

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: Mobile Phone
Model Name: 24115RA8EG
Brand Name: Redmi
FCC ID: 2AFZZRA8E
Test Standard: 47 CFR Part 15 Subpart B
ANSI C63.4-2014
Sample Arrival Date: Aug. 13, 2024
Test Date: Aug. 14, 2024 - Aug. 22, 2024
Date of Issue: Oct. 08, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Zhang Guoxi **Checked by:** Liu Zhenxiang **Approved by:** Tolan Tu
(Testing Director)



Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Sep. 26, 2024</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Oct. 08, 2024</u>	<u>Updated testing modes in section 4.2</u>

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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.

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	Mobile Phone
Model Name Under Test	24115RA8EG
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	13510O16U
Software Version	Xiaomi HyperOS 1.0
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A
EUT ID	S06, S16, S43
IMEI Number	S06: IMEI1: 863541070016026, IMEI2: 863541070016044
	S16: IMEI1: 863541070053367, IMEI2: 863541070053375
	S43: IMEI1: 863541070081327, IMEI2: 863541070081335
Note: All tests were performed on the EUT ID of S16 and only the worst configuration of Radiated Emission was tested on the other models. This report only reflects data from S16.	

2.4 Ancillary Equipment

Please refer the document “BL-SZ2470686-AW EUT external photo.pdf”.

2.5 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/900/1800/1900 3G Network WCDMA/HSDPA/HSUPA Band 1/2/4/5/8 4G Network FDD LTE Band 1/2/3/4/5/7/8/12/13/17/20/26/28/32/66 TDD LTE Band 38/40/41/42/48 LTE CA Uplink (UL): CA_3C, CA_7C, CA_38C, CA_40C, CA_1A-3A, CA_1A-7A, CA_1A-8A, CA_1A-20A, CA_3A-7A, CA_3A-20A, CA_7A-20A, CA_7A-28A, CA_2A-4A, CA_4A-5A, CA_4A-7A LTE CA Downlink (DL): CA_20A-32A 5G Network SA: NR n1/n2/n3/n5/n7/n8/n12/n20/n26/n28/n38/n40/n41/n48/n66/n77/n78 NSA(EN-DC): DC_20A_n1A, DC_28A_n1A, DC_3A_n1A, DC_7A_n1A, DC_8A_n1A, DC_40A_n1A, DC_5A_n1A, DC_42A_n1A, DC_1A_n3A, DC_20A_n3A, DC_7A_n3A, DC_8A_n3A, DC_5A_n3A, DC_28A_n3A, DC_1A_n7A, DC_3A_n7A, DC_5A_n7A, DC_20A_n7A, DC_28A_n7A, DC_1A_n8A, DC_7A_n8A, DC_1A_n20A, DC_3A_n20A, DC_7A_n20A, DC_1A_n28A, DC_3A_n28A, DC_7A_n28A, DC_20A_n28A, DC_41A_n28A, DC_1A_n38A, DC_3A_n38A, DC_8A_n38A, DC_20A_n38A, DC_28A_n38A, DC_1A_n40A, DC_3A_n40A, DC_5A_n40A, DC_8A_n40A, DC_28A_n40A, DC_1A_n41A, DC_3A_n41A, DC_8A_n41A, DC_20A_n41A, DC_28A_n41A, DC_1A_n77A, DC_3A_n77A, DC_8A_n77A, DC_28A_n77A, DC_40A_n77A, DC_1A_n78A, DC_3A_n78A, DC_5A_n78A, DC_7A_n78A, DC_8A_n78A, DC_20A_n78A, DC_28A_n78A, DC_38A_n78A, DC_40A_n78A, DC_41A_n78A, DC_26A_n78A, DC_2A_n78A, DC_4A_n78A, DC_66A_n78A, DC_2A_n66A, DC_5A_n66A, DC_7A_n66A, DC_7A_n5A, DC_2A_n77A, DC_4A_n41A, DC_66A_n41, DC_66A_n38A, DC_4A_n38A, DC_4A_n7A, DC_66A_n7A Bluetooth (BR+EDR+BLE) WIFI 802.11a, 802.11b, 802.11g, 802.11n(HT20/40), 802.11ac(VHT20/40/80/160) and 802.11ax(HE20/40/80/160) GPS, GLONASS, Galileo, BDS, QZSS, NFC
Classification of equipment	Class B
The highest internal frequency of EUT	5850 MHz

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
Laptop	Lenovo	N/A	N/A	N/A	N/A	☒
Data connector	HBR	type-c to USB 3.0	N/A	N/A	N/A	☒
USB disk	Sandisk	CZ73-32G	N/A	N/A	32G	☒
TYPE C to 3.5mm Earphone Adapter	Xiaomi	N/A	N/A	N/A	N/A	☒
Mobile Phone Holder	Xiaomi	N/A	N/A	N/A	N/A	☒

4.2 Test Configurations

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

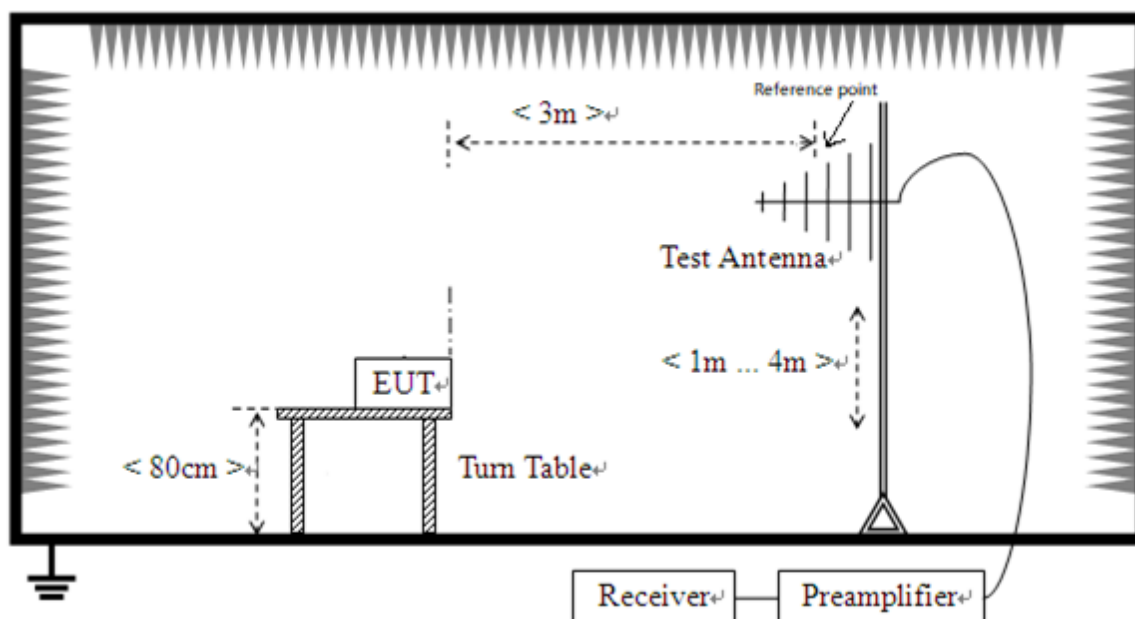
Test Mode Configuration	Description
Mode 1	<u>The GSM 850 MHz RX Test Mode</u> GSM 850 MHz RX + EUT +Adapter + USB Cable + Battery
Mode 2	<u>The EGPRS 850 MHz RX Test Mode</u> EGPRS 850 MHz RX + EUT +Adapter + USB Cable + Battery
Mode 3	<u>The WCDMA Band 5 RX Test Mode</u> WCDMA Band 5 RX + EUT +Adapter + USB Cable + Battery
Mode 4	<u>The WCDMA Band 8 RX Test Mode</u> WCDMA Band 8 RX + EUT +Adapter + USB Cable + Battery
Mode 5	<u>The FDD LTE Band 5 RX Test Mode</u> LTE Band 5 RX + EUT +Adapter + USB Cable + Battery
Mode 6	<u>The FDD LTE Band 8 RX Test Mode</u> LTE Band 8 RX + EUT +Adapter + USB Cable + Battery
Mode 7	<u>The FDD LTE Band 12 RX Test Mode</u> LTE Band 12 RX + EUT +Adapter + USB Cable + Battery
Mode 8	<u>The FDD LTE Band 13 RX Test Mode</u> LTE Band 13 RX + EUT +Adapter + USB Cable + Battery
Mode 9	<u>The FDD LTE Band 17 RX Test Mode</u> LTE Band 17 RX + EUT +Adapter + USB Cable + Battery
Mode 10	<u>The FDD LTE Band 20 RX Test Mode</u> LTE Band 20 RX + EUT +Adapter + USB Cable + Battery
Mode 11	<u>The FDD LTE Band 26 RX Test Mode</u> LTE Band 26 RX + EUT +Adapter + USB Cable + Battery
Mode 12	<u>The FDD LTE Band 28 RX Test Mode</u> LTE Band 28 RX + EUT +Adapter + USB Cable + Battery
Mode 13	<u>The n5 RX Test Mode</u> n5 RX + EUT +Adapter + USB Cable + Battery
Mode 14	<u>The n8 RX Test Mode</u> n8 RX + EUT +Adapter + USB Cable + Battery
Mode 15	<u>The n12 RX Test Mode</u> n12 RX + EUT +Adapter + USB Cable + Battery
Mode 16	<u>The n20 RX Test Mode</u> n20 RX + EUT +Adapter + USB Cable + Battery
Mode 17	<u>The n26 RX Test Mode</u> n26 RX + EUT +Adapter + USB Cable + Battery
Mode 18	<u>The n28 RX Test Mode</u> n28 RX + EUT +Adapter + USB Cable + Battery
Mode 19	<u>The Charging Test Mode</u> EUT + Adapter + USB Cable + Battery

