

ATTESTATION

Of conformity

With European Directives

For the following

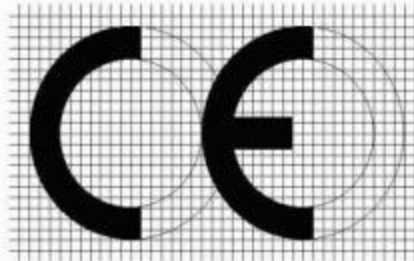
Product : Skin Care Device
Model Name : BD-ERD24NWP
Variant Model Name : BD-ERD24NC

Applicant : BRITZMEDI Co., Ltd.
Address : 1F, 2, Gisan-ro 87beon-gil, Hwaseong-si,
Gyeonggi-do, Republic of Korea

Manufactured at : BRITZMEDI Co., Ltd.
Address : 1F, 2, Gisan-ro 87beon-gil, Hwaseong-si,
Gyeonggi-do, Republic of Korea

The submitted sample of the above equipment has been tested for CE marking according to following European Directive and standards:

- Electromagnetic Compatibility Directive 2014/30/EU



The referred test report(s) show that the product complies with standard(s) recognized as giving presumption of compliance with the essential requirements in the specified European Directive. This verification does not imply assessment of the production of the product. The CE marking may be affixed if all relevant and effective European Directives with CE are applicable.

The standards relevant for the evaluation of EMC requirements are as follows:

Test Standards : EN IEC 55014-1:2021
EN IEC 55014-2:2021 (Category II, III)
EN IEC 61000-3-2:2019 /A1:2021,
IEC 61000-3-2:2018+A1:2020
EN 61000-3-3:2013 /A2:2021,
IEC 61000-3-3:2013+AMD1:2017+AMD2:2021

Date of issue: 2024-10-18



BRITZMEDI Co., Ltd.

1F, 2, Gisan-ro 87beon-gil, Hwaseong-si,
Gyeonggi-do, Republic of Korea

(Name and signature of authorized person)



TEST REPORT

<p>Eurofins KCTL Co.,Ltd. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea Tel: 82-70-5008-1021 Fax: 82-505-299-8311 www.kctl.co.kr</p>	<p>Report No.: KR24-SEC0221 Page (1) of (66)</p>	 
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1. Client

- Name : BRITZMEDI Co., Ltd.
- Address : 1F, 2, Gisan-ro 87beon-gil, Hwaseong-si, Gyeonggi-do, Republic of Korea
- Date of Receipt : 2024-09-25

2. Use of Report : EU-Type Examination

3. Name of Product / Model : Skin Care Device / BD-ERD24NWP



4. Manufacturer / Country of Origin : BRITZMEDI Co., Ltd. / Korea

5. Date of Test : 2024-10-11 to 2024-10-14

6. Location of Test : Permanent Testing Lab On Site Testing
 (Address: 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)

7. Test method used : EN IEC 55014-1:2021
 EN IEC 55014-2:2021 (Category II, III)
 EN IEC 61000-3-2:2019 /A1:2021,
 IEC 61000-3-2:2018+A1:2020
 EN 61000-3-3:2013 /A2:2021,
 IEC 61000-3-3:2013+AMD1:2017+AMD2:2021

8. Test Result : Refer to the test result in the test report

<p>Affirmation</p>	<p>Tested by  Name : Seungkyun Yoo (Signature)</p>	<p>Technical Manager  Name : Moonseop Cho (Signature)</p>
--------------------	--	---

2024-10-18

Eurofins KCTL Co.,Ltd.

As a test result of the sample which was submitted from the client, this report does not guarantee the whole product quality. This test report should not be used and copied without a written agreement by Eurofins KCTL Co.,Ltd.

REPORT REVISION HISTORY

Date	Revision	Page No
2024-10-18	Originally issued	-

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General remarks for test reports

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

Statement not required by the standard or client used for type testing

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Eurofins KCTL Co.,Ltd.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
Tel: 82-70-5008-1021 Fax: 82-505-299-8311
www.kctl.co.kr

Report No.:
KR24-SEC0221
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1. Applicant information

Applicant: BRITZMEDI Co., Ltd.
Address: 1F, 2, Gisan-ro 87beon-gil, Hwaseong-si,
Gyeonggi-do, Republic of Korea

Manufacturer: BRITZMEDI Co., Ltd.
Address: 1F, 2, Gisan-ro 87beon-gil, Hwaseong-si,
Gyeonggi-do, Republic of Korea

Eurofins KCTL Co.,Ltd.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
Tel: 82-70-5008-1021 Fax: 82-505-299-8311
www.kctl.co.kr

Report No.:
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2. Laboratory information

Address

Eurofins KCTL Co.,Ltd. (Suwon Lab.)

65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea

Telephone Number: 82 70 5008 1021

Facsimile Number: 82 505 299 8311

FCC Site Designation No: KR0040

VCCI Registration No. : R-20080, G-20078, C-20059, T-20056

Industry Canada Registration No. : 8035A

KOLAS NO.: KT231

SITE MAP



3. Test system configuration

3.1 Operation environment

	Temperature	Humidity	Pressure
Chamber 10 m(RE)	21.9 °C	47.4 % R.H.	-
Shielded room(CE)	21.5 °C	43.2 % R.H.	-
Shielded room(ESD)	22.6 °C	43.5 % R.H.	101.2 kPa

Test site

These testing items were performed following locations;

Test item	Test site
Conducted Emission	Shielded Room
Disturbance power	Shielded Room
Discontinuous interference	Shielded Room
Radiated Emission	10 m Chamber
Harmonics current	EMI Test area
Voltage fluctuations and flickers	EMI Test area
Electrostatic discharge	Shielded Room
Radiated RF immunity	6F Fully Anechoic chamber (3 m)
Electric Fast Transient/BURST	Shielded Room
Surge	Shielded Room
Conducted RF immunity	Shielded Room
Voltage dip	Shielded Room

3.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.

The factors contributing to uncertainties are test receiver, cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, site imperfection, mismatch, and system repeatability. Based on CISPR 16-4-2, the measurement uncertainty level with a 95 % confidence level was applied.

Conducted Emission measurement (Confidence level about 95 %, $k = 2$)			
Shielded Room (CE#1)	9 kHz ~ 150 kHz:	3.6 dB	
	150 kHz ~ 30 MHz:	3.1 dB	
Shielded Room (CE#2)	9 kHz ~ 150 kHz:	3.6 dB	
	150 kHz ~ 30 MHz:	3.1 dB	
Radiated Emission measurement (Confidence level about 95 %, $k = 2$)			
10 m Chamber (4F)	300 MHz ~ 1 000 MHz	3 m:	6.2 dB
		10 m:	5.0 dB
	1 GHz ~ 6 GHz	3 m:	5.5 dB
10 m Chamber (2F)	300 MHz ~ 1 000 MHz	3 m:	5.8 dB
		10 m:	4.5 dB
	1 GHz ~ 6 GHz	3 m:	5.3 dB
Radio Frequency Electromagnetic Fields (Confidence level about 95 %, $k = 2$)			
0.9 dB			
Disturbance Power Electromagnetic Fields (Confidence level about 95 %, $k = 2$)			
3.2 dB			

3.3 Measurement Program

These test items were performed by software programs;

Test item	Measurement Program		Used
Conducted Emission	EP5/CE_Ver 5.4.0(TOYO)		☒
Radiated Emission	2F	EP10/RE_Ver 2021.01.000 (TOYO)	☒
	4F	EP5/RE_Ver 5.11.10(TOYO)	
Harmonics current, Voltage fluctuations and flickers	IECSOft v2_7(N4L)		☒
Radiated RF immunity	3F	EMC32_Version 10.20.01 (ROHDE & SCHWARZ)	☒
	6F	EMC32_Version 10.10.01 (ROHDE & SCHWARZ)	
Electrical Fast Transient/BURST, Surge, Magnetic field immunity, Voltage dip	6F(#1)	Tema3000 v4.3.0 (EMC PARTNER)	☒
	6F(#2)	Tema3000 v4.3.0 (EMC PARTNER)	
	3F(#3)	iec.control_Version 5.2.9 (EM TEST)	
Conducted RF immunity	6F(#1)	icd.control_V5.3.8(EM TEST)	☒
	3F(#2)	EMC32_Version 10.10.01 (ROHDE & SCHWARZ)	

4. Description of EUT

4.1 General information

- Specification

Product Name : Skin Care Device

Model : BD-ERD24NWP

Input : DC5V, 1A(USB C TYPE)

- Battery Specification

Product Name: Lithium Ion Battery

Model name: LI-35E 101

Rated: 3.6 V, 3350 mAh

4.2 Product description

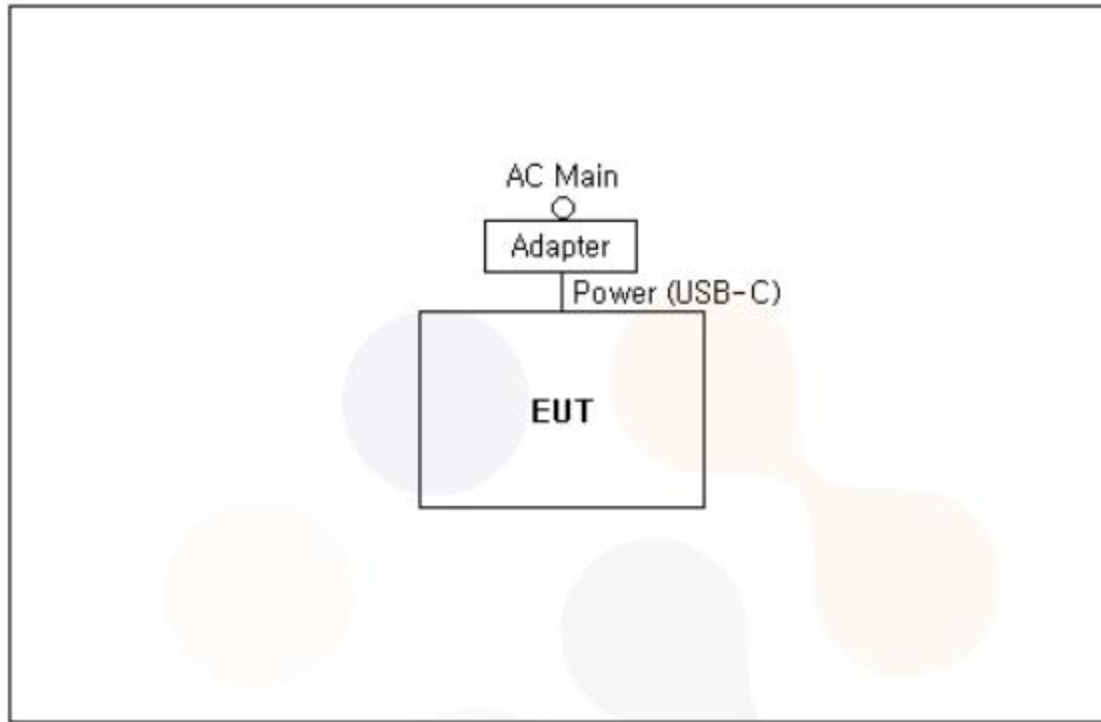
Type of product	Skin Care Device
Model name (Basic)	BD-ERD24NWP
Model name (Variant)	BD-ERD24NC
Difference	Buyer model name
Serial no	-
Testing voltage	230 V, 50 Hz / DC 3.6 V
Input rating	DC 3.6 V (Built in Battery)
Internal clock frequency	8 MHz
Note	<ul style="list-style-type: none"> -This product uses an AC/DC adapter to test the charging mode and This product operates on DC (Battery) main power. -The product does not operate in any other way while charging. -The following accessory was not provided by the manufacturer. 1) Adapter

4.3 Auxiliary equipments

Type	Model / Part #	S/N	Manufacturer
Adapter	-	-	-

4.4 Test configuration

[Test #1]



	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
1	EUT	Power (USB-C)	Adapter	-	1.0	Unshield

[Test #2, Test #3]



	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
-	EUT	-	-	-	-	-

4.5 Operating conditions

The EUT was configured as normal intended use.

Test mode		Normal operating
Test #1	230 V, 50 Hz [Adapter]	A test is conducted to check the EUT's charging status with the LED.
Test #2	DC 3.6 V [Battery]	A test is conducted to check the continuous operation status of the EUT with the LED. [High]
Test #3	DC 3.6 V [Battery]	A test is conducted to check the continuous operation status of the EUT with the LED. [Middle]

5. Summary of test results

5.1 Summary of EMI emission test results

Applied	Test items	Test method	Result
<input checked="" type="checkbox"/>	Conducted Emission	EN IEC 55014-1:2021	Refer to Section 6.1.4
<input type="checkbox"/>	Disturbance power	EN IEC 55014-1:2021	N/A
<input checked="" type="checkbox"/>	Discontinuous interference	EN IEC 55014-1:2021	Refer to Section 6.2.4
<input checked="" type="checkbox"/>	Radiated Emission	EN IEC 55014-1:2021	Refer to Section 6.3.6
<input checked="" type="checkbox"/>	Harmonics current	EN IEC 61000-3-2:2019 /A1:2021, IEC 61000-3-2:2018+A1:2020	Refer to Section 6.4.4
<input checked="" type="checkbox"/>	Voltage fluctuations and flickers	EN 61000-3-3:2013 /A2:2021 IEC 61000-3-3:2013+AMD1:2017+ AMD2:2021	Refer to Section 6.5.4

5.2 Summary of immunity test results

Applied	Test items	Test method	Result
EN IEC 55014-2:2021 (Category II, III)			
<input checked="" type="checkbox"/>	Electrostatic discharge	EN 61000-4-2:2009	Refer to Section 6.6.4
<input checked="" type="checkbox"/>	Radiated RF immunity	EN IEC 61000-4-3:2020	Refer to Section 6.7.4
<input checked="" type="checkbox"/>	Electric Fast Transient/BURST	EN 61000-4-4:2012	Refer to Section 6.8.4
<input checked="" type="checkbox"/>	Surge	EN 61000-4-5:2014 /A1:2017	Refer to Section 6.9.4
<input checked="" type="checkbox"/>	Conducted RF immunity	EN 61000-4-6:2014 /AC:2015	Refer to Section 6.10.4
<input type="checkbox"/>	Power Frequency Magnetics	EN 61000-4-8:2010	N/A
<input checked="" type="checkbox"/>	Voltage dip	EN IEC 61000-4-11:2020	Refer to Section 6.11.4

5.3 Classification of apparatus

The equipment covered by this document is subdivided into categories.
For each category, Specific requirements are formulated.

