

# TEST REPORT

**Applicant:** vivo Mobile Communication Co., Ltd.  
**Address:** No.1, vivo Road, Chang'an, Dongguan, Guangdong, China  
**Equipment Type:** Mobile Phone  
**Model Name:** V2333  
**Brand Name:** vivo  
**FCC ID:** 2AUCY-V2332  
**Test Standard:** 47 CFR Part 15 Subpart B  
ANSI C63.4-2014  
**Sample Arrival Date:** Mar. 11, 2024  
**Test Date:** Mar. 14, 2024 - Mar. 15, 2024  
**Date of Issue:** Mar. 19, 2024

**ISSUED BY:**

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Xin Liao

**Checked by:** Zhenxiang Liu

**Approved by:** Liao Jianming  
(Technical Director)

*Xin Liao*

*Zhenxiang Liu*

*Jm Liao*

<b>Revision History</b>		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Mar. 19, 2024</u>	<u>Initial Issue</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	<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	vivo Mobile Communication Co., Ltd.
Address	No.1, vivo Road, Chang'an, Dongguan, Guangdong, China

### 2.2 Manufacturer Information

Manufacturer	vivo Mobile Communication Co., Ltd.
Address	No.1, vivo Road, Chang'an, Dongguan, Guangdong, China

### 2.3 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	V2333
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	MP_0.1
Software Version	PD2327F_EX_A_14.0.8.6.W30
Dimensions (Approx.)	163.63*75.58*8.39 mm
Weight (Approx.)	185g
EUT ID	S21
IMEI Number	IMEI:861281072010220

### 2.4 Ancillary Equipment

Ancillary Equipment 1	Battery 1	
	Brand Name	vivo
	Model No.	BA33
	Serial No.	N/A
	Capacity	Rated: 4880mAh /19.09 Wh Typical: 5000 mAh /19.55 Wh
	Rated Voltage	3.91 V
	Limit Charge Voltage	4.48 V
	Manufacturer	Dongguang NVT Technology Co., LTD.
Ancillary Equipment 2	Battery 2	
	Brand Name	vivo
	Model No.	BA33
	Serial No.	N/A
	Capacity	Rated: 4880mAh /19.09 Wh Typical: 5000 mAh /19.55 Wh

	Rated Voltage	3.91 V
	Limit Charge Voltage	4.48 V
	Manufacturer	Shenzhen Sunwoda Intelligence Technology Co., Ltd.
Ancillary Equipment 3	Battery 3	
	Brand Name	vivo
	Model No.	BA33
	Serial No.	N/A
	Capacity	Rated: 4910mAh /19.20 Wh Typical: 5000 mAh /19.55 Wh
	Rated Voltage	3.91 V
	Limit Charge Voltage	4.50 V
	Manufacturer	Chongqing CosMX Battery Co., Ltd.
Ancillary Equipment 4	Adapter 1	
	Brand Name	vivo
	Model No.	V1530L0B0-US
	Serial No.	N/A
	Rated Input	100-240V~, 50/60Hz, 0.5A
	Rated Output	5.0V= 3.0A
Ancillary Equipment 5	Adapter 2	
	Brand Name	vivo
	Model No.	V1530L0B0-EU
	Serial No.	N/A
	Rated Input	100-240V~, 50/60Hz, 0.5A
	Rated Output	5.0V= 3.0A, 15.0W
Ancillary Equipment 6	USB Cable	
	Model No.	BK-C-50-B
	Length (Approx.)	1.0m
<p>Note 1: All adapters are tested, only the worst data of V1530L0B0-US shown in this report.</p> <p>Note 2: All batteries are tested, only the worst data of BA33 (Dongguang NVT Technology Co., LTD.) shown in this report.</p>		

## 2.5 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/13/18/19/26/66 LTE TDD Band 38/41
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-SZ2411244-401, the changes of the EUT of this report as below:

1. The model name V2332 is updated to V2333.
2. Change the Rear main camera from 13M to 50M, and the Front camera from 5M to 8M.
3. Added Fingerprint identification function.

Other hardware circuit and software are the same as EUT referred in test report BL-SZ2411244-401.

Therefore, except Radiated Emission retested, the USB mode test and other test datas and EUT information are derived from the report BL-SZ2411244-401, by Shenzhen BALUN Technology Co., Ltd. on Mar. 07, 2024.

#### 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	4.8 dB
Radiated emissions (1 GHz-18 GHz)-966#2	4.9 dB



## 4 GENERAL TEST CONFIGURATIONS

### 4.1 Test Enclosure List

Description	Manufacturer	Model	Serial No.	Length	Description	Use
Wireless Communications Test Set	R&S	CMW500	102318	N/A	Cal. Due 2024.05.15	<input checked="" type="checkbox"/>
Laptop	Lenovo	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Earphone	N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
WIFI Router	TP-LINK	TL-WDR7500	N/A	N/A	N/A	<input checked="" type="checkbox"/>
SD Card	Kingston	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
USB Flash Disk	Kingston	N/A	N/A	N/A	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 Front Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + SD Card
Mode 2	<u>The Back Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + SD Card
Mode 3	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + SD Card
Mode 4	<u>The Standby Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + SD Card
Mode 5	<u>The OTG Test Mode</u> EUT + Laptop + USB Cable + Battery + Earphone + SD Card + USB Flash Disk
Mode 6	<u>The USB Test Mode</u> EUT + Laptop + USB Cable + Battery + Earphone + SD Card
Mode 7	<u>The FM Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + SD Card+ FM RX
Mode 8	<u>The GSM 850 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + GSM 850 RX
Mode 9	<u>The WCDMA Band 5 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + WCDMA Band 5 RX
Mode 10	<u>The FDD LTE Band 2 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + LTE Band 2 RX
Mode 11	<u>The FDD LTE Band 5 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + LTE Band 5 RX
Mode 12	<u>The FDD LTE Band 13 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + LTE Band 13 RX

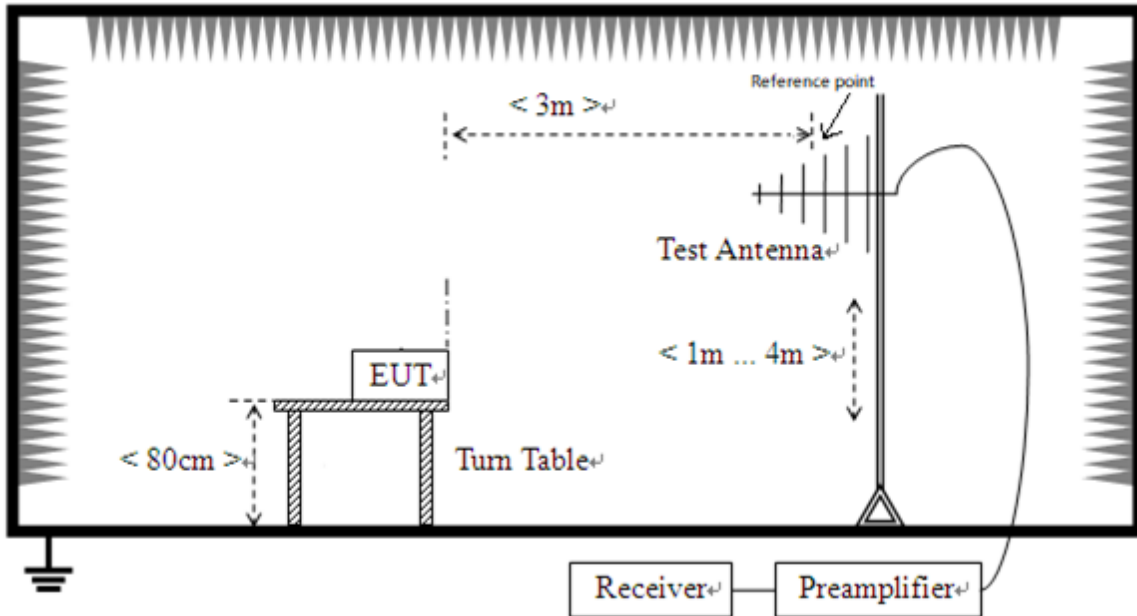
Mode 13	<u>The FDD LTE Band 18 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + LTE Band 18 RX
Mode 14	<u>The FDD LTE Band 19 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + LTE Band 19 RX
Mode 15	<u>The FDD LTE Band 26 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + LTE Band 26 RX

