

TEST REPORT

Applicant: Xiaomi Communications Co., Ltd.
Address: #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road,
Haidian District, Beijing, China, 100085
Equipment Type: Wireless Earphones
Model Name: M2535E1
Brand Name: REDMI
FCC ID: 2AFZZM2535E1
Test Standard: 47 CFR Part 15 Subpart B
ANSI C63.4-2014
Sample Arrival Date: Jul. 24, 2025
Test Date: Jul. 31, 2025 – Aug. 01, 2025
Date of Issue: Sep. 01, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Li JunFeng**Checked by:** Zong Liyao**Approved by:** Tolan Tu
(Testing Director)

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Aug. 20, 2025</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Sep. 01, 2025</u>	<u>Update Chapter 4.2; Update ANNEX C EUT EXTERNAL PHOTOS and ANNEX D EUT INTERNAL PHOTOS</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	Ancillary Equipment.....	5
2.5	Technical Information	5
3	SUMMARY OF TEST RESULTS.....	6
3.1	Test Standards	6
3.2	Verdict	6
3.3	Test Uncertainty	6
4	GENERAL TEST CONFIGURATIONS.....	7
4.1	Test Enclosure List.....	7
4.2	Test Configurations	7
4.3	Test Setups	8
5	TEST ITEMS.....	10
5.1	Emission Tests	10
ANNEX A	TEST RESULTS.....	15
A.1	Radiated Emission	15
A.2	Conducted Emission, AC Ports	22
ANNEX B	TEST SETUP PHOTOS	25

ANNEX C	EUT EXTERNAL PHOTOS	25
ANNEX D	EUT INTERNAL PHOTOS	25

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
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 is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The certification body is American Association for Laboratory Accreditation (A2LA).

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Xiaomi Communications Co., Ltd.
Address	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

2.2 Manufacturer Information

Manufacturer	Xiaomi Communications Co., Ltd.
Address	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

2.3 General Description for Equipment under Test (EUT)

EUT Name	Wireless Earphones
Model Name Under Test	M2535E1
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	Earphone: V2.2; Charging case: V1.4
Software Version	V1.1.7.4
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Ancillary Equipment

Please refer the document "BL-SZ2571376-AW.PDF".

2.5 Technical Information

Network and Wireless connectivity	Bluetooth (BR+EDR+BLE)
Classification of equipment	Class B

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B	Unintentional Radiators
2	ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

3.2 Verdict

No.	Description	FCC Rule	Test Verdict	Remark
1	Radiated Emission	15.109	Pass	--
2	Conducted Emission, AC Ports	15.107	Pass	--

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 (30 MHz-1 GHz)-966#2	4.4 dB
Radiated emissions (1 GHz-18 GHz)-966#2	5.0 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Enclosure List

Description	Manufacturer	Model	Serial No.	Length	Description	Use
Adapter	Aohai	AK903HK	N/A	N/A	N/A	☒

4.2 Test Configurations

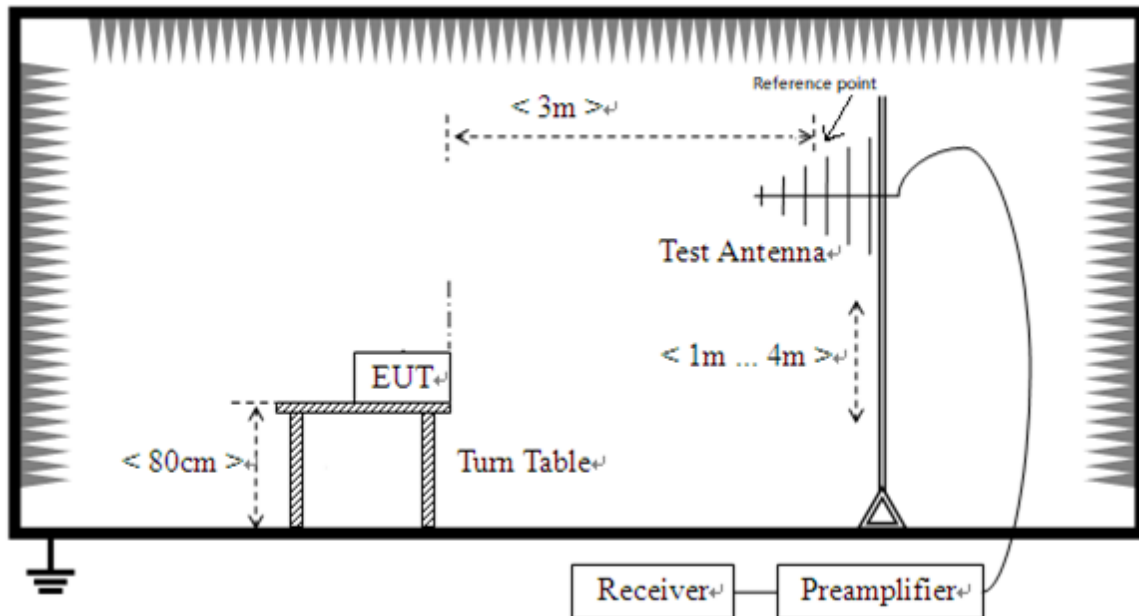
All test modes of EUT are listed in the table below.

