

CE/EMC COMPLIANCE REPORT For

Dongguan Jingheng Electron Co., Ltd.

Active Loudspeaker System

Prepared for : Dongguan Jingheng Electron Co., Ltd.
Address : Room 101, Building 1, No. 15, Shenle 1st Road, Hengli Town,
Dongguan City, 523465 Guangdong, P. R. China

Prepared by : EST Technology Co., Ltd.
Address : Chilingxiang, Qishantou, Santun, Houjie, Dongguan,
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Report Number : ESTE-E2404080
Date of Report : Apr. 23, 2024

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Applicant:	Dongguan Jingheng Electron Co., Ltd.		
Address:	Room 101, Building 1, No. 15, Shenle 1st Road, Hengli Town, Dongguan City, 523465 Guangdong, P. R. China		
Manufacturer:	Dongguan Jingheng Electron Co., Ltd.		
Address:	Room 101, Building 1, No. 15, Shenle 1st Road, Hengli Town, Dongguan City, 523465 Guangdong, P. R. China		
Factory:	Dongguan Jinheng Electron Co., Ltd.		
Address:	No. 15, Shenle 1st Road, Hengli Town, Dongguan City, 523465 Guangdong, P.R. China		
E.U.T:	Active Loudspeaker System		
Model Number:	MegaSys 1, AXV15.12		
Trade Name:	SHOW, TOPP PRO	Serial No:	-----
Date of Receipt:	Apr. 10, 2024	Date of Test:	Apr. 16, 2024~Apr. 17, 2024
Test Specification:	EN 55032:2015+A1:2020/ BS EN 55032:2015+A1:2020 EN 55035:2017+A11:2020/ BS EN 55035:2017+A11:2020 EN IEC 61000-3-2:2019+A1:2021/ BS EN IEC 61000-3-2:2019+A1:2021 EN 61000-3-3:2013+A1:2019+A2:2021/ BS EN 61000-3-3:2013+A1:2019+A2:2021		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied.		
		Issue Date: Apr. 23, 2024	
Prepared by:	Reviewed by:	Approved by:	
			
Lena Jin / Assistant	Bible Hu / Engineer	Iceman Hu / Manager	
Other Aspects:	None.		
Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested			
This test report is based on a single evaluation of one sample of above mentioned products, It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd. The statement of compliance in this report is based on the limit in the test standard, the measurement uncertainty is not considered.			

1. GENERAL PRODUCT INFORMATION

1.1. Product Function

Refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

Description	: Active Loudspeaker System
Model No.	: MegaSys 1
System Input Voltage	: AC 110-240V, 50/60Hz
Work Freq.	: 2.4GHz
Power	: 1200 W
AC Line	: Unshielded, Detachable 2.0m
INPUT Line	: Unshielded, Detachable 1.2m
OUTPUT Line	: Unshielded, Detachable 1.2m

1.3. Difference between Model Numbers

Note: They are identical except model name.

1.4. Independent Operation Modes

The basic operation modes are:

1.4.1.INPUT

1.4.2. Bluetooth Mode

1.5. Test Supporting System

2. TEST SITES

2.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION				
Description of Test Item	Standard	Limits		Results
Conducted emissions (AC mains power ports)	EN 55032:2015+A1:2020	Class B	PASS	
		Minimum passing margin is 13.15dB at 7.29MHz		
Asymmetric mode conducted emissions	EN 55032:2015+A1:2020	Class B	N/A	
		Minimum passing margin is ***dB at ***MHz		
Conducted differential voltage emissions	EN 55032:2015+A1:2020	Class B	N/A	
		More than *** dB below the limit line.		
Radiated Emission	EN 55032:2015+A1:2020	Class B	PASS	
		Minimum passing margin is 4.79dB at 184.23MHz		
Radiated Emission Test (above 1GHz)	EN 55032:2015+A1:2020	Class B	PASS	
		Minimum passing margin is 11.32dB at 5800MHz		
Harmonic current emissions	EN IEC 61000-3-2:2019+A1:2021	Class A	N/A	
Voltage fluctuations & flicker	EN 61000-3-3:2013+A1:2019+A2:2021	Section 4.5	PASS	
IMMUNITY (EN 55035:2017+A11:2020)				
Description of Test Item	Basic Standard	Performance Criteria	Observation Criteria	Results
Electrostatic discharge (ESD)	EN 61000-4-2:2009	B	B	PASS
Radio-frequency,Continuous radiated disturbance	EN 61000-4-3:2006+A1:2008+A2:2010	A	A	PASS
Electrical fast transient (EFT)	EN 61000-4-4:2012	B	B	PASS
Surge (Input a.c. power port)	EN 61000-4-5:2014	B	B	PASS
Radio-frequency, Continuous conducted disturbance	EN 61000-4-6:2014	A	A	PASS
Power frequency magnetic field	EN 61000-4-8:2010	A	A	PASS
Voltage dips, >95% reduction	EN 61000-4-11:2004	B	B	PASS
Voltage dips, 30% reduction		C	C	PASS
Voltage interruptions		C	C	PASS
N/A is an abbreviation for Not Applicable.				

2.2.Test Facilities

EMC Lab : Accredited by CNAS, CHINA
Registration No.: L5288
This Accreditation is valid until: November 12, 2029

Recognized by FCC, USA
Designation Number: CN1215
This Recognition is valid until: January 31, 2026

Accredited by A2LA, USA
Registration No.: 4366.01
This Accreditation is valid until: January 31, 2026

Recognized by Industry Canada
CAB identifier No.: CN0035
This Recognition is valid until: January 31, 2026

Recognized by VCCI, Japan
Registration No.:C-14103; T-20073; R-13663;
R-20103; G-20097
Date of registration: Apr. 20, 2020
This Recognition is valid until: Apr. 19, 2026

Recognized by TUV Rheinland, Germany
Registration No.: UA 50413872 0001
Date of registration: July 31, 2018

Recognized by Intertek
Registration No.: 2011-RTL-L2-64
Date of registration: November 08, 2018

Name of Firm : EST Technology Co., Ltd.

Site Location : Chilingxiang, Qishantou, Santun, Houjie, Dongguan,
Guangdong, China

2.3.List of Test and Measurement Instruments

2.3.1.For conducted emission at the mains terminals test (2# conduction)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCI3	EST-E071	Jun. 12, 2023	Jun. 11, 2024
Artificial Mains Network	Rohde & Schwarz	ENV216	EST-E048	Jun. 12, 2023	Jun. 11, 2024
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	EST-E078	Jun. 12, 2023	Jun. 11, 2024
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A

2.3.2.For radiated emission test (1# 966 radiation)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESR7	EST-E047	Jun. 12, 2023	Jun. 11, 2024
Bilog Antenna	Teseq	CBL 6111D	EST-E034	Jun. 12, 2023	Jun. 11, 2024
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A

2.3.3.For radiated emission test (above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESR7	EST-E047	Jun. 12, 2023	Jun. 11, 2024
Horn Antenna	SCHWARZBECK	BBHA 9120 D	EST-E031	Jun. 12, 2023	Jun. 11, 2024
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A

2.3.4.For harmonic current emissions and voltage fluctuations/flicker test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Analyzer	California Instruments	3001IX-208-CTS	EST-E011	Jun. 12, 2023	Jun. 11, 2024
Voltage Source	California Instruments	3001IX-208	EST-E012	Jun. 12, 2023	Jun. 11, 2024
Test Software	California Instruments	CTS	N/A	N/A	N/A

2.3.5.For electrostatic discharge immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
ESD Generator	Teseq	NSG437	EST-E132	Jun. 12, 2023	Jun. 11, 2024

2.3.6.For electrical fast transient/burst immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EFT Generator	EMC PARTNER	TRANSIENT 2000	EST-E074	Jun. 12, 2023	Jun. 11, 2024
Capacitive Coupling Clamp	HAEFELY	IP4A	EST-E040	Jun. 12, 2023	Jun. 11, 2024

2.3.7.Radio Frequency Electromagnetic Field Immunity (R/S) Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Signal Generator	Agilent	N5181A	EST-E060	Jun. 12, 2023	Jun. 11, 2024
Power Amplifier	SKET	HAP801000M-250W	EST-E061	N/A	N/A
Power Amplifier	SKET	HAP0103G-75W	EST-E062	N/A	N/A
Power Amplifier	SKET	HAP0306G-50W	EST-E063	N/A	N/A
Power Meter	Agilent	E4419B	EST-E064	Jun. 12, 2023	Jun. 11, 2024
Power sensor	Agilent	E9301A	EST-E065	Jun. 12, 2023	Jun. 11, 2024
Power sensor	HP	E9301A	EST-E066	Jun. 12, 2023	Jun. 11, 2024
Antenna	Schwarzbeck	STLP 9129	EST-E059	N/A	N/A
E-Field Probe	Narda	EP-601	EST-E067	Jun. 12, 2023	Jun. 11, 2024
Audio Analyzer	Rohde &Schwarz	UPV	EST-E024	Jun. 12, 2023	Jun. 11, 2024
Test Software	SKET	EMC-S	V1.2.0.48	N/A	N/A

2.3.8.For surge immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Surge Controller	HAEFELY	PSURGE8000	EST-E015	Jun. 12, 2023	Jun. 11, 2024
Surge Impulse Module	HAEFELY	PIM100	EST-E016	Jun. 12, 2023	Jun. 11, 2024
Surge Coupling Network	HAEFELY	PCD100	EST-E017	Jun. 12, 2023	Jun. 11, 2024

2.3.9.For injected currents susceptibility test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Signal Generator	Rohde &Schwarz	SMB100A	EST-E025	Jun. 12, 2023	Jun. 11, 2024
Power Amplifier	FRANKONIA	CIT-10	EST-E021	N/A	N/A
Power Meter	Rohde &Schwarz	NRVS	EST-E027	Jun. 12, 2023	Jun. 11, 2024
Audio Analyzer	Rohde &Schwarz	UPV	EST-E024	Jun. 12, 2023	Jun. 11, 2024
CDN	FRANKONIA	CDN-M2+M3	EST-E022	Jun. 12, 2023	Jun. 11, 2024
EM-Clamp	FRANKONIA	EMCL-20	EST-E042	Jun. 12, 2023	Jun. 11, 2024
Test Software	SKET	EMC-S	V1.2.0.80	N/A	N/A

2.3.10.For power frequency magnetic field immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Magnetic Field Tester	HAEFELY	MFS 100	EST-E018	Jun. 12, 2023	Jun. 11, 2024

2.3.11.For voltage dips and short interruptions immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Fail Simulator	3ctest	PFS 2216SD	EST-E136	Aug. 01, 2023	Jul. 31, 2024

Note: All calibration reports of the equipment were provided by LiSai calibration and Testing

3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

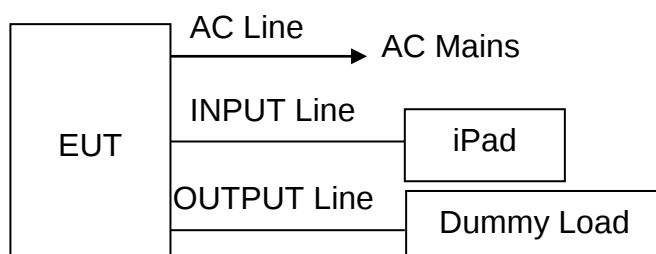
Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

Immunity: The equipment under test (EUT) was configured to the representative operating mode and conditions.

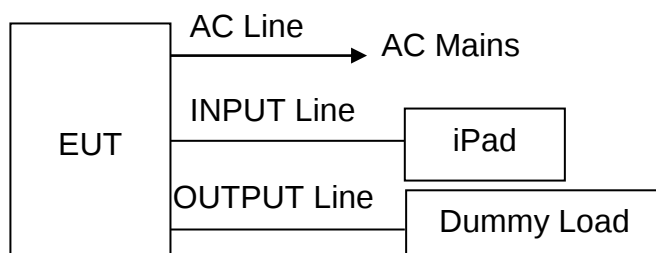
3.2. Block Diagram of Test Set-up

System Diagram of Connections Between EUT and Auxiliary equipment

3.2.1. For emission test



3.2.2. For immunity test



(EUT: Active Loudspeaker System)

3.3. Test Operation Mode and Test Software

Refer to Test Setup in clause 4 & 5.

3.4. Special Accessories and Auxiliary Equipment

3.4.1. iPad

M / N	:	A1893
S / N	:	DMPY3KL5JF8K
Manufacturer	:	Apple

3.5. Countermeasures to Achieve EMC Compliance

None.

4. EMISSION TEST RESULTS

4.1. Conducted Emission at the Mains Terminals Test

RESULT : **Pass**
Test procedure : EN 55032:2015+A1:2020
Frequency : 0.15~30MHz
Test Site : 2# Conduction Shielded Room
Limits : EN 55032:2015+A1:2020 Class B

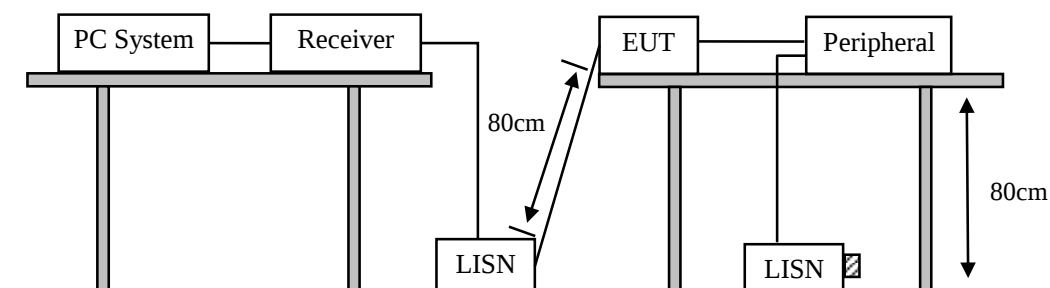
Test Setup

Date of test : Apr. 16, 2024
Model No. : MegaSys 1
Input Voltage : AC 230V/50Hz, AC 110V/60Hz
Operation Mode : INPUT, Bluetooth Mode

The bandwidth of the test receiver was set at 9kHz.

The frequency range from 150 kHz to 30 MHz was investigated.

The test data of the worst case condition(s) was reported on the following page.



Note: Test uncertainty: $\pm 3.42\text{dB}$ at a level of confidence of 95%.(2#CE)

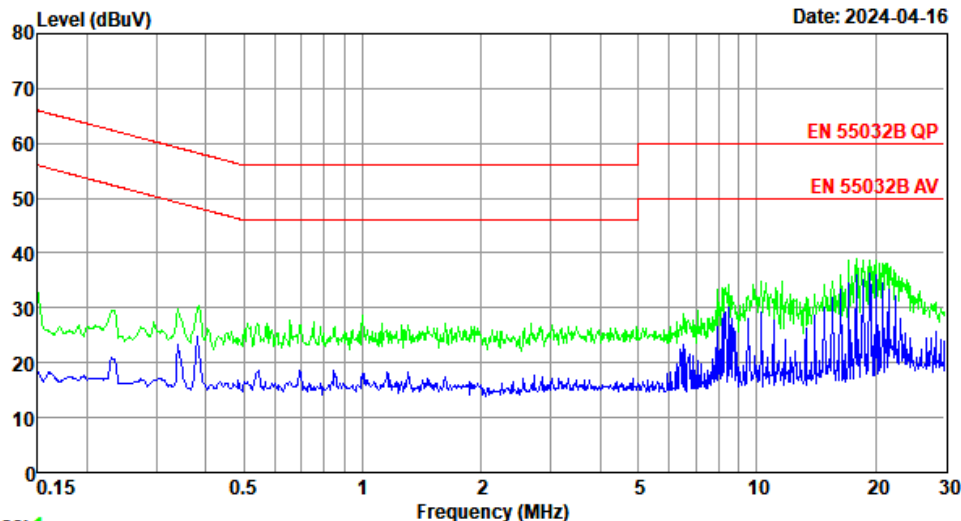
Test Data

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Data: 2 File: \\EMC-CE-2\Test Data\2024\Jjingheng.EM6 (586)

Date: 2024-04-16



Trace: 1

Site no : 2#CE Shield Room Data no. : 2
Env. / Ins. : Temp:24.8°C Humi:65% Press:101.50kPa LINE Phase : NEUTRAL
Limit : EN 55032B QP
Engineer : XJF
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : INPUT

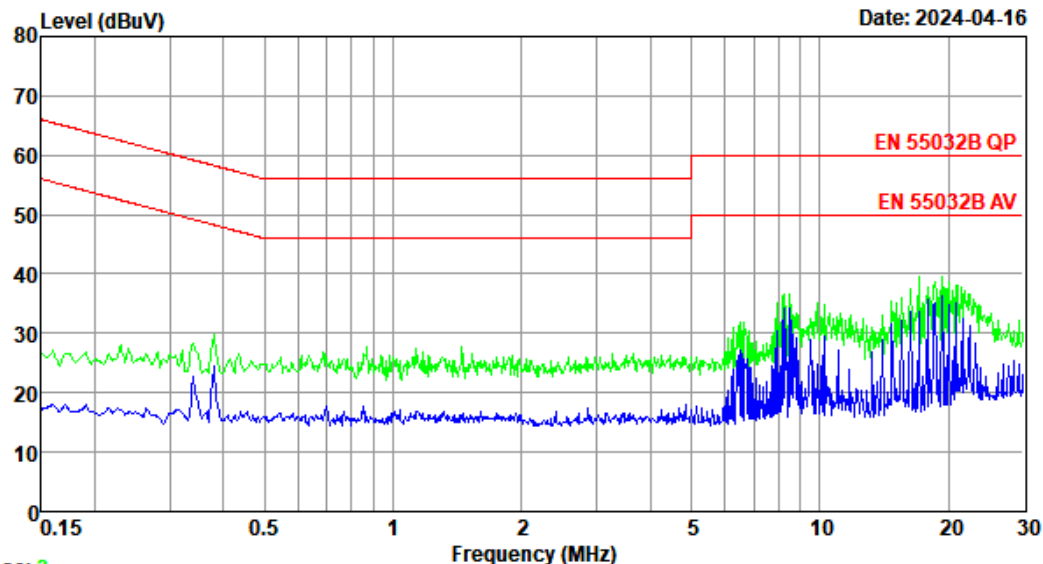
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Data: 4

File: \\EMC-CE-2\Test Data\2024\Jjingheng.EM6 (586)

Date: 2024-04-16



Trace: 3

Site no : 2#CE Shield Room Data no. : 4
Env. / Ins. : Temp:24.8°C Humi:65% Press:101.50kPa LINE Phase : LINE
Limit : EN 55032B QP
Engineer : XJF
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : INPUT

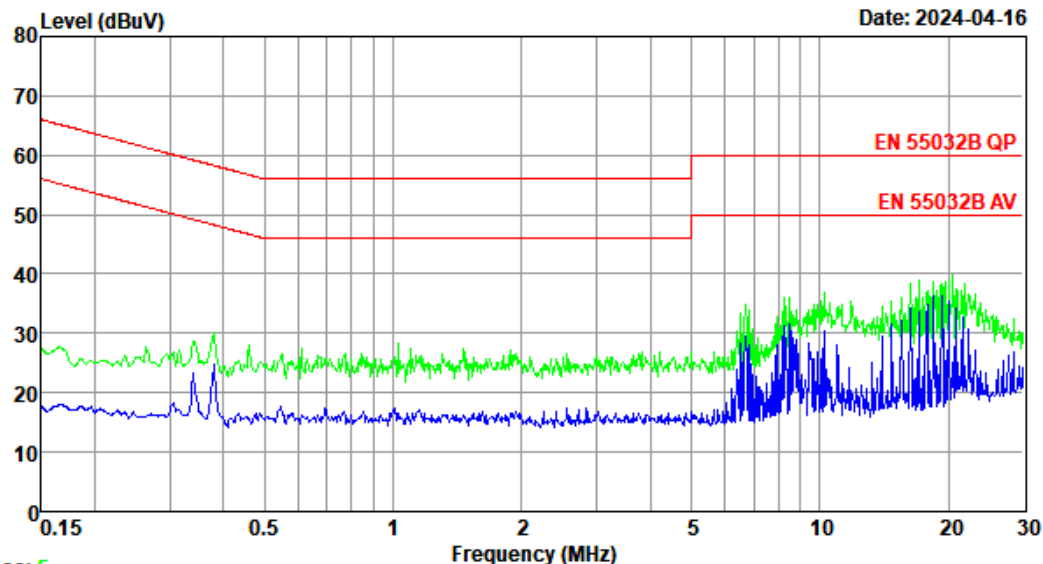
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Data: 6

