

TEST REPORT

Applicant: Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address: NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China
Equipment Type: Mobile Phone
Model Name: CPH2557
Brand Name: OPPO
FCC ID: R9C-AC105
Test Standard: 47 CFR Part 15 Subpart B
ANSI C63.4-2014
Sample Arrival Date: Jun. 16, 2023
Test Date: Jul. 25, 2023 - Aug. 28, 2023
Date of Issue: Sep. 06, 2023

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Zhang Guoxi

Checked by: Xia Long

Approved by: Liao Jianming
(Technical Director)

Zhang Guoxi

Xia Long

Liao Jianming

Revision History		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Sep. 06, 2023</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	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address	NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China

2.2 Manufacturer Information

Manufacturer	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address	NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	CPH2557
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	ColorOS 13.1
Dimensions (Approx.)	165.61*76.02*7.99 mm
Weight (Approx.)	193 g
EUT ID	S10, S17
IMEI Number	S10: IMEI1:862780060036633, IMEI2:862780060036625 S17: IMEI1:866401060029751, IMEI2:866401060029744

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery 1	
	Brand Name	SUPERVOOC
	Model No.	BLPA19
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/19.09Wh Typical: 5000mAh/19.55Wh
	Rated Voltage	3.91 V
	Limit Charge Voltage	4.5 V
	Manufacturer	Sunwoda Electronic Co., Ltd.
Ancillary Equipment 2	Battery 2	
	Brand Name	SUPERVOOC
	Model No.	BLPA19
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/19.09Wh Typical: 5000mAh/19.55Wh
	Rated Voltage	3.91 V
	Limited Voltage	4.5 V
	Manufacturer	TWS Technology (Guangzhou) Limited
Ancillary Equipment 3	Battery 3	
	Brand Name	SUPERVOOC
	Model No.	BLPA19
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/19.09Wh Typical: 5000mAh/19.55Wh
	Rated Voltage	3.91 V
	Limited Voltage	4.5 V
	Manufacturer	Chongqing CosMX Battery Co., Ltd.
Ancillary Equipment 4	Battery 4	
	Brand Name	SUPERVOOC
	Model No.	BLPA19
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/19.09Wh Typical: 5000mAh/19.55Wh
	Rated Voltage	3.91 V
	Limited Voltage	4.5 V
	Manufacturer	Dongguan NVT Technology Co.,Ltd
Ancillary Equipment 5	Adapter 1	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDUH (US Plug)
	Serial No.	Huntkey
	Rated Input	100-240VAC 50/60Hz 1.2A

	Rated Output	5VDC 2A or 5-11VDC 3.0A Max
Ancillary Equipment 6	Adapter 2	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDUH (US Plug)
	Serial No.	GOLDEN LAKE
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5-11VDC 3.0A Max
Ancillary Equipment 7	Adapter 3	
	Brand Name	SUPERVOOC
	Model No.	VCB3JFUH (US Plug)
	Serial No.	GOLDEN LAKE
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5-11VDC 3.0A Max
Ancillary Equipment 8	Adapter 4	
	Brand Name	SUPERVOOC
	Model No.	VCB3JFUH (US Plug)
	Serial No.	Chen yang
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5-11VDC 3.0A Max
Ancillary Equipment 3	USB Cable	
	Model No.	DL143
	Length (Approx.)	1.0 m
<p>Note 1: Letter in () means plug type.</p> <p>Note 2: All adapters are tested, only the worst data of VCB3HDUH (GOLDEN LAKE) shown in this report.</p> <p>Note 3: All batteries are tested, only the worst data of BLPA19 (Sunwoda Electronic Co., Ltd.) shown in this report.</p>		

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 SA: NR n5/n7/n38/n41/n66 NSA(EN-DC): DC_2A_n7A, DC_2A_n66A, DC_5A_n7A, DC_5A_n66A, DC_7A_5A, DC_7A_n66A, DC_12A_n66A, DC_26A_n41A, DC_66A_n5A, DC_66A_n7A, DC_66A_n41A</p> <p>Bluetooth (BR+EDR+BLE)</p> <p>2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40), VHT20/40</p> <p>5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80)</p> <p>U-NII-1/2A/2C/3, GPS, GLONASS, BDS, Galileo, SBAS, FM Receiver, 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	--

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)-3m	4.8 dB
Radiated emissions (1 GHz-18 GHz)-3m	4.9 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	<input checked="" type="checkbox"/>
Data connector	N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
USB disk	Sandisk	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Type-C Headset	OPPO	N/A	N/A	N/A	1.12M	<input checked="" type="checkbox"/>
Headset	OPPO	N/A	N/A	N/A	1.12M	<input checked="" type="checkbox"/>

4.2 Test Configurations

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

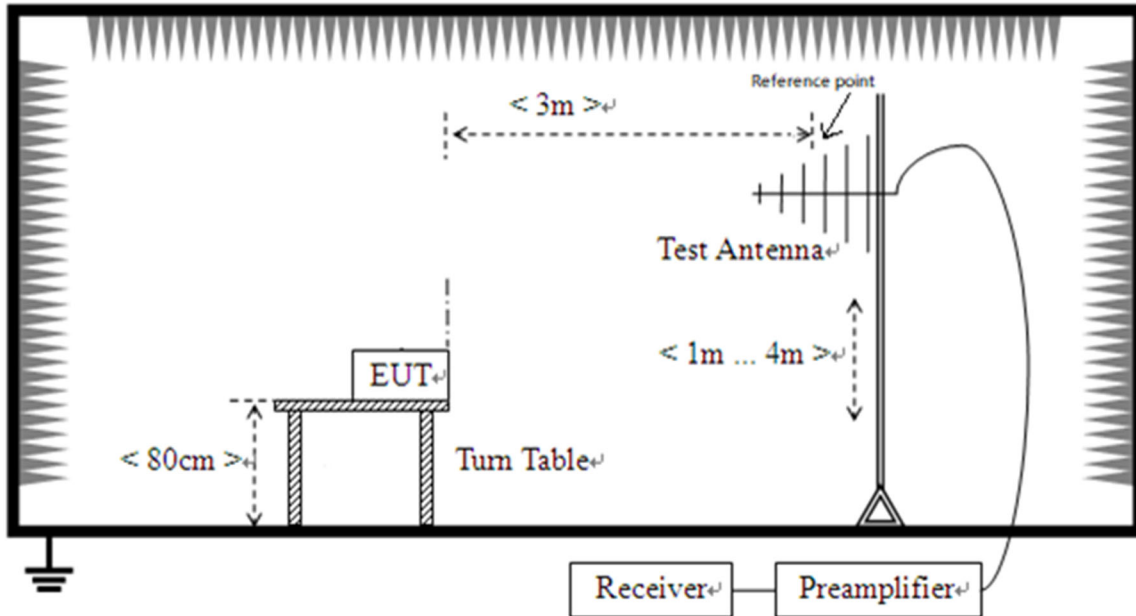
Test Mode Configuration	Description
Mode 1	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + Headset
Mode 2	<u>The Camera Test Mode</u> EUT + Adapter + USB Cable + Battery+ Headset
Mode 3	<u>The Standby Test Mode</u> EUT + Adapter + USB Cable + Battery+ Headset
Mode 4	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop+ Headset
Mode 5	<u>The OTG Test Mode</u> EUT + Battery + Data connector + USB Disk + Headset
Mode 6	<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 6	1, 4
Conducted Emission, AC Ports	Mode 1~Mode 4	1, 4

