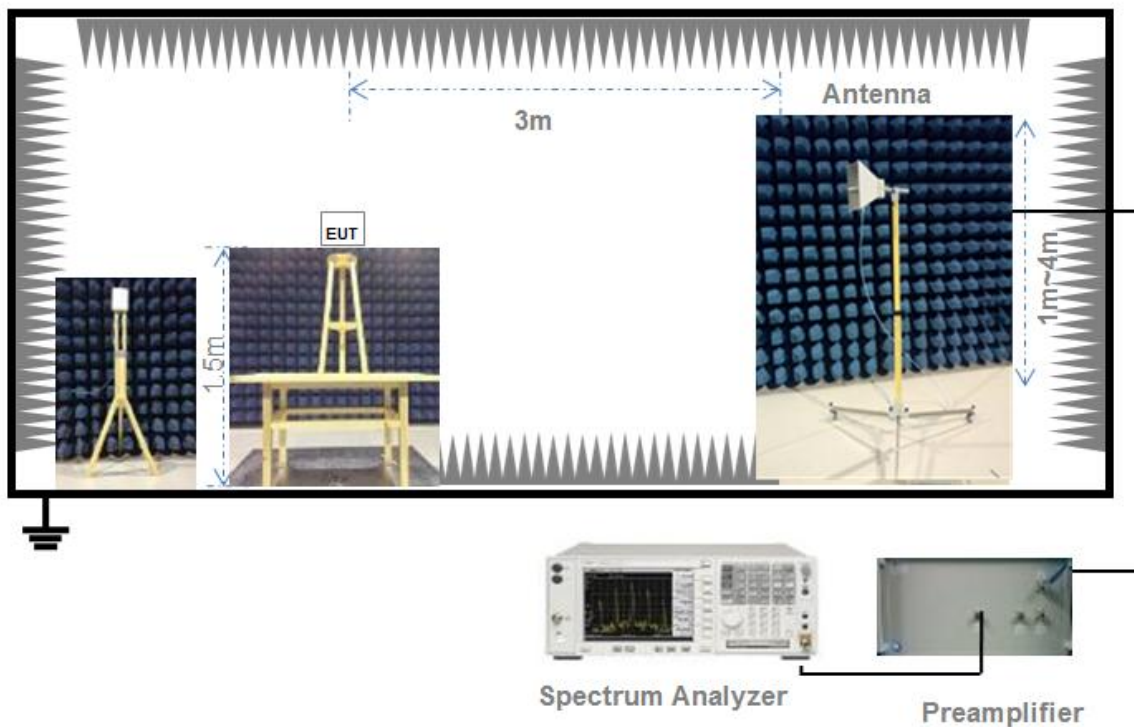
(Diagram 3)

4.6.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.6.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.7 Measurement Results Explanation Example

4.7.1 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 and A.7

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

Note: The Number of Hopping Frequency, please refer to the Report No. 18220WC30002601 which issued by Shenzhen Anbotek Compliance Laboratory Limited on Feb. 04, 2023. Section 8.4.

A.2 Peak Output Power

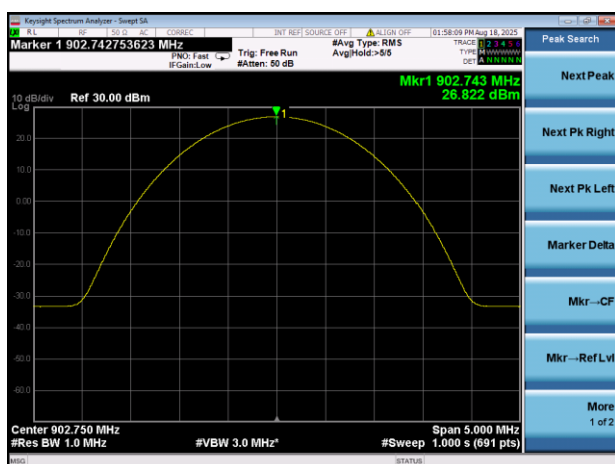
Since the antenna gain is 9.0dB. Therefore, the limit should be $30 - (9 - 6) = 27$ dBm

Test Data

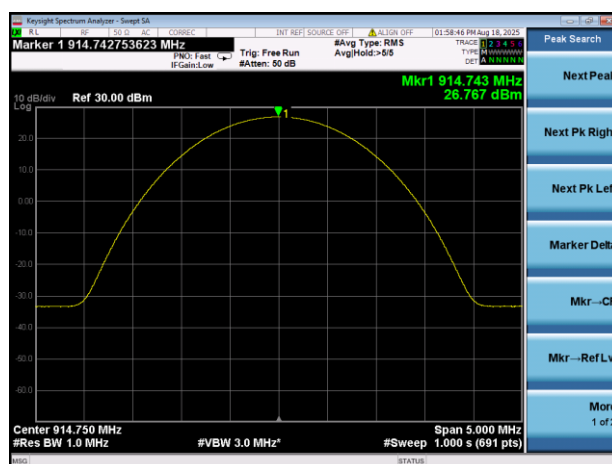
Channel	Measured Output Peak Power		Limit		Verdict
	RFID		dBm	mW	
	dBm	mW			
Low	26.82	481.06	27	501.19	Pass
Middle	26.77	475.01			Pass
High	26.61	458.56			Pass

Test Plots

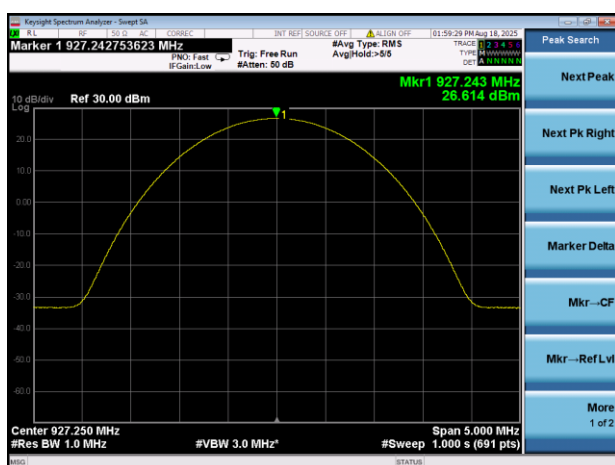
LOW CHANNEL



MIDDLE CHANNEL



HIGH CHANNEL



A.3 20 dB and 99% bandwidth

Note: The 20 dB and 99% bandwidth, please refer to the Report No. 18220WC30002601 which issued by Shenzhen Anbotek Compliance Laboratory Limited on Feb. 04, 2023. Section 6.4.

A.4 Hopping Frequency Separation

Note: The Hopping Frequency Separation, please refer to the Report No. 18220WC30002601 which issued by Shenzhen Anbotek Compliance Laboratory Limited on Feb. 04, 2023. Section 7.4.

A.5 Average Time of Occupancy

Note: The Average Time of Occupancy, please refer to the Report No. 18220WC30002601 which issued by Shenzhen Anbotek Compliance Laboratory Limited on Feb. 04, 2023. Section 9.4.

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

Note: The Conducted Spurious Emissions & Authorized-band band-edge, please refer to the Report No. 18220WC30002601 which issued by Shenzhen Anbotek Compliance Laboratory Limited on Feb. 04, 2023. Section 10.4.

