



TEST REPORT

Applicant: Mudita Sp. z o.o.
Address: Jana Czeczota 6, 02-607 Warszawa, Poland
Equipment Type: GSM/WCDMA/LTE Mobile Phone
Model Name: Kompakt-NAM
Brand Name: Mudita
FCC ID: 2BCWI-KOMPAKT-NAM
ISED Number: 31299-KOMPAKTNAM
47 CFR Part 15 Subpart B
Test Standard: ICES-003 (Issue 7, October 15, 2020)
ANSI C63.4-2014
Sample Arrival Date: Dec. 17, 2024
Test Date: Dec. 19, 2024 - Dec. 25, 2024
Date of Issue: Mar. 05, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Li JunFeng**Checked by:** Liu Zhenxiang**Approved by:** Tolan Tu

(Testing Director)

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Mar. 05, 2025</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION	3
1.1	Test Laboratory	3
1.2	Test Location.....	3
2	PRODUCT INFORMATION	4
2.1	Applicant Information	4
2.2	Manufacturer Information	4
2.3	General Description for Equipment under Test (EUT)	4
2.4	Ancillary Equipment	4
2.5	Technical Information	5
3	SUMMARY OF TEST RESULTS.....	6
3.1	Test Standards.....	6
3.2	Verdict.....	6
3.3	Test Uncertainty	6
4	GENERAL TEST CONFIGURATIONS.....	7
4.1	Test Enclosure List.....	7
4.2	Test Configurations	8
4.3	Test Setups	9
5	TEST ITEMS.....	11
5.1	Emission Tests.....	11
ANNEX A	TEST RESULTS.....	16
A.1	Radiated Emission	16
A.2	Conducted Emission, AC Ports.....	33
ANNEX B	TEST SETUP PHOTOS	38
ANNEX C	EUT EXTERNAL PHOTOS	38
ANNEX D	EUT INTERNAL PHOTOS	38

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☒ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Mudita Sp. z o.o.
Address	Jana Czeczota 6, 02-607 Warszawa, Poland

2.2 Manufacturer Information

Manufacturer	Mudita Sp. z o.o.
Address	Jana Czeczota 6, 02-607 Warszawa, Poland

2.3 General Description for Equipment under Test (EUT)

EUT Name	GSM/WCDMA/LTE Mobile Phone
Model Name Under Test	Kompakt-NAM
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V0.3
Software Version	LS601B_EINK_US_2SIM_V1.0_20241213
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	Mudita
	Model No.	LS061A
	Serial No.	N/A
	Capacity	3300 mAh
	Rated Voltage	3.87 V
	Limit Charge Voltage	4.45 V
	Manufacturer	Shenzhen Aerospace Electronic Co., Ltd.
Ancillary Equipment 2	USB Cable	
	Model Name	N/A
	Length (Approx.)	1m

2.5 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS 850/1900 3G Network WCDMA/HSDPA/HSUPA/HSPA+ Band 2/4/5 4G Network FDD LTE Band2/4/5/12/13/17/26/66/71 TDD LTE Band38/41 BR+EDR +BLE1M/2M WIFI 802.11b, 802.11g, WIFI 802.11a, 802.11n(HT20/40) and 802.11ac(VHT20/40/80) GNSS, FM Receiver, NFC, WPT(RX Only)
Classification of equipment	Class B

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B	Unintentional Radiators
2	ICES-003 (Issue 7, October 15, 2020)	Information Technology Equipment (Including Digital Apparatus)
3	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	ISED Rule	Test Verdict	Remark
1	Radiated Emission	15.109	ICES-003, 3.2.2	Pass	--
2	Conducted Emission, AC Ports	15.107	ICES-003, 3.2.1	Pass	--

3.3 Test Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions (9 kHz-30 MHz)	3.2 dB
Radiated emissions (30 MHz-1 GHz)-966#2	4.4 dB
Radiated emissions (1 GHz-18 GHz)-966#2	5.0 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Enclosure List

Description	Manufacturer	Model	Serial No.	Length	Description	Use
Laptop	Lenovo	N/A	N/A	N/A	N/A	☒
Data connector	HBR	type-c to USB 3.0	N/A	N/A	N/A	☒
USB disk	Sandisk	CZ73-32G	N/A	N/A	32G	☒
TYPE-C Earphone	OPPO	MH156	N/A	1.12m	N/A	☒
Earphone	N/A	N/A	N/A	1.25m	N/A	☒
TF Card	Samsung	MB-MD256KA	N/A	N/A	256G	☒
Wireless Communications Test Set	R&S	CMW500	102318	N/A	Cal. Due 2025.05.08	☒
Adapter	Aohai	VC54GBCH	N/A	N/A	N/A	☒

4.2 Test Configurations

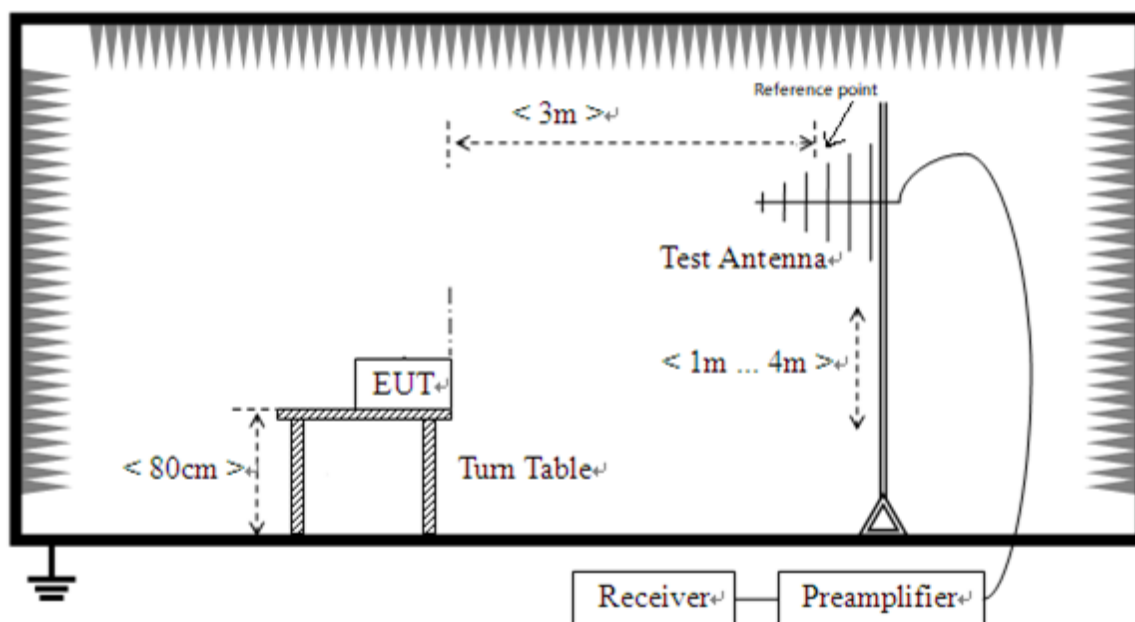
All test modes of EUT are listed in the table below.

Test Mode Configuration	Description
Mode 1	<u>The Only Charging Test Mode</u> EUT + Adapter + USB Cable + Battery + Headset + TF Card
Mode 2	<u>The Rear Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + Headset + TF Card
Mode 3	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + Headset + TF Card
Mode 4	<u>The FM Test Mode</u> EUT + Adapter + USB Cable + Battery + FM RX + Headset + TF Card
Mode 5	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop + Headset + TF Card
Mode 6	<u>The OTG Test Mode</u> EUT + Battery + Data connector + USB disk + Headset + TF Card
Mode 7	<u>The Type-C Headset Test Mode</u> EUT + Type-C Headset + Battery + TF Card

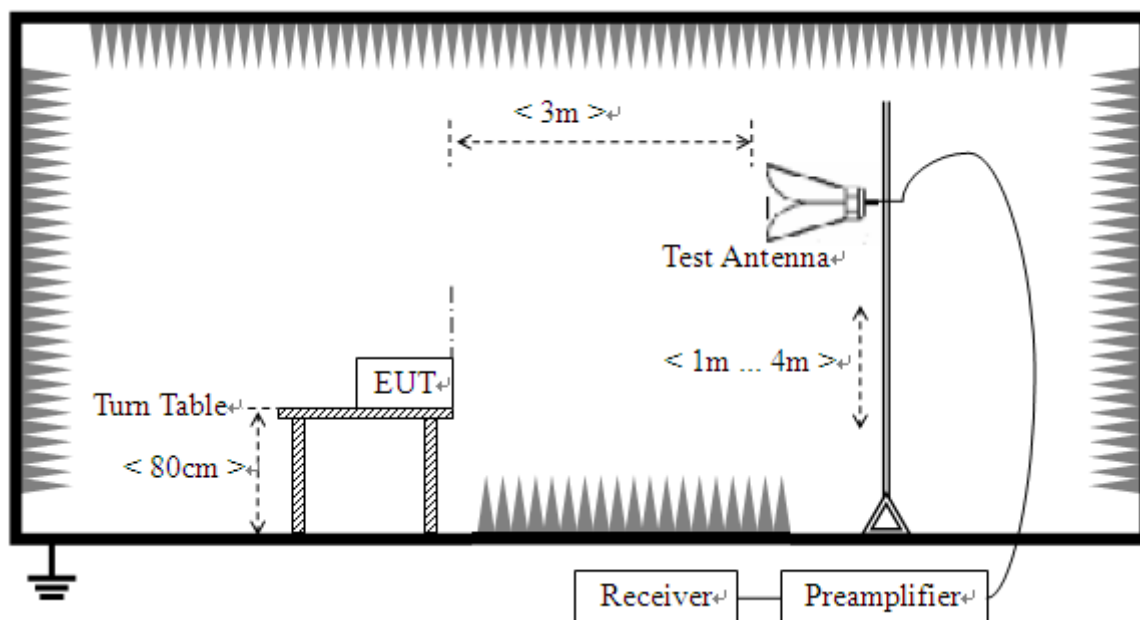
Test Case	Test Mode Configuration	Worst Mode
Radiated Emission	Mode 1~Mode 7	3, 5
Conducted Emission, AC Ports	Mode 1~Mode 5	1, 5
Note: All operation modes were tested, but only test data of the worst mode was presented in this report.		

