

TEST REPORT

Applicant: TAG Heuer, branch of LVMH Swiss Manufactures SA
Address: 6A rue Louis-Joseph Chevrolet, 2300 La Chaux-de-Fonds, Switzerland
Equipment Type: Smart Watch
Model Name: SBT80
Brand Name: TAG HEUER
FCC ID: 2AUP8SBT80
ISED Number: 25510-SBT80
Test Standard: 47 CFR Part 15 Subpart C
ANSI C63.10-2013
RSS-210 Issue 11 (2024-06)
RSS-Gen Issue 5 (2021-02)
Sample Arrival Date: Mar. 20, 2024
Test Date: Mar. 26, 2024 - Apr. 07, 2024
Date of Issue: Mar. 26, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Li Junfeng**Checked by:** Liu Zhenxiang**Approved by:** Tolan Tu

(Testing Director)



Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Aug. 22, 2024</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Mar. 26, 2025</u>	<u>Update Test Standard in Home Page and Chapter 3.1</u>

TABLE OF CONTENTS

1 GENERAL INFORMATION 4

 1.1 Test Laboratory 4

 1.2 Test Location..... 4

2 PRODUCT INFORMATION 5

 2.1 Applicant Information..... 5

 2.2 Manufacturer Information 5

 2.3 General Description for Equipment under Test (EUT)..... 5

 2.4 Technical Information 6

3 SUMMARY OF TEST RESULTS 7

 3.1 Test Standards..... 7

 3.2 Verdict..... 7

 3.3 Test Uncertainty 7

4 GENERAL TEST CONFIGURATIONS..... 8

 4.1 Test Environments 8

 4.2 Test Setups..... 8

 Test Setup 3 9

5 TEST ITEMS..... 10

 5.1 Antenna Requirements..... 10

 5.1.1 Relevant Standards 10

 5.1.2 Antenna Anti-Replacement Construction 10

 5.1.3 Antenna Gain..... 11

 5.2 Emission Bandwidth 12

 5.2.1 Definition..... 12

 5.2.2 Test Setup 12

5.2.3 Test Procedure	12
5.2.4 Test Result and Test Equipment List.....	13
5.3 Field Strength of Fundamental Emissions and Radiated Emissions	14
5.3.1 Limit.....	14
5.3.2 Test Setup	15
5.3.3 Test Procedure	15
5.3.4 Test Result and Test Equipment List.....	15
5.4 Frequency Tolerance.....	16
5.4.1 Limit.....	16
5.4.2 Test Setup	16
5.4.3 Test Procedure	16
5.4.4 Test Result and Test Equipment List.....	16
5.5 Conducted Emission	17
5.5.1 Limit.....	17
5.5.2 Test Setup	17
5.5.3 Test Procedure	17
5.5.4 Test Result and Test Equipment List.....	17
ANNEX A TEST RESULT	18
A.1 Emission Bandwidth.....	18
A.2 Field Strength of Fundamental Emissions	20
A.3 Radiated Emissions	22
A.4 Frequency Stability	27
A.5 Conducted Emissions	29
ANNEX B TEST SETUP PHOTOS	32
ANNEX C EUT EXTERNAL PHOTOS	32
ANNEX D EUT INTERNAL PHOTOS	32

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province.
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☒ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	TAG Heuer, branch of LVMH Swiss Manufactures SA
Address	6A rue Louis-Joseph Chevrolet, 2300 La Chaux-de-Fonds, Switzerland

2.2 Manufacturer Information

Manufacturer	TAG Heuer, branch of LVMH Swiss Manufactures SA
Address	6A rue Louis-Joseph Chevrolet, 2300 La Chaux-de-Fonds, Switzerland

2.3 General Description for Equipment under Test (EUT)

EUT Name	Smart Watch
Under Test Model Name	SBT80
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	LTAM880
Software Version	1.6.1
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

Note: The Smart Watch has three SKUs (SKU1, SKU3, SKU4) with identical internal circuits, with differences in the material of the case and the decoration of the bezel. SKU1 is the main prototype, and all three prototypes have conducted NFC test. This report only shows the data of SKU1.

2.4 Technical Information

Network and Wireless connectivity	Bluetooth (BR+EDR+BLE) WIFI 802.11a, 802.11b, 802.11g, 802.11n(HT20) GPS, GLONASS, BDS, GLA, QZSS, NFC
-----------------------------------	--

The requirement for the following technical information of the EUT was tested in this report:

Modulation Type	ASK
Product Type	☐ Mobile ☒ Portable ☐ Fix Location
Frequency Range	13.56 MHz
Receiver Categorization	3
Number of channel	1
Tested Channel	1
Antenna Type	FPC Coil Antenna

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C	Miscellaneous Wireless Communications Services
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices
3	RSS-Gen (Issue 5, Feb. 2021)	General Requirements for Compliance of Radio Apparatus
4	RSS-210 (Issue 11, Jun. 2024)	Licence-Exempt Radio Apparatus: Category I Equipment

3.2 Verdict

No.	Description	FCC Part No.	ISED Part No.	Verdict
1	Antenna Requirement	15.203	RSS-Gen 6.8	Pass ^{Note}
2	Emissions Bandwidth	15.215	RSS-Gen 6.7	Pass
3	Field Strength of Fundamental Emissions	15.225(a)	RSS-210 B.6	Pass
4	Radiated Emissions	15.225(d) 15.209	RSS-210 B.6	Pass
5	Frequency Stability	15.225(e)	RSS-210 B.6	Pass
6	Conducted Emission	15.207	RSS-Gen 8.8	Pass
Note: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203 & RSS-Gen 8.3.				