A.7 Conducted Emissions

Note ¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

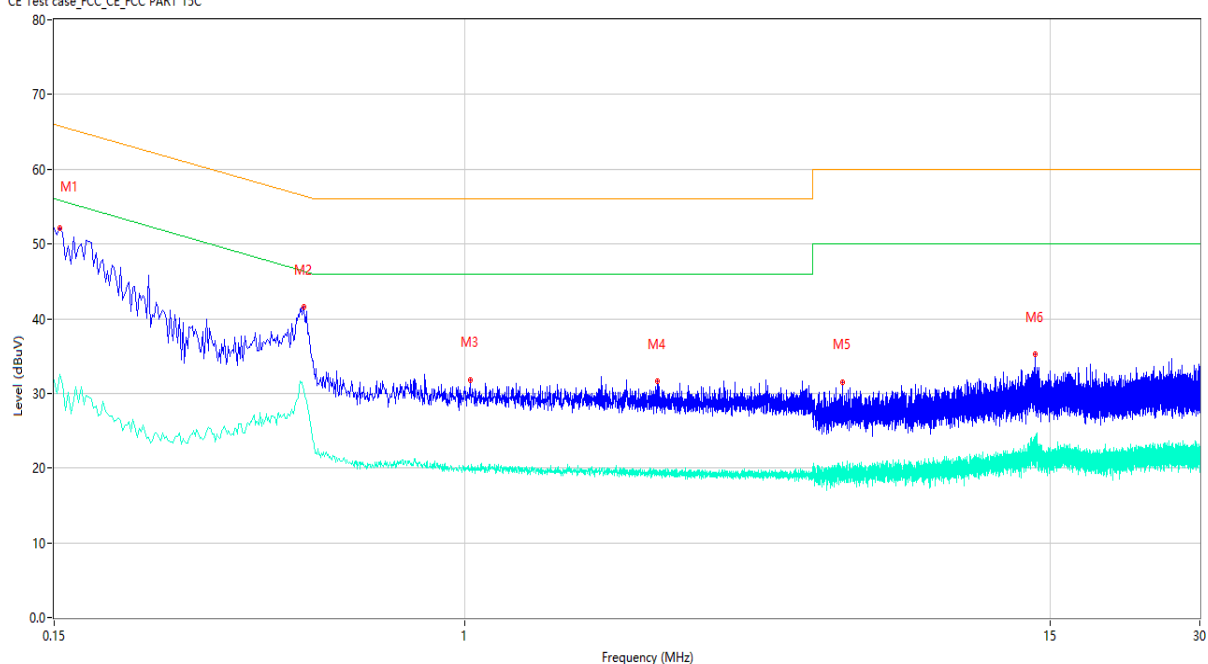
Note ²: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

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

Test Data and Plots

PHASE L

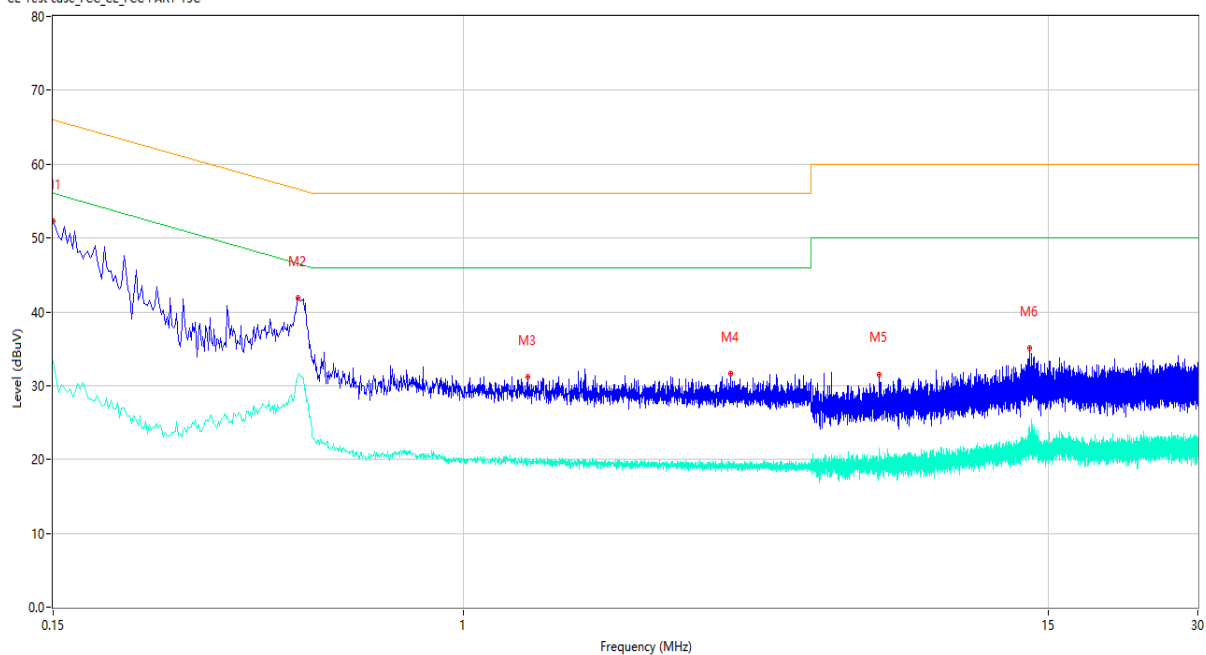
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	52.08	10.06	65.78	13.70	Peak	L	Pass
1**	0.154	32.58	10.06	55.78	23.20	AV	L	Pass
2	0.476	41.63	10.15	56.41	14.78	Peak	L	Pass
2**	0.476	30.51	10.15	46.41	15.90	AV	L	Pass
3	1.028	31.85	10.19	56.00	24.15	Peak	L	Pass
3**	1.028	19.94	10.19	46.00	26.06	AV	L	Pass
4	2.444	31.62	10.37	56.00	24.38	Peak	L	Pass
4**	2.444	19.23	10.37	46.00	26.77	AV	L	Pass
5	5.746	31.50	10.55	60.00	28.50	Peak	L	Pass
5**	5.746	20.76	10.55	50.00	29.24	AV	L	Pass
6	13.988	35.20	11.13	60.00	24.80	Peak	L	Pass
6**	13.988	22.77	11.13	50.00	27.23	AV	L	Pass

PHASE N

CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.150	52.25	10.15	66.00	13.75	Peak	N	Pass
1**	0.150	33.25	10.15	56.00	22.75	AV	N	Pass
2	0.466	41.91	10.17	56.58	14.67	Peak	N	Pass
2**	0.466	31.50	10.17	46.58	15.08	AV	N	Pass
3	1.348	31.12	10.24	56.00	24.88	Peak	N	Pass
3**	1.348	19.36	10.24	46.00	26.64	AV	N	Pass
4	3.450	31.62	10.33	56.00	24.38	Peak	N	Pass
4**	3.450	19.20	10.33	46.00	26.80	AV	N	Pass
5	6.856	31.44	10.61	60.00	28.56	Peak	N	Pass
5**	6.856	19.04	10.61	50.00	30.96	AV	N	Pass
6	13.786	35.05	11.08	60.00	24.95	Peak	N	Pass
6**	13.786	23.36	11.08	50.00	26.64	AV	N	Pass