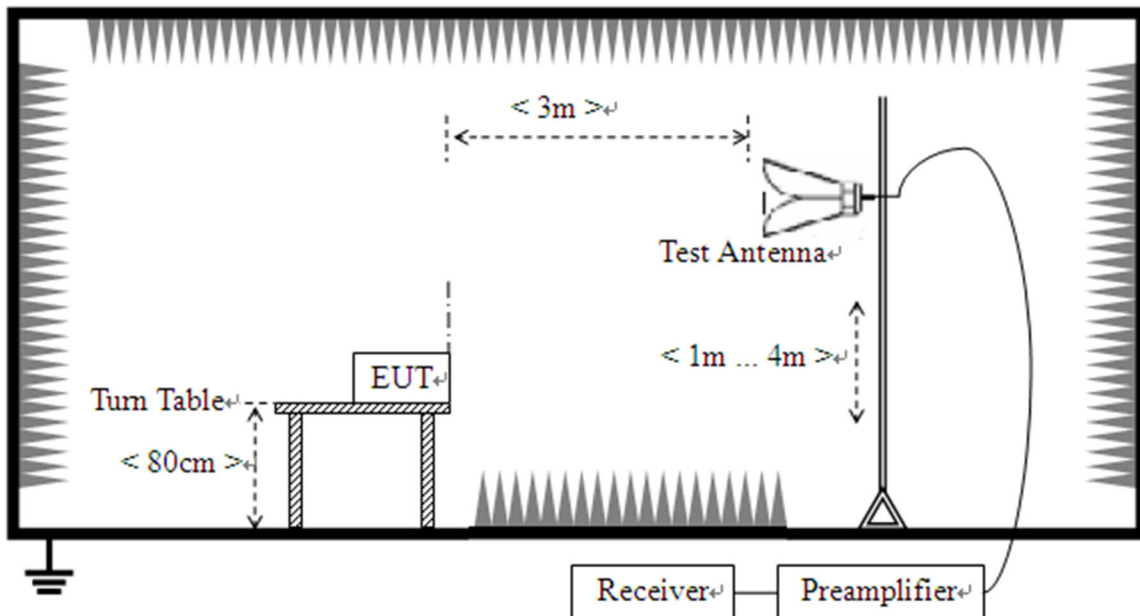
Note: Based on client request, all normal using modes of the normal function were tested, but only the worst test data of test mode is reported in this report.

4.3 Test Setups

Test Setup 1

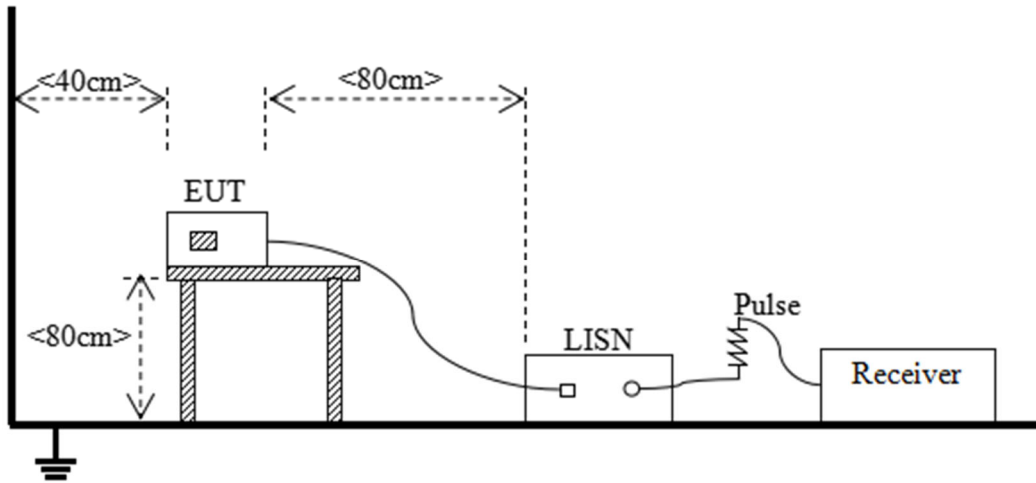


Radiated Emission (30 MHz-1 GHz)



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

Highest internal frequency (F _x)	Highest measurement frequency (F _M)
F _x ≥ 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 to test setup 2) 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 ≥ 1 GHz, 100 kHz for f < 1 GHz

VBW ≥ RBW

Sweep = auto

Detector function = peak for f < 1 GHz, peak & RMS Average for f ≥ 1 GHz

Trace = max hold

5.1.1.4 Test Result and Test Equipment List

Please refer to ANNEX A.1.

NOTE:

1. Results (dBμV/m) = Reading (dBμV/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 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 3) 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.

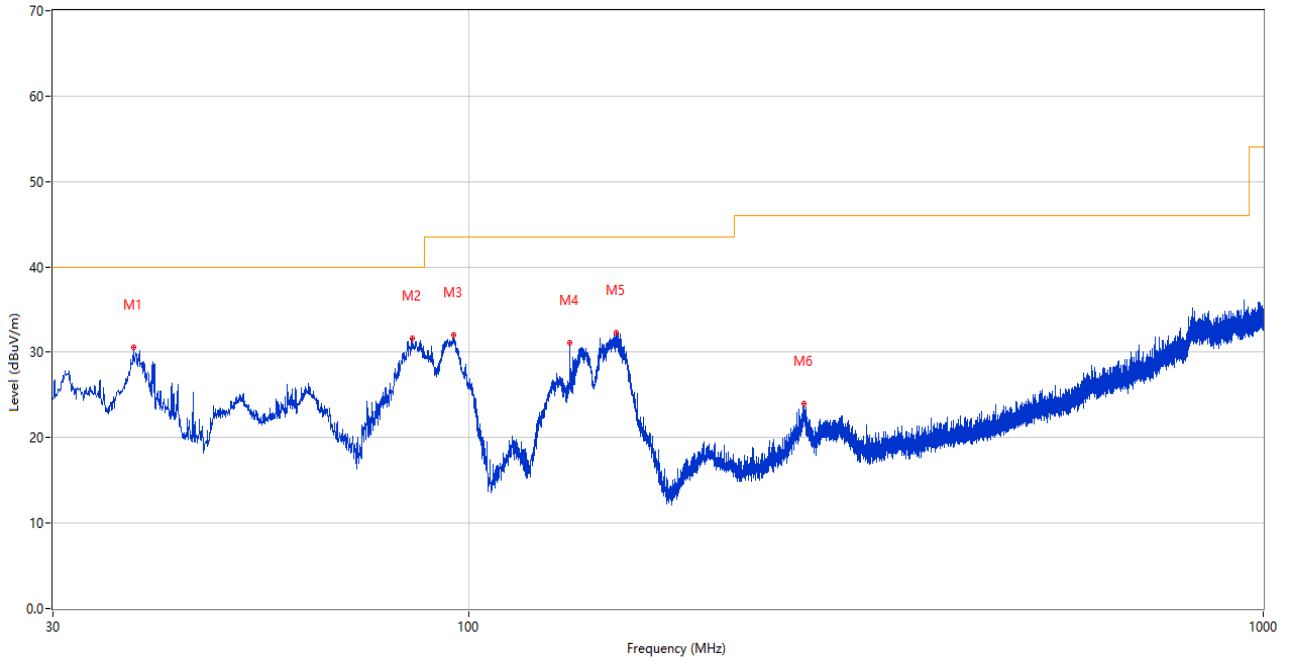
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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.	S17	Temperature	23.4°C
Humidity	54%RH	Pressure	101kPa
Test Engineer	He Shichang	Test Date	2023.6.25

