

TEST REPORT

Applicant: Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address: No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China
Equipment Type: Mobile Phone
Model Name: RMX3988
Brand Name: realme
FCC ID: 2AUYFRMX3988
Test Standard: 47 CFR Part 15 Subpart B
ANSI C63.4-2014
Sample Arrival Date: May 29, 2024
Test Date: Jun. 05, 2024 - Jun. 06, 2024
Date of Issue: Jul. 01, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Li JunFeng

Checked by: Liu Zhenxiang

Approved by: Liao Jianming
(Technical Director)



Revision History		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Jul. 01, 2024</u>	<u>Initial Issue</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	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 Enclosure List	8
4.2	Test Configurations	8
4.3	Test Setups	9
5	TEST ITEMS	11
5.1	Emission Tests	11
ANNEX A	TEST RESULTS	16
A.1	Radiated Emission	16
A.2	Conducted Emission, AC Ports	29
ANNEX B	TEST SETUP PHOTOS	34
ANNEX C	EUT EXTERNAL PHOTOS	34

ANNEX D EUT INTERNAL PHOTOS 34

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	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 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	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	No.178 Yulong Avenue,Yufengshan,Yubei District,Chongqing,China

2.2 Manufacturer Information

Manufacturer	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	No.178 Yulong Avenue,Yufengshan,Yubei District,Chongqing,China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	RMX3988
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	Color OS 14.0.0
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A
EUT ID	S04, S05
IMEI Number	S04: IMEI1: 860876070101573, IMEI2: 860876070101565
	S05: IMEI1: 860876070101813, IMEI2: 860876070101805

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery 1	
	Brand Name	SUPERVOOC
	Model No.	BLPA89
	Serial No.	N/A
	Capacity	5050 mAh
	Rated Voltage	3.91 V
	Limit Charge Voltage	4.5 V
	Manufacturer	Chongqing CosMX Battery Co., Ltd.
Ancillary Equipment 2	Adapter 1	
	Brand Name	SUPERVOOC
	Model No.	VCB4JAUH (US Plug)
	Serial No.	N/A
	Rated Input	100-130V~, 50/60Hz, 1.5A
	Rated Output	5.0V= 2.0A or 5-11V=4.1A

	Manufacturer	Jiangsu Chenyang Electron Co., Ltd
Ancillary Equipment 3	Adapter 2	
	Brand Name	SUPERVOOC
	Model No.	VCB4JAUH (US Plug)
	Serial No.	N/A
	Rated Input	100-240V~, 50/60Hz, 1.5A
	Rated Output	5.0V= 2.0A or 5.0V-11.0V= 4.1A
	Manufacturer	Huizhou Golden Lake Industrial Co., Ltd.
Ancillary Equipment 4	USB Cable	
	Model No.	DL154
	Length (Approx.)	1.0m
Note 1: Letter in () means plug type.		
Note 2: All adapters are tested, only the worst data of VCB4JAUH (US Plug) (Huizhou Golden Lake Industrial Co., Ltd.) shown in this report.		

2.5 Technical Information

Network and Wireless connectivity	<p>2G Network GSM/GPRS/EDGE 850/1900 MHz</p> <p>3G Network WCDMA/HSDPA/HSUPA Band 2/4/5</p> <p>4G Network LTE FDD Band 2/4/5/7/12/13/17/26/66 LTE TDD Band 38/41</p> <p>LTE CA Uplink (UL): CA_7C, CA_38C, CA_41C</p> <p>5G Network</p> <p>SA: NR n5/n7/n38/n41/n66</p> <p>NSA(EN-DC): DC_2A_n66A, DC_5A_n7A, DC_5A_n66A, DC_7A_n5A, DC_7A_n66A, DC_26A_n41A, DC_66A_n5A, DC_66A_n7A</p> <p>Bluetooth (BR+EDR+BLE)</p> <p>2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40), VHT20/40 and 802.11ax(HE20/40)</p> <p>5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80/160) and 802.11ax(HE20/40/80/160)</p> <p>U-NII-1/2A/2C/3, GPS, GLONASS, BDS, Galileo, SBAS, NFC</p>
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	--

Note: Compared with the EUT of test report BL-SZ2441396-401, the changes of the EUT of this report as below:

1. Changed model name from RMX3921 to RMX3988;
2. Changed FCC ID from FCC ID: 2AUYFRMX3921 to FCC ID: 2AUYFRMX3988;
3. Changed the rear camera specifications;
4. Changed the battery, USB Line and adapter.

Other hardware circuit and software are the same as EUT referred in test report BL-SZ2441396-401.

Therefore, Except for The USB Test Mode in this report, all the worst-case modes in the original report have been retested.

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	ThinkPad E495	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Laptop	HONOR	MagicBook	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Data connector	UGREEN	40702	N/A	N/A	N/A	<input checked="" type="checkbox"/>
USB disk	Sandisk	DTMC3G2	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Type-C Headset	OPPO	MH156	N/A	1.12m	N/A	<input checked="" type="checkbox"/>

4.2 Test Configurations

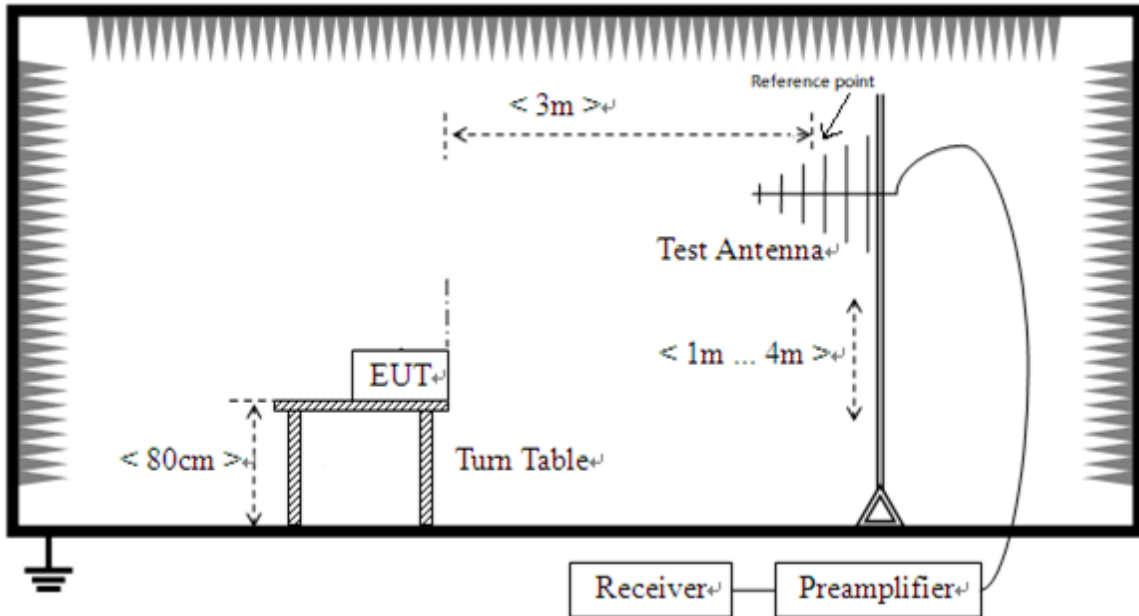
All test modes of EUT are listed in the table below.

