

TEST REPORT

Applicant: HYTTO PTE. LTD.
Address: 152 Beach Road, #11-05 Gateway East, Singapore 189721
Equipment Type: Lovense Webcam 2
Model Name: Lovense Webcam 2
Brand Name: Lovense
Test Standard: AS/NZS CISPR 32: 2015+AMD1:2020
Sample Arrival Date: Jul. 02, 2024
Test Date: Jul. 03, 2024
Date of Issue: Mar. 07, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Liu Chenfang

Checked by: Xiong Chong

Approved by: Sunny Zou
(Technical Director)

Liu Chenfang

Xiong Chong

Sunny Zou

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Mar. 07, 2025</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	☒ 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

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	HYTTO PTE. LTD.
Address	152 Beach Road, #11-05 Gateway East, Singapore 189721

2.2 Manufacturer Information

Manufacturer	HYTTO PTE. LTD.
Address	152 Beach Road, #11-05 Gateway East, Singapore 189721

2.3 General Description for Equipment under Test (EUT)

EUT Name	Loveuse Webcam 2
Model Name Under Test	Loveuse Webcam 2
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Ancillary Equipment

Ancillary Equipment 1	USB cable	
	Length (Approx.)	1.5m

2.5 Technical Information

Network and Wireless connectivity		N/A
Interfaces present on the EUT	AC Ports	No AC Ports
	DC Ports	From power supply to EUT, the DC port cable length is less than 3m.
	Analogue/Digital data Ports	USB, which cable length is less than 3m.
Classification of equipment		Class B

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	AS/NZS CISPR 32: 2015+AMD1:2020	Electromagnetic compatibility of multimedia equipment —Emission requirements

3.2 Verdict

No.	Base Standard	Description	Test Verdict	Remark
Emission				
1	CISPR 32	Radiated Emission	Below 1 GHz	Pass
			Above 1 GHz	Pass
2	CISPR 32	Conducted Emission	AC Ports	--
			Asymmetric Mode	N/A
			Differential Voltage	N/A

Note 1: The highest frequency of the internal sources of the EUT is above 108 MHz, the measurement shall be made above 1 GHz.

Note 2: No AC ports.

Note 3: Only applicable to ports intended to connect to cables longer than 3 m and these ports belong to one of the following types:

- wired network ports;
- optical fibre ports with metallic shield or tension members;
- broadcast receiver tuner ports;
- antenna ports.

Note 4: Only apply to:

- TV broadcast receiver tuner ports with an accessible connector;
- RF modulator output ports ;
- FM broadcast receiver tuner ports with an accessible connector.

Note 5: Compared with the EUT of test report BL-SZ2470097-401, the EUT of this report shows different things as below:

1. Change the information of applicant and manufacturer;
2. Change the EUT Name, Model Name and Brand Name.

Other hardware circuit and software are the same as EUT referred to in test report BL-SZ2470097-401. Therefore, in addition to the above differences, all test data and EUT information are derived from the report BL-SZ2470097-401 published by Shenzhen BALUN Technology Co., Ltd. on Aug. 13, 2024.

3.3 Test Uncertainty

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

Measurement	Value
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	acer	N20C4	N/A	N/A	N/A	☒

