

Test Report issued under the responsibility of:



TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number.....: PTC26040117601S-UL01

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Total number of pages.....: 77

Name of Testing Laboratory
preparing the Report.....: Precise Testing & Certification (Guangdong) Co., Ltd.
Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan,
Guangdong, China.

Applicant's name.....: ShenZhen Hengrui Internet Technology Co., Ltd.
Address.....: 13A08,ZHANTAO TECHNOLOGYBUILDING XINNIU
COMMUNITY.MINZHI STREET
LONGHUADISTRICT,SHENZHEN

Test specification:

Standard.....: IEC 62368-1:2023
CSA/UL 62368-1:2025

Test procedure.....: PTC

Non-standard test method.....: N/A

TRF template used.....: IECEE OD-2020-F1:2023, Ed.1.6

Test Report Form No.....: IEC62368_1F

Test Report Form(s) Originator.....: UL(US)

Master TRF.....: Dated 2023-08-18

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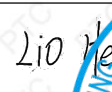
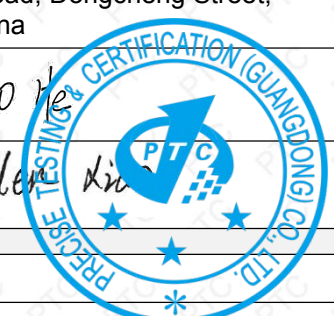
**This report is not valid as a CB Test Report unless signed by an approved IECEE Testing
Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

General disclaimer:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing NCB. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.



Test item description.....:	Battery camera			
Trademark(s).....:	N/A			
Manufacturer.....:	Same as applicant			
Model/Type reference.....:	PG1			
Ratings.....:	Input: 110-240V 50/60Hz 0.5A			
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):				
☒ Testing Laboratory:	Precise Testing & Certification (Guangdong) Co., Ltd.			
Testing location/ address.....:	Building 1, No. 6, Tongxin Road, Dongcheng Street, DongGuan, Guangdong, China			
Tested by (name, function, signature).....:	Lio He Project Engineer			
Approved by (name, function, signature)....:	Hellen Xiao Reviewer			
				
			☐ Testing procedure: CTF Stage 1:	
			Testing location/ address.....:	
			Tested by (name, function, signature).....:	
Approved by (name, function, signature)....:				
☐ Testing procedure: CTF Stage 2:				
Testing location/ address.....:				
Tested by (name + signature).....:				
Witnessed by (name, function, signature)..:				
Approved by (name, function, signature)....:				
☐ Testing procedure: CTF Stage 3:				
☐ Testing procedure: CTF Stage 4:				
Testing location/ address.....:				
Tested by (name, function, signature).....:				
Witnessed by (name, function, signature)..:				
Approved by (name, function, signature)....:				
Supervised by (name, function, signature) :				

List of Attachments (including a total number of pages in each attachment):

ATTACHMENT 1: National Differences (13 pages)

ATTACHMENT 2: Photo Documentation (9 pages).

Summary of testing:

The sample tested complies with the requirements of CSA/UL 62368-1:2025.

Tests performed (name of test, test clause and date test performed):

Conduct thorough testing in the harshest of conditions.

Testing location:

Precise Testing & Certification (Guangdong) Co., Ltd.

Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

Summary of compliance with National Differences

- IECEE Member countries that are also CENELEC members
Compliance with Group Differences evaluated ☒ **yes** ☐ **No** ☐ N/A

- IECEE Member countries with published National Differences which were evaluated:

- IECEE Member countries that did not publish any National Differences:

To support compliance with published National Differences, attach a compilation of relevant ND and/or GD TRFs to the CB Test Report

EU=EUROPEAN

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other: ... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

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

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Battery camera

Model: PG1

Input: 110-240V 50/60Hz 0.5A



ShenZhen Hengrui Internet Technology Co., Ltd.

13A08,ZHANTAO TECHNOLOGYBUILDING XINNIU

COMMUNITY.MINZHI STREET LONGHUADISTRICT,SHENZHEN

Made in China

- As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being place on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.
- The above markings are the minimum requirements required by the safety standard, For the final production, the additional markings which do not give rise to misunderstanding may be added.
- The high of "CE" and "WEEE" at least 5mm and 7mm.
- The Markings are attached on external enclosure and visible during normal use.
- Since similar label used, only label for models above listed to represent other similar ones.

Test item particulars:			
Product group.....:	☒ end product	☐ built-in component	
Classification of use by.....:	☒ Ordinary person	☐ Children likely present	
	☒ Instructed person		
	☒ Skilled person		
Supply connection.....:	☒ AC mains	☐ DC mains	
	☐ not mains connected:		
	☐ ES1	☐ ES2	☐ ES3
Supply tolerance	☒ +10%/-10%		
	☐ +20%/-15%		
	☐ + %/ - %		
	☐ None		
Supply connection – type	☒ pluggable equipment type A -		
	☐ non-detachable supply cord		
	☐ appliance coupler		
	☒ direct plug-in		
	☐ pluggable equipment type B -		
	☐ non-detachable supply cord		
	☐ appliance coupler		
	☒ permanent connection		
	☐ mating connector	☐ other:	
Considered current rating of protective device....:	☒ 20 A;		
	Location:	☒ building	☐ equipment
	☐ N/A		
Equipment mobility.....:	☐ movable	☐ hand-held	☐ transportable
	☒ direct plug-in	☐ stationary	☒ for building-in
	☐ wall/ceiling-mounted	☐ SRME/rack-mounted	
	☐ other:		
Overvoltage category (OVC)	☐ OVC I	☒ OVC II	☐ OVC III
	☐ OVC IV	☐ other:	
Class of equipment	☐ Class I	☒ Class II	
	☐ Class II with functional earthing		
	☐ Class III	☐ Not classified	☐
Special installation location	☒ N/A	☐ restricted access area	
	☐ outdoor location	☐	
Pollution degree (PD)	☐ PD 1	☒ PD 2	☐ PD 3
Manufacturer's specified T_{ma}.....:	25°C	☐ Outdoor: minimum	°C
IP protection class	☒ IPX0	☐ IP__	
Power systems	☒ TN	☐ TT	☐ IT - V _{L-L}
	☐ not AC mains		
Altitude during operation (m)	☒ 2000 m or less	☐	m
Altitude of test laboratory (m)	☒ 2000 m or less	☐	m
Mass of equipment (kg)	Approx. 0.181kg		