Test Mode Configuration	Description
Mode 1	<u>The Standby Test Mode</u> EUT + Adapter + USB Cable + Battery
Mode 2	<u>The Front Camera Test Mode</u> EUT + Adapter + USB Cable + Battery
Mode 3	<u>The Rear Camera Test Mode</u> EUT + Adapter + USB Cable + Battery
Mode 4	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery
Mode 5	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop
Mode 6	<u>The OTG Test Mode</u> EUT + Battery + Data connector + USB Disk
Mode 7	<u>The Type-C Headset Test Mode</u> EUT + Type-C Headset + Battery

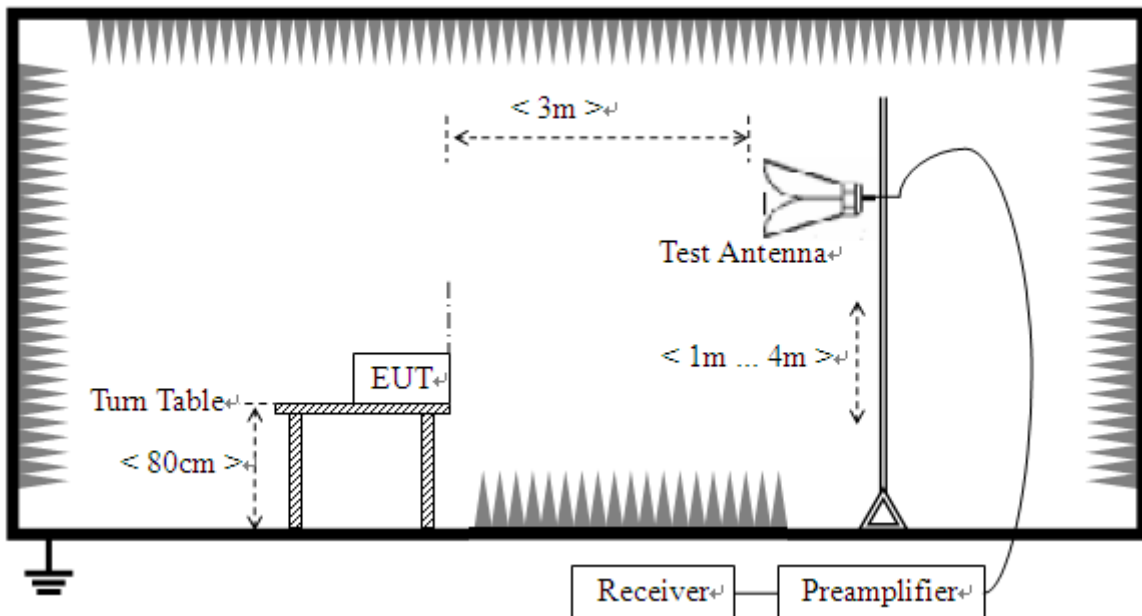
Test Case	Test Mode Configuration	Worst Mode
Radiated Emission	Mode 1~Mode 7	1, 5
Conducted Emission, AC Ports	Mode 1~Mode 5	1, 5
Note: All operation modes were tested, but only test data of the worst mode was presented in this report.		

4.3 Test Setups

Test Setup 1

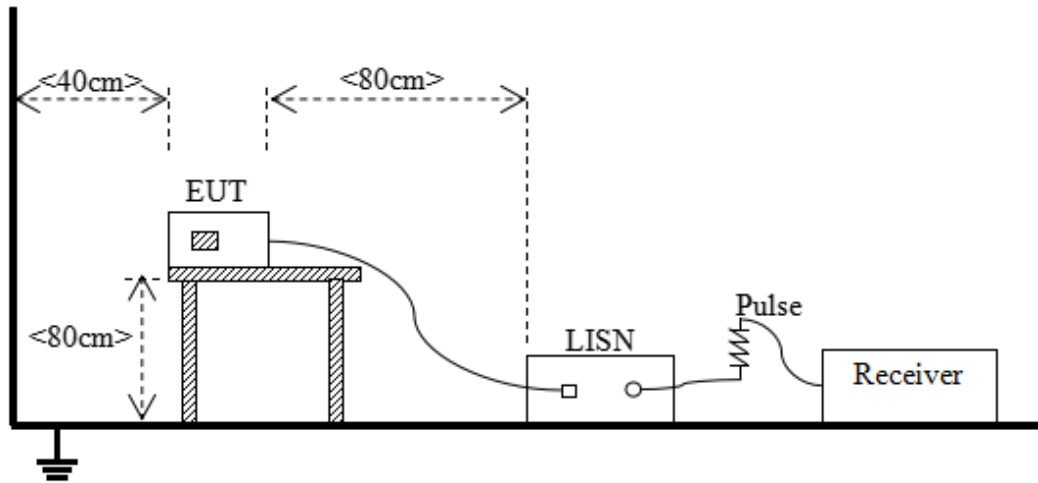


Radiated Emission (30 MHz-1 GHz)



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 $\mu\text{V/m}$) = $20 \cdot \log$ [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)
$F_x \leq 108$ MHz	1 GHz
108 MHz $\leq F_x \leq 500$ MHz	2 GHz
500 MHz $\leq F_x \leq 1$ GHz	5 GHz
$F_x \geq 1$ 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 $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

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

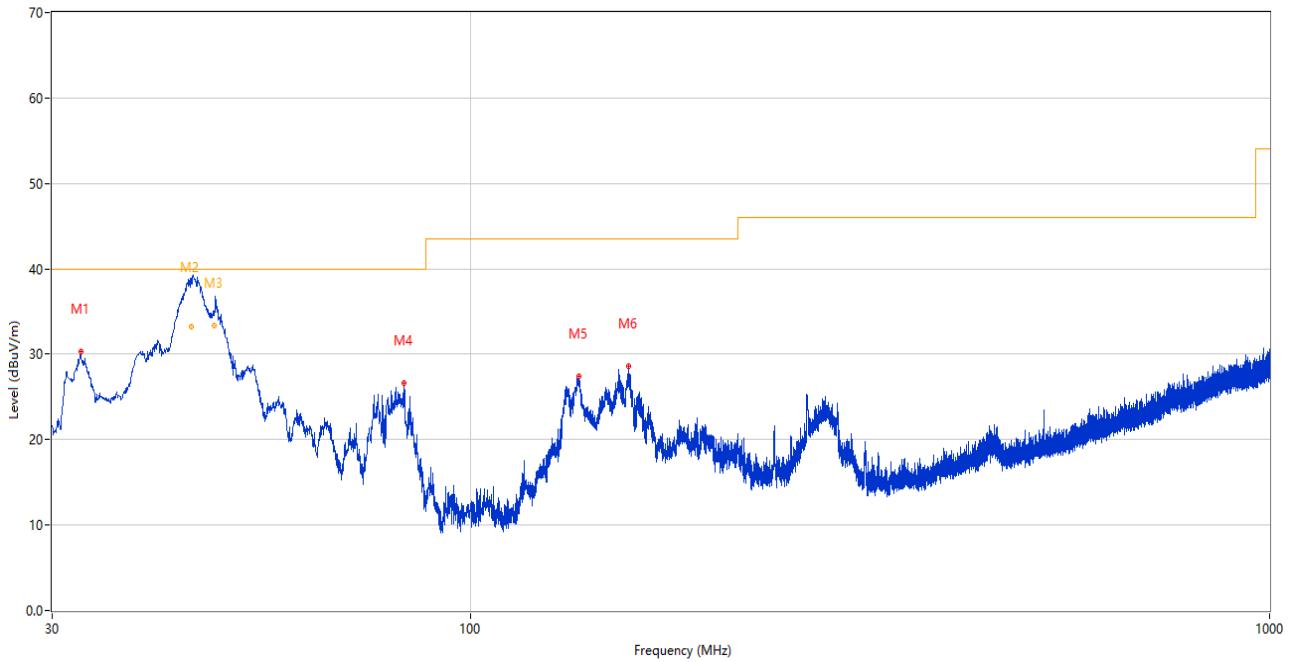
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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.	S04	Temperature	20.9°C
Humidity	46%RH	Pressure	101kPa
Test Engineer	He Shichang	Test Date	2024.06.05