Mode 20	<u>The Front Camera Test Mode</u> EUT + Adapter + USB Cable + Battery
Mode 21	<u>The Back Camera Test Mode</u> EUT + Adapter + USB Cable + Battery
Mode 22	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery
Mode 23	<u>The Video Play Test Mode With Mobile Phone Holder</u> EUT + Adapter + USB Cable + Battery + Mobile Phone Holder
Mode 24	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop
Mode 25	<u>The OTG Test Mode</u> EUT + Battery + Data connector + USB disk
Mode 26	<u>The Type-C Earphone Test Mode</u> EUT + Battery + TYPE C to 3.5mm Earphone Adapter + Headset
Mode 27	<u>The Video Display Test Mode with internal speaker</u> EUT + Battery

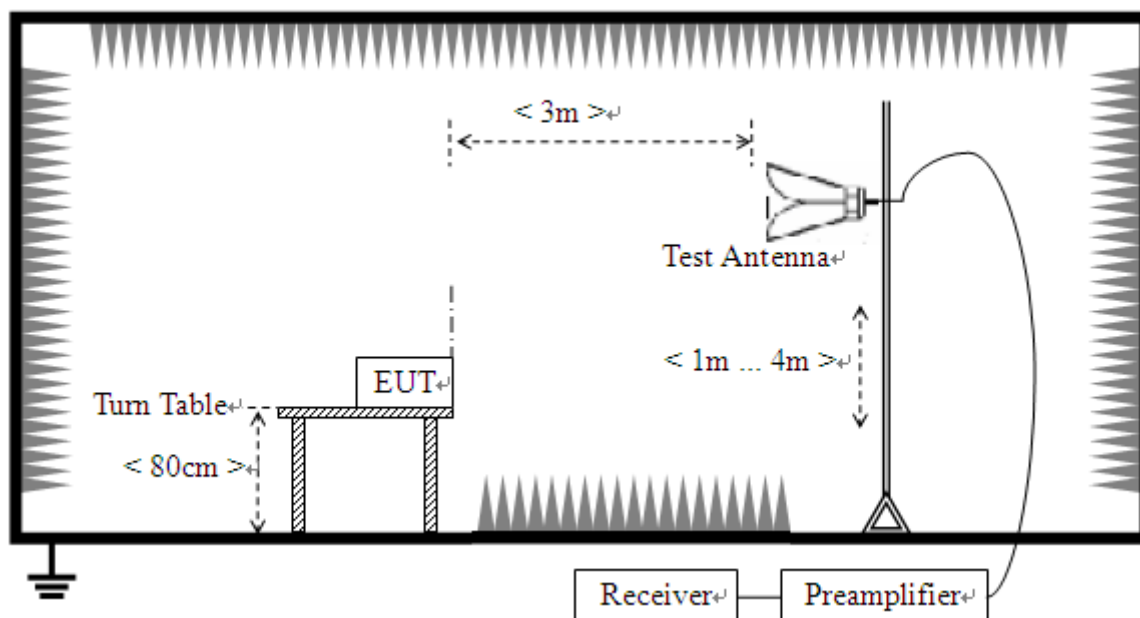
Test Case	Test Mode Configuration	Worst Mode
Radiated Emission	Mode 1~Mode 27	19, 24
Conducted Emission, AC Ports	Mode 1~Mode 24	19, 24
Note: All operation modes were tested, but only test data of the worst mode was presented in this report.		

4.3 Test Setups

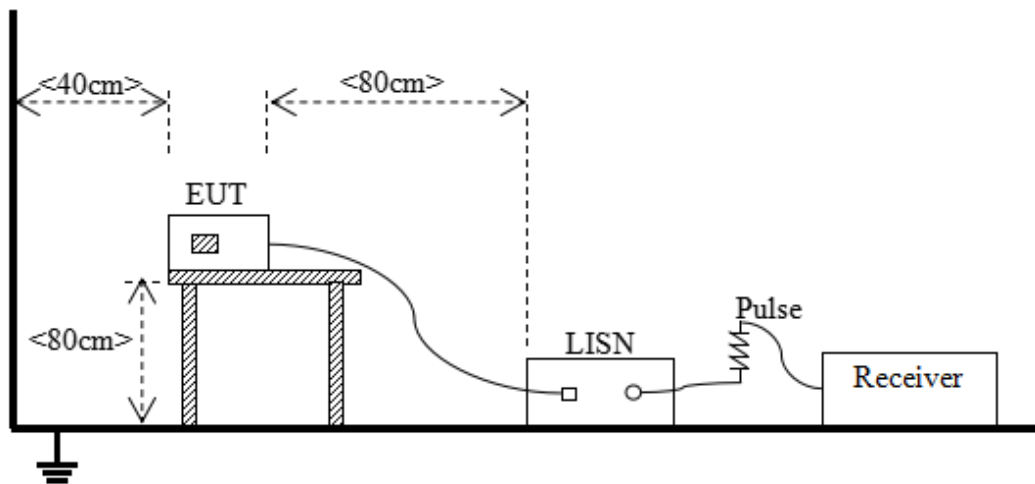
Test Setup 1



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 $\mu\text{V/m}$) = $20 \times \log [\text{Field Strength } (\mu\text{V/m})]$.
- 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:

$$L_{3m} = L_{10m} + 20 \times \log(d_{10m}/d_{3m})$$
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: $L_{3m} = 49.5 + 20 \times \log(10/3) = 60$ (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 (dBμV) = Reading (dBμV) + 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.

