

TEST REPORT

Applicant: Shanghai Xiangcheng Communication Technology Co., Ltd
Address: 6th Floor, Building 10, No.3000, Longdong Avenue, Pudong New District, Shanghai, China
Equipment Type: Portable Data Collection Terminal
Model Name: D300
Brand Name: Kobile, Shop2shop, moniepoint, Dejavoo, i-POSPay, WIRELESS& MOBILE, Positivo, IStapel, Kripto, Nextpay
Test Standard: 47 CFR Part 15 Subpart B
ANSI C63.4-2014
Sample Arrival Date: Nov. 07, 2023
Test Date: Nov. 14, 2023 - Nov. 15, 2023
Date of Issue: Feb. 28, 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

Revision History		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Feb. 20, 2024</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Feb. 28, 2024</u>	<u>1. Update the information of the applicant and manufacturer.</u> <u>2. Update the information of software and hardware.</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	Shanghai Xiangcheng Communication Technology Co., Ltd
Address	6th Floor, Building 10, No.3000, Longdong Avenue, Pudong New District, Shanghai, China

2.2 Manufacturer Information

Manufacturer	Shanghai Xiangcheng Communication Technology Co., Ltd
Address	6th Floor, Building 10, No.3000, Longdong Avenue, Pudong New District, Shanghai, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Portable Data Collection Terminal
Model Name Under Test	D300
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	P1311_MAIN_PCB_V1.0B
Software Version	P1311_KOZEN_A1B1_20231110
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	F50051MA
	Serial No.	N/A
	Capacitance	Rated: 4900mAh/18.62Wh Typical: 5000mAh/19.00Wh
	Rated Voltage	3.80 V
	Limit Charge Voltage	4.35 V
	Manufacturer	Guangdong Fenghua New Energy Co., Ltd.
Ancillary Equipment 2	Adapter	
	Brand Name	N/A
	Model No.	LM-202U-052200U01FCC
	Serial No.	N/A
	Rated Input	100-240V~, 50/60Hz, 3.5A

	Rated Output	5.0V= 2.0A
	Manufacturer	Chongqing Lianmao Electronic Co., LTD
Ancillary Equipment 3	USB Cable	
	Model No.	N/A
	Length (Approx.)	1.0 m

2.5 Technical Information

Network and Wireless connectivity	<p>2G Network GSM/GPRS/EDGE 850/900/1800 MHz</p> <p>3G Network WCDMA/HSDPA/HSUPA/HSPA+ Band 1/2/4/5/8</p> <p>4G Network FDD LTE Band 1/3/4/7/12/17/25/26/28</p> <p style="padding-left: 40px;">TDD LTE Band 38/41</p> <p>Bluetooth 5.1 (BR+EDR+BLE)</p> <p>2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40)</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, BeiDou Galileo, 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)-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"/>
SD Card	N/A	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.

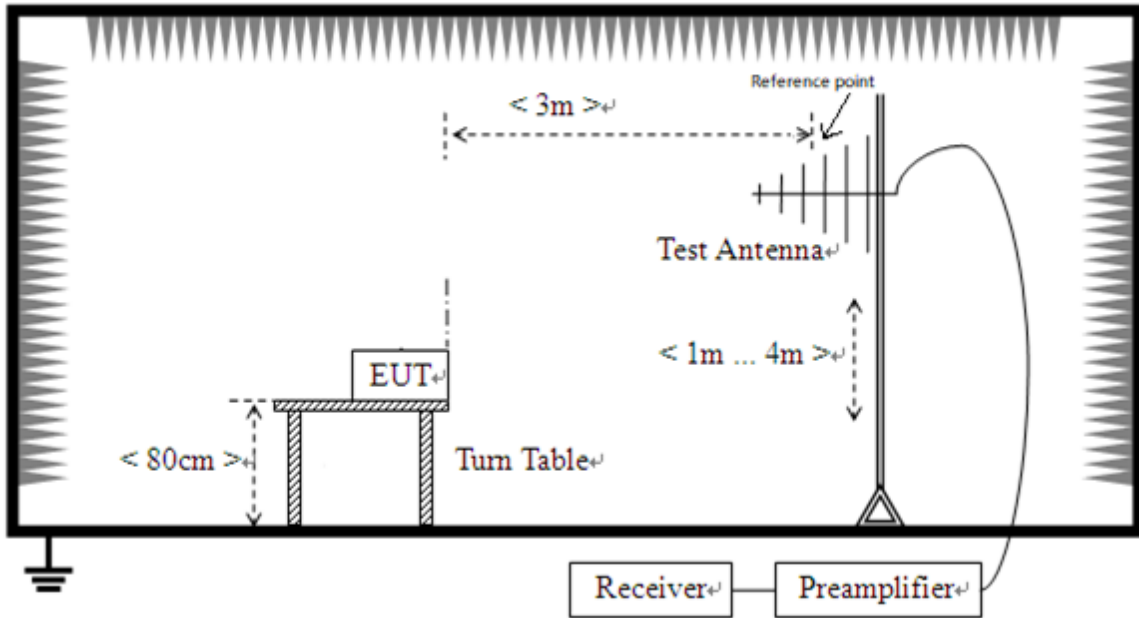
Test Mode Configuration	Description
Mode 1	<u>The Charging Test Mode</u> EUT + Adapter + USB Cable + Battery
Mode 2	<u>The Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card
Mode 3	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card
Mode 4	<u>The USB Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card
Mode 5	<u>The GSM 850 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card + GSM 850 RX
Mode 6	<u>The WCDMA Band 5 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card + WCDMA Band 5 RX
Mode 7	<u>The FDD LTE Band 12 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card + LTE Band 12 RX
Mode 8	<u>The FDD LTE Band 17 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card + LTE Band 17 RX
Mode 9	<u>The FDD LTE Band 26 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card + LTE Band 26 RX
Mode 10	<u>The FDD LTE Band 28 RX Test Mode</u> EUT + Adapter + USB Cable + Battery + SD Card + LTE Band 28 RX

Test Case	Test Mode Configuration	Worst Mode
Radiated Emission	Mode 1~Mode 10	1, 4
Conducted Emission, AC Ports	Mode 1~Mode 10	1, 4