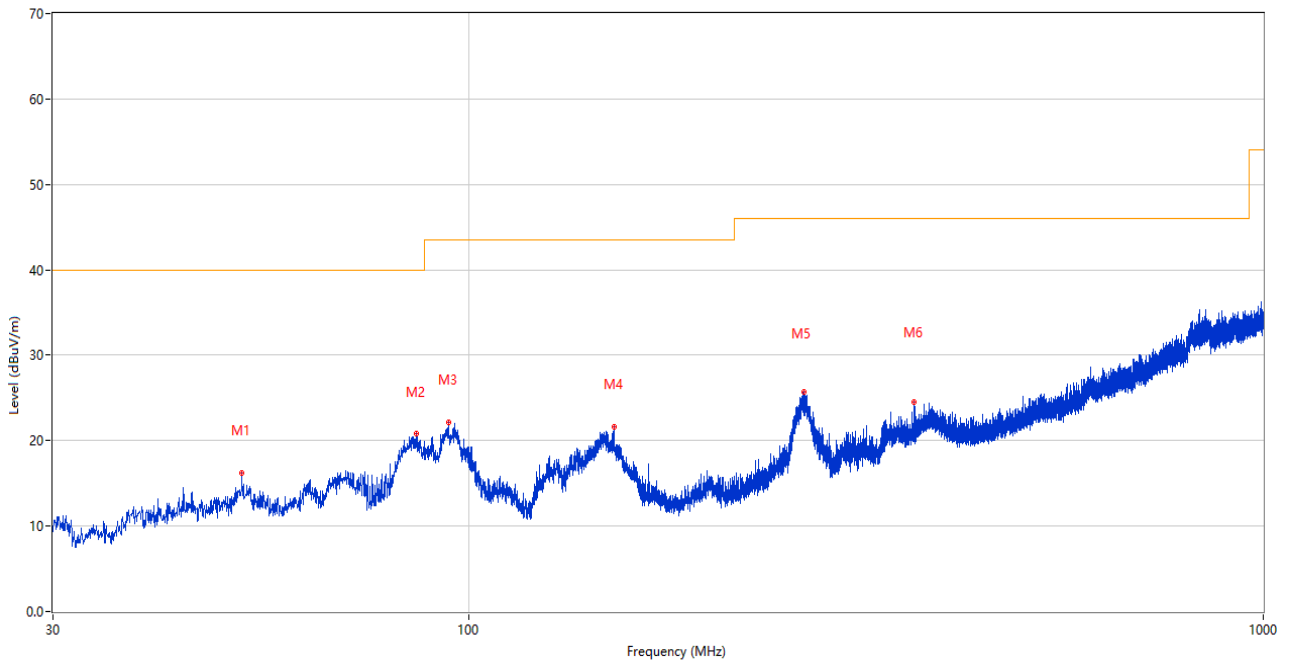
The Video Play Test Mode

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	37.857	30.64	-26.24	40.0	9.36	Peak	249.00	100	Vertical	Pass
2	84.854	31.65	-28.59	40.0	8.35	Peak	237.00	100	Vertical	Pass
3	95.911	32.05	-25.90	43.5	11.45	Peak	331.00	100	Vertical	Pass
4	134.226	31.15	-28.23	43.5	12.35	Peak	249.00	100	Vertical	Pass
5	153.432	32.30	-28.08	43.5	11.20	Peak	1.00	100	Vertical	Pass
6	264.013	23.94	-21.88	46.0	22.06	Peak	356.00	100	Vertical	Pass

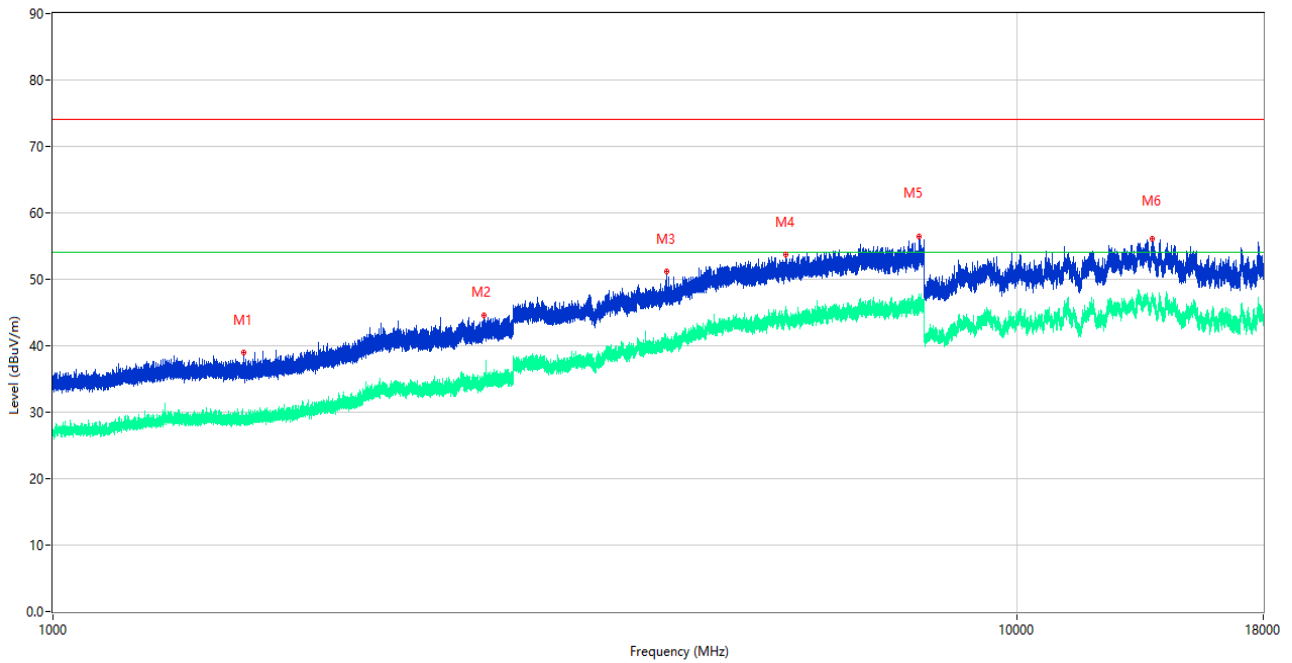
2) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	51.825	16.21	-24.35	40.0	23.79	Peak	287.00	100	Horizontal	Pass
2	85.921	20.76	-28.31	40.0	19.24	Peak	215.00	200	Horizontal	Pass
3	94.311	22.19	-26.18	43.5	21.31	Peak	218.00	200	Horizontal	Pass
4	152.559	21.57	-28.07	43.5	21.93	Peak	4.00	100	Horizontal	Pass
5	264.255	25.68	-21.89	46.0	20.32	Peak	218.00	100	Horizontal	Pass
6	364.019	24.54	-18.71	46.0	21.46	Peak	54.00	100	Horizontal	Pass