3.3 Test 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.

Measurement	Value
Conducted emissions (9 kHz-30 MHz)	3.2 dB
Radiated emissions (9 kHz-30 MHz)	4.3 dB
Radiated emissions (30 MHz-1 GHz)-10m	4.8 dB
Radiated emissions (30 MHz-1 GHz)-3m	4.8 dB
Radiated emissions (1 GHz-18 GHz)-3m	4.9 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

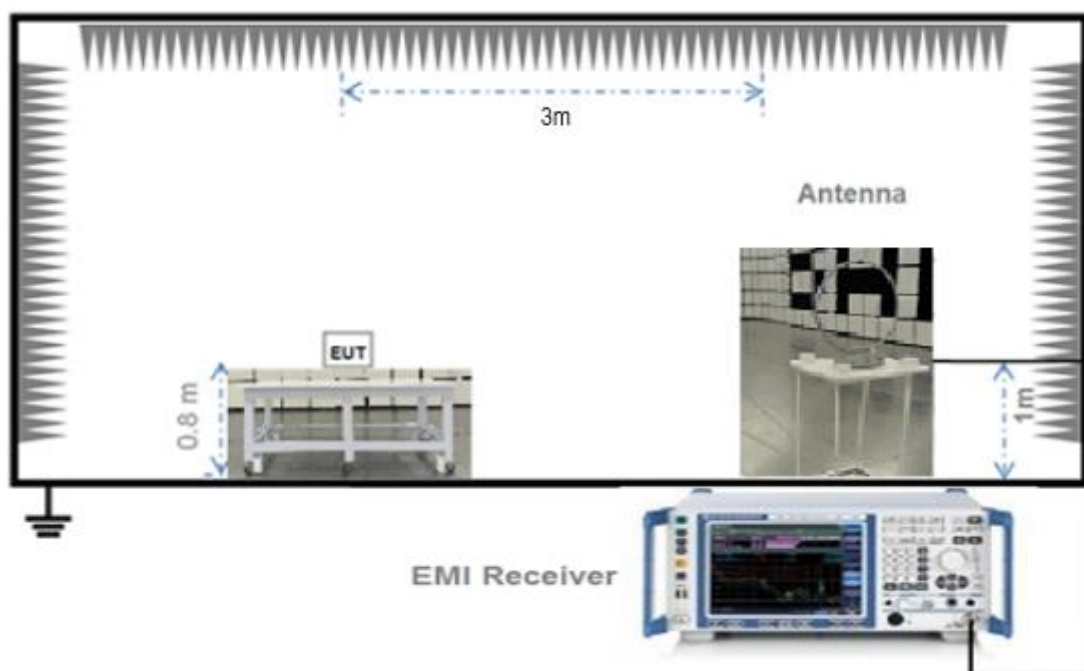
During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	45% to 55%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+22°C to +25°C
Working Voltage of the EUT	NV (Normal Voltage)	3.87V

4.2 Test Setups

Test Setup 1

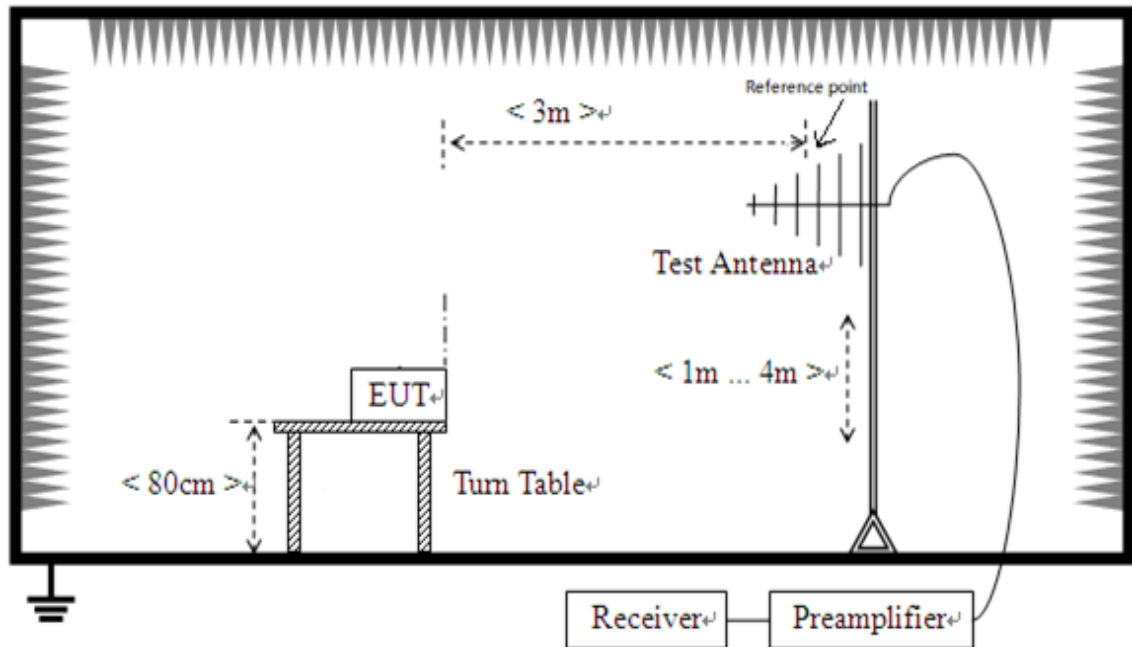
Radiated Test (Below 30 MHz)



(Diagram 1)

Test Setup 2

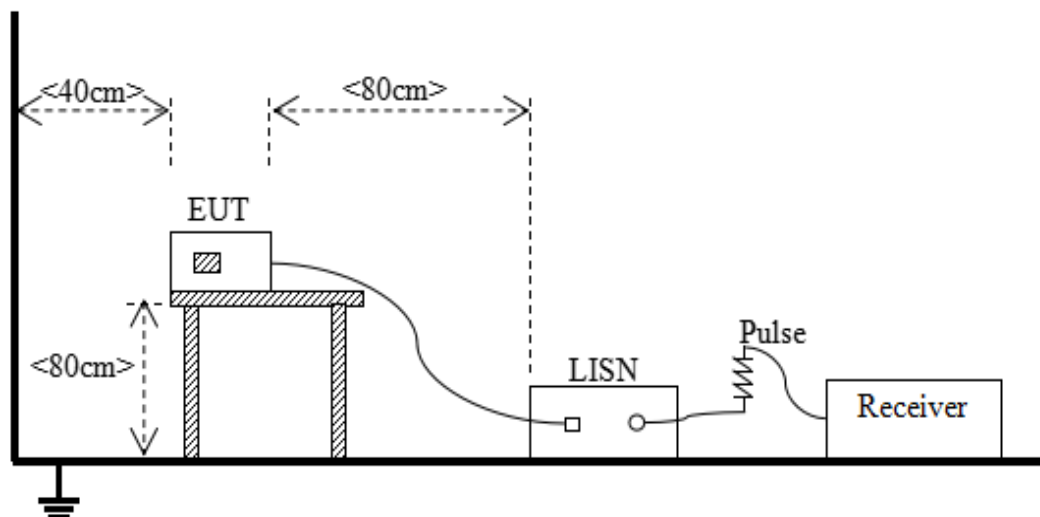
Radiated Test (30 MHz-1 GHz)



(Diagram 2)

Test Setup 3

AC Power Supply Port Test



(Diagram 3)

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

RSS-Gen 6.8

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer. The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.