Category I: equipment containing no electronic control circuitry.

EXAMPLES Appliances, tools and toys that contain no electronic control circuits and only electromechanical components such as switches, thermostats, brush motors, Induction motors, heating elements, lighting toys containing only batteries and LED.

Electrica circuits consisting of passive components (such as radio interference suppression capacitors or inductors, mains transformers. mains frequency rectifiers) are not considered to be electronic control circuitry.

Category II: mains operated equipment containing electronic control circuitry with no clock frequency higher than 15 MHz.

Category III: battery operated equipment not included in Category I.

EXAMPLES Appliances, tools and toys powered by batteries and that include a microprocessor to provide a selection of functions.

NOTE The assignment to Category III is independent of the clock frequency.

This category also includes equipment provided with rechargeable batteries, which can be charged, directly or indirectly, from the mains. Accordingly, this equipment shall also be subjected to the test requirements for mains operated equipment but only when testing the charging function.

If the equipment can operate its intended functions when connected, directly or indirectly to the mains, then it is not battery operated. Accordingly, it shall be classified as Category II, Category IV or Category V, as applicable, and subjected to the corresponding test requirements when in mains operation.

Category IV: mains operated equipment containing electronic control circuitry with a highest clock frequency greater than 15 MHz but lower than or equal to 200 MHz.

Category V: mains operated equipment containing electronic control circuitry with a highest clock frequency greater than 200 MHz.



5.4 Application of tests for the different categories of apparatus

Category I

Category I equipment deemed to comply with the immunity requirements of this document without testing.

Category II

Environmental phenomenon	Performance criterion	Test specifications (see subclause)
Electrostatic discharges	B	5.1
Electric fast transients	B	5.2
Injected currents 150 kHz to 230 MHz	A	5.3
Surges	B	5.6
Voltage dips	C	5.7

Category III

Environmental phenomenon	Performance criterion	Test specifications (see subclause)
Electrostatic discharges	B/C ^a	5.1
Electric fast transients	B	5.2
Injected currents 150 kHz to 80 MHz	A	5.4
Radio frequency electromagnetic fields ^{b, c} 80 MHz to (F) MHz	A	5.5
Surges	B	5.6

^a Performance criterion C may be applied to toys not using score or data entered by the user (e.g. musical soft toys and sounding toys).

^b The frequency (F), up to which this test needs to be performed, is determined from either Table 1 7 or Table 1 8, according to the principle for distinguishing between categories IV and V.

^c For Category III toys, the radio frequency electromagnetic fields test shall be applicable only for ride on toys.

Category IV

Environmental phenomenon	Performance criterion	Test specifications (see subclause)
Electrostatic discharges	B	5.1
Electric fast transients	B	5.2
Injected currents 150 kHz to 80 MHz	A	5.4
Radio frequency electromagnetic fields 80 MHz to 1 000 MHz	A	5.5
Surges	B	5.6
Voltage dips	C	5.7

Category V

Environmental phenomenon	Performance criterion	Test specifications (see subclause)
Electrostatic discharges	B	5.1
Electric fast transients	B	5.2
Injected currents 150 kHz to 80 MHz	A	5.4
Radio frequency electromagnetic fields 80 MHz to 6 GHz	A	5.5
Surges	B	5.6
Voltage dips	C	5.7

5.5 Performance criteria

A functional description and a definition of performance criteria, during or as a consequence of the EMC testing, shall be provided by the manufacturer and noted in the test report, based on the following criteria.

Performance criterion A:

The apparatus shall continue to operate as intended during the test.

No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. 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 from what the user may reasonably expect from the apparatus if used as intended.

Performance criterion B:

The apparatus shall continue to operate as intended after the test.

No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however no change of actual 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 from what the user may reasonably expect from the apparatus if used as intended.

Performance criterion C:

Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

The selection, the specification of functions, and the permissible degradation is left to the responsibility of the manufacturer.

Annex A serves as a guide to formulate the permissible degradation of the equipment under test (EUT) caused by electromagnetic phenomena.

6. Test results

6.1 Conducted Emission

Testing voltage	230 V, 50 Hz		
Test facility	Shielded room (CE#2)		
Date	2024-10-11		
Temperature (°C)	21.5 °C	Humidity (% R.H.)	43.2 % R.H.

6.1.1 Limits of conducted emission measurement

<input type="checkbox"/> Disturbance voltage limits for induction cooking appliances				
Frequency [MHz]	Appliances which are 100 V rated and without an earth connection		All other appliances	
	Quasi-peak dB μ V	Average dB μ V	Quasi-peak dB μ V	Average dB μ V
0.009 to 0.050	122	-	110	-
0.050 to 0.150	Decreasing linearly with the logarithm of the frequency from: 102 to 92	-	Decreasing linearly with the logarithm of the frequency from: 90 to 80	-
0.150 to 0.5	Decreasing linearly with the logarithm of the frequency from:			
	72 to 62	62 to 52	66 to 56	56 to 46
0.5 to 5	56	46	56	46
5 to 30	60	50	60	50
The lower limit applies at the transition frequencies.				
<input type="checkbox"/> Magnetic field strength limits				
Frequency [MHz]	Limits at 3 m distance ^{a, b} Quasi-peak dB μ A/m			
0.009 to 0.070	69			
0.007 to 0.150	Decreasing linearly with the logarithm of the frequency from: 69 to 39			
0.150 to 4.0	Decreasing linearly with the logarithm of the frequency from: 39 to 3			
4.0 to 30	3			
^a The measurements are performed at 3 m distance with a 0.6 m loop antenna described in 4.3.2 of CISPR 16-4:2019.				
^b The antenna shall be installed vertically, with the lower edge of the loop at 1 m height above the floor.				
<input type="checkbox"/> Limits of the Magnetic field induced current				

Frequency [MHz]	Horizontal component ^{a, b} Quasi-peak dB μ A	Vertical component ^{a, c} Quasi-peak dB μ A
0.009 to 0.070	88	106
0.007 to 0.150	Decreasing linearly with the logarithm of the frequency from:	
	88 to 58	106 to 76
0.150 to 30	Decreasing linearly with the logarithm of the frequency from:	
	58 to 22	76 to 40

^a The measurements shall be performed using the 2 m large loop antenna system (LLAS) as described in 4.7 and Annex C of CISPR 16-1-4:2019.

^b Current induced by the horizontal component of the magnetic field, which is measured with the two vertically-oriented LLAs of the LLAS.

^c Current induced by the vertical component of the magnetic field, which is measured with the horizontally-oriented LLA of the LLAS.

General limits

Frequency [MHz]	Main ports		Associated ports			
	Disturbance voltage		Disturbance voltage		Disturbance current	
	Quasi-peak dB μ V	Average dB μ V	Quasi-peak dB μ V	Average dB μ V	Quasi-peak dB μ V	Average dB μ V
0.15 to 0.50	Decreasing linearly with the logarithm of the frequency from:		80	70	Decreasing linearly with the logarithm of the frequency from:	
	66 to 56	59 to 46			40 to 30	30 to 20
0.50 to 5	56	46	74	64	30	20
5 to 30	60	50	74	64		

The lower limit applies at the transition frequencies.

The test report shall state which test method was used and which limits were applied.

Limits for mains port of tools

Frequency [MHz]	Rated motor power not exceeding 700 W		Rated motor power above 700 W and not exceeding 1 000 W		Rated motor power above 1 000 W	
	Quasi-peak dB μ V	Average dB μ V	Quasi-peak dB μ V	Average dB μ V	Quasi-peak dB μ V	Average dB μ V
0.15 to 0.35	Decreasing linearly with the logarithm of the frequency from:					
	66 to 59	59 to 49	70 to 63	63 to 53	76 to 69	69 to 59
0.35 to 5	59	49	63	53	69	59
5 to 30	64	54	68	58	74	64

The lower limit applies at the transition frequencies.

Wired network ports

Frequency [MHz]	Resolution Bandwidth [kHz]	Quasi-Peak	Average	Quasi-Peak	Average
0.15 ~ 0.5	9	84 to 74	74 to 64	40 to 30	30 to 20
0.5 ~ 30	9	74	64	30	20

6.1.2 Measurement procedure

The measurements were performed in a shielded room. EUT was setup as shown in photograph and placed on a non-metallic table height of 0.8 m above the reference ground plane. The rear of table was located 0.4 m to the vertical conducted plane. EUT was power through the LISN, which was bonded to the ground plane. The LISN power was filtered. Each EUT power lead, except ground (safety) lead was individually connected through a LISN to input power source. EUT signal cables that hung closer than 0.4 m to the Horizontal metal ground 0.3 m ~ 0.4 m long. The power cord was bundles in the center. All peripheral equipment was powered from a sub LISN. The LISN and ISN were positioned 0.8 m from the EUT. Peak and Average detection were used in preliminary testing and Quasi-peak and Average detections were used at final measurement.

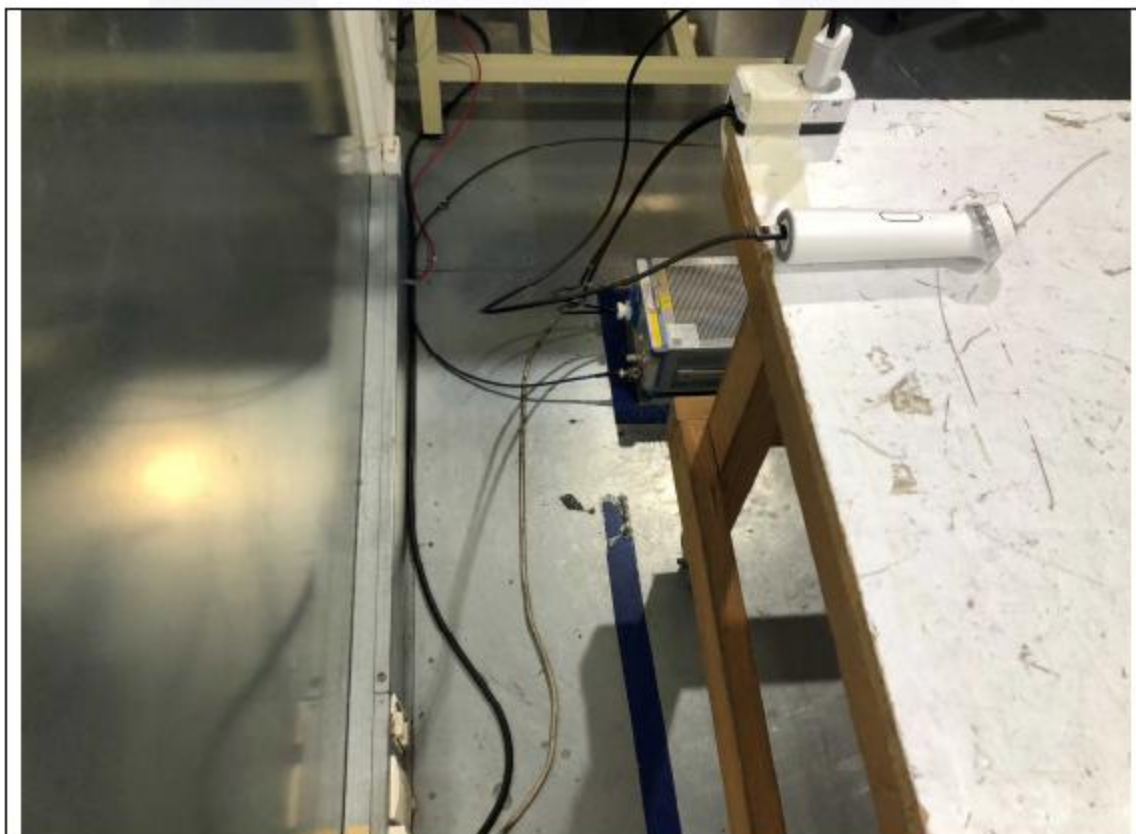
6.1.3 Used equipments

Date: 2024-10-11

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
EMI TEST RECEIVER	ESCI 3	101428	R&S	2025.08.12	<input checked="" type="checkbox"/>
TWO-LINE V-NETWORK	ENV216	101584	R&S	2025.03.27	<input checked="" type="checkbox"/>
TWO-LINE V-NETWORK	NNLK8121	8121-472	SCHWARZBECK	2025.08.13	<input type="checkbox"/>