Possible test case verdicts: - test case does not apply to the test object..... : N/A - test object does meet the requirement..... : P (Pass) - test object does not meet the requirement..... : F (Fail)	
Testing..... : Date of receipt of test item..... : 2026-04-08 Date (s) of performance of tests..... : 2026-04-08 to 2026-04-22	
General remarks: "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	☐ Yes ☒ Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)..... : Same as applicant	
General product information and other remarks: 1. The equipment is a "Battery camera" which is used for the Audio/video, information and communication technology equipment. 2. Specified maximum ambient temperature is 25°C 3. The equipment was evaluated for a maximum operating altitude of 2000m. 4. Full tests performed on model PG1.	

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: Primary circuits supplied by a.c. mains supply	Ordinary	N/A	N/A	Enclosure, See 5.4.2, 5.4.3 and 5.4.4
ES1: Enclosure	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3: Internal all components and circuits of the unit	All combustible materials within equipment fire enclosure	See 6.3	Rated V-0 or better plastic enclosure used.	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Edges and corners	Ordinary	N/A	N/A	N/A
MS1: Mass of the unit <7kg	Ordinary	N/A	N/A	N/A
MS3: Mounted > 2 m	Ordinary	N/A	N/A	See 8.7
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS3: Internal circuits	Ordinary	N/A	N/A	Enclosure
TS1: Accessible surface	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LED used for indicating	Ordinary	N/A	N/A	N/A
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM

Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems.

Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings

☐ ES ☐ PS ☐ MS ☐ TS ☐ RS

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding access to ES3 and to limiting the outputs to fulfill ES1, and protection in regard to risk of spread of fire, mechanical-caused injury and thermal burn considered.	P
4.1.4	Specified ambient temperature for outdoor use (°C) :	indoor use	N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids, refrigerants and liquid filled components (LFCs)	(See Clause G.15)	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.5)	P
4.4.3.3	Drop tests	(See Clause T.7)	P
4.4.3.4	Impact tests	(See Clause T.6)	P
4.4.3.5	Internal accessible safeguard tests	(See Clause T.3)	N/A
4.4.3.6	Glass impact tests	(See Clause T.9)	N/A
4.4.3.7	Glass fixation test		N/A
	Glass impact test (1J)	(See Clause T.9)	N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Clause T.8)	P
4.4.3.9	Air comprising a safeguard		P
4.4.3.10	Accessibility, glass, safeguard effectiveness		P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks	(See Annex K)	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.5	Explosion		P
4.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.5.2	No explosion during normal/abnormal operating conditions	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	Fixing of conductors and conductive parts		P
	Fix conductors and conductive parts not to defeat a safeguard		P
	Compliance is checked by test.....: (See Clause T.2)		P
4.7	Equipment for direct insertion into mains socket-outlets		P
4.7.2	Mains plug part complies with relevant standard.....:		P
4.7.3	Torque (Nm).....: The additional torque applied to the socket-outlet to maintain the engagement face in the vertical plane did not exceed 0.25 N.m. The additional torque applied was Max. 0.20Nm		P
4.8	Equipment containing coin or button cell batteries		N/A
4.8.1	General	No battery	N/A
4.8.2	Instructional safeguard.....:		N/A
4.8.3	Coin or button cell battery compartment, door or cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test	(See Clause T.8)	N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test	(See Clause T.7)	N/A
4.8.4.5	Impact test	(See Clause T.6)	N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect device		P
4.10.2	Switches and relays		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.10.3	Mains power supply cords	(See Clause G.7)	N/A
4.10.4	Batteries and their protection circuits	(See Annex M)	N/A