For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:

This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product.	An embedded-in antenna design is used.

Reference Documents	Item
Photo	Please refer EUT internal photos.

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 Emission Bandwidth

5.2.1 Definition

RSS-Gen 6.7

The emission bandwidth (x dB) is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated x dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth.

When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.

5.2.2 Test Setup

See section 4.2(Diagram 1) for test setup for the antenna port. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

The 20dB bandwidth is measured with a spectrum analyzer connected via a receiver antenna placed near the EUT while the EUT is operating in transmission mode.

Use the following spectrum analyzer settings:

Span = between 2 to 5 times the OBW

RBW = 1% to 5% the OBW

VBW $\geq$ 3RBW

Sweep = auto

Detector function = peak

Trace = max hold

The 99% emission bandwidth is measured with a spectrum analyzer connected via a receiver antenna placed near the EUT while the EUT is operating in transmission mode.

Use the following spectrum analyzer settings:

Span = between 1.5 to 5 times the OBW

RBW = 1% to 5% OBW

VBW $\geq$ 3RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.2.4 Test Result and Test Equipment List

Please refer to ANNEX A.1

5.3 Field Strength of Fundamental Emissions and Radiated Emissions

5.3.1 Limit

RSS-Gen B.6

For <30 MHz, Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power. The EUT was set 10 meter away from the measuring antenna. The loop antenna was positioned 1 meter above the ground from the center of the loop. The measuring bandwidth was set to 10 kHz. (Note: During testing the receive antenna was rotated about its axis to maximize the emission from the EUT)

There was no detected Restricted bands and Radiated spurious emission below 30MHz. The 30m limit was converted to 3m Limit using square factor(x) as it was found by measurements as follows; 3 m Limit(dBμV/m) = $20\log(X) + 40\log(30/3) = 20\log(15848) + 40\log(30/3) = 124\text{dB}\mu\text{V}$

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 range (MHz)	Field Strength@30m		Field Strength@3m
	μV/m	dBμV/m	dBμV/m
Below 13.110	30	29.5	69.5
13.110 ~ 13.410	106	40.5	80.5
13.410 ~ 13.553	334	50.5	90.5
13.553 ~13.567	15848	84	124
13.567 ~ 13.710	334	50.5	90.5
13.710 ~14.010	106	40.5	80.5
Above 14.010	30	29.5	69.5

NOTE:

1. Field Strength (dBμV/m) = $20*\log[\text{Field Strength } (\mu\text{V/m})]$.
2. In the emission tables above, the tighter limit applies at the band edges.

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 (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note:

1. 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 20 dB above the maximum permitted average limit.

- For above 1000 MHz, limit field strength of harmonics: 54dB μ V/m@3m (AV) and 74dB μ V/m@3m (PK).

5.3.2 Test Setup

See section 4.2(Diagram 1 and Diagram 2) for test setup for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 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 $30 \text{ MHz} < f < 1 \text{ GHz}$, 10 kHz for $150 \text{ kHz} < f < 30 \text{ MHz}$, 300 Hz for $f < 150 \text{ kHz}$

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.3.4 Test Result and Test Equipment List

Please refer to ANNEX A.2

NOTE:

- Results (dB μ V/m) = Reading (dB μ V) + Factor (dB/m)

The reading level is calculated by software which is not shown in the sheet

- Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain (dB)

- Margin = Limit – Results

5.4 Frequency Tolerance

5.4.1 Limit

RSS-Gen B.6

(a) at the temperatures of -30°C (-22°F), +20°C (+68°F) and +50°C (+122°F), and at the manufacturer's rated supply voltage; and

(b) at the temperature of +20°C (+68°F) and at $\pm 15\%$ of the manufacturer's rated supply voltage.

If the frequency stability limits are only met within a temperature range that is smaller than the -30°C to +50°C range specified in (a), the frequency stability requirement will be deemed to be met if the transmitter is automatically prevented from operating outside this smaller temperature range and if the published operating characteristics for the equipment are revised to reflect this restricted temperature range.

5.4.2 Test Setup

See section 4.2(Diagram 1) for test setup for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

1. The test is performed in a Temperature Chamber.
2. The EUT is configured as MS + DC Power Supply.

5.4.4 Test Result and Test Equipment List

Please refer to ANNEX A.4.

5.5 Conducted Emission

5.5.1 Limit

RSS-Gen

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

5.5.2 Test Setup

See section 4.2(Diagram 3) for test setup for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 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.

5.5.4 Test Result and Test Equipment List

Please refer to ANNEX A.5.