File: \\EMC-CE-2\Test Data\2024\Jjingheng.EM6 (586)

Date: 2024-04-16



Trace: 5

Site no : 2#CE Shield Room Data no. : 6
Env. / Ins. : Temp:24.8°C Humi:65% Press:101.50kPa LINE Phase : LINE
Limit : EN 55032B QP
Engineer : XJF
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : INPUT

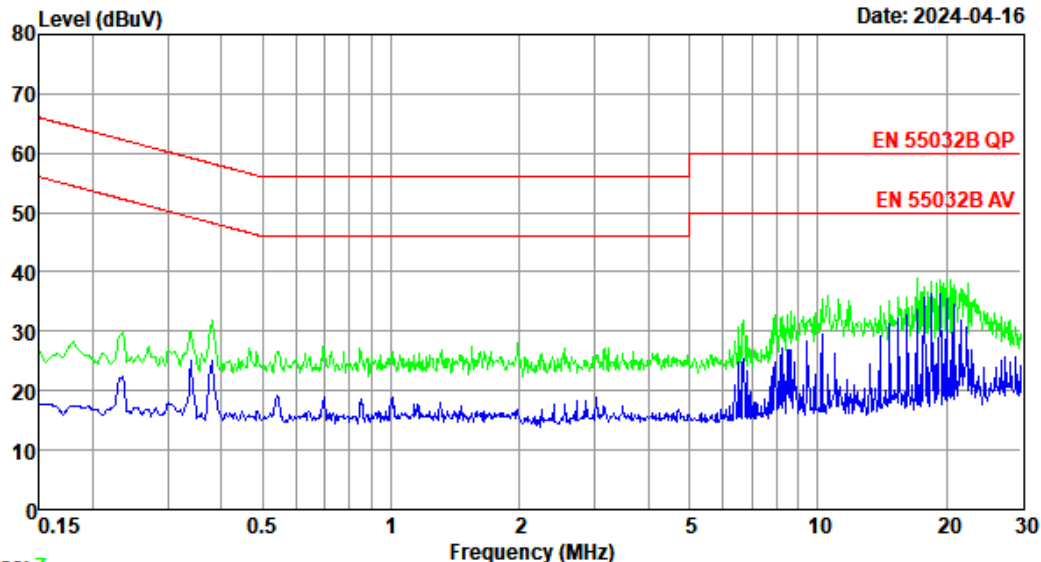
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Data: 8

File: \\EMC-CE-2\Test Data\2024\Jjingheng.EM6 (586)

Date: 2024-04-16



Trace: 7

Site no : 2#CE Shield Room Data no. : 8
Env. / Ins. : Temp:24.8°C Humi:65% Press:101.50kPa LINE Phase : NEUTRAL
Limit : EN 55032B QP
Engineer : XJF
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : INPUT

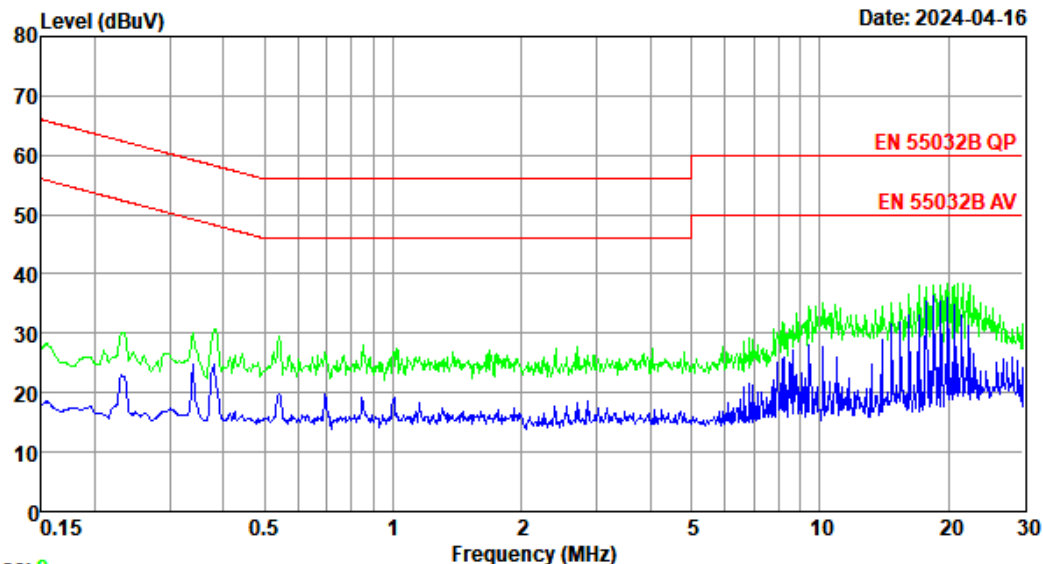
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Data: 10

File: \\EMC-CE-2\Test Data\2024\Jjingheng.EM6 (586)

Date: 2024-04-16



Trace: 9

Site no : 2#CE Shield Room Data no. : 10
Env. / Ins. : Temp:24.8°C Humi:65% Press:101.50kPa LINE Phase : NEUTRAL
Limit : EN 55032B QP
Engineer : XJF
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

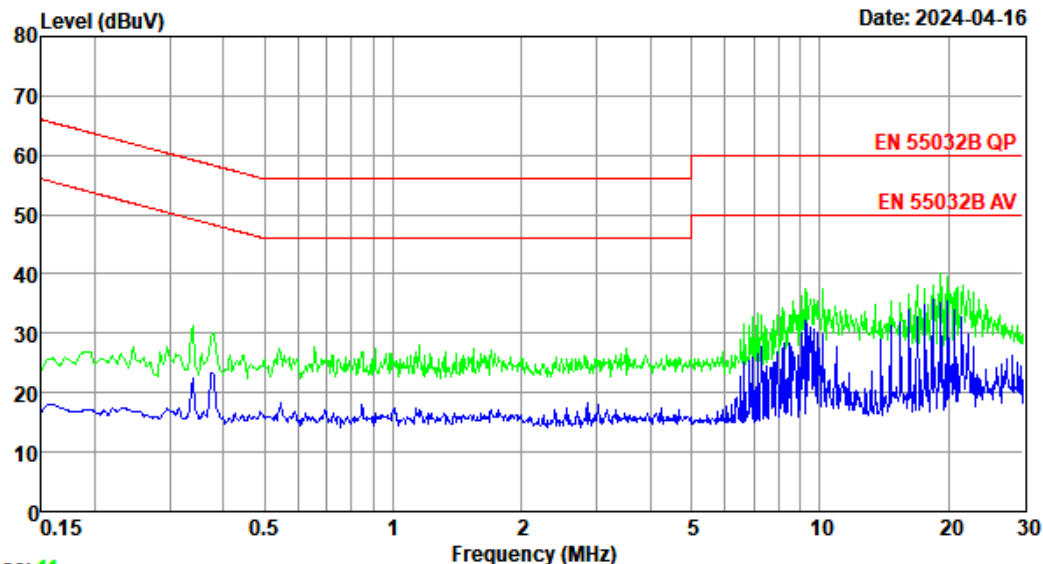
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Data: 12

File: \\EMC-CE-2\Test Data\2024\Jjingheng.EM6 (586)

Date: 2024-04-16



Trace: 11

Site no : 2#CE Shield Room Data no. : 12
Env. / Ins. : Temp:24.8°C Humi:65% Press:101.50kPa LINE Phase : LINE
Limit : EN 55032B QP
Engineer : XJF
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

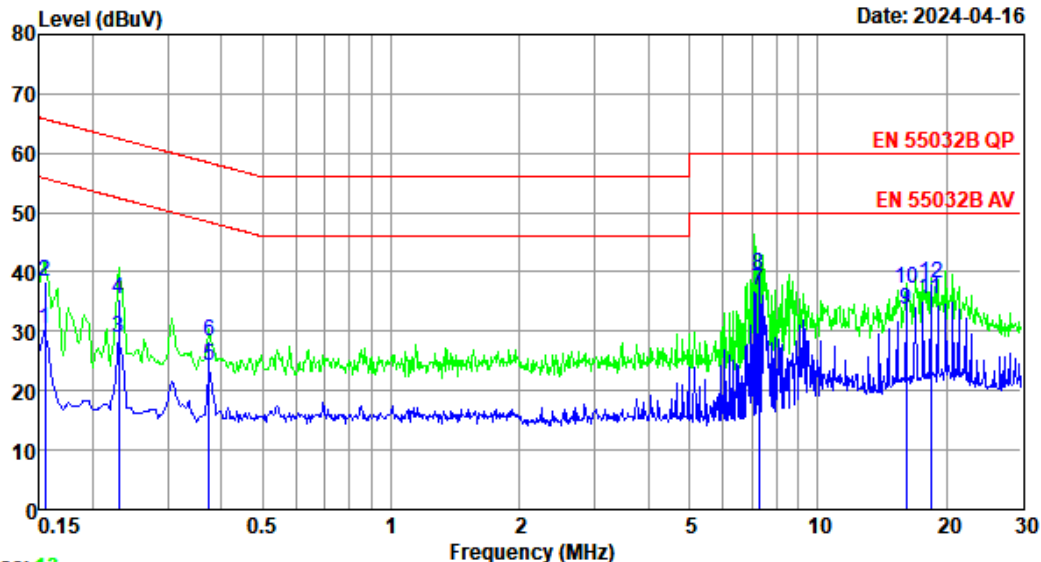
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Data: 14

File: \\EMC-CE-2\Test Data\2024\Jjingheng.EM6 (586)

Date: 2024-04-16



Trace: 13

Site no : 2#CE Shield Room Data no. : 14
Env. / Ins. : Temp:24.8°C Humi:65% Press:101.50kPa LINE Phase : LINE
Limit : EN 55032B QP
Engineer : XJF
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15	10.12	9.89	10.53	30.54	55.74	25.20	Average
2	0.15	10.12	9.89	18.40	38.41	65.74	27.33	QP
3	0.23	10.16	9.94	8.91	29.01	52.44	23.43	Average
4	0.23	10.16	9.94	15.20	35.30	62.44	27.14	QP
5	0.38	10.12	9.89	4.13	24.14	48.39	24.25	Average
6	0.38	10.12	9.89	8.20	28.21	58.39	30.18	QP
7	7.29	10.14	9.99	16.72	36.85	50.00	13.15	Average
8	7.29	10.14	9.99	19.50	39.63	60.00	20.37	QP
9	16.14	10.51	10.11	12.95	33.57	50.00	16.43	Average
10	16.14	10.51	10.11	16.50	37.12	60.00	22.88	QP
11	18.43	10.63	10.22	14.45	35.30	50.00	14.70	Average
12	18.43	10.63	10.22	17.20	38.05	60.00	21.95	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. If the average limit is met when using a quasi-peak detector,
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

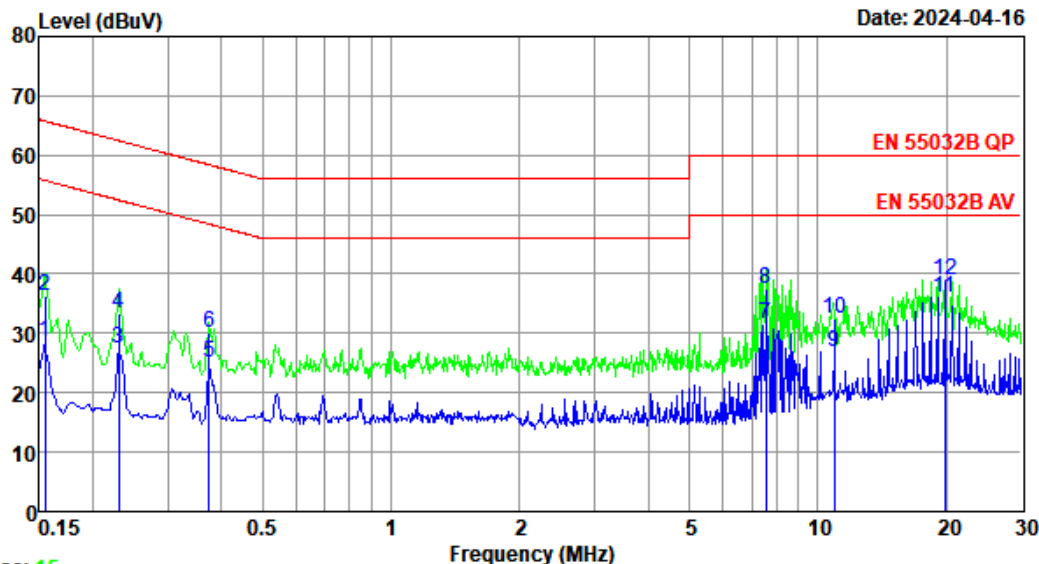
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Data: 16

File: \\EMC-CE-2\Test Data\2024\Jjingheng.EM6 (586)

Date: 2024-04-16



Trace: 15
Site no : 2#CE Shield Room Data no. : 16
Env. / Ins. : Temp:24.8°C Humi:65% Press:101.50kPa LINE Phase : NEUTRAL
Limit : EN 55032B QP
Engineer : XJF
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15	10.22	9.89	8.43	28.54	55.74	27.20	Average
2	0.15	10.22	9.89	16.20	36.31	65.74	29.43	QP
3	0.23	10.15	9.94	7.50	27.59	52.44	24.85	Average
4	0.23	10.15	9.94	13.40	33.49	62.44	28.95	QP
5	0.38	10.10	9.89	5.09	25.08	48.39	23.31	Average
6	0.38	10.10	9.89	10.20	30.19	58.39	28.20	QP
7	7.57	10.10	9.99	11.57	31.66	50.00	18.34	Average
8	7.57	10.10	9.99	17.40	37.49	60.00	22.51	QP
9	10.90	10.19	10.01	6.77	26.97	50.00	23.03	Average
10	10.90	10.19	10.01	12.40	32.60	60.00	27.40	QP
11	19.84	10.56	10.29	15.10	35.95	50.00	14.05	Average
12	19.84	10.56	10.29	18.20	39.05	60.00	20.95	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. If the average limit is met when using a quasi-peak detector,
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

4.2. Radiated Emission Test

RESULT : **Pass**
Test procedure : EN 55032:2015+A1:2020
Frequency : 30~1000MHz
Test Site : 1#966 Chamber
Limits : EN 55032:2015+A1:2020 Class B

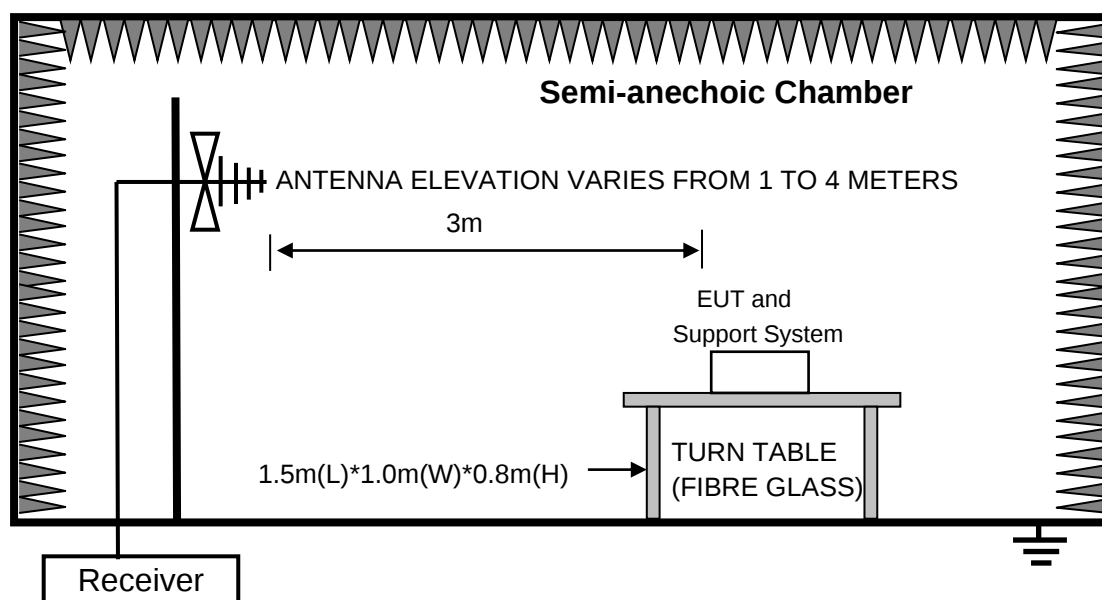
Test Setup

Date of test : Apr. 17, 2024
Model No. : MegaSys 1
Input Voltage : AC 230V/50Hz, AC 110V/60Hz
Operation Mode : INPUT, Bluetooth Mode

The EUT was placed on a turn table which was 0.8 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m away from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector from the spectrum, and all the final readings from the test receiver were measured with the Quasi-Peak detector.

The bandwidth setting on the test receiver was 120 kHz.



