TEST REPORT

Applicant	TPV Electronics (Fujian) Co., Ltd.
Address	Rongqiao Economic and Technological Development Zone, Fuqing, Fujian, China

Manufacturer or Supplier	TPV Electronics (Fujian) Co., Ltd.
Address	Rongqiao Economic and Technological Development Zone, Fuqing, Fujian, China
Product	LCD Monitor
Brand Name	AOC, AOC
Model	24B15H3
Additional Model & Model Difference	**24B15****************** (*can be A-Z, a-z, 0-9, +, -, /, \ or space); see items 2.1
Date of tests	Sep. 26, 2025 ~ Oct. 09, 2025

The submitted sample of the above equipment has been tested according to the requirements of the following standards:

☒ **EN 55032:2015+A1:2020, CLASS B**	☒ **BS EN 55032:2015+A1 :2020, Class B**
☒ **EN IEC 61000-3-2:2019+A1:2021+A2:2024**	☒ **BS EN IEC 61000-3-2:2019+A1:2021+A2:2024**
☒ **EN 61000-3-3:2013+A1:2019+A2:2021**	☒ **BS EN 61000-3-3:2013+A1:2019+A2:2021**
☒ **EN 55035:2017+A11:2020**	☒ **BS EN 55035:2017+A11 :2020**
☒ **AS/NZS CISPR 32:2015+AMD1:2020, Class B**	

CONCLUSION: The submitted sample was found to <u>COMPLY</u> with the test requirement

Prepared by Lucas Chen Project Engineer / EMC Department	Approved by Madison Luo Assistant Manager / EMC Department
	Date: Oct. 16, 2025

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RELEASE CONTROL RECORD

Issue No.	Description	Date Issued
CE2509WDG0105	Original release	Oct. 16, 2025

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

EMISSION				
Standard	**Test Item**	**Result**	**Remarks**	**Test Location**
EN 55032:2015+A1: 2020, Class B BS EN 55032:2015+A1: 2020, Class B AS/NZS CISPR 32:2015 +AMD1:2020, Class B	Conducted emission from the AC mains power port	PASS	Minimum passing margin is -6.75 dB at 0.18559 MHz	A
	Radiated emission 30MHz-1000MHz	PASS	Minimum passing margin is -4.20 dB at 50.800 MHz	A
	Radiated emission Above 1GHz	PASS	Minimum passing margin is -18.90 dB at 5301.00 MHz	A
EN IEC 61000-3-2:2019 +A1:2021+A2:2024; BS EN IEC 61000-3-2: 2019+A1:2021+A2:2024	Harmonic current emissions	PASS	Meets the requirements.	A
EN 61000-3-3:2013 +A1:2019+A2:2021; BS EN 61000-3-3:2013 +A1:2019+A2:2021	Voltage fluctuations & flicker	PASS	Meets the requirements.	A

Note:

Test Location:

A: No. 96, Guantai Road (Houjie Section), Houjie Town, Dongguan City, Guangdong Province. 523942. People's Republic of China.

B: No. 122, Houjie Avenue West Houjie Town, Dongguan City Guangdong Province, 523960, People's Republic of China.

IMMUNITY (EN 55035:2017+A11:2020, BS EN 55035:2017+A11:2020)				
Standard	**Test Type**	**Result**	**Remarks**	**Test Location**
IEC 61000-4-2:2008 ED. 2.0	Electrostatic discharge immunity test	PASS	Electrostatic Discharge – ESD: 8kV Air discharge, 4kV Contact discharge, Performance Criterion B	A
IEC 61000-4-3:2020 ED. 4.0	Radiated, radio-frequency, electromagnetic field immunity test	PASS	Meets the requirements	A
IEC 61000-4-4:2012 ED. 3.0	Electrical fast transient / burst immunity test.	PASS	Electrical Fast Transient/Burst - EFT AC Power line: 1kV, Performance Criterion B	A
IEC 61000-4-5:2017 ED. 3.1	Surge immunity test	PASS	Surge Immunity Test: 1.2/50 us Open Circuit Voltage, 8 /20 us Short Circuit Current, Power line: line to line 1 kV, Performance Criterion A	A
IEC 61000-4-6:2023 ED. 5.0	Immunity to conducted disturbances, induced by radio-frequency fields	PASS	Meets the requirements	A
IEC 61000-4-11: 2020 ED. 3.0	Voltage dips, short interruptions and voltage variations immunity tests		Meets the requirements of Voltage Dips: >95% reduction (0.5 cycle)-Performance Observation A 30% reduction (25 cycle)–Performance Observation A >95% reduction (250 cycle) –Performance Observation B	A

Note:
Test Location:
A: No. 96, Guantai Road (Houjie Section), Houjie Town, Dongguan City, Guangdong Province. 523942. People's Republic of China.
B: No. 122, Houjie Avenue West Houjie Town, Dongguan City Guangdong Province, 523960, People's Republic of China.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

MEASUREMENT	FREQUENCY	UNCERTAINTY
Mains Terminal Disturbance Voltage Test	0.15MHz ~ 30MHz	+/-3.36 dB
Radiated Disturbance Test	30MHz ~ 1000MHz	+/-4.56 dB
Radiated Disturbance Test	1GHz ~ 6GHz	+/-5.02 dB

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LCD Monitor
TEST MODEL	24B15H3
ADDITIONAL MODEL	**24B15********** (*can be A-Z, a-z, 0-9, +, -, /, \ or space)
POWER SUPPLY	DC 12V from Adapter
THE HIGHEST OPERATING FREQUENCY	Above 108MHz
CABLE SUPPLIED	HDMI Cable: Shielded, detachable,150cm, with two cores

Notes:

1. For the test results, the EUT had been tested with all conditions. But only the worst case was showed in test report.
2. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
3. Please refer to the EUT photo document (Reference No.: 2509WDG0105) for detailed product photo.
4. Additional models (see above table) are identical with the test model 24B15H3 except the color of appearance and model no. for trading purposes.
5. The EUT was powered by the following adapter:

ADAPTER	
BRAND:	欧陆通 HOIOTO
MODEL:	ADS-25NP-12-1 12024E
INPUT:	AC 100-240V 50/60Hz 0.7A MAX.
OUTPUT:	DC 12V/2A 24W
DC CABLE:	DC Cable: Unshielded, non-detachable, 145cm, with one core

2.2 DESCRIPTION OF TEST MODES

The EUT was tested under the following modes. And the final worst mode was marked in boldface and recorded in this report.

◆ **MAINS TERMINAL DISTURBANCE VOLTAGE TEST**

Test Mode	Test Voltage
HDMI In (1920*1080 120Hz)	**AC 230V 50Hz**
D-SUB (1920*1080 75Hz)	
Standby	
HDMI In (1920*1080 120Hz)	AC 110V 60Hz

◆ **FOR RADIATED EMISSIONS TEST**

Test Mode	Test Voltage
HDMI In (1920*1080 120Hz)	**AC 230V 50Hz**
D-SUB (1920*1080 75Hz)	
Standby	
HDMI In (1920*1080 120Hz)	AC 110V 60Hz

◆ **FOR HARMONIC, FLICKERED TESTS**

Test Mode	Test Voltage
HDMI In (1920*1080 120Hz)	**AC 230V 50Hz**
D-SUB (1920*1080 75Hz)	

◆ **FOR IMMUNITY TESTS**

Test Mode	Test Voltage
HDMI In (1920*1080 120Hz)	**AC 230V 50Hz** **AC 110V 60Hz**
D-SUB (1920*1080 75Hz)	
Standby	

2.3 TEST PROGRAM USED AND OPERATION DESCRIPTIONS

a. Turned on the power of all equipment.
b. EUT was operated according to the type described in manufacturer's specifications or the user's manual.

2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to the specifications of the manufacturers, the EUT must comply with the requirements of the following standards:

EN 55032:2015+A1:2020, CLASS B
BS EN5032:2015+A1:2020, CLASS B
AS/NZS CISPR 32:2015+AMD1:2020, CLASS B
EN IEC 61000-3-2:2019+A1:2021+A2:2024
BS EN IEC 61000-3-2:2019+A1:2021+A2:2024
EN 61000-3-3:2013+A1:2019+A2:2021
BS EN 61000-3-3:2013+A1:2019+A2:2021
EN 55035:2017 +A11:2020
BS EN 55035:2017 +A11:2020
IEC 61000-4-2:2008 ED. 2.0
IEC 61000-4-3:2020 ED. 4.0
IEC 61000-4-4:2012 ED. 3.0
IEC 61000-4-5:2017 ED. 3.1
IEC 61000-4-6:2023 ED. 5.0
IEC 61000-4-11:2020 ED. 3.0

All applicable tests have been performed and recorded as per the above standards.

2.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as a dependent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Personal Computer	DELL	Vostro 230	357PV2X	Personal Computer
2	Printer	HP	HP LaserJet 1300	CNSJF75989	Printer
3	Keyboard	DELL	L100	CN-0RH656-65890-954-021U	Keyboard
4	Mouse	DELL	MOC5UO	H0K00K92	Mouse
5	Notebook	DELL	E6420	9H12FS1	Notebook

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	AC Line: Unshielded, Detachable 1.5m; VGA Cable: Unshielded, Detachable, 1.5m
2	USB Line: Shielded, Detachable 1.8m.
3	USB Line: Shielded, Detachable 1.8m.
4	USB Line: Shielded, Detachable 1.8m.
5	AC Line: Unshielded, Detachable 1.5m: DC Line: Unshielded, Non-detachable 1.5m
Other	AC Line: Unshielded, Detachable 1.5m

3 CONDUCTED EMISSION FROM THE AC MAINS POWER PORT

3.1 LIMITS

Frequency (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTES:1. The lower limit shall apply at the transition frequencies.
2. The limit decreases linearly with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

3.2 TEST INSTRUMENT

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Oct. 09, 25
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Oct. 10, 25
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Oct. 09, 25
Artificial Mains Network	SCHWARZBECK	NSLK 8122	8122-05001	Apr. 09, 26
V-LISN (CISPR 25)	SCHWARZBECK	NNBM 8124-200	8124-200 05857	Apr. 09, 26
V-LISN (CISPR 25)	SCHWARZBECK	NNBM 8124-200	8124-200 05858	Apr. 09, 26
Voltage probe	SCHWARZBECK	TK 9421	TK 9421-176	Jul. 06, 26
Coaxial RF Cable	SUHNER	RG 223/U-CE	C2310066DG	Jun. 22, 26

NOTES: 1. The test was performed at Shielded Room 553.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

3.3 TEST ARRANGEMENT

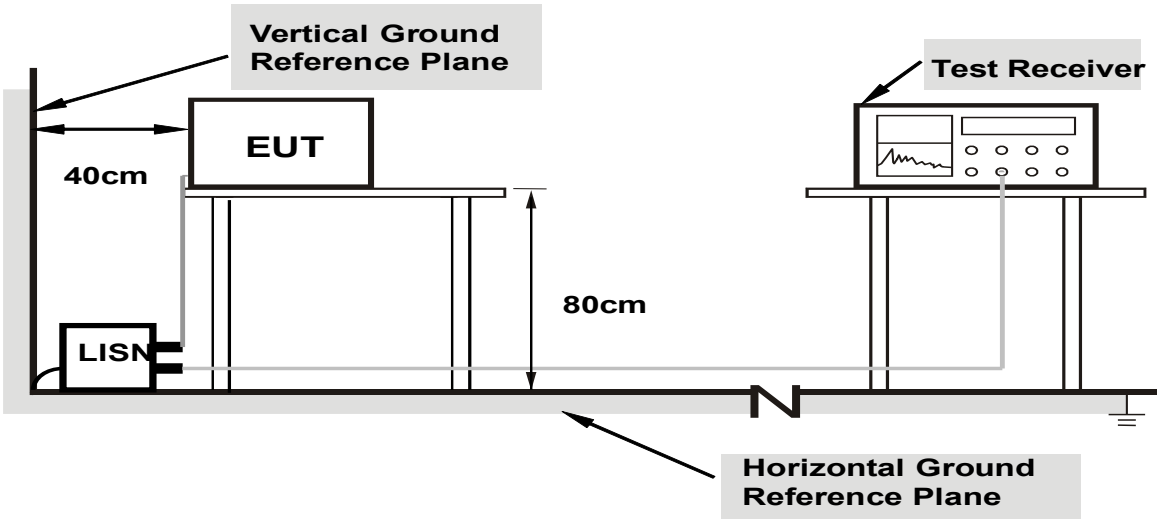
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The test results of conducted emissions at mains ports are recorded of six worst margins for quasi-peak (mandatory) [and average (if necessary)] values against the limits at frequencies of interest unless the margin is 20 dB or greater.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

3.4 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.