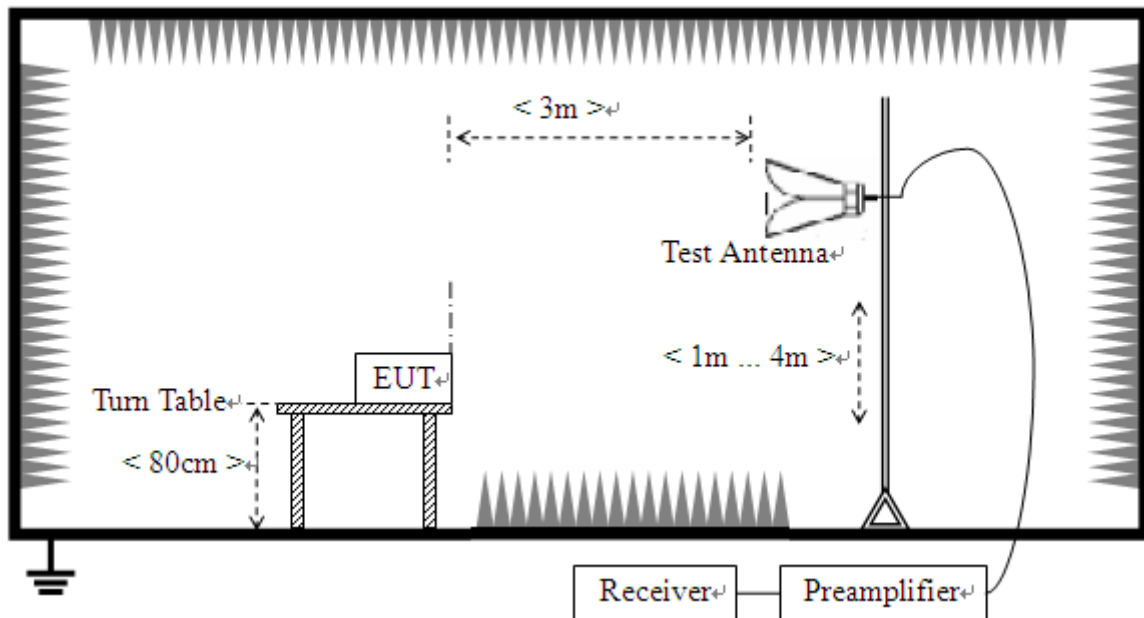
Note: Based on client request, all normal using modes of the normal function were tested, but only data of the worst mode was reported in this report.

4.3 Test Setups

Test Setup 1

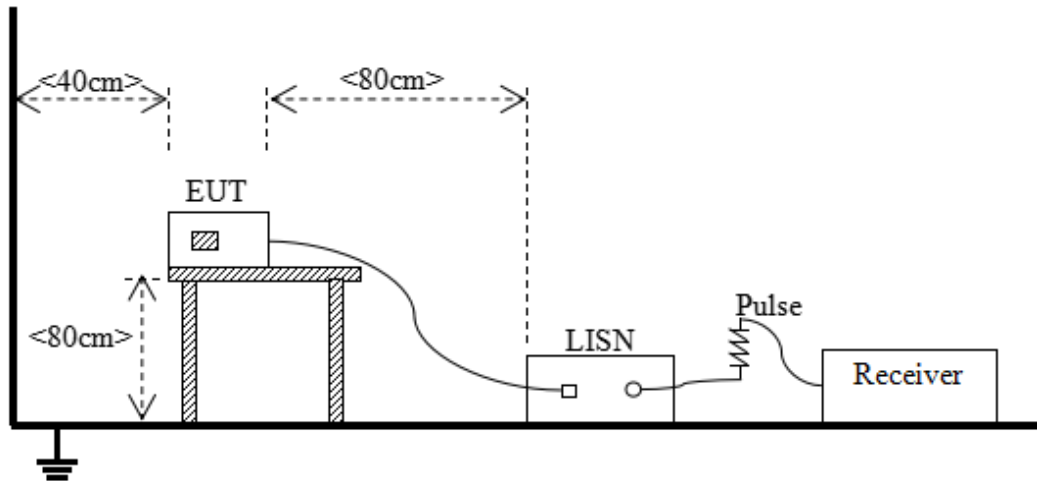


Radiated Emission (30 MHz-1 GHz)



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 ($\text{dB}\mu\text{V/m}$)	Field Strength ($\text{dB}\mu\text{V/m}$)
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 ($\text{dB}\mu\text{V/m}$) = $20 \cdot \log$ [Field Strength ($\mu\text{V/m}$)].
- 2) In the emission tables above, the tighter limit applies at the band edges.
- 3) 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 ($\text{dB}\mu\text{V/m}$)	Field Strength Peak ($\text{dB}\mu\text{V/m}$)	Field Strength Average ($\text{dB}\mu\text{V/m}$)	Field Strength Peak ($\text{dB}\mu\text{V/m}$)
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: $L_{3m} = 49.5 + 20 \cdot \log(10/3) = 60$ ($\text{dB}\mu\text{V/m}$).

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/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. Over limit = Results – Limit.

5.1.2 Conducted Emission, AC Ports

5.1.2.1 Test Limit

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

Frequency range (MHz)	Class B	
	Quasi-peak (dBµV)	Average (dBµV)
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 µH 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 ≥ 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. Over limit = Results – Limit.

ANNEX A TEST RESULTS

A.1 Radiated Emission

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

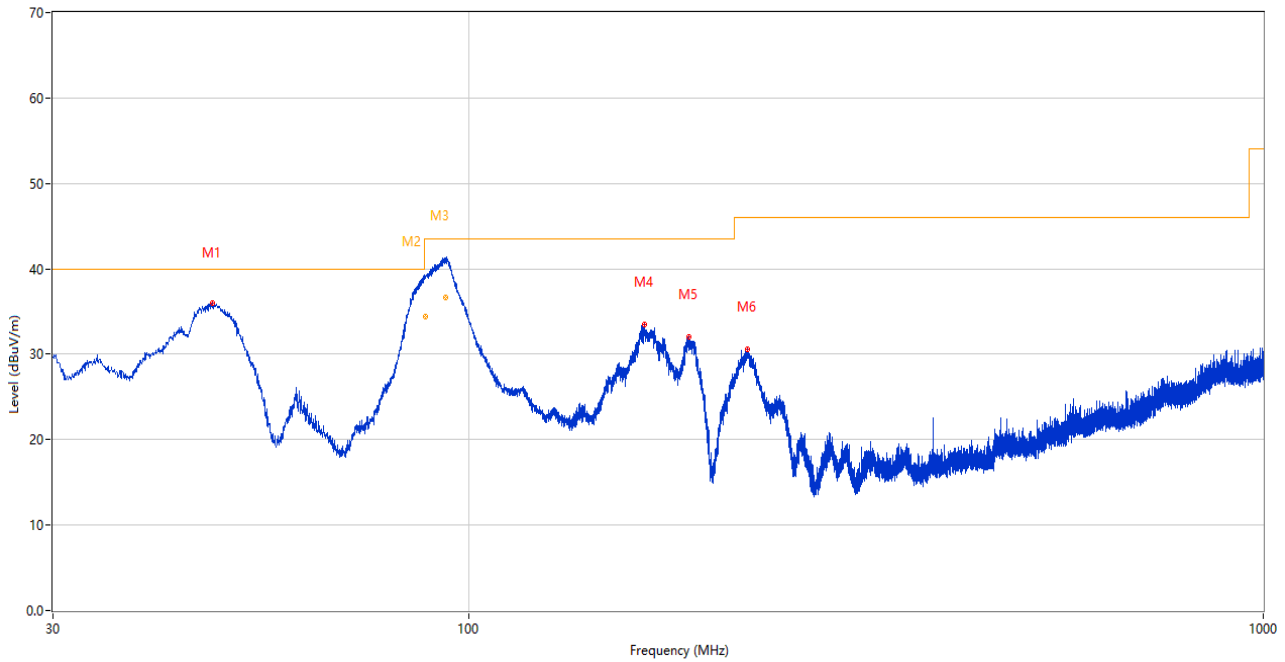
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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.	S02	Temperature	25.3°C
Humidity	44%RH	Pressure	101kPa
Test Engineer	He Shichang	Test Date	2023.11.14