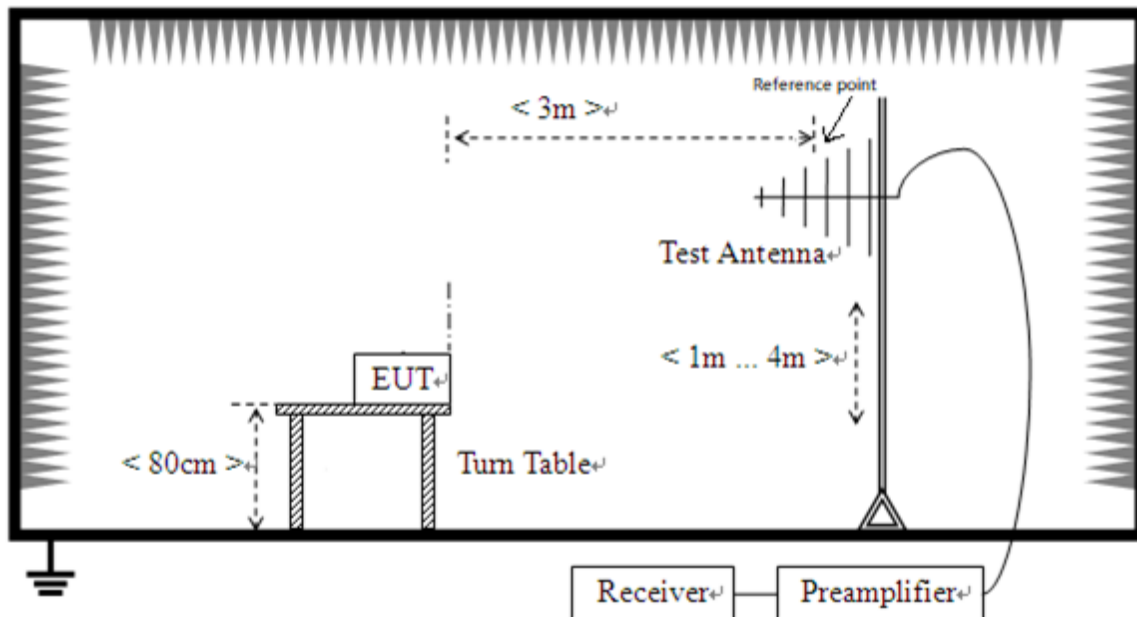
4.2 Test Configurations

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

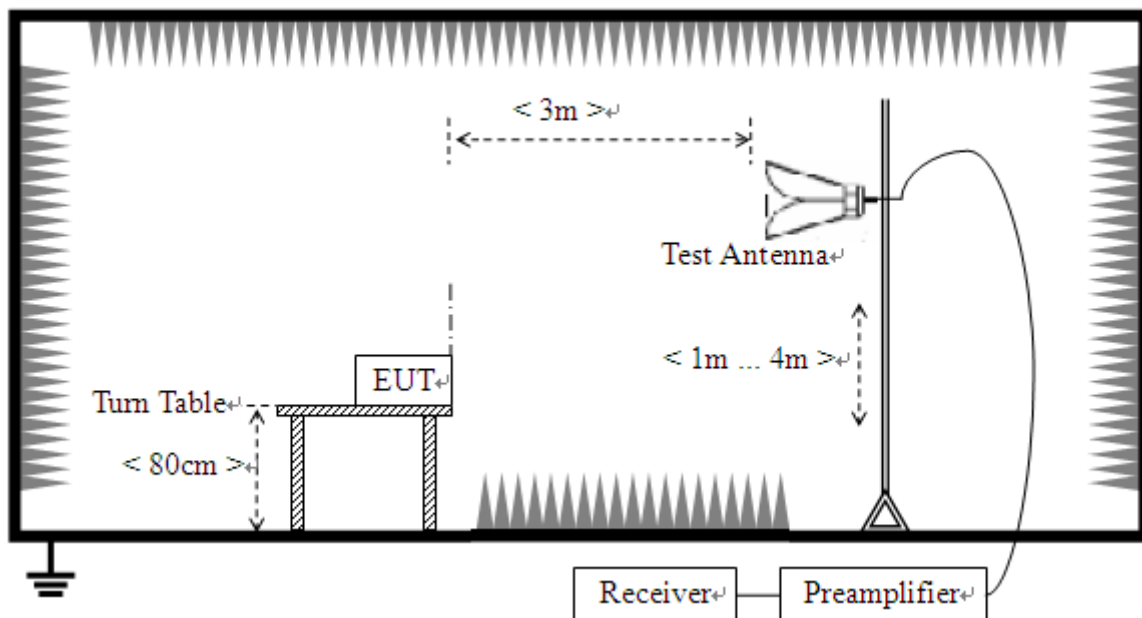
Test Mode Configuration	Description
Mode 1	<u>The Working Test Mode</u> EUT + USB cable + Laptop