4.3 Test Setups

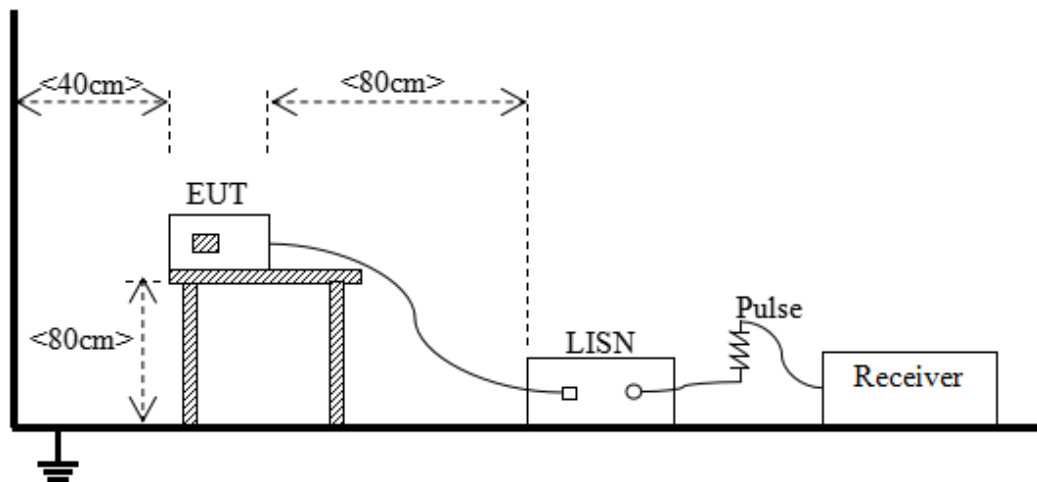
Test Setup 1



Radiated Emission (30 MHz-1 GHz)



Radiated Emission (above 1 GHz)

Test Setup 2

Conducted Emissions, AC Ports

5 TEST ITEMS

5.1 Emission Tests

5.1.1 Radiated Emission

5.1.1.1 Limit

FCC:

Frequency range (MHz)	Class B (at 3 m)		Class A (at 3 m)
	Field Strength ($\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)
30 - 88	100	40	49.5
88 - 216	150	43.5	54
216 - 960	200	46	56.9
Above 960	500	54	60

NOTE:

- 1) Field Strength (dB $\mu\text{V/m}$) = $20 \cdot \log [\text{Field Strength } (\mu\text{V/m})]$.
- 2) In the emission tables above, the tighter limit applies at the band edges.
- 3) For 30 MHz to 1000 MHz, the CISPR quasi-peak is employed.

For above 1000 MHz, according to the requirements of FCC 15.35, unless otherwise specified, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

Frequency range (GHz)	Class B (at 3 m)			Class A (at 3 m)	
	Field Strength ($\mu\text{V/m}$)	Field Strength Average (dB $\mu\text{V/m}$)	Field Strength Peak (dB $\mu\text{V/m}$)	Field Strength Average (dB $\mu\text{V/m}$)	Field Strength Peak (dB $\mu\text{V/m}$)
1 - F_M	500	54	74	60	80

Note 1: The highest measurement frequency, F_M , in GHz, shall be determined as next Table.

Note 2: Average Class A limit at 3m L_{3m} is determined by the following conversion formula:

$$L_{3m} = L_{10m} + 20 \cdot \log(d_{10m}/d_{3m})$$

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)
$F_X \leq 108 \text{ MHz}$	1 GHz
$108 \text{ MHz} \leq F_X \leq 500 \text{ MHz}$	2 GHz
$500 \text{ MHz} \leq F_X \leq 1 \text{ GHz}$	5 GHz
$F_X \geq 1 \text{ GHz}$	$5 \cdot F_X$

Highest internal frequency (F_X)	Highest measurement frequency (F_M)
	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.	

IC:

Frequency range (MHz)	Class A (3 m)	Class B (3 m)
	Quasi-peak (dB μ V/m)	Quasi-peak (dB μ V/m)
30 - 88	50.0	40.0
88 - 216	54.0	43.5
216 - 230	56.9	46.0
230 - 960	57.0	47.0
960 - 1000	60.0	54.0
Note: The more stringent limit applies at transition frequencies.		

Frequency range (GHz)	Class A (3 m)		Class B (3 m)	
	Average (dB μ V/m)	Peak (dB μ V/m)	Average (dB μ V/m)	Peak (dB μ V/m)
1 - F_M	60	80	54	74

Note:

1. The highest measurement frequency, F_M , in GHz, shall be determined as next Table.
2. The measurement bandwidth shall be 1 MHz or greater.
3. These limit levels apply for a measurement distance of 3 m. If using a different measurement distance, the measured levels shall be extrapolated to the 3 m limit distance using a factor of 20 dB per decade of distance. The measurement distance shall place the measurement antenna in the far field of the ITE or digital apparatus under test.
4. The test site shall have been validated at the distance used for radiated emission measurements on the ITE or digital apparatus under test.

Highest internal frequency (F_X)	Highest measurement frequency (F_M)
$F_X \leq 108$ MHz	1GHz
$108 \text{ MHz} \leq F_X \leq 500$ MHz	2GHz
$500 \text{ MHz} \leq F_X \leq 1$ GHz	5GHz
$F_X \geq 1$ GHz	$5 * F_X$ up to a maximum of 40 GHz

Note: F_X is the highest fundamental frequency generated and/or used in the ITE or digital apparatus under test.

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

The test employing the methods of measurement described in the publication referenced in ICES-003 Section 3(b) (ANSI C63.4) and ANSI C63.4;

All Radiated Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

An initial pre-scan was performed in the chamber using the EMI Receiver in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bi-Log antenna with 2 orthogonal polarities.

The measurement frequency range is from 30 MHz to the 5th harmonic of the maximum frequency of the EUT internal source. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

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

Trace = max hold

5.1.1.4 Test Result and Test Equipment List

Please refer to ANNEX A.1.

NOTE:

1. Results (dB μ V/m) = Reading (dB μ V) + Factor (dB/m)

The reading level is calculated by software which is not shown in the sheet

2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain (dB)

3. Margin = Limit – Results

5.1.2 Conducted Emission, AC Ports

5.1.2.1 Test Limit

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

Frequency range (MHz)	Class B	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- 1) The lower limit shall apply at the band edges.
- 2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50 MHz.
- 3) The limit using ANSI C63.4.

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 test employing the methods of measurement described in the publication referenced in Section 3(b) (ANSI C63.4);

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

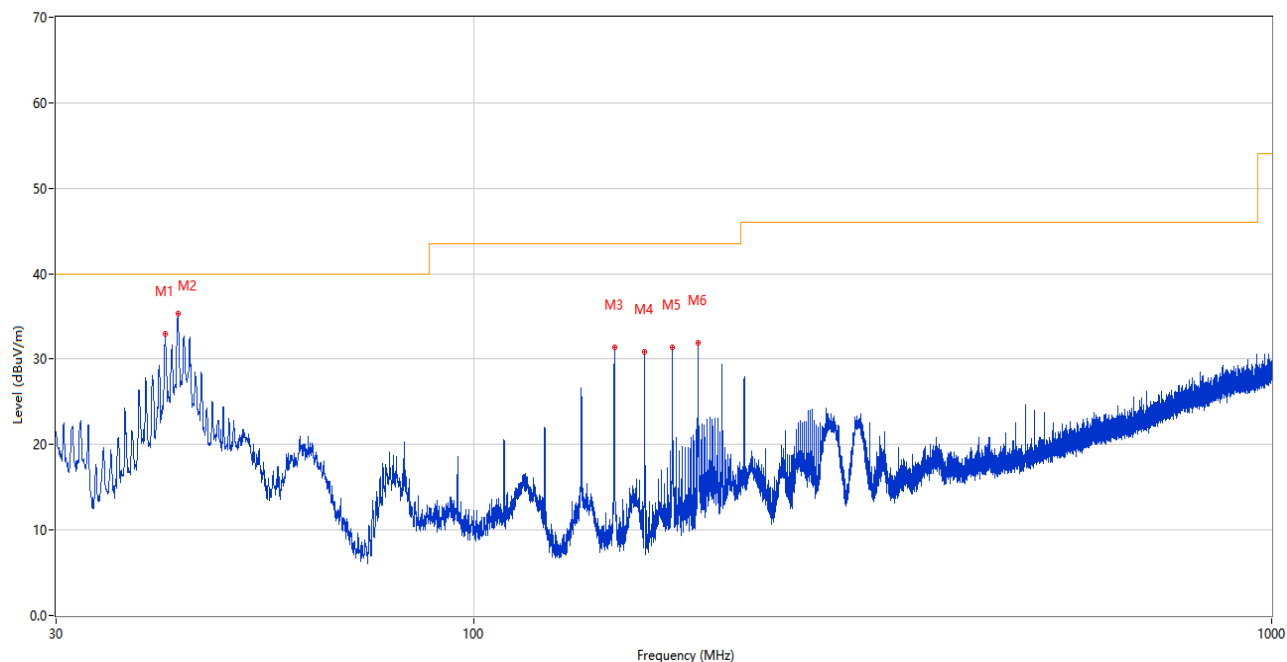
Note 1: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 2: 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	21.3℃
Humidity	41%RH	Pressure	101kPa
Test Engineer	He Shichang	Test Date	2024.12.20