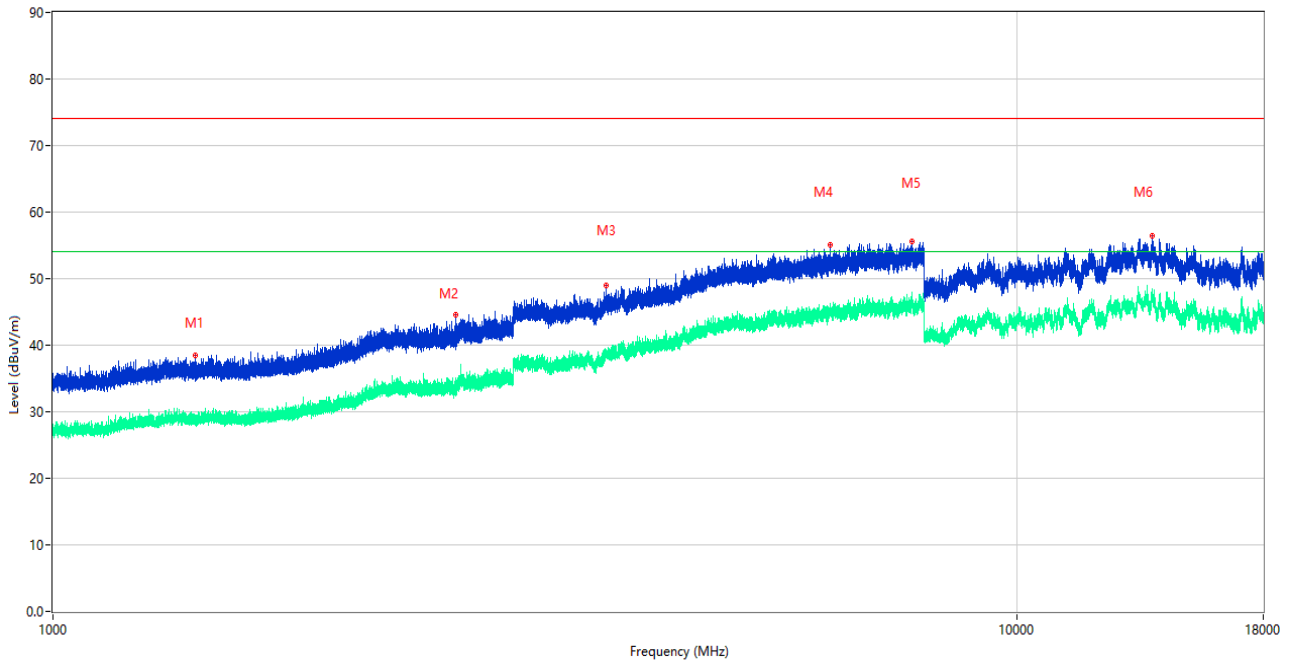
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2022.09.09	2023.09.08	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2022.12.07	2023.12.06	<input checked="" 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	1576.800	38.91	-16.69	74.0	35.09	Peak	344.00	100	Vertical	Pass
1**	1576.800	28.80	-16.69	54.0	25.20	AV	344.00	100	Vertical	Pass
2	2802.300	44.51	-8.80	74.0	29.49	Peak	102.00	100	Vertical	Pass
2**	2802.300	34.88	-8.80	54.0	19.12	AV	102.00	100	Vertical	Pass
3	4331.250	51.16	-2.03	74.0	22.84	Peak	227.00	100	Vertical	Pass
3**	4331.250	40.11	-2.03	54.0	13.89	AV	227.00	100	Vertical	Pass
4	5757.250	53.70	1.34	74.0	20.30	Peak	45.00	100	Vertical	Pass
4**	5757.250	44.18	1.34	54.0	9.82	AV	45.00	100	Vertical	Pass
5	7918.000	56.37	2.91	74.0	17.63	Peak	333.00	100	Vertical	Pass
5**	7918.000	47.85	2.91	54.0	6.15	AV	333.00	100	Vertical	Pass
6	13799.999	56.14	5.81	74.0	17.86	Peak	0.00	100	Vertical	Pass
6**	13799.999	47.45	5.81	54.0	6.55	AV	0.00	100	Vertical	Pass

