TEST REPORT

Report Number:	**ZKT-25081119334E**
Date of Test:	Aug. 11, 2025 to Aug. 19, 2025
Date of issue:	Aug. 19, 2025
Total number of pages:	42
Test Result :	PASS
Testing Laboratory:	**Shenzhen ZKT Technology Co., Ltd.**
Address :	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Applicant's name :	**Advanced Health Solutions B.V.**
Address :	Veerstraat 13A 1404CG, Bussum Noord-Holland The Netherlands
Manufacturer's name :	**Advanced Health Solutions B.V.**
Address :	Veerstraat 13A 1404CG, Bussum Noord-Holland The Netherlands
Test specification:	
Standard:	EN IEC 55015:2019/A11:2020, EN IEC 61547:2023, EN IEC 61000-3-2:2019/A1:2021/A2:2024, EN 61000-3-3:2013/A1:2019/A2:2021, EN IEC 61000-4-2:2025, EN IEC 61000-4-3:2020, EN 61000-4-4:2012, EN 61000-4-5:2014/A1:2017, EN IEC 61000-4-6:2023, EN 61000-4-8:2010, EN IEC 61000-4-11:2020
Test procedure:	CE-EMC
Non-standard test method :	N/A
Test Report Form No.:	TRF-EL-143_V0
Test Report Form(s) Originator.:	ZKT Testing
Master TRF :	Dated: 2020-01-06

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the 2014/30/EU Directive requirements. And it is applicable only to the tested sample identified in the report.

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Product name:	**LED THERAPY LIGHT**
Trademark :	Panacea light therapy
Model/Type reference:	ATP PRO 1500 ATP PRO 700; ATP PRO 350
Ratings:	Input: 100-240V~, 50/60Hz, 637W, 2.75-6.39A

Testing procedure and testing location:

Testing Laboratory.....:	**Shenzhen ZKT Technology Co., Ltd.**
Address.....:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Tested by (name + signature).....:	Jim Liu
Reviewer (name + signature).....:	Jackson Fang
Approved (name + signature).....:	Lake Xie

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1. VERSION

Report No.	Version	Description	Approved
ZKT-25081119334E	Rev.01	Initial issue of report	Aug. 19, 2025

2. GENERAL INFORMATION

2.1 Description of Device (EUT)

EUT	:	LED THERAPY LIGHT
Trademark	:	Panacea light therapy
Model Number	:	ATP PRO 1500 ATP PRO 700; ATP PRO 350
Model Difference		All the model are the same circuit , only the model name are different.
Power Supply	:	Input: 100-240V~, 50/60Hz, 637W, 2.75-6.39A

Note: N/A

2.2 Tested System Details

None.

2.3 Test Facility

Site Description

Name of Firm	:	Shenzhen ZKT Technology Co., Ltd.
Site Location	:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

2.4 MEASUREMENT UNCERTAINTY

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

Test item	Value (dB)
Conducted Emission (150K-30MHZ)	3.20
Radiated disturbance30MHz-1000MHz	4.80

2.5 Test Instrument Used

Conduction Emissions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Sep. 30, 2024	Sep. 29, 2025
2	LISN	CYBERTEK	EM5040A	E1850400149	N/A	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	C-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	Test Cable	N/A	C-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Test Cable	N/A	C-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
6	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Sep. 29, 2024	Sep. 28, 2025
7	Triple-Loop Antenna	N/A	RF300	9194	N/A	Sep. 29, 2024	Sep. 28, 2025
8	Absorbing Clamp	DZ	ZN23201	15034	N/A	Oct. 10, 2024	Oct. 09, 2025
9	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\

Harmonic / Flicker Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Harmonic & Flicker	HTEC Instruments	AC2000A	548549	1.21	Sep. 29, 2024	Sep. 28, 2025
2	AC Power Source	/	HPHF4010	JN1022090795	DAL40	Sep. 29, 2024	Sep. 28, 2025

Electrostatic discharge Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	ESD TEST GENERATOR	HTEC	HESD16	/	004307	Sep. 28, 2024	Sep. 27, 2025

EFT and Surge and Voltage dips and interruptions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Surge Generator	HTEC	HCOMPACT5	202501	V1.3.4	Sep. 29, 2024	Sep. 28, 2025
2	DIPS Generator	HTEC	HV1P16T	202501	V1.3.4	Sep. 29, 2024	Sep. 28, 2025
3	EFT/B Generator	HTEC	HCOMPACT5	202501	V1.3.4	Sep. 29, 2024	Sep. 28, 2025
4	EFT/B Clamp	HTEC	H3C	/	N/A	Sep. 29, 2024	Sep. 28, 2025

For Magnetic Field Immunity Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Generator	HTEC	HFMG 100	202602	V2.1-182802	Sep. 29, 2024	Sep. 28, 2025

Radio-frequency fields Immunity Test

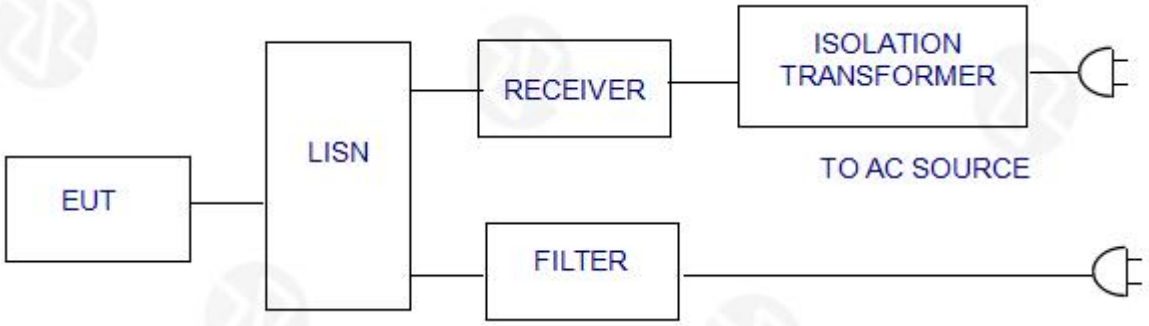
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Signal Generator	TESEQ	NSG4070-75	31477	V1.30	Sep. 29, 2024	Sep. 28, 2025
2	CDN	SCHWARZBECK	CDN M2/M3PE 16A	00128	N/A	Sep. 29, 2024	Sep. 28, 2025
3	Attenuator	GuoRenTong Xin	SGR-SJQ-6dB-DC-3	N/A	N/A	Sep. 29, 2024	Sep. 28, 2025

Radiation Emissions Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	100969	4.32	Sep. 29, 2024	Sep. 28, 2025
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	00877	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Sep. 30, 2024	Sep. 29, 2025
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Sep. 30, 2024	Sep. 29, 2025
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Oct. 11, 2024	Oct. 10, 2025
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	60747	N/A	Sep. 29, 2024	Sep. 28, 2025
9	Amplifier (1GHz-26.5GHz)	HuiPu	8449B	3008A00315	N/A	Sep. 29, 2024	Sep. 28, 2025
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Sep. 30, 2024	Sep. 29, 2025
11	Test Cable	N/A	R-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
12	Test Cable	N/A	R-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
13	Test Cable	N/A	R-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
14	D.C. Power Supply	LongWei	TPR-6405D	N/A	N/A	\	\
15	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\
16	Turntable	MF	MF-7802BS	N/A	N/A	\	\
17	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\

3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1 Block Diagram Of Test Setup



3.2 Test Standard

EN IEC 55015:2019/A11:2020

3.3 Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.009 ~ 0.05	110	N/A
0.05 ~ 0.15	90 ~ 80*	N/A
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: *1. Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.4 EUT Configuration on Test

The following equipment are installed on conducted emission test to meet EN55015 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5 Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.
3.5.2 Turn on the power of all equipment.
3.5.3 Let the EUT work in test modes and test it.

3.6 Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provides a 50ohm coupling impedance for the tested equipment. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **EN55015** regulations during conducted emission test.

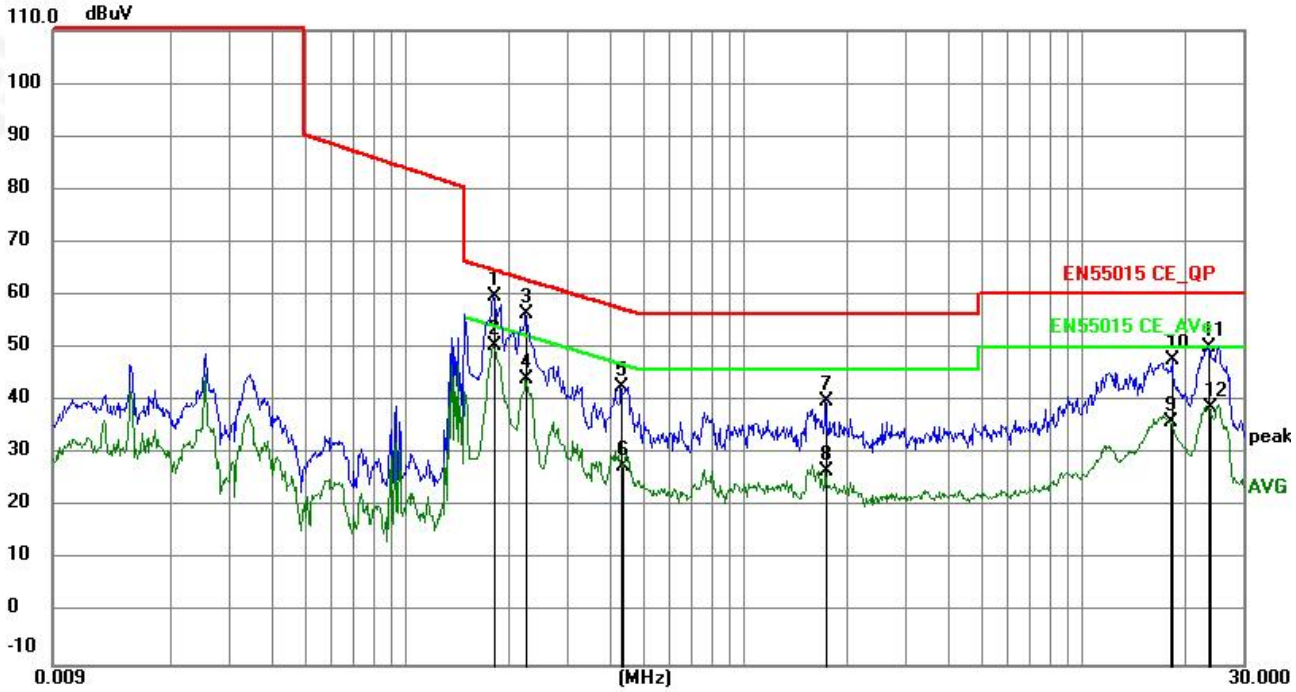
The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10kHz.