4.3 Test Setups

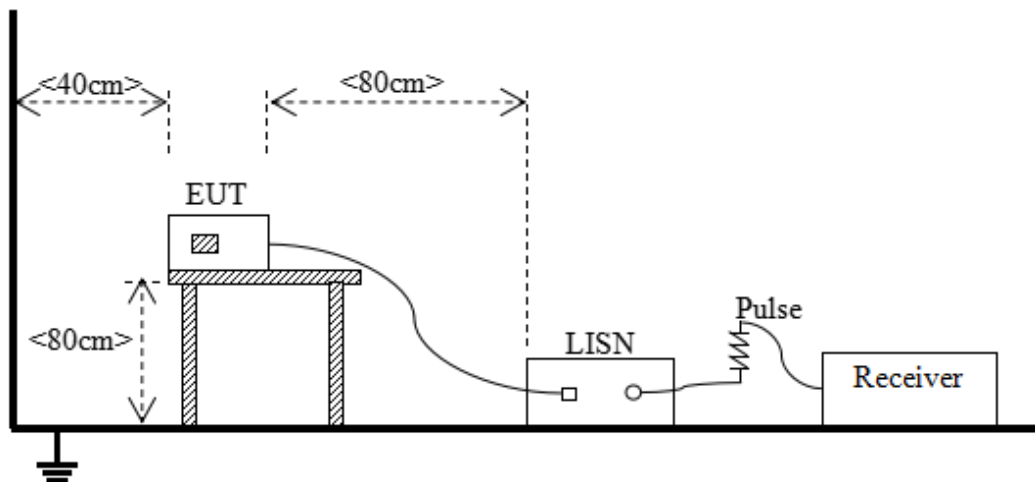
Test Setup 1



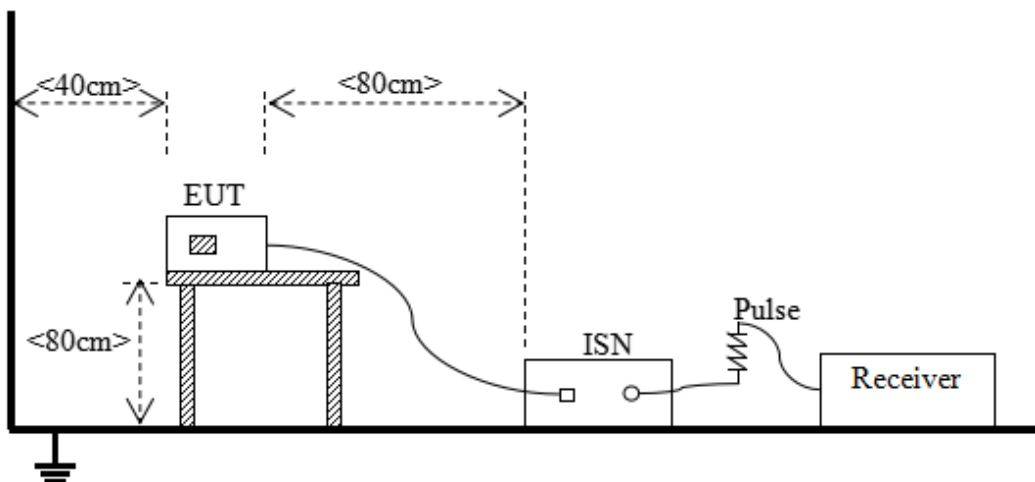
Radiated Emission (30 MHz-1 GHz)



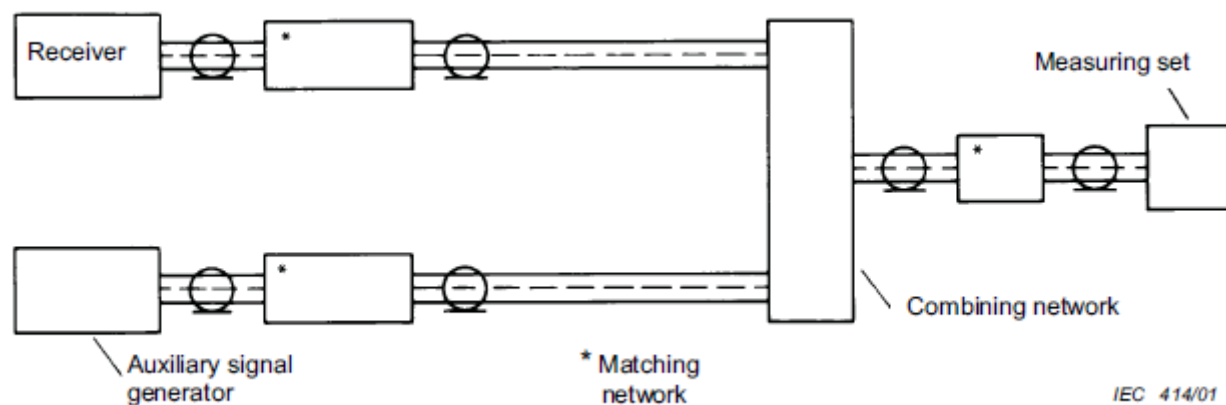
Radiated Emission (above 1 GHz)

Test Setup 2

Conducted Emissions for AC mains power ports

Test Setup 3

Conducted Emissions for asymmetric mode

Test Setup 4

Conducted differential voltage emission (TV/FM broadcast receiver tuner ports)