3.5 SUPPLEMENTARY INFORMATION

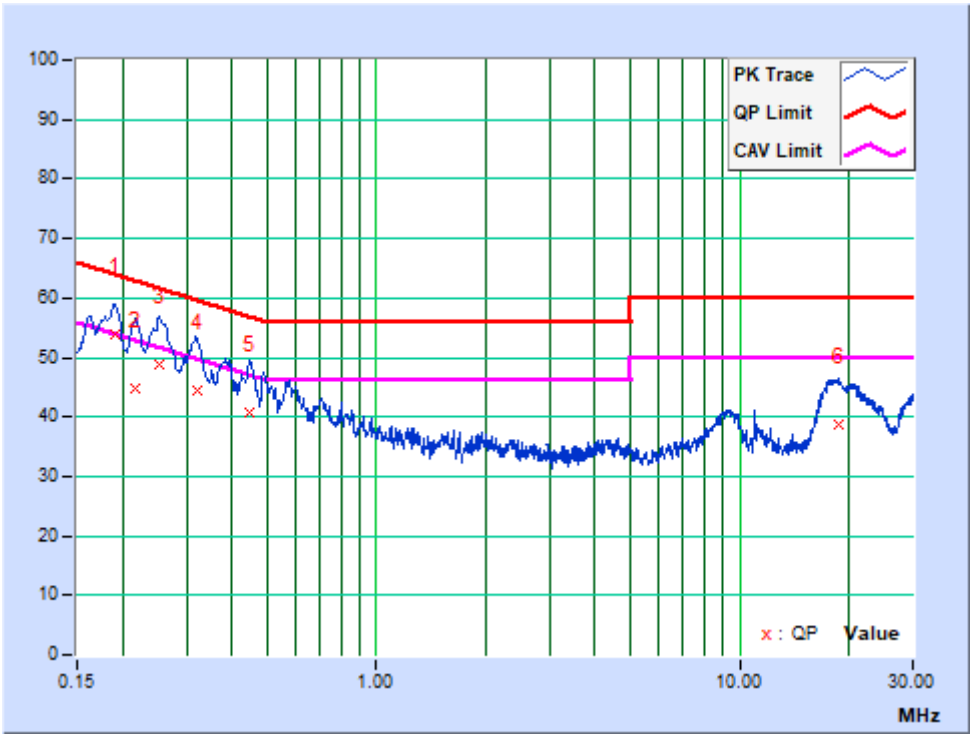
N/A

3.6 TEST RESULTS

TEST MODE	See section 2.2	**6DB BANDWIDTH**	9 kHz
TEST VOLTAGE	See section 2.2	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 56% RH	**TESTED BY**	Summer
TEST DATE	Sep. 28, 2025		

No.	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19005	9.70	44.29	29.00	53.99	38.70	64.03	54.03	-10.05	-15.34
2	0.21688	9.68	35.23	13.01	44.91	22.69	62.94	52.94	-18.02	-30.24
3	0.25144	9.67	39.19	21.97	48.86	31.64	61.71	51.71	-12.85	-20.07
4	0.32100	9.65	34.79	12.71	44.44	22.36	59.68	49.68	-15.24	-27.32
5	0.44710	9.64	31.05	7.76	40.69	17.40	56.93	46.93	-16.24	-29.53
6	18.64938	10.92	27.86	19.38	38.78	30.30	60.00	50.00	-21.22	-19.70

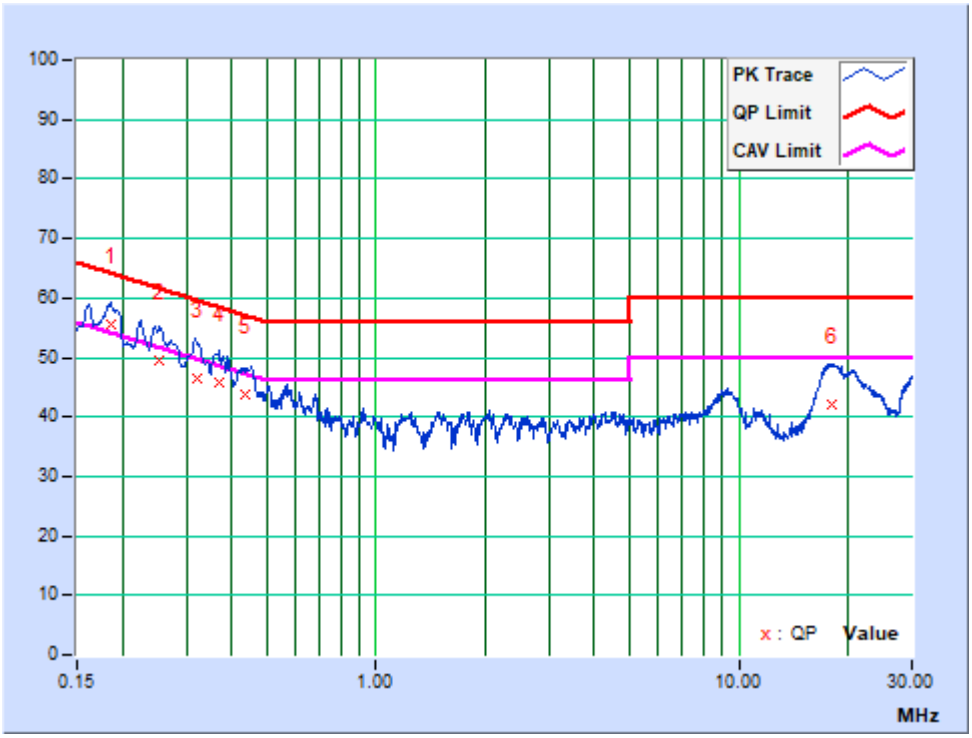
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	See section 2.2	**6DB BANDWIDTH**	9 kHz
TEST VOLTAGE	See section 2.2	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 56% RH	**TESTED BY**	Summer
TEST DATE	Sep. 28, 2025		

No.	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.18559**	**9.72**	**45.73**	**37.76**	**55.45**	**47.48**	**64.23**	**54.23**	**-8.78**	**-6.75**
2	0.25344	9.69	39.74	22.11	49.43	31.80	61.64	51.64	-12.22	-19.85
3	0.32100	9.66	36.80	28.10	46.46	37.76	59.68	49.68	-13.22	-11.92
4	0.36825	9.66	36.22	26.98	45.88	36.64	58.54	48.54	-12.66	-11.90
5	0.43350	9.65	34.03	24.31	43.68	33.96	57.19	47.19	-13.50	-13.22
6	17.98350	10.82	31.32	22.39	42.14	33.21	60.00	50.00	-17.86	-16.79

REMARKS: The emission levels of other frequencies were very low against the limit.



4 RADIATED EMISSION MEASUREMENT

4.1 LIMITS OF RADIATED EMISSION MEASUREMENT

FOR FREQUENCY BELOW 1000 MHz

FREQUENCY (MHz)	Class A (at 10m) Quasi-Peak dBuV/m	Class B (at 10m) Quasi-Peak dBuV/m
30 – 230	40	30
230 – 1000	47	37

FREQUENCY (MHz)	Class A (at 3m) Quasi-Peak dBuV/m	Class B (at 3m) Quasi-Peak dBuV/m
30 – 230	50	40
230 – 1000	57	47

For FM receivers

Distance (m)	Source	Frequency Range (MHz)	Limits dB (uV/m) Quasi-peak	
10	Local oscillator	≤1000	Fundamental	50
		30 to 300	Harmonics	42
		300 to 1000	Harmonics	46
	Other	30 to 230		30
		230 to 1000		37
3	Local oscillator	≤1000	Fundamental	60
		30 to 300	Harmonics	52
		300 to 1000	Harmonics	56
	Other	30 to 230		40
		230 to 1000		47

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	Up to 5 times of the highest frequency or 6 GHz, whichever is less

FOR FREQUENCY ABOVE 1000 MHz

EN 55032:2015+A1:2020, CLASSB

FREQUENCY (GHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
1 to 6	80	60	74	54

EN 55032:2015+A11:2020, CLASSB

FREQUENCY (GHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
1 to 3	76	56	70	50
3 to 6	80	60	74	54

NOTE: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2 TEST INSTRUMENTS

FREQUENCY RANGE BELOW 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESU26	100005	Apr. 09, 26
EMI Test Receiver	Rohde&Schwarz	ESR7	101564	Nov. 28, 25
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	01281	Jun. 12, 26
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	01282	Aug. 11, 26
Preamplifier	EMCI	EMC1135	980378	Feb. 21, 26
Preamplifier	EMCI	EMC1135	980423	Feb. 21, 26
10m Semi-anechoic Chamber	CHANGLING	21.4m*12.1m*8.8 m	NSEMC006	May 17, 26
Coaxial RF Cable	Yaohong	10m Below 1GHz	C2310084DG	Dec. 22, 25
Coaxial RF Cable	Yaohong	10m Below 1GHz	C2310085DG	Jun. 26, 26
Test Software	ADT	ADT_Radiated_V 8.7.07	N/A	N/A

NOTES: 1. The test was performed in 10m Chamber.

2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

FREQUENCY RANGE ABOVE 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Horn Antenna	ETS-Lindgren	3117	00240041	Apr. 28, 26
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170147	Apr. 12, 26
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101003	Oct. 09, 25
Broadband Preamplifier (1~18GHz)	SCHWARZBECK	BBV 9718C	00101	Nov. 24, 25
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 28, 25
Coaxial RF Cable	Yaohong	10m Above 1GHz	C2310041DG	Feb. 21, 26
Test Software	ADT	ADT_Radiated_V8 .7.07	N/A	N/A

NOTES: 1. The test was performed in 10m Chamber.

2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

4.3 TEST PROCEDURE

<Frequency Range below 1GHz>

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meters semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

a. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

a. The height of antenna is varied from 1 meter to 4 meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

a. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

a. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1GHz.

NOTE:

1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. Emission level(dBuV/m) =Raw Value(dBuV) + Correction Factor(dB/m)
3. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) (if the raw value does not contain the amplifier).
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain(dB) (if the raw value contains the amplifier).
5. Margin value = Emission level – Limit value.

<Frequency Range above 1GHz>

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter Semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna can be varied from one meter-to four meters, the height of adjustment depends on the EUT height and the antenna 3dB beamwidth both, to detect the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

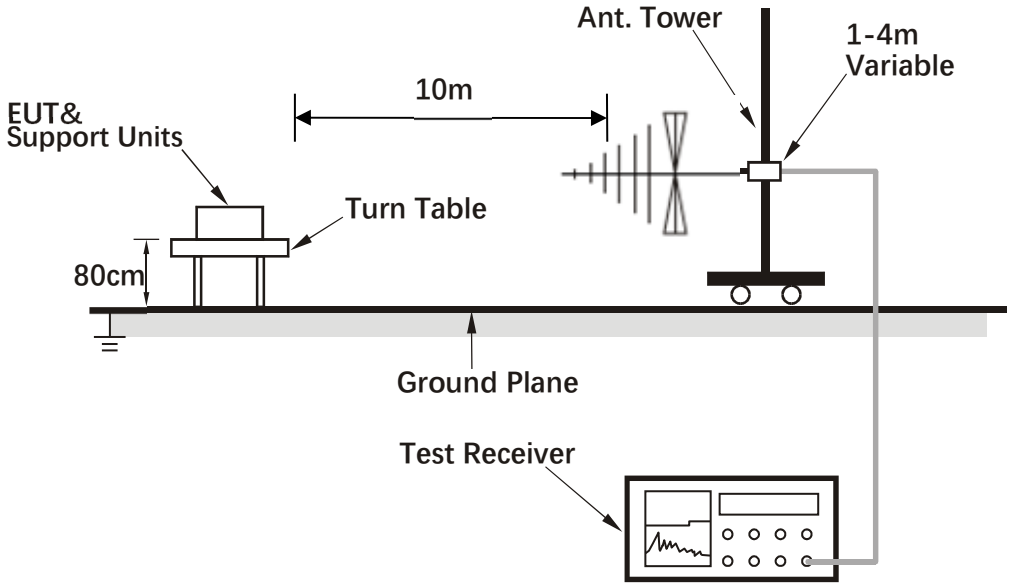
e. The test receiver/spectrum was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.