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

3.7 Test Result

PASS
Please refer to the following page.

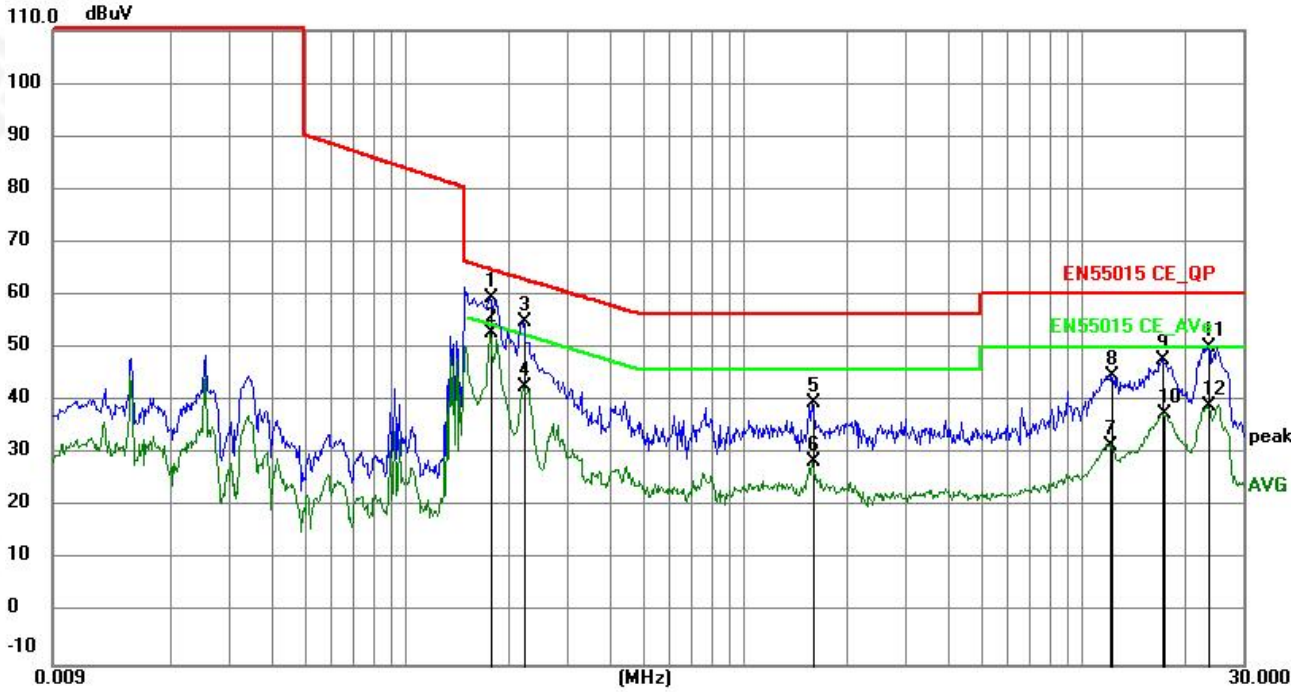
Conducted Emission At The Mains Terminals Test Data			
Temperature:	25.4℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Line
Test Voltage :	AC 230V 50Hz	Test Mode:	Working



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1815	39.51	20.17	59.68	64.42	-4.74	QP	P
2	0.1815	30.23	20.17	50.40	54.42	-4.02	AVG	P
3	0.2265	36.32	20.16	56.48	62.58	-6.10	QP	P
4	0.2265	23.92	20.16	44.08	52.58	-8.50	AVG	P
5	0.4336	22.56	20.16	42.72	57.18	-14.46	QP	P
6	0.4381	7.60	20.16	27.76	47.10	-19.34	AVG	P
7	1.7475	19.67	20.16	39.83	56.00	-16.17	QP	P
8	1.7475	6.48	20.16	26.64	46.00	-19.36	AVG	P
9	18.2176	15.54	20.54	36.08	50.00	-13.92	AVG	P
10	18.4920	27.34	20.54	47.88	60.00	-12.12	QP	P
11	23.6491	29.63	20.64	50.27	60.00	-9.73	QP	P
12	23.8831	18.14	20.64	38.78	50.00	-11.22	AVG	P

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor
4.Correct Factor= Lisn factor+ Cable loss factor + limiter factor
5.Margin= Measurement Level-Limit

Conducted Emission At The Mains Terminals Test Data			
Temperature:	25.4 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Neutral
Test Voltage :	AC 230V 50Hz	Test Mode:	Working

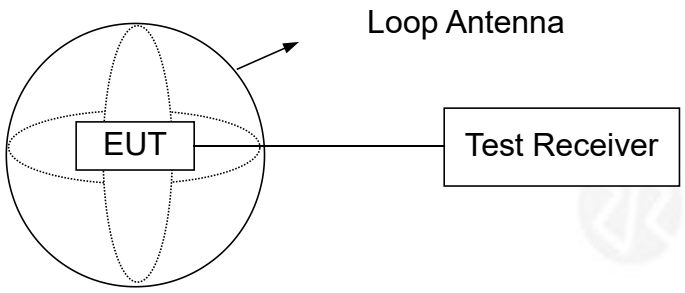


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1770	39.27	20.17	59.44	64.63	-5.19	QP	P
2	0.1770	32.58	20.17	52.75	54.63	-1.88	AVG	P
3	0.2220	34.71	20.16	54.87	62.74	-7.87	QP	P
4	0.2220	22.50	20.16	42.66	52.74	-10.08	AVG	P
5	1.5990	19.53	20.16	39.69	56.00	-16.31	QP	P
6	1.5990	8.34	20.16	28.50	46.00	-17.50	AVG	P
7	12.1741	11.29	20.41	31.70	50.00	-18.30	AVG	P
8	12.2596	24.49	20.41	44.90	60.00	-15.10	QP	P
9	17.4166	27.28	20.52	47.80	60.00	-12.20	QP	P
10	17.5111	17.11	20.52	37.63	50.00	-12.37	AVG	P
11	23.6401	29.54	20.64	50.18	60.00	-9.82	QP	P
12	23.6401	18.33	20.64	38.97	50.00	-11.03	AVG	P

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor
4.Correct Factor= Lisn factor+ Cable loss factor + limiter factor
5.Margin= Measurement Level-Limit

4. MAGNETIC EMISSION TEST

4.1 Block Diagram Of Test Setup



4.2 Test Standard

EN IEC 55015:2019/A11:2020

4.3 Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μA)
	Quasi-peak Level
0.009 ~ 0.07	88
0.07 ~ 0.15	88 ~ 58*
0.15 ~ 3.00	58 ~ 22*
3.00 ~ 30.0	22

Notes: *1. Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

4.4 EUT Configuration on Test

The following equipment are installed on conducted emission test to meet EN55015 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

4.5 Operating Condition of EUT

4.5.1 Setup the EUT and simulators as shown in Section 4.1.
4.5.2 Turn on the power of all equipment.
4.5.3 Let the EUT work in test modes and test it.

4.6 Test Procedure

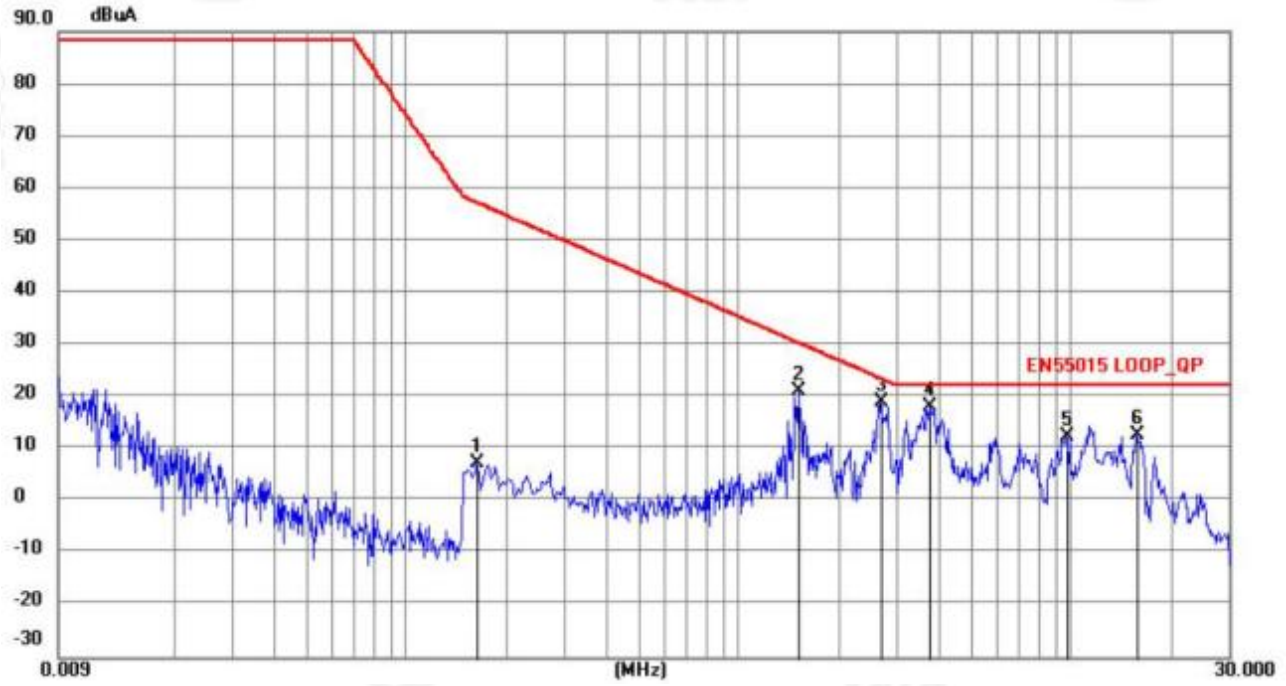
The EUT is placed on a wood table in the center of a loop antenna. The induced current in the loop antenna is measured by means of a current probe and the test receiver. Three field components is checked by means of a coax switch.