Test Mode Configuration	Description
Mode 1	<u>The Charging Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone Charging Case
Mode 2	<u>The Charging Test Mode(earbuds installed in the case)</u> EUT + Adapter + USB Cable + Battery + Earphone Charging Case

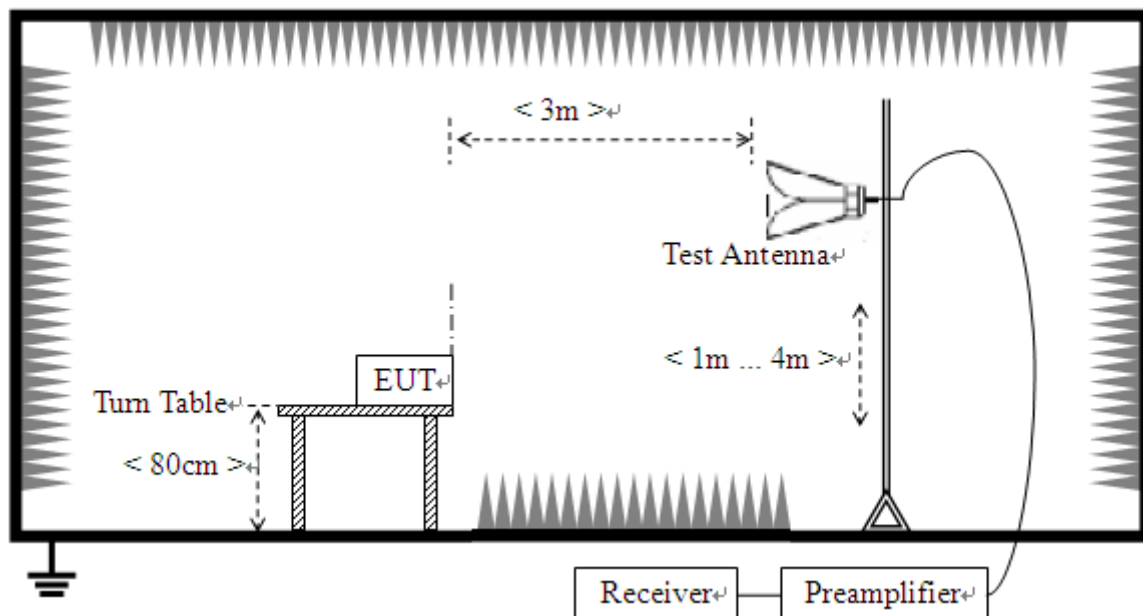
Test Case	Test Mode Configuration	Worst Mode
Radiated Emission	Mode 1~Mode 2	1
Conducted Emission, AC Ports	Mode 1~Mode 2	1
Note: All operation modes were tested, but only test data of the worst mode was presented in this report.		

4.3 Test Setups

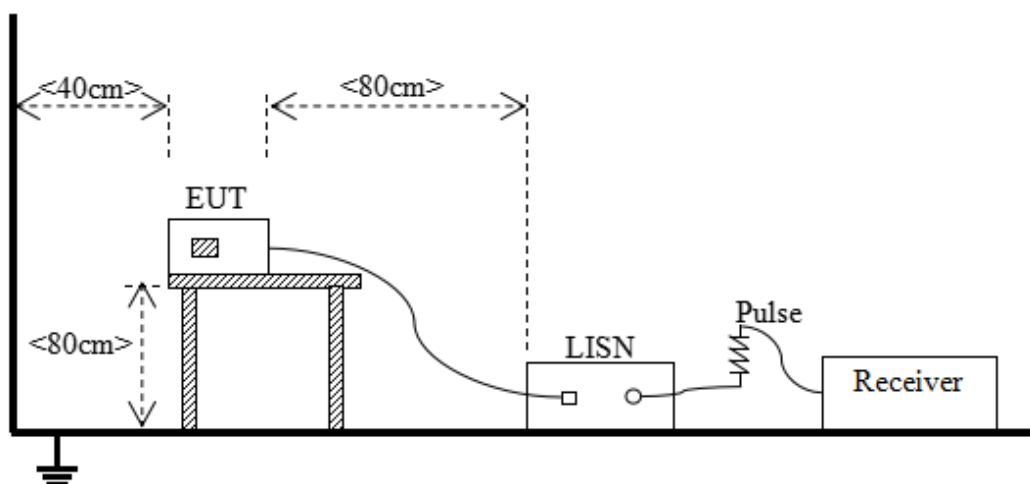
Test Setup 1



Radiated Emission (30 MHz-1 GHz)