A.8 Radiated Spurious Emission

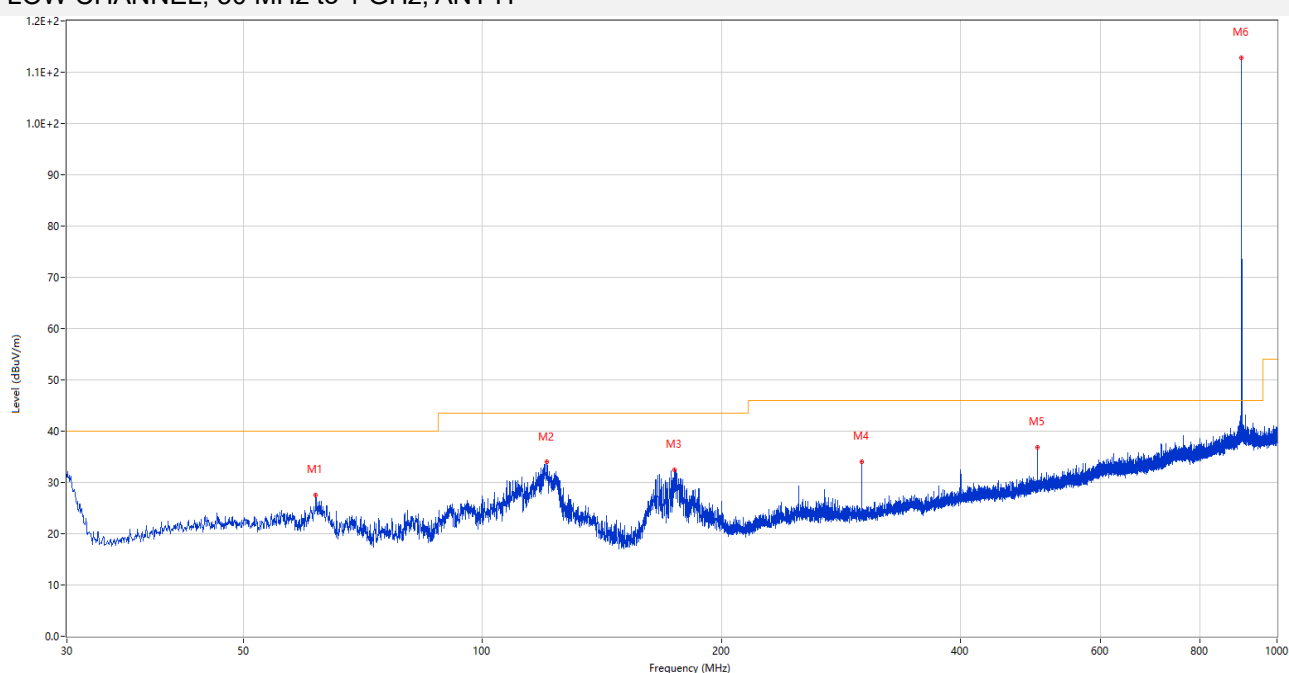
Note ¹: The symbol of “--” in the table which means not application.

Note ²: For the test data above 1 GHz, according the ANSI C63.10-2013, 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: 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.

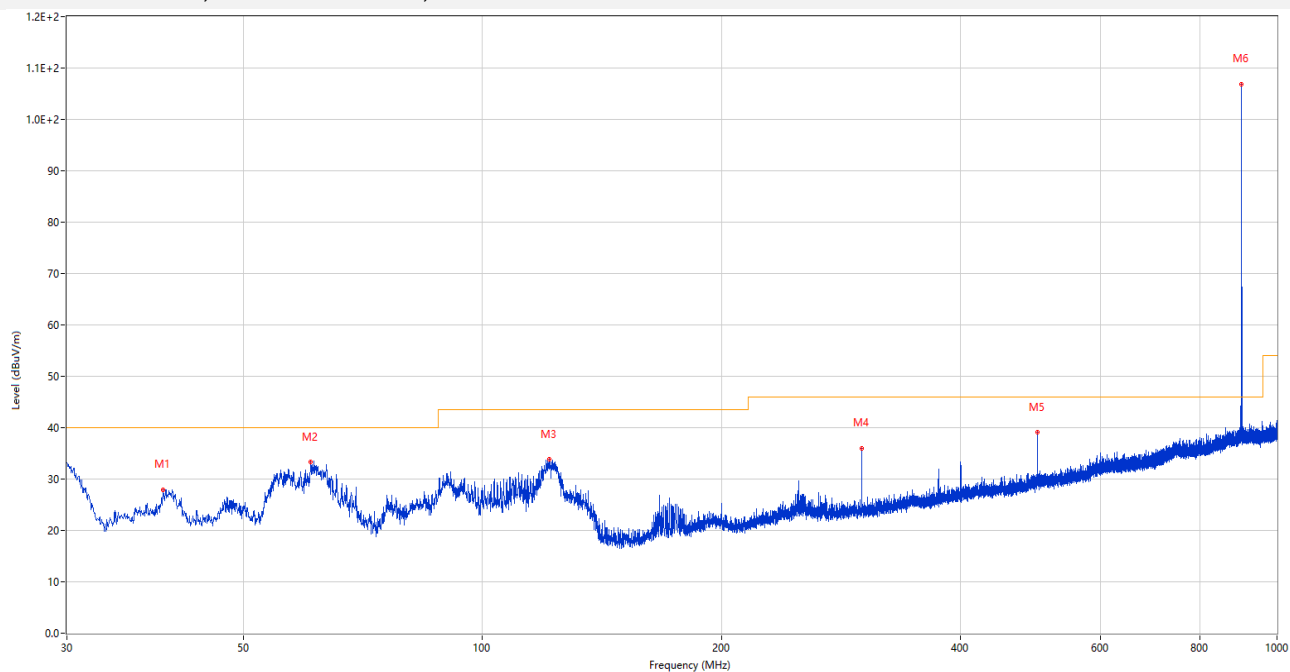
Test Data and Plots

LOW CHANNEL, 30 MHz to 1 GHz, ANT H



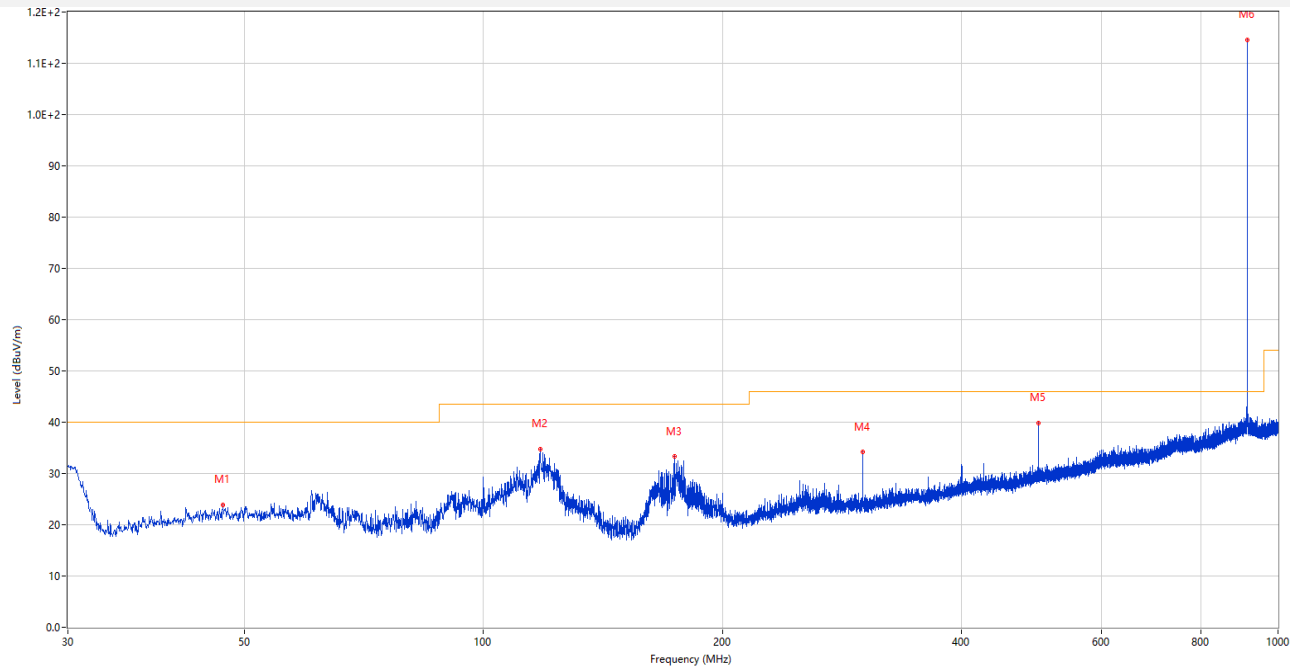
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	61.719	27.63	-16.44	40.0	12.37	Peak	174.00	200	Horizontal	Pass
2	120.501	34.01	-18.26	43.5	9.49	Peak	90.00	200	Horizontal	Pass
3	174.627	32.54	-18.24	43.5	10.96	Peak	246.00	100	Horizontal	Pass
4	300.000	34.04	-13.23	46.0	11.96	Peak	28.00	100	Horizontal	Pass
5	499.965	36.90	-8.07	46.0	9.10	Peak	301.00	100	Horizontal	Pass
6	902.758	112.87	0.80	46.0	-66.87	Peak	223.00	200	Horizontal	N/A