NOTE:

$$1. \text{ Results (dB}\mu\text{V)} = \text{Reading (dB}\mu\text{V)} + \text{Factor (dB)}$$

The reading level is calculated by software which is not shown in the sheet

$$2. \text{ Factor} = \text{Insertion loss} + \text{Cable loss}$$

$$3. \text{ Margin} = \text{Limit} - \text{Results}$$

ANNEX A TEST RESULT

A.1 Emission Bandwidth

Note: Because the measured signal is CW adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

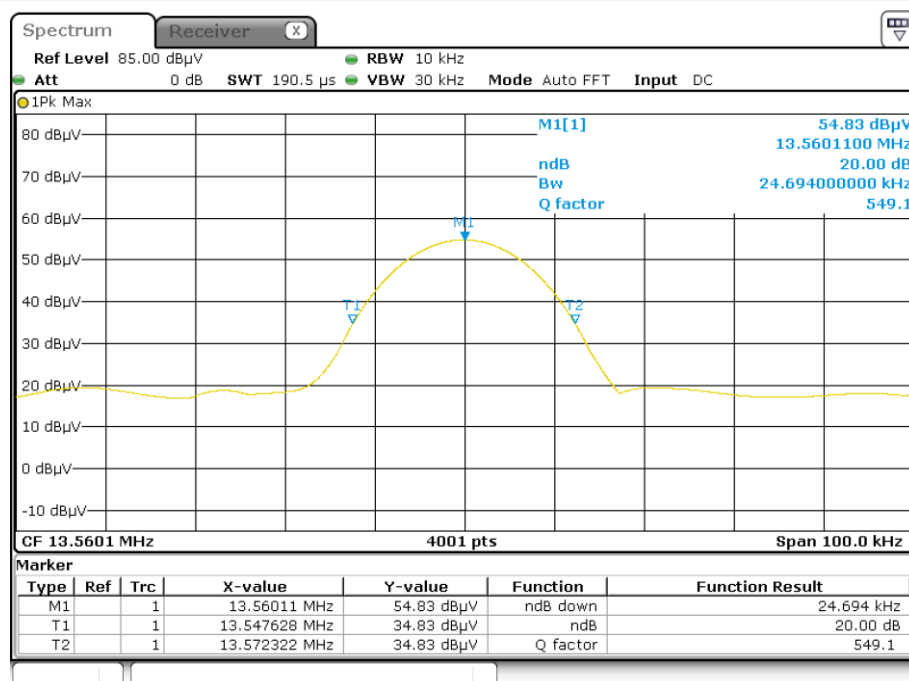
Sample No.	S02	Temperature	24.1°C
Humidity	60%RH	Pressure	101kPa
Test Engineer	Xi Zifeng	Test date	2024.04.02

Test Data

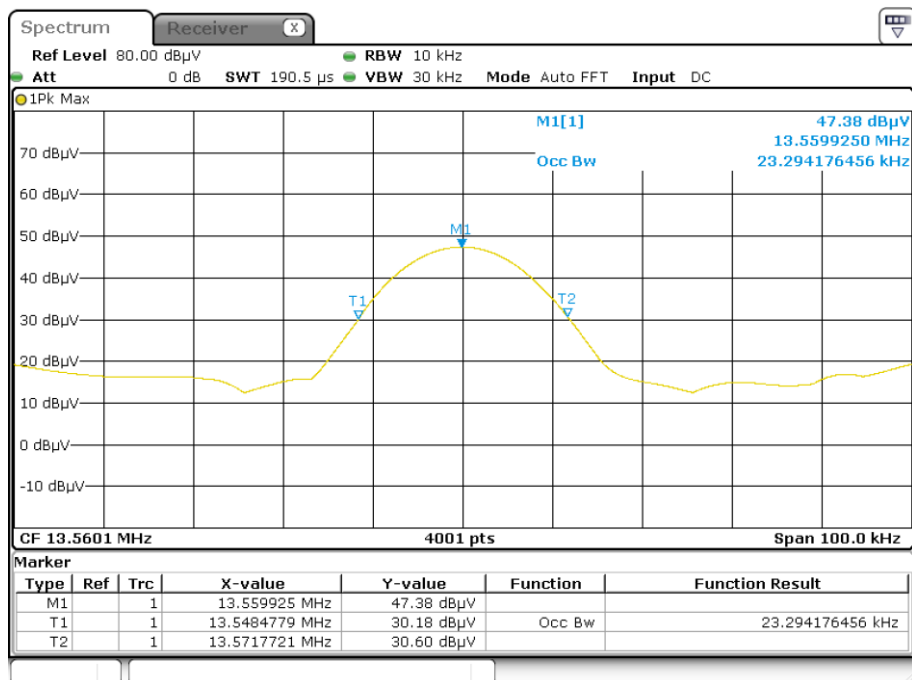
Frequency (MHz)	Emission Bandwidth(20dB down) (kHz)	Occupied Bandwidth(99%) (kHz)
13.56	24.694	23.294

Test Plots

Emission Bandwidth



99% Occupied Bandwidth



Equipment Information

Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SC HWARZ	ESRP	101036	2023.09.05	2024.09.04	☒
Test Antenna- Loop	SCHWARZB ECK	FMZB 1519	1519-037	2021.04.16	2024.04.15	☒
Anechoic Chamber (10M)	EMC TECHNOLO GY LTD	20.1m*11.6m*7 .35m	130	2021.08.15	2024.08.14	☒

A.2 Field Strength of Fundamental Emissions

Note: Field Strength of Fundamental Emissions tests were performed in X, Y, Z axis direction of EUT. And only the worst axis test condition was recorded in this test report.