Note:

Test uncertainty: ± 4.36 dB (H); ± 4.72 dB (V) at a level of confidence of 95%. (1#966)

Test Data

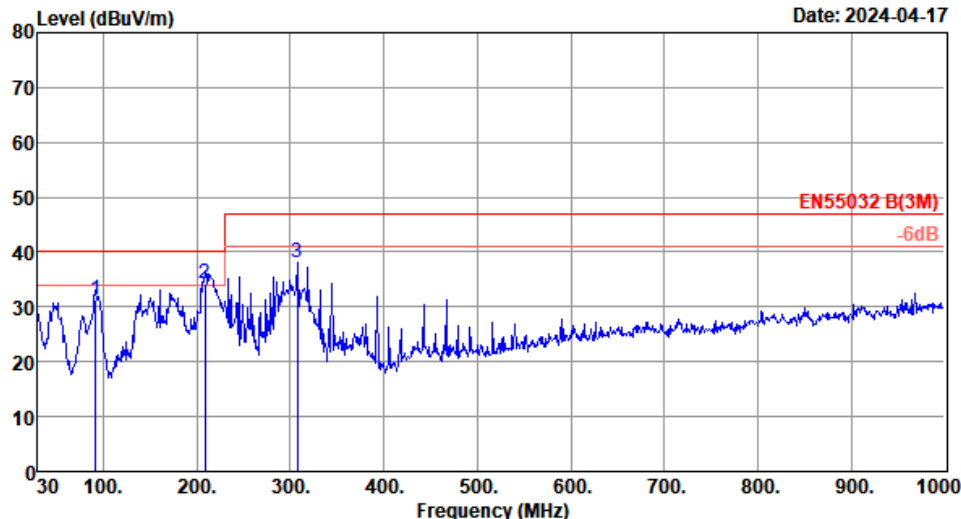
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Data: 50

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-17



Site no. : 1# 966 Chamber Data no. : 50
Dis. / Ant. : 3m 37062 Ant. pol. : VERTICAL
Limit : EN55032 B(3M)
Env. / Ins. : Temp:24.5°C;Humi:46.3%;Press:101.47kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	92.08	10.30	1.35	19.55	31.20	40.00	8.80	QP
2	208.48	8.93	2.10	23.34	34.37	40.00	5.63	QP
3	307.42	13.14	2.66	22.14	37.94	47.00	9.06	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

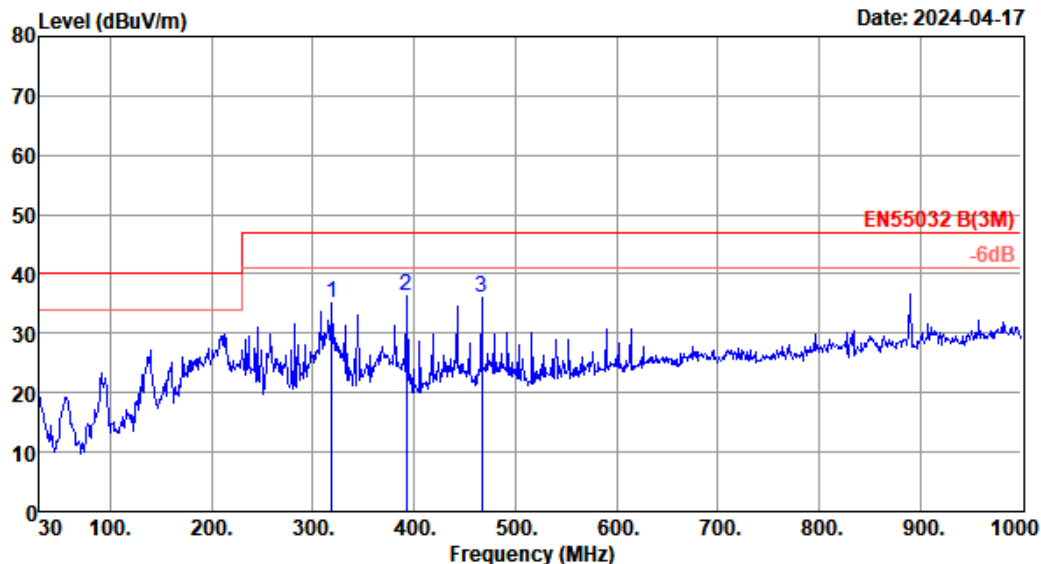
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Data: 51

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-17



Site no. : 1# 966 Chamber Data no. : 51
Dis. / Ant. : 3m 37062 Ant. pol. : HORIZONTAL
Limit : EN55032 B(3M)
Env. / Ins. : Temp:24.5°C;Humi:46.3%;Press:101.47kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	319.06	13.74	2.71	18.61	35.06	47.00	11.94	QP
2	392.78	15.94	3.03	17.39	36.36	47.00	10.64	QP
3	466.50	18.13	3.30	14.44	35.87	47.00	11.13	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

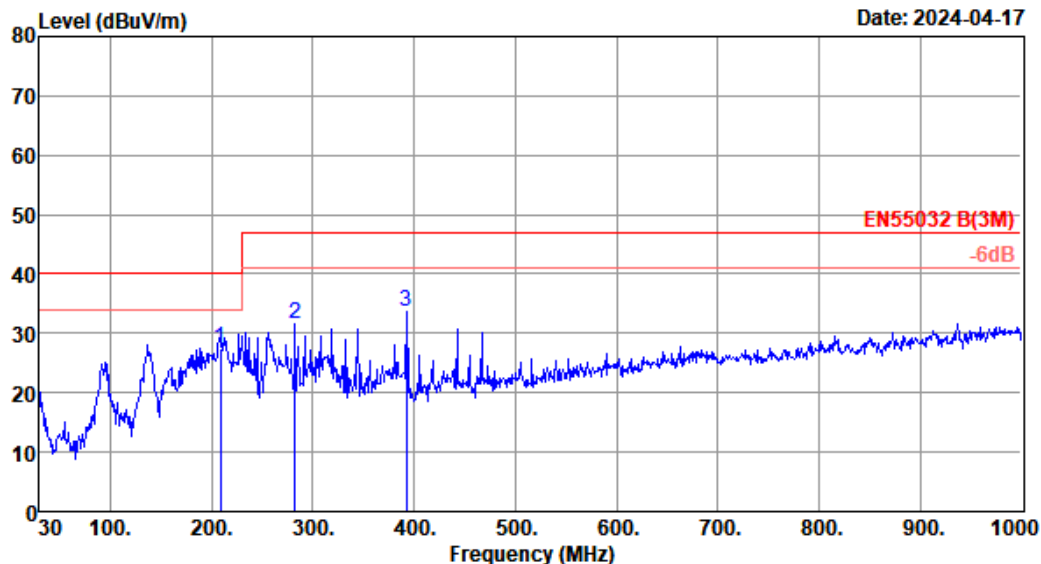
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Data: 52

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-17



Site no. : 1# 966 Chamber Data no. : 52
Dis. / Ant. : 3m 37062 Ant. pol. : HORIZONTAL
Limit : EN55032 B(3M)
Env. / Ins. : Temp:24.5°C;Humi:46.3%;Press:101.47kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	208.48	8.93	2.10	16.42	27.45	40.00	12.55	QP
2	282.20	12.96	2.52	16.03	31.51	47.00	15.49	QP
3	392.78	15.94	3.03	14.58	33.55	47.00	13.45	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

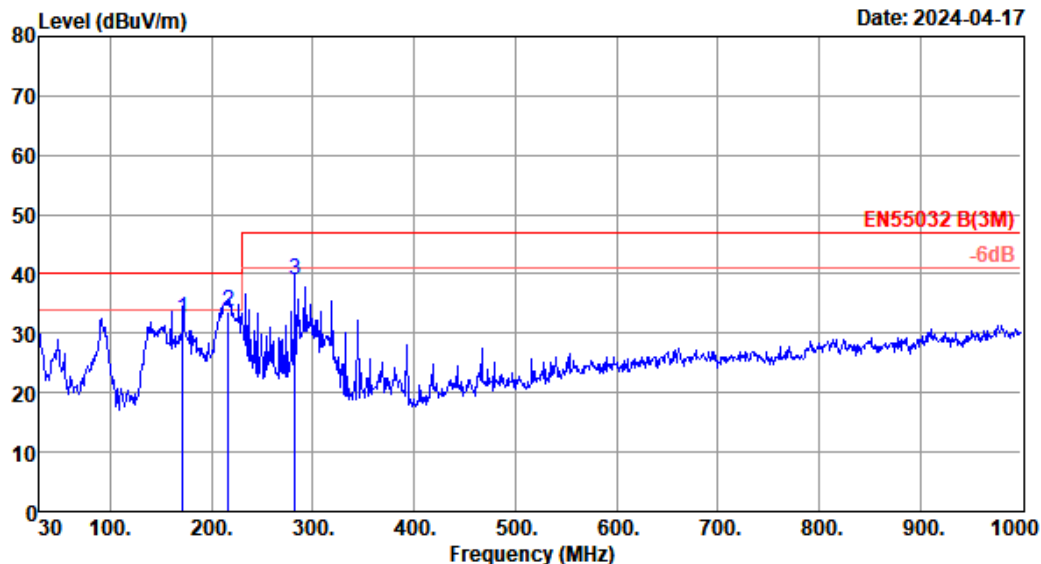
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Data: 53

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-17



Site no. : 1# 966 Chamber Data no. : 53
Dis. / Ant. : 3m 37062 Ant. pol. : VERTICAL
Limit : EN55032 B(3M)
Env. / Ins. : Temp:24.5°C;Humi:46.3%;Press:101.47kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	171.62	9.40	1.89	21.32	32.61	40.00	7.39	QP
2	216.24	9.94	2.14	21.52	33.60	40.00	6.40	QP
3	282.20	12.96	2.52	23.45	38.93	47.00	8.07	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

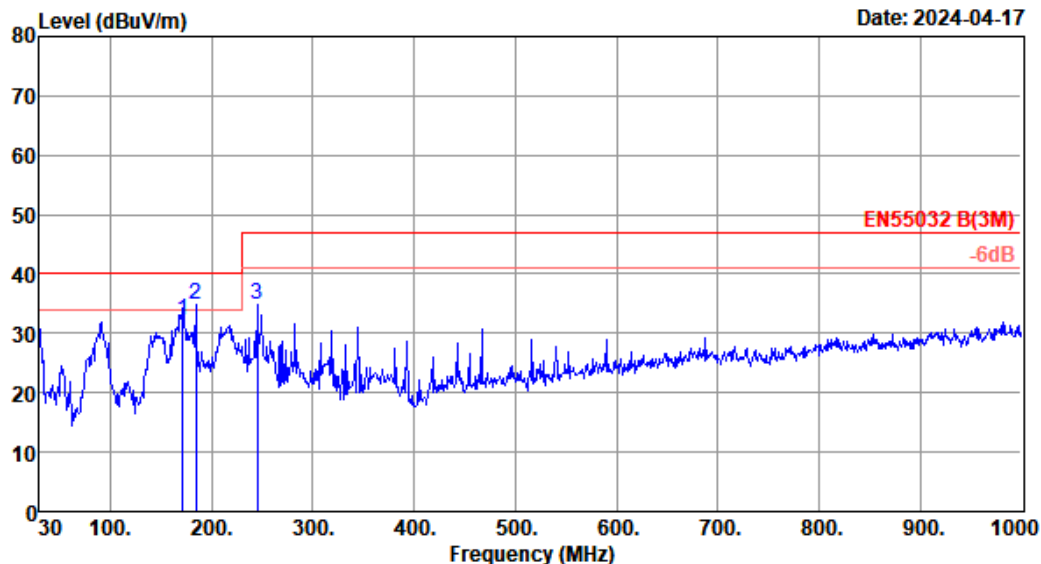
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Data: 54

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-17



Site no. : 1# 966 Chamber Data no. : 54
Dis. / Ant. : 3m 37062 Ant. pol. : VERTICAL
Limit : EN55032 B(3M)
Env. / Ins. : Temp:24.5°C;Humi:46.3%;Press:101.47kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : INPUT

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	171.62	9.40	1.89	20.87	32.16	40.00	7.84	QP
2	184.23	9.10	1.96	23.84	34.90	40.00	5.10	QP
3	245.34	12.10	2.29	20.49	34.88	47.00	12.12	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

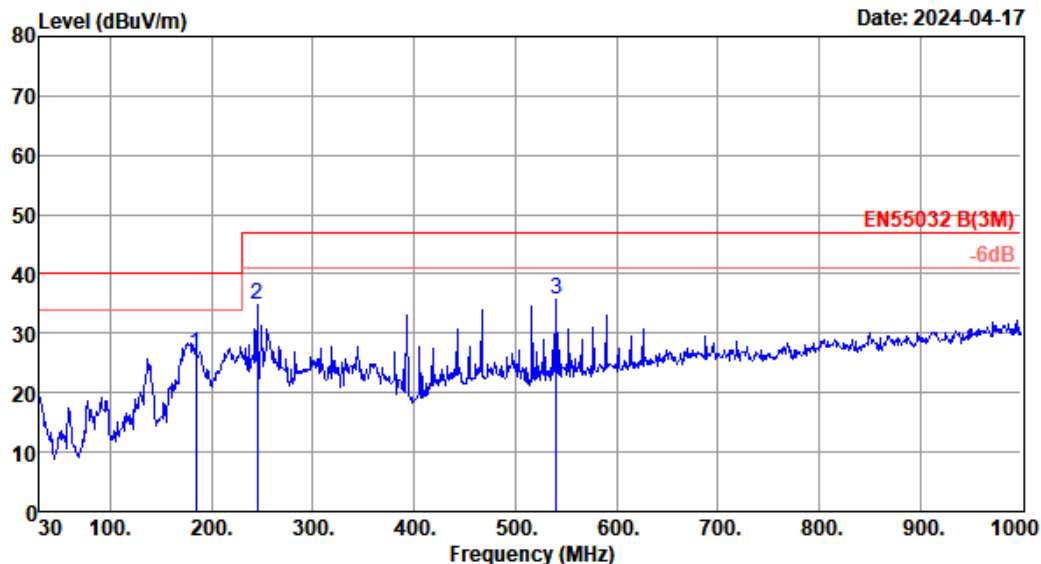
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Data: 55

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-17



Site no. : 1# 966 Chamber Data no. : 55
Dis. / Ant. : 3m 37062 Ant. pol. : HORIZONTAL
Limit : EN55032 B(3M)
Env. / Ins. : Temp:24.5°C;Humi:46.3%;Press:101.47kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : INPUT

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	184.23	9.10	1.96	15.56	26.62	40.00	13.38	QP
2	245.34	12.10	2.29	20.39	34.78	47.00	12.22	QP
3	540.22	19.30	3.59	12.95	35.84	47.00	11.16	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

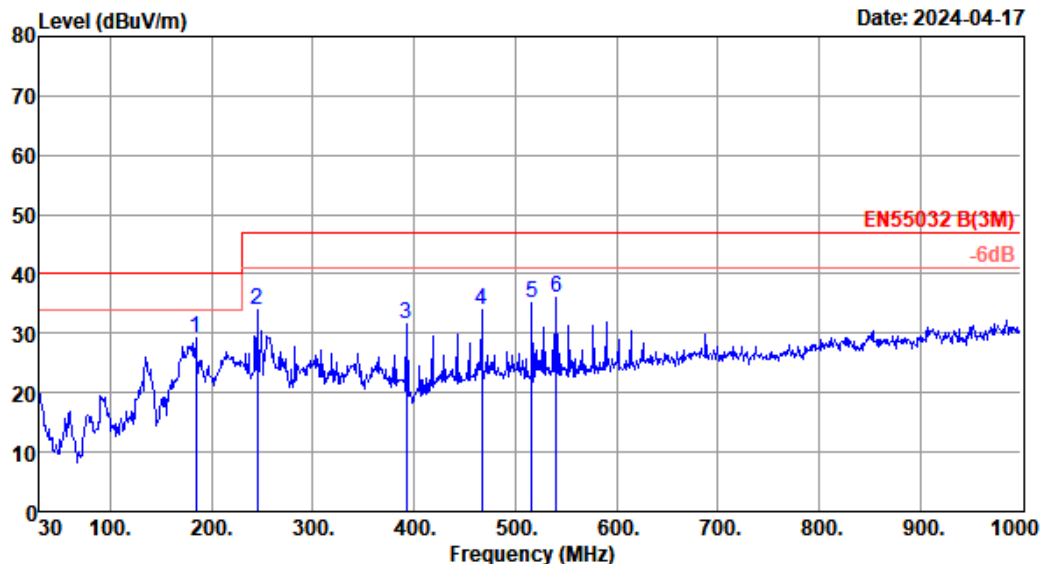
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Data: 56

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-17



Site no. : 1# 966 Chamber Data no. : 56
Dis. / Ant. : 3m 37062 Ant. pol. : HORIZONTAL
Limit : EN55032 B(3M)
Env. / Ins. : Temp:24.5°C;Humi:46.3%;Press:101.47kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : INPUT

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	184.23	9.10	1.96	18.31	29.37	40.00	10.63	QP
2	245.34	12.10	2.29	19.56	33.95	47.00	13.05	QP
3	392.78	15.94	3.03	12.54	31.51	47.00	15.49	QP
4	466.50	18.13	3.30	12.39	33.82	47.00	13.18	QP
5	515.97	18.22	3.49	13.32	35.03	47.00	11.97	QP
6	540.22	19.30	3.59	13.18	36.07	47.00	10.93	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

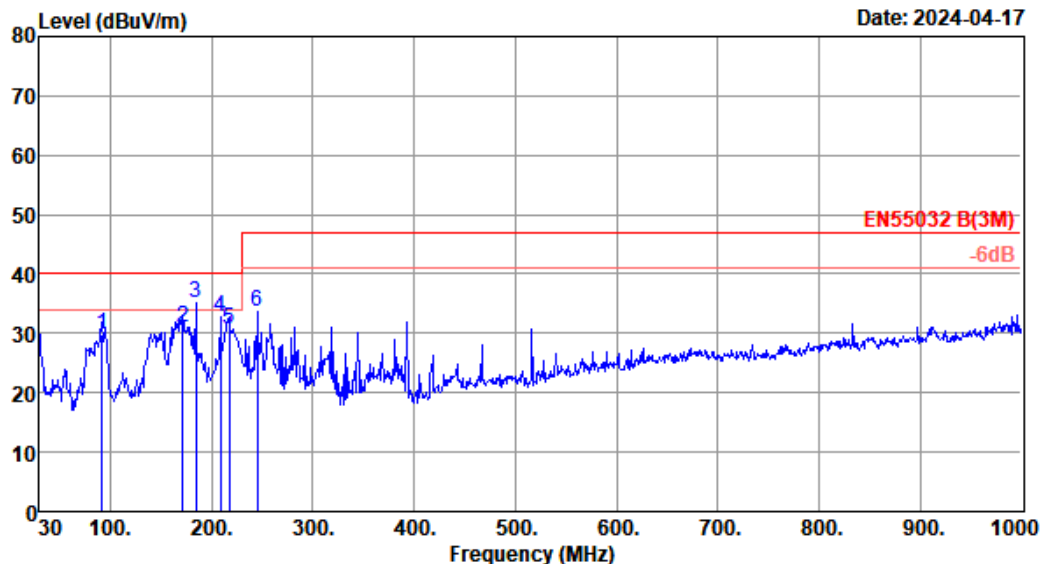
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Data: 57

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-17



Site no. : 1# 966 Chamber Data no. : 57
Dis. / Ant. : 3m 37062 Ant. pol. : VERTICAL
Limit : EN55032 B(3M)
Env. / Ins. : Temp:24.5°C;Humi:46.3%;Press:101.47kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : INPUT

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	92.08	10.30	1.35	18.25	29.90	40.00	10.10	QP
2	171.62	9.40	1.89	19.68	30.97	40.00	9.03	QP
3	184.23	9.10	1.96	24.15	35.21	40.00	4.79	QP
4	208.48	8.93	2.10	21.82	32.85	40.00	7.15	QP
5	217.21	9.78	2.14	18.75	30.67	40.00	9.33	QP
6	245.34	12.10	2.29	19.38	33.77	47.00	13.23	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

4.3. Radiated Emission Test (above 1GHz)

RESULT : **Pass**
Test procedure : EN 55032:2015+A1:2020
Frequency : 1GHz-6GHz
Test Site : 966 Chamber
Limits : EN 55032:2015+A1:2020 Class B

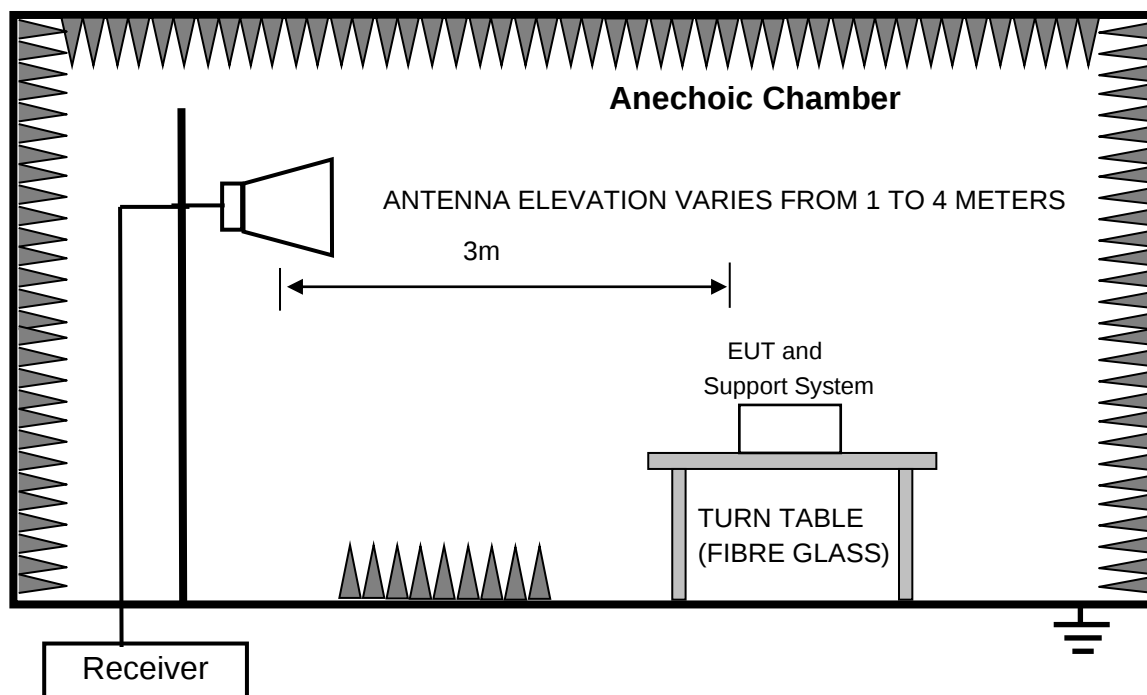
Test Setup

Date of test : Apr. 16, 2024
Model No. : MegaSys 1
Input Voltage : AC 230V/50Hz, AC 110V/60Hz
Operation Mode : INPUT, Bluetooth Mode

The EUT was placed on a turn table which was 0.8 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m away from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector and Average detector from the spectrum, and all the final readings from the test receiver were measured with the Peak detector and Average detector.