5	ELECTRICALLY-CAUSED INJURY		P
5.2	Classification and limits of electrical energy sources		P
5.2.2	ES1 and ES2 limits		P
5.2.2.2	Steady-state voltage and current limits.....:		P
5.2.2.3	Capacitance limits.....:		N/A
5.2.2.4	Single pulse limits.....:	(See appended table 5.2)	N/A
5.2.2.5	Limits for repetitive pulses.....:	(See appended table 5.2)	N/A
5.2.2.6	Ringing signals	(See Annex H)	N/A
5.2.2.7	Audio signals	(See Clause E.1)	N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See only 4.3 and 5.4 to 5.6 which applies to protection between the accessible output connector and other hazardous parts or circuits. Reinforced or double insulation provided between hazardous live parts and the accessible output connector	P
5.3.1 a)	ES2/ES3 circuits that are not ES2/ES3 mains	Accessible ES1/ES2 derived from ES2/ES3 circuits by double safeguard or reinforced safeguard, and the current or voltage levels complied with ES1/ES2 limits.	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit can be accessed for this product.	P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V.....:		—
5.3.2.2 a)	Air gap – electric strength test potential (V).....:	(See appended table 5.4.9)	N/A
5.3.2.2 b)	Air gap – distance (mm)		N/A
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T and natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Compliance	No hygroscopic material used.	P
	Non-hygroscopic materials	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
5.4.1.4	Maximum operating temperature for insulating materials..... :	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
5.4.1.5	Pollution degrees..... :	Pollution degree 2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is considered	N/A
5.4.1.5.3	Thermal cycling test	Not such device	N/A
5.4.1.6	Insulation in transformers with varying dimensions	Not such device	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such pulses occurred	N/A
5.4.1.8	Determination of working voltage..... :		N/A
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat test..... :	(See appended table 5.4.1.10.2)	N/A
5.4.1.10.3	Ball pressure test :	Phenolic bobbin material used in transformer and line choke which is acceptable without test. For other parts see appended table 5.4.1.10.3	P
5.4.2	Clearances		P
5.4.2.1	General requirements	the highest value in clause 5.4.2.2 and clause 5.4.2.3 be used.	P
	Clearances in circuits connected to AC Mains, Alternative method	(See Annex X)	N/A
5.4.2.2	Procedure 1 for determining clearance		P
	Temporary overvoltage :	2000Vpeak	—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	AC mains transient voltages..... :	2500Vpk considered for Overvoltage Cat. II	—
5.4.2.3.2.3	DC mains transient voltages :	No d.c. mains.	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.3.2.4	External circuit transient voltages.....:	No such transient	—
5.4.2.3.2.5	Transient voltage determined by measurement.....:	Transient voltages from an AC mains	—
5.4.2.3.3	Exceptions of determining required withstand voltage.....:		N/A
5.4.2.3.4	Determining clearances using required withstand voltage.....:	(See appended table 5.4.2, 5.4.3)	N/A
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2, 5.4.3)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages.....:	1.0	P
5.4.2.6	Clearance measurement.....:	(See appended table 5.4.2, 5.4.3)	P
5.4.3	Creepage distances		P
5.4.3.1	General		P
5.4.3.3	Material group and CTI.....:		—
5.4.3.4	Creepage distances measurement.....:	(See appended table 5.4.2, 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material.....:	(See appended table 5.4.9)	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V).....:	(See appended table 5.4.4.9)	N/A
	Alternative by electric strength test, tested voltage (V), K_R:	(See appended tables 5.4.4.9 and 5.4.9)	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.5	Antenna terminal insulation		P
5.4.5.1	General	The power supply will provide non-mains supply voltages to other equipment having antenna terminals.	P
5.4.5.2	Voltage surge test	Surge test with 50 discharges at a maximum rate of 12/min from a 1nF capacitor charged to 10 kV performed.	P
5.4.5.3	Insulation resistance (MΩ)..... :	Measured 500MΩ between mains supply to output terminals.	P
	Electric strength test..... :	(See appended table 5.4.9)	N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	Test was performed on product with each source of transformer listed in table 4.1.2.	P
	Relative humidity (%), temperature (°C), duration (h)..... :	93%, 30°C, 48h	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.10	Safeguards against transient voltages from external circuits	Compliance was checked immediately following temperature test in 5.4.1.4 on the complete unit and on a sample of the transformer raised to the relevant temperature as measured during that test. (See appended table 5.4.9)	P
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test..... :		N/A
5.4.10.2.3	Steady-state test..... :	(See appended table 5.4.9)	N/A
5.4.10.3	Verification for insulation breakdown..... :		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Surge suppressors bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V).....:		—
	Nominal voltage U_{peak} (V).....:		—
	Max increase due to variation ΔU_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
5.4.11.3	Test method and compliance.....:	(See appended table 5.4.9)	N/A
	Test voltage (V) of additional test.....:		—
	Measured current (mA) of additional test.....:		N/A
5.4.12	Insulating liquid	No insulating liquid used	N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid.....:	(See appended table 5.4.9)	N/A
5.4.12.3	Compatibility of an insulating liquid		N/A
	Thermal classification of IEC 60085.....:		—
5.4.12.4	Container for insulating liquid		N/A
5.5	Components as safeguards		N/A
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Capacitor discharge after disconnection of a connector.....:	(See appended table 5.5.2.2)	N/A
5.5.3	Transformers	(See Clause G.5.3)	N/A
5.5.4	Optocouplers	(See Clause 5.4 or Clause G.12)	N/A
5.5.5	Relays	(See Clause 5.4)	N/A
5.5.6	Resistors	(See Clause G.10)	N/A
	Application type of resistors.....:		—
5.5.7	Surge suppressors	(See Clause G.8)	N/A
	GDT.....:		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable.....:		N/A
	Insulation resistance ($M\Omega$).....:		N/A
	Electric strength test.....:	(See appended table 5.4.9)	N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA).....:		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6	Protective conductor		N/A
5.6.2	Requirements for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirements for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²) :		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).....:		—
5.6.4.2	Protective current rating (A)..... :		—
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm).....:		N/A
	Terminal size for connecting protective bonding conductors (mm).....:		N/A
	Relevant IEC standard.....:		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test method.....:	(See appended table 5.6.6)	N/A
5.6.6.3	Resistance (Ω) or voltage drop.....:	(See appended table 5.6.6)	N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²)..... :		N/A
	Class II with functional earthing marking :		N/A
	Appliance inlet cl & cr (mm)..... :		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current		P
5.7.2.2	Measurement of voltage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4, 5.3 and 5.4 of IEC 60990:2016 applied.	P
5.7.4	Unearthed accessible parts.....:	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts.....:	(See appended table 5.7.5)	N/A
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA).....:		N/A
	Instructional Safeguard.....:		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to an earthed external circuit, current (mA).....:		N/A
	b) Equipment connected to an unearthed external circuit, current (mA).....:		N/A
5.8	Backfeed safeguard in battery backed up supplies		N/A
	Mains terminal ES.....:	(See appended table 5.8)	N/A
	Air gap (mm).....:	(See appended table 5.4.2, 5.4.3)	N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources and potential ignition sources		P
6.2.2	Power source circuit classifications.....:	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....:	(See appended table 5.4.1.4, 9.3, B.1.5 and B.2.6)	P
	Combustible materials not inside a fire enclosure.....:		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method.....:	See 6.4.4, 6.4.5, 6.4.6	—