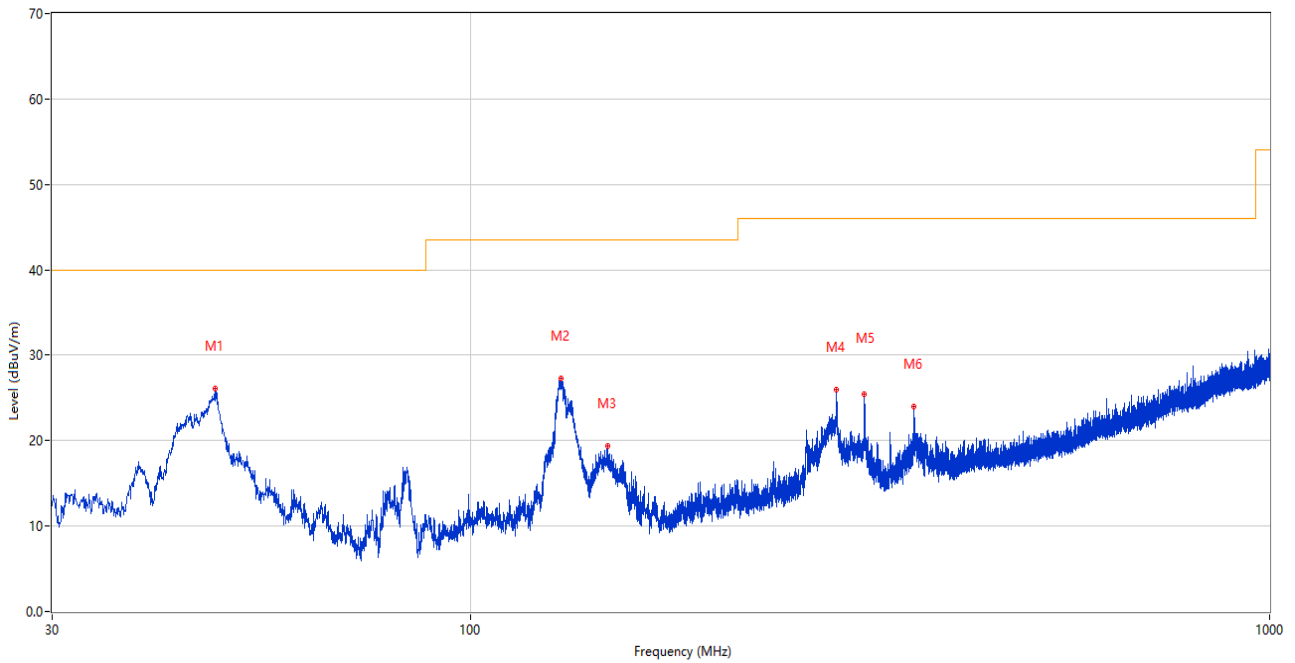
Test Mode 1

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	32.571	30.36	-28.99	40.0	9.64	Peak	210.00	100	Vertical	Pass
2	44.841	37.11	-25.53	40.0	2.89	Peak	288.00	101	Vertical	N/A
2*	44.841*	33.27	-25.53	40.0	6.73	QP	288.00	101	Vertical	Pass
3	47.904	36.61	-25.42	40.0	3.39	Peak	243.00	102	Vertical	N/A
3*	47.904*	33.40	-25.42	40.0	6.60	QP	243.00	102	Vertical	Pass
4	82.671	26.68	-30.53	40.0	13.32	Peak	88.00	100	Vertical	Pass

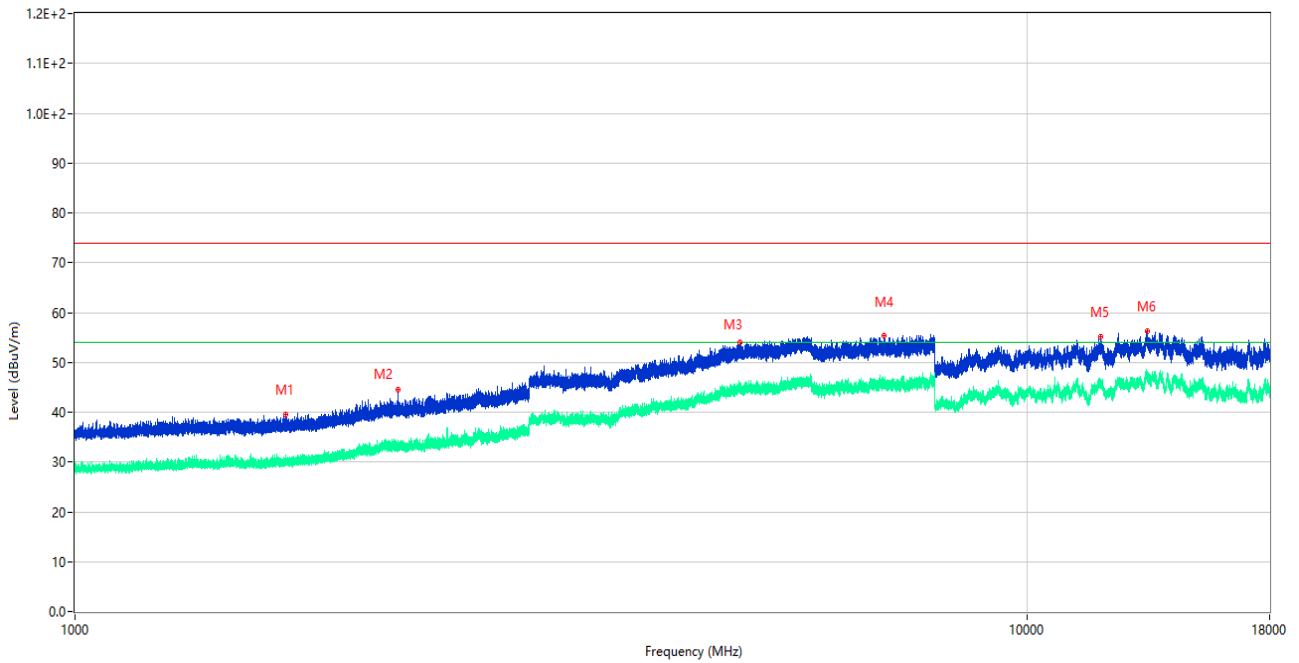
2) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	47.993	26.06	-25.43	40.0	13.94	Peak	223.00	100	Horizontal	Pass
2	129.958	27.35	-29.72	43.5	16.15	Peak	127.00	200	Horizontal	Pass
3	148.486	19.33	-30.11	43.5	24.17	Peak	270.00	200	Horizontal	Pass
4	287.098	25.97	-23.95	46.0	20.03	Peak	68.00	100	Horizontal	Pass
5	311.251	25.39	-23.40	46.0	20.61	Peak	60.00	100	Horizontal	Pass
6	359.121	24.03	-21.93	46.0	21.97	Peak	64.00	100	Horizontal	Pass