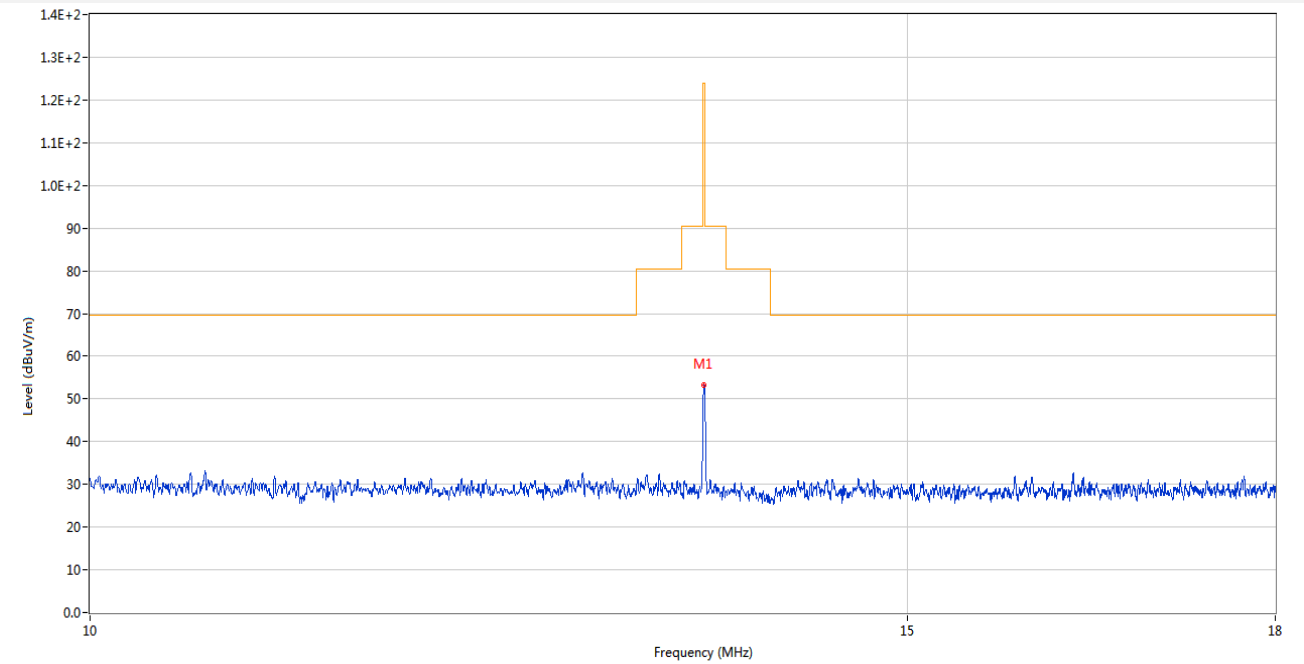
Sample No.	S02	Temperature	24.1°C
Humidity	60%RH	Pressure	101kPa
Test Engineer	Xi Zifeng	Test date	2024.04.02

Test Data

Field Strength of Fundamental Emissions Value					
Frequency (MHz)	Detector	Field Strength (dBμV/m)	Limit @3m (dBμV/m)	EUT	Margin (dB)
13.560	PEAK	53.28	124.0	X axis	70.72

Test Plot

Test Antenna-LOOP, EUT X axis



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	13.560	53.28	20.86	124.0	70.72	Peak	80.00	100	Horizontal	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2023.09.05	2024.09.04	☒
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2021.04.16	2024.04.15	☒
Anechoic Chamber (10M)	EMC Electronic Co., Ltd	20.10*11.60*7.35m	130	2021.08.15	2024.08.14	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

A.3 Radiated Emissions

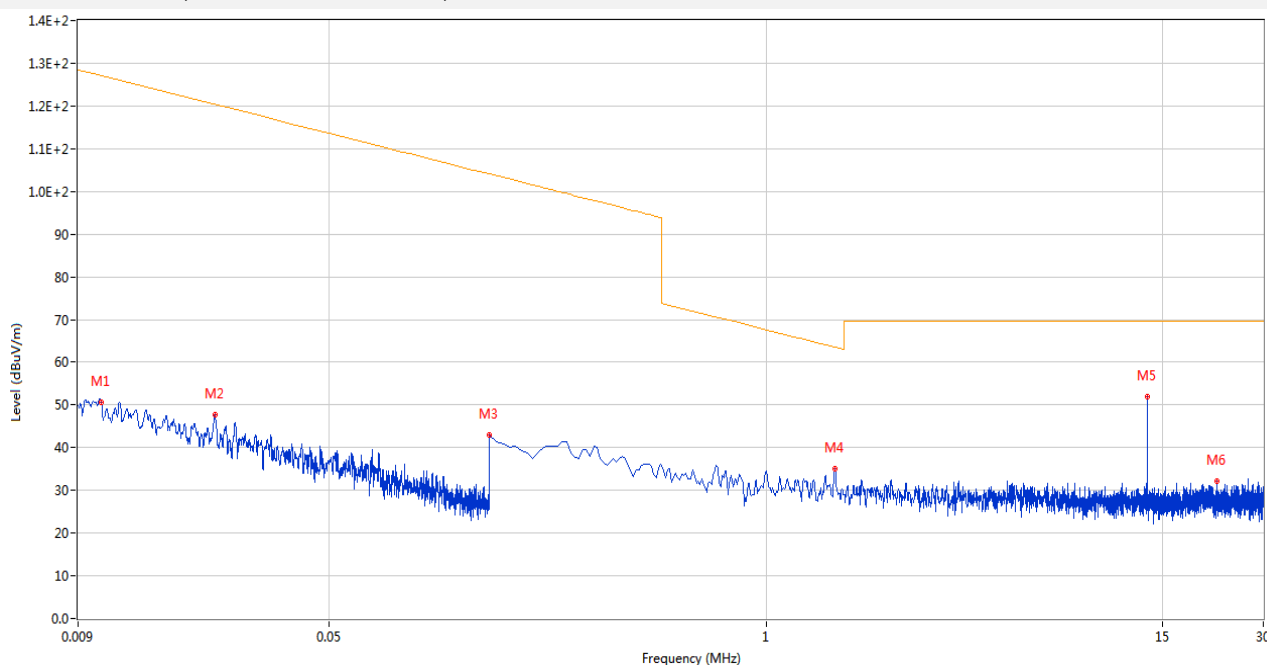
Note 1: This frequency which near 13.560 MHz with circle should be ignored because they are NFC carrier frequency.

Note 2: All Radiated Emissions tests were performed in X, Y, Z axis direction of EUT. And only the worst axis test condition was recorded in this test report.