Test Case	Test Mode Configuration	Worst Mode
Radiated Emission	Mode 1~Mode 15	2, 6
Conducted Emission, AC Ports	Mode 1~Mode 15	4, 6

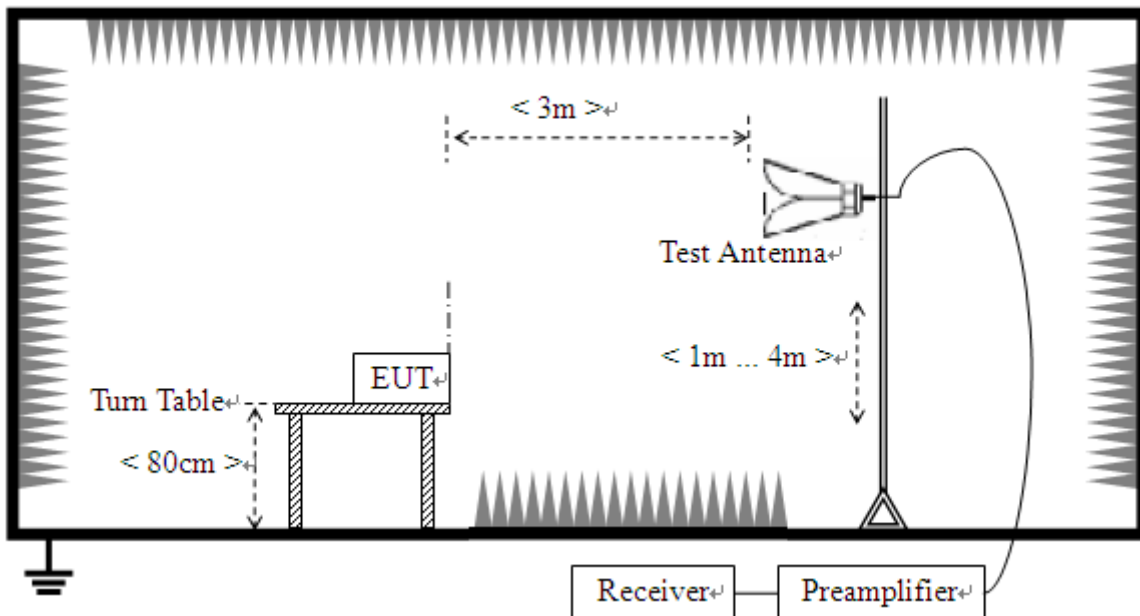
Note: All operation modes were tested, but only test data of the worst mode was presented in this report.

### 4.3 Test Setups

#### Test Setup 1

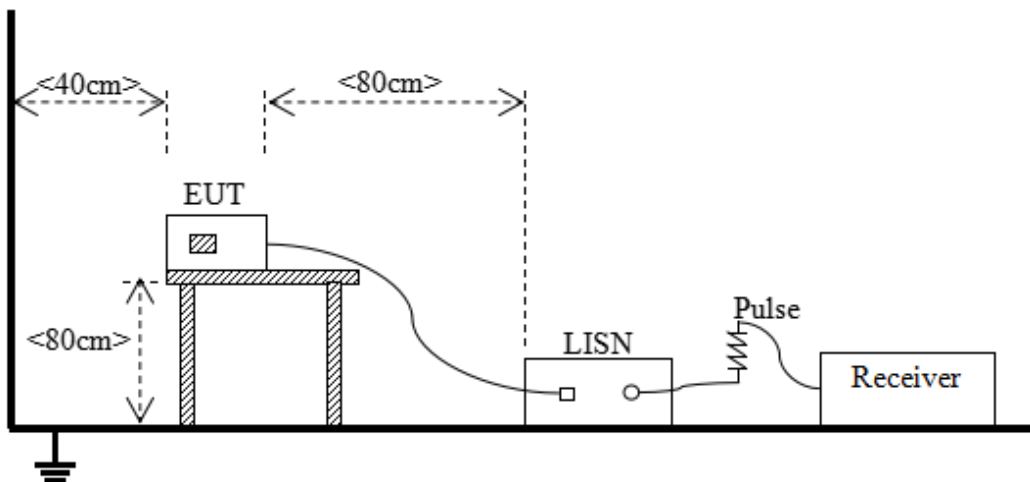


Radiated Emission (30 MHz-1 GHz)



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\*log [Field Strength ( $\mu\text{V/m}$ )].
- 2) In the emission tables above, the tighter limit applies at the band edges.
- 3) The limits using ANSI C63.4.
- 4) 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 $\mu$ V/m) = Reading (dB $\mu$ V/m) + 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 $\mu$ V)	Average (dB $\mu$ V)
0.15 - 0.50	79	66
0.50 - 30	73	60

Frequency range (MHz)	Class B	
	Quasi-peak (dB $\mu$ V)	Average (dB $\mu$ 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  $\Omega$ /50  $\mu$ 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 $\mu$ V) = Reading (dB $\mu$ 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.

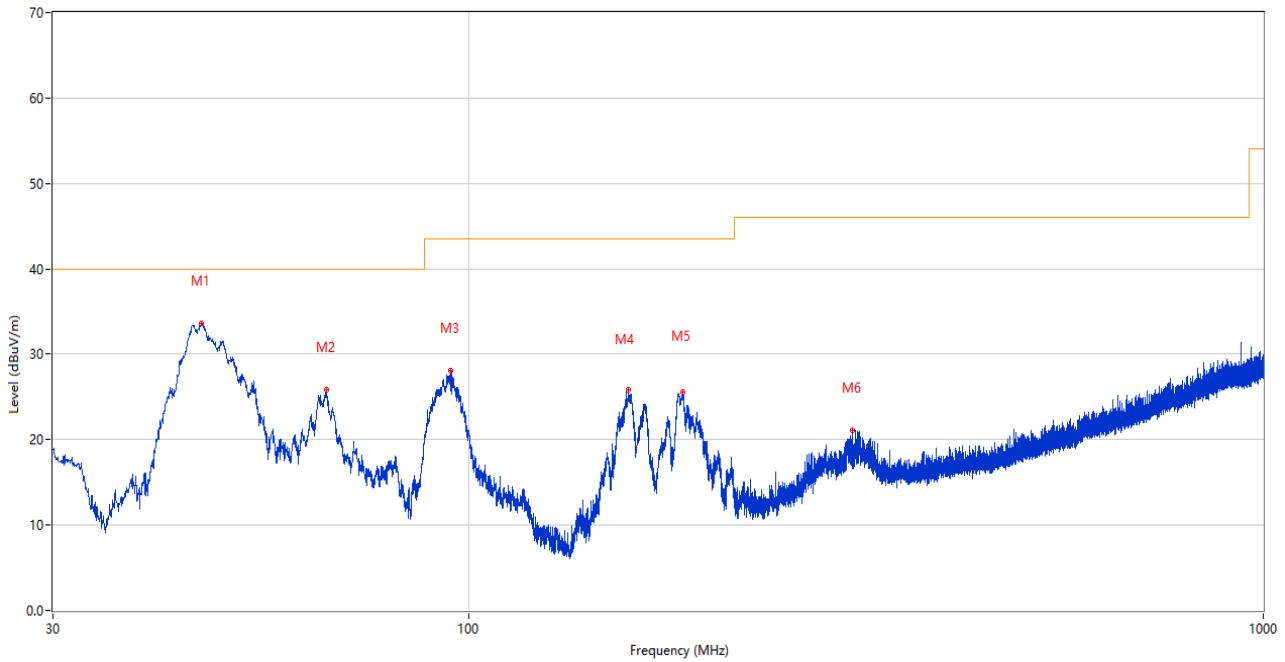
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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.	S21	Temperature	21.6°C
Humidity	48%RH	Pressure	101kPa
Test Engineer	He Shichang	Test Date	2024.03.14