The frequency range from 9kHz to 30MHz is investigated. The receiver is measured with the quasi-peak detector. For frequency band 9kHz to 150kHz, the bandwidth of the field strength meter (R&S Test Receiver ESCI) is set at 200Hz. For frequency band 150kHz to 30MHz , the bandwidth is set at 10kHz.

4.7 Test Result

PASS
Please refer to the following page.

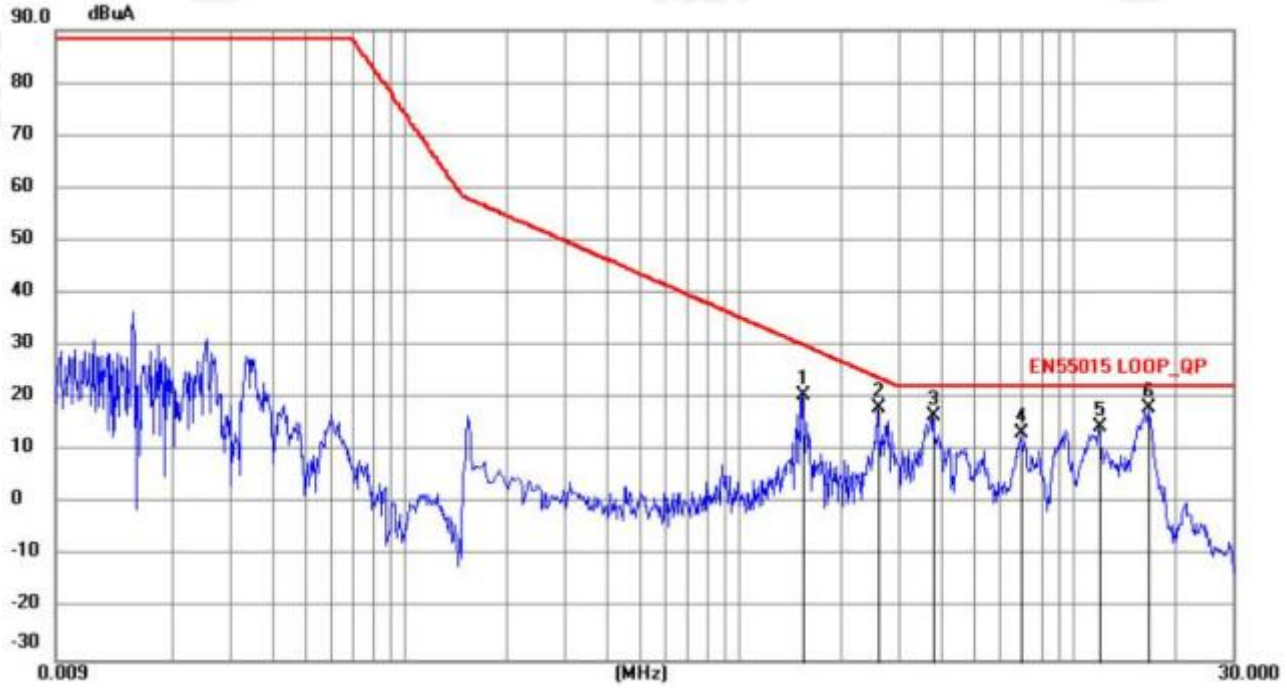
Magnetic Emission Test Data			
Temperature:	25.4℃	Relative Humidity:	54%
Pressure:	1009hPa	Ant. Polarity	X
Test Voltage :	AC 230V 50Hz	Test Mode:	Working



No.	Frequency (MHz)	Reading (dBuA)	Factor (dB)	Level (dBuA)	Limit (dBuA)	Margin (dB)	Detector	P/F	Remark
1	0.1635	19.19	-11.84	7.35	56.96	-49.61	QP	P	
2	1.5180	37.73	-16.62	21.11	30.19	-9.08	QP	P	
3	2.6880	35.44	-16.50	18.94	23.32	-4.38	QP	P	
4	3.7681	34.74	-16.53	18.21	22.00	-3.79	QP	P	
5	9.7438	29.01	-16.57	12.44	22.00	-9.56	QP	P	
6	15.9223	27.24	-14.38	12.86	22.00	-9.14	QP	P	

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.The emission levels of other frequencies are very lower than the limit and not show in test report.
4.Final Level = Reading level + Correct Factor
5.Correct Factor= Loop Antenna factor+ Cable loss factor
6.Margin= Measurement Level-Limit

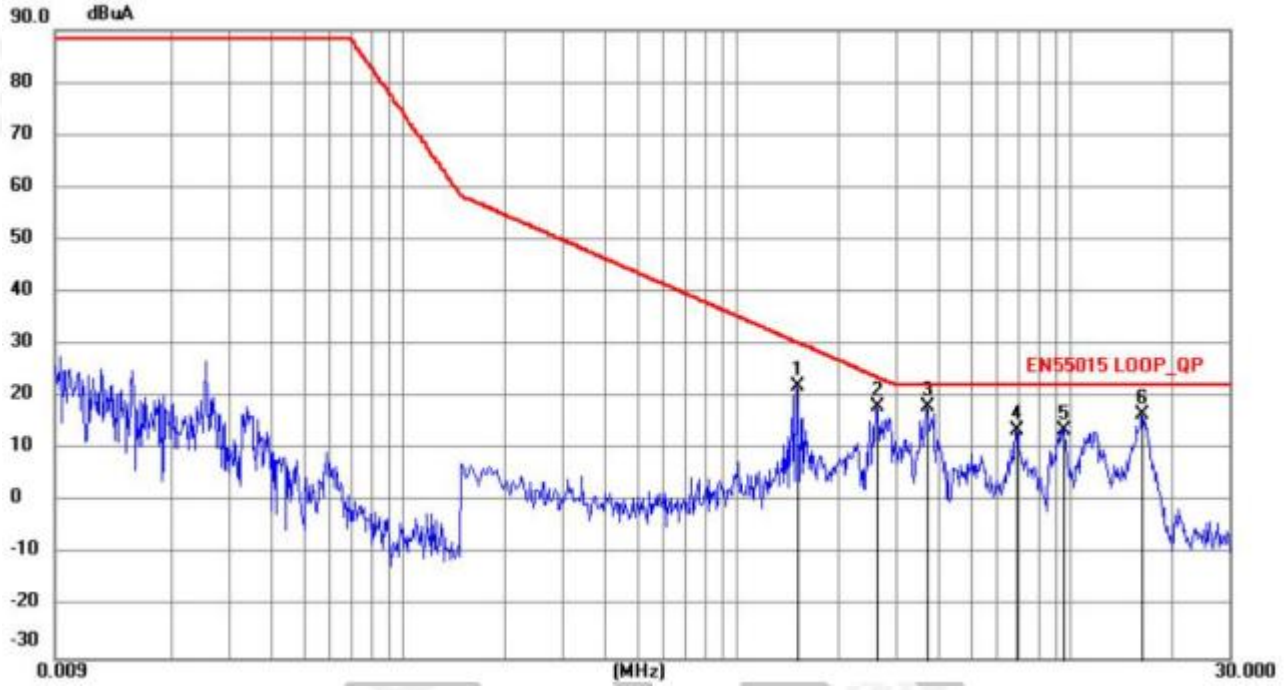
Magnetic Emission Test Data			
Temperature:	26 ℃	Relative Humidity:	60%
Pressure:	1009hPa	Ant. Polarity	Y
Test Voltage :	AC 230V 50Hz	Test Mode:	Working



No.	Frequency (MHz)	Reading (dBuA)	Factor (dB)	Level (dBuA)	Limit (dBuA)	Margin (dB)	Detector	P/F	Remark
1	1.5447	37.10	-16.62	20.48	29.98	-9.50	QP	P	
2	2.6070	34.76	-16.49	18.27	23.69	-5.42	QP	P	
3	3.8130	33.30	-16.53	16.77	22.00	-5.23	QP	P	
4	6.9809	29.84	-16.58	13.26	22.00	-8.74	QP	P	
5	11.9535	29.33	-14.81	14.52	22.00	-7.48	QP	P	
6	16.7774	32.60	-14.39	18.21	22.00	-3.79	QP	P	

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.The emission levels of other frequencies are very lower than the limit and not show in test report.
4.Final Level = Reading level + Correct Factor
5.Correct Factor= Loop Antenna factor+ Cable loss factor
6.Margin= Measurement Level-Limit

Magnetic Emission Test Data			
Temperature:	25.4 ℃	Relative Humidity:	54%
Pressure:	1009hPa	Ant. Polarity	Z
Test Voltage :	AC 230V 50Hz	Test Mode:	Working