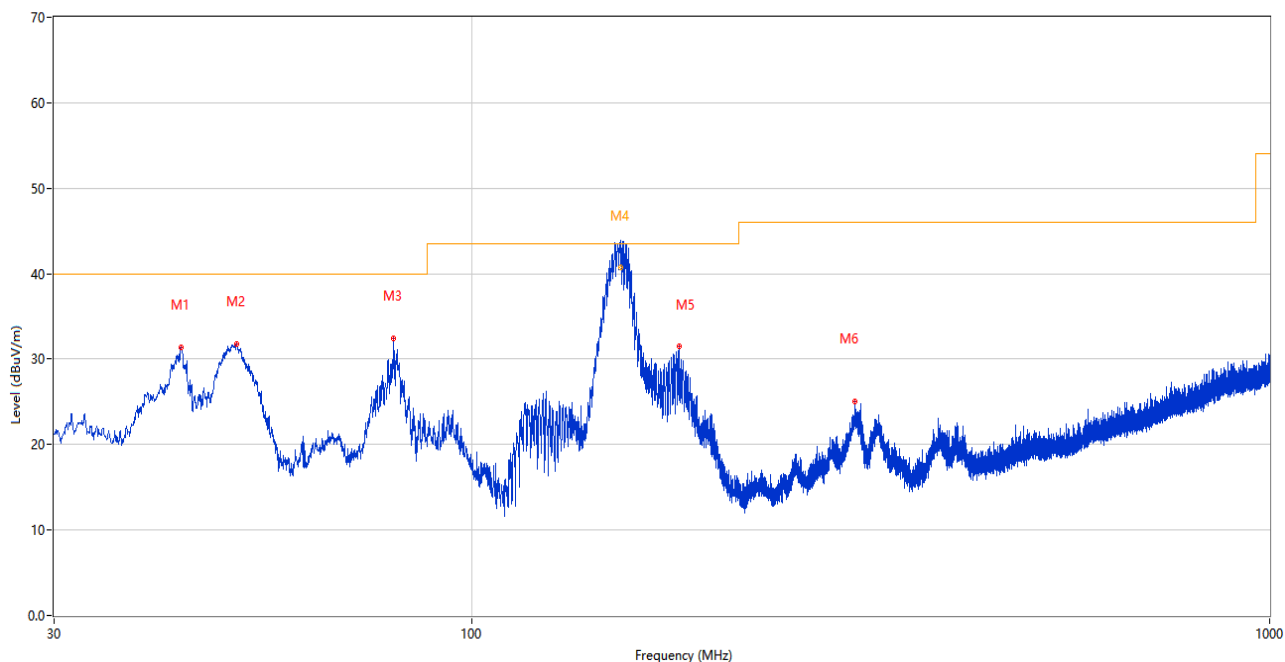
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: The Radiated Emission is required to be investigated to the upper frequency of 5th harmonic of the highest internal frequency of EUT or 40 GHz, whichever is lower. The test results above 18GHz are only noise and are not recorded in the report.

Sample No.	S16	Temperature	23.2℃
Humidity	51%RH	Pressure	101kPa
Test Engineer	Chen Jingran	Test Date	2024.08.17

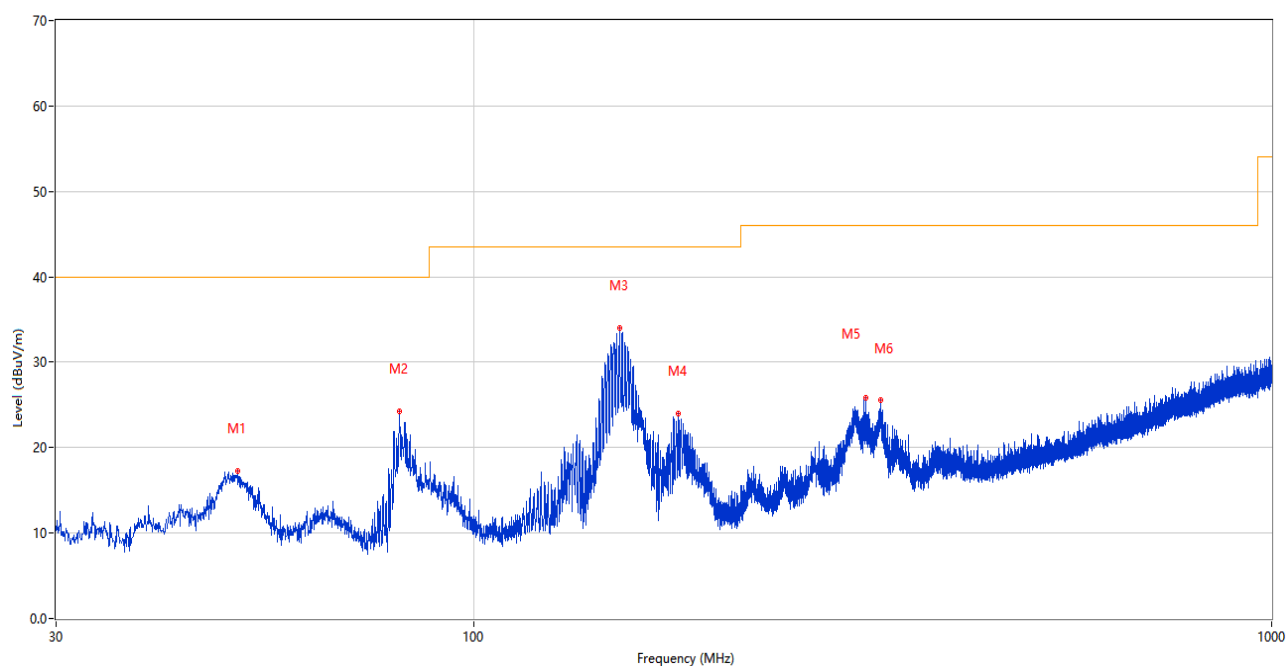
Test Mode 19

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	43.240	31.36	-25.77	40.0	8.64	Peak	350.00	100	Vertical	Pass
2	50.758	31.73	-25.52	40.0	8.27	Peak	33.00	100	Vertical	Pass
3	79.858	32.41	-30.96	40.0	7.59	Peak	98.00	100	Vertical	Pass
4	153.809	44.26	-29.90	43.5	-0.06	Peak	345.00	101	Vertical	N/A
4*	153.809	40.48	-29.90	43.5	3.02	QP	345.00	101	Vertical	Pass
5	181.854	31.57	-28.33	43.5	11.93	Peak	230.00	100	Vertical	Pass
6	302.182	25.06	-23.71	46.0	20.94	Peak	212.00	200	Vertical	Pass

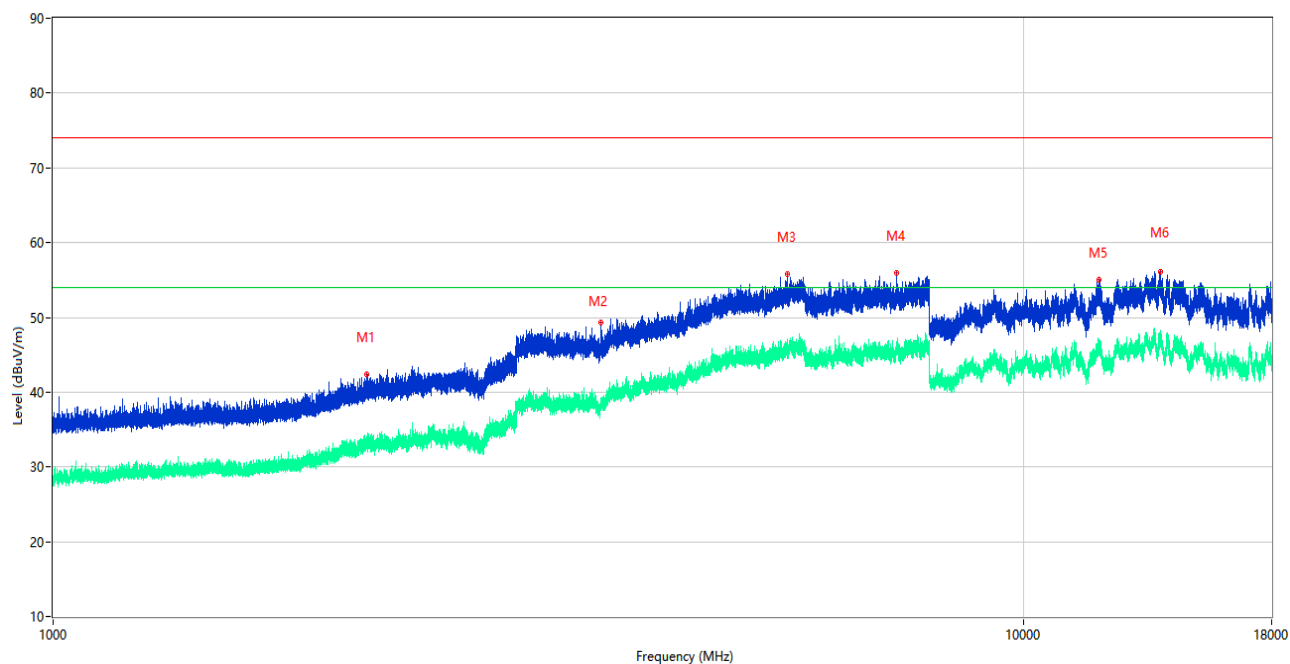
2) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	50.661	17.23	-25.53	40.0	22.77	Peak	24.00	100	Horizontal	Pass
2	80.731	24.28	-30.94	40.0	15.72	Peak	129.00	200	Horizontal	Pass
3	152.414	34.00	-30.02	43.5	9.50	Peak	243.00	200	Horizontal	Pass
4	180.690	24.05	-28.50	43.5	19.45	Peak	228.00	200	Horizontal	Pass
5	310.427	25.89	-23.36	46.0	20.11	Peak	71.00	100	Horizontal	Pass
6	323.668	25.62	-23.00	46.0	20.38	Peak	243.00	100	Horizontal	Pass