4) Test Antenna Horizontal, 1 GHz – 6 GHz

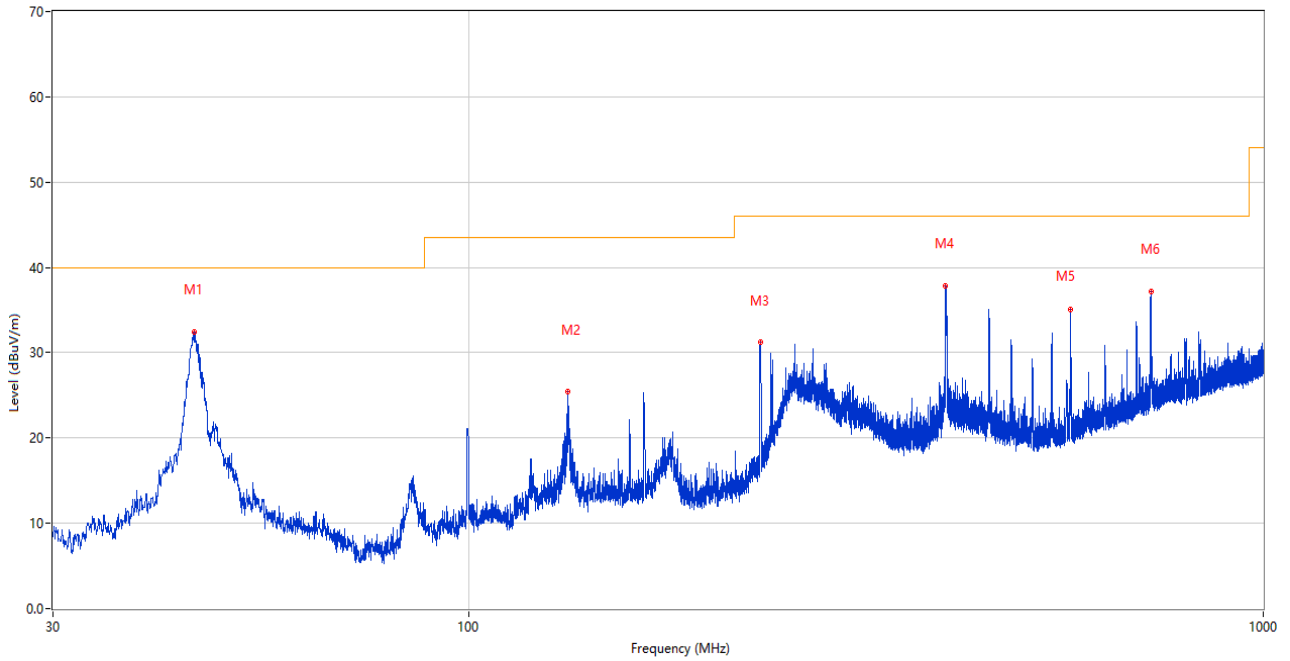


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1404.300	38.39	-16.53	74.0	35.61	Peak	145.00	100	Horizontal	Pass
1**	1404.300	28.68	-16.53	54.0	25.32	AV	145.00	100	Horizontal	Pass
2	2618.100	44.57	-10.72	74.0	29.43	Peak	324.00	100	Horizontal	Pass
2**	2618.100	32.95	-10.72	54.0	21.05	AV	324.00	100	Horizontal	Pass
3	3743.500	48.92	-3.14	74.0	25.08	Peak	153.00	100	Horizontal	Pass
3**	3743.500	38.40	-3.14	54.0	15.60	AV	153.00	100	Horizontal	Pass
4	6395.000	55.03	1.89	74.0	18.97	Peak	337.00	100	Horizontal	Pass
4**	6395.000	45.12	1.89	54.0	8.88	AV	337.00	100	Horizontal	Pass
5	7777.500	55.60	3.21	74.0	18.40	Peak	1.00	100	Horizontal	Pass
5**	7777.500	47.11	3.21	54.0	6.89	AV	1.00	100	Horizontal	Pass
6	13816.001	56.36	5.61	74.0	17.64	Peak	0.00	100	Horizontal	Pass
6**	13816.001	47.17	5.61	54.0	6.83	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	2022.09.09	2023.09.08	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2022.12.07	2023.12.06	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2022.12.07	2023.12.06	<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"/>

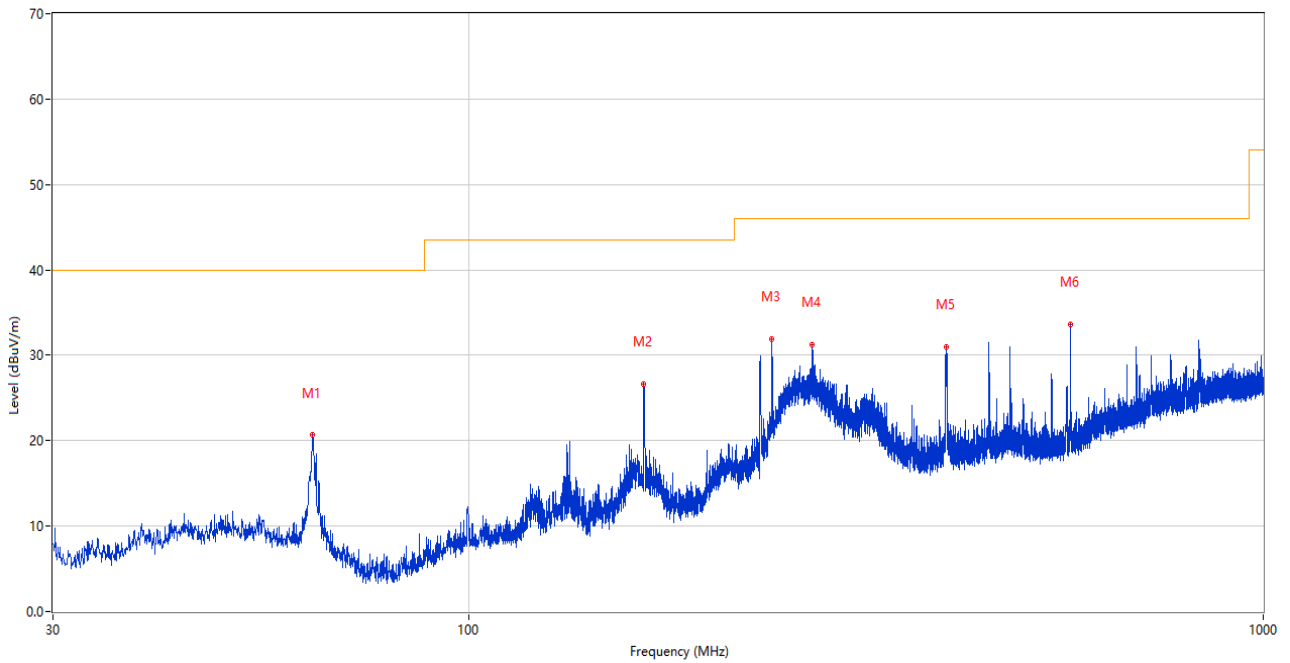
The USB Test Mode

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	45.229	32.47	-25.52	40.0	7.53	Peak	72.00	100	Vertical	Pass
2	133.257	25.48	-30.00	43.5	18.02	Peak	270.00	200	Vertical	Pass
3	233.215	31.18	-25.44	46.0	14.82	Peak	127.00	200	Vertical	Pass
4	398.600	37.83	-21.01	46.0	8.17	Peak	84.00	100	Vertical	Pass
5	572.375	35.01	-16.98	46.0	10.99	Peak	88.00	100	Vertical	Pass
6	722.871	37.18	-13.48	46.0	8.82	Peak	127.00	200	Vertical	Pass

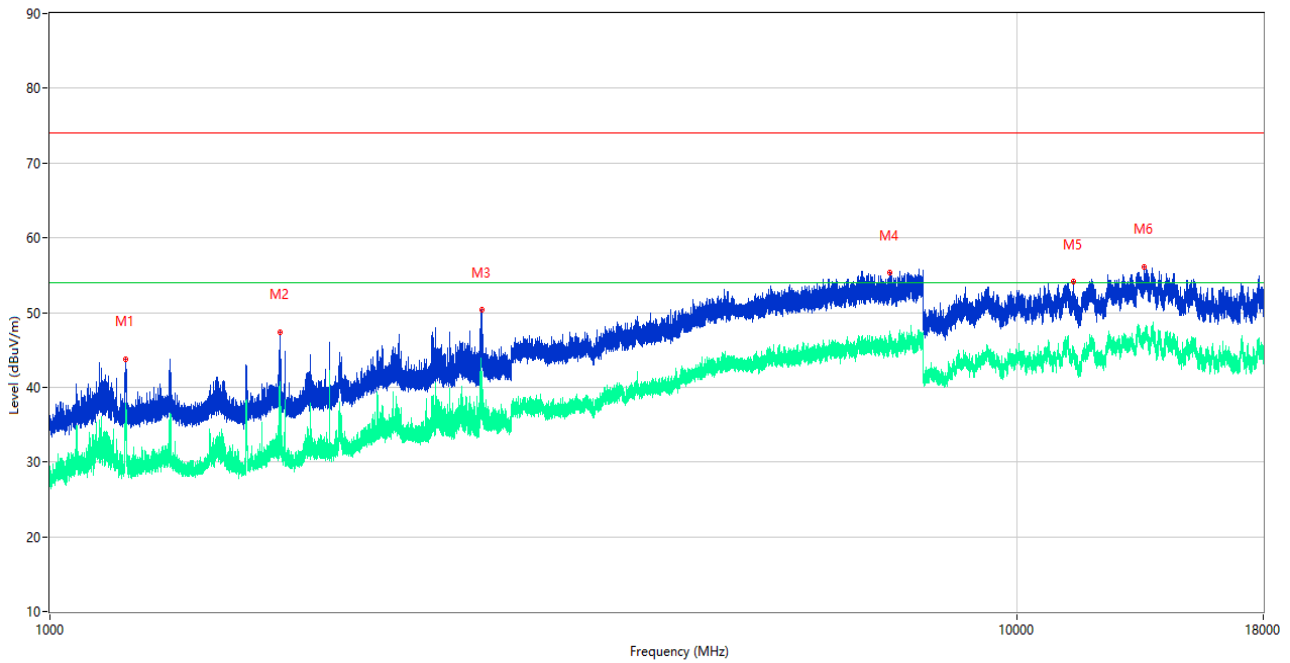
6) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	63.611	20.63	-27.22	40.0	19.37	Peak	315.00	200	Horizontal	Pass
2	166.139	26.67	-29.30	43.5	16.83	Peak	136.00	200	Horizontal	Pass
3	240.975	31.92	-25.08	46.0	14.08	Peak	125.00	100	Horizontal	Pass
4	270.948	31.22	-24.40	46.0	14.78	Peak	219.00	100	Horizontal	Pass
5	398.649	31.01	-21.00	46.0	14.99	Peak	97.00	100	Horizontal	Pass
6	572.133	33.57	-16.98	46.0	12.43	Peak	221.00	200	Horizontal	Pass