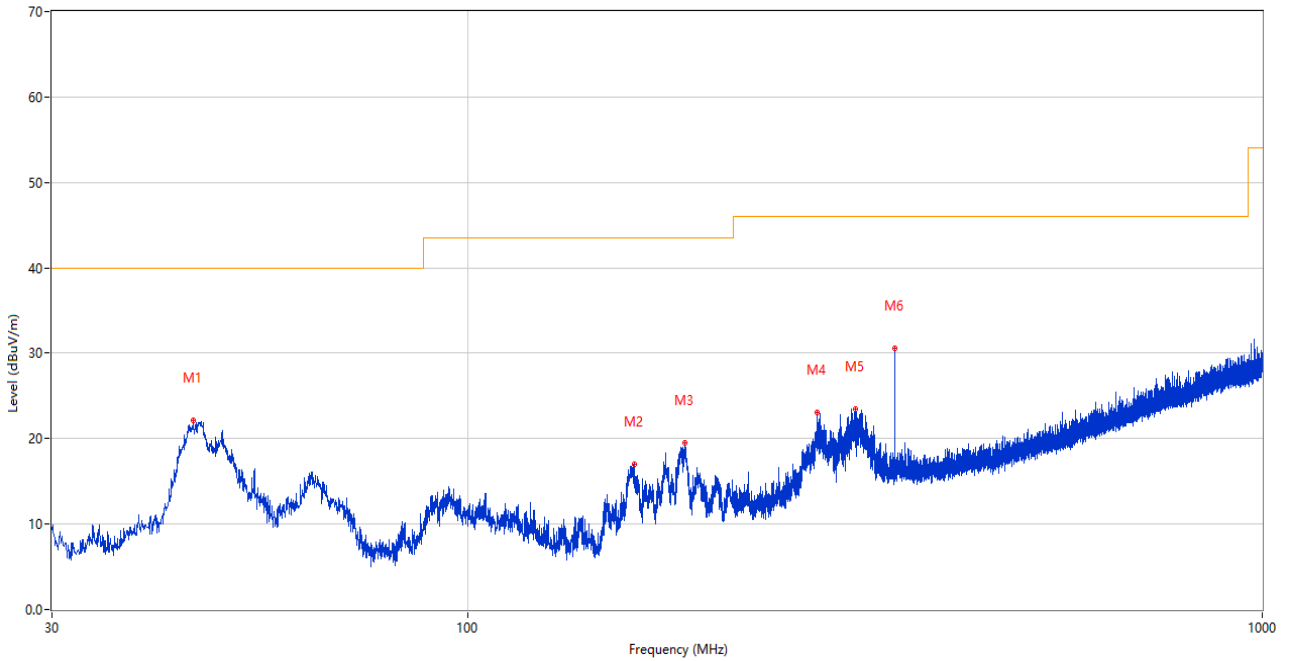
**Test Mode 2**

**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	46.102	33.58	-25.55	40.0	6.42	Peak	182.00	100	Vertical	Pass
2	66.278	25.80	-27.85	40.0	14.20	Peak	129.00	100	Vertical	Pass
3	95.087	28.08	-27.57	43.5	15.42	Peak	173.00	100	Vertical	Pass
4	159.058	25.78	-29.64	43.5	17.72	Peak	264.00	100	Vertical	Pass
5	185.831	25.61	-27.97	43.5	17.89	Peak	360.00	100	Vertical	Pass
6	304.461	21.03	-23.60	46.0	24.97	Peak	16.00	200	Vertical	Pass

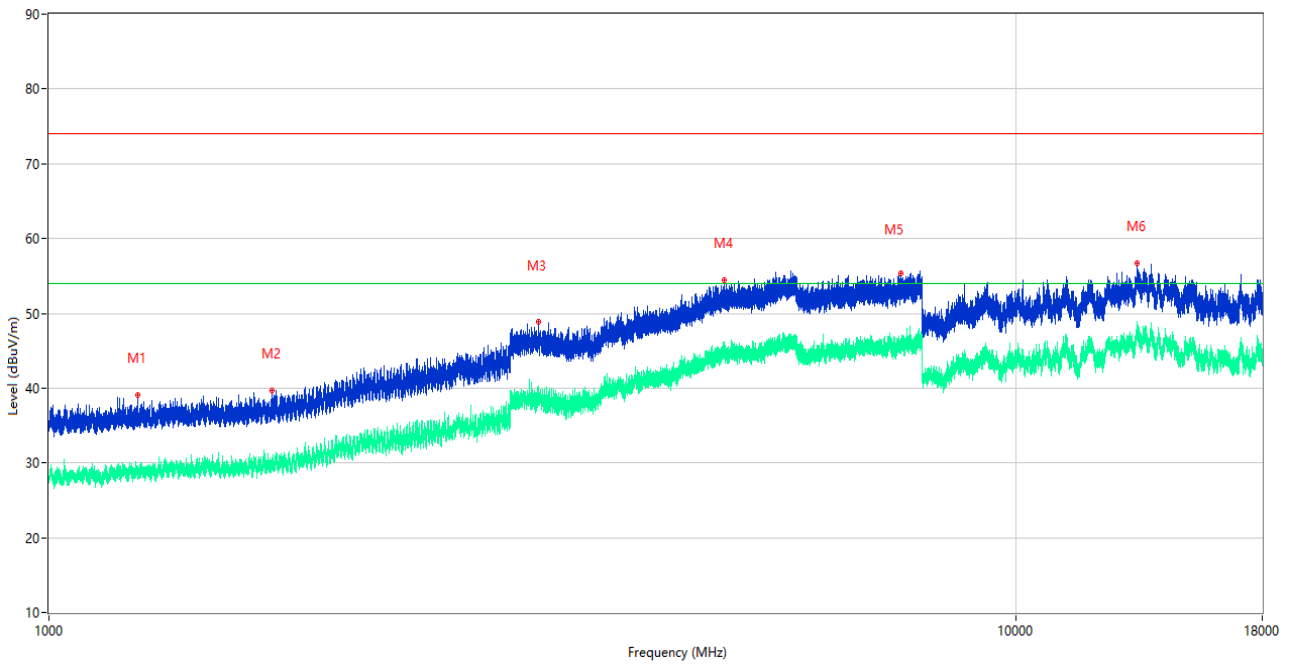
2) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	45.181	22.18	-25.52	40.0	17.82	Peak	107.00	100	Horizontal	Pass
2	162.114	17.05	-29.50	43.5	26.45	Peak	145.00	100	Horizontal	Pass
3	187.722	19.49	-27.75	43.5	24.01	Peak	259.00	200	Horizontal	Pass
4	275.604	23.07	-24.42	46.0	22.93	Peak	233.00	100	Horizontal	Pass
5	307.420	23.49	-23.49	46.0	22.51	Peak	239.00	100	Horizontal	Pass
6	344.620	30.57	-22.14	46.0	15.43	Peak	204.00	100	Horizontal	Pass