The bandwidth setting on the test receiver was 1MHz(above 1GHz).



Note: Test uncertainty: $\pm 4.72\text{dB}$ at a level of confidence of 95%.

Test Data

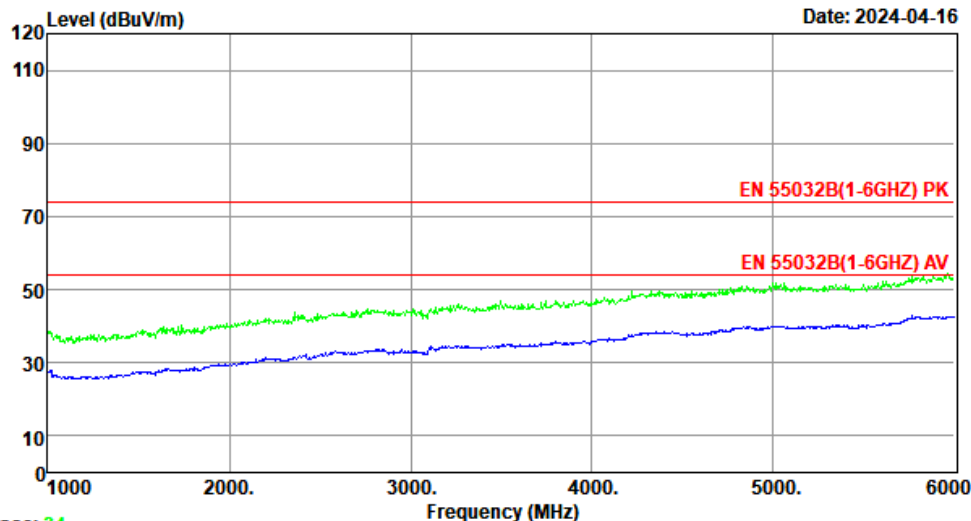
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Data: 35

File: \\EMC-966-1\test data\2024\JJing heng.EM6 (221)

Date: 2024-04-16



Trace: 34

Site no. : 1# 966 Chamber Data no. : 35
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL
Limit : EN 55032B(1-6GHZ) PK
Env. / Ins. : Temp:23.4°C.Humi:59%;Press:101.1kPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : INPUT

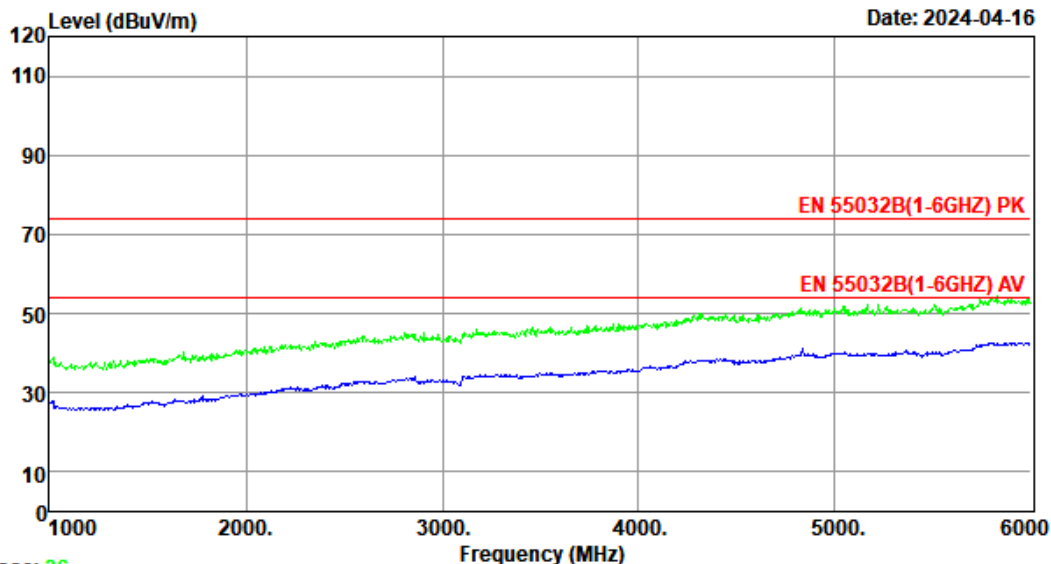
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Data: 37

File: \\EMC-966-1\\test data\\2024\\J\\Jing heng.EM6 (221)

Date: 2024-04-16



Trace: 36

Site no. : 1# 966 Chamber Data no. : 37
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL
Limit : EN 55032B(1-6GHZ) PK
Env. / Ins. : Temp:23.4°C,Humi:59%;Press:101.1KPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : INPUT

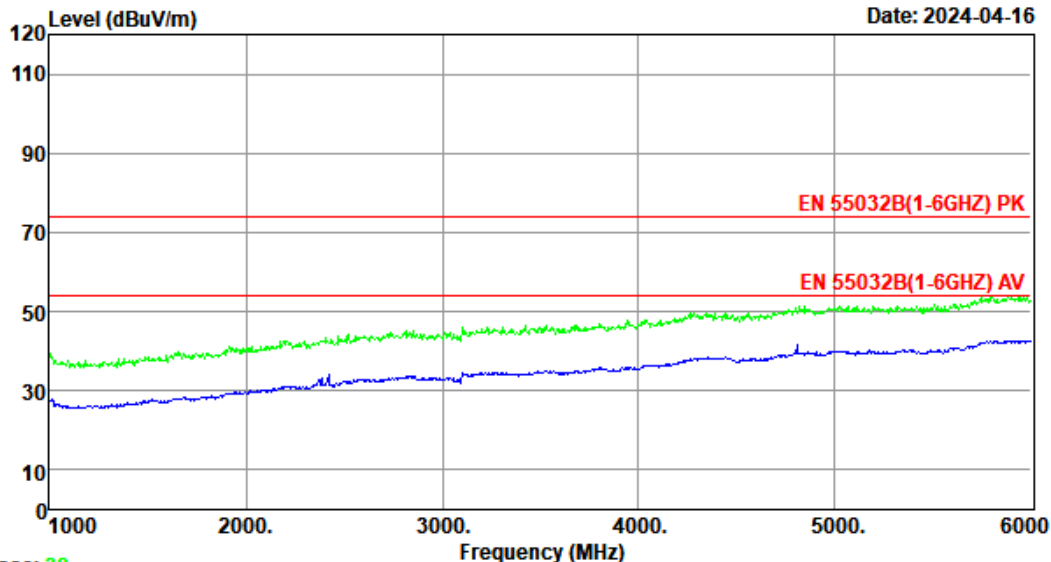
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Data: 39

File: \\EMC-966-1\\test data\\2024\\J\\Jing heng.EM6 (221)

Date: 2024-04-16



Trace: 38

Site no. : 1# 966 Chamber Data no. : 39
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL
Limit : EN 55032B(1-6GHZ) PK
Env. / Ins. : Temp:23.4°C,Humi:59%;Press:101.1KPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : INPUT

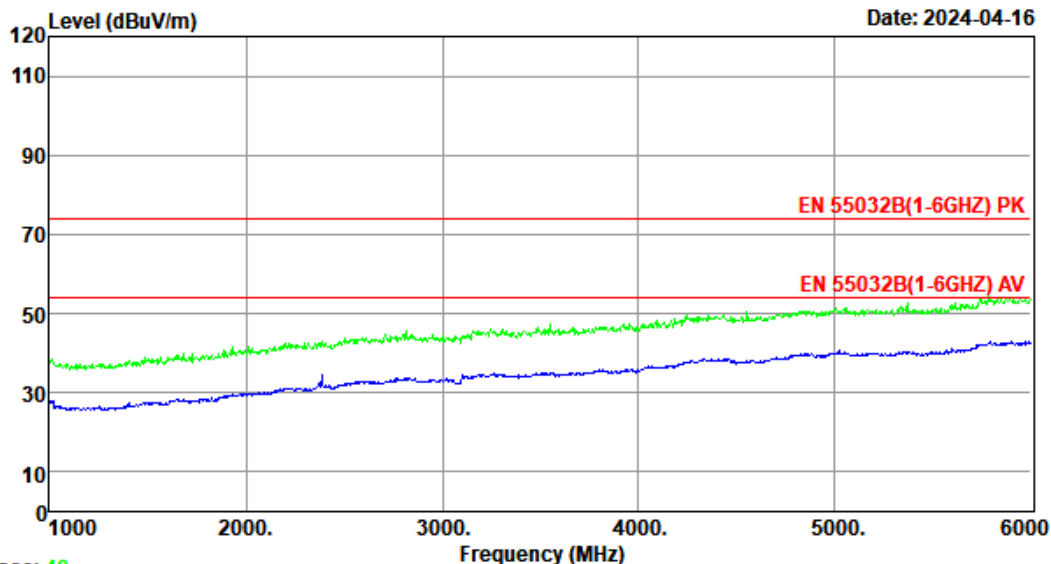
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Data: 41

File: \\EMC-966-1\\test data\\2024\\J\\Jing heng.EM6 (221)

Date: 2024-04-16



Trace: 40

Site no. : 1# 966 Chamber Data no. : 41
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL
Limit : EN 55032B(1-6GHZ) PK
Env. / Ins. : Temp:23.4°C.Humi:59%;Press:101.1KPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : INPUT

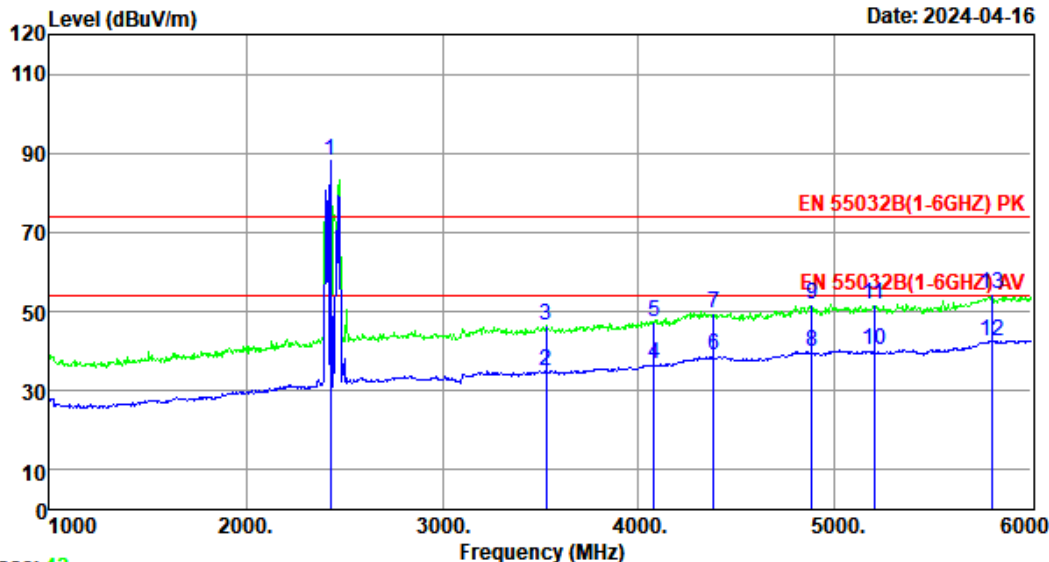
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Data: 43

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-16



Trace: 42

Site no. : 1# 966 Chamber Data no. : 43
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL
Limit : EN 55032B(1-6GHZ) PK
Env. / Ins. : Temp:23.4°C,Humi:59%;Press:101.1KPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2430.00	27.33	3.58	57.25	88.16	74.00	-14.16	2.4G TX
2	3530.00	29.83	4.16	1.01	35.00	54.00	19.00	Average
3	3530.00	29.83	4.16	12.40	46.39	74.00	27.61	Peak
4	4080.00	30.87	4.38	1.35	36.60	54.00	17.40	Average
5	4080.00	30.87	4.38	12.10	47.35	74.00	26.65	Peak
6	4380.00	31.40	4.73	2.69	38.82	54.00	15.18	Average
7	4380.00	31.40	4.73	13.40	49.53	74.00	24.47	Peak
8	4880.00	32.40	5.28	2.23	39.91	54.00	14.09	Average
9	4880.00	32.40	5.28	14.10	51.78	74.00	22.22	Peak
10	5200.00	32.90	5.56	1.82	40.28	54.00	13.72	Average
11	5200.00	32.90	5.56	13.50	51.96	74.00	22.04	Peak
12	5800.00	34.10	6.01	2.57	42.68	54.00	11.32	Average
13	5800.00	34.10	6.01	14.40	54.51	74.00	19.49	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

2. Margin= Limit - Emission Level.

3. The emission levels that are 20dB below the official limit are not reported.

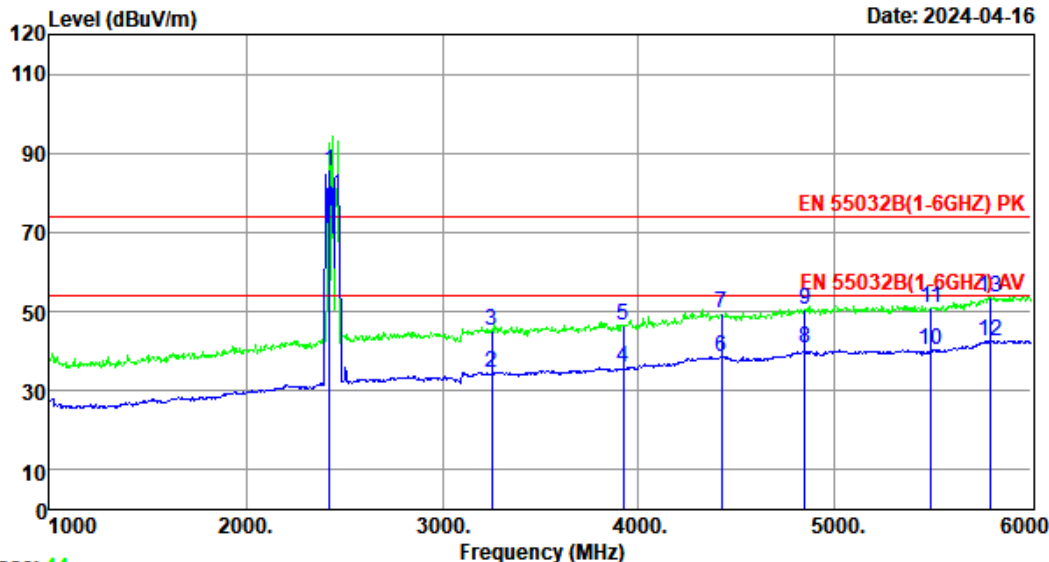
EST Technology

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Data: 45

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-16



Trace: 44

Site no. : 1# 966 Chamber Data no. : 45
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL
Limit : EN 55032B(1-6GHZ) PK
Env. / Ins. : Temp:23.4°C,Humi:59%;Press:101.1KPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 110V/60Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2425.00	27.33	3.58	54.60	85.51	74.00	-11.51	2.4G TX
2	3250.00	29.60	4.08	0.98	34.66	54.00	19.34	Average
3	3250.00	29.60	4.08	11.40	45.08	74.00	28.92	Peak
4	3920.00	30.30	4.27	1.29	35.86	54.00	18.14	Average
5	3920.00	30.30	4.27	12.10	46.67	74.00	27.33	Peak
6	4420.00	31.40	4.76	2.52	38.68	54.00	15.32	Average
7	4420.00	31.40	4.76	13.40	49.56	74.00	24.44	Peak
8	4845.00	32.20	5.24	3.14	40.58	54.00	13.42	Average
9	4845.00	32.20	5.24	13.20	50.64	74.00	23.36	Peak
10	5490.00	32.77	5.78	1.88	40.43	54.00	13.57	Average
11	5490.00	32.77	5.78	12.50	51.05	74.00	22.95	Peak
12	5790.00	34.10	6.01	2.55	42.66	54.00	11.34	Average
13	5790.00	34.10	6.01	13.40	53.51	74.00	20.49	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

2. Margin= Limit - Emission Level.

3. The emission levels that are 20dB below the official limit are not reported.

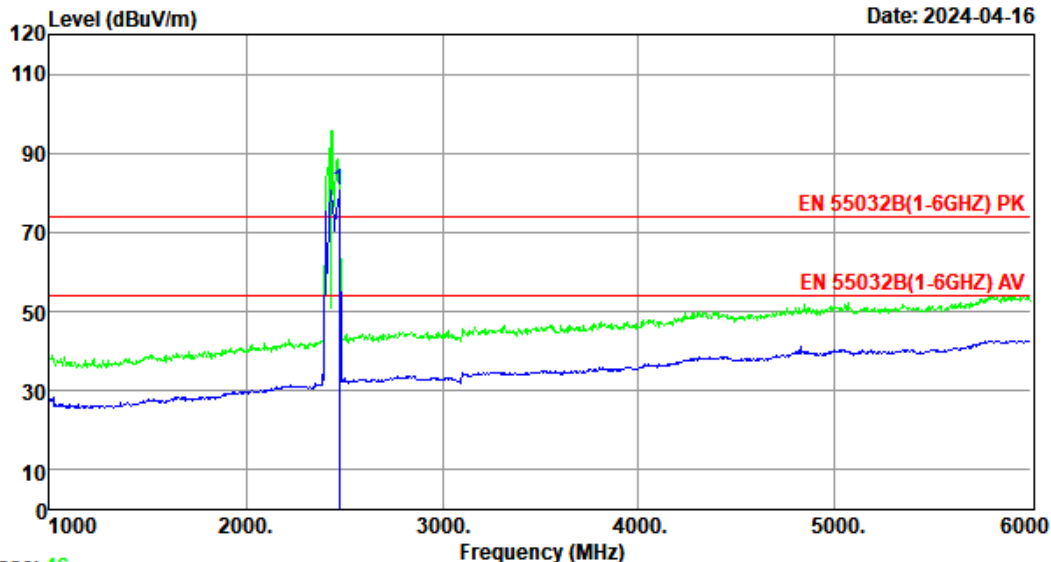
EST Technology

Chilingxiang, Qishantou, Santun,
Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 47

File: \\EMC-966-1\\test data\\2024\\JJing heng.EM6 (221)

Date: 2024-04-16



Trace: 46

Site no. : 1# 966 Chamber Data no. : 47
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL
Limit : EN 55032B(1-6GHZ) PK
Env. / Ins. : Temp:23.4°C,Humi:59%;Press:101.1KPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2475.00	27.77	3.62	49.35	80.74	74.00	-6.74	2.4G TX