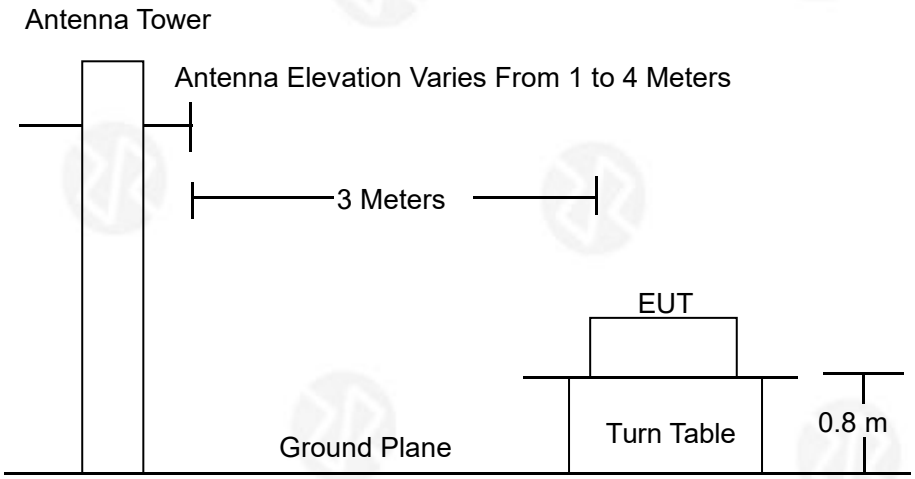


No.	Frequency (MHz)	Reading (dBuA)	Factor (dB)	Level (dBuA)	Limit (dBuA)	Margin (dB)	Detector	P/F	Remark
1	1.5135	38.61	-16.62	21.99	30.22	-8.23	QP	P	
2	2.6206	34.60	-16.49	18.11	23.62	-5.51	QP	P	
3	3.7050	34.82	-16.53	18.29	22.00	-3.71	QP	P	
4	6.8910	30.11	-16.58	13.53	22.00	-8.47	QP	P	
5	9.5053	30.32	-16.57	13.75	22.00	-8.25	QP	P	
6	16.4356	31.09	-14.39	16.70	22.00	-5.30	QP	P	

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.The emission levels of other frequencies are very lower than the limit and not show in test report.
4.Final Level = Reading level + Correct Factor
5.Correct Factor= Loop Antenna factor+ Cable loss factor
6.Margin= Measurement Level-Limit

5. RADIATED EMISSION TEST

5.1 Block Diagram of Test Setup



5.2 Test Standard

EN IEC 55015:2019/A11:2020

5.3 Radiation Limit

Frequency MHz	Distance (Meters)	Field Strengths Limits dB(μV)/m
30 ～ 230	3	40.0
230 ～ 1000	3	47.0

Remark:

(1) Emission level (dB(μV)/m) = 20 log Emission level (μV/m)

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance refers to the distance in meters between the measuring instrument, antenna and the closed point of any part of the device or system.

5.4 EUT Configuration on Test

The EN55015 regulations test method must be used to find the maximum emission during radiated emission test.
The configuration of EUT is the same as used in conducted emission test.
Please refer to Section 3.4.

5.5 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 3.5 except the test set up replaced as Section 5.1.

5.6 Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to EN55015 on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120kHz.

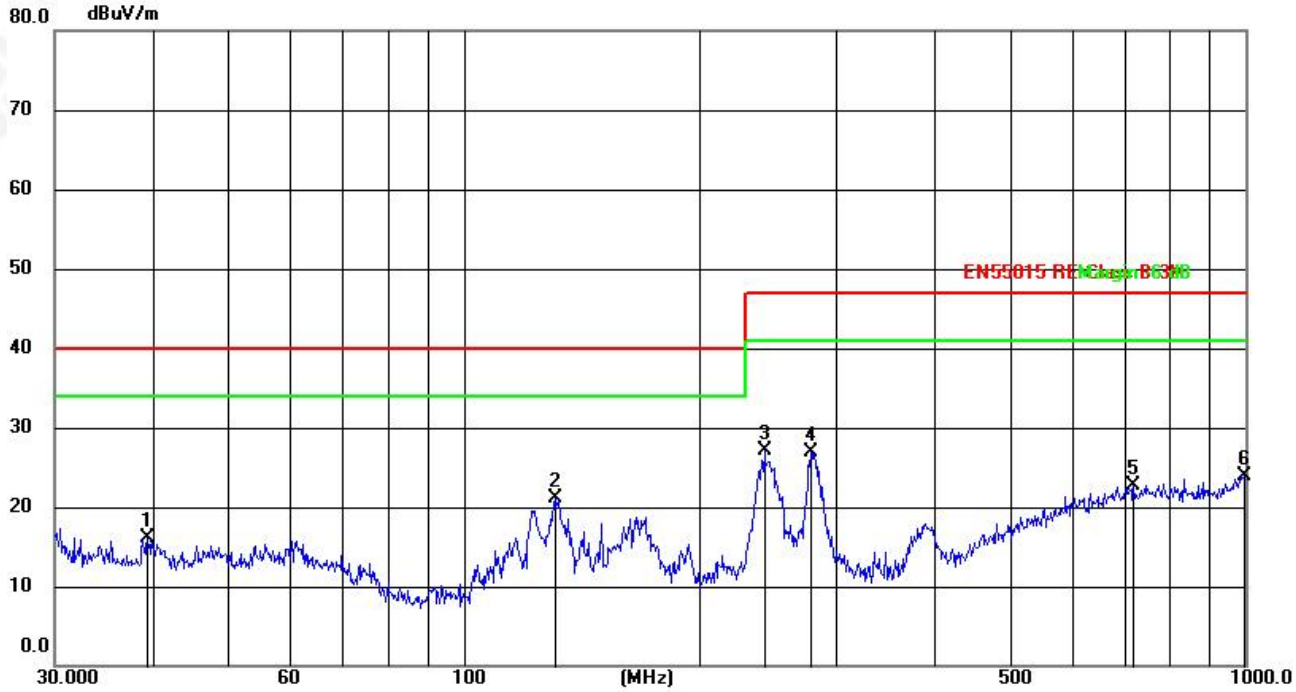
The frequency range from 30MHz to 1000MHz is checked.

5.7 Test Result

PASS

Please refer to the following page.

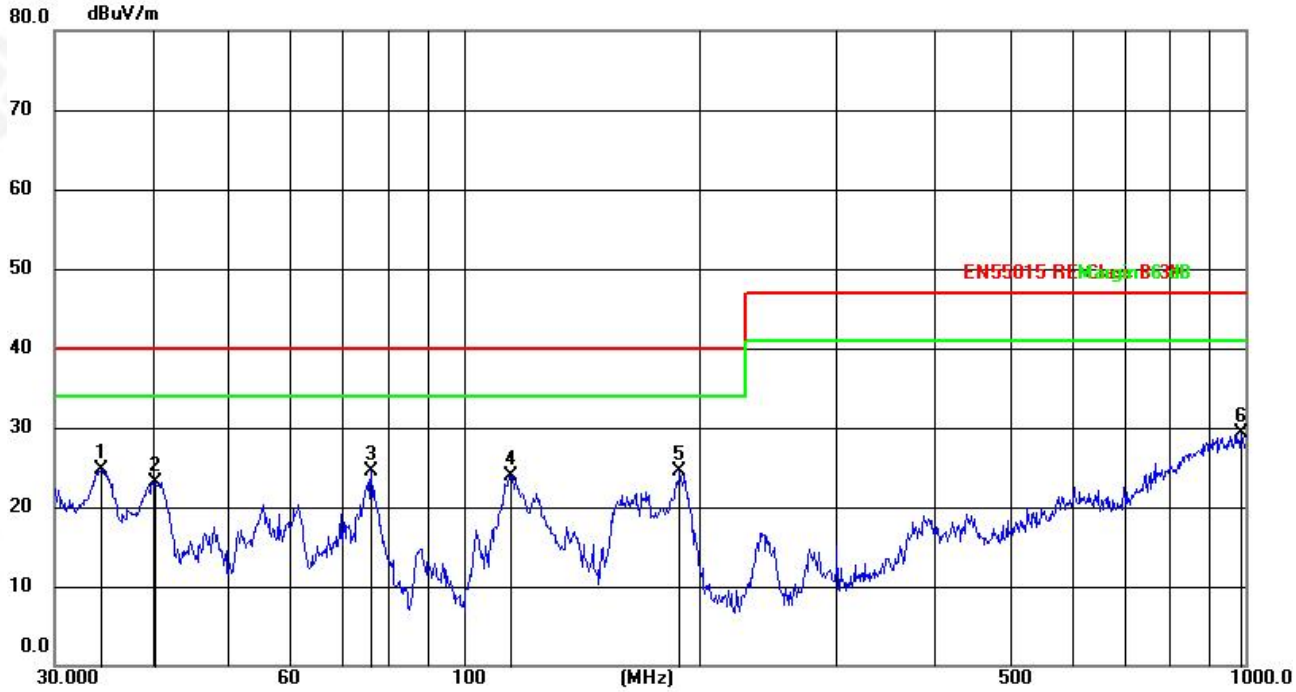
Radiation Emission Test Data			
Temperature:	25.7 ℃	Relative Humidity:	52%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	AC 230V 50Hz	Test Mode:	Working



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.4371	30.27	-14.13	16.14	40.00	-23.86	QP
2	130.8369	38.60	-17.52	21.08	40.00	-18.92	QP
3	242.5252	42.96	-15.83	27.13	47.00	-19.87	QP
4	278.0668	40.95	-14.06	26.89	47.00	-20.11	QP
5	719.1995	29.14	-6.48	22.66	47.00	-24.34	QP
6	996.4995	28.62	-4.63	23.99	47.00	-23.01	QP

Notes:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.The emission levels of other frequencies are very lower than the limit and not show in test report.
4.Final Level = Reading level + Correct Factor
5.Correct Factor= Antenna factor+ Cable loss factor - Amplifier factor
6.Margin= Measurement Level-Limit

Radiation Emission Test Data			
Temperature:	25.7 ℃	Relative Humidity:	52%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	AC 230V 50Hz	Test Mode:	Working