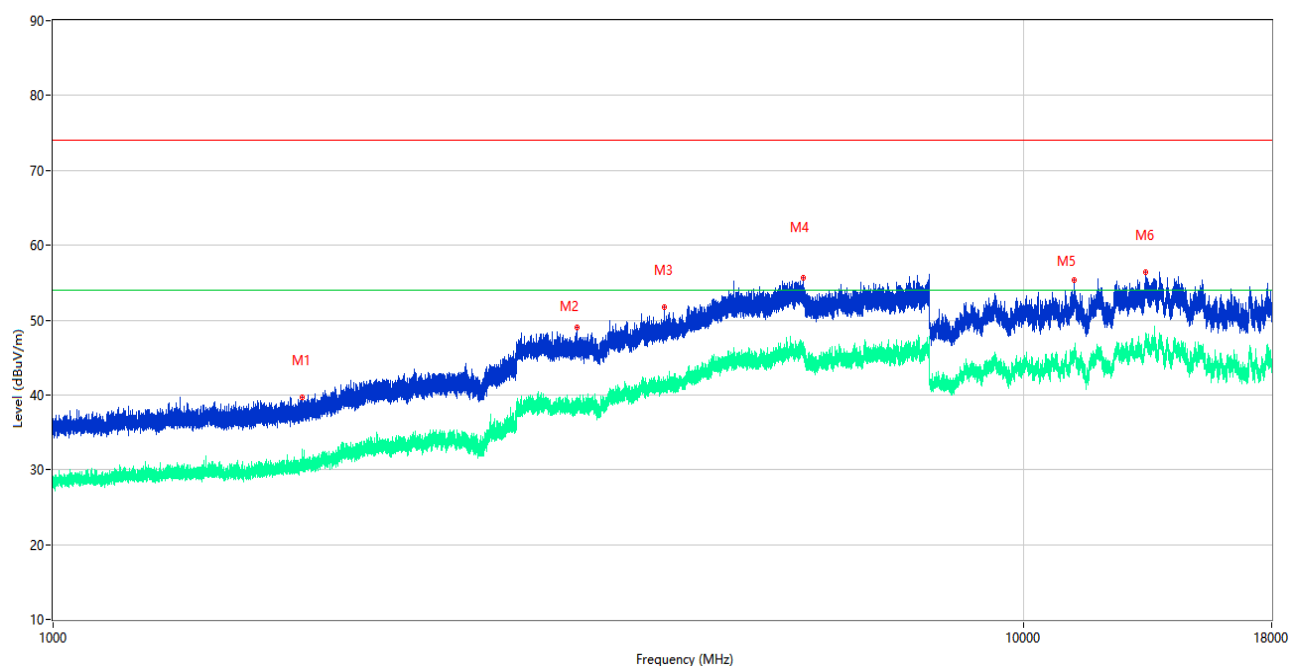
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2024.08.01	2025.07.31	☒
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04	☒
Test Antenna- Bi-Log	SCHWARZB ECK	VULB 9168	9168-00867	2022.04.12	2025.04.11	☒
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 – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2102.900	42.42	-12.77	74.0	31.58	Peak	360.00	100	Vertical	Pass
1**	2102.900	34.04	-12.77	54.0	19.96	AV	360.00	100	Vertical	Pass
2	3668.750	49.29	-3.45	74.0	24.71	Peak	167.00	100	Vertical	Pass
2**	3668.750	38.63	-3.45	54.0	15.37	AV	167.00	100	Vertical	Pass
3	5706.500	55.80	2.30	74.0	18.20	Peak	194.00	100	Vertical	Pass
3**	5706.500	45.69	2.30	54.0	8.31	AV	194.00	100	Vertical	Pass
4	7397.250	55.97	2.46	74.0	18.03	Peak	309.00	100	Vertical	Pass
4**	7397.250	46.81	2.46	54.0	7.19	AV	309.00	100	Vertical	Pass
5	11962.500	55.10	2.64	74.0	18.90	Peak	181.00	100	Vertical	Pass
5**	11962.500	45.94	2.64	54.0	8.06	AV	181.00	100	Vertical	Pass
6	13813.500	56.13	5.64	74.0	17.87	Peak	338.00	100	Vertical	Pass
6**	13813.500	46.73	5.64	54.0	7.27	AV	338.00	100	Vertical	Pass