NOTE:

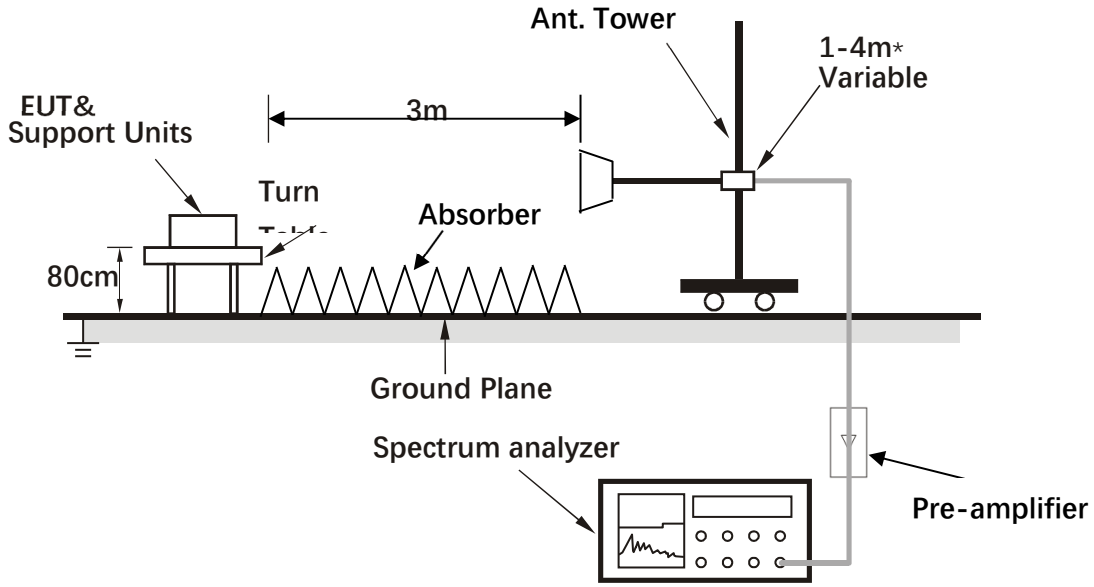
1. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.
2. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the receiver antenna.
3. Emission level(dBuV/m) =Raw Value(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) (if the raw value does not contain the amplifier).
5. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain(dB) (if the raw value contains the amplifier).
6. Margin value = Emission level – Limit value.

4.4 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



*: depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

4.5 SUPPLEMENTARY INFORMATION

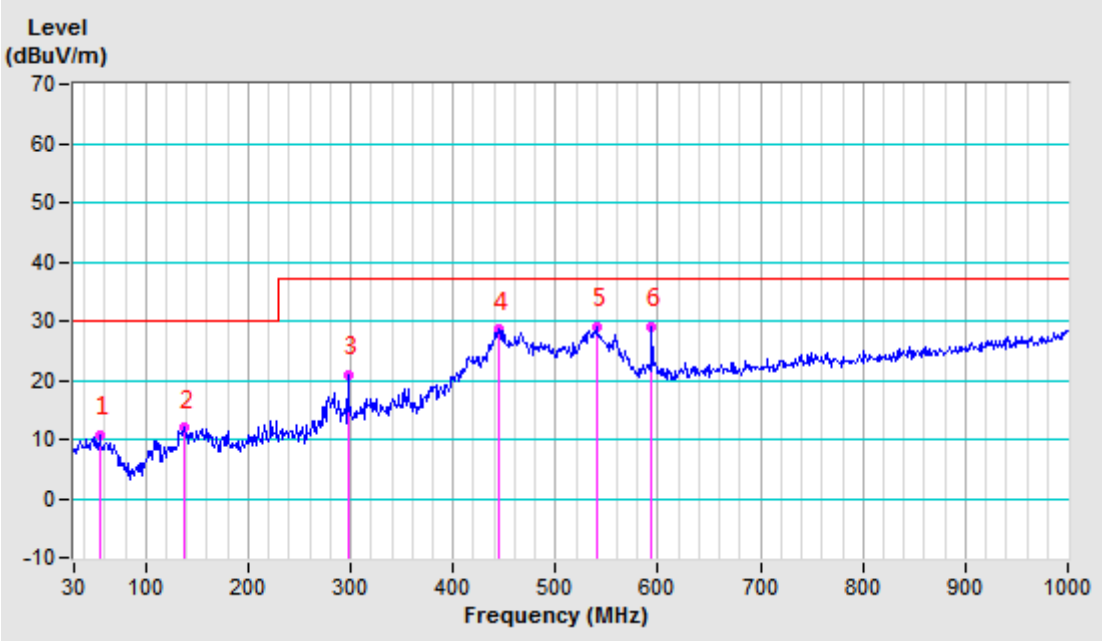
N/A.

4.6 TEST RESULTS (BELOW 1GHZ)

TEST MODE	See section 2.2	**FREQUENCY RANGE**	30-1000MHz
TEST VOLTAGE	See section 2.2	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	26.0deg. C, 53.0% RH	**TESTED BY**	Albert
TEST DATE	Sep. 26, 2025		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	55.220	-21.71	32.49	10.78	30.00	-19.22	400	43
2	137.670	-21.21	33.10	11.89	30.00	-18.11	200	259
3	296.993	-19.49	40.41	20.92	37.00	-16.08	200	167
4	444.069	-15.35	43.84	28.49	37.00	-8.51	200	210
5	539.735	-13.43	42.33	28.90	37.00	-8.10	200	207
6	594.055	-11.59	40.70	29.11	37.00	-7.89	200	199

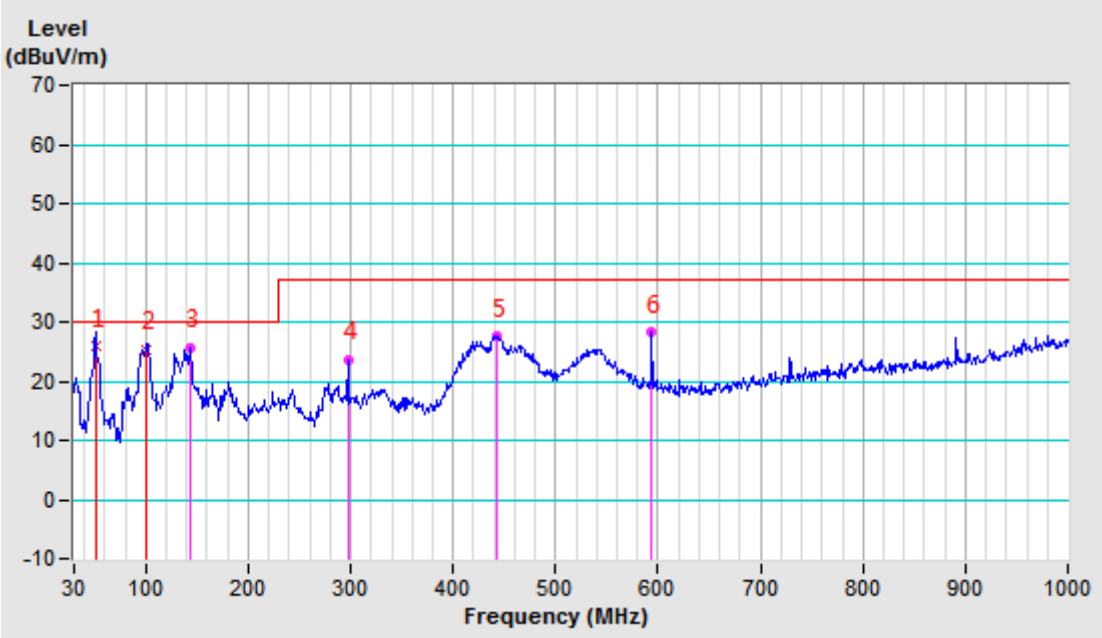
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	See section 2.2	FREQUENCY RANGE	30-1000MHz
TEST VOLTAGE	See section 2.2	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	26.0deg. C, 53.0% RH	TESTED BY	Albert
TEST DATE	Sep. 26, 2025		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	**50.800**	**-20.85**	**46.65**	**25.80**	**30.00**	**-4.20**	**100**	**11**
2	101.000	-24.48	49.78	25.30	30.00	-4.70	100	269
3	143.350	-20.22	45.74	25.52	30.00	-4.48	100	216
4	297.006	-19.60	43.27	23.67	37.00	-13.33	100	141
5	442.077	-16.07	43.61	27.54	37.00	-9.46	100	106
6	593.986	-12.42	40.56	28.14	37.00	-8.86	100	165

REMARKS: The emission levels of other frequencies were very low against the limit.



4.7 TEST RESULTS (ABOVE 1GHZ)

TEST MODE	See section 2.2	**FREQUENCY RANGE**	1-6GHz
TEST VOLTAGE	See section 2.2	**DETECTOR FUNCTION**	Peak, Average
ENVIRONMENTAL CONDITIONS	26.0deg. C, 53.0% RH	**TESTED BY**	Albert
TEST DATE	Sep. 26, 2025		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**CORRECTION FACTOR (dB/m)**	**RAW VALUE (dBuV)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**NTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**
1	1421.00PK	-5.04	51.84	46.80	74.00	-27.20	100	209
2	1421.00AV	-5.04	36.54	31.50	54.00	-22.50	100	209
3	3089.00PK	3.67	43.53	47.20	74.00	-26.80	200	48
4	3089.00AV	3.67	30.13	33.80	54.00	-20.20	200	48
5	5281.00PK	8.77	41.63	50.40	74.00	-23.60	100	161
6	5281.00AV	8.77	26.13	34.90	54.00	-19.10	100	161
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**CORRECTION FACTOR (dB/m)**	**RAW VALUE (dBuV)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**NTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**
1	1605.00PK	-3.68	50.28	46.60	74.00	-27.40	100	125
2	1605.00AV	-3.68	34.48	30.80	54.00	-23.20	100	125
3	3071.00PK	3.66	44.54	48.20	74.00	-25.80	100	63
4	3071.00AV	3.66	29.94	33.60	54.00	-20.40	100	63
5	5301.00PK	8.79	40.81	49.60	74.00	-24.40	100	122
6	**5301.00AV**	**8.79**	**26.31**	**35.10**	**54.00**	**-18.90**	**100**	**122**

REMARKS: 1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 1GHz to 6GHz.
4. Only emissions significantly above equipment noise floor are reported.

5 HARMONICS CURRENT MEASUREMENT

5.1 LIMITS

Limits for Class A equipment	
Harmonic Order n	Max. permissible harmonics current A
Odd harmonics	
3	2.30
5	1.14
7	0.77
9	0.40
11	0.33
13	0.21
15≦n≦39	0.15 x 15/n
Even harmonics	
2	1.08
4	0.43
6	0.30
8≦n≦40	0.23 x 8/n

Limits for Class D equipment		
Harmonic Order n	Max. permissible harmonics current per watt mA/W	Max. permissible harmonics current A
Odd Harmonics only		
3	3.4	2.30
5	1.9	1.14
7	1.0	0.77
9	0.5	0.40
11	0.35	0.33
13	0.30	0.21
15≦n≦39	3.85/n	0.15 x 15/n

NOTES: 1.Class A and Class D are classified according to section 5 of EN IEC 61000-3-2.

2. According to section 7 of EN IEC 61000-3-2, the above limits for all equipment except for lighting equipment having an active input power > 5 W and no limits apply for equipment with an active input power up to and including 75 W.

Limits for Class B equipment:
For class B equipment, the harmonics of the input current shall not exceed the maximum permissible values given for class A equipment multiplied by a factor of 1.5.

Limits for Class C equipment	
Harmonic Order n	Max. permissible harmonics current expressed as a percentage of the input current at the fundamental frequency %
2	2
3	27
5	10
7	7
9	5
11<=n<=39 (odd harmonics only)	3

NOTES: 1. Lighting equipment having a rated power greater than or equal to 5 W and less than or equal to 25 W shall not exceed the power-related limits of class D, column 2. or the third harmonic current, expressed as a percentage of the fundamental current, shall not exceed 86 % and the fifth harmonic current shall not exceed 61 %. In addition, the waveform of the input current shall be such that it reaches the 5 % current threshold before or at 60°, has its peak value before or at 65° and does not fall below the 5 % current threshold before 90°, referenced to any zero crossing of the fundamental supply voltage. Or the *THD* shall not exceed 70 %. The third order harmonic current, expressed as a percentage of the fundamental current, shall not exceed 35 %, the fifth order current shall not exceed 25 %, the seventh order current shall not exceed 30 %, the ninth and eleventh order currents shall not exceed 20 % and the second order current shall not exceed 5 %.

2. For luminaires with incandescent lamps and built-in phase control dimming having a rated power greater than 25 W, the harmonics of the input current shall not exceed the Class C equipment limits.