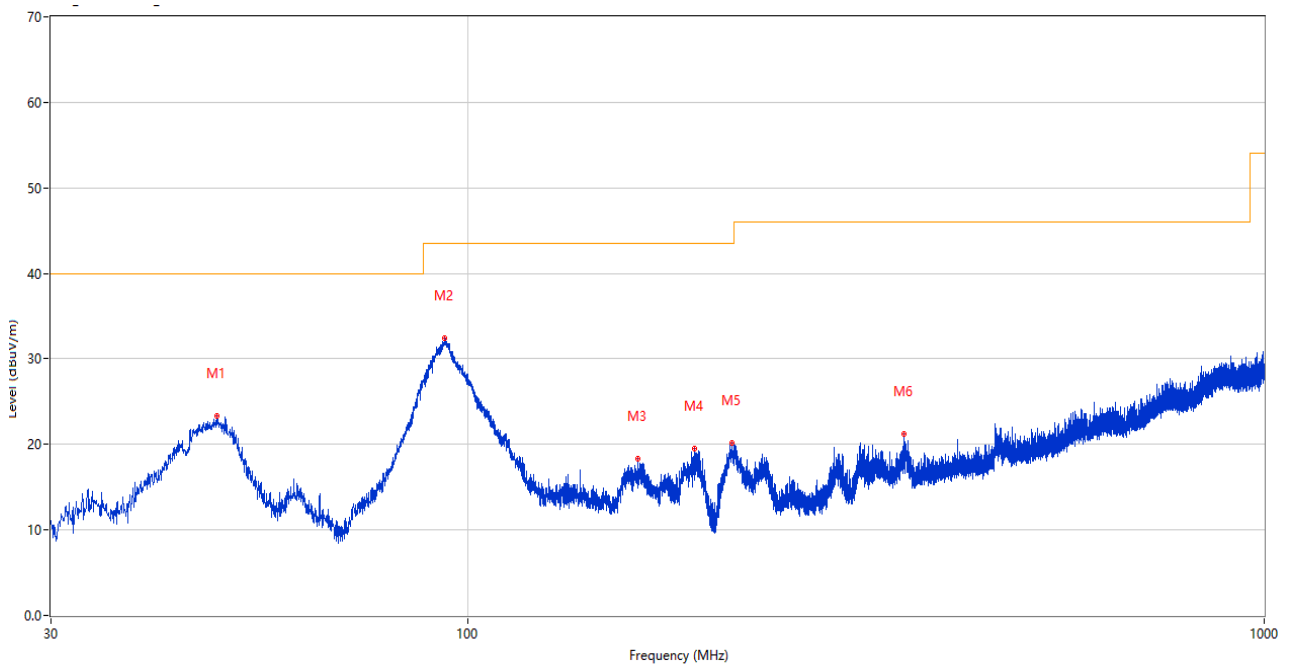
Test Mode 1

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	47.557	35.94	-25.38	40.0	4.06	Peak	242.00	100	Vertical	Pass
2	88.262	37.41	-29.82	40.0	2.59	Peak	89.00	101	Vertical	N/A
2*	88.262	34.40	-29.82	40.0	5.60	QP	89.00	101	Vertical	Pass
3	93.487	39.23	-27.74	43.5	4.27	Peak	86.00	102	Vertical	N/A
3*	93.487	36.60	-27.74	43.5	6.90	QP	86.00	102	Vertical	Pass
4	166.479	33.48	-29.18	43.5	10.02	Peak	244.00	100	Vertical	Pass
5	189.322	32.10	-27.11	43.5	11.40	Peak	222.00	100	Vertical	Pass
6	224.582	30.59	-25.56	46.0	15.41	Peak	226.00	100	Vertical	Pass

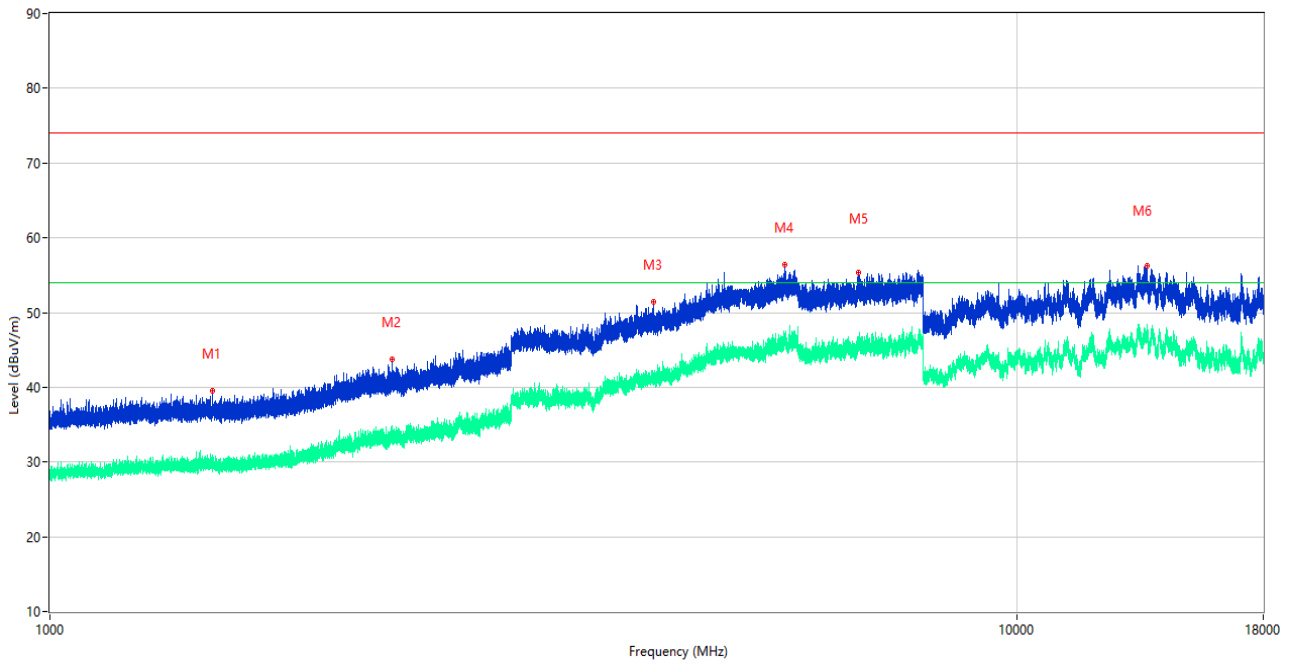
2) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.478	23.36	-25.19	40.0	16.64	Peak	264.00	100	Horizontal	Pass
2	93.632	32.40	-27.76	43.5	11.10	Peak	169.00	200	Horizontal	Pass
3	163.666	18.30	-29.33	43.5	25.20	Peak	250.00	100	Horizontal	Pass
4	192.766	19.46	-26.35	43.5	24.04	Peak	235.00	200	Horizontal	Pass
5	214.688	20.17	-26.48	43.5	23.33	Peak	280.00	100	Horizontal	Pass
6	353.543	21.23	-21.89	46.0	24.77	Peak	247.00	100	Horizontal	Pass