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	Control fire spread considered	P
6.4.3.1	Supplementary safeguards	Control fire spread considered	P
6.4.3.2	Single fault conditions.....:	(See appended table B.4)	P
	Special conditions for temperature limited by fuse		N.A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: <u>Printed board</u>: rated min. V- 1 <u>Wire insulation</u>: internal wire complying with Clause 6 (See Table 4.1.2 for tubing used). The lead wires are complied to UL 758 standard, which test method and testing condition equal to IEC/EN 60695-11-21. – <u>All other components</u>: at least V-2 except for parts mounted on min. V-1 material or small parts of combustible material (with mass less than 4g) or components complying to relevant IEC standard. <u>DC fan motor</u>: complying with G.5.4	P
6.4.6	Control of fire spread in PS3 circuits	Compliance detailed as follows: - Parts as in 6.4.5 above - Fire enclosure rated V-0 used	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties	Rated V-0 enclosure material used	P
6.4.8.2.1	Requirements for a fire barrier	No such fire barrier	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2.2	Requirements for a fire enclosure	he V-0 fire enclosure is used. See above.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings	No fire barrier used	N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		N/A
	Openings dimensions (mm)..... :	No top enclosure	N/A
	Flammability tests for the top of a fire enclosure	(See Clause S.2)	N/A
6.4.8.3.4	Bottom openings and properties	No bottom openings	N/A
	Openings dimensions (mm)..... :		N/A
	Flammability tests for the bottom of a fire enclosure	(See Clause S.3)	N/A
	Instructional Safeguard..... :		N/A
6.4.8.3.5	Side openings and properties		N/A
	Openings dimensions (mm)..... :		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :	-	N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating..... :	V-0 Fire Enclosure used.	P
6.4.9	Flammability of insulating liquid		N/A
	Auto ignition temperature (°C)..... :		N/A
	Flashpoint temperature (°C)..... :		N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	Internal wire having rating VW-1 is considered to meet UL 758.	P
6.5.2	Requirements for interconnection to building wiring..... :		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets..... :		N/A
6.6	Safeguards against fire due to the connection to additional equipment		N/A

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES	N/A
7.2	Reduction of exposure to hazardous substances	N/A
7.3	Ozone exposure	N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)	N/A
	Personal safeguards and instructions..... :	—
7.5	Use of instructional safeguards and instructions	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard (ISO 7010).....:		—
8	MECHANICALLY-CAUSED INJURY		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Requirements		N/A
	Instructional Safeguard.....:		N/A
8.4.2	Compliance criteria		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	Requirements		N/A
	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	A manually activated stopping device for moving MS3		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm).....:		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts..... :		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N)..... :		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test..... :		N/A
8.5.5.3	Glass particles dimensions (mm)..... :		N/A
8.6	Stability of equipment		N/A
8.6.1	Requirements		N/A
	Instructional safeguard for MS2 and MS3 television sets..... :		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test..... :		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm)..... :		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test..... :		N/A
8.7	Equipment mounted to wall, ceiling or other structure		P
8.7.1	Requirements		P
	Mount means type..... :	Fixed installation components	P
8.7.2	Test methods		P
	Test 1, additional downwards force (N)..... :	Apply a downward force of 8.46N through the center of gravity of the device for 1 minute, and then apply a horizontal force of 50N horizontally for 1 minute. After the test, the prototype is intact without mechanical damage.	P
	Horizontal force to a wall or another structure		P
	Test 2, number of attachment points and test force (N)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test 3, nominal diameter (mm) and applied torque (Nm)..... :		N/A
8.8	Handles strength		N/A
8.8.1	General	No such part	N/A
8.8.2	Handle strength test		N/A
	Number of handles..... :		—
	Weight applied (kg)..... :		—
8.9	Wheels or casters attachment requirements		N/A
8.9.2	Pull test		N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General	No such part	N/A
8.10.2	Marking and instructions..... :		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N)..... :		N/A
8.10.4	Cart, stand or carrier impact test	(See Clause T.6)	N/A
	Loading force applied (N) on each supporting surface..... :		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N)..... :		N/A
8.10.6	Thermoplastic temperature stability	(See Clause T.8)	N/A
8.11	Mounting means for slide-rail mounted equipment (SRME)		N/A
8.11.1	General	No such part	N/A
8.11.2	Requirements		N/A
	Instructional Safeguard..... :		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force applied (N)..... :		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance criteria		N/A
8.12	Telescoping or rod antennas		N/A
	No sharp edges or points		N/A
	Button/ball diameter (mm)..... :		N/A
9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.3	Touch temperature limits		P
9.3.1	Touch temperatures of accessible parts.....:	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
9.3.2	Test method and compliance		P
9.4	Safeguards against thermal energy sources		N/A
9.5	Requirements for safeguards		P
9.5.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.5.2	Instructional safeguard.....:	Instructional safeguard is not required.	N/A
9.6	Requirements for wireless power transmitters		N/A
9.6.1	General	Not such equipment	N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance criteria.....:	(See appended table 9.6)	N/A

10	RADIATION		P
10.2	Radiation energy source classifications		P
10.2.1	General classification		P
	Lasers.....:		—
	Lamps and lamp systems.....:	The LED light and LCD Monitor is classified RS1.	—
	Image projectors.....:		—
	X-Ray.....:		—
	Personal music player.....:		—
10.3	Safeguards against laser radiation		N/A
	The standard(s) equipment containing laser(s) comply.....:		N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		N/A
10.4.1	General requirements		N/A
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location.....:		N/A
	Information for safe operation and installation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.4.2	Requirements for equipment safeguards		N/A
	UV radiation exposure..... :		N/A
10.4.3	Instructional safeguard..... :		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements	No X-radiation existed.	N/A
	Instructional safeguard for skilled persons..... :		N/A
10.5.3	Maximum radiation (pA/kg)..... :	(See appended tables B.3 & B.4)	N/A
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A)..... :		N/A
	Unweighted RMS output voltage (mV)..... :		N/A
	Digital output signal (dBFS)..... :		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30)..... :		N/A
	Warning for MEL ≥ 100 dB(A)..... :		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards..... :		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)..... :		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)..... :		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)..... :		N/A