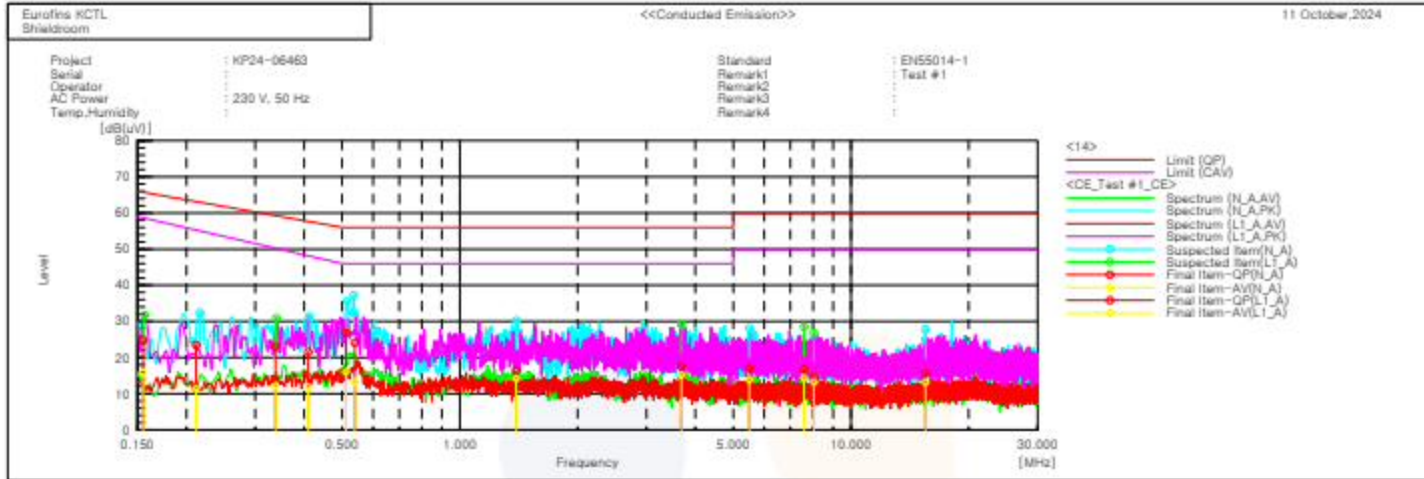
6.1.4 Photographs of test setup

AC Main [Test #1]



6.1.5 Conducted emission measurement result

AC Main



Final Result

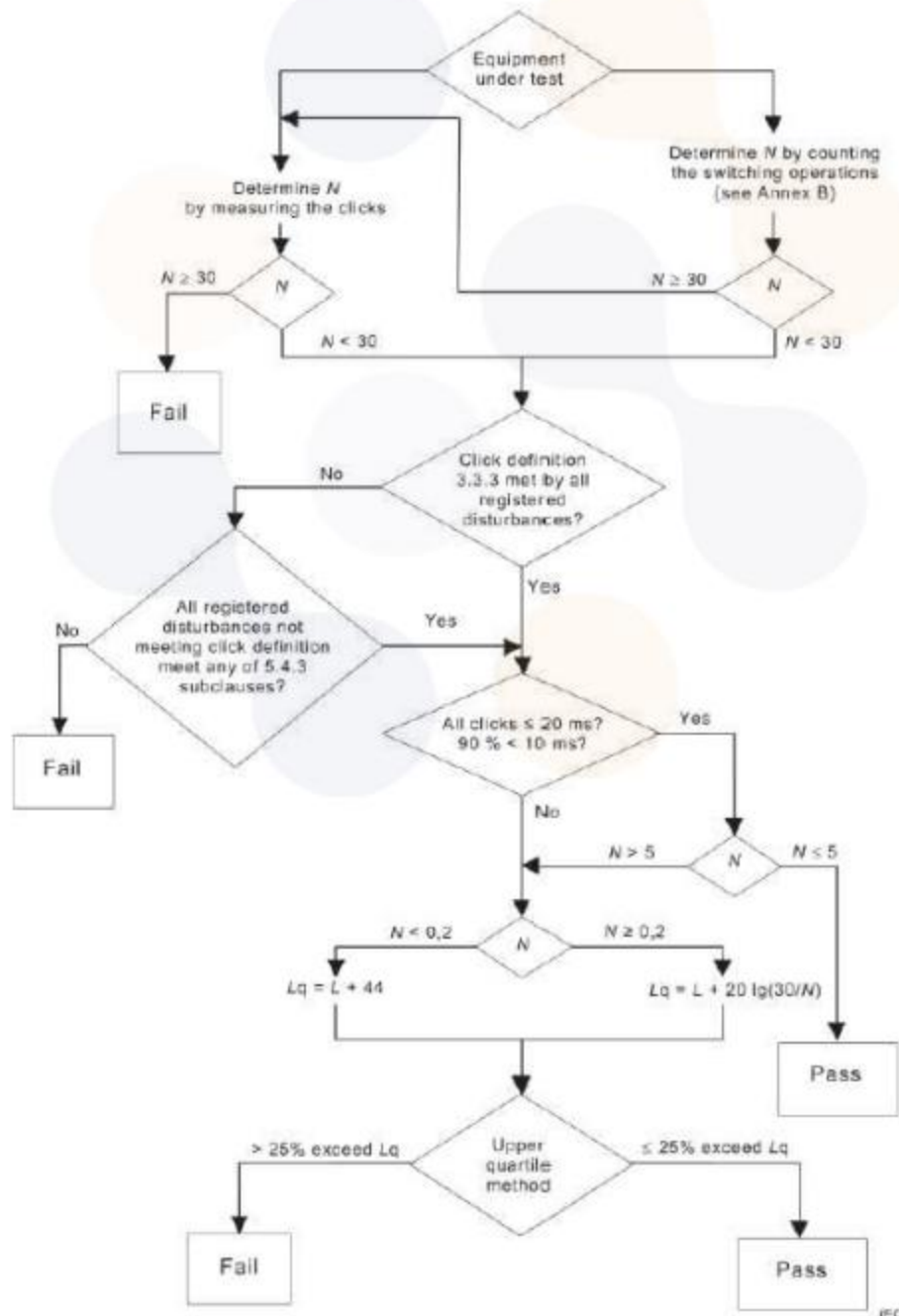
--- N_A Phase ---										
No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.21169	13.5	1.3	10.0	23.5	11.3	63.1	55.3	39.6	44.0
2	0.40964	11.6	1.8	10.0	21.6	11.8	57.7	48.2	36.1	36.4
3	0.51123	16.8	5.9	10.1	26.9	16.0	56.0	46.0	29.1	30.0
4	0.53908	14.0	3.2	10.1	24.1	13.3	56.0	46.0	31.9	32.7
5	1.39203	6.4	4.3	9.9	16.3	14.2	56.0	46.0	39.7	31.8
6	5.49551	7.1	3.9	10.0	17.1	13.9	60.0	50.0	42.9	36.1
7	15.50045	4.8	2.3	10.8	15.6	13.1	60.0	50.0	44.4	36.9

--- L1_A Phase ---										
No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.15499	14.8	5.9	9.9	24.7	15.8	65.7	58.8	41.0	42.8
2	0.33772	13.1	2.2	10.0	23.1	12.2	59.3	50.2	36.2	38.0
3	3.68416	7.7	5.2	9.9	17.6	15.1	56.0	46.0	38.4	30.9
4	7.58129	6.5	4.1	10.2	16.7	14.3	60.0	50.0	43.3	35.7
5	8.03439	4.4	3.0	10.2	14.6	13.2	60.0	50.0	45.4	36.8

6.2 Discontinuous interference

Testing voltage	230 V, 50 Hz		
Test facility	Shielded room		
Date	2024-10-11		
Temperature (°C)	21.7 °C	Humidity (% R.H.)	43.5 % R.H.

6.2.1 Measurement procedure



6.2.2 Used equipments

Date: 2024-10-11

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
CLICK ANALYZER	DDA55	14041938168	AFJ	2025.03.20	<input checked="" type="checkbox"/>
TWO-LINE V-NETWORK	ENV216	101352	R&S	2025.03.27	<input checked="" type="checkbox"/>

6.2.3 Photographs of test setup


[Test #1]



6.2.4 Measurement result

Measure from the top of the Live and Neutral line noise mode. [Neutral]

[Test #1]

		TEST REPORT			
		TEST PASS			
Title	Time Test				
Required	Executed by				
Description					
Project	KP24 - 06463				
Type	N_A		SN		
Report					
Mode	Click Measurements				
Type of Eut	Massage apparatus				
Rx 150 kHz Att. [dB]	10	Rx 500 kHz Att. [dB]	10		
Rx 1.4 MHz Att. [dB]	10	Rx 30 MHz Att. [dB]	10		
Rx 150 kHz Input Offset [dB]	9.9	Rx 500 kHz Input Offset [dB]	10.1		
Rx 1.4 MHz Input Offset [dB]	9.9	Rx 30 MHz Input Offset [dB]	11.2		
External Att. [dB]	10				
Remote	NONE				
	150 kHz	500 kHz	1.4 MHz	30 MHz	
First Run					
Short	0	0	0	0	
Long	0	0	0	0	
Long (10< t ≤20 ms)	0	0	0	0	
Tot. Clicks Corr	0	0	0	0	
Events	0	0	0	0	
Time(s)	0.00	0.00	0.00	0.00	
Sw.Op.	0	0	0	0	
5.4.3.5 events	0	0	0	0	
Limit dBuV	90	90	90	90	

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65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
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N	0.00 PASS	0.00 PASS	0.00 PASS	0.00 PASS
150 kHz	No Clicks	500 kHz	No Clicks	
1.4 MHz	No Clicks	30 MHz	No Clicks	
New Limit [dBuV]				
Allowed Clicks				
				SECOND PASS NOT ALLOWED
Short				
Long				
Tot. Clicks Corr				
Events				
Time(s)				
5.4.3.5 events				

6.3 Radiated Emission

Testing voltage	230 V, 50 Hz / DC 3.6 V		
Test facility	10 m Chamber (2F)		
Test distance	10 m		
Date	2024-10-11		
Temperature (°C)	21.9 °C	Humidity (% R.H.)	47.4 % R.H.

6.3.1 Limits of radiated emission measurement

Limits below 1 GHz

Frequency [MHz]	Limit ^a Quasi-peak dB(μ V/m)	Measurement distance
30 ~ 230	30	10 m
230 ~ 1 000	37	

^a The lower limit is applicable at the transition frequency.

Limits above 1 GHz

Frequency [MHz]	Average limit (dB(μ V/m))	Peak limit (dB(μ V/m))	Measurement distance
1 000 ~ 3 000	50	70	3 m
3 000 ~ 6 000	54	74	

6.3.2 Measurement procedure

The test was done at a 10 m chamber with a quasi-peak detector. EUT was placed on a non-metallic table height of 0.1 m above the reference ground plane. Cables were folded back and forth forming a bundle 0.3 m to 0.4 m long and were hanged at a 0.4 m height to the ground plane. Cables connected to EUT were fixed to cause maximum emission. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

6.3.3 Used equipments

Date: 2024-10-11

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
EMI TEST RECEIVER	ESC17	100732	R&S	2025.02.28	<input checked="" type="checkbox"/>
Bilog Antenna	CBL 6112D	62438	TESEQ	2025.05.25	<input checked="" type="checkbox"/>
AMPLIFIER	310N	284608	SONOMA	2025.08.13	<input checked="" type="checkbox"/>
ATTENUATOR	8491B-6dB	MY39271082	KEYSIGHT	-	<input checked="" type="checkbox"/>
Antenna Mast	MA4640/800-XP-ET	-	Innco Systems	-	<input checked="" type="checkbox"/>
Turn Table	DT2000	79	Innco Systems	-	<input checked="" type="checkbox"/>

6.3.4 Sample calculation

The field strength is calculated adding the antenna Factor, cable loss and, Antenna pad adding, subtracting the amplifier gain from the measured reading.

The sample calculation is as follow:

$$\text{Result} = \text{M.R} + \text{C.F}(\text{A.F} + \text{C.L} + 6 \text{ dB Att} - \text{A.G})$$

M.R = Meter Reading

C.F = Correction Factor

A.F = Antenna Factor

C.L = Cable Loss

A.G = Amplifier Gain

6 dB Att = 6 dB Attenuator

If M.R is 30 dB, A.F 12 dB, C.L 5 dB, 6 dB, A.G 35 dB

The result is $30 + 12 + 5 + 6 - 35 = 18 \text{ dB}(\mu\text{V}/\text{m})$

AV = CAV : Abbreviation of CISPR Average

Bilog Antenna and ATTENUATOR (6 dB) were calibrated together.