LOW CHANNEL, 30 MHz to 1 GHz, ANT V



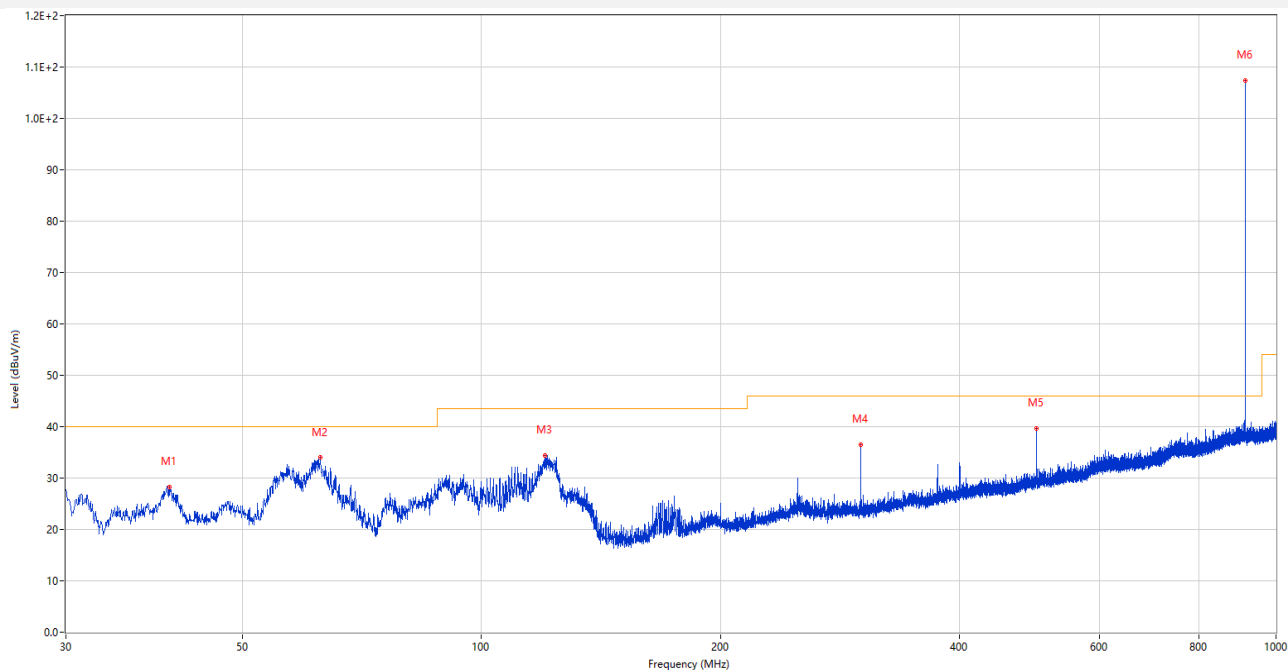
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	39.651	27.96	-16.02	40.0	12.04	Peak	353.00	100	Vertical	Pass
2	60.797	33.37	-16.22	40.0	6.63	Peak	274.00	100	Vertical	Pass
3	121.520	33.85	-18.47	43.5	9.65	Peak	328.00	100	Vertical	Pass
4	300.000	35.97	-13.23	46.0	10.03	Peak	227.00	100	Vertical	Pass
5	499.965	39.07	-8.07	46.0	6.93	Peak	167.00	100	Vertical	Pass
6	902.758	103.75	0.80	46.0	-57.75	Peak	274.00	100	Vertical	N/A

MIDDLE CHANNEL, 30 MHz to 1 GHz, ANT H



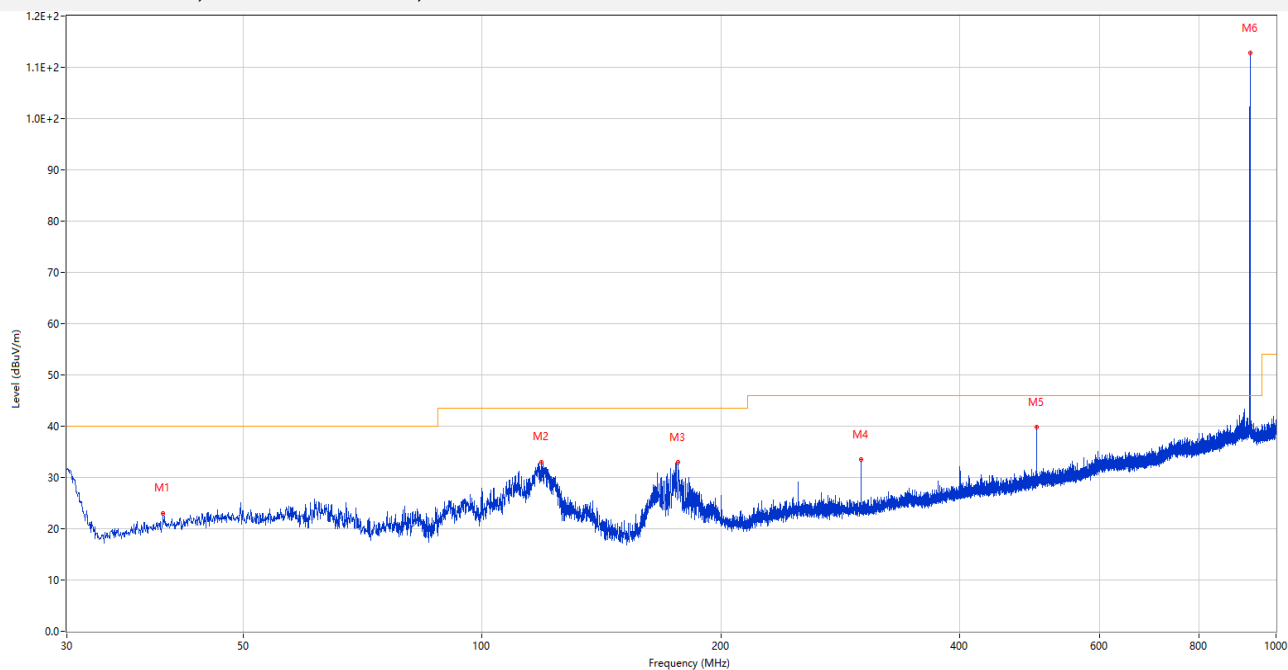
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	47.023	23.88	-14.52	40.0	16.12	Peak	113.00	100	Horizontal	Pass
2	117.834	34.66	-17.81	43.5	8.84	Peak	74.00	200	Horizontal	Pass
3	173.851	33.29	-18.30	43.5	10.21	Peak	247.00	100	Horizontal	Pass
4	300.000	34.20	-13.23	46.0	11.80	Peak	47.00	100	Horizontal	Pass
5	500.014	39.88	-8.07	46.0	6.12	Peak	323.00	100	Horizontal	Pass
6	914.737	114.62	0.71	46.0	-68.62	Peak	218.00	200	Horizontal	N/A