5.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
3kVA AC Power Source	California Instruments	3001 iX	54140	Oct. 10, 25
Harmonic/Flicker Test System	California Instruments	PACS-1	1319A01862	Oct. 10, 25
Test Software	California Instruments	CTS 4	V4.33.0	N/A

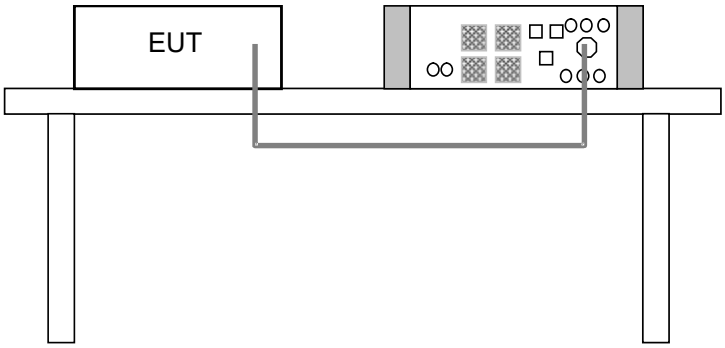
NOTES: 1. The test was performed in EMS Room.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

5.3 TEST ARRANGEMENT

a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under Normal Operating conditions for each successive harmonic component in turn.
b. The classification of EUT is according to section 5 of EN IEC 61000-3-2.
The EUT is classified as follows:
Class A: Balanced three-phase equipment, household appliances, excluding those specified as belonging to Class B, C or D, vacuum cleaners. high pressure cleaners, tools, excluding portable tools, independent phase control dimmers, audio equipment, professional luminaires for stage lighting and studios.
Class B: Portable tools, Arc welding equipment which is not professional equipment
Class C: Lighting equipment.
Class D: Equipment having a specified power less than or equal to 600 W of the following types: Personal computers and personal computer monitors and television receivers and refrigerators and freezers having one or more variable-speed drives to control compressor motor(s).
c. The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen.

The measure time shall be not less than the time necessary for the EUT to be exercised.

5.4 TEST SETUP



5.5 TEST RESULTS

The limits are not specified for equipment with a rated power of 75W or less (other than lighting equipment). The EUT is not required to meet this test item as its power consumption is lower than 75W.

For further details, please refer to Clause 7 of EN IEC 61000-3-2:2019+A1:2021+A2:2024.

Note: The actual test power is 18.7W.

6 VOLTAGE FLUCTUATIONS AND FLICKER MEASUREMENT

6.1 LIMITS

Test item	Limit	Note
P_{st}	1.0	P_{st}: short-term flicker severity.
P_{lt}	0.65	P_{lt}: long-term flicker severity.
T_{max} (ms)	500	T_{max}: maximum time duration during the observation period that the voltage deviation d(t) exceeds the limit for d_c.
d_{max} (%)	4	d_{max}: maximum absolute voltage changes during an observation period.
d_c (%)	3.3	d_c: maximum steady state voltage changes during an observation period.

6.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
3kVA AC Power Source	California Instruments	3001 iX	54140	Oct. 10, 25
Harmonic/Flicker Test System	California Instruments	PACS-1	1319A01862	Oct. 10, 25
Test Software	California Instruments	CTS 4	V4.33.0	N/A

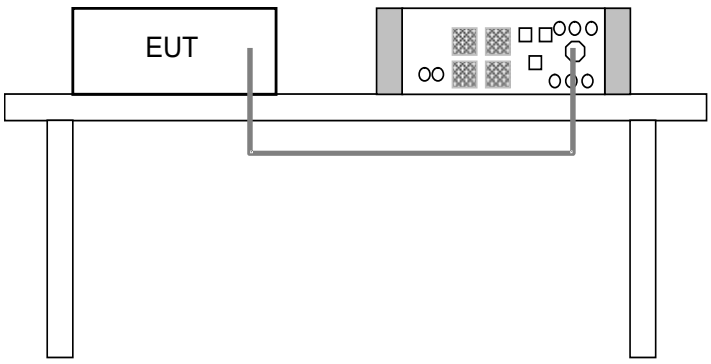
NOTES: 1. The test was performed in EMS Room.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

6.3 TEST ARRANGEMENT

a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the most unfavorable sequence of voltage changes under normal operating conditions.

b. During the flick measurement, the measure time shall include that part of whole operation cycle in which the EUT produce the most unfavorable sequence of voltage changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

6.4 TEST SETUP



6.5 TEST RESULTS

Observation (T_p)	10 min.	Test Date	Sep. 28, 2025
Fundamental Voltage/Ampere	229.88Vrms	Power Frequency	50.00Hz
Environmental Conditions	27.0deg. C, 58.0% RH	Tested by	Cheng Zhong
Test Mode	See section 2.2		

Test Parameter	Measurement Value	Limit	Remarks
P_{st}	0.288	1.00	Pass
P_{lt}	0.126	0.65	Pass
T_{max} (ms)	0.0	500	Pass
d_{max} (%)	0.00	4	Pass
d_c (%)	0.00	3.3	Pass

Note: (1) P_{st} means short-term flicker indicator.
(2) P_{lt} means long-term flicker indicator.
(3) T_{max} means accumulated time value of d(t) with a deviation exceeding 3.3 %.
(4) d_{max} means maximum relative voltage change.
(5) d_c means maximum relative steady-state voltage change.

7 IMMUNITY TEST

7.1 GENERAL DESCRIPTION

7.1.1 GENERAL DESCRIPTION OF EN 55035

Product Standard	**EN 55035:2017+A11:2020** **BS EN 55035:2017+A11:2020**	
Basic Standard, specification requirement, and Performance Criteria:	IEC 61000-4-2	Electrostatic Discharge – ESD: 8kV air discharge, 4kV Contact discharge, Performance Criterion B
	IEC 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test – RS: 80-1000 MHz, 3V/m, 80% AM (1kHz), 1800 MHz,3V/m, 80% AM (1kHz), 2600 MHz,3V/m, 80% AM (1kHz), 3500 MHz,3V/m, 80% AM (1kHz), 5000 MHz,3V/m, 80% AM (1kHz)
	IEC 61000-4-4	Electrical Fast Transient/Burst - EFT AC Power line: 1kV, DC Power line: 0.5kV Signal line: 0.5kV Performance Criterion B
	IEC 61000-4-5	Surge Immunity Test: 1.2/50 us Open Circuit Voltage, 8 /20 us Short Circuit Current, 10/700 us Open Circuit Voltage, 5 /320 us Short Circuit Current, AC Power Line: line to line 1 kV, line to earth 2kV Signal line: 1kV, 4kV Shielded line and DC line:0.5kV Performance Criterion B
	IEC 61000-4-6	Conducted Radio Frequency Disturbances Test – CS: 0.15-10 MHz, 3Vrms, 10MHz-30MHz, 3Vrms-1Vrms, 30MHz-80MHz, 1Vrms, 80% AM, 1kHz
	IEC 61000-4-11	Meets the requirements of Voltage Dips: i) reduction for >95% Performance Criterion B ii) reduction for 30% Performance Criterion C iii) reduction for >95% Performance Criterion C

7.1.2 PERFORMANCE CRITERIA

According to Clause 8.2, 8.3, 8.4 of EN 55035:2017+A11:2020 standard, the following describes the general performance criteria.

CRITERION 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)
CRITERION 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.
CRITERION 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 1: This performance criterion only using for Continuous inducted RF disturbances and Continuous RF electromagnetic field disturbances item.

Modified test levels for performance criterion A for the broadcast reception function:

Performance criteria	Test Item	Group 1	Group 2
A	RS	The disturbance level is reduced to 1V/m for in-band frequencies	No test requirements apply
A	CS	The disturbance level is reduced to 1V/m for in-band frequencies	

Notes: 1. In-band is defined as the entire tuneable operating range of the selected broadcast reception function.
2. The tuned channel ±0,5 MHz (lower edge frequency – 0,5 MHz up to the upper edge frequency + 0,5 MHz of the tuned channel) is excluded from testing.
3. Group 1: Equipment in which the desired RF broadcast signal enters the equipment through a coaxial broadcast receiver tuner port. These coaxial ports are intended to be connected via a coaxial cable to an antenna or a cable distribution system.
4. Group 2: Broadcast reception equipment which is not included in Group 1.

7.1.3 EUT OPERATING CONDITION

Same as item 2.3

7.2 ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)

7.2.1 TEST SPECIFICATION

Basic Standard:	IEC 61000-4-2
Discharge Impedance:	330 ohm / 150 pF
Discharge Voltage:	Contact Discharge: 4 kV (Direct &Indirect) Air Discharge: 8kV (Direct)
Polarity:	Positive / Negative
Number of Discharge:	20 times at each test point
Discharge Mode:	Single Discharge
Discharge Period:	1-second

7.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
ESD Generator	TESEQ	NSG 437	279	Nov. 25, 25
Test Software	TESEQ	V03.03	N/A	N/A

NOTES: 1. The test was performed in ESD Room.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

7.2.3 TEST PROCEDURE

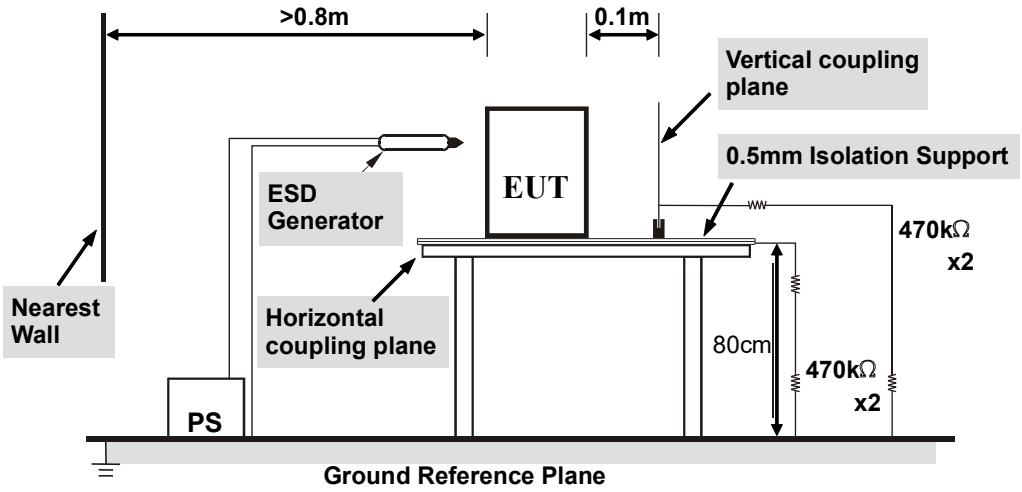
The basic test procedure was in accordance with IEC 61000-4-2:

a. Electrostatic discharges were applied only to those points and surfaces of the EUT that are accessible to users during normal operation.
b. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
c. The time interval between two successive single discharges was at least 1 second.
d. The discharge return cable of the generator shall be kept at a distance of at least 0.2 m from the EUT whilst the discharge is being applied and should not be held by the operator.
e. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
f. Air discharges were applied with the round discharge tip of the discharge electrode approaching the EUT as fast as possible (without causing mechanical damage) to touch the EUT. After each discharge, the ESD generator was removed from the EUT and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
g. At least ten single discharges (in the most sensitive polarity) were applied to the Horizontal Coupling Plane at points on each side of the EUT. The ESD generator was positioned horizontally at a distance of 0.1 meters from the EUT with the discharge electrode touching the HCP.
h. At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the Vertical Coupling Plane in sufficiently different positions that the four faces of the EUT were completely illuminated. The VCP (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the EUT.

7.2.4 DEVIATION FROM TEST STANDARD

No deviation.

7.2.5 TEST SETUP



NOTE:

TABLE-TOP EQUIPMENT
The configuration consisted of a wooden table 0.8 meters high standing on the **G**round **R**eference **P**lane. The **GRP** consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A **H**orizontal **C**oupling **P**lane (1.6m x 0.8m) was placed on the table and attached to the **GRP** by means of a cable with 940kΩ total impedance. The equipment under test, was installed in a representative system as described in section 7 of IEC 61000-4-2, and its cables were placed on the **HCP** and isolated by an insulating support of 0.5mm thickness. A distance of 0.8-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

FLOOR-STANDING EQUIPMENT
The equipment under test was installed in a representative system as described in section 7 of IEC 61000-4-2, and its cables were isolated from the Ground Reference Plane by an insulating support of 0.1-meter thickness. The GRP consisted of a sheet of aluminum that is at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system and extended at least 0.5 meters from the EUT on all sides.