6.3.5 Photographs of test setup

30 MHz ~ 1 GHz [Test #1]

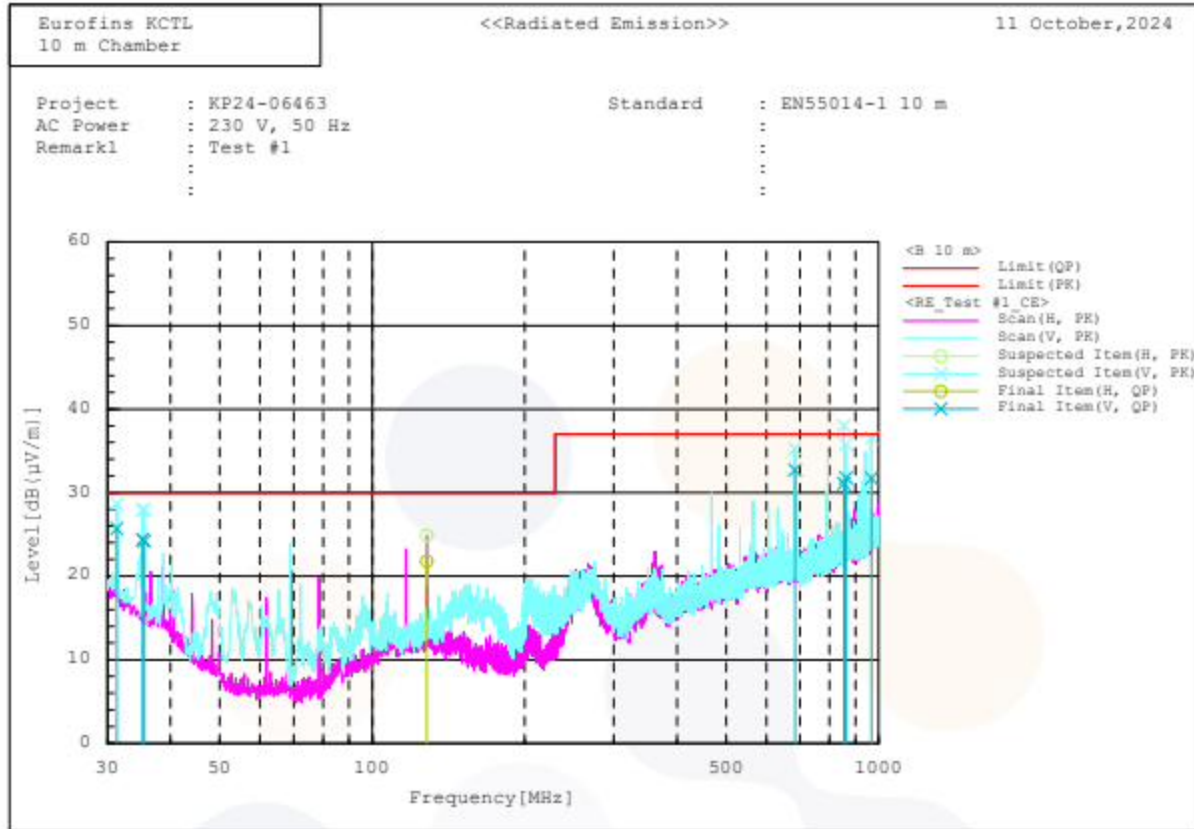


30 MHz ~ 1 GHz [Test #2, Test #3]



6.3.6 Radiated emission measurement result

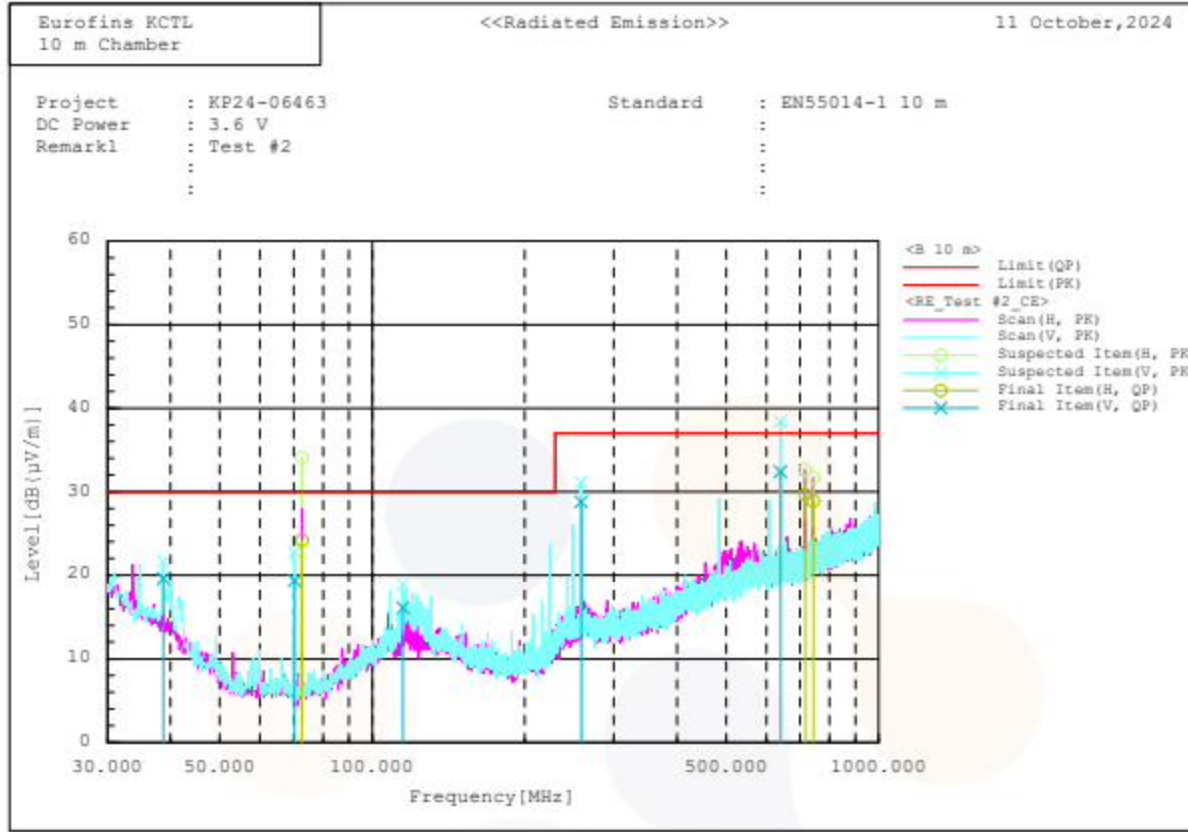
30 MHz ~ 1 GHz



Final Result

Frequency	Pol.	Reading	Factor	Level	Limit	Margin	Height	Angle
MHz		dB(μV)	dB(1/m)	dB(μV/m)	dB(μV/m)	dB	cm	deg
		QP		QP	QP	QP		
31.334	V	32.9	-7.2	25.7	30.0	4.3	325.0	334.0
35.214	V	33.6	-9.2	24.4	30.0	5.6	152.0	334.0
35.456	V	33.6	-9.4	24.2	30.0	5.8	331.0	49.0
128.213	H	33.4	-11.6	21.8	30.0	8.2	355.0	122.0
684.023	V	32.0	0.7	32.7	37.0	4.3	398.0	166.0
854.500	V	27.2	3.9	31.1	37.0	5.9	100.0	164.0
862.745	V	27.8	4.0	31.8	37.0	5.2	131.0	55.0
968.111	V	25.6	6.1	31.7	37.0	5.3	252.0	49.0

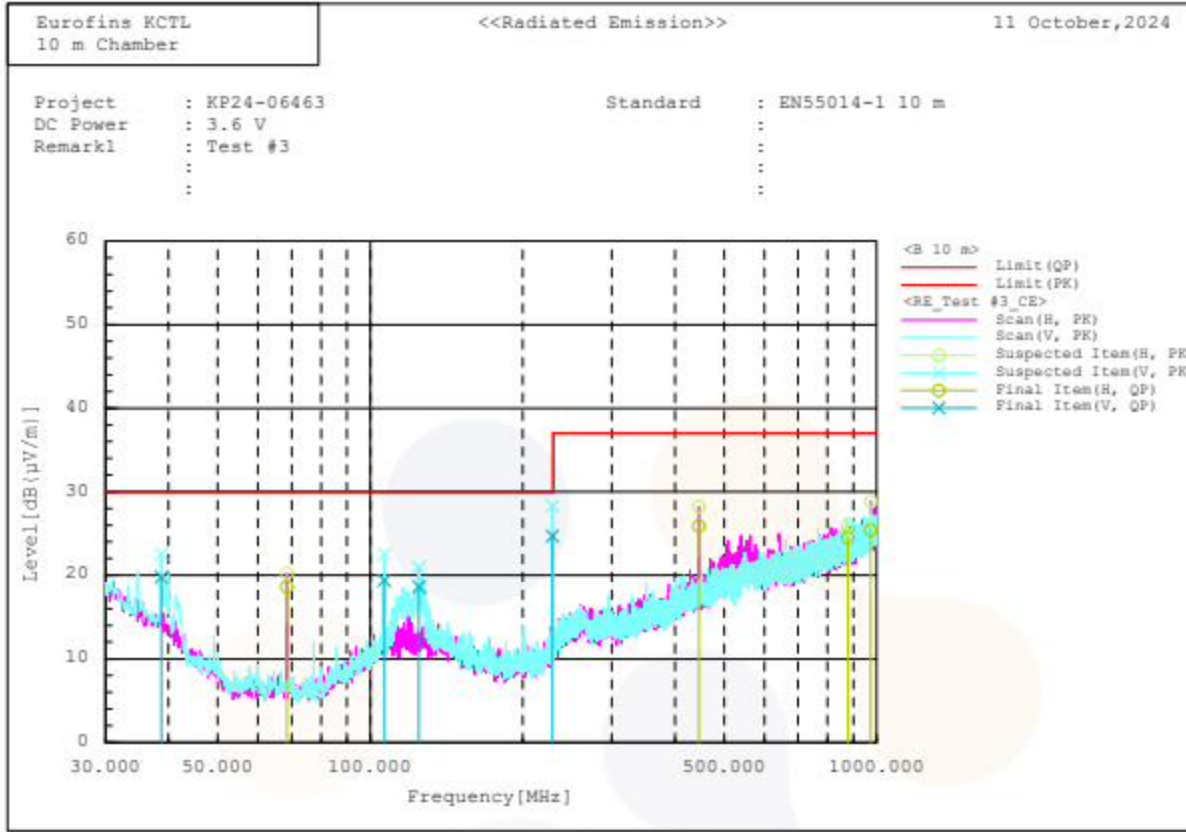
30 MHz ~ 1 GHz



Final Result

Frequency	Pol.	Reading	Factor	Level	Limit	Margin	Height	Angle
MHz		dB(µV)	dB(1/m)	dB(µV/m)	dB(µV/m)	dB	cm	deg
		QP		QP	QP	QP		
38.730	V	30.6	-11.0	19.6	30.0	10.4	325.0	293.0
70.255	V	37.4	-18.0	19.4	30.0	10.6	121.0	15.0
72.680	H	42.3	-18.1	24.2	30.0	5.8	133.0	124.0
114.996	V	28.2	-12.1	16.1	30.0	13.9	342.0	124.0
258.678	V	37.0	-8.2	28.8	37.0	8.2	267.0	17.0
640.130	V	31.8	0.6	32.4	37.0	4.6	140.0	161.0
716.518	H	28.7	1.0	29.7	37.0	7.3	111.0	188.0
742.829	H	26.8	2.1	28.9	37.0	8.1	288.0	188.0

30 MHz ~ 1 GHz



Final Result

Frequency	Pol.	Reading	Factor	Level	Limit	Margin	Height	Angle
MHz		dB(µV)	dB(1/m)	dB(µV/m)	dB(µV/m)	dB	cm	deg
		QP		QP	QP	QP		
38.730	V	30.8	-11.0	19.8	30.0	10.2	325.0	214.0
68.436	H	36.8	-18.2	18.6	30.0	11.4	254.0	1.0
106.630	V	31.6	-12.2	19.4	30.0	10.6	111.0	2.0
124.818	V	30.2	-11.6	18.6	30.0	11.4	374.0	106.0
229.214	V	36.9	-12.2	24.7	30.0	5.3	252.0	359.0
445.524	H	29.3	-3.4	25.9	37.0	11.1	224.0	1.0
877.659	H	20.1	4.4	24.5	37.0	12.5	140.0	155.0
973.446	H	19.1	6.3	25.4	37.0	11.6	101.0	1.0

6.4 Harmonics

Testing voltage	230 V, 50 Hz				
Test facility	EMI Test area(6F)				
Date	2024-10-11				
Temperature(°C)	22.9 °C	Humidity (% R.H.)	45.3 % R.H.	Pressure (kPa)	101.2 kPa

6.4.1 Measurement procedure

The equipment is supplied in series with shunt(s) Rm or current transformer(s) from a source having the same nominal voltage and frequency as the rated supply voltage and frequency of the equipment. Measurements shall be made under normal load, or conditions for adequate heat discharge, and under normal operating conditions. User's operation controls or automatic programmers shall be set to produce the maximum harmonic component, for each successive harmonic component in turn. For the purpose of harmonic current limitation, equipment is classified as follows :

Class A: Equipment not specified as belonging to Class B, C or D.

- 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.

NOTE 1 Equipment that can be shown to have a significant effect on the supply system might be reclassified in future edition of this document, taking into account the following factors:

- Number of pieces of equipment in use;
- Duration of use;
- Simultaneity of use;
- Power consumption;
- Harmonic spectrum, including phase

Class B : - Portable tools;

- Arc welding equipment which is not professional equipment.

Class C : -Lighting equipment.

Class D : Equipment having a specified power according to 6.3.2 less than or equal to 600 w, of the following types:

- Personal computers and personal computer monitors;
- Television receivers;
- Refrigerators and freezers having one or more variable-speed drives to control compressor motor(s).

NOTE 2 Class D limits are reserved for equipment that, by virtue of the factors listed in note 1, can be shown to have a pronounced effect on the public electricity supply system.