Radiated Emission (above 1 GHz)

Test Setup 2

Conducted Emissions, AC Ports

5 TEST ITEMS

5.1 Emission Tests

5.1.1 Radiated Emission

5.1.1.1 Limit

Frequency range (MHz)	Class B (at 3 m)		Class A (at 3 m)
	Field Strength ($\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)
30 - 88	100	40	49.5
88 - 216	150	43.5	54
216 - 960	200	46	56.9
Above 960	500	54	60

NOTE:

- 1) Field Strength (dB $\mu\text{V/m}$) = $20 \cdot \log [\text{Field Strength } (\mu\text{V/m})]$.
- 2) In the emission tables above, the tighter limit applies at the band edges.
- 3) For 30 MHz to 1000 MHz, the CISPR quasi-peak is employed.

For above 1000 MHz, according to the requirements of FCC 15.35, unless otherwise specified, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

Frequency range (GHz)	Class B (at 3 m)			Class A (at 3 m)	
	Field Strength ($\mu\text{V/m}$)	Field Strength Average (dB $\mu\text{V/m}$)	Field Strength Peak (dB $\mu\text{V/m}$)	Field Strength Average (dB $\mu\text{V/m}$)	Field Strength Peak (dB $\mu\text{V/m}$)
1 - F_M	500	54	74	60	80

Note 1: The highest measurement frequency, F_M , in GHz, shall be determined as next Table.

Note 2: Average Class A limit at 3m L_{3m} is determined by the following conversion formula:

$$L_{3m} = L_{10m} + 20 \cdot \log(d_{10m}/d_{3m})$$
Where:
 L_{3m} is Average Class A limit at 3m;
 L_{10m} is Average Class A limit at 10m;
 d_{10m} is Measurement distance in 10m;
 d_{3m} is Measurement distance in 3m.
For this case: $L_{3m} = 49.5 + 20 \cdot \log(10/3) = 60$ (dB $\mu\text{V/m}$).

Highest internal frequency (F_X)	Highest measurement frequency (F_M)
$F_X \leq 108 \text{ MHz}$	1 GHz
$108 \text{ MHz} \leq F_X \leq 500 \text{ MHz}$	2 GHz
$500 \text{ MHz} \leq F_X \leq 1 \text{ GHz}$	5 GHz
$F_X \geq 1 \text{ GHz}$	$5 * F_X$ or 40 GHz, whichever is lower.
Note: F_X is Highest frequency generated or used in the device or on which the device operates or tunes.	

5.1.1.2 Test Setup

Refer to 4.3 section (test setup 1) for radiated emission test, the photo of test setup please refer to ANNEX B.

5.1.1.3 Test Procedure

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

An initial pre-scan was performed in the chamber using the EMI Receiver in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bi-Log antenna with 2 orthogonal polarities.

The measurement frequency range is from 30 MHz to the 5th harmonic of the maximum frequency of the EUT internal source. 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.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

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

VBW $\geq$ RBW

Sweep = auto

Detector function = peak for $f < 1 \text{ GHz}$, peak & RMS Average for $f \geq 1 \text{ GHz}$

Trace = max hold

5.1.1.4 Test Result and Test Equipment List

Please refer to ANNEX A.1.

NOTE:

1. 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

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

3. Margin = Limit - Results

5.1.2 Conducted Emission, AC Ports

5.1.2.1 Test Limit

Frequency range (MHz)	Class A	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	79	66
0.50 - 30	73	60

Frequency range (MHz)	Class B	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- 1) The lower limit shall apply at the band edges.
- 2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50 MHz.

5.1.2.2 Test Setup

Refer to 4.3 section test (test setup 2) for conducted emission, the photo of test setup please refer to ANNEX B.

5.1.2.3 Test Procedure

The EUT is connected to the power mains through a LISN which provides 50 Ω /50 μ H of coupling impedance for the measuring instrument. The test frequency range is from 150 kHz to 30 MHz. The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels that are 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.

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.

Use the following spectrum analyzer settings:

RBW = 9 kHz

VBW $\geq$ RBW

Sweep = 10ms

Detector function = peak & Average

Trace = max hold

5.1.2.4 Test Result and Test Equipment List

Please refer to ANNEX A.2.