MIDDLE CHANNEL, 30 MHz to 1 GHz, ANT V



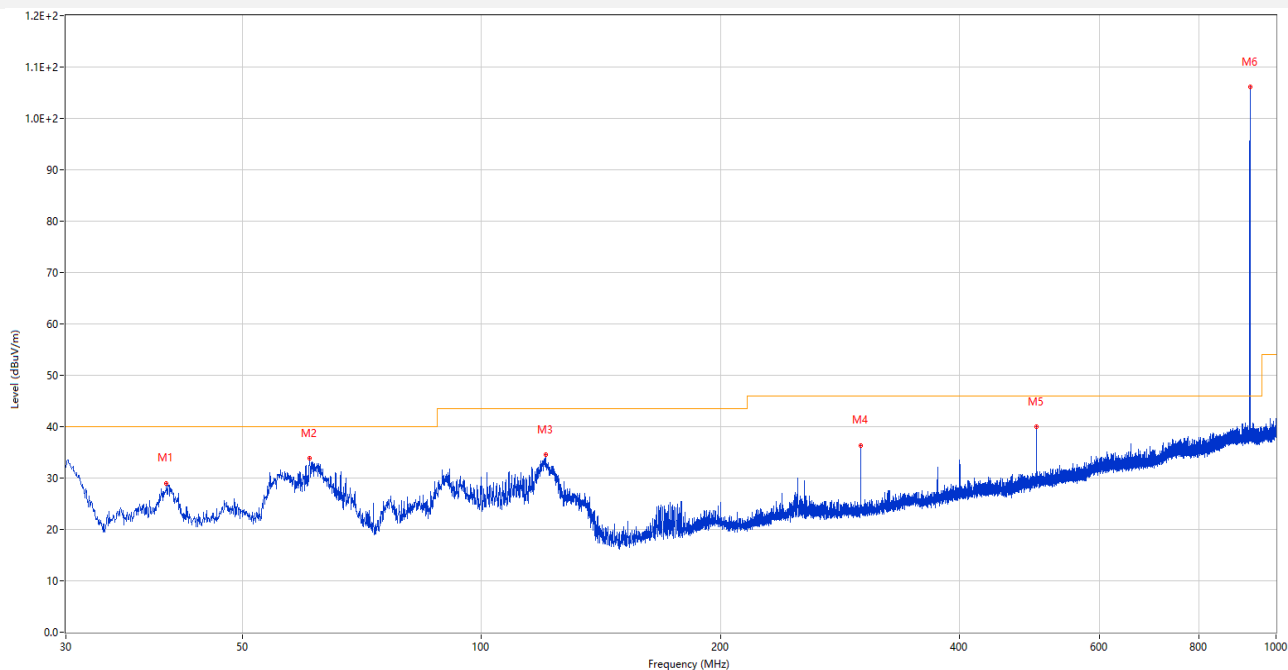
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	40.476	28.29	-15.77	40.0	11.71	Peak	70.00	100	Vertical	Pass
2	62.737	33.96	-16.71	40.0	6.04	Peak	278.00	100	Vertical	Pass
3	120.355	34.43	-18.24	43.5	9.07	Peak	278.00	100	Vertical	Pass
4	300.000	36.57	-13.23	46.0	9.43	Peak	237.00	100	Vertical	Pass
5	500.014	39.71	-8.07	46.0	6.29	Peak	206.00	100	Vertical	Pass
6	914.737	107.42	0.71	46.0	-61.42	Peak	245.00	200	Vertical	N/A

HIGH CHANNEL, 30 MHz to 1 GHz, ANT H



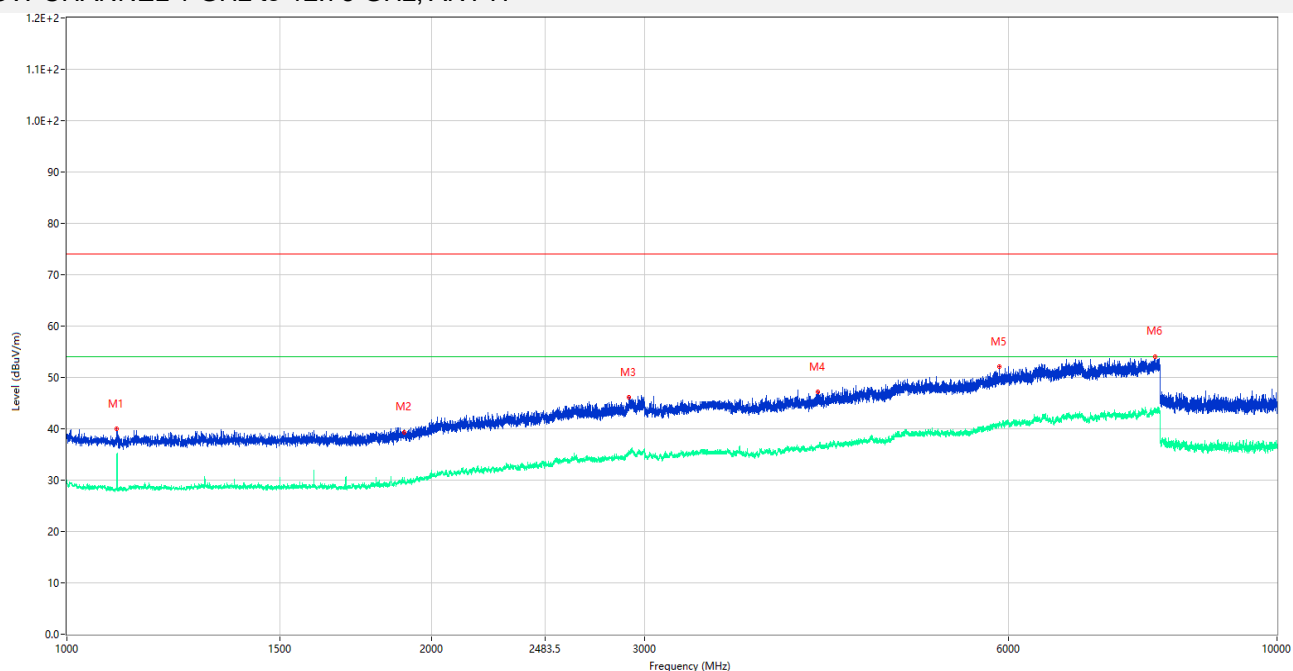
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	39.651	23.02	-16.02	40.0	16.98	Peak	45.00	100	Horizontal	Pass
2	118.706	33.05	-18.02	43.5	10.45	Peak	62.00	200	Horizontal	Pass
3	176.664	32.94	-18.14	43.5	10.56	Peak	231.00	100	Horizontal	Pass
4	300.000	33.48	-13.23	46.0	12.52	Peak	51.00	100	Horizontal	Pass
5	500.014	39.78	-8.07	46.0	6.22	Peak	303.00	100	Horizontal	Pass
6	927.250	112.72	1.16	46.0	-66.72	Peak	228.00	200	Horizontal	N/A