4) Test Antenna Horizontal, 1 GHz – 18 GHz



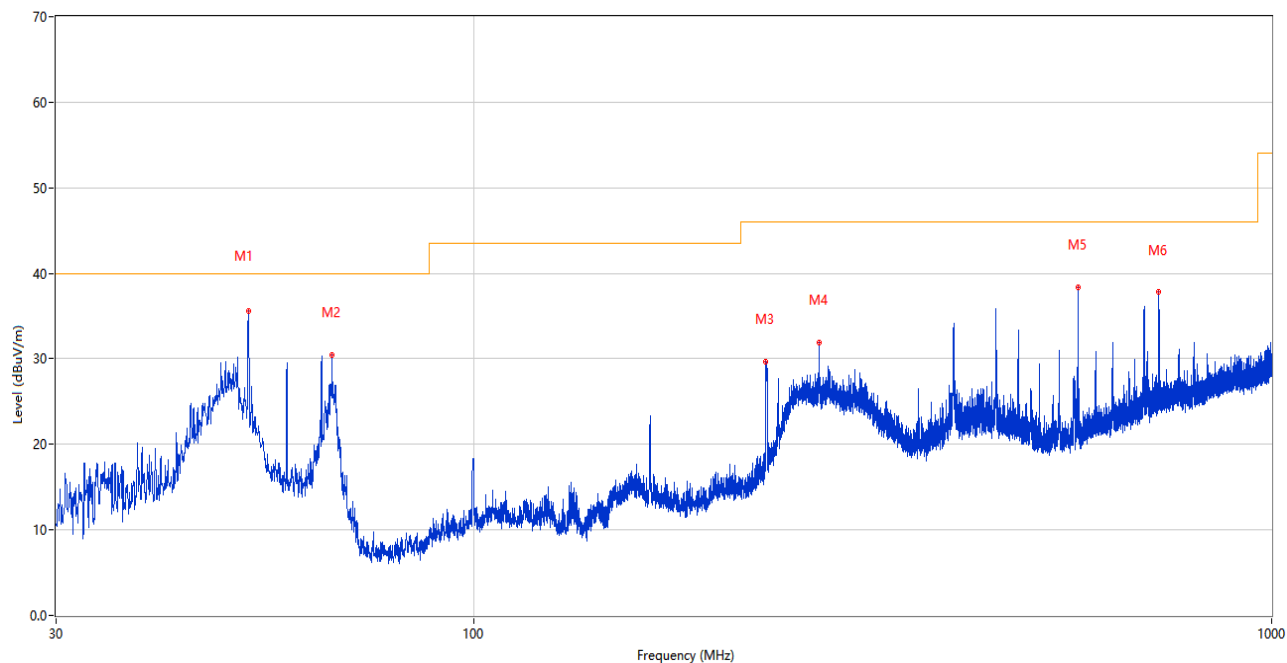
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1806.100	39.66	-15.25	74.0	34.34	Peak	337.00	100	Horizontal	Pass
1**	1806.100	30.42	-15.25	54.0	23.58	AV	337.00	100	Horizontal	Pass
2	3468.500	49.02	-4.02	74.0	24.98	Peak	106.00	100	Horizontal	Pass
2**	3468.500	38.80	-4.02	54.0	15.20	AV	106.00	100	Horizontal	Pass
3	4261.000	51.77	-0.89	74.0	22.23	Peak	186.00	100	Horizontal	Pass
3**	4261.000	41.20	-0.89	54.0	12.80	AV	186.00	100	Horizontal	Pass
4	5930.250	55.70	3.03	74.0	18.30	Peak	123.00	100	Horizontal	Pass
4**	5930.250	44.92	3.03	54.0	9.08	AV	123.00	100	Horizontal	Pass
5	11280.500	55.28	2.16	74.0	18.72	Peak	0.00	100	Horizontal	Pass
5**	11280.500	45.53	2.16	54.0	8.47	AV	0.00	100	Horizontal	Pass
6	13357.000	56.37	5.19	74.0	17.63	Peak	350.00	100	Horizontal	Pass
6**	13357.000	47.11	5.19	54.0	6.89	AV	350.00	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	2024.08.01	2025.07.31	☒
EMI Receiver	R&S	FSV-40	101544	2023.12.27	2024.12.26	☒
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2023.12.05	2024.12.04	☒
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2023.12.05	2024.12.04	☒
Amplifier (18-40GHz)	COM-MV	KA_LNA18- 40G-01	18050001	2024.06.15	2027.06.14	☒
Test Antenna- Horn	SCHWARZB ECK	BBHA 9120D	01917	2022.06.09	2025.06.08	☒
Test Antenna- Horn	A-INFOMW	LB-180400KF	J211060273	2024.06.15	2027.06.14	☒
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	/		☒

Sample No.	S16	Temperature	23.2℃
Humidity	51%RH	Pressure	101kPa
Test Engineer	Chen Jingran	Test Date	2024.08.17

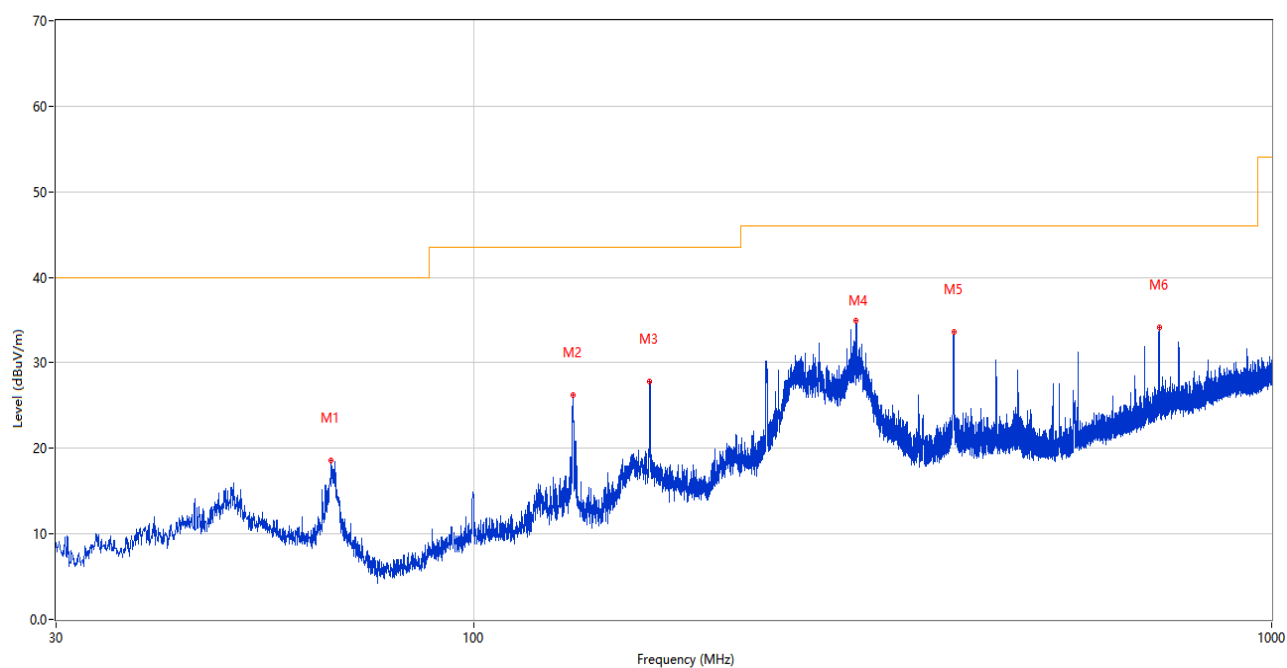
Test Mode 24

5) 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	52.213	35.65	-25.44	40.0	4.35	Peak	0.00	100	Vertical	Pass
2	66.472	30.47	-27.91	40.0	9.53	Peak	79.00	100	Vertical	Pass
3	232.536	29.65	-25.43	46.0	16.35	Peak	254.00	200	Vertical	Pass
4	270.851	31.85	-24.40	46.0	14.15	Peak	360.00	200	Vertical	Pass
5	572.084	38.41	-16.98	46.0	7.59	Peak	131.00	100	Vertical	Pass
6	722.434	37.77	-13.52	46.0	8.23	Peak	160.00	200	Vertical	Pass