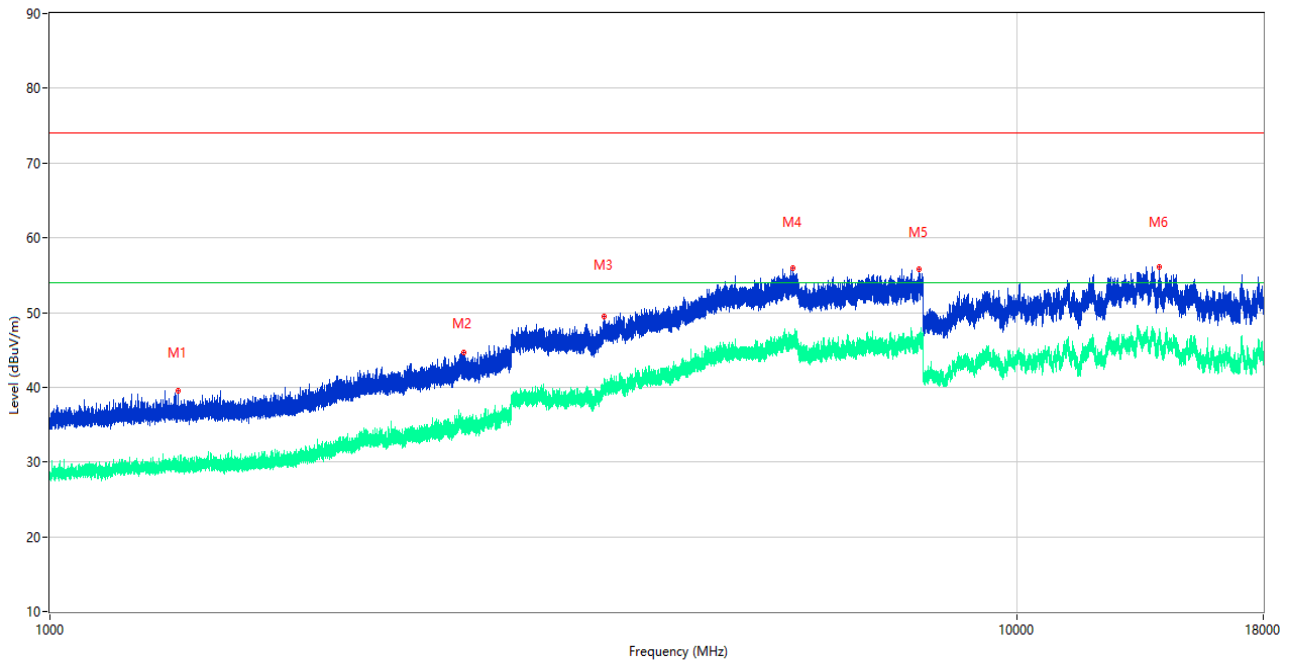
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2022.12.07	2023.12.06	<input checked="" 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 – 6 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1474.400	39.55	-15.95	74.0	34.45	Peak	136.00	100	Vertical	Pass
1**	1474.400	29.74	-15.95	54.0	24.26	AV	136.00	100	Vertical	Pass
2	2257.200	43.74	-12.36	74.0	30.26	Peak	198.00	100	Vertical	Pass
2**	2257.200	32.49	-12.36	54.0	21.51	AV	198.00	100	Vertical	Pass
3	4209.750	51.43	-0.37	74.0	22.57	Peak	199.00	100	Vertical	Pass
3**	4209.750	41.46	-0.37	54.0	12.54	AV	199.00	100	Vertical	Pass
4	5764.000	56.43	3.28	74.0	17.57	Peak	217.00	100	Vertical	Pass
4**	5764.000	45.84	3.28	54.0	8.16	AV	217.00	100	Vertical	Pass
5	6855.750	55.42	1.93	74.0	18.58	Peak	99.00	100	Vertical	Pass
5**	6855.750	46.51	1.93	54.0	7.49	AV	99.00	100	Vertical	Pass
6	13645.500	56.31	5.09	74.0	17.69	Peak	84.00	100	Vertical	Pass
6**	13645.500	47.25	5.09	54.0	6.75	AV	84.00	100	Vertical	Pass

4) Test Antenna Horizontal, 1 GHz – 6 GHz

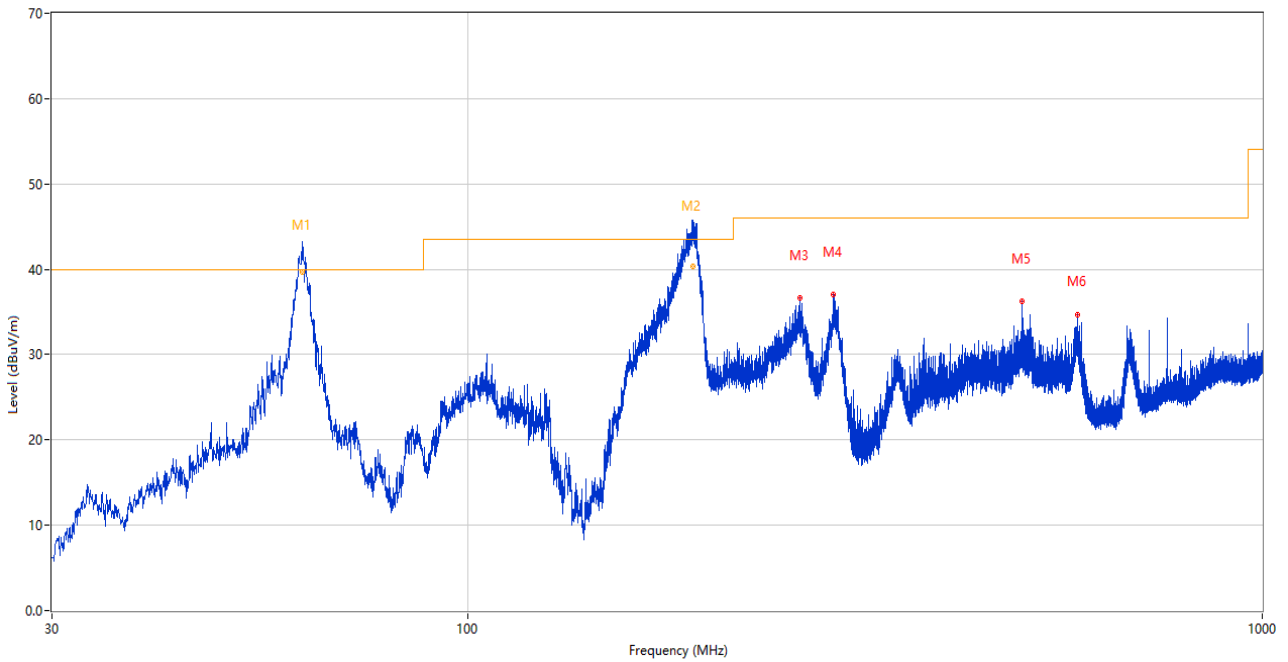


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1357.200	39.60	-16.13	74.0	34.40	Peak	100.00	100	Horizontal	Pass
1**	1357.200	28.95	-16.13	54.0	25.05	AV	100.00	100	Horizontal	Pass
2	2682.900	44.58	-9.13	74.0	29.42	Peak	292.00	100	Horizontal	Pass
2**	2682.900	35.07	-9.13	54.0	18.93	AV	292.00	100	Horizontal	Pass
3	3746.750	49.41	-1.67	74.0	24.59	Peak	344.00	100	Horizontal	Pass
3**	3746.750	39.99	-1.67	54.0	14.01	AV	344.00	100	Horizontal	Pass
4	5868.500	55.90	3.96	74.0	18.10	Peak	271.00	100	Horizontal	Pass
4**	5868.500	45.79	3.96	54.0	8.21	AV	271.00	100	Horizontal	Pass
5	7935.750	55.86	3.23	74.0	18.14	Peak	326.00	100	Horizontal	Pass
5**	7935.750	46.70	3.23	54.0	7.30	AV	326.00	100	Horizontal	Pass
6	14048.500	56.11	5.39	74.0	17.89	Peak	105.00	100	Horizontal	Pass
6**	14048.500	47.42	5.39	54.0	6.58	AV	105.00	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"/>
Spectrum Analyzer	ROHDE & SCHWARZ	FSV40	101544	2023.01.03	2024.01.02	<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"/>
Amplifier (18-40GHz)	COM-MV	KA LNA18-40G-01	18050001	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"/>
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"/>