6.4.2 Used equipments

Date: 2024-10-11

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
AC POWER SOURCE	N4A06-M	91G-13467	N4L	2025.03.22	<input checked="" type="checkbox"/>
IMPEDANCE NETWORK	IMP161	91G-13380	N4L	2025.03.22	<input checked="" type="checkbox"/>
POWER ANALYZER	PPA5500	162-05729	N4L	2025.03.25	<input checked="" type="checkbox"/>



6.4.3 Photographs of test setup

[Test #1]

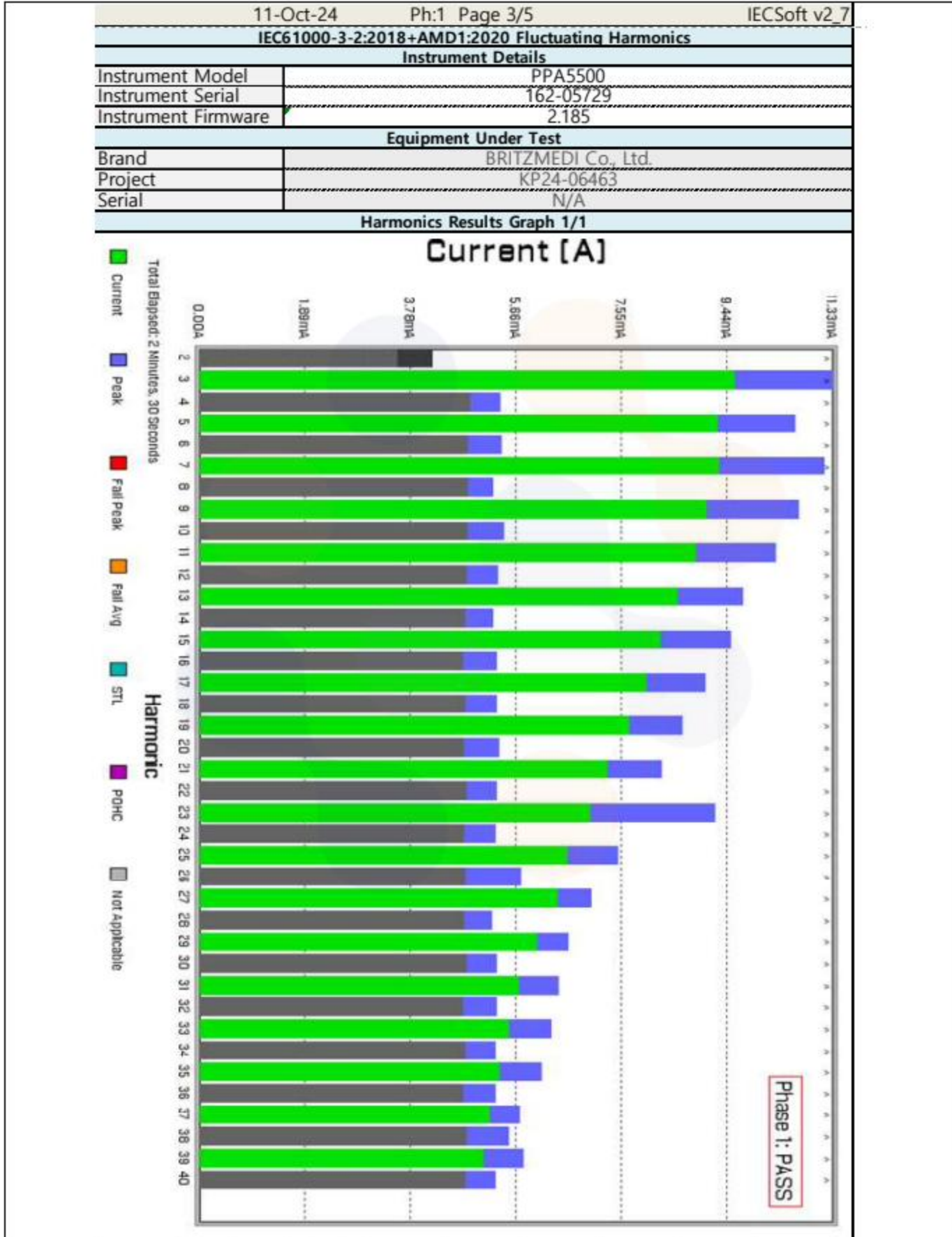


6.4.4 Measurement result

[Test #1]

11-Oct-24		Ph:1 Page 1/5		IECSoft v2.7	
		IEC61000-3-2:2018+AMD1:2020			
Fluctuating Harmonics					
Instrument Details					
Instrument Model	PPA5500				
Serial Number	162-05729				
Firmware Version	2.185				
N4L Calibration Date					
Instrument Version	Standard				
Source Details					
Source Model	N4A06				
Source Serial	91J-13467				
Source Frequency	50.000Hz				
Source Voltage RMS	230.000V				
Source Settling Time	10.0 s				
Test Settings					
Class	Class A				
Mode	Measured				
Equipment Under Test					
Brand	BRITZMEDI Co., Ltd.				
Project	KP24-06463				
Serial	N/A				
Impedance Network ID	N/A				
Test Conditions					
	User Entered		Measured		
Rated Voltage	N/A		243.685V		
Rated Current	N/A		32.068mA		
Rated Frequency	N/A		50.000Hz		
Rated Power	N/A		1.967W		
Additional Test Information					
Measured Power Factor	0.254				
Max Current THD	602.24%				
Average THC	38.812mA				
Max Power	2.348W				
Max F.Current	10.489mA				
Average F.Current	8.190mA				
Minimum Current	100A				
Test Duration	2.5 minutes				
Additional Test Details					
Operator	N/A				
Lab Name	N/A				
Location	N/A				
Notes					
Signature					
Results	Test - N/A. Invalid DUT				
Test not applicable With the exception of lighting equipment section 7 of the IEC61000-3-2:2018+AMD1:2020 standard declares that no Harmonic current limits are specified for equipment with a rated power of 75W or less.					

11-Oct-24		Ph:1 Page 2/5		IECSoft v2.7			
IEC61000-3-2:2018+AMD1:2020 Fluctuating Harmonics							
Instrument Details							
Instrument Model	PPA5500						
Instrument Serial	162-05729						
Instrument Firmware	2.185						
Equipment Under Test							
Brand	BRITZMEDI Co., Ltd.						
Project	KP24-06463						
Serial	N/A						
Extra Test Information							
Current THDG	548.53%						
	Average	Peak		Limit			
THC	38.812mA	41.189mA		N/A			
POHC (Clause C.2)	19.196mA	20.541mA		251.375mA			
Voltage Crest Factor	1.411	1.412		N/A			
Current Crest Factor	1.883	3.42		N/A			
Harmonics Results 1/1							
Harmonic	Status	Avg (A)	Avg L(A)	Avg %ofL	Peak (A)	Peak L(A)	Peak %ofL
1	N/A	0.00819	N/A	N/A	0.01049	N/A	N/A
2	N/A	0.00355	N/A	N/A	0.00418	N/A	N/A
3	N/A	0.00958	N/A	N/A	0.01133	N/A	N/A
4	N/A	0.00485	N/A	N/A	0.00539	N/A	N/A
5	N/A	0.00928	N/A	N/A	0.01067	N/A	N/A
6	N/A	0.00481	N/A	N/A	0.00542	N/A	N/A
7	N/A	0.00929	N/A	N/A	0.01118	N/A	N/A
8	N/A	0.00481	N/A	N/A	0.00527	N/A	N/A
9	N/A	0.00909	N/A	N/A	0.01073	N/A	N/A
10	N/A	0.00481	N/A	N/A	0.00546	N/A	N/A
11	N/A	0.00889	N/A	N/A	0.01031	N/A	N/A
12	N/A	0.00477	N/A	N/A	0.00536	N/A	N/A
13	N/A	0.00856	N/A	N/A	0.00973	N/A	N/A
14	N/A	0.00477	N/A	N/A	0.00526	N/A	N/A
15	N/A	0.00826	N/A	N/A	0.00951	N/A	N/A
16	N/A	0.00472	N/A	N/A	0.00532	N/A	N/A
17	N/A	0.00799	N/A	N/A	0.00905	N/A	N/A
18	N/A	0.00477	N/A	N/A	0.00532	N/A	N/A
19	N/A	0.0077	N/A	N/A	0.00866	N/A	N/A
20	N/A	0.00475	N/A	N/A	0.00536	N/A	N/A
21	N/A	0.0073	N/A	N/A	0.00827	N/A	N/A
22	N/A	0.00479	N/A	N/A	0.00533	N/A	N/A
23	N/A	0.00699	N/A	N/A	0.00924	N/A	N/A
24	N/A	0.00474	N/A	N/A	0.0053	N/A	N/A
25	N/A	0.00658	N/A	N/A	0.00749	N/A	N/A
26	N/A	0.00476	N/A	N/A	0.00576	N/A	N/A
27	N/A	0.00641	N/A	N/A	0.00702	N/A	N/A
28	N/A	0.00475	N/A	N/A	0.00524	N/A	N/A
29	N/A	0.00604	N/A	N/A	0.0066	N/A	N/A
30	N/A	0.00479	N/A	N/A	0.00533	N/A	N/A
31	N/A	0.00572	N/A	N/A	0.00642	N/A	N/A
32	N/A	0.00472	N/A	N/A	0.00534	N/A	N/A
33	N/A	0.00553	N/A	N/A	0.0063	N/A	N/A
34	N/A	0.00476	N/A	N/A	0.0053	N/A	N/A
35	N/A	0.00537	N/A	N/A	0.00612	N/A	N/A
36	N/A	0.00473	N/A	N/A	0.00531	N/A	N/A
37	N/A	0.00519	N/A	N/A	0.00573	N/A	N/A
38	N/A	0.00479	N/A	N/A	0.00554	N/A	N/A
39	N/A	0.00508	N/A	N/A	0.0058	N/A	N/A
40	N/A	0.00477	N/A	N/A	0.00531	N/A	N/A



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65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
Tel: 82-70-5008-1021 Fax: 82-505-299-8311
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IEC61000-3-2:2018+AMD1:2020 Fluctuating Harmonics				
Instrument Details				
Instrument Model	PPA5500			
Instrument Serial	162-05729			
Instrument Firmware	2.185			
Equipment Under Test				
Brand	BRITZMEDI Co., Ltd.			
Project	KP24-06463			
Serial	N/A			
Extra Test Information				
Voltage THDS	0.07%			
Source Results 1/1				
Harmonic	Status	Peak (V)	Average (V)	Limit (V)
1	PASS	243.67	243.65	No Limit
2	PASS	0.028332	0.021145	0.48737
3	PASS	0.053802	0.046281	2.193165
4	PASS	0.032159	0.025909	0.48737
5	PASS	0.028319	0.023578	0.97474
6	PASS	0.031782	0.024676	0.48737
7	PASS	0.02927	0.023893	0.731055
8	PASS	0.02831	0.023041	0.48737
9	PASS	0.028258	0.023091	0.48737
10	PASS	0.029112	0.023466	0.48737
11	PASS	0.031388	0.025747	0.243685
12	PASS	0.028474	0.023459	0.243685
13	PASS	0.028041	0.023082	0.243685
14	PASS	0.027631	0.023035	0.243685
15	PASS	0.029646	0.023239	0.243685
16	PASS	0.029015	0.023309	0.243685
17	PASS	0.029483	0.02351	0.243685
18	PASS	0.028762	0.023741	0.243685
19	PASS	0.029775	0.023894	0.243685
20	PASS	0.028722	0.023103	0.243685
21	PASS	0.030722	0.023536	0.243685
22	PASS	0.027642	0.02306	0.243685
23	PASS	0.02881	0.023366	0.243685
24	PASS	0.027735	0.023309	0.243685
25	PASS	0.029041	0.02319	0.243685
26	PASS	0.02916	0.023164	0.243685
27	PASS	0.03009	0.023963	0.243685
28	PASS	0.029018	0.023537	0.243685
29	PASS	0.030785	0.025302	0.243685
30	PASS	0.028998	0.023527	0.243685
31	PASS	0.02866	0.023173	0.243685
32	PASS	0.02911	0.023276	0.243685
33	PASS	0.030458	0.024253	0.243685
34	PASS	0.02931	0.023479	0.243685
35	PASS	0.031605	0.025251	0.243685
36	PASS	0.030738	0.023639	0.243685
37	PASS	0.03196	0.023268	0.243685
38	PASS	0.029301	0.023546	0.243685
39	PASS	0.030446	0.023923	0.243685
40	PASS	0.028098	0.023456	0.243685

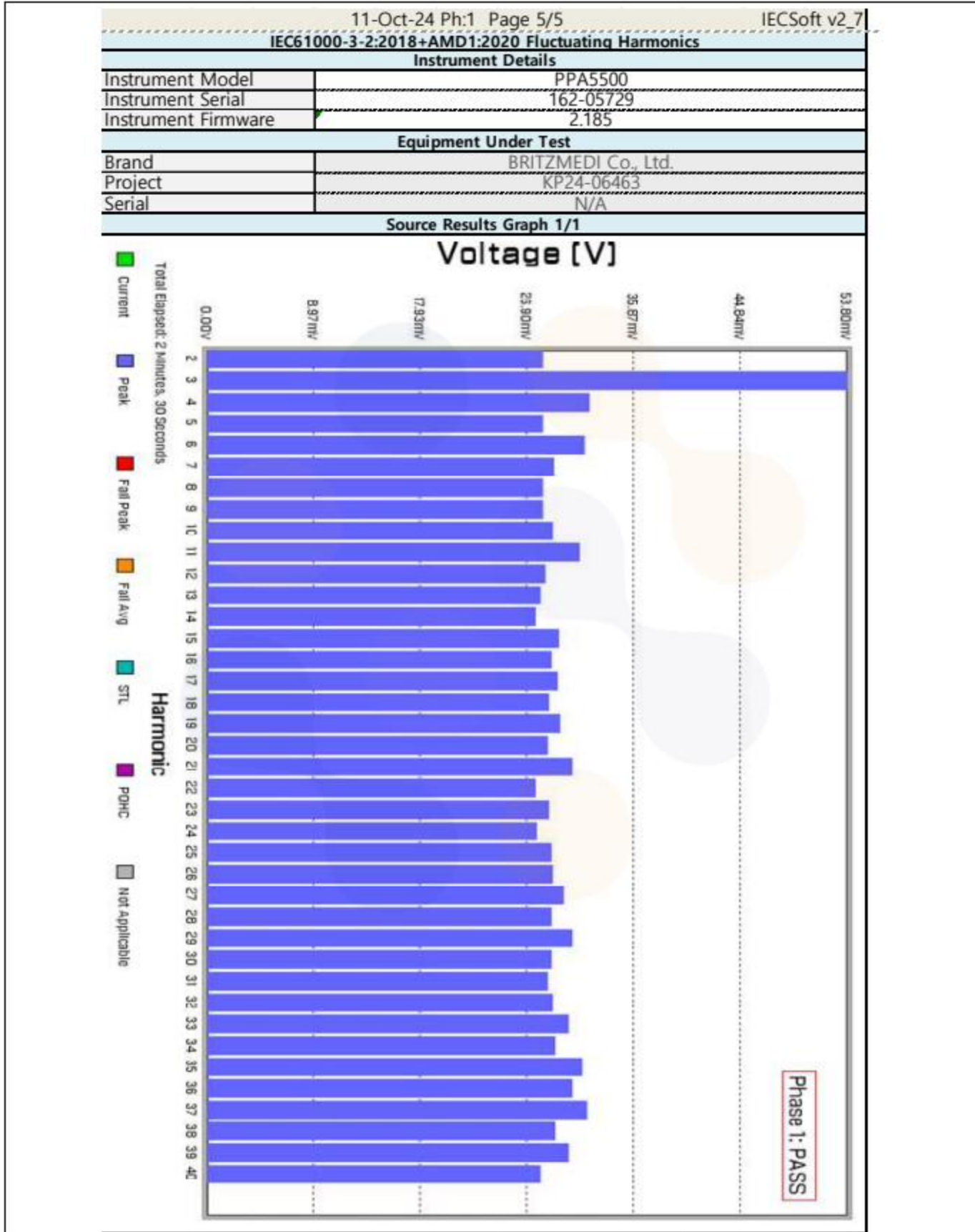
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Suwon-si, Gyeonggi-do, 16677, Korea
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6.5 Flicker

Testing voltage	230 V, 50 Hz				
Test facility	EMI Test area(6F)				
Date	2024-10-11				
Temperature(°C)	22.9 °C	Humidity (% R.H.)	45.3 % R.H.	Pressure (kPa)	101.2 kPa

6.5.1 Measurement procedure

EUT was connected to the power analyzer system.