The Data and Plots (9 kHz ~ 30 MHz)(at 10m chamber)

Sample No.	S02	Temperature	24.1°C
Humidity	60%RH	Pressure	101kPa
Test Engineer	Zhou haonan	Test date	2024.04.02

Below 30 MHz, Test Antenna LOOP, EUT X axis



No.	Frequency (MHz)	Results (dBUV/m)	Factor (dB)	Limit (dBUV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	0.011	50.72	20.02	127.1	76.38	Peak	96.00	100	Horizontal	Pass
2	0.023	47.63	20.23	120.4	72.77	Peak	118.00	100	Horizontal	Pass
3	0.150	26.02	20.15	104.1	78.08	Peak	242.00	100	Horizontal	Pass
4	1.598	34.97	20.48	63.5	28.53	Peak	304.00	100	Horizontal	Pass
5	13.560	52.03	20.86	69.5	17.47	Peak	79.00	100	Horizontal	N/A
6	21.873	32.11	21.14	69.5	37.39	Peak	322.00	100	Horizontal	Pass

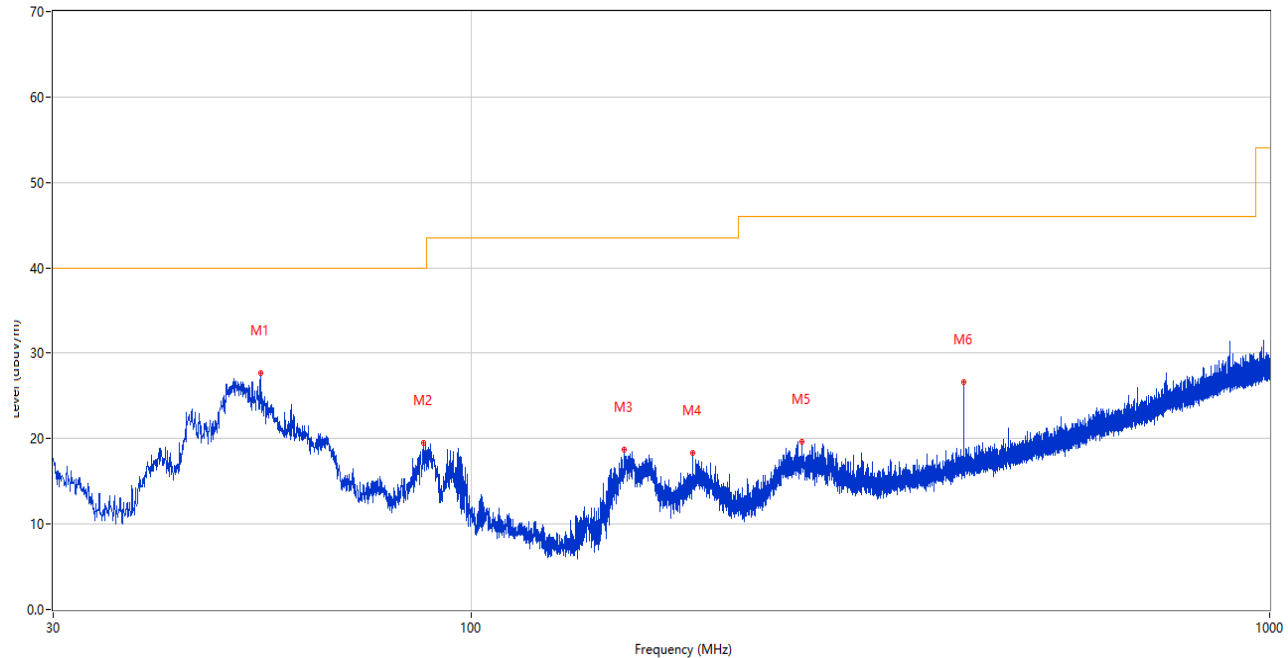
Note 1: This frequency which near 13.560 MHz with circle should be ignored because they are NFC.

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2023.09.05	2024.09.04	☒
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2021.04.16	2024.04.15	☒
Anechoic Chamber (10M)	EMC TECHNOLOGY LTD	20.1m*11.6m*7.35m	130	2021.08.15	2024.08.14	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

The Data and Plots (30 MHz ~ 10th Harmonic)

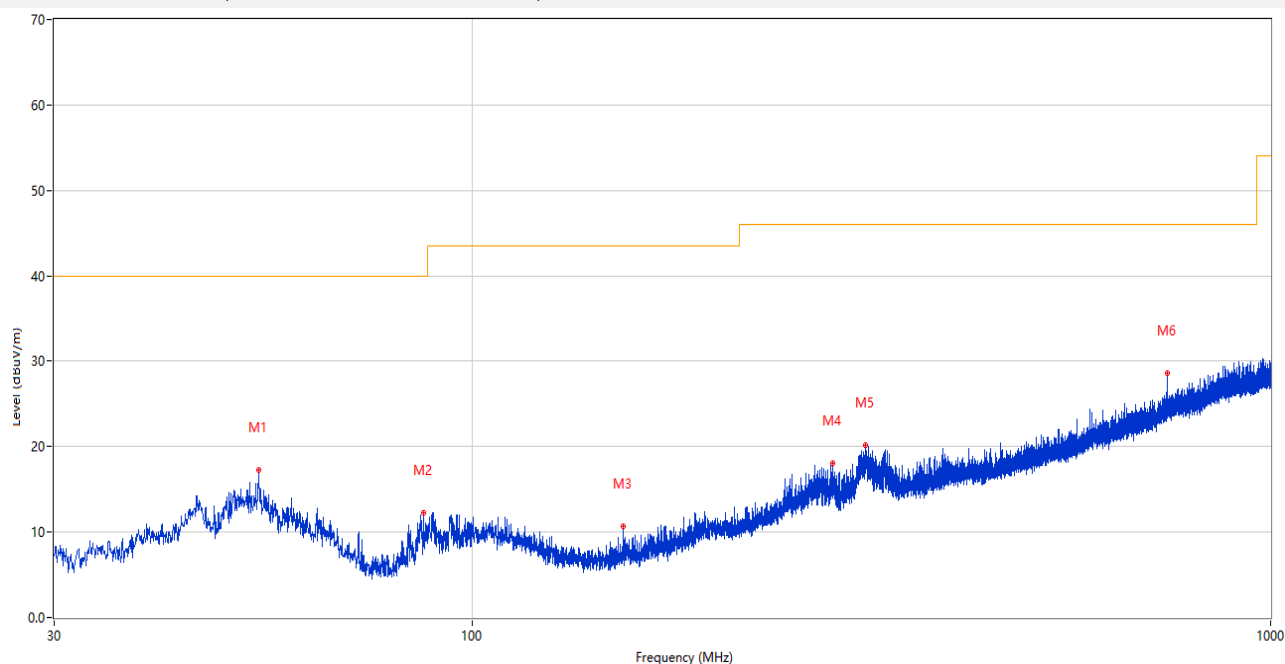
Sample No.	S02	Temperature	22.8°C
Humidity	51%RH	Pressure	101kPa
Test Engineer	He Shichang	Test date	2024.03.28