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS	P
B.1	General	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.1.5	Temperature measurement conditions	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
B.1.6	Specific output conditions		N/A
B.2	Normal operating conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment containing an audio amplifiers..... :	(See Annex E)	N/A
B.2.3	Supply voltage and tolerances	+10 % and -10 % considered.	P
B.2.5	Input test..... :	(See appended table B.2.5) (See Clause E.3 for audio amplifier)	P
B.2.6.4	Equipment intended for building-in or rack-mounting		N/A
B.3	Simulated abnormal operating conditions		P
B.3.1	General		P
B.3.2	Covering of ventilation openings		P
	Instructional safeguard..... :		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals		N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions	(See Clause E.3.2)	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions..... :	(See appended table B.3, B.4)	P
B.4	Simulated single fault conditions		P
B.4.1	General	(See appended table B.4)	P
B.4.2	Temperature controlling device	No such device	N/A
B.4.3	Blocked motor test	(See appended table B.4)	N/A
B.4.4	Functional insulation	(See appended table B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the EUT	N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.6	Short circuit or disconnection of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Compliance criteria during and after single fault conditions..... :	(See appended table B.3, B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	(See Annex M)	N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method and compliance criteria		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus..... :		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	TEST GENERATORS		P
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		P
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT INTENDED TO AMPLIFY AUDIO SIGNALS		N/A
E.1	Electrical energy source classification for audio signals		N/A
	Maximum non-clipped output power (W)..... :		—
	Rated load impedance (Ω) :		—
	Open-circuit output voltage (V)..... :		—
	Instructional safeguard..... :		—
E.2	Audio signals used during test		N/A
E.2.1	Pink noise test signal		N/A
E.2.2	Sine-wave signal		N/A
E.3	Operating conditions of equipment containing an audio amplifier		N/A
E.3.1	Normal operating conditions	(See appended table B.2.5, E.3.1)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
E.3.2	Abnormal operating conditions	(See appended table B.3, B.4)	N/A
E.3.3	Audio equipment temperature measurement conditions.....:		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language: English		—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC 60027-1	Complied	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Complied	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	See marking label for details	P
F.3.2	Equipment identification markings	See below	P
F.3.2.1	Manufacturer identification:	See marking label for details	P
F.3.2.2	Model identification:	See marking label for details	P
F.3.3	Equipment rating markings	See marking label for details	P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage.....:	See marking label for details	P
F.3.3.4	Rated voltage.....:	See marking label for details	P
F.3.3.5	Rated frequency.....:	See marking label for details	P
F.3.3.6	Rated current or rated power.....:	See marking label for details	P
F.3.3.7	Equipment with multiple supply connections	Only one supply connection.	N/A
F.3.4	Voltage setting device	No such device on the equipment.	N/A
F.3.5	Markings on terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings :	No such device	N/A
F.3.5.2	Switch position identification marking.....:		N/A
F.3.5.3	Replacement fuse identification and rating markings.....:		N/A
	Instructional safeguards for neutral fuse.....:	No such fuse used.	N/A
F.3.5.4	Replacement battery identification marking.....:		N/A
F.3.5.5	Neutral conductor terminal	No such terminals	N/A
F.3.5.6	Terminal marking location	No such terminals	N/A
F.3.6	Equipment markings related to equipment classification		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1	Class I equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal.....:		N/A
F.3.6.1.2	Protective bonding conductor terminals		N/A
F.3.6.2	Equipment class marking..... :	See marking label for details	P
F.3.6.3	Functional earthing terminal marking..... :	No function earthing terminal	N/A
F.3.7	Equipment IP rating marking.....:	This equipment is classified as IPX0.	N/A
F.3.8	External power supply unit output marking.....:		N/A
F.3.9	Durability, legibility and permanence of markings	The marking is durable and legible, and can be easily discernible under normal lighting conditions.	P
F.3.10	Test for permanence of markings	After rubbing test by water and petroleum spirit, the label still easily discernible, indelible and legible.	P
F.4	Instructions		P
	– Information prior to installation and initial use	Mention in the user manual	P
	– Equipment for use in locations where children not likely to be present	Not such equipment	N/A
	– Instructions for installation and interconnection		N/A
	– Equipment intended for use only in restricted access area	Not such equipment	N/A
	– Equipment intended to be fastened in place	Not such equipment	N/A
	– Instructions for audio equipment terminals	Not such equipment	N/A
	– Protective earthing used as a safeguard	Mention in the user manual	N/A
	– Protective conductor current exceeding ES2 limits	Not such equipment	N/A
	– Graphic symbols used on equipment		P
	– Permanently connected equipment not provided with all-pole mains switch	Not such equipment	N/A
	– Replaceable components or modules providing safeguard function	No such part	N/A
	– Equipment containing insulating liquid	No insulating liquid.	N/A
	– Installation instructions for outdoor equipment	Indoor used.	N/A
F.5	Instructional safeguards		P
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance criteria		N/A
G.2	Relays		N/A
G.2.1	Requirements and compliance criteria		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance criteria		N/A
G.3	Protective devices		P
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730-1 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance criteria		N/A
G.3.2	Thermal links	No such component used.	N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance criteria		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		P
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....: (See appended table B.3, B.4)		P
G.4	Connectors		P
G.4.1	Spacings		N/A
G.4.2	Mains connectors configuration.....: Mains plug used within their rating considered acceptable without further evaluation		P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Output connector with a shape that insert into a mains connector is unlikely to occur.	P
G.5	Wound components		P
G.5.1	Wire insulation in wound components		N/A
G.5.1.2	Protection against mechanical stress		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)..... :		—
	Test temperature (°C)..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	Compliance criteria		N/A
G.5.3	Transformers		N/A
G.5.3.1	General		N/A
	Compliance method.....:		N/A
G.5.3.2	Insulation		N/A
	Protection from displacement of windings..... :		—
G.5.3.3	Transformer overload tests		N/A
G.5.3.3.1	Test conditions		N/A
	Position.....:		N/A
	Method of protection.....:		N/A
G.5.3.3.2	Winding temperatures		N/A
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter.....:		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.4	Motors		P
G.5.4.1	General requirements		P
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) :		—
	Electric strength test.....:	(See appended table 5.4.9)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test.....:	(See appended table 5.4.9)	N/A
G.5.4.5.3	Alternative method		N/A
	Electric strength test.....:	(See appended table 5.4.9)	N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature (°C).....:		N/A
	Electric strength test.....:	(See appended table 5.4.9)	N/A
G.5.4.6.3	Alternative method	See annexed table B.3, B.4	N/A
	Electric strength test.....:	(See appended table 5.4.9)	N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage (V).....:		—
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains power supply cords and interconnection cables		N/A
G.7.1	General requirements		N/A
	Type.....:		—
G.7.2	Cross sectional area (mm ² or AWG).....:		N/A
G.7.3	Cord anchorages and strain relief		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N).....:		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....:		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance criteria		N/A
	Overall diameter or minor overall dimension, <i>D</i> (mm).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Radius of curvature after test (mm)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		N/A
G.9.1	Requirements	No such component used	N/A
	IC limiter output current (max. 5A)..... :		—
	Manufacturers' defined drift		—
G.9.2	Test Program		N/A
G.9.3	Compliance criteria		N/A
G.10	Resistors		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
	Changes of resistance (%)..... :		N/A
	Measured current with the lowest resistance value :		N/A
G.10.4	Voltage surge test		N/A
	Changes of resistance (%)..... :		N/A
G.10.5	Impulse test		N/A
	Changes of resistance (%)..... :		N/A
G.10.6	Overload test		N/A
	Changes of resistance (%)..... :		N/A
G.11	Capacitors and RC units		N/A
G.11.1	General requirements		N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics		N/A
	Type test voltage $V_{ini,a}$:		—
	Routine test voltage, $V_{ini,b}$:		—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces	No such printed boards used.	N/A
	Distance through insulation..... :		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards	No such printed boards used.	N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance criteria		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	(See Clause G.13)	N/A
G.15	Pressurized liquid filled components or LFC assemblies		N/A
G.15.1	Requirements	No such component	N/A
G.15.2	Test methods and compliance criteria for self-contained LFC		N/A
G.15.2.1	Hydrostatic pressure test, applied test pressure..... :		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test, the change of tensile strength (%)..... :		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test, test temperature (°C)..... :		N/A
G.15.2.6	Force test		N/A
G.15.2.7	Compliance criteria		N/A
G.15.3	Test methods and compliance for a modular LFC		N/A
G.15.3.2	Hydrostatic pressure test, applied test pressure..... :		N/A
G.15.3.3	Creep resistance test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.3.4	Tubing and fittings compatibility test, the change of tensile strength (%).....:		N/A
G.15.3.5	Thermal cycle test, test temperature (°C).....:		N/A
G.15.3.6	Force test		N/A
G.15.3.7	Compliance criteria		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required		N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test.....:		—
	Mains voltage that impulses to be superimposed on.....:		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test.....:		—
G.16.3	Capacitor discharge test.....:	(See appended table 5.5.2.2)	N/A
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault condition current (mA):.....:		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V).....:		N/A
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
J.1	General		N/A
	Winding wire insulation.....:		—
	Solid round winding wire, diameter (mm).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm ²)..... :		N/A
J.2/J.3	Tests and Manufacturing	(See separate test report)	—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard..... :		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2..... :	(See appended table 5.4.9)	N/A
K.7.2	Overload test, Current (A)..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test	(See appended table 5.4.9)	N/A
L	DISCONNECT DEVICES		P
L.1	General requirements		P
L.2	Permanently connected equipment		N/A
	Instructions for permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single-phase equipment		P
	Instructions for single pole disconnect device		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
	Instructions for pluggable equipment		—