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

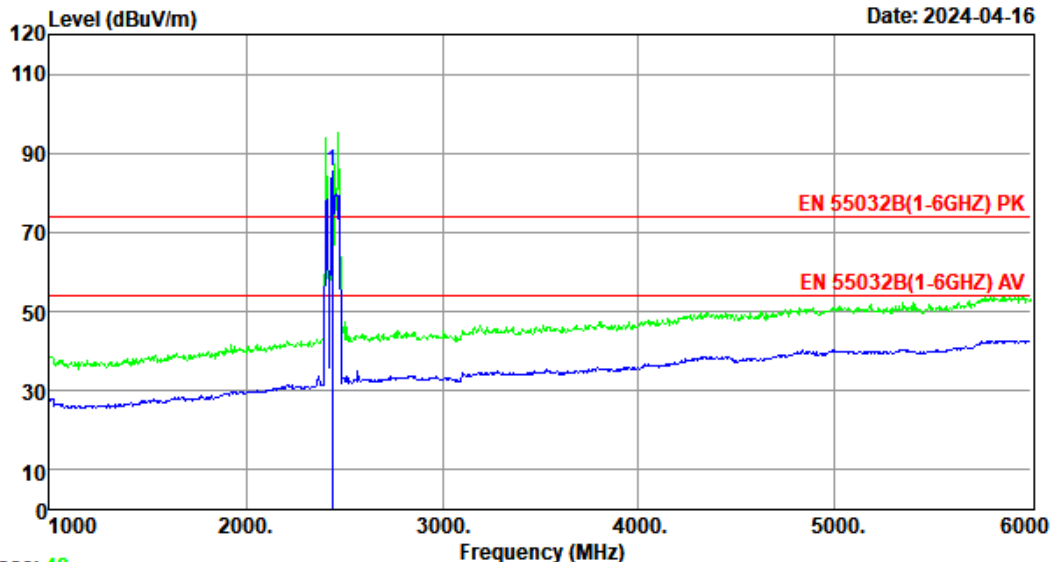
EST Technology

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Houjie, Dongguan, Guangdong, China
Tel: +86-769-83081888
Fax: +86-769-83081878

Data: 49

File: \\EMC-966-1\\test data\\2024\\J\\Jing heng.EM6 (221)

Date: 2024-04-16



Trace: 48

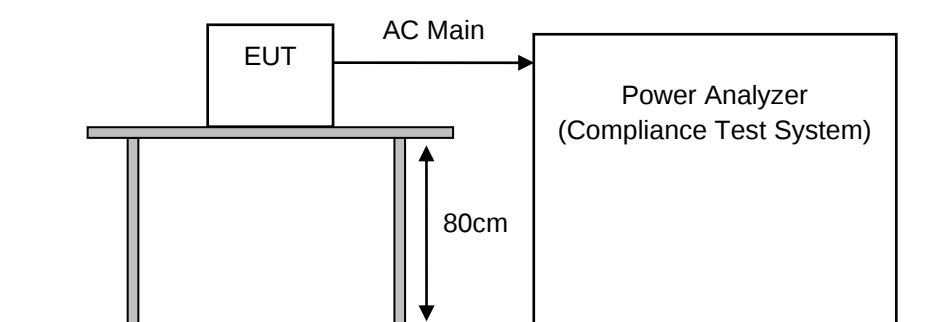
Site no. : 1# 966 Chamber Data no. : 49
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL
Limit : EN 55032B(1-6GHZ) PK
Env. / Ins. : Temp:23.4°C,Humi:59%;Press:101.1KPa
Engineer : DCY
EUT : Active Loudspeaker System
Power : AC 230V/50Hz
M/N : MegaSys 1
Test Mode : Bluetooth Mode

	Freq. (MHz)	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2440.00	27.10	3.59	54.77	85.46	74.00	-11.46	2.4G TX

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. Margin= Limit - Emission Level.
3. The emission levels that are 20dB below the official limit are not reported.

4.4. Harmonic Current Emissions on AC Mains Test

RESULT : **N/A**
Test procedure : EN IEC 61000-3-2:2019+A1:2021
Measured harmonics : 1~40th
Limits : EN IEC 61000-3-2:2019+A1:2021



There is no need for Harmonics test to be performed on this product (rated power is more than 1000W) in accordance with EN IEC 61000-3-2:2019+A1:2021

For further details, please refer to Clause 7 of EN IEC 61000-3-2:2019+A1:2021 which states:

“For the following categories of equipment, limits are not specified in this edition of the standard:

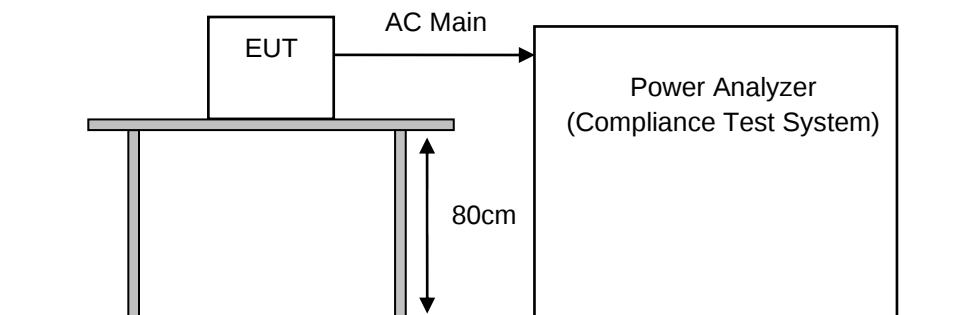
- equipment with a rated power of 75W or less, other than lighting equipment.”

4.5. Voltage Fluctuations and Flicker on AC Mains Test

RESULT : **Pass**(Please refer to the following page)

Test procedure : EN 61000-3-3:2013+A1:2019+A2:2021

Limits : EN 61000-3-3:2013+A1:2019+A2:2021



Test Data

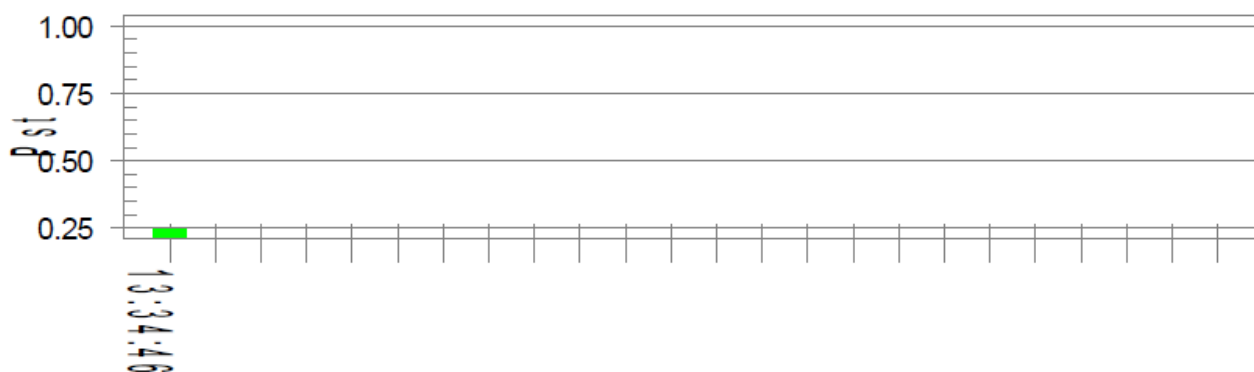
EUT: Active Loudspeaker System **M/N:** MegaSys 1 **Tested by:** Tank
Test category: All parameters (European limits) **Test Margin:** 100
Test date: 2024/4/16 **Start time:** 13:24:25 **End time:** 13:34:52
Test duration (min): 10 **Data file name:** F-000218.cts_data
Comment: INPUT
Customer: Dongguan Jingheng Electron Co.,Ltd

Test Result: Pass

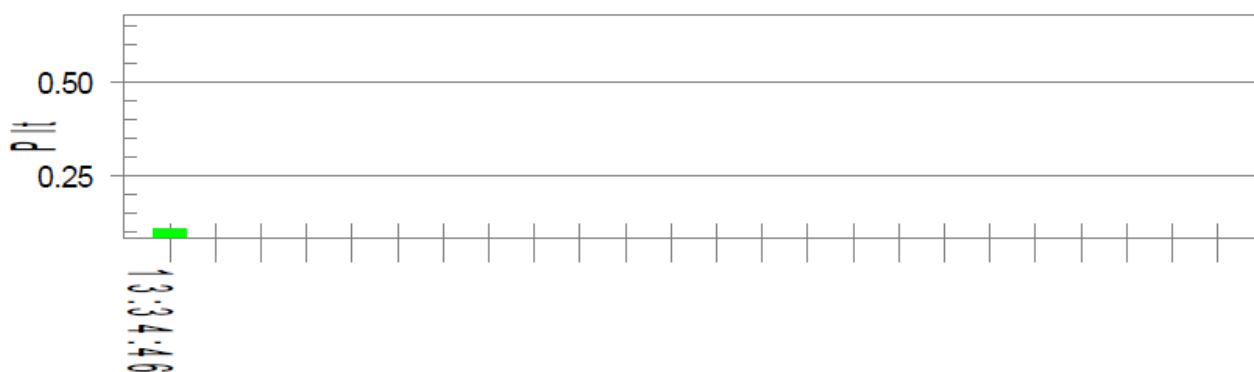
Status: Test Completed

Pst and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt): 230.75

Highest dt (%):

T-max (mS): 0

Highest dc (%): 0.00

Highest dmax (%): 0.00

Highest Pst (10 min. period): 0.247

Highest Plt (2 hr. period): 0.108

Test limit (%):

Test limit (mS): 500.0 **Pass**

Test limit (%): 3.30 **Pass**

Test limit (%): 4.00 **Pass**

Test limit: 1.000 **Pass**

Test limit: 0.650 **Pass**

5. IMMUNITY TEST RESULT

5.1. Description of Performance Criteria:

Performance criteria A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

For audio output device: The measured acoustic interference ratio and/or the measured electrical interference during the test shall be -20dB or better (see note1)

Performance criteria B

During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.

After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance criteria C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.

Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

Note: This performance criterion only using for Continuous inducted RF disturbances and Continuous RF electromagnetic field disturbances item.

5.2. Electrostatic Discharge Immunity Test

RESULT	: Pass
Test procedure	: EN 55035:2017+A11:2020
Basic standard	: EN 61000-4-2:2009
Test specification	: +/-4.0kV(Contact discharge) +/-8.0kV(Air discharge)
Number of discharges	: ≥10(Air discharge for single polarity discharge) ≥10 (Contact discharge for single polarity discharge)
Polarity	: Positive/Negative
Performance criterion	: B

Test Setup

Date of test	: Apr. 17, 2024
Model No.	: MegaSys 1
Input Voltage	: AC 230V/50Hz, AC 110V/60Hz
Operation Mode	: INPUT, Bluetooth Mode
Temperature	: 25°C
Humidity	: 45%
Pressure	: 101.50kPa

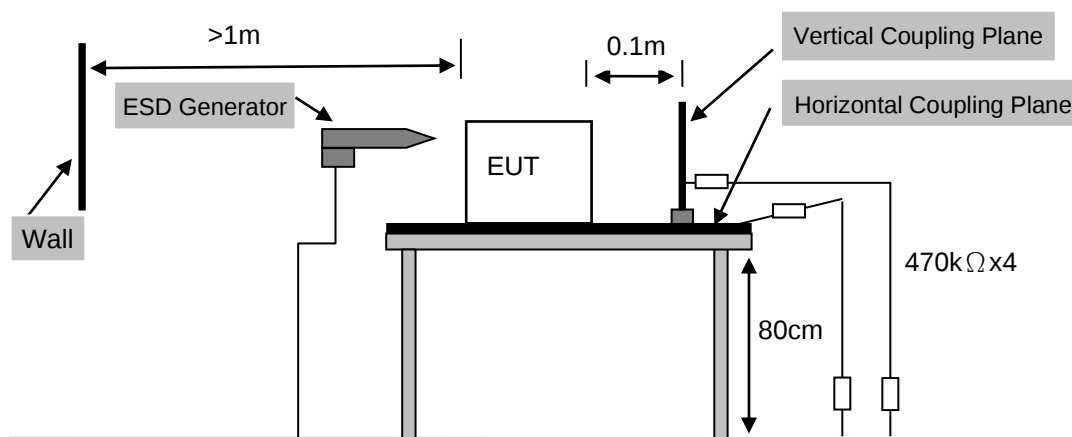


Table 1: Electrostatic Discharge Immunity Test Result

Discharge Location		Type of discharge	Result
HCP	4 points	Contact	Pass
VCP	4 points	Contact	Pass
Screw	26 points	Contact	Pass
Metal	12 points	Contact	Pass
INPUT	1 point	Contact	Pass
OUTPUT	1 point	Contact	Pass
Slot	4 points	Air	Pass
Light	4 points	Air	Pass
Button	2 points	Air	Pass

Remark: 1. The Voice appeared noise during the test, but self-recoverable after the test.

2. Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).

5.3. Radio Frequency Electromagnetic Field Immunity(R/S) Test

RESULT : Pass

Test procedure : EN 55035:2017+A11:2020
 Basic standard : EN 61000-4-3:2006+A1:2008+A2:2010
 Frequency Range : 80-1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz
 Performance criterion : A
 Test site : 866 Chamber

Test Setup

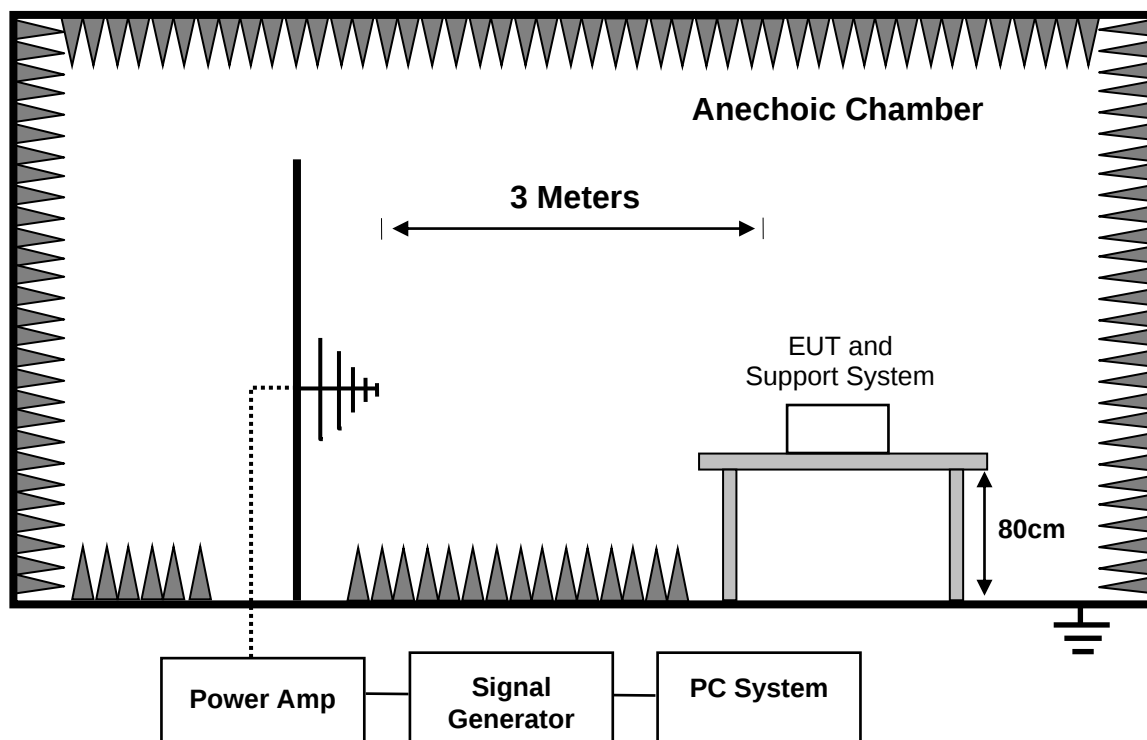
Date of test : Apr. 17, 2024
 Model No. : MegaSys 1
 Input Voltage : AC 230V/50Hz, AC 110V/60Hz
 Operation Mode : INPUT, Bluetooth Mode
 Temperature : 24°C
 Humidity : 59%
 Pressure : 101.50kPa

The EUT and its auxiliary equipment were placed on a turn table which was 0.8 meter above the ground. The EUT was set 3 m away from the transmitting antenna which was mounted on an antenna tower. Both horizontal and vertical polarization of the antenna were set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera was used to monitor EUT screen.

All the scanning conditions were as follows:

Condition of Test	Remarks
1. Field Strength	3 V/m (Severity Level 2)
2. Radiated Signal	1 kHz, 80% AM sine wave
3. Scanning Frequency	80 - 1000 MHz
4. Step size	1%
5. Dwell Time	3 seconds



Condition of Test

Remarks

- | | |
|-----------------------|------------------------------------|
| 6. Field Strength | 3 V/m (Severity Level 2) |
| 7. Radiated Signal | 1 kHz, 80% AM sine wave |
| 8. Scanning Frequency | 1800MHz, 2600MHz, 3500MHz, 5000MHz |
| 9. Step size | 1% |
| 10. Dwell Time | at least 3 seconds |

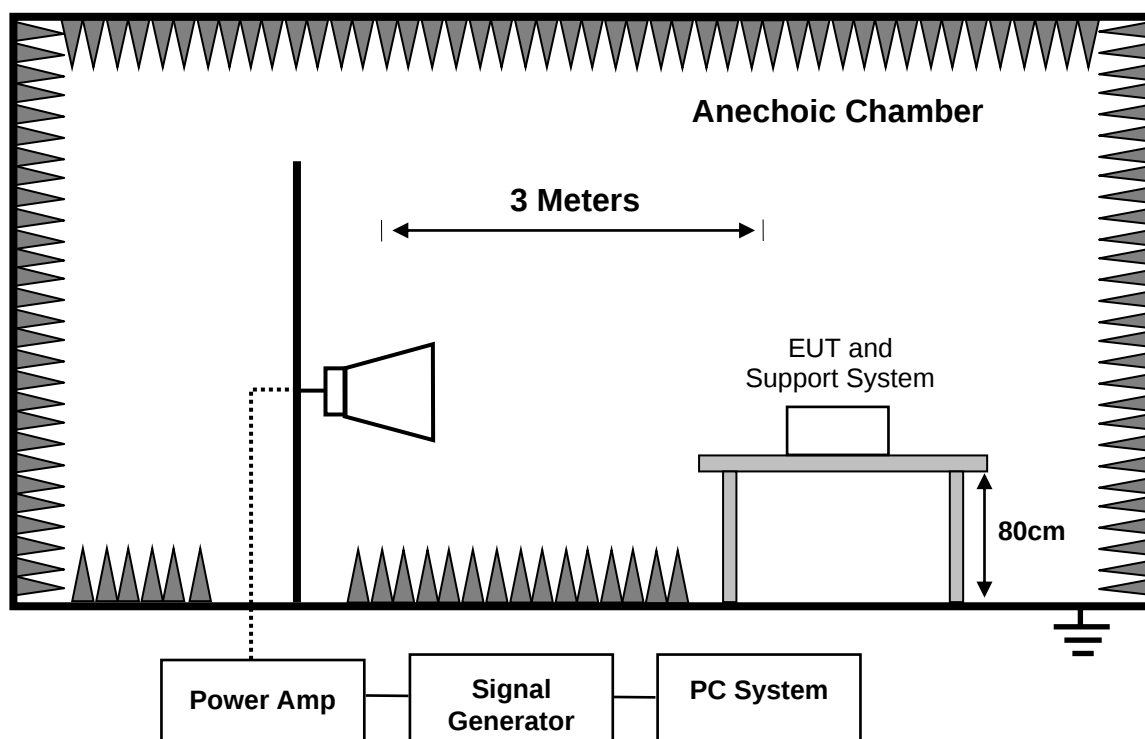


Table 2: Radio Frequency Electromagnetic Field Immunity Test Result

Field Strength (V/m)	Test Frequency (MHz)	Test mode	Polarization of antenna	Reference Level	Audio output	Limit	Interference Ratio (worst case)
3	80-1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz	INPUT	H	75dBSPL	Speaker	≤ -20dB	-68.77 dB
			V	75dBSPL	Speaker		-65.73 dB

RESULT	:	Pass
Test procedure	:	EN 55035:2017+A11:2020
Basic standard	:	EN 61000-4-4:2012
Pulseform	:	Tr/Th=5/50ns
Repetition	:	5 kHz ; (100 kHz : only for single lines of xDSL equipment)
Test Duration	:	120s
Performance	:	B

Date of test	:	Apr. 17, 2024
Model No.	:	MegaSys 1
Input Voltage	:	AC 230V/50Hz, AC 110V/60Hz
Operation Mode	:	INPUT, Bluetooth Mode
Temperature	:	24°C
Humidity	:	59%
Pressure	:	101.50kPa

1. For power input port:

mins.