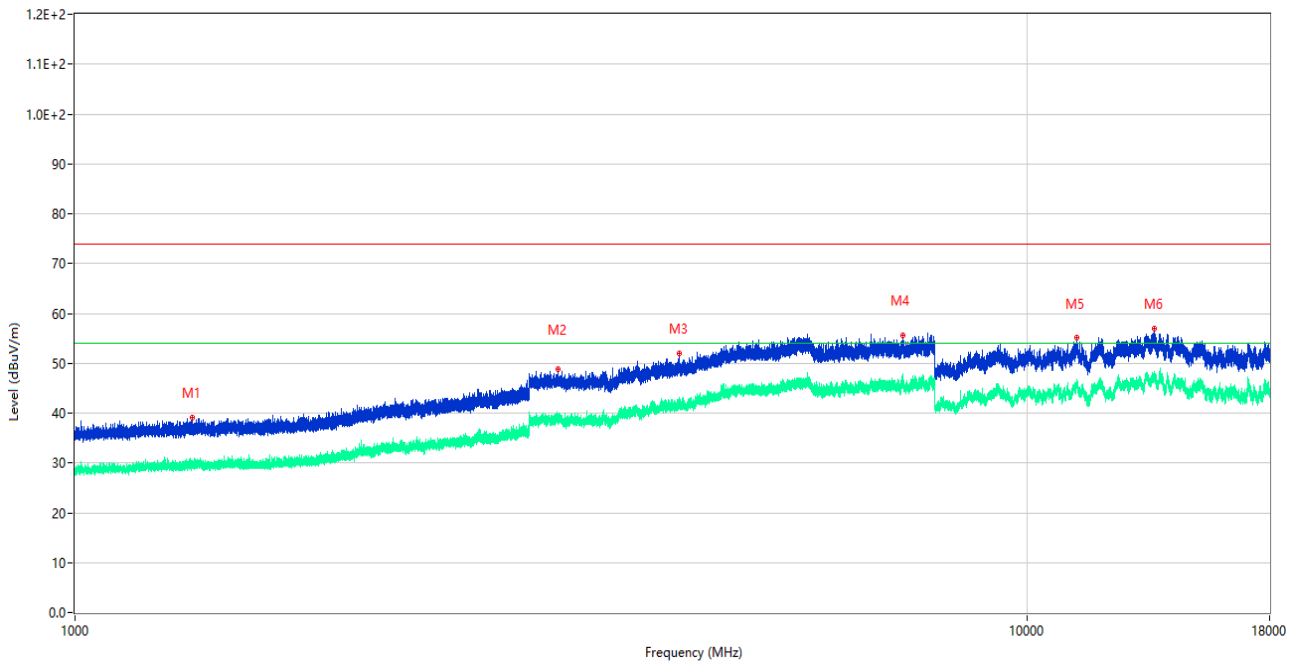
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04	<input checked=""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

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	1664.600	39.53	-15.55	74.0	34.47	Peak	359.00	100	Vertical	Pass
1**	1664.600	30.01	-15.55	54.0	23.99	AV	359.00	100	Vertical	Pass
2	2183.600	44.59	-12.49	74.0	29.41	Peak	16.00	100	Vertical	Pass
2**	2183.600	33.22	-12.49	54.0	20.78	AV	16.00	100	Vertical	Pass
3	4996.500	53.98	2.01	74.0	20.02	Peak	52.00	100	Vertical	Pass
3**	4996.500	44.66	2.01	54.0	9.34	AV	52.00	100	Vertical	Pass
4	7083.000	55.32	1.70	74.0	18.68	Peak	43.00	100	Vertical	Pass
4**	7083.000	46.44	1.70	54.0	7.56	AV	43.00	100	Vertical	Pass
5	11965.000	55.11	2.64	74.0	18.89	Peak	89.00	100	Vertical	Pass
5**	11965.000	45.49	2.64	54.0	8.51	AV	89.00	100	Vertical	Pass
6	13378.500	56.30	5.04	74.0	17.70	Peak	75.00	100	Vertical	Pass
6**	13378.500	47.10	5.04	54.0	6.90	AV	75.00	100	Vertical	Pass

4) Test Antenna Horizontal, 1 GHz – 18 GHz



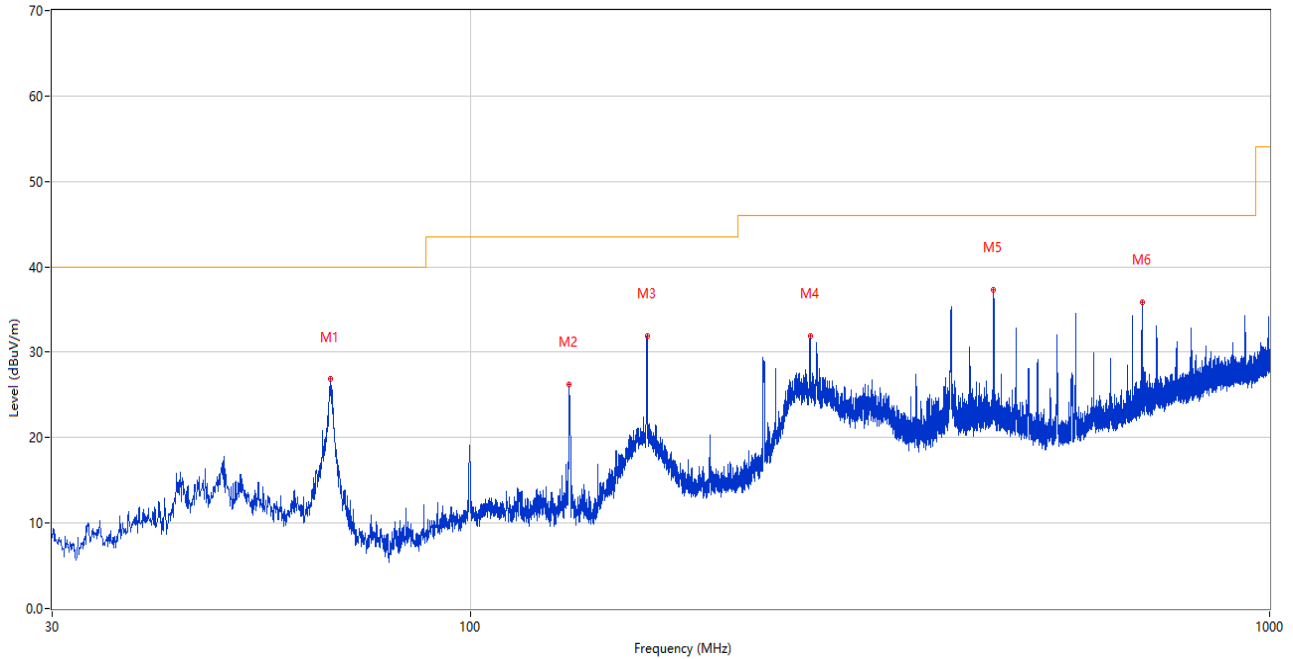
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.300	39.11	-16.05	74.0	34.89	Peak	132.00	100	Horizontal	Pass
1**	1327.300	29.71	-16.05	54.0	24.29	AV	132.00	100	Horizontal	Pass
2	3218.500	48.78	-4.82	74.0	25.22	Peak	221.00	100	Horizontal	Pass
2**	3218.500	38.74	-4.82	54.0	15.26	AV	221.00	100	Horizontal	Pass
3	4314.250	52.03	-0.79	74.0	21.97	Peak	302.00	100	Horizontal	Pass
3**	4314.250	41.28	-0.79	54.0	12.72	AV	302.00	100	Horizontal	Pass
4	7417.750	55.64	3.05	74.0	18.36	Peak	6.00	100	Horizontal	Pass
4**	7417.750	45.35	3.05	54.0	8.65	AV	6.00	100	Horizontal	Pass
5	11285.500	55.16	2.22	74.0	18.84	Peak	272.00	100	Horizontal	Pass
5**	11285.500	45.46	2.22	54.0	8.54	AV	272.00	100	Horizontal	Pass
6	13623.000	56.98	4.91	74.0	17.02	Peak	259.00	100	Horizontal	Pass
6**	13623.000	47.37	4.91	54.0	6.63	AV	259.00	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	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2023.12.05	2024.12.04	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2023.12.05	2024.12.04	<input checked="" type="checkbox"/>
Test Antenna- Horn	SCHWARZB ECK	BBHA 9120D	01917	2022.06.09	2025.06.08	<input checked="" type="checkbox"/>
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2021.08.19	2024.08.18	<input checked="" type="checkbox"/>
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		<input checked="" type="checkbox"/>