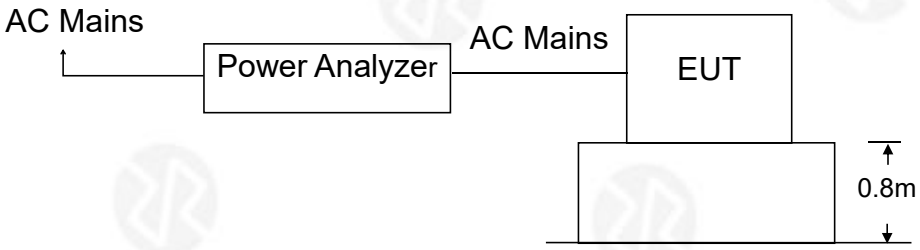


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	34.3964	42.32	-17.60	24.72	40.00	-15.28	QP
2	40.2756	39.81	-16.77	23.04	40.00	-16.96	QP
3	76.2442	45.39	-20.80	24.59	40.00	-15.41	QP
4	114.9168	45.18	-21.19	23.99	40.00	-16.01	QP
5	189.0743	44.45	-19.94	24.51	40.00	-15.49	QP
6	986.0716	29.25	0.02	29.27	47.00	-17.73	QP

Notes:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.The emission levels of other frequencies are very lower than the limit and not show in test report.
4.Final Level = Reading level + Correct Factor
5.Correct Factor= Antenna factor+ Cable loss factor - Amplifier factor
6.Margin= Measurement Level-Limit

6. HARMONIC CURRENT EMISSION TEST

6.1 Block Diagram of Test Setup



6.2 Test Standard

EN IEC 61000-3-2:2019/A1:2021/A2:2024

6.3 Operating Condition of EUT

6.3.1 Setup the EUT as shown in Section 6.1.

6.3.2 Turn on the power of all equipment.

6.3.3 Let the EUT work in test mode and test it.

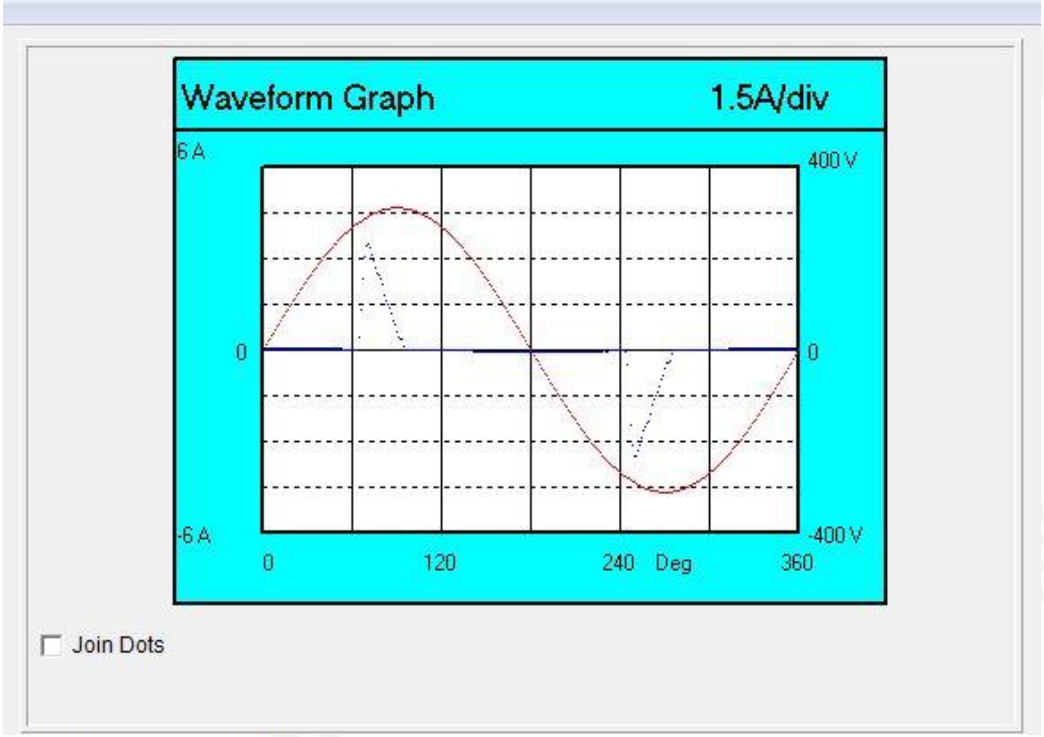
6.4 Test Procedure

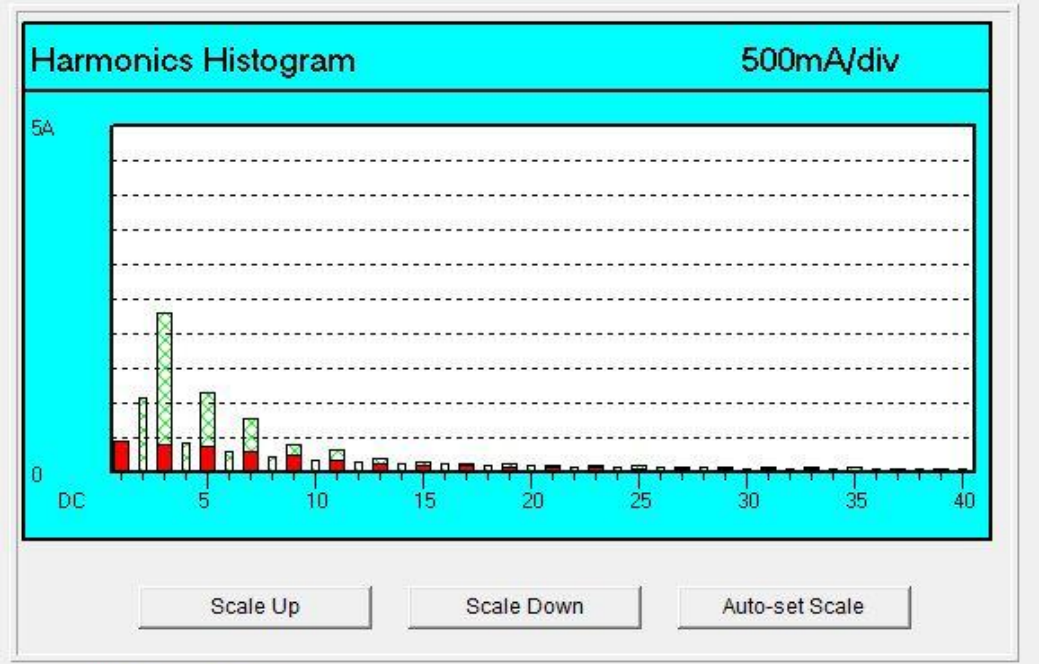
The power cord of the EUT is connected to the output of the test system. Turn on the power of the EUT and use the test system to test the harmonic current level.

6.5 Test Results

PASS

Please refer to the following page.


Waveform Graph
1.5A/div
6 A
400 V
0
0
-6 A
-400 V
0
120
240
Deg
360
Join Dots


Harmonics Histogram
500mA/div
5A
0
DC
5
10
15
20
25
30
35
40
Scale Up
Scale Down
Auto-set Scale

N	Filtered	Limit	Avg.	%Limit	Max.	%Limit		N	Filtered	Limit	Avg.	%Limit	Max.	%Limit	
1	446.7			-		-		2	2.3	1080.0	2.5	0.2	2.8	0.3	✓
3	411.8	2300.0	411.3	17.9	411.8	17.9	✓	4	2.3	430.0	2.4	0.6	2.6	0.6	✓
5	366.4	1140.0	366.0	32.1	366.6	32.2	✓	6	2.3	300.0	2.5	0.8	2.6	0.9	✓
7	306.9	770.0	306.5	39.8	307.3	39.9	✓	8	2.1	230.0	2.6	1.1	2.8	1.2	✓
9	241.3	400.0	241.0	60.3	241.8	60.5	✓	10	2.3	184.0	2.6	1.4	3.0	1.6	✓
11	179.6	330.0	179.3	54.3	180.1	54.6	✓	12	2.5	153.3	2.7	1.8	3.0	2.0	✓
13	130.7	210.0	130.4	62.1	131.0	62.4	✓	14	2.5	131.4	2.8	2.1	3.2	2.4	✓
15	101.6	150.0	101.2	67.5	101.7	67.8	✓	16	2.5	115.0	2.8	2.4	3.2	2.8	✓
17	89.7	132.3	89.4	67.6	90.0	68.0	✓	18	2.5	102.2	2.8	2.7	3.2	3.1	✓
19	84.3	118.4	84.0	70.9	84.5	71.4	✓	20	2.5	92.0	2.7	2.9	3.2	3.5	✓
21	76.9	107.1	76.7	71.6	77.3	72.2	✓	22	2.6	83.6	2.7	3.2	3.0	3.6	✓
23	66.8	97.8	66.7	68.2	67.0	68.5	✓	24	2.5	76.7	2.6	3.4	3.0	3.9	✓
25	56.6	90.0	56.4	62.7	56.8	63.1	✓	26	2.5	70.8	2.5	3.5	2.8	4.0	✓
27	49.2	83.3	49.0	58.8	49.4	59.3	✓	28	2.5	65.7	2.5	3.8	2.8	4.3	✓
29	45.3	77.6	45.0	58.0	45.4	58.5	✓	30	2.3	61.3	2.4	3.9	2.6	4.2	✓
31	42.6	72.6	42.4	58.4	42.7	58.8	✓	32	1.9	57.5	2.1	3.7	2.5	4.3	✓
33	39.0	68.2	38.7	56.7	39.0	57.2	✓	34	1.7	54.1	2.0	3.7	2.3	4.3	✓
35	34.1	64.3	33.9	52.7	34.1	53.0	✓	36	1.6	51.1	1.8	3.5	2.1	4.1	✓
37	29.3	60.8	29.1	47.9	29.3	48.2	✓	38	1.4	48.4	1.6	3.3	1.9	3.9	✓
39	25.7	57.7	25.5	44.2	25.7	44.5	✓	40	1.4	46.0	1.6	3.5	1.7	3.7	✓
P	155.3	251.4	154.5	61.5	155.5	61.9	✓					-		-	

7. VOLTAGE FLUCTUATIONS & FLICKER TEST

7.1 Block Diagram of Test Setup

Same as Section 6.1.

7.2 Test Standard

EN 61000-3-3:2013/A1:2019/A2:2021

7.3 Operating Condition of EUT

Same as Section 5.3.. The power cord of the EUT is connected to the output of the test system. Turn on the power of the EUT and use the test system to test the harmonic current level.