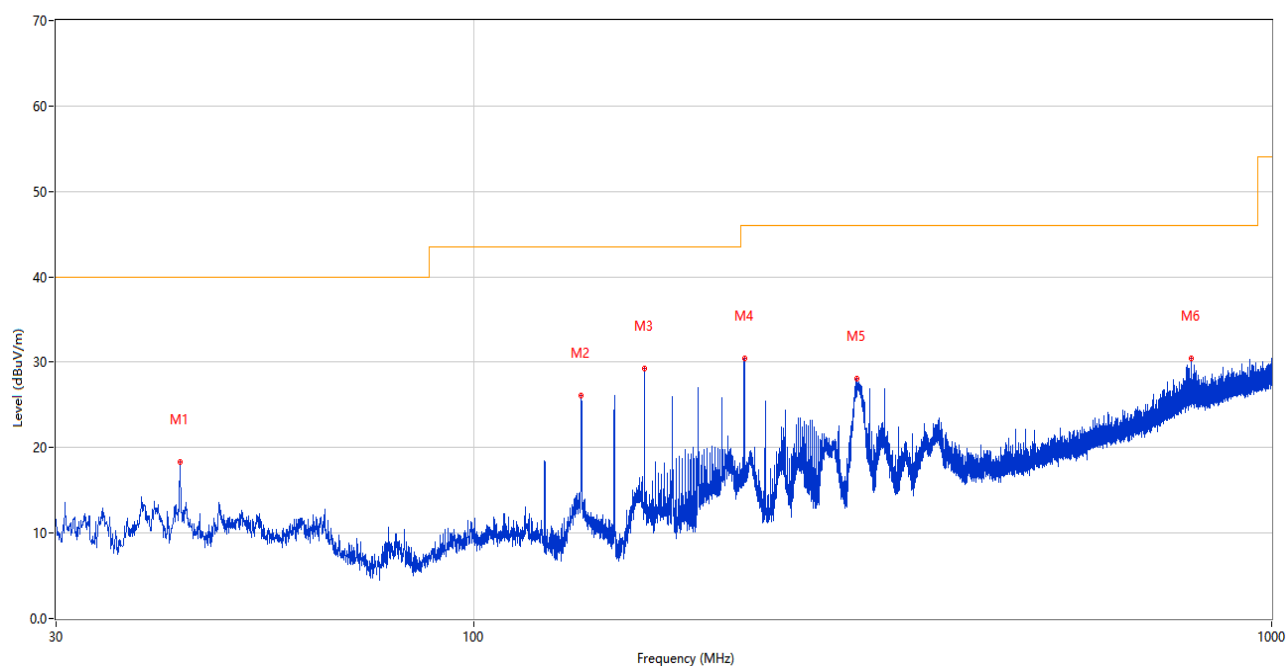
Test Mode 3

1) Test Antenna Vertical, 30 MHz – 1 GHz (FCC)



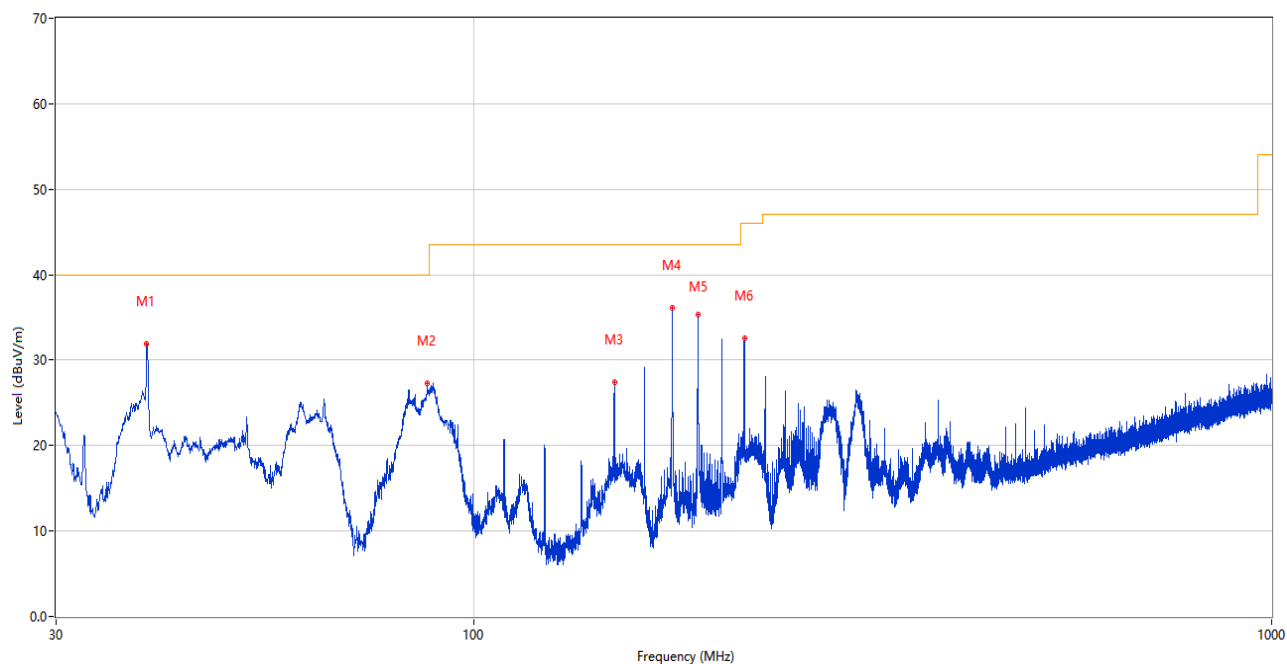
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	41.106	32.96	-26.74	40.0	7.04	Peak	281.00	100	Vertical	Pass
2	42.658	35.27	-25.65	40.0	4.73	Peak	7.00	100	Vertical	Pass
3	150.183	31.34	-30.25	43.5	12.16	Peak	281.00	100	Vertical	Pass
4	163.811	30.85	-29.31	43.5	12.65	Peak	0.00	100	Vertical	Pass
5	177.440	31.35	-28.38	43.5	12.15	Peak	7.00	100	Vertical	Pass
6	191.166	31.93	-27.11	43.5	11.57	Peak	0.00	100	Vertical	Pass

2) Test Antenna Horizontal, 30 MHz – 1 GHz (FCC)



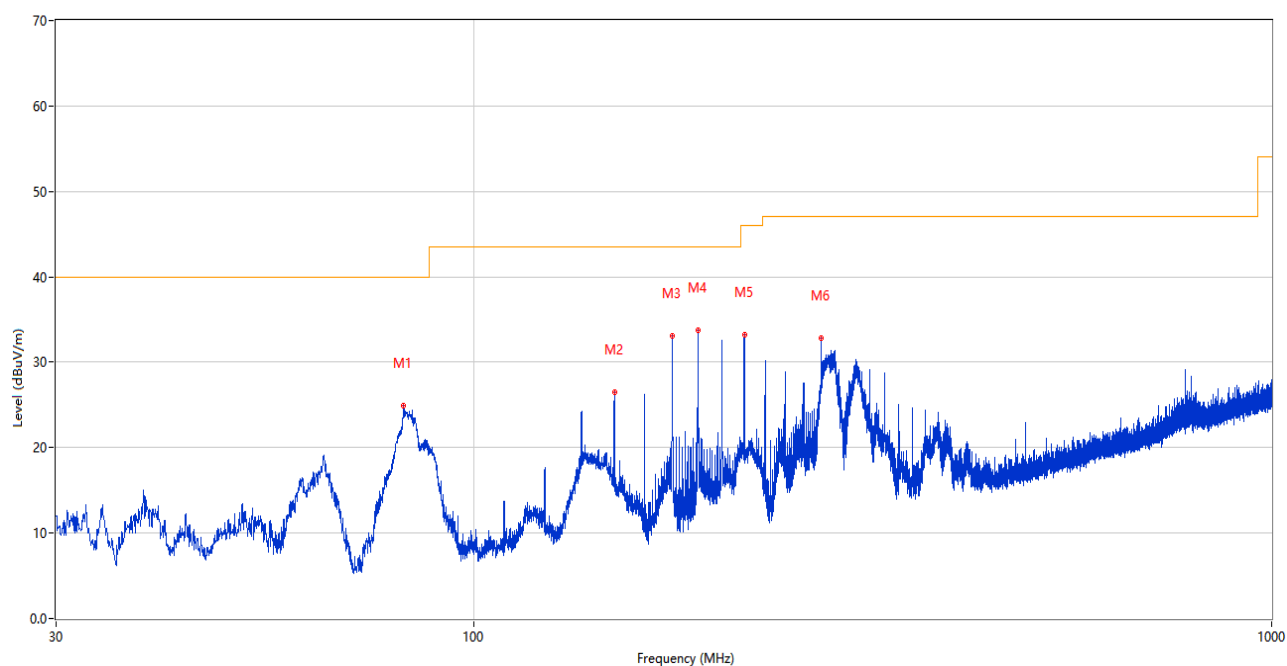
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	42.901	18.29	-25.48	40.0	21.71	Peak	159.00	200	Horizontal	Pass
2	136.506	26.13	-30.07	43.5	17.37	Peak	331.00	200	Horizontal	Pass
3	163.811	29.23	-29.31	43.5	14.27	Peak	132.00	200	Horizontal	Pass
4	218.422	30.41	-26.19	46.0	15.59	Peak	86.00	100	Horizontal	Pass
5	302.230	28.07	-23.42	46.0	17.93	Peak	253.00	100	Horizontal	Pass
6	793.972	30.40	-11.86	46.0	15.60	Peak	100.00	100	Horizontal	Pass