Sample No.	S12	Temperature	23.8°C
Humidity	57%RH	Pressure	101kPa
Test Engineer	He Shichang	Test Date	2024.05.07

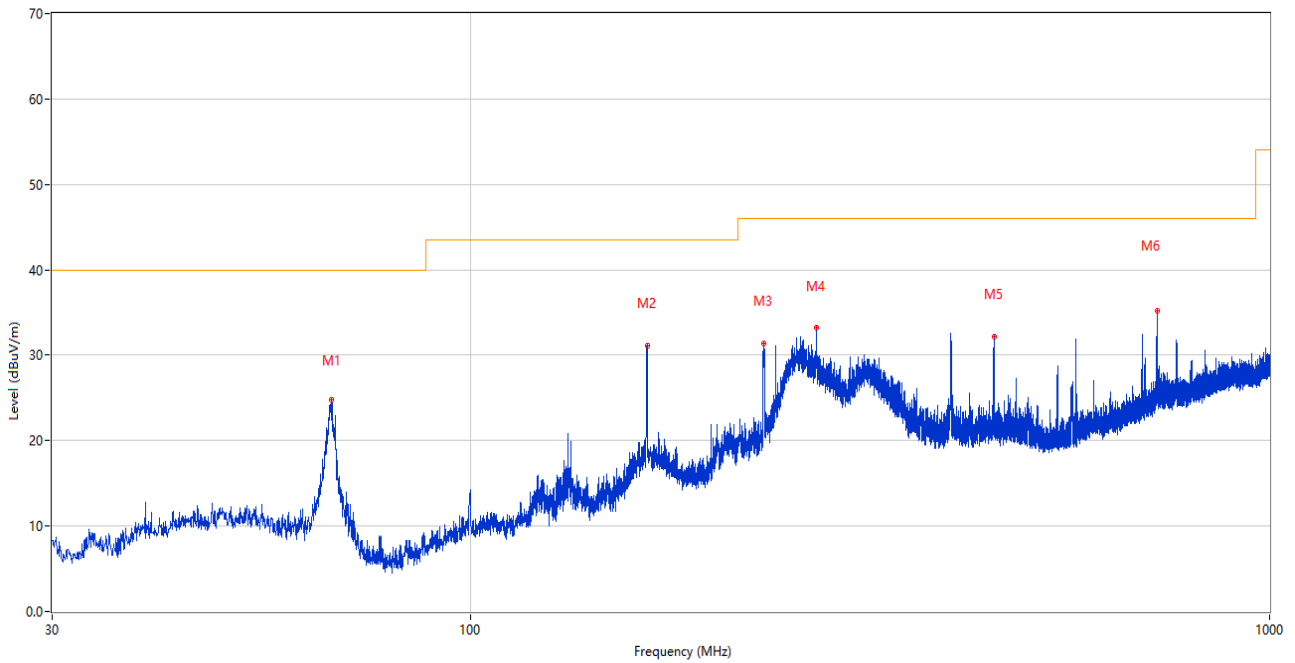
Test Mode 5

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	66.860	26.84	-28.05	40.0	13.16	Peak	228.00	100	Vertical	Pass
2	132.917	26.23	-29.94	43.5	17.27	Peak	110.00	100	Vertical	Pass
3	166.624	31.88	-29.24	43.5	11.62	Peak	309.00	100	Vertical	Pass
4	266.583	31.96	-24.50	46.0	14.04	Peak	144.00	200	Vertical	Pass
5	451.756	37.33	-19.84	46.0	8.67	Peak	171.00	100	Vertical	Pass
6	692.849	35.88	-14.21	46.0	10.12	Peak	170.00	200	Vertical	Pass

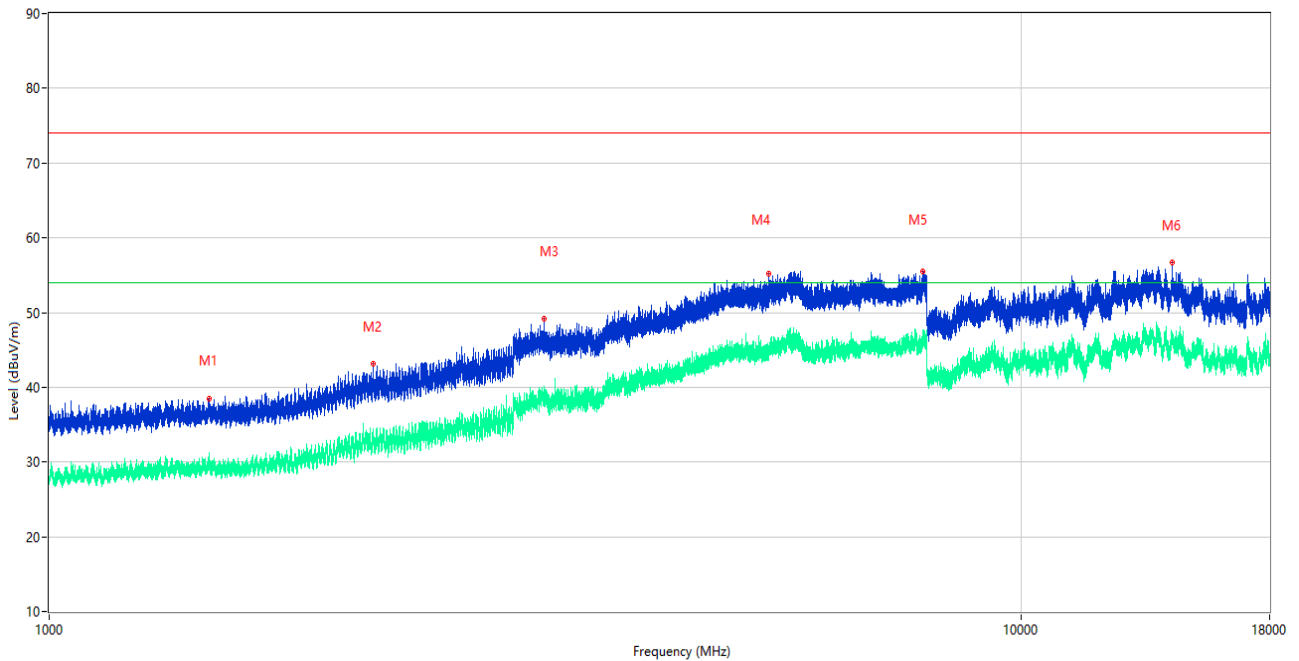
6) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	67.054	24.78	-28.12	40.0	15.22	Peak	331.00	200	Horizontal	Pass
2	166.624	31.06	-29.24	43.5	12.44	Peak	136.00	200	Horizontal	Pass
3	233.264	31.41	-25.44	46.0	14.59	Peak	227.00	100	Horizontal	Pass
4	270.900	33.16	-24.40	46.0	12.84	Peak	233.00	100	Horizontal	Pass
5	451.998	32.13	-19.82	46.0	13.87	Peak	246.00	200	Horizontal	Pass
6	722.919	35.14	-13.48	46.0	10.86	Peak	235.00	200	Horizontal	Pass