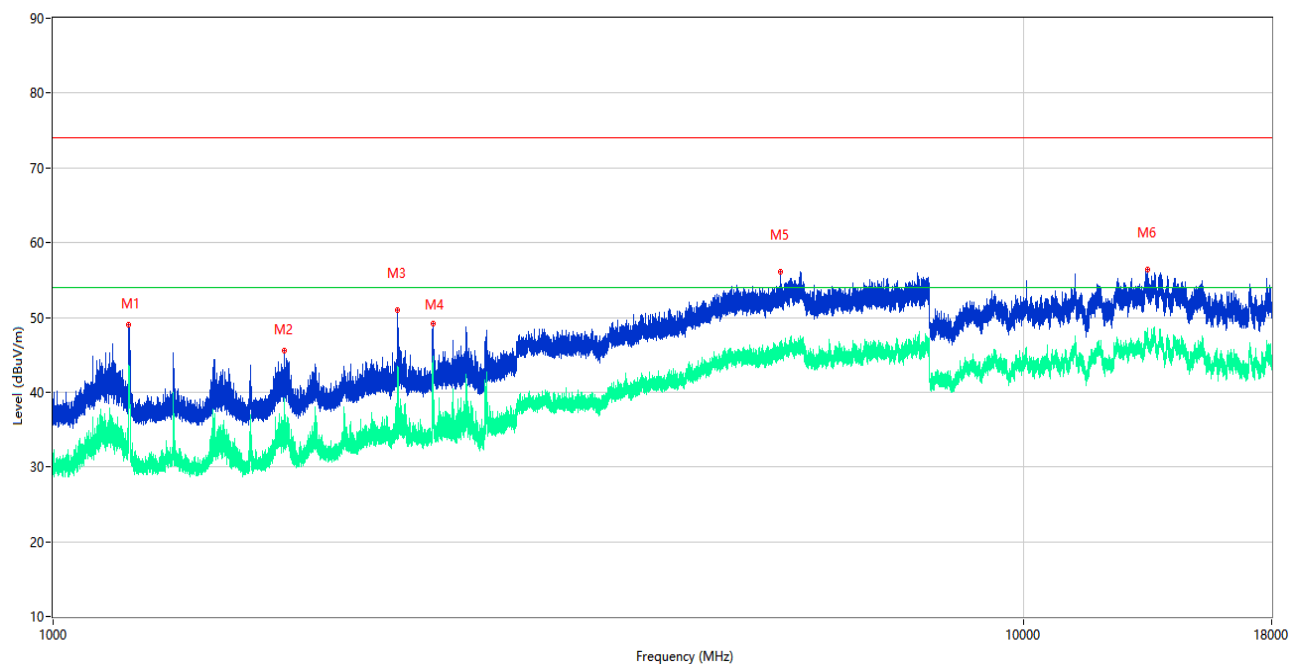
6) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	66.375	18.62	-27.87	40.0	21.38	Peak	340.00	100	Horizontal	Pass
2	133.354	26.22	-30.02	43.5	17.28	Peak	65.00	200	Horizontal	Pass
3	166.188	27.83	-29.29	43.5	15.67	Peak	160.00	200	Horizontal	Pass
4	301.794	34.93	-23.75	46.0	11.07	Peak	342.00	100	Horizontal	Pass
5	399.909	33.58	-20.95	46.0	12.42	Peak	286.00	100	Horizontal	Pass
6	723.065	34.21	-13.47	46.0	11.79	Peak	230.00	100	Horizontal	Pass

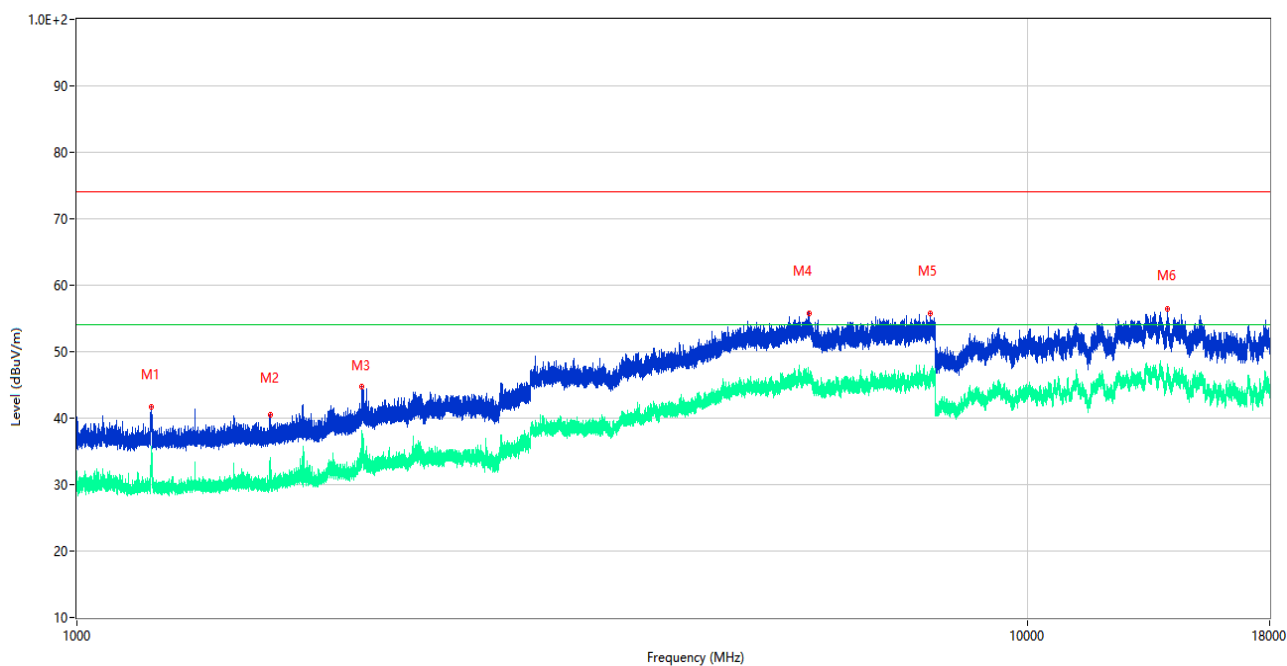
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2024.08.01	2025.07.31	☒
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04	☒
Test Antenna- Bi-Log	SCHWARZB ECK	VULB 9168	9168-00867	2022.04.12	2025.04.11	☒
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	/		☒

7) Test Antenna Vertical, 1 GHz – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1197.200	49.03	-16.27	74.0	24.97	Peak	229.00	100	Vertical	Pass
1**	1197.200	39.49	-16.27	54.0	14.51	AV	229.00	100	Vertical	Pass
2	1730.300	45.61	-15.85	74.0	28.39	Peak	208.00	100	Vertical	Pass
2**	1730.300	35.95	-15.85	54.0	18.05	AV	208.00	100	Vertical	Pass
3	2264.900	51.02	-12.40	74.0	22.98	Peak	225.00	100	Vertical	Pass
3**	2264.900	40.68	-12.40	54.0	13.32	AV	225.00	100	Vertical	Pass
4	2460.500	49.21	-11.04	74.0	24.79	Peak	255.00	100	Vertical	Pass
4**	2460.500	44.20	-11.04	54.0	9.80	AV	255.00	100	Vertical	Pass
5	5615.250	56.09	2.16	74.0	17.91	Peak	275.00	100	Vertical	Pass
5**	5615.250	45.13	2.16	54.0	8.87	AV	275.00	100	Vertical	Pass
6	13398.500	56.33	4.91	74.0	17.67	Peak	298.00	100	Vertical	Pass
6**	13398.500	46.77	4.91	54.0	7.23	AV	298.00	100	Vertical	Pass

8) Test Antenna Horizontal, 1 GHz – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1198.900	41.61	-16.24	74.0	32.39	Peak	309.00	100	Horizontal	Pass
1**	1198.900	33.40	-16.24	54.0	20.60	AV	309.00	100	Horizontal	Pass
2	1596.400	40.58	-16.16	74.0	33.42	Peak	164.00	100	Horizontal	Pass
2**	1596.400	31.75	-16.16	54.0	22.25	AV	164.00	100	Horizontal	Pass
3	1996.000	44.77	-13.83	74.0	29.23	Peak	146.00	100	Horizontal	Pass
3**	1996.000	35.08	-13.83	54.0	18.92	AV	146.00	100	Horizontal	Pass
4	5896.750	55.71	3.90	74.0	18.29	Peak	262.00	100	Horizontal	Pass
4**	5896.750	45.98	3.90	54.0	8.02	AV	262.00	100	Horizontal	Pass
5	7915.500	55.78	2.90	74.0	18.22	Peak	335.00	100	Horizontal	Pass
5**	7915.500	47.05	2.90	54.0	6.95	AV	335.00	100	Horizontal	Pass
6	14047.500	56.45	5.34	74.0	17.55	Peak	89.00	100	Horizontal	Pass
6**	14047.500	47.13	5.34	54.0	6.87	AV	89.00	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	2024.08.01	2025.07.31	☒
EMI Receiver	R&S	FSV-40	101544	2023.12.27	2024.12.26	☒
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2023.12.05	2024.12.04	☒
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2023.12.05	2024.12.04	☒
Amplifier (18-40GHz)	COM-MV	KA_LNA18- 40G-01	18050001	2024.06.15	2027.06.14	☒
Test Antenna- Horn	SCHWARZB ECK	BBHA 9120D	01917	2022.06.09	2025.06.08	☒
Test Antenna- Horn	A-INFOMW	LB-180400KF	J211060273	2024.06.15	2027.06.14	☒
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	/		☒