3) Test Antenna Vertical, 30 MHz – 1 GHz (IC)



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	38.972	31.92	-26.97	40.0	8.08	Peak	69.00	100	Vertical	Pass
2	87.570	27.35	-29.41	40.0	12.65	Peak	37.00	100	Vertical	Pass
3	150.183	27.38	-30.25	43.5	16.12	Peak	127.00	100	Vertical	Pass
4	177.488	36.07	-28.35	43.5	7.43	Peak	218.00	100	Vertical	Pass
5	191.117	35.33	-27.11	43.5	8.17	Peak	316.00	100	Vertical	Pass
6	218.422	32.62	-26.19	46.0	13.38	Peak	344.00	100	Vertical	Pass

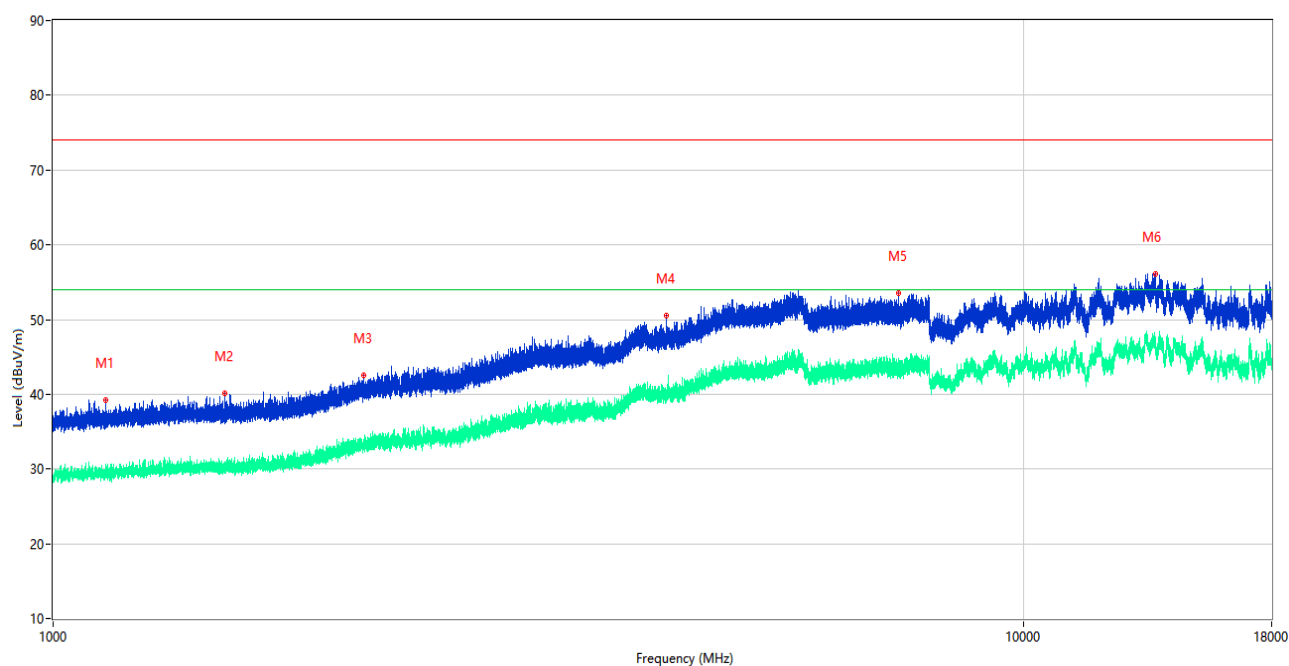
4) Test Antenna Horizontal, 30 MHz – 1 GHz (IC)



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	81.798	24.96	-30.34	40.0	15.04	Peak	304.00	200	Horizontal	Pass
2	150.183	26.52	-30.25	43.5	16.98	Peak	0.00	200	Horizontal	Pass
3	177.440	33.08	-28.38	43.5	10.42	Peak	238.00	100	Horizontal	Pass
4	191.117	33.72	-27.11	43.5	9.78	Peak	238.00	100	Horizontal	Pass
5	218.422	33.22	-26.19	46.0	12.78	Peak	238.00	100	Horizontal	Pass
6	272.985	32.87	-24.51	47.0	14.13	Peak	262.00	100	Horizontal	Pass

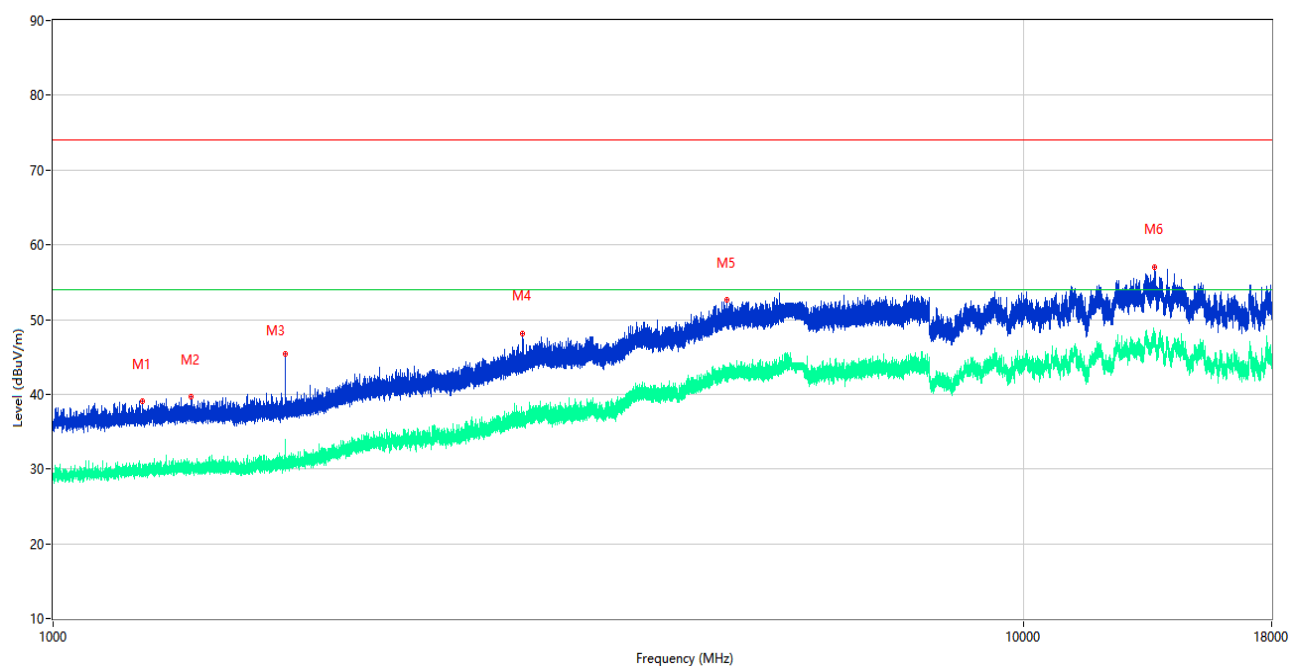
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2024.08.01	2025.07.31	☒
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2024.11.28	2025.11.27	☒
Test Antenna- Bi-Log	SCHWARZB ECK	VULB 9168	9168-00867	2022.04.12	2025.04.11	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2024.07.21	2027.07.20	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

5) Test Antenna Vertical, 1 GHz – 18 GHz



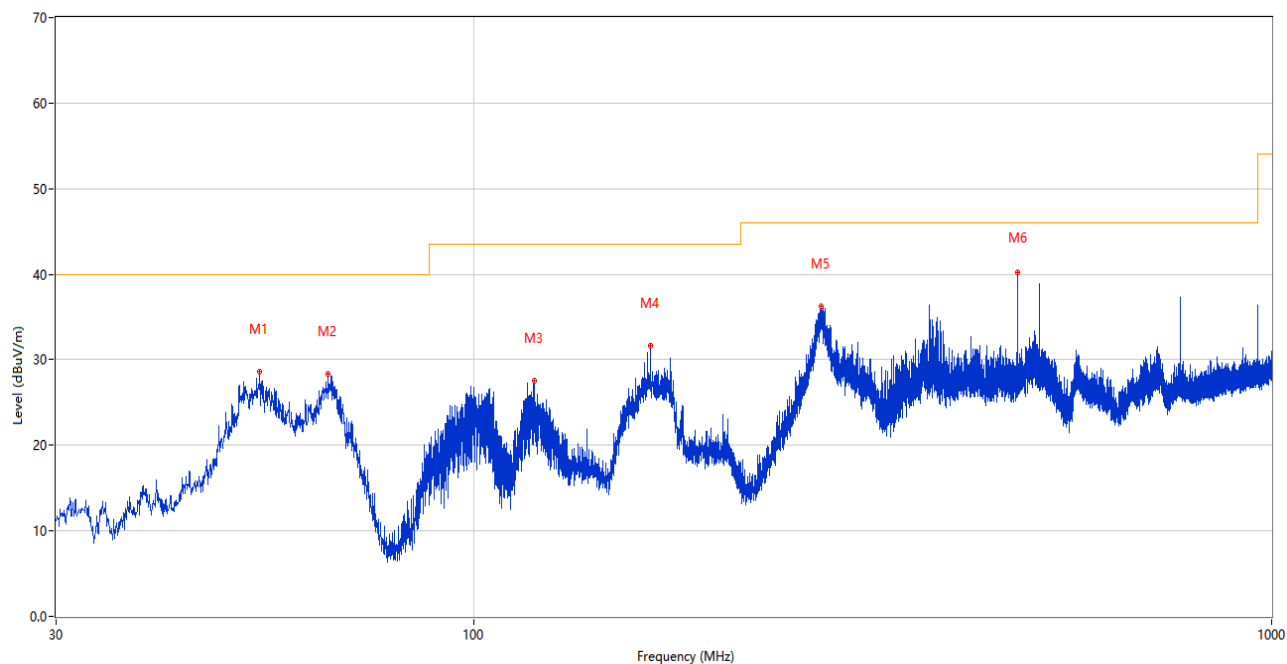
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1134.030	39.22	-15.81	74.0	34.78	Peak	360.00	100	Vertical	Pass
1**	1134.030	29.11	-15.81	54.0	24.89	AV	360.00	100	Vertical	Pass
2	1502.580	40.14	-15.53	74.0	33.86	Peak	46.00	100	Vertical	Pass
2**	1502.580	29.80	-15.53	54.0	24.20	AV	46.00	100	Vertical	Pass
3	2090.960	42.49	-12.72	74.0	31.51	Peak	87.00	100	Vertical	Pass
3**	2090.960	33.88	-12.72	54.0	20.12	AV	87.00	100	Vertical	Pass
4	4287.060	50.49	-1.70	74.0	23.51	Peak	154.00	100	Vertical	Pass
4**	4287.060	39.66	-1.70	54.0	14.34	AV	154.00	100	Vertical	Pass
5	7436.800	53.54	-0.01	74.0	20.46	Peak	173.00	100	Vertical	Pass
5**	7436.800	43.41	-0.01	54.0	10.59	AV	173.00	100	Vertical	Pass
6	13659.000	56.12	4.86	74.0	17.88	Peak	98.00	100	Vertical	Pass
6**	13659.000	47.65	4.86	54.0	6.35	AV	98.00	100	Vertical	Pass