NOTE:

1. Results (dB μ V) = Reading (dB μ V) + Factor (dB)

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

2. Factor = Insertion loss + Cable loss

3. Margin = Limit - Results

ANNEX A TEST RESULTS

A.1 Radiated Emission

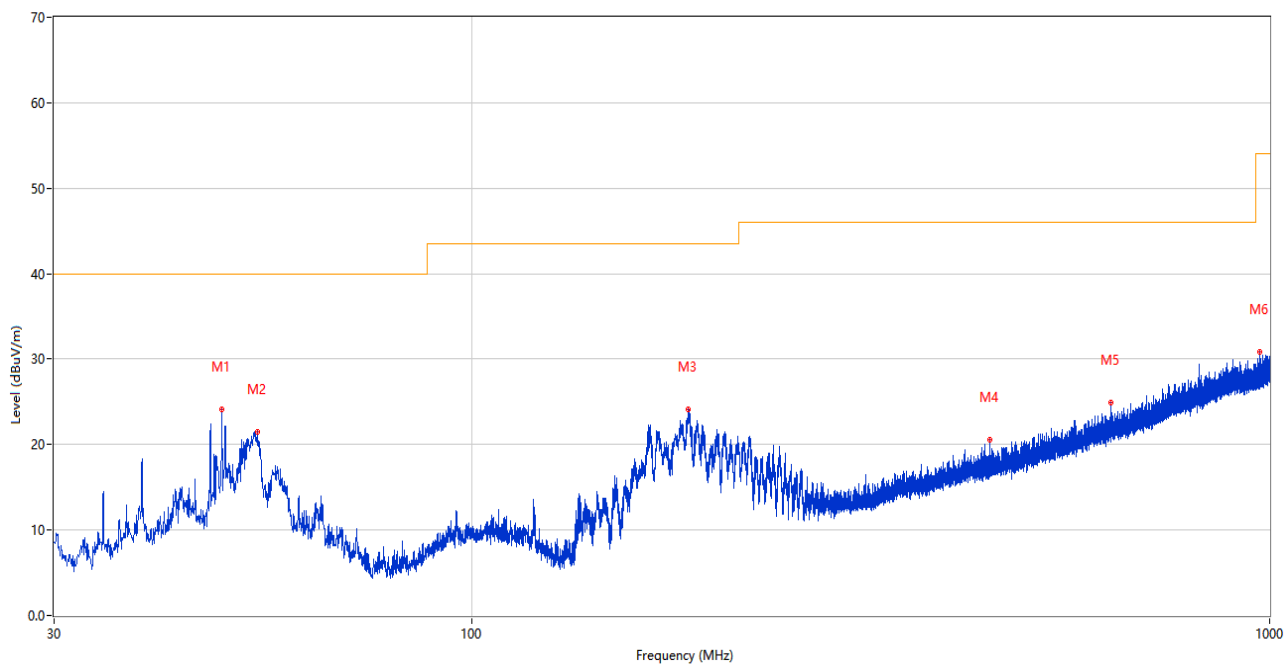
Note 1: The symbol of “--” in the table which means not application.

Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, 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.

Sample No.	S01	Temperature	23.9℃
Humidity	45%RH	Pressure	101kPa
Test Engineer	Chen Jingran	Test Date	2025.08.02