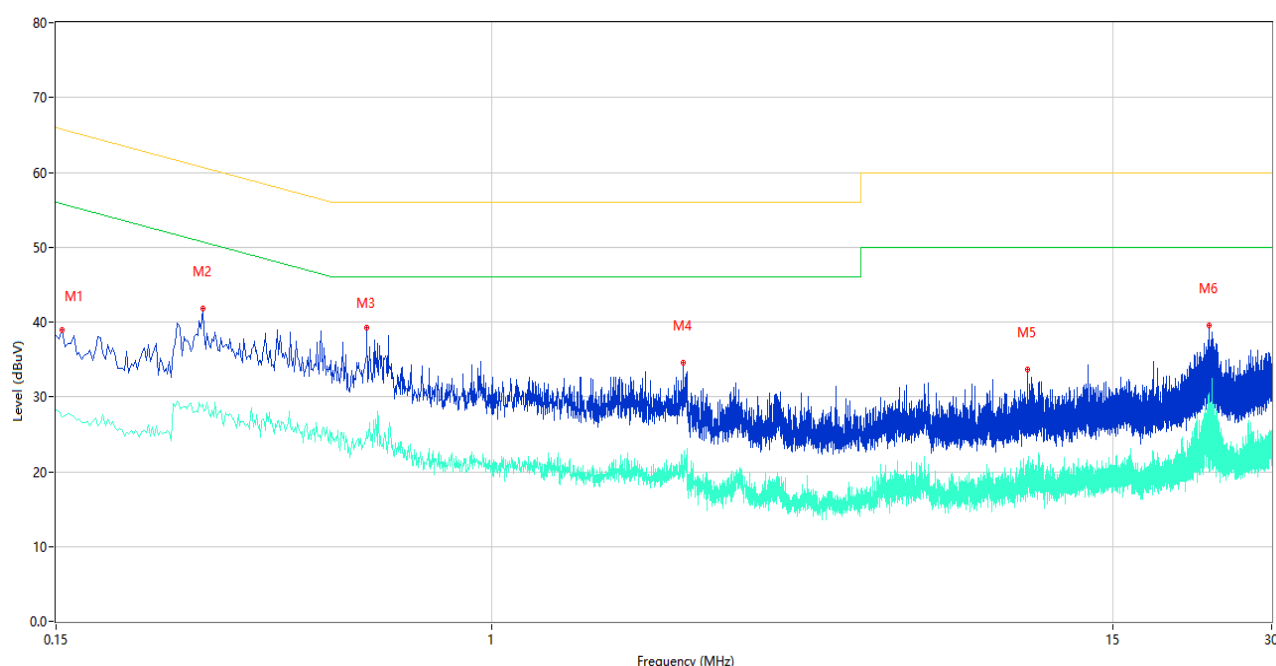
A.2 Conducted Emission, AC Ports

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 (230 VAC, 60 Hz) shown here.

Sample No.	S16	Temperature	23.2℃
Humidity	51%RH	Pressure	101kPa
Test Engineer	Yang Yang	Test Date	2024.08.19

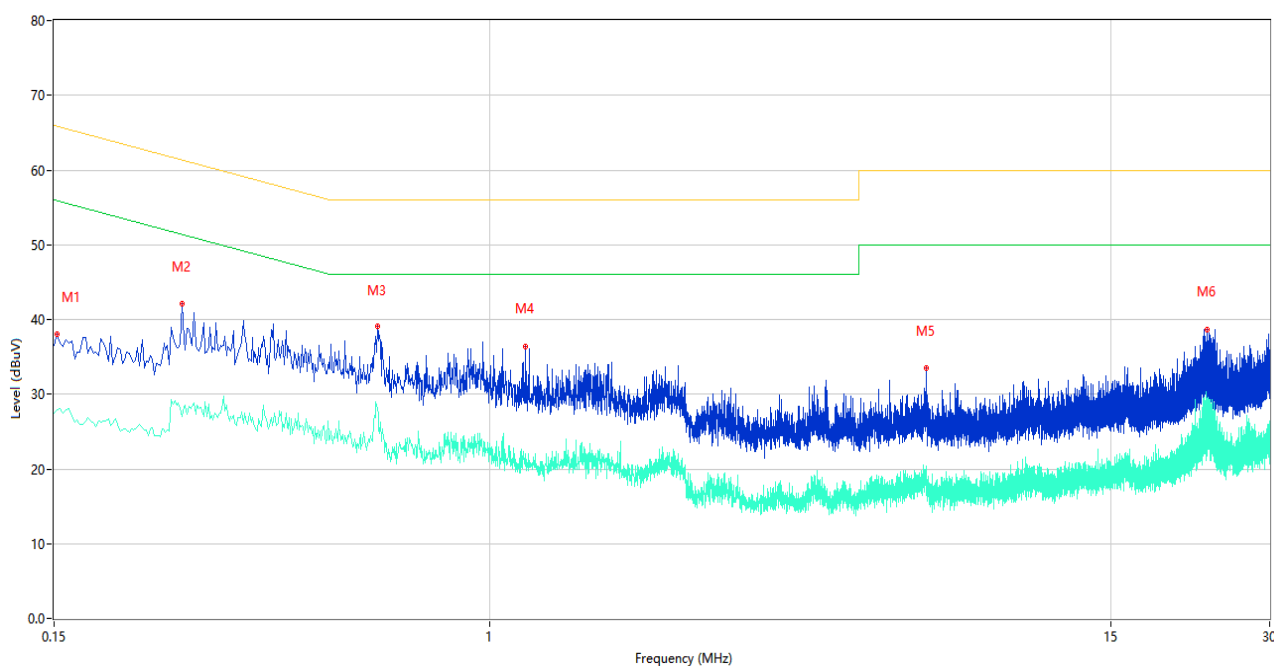
Test Mode 19

1) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	38.89	10.12	65.78	26.89	Peak	L	Pass
1**	0.154	27.33	10.12	55.78	28.45	AV	L	Pass
2	0.284	41.84	10.08	60.70	18.86	Peak	L	Pass
2**	0.284	28.93	10.08	50.70	21.77	AV	L	Pass
3	0.582	39.29	10.64	56.00	16.71	Peak	L	Pass
3**	0.582	25.43	10.64	46.00	20.57	AV	L	Pass
4	2.308	34.57	10.64	56.00	21.43	Peak	L	Pass
4**	2.308	19.79	10.64	46.00	26.21	AV	L	Pass
5	10.356	33.67	11.49	60.00	26.33	Peak	L	Pass
5**	10.356	20.92	11.49	50.00	29.08	AV	L	Pass
6	22.882	39.47	13.26	60.00	20.53	Peak	L	Pass
6**	22.882	30.49	13.26	50.00	19.51	AV	L	Pass