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Clause	Requirement + Test	Result - Remark	Verdict
L.8	Multiple power sources		N/A
	Instructional safeguard.....:		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards.....:		N/A
M.3	Protection circuits for batteries provided within the equipment		N/A
M.3.1	Requirements		N/A
M.3.2	Test method		N/A
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance criteria	(See appended table M.3)	N/A
M.4	Additional safeguards for equipment containing a secondary lithium battery		N/A
M.4.1	General	No such battery used.	N/A
	IEC 62133-2 batteries used for sub-system power powering application.....:		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Test		N/A
M.4.2.2.1	General		N/A
M.4.2.2.2	Abnormal operating conditions		N/A
M.4.2.2.3	Single fault conditions		N/A
M.4.2.3	Compliance criteria.....:	(See appended table M.4.2)	N/A
M.4.3	Fire enclosure.....:		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%):		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance criteria		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.5	Risk of burn due to short-circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance criteria		N/A
M.6	Safeguards against short-circuits		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance criteria		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration	No such battery used.	N/A
	Calculated hydrogen generation rate..... :		N/A
M.7.2	Test method and compliance criteria		N/A
	Minimum air flow rate, Q (m ³ /h)..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate..... :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.4	Marking..... :		N/A
M.8	Protection against internal ignition from external spark sources of rechargeable batteries with aqueous electrolyte		N/A
M.8.1	General	No such battery used.	N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V _z (m ³ /s)..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		N/A
	Instructional safeguard..... :		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Material(s) used..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Value of X (mm)..... :		—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		N/A
P.1	General		N/A
P.2	Safeguards against entry or consequences of entry of a foreign object		N/A
P.2.1	General		N/A
	Location and Dimensions (mm)		—
P.2.2	Safeguard requirements	No such possibility.	N/A
	The ES3 and PS3 keep-out volume in Figure P.4 not applicable to transportable equipment	No such possibility	N/A
	Transportable equipment with metalized plastic parts..... :	Not such equipment	N/A
P.2.3	Consequence of entry test..... :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General	No liquid used in the equipment	N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance criteria		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T _c (°C)..... :		—
	Duration (weeks)..... :		—
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources		N/A
Q.1.1	Requirements		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output		N/A
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance criteria..... :		N/A
	Current rating of overcurrent protective device (A) :		N/A
Q.2	Test for external circuits – paired conductor cable		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Maximum output current (A)		N/A
	Current limiting method.....		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test.....		—
R.3	Test method		N/A
	Cord/cable used for test.....		—
R.4	Compliance criteria		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material.....		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material.....		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
	- Material did not show any additional holes for combustible materials		N/A
	- Cheesecloth did not ignite for top openings		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance criteria		N/A
	Mounting of samples		—
	Wall thickness (mm).....		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A