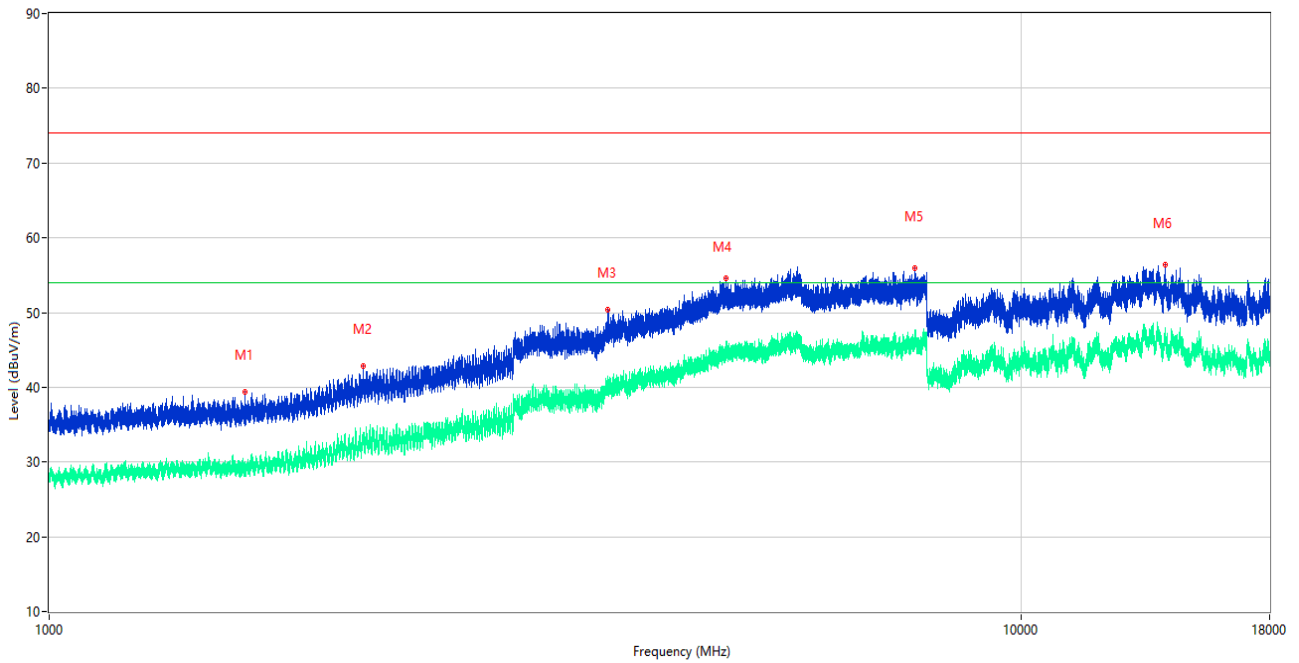
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04	<input checked=""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

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	1459.600	38.53	-15.83	74.0	35.47	Peak	77.00	100	Vertical	Pass
1**	1459.600	29.82	-15.83	54.0	24.18	AV	77.00	100	Vertical	Pass
2	2153.300	43.18	-12.59	74.0	30.82	Peak	336.00	100	Vertical	Pass
2**	2153.300	34.48	-12.59	54.0	19.52	AV	336.00	100	Vertical	Pass
3	3225.250	49.16	-4.66	74.0	24.84	Peak	88.00	100	Vertical	Pass
3**	3225.250	38.67	-4.66	54.0	15.33	AV	88.00	100	Vertical	Pass
4	5502.000	55.14	1.94	74.0	18.86	Peak	141.00	100	Vertical	Pass
4**	5502.000	44.95	1.94	54.0	9.05	AV	141.00	100	Vertical	Pass
5	7921.750	55.52	3.00	74.0	18.48	Peak	283.00	100	Vertical	Pass
5**	7921.750	46.32	3.00	54.0	7.68	AV	283.00	100	Vertical	Pass
6	14281.000	56.70	4.60	74.0	17.30	Peak	298.00	100	Vertical	Pass
6**	14281.000	46.09	4.60	54.0	7.91	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	1589.000	39.40	-16.15	74.0	34.60	Peak	264.00	100	Horizontal	Pass
1**	1589.000	28.16	-16.15	54.0	25.84	AV	264.00	100	Horizontal	Pass
2	2103.500	42.84	-12.73	74.0	31.16	Peak	212.00	100	Horizontal	Pass
2**	2103.500	32.98	-12.73	54.0	21.02	AV	212.00	100	Horizontal	Pass
3	3749.750	50.39	-1.58	74.0	23.61	Peak	78.00	100	Horizontal	Pass
3**	3749.750	41.29	-1.58	54.0	12.71	AV	78.00	100	Horizontal	Pass
4	4966.250	54.60	2.36	74.0	19.40	Peak	0.00	100	Horizontal	Pass
4**	4966.250	44.19	2.36	54.0	9.81	AV	0.00	100	Horizontal	Pass
5	7761.500	56.02	2.39	74.0	17.98	Peak	275.00	100	Horizontal	Pass
5**	7761.500	45.16	2.39	54.0	8.84	AV	275.00	100	Horizontal	Pass
6	14054.000	56.35	5.34	74.0	17.65	Peak	0.00	100	Horizontal	Pass
6**	14054.000	46.95	5.34	54.0	7.05	AV	0.00	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	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2023.12.05	2024.12.04	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2023.12.05	2024.12.04	<input checked="" type="checkbox"/>
Test Antenna- Horn	SCHWARZB ECK	BBHA 9120D	01917	2022.06.09	2025.06.08	<input checked="" type="checkbox"/>
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2021.08.19	2024.08.18	<input checked="" type="checkbox"/>
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		<input checked="" type="checkbox"/>