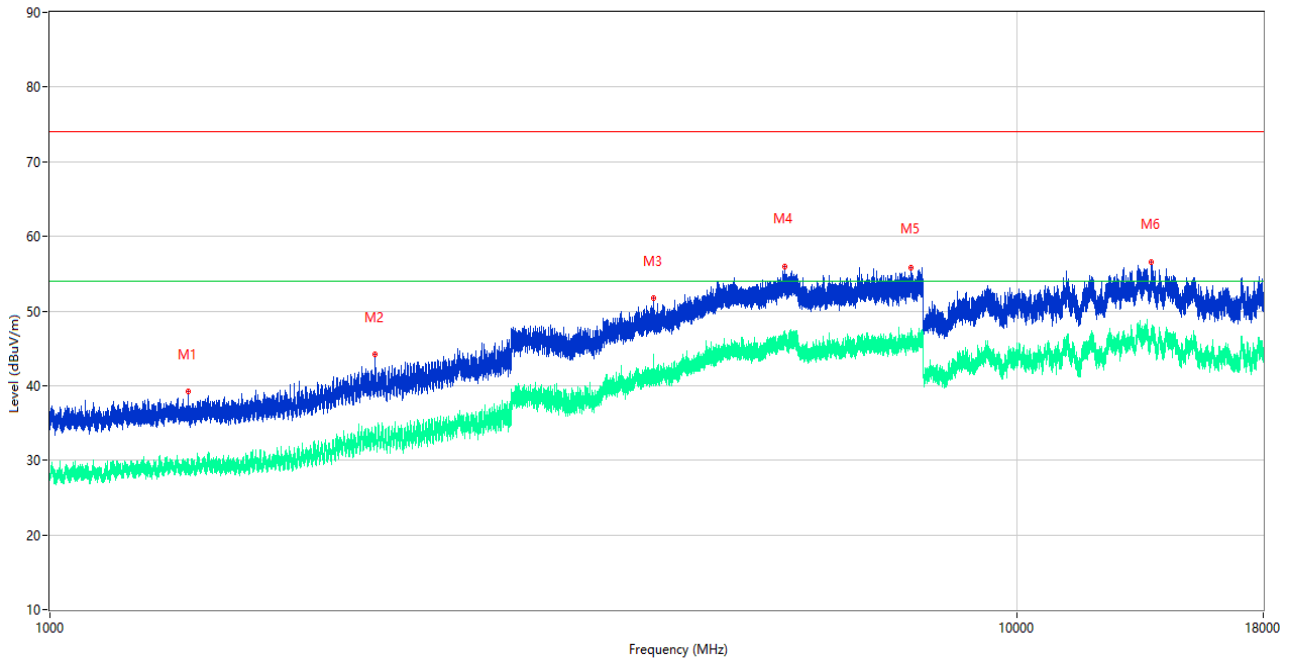
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04	<input checked="" 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	1235.700	39.00	-16.28	74.0	35.00	Peak	171.00	100	Vertical	Pass
1**	1235.700	28.82	-16.28	54.0	25.18	AV	171.00	100	Vertical	Pass
2	1702.300	39.61	-15.90	74.0	34.39	Peak	198.00	100	Vertical	Pass
2**	1702.300	30.32	-15.90	54.0	23.68	AV	198.00	100	Vertical	Pass
3	3212.000	48.87	-4.93	74.0	25.13	Peak	7.00	100	Vertical	Pass
3**	3212.000	39.43	-4.93	54.0	14.57	AV	7.00	100	Vertical	Pass
4	5001.000	54.39	1.79	74.0	19.61	Peak	109.00	100	Vertical	Pass
4**	5001.000	45.15	1.79	54.0	8.85	AV	109.00	100	Vertical	Pass
5	7616.750	55.29	2.15	74.0	18.71	Peak	360.00	100	Vertical	Pass
5**	7616.750	45.62	2.15	54.0	8.38	AV	360.00	100	Vertical	Pass
6	13360.500	56.64	5.16	74.0	17.36	Peak	360.00	100	Vertical	Pass
6**	13360.500	46.76	5.16	54.0	7.24	AV	360.00	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	1389.500	39.17	-16.02	74.0	34.83	Peak	69.00	100	Horizontal	Pass
1**	1389.500	29.83	-16.02	54.0	24.17	AV	69.00	100	Horizontal	Pass
2	2169.800	44.14	-12.28	74.0	29.86	Peak	212.00	100	Horizontal	Pass
2**	2169.800	33.33	-12.28	54.0	20.67	AV	212.00	100	Horizontal	Pass
3	4212.000	51.70	-0.49	74.0	22.30	Peak	134.00	100	Horizontal	Pass
3**	4212.000	41.84	-0.49	54.0	12.16	AV	134.00	100	Horizontal	Pass
4	5753.250	55.92	3.39	74.0	18.08	Peak	289.00	100	Horizontal	Pass
4**	5753.250	46.47	3.39	54.0	7.53	AV	289.00	100	Horizontal	Pass
5	7772.250	55.77	2.91	74.0	18.23	Peak	206.00	100	Horizontal	Pass
5**	7772.250	45.81	2.91	54.0	8.19	AV	206.00	100	Horizontal	Pass
6	13792.500	56.61	5.47	74.0	17.39	Peak	280.00	100	Horizontal	Pass
6**	13792.500	46.85	5.47	54.0	7.15	AV	280.00	100	Horizontal	Pass

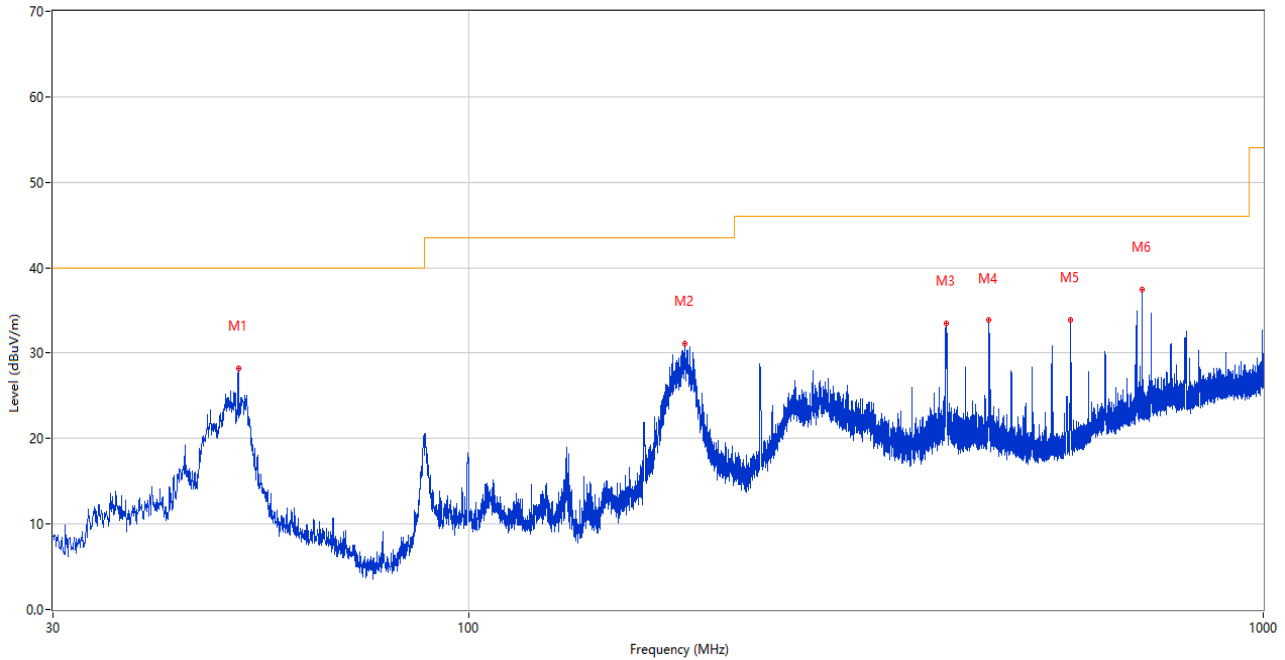
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Above 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2023.12.05	2024.12.04	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2023.12.05	2024.12.04	<input checked="" type="checkbox"/>
Amplifier (18-40GHz)	COM-MV	KA LNA18- 40G-01	18050001	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"/>
Test Antenna- Horn	A-INFOMW	LB- 180400KF	J211060273	2021.07.02	2024.07.01	<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"/>