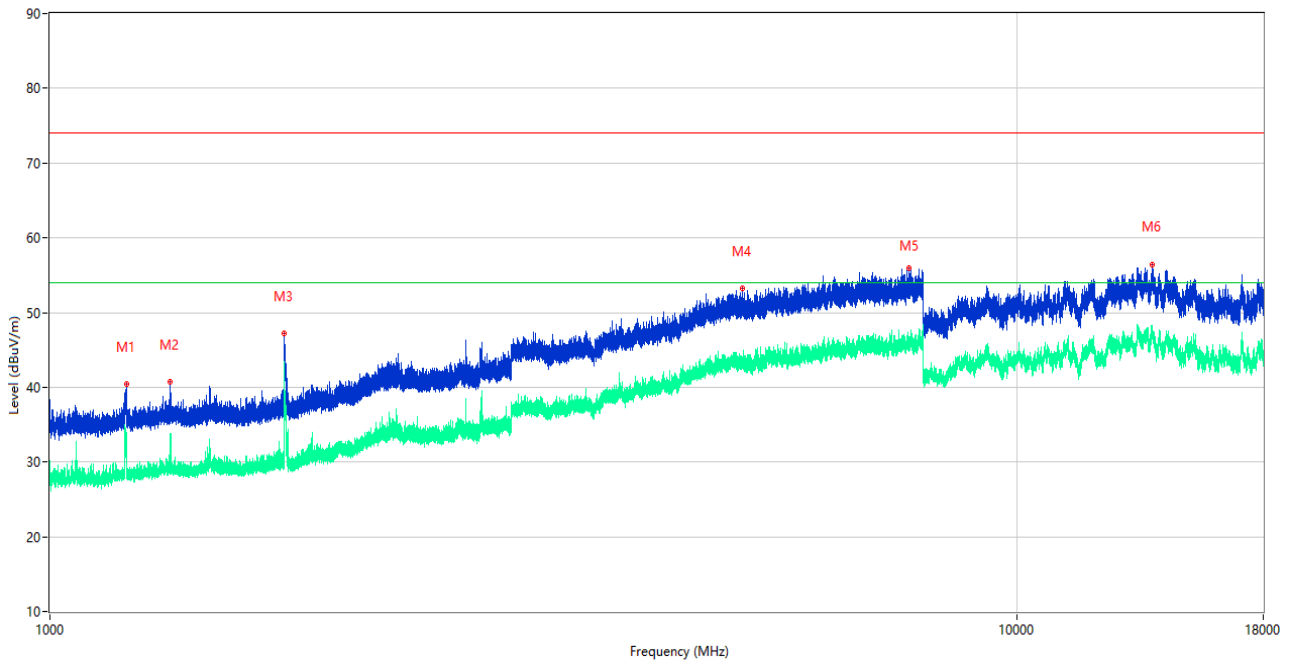
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2022.09.09	2023.09.08	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2022.12.07	2023.12.06	<input checked="" 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	1197.300	43.79	-17.35	74.0	30.21	Peak	226.00	100	Vertical	Pass
1**	1197.300	37.53	-17.35	54.0	16.47	AV	226.00	100	Vertical	Pass
2	1728.300	47.41	-16.48	74.0	26.59	Peak	195.00	100	Vertical	Pass
2**	1728.300	34.57	-16.48	54.0	19.43	AV	195.00	100	Vertical	Pass
3	2795.700	50.42	-8.92	74.0	23.58	Peak	151.00	100	Vertical	Pass
3**	2795.700	39.96	-8.92	54.0	14.04	AV	151.00	100	Vertical	Pass
4	7392.000	55.29	2.40	74.0	18.71	Peak	340.00	100	Vertical	Pass
4**	7392.000	45.61	2.40	54.0	8.39	AV	340.00	100	Vertical	Pass
5	11451.500	54.12	1.58	74.0	19.88	Peak	228.00	100	Vertical	Pass
5**	11451.500	44.67	1.58	54.0	9.33	AV	228.00	100	Vertical	Pass
6	13547.000	56.17	4.68	74.0	17.83	Peak	349.00	100	Vertical	Pass
6**	13547.000	46.74	4.68	54.0	7.26	AV	349.00	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	1199.100	40.41	-17.32	74.0	33.59	Peak	247.00	100	Horizontal	Pass
1**	1199.100	32.70	-17.32	54.0	21.30	AV	247.00	100	Horizontal	Pass
2	1332.400	40.71	-16.73	74.0	33.29	Peak	153.00	100	Horizontal	Pass
2**	1332.400	29.70	-16.73	54.0	24.30	AV	153.00	100	Horizontal	Pass
3	1747.000	47.23	-16.30	74.0	26.77	Peak	283.00	100	Horizontal	Pass
3**	1747.000	40.87	-16.30	54.0	13.13	AV	283.00	100	Horizontal	Pass
4	5209.750	53.19	0.29	74.0	20.81	Peak	115.00	100	Horizontal	Pass
4**	5209.750	43.24	0.29	54.0	10.76	AV	115.00	100	Horizontal	Pass
5	7734.250	55.91	2.25	74.0	18.09	Peak	0.00	100	Horizontal	Pass
5**	7734.250	46.01	2.25	54.0	7.99	AV	0.00	100	Horizontal	Pass
6	13812.000	56.40	5.66	74.0	17.60	Peak	160.00	100	Horizontal	Pass
6**	13812.000	47.15	5.66	54.0	6.85	AV	160.00	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	2022.09.09	2023.09.08	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2022.12.07	2023.12.06	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2022.12.07	2023.12.06	<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"/>