6) Test Antenna Horizontal, 1 GHz – 18 GHz



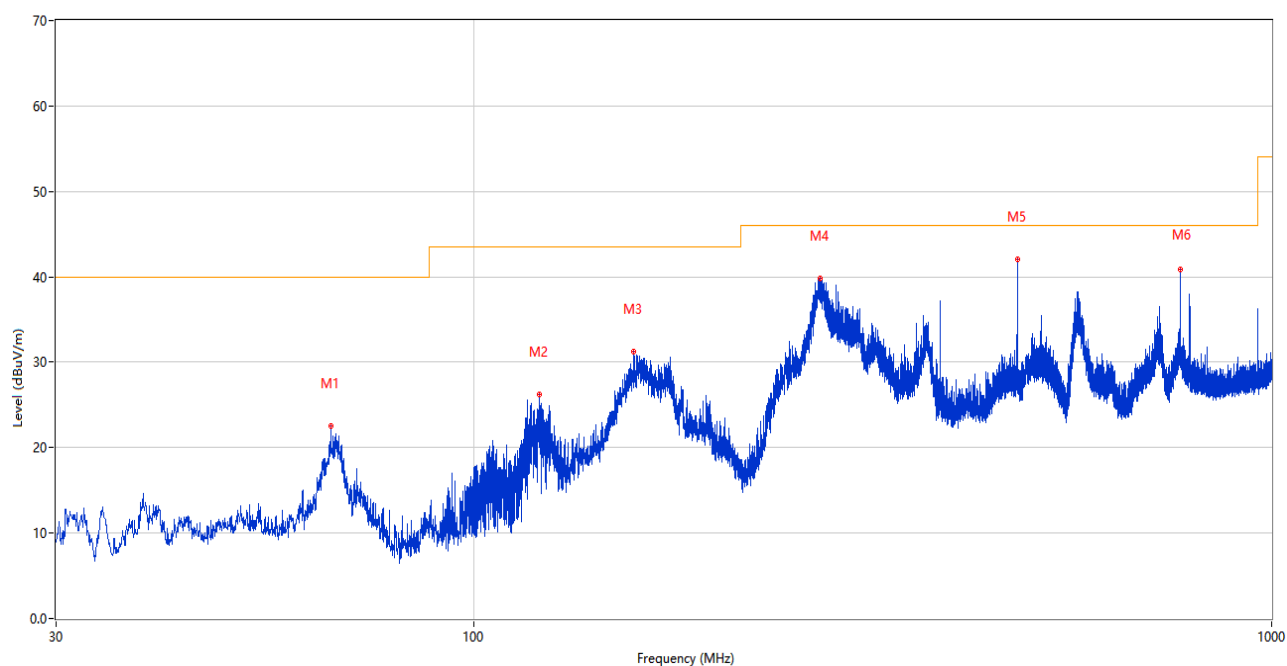
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1236.600	39.03	-15.87	74.0	34.97	Peak	299.00	100	Horizontal	Pass
1**	1236.600	29.69	-15.87	54.0	24.31	AV	299.00	100	Horizontal	Pass
2	1386.100	39.70	-15.48	74.0	34.30	Peak	39.00	100	Horizontal	Pass
2**	1386.100	30.01	-15.48	54.0	23.99	AV	39.00	100	Horizontal	Pass
3	1736.190	45.37	-15.43	74.0	28.63	Peak	341.00	100	Horizontal	Pass
3**	1736.190	31.10	-15.43	54.0	22.90	AV	341.00	100	Horizontal	Pass
4	3047.630	48.17	-6.60	74.0	25.83	Peak	326.00	100	Horizontal	Pass
4**	3047.630	36.83	-6.60	54.0	17.17	AV	326.00	100	Horizontal	Pass
5	4943.540	52.59	0.72	74.0	21.41	Peak	315.00	100	Horizontal	Pass
5**	4943.540	43.00	0.72	54.0	11.00	AV	315.00	100	Horizontal	Pass
6	13646.500	57.05	5.10	74.0	16.95	Peak	253.00	100	Horizontal	Pass
6**	13646.500	47.20	5.10	54.0	6.80	AV	253.00	100	Horizontal	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Above 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2024.08.01	2025.07.31	☒
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2024.11.28	2025.11.27	☒
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2024.11.28	2025.11.27	☒
Test Antenna- Horn	SCHWARZB ECK	BBHA 9120D	01917	2022.06.09	2025.06.08	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2024.07.21	2027.07.20	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

Test Mode 5**7) Test Antenna Vertical, 30 MHz – 1 GHz (FCC)**

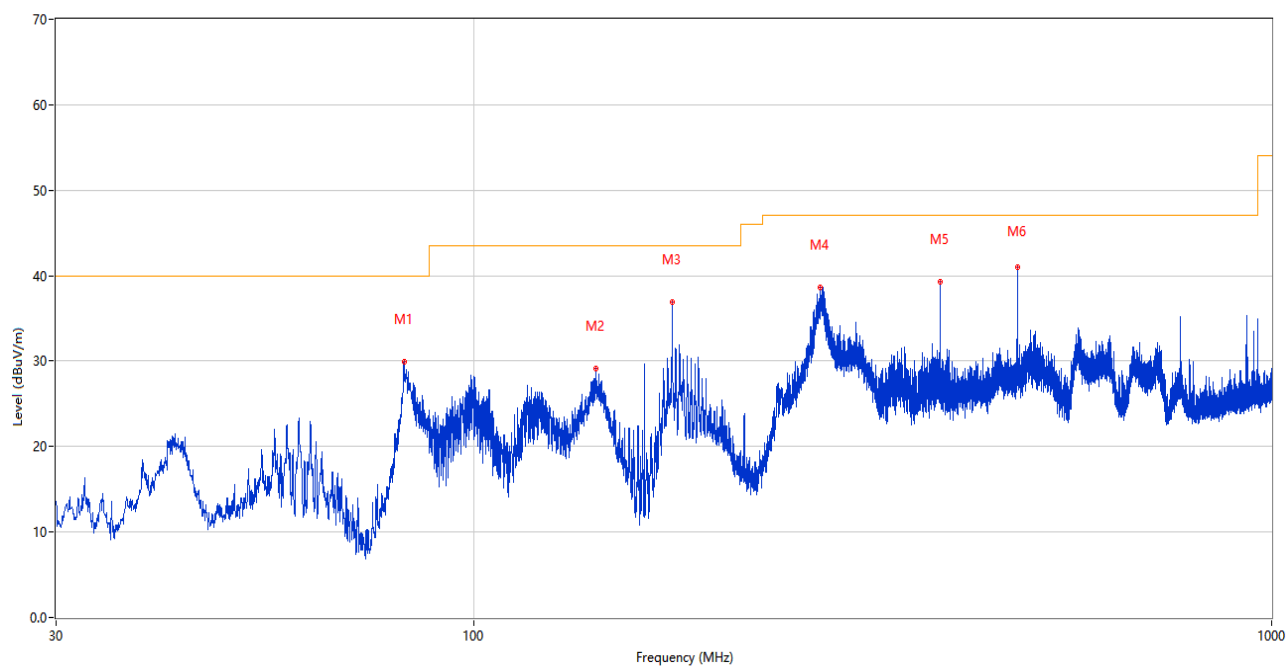
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	53.959	28.65	-25.27	40.0	11.35	Peak	142.00	100	Vertical	Pass
2	65.793	28.29	-28.11	40.0	11.71	Peak	260.00	100	Vertical	Pass
3	119.046	27.54	-28.16	43.5	15.96	Peak	46.00	100	Vertical	Pass
4	166.528	31.69	-29.05	43.5	11.81	Peak	348.00	100	Vertical	Pass
5	272.354	36.29	-24.46	46.0	9.71	Peak	311.00	200	Vertical	Pass
6	479.983	40.25	-19.17	46.0	5.75	Peak	12.00	100	Vertical	Pass

8) Test Antenna Horizontal, 30 MHz – 1 GHz (FCC)