5 TEST ITEMS

5.1 Emission Tests

5.1.1 Radiated Emission

5.1.1.1 Limit

Frequency range (MHz)	Class A (at 3 m)	Class B (at 3 m)
	Quasi-Peak Limit (dB μ V/m)	Quasi-Peak Limit (dB μ V/m)
30 - 230	50	40
230 - 1000	57	47

Frequency range (MHz)	Class A (at 3 m)		Class B (at 3 m)	
	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)
1000-6000	80	60	74	54

Requirements for radiated emissions from FM receivers

Frequency range (MHz)	Measurement		Quasi-Peak Limit (dB μ V/m) Fundamental	Quasi-Peak Limit (dB μ V/m) Harmonics	Quasi-Peak Limit (dB μ V/m) Other
	Facility	Distance (m)			
30-230	OATS/SAC	10	50	42	30
230-300				42	37
300-1000				46	37
30-230	OATS/SAC	3	60	52	40
230-300				52	47
300-1000				56	47

NOTE:

- 1) The lower limit shall apply at the transition frequency.
- 2) Additional provisions may be required for cases where interference occurs.

5.1.1.1 Test Setup

Please refer to 4.3 section description of test setup of test setup 1. The photo of test setup please refer to ANNEX B.

5.1.1.2 Test Procedure

1. 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.

2. 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

5.1.1.3 Test Result and Test Equipment List

Please refer to ANNEX A.1.

5.1.2 Conducted Emissions for AC Ports

5.1.2.1 Limit

Frequency range (MHz)	Class A		Class B	
	Quasi-peak (dB μ V)	Average (dB μ V)	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	79	66	66-56	56-46
0.50 - 5	73	60	56	46
5 - 30	73	60	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

Please refer to 4.3 section description of test setup of test setup 2. The photo of test setup please refer to ANNEX B.

5.1.2.3 Test Procedure

1. 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.

2. Use the following spectrum analyzer settings:

RBW = 9 kHz

VBW $\geq$ RBW

Sweep = 10 ms

Detector function = peak & Average

Trace = max hold

5.1.2.4 Test Result and Test Equipment List

Please refer to ANNEX A.2.

5.1.3 Conducted Emissions for Asymmetric Mode

5.1.3.1 Limit

Frequency range (MHz)	Class A		Class B	
	Quasi-peak (dB μ V)	Average (dB μ V)	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	97-87	84-74	84-74	74-64
0.50 - 30	87	74	74	64

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.

5.1.3.2 Test Setup

Please refer to 4.3 section description of test setup of test setup 3. The photo of test setup please refer to ANNEX B.

5.1.3.3 Test Procedure

1. Measurement of common mode (asymmetric mode) current or voltage emissions at wired network ports for attachment of unscreened balanced pairs shall be performed with the wired network port connected by a cable to an AAN. The AAN shall define the common mode termination impedance seen by the wired network port during the emission measurements.
2. The voltage division factor shall be added to the measured voltage measured by the receiver directly at the voltage measurement port of the AAN and the result compared with the voltage limits as applicable.
3. Use the following spectrum analyzer settings:

RBW = 9 kHz

VBW $\geq$ RBW

Sweep = 10 ms

Detector function = peak & Average

Trace = max hold

5.1.3.4 Test Result and Test Equipment List

Please refer to ANNEX A.3.

5.1.4 Conducted Differential Voltage Emissions

5.1.4.1 Limit

Applicability	Frequency range (MHz)	Differential voltage limit @75Ω(dBμV)		
		Local Oscillator Fundamental	Local Oscillator Harmonics	Other
Television receivers; video recorders; PC TV broadcast receiver tuner cards; Digital audio receivers	30 to 950	46	46	46
	950 to 2150	54	54	46
Tuner units (not the LNB) for satellite signal reception	950 to 2150	54	54	46
FM audio receivers and PC tuner cards	30 to 300	54	50	46
	300 to 1000	54	52	46
FM car radios	30 to 300	66	59	46
	300 to 1000	66	52	46
RF modulator output ports connect to TV broadcast receiver tuner ports	30 to 950	76	46	46
	950 to 2150	N/A	54	46

5.1.4.2 Test Setup

Please refer to 4.3 section description of test setup of test setup 4. The photo of test setup please refer to ANNEX B.