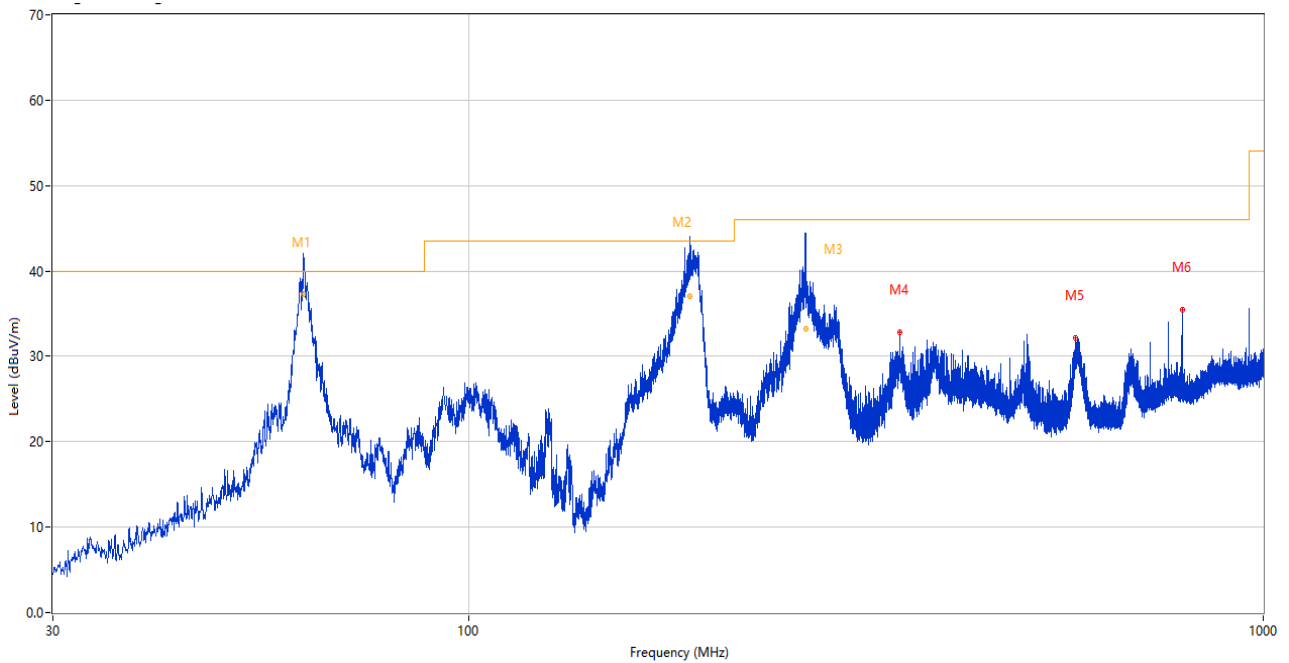
Test Mode 4

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	62.015	44.34	-26.49	40.0	-4.34	Peak	98.00	101	Vertical	N/A
1*	62.015	39.77	-26.49	40.0	0.23	QP	98.00	101	Vertical	Pass
2	191.890	46.24	-26.48	43.5	-2.74	Peak	118.00	102	Vertical	N/A
2*	191.890	40.35	-26.48	43.5	3.15	QP	118.00	102	Vertical	Pass
3	262.315	36.68	-24.63	46.0	9.32	Peak	67.00	100	Vertical	Pass
4	288.166	36.99	-23.79	46.0	9.01	Peak	318.00	200	Vertical	Pass
5	497.977	36.32	-18.43	46.0	9.68	Peak	158.00	100	Vertical	Pass
6	585.082	34.63	-16.07	46.0	11.37	Peak	256.00	100	Vertical	Pass

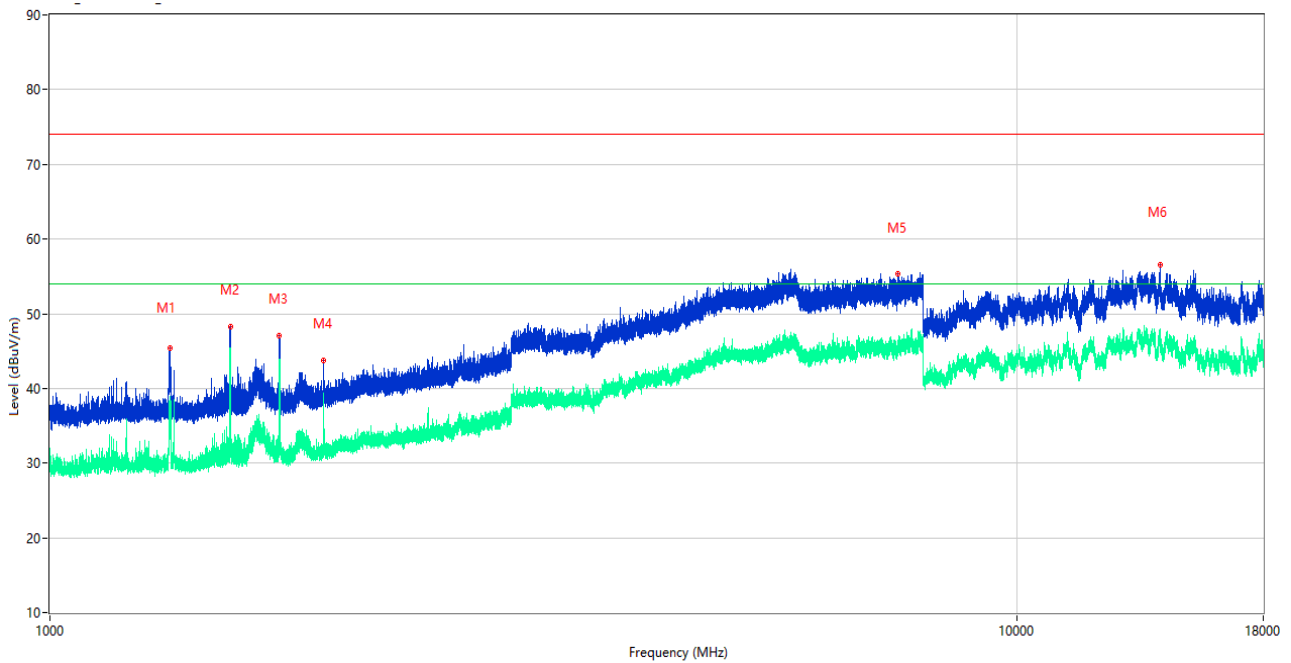
6) Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	62.008	42.53	-26.51	40.0	-2.53	Peak	360.00	168	Horizontal	N/A
1*	62.008	37.28	-26.51	40.0	2.72	QP	360.00	168	Horizontal	Pass
2	190.132	42.49	-26.94	43.5	1.01	Peak	359.00	107	Horizontal	N/A
2*	190.132	37.05	-26.94	43.5	6.45	QP	359.00	107	Horizontal	Pass
3	265.629	40.56	-24.59	46.0	5.44	Peak	137.00	137	Horizontal	N/A
3*	265.629	33.24	-24.59	46.0	12.76	QP	137.00	137	Horizontal	Pass
4	348.548	32.86	-21.69	46.0	13.14	Peak	198.00	100	Horizontal	Pass
5	580.475	32.14	-16.38	46.0	13.86	Peak	3.00	100	Horizontal	Pass
6	790.431	35.51	-12.11	46.0	10.49	Peak	107.00	100	Horizontal	Pass