Flicker Test Limit

Test items	Limits
Pst	1.0
dc	3.3%
dmax	4.0%
dt	Not exceed 3.3% for 500ms

7.4 Test Procedure

The power cord of the EUT is connected to the output of the test system. Turn on the power of the EUT and use the test system to test the harmonic current level.

7.5 Test Results

PASS

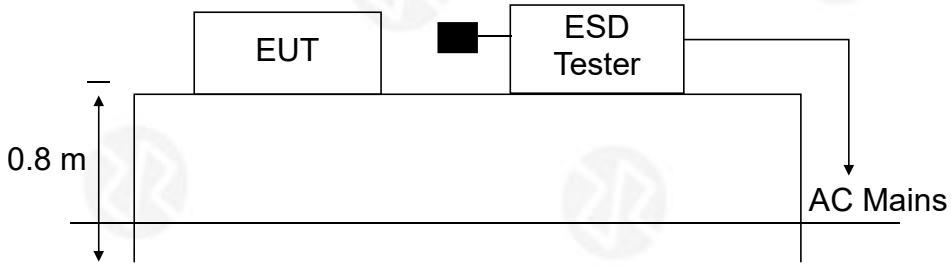
Flicker Test Data			
Temperature:	26℃	Relative Humidity:	53%
Pressure:	1009hPa	Test Mode:	Working
Test Voltage :	AC 230V 50Hz		

Voltage Fluctuation	Limit	Value
Relative Voltage Change Characteristic Tmax （dc＞3%）	500 ms	0 ms
Maximum Relative Voltage Change d_{max}	4%	0.00
	6%	/
	7%	/
Relative Steady-state Voltage Change dc	3.3%	0.00

Flicker	Limit	Value
Short-term Flicker Indicator P_{st}	1.0	0.064
Long-term Flicker Indicator P_{lt}	0.65	/

8. ELECTROSTATIC DISCHARGE IMMUNITY TEST

8.1 Block Diagram of Test Setup



8.2 Test Standard

EN IEC 61547:2023, EN IEC 61000-4-2:2025

Severity Level: 3 / Air Discharge: ±8KV
Severity Level: 2 / Contact Discharge: ±4KV

8.3 Severity Levels and Performance Criterion

8.3.1 Severity level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	±2	±2
2.	±4	±4
3.	±6	±8
4.	±8	±15
X	Special	Special

8.3.2 **Performance criterion : B**

A. 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 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.

B. After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaces by a permissible loss of performance.

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

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 except from the equipment if used as intended.

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. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

8.4 EUT Configuration

The following equipment are installed on Electrostatic Discharge Immunity test to meet EN IEC 61547:2023, EN IEC 61000-4-2:2025, requirement and operating in a manner which tends to maximize its emission characteristics in a normal application. The configuration of EUT is the same as used in conducted emission test.
Please refer to Section 3.4.

8.5 Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 3.5 except the test setup replaced by Section 8.1.

8.6 Test Procedure

8.6.1 Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each preselected test point. This procedure shall be repeated until all the air discharge completed.

8.6.2 Contact Discharge:

All the procedure shall be same as Section 7.6.1. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

8.6.3 Indirect discharge for horizontal coupling plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

8.6.4 Indirect discharge for vertical coupling plane

At least 10 single discharges (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are complete illuminated.

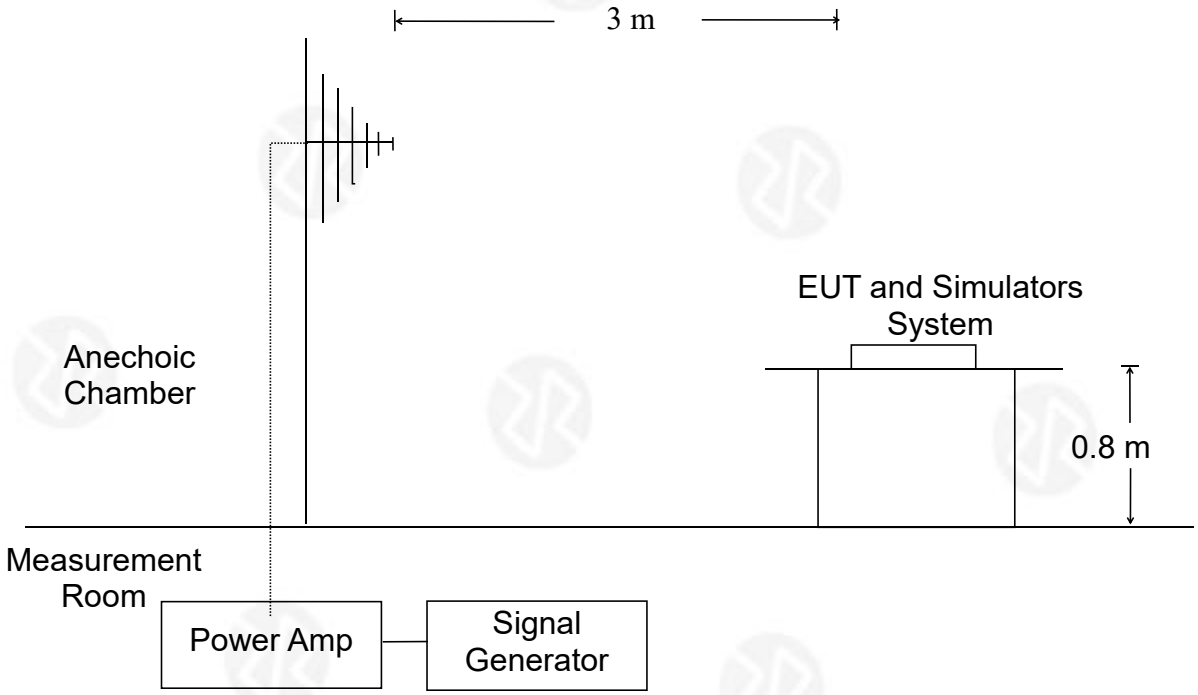
8.7 Test Results

PASS
Please refer to the following page.

ESD Test Data				
Temperature:	25.4℃	Humidity:	54%	
Power Supply :	AC 230V 50Hz	Test Mode:	Working	
Air Discharge: ± 8KV Contact Discharge: ± 4KV				
Test Points	Air Discharge	Contact Discharge	Performance Criterion	Result
Enclosure	±2,4,8KV	N/A	B	PASS
Slit	±2,4,8KV	N/A	B	PASS
Metal Part	N/A	±2,4 KV	B	PASS
VCP	N/A	±2,4 KV	B	PASS
HCP	N/A	±2,4 KV	B	PASS
Note: N/A				

9. RF FIELD STRENGTH SUSCEPTIBILITY TEST

9.1 Block Diagram of Test Setup



9.2 Test Standard

EN IEC 61547:2023, EN IEC 61000-4-3:2020
Severity Level 2, 3V / m

9.3 Severity Levels and Performance Criterion

9.3.1. Severity level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X.	Special

9.3.2. **Performance criterion: A**

A、 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 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.

B、 After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaces by a permissible loss of performance.

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

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 except from the equipment if used as intended.

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. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

9.4 EUT Configuration on Test

The following equipment are installed on RF Field Susceptibility test to meet EN IEC 61547:2023, EN IEC 61000-4-3:2020, requirement and operating in a manner which tends to maximize its emission characteristics in a normal application. The configuration of EUT is the same as used in conducted emission test.
Please refer to Section 3.4.

9.5 Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 3.5 except the test setup replaced by Section 9.1.

9.6 Test Procedure

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

All the scanning conditions are as follows：

Condition of Test	Remarks
1. Fielded Strength	3 V/m (Severity Level 2)
2. Radiated Signal	Modulated
3. Scanning Frequency	80 – 1000 MHz
4. Dwell time of radiated	0.0015 decade/s
5. Waiting Time	1 Sec.

9.7 Test Results

PASS
Please refer to the following page.

R/S Test Data			
Temperature : 25.7℃		Humidity : 52%	
Field Strength: 3 V/m		Criterion: A	
Power Supply: AC 230V 50Hz		Frequency Range: 80 MHz to 1000 MHz	
Modulation: ☑ AM ☐ Pulse ☐none 1 kHz 80%			
Test Mode : On			
	Frequency Range : 80-1000MHz		
Steps	1 %		
	Horizontal	Vertical	Result
Front	A	A	Pass
Right	A	A	Pass
Rear	A	A	Pass
Left	A	A	Pass
Note: The EUT is the testing item(s) was (were) fulfilled by subcontracted lab SHENZHEN HAIYUN TESTING CO.,LTD			

10. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

10.1 Block Diagram of EUT Test Setup



10.2 Test Standard

EN IEC 61547:2023, EN 61000-4-4:2012

10.3 Severity Levels and Performance Criterion

Severity Level 2 at 1KV, Pulse Rise time & Duration: 5 nS / 50 nS
Severity Level:

Open Circuit Output Test Voltage ±10%		
Level	On power ports	On I/O(Input/Output) Signal data and control ports
1.	0.5KV	0.25KV
2.	1KV	0.5KV
3.	2KV	1KV
4.	4KV	2KV
X.	Special	Special

Performance criterion: B

A. 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 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.

B. After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaces by a permissible loss of performance.

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

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 except from the equipment if used as intended.

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. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

10.4 EUT Configuration on Test

The following equipment are installed on Electrical Fast Transient/Burst Immunity test to meet EN IEC 61547:2023, EN 61000-4-4:2012, requirement and operating in a manner which tends to maximize its emission characteristics in a normal application. The configuration of EUT is the same as used in conducted emission test.
Please refer to Section 3.4.

10.5 Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 3.5 except the test setup replaced by Section 10.1.