30 MHz to 1 GHz, Test Antenna Vertical, EUT X axis



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.492	27.73	-25.59	40.0	12.27	Peak	257.00	100	Vertical	Pass
2	87.182	19.49	-29.35	40.0	20.51	Peak	131.00	100	Vertical	Pass
3	155.566	18.70	-29.82	43.5	24.80	Peak	273.00	100	Vertical	Pass
4	189.662	18.37	-27.52	43.5	25.13	Peak	255.00	100	Vertical	Pass
5	259.647	19.62	-24.60	46.0	26.38	Peak	270.00	100	Vertical	Pass
6	413.732	26.63	-20.55	46.0	19.37	Peak	76.00	200	Vertical	Pass

30 MHz to 1 GHz, Test Antenna Horizontal, EUT X axis



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	54.105	17.21	-25.56	40.0	22.79	Peak	347.00	100	Horizontal	Pass
2	87.036	12.31	-29.39	40.0	27.69	Peak	163.00	200	Horizontal	Pass
3	154.742	10.68	-29.87	43.5	32.82	Peak	262.00	200	Horizontal	Pass
4	283.364	18.04	-24.08	46.0	27.96	Peak	78.00	100	Horizontal	Pass
5	311.300	20.23	-23.40	46.0	25.77	Peak	97.00	100	Horizontal	Pass
6	742.513	28.55	-13.04	46.0	17.45	Peak	305.00	200	Horizontal	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	☒
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04	☒
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-00867	2022.04.12	2025.04.11	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2021.08.19	2024.08.18	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

A.4 Frequency Stability

Note 1: Because the 85%(3.2895V) and 115% (4.4505V)of the rated supply voltage value exceeds the cut-off voltage upper(4.45V) and lower(3.5V) limit of the manufacturer, the cut-off voltage of EUT is test here.

Note 2: The operating temperature range of the EUT is 0°C to 35°C.

OPERATING FREQUENCY:	13560000 Hz
REFERENCE VOLTAGE:	3.87 V
DEVIATION LIMIT:	±0.01%

VOLTAGE (%)	Test Conditions		Frequency(Hz)	Deviation(%)	Verdict
	Power (VDC)	Temperature (°C)			
100	3.87	-30	13560110	0.000811	Pass
100		-20	13560110	0.000811	Pass
100		-10	13559880	-0.000885	Pass
100		0	13559880	-0.000885	Pass
100		+10	13560110	0.000811	Pass
100		+20	13559880	-0.000885	Pass
100		+25	13559880	-0.000885	Pass
100		+30	13560110	0.000811	Pass
100		+40	13560110	0.000811	Pass
100		+50	13559880	-0.000885	Pass
MAX(Cut-off Point, 85)	3.5	+20	13559880	-0.000885	Pass
MIN(Cut-off Point, 115)	4.45	+20	13560110	0.000811	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2023.09.05	2024.09.04	☒
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2021.04.16	2024.04.15	☒
Temperature Chamber	AHK	SP20	1412	2023.09.11	2024.09.10	☒
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2023.05.15	2024.05.14	☒
Anechoic Chamber (10M)	EMC TECHNOLOGY LTD	20.1m*11.6m*7.35m	130	2021.08.15	2024.08.14	☒
Description	Supplier	Name	Version	/		Use
Test Software	/	/	/	/		☒

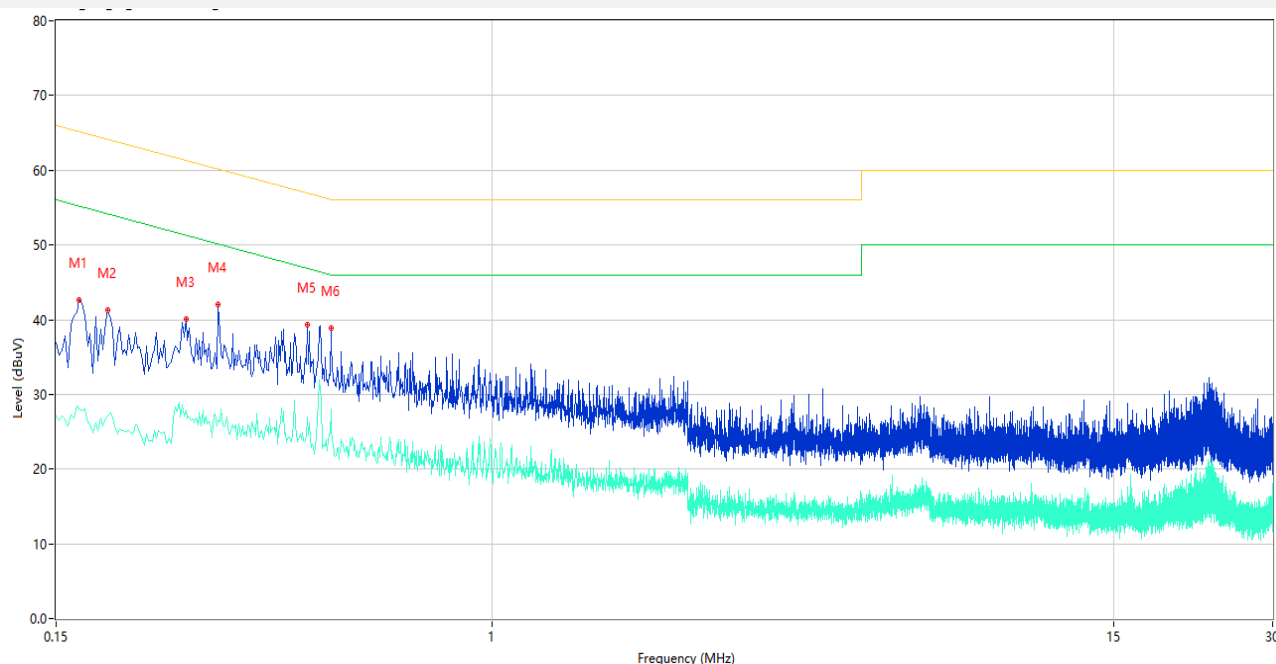
A.5 Conducted Emissions

Note 1: 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.