>0.5m

Wall

Ground reference plane

10cm wood

EUT

AC Mains (0.5 ± 0.05)

EFT/B Tester

AC Mains

80cm

Table 5: Electrical Fast Transient/Burst Immunity Test Result

Coupling Ports		Coupling Voltage	Inject Method	Result
AC Power Ports	L	± 1 kV	Direct	Pass
	N	± 1 kV		Pass
	PE	± 1 kV		Pass
	L-N	± 1 kV		Pass
	L-PE	± 1 kV		Pass
	N-PE	± 1 kV		Pass
	L-N-PE	± 1 kV		Pass

Remark: The Voice appeared noise during the test, but self-recoverable after the test.

5.5. Surge Immunity Test

RESULT : **Pass**
Test procedure : EN 55035:2017+A11:2020
Basic standard : EN 61000-4-5:2014
Pulse form : Tr/Td = 1.2/50us
Test Duration : 60s
Performance : B

Test Setup

Date of test : Apr. 17, 2024
Model No. : MegaSys 1
Input Voltage : AC 230V/50Hz, AC 110V/60Hz
Operation Mode : INPUT, Bluetooth Mode
Temperature : 24°C
Humidity : 52%
Pressure : 101.50kPa

2Ω effective output impedance of the generator was used for L-N test. 12Ω effective output impedance of the generator was used for L-PE, N-PE test.

5 positive and 5 negative (polarity) tests were applied successively synchronized to the voltage phase 90°, 270° to L-N respectively. The repetition rate was 1 per minute during test.

1. For input and AC power ports:

The EUT was connected to the power mains by using a coupling device which coupled the surge interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration was 1 minute.

2. For signal lines and control lines ports:

None.

3. For DC input and DC output power ports:

None.

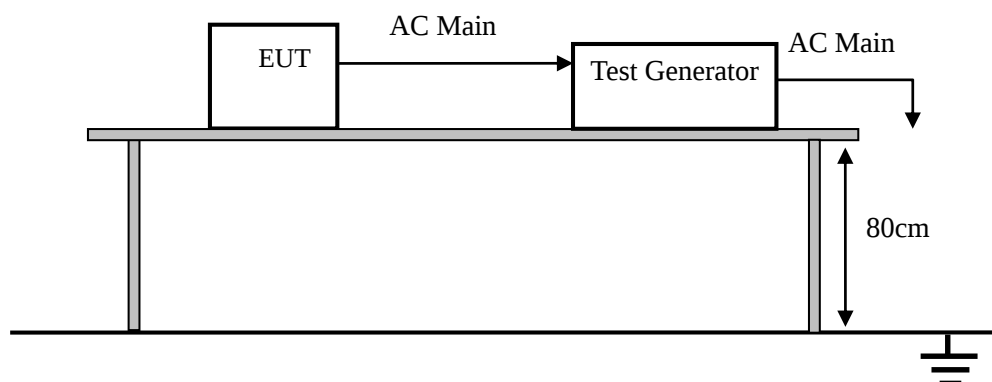


Table 4: Surge Immunity Test Result

Coupling Ports		Coupling Voltage	Coupling Phase / Result			
			0°	90°	180°	270°
AC power ports	L-N	+/-1kV Direct	/	Pass	/	Pass
	L-PE	+/-2kV Direct	/	Pass	/	Pass
	N-PE	+/-2kV Direct	/	Pass	/	Pass

Remark: The Voice appeared noise during the test, but self-recoverable after the test

5.6. Injected Currents Susceptibility Test

RESULT : **Pass**

Test procedure : EN 55035:2017+A11:2020

Basic standard : EN 61000-4-6:2014

Test specification : 3 Vr.m.s, 3 Vr.m.s - 1Vr.m.s, 1Vr.m.s,
AM 80%, 0.15 MHz - 10 MHz, 10 MHz – 30 MHz,
30 MHz – 80MHz

Performance : A

Test Setup

Date of test : Apr. 17, 2024

Model No. : MegaSys 1

Input Voltage : AC 230V/50Hz, AC 110V/60Hz

Operation Mode : INPUT, Bluetooth Mode

Temperature : 24°C

Humidity : 59%

Pressure : 101.50kPa

The EUT were placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) was placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT were as short as possible, and their height above the ground reference plane were between 30 and 50 mm (where possible).

The frequency range was swept from 0.15 MHz - 10 MHz, 10 MHz – 30 MHz and 30 MHz – 80MHz using 3V, 3 V - 1V, 1V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.

The rate of sweep shall not exceed 1.5×10^{-3} decades/s. Where the frequency was swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

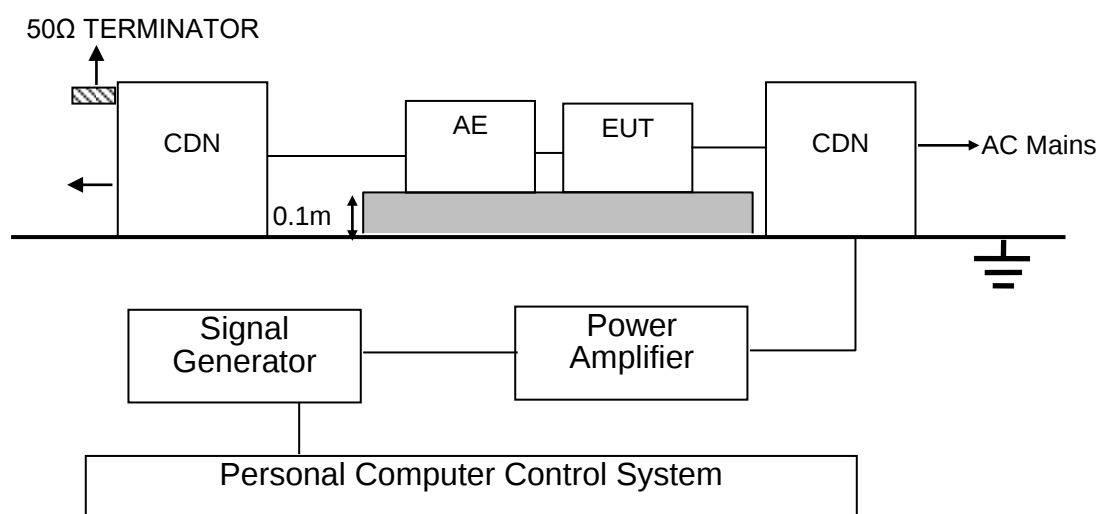


Table 5: Injected Currents Susceptibility Test Result

Voltage (V)	Test Frequency (MHz)	Test mode	Injection Method	Reference Level	Audio output	Limit	Interference Ratio (worst case)
3	0.15 –10 MHz	Bluetooth Mode	CDN-M2	75dBSPL	Speaker	≤ -20dB	-20.68 dB
3 -1	10 –30 MHz						-55.00 dB
1	30 –80 MHz						-54.98 dB

5.7. Power Frequency Magnetic Field Immunity Test

RESULT : **Pass**
 Test procedure : EN 55035:2017+A11:2020
 Basic standard : EN 61000-4-8:2010
 Test specification : 1 A/m
 Performance criterion : A

Test Setup

Date of test : Apr. 17, 2024
 Model No. : MegaSys 1
 Input Voltage : AC 230V/50Hz, AC 110V/60Hz
 Operation Mode : INPUT, Bluetooth Mode
 Temperature : 23°C
 Humidity : 59%
 Pressure : 101.50kPa

The EUT was subjected to the test magnetic field by using the induction coil of standard dimensions (1m*1m). The induction coil then was rotated by 90° in order to expose the EUT to the test field with different orientations.

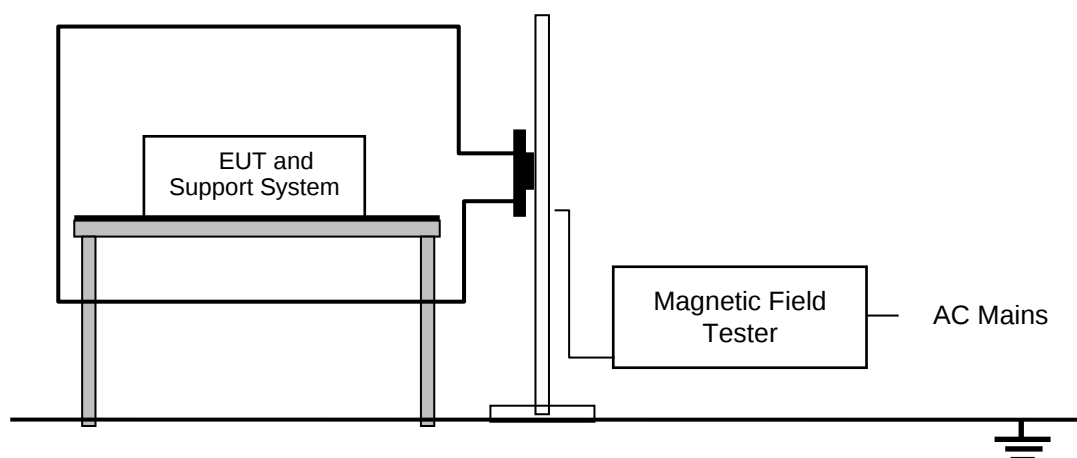


Table 6: Power Frequency Magnetic Field Immunity Test Result

Test Level	Testing Duration	Coil Orientation	Criterion	Result
1A/m	5 mins	X	A	Pass
1A/m	5 mins	Y	A	Pass
1A/m	5 mins	Z	A	Pass

Remark: There was no change compared with initial operation during the test.

5.8. Voltage Dips and Short Interruptions Immunity Test

RESULT : **Pass**
Test procedure : EN 55035:2017+A11:2020
Basic standard : EN 61000-4-11:2004
Test specification : 0%UT ; 0.5P, Criterion: B
70%UT; 25P/30P, Criterion: C
0%UT; 250P/300P, Criterion: C

Test Setup

Date of test : Apr. 17, 2024
Model No. : MegaSys 1
Input Voltage : AC 230V/50Hz, AC 110V/60Hz
Operation Mode : INPUT, Bluetooth Mode
Temperature : 24°C
Humidity : 51%
Pressure : 101.50kPa

The interruptions was introduced at selected phase angles with specified duration.

Recorded any degradation of performance.

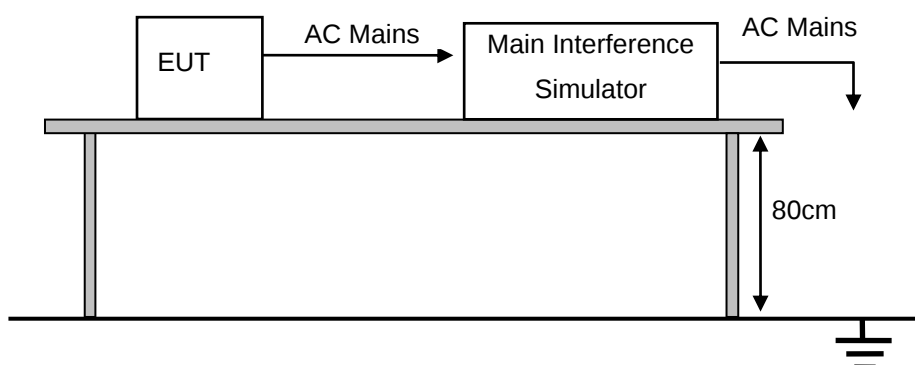


Table 7: Voltage Dips and Short Interruptions Immunity Test Result AC 230V/50Hz

Test Level % UT	Voltage Dips & Short Interruptions % UT	Duration (in period)	Criterion	Result
0	100	0.5P	B	PASS
70	30	25P	C	PASS
0	100	250P	C	PASS

Remark: The EUT was Stopped during the test, but self-recoverable after the test.

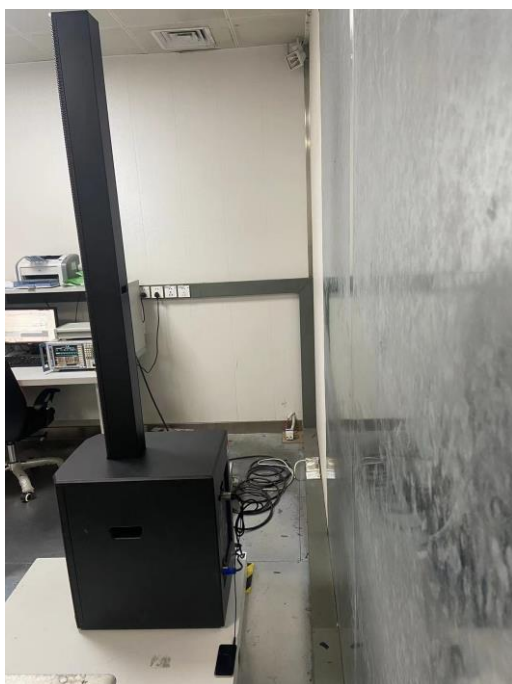
Table 8: Voltage Dips and Short Interruptions Immunity Test Result AC 110V/60Hz

Test Level % UT	Voltage Dips & Short Interruptions % UT	Duration (in period)	Criterion	Result
0	100	0.5P	B	PASS
70	30	30P	C	PASS
0	100	300P	C	PASS

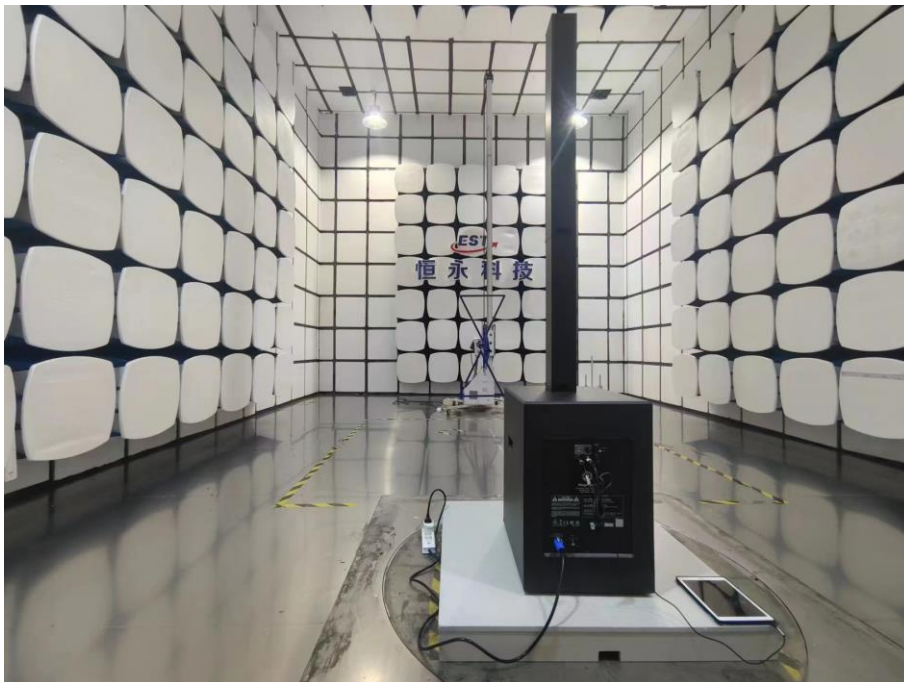
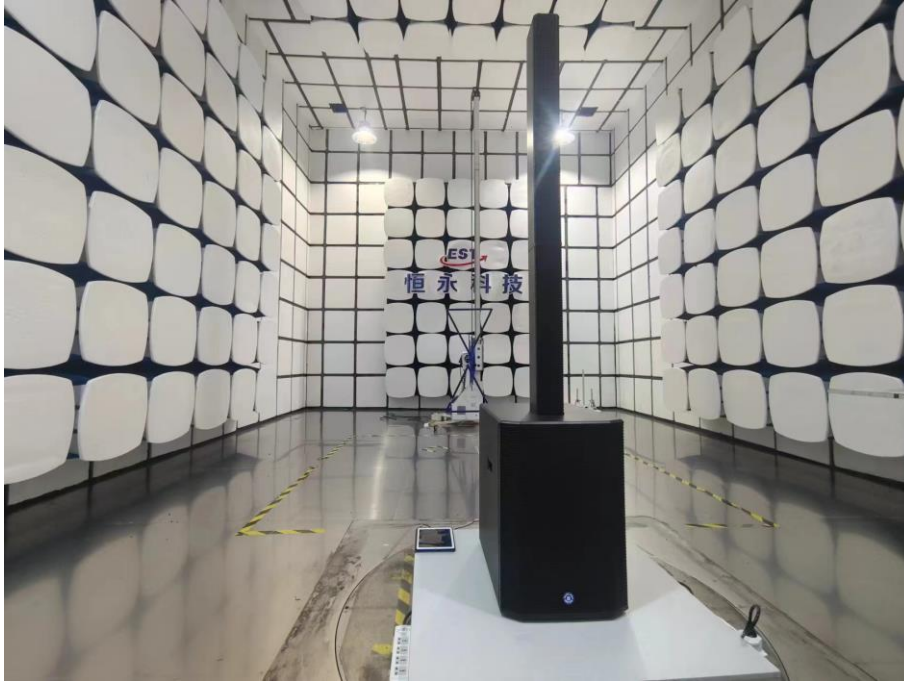
Remark: The EUT was Stopped during the test, but self-recoverable after the test.