Test Mode 6

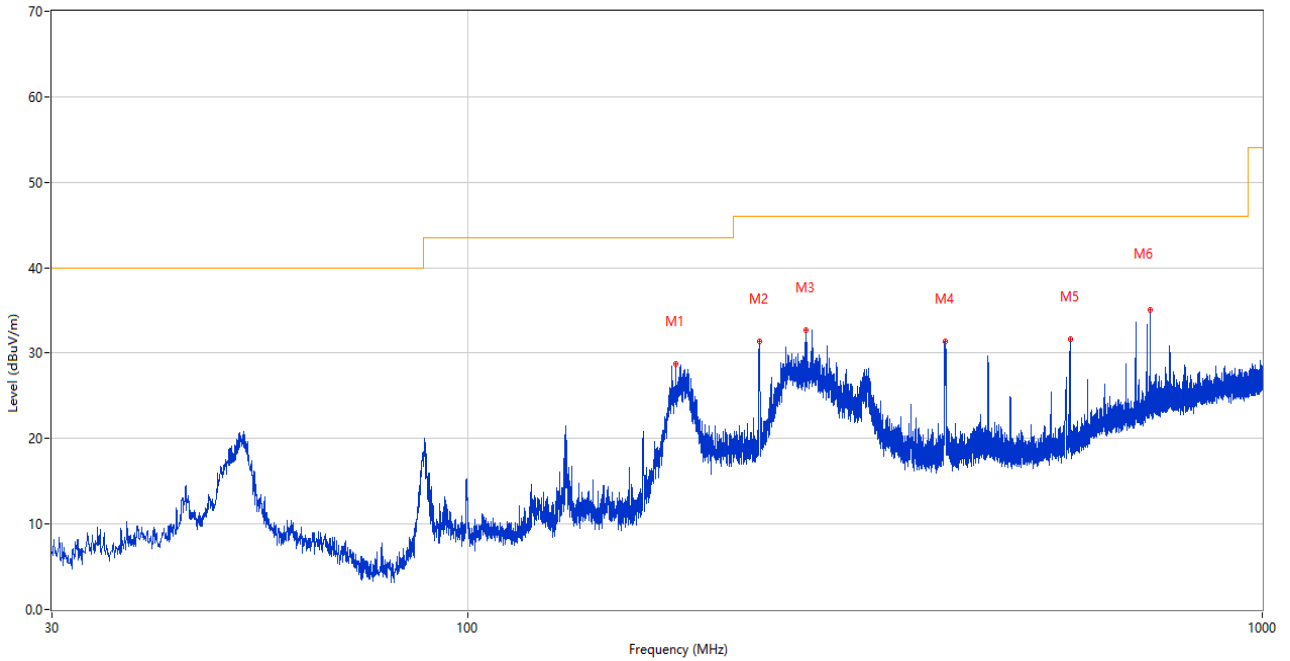
Sample No.	S14	Temperature	21.6°C
Humidity	48%RH	Pressure	101kPa
Test Engineer	He Shichang	Test Date	2024.01.31

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	51.340	28.23	-25.46	40.0	11.77	Peak	359.00	100	Vertical	Pass
2	186.946	31.09	-27.85	43.5	12.41	Peak	347.00	100	Vertical	Pass
3	398.697	33.45	-21.00	46.0	12.55	Peak	144.00	200	Vertical	Pass
4	451.805	33.82	-19.84	46.0	12.18	Peak	184.00	100	Vertical	Pass
5	572.521	33.88	-16.98	46.0	12.12	Peak	118.00	100	Vertical	Pass
6	704.635	37.41	-13.97	46.0	8.59	Peak	192.00	100	Vertical	Pass

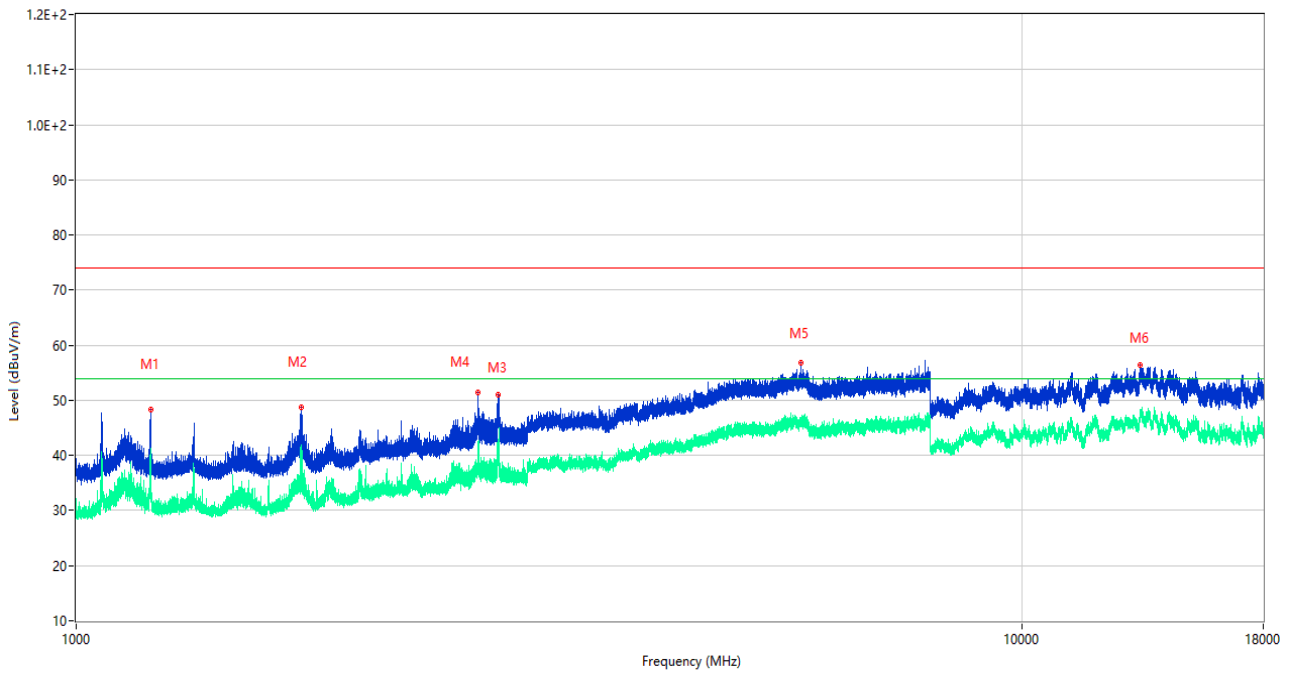
6) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	182.726	28.68	-28.26	43.5	14.82	Peak	22.00	100	Horizontal	Pass
2	233.264	31.32	-25.44	46.0	14.68	Peak	258.00	100	Horizontal	Pass
3	266.438	32.74	-24.51	46.0	13.26	Peak	278.00	100	Horizontal	Pass
4	398.649	31.38	-21.00	46.0	14.62	Peak	322.00	100	Horizontal	Pass
5	572.909	31.69	-16.98	46.0	14.31	Peak	295.00	200	Horizontal	Pass
6	722.968	35.13	-13.48	46.0	10.87	Peak	234.00	100	Horizontal	Pass