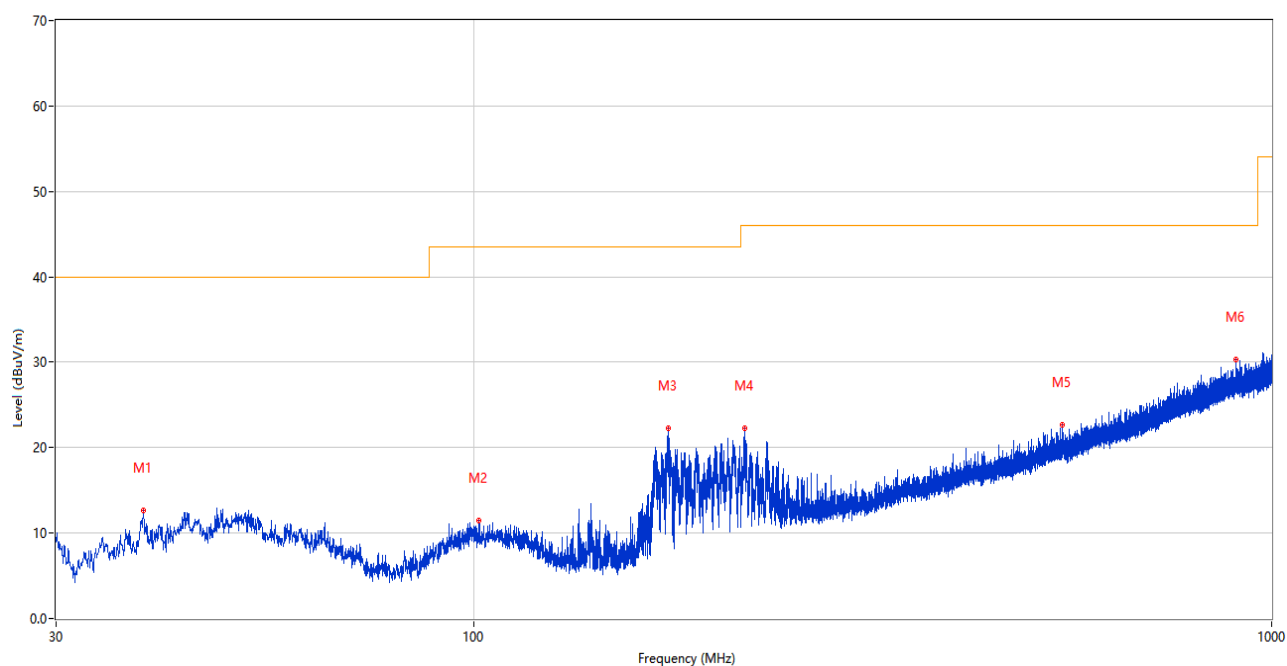
Test Mode 1

1) Test Antenna Vertical, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBUV/m)	Factor (dB)	Limit (dBUV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.672	24.15	-25.60	40.0	15.85	Peak	35.00	100	Vertical	Pass
2	53.910	21.50	-25.17	40.0	18.50	Peak	130.00	100	Vertical	Pass
3	186.898	24.11	-27.60	43.5	19.39	Peak	169.00	100	Vertical	Pass
4	445.742	20.56	-19.97	46.0	25.44	Peak	177.00	100	Vertical	Pass
5	632.079	24.98	-15.35	46.0	21.02	Peak	243.00	100	Vertical	Pass
6	972.598	30.90	-8.92	54.0	23.10	Peak	261.00	100	Vertical	Pass

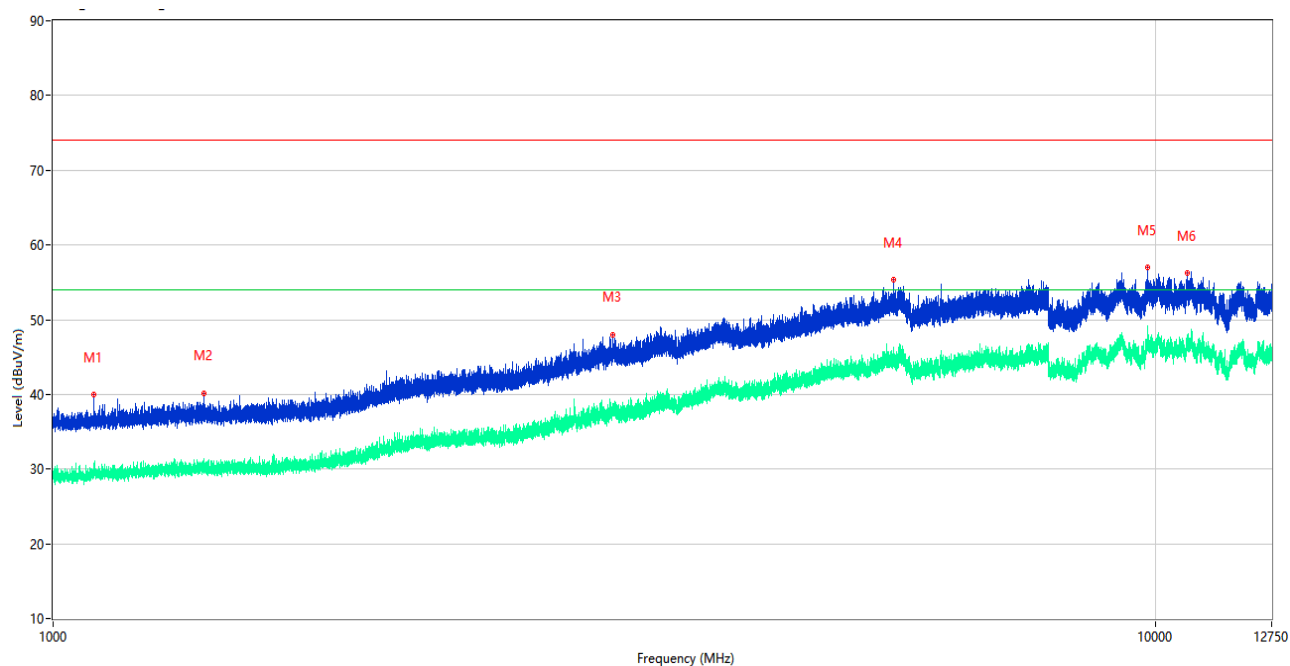
2) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	38.633	12.66	-25.93	40.0	27.34	Peak	299.00	100	Horizontal	Pass
2	101.537	11.45	-26.98	43.5	32.05	Peak	58.00	200	Horizontal	Pass
3	175.597	22.34	-28.57	43.5	21.16	Peak	267.00	200	Horizontal	Pass
4	218.665	22.28	-26.24	46.0	23.72	Peak	0.00	100	Horizontal	Pass
5	546.767	22.68	-17.49	46.0	23.32	Peak	200.00	200	Horizontal	Pass
6	902.951	30.34	-9.82	46.0	15.66	Peak	35.00	100	Horizontal	Pass