5.1.4.3 Test Procedure

1. The impedance as seen from the TV/FM broadcast receiver tuner port of the EUT shall be equal to the nominal antenna input impedance for which the port has been designed. The EUT shall be tuned to the wanted signal from the AE (signal generator). The emission level shall be measured across the relevant frequency range taking into account the attenuation between the EUT TV/FM broadcast receiver tuner port and the measurement device.

2. The RF modulator output port of the EUT is connected to the input of the measuring device by means of a coaxial cable and a matching network (if necessary). The characteristic impedance of the cable shall be equal to the nominal output impedance of the EUT. The EUT shall produce an RF carrier modulated by a video signal defined. The RF output level shall be obtained by adding the insertion loss of the matching network to the indication of the measuring device (tuned to the video carrier frequency and its harmonics).

3. Use the following spectrum analyzer settings:

RBW = 9 kHz

VBW ≥ RBW

Sweep = 10 ms

Detector function =peak & Average

Trace = max hold

5.1.4.4 Test Result and Test Equipment List

Please refer to ANNEX A.4.

ANNEX A TEST RESULTS

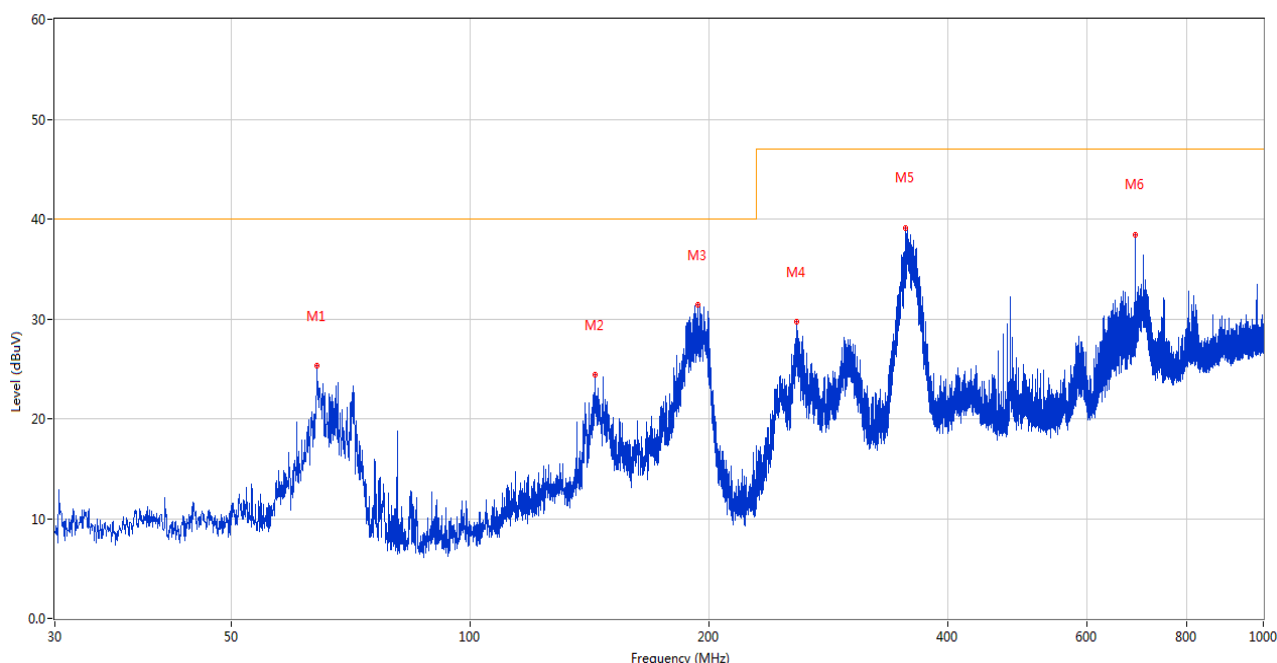
A.1 Radiated Emission

Note 1: Measurements shall be made with a quasi-peak measuring receiver in the frequency range 30 MHz to 1000 MHz. To reduce the testing time, a peak measuring receiver may be used instead of a quasi-peak measuring receiver. In case of dispute, measurement with a quasi-peak measuring receiver will take precedence.