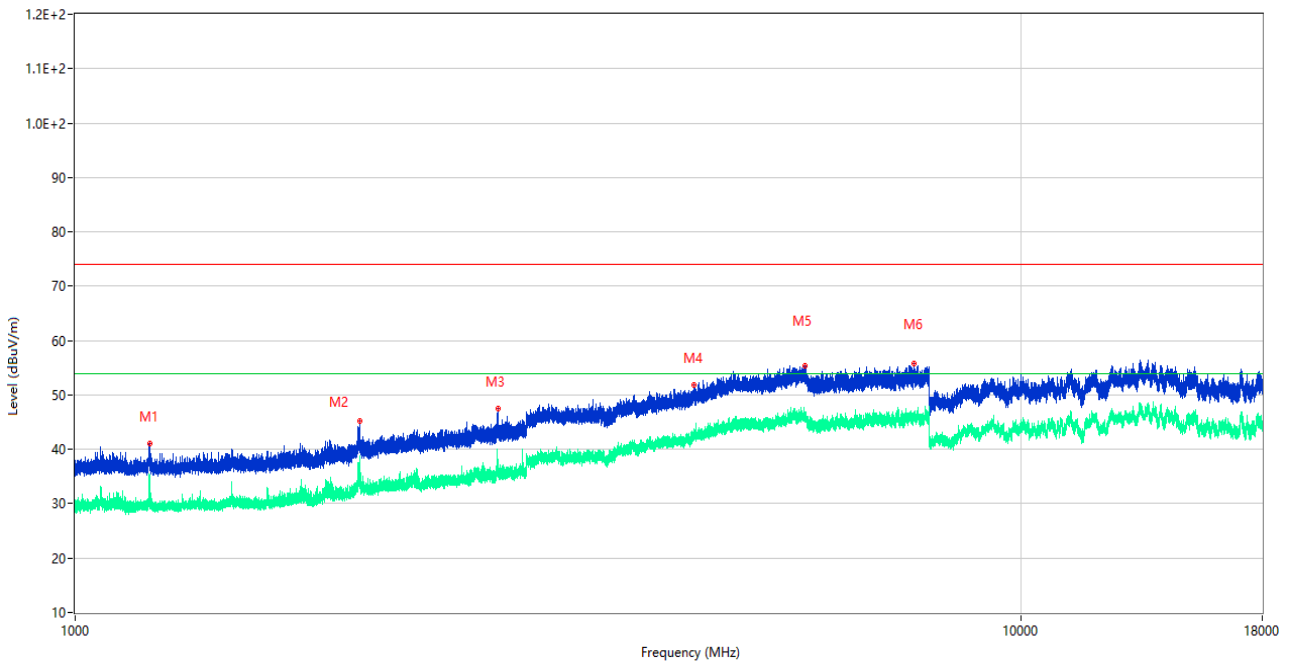
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04	<input checked="" 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"/>

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	1198.400	48.28	-16.24	74.0	25.72	Peak	218.00	100	Vertical	Pass
1**	1198.400	35.67	-16.24	54.0	18.33	AV	218.00	100	Vertical	Pass
2	1730.200	48.75	-15.86	74.0	25.25	Peak	205.00	100	Vertical	Pass
2**	1730.200	35.75	-15.86	54.0	18.25	AV	205.00	100	Vertical	Pass
3	2792.200	51.00	-8.47	74.0	23.00	Peak	169.00	100	Vertical	Pass
3**	2792.200	42.08	-8.47	54.0	11.92	AV	169.00	100	Vertical	Pass
4	2661.100	51.47	-8.53	74.0	22.53	Peak	192.00	100	Vertical	Pass
4**	2661.100	40.20	-8.53	54.0	13.80	AV	192.00	100	Vertical	Pass
5	5846.500	56.86	3.65	74.0	17.14	Peak	120.00	100	Vertical	Pass
5**	5846.500	45.58	3.65	54.0	8.42	AV	120.00	100	Vertical	Pass
6	13348.000	56.43	5.16	74.0	17.57	Peak	178.00	100	Vertical	Pass
6**	13348.000	47.82	5.16	54.0	6.18	AV	178.00	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	1200.000	41.02	-16.20	74.0	32.98	Peak	252.00	100	Horizontal	Pass
1**	1200.000	31.68	-16.20	54.0	22.32	AV	252.00	100	Horizontal	Pass
2	1997.800	45.12	-13.88	74.0	28.88	Peak	138.00	100	Horizontal	Pass
2**	1997.800	36.62	-13.88	54.0	17.38	AV	138.00	100	Horizontal	Pass
3	2799.800	47.49	-8.14	74.0	26.51	Peak	266.00	100	Horizontal	Pass
3**	2799.800	37.02	-8.14	54.0	16.98	AV	266.00	100	Horizontal	Pass
4	4516.000	51.80	0.68	74.0	22.20	Peak	166.00	100	Horizontal	Pass
4**	4516.000	42.22	0.68	54.0	11.78	AV	166.00	100	Horizontal	Pass
5	5910.250	55.45	3.54	74.0	18.55	Peak	268.00	100	Horizontal	Pass
5**	5910.250	46.34	3.54	54.0	7.66	AV	268.00	100	Horizontal	Pass
6	7704.750	55.72	2.71	74.0	18.28	Peak	231.00	100	Horizontal	Pass
6**	7704.750	45.52	2.71	54.0	8.48	AV	231.00	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"/>
Amplifier (18-40GHz)	COM-MV	KA LNA18-40G-01	18050001	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"/>
Test Antenna-Horn	A-INFOMW	LB-180400KF	J211060273	2021.07.02	2024.07.01	<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"/>