7.2.6 TEST RESULTS

TEST MODE	See section 2.2	**TEST VOLTAGE**	See section 2.2
ENVIRONMENTAL CONDITIONS	24.8 deg. C, 48.2% RH, 101.4kPa	**TESTED BY**	Zhuolin Peng
TEST DATE	Oct. 09, 2025		

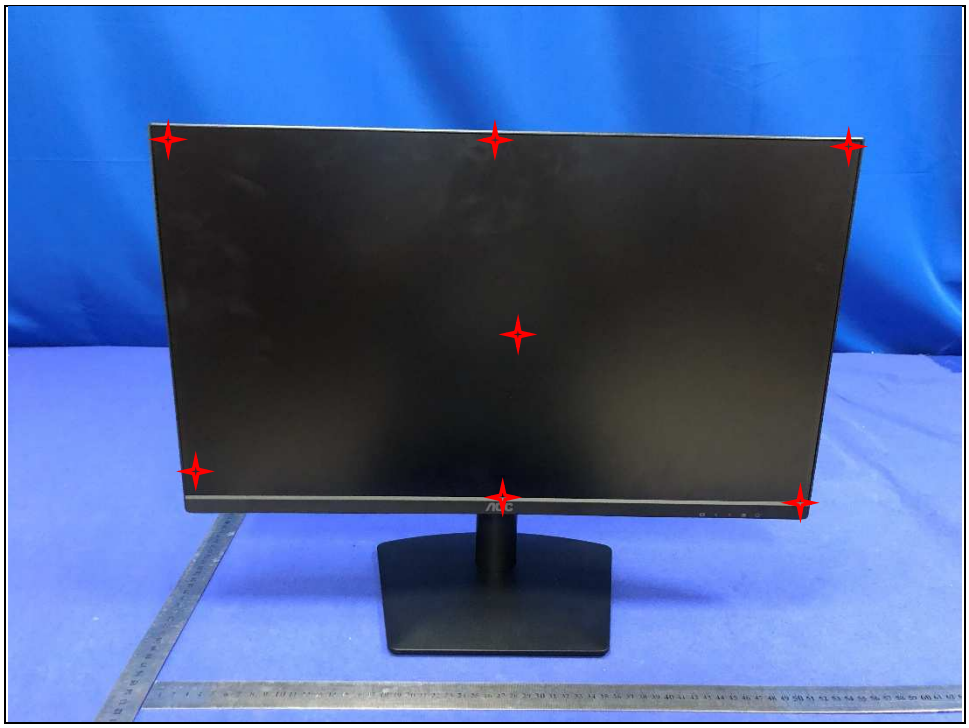
Direct Discharge Application				
Test Level (kV)	**Polarity**	**Test Point**	**Test Result of Contact Discharge**	**Test Result of Air Discharge**
4	+ /-	HDMI Port, D-SUB Port	B	N/A
4	+ /-	Other metal part	A	N/A
8	+ /-	HDMI Port, D-SUB Port, DC Port, Screen	N/A	B
8	+ /-	Other non-metal part	N/A	A

Indirect Discharge Application				
Discharge Level (kV)	**Polarity**	**Test Point**	**Test Result of HCP**	**Test Result of VCP**
4	+ /-	HCP	A	N/A
4	+ /-	VCP	N/A	A

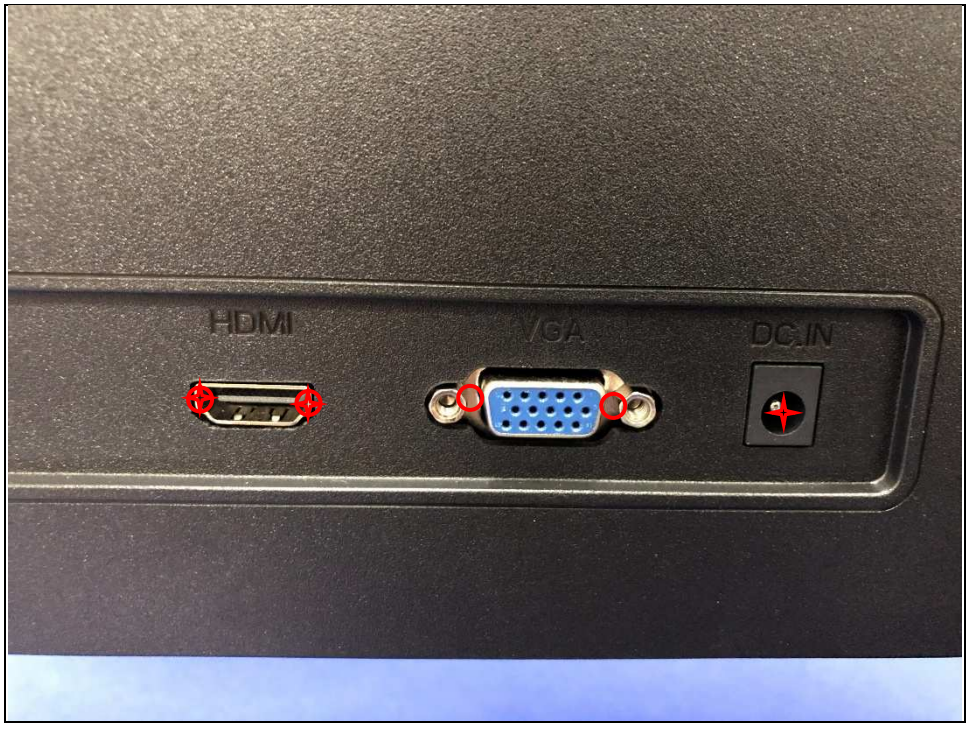
NOTE: A: There was no change compared with initial operation during the test.
B**:** The screen was flashing during the test, but self-recoverable after the test.

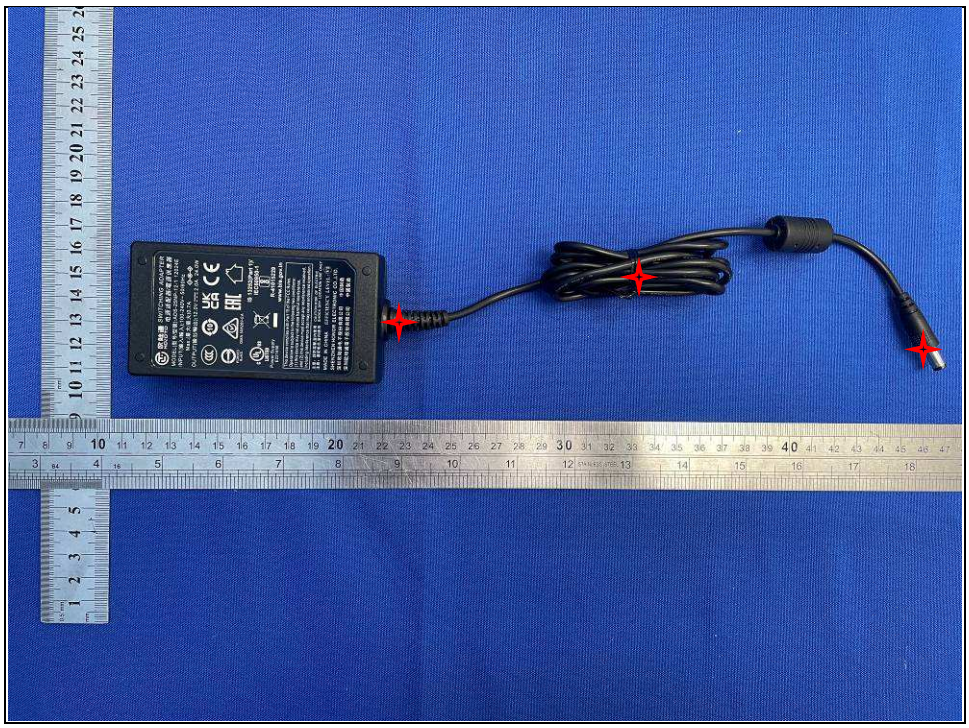
ESD TEST POINT

(○ - Direct Contact Discharge; ✦ -Air Discharge)




AOC


HDMI
VGA
DC IN



7.3 RADIATED, RADIO-FREQUENCY, ELECTROMAGNETIC FIELD IMMUNITY TEST (RS)

7.3.1 TEST SPECIFICATION

Basic Standard:	IEC 61000-4-3
Frequency Range:	80-1000MHz,1800MHz, 2600MHz, 3500MHz, 5000MHz
Field Strength:	3 V/m
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1% of preceding frequency value
Polarity of Antenna:	Horizontal and Vertical
Antenna Height:	1.5m
Dwell Time:	at least 3 seconds

7.3.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Signal Generator	Agilent	N5181A	MY50142530	Jun. 03, 26
Antenna Log-Periodic	AR	ATR80M6G	0337307	N/A
Antenna Log-Periodic	AR	ATS700M11G	0336821	N/A
Switch Controller	AR	SC1000	0337343	N/A
RF Power Meter	Boonton	4242	13984	Jun. 03, 26
Power Sensor	Keysight	U2021XA	MY55060016	Oct. 10, 25
Power Sensor	Boonton	51011EMC	25715	Jul. 06, 26
E-Field probe	Narda	NBM-520	D0022	Apr. 12, 26
Power Amplifier	TESEQ	CBA 1G-150	T44029	N/A
Power Amplifier	TESEQ	CBA 3G-100	T44030	N/A
Power Amplifier	TESEQ	CBA 6G-050	1041204	N/A
Dual Directional Coupler	TESEQ	C5982	95208	Jun. 03, 26
Dual Directional Coupler	TESEQ	C6187	95175	Jun. 03, 26
Dual Directional Coupler	TESEQ	CPH-274F	M251304-01	Jun. 03, 26
Audio analyzer	Rohde&Schwarz	UPV	101397	Jul. 06, 26
Conditioning Amplifier	B&K	2690-W-013	3241205	Feb. 08, 26
Ear Simulator	B&K	4192	2794113	Apr. 16, 26
Test Software	Tonscend	TS+	5.0.0	N/A

NOTES: 1. The test was performed in RS chamber.

2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

7.3.3 TEST PROCEDURE

The test procedure was in accordance with IEC 61000-4-3

a. The testing was performed in a fully-anechoic chamber.

b. The frequency range is swept from 80 MHz to 1000 MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz, with the signal 80% amplitude modulated with a 1kHz sine wave.

c. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised and to respond, but shall in no case be less than 0,5s.

d. The field strength levels were 3V/m.

e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

For Broadcast reception function:

f. **Group1:** Equipment in which the desired RF broadcast signal enters the equipment through a coaxial broadcast receiver tuner port. These coaxial ports are intended to be connected via a coaxial cable to an antenna or a cable distribution system.

g. **Group 2:** Broadcast reception equipment which is not included in Group 1.

h. AM/FM/DAB equipment with a coaxial broadcast receiver tuner port is classified as Group 2 equipment if the manufacturer declares that the equipment is not intended to be connected to a CATV or other cable distribution network.

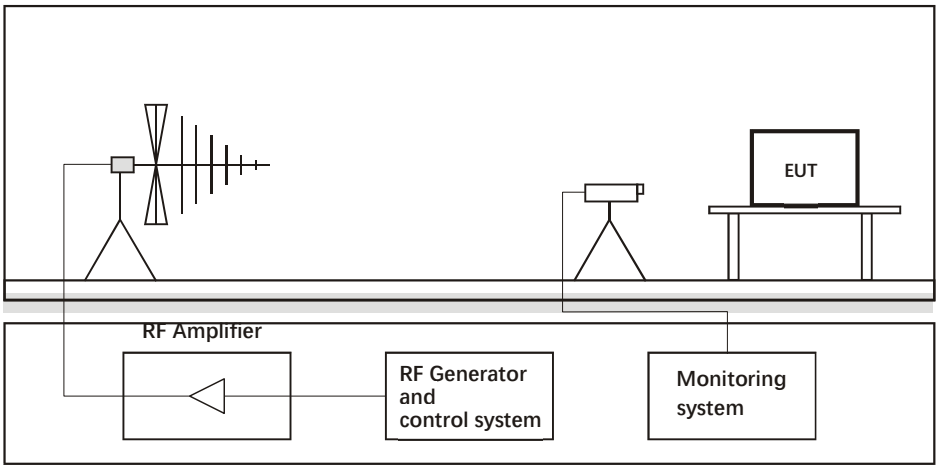
i. The broadcast reception function shall be tested in each reception mode for which the receiver is designed, for example analogue reception, DVB-T, DVB-T2, DVB-C, DVB-C2, DVB-S, DVB-S2. The receiver shall be tuned to one channel and provided with an appropriate wanted signal on that channel or other input typical of normal use.

7.3.4 DEVIATION FROM TEST STANDARD

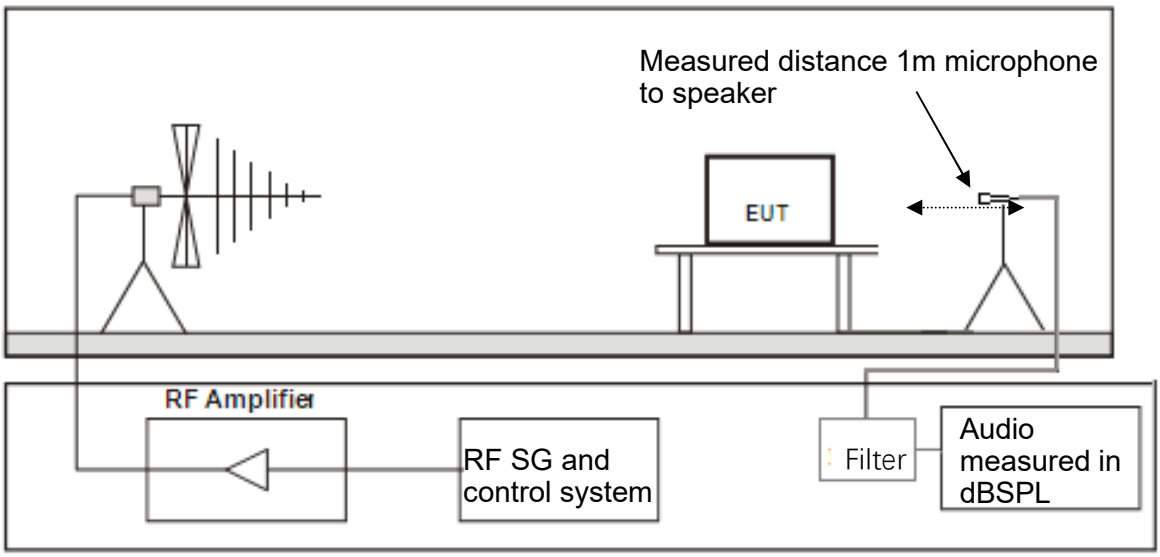
No deviation.