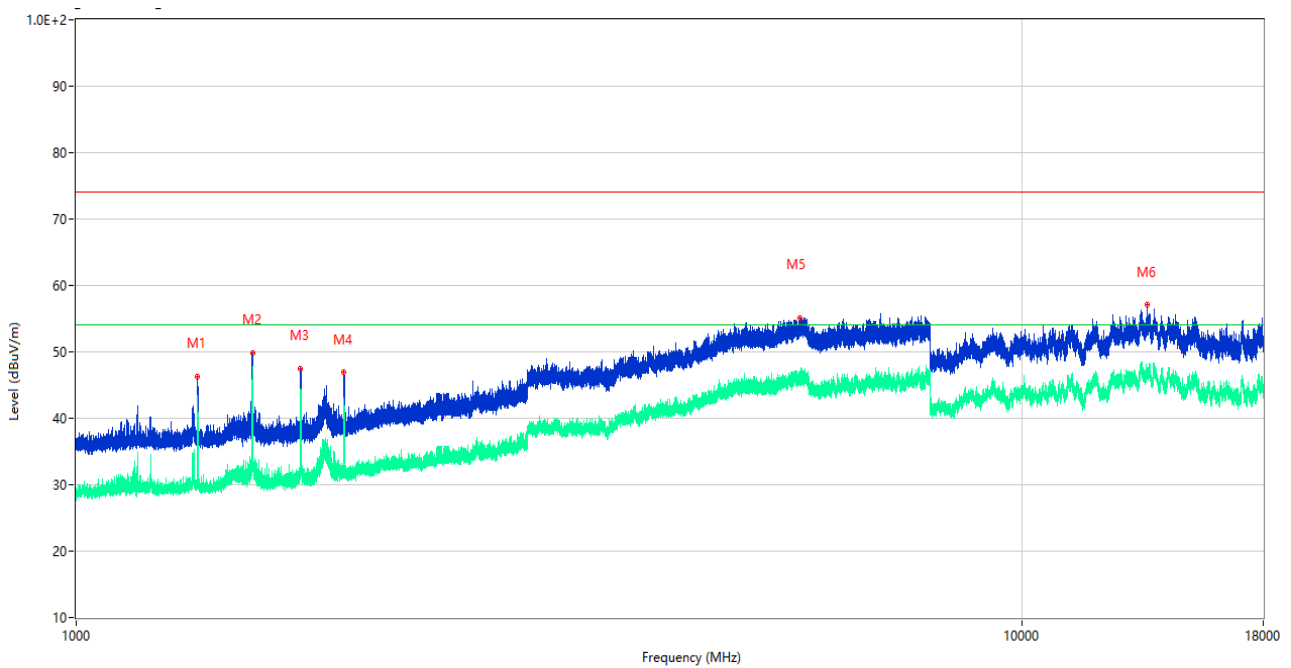
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2022.12.07	2023.12.06	<input checked="" 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 – 6 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.900	45.42	-16.13	74.0	28.58	Peak	242.00	100	Vertical	Pass
1**	1330.900	35.62	-16.13	54.0	18.38	AV	242.00	100	Vertical	Pass
2	1536.100	48.20	-15.98	74.0	25.80	Peak	146.00	100	Vertical	Pass
2**	1536.100	45.06	-15.98	54.0	8.94	AV	146.00	100	Vertical	Pass
3	1727.600	46.99	-15.85	74.0	27.01	Peak	255.00	100	Vertical	Pass
3**	1727.600	42.28	-15.85	54.0	11.72	AV	255.00	100	Vertical	Pass
4	1920.700	43.68	-14.38	74.0	30.32	Peak	201.00	100	Vertical	Pass
4**	1920.700	36.88	-14.38	54.0	17.12	AV	201.00	100	Vertical	Pass
5	7534.250	55.39	2.06	74.0	18.61	Peak	317.00	100	Vertical	Pass
5**	7534.250	44.92	2.06	54.0	9.08	AV	317.00	100	Vertical	Pass
6	14074.500	56.54	4.69	74.0	17.46	Peak	92.00	100	Vertical	Pass
6**	14074.500	46.00	4.69	54.0	8.00	AV	92.00	100	Vertical	Pass

8) 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	1343.900	46.27	-16.03	74.0	27.73	Peak	162.00	100	Horizontal	Pass
1**	1343.900	43.23	-16.03	54.0	10.77	AV	162.00	100	Horizontal	Pass
2	1536.100	49.84	-15.98	74.0	24.16	Peak	28.00	100	Horizontal	Pass
2**	1536.100	47.69	-15.98	54.0	6.31	AV	28.00	100	Horizontal	Pass
3	1727.800	47.54	-15.81	74.0	26.46	Peak	184.00	100	Horizontal	Pass
3**	1727.800	44.35	-15.81	54.0	9.65	AV	184.00	100	Horizontal	Pass
4	1920.000	46.90	-14.40	74.0	27.10	Peak	269.00	100	Horizontal	Pass
4**	1920.000	42.59	-14.40	54.0	11.41	AV	269.00	100	Horizontal	Pass
5	5829.750	55.03	3.99	74.0	18.97	Peak	16.00	100	Horizontal	Pass
5**	5829.750	45.63	3.99	54.0	8.37	AV	16.00	100	Horizontal	Pass
6	13584.500	57.08	4.72	74.0	16.92	Peak	229.00	100	Horizontal	Pass
6**	13584.500	47.28	4.72	54.0	6.72	AV	229.00	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"/>
Spectrum Analyzer	ROHDE & SCHWARZ	FSV40	101544	2023.01.03	2024.01.02	<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"/>
Amplifier (18-40GHz)	COM-MV	KA LNA18-40G-01	18050001	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"/>
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"/>