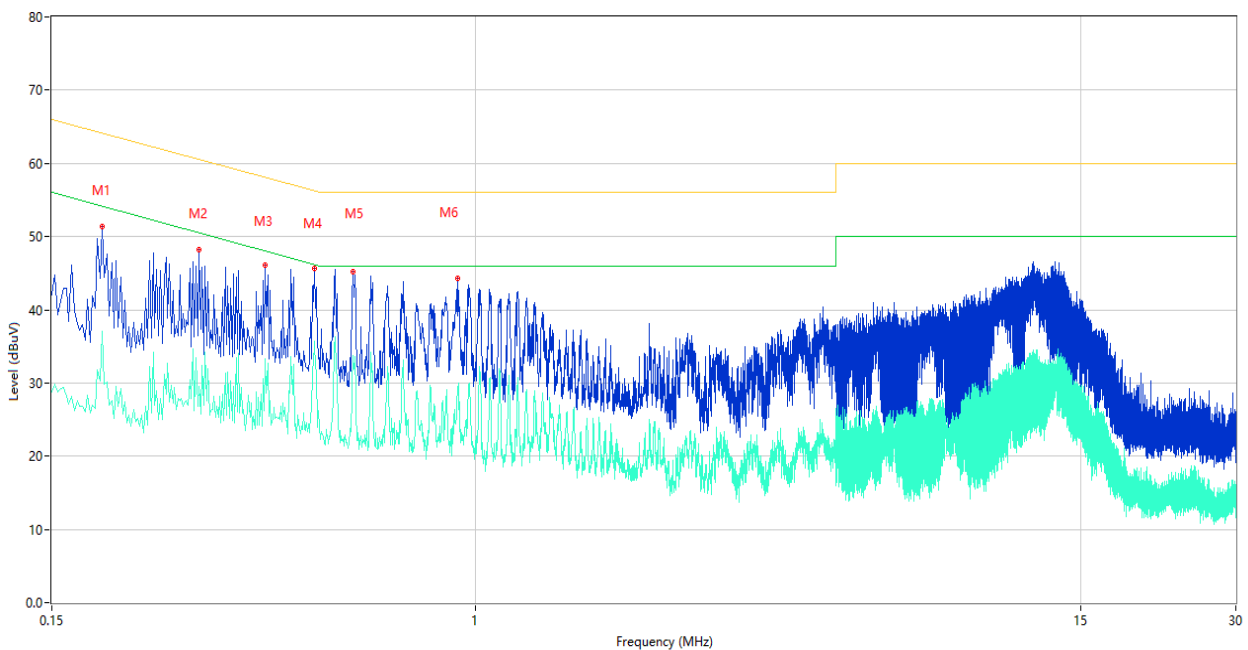
## A.2 Conducted Emission, AC Ports

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 (240 VAC, 50 Hz ) shown here.

Sample No.	S14	Temperature	21.6°C
Humidity	48%RH	Pressure	101kPa
Test Engineer	Yang Yang	Test Date	2024.02.01

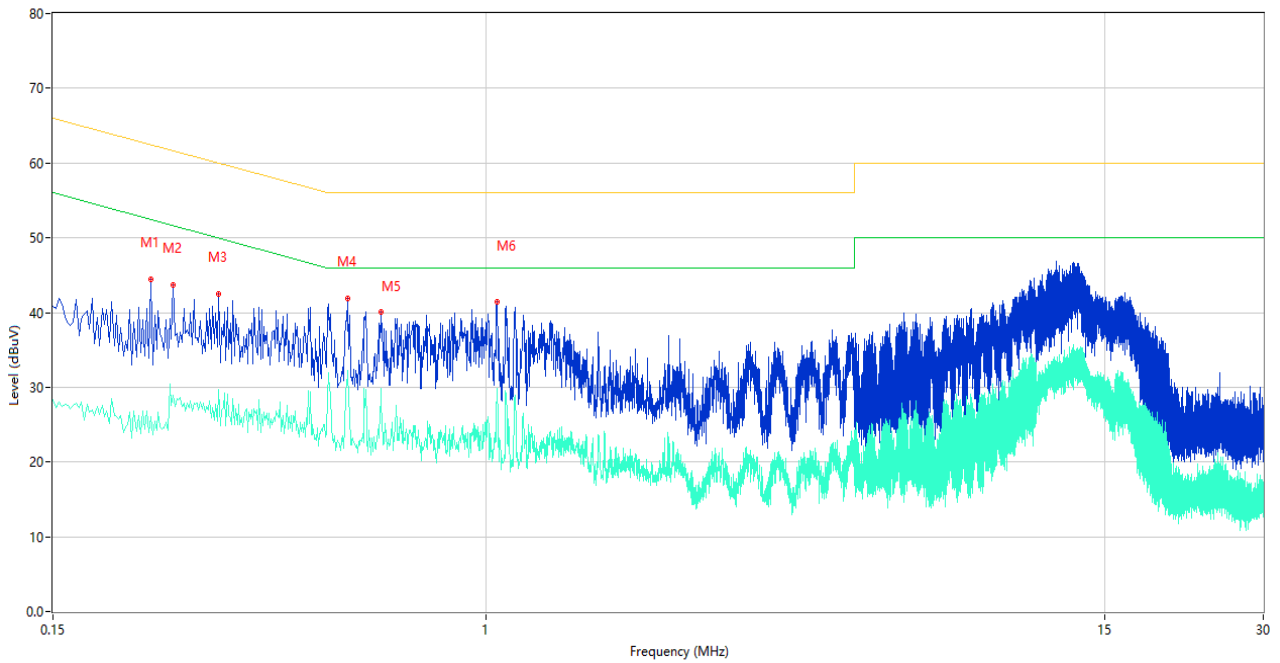
### Test Mode 4

#### 1) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.188	51.35	9.43	64.12	12.77	Peak	L	Pass
1**	0.188	37.02	9.43	54.12	17.10	AV	L	Pass
2	0.290	48.14	9.43	60.52	12.38	Peak	L	Pass
2**	0.290	29.55	9.43	50.52	20.97	AV	L	Pass
3	0.390	46.06	9.88	58.06	12.00	Peak	L	Pass
3**	0.390	33.31	9.88	48.06	14.75	AV	L	Pass
4	0.486	45.67	9.75	56.24	10.57	Peak	L	Pass
4**	0.486	35.76	9.75	46.24	10.48	AV	L	Pass
5	0.578	45.23	9.92	56.00	10.77	Peak	L	Pass
5**	0.578	33.70	9.92	46.00	12.30	AV	L	Pass
6	0.922	44.27	9.77	56.00	11.73	Peak	L	Pass
6**	0.922	29.52	9.77	46.00	16.48	AV	L	Pass