Sample No.	S13+S24+S44	Temperature	24.5℃
Humidity	55%RH	Pressure	101kPa
Test Engineer	Cao Shaodong	Test Date	2024.07.03

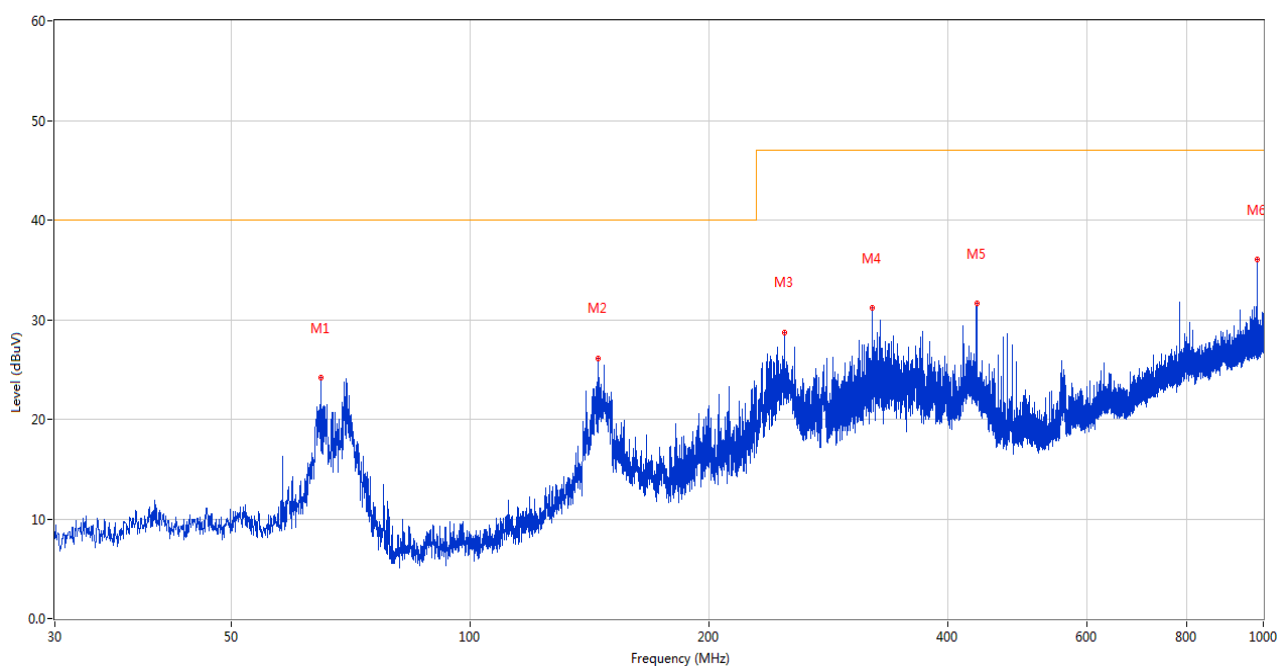
Test Mode 1

1) Test Antenna Vertical, 30 MHz – 1 GHz



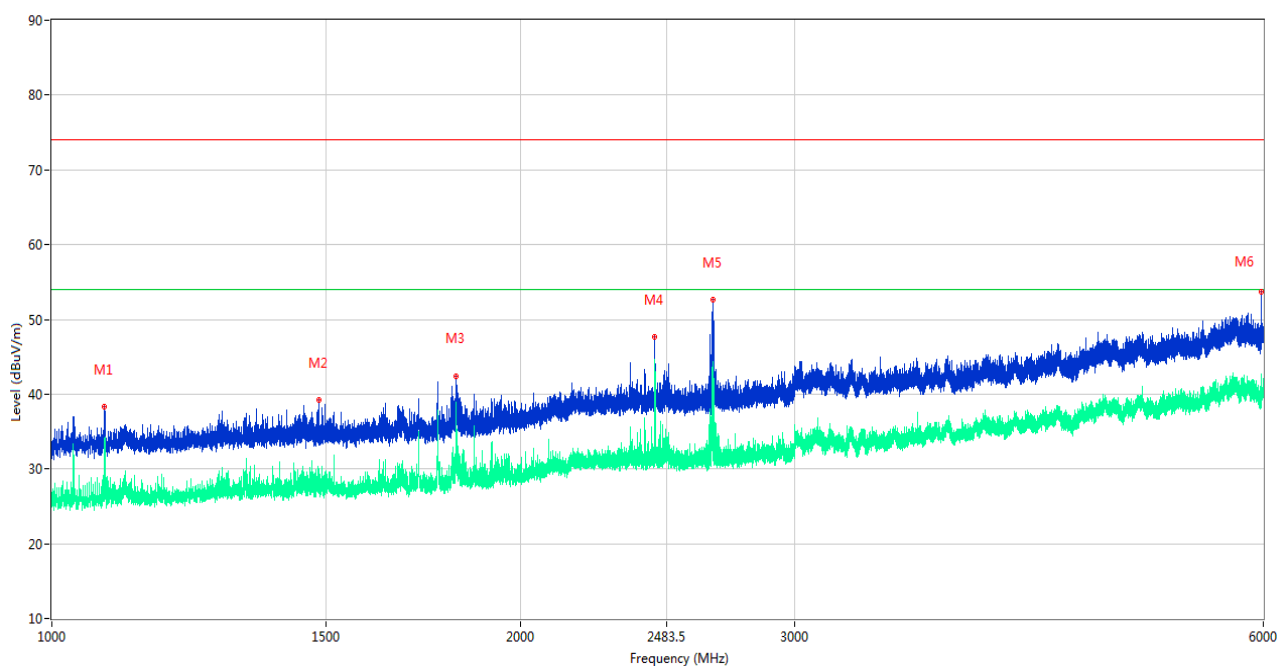
No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	64.192	25.31	-28.12	40.0	14.69	Peak	85.00	100	Vertical	Pass
2	143.830	24.37	-26.28	40.0	15.63	Peak	49.00	100	Vertical	Pass
3	193.688	31.37	-28.37	40.0	8.63	Peak	69.00	100	Vertical	Pass
4	258.047	29.67	-26.57	47.0	17.33	Peak	31.00	200	Vertical	Pass
5	353.980	39.13	-23.50	47.0	7.87	Peak	13.00	200	Vertical	Pass
6	690.182	38.46	-14.75	47.0	8.54	Peak	129.00	100	Vertical	Pass