2) AC Ports - N Phase

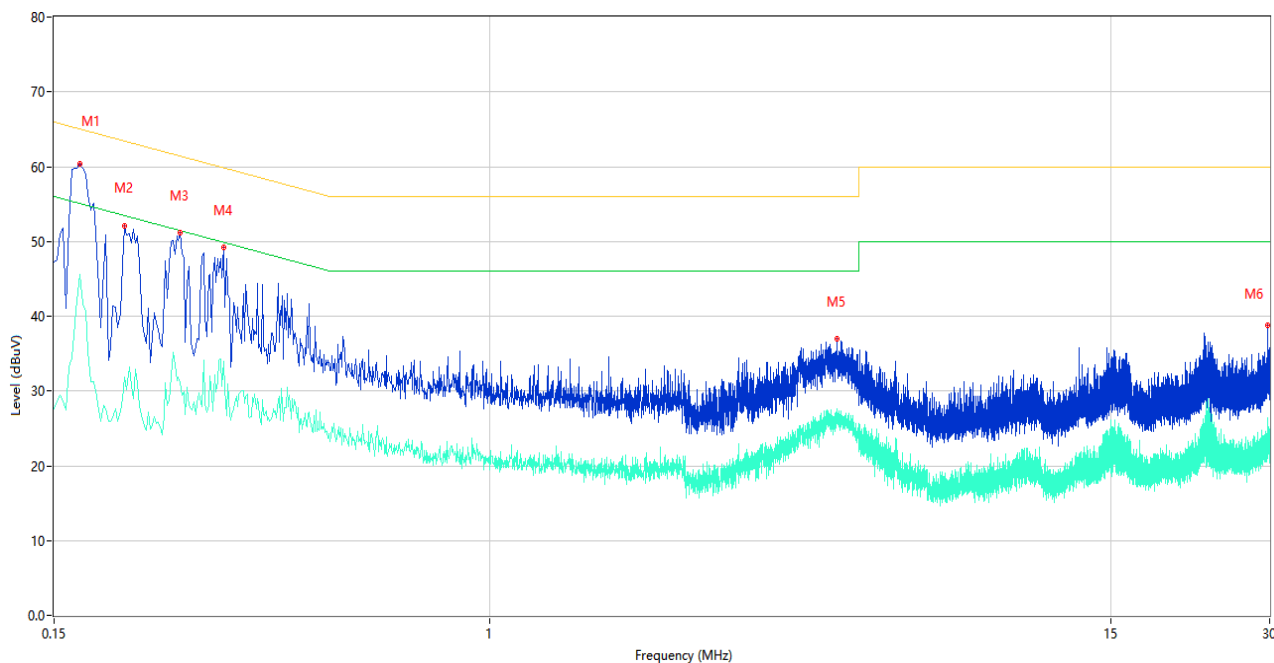


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.152	38.02	10.12	65.89	27.87	Peak	N	Pass
1**	0.152	27.93	10.12	55.89	27.96	AV	N	Pass
2	0.262	42.06	10.07	61.37	19.31	Peak	N	Pass
2**	0.262	27.02	10.07	51.37	24.35	AV	N	Pass
3	0.614	39.10	10.61	56.00	16.90	Peak	N	Pass
3**	0.614	28.30	10.61	46.00	17.70	AV	N	Pass
4	1.172	36.44	10.54	56.00	19.56	Peak	N	Pass
4**	1.172	22.05	10.54	46.00	23.95	AV	N	Pass
5	6.708	33.47	11.01	60.00	26.53	Peak	N	Pass
5**	6.708	19.35	11.01	50.00	30.65	AV	N	Pass
6	22.878	38.70	13.24	60.00	21.30	Peak	N	Pass
6**	22.878	27.30	13.24	50.00	22.70	AV	N	Pass

Sample No.	S16	Temperature	23.2℃
Humidity	51%RH	Pressure	101kPa
Test Engineer	Yang Yang	Test Date	2024.08.19

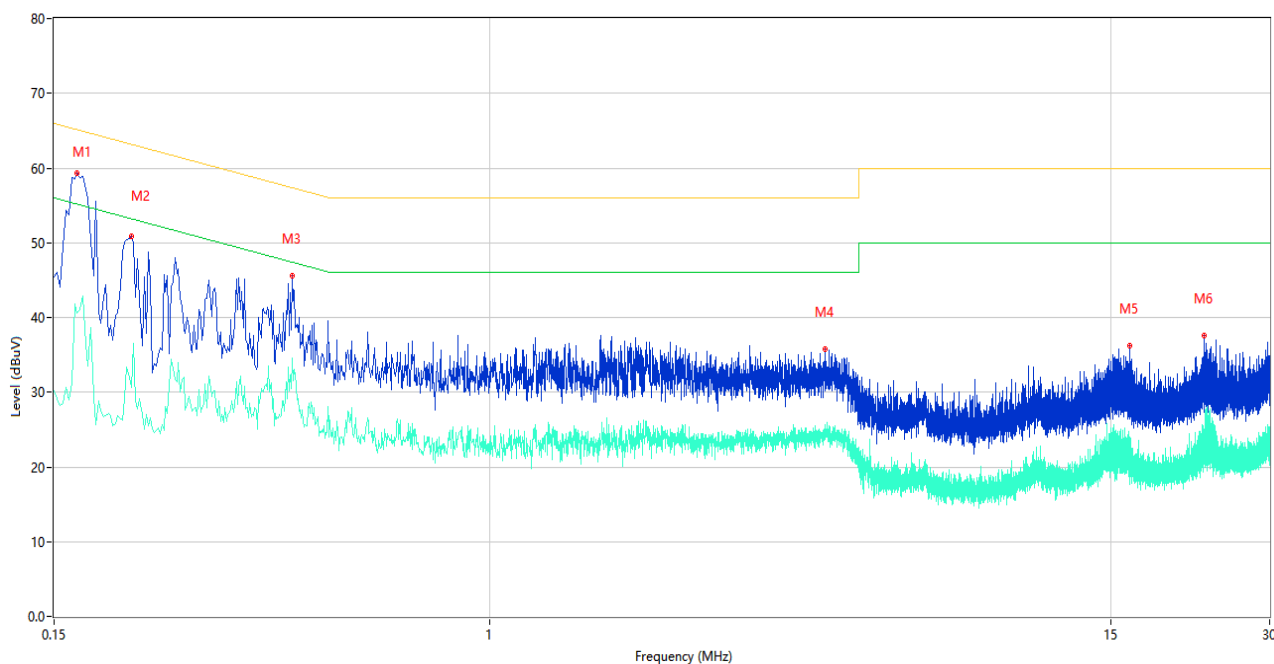
Test Mode 24

3) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.168	60.35	10.10	65.06	4.71	Peak	L	Pass
1**	0.168	45.62	10.10	55.06	9.44	AV	L	Pass
2	0.204	52.14	10.06	63.45	11.31	Peak	L	Pass
2**	0.204	31.87	10.06	53.45	21.58	AV	L	Pass
3	0.260	51.12	10.07	61.43	10.31	Peak	L	Pass
3**	0.260	31.10	10.07	51.43	20.33	AV	L	Pass
4	0.314	49.24	10.06	59.86	10.62	Peak	L	Pass
4**	0.314	33.97	10.06	49.86	15.89	AV	L	Pass
5	4.544	36.91	10.66	56.00	19.09	Peak	L	Pass
5**	4.544	26.73	10.66	46.00	19.27	AV	L	Pass
6	29.752	38.76	14.52	60.00	21.24	Peak	L	Pass
6**	29.752	24.22	14.52	50.00	25.78	AV	L	Pass

4) AC Ports - N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.166	59.38	10.10	65.16	5.78	Peak	N	Pass
1**	0.166	40.62	10.10	55.16	14.54	AV	N	Pass
2	0.210	50.91	10.06	63.21	12.30	Peak	N	Pass
2**	0.210	30.65	10.06	53.21	22.56	AV	N	Pass
3	0.424	45.53	10.65	57.37	11.84	Peak	N	Pass
3**	0.424	34.59	10.65	47.37	12.78	AV	N	Pass
4	4.318	35.81	10.70	56.00	20.19	Peak	N	Pass
4**	4.318	24.35	10.70	46.00	21.65	AV	N	Pass
5	16.274	36.25	12.63	60.00	23.75	Peak	N	Pass
5**	16.274	21.03	12.63	50.00	28.97	AV	N	Pass
6	22.552	37.53	13.08	60.00	22.47	Peak	N	Pass
6**	22.552	23.03	13.08	50.00	26.97	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	SCHWARZB ECK	NSLK 8127	8127-687	2024.05.09	2025.05.08	☒
Shielded Room	YiHeng Electronic Co., Ltd	3.5m*3.1m*2. 8m	112	2022.02.19	2025.02.18	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2470686-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2470686-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2470686-AI.PDF”.

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--END OF REPORT--