10.6 Test Procedure

EUT shall be placed 0.8m high above the ground reference plane which is a min.1m*1m metallic sheet with 0.65mm minimum thickness. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m

10.6.1. For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 minutes.

10.7 Test Results

PASS

EFT Test Data				
Temperature:	26℃	Humidity:	54%	
Power Supply :	AC 230V 50Hz	Test Mode:	Working	
Coupling Line	Test Voltage		Performance Criterion	Result
L	±0.5kV	±1kV	B	PASS
N	±0.5kV	±1kV	B	PASS
L-N	±0.5kV	±1kV	B	PASS
PE	±0.5kV	±1kV	B	PASS
L-PE	±0.5kV	±1kV	B	PASS
N-PE	±0.5kV	±1kV	B	PASS
L-N-PE	±0.5kV	±1kV	B	PASS
DC Line	/	/		/
Note: N/A				

11. SURGE TEST

11.1 Block Diagram of EUT Test Setup



11.2 Test Standard

EN IEC 61547:2023, EN 61000-4-5:2014/A1:2017

11.3 Severity Levels and Performance Criterion

Severity Level: Line to Line, Level 2 at 1KV;
Severity Level: Line to Earth, Level 3 at 2KV.

Severity Level	Open-Circuit Test Voltage (KV)
1.	0.5
2.	1.0
3.	2.0
4.	4.0
X.	Special

Performance criterion: B

A. 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 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.

B. After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaces by a permissible loss of performance.

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

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 except from the equipment if used as intended.

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. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

11.4 EUT Configuration on Test

The following equipment are installed on Surge test to meet EN IEC 61547:2023, EN 61000-4-5:2014/A1:2017, requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

The configuration of EUT is the same as used in conducted emission test.
Please refer to Section 3.4.

11.5 Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 3.5 except the test setup replaced by Section 11.1.

11.6 Test Procedure

1) Set up the EUT and test generator as shown on section 11.1.
2) For line to line coupling mode, provide a 1KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.
3) At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
4) Different phase angles are done individually.
5) Repeat procedure 2) to 4) except the open-circuit test voltage change from 1KV to 2KV for line to earth coupling mode test.
6) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

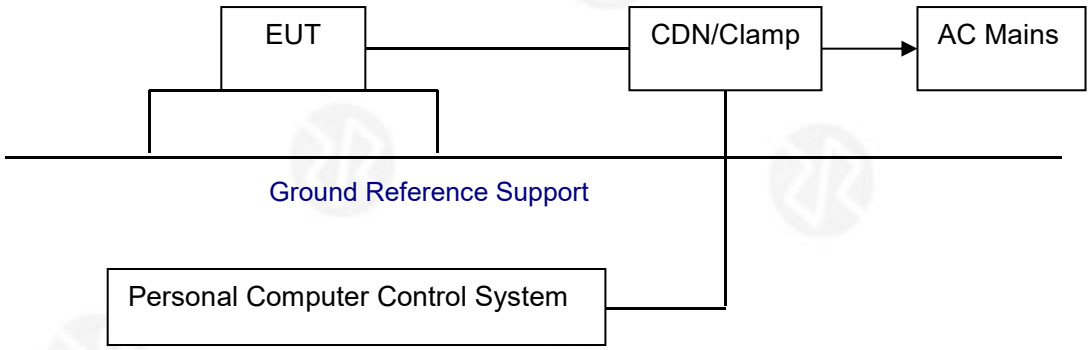
11.7 Test Result

PASS

Surge Test Data						
Temperature:		26℃		Humidity:	55%	
Power Supply :		AC 230V 50Hz		Test Mode:	Working	
Location	Polarity	Phase Angle	No of Pulse	Pulse Voltage (KV)	Performance Criterion	Result
L-N	+	90	5	1	B	Pass
	-	90	5	1		Pass
	+	270	5	1		Pass
	-	270	5	1		Pass
L-PE	+	90	5	2	B	Pass
	-	90	5	2		Pass
	+	270	5	2		Pass
	-	270	5	2		Pass
N-PE	+	90	5	2	B	Pass
	-	90	5	2		Pass
	+	270	5	2		Pass
	-	270	5	2		Pass
Note: N/A						

12. INJECTED CURRENTS SUSCEPTIBILITY TEST

12.1 Block Diagram of EUT Test Setup



12.2 Test Standard

EN IEC 61547:2023, EN IEC 61000-4-6:2023

12.3 Severity Levels and Performance Criterion

Severity Level 2: 3V(rms), 150kHz ～ 80MHz
Severity Level:

Level	Field Strength V
1.	1
2.	3
3.	10
X.	Special

Performance criterion: A

A. 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 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.

B. After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaces by a permissible loss of performance.

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

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 except from the equipment if used as intended.

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. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

12.4 EUT Configuration on Test

The configuration of EUT is the same as used in conducted emission test. Please refer to Section 3.4.

12.5 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 3.5 except the test set up replaced as Section 12.1.

12.6 Test Procedure

1) Set up the EUT, CDN and test generator as shown on section 12.1

2) Let EUT work in test mode and measure.

3) The EUT and supporting equipment are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane at above 0.1-0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).

4) The disturbance signal described below is injected to EUT through CDN.

5) The EUT operates within its operational mode(s) under intended climatic conditions after power on.

6) The frequency range is swept from 150kHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1kHz sine wave

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

8) Recording the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

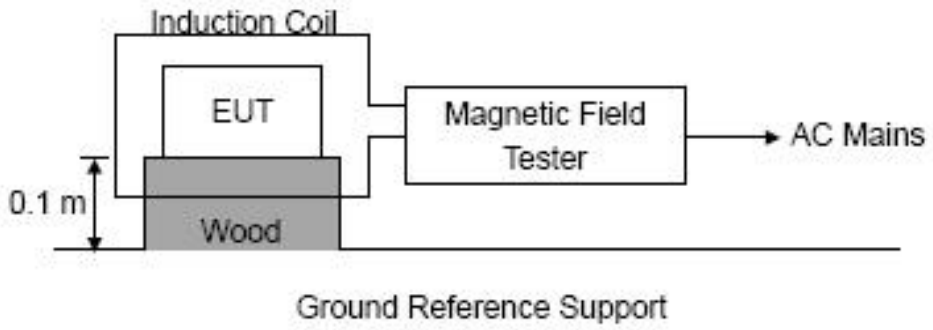
12.7 Test Result

PASS

CS Test Data						
Temperature:		26℃		Humidity:	60％	
Power Supply :		AC 230V 50Hz		Test Mode:	Working	
Frequency Range(MHz)	Injected Position	Strength	Modulation Signal	Freq. Step	Performance Criterion	Result
150kHz ～ 80MHz	AC Line	3V(rms), Unmodulated	AM 80%, 1kHz sine wave	1%	A	Pass
150kHz ～ 80MHz	DC Line	3V(rms), Unmodulated	AM 80%, 1kHz sine wave	1%	/	/
Note: N/A						

13. MAGNETIC FIELD IMMUNITY TEST

13.1 Block Diagram of Test Setup



13.2 Test Standard

EN IEC 61547:2023, EN 61000-4-8:2010
Severity Level 1 at 1A/m

13.3 Severity Levels and Performance Criterion

13.3.1 Severity level

Level	Magnetic Field Strength A/m
1.	1
2.	3
3.	10
4.	30
5.	100
X.	Special

13.3.2 **Performance criterion: B**

A. 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 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.

B. After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaces by a permissible loss of performance.
During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test.
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 except from the equipment if used as intended.

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. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

13.4 EUT Configuration on Test

The configuration of EUT is listed in Section 3.4.

13.5 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 3.5 except the test set up replaced as Section 13.1.

13.6 Test Procedure

The EUT shall be subjected to the test magnetic field by using the induction coil of standard dimensions (1m*1m) and shown in Section 13.1. The induction coil shall then be rotated by 90° in order to expose the EUT to the test field with different orientations.

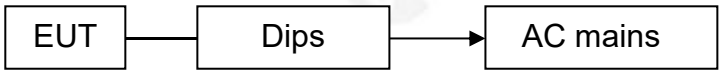
13.7 Test Results

PASS

MS Test Data					
Temperature:	26℃		Humidity:		60%
Power Supply:	AC 230V 50Hz		Test Mode:		working
Environmental Phenomena	Test specification	Units	Coil Orientation	Performance Criterion	Result
Magnetic Field	3	A/m	X	A	PASS
			Y	A	PASS
			Z	A	PASS
Note: N/A					

14. VOLTAGE DIPS AND INTERRUPTIONS TEST

14.1 Block Diagram of EUT Test Setup



14.2 Test Standard

EN IEC 61547:2023, EN IEC 61000-4-11:2020

14.3 Severity Levels and Performance Criteria

Severity Level:

Input and Output AC Power Ports.

☑ Voltage Dips.

☑ Voltage Interruptions.

Environmental Phenomena	Test Specification	Units	Performance Criterion
Voltage Dips	70 10	% Reduction period	C
	0 0.5	% Reduction period	B

Performance criterion: C, B

A. 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 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.

B. After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena 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.

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

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 except from the equipment if used as intended.

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. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

14.4 EUT Configuration on Test

The configuration of EUT is the same as used in conducted emission test. Please refer to Section 3.4.

14.5 Operating Condition of EUT

Same as conducted emission test, which is listed in Section 3.5 except the test set up replaced as Section 14.1.

14.6 Test Procedure

1) Set up the EUT and test generator as shown on section 14.1.

2) The interruption is introduced at selected phase angles with specified duration. There is a 3mins minimum interval between each test event.

3) After each test a full functional check is performed before the next test.

4) Repeat procedures 2 & 3 for voltage dips, only the level and duration is changed.

5) Record any degradation of performance.