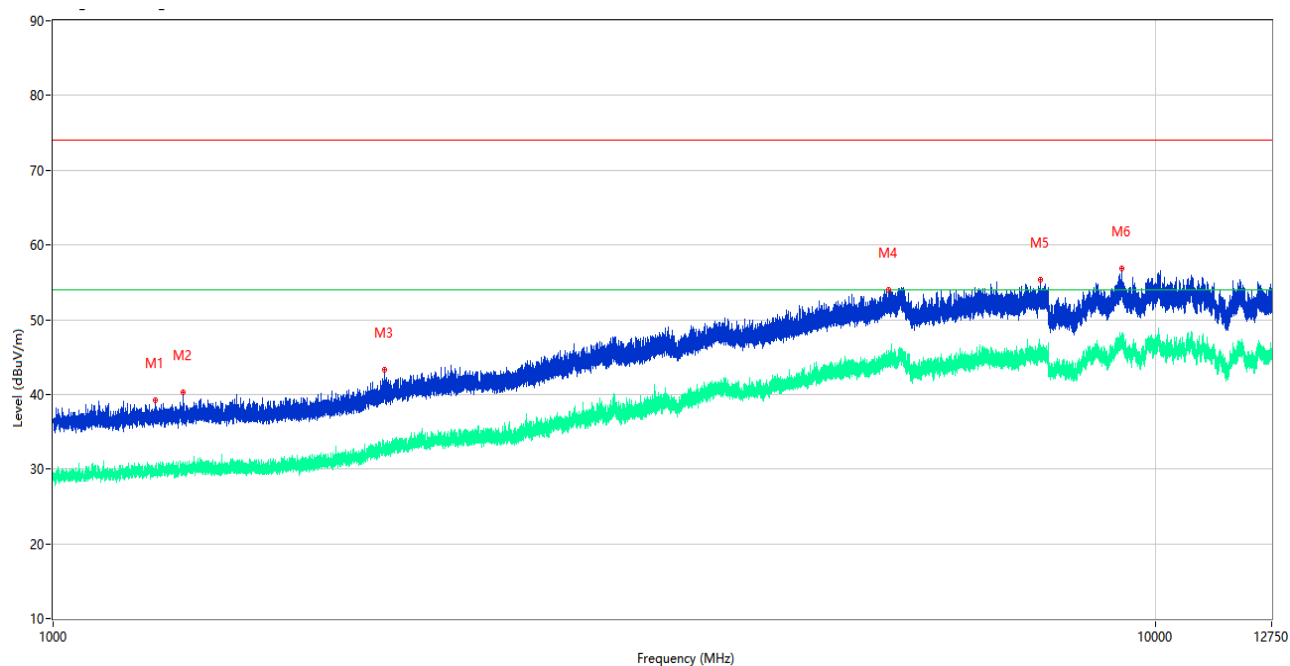
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2025.06.17	2026.06.16	☒
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2024.11.28	2025.11.27	☒
Test Antenna- Bi-Log	SCHWARZB ECK	VULB 9168	00867	2025.04.12	2028.04.11	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2024.07.21	2027.07.20	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

3) Test Antenna Vertical, 1 GHz – 12.75 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1088.010	40.01	-15.69	74.0	33.99	Peak	193.00	100	Vertical	Pass
1**	1088.010	28.81	-15.69	54.0	25.19	AV	193.00	100	Vertical	Pass
2	1369.850	40.18	-15.42	74.0	33.82	Peak	304.00	100	Vertical	Pass
2**	1369.850	30.24	-15.42	54.0	23.76	AV	304.00	100	Vertical	Pass
3	3217.930	48.03	-5.98	74.0	25.97	Peak	39.00	100	Vertical	Pass
3**	3217.930	37.78	-5.98	54.0	16.22	AV	39.00	100	Vertical	Pass
4	5785.700	55.32	2.45	74.0	18.68	Peak	360.00	100	Vertical	Pass
4**	5785.700	44.16	2.45	54.0	9.84	AV	360.00	100	Vertical	Pass
5	9837.062	57.02	3.81	74.0	16.98	Peak	101.00	100	Vertical	Pass
5**	9837.062	46.62	3.81	54.0	7.38	AV	101.00	100	Vertical	Pass
6	10680.188	56.26	3.39	74.0	17.74	Peak	37.00	100	Vertical	Pass
6**	10680.188	46.19	3.39	54.0	7.81	AV	37.00	100	Vertical	Pass