2) AC Ports - N Phase



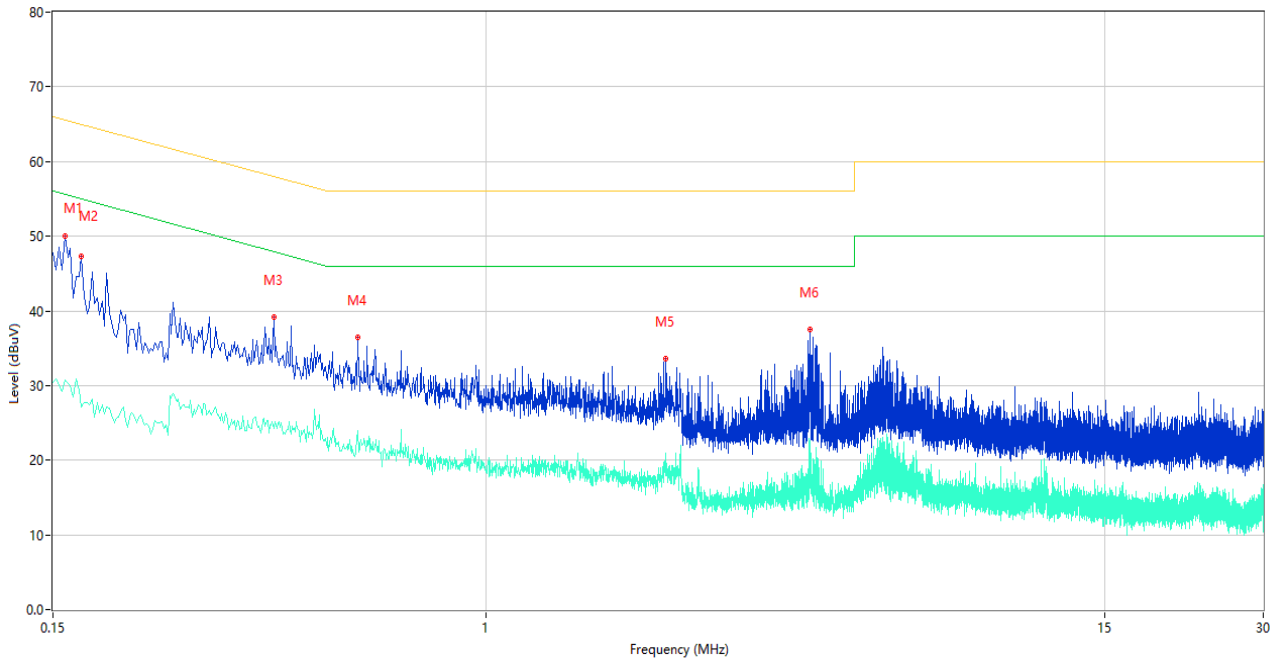
No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.230	44.48	9.43	62.45	17.97	Peak	N	Pass
1**	0.230	26.12	9.43	52.45	26.33	AV	N	Pass
2	0.254	43.70	9.43	61.63	17.93	Peak	N	Pass
2**	0.254	28.99	9.43	51.63	22.64	AV	N	Pass
3	0.310	42.44	9.41	59.97	17.53	Peak	N	Pass
3**	0.310	29.75	9.41	49.97	20.22	AV	N	Pass
4	0.546	41.88	9.80	56.00	14.12	Peak	N	Pass
4**	0.546	32.26	9.80	46.00	13.74	AV	N	Pass
5	0.630	40.12	9.78	56.00	15.88	Peak	N	Pass
5**	0.630	29.78	9.78	46.00	16.22	AV	N	Pass
6	1.048	41.44	9.40	56.00	14.56	Peak	N	Pass
6**	1.048	29.03	9.40	46.00	16.97	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	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2023.05.16	2024.05.15	<input checked="" type="checkbox"/>
ISN	TESEQ	ISN T800	34449	2023.11.10	2024.11.09	<input type="checkbox"/>
ISN	TESEQ	ISN T8-Cat6	53561	2023.04.23	2024.04.22	<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"/>

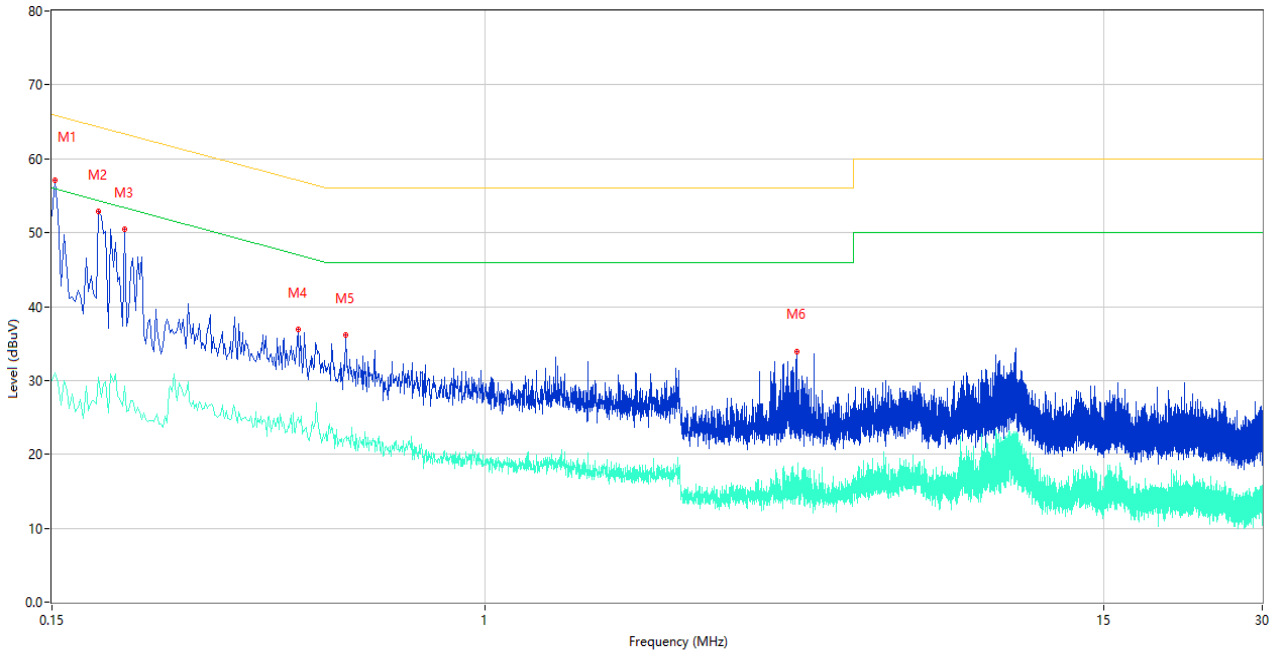
Test Mode 6

3) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.158	50.08	9.46	65.57	15.49	Peak	L	Pass
1**	0.158	30.74	9.46	55.57	24.83	AV	L	Pass
2	0.170	47.31	9.45	64.96	17.65	Peak	L	Pass
2**	0.170	27.14	9.45	54.96	27.82	AV	L	Pass
3	0.394	39.13	9.93	57.98	18.85	Peak	L	Pass
3**	0.394	24.18	9.93	47.98	23.80	AV	L	Pass
4	0.570	36.45	9.89	56.00	19.55	Peak	L	Pass
4**	0.570	23.95	9.89	46.00	22.05	AV	L	Pass
5	2.196	33.62	9.71	56.00	22.38	Peak	L	Pass
5**	2.196	20.37	9.71	46.00	25.63	AV	L	Pass
6	4.132	37.54	9.71	56.00	18.46	Peak	L	Pass
6**	4.132	20.01	9.71	46.00	25.99	AV	L	Pass

4) AC Ports - N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.152	57.08	9.47	65.89	8.81	Peak	N	Pass
1**	0.152	30.97	9.47	55.89	24.92	AV	N	Pass
2	0.184	52.88	9.43	64.30	11.42	Peak	N	Pass
2**	0.184	30.48	9.43	54.30	23.82	AV	N	Pass
3	0.206	50.40	9.42	63.37	12.97	Peak	N	Pass
3**	0.206	29.28	9.42	53.37	24.09	AV	N	Pass
4	0.440	36.91	9.95	57.06	20.15	Peak	N	Pass
4**	0.440	25.05	9.95	47.06	22.01	AV	N	Pass
5	0.542	36.12	9.79	56.00	19.88	Peak	N	Pass
5**	0.542	22.33	9.79	46.00	23.67	AV	N	Pass
6	3.920	33.97	9.41	56.00	22.03	Peak	N	Pass
6**	3.920	16.41	9.41	46.00	29.59	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	SCHWARZB ECK	NSLK 8127	8127-687	2023.05.16	2024.05.15	<input checked="" type="checkbox"/>
ISN	TESEQ	ISN T800	34449	2023.11.10	2024.11.09	<input type="checkbox"/>
ISN	TESEQ	ISN T8-Cat6	53561	2023.04.23	2024.04.22	<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-SZ2430610-AE.PDF”.

## **ANNEX C EUT EXTERNAL PHOTOS**

Please refer the document “BL-SZ2430610-AW.PDF”.

## **ANNEX D EUT INTERNAL PHOTOS**

Please refer the document “BL-SZ2430610-AI.PDF”.

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--END OF REPORT--