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Clause	Requirement + Test		Verdict
S.5	Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W		N/A
	Samples, material..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
S.6	Grille covering material, cloth, and reticulated foam		N/A
	Samples, material..... :		—
	Measured distance from the centre of the fuel tablet (mm)..... :		N/A
T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N	(See appended table T.2, T.3, T.4, T.5)	P
T.3	Steady force test, 30 N	(See appended table T.2, T.3, T.4, T.5)	N/A
T.4	Steady force test, 100 N	(See appended table T.2, T.3, T.4, T.5)	N/A
T.5	Steady force test, 250 N	(See appended table T.2, T.3, T.4, T.5)	P
T.6	Enclosure impact test	(See appended table T.6, T.9)	P
	Fall test		P
	Swing test		P
T.7	Drop test	(See appended table T.7)	P
T.8	Stress relief test.....	(See appended table T.8)	P
T.9	Glass Impact Test.....	(See appended table T.6, T.9)	N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted..... :		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		N/A
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard..... :		N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS		P
V.1	Accessible parts of equipment		P

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Clause	Requirement + Test	Result - Remark	Verdict
V.1.1	General	See below	P
V.1.2	Surfaces and openings tested with jointed test probes	Considered.	P
V.1.3	Openings tested with straight unjointed test probes		P
V.1.4	Plugs, jacks, connectors tested with blunt probe		P
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
V.2	Accessible part criterion		P
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance..... : (See appended table X)		N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General		N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by..... :		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure..... :		N/A
Y.3.5	Compliance criteria		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests, changes of tensile strength and elongation..... :		N/A
	Alternative test methods..... :		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance, change of swell / shrink (%)..... :		N/A
Y.4.6	Securing means	(See Clause P.4)	N/A
Y.5	Protection of equipment within an outdoor enclosure		N/A
Y.5.1	General	EUT For indoor used	N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3..... :		N/A
Y.5.3	Water spray test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
	Relevant tests of IEC 60529 or Y.5.5.2 or Y.5.5.3... :		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test.....:	(See appended table T.6, T.9)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	
264Va.c, 60Hz	Primary circuits supplied by a.c. mains supply	Normal:	264Vrms	--	SS	60Hz	ES3
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							

5.4.1.8	TABLE: Working voltage measurement					N/A
Location		Peak voltage (V)	RMS voltage (V)	Frequency (Hz)	Comments	
--		--	--	--	--	
Supplementary information:						
Supply voltage: 240V, 60Hz						

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics				N/A
Method..... :			ISO 306 / B50		—
Object/ Part No./Material	Manufacturer/trademark		Thickness (mm)	T softening (°C)	
--	--		--	--	
Supplementary information:					

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics				P
Allowed impression diameter (mm)..... : ≤ 2 mm				—	
Object/Part No./Material		Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)
Plug holder		SABIC INNOVATIVE PLASTICS B V	1.5 (Test with thickness 3.0mm)	125	0.8
Supplementary information:					

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance				P
---------------------	--	--	--	--	----------

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq ¹⁾ (kHz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Reinforce insulation: L/N to plastic enclosure	420	250	0.06	3.0	6.8	--	5.0	6.8
Supplementary information:								
1) Only for frequency above 30 kHz								
2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)								

5.4.4.2	TABLE: Minimum distance through insulation				P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)	
Plastic enclosure	420	Reinforce insulation	0.4	Min. 1.5	
Supplementary information:					

5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz					N/A
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)
--	--	--	--	--	--	--
--	--	--	--	--	--	--
Supplementary information:						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
L/N to plastic enclosure with metal foil		DC	4000	No
Primary circuit and plastic enclosure with metal foil		DC	4000	No
Supplementary information:				

5.5.2.2	TABLE: Stored discharge on capacitors				N/A
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage	ES Class

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
				(Vpk)	
--	--	--	--	--	--
Supplementary information:					
X-capacitors installed for testing:					
[] bleeding resistor rating:					
[] ICX:					
1) Normal operating condition (e.g., normal operation), SC= short circuit, OC= open circuit					

5.6.6	TABLE: Resistance of protective conductors and terminations				N/A
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
--	--	--	--	--	
Supplementary information:					

5.7.4	TABLE: Unearthed accessible parts					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V _{rms} or V _{pk})	Current (A _{rms} or A _{pk})	Freq. (Hz)	
Plastic enclosure to earth	Normal	264Vac/60Hz	--	0.014mA _{pk}	60	ES1
	Abnormal: (Output overload)	264Vac/60Hz	--	0.014mA _{pk}	60	ES1
	Single fault: SC/OC (Refer to fault condition on table B.3, B.4, output shutdown)	264Vac/60Hz	--	0.014mA _{pk}	60	ES1
	Single fault: SC/OC (Refer to fault condition on table B.3, B.4, fuse open)	264Vac/60Hz	--	0.014mA _{pk}	60	ES1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

5.7.5	TABLE: Earthed accessible conductive part			N/A
Supply voltage (V).....:				—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Phase(s)	[] Single Phase; [] Three Phase: [] Delta [] Wye		
Power Distribution System	[] TN [] TT [] IT		
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment
--	--	--	--
Supplementary Information:			

5.8	TABLE: Backfeed safeguard in battery backed up supplies					N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class
--	--	--	--	--	--	--
Supplementary information:						
Abbreviation: SC= short circuit, OC= open circuit						

6.2.2	TABLE: Power source circuit classifications					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class
Primary circuits supplied by a.c. mains supply	Normal working	--	--	--	--	PS3 (declared)
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.						