Measurement was performed to obtain the desired flicker parameters.

The measuring time depends on which parameters are to be measured.

$$P_{It} = 2 \text{ h}$$

$$P_{st} = 10 \text{ min}$$

Controls and automatic programs shall be set to produce the most unfavorable sequence of voltage changes, using only those combinations of controls and programs are mentioned by the manufacturer in the instruction manual.

6.5.2 Used equipments

Date: 2024-10-11

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
AC POWER SOURCE	N4A06-M	91G-13467	N4L	2025.03.22	☒
IMPEDANCE NETWORK	IMP161	91G-13380	N4L	2025.03.22	☒
POWER ANALYZER	PPA5500	162-05729	N4L	2025.03.25	☒

6.5.3 Photographs of test setup

[Test #1]



6.5.4 Measurement result

[Test #1]

11-Oct-24		Ph:1 Page 1/2		IECSoft v2.7
	IEC61000-3-3:2013+AMD1:2017+AMD2:2021			
Flickermeter				
Instrument Details				
Instrument Model	PPA5500			
Serial Number	162-05729			
Firmware Version	2.185			
N4L Calibration Date				
Instrument Version	Standard			
Source Details				
Source Model	N4A06			
Source Serial	91J-13467			
Source Frequency	50.000Hz			
Source Voltage RMS	230.000V			
Test Settings				
Class	Voltage			
Mode	Normal (4.0%)			
Minimum Current	10A			
PST	10 minutes			
PLT	1 PSTs			
Equipment Under Test				
Brand	BRITZMEDI Co., Ltd.			
Project	KP24-06463			
Serial	N/A			
Impedance Network ID	N/A			
Test Conditions				
	User Entered	Measured		
Rated Voltage	N/A	243.717V		
Rated Current	N/A	N/A		
Rated Frequency	N/A	50.000Hz		
Rated Power	N/A	N/A		
D max	0.0443% (Limit: 4.0%)			
T max	0.0000 s (Limit: 0.5 s)			
DC max	0.0015% (Limit: 3.3%)			
Additional Test Details				
Operator	N/A			
Lab Name	N/A			
Location	N/A			
Notes				
Signature				
Results	Phase1: PASS			

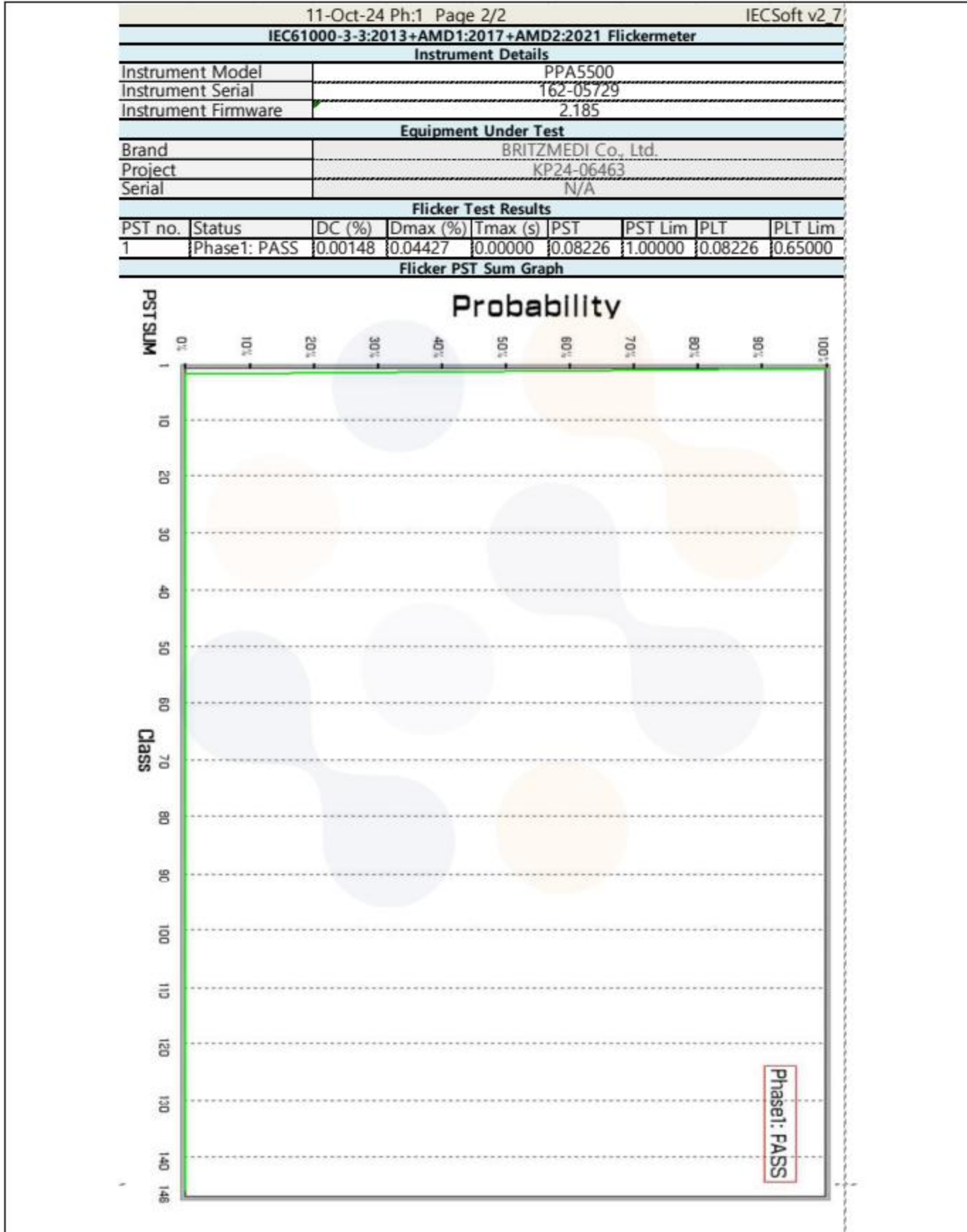
Eurofins KCTL Co.,Ltd.

65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
Tel: 82-70-5008-1021 Fax: 82-505-299-8311
www.kctl.co.kr

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KR24-SEC0221
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KCTL



6.6 Electrostatic Discharge

Test level	<input checked="" type="checkbox"/> Contact: ± 4 kV <input checked="" type="checkbox"/> Air: ± 8 kV <input checked="" type="checkbox"/> HCP: ± 4 kV <input checked="" type="checkbox"/> VCP: ± 4 kV				
Discharge impedance	330 Ω / 150 pF				
Number of discharge (Each polarity)	<input checked="" type="checkbox"/> Contact: 10 <input checked="" type="checkbox"/> Air: 10 <input checked="" type="checkbox"/> HCP / VCP: 10				
Interval between discharges	1 s				
Testing voltage	230 V, 50 Hz / DC 3.6 V				
Test facility	Shielded room (6F)				
Date	2024-10-14				
Temperature(°C)	22.6 °C	Humidity (% R.H.)	43.5 % R.H.	Pressure (kPa)	101.2 kPa
Remarks	Pass - A: There was no change of operation status during above testing.				

6.6.1 Measurement procedure

A ground reference plane was located on the floor, and connected to earth via a low Impedance connection. The return cable of the ESD generator was connected to the reference plane. In case of floor standing equipment, EUT was placed on the reference plane on (0.05 ± 0.15) m of insulating Support. In case of table top equipment, EUT was placed on a wooden table (0.8 ± 0.08) m above the reference grounded floor. A horizontal coupling plane (HCP) was placed on the table, and Connected to the reference plane via a $470 \text{ k}\Omega$ resistor located in each end (0.5 mm insulating support between EUT and HCP). In both cases a vertical coupling plane(VCP) OF $0.5 \times 0.5 \text{ m}$ was located 0.1 m from the EUT's sides. The VCP was connected to the reference plane in the same matter as the HCP.

6.6.2 Used equipments

Date: 2024-10-14

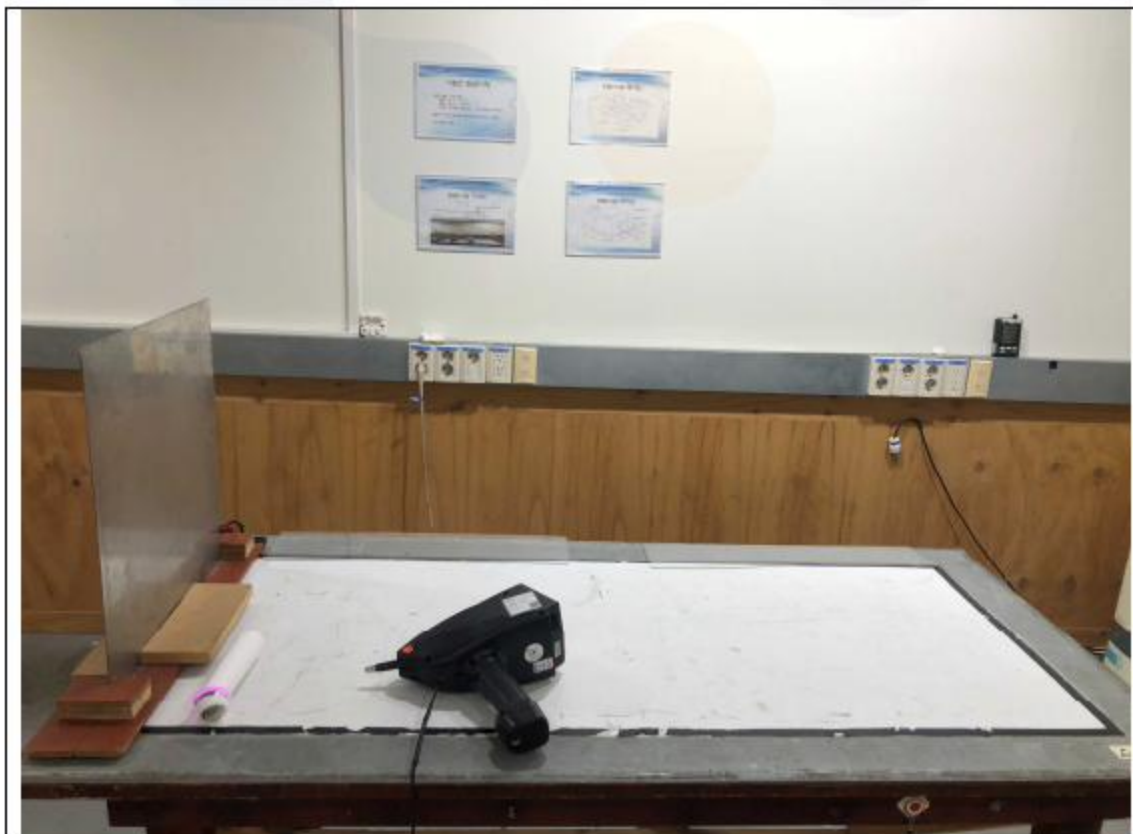
Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
ESD SIMULATOR	ONYX30	188964	HAEFELY	2025.03.28	<input checked="" type="checkbox"/>
ESD SIMULATOR	ONYX30	183121	HAEFELY	2025.09.06	<input type="checkbox"/>
HCP	-	-	-	-	<input checked="" type="checkbox"/>
VCP	-	-	-	-	<input checked="" type="checkbox"/>

6.6.3 Photographs of test setup

[Test #1]



[Test #2, Test #3]