7.3.5 TEST SETUP

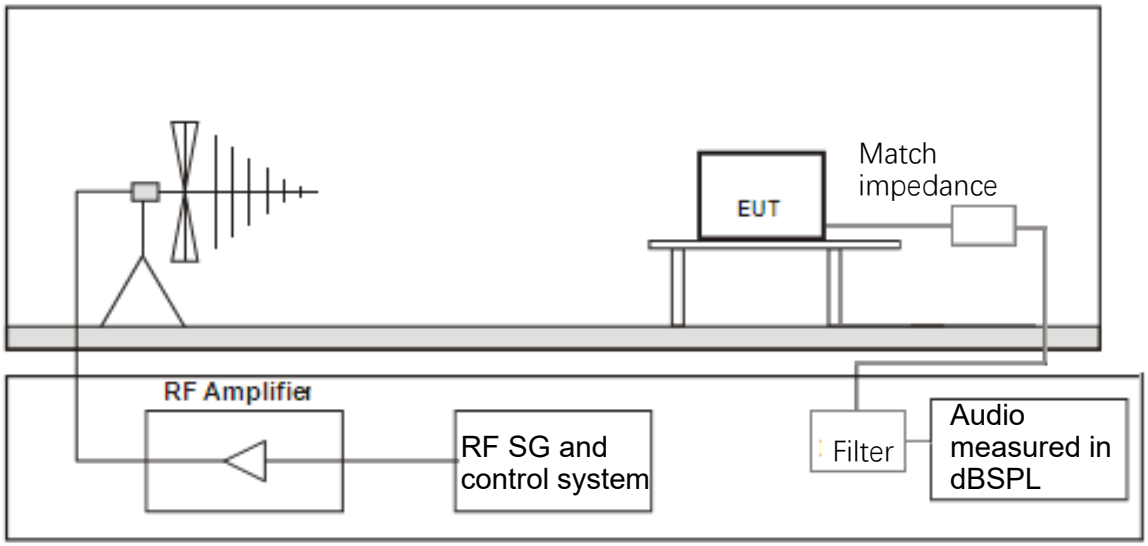
For Picture monitoring:



For Acoustic mode:



For Electrical mode:



NOTE:

1. The EUT installed in a representative system as described in section 7 of IEC 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.
2. Filter: 1kHz 3dB band pass filter.
3. The measurement distance: EUT to interference antenna was 3m.

7.3.6 TEST RESULTS

TEST MODE	See section 2.2	TEST VOLTAGE	See section 2.2
ENVIRONMENTAL CONDITIONS	25.6 deg. C, 75.6% RH	TESTED BY	Zhuolin
TEST DATE	Sep. 28, 2025		

Field Strength (V/m)	Test Frequency (MHz)	Polarization of antenna (Horizontal / Vertical)	Test Distance (m)	Test Result	Remark
3	80-1000MHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz	H&V	3	A	0, 90, 180, 270

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

7.4 ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EFT)

7.4.1 TEST SPECIFICATION

Basic Standard:	IEC 61000-4-4
Test Voltage:	Power Line: 1kV
Polarity:	Positive & Negative
Impulse Frequency:	CPE or xDSL: 100kHz Other: 5 kHz
Impulse Waveshape:	5/50 ns
Burst Duration:	CPE or xDSL: 0.75ms Other: 15 ms
Burst Period:	300 ms
Test Duration:	1 min.

7.4.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
EFT Module	TESEQ	NSG 3060 Mainframe	1404	Oct. 09, 25
Automated 3- Phase Coupling/ Decoupling Network	TESEQ	CDN 3063	2131	Oct. 09, 25
EFT Coupling Clamp	HAEFELY	IP4A	150407	Oct. 09, 25
Test Software	TESEQ	CDM 3061_0002.30	1361	N/A
Test Software	TESEQ	HVM 3060_0002.30	293	N/A

NOTES: 1. The test was performed in EMS Room.

2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

7.4.3 TEST PROCEDURE

a Both positive and negative polarity discharges were applied.

b The distance between any coupling devices and the EUT should be (0.5 – 0/+0.1) m for table-top equipment testing, and (1.0 ± 0.1) m for floor standing equipment.

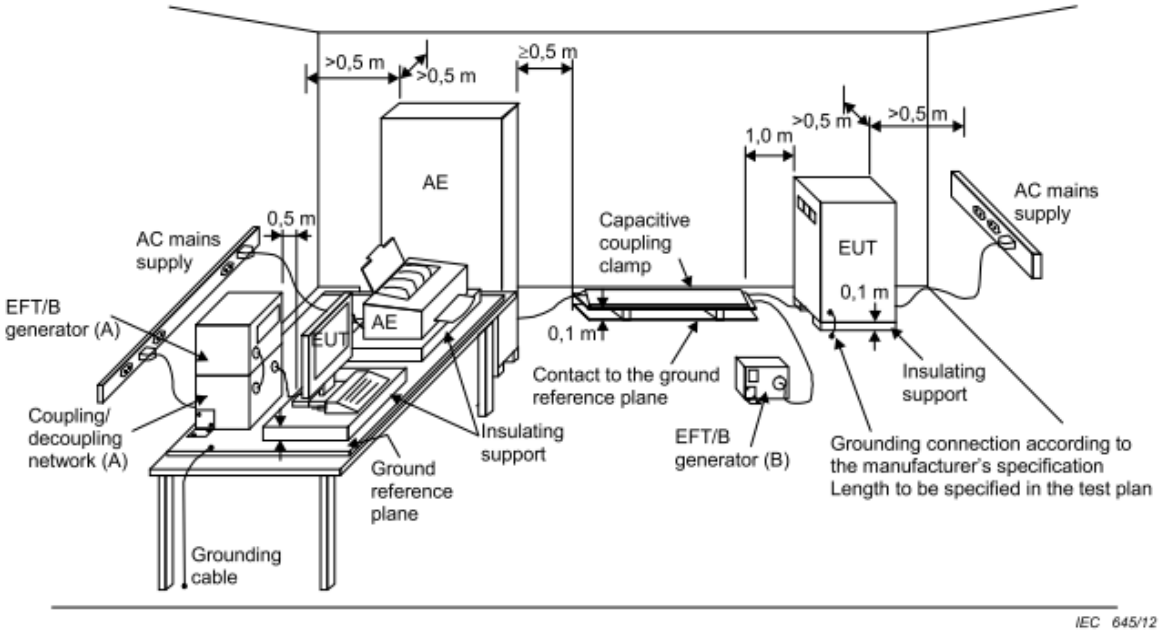
c The duration time of each test sequential was 1 minute.

d The transient/burst waveform was in accordance with IEC 61000-4-4, 5/50ns.

7.4.4 DEVIATION FROM TEST STANDARD

No Deviation.

7.4.5 TEST SETUP



(A) location for supply line coupling
(B) location for signal lines coupling

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7.4.6 TEST RESULTS

TEST MODE	See section 2.2	TEST VOLTAGE	See section 2.2
ENVIRONMENTAL CONDITIONS	25.0deg. C, 50.0% RH	TESTED BY	Cheng Zhong
TEST DATE	Sep. 28, 2025		

Pulse Voltage	1 kV		___ kV		___ kV		___ kV	
Pulse Polarity	+	—	+	—	+	—	+	—
L	B	B	/	/	/	/	/	/
N	B	B	/	/	/	/	/	/
PE	B	B	/	/	/	/	/	/
L+N	B	B	/	/	/	/	/	/
L+PE	B	B	/	/	/	/	/	/
N+PE	B	B	/	/	/	/	/	/
L+N+PE	B	B	/	/	/	/	/	/

NOTE: B: The screen was flashing during the test, but self-recoverable after the test.

7.5 SURGE IMMUNITY TEST

7.5.1 TEST SPECIFICATION

Basic Standard:	IEC 61000-4-5
Wave-Shape:	Combination Wave 1.2/50 us Open Circuit Voltage 8/20 us Short Circuit Current
Test Voltage:	Power Line :1Kv, 2Kv
Surge Input/Output:	L-N, L-PE, N-PE
Generator Source Impedance:	2 ohm between networks 12 ohm between networks and ground
Polarity:	Positive/Negative
Phase Angle:	90°/270°
Pulse Repetition Rate:	1 time / 60 sec.
Number of Tests:	5 positive and 5 negative at selected points

7.5.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Telecom Surge Module	TESEQ	NSG 3060	1404	Oct. 09, 25
Automated 3- Phase Coupling/ Decoupling Network	TESEQ	CDN 3063	2131	Oct. 09, 25
CDN	TESEQ	CDN HSS-2	34275	Oct. 09, 25
CDN	TESEQ	CDN 118	30741	Oct. 09, 25
Test Software	TESEQ	CDM 3061_0002.30	1361	N/A
Test Software	TESEQ	HVM 3060_0002.30	293	N/A

NOTES: 1. The test was performed in EMS Room.

2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

7.5.3 TEST PROCEDURE

a. For EUT power supply:

The surge is to be applied to the EUT power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave. The power cord between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

b. For test applied to unshielded unsymmetrically operated interconnection lines of EUT:

The surge is applied to the lines via the capacitive coupling. The coupling / decoupling networks shall not influence the specified functional conditions of the EUT. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

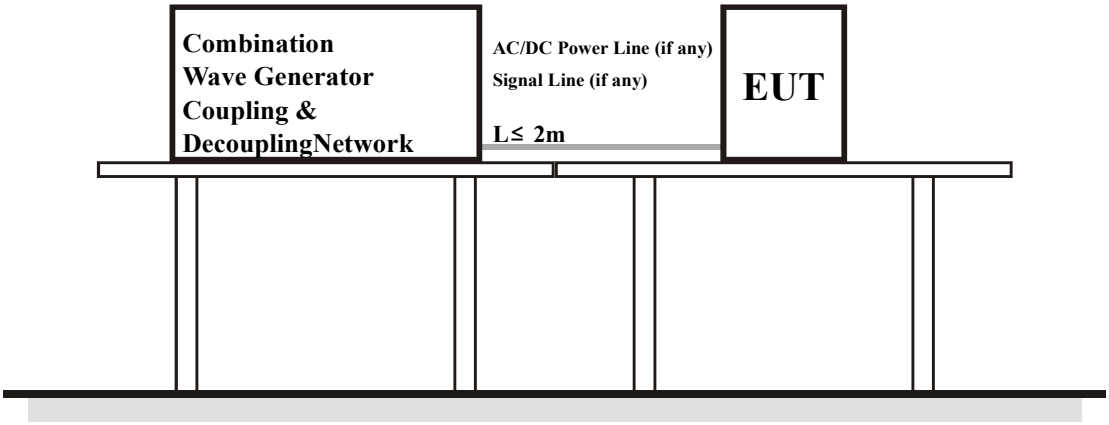
c. For test applied to unshielded symmetrically operated interconnection / telecommunication lines of EUT:

The surge is applied to the lines via gas arrestors coupling. Test levels below the ignition point of the coupling arrestor cannot be specified. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

7.5.4 DEVIATION FROM TEST STANDARD

No deviation.