Test Data and Plots

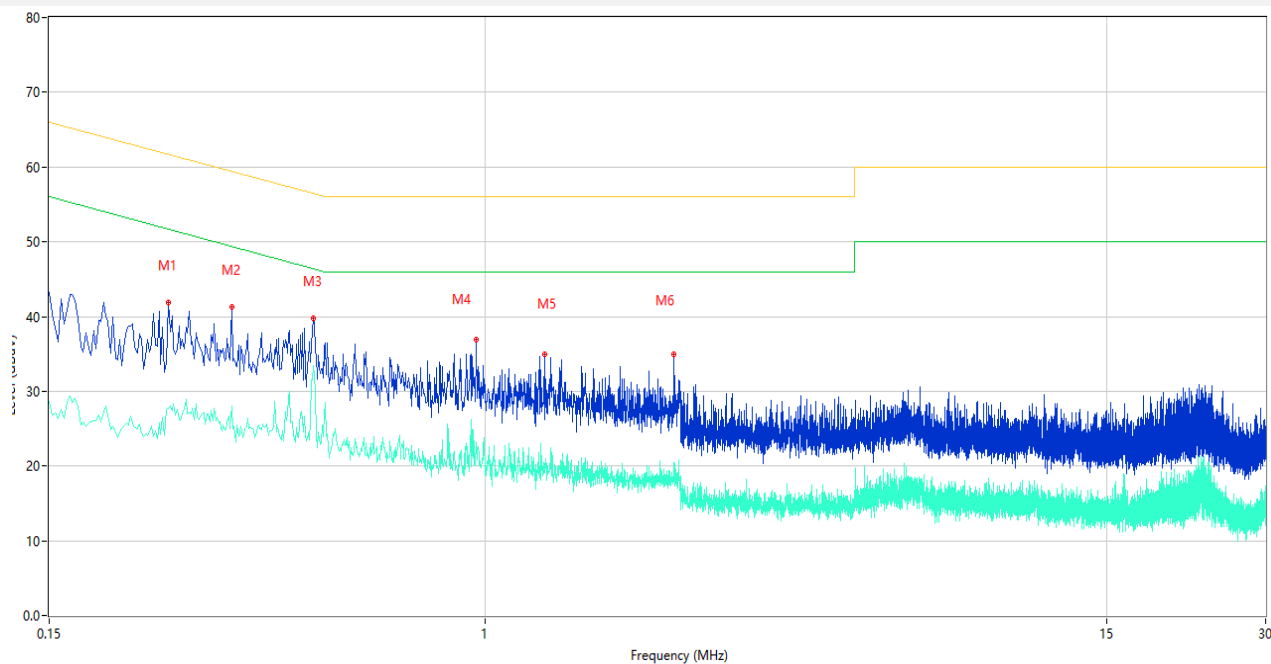
Sample No.	S02	Temperature	24.3°C
Humidity	52%RH	Pressure	101kPa
Test Engineer	Yang Yang	Test date	2024.03.29

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.166	42.65	9.45	65.16	22.51	Peak	L	Pass
1**	0.166	28.09	9.45	55.16	27.07	AV	L	Pass
2	0.188	41.30	9.43	64.12	22.82	Peak	L	Pass
2**	0.188	27.09	9.43	54.12	27.03	AV	L	Pass
3	0.264	40.04	9.43	61.30	21.26	Peak	L	Pass
3**	0.264	27.82	9.43	51.30	23.48	AV	L	Pass
4	0.304	42.06	9.42	60.13	18.07	Peak	L	Pass
4**	0.304	26.49	9.42	50.13	23.64	AV	L	Pass
5	0.448	39.35	9.93	56.91	17.56	Peak	L	Pass
5**	0.448	26.89	9.93	46.91	20.02	AV	L	Pass
6	0.496	38.84	9.70	56.07	17.23	Peak	L	Pass
6**	0.496	28.05	9.70	46.07	18.02	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.252	41.83	9.43	61.69	19.86	Peak	N	Pass
1**	0.252	27.80	9.43	51.69	23.89	AV	N	Pass
2	0.332	41.29	9.37	59.40	18.11	Peak	N	Pass
2**	0.332	27.95	9.37	49.40	21.45	AV	N	Pass
3	0.474	39.71	9.81	56.44	16.73	Peak	N	Pass
3**	0.474	33.39	9.81	46.44	13.05	AV	N	Pass
4	0.964	36.87	10.10	56.00	19.13	Peak	N	Pass
4**	0.964	22.62	10.10	46.00	23.38	AV	N	Pass
5	1.298	35.01	9.77	56.00	20.99	Peak	N	Pass
5**	1.298	20.39	9.77	46.00	25.61	AV	N	Pass
6	2.280	34.98	9.73	56.00	21.02	Peak	N	Pass
6**	2.280	20.52	9.73	46.00	25.48	AV	N	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2023.09.05	2024.09.04	☒
LISN	SCHWARZBECK	NSLK 8127	8127-687	2023.05.16	2024.05.15	☒
ISN	TESEQ	ISN T800	34449	2023.11.10	2024.11.09	☐
ISN	TESEQ	ISN T8-Cat6	53561	2023.04.23	2024.04.22	☐
Shielded Room	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8m	112	2022.02.19	2025.02.18	☒
Description	Manufacturer	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2430976-AE-2.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2430976-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2430976-AI.PDF”.

--END OF REPORT--

Statement

1. The laboratory 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. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the "inspection and testing dedicated stamp" or test report stamp.
5. The test data and results are only valid for the tested samples provided by the customer.
6. This report shall not be partially reproduced without the written permission of the laboratory.
7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

--END OF REPORT--