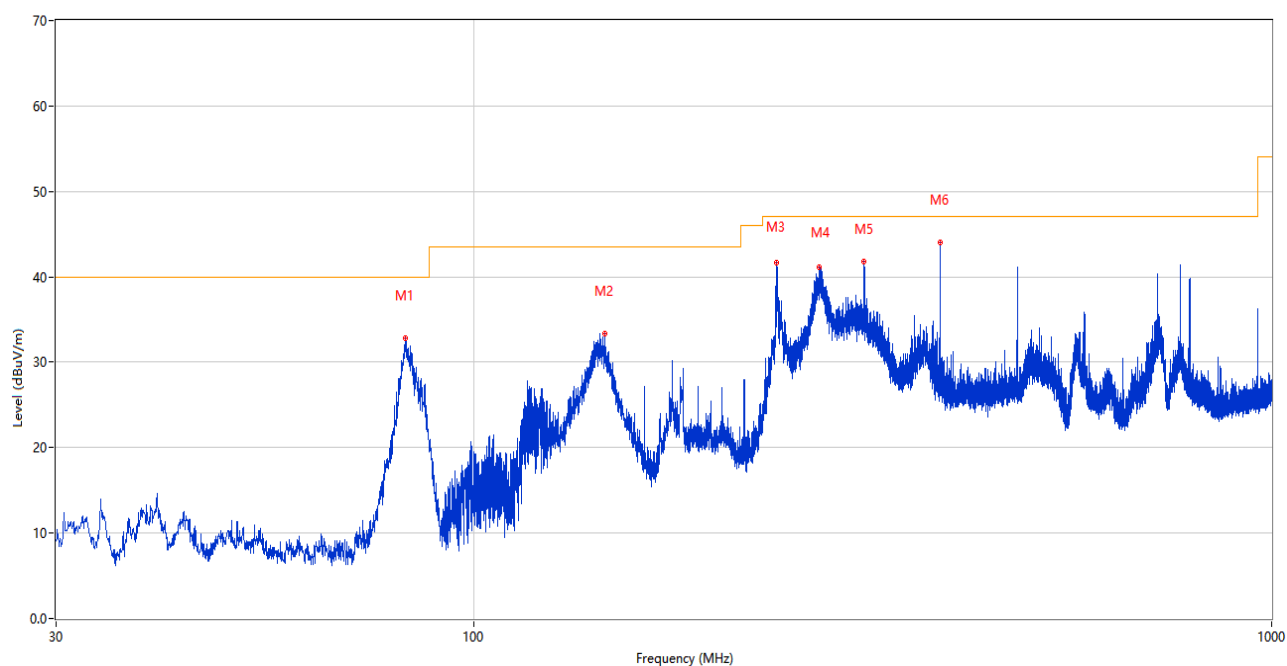
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	66.278	22.58	-28.11	40.0	17.42	Peak	304.00	200	Horizontal	Pass
2	120.986	26.21	-28.67	43.5	17.29	Peak	256.00	200	Horizontal	Pass
3	158.768	31.30	-29.79	43.5	12.20	Peak	133.00	200	Horizontal	Pass
4	271.482	39.84	-24.53	46.0	6.16	Peak	311.00	100	Horizontal	Pass
5	480.031	42.05	-19.17	46.0	3.95	Peak	277.00	200	Horizontal	Pass
6	768.024	40.93	-12.54	46.0	5.07	Peak	137.00	200	Horizontal	Pass

9) Test Antenna Vertical, 30 MHz – 1 GHz (IC)



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	81.846	29.92	-30.29	40.0	10.08	Peak	62.00	200	Vertical	Pass
2	142.229	29.13	-30.45	43.5	14.37	Peak	57.00	100	Vertical	Pass
3	177.488	36.88	-28.35	43.5	6.62	Peak	123.00	100	Vertical	Pass
4	271.918	38.67	-24.49	47.0	8.33	Peak	333.00	100	Vertical	Pass
5	384.002	39.30	-21.42	47.0	7.70	Peak	319.00	200	Vertical	Pass
6	480.031	40.96	-19.17	47.0	6.04	Peak	29.00	100	Vertical	Pass

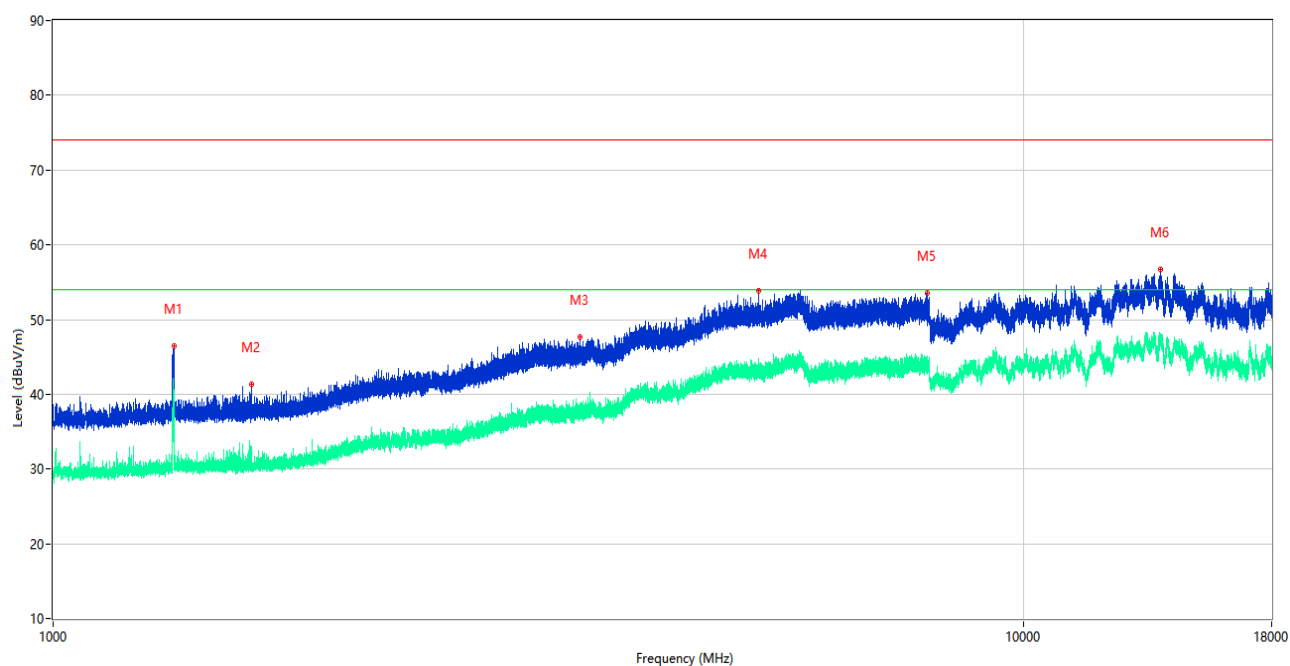
10) Test Antenna Horizontal, 30 MHz – 1 GHz (IC)



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	82.283	32.89	-30.46	40.0	7.11	Peak	337.00	200	Horizontal	Pass
2	146.012	33.37	-30.37	43.5	10.13	Peak	318.00	200	Horizontal	Pass
3	239.956	41.66	-25.23	47.0	5.34	Peak	121.00	100	Horizontal	Pass
4	270.996	41.19	-24.58	47.0	5.81	Peak	311.00	100	Horizontal	Pass
5	308.535	41.73	-23.40	47.0	5.27	Peak	3.00	100	Horizontal	Pass
6	384.002	44.00	-21.42	47.0	3.00	Peak	313.00	100	Horizontal	Pass

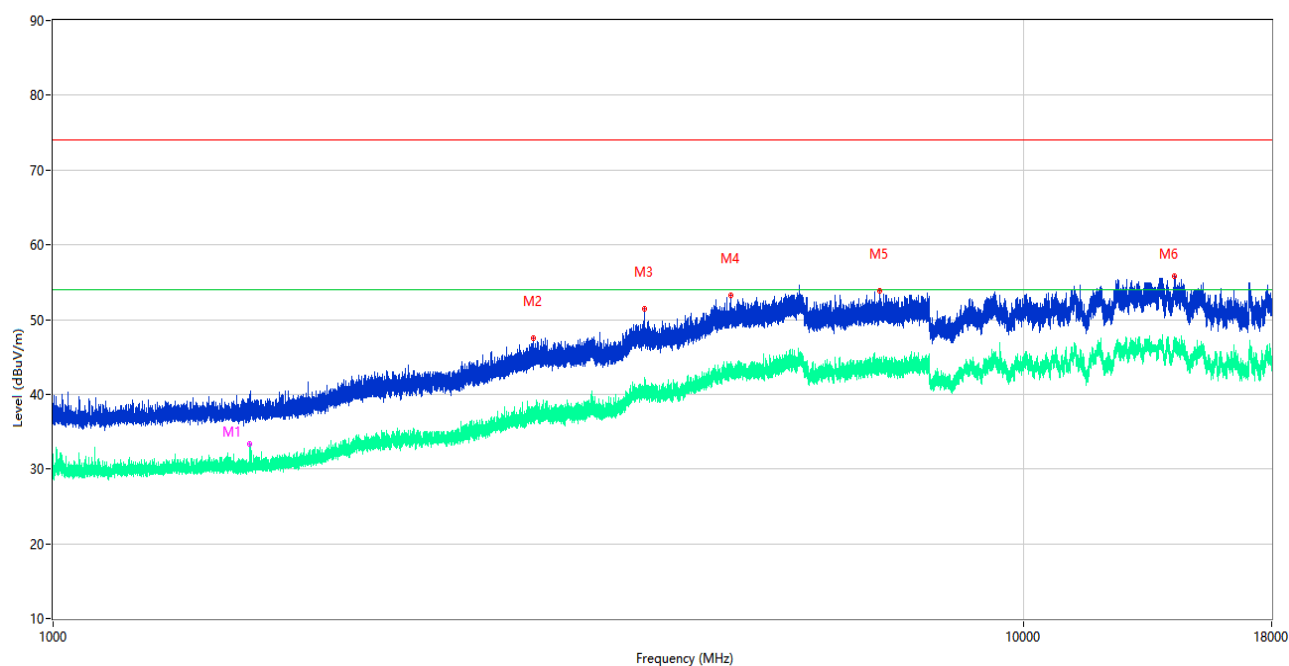
Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Below 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2024.08.01	2025.07.31	☒
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2024.11.28	2025.11.27	☒
Test Antenna- Bi-Log	SCHWARZB ECK	VULB 9168	9168-00867	2022.04.12	2025.04.11	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2024.07.21	2027.07.20	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