HIGH CHANNEL, 30 MHz to 1 GHz, ANT V



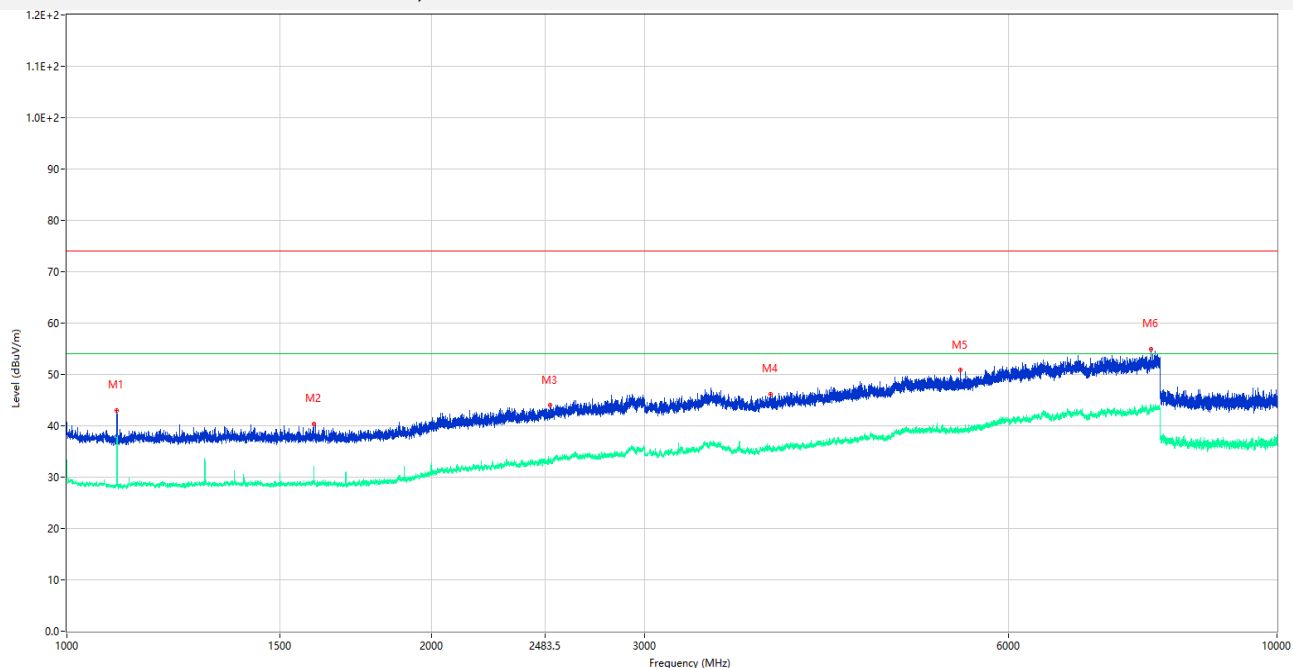
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	40.136	28.95	-15.86	40.0	11.05	Peak	0.00	100	Vertical	Pass
2	60.797	33.82	-16.22	40.0	6.18	Peak	292.00	100	Vertical	Pass
3	120.501	34.50	-18.26	43.5	9.00	Peak	304.00	100	Vertical	Pass
4	300.000	36.38	-13.23	46.0	9.62	Peak	237.00	100	Vertical	Pass
5	500.014	39.92	-8.07	46.0	6.08	Peak	213.00	100	Vertical	Pass
6	927.250	106.09	1.16	46.0	-60.09	Peak	252.00	200	Vertical	N/A

LOW CHANNEL 1 GHz to 12.75 GHz, ANT H



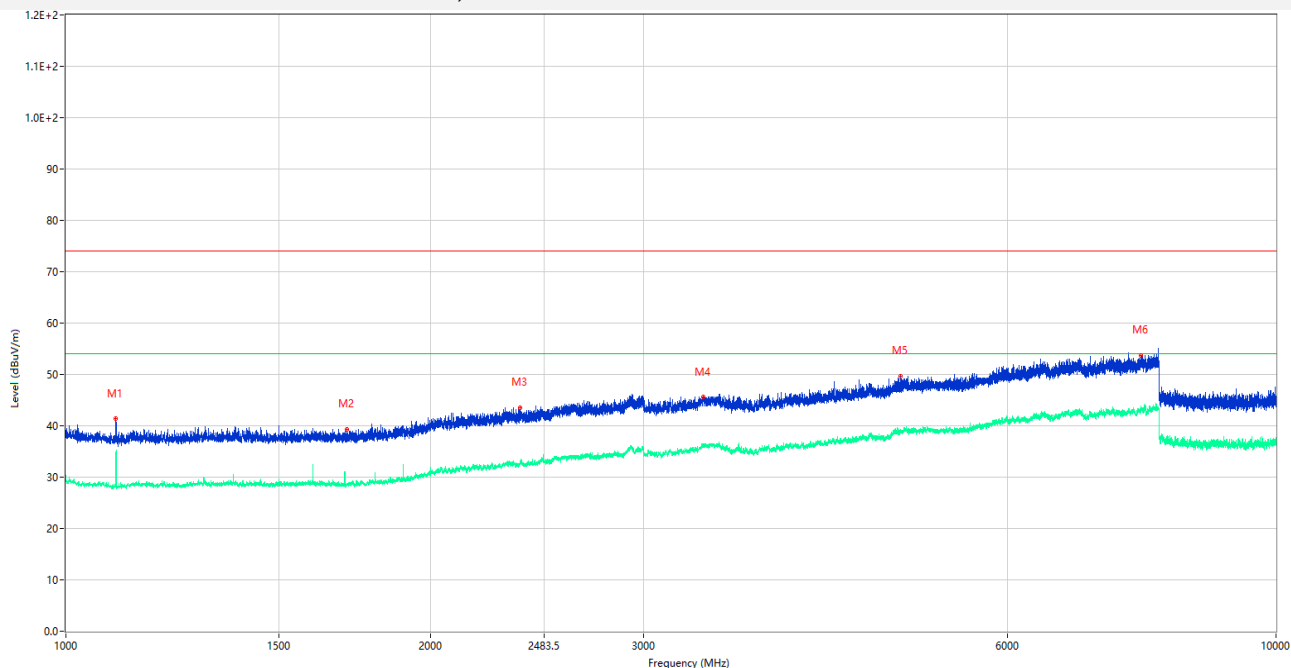
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1100.000	39.96	-15.73	74.0	34.04	Peak	216.00	150	Horizontal	Pass
1**	1100.000	34.93	-15.73	54.0	19.07	AV	216.00	150	Horizontal	Pass
2	1900.000	41.18	-15.50	74.0	32.82	Peak	4.00	150	Horizontal	Pass
2**	1900.000	32.17	-15.50	54.0	21.83	AV	4.00	150	Horizontal	Pass
3	2912.500	46.08	-9.19	74.0	27.92	Peak	163.00	150	Horizontal	Pass
3**	2912.500	35.74	-9.19	54.0	18.26	AV	163.00	150	Horizontal	Pass
4	4171.000	47.11	-4.32	74.0	26.89	Peak	360.00	150	Horizontal	Pass
4**	4171.000	36.39	-4.32	54.0	17.61	AV	360.00	150	Horizontal	Pass
5	5894.500	52.04	-0.51	74.0	21.96	Peak	1.00	150	Horizontal	Pass
5**	5894.500	40.99	-0.51	54.0	13.01	AV	1.00	150	Horizontal	Pass
6	7934.000	54.06	2.09	74.0	19.94	Peak	255.00	150	Horizontal	Pass
6**	7934.000	43.48	2.09	54.0	10.52	AV	255.00	150	Horizontal	Pass