4) Test Antenna Horizontal, 1 GHz – 6 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1238.940	39.25	-15.78	74.0	34.75	Peak	25.00	100	Horizontal	Pass
1**	1238.940	30.45	-15.78	54.0	23.55	AV	25.00	100	Horizontal	Pass
2	1312.000	40.27	-15.39	74.0	33.73	Peak	327.00	100	Horizontal	Pass
2**	1312.000	30.07	-15.39	54.0	23.93	AV	327.00	100	Horizontal	Pass
3	1999.830	43.28	-13.43	74.0	30.72	Peak	25.00	100	Horizontal	Pass
3**	1999.830	33.26	-13.43	54.0	20.74	AV	25.00	100	Horizontal	Pass
4	5725.860	54.00	1.40	74.0	20.00	Peak	219.00	100	Horizontal	Pass
4**	5725.860	45.04	1.40	54.0	8.96	AV	219.00	100	Horizontal	Pass
5	7868.000	55.29	2.40	74.0	18.71	Peak	108.00	100	Horizontal	Pass
5**	7868.000	45.43	2.40	54.0	8.57	AV	108.00	100	Horizontal	Pass
6	9317.650	56.87	4.65	74.0	17.13	Peak	4.00	100	Horizontal	Pass
6**	9317.650	46.53	4.65	54.0	7.47	AV	4.00	100	Horizontal	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Above 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2025.06.17	2026.06.16	☒
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2024.11.28	2025.11.27	☒
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2024.11.28	2025.11.27	☒
Test Antenna- Horn	SCHWARZB ECK	BBHA 9120D	01917	2025.05.20	2028.05.19	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2024.07.21	2027.07.20	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

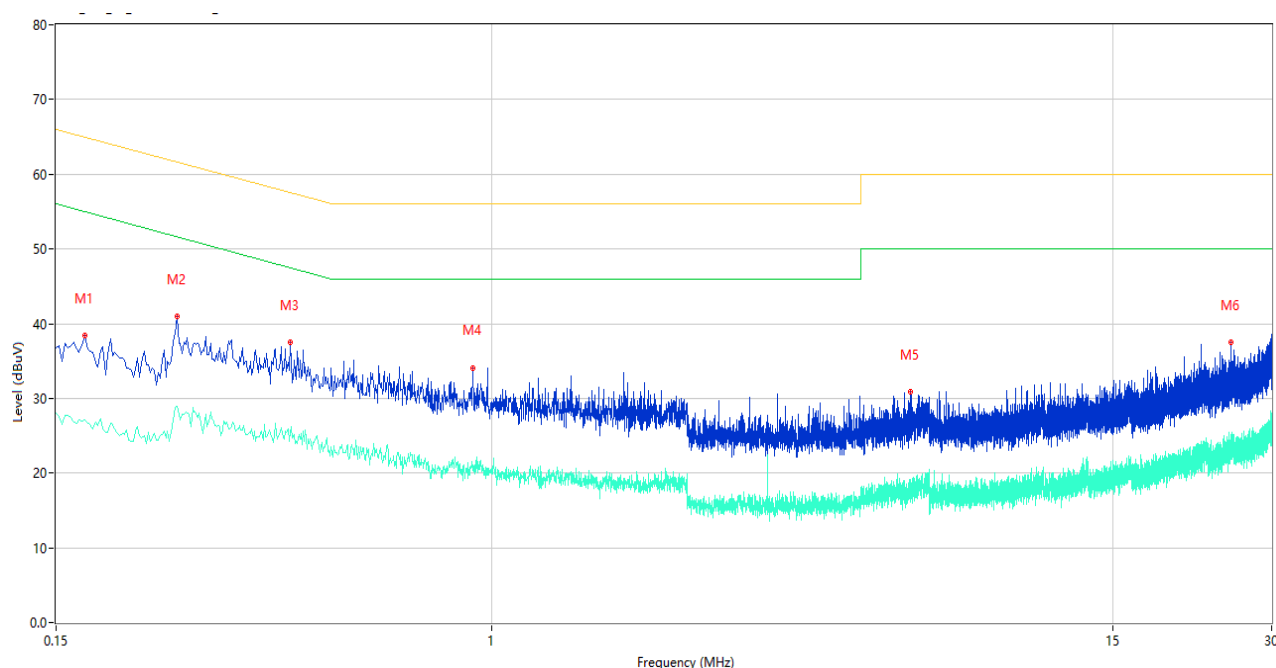
A.2 Conducted Emission, AC Ports

Note: 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. 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.