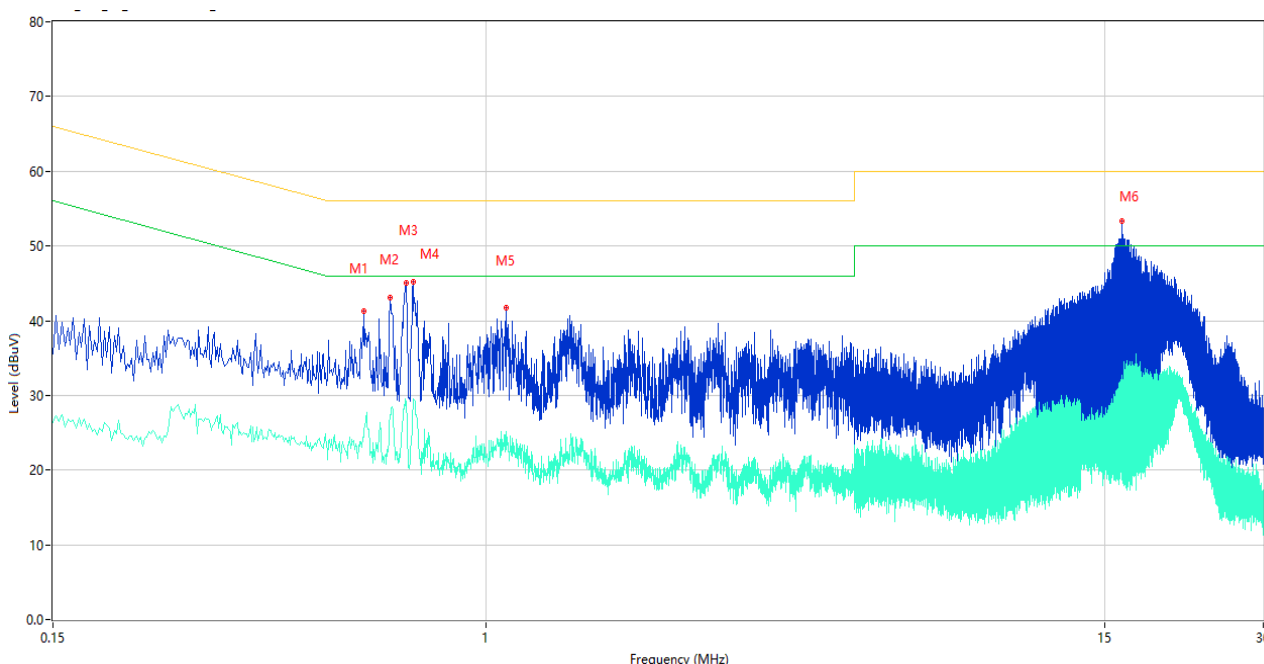
A.2 Conducted Emission, AC Ports

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, 60 Hz) shown here.

Sample No.	S02	Temperature	25.3°C
Humidity	44%RH	Pressure	101kPa
Test Engineer	Yang Yang	Test Date	2023.11.15

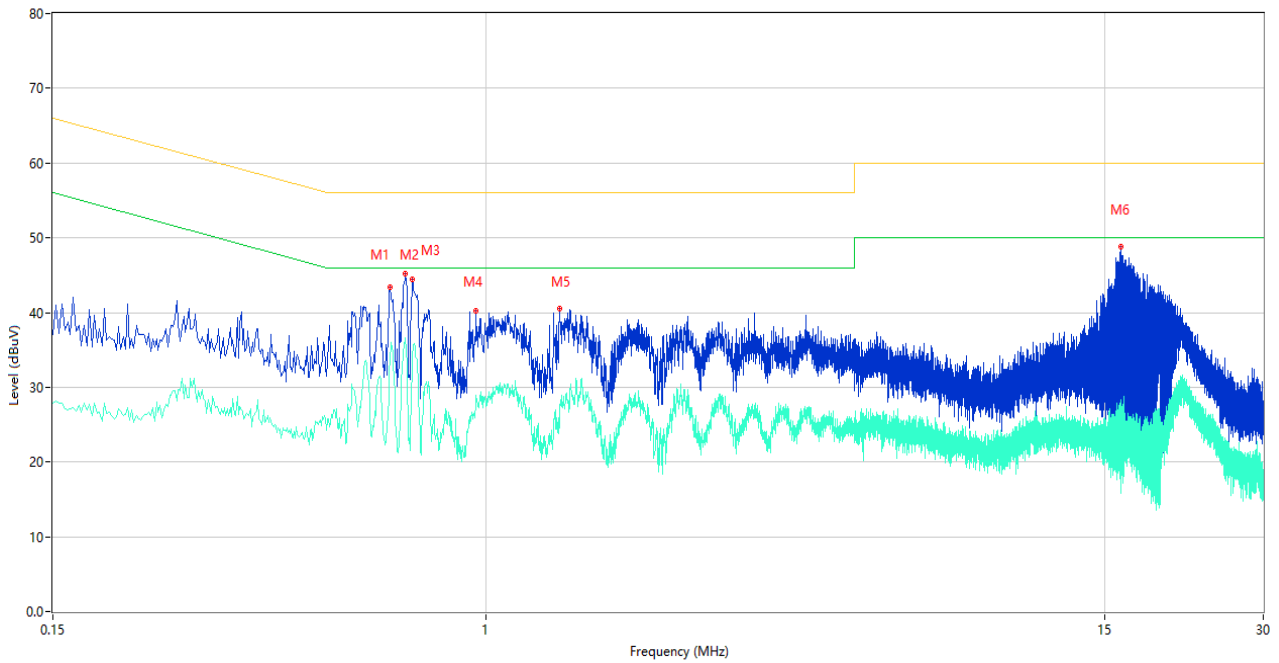
Test Mode 1

1) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBUV)	Factor (dB)	Limit (dBUV)	Margin (dB)	Detector	Line	Verdict
1	0.586	41.25	9.96	56.00	14.75	Peak	L	Pass
1**	0.586	25.66	9.96	46.00	20.34	AV	L	Pass
2	0.656	43.01	9.69	56.00	12.99	Peak	L	Pass
2**	0.656	27.36	9.69	46.00	18.64	AV	L	Pass
3	0.704	45.07	10.02	56.00	10.93	Peak	L	Pass
3**	0.704	29.17	10.02	46.00	16.83	AV	L	Pass
4	0.726	45.25	9.70	56.00	10.75	Peak	L	Pass
4**	0.726	28.39	9.70	46.00	17.61	AV	L	Pass
5	1.092	41.66	9.74	56.00	14.34	Peak	L	Pass
5**	1.092	25.10	9.74	46.00	20.90	AV	L	Pass
6	16.170	53.27	7.44	60.00	6.73	Peak	L	Pass
6**	16.170	19.80	7.44	50.00	30.20	AV	L	Pass