LOW CHANNEL 1 GHz to 12.75 GHz, ANT V



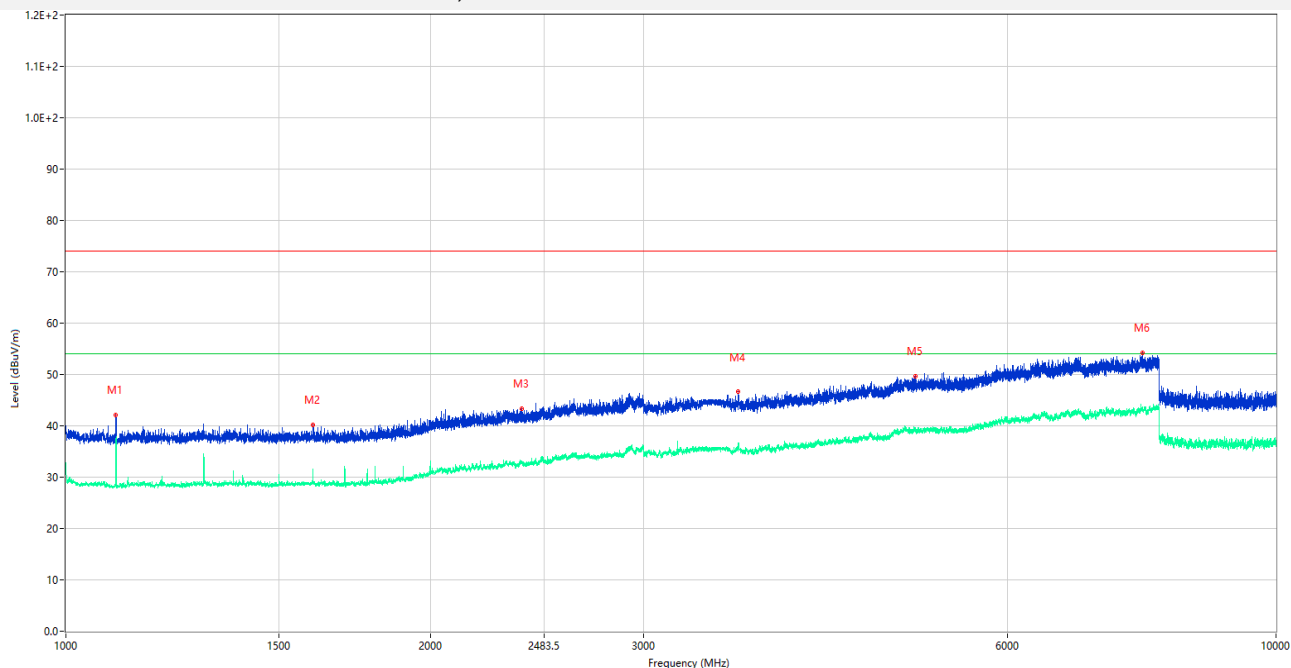
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1100.000	42.95	-15.73	74.0	31.05	Peak	4.00	150	Vertical	Pass
1**	1100.000	37.33	-15.73	54.0	16.67	AV	4.00	150	Vertical	Pass
2	1599.750	40.36	-16.24	74.0	33.64	Peak	15.00	150	Vertical	Pass
2**	1599.750	30.54	-16.24	54.0	23.46	AV	15.00	150	Vertical	Pass
3	2506.750	44.07	-11.90	74.0	29.93	Peak	156.00	150	Vertical	Pass
3**	2506.750	33.12	-11.90	54.0	20.88	AV	156.00	150	Vertical	Pass
4	3814.000	46.14	-4.63	74.0	27.86	Peak	348.00	150	Vertical	Pass
4**	3814.000	35.42	-4.63	54.0	18.58	AV	348.00	150	Vertical	Pass
5	5478.500	50.86	-2.30	74.0	23.14	Peak	342.00	150	Vertical	Pass
5**	5478.500	38.94	-2.30	54.0	15.06	AV	342.00	150	Vertical	Pass
6	7873.000	54.99	1.77	74.0	19.01	Peak	148.00	150	Vertical	Pass
6**	7873.000	43.54	1.77	54.0	10.46	AV	148.00	150	Vertical	Pass

MIDDLE CHANNEL 1 GHz to 12.75 GHz, ANT H



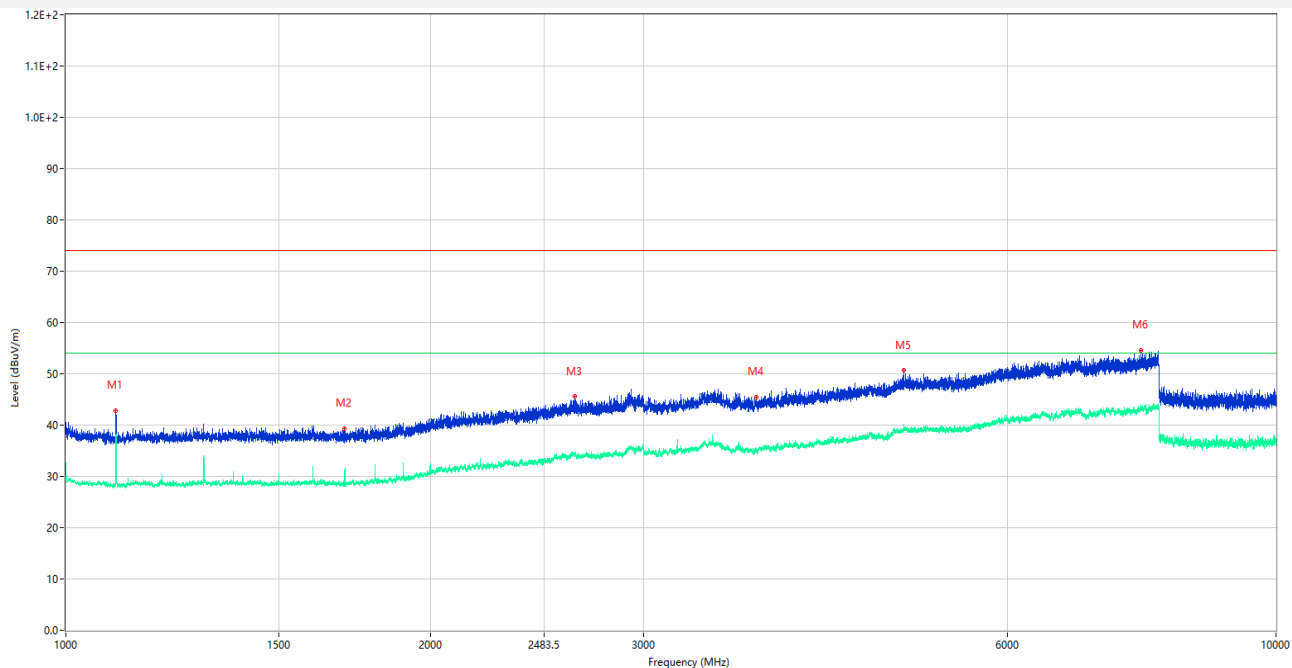
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1099.750	41.40	-15.74	74.0	32.60	Peak	223.00	150	Horizontal	Pass
1**	1099.750	33.40	-15.74	54.0	20.60	AV	223.00	150	Horizontal	Pass
2	1707.000	39.26	-16.38	74.0	34.74	Peak	151.00	150	Horizontal	Pass
2**	1707.000	28.73	-16.38	54.0	25.27	AV	151.00	150	Horizontal	Pass
3	2373.750	43.46	-12.04	74.0	30.54	Peak	196.00	150	Horizontal	Pass
3**	2373.750	32.69	-12.04	54.0	21.31	AV	196.00	150	Horizontal	Pass
4	3364.500	45.55	-5.23	74.0	28.45	Peak	127.00	150	Horizontal	Pass
4**	3364.500	36.34	-5.23	54.0	17.66	AV	127.00	150	Horizontal	Pass
5	4896.500	49.73	-2.26	74.0	24.27	Peak	302.00	150	Horizontal	Pass
5**	4896.500	38.72	-2.26	54.0	15.28	AV	302.00	150	Horizontal	Pass
6	7738.000	53.62	1.32	74.0	20.38	Peak	0.00	150	Horizontal	Pass
6**	7738.000	43.28	1.32	54.0	10.72	AV	0.00	150	Horizontal	Pass