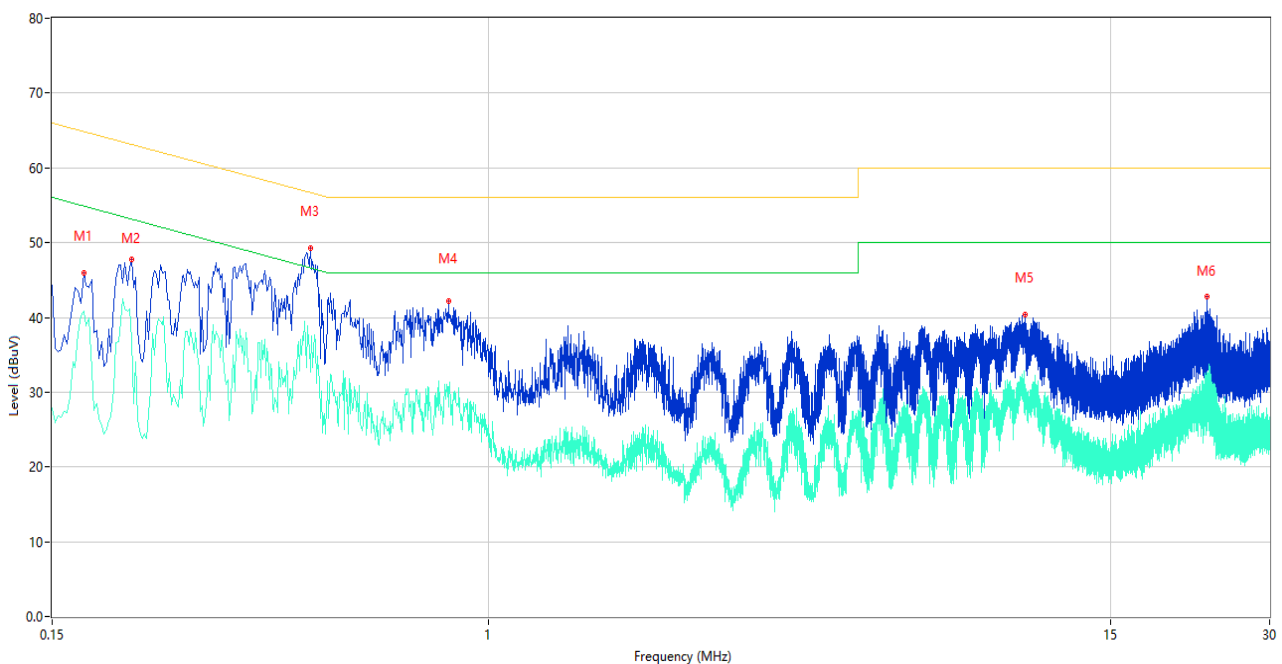
A.2 Conducted Emission, AC Ports

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.	S05	Temperature	24.3°C
Humidity	52%RH	Pressure	101kPa
Test Engineer	Yangyang	Test Date	2024.06.05

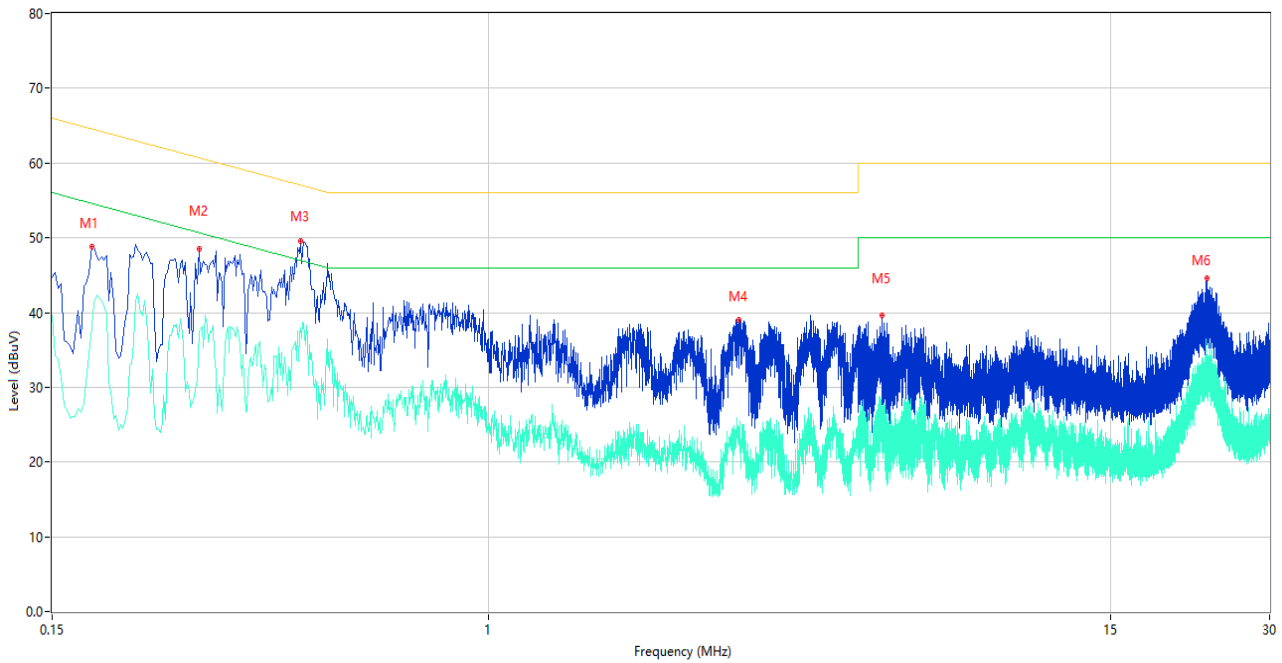
Test Mode 1

1) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.172	45.99	10.08	64.86	18.87	Peak	L	Pass
1**	0.172	40.82	10.08	54.86	14.04	AV	L	Pass
2	0.212	47.82	10.04	63.13	15.31	Peak	L	Pass
2**	0.212	36.99	10.04	53.13	16.14	AV	L	Pass
3	0.462	49.31	10.52	56.66	7.35	Peak	L	Pass
3**	0.462	32.73	10.52	46.66	13.93	AV	L	Pass
4	0.842	42.16	10.54	56.00	13.84	Peak	L	Pass
4**	0.842	28.00	10.54	46.00	18.00	AV	L	Pass
5	10.350	40.30	11.43	60.00	19.70	Peak	L	Pass
5**	10.350	31.08	11.43	50.00	18.92	AV	L	Pass
6	22.878	42.77	13.23	60.00	17.23	Peak	L	Pass
6**	22.878	32.41	13.23	50.00	17.59	AV	L	Pass