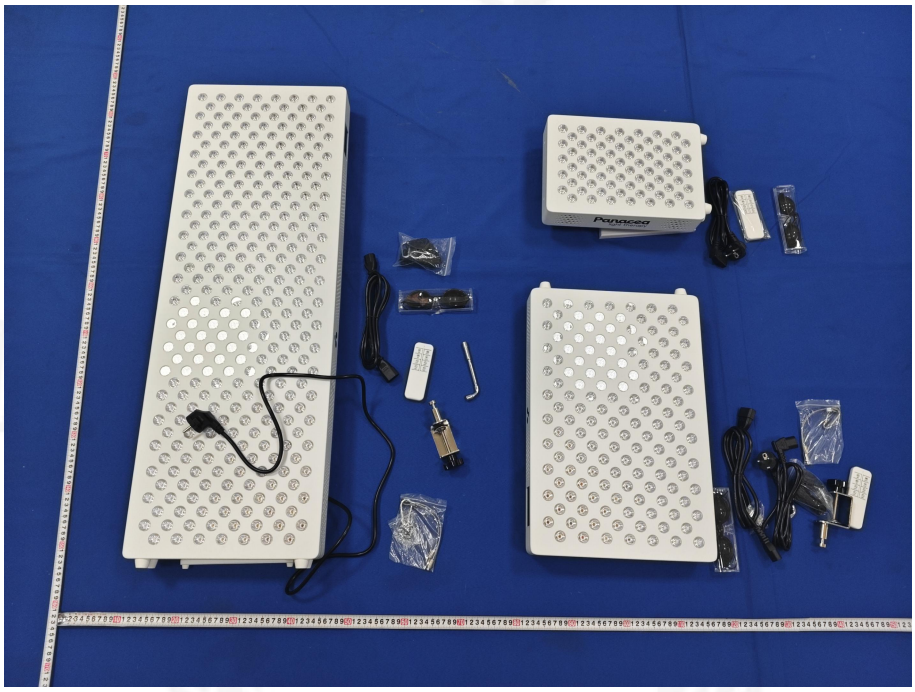
14.7 Test Result

PASS

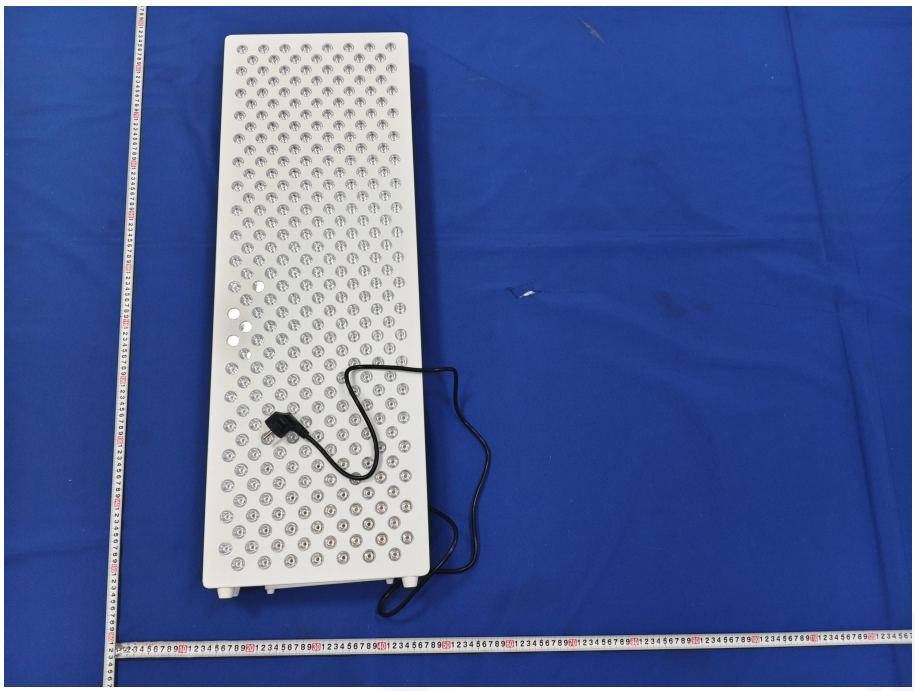
DIPS Test Data			
Temperature:	26℃	Humidity:	60%
Power Supply :	AC 230V 50Hz	Test Mode:	Working
Environmental Phenomena	Test Specification	Units	Performance Criterion
Voltage Dips	70 10	% Reduction period	C
	0 0.5	% Reduction period	B

15. EUT PHOTOGRAPHS

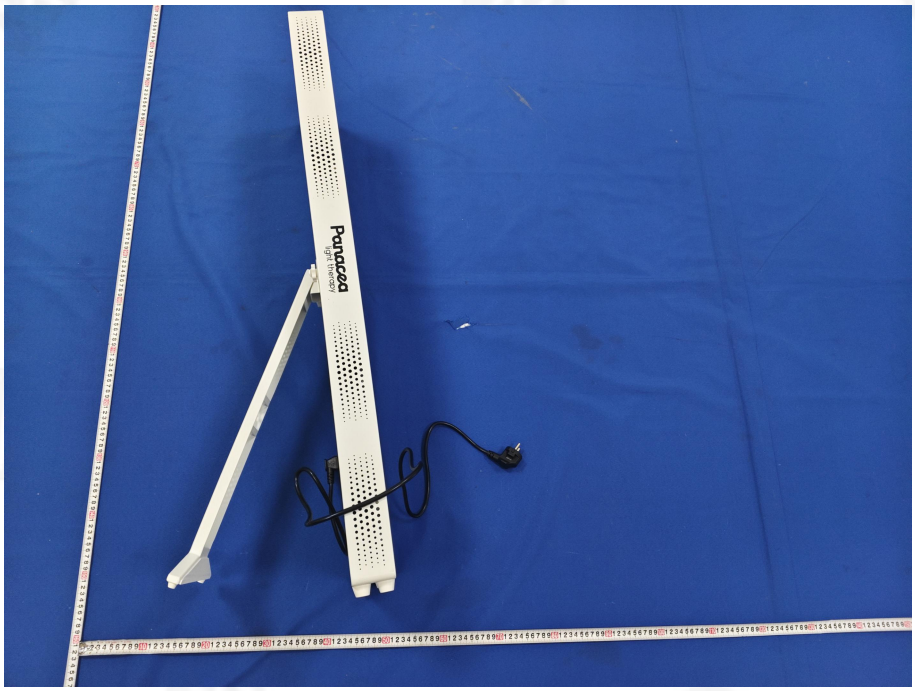
EUT Photo 1



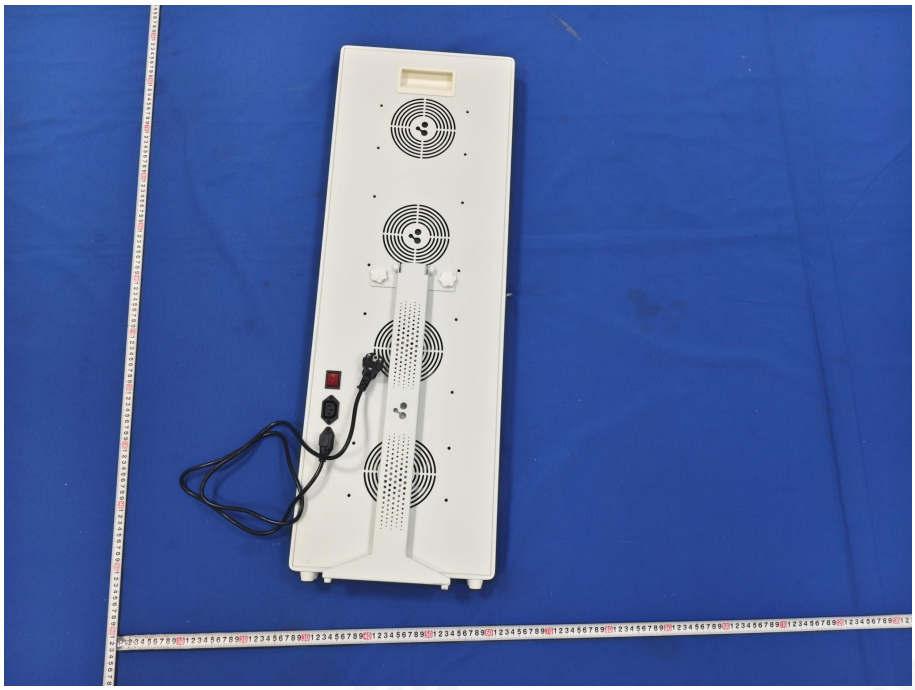
EUT Photo 2



EUT Photo 3

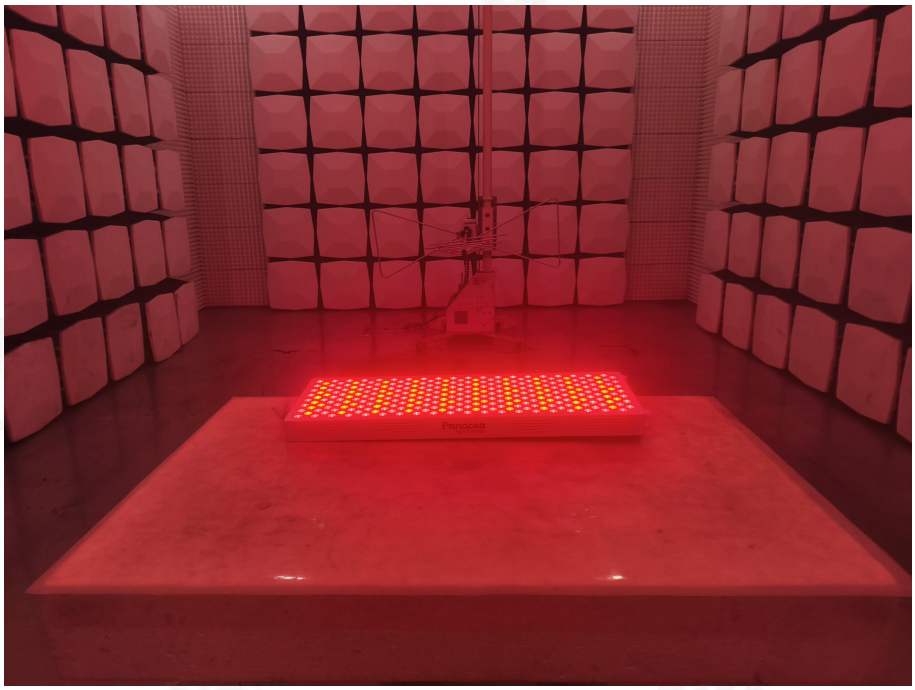


EUT Photo 4



16. EUT TEST PHOTOGRAPHS

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CE



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