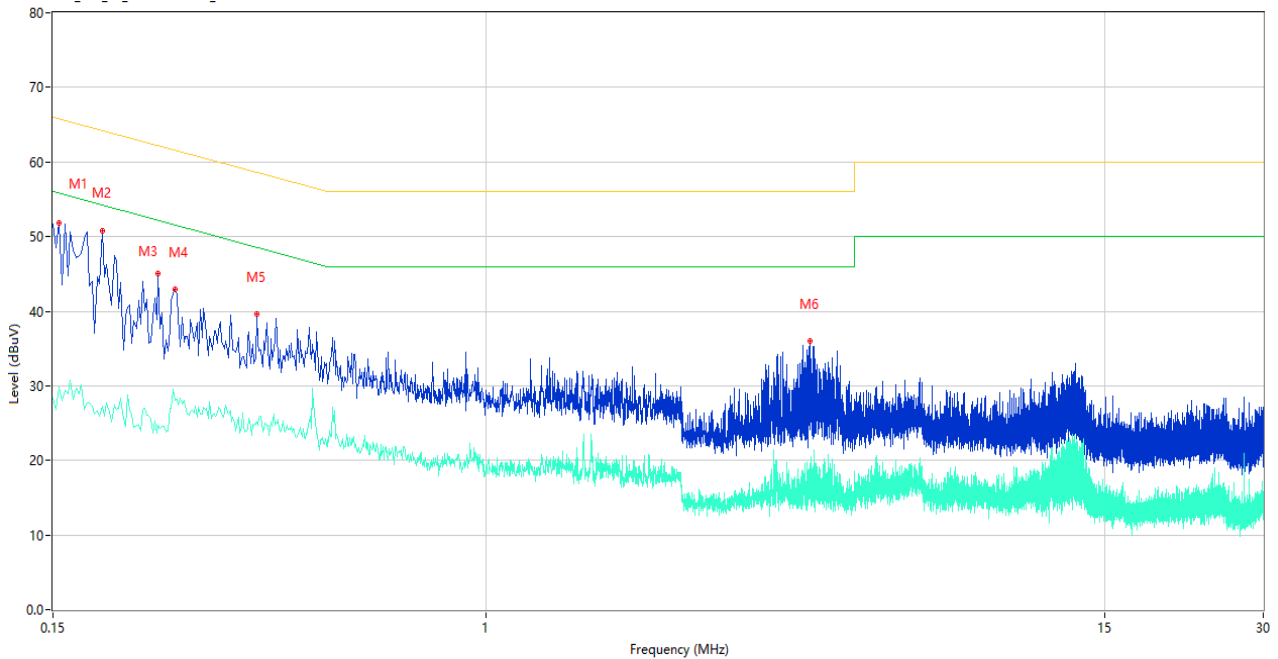
2) AC Ports - N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.656	43.40	9.69	56.00	12.60	Peak	N	Pass
1**	0.656	34.38	9.69	46.00	11.62	AV	N	Pass
2	0.702	45.14	10.05	56.00	10.86	Peak	N	Pass
2**	0.702	36.30	10.05	46.00	9.70	AV	N	Pass
3	0.724	44.44	9.73	56.00	11.56	Peak	N	Pass
3**	0.724	34.22	9.73	46.00	11.78	AV	N	Pass
4	0.956	40.23	10.21	56.00	15.77	Peak	N	Pass
4**	0.956	28.91	10.21	46.00	17.09	AV	N	Pass
5	1.376	40.45	9.96	56.00	15.55	Peak	N	Pass
5**	1.376	25.15	9.96	46.00	20.85	AV	N	Pass
6	16.106	48.77	7.71	60.00	11.23	Peak	N	Pass
6**	16.106	28.31	7.71	50.00	21.69	AV	N	Pass

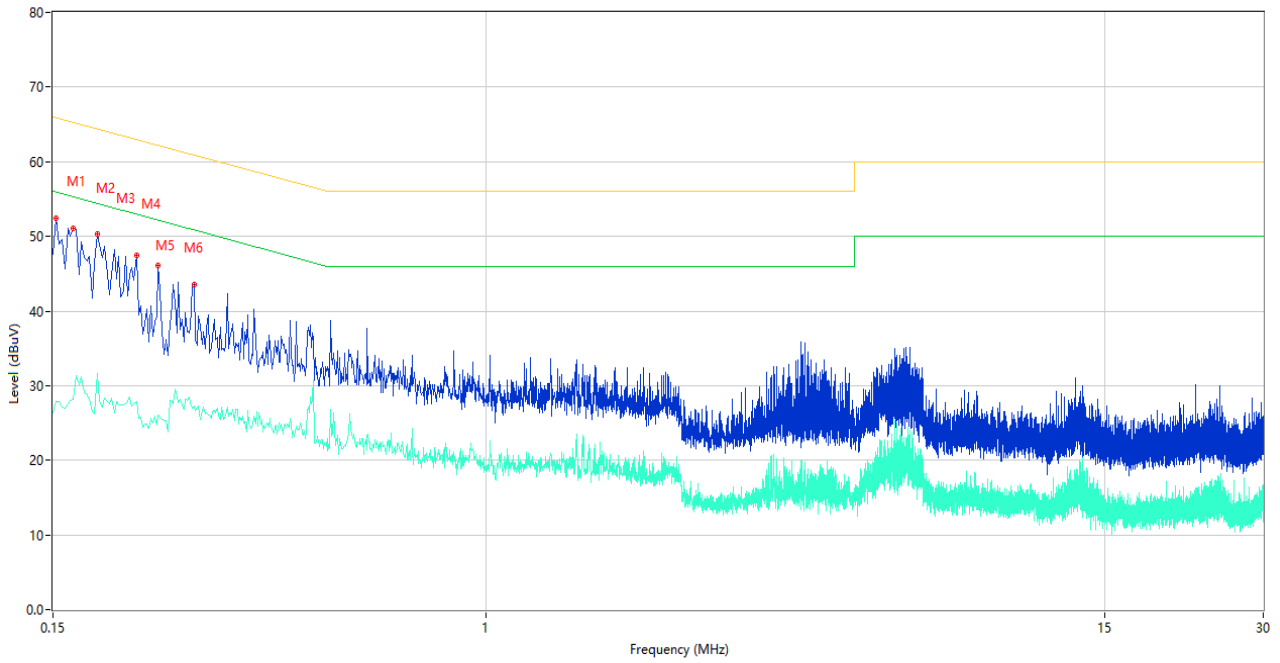
Test Mode 4

3) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	51.82	9.47	65.78	13.96	Peak	L	Pass
1**	0.154	29.88	9.47	55.78	25.90	AV	L	Pass
2	0.186	50.84	9.43	64.21	13.37	Peak	L	Pass
2**	0.186	27.29	9.43	54.21	26.92	AV	L	Pass
3	0.238	45.06	9.43	62.17	17.11	Peak	L	Pass
3**	0.238	24.65	9.43	52.17	27.52	AV	L	Pass
4	0.256	42.97	9.43	61.56	18.59	Peak	L	Pass
4**	0.256	28.05	9.43	51.56	23.51	AV	L	Pass
5	0.366	39.66	9.55	58.59	18.93	Peak	L	Pass
5**	0.366	25.22	9.55	48.59	23.37	AV	L	Pass
6	4.122	36.03	9.72	56.00	19.97	Peak	L	Pass
6**	4.122	19.19	9.72	46.00	26.81	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	52.50	9.47	65.89	13.39	Peak	N	Pass
1**	0.152	27.87	9.47	55.89	28.02	AV	N	Pass
2	0.164	51.05	9.45	65.26	14.21	Peak	N	Pass
2**	0.164	28.20	9.45	55.26	27.06	AV	N	Pass
3	0.182	50.30	9.44	64.39	14.09	Peak	N	Pass
3**	0.182	31.69	9.44	54.39	22.70	AV	N	Pass
4	0.216	47.40	9.42	62.97	15.57	Peak	N	Pass
4**	0.216	27.88	9.42	52.97	25.09	AV	N	Pass
5	0.238	46.14	9.43	62.17	16.03	Peak	N	Pass
5**	0.238	26.03	9.43	52.17	26.14	AV	N	Pass
6	0.278	43.57	9.43	60.88	17.31	Peak	N	Pass
6**	0.278	27.32	9.43	50.88	23.56	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	SCHWARZ BECK	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-SZ23B0384-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ23B0384-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ23B0384-AI.PDF”.

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--END OF REPORT--