2) AC Ports - N Phase

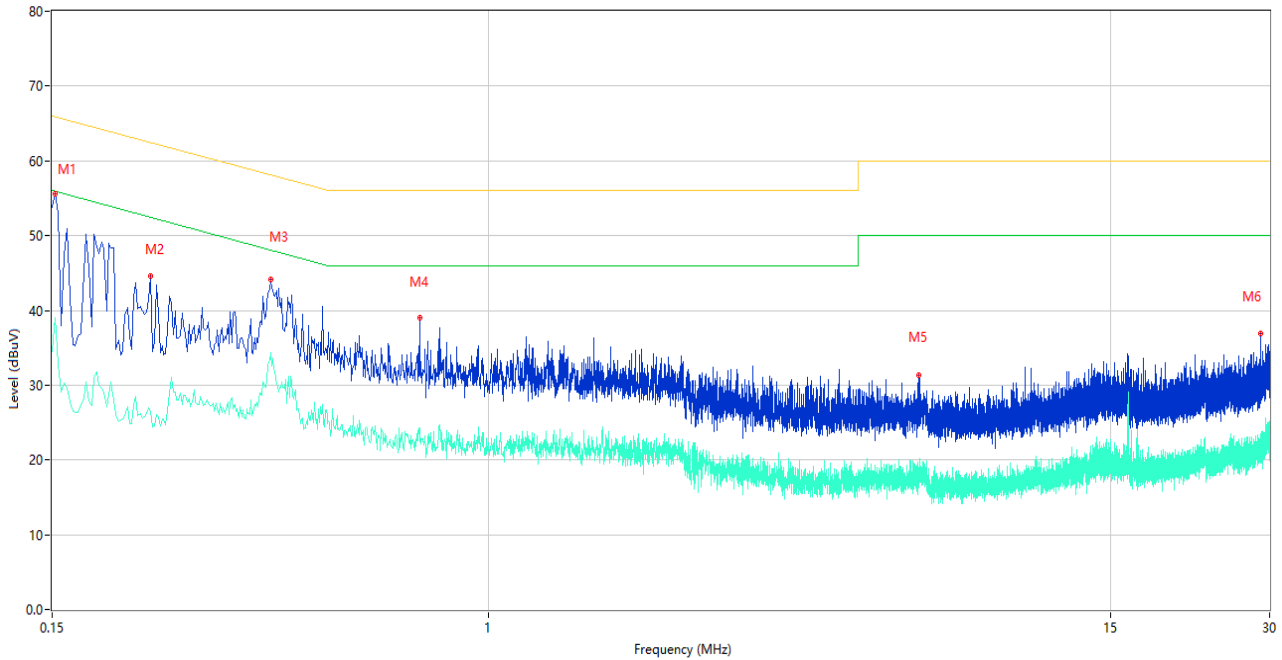


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.178	48.82	10.07	64.58	15.76	Peak	N	Pass
1**	0.178	38.12	10.07	54.58	16.46	AV	N	Pass
2	0.284	48.56	10.06	60.70	12.14	Peak	N	Pass
2**	0.284	37.48	10.06	50.70	13.22	AV	N	Pass
3	0.442	49.55	10.59	57.02	7.47	Peak	N	Pass
3**	0.442	37.93	10.59	47.02	9.09	AV	N	Pass
4	2.980	39.07	10.70	56.00	16.93	Peak	N	Pass
4**	2.980	23.70	10.70	46.00	22.30	AV	N	Pass
5	5.564	39.57	11.03	60.00	20.43	Peak	N	Pass
5**	5.564	26.94	11.03	50.00	23.06	AV	N	Pass
6	22.882	44.61	13.25	60.00	15.39	Peak	N	Pass
6**	22.882	32.48	13.25	50.00	17.52	AV	N	Pass

Sample No.	S11	Temperature	24.3°C
Humidity	52%RH	Pressure	101kPa
Test Engineer	Yang Yang	Test Date	2024.05.06

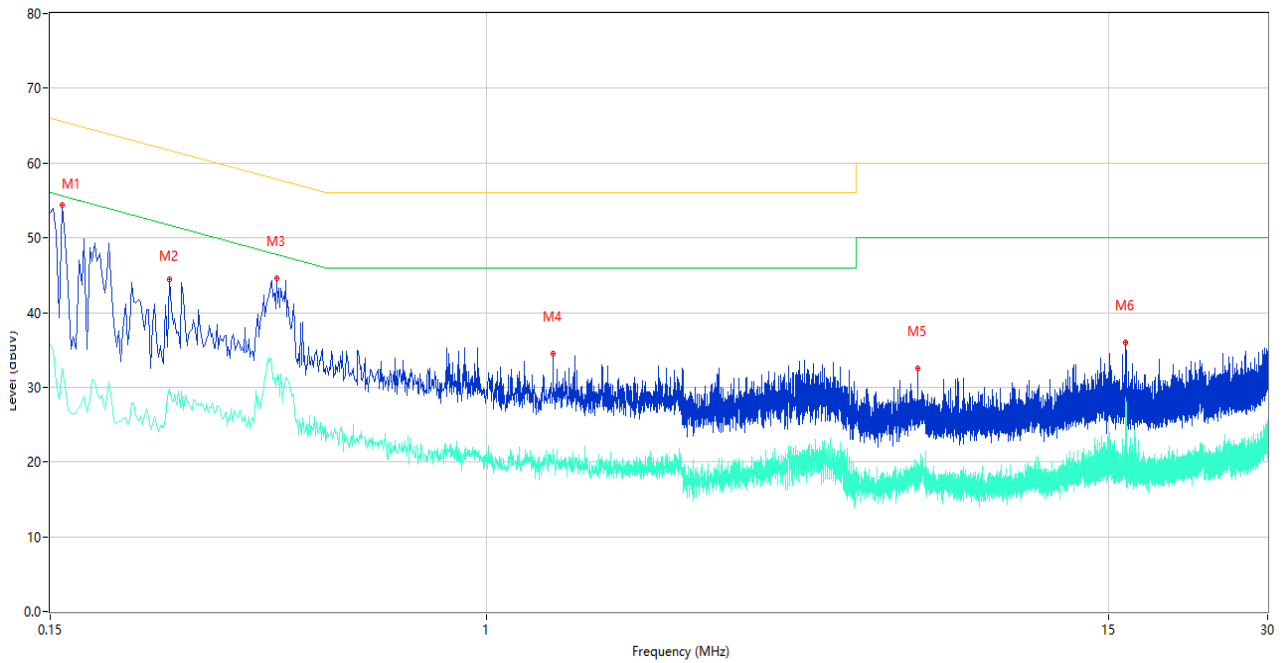
Test Mode 5

3) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.152	55.53	10.11	65.89	10.36	Peak	L	Pass
1**	0.152	39.06	10.11	55.89	16.83	AV	L	Pass
2	0.230	44.56	10.05	62.45	17.89	Peak	L	Pass
2**	0.230	26.50	10.05	52.45	25.95	AV	L	Pass
3	0.388	44.17	10.49	58.11	13.94	Peak	L	Pass
3**	0.388	34.38	10.49	48.11	13.73	AV	L	Pass
4	0.742	39.02	10.16	56.00	16.98	Peak	L	Pass
4**	0.742	24.32	10.16	46.00	21.68	AV	L	Pass
5	6.510	31.39	11.05	60.00	28.61	Peak	L	Pass
5**	6.510	18.59	11.05	50.00	31.41	AV	L	Pass
6	28.830	36.98	14.11	60.00	23.02	Peak	L	Pass
6**	28.830	21.23	14.11	50.00	28.77	AV	L	Pass

4) AC Ports - N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.158	54.42	10.10	65.57	11.15	Peak	N	Pass
1**	0.158	32.56	10.10	55.57	23.01	AV	N	Pass
2	0.252	44.45	10.05	61.69	17.24	Peak	N	Pass
2**	0.252	29.87	10.05	51.69	21.82	AV	N	Pass
3	0.402	44.55	10.65	57.81	13.26	Peak	N	Pass
3**	0.402	31.70	10.65	47.81	16.11	AV	N	Pass
4	1.338	34.49	10.52	56.00	21.51	Peak	N	Pass
4**	1.338	21.65	10.52	46.00	24.35	AV	N	Pass
5	6.544	32.56	11.08	60.00	27.44	Peak	N	Pass
5**	6.544	17.35	11.08	50.00	32.65	AV	N	Pass
6	16.166	35.95	12.91	60.00	24.05	Peak	N	Pass
6**	16.166	28.60	12.91	50.00	21.40	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	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2024.05.09	2025.05.08	<input checked="" type="checkbox"/>
ISN	TESEQ	ISN T800	34449	2023.11.10	2024.11.09	<input type="checkbox"/>
ISN	TESEQ	ISN T8-Cat6	53561	2024.04.24	2025.04.23	<input type="checkbox"/>
Shielded Room	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8m	112	2022.02.19	2025.02.18	<input checked="" type="checkbox"/>
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		<input checked="" type="checkbox"/>

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2441449-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2441449-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2441449-AI.PDF”.

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