2) Test Antenna Horizontal, 30 MHz – 1 GHz



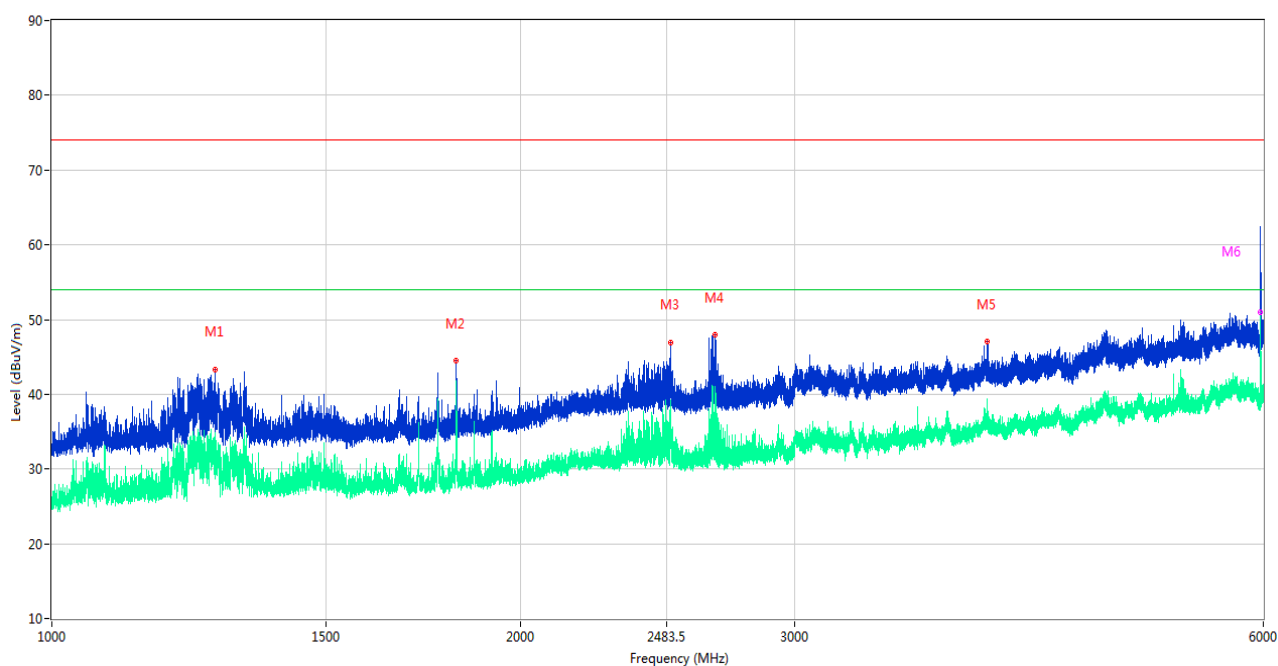
No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	64.969	24.16	-28.08	40.0	15.84	Peak	360.00	200	Horizontal	Pass
2	145.188	26.15	-26.18	40.0	13.85	Peak	177.00	200	Horizontal	Pass
3	249.559	28.73	-26.79	47.0	18.27	Peak	106.00	100	Horizontal	Pass
4	321.485	31.19	-23.97	47.0	15.81	Peak	99.00	100	Horizontal	Pass
5	435.169	31.65	-20.57	47.0	15.35	Peak	102.00	200	Horizontal	Pass
6	983.025	36.02	-9.89	47.0	10.98	Peak	348.00	100	Horizontal	Pass