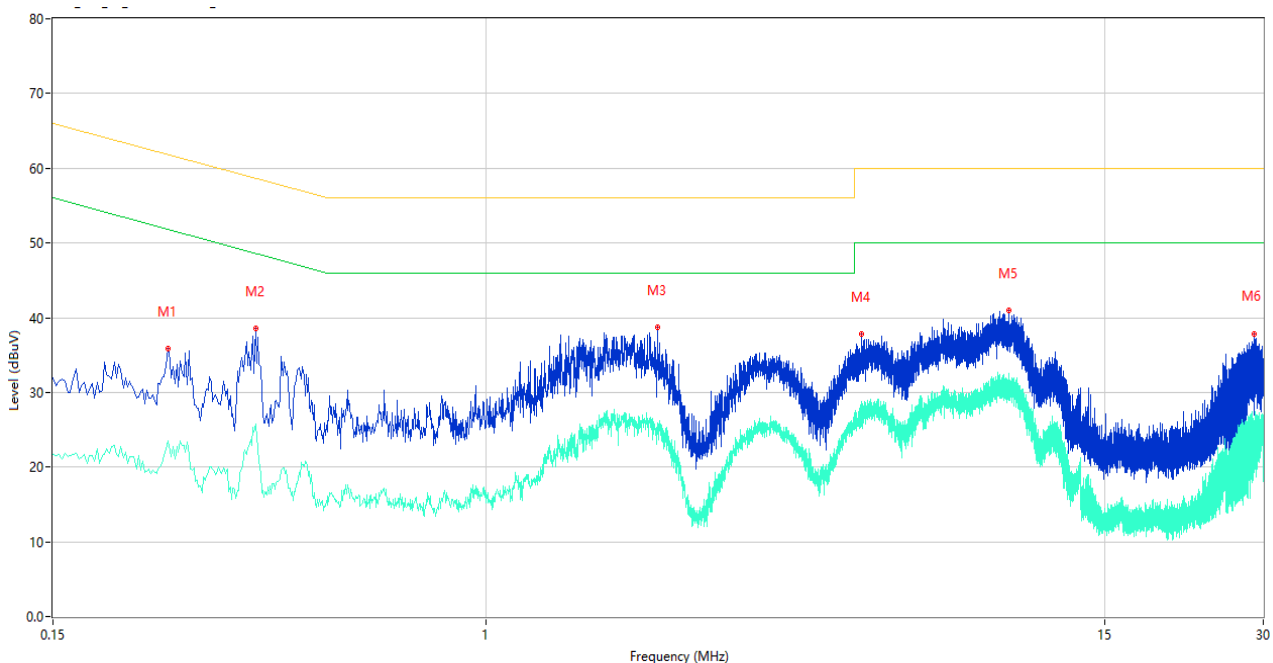
A.2 Conducted Emission, AC Ports

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 (120 VAC, 60 Hz) shown here.

Sample No.	S10	Temperature	24.3°C
Humidity	59%RH	Pressure	101kPa
Test Engineer	Yang yang	Test Date	2023.7.5

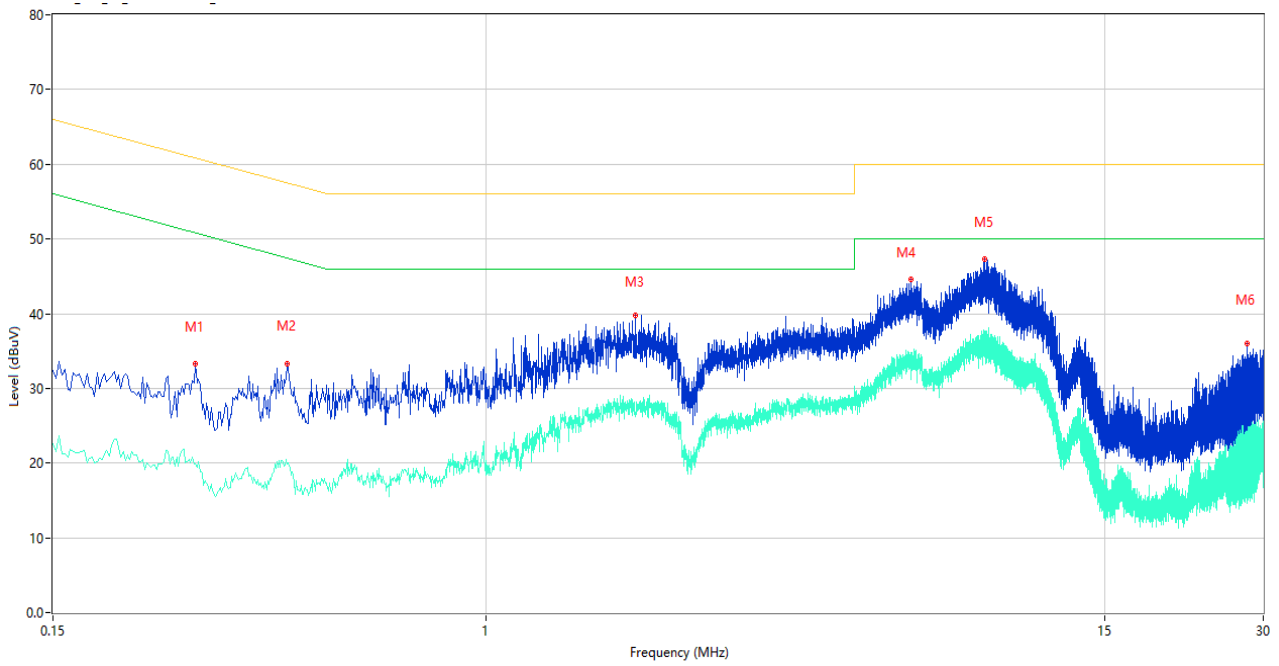
The Video Play Test Mode

1) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.248	35.84	9.79	61.82	25.98	Peak	L	Pass
1**	0.248	23.57	9.79	51.82	28.25	AV	L	Pass
2	0.364	38.55	9.89	58.64	20.09	Peak	L	Pass
2**	0.364	25.78	9.89	48.64	22.86	AV	L	Pass
3	2.116	38.74	10.18	56.00	17.26	Peak	L	Pass
3**	2.116	25.35	10.18	46.00	20.65	AV	L	Pass
4	5.168	37.76	10.32	60.00	22.24	Peak	L	Pass
4**	5.168	27.51	10.32	50.00	22.49	AV	L	Pass
5	9.834	40.99	10.48	60.00	19.01	Peak	L	Pass
5**	9.834	32.60	10.48	50.00	17.40	AV	L	Pass
6	28.814	37.89	10.75	60.00	22.11	Peak	L	Pass
6**	28.814	21.46	10.75	50.00	28.54	AV	L	Pass