7.5.5 TEST SETUP



7.5.6 TEST RESULTS

TEST MODE	See section 2.2	TEST VOLTAGE	See section 2.2
ENVIRONMENTAL CONDITIONS	27.0deg. C, 60.0% RH	TESTED BY	Cheng Zhong
TEST DATE	Sep. 28, 2025		

AC/DC Power port for EN 55035:

\Phase angle \ Test result \Voltage (kV) \ Test point\ Polarity			0°	90°	180°	270°	/	DC Power Port
1.0	L-N	+	/	A	/	/	/	N/A
		-	/	/	/	A	/	N/A
2.0	L-PE	+	/	A	/	/	/	N/A
		-	/	/	/	A	/	N/A
2.0	N-PE	+	/	/	/	A	/	N/A
		-	/	A	/	/	/	N/A

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

7.6 IMMUNITY TO CONDUCTED DISTURBANCES INDUCED BY RF FIELDS (CS)

7.6.1 TEST SPECIFICATION

Basic Standard:	IEC 61000-4-6
Frequency Range:	0.15 MHz – 10 MHz, 10 MHz – 30 MHz, 30 MHz – 80MHz
Field Strength:	3 $V_{r.m.s}$, 3 $V_{r.m.s}$ - 1$V_{r.m.s}$, 1$V_{r.m.s}$,
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1% of preceding frequency value
Coupled Cable:	Power Mains, Unshielded
Coupling Device:	CDN-M3(3 wires)

7.6.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Signal Generator	Rohde&Schwarz	SMB 100A	102382	Oct. 10, 25
CDN	FCC	FCC-801-M1-16A	160049	Jul. 06, 26
CDN	Luthi	L-801M2/M3	2015	Jul. 06, 26
CDN	TESEQ	CDN M016	59949	Apr. 10, 26
CDN	TESEQ	T200A	26944	Oct. 10, 25
CDN	TESEQ	T800	28623	Apr. 07, 26
CDN	FCC	FCC-801-T8-SRJ45	160168	Jul. 06, 26
CDN	COM-POWER	T8	581547	Apr. 09, 26
CDN	TESEQ	CDN M532	37300	Apr. 07, 26
6dB 150Watt Attenuator	Bird	150-A-FFN-06	1507	Jul. 06, 26
Bulk Current Injection Probe	FCC	F-120-9A	160053	Jul. 06, 26
Power Amplifier	IFI	SCCX75	R15550213	NA
Electromagnetic Injection Clamp	Luthi	EM101	36094	Oct. 09, 25
Audio analyzer	Rohde&Schwarz	UPV	101397	Jul. 06, 26
Conditioning Amplifier	B&K	2690-W-013	3241205	Feb. 08, 26
EAR SIMULATOR	B&K	4192	2794113	Apr. 15, 26
Test Software	Tonscend	TS+	5.0.0	N/A

NOTES: 1. The test was performed in CS test room.

2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

7.6.3 TEST PROCEDURE

a. The EUT shall be tested within its intended operating and climatic conditions.

b. An artificial hand was placed on the hand-held accessory and connected to the ground reference plane.

c. The test shall be performed with the test generator connected to each of the coupling and decoupling devices in turn, while the other non-excited RF input ports of the coupling devices are terminated by a 50-ohm load resistor.

d. The frequency range is swept from 0.15 MHz - 10 MHz, 10 MHz – 30 MHz and 30 MHz – 80MHz, using the signal level established during the setting process and with a disturbance signal of 80 % amplitude. The signal is modulated with a 1 kHz sine wave, pausing to adjust the RF signal level or the switch coupling devices as necessary. Where the frequency is swept incrementally, the step size shall not exceed 1 % of the preceding frequency value.

e. The dwell time of the amplitude modulated carrier at each frequency shall not be less than the time necessary for the EUT to be exercised and to respond, but shall in no case be less than 0,5 s. The sensitive frequencies (e.g. clock frequencies) shall be analyzed separately.

f. Attempts should be made to fully exercise the EUT during testing, and to fully interrogate all exercise modes selected for susceptibility.

For Broadcast reception function:

j. **Group1:** Equipment in which the desired RF broadcast signal enters the equipment through a coaxial broadcast receiver tuner port. These coaxial ports are intended to be connected via a coaxial cable to an antenna or a cable distribution system.

k. **Group 2:** Broadcast reception equipment which is not included in Group 1.

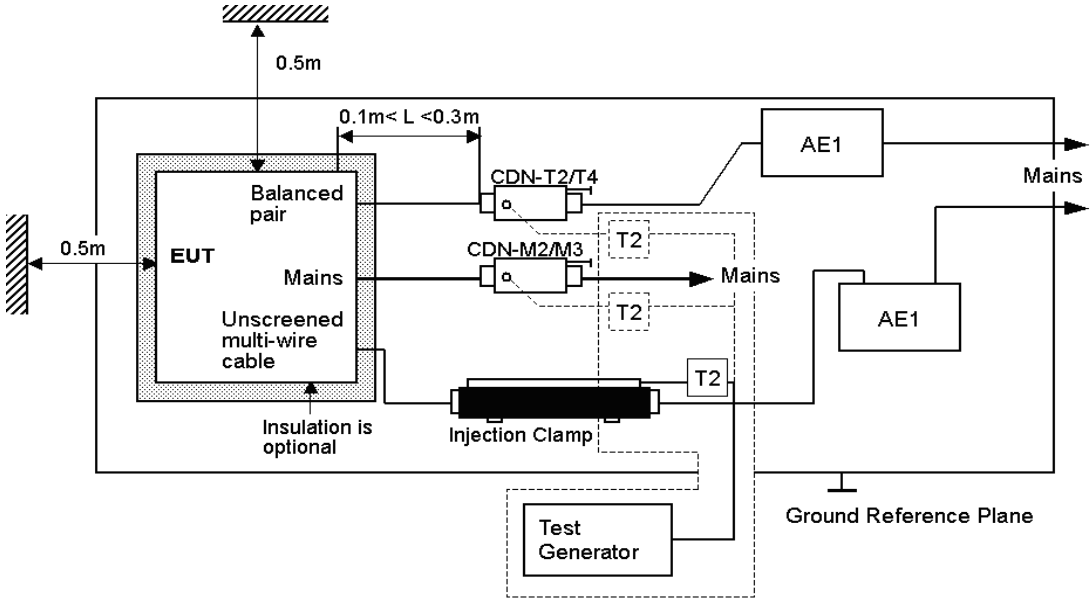
l. AM/FM/DAB equipment with a coaxial broadcast receiver tuner port is classified as Group 2 equipment if the manufacturer declares that the equipment is not intended to be connected to a CATV or other cable distribution network.

m. The broadcast reception function shall be tested in each reception mode for which the receiver is designed, for example analogue reception, DVB-T, DVB-T2, DVB-C, DVB-C2, DVB-S, DVB-S2. The receiver shall be tuned to one channel and provided with an appropriate wanted signal on that channel or other input typical of normal use.

7.6.4 DEVIATION FROM TEST STANDARD

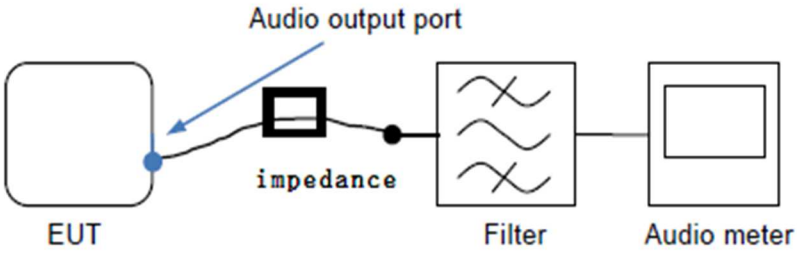
No deviation.

7.6.5 TEST SETUP

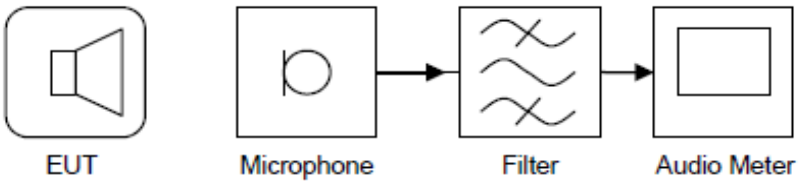


NOTE: The EUT clearance from any metallic obstacles shall be at least 0.5m.
All non-excited input ports of the CDNs shall be terminated by 50Ω loads.

For Electrical measurements setup:



For Acoustic measurements setup:



NOTE:

1. The EUT installed in a representative system was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.
2. Filter: 1kHz 3dB band pass filter.

7.6.6 TEST RESULTS

TEST MODE	See section 2.2	TEST VOLTAGE	See section 2.2
ENVIRONMENTAL CONDITIONS	24.4deg. C, 63.6% RH	TESTED BY	Alex
TEST DATE	Sep. 29, 2025		

Voltage (V)	Test Frequency (MHz)	Tested Line	Injection Method.	Test Result	Remark
3	0.15 –10 MHz	AC Line	CDN-M3	A	N/A
3 -1	10 –30 MHz	AC Line	CDN-M3	A	N/A
1	30 –80 MHz	AC Line	CDN-M3	A	N/A

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

7.7 VOLTAGE DIP/SHORT INTERRUPTIONS/VOLTAGE VARIATIONS (DIPS) IMMUNITY TEST

7.7.1 TEST SPECIFICATION

Basic Standard:	IEC 61000-4-11
Test Duration Time:	Minimum three test events in sequence
Interval between Event:	Minimum ten seconds
Phase Angle:	0° & 180°
Test Cycle:	3 times

7.7.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
3kVA AC Power Source	California Instruments	3001 iX	54140	Oct. 10, 25
Harmonic/Flicker/DIP Test System	California Instruments	PACS-1	1319A01862	Oct. 10, 25

NOTES: 1. The test was performed in EMS Room.
2. Equipment are calibrated by calibration laboratory accredited to ISO/IEC 17025 by a mutually recognized Accreditation and all tests are conducted within a valid calibration cycle.

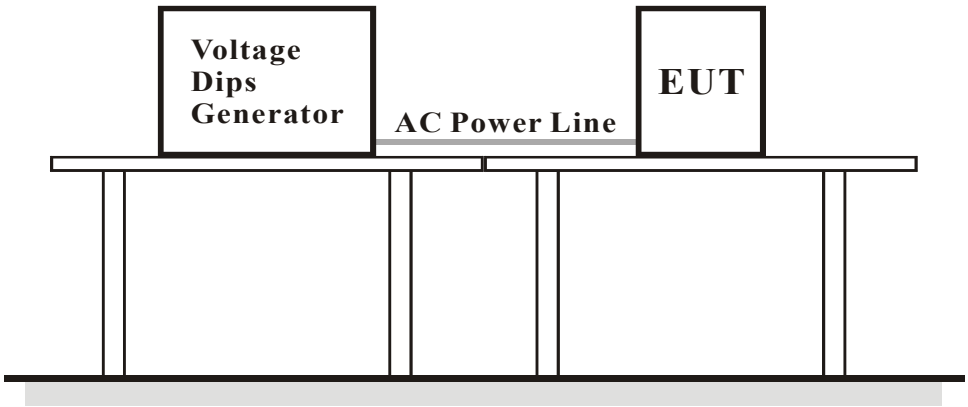
7.7.3 TEST PROCEDURE

The EUT shall be tested for each selected combination of test levels and duration with a sequence of three dips/interruptions with intervals of 10 s minimum (between each test event). Each representative mode of operation shall be tested. Abrupt changes in supply voltage shall occur at zero crossings of the voltage waveform.

7.7.4 DEVIATION FROM TEST STANDARD

No deviation.

7.7.5 TEST SETUP



7.7.6 TEST RESULTS

TEST MODE	See section 2.2	**TEST VOLTAGE**	See section 2.2
ENVIRONMENTAL CONDITIONS	25.0deg. C, 50.0% RH	**TESTED BY**	Cheng Zhong
TEST DATE	Sep. 28, 2025		

Ut: 110 Vac 60 Hz	Durations		Event interval (sec)	Total events (time)	Test result
Voltage dips (%)	(period)	(ms)			
>95	0.5	10	10	3	A
30	30	500	10	3	A
>95	300	5000	10	3	B

Ut : 230 Vac 50 Hz	Durations		Event interval (sec)	Total events (time)	Test result
Voltage dips (%)	(period)	(ms)			
>95	0.5	10	10	3	A
30	25	500	10	3	A
>95	250	5000	10	3	B

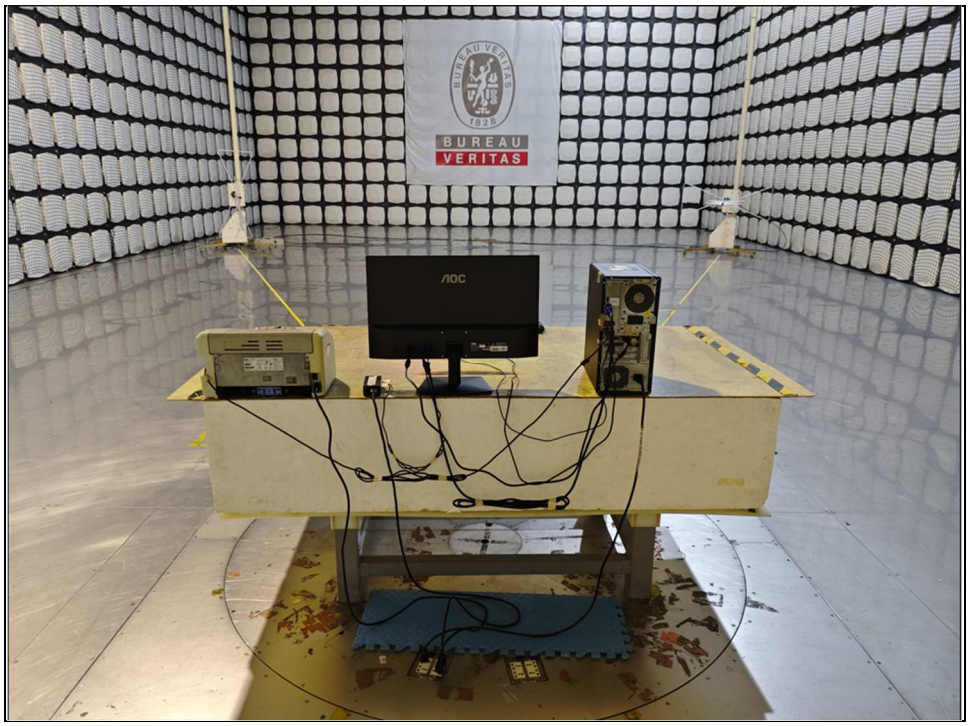
NOTE: A: There was no change compared with initial operation during the test.