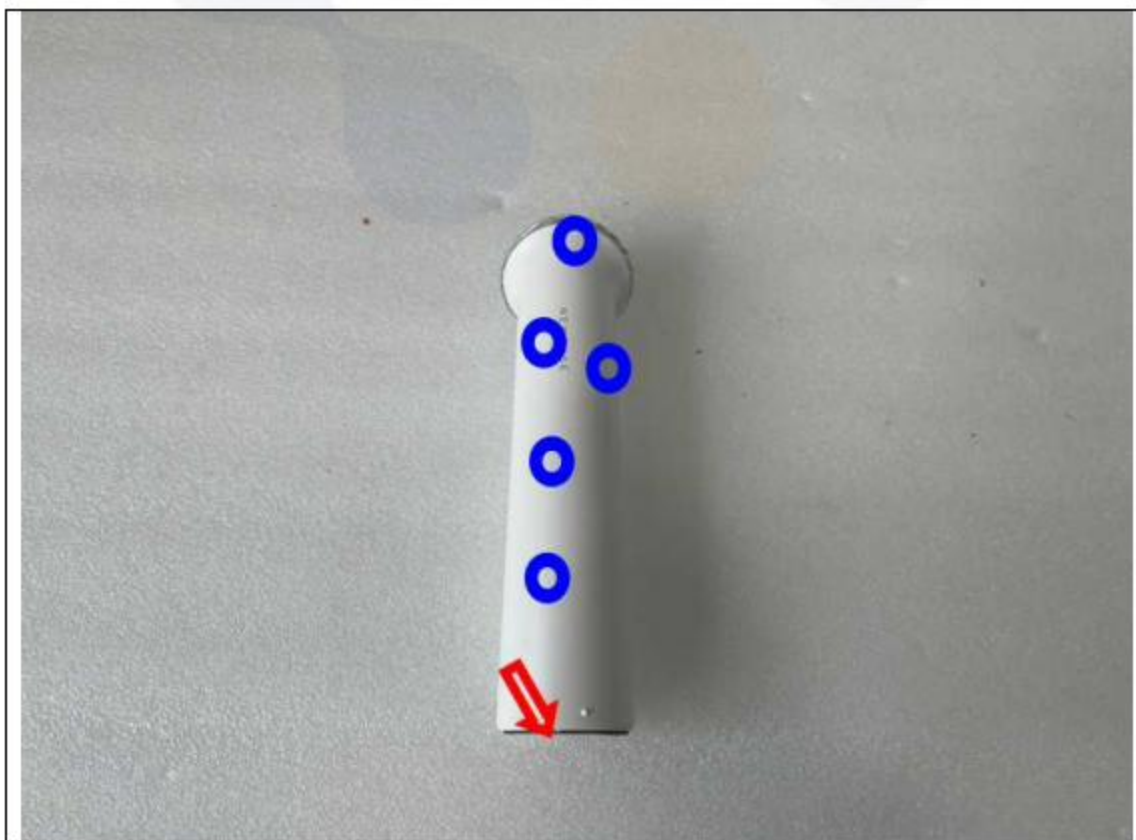
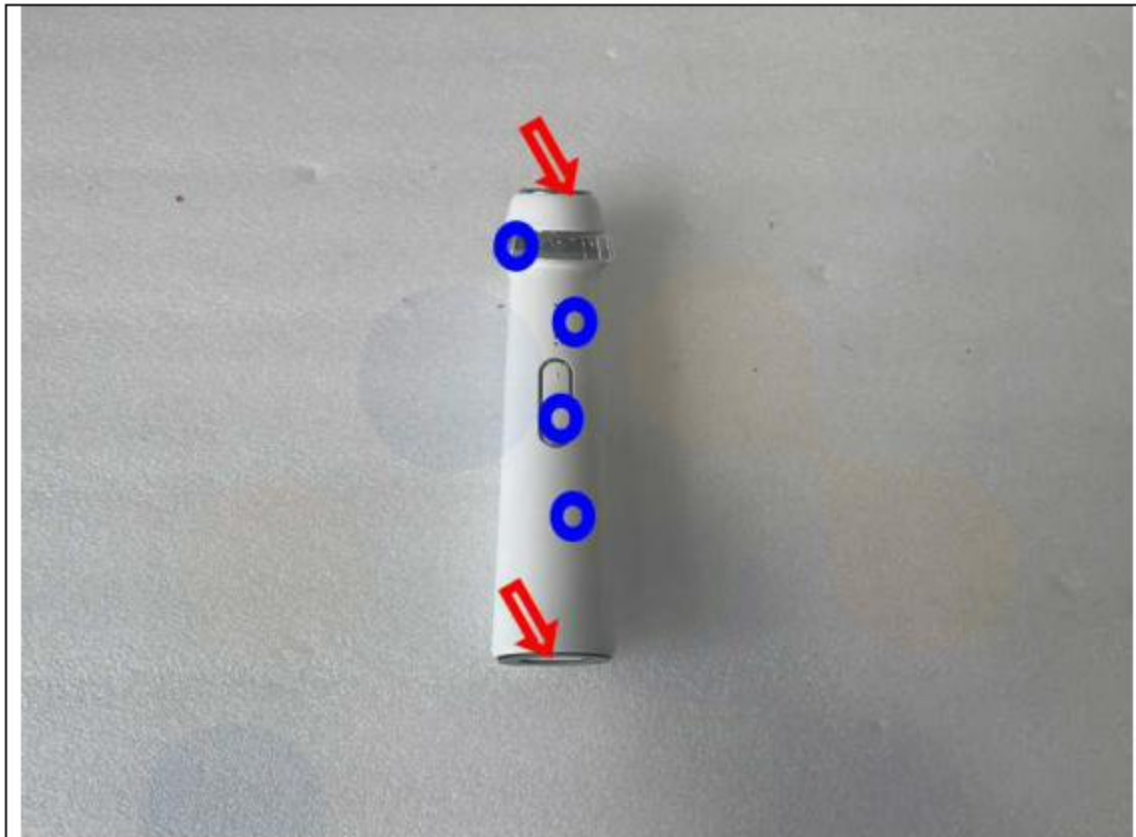
6.6.4 Measurement result

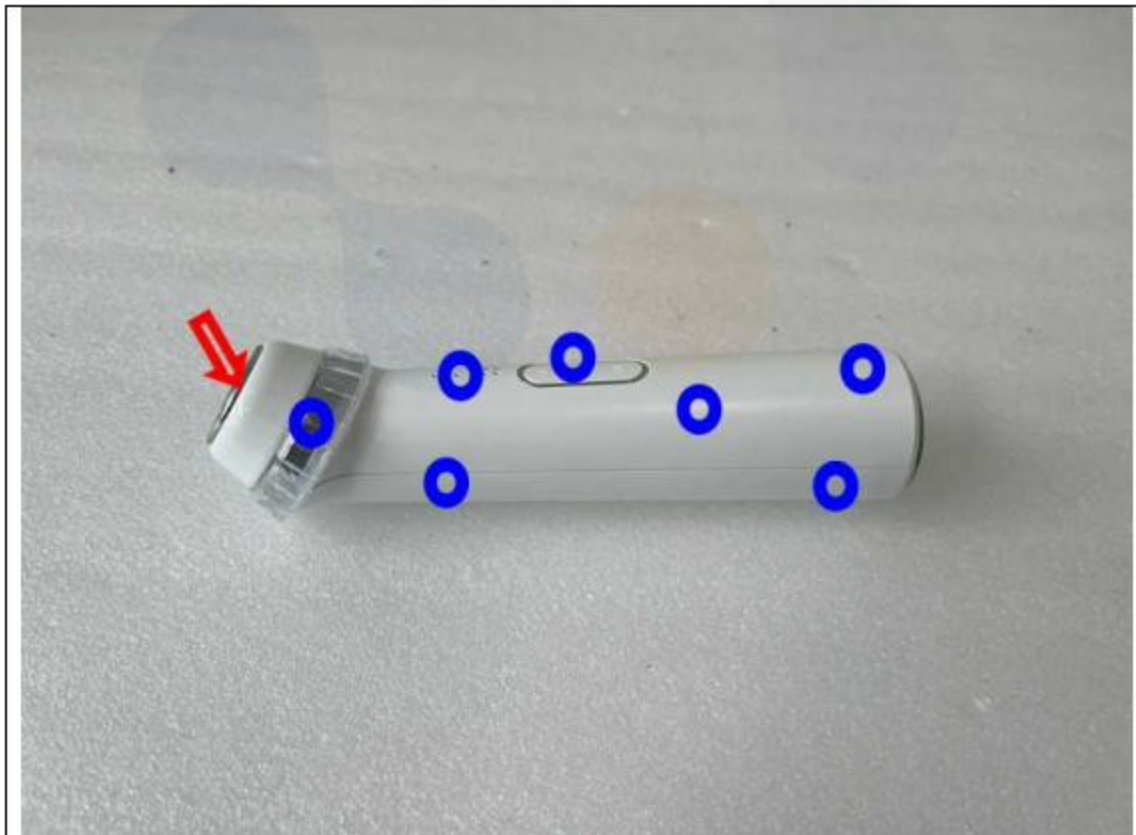
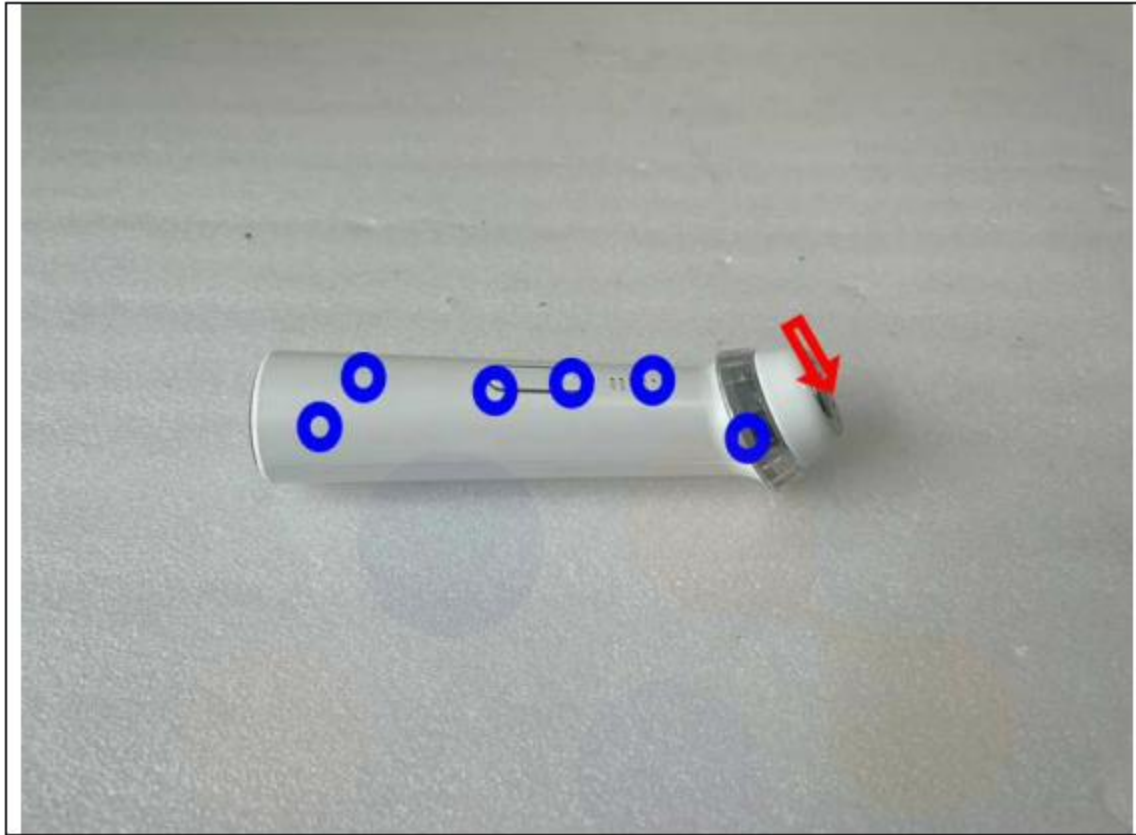
Electrostatic Discharge (Test Point)

Air discharge



Contact discharge





[Test #1 ~ Test #3]

HCP/VCP discharge

Location(EUT)	Applied level (±)	Result
HCP (All 4 sides)	± 4 kV	A
VCP (All 4 sides)	± 4 kV	A

Contact discharge

Location(EUT)	Applied level (±)	Result
Front	± 4 kV	A
Rear	± 4 kV	A
Left	± 4 kV	A
Right	± 4 kV	A

Air discharge

Location(EUT)	Applied level (±)	Result
Front	± 8 kV	A
Rear	± 8 kV	A
Left	± 8 kV	A
Right	± 8 kV	A

6.7 Radio Frequency Electromagnetic Fields

Tested frequency	80 MHz ~ 1 GHz				
Test level & Modulation	3 V/m, 80 % Amplitude Modulation (1 kHz)				
Frequency Step	1 % step				
Dwell time	1 s				
Distance	3 m from EUT to tip of antenna				
Testing voltage	DC 3.6 V				
Test facility	6F Fully anechoic chamber (3 m)				
Date	2024-10-14				
Temperature(°C)	21.5 °C	Humidity (% R.H.)	43.7 % R.H.	Pressure (kPa)	101.3 kPa
Remarks	Pass - A: There was no change of operation status during above testing.				

6.7.1 Measurement procedure

The test was performed at 3 m full anechoic chamber.

For floor standing equipment, the EUT was standing on the floor.

For tabletop equipment, the EUT was located on a wooden table 0.8 m above the floor.

The EUT was tested all sides, horizontal and vertical polarization.

6.7.2 Used equipments

Date: 2024-10-14

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
POWER METER	PM2002	302852	AR	2025.03.21	☑
POWER HEAD	PH2000	26872	AR	2025.03.21	☑
POWER HEAD	PH2000	24889	AR	2025.03.21	☑
DUAL DIRECTIONAL COUPLER	DC6180	303976	AR	2025.08.13	☑
Signal Generator	SMB100A	101737	R&S	2025.03.21	☑
RF Power Amplifier	CBA 1G-300B	V2229-0817	TESEQ	-	☑
Broadband Ant.	LPDA-0803	130269	ETS-LINDGREN	-	☑
Antenna master	-	-	ETS-LINDGREN	-	☑

6.7.3 Photographs of test setup

[Test #2, Test #3]



6.7.4 Measurement result

[Test #2, Test #3]

Location(EUT)	Antenna polarization	Result
Front side	Horizontal	A
	Vertical	A
Rear side	Horizontal	A
	Vertical	A
Left side	Horizontal	A
	Vertical	A
Right side	Horizontal	A
	Vertical	A

6.8 Electric Fast Transient/BURST

Coupling	<input checked="" type="checkbox"/> AC main <input type="checkbox"/> Signal: Clamp <input type="checkbox"/> Telecommunication: Clamp				
Test level	<input checked="" type="checkbox"/> AC main: ± 1 kV Peak <input type="checkbox"/> Signal: ± 0.5 kV Peak <input type="checkbox"/> Telecommunication: ± 0.5 kV Peak				
Repetition frequency	5 kHz, Tr/Th = 5 / 50 ns				
Coupling time (Minimum)	120 s				
Testing voltage	230 V, 50 Hz				
Test facility	Shielded room (6F)				
Date	2024-10-14				
Temperature(°C)	21.6 °C	Humidity (% R.H.)	42.5 % R.H.	Pressure (kPa)	101.3 kPa
Remarks	Pass - A: There was no change of operation status during above testing.				