Sample No.	S01	Temperature	23.2°C
Humidity	49%RH	Pressure	101kPa
Test Engineer	Yangyang	Test Date	2025.08.02

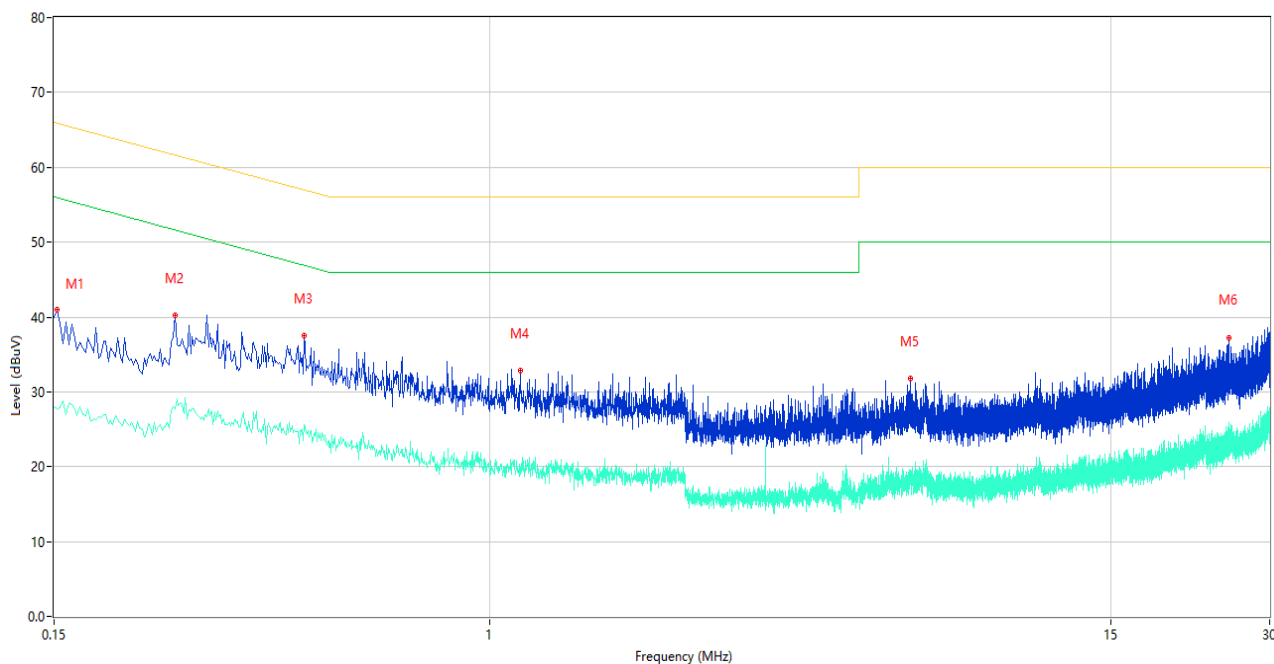
Test Mode 1

1) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.170	38.39	10.07	64.96	26.57	Peak	L	Pass
1**	0.170	27.09	10.07	54.96	27.87	AV	L	Pass
2	0.254	40.93	10.03	61.63	20.70	Peak	L	Pass
2**	0.254	28.96	10.03	51.63	22.67	AV	L	Pass
3	0.416	37.50	10.60	57.53	20.03	Peak	L	Pass
3**	0.416	25.51	10.60	47.53	22.02	AV	L	Pass
4	0.922	34.12	10.49	56.00	21.88	Peak	L	Pass
4**	0.922	20.36	10.49	46.00	25.64	AV	L	Pass
5	6.224	30.85	11.40	60.00	29.15	Peak	L	Pass
5**	6.224	18.77	11.40	50.00	31.23	AV	L	Pass
6	25.100	37.48	16.26	60.00	22.52	Peak	L	Pass
6**	25.100	23.37	16.26	50.00	26.63	AV	L	Pass

2) AC Ports - N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.152	40.93	10.12	65.89	24.96	Peak	N	Pass
1**	0.152	27.69	10.12	55.89	28.20	AV	N	Pass
2	0.254	40.25	10.03	61.63	21.38	Peak	N	Pass
2**	0.254	27.75	10.03	51.63	23.88	AV	N	Pass
3	0.446	37.55	10.56	56.95	19.40	Peak	N	Pass
3**	0.446	25.66	10.56	46.95	21.29	AV	N	Pass
4	1.144	32.78	10.35	56.00	23.22	Peak	N	Pass
4**	1.144	18.91	10.35	46.00	27.09	AV	N	Pass
5	6.266	31.73	11.54	60.00	28.27	Peak	N	Pass
5**	6.266	18.06	11.54	50.00	31.94	AV	N	Pass
6	25.124	37.28	16.39	60.00	22.72	Peak	N	Pass
6**	25.124	23.54	16.39	50.00	26.46	AV	N	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2025.06.16	2026.06.15	☒
LISN	SCHWARZB ECK	NSLK 8127	8127-687	2025.04.29	2026.04.28	☒
Shielded Room	YiHeng Electronic Co., Ltd	3.5m*3.1m*2. 8m	112	2025.02.14	2028.02.13	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2571376-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2571376-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2571376-AI.PDF”.

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--