MIDDLE CHANNEL 1 GHz to 12.75 GHz, ANT V



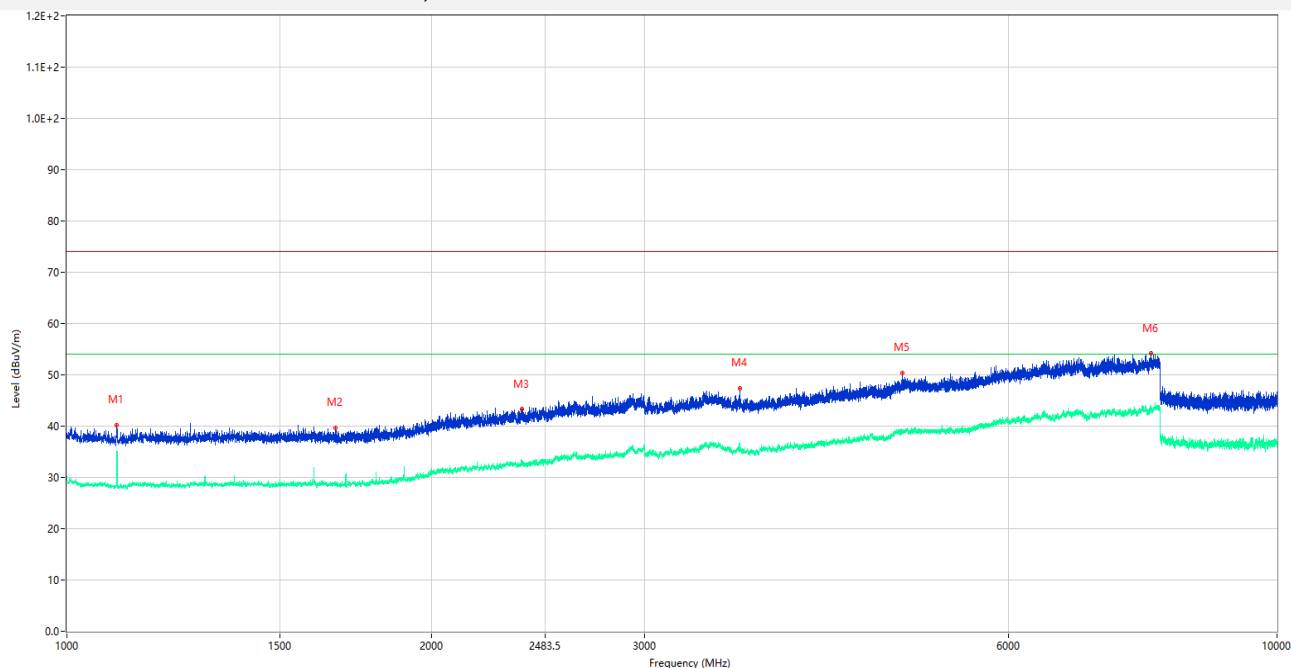
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1100.000	42.12	-15.73	74.0	31.88	Peak	241.00	150	Vertical	Pass
1**	1100.000	37.32	-15.73	54.0	16.68	AV	241.00	150	Vertical	Pass
2	1599.750	40.23	-16.24	74.0	33.77	Peak	176.00	150	Vertical	Pass
2**	1599.750	30.74	-16.24	54.0	23.26	AV	176.00	150	Vertical	Pass
3	2381.250	43.28	-11.98	74.0	30.72	Peak	258.00	150	Vertical	Pass
3**	2381.250	32.72	-11.98	54.0	21.28	AV	258.00	150	Vertical	Pass
4	3596.000	46.62	-5.13	74.0	27.38	Peak	273.00	150	Vertical	Pass
4**	3596.000	36.59	-5.13	54.0	17.41	AV	273.00	150	Vertical	Pass
5	5034.500	49.65	-2.24	74.0	24.35	Peak	197.00	150	Vertical	Pass
5**	5034.500	39.11	-2.24	54.0	14.89	AV	197.00	150	Vertical	Pass
6	7760.500	54.20	1.37	74.0	19.80	Peak	107.00	150	Vertical	Pass
6**	7760.500	43.21	1.37	54.0	10.79	AV	107.00	150	Vertical	Pass

HIGH CHANNEL 1 GHz to 12.75 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1100.000	42.85	-15.73	74.0	31.15	Peak	254.00	100	Horizontal	Pass
1**	1100.000	38.02	-15.73	54.0	15.98	AV	254.00	100	Horizontal	Pass
2	1699.500	39.31	-16.53	74.0	34.69	Peak	326.00	100	Horizontal	Pass
2**	1699.500	29.22	-16.53	54.0	24.78	AV	326.00	100	Horizontal	Pass
3	2632.250	45.63	-9.86	74.0	28.37	Peak	52.00	100	Horizontal	Pass
3**	2632.250	34.22	-9.86	54.0	19.78	AV	52.00	100	Horizontal	Pass
4	3720.500	45.43	-4.96	74.0	28.57	Peak	310.00	100	Horizontal	Pass
4**	3720.500	34.83	-4.96	54.0	19.17	AV	310.00	100	Horizontal	Pass
5	4929.000	50.69	-2.20	74.0	23.31	Peak	210.00	100	Horizontal	Pass
5**	4929.000	39.14	-2.20	54.0	14.86	AV	210.00	100	Horizontal	Pass
6	7731.000	54.59	0.96	74.0	19.41	Peak	210.00	100	Horizontal	Pass
6**	7731.000	43.13	0.96	54.0	10.87	AV	210.00	100	Horizontal	Pass

HIGH CHANNEL 1 GHz to 12.75 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1099.750	40.19	-15.74	74.0	33.81	Peak	215.00	100	Vertical	Pass
1**	1099.750	33.36	-15.74	54.0	20.64	AV	215.00	100	Vertical	Pass
2	1666.000	39.57	-16.26	74.0	34.43	Peak	0.00	100	Vertical	Pass
2**	1666.000	28.61	-16.26	54.0	25.39	AV	0.00	100	Vertical	Pass
3	2376.250	43.28	-11.91	74.0	30.72	Peak	0.00	100	Vertical	Pass
3**	2376.250	32.80	-11.91	54.0	21.20	AV	0.00	100	Vertical	Pass
4	3599.000	47.31	-5.03	74.0	26.69	Peak	155.00	100	Vertical	Pass
4**	3599.000	36.33	-5.03	54.0	17.67	AV	155.00	100	Vertical	Pass
5	4901.000	50.41	-2.21	74.0	23.59	Peak	28.00	100	Vertical	Pass
5**	4901.000	38.89	-2.21	54.0	15.11	AV	28.00	100	Vertical	Pass
6	7869.000	54.17	1.79	74.0	19.83	Peak	291.00	100	Vertical	Pass
6**	7869.000	43.24	1.79	54.0	10.76	AV	291.00	100	Vertical	Pass

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

Pass

Note: The adjacent to the restricted frequency band (608-614MHz and 960-1240MHz) is far away the fundamental, it is noise only. Please refer to Section A.8 for test data.

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2570530-AR-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2570530-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2570530-AI.PDF”.

Statement

1. The Testing Center guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
2. For the report with Accreditation Symbol, the items marked with "☆" are not within the accredited scope.
3. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the test report stamp.
4. The test data and results are only valid for the tested samples provided by the customer.
5. This report shall not be partially reproduced without the written permission of the Testing Center.
6. Any objection shall be raised to the Testing Center within 30 days after receiving the report.

--END OF REPORT--