2) AC Ports - N Phase

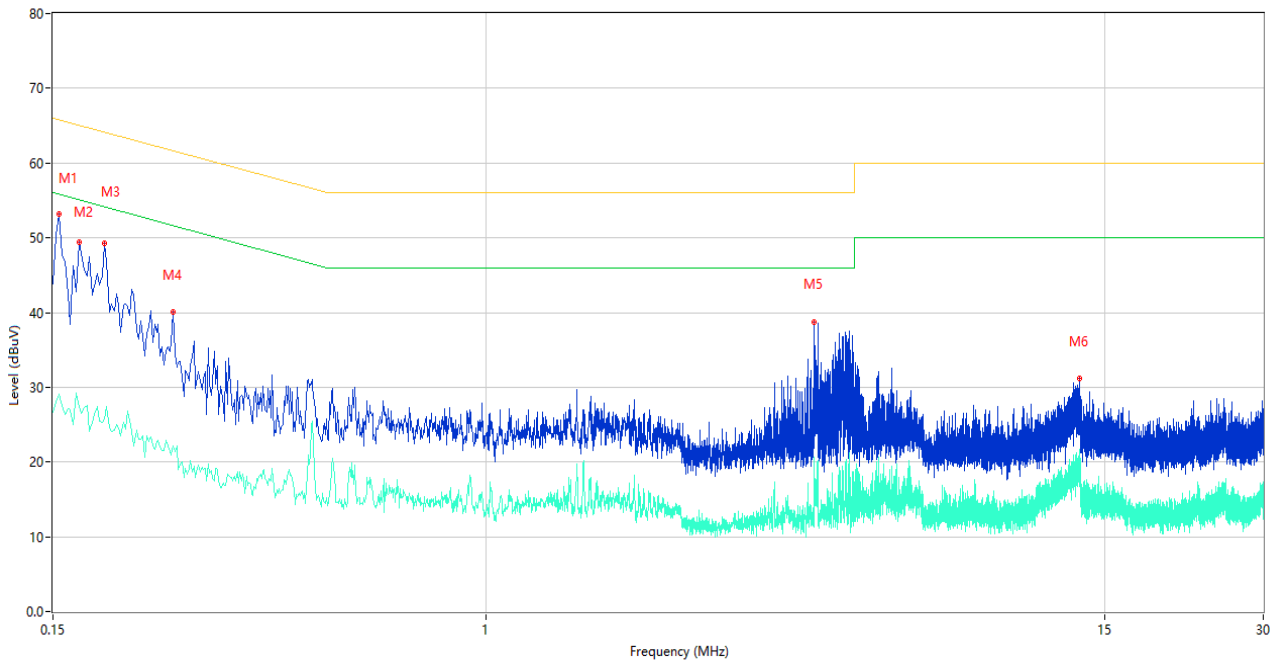


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.280	33.28	9.80	60.82	27.54	Peak	N	Pass
1**	0.280	19.83	9.80	50.82	30.99	AV	N	Pass
2	0.418	33.35	10.36	57.49	24.14	Peak	N	Pass
2**	0.418	19.89	10.36	47.49	27.60	AV	N	Pass
3	1.922	39.77	9.96	56.00	16.23	Peak	N	Pass
3**	1.922	26.77	9.96	46.00	19.23	AV	N	Pass
4	6.420	44.65	10.42	60.00	15.35	Peak	N	Pass
4**	6.420	34.51	10.42	50.00	15.49	AV	N	Pass
5	8.852	47.25	10.40	60.00	12.75	Peak	N	Pass
5**	8.852	37.69	10.40	50.00	12.31	AV	N	Pass
6	27.964	36.08	10.99	60.00	23.92	Peak	N	Pass
6**	27.964	22.86	10.99	50.00	27.14	AV	N	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2022.09.09	2023.09.08	<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	2022.11.11	2023.11.10	<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"/>

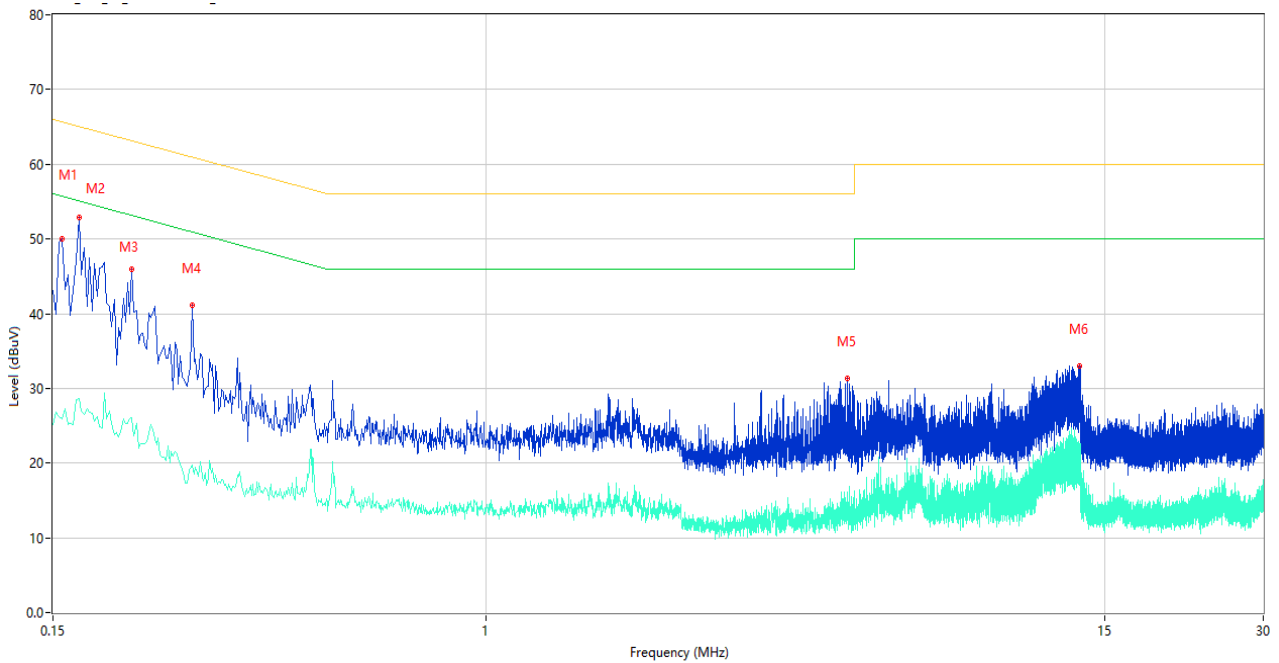
The USB Test Mode

3) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	53.24	9.84	65.78	12.54	Peak	L	Pass
1**	0.154	29.04	9.84	55.78	26.74	AV	L	Pass
2	0.168	49.41	9.82	65.06	15.65	Peak	L	Pass
2**	0.168	27.37	9.82	55.06	27.69	AV	L	Pass
3	0.188	49.19	9.79	64.12	14.93	Peak	L	Pass
3**	0.188	25.71	9.79	54.12	28.41	AV	L	Pass
4	0.254	40.07	9.79	61.63	21.56	Peak	L	Pass
4**	0.254	22.09	9.79	51.63	29.54	AV	L	Pass
5	4.202	38.79	9.95	56.00	17.21	Peak	L	Pass
5**	4.202	16.85	9.95	46.00	29.15	AV	L	Pass
6	13.424	31.20	10.51	60.00	28.80	Peak	L	Pass
6**	13.424	21.63	10.51	50.00	28.37	AV	L	Pass

4) AC Ports - N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.156	50.03	9.83	65.67	15.64	Peak	N	Pass
1**	0.156	25.92	9.83	55.67	29.75	AV	N	Pass
2	0.168	52.93	9.82	65.06	12.13	Peak	N	Pass
2**	0.168	28.62	9.82	55.06	26.44	AV	N	Pass
3	0.212	46.02	9.78	63.13	17.11	Peak	N	Pass
3**	0.212	26.00	9.78	53.13	27.13	AV	N	Pass
4	0.276	41.17	9.80	60.94	19.77	Peak	N	Pass
4**	0.276	19.79	9.80	50.94	31.15	AV	N	Pass
5	4.860	31.36	10.28	56.00	24.64	Peak	N	Pass
5**	4.860	14.37	10.28	46.00	31.63	AV	N	Pass
6	13.416	33.01	10.52	60.00	26.99	Peak	N	Pass
6**	13.416	21.31	10.52	50.00	28.69	AV	N	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2022.09.09	2023.09.08	<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	2022.11.11	2023.11.10	<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-SZ2360554-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2360554-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2360554-AI.PDF”.

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--END OF REPORT--