11) 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	1333.320	46.49	-15.71	74.0	27.51	Peak	223.00	100	Vertical	Pass
1**	1333.320	36.63	-15.71	54.0	17.37	AV	223.00	100	Vertical	Pass
2	1599.820	41.32	-15.65	74.0	32.68	Peak	254.00	100	Vertical	Pass
2**	1599.820	32.41	-15.65	54.0	21.59	AV	254.00	100	Vertical	Pass
3	3493.010	47.71	-5.06	74.0	26.29	Peak	0.00	100	Vertical	Pass
3**	3493.010	37.85	-5.06	54.0	16.15	AV	0.00	100	Vertical	Pass
4	5329.200	53.85	0.38	74.0	20.15	Peak	228.00	100	Vertical	Pass
4**	5329.200	43.36	0.38	54.0	10.64	AV	228.00	100	Vertical	Pass
5	7960.400	53.52	0.92	74.0	20.48	Peak	132.00	100	Vertical	Pass
5**	7960.400	44.09	0.92	54.0	9.91	AV	132.00	100	Vertical	Pass
6	13822.000	56.63	5.53	74.0	17.37	Peak	346.00	100	Vertical	Pass
6**	13822.000	47.18	5.53	54.0	6.82	AV	346.00	100	Vertical	Pass

12) 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	1592.930	37.45	-15.63	74.0	36.55	Peak	296.00	100	Horizontal	Pass
1**	1592.930	33.34	-15.63	54.0	20.66	AV	296.00	100	Horizontal	Pass
2	3122.250	47.46	-6.41	74.0	26.54	Peak	270.00	100	Horizontal	Pass
2**	3122.250	37.37	-6.41	54.0	16.63	AV	270.00	100	Horizontal	Pass
3	4067.280	51.40	-1.42	74.0	22.60	Peak	26.00	100	Horizontal	Pass
3**	4067.280	40.40	-1.42	54.0	13.60	AV	26.00	100	Horizontal	Pass
4	4995.460	53.24	0.59	74.0	20.76	Peak	143.00	100	Horizontal	Pass
4**	4995.460	43.22	0.59	54.0	10.78	AV	143.00	100	Horizontal	Pass
5	7097.780	53.87	-0.13	74.0	20.13	Peak	84.00	100	Horizontal	Pass
5**	7097.780	44.34	-0.13	54.0	9.66	AV	84.00	100	Horizontal	Pass
6	14303.000	55.78	5.05	74.0	18.22	Peak	309.00	100	Horizontal	Pass
6**	14303.000	47.05	5.05	54.0	6.95	AV	309.00	100	Horizontal	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
Frequency Above 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2024.08.01	2025.07.31	☒
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2024.11.28	2025.11.27	☒
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2024.11.28	2025.11.27	☒
Test Antenna- Horn	SCHWARZB ECK	BBHA 9120D	01917	2022.06.09	2025.06.08	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2024.07.21	2027.07.20	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

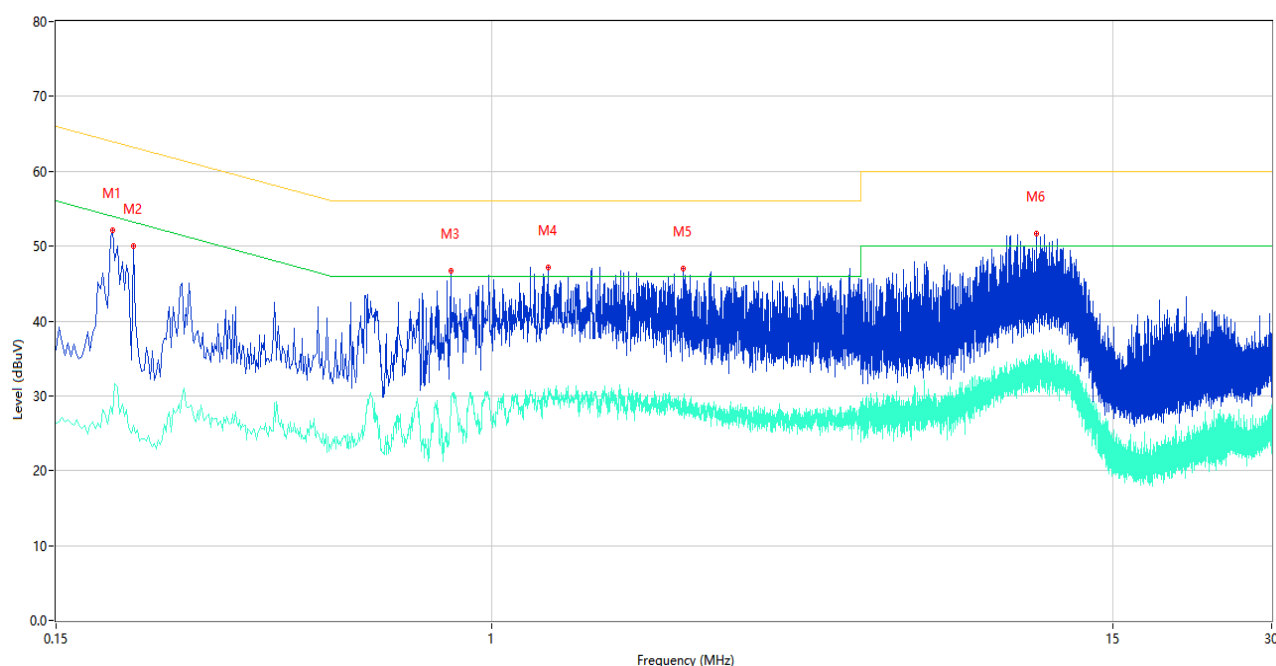
A.2 Conducted Emission, AC Ports

Note: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Sample No.	S17	Temperature	23.2℃
Humidity	43%RH	Pressure	101kPa
Test Engineer	Yangyang	Test Date	2024.12.21

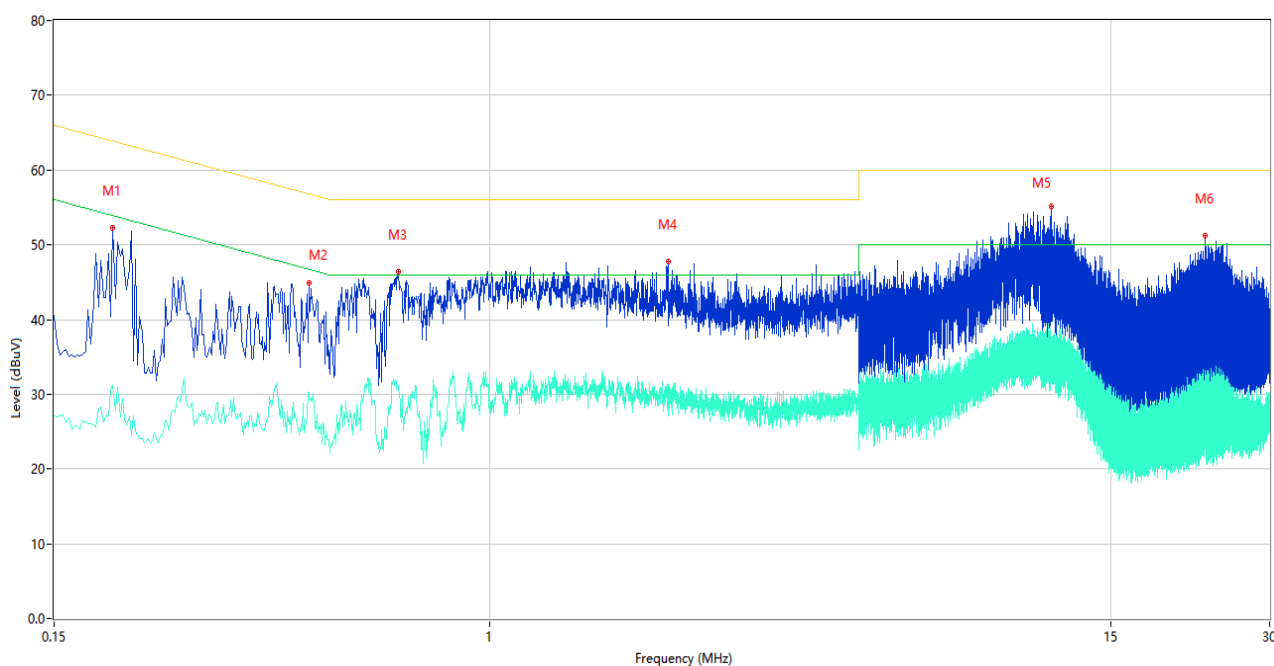
Test Mode 1

1) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.192	52.14	10.04	63.95	11.81	Peak	L	Pass
1**	0.192	27.50	10.04	53.95	26.45	AV	L	Pass
2	0.210	50.09	10.03	63.21	13.12	Peak	L	Pass
2**	0.210	26.06	10.03	53.21	27.15	AV	L	Pass
3	0.838	46.66	10.46	56.00	9.34	Peak	L	Pass
3**	0.838	27.58	10.46	46.00	18.42	AV	L	Pass
4	1.280	47.18	10.36	56.00	8.82	Peak	L	Pass
4**	1.280	30.98	10.36	46.00	15.02	AV	L	Pass
5	2.312	46.96	10.73	56.00	9.04	Peak	L	Pass
5**	2.312	29.65	10.73	46.00	16.35	AV	L	Pass
6	10.770	51.63	12.39	60.00	8.37	Peak	L	Pass
6**	10.770	32.73	12.39	50.00	17.27	AV	L	Pass