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	1081.400	38.32	-16.63	74.0	35.68	Peak	203.00	100	Vertical	Pass
1**	1081.400	34.08	-16.63	54.0	19.92	AV	203.00	100	Vertical	Pass
2	1483.800	39.20	-16.48	74.0	34.80	Peak	148.00	100	Vertical	Pass
2**	1483.800	27.36	-16.48	54.0	26.64	AV	148.00	100	Vertical	Pass
3	1818.600	42.46	-16.09	74.0	31.54	Peak	153.00	100	Vertical	Pass
3**	1818.600	38.91	-16.09	54.0	15.09	AV	153.00	100	Vertical	Pass
4	2440.000	47.65	-11.62	74.0	26.35	Peak	324.00	100	Vertical	Pass
4**	2440.000	43.50	-11.62	54.0	10.50	AV	324.00	100	Vertical	Pass
5	2658.900	52.64	-10.89	74.0	21.36	Peak	73.00	100	Vertical	Pass
5**	2658.900	43.50	-10.89	54.0	10.50	AV	73.00	100	Vertical	Pass
6	5985.450	53.67	0.61	74.0	20.33	Peak	208.00	100	Vertical	Pass
6**	5985.450	40.15	0.61	54.0	13.85	AV	208.00	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	1272.200	43.35	-16.73	74.0	30.65	Peak	203.00	100	Horizontal	Pass
1**	1272.200	32.52	-16.73	54.0	21.48	AV	203.00	100	Horizontal	Pass
2	1818.300	44.47	-16.14	74.0	29.53	Peak	239.00	100	Horizontal	Pass
2**	1818.300	40.01	-16.14	54.0	13.99	AV	239.00	100	Horizontal	Pass
3	2498.500	46.98	-10.89	74.0	27.02	Peak	139.00	100	Horizontal	Pass
3**	2498.500	35.76	-10.89	54.0	18.24	AV	139.00	100	Horizontal	Pass
4	2668.000	47.99	-10.81	74.0	26.01	Peak	134.00	100	Horizontal	Pass
4**	2668.000	39.19	-10.81	54.0	14.81	AV	134.00	100	Horizontal	Pass
5	3987.000	47.09	-6.37	74.0	26.91	Peak	167.00	100	Horizontal	Pass
5**	3987.000	37.48	-6.37	54.0	16.52	AV	167.00	100	Horizontal	Pass
6	5974.200	46.57	0.35	74.0	27.43	Peak	63.00	100	Horizontal	Pass
6**	5974.200	50.95	0.35	54.0	3.05	AV	63.00	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	☒
Amplifier (30MHz-1GHz)	COM-MV	ZT30-1000M	B2017119081	2023.12.05	2024.12.04	☒
Test Antenna-Bi-Log	SCHWARZB ECK	VULB 9168	9168-00867	2022.04.12	2025.04.11	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2021.08.19	2024.08.18	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒
Frequency Above 1 GHz						
EMI Receiver	Keysight	N9038A	MY55330120	2023.09.05	2024.09.04	☒
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2023.12.05	2024.12.04	☒
Test Antenna-Horn	SCHWARZB ECK	BBHA 9120D	01917	2022.06.09	2025.06.08	☒
Anechoic Chamber (#2)	YiHeng	9m*6m*6m	142	2021.08.19	2024.08.18	☒
Description	Supplier	Name	Version	/		Use
Test Software	BALUN	BL410-E	V22.930	/		☒

A.2 Conducted Emission for AC Mains Power Ports

Note: Not applicable.

A.3 Conducted Disturbance for Asymmetric Mode

Note: Not applicable.

A.4 Conducted Differential Voltage Emission

Note: Not applicable.

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ24B1238-AE.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ24B1238-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ24B1238-AI.PDF”.

Statement

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--END OF REPORT--