6. PHOTOGRAPHS OF TEST SET-UP

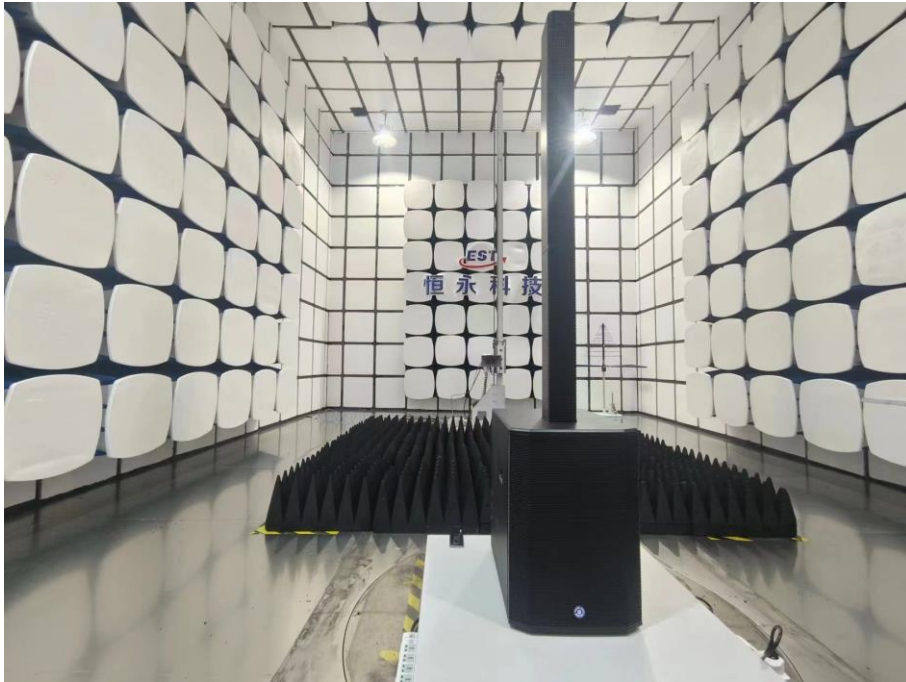
6.1. Set-up for Conducted Emission at the Mains Terminals Test



6.2.Set-up for Radiated Emission Test



6.3.Set-up for Radiated Emission Test(above 1GHz)



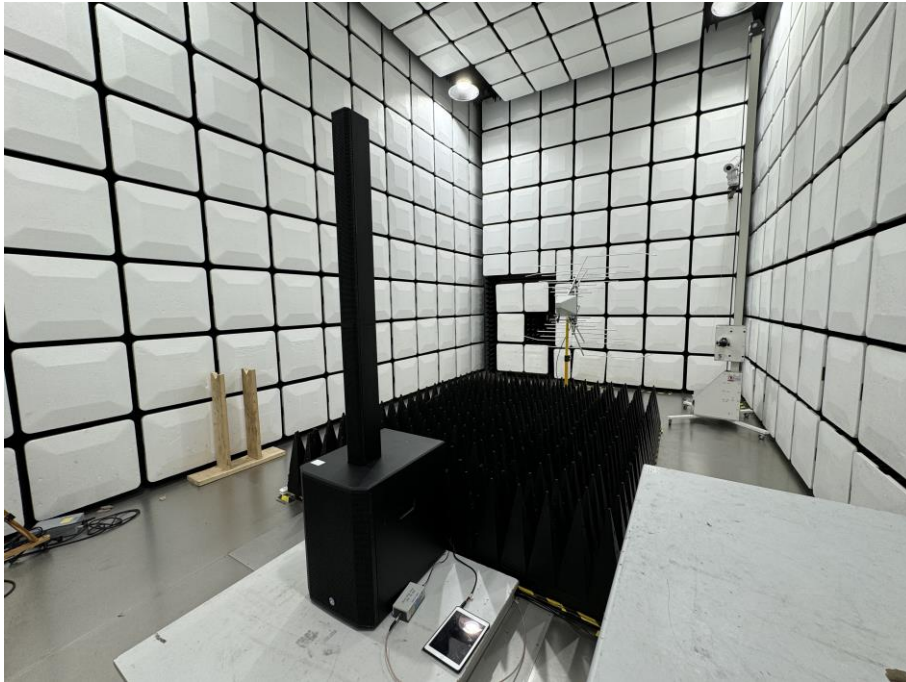
6.4.Set-up for Harmonic Current Emissions and Flicker on AC Mains Test