6.8.1 Measurement procedure

A ground reference plane was located on the floor.

EFT generator was connected to reference ground plane via low impedance connection.

For floor standing equipment, EUT was placed on a 0.1 m wooden table.

For tabletop equipment, EUT was placed on a 0.1 m above the ground reference plane.

Test generator and coupling/decoupling network was placed on, and bounded to, the ground reference plane. When using the coupling clamp, the minimum distance between the coupling plates and all other conductive surfaces, except the ground reference plane beneath the coupling clamp, Shall be 0.5 m.

6.8.2 Used equipments

Date: 2024-10-14

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
EMC IMMUNITY TEST SYSTEM	IMU-MGE	109937-1507	EMC PARTNER	2025.08.13	<input checked="" type="checkbox"/>
EMC IMMUNITY TEST SYSTEM	IMU3000	105684-2101	EMC PARTNER	2025.04.26	<input type="checkbox"/>
Capacitive Coupling clamp	CN-EFT1000	1828	EMC PARTNER	2025.04.26	<input type="checkbox"/>

6.8.3 Photographs of test setup

[Test #1]

[AC main]



6.8.4 Measurement result

AC main [Test #1]

Coupling point	(+)	(-)	Result
L	+ 1 kV	- 1 kV	A
N	+ 1 kV	- 1 kV	A
L-N	+ 1 kV	- 1 kV	A

Signal

Coupling point	(+)	(-)	Result
-	-	-	-

Telecommunication

Coupling point	(+)	(-)	Result
-	-	-	-

6.9 Surge

Coupling	<input checked="" type="checkbox"/> AC main: Direct				
Test level	<input checked="" type="checkbox"/> AC main: <input checked="" type="checkbox"/> Differential mode: ± 1 kV <input type="checkbox"/> Common mode: ± 2 kV				
Coupling Impedance	<input checked="" type="checkbox"/> Differential mode: 18 μF <input type="checkbox"/> Common mode: 10 Ω + 9 μF				
Surge pulse shape	Tr/Th = 1.2 / 50 μs				
Angles	90 ° (+) and 270 ° (-)				
Number of surge	5				
Coupling time	30 s				
Testing voltage	230 V, 50 Hz				
Test facility	Shielded room (6F)				
Date	2024-10-14				
Temperature(°C)	22.9 °C	Humidity (% R.H.)	41.5 % R.H.	Pressure (kPa)	101.4 kPa
Remarks	Pass - A: There was no change of operation status during above testing.				

6.9.1 Measurement procedure

A ground reference plane was located on the floor. SURGE generator was connected to reference ground plane via low impedance connection. For floor standing equipment & table top equipment, EUT was placed on a wooden table.

6.9.2 Used equipments

Date: 2024-10-14

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
EMC IMMUNITY TEST SYSTEM	IMU-MGE	109937-1507	EMC PARTNER	2025.08.13	<input checked="" type="checkbox"/>
EMC IMMUNITY TEST SYSTEM	IMU3000	105684-2101	EMC PARTNER	2025.04.26	<input type="checkbox"/>
COUPLER/DECOUPLER NETWORK	CDN-UTP8 ED3	1579	EMC PARTNER	2025.04.26	<input type="checkbox"/>

6.9.3 Photographs of test setup

[Test #1]

[AC main]



6.9.4 Measurement result

AC main [Test #1]

Coupling point	(+)	(-)	Result
L-N	+ 1 kV	- 1 kV	A

6.10 Conducted Immunity

Tested frequency	0.15 MHz ~ 80 MHz				
Test level & Modulation	3 V, 80 % Amplitude Modulation (1 kHz)				
Frequency Step	1 % step				
Dwell time	1 s				
Coupling method	<input checked="" type="checkbox"/> AC main: CDN(M2) <input type="checkbox"/> Signal: Clamp <input type="checkbox"/> Telecommunication: CDN(T8-RJ45)				
Testing voltage	230 V, 50 Hz				
Test facility	Shielded room (6F)				
Date	2024-10-14				
Temperature(°C)	22.6 °C	Humidity (% R.H.)	44.5 % R.H.	Pressure(kPa)	101.2 kPa
Remarks	Pass - A: There was no change of operation status during above testing.				

6.10.1 Measurement procedure

A ground reference plane was located on the floor.

The test was performed on a ground reference plane on a 0.1 m wooden table.

This test were performed using CDN for mains, clamp for signal and injection probe.

The frequency range was swept from 0.15 MHz to 230 MHz. This frequency range was Modulated with 1 kHz sine wave at 80 %.

The signal generators provided the modulated frequency at a 1 % step size.

The power and all network cable, I/O cables longer than 3 m length were tested.

6.10.2 Used equipments

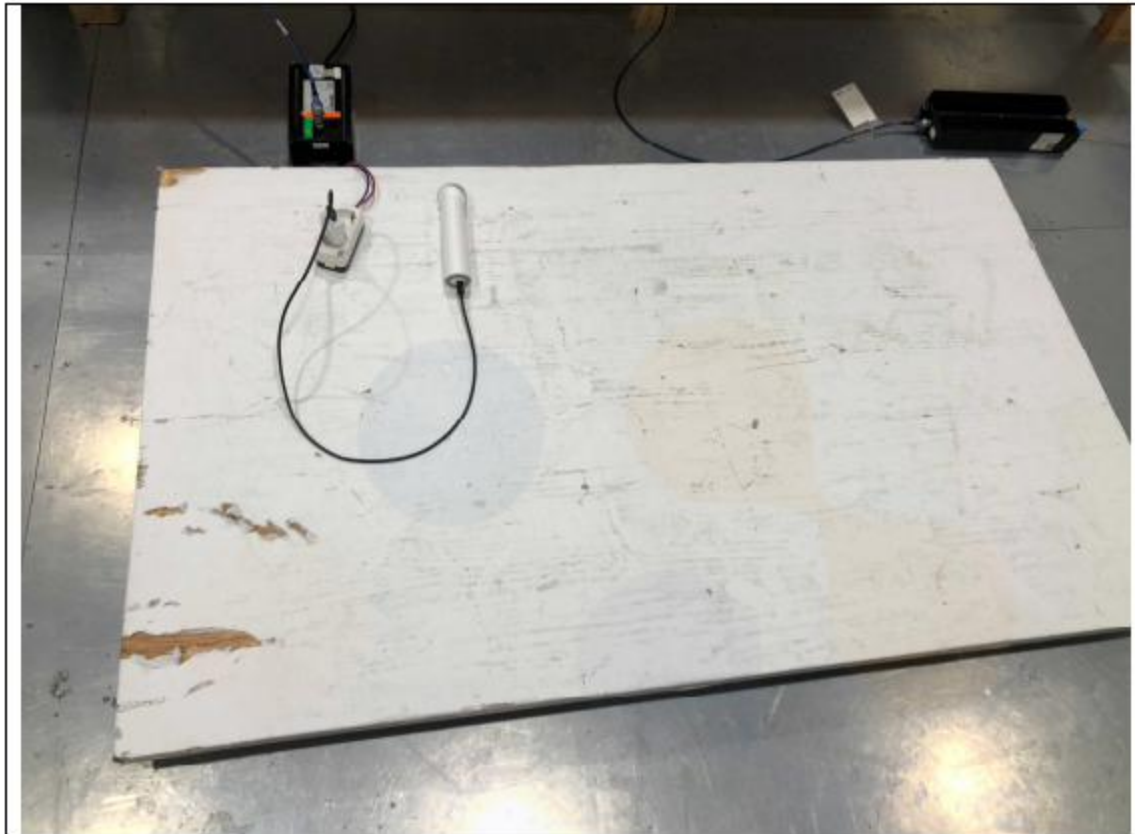
Date: 2024-10-14

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
POWER SENSOR	RPR2006C	RPR2006C-2101024	RADITEQ	2025.08.13	<input checked="" type="checkbox"/>
POWER SENSOR	RPR2006C	RPR2006C-2101025	RADITEQ	2025.08.13	<input checked="" type="checkbox"/>
SIGNAL GENERATOR	RGN2400A	-	RADITEQ	2025.08.13	<input checked="" type="checkbox"/>
POWER AMPLIFIER	RPA0925A-075	AMP02-2101002	RADITEQ	2025.08.14	<input checked="" type="checkbox"/>
Attenuation	ATT6/80	P1402129094	EM TEST	2025.03.21	<input checked="" type="checkbox"/>
C.D.N	CDN M2/M3	P1402128648	EM TEST	2025.03.21	<input checked="" type="checkbox"/>

6.10.3 Photographs of test setup

[Test #1]

[AC main]



6.10.4 Measurement result

AC main [Test #1]

Coupling point	Coupling method	Result
Power	CDN(M2)	A

Signal

Coupling point	Coupling method	Result
-	-	-

Telecommunication

Coupling point	Coupling method	Result
-	-	-

6.11 Voltage dips

Number of dips	3 T				
Duration	10 s				
Phase	Zero crossing (0 °, 180 °)				
Testing voltage	230 V, 50 Hz				
Test facility	Shielded room (6F)				
Date	2024-10-14				
Temperature(°C)	21.7 °C	Humidity (% R.H.)	43.5 % R.H.	Pressure (kPa)	101.3 kPa
Remarks	Pass - A: There was no change of operation status during above testing.				

6.11.1 Measurement procedure

The dips/interruption test is only applicable to AC mains.

The dips/interruptions were applied at zero crossing.

6.11.2 Used equipments

Date: 2024-10-14

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
EMC IMMUNITY TEST SYSTEM	IMU-MGE	109937-1507	EMC PARTNER	2025.08.13	<input checked="" type="checkbox"/>
EMC IMMUNITY TEST SYSTEM	IMU3000	105684-2101	EMC PARTNER	2025.04.26	<input type="checkbox"/>

6.11.3 Photographs of test setup

[Test #1]



6.11.4 Measurement result

230 V, 50 Hz [Test #1]

Test Level (%UT)	Dip (%UT)	Duration /Period	Angle (°)	Count number	Result
0 %	100 %	0.5 Period	0 / 180	3T	A
40 %	60 %	10 Period	0	3T	A
70 %	30 %	25 Period	0	3T	A

Comment:

- A: There was no change of operation status during above testing.
(0.5 Period, 10 Period, 25 Period)

7. EUT photographs

Front View



Rear View



Left View



Right View



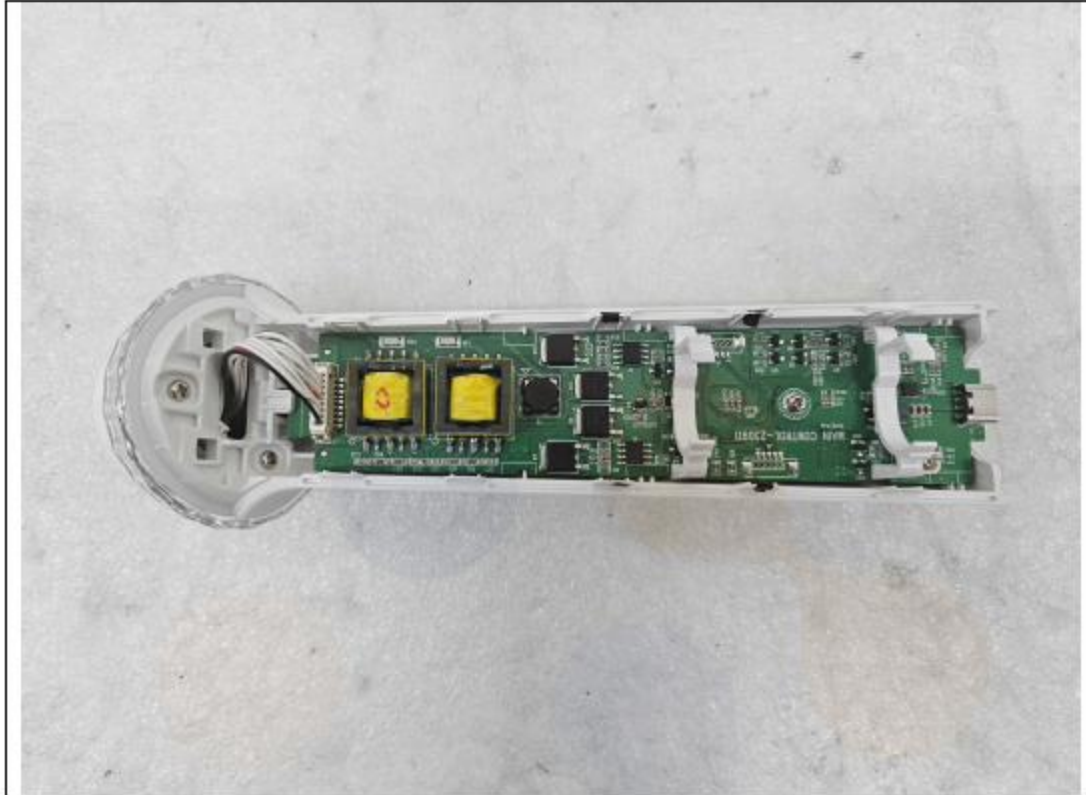
Top View



Bottom View



Inside



-End-