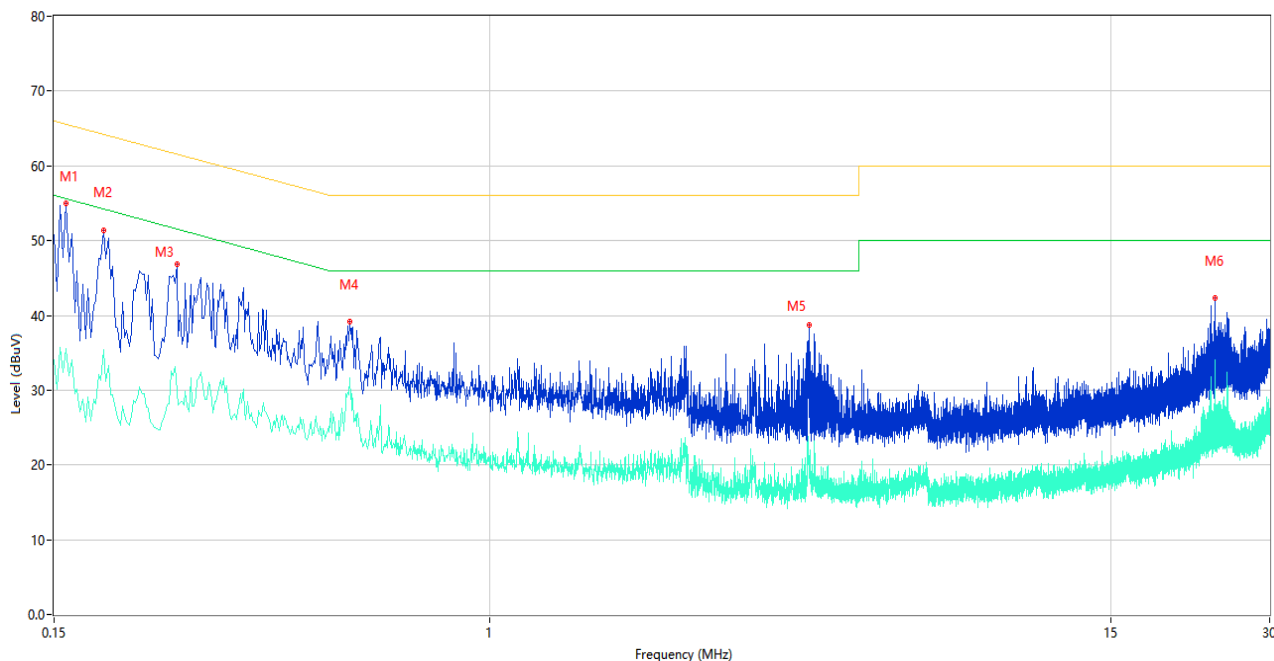
2) AC Ports - N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.194	52.21	10.04	63.86	11.65	Peak	N	Pass
1**	0.194	31.19	10.04	53.86	22.67	AV	N	Pass
2	0.456	44.93	10.52	56.77	11.84	Peak	N	Pass
2**	0.456	30.11	10.52	46.77	16.66	AV	N	Pass
3	0.674	46.33	10.52	56.00	9.67	Peak	N	Pass
3**	0.674	30.43	10.52	46.00	15.57	AV	N	Pass
4	2.178	47.78	10.77	56.00	8.22	Peak	N	Pass
4**	2.178	30.66	10.77	46.00	15.34	AV	N	Pass
5	11.560	55.19	12.65	60.00	4.81	Peak	N	Pass
5**	11.560	37.23	12.65	50.00	12.77	AV	N	Pass
6	22.680	51.22	15.70	60.00	8.78	Peak	N	Pass
6**	22.680	30.60	15.70	50.00	19.40	AV	N	Pass

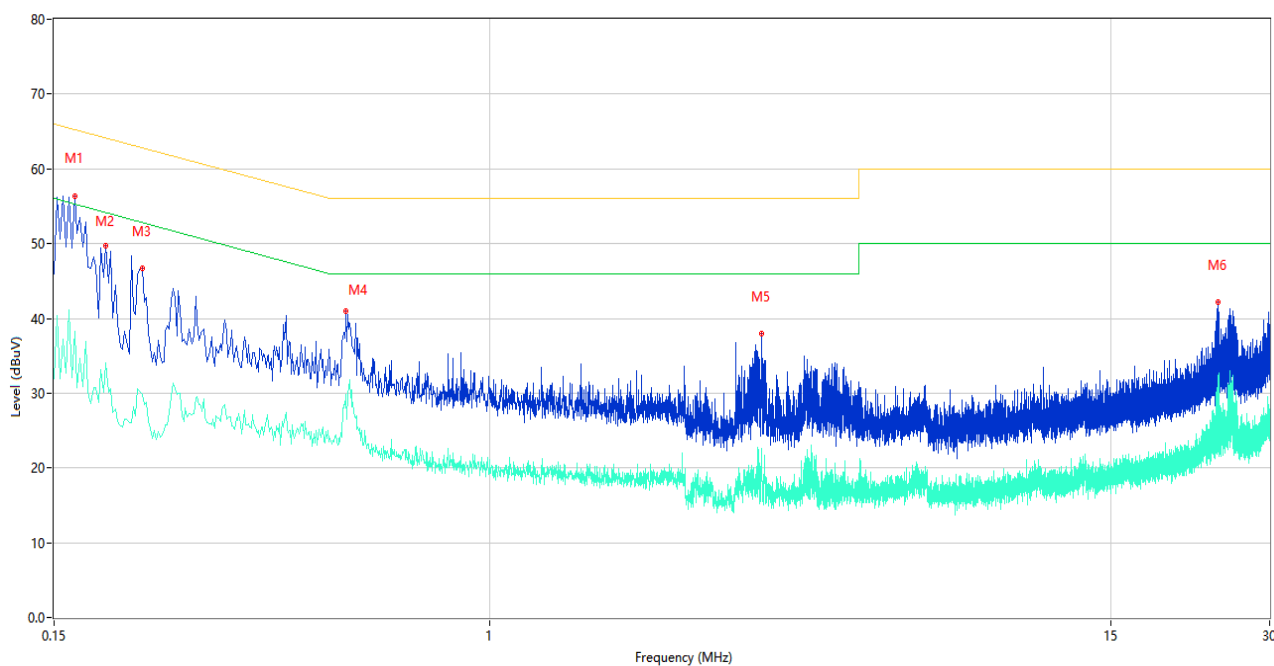
Test Mode 5

3) AC Ports - L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.158	55.05	10.10	65.57	10.52	Peak	L	Pass
1**	0.158	35.51	10.10	55.57	20.06	AV	L	Pass
2	0.186	51.44	10.05	64.21	12.77	Peak	L	Pass
2**	0.186	35.34	10.05	54.21	18.87	AV	L	Pass
3	0.256	46.89	10.03	61.56	14.67	Peak	L	Pass
3**	0.256	29.79	10.03	51.56	21.77	AV	L	Pass
4	0.544	39.21	10.43	56.00	16.79	Peak	L	Pass
4**	0.544	31.66	10.43	46.00	14.34	AV	L	Pass
5	4.036	38.65	10.91	56.00	17.35	Peak	L	Pass
5**	4.036	21.20	10.91	46.00	24.80	AV	L	Pass
6	23.638	42.33	15.93	60.00	17.67	Peak	L	Pass
6**	23.638	31.99	15.93	50.00	18.01	AV	L	Pass

4) AC Ports - N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.164	56.40	10.09	65.26	8.86	Peak	N	Pass
1**	0.164	38.33	10.09	55.26	16.93	AV	N	Pass
2	0.188	49.71	10.04	64.12	14.41	Peak	N	Pass
2**	0.188	34.07	10.04	54.12	20.05	AV	N	Pass
3	0.220	46.64	10.03	62.82	16.18	Peak	N	Pass
3**	0.220	29.85	10.03	52.82	22.97	AV	N	Pass
4	0.536	41.05	10.41	56.00	14.95	Peak	N	Pass
4**	0.536	29.86	10.41	46.00	16.14	AV	N	Pass
5	3.280	37.91	10.92	56.00	18.09	Peak	N	Pass
5**	3.280	21.31	10.92	46.00	24.69	AV	N	Pass
6	23.942	42.15	16.02	60.00	17.85	Peak	N	Pass
6**	23.942	32.41	16.02	50.00	17.59	AV	N	Pass

Equipment Information						
Equipment Name	Supplier	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2024.08.01	2025.07.31	☒
LISN	SCHWARZB ECK	NSLK 8127	8127-687	2024.05.09	2025.05.08	☒
ISN	TESEQ	ISN T800	34449	2024.11.06	2025.11.05	☐
ISN	TESEQ	ISN T8-Cat6	53561	2024.04.24	2025.04.23	☐
Shielded Room	YiHeng Electronic Co., Ltd	3.5m*3.1m*2. 8m	112	2022.02.19	2025.02.18	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ24C0923-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ24C0923-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ24C0923-AI.PDF”.

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--END OF REPORT--