6.5.Set-up for Electrostatic Discharge Immunity Test



6.6.Set-up for Radio Frequency Electromagnetic Field Immunity(R/S) Test



6.7.Set-up for Electrical Fast Transient/Burst Immunity Test



6.8.Set-up for Surge Immunity Test



6.9.Set-up for Power Frequency Magnetic Field Immunity Test



6.10.Set-up for Injected Currents Susceptibility Test



6.11.Set-up for Voltage Dips and Short Interruptions Immunity Test



7. PHOTOGRAPHS OF THE EUT

Figure 1
General Appearance of the EUT



Figure 2
General Appearance of the EUT



Figure 3
General Appearance of the EUT



Figure 4
General Appearance of the EUT



Figure 5
General Appearance of the EUT



Figure 6
General Appearance of the EUT



Figure 7
General Appearance of the EUT



Figure 8
General Appearance of the EUT

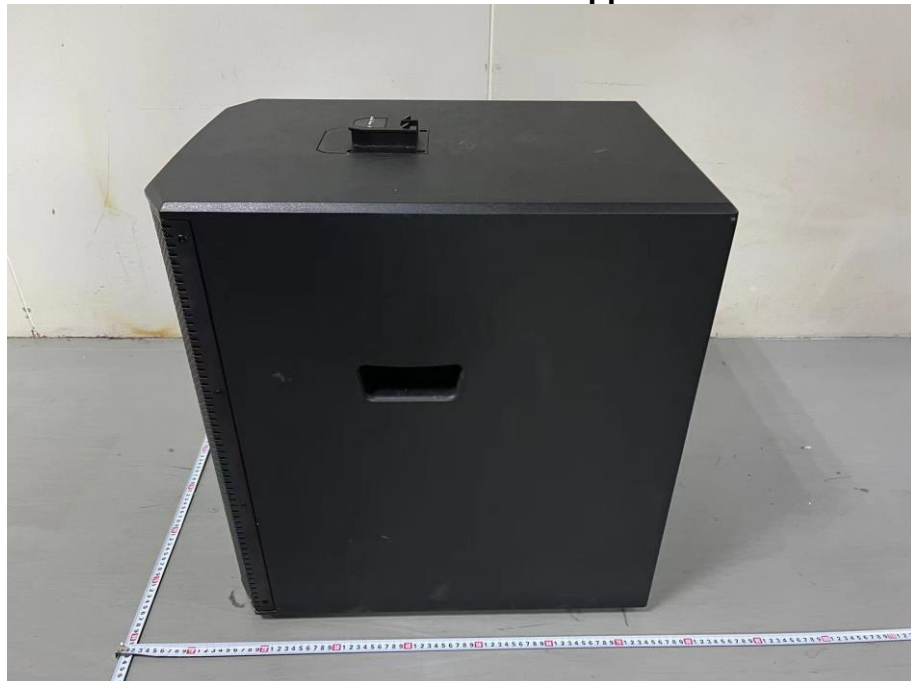


Figure 9
General Appearance of the EUT



Figure 10
General Appearance of the EUT



Figure 11
General Appearance of the EUT

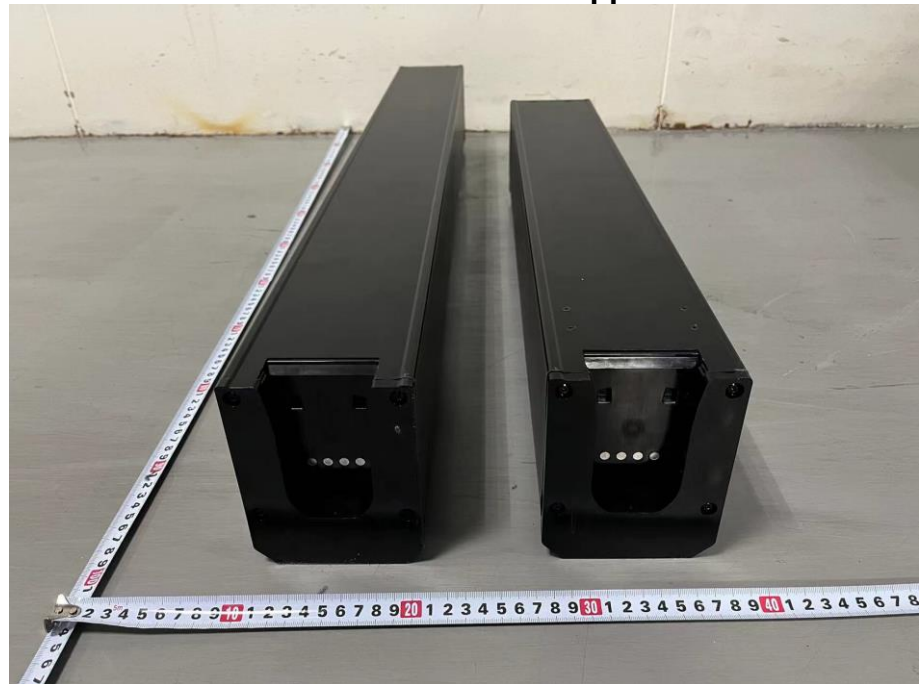


Figure 12
General Appearance of the EUT

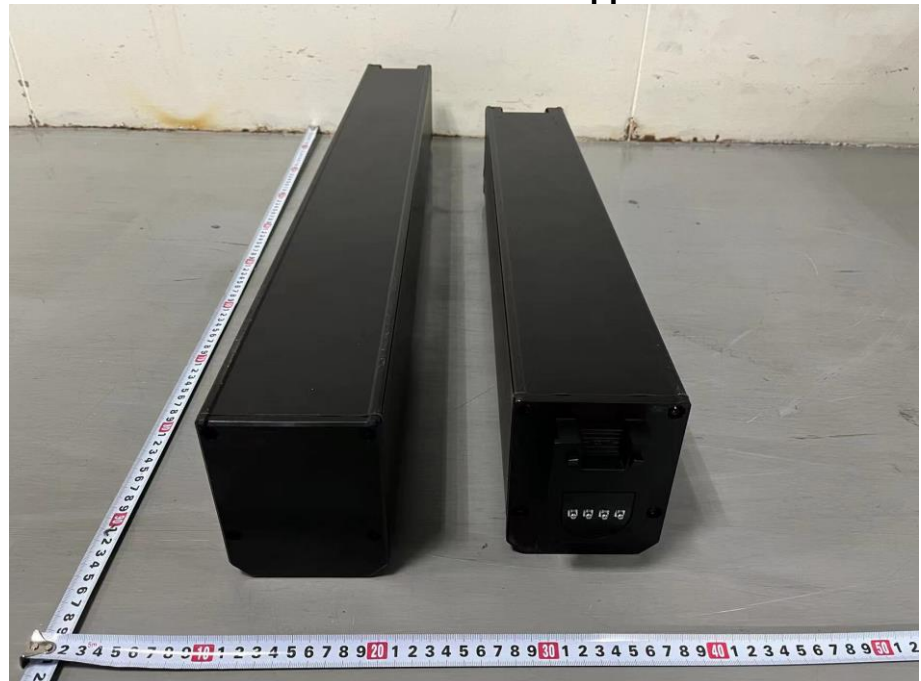


Figure 13
General Appearance of the EUT



Figure 14
General Appearance of the EUT



Figure 15
Inside View of the EUT



Figure 16
Inside View of the EUT

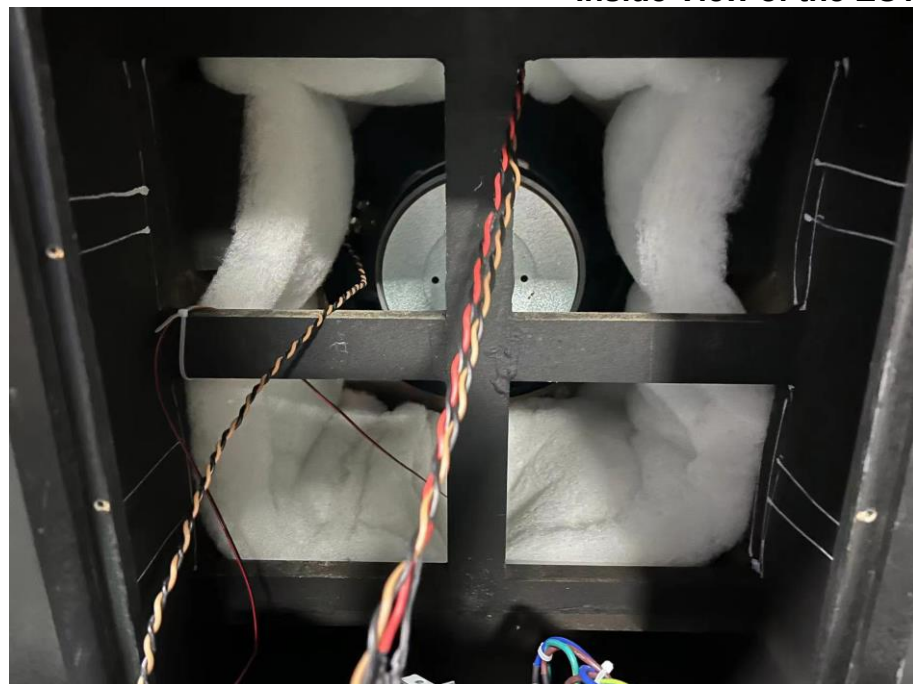


Figure 17
Inside View of the EUT

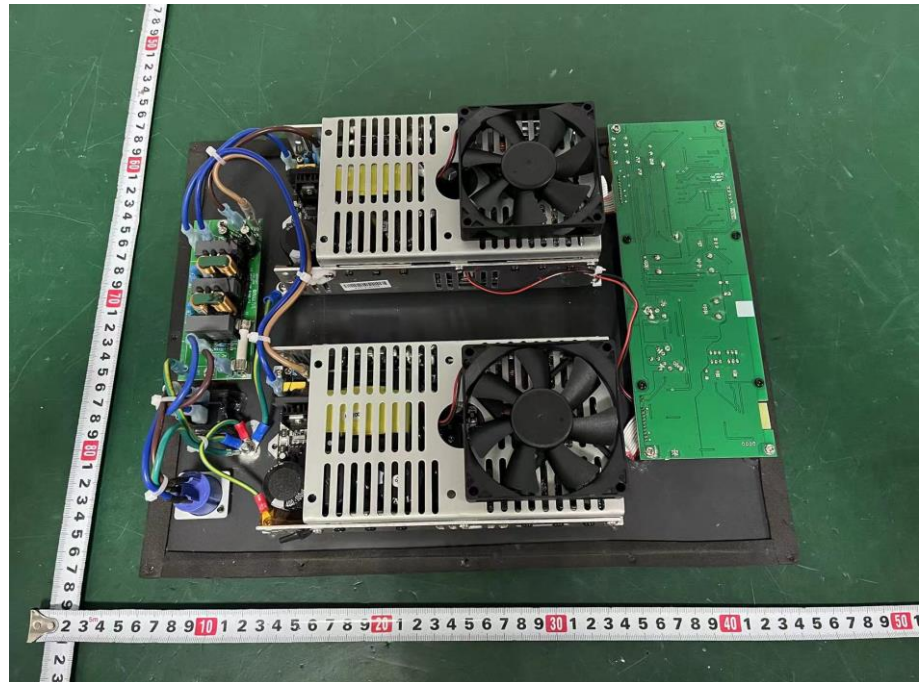


Figure 18
Inside View of the EUT

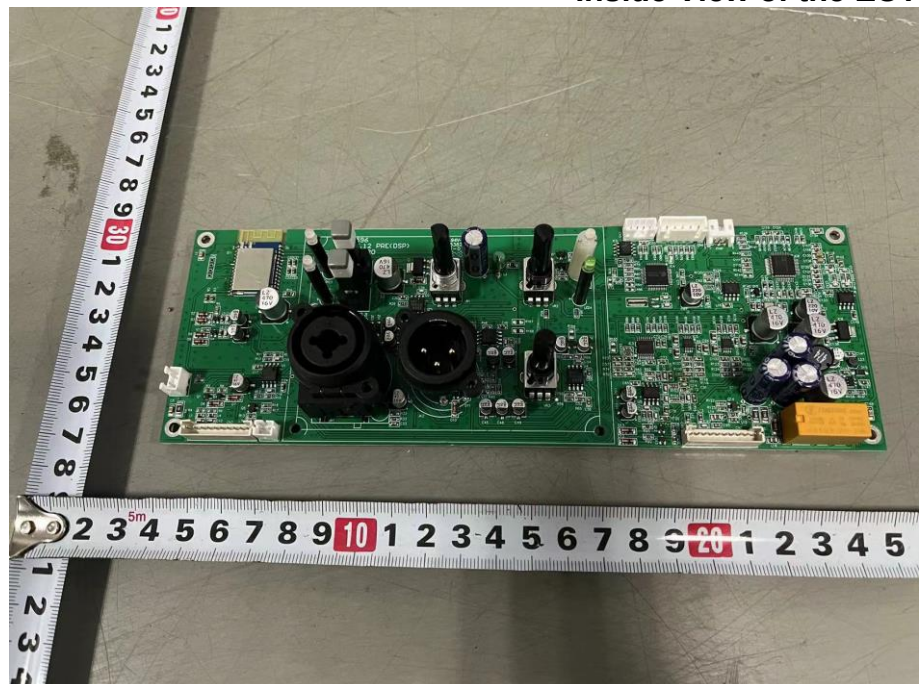


Figure 19
Inside View of the EUT

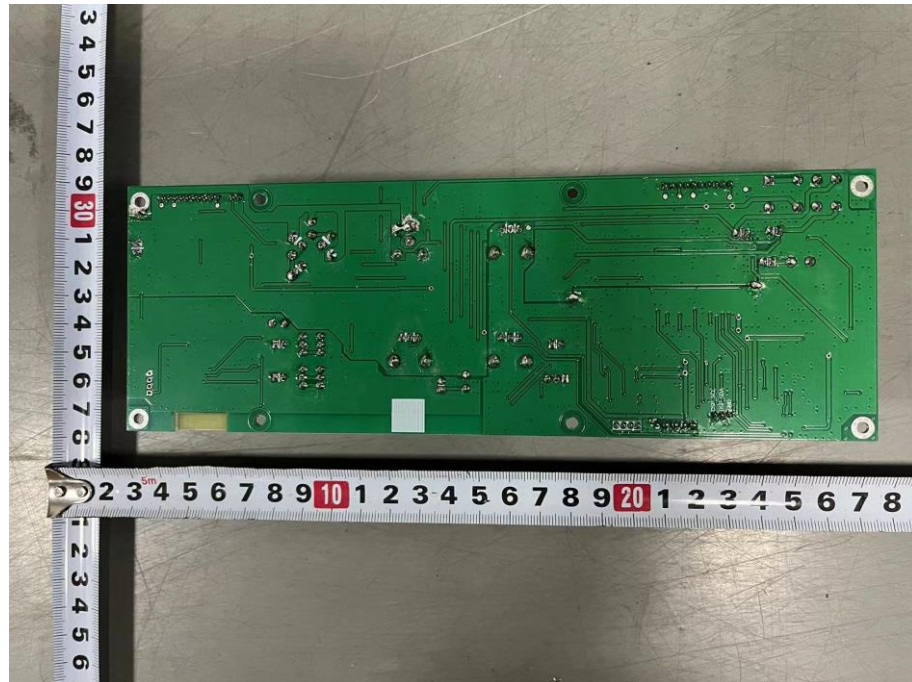


Figure 20
Inside View of the EUT

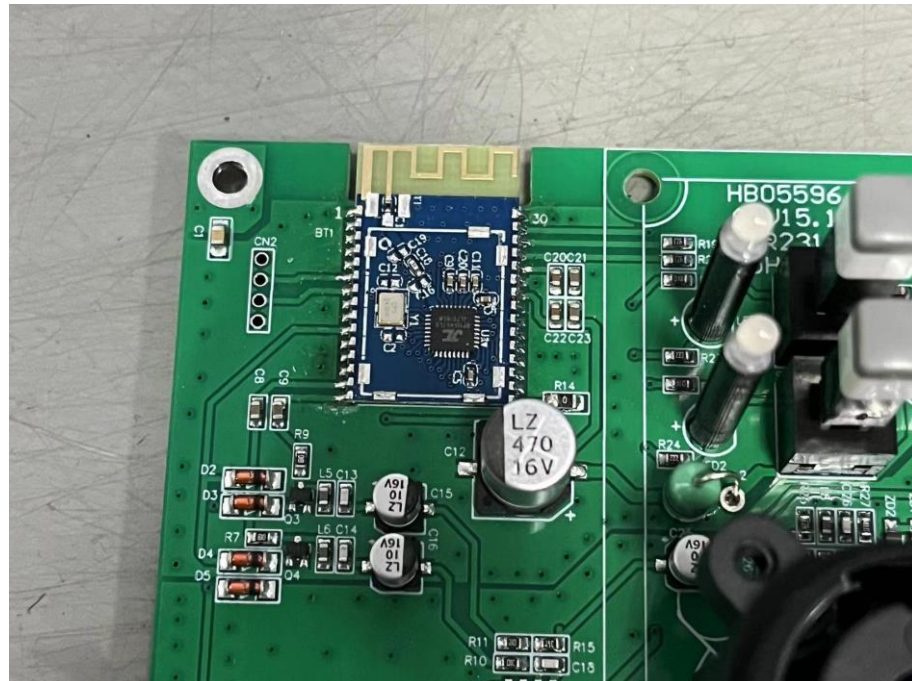


Figure 21
Inside View of the EUT

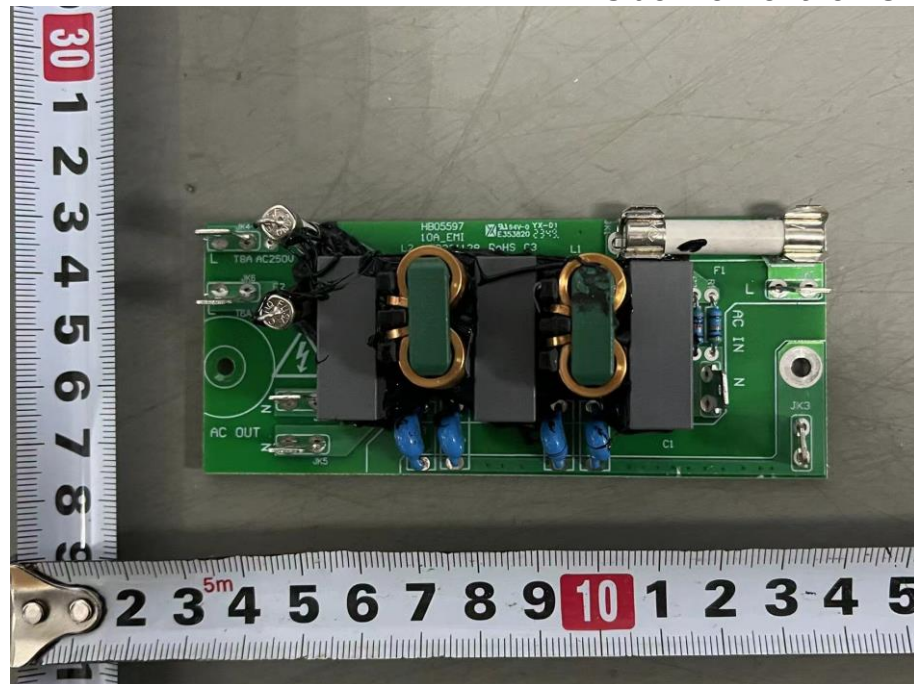


Figure 22
Inside View of the EUT

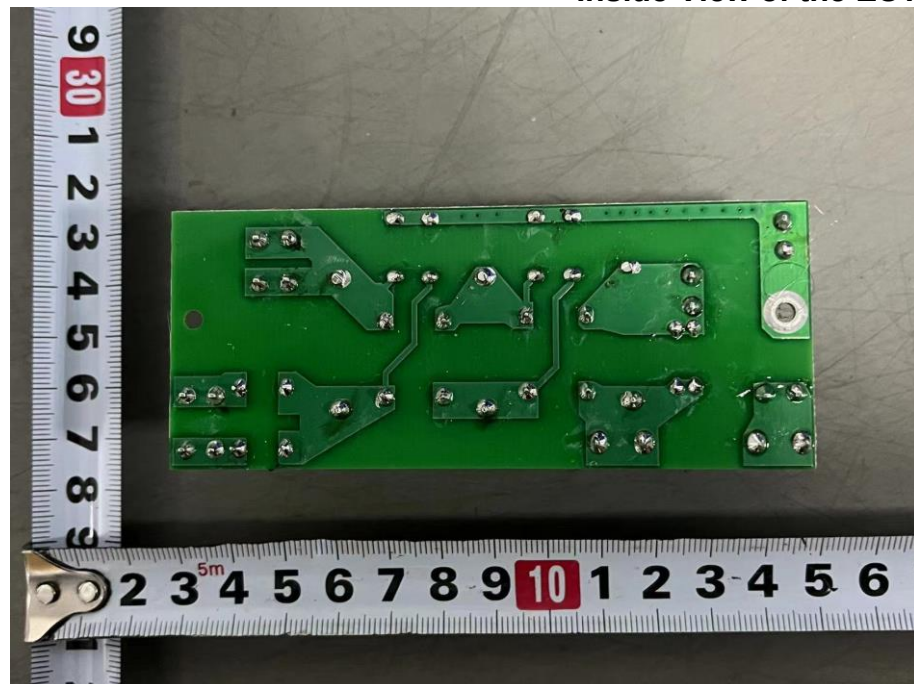


Figure 23
Inside View of the EUT

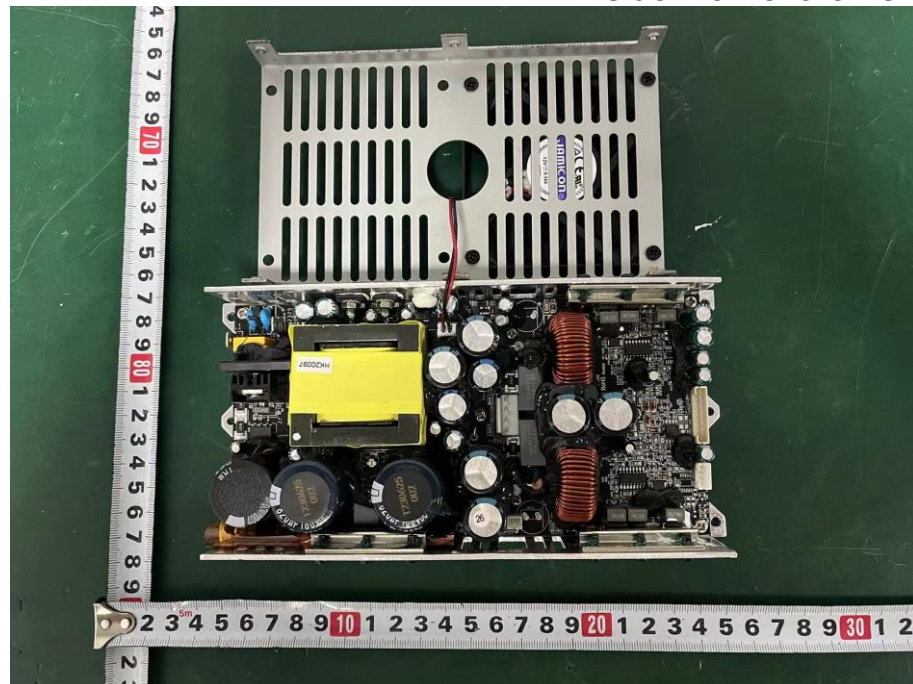


Figure 24
Inside View of the EUT

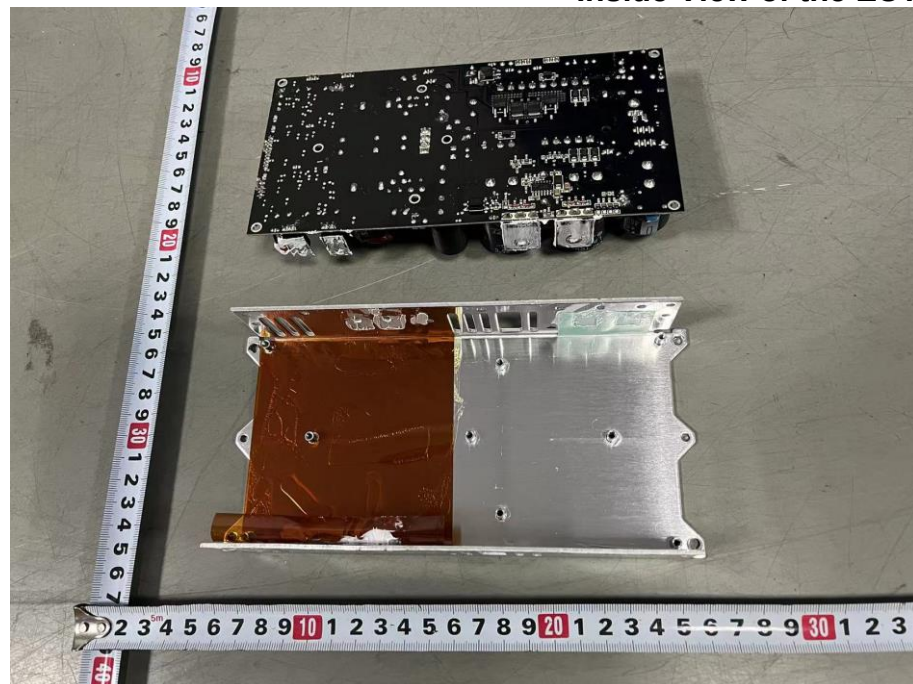


Figure 25
Inside View of the EUT

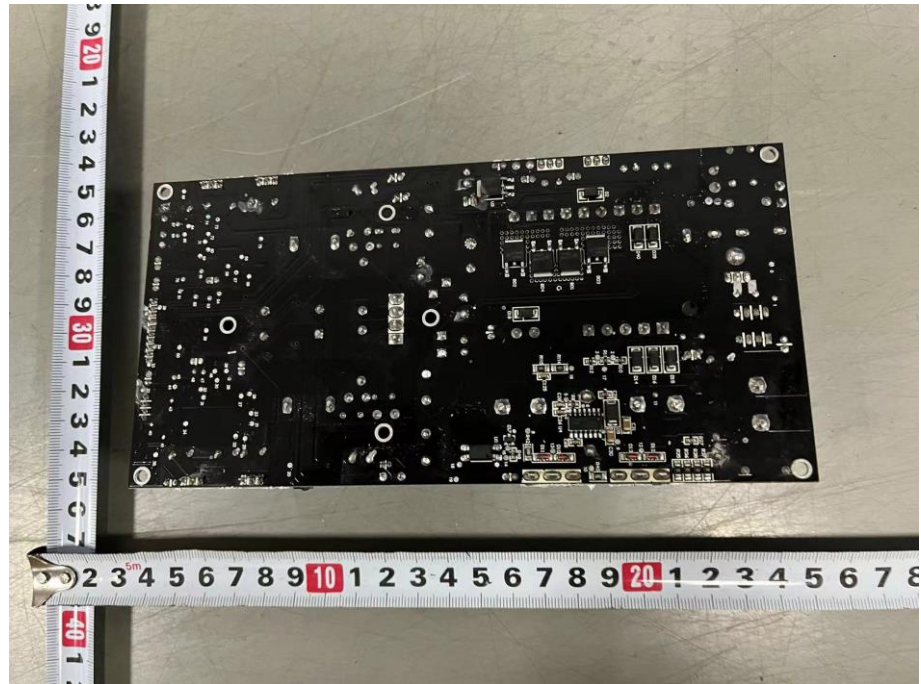


Figure 26
Inside View of the EUT

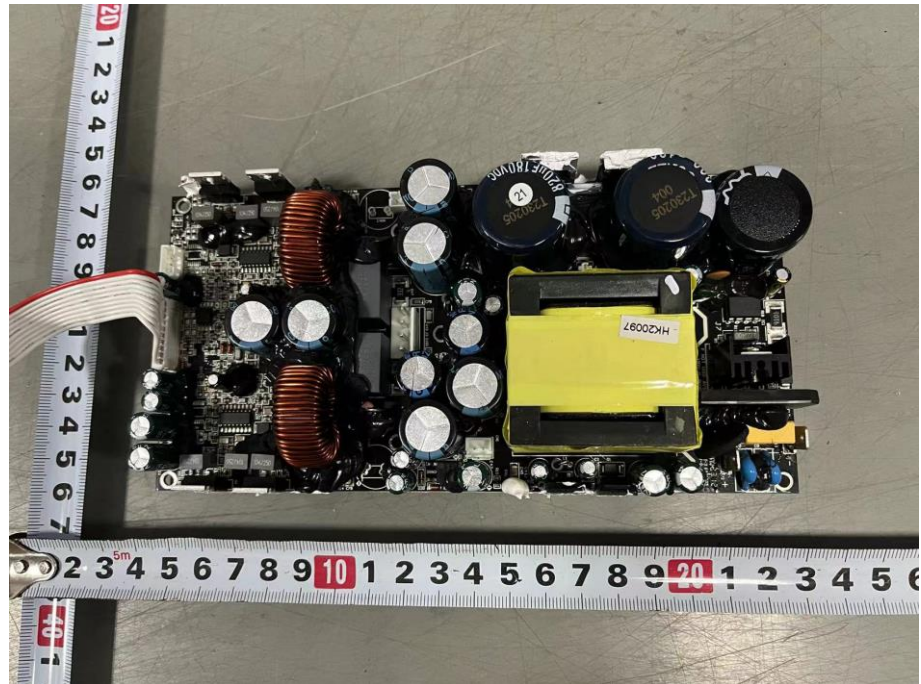


Figure 27
Inside View of the EUT

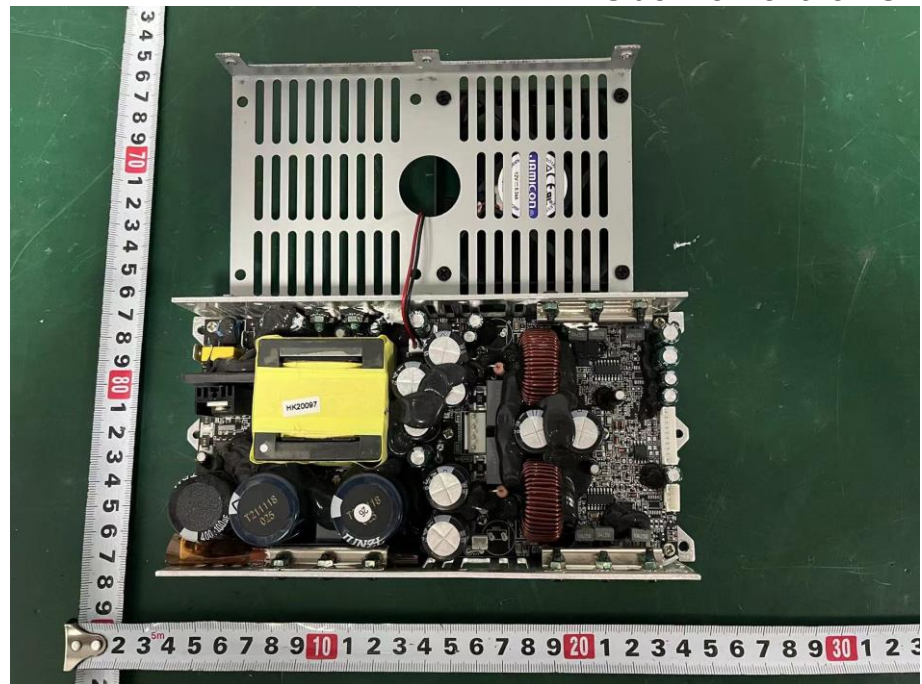


Figure 28
Inside View of the EUT

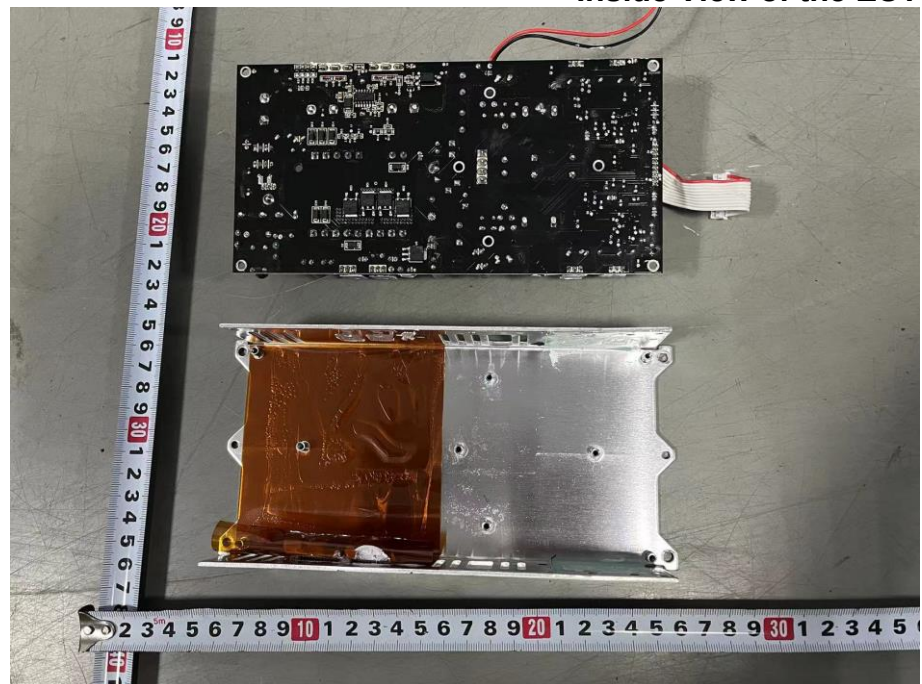


Figure 29
Inside View of the EUT

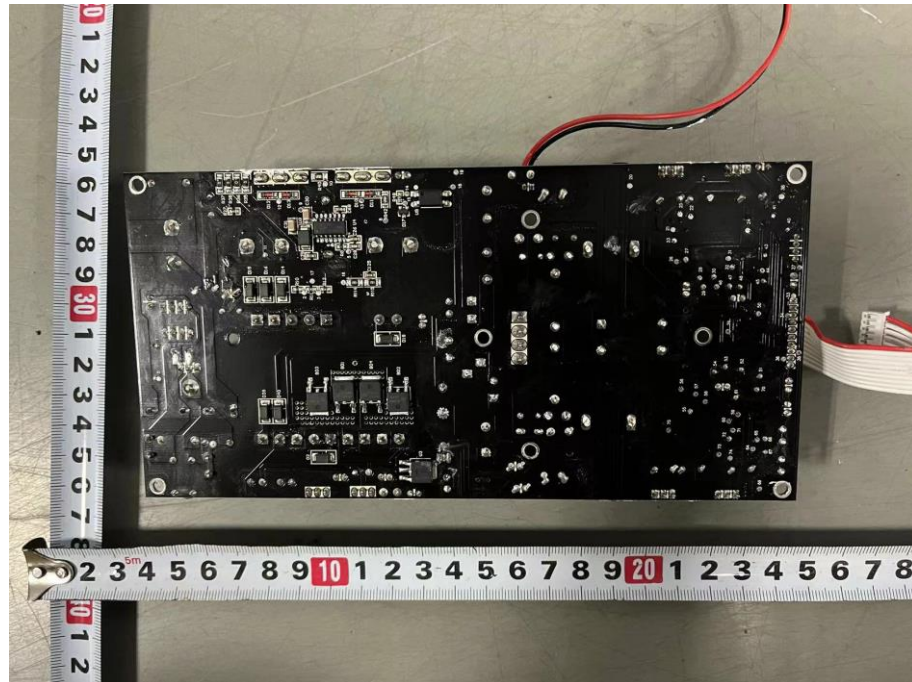
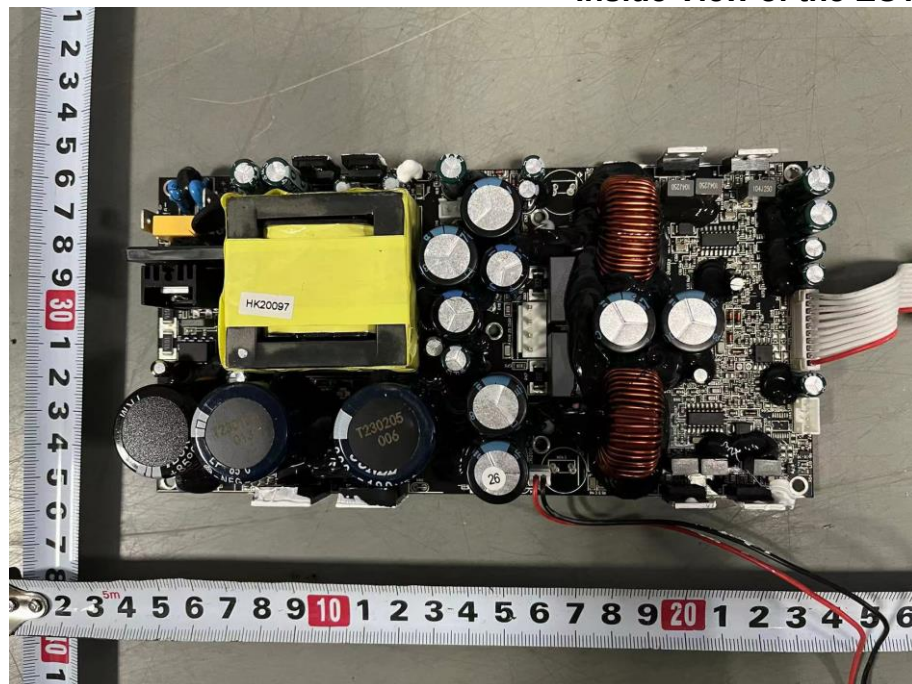


Figure 30
Inside View of the EUT



End of Test Report