B: The EUT stopped operation when at the 100% voltage interruption and it could be reset to recover.

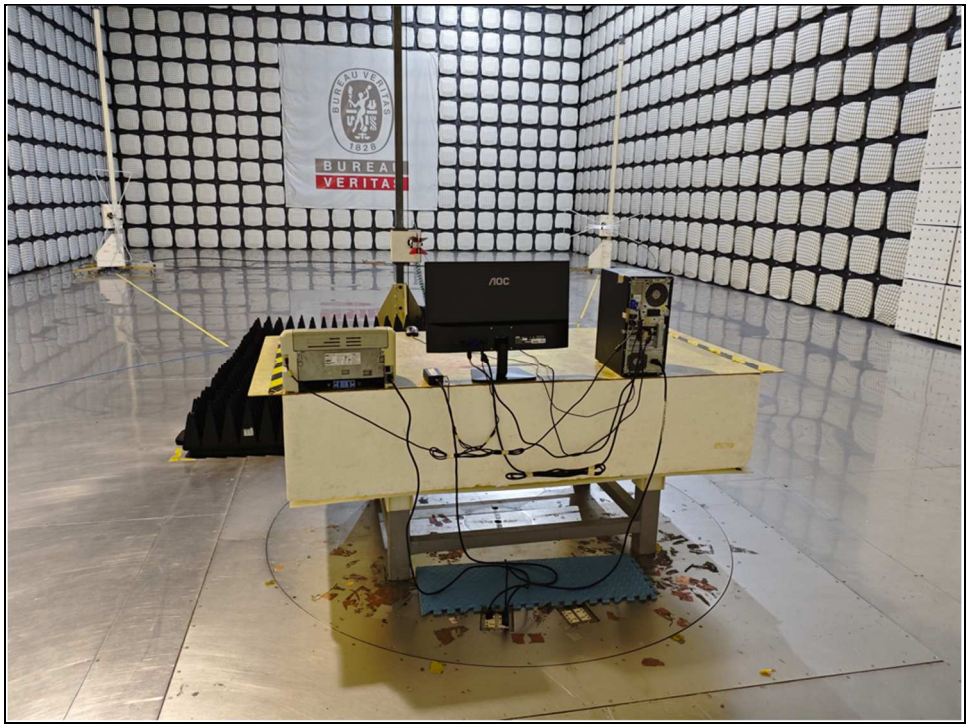
8 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

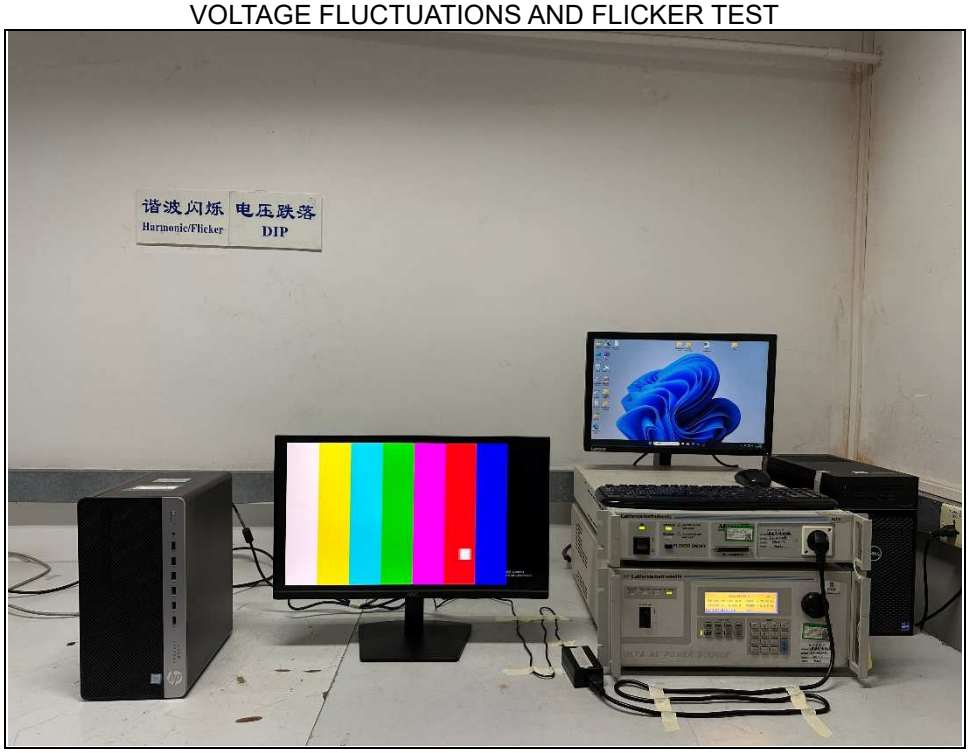
RADIATED EMISSION TEST (30MHz-1GHz)



RADIATED EMISSION TEST (ABOVE 1GHz)

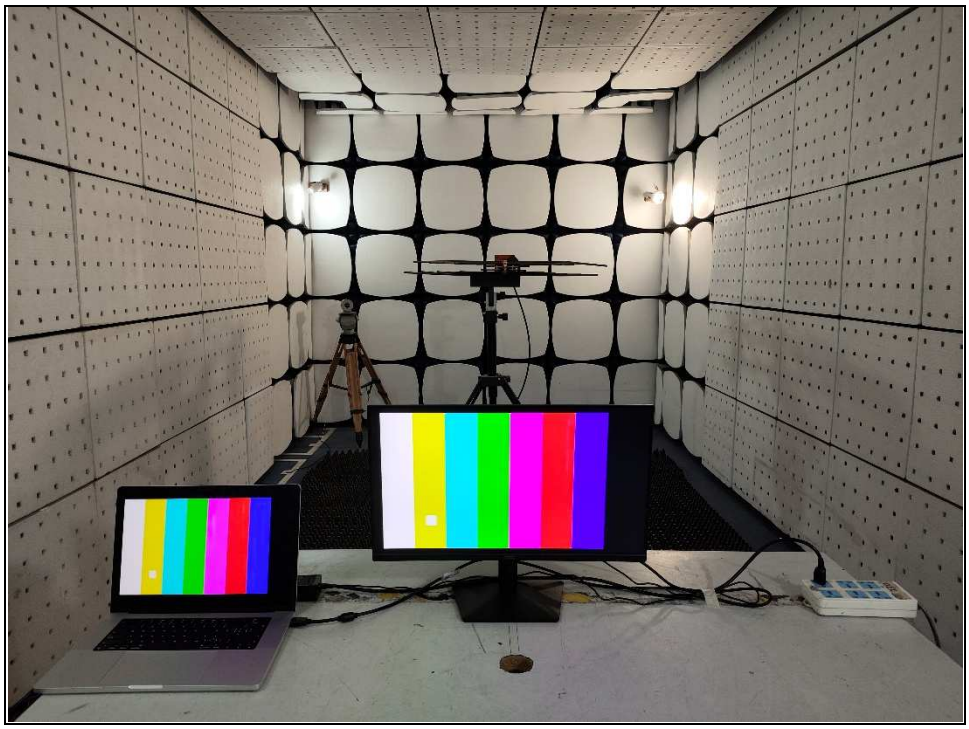


HARMONICS EMISSION TEST &
VOLTAGE FLUCTUATIONS AND FLICKER TEST

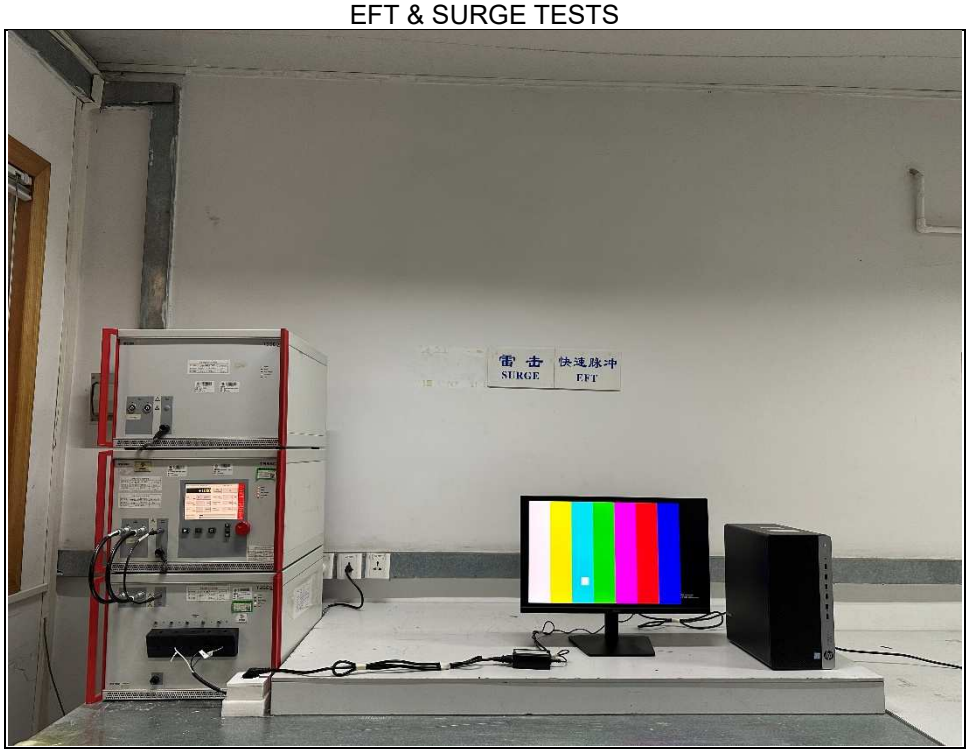


ESD TEST

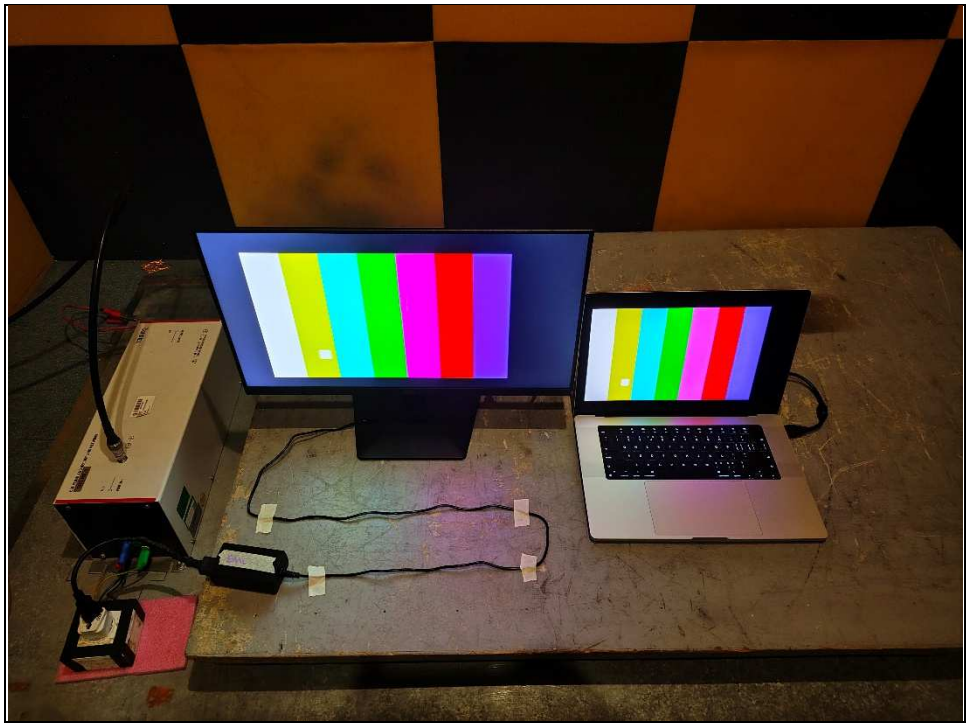
RS TEST



EFT & SURGE TESTS



CS TEST



VOLTAGE DIPS AND INTERRUPTIONS TEST

9 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

---END---