6.2.3.1	TABLE: Determination of Arcing PIS			P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
All primary circuits/components	--	--	--	Yes (declared)
Supplementary information:				

6.2.3.2	TABLE: Determination of resistive PIS		P
Location	Operating and fault condition	Dissipate power (W)	Resistive PIS? Yes /

IEC 62368-1			
Clause	Requirement + Test		Verdict
			No
All internal circuits/components	--	--	Yes (declared)
Supplementary information:			
Abbreviation: SC= short circuit; OC= open circuit			

8.5.5	TABLE: High pressure lamp				N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No	
--	--	--	--	--	
Supplementary information:					

9.6	TABLE: Temperature measurements for wireless power transmitters								N/A
Supply voltage (V).....:									—
Max. transmitting power (W)..... :									—
Part A ¹⁾									
Foreign objects	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm		
	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	
Steel disc	--	--	--	--	--	--	--	--	
Aluminium ring	--	--	--	--	--	--	--	--	
Aluminium foil	--	--	--	--	--	--	--	--	
Measurement temperature T of part/at:	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm		
	T (°C)	Ambient (°C)	T (°C)	Ambient (°C)	T (°C)	Ambient (°C)	T (°C)	Ambient (°C)	
--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	
Supplementary information:									
1) The test is performed by powering up the transmitter and then placing each of the foreign objects specified in 9.6.2 in direct contact with the transmitter.									
2) The test is performed by first placing each of the foreign objects specified in 9.6.2 in direct contact with the transmitter and then powering up transmitter.									

IEC 62368-1									
Clause		Requirement + Test					Result - Remark		Verdict
5.4.1.4, 9.3, B.1.5, B.2.6		TABLE: Temperature measurements							P
Supply voltage (V).....:				99Vac/60Hz		264Vac/50Hz		—	
Ambient temperature during test T_{amb} (°C).....:				24.2		24.5		—	
Maximum measured temperature T of part/at:				T (°C)				Allowed T_{max} (°C)	
Plug holder				32.4		33.9		120	
PCB near U1				47.7		45.6		130	
PCB near DB1				54.6		42.8		130	
E-capacitor EC1				49.5		46.4		105	
E-capacitor EC3				48.6		44.4		105	
Motor				53.5		50.5		Ref	
Internal wire				38.3		39.5		80	
Plastics enclosure inside near motor				34.6		33.5		--	
Plastics enclosure outside near motor				29.2		30.5		77*	
Ambient				25.0		25.0		--	
Temperature T of winding:		t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class	
--		--	--	--	--	--	--	--	
Supplementary information:									
* Temperature limit for TS1 of accessible enclosure outside according to Table 38.									
Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T_{ma}) of 25°C.									
Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.1.									

B.2.5		TABLE: Input test						P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
99	50	0.378	--	14..0	--	F1	0.378	Normal operation
99	60	0.378	--	14.0	--	F1	0.378	
110	50	0.354	0.5	13.8	--	F1	0.354	
110	60	0.355	0.5	13.5	--	F1	0.355	
240	50	0.184	0.5	14.2	--	F1	0.184	
240	60	0.185	0.5	14.1	--	F1	0.185	
264	50	0.182	--	14.3	--	F1	0.182	
264	60	0.181	--	14.1	--	F1	0.181	
Supplementary information:								

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

B.2.5, E.3.1		TABLE: Input test for equipment containing audio amplifiers										N/A	
Operation Condition:		Signal type		Frequency (Hz)		Output loads (Ω)		Load setup					
--		--		--		--		--					
Input									Amplifier Output				
Cond.	U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Ch.	U (V)	P (W)	Load (Ω)	
--	--	--	--	--	--	--	--	--	--	--	--	--	
Supplementary information:													

B.3, B.4		TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T _{amb} (°C)..... :							—
Power source for EUT: Manufacturer, model/type, outputrating... :							—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Ventilation openings	Covering	264V	2h10mins	--	--	Unit not working normally, no damage, no hazards. Motor: 66.4°C Plastic enclosure outside near motor:35.3°C Ambient: 25.0°C	
U1 Pin3-4	S-C	264	10mins	--	--	Unit shutdown immediately recoverable, no hazard.	
EC1	S-C	264	1s	--	--	Unit shutdown immediately, recoverable, no damaged, no hazard.	
Supplementary information:							

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

- 1) S-C: Short-circuited; O-C: Open-circuited; O-L: Overloaded.
- 2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.
- 3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.
- 4) The overloaded condition is applied according to annex G.5.3.3.
Winding Limit for T1: 175-10=165°C. Enclosure outside: TS2=87°C.
- 5) Tests were performed on product with each source of fuse listed in table 4.1.2.
- 6) During single fault operating during abnormal condition test, the output voltage did not increase by more than 3V or 10% which one is higher of its rated output voltage under normal operating condition (For USB outlet or connector)

M.3	TABLE: Protection circuits for batteries provided within the equipment						N/A
Is it possible to install the battery in a reverse polarity position?.....:				--		—	
Equipment Specification		Charging					
		Voltage (V)			Current (A)		
		--			--		
Manufacturer/type		Battery specification					
		Non-rechargeable batteries		Rechargeable batteries			
				Charging		Discharging current (A)	Reverse charging current (A)
		Discharging current (A)	Unintentional charging current (A)	Voltage (V)	Current (A)		
--		--	--	--	--	--	--
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C).....:				--			
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
--	--	--	--	--	--	--	--
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery	N/A
--------------	--	-----

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Maximum specified charging voltage (V).....:			--		—
Maximum specified charging current (A)			--		—
Highest specified charging temperature (°C)			--		
Lowest specified charging temperature (°C)			--		
Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	
--	--	--	--	--	--
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)						N/A
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
--	--	--	--	--	--	--	--
Supplementary Information:							

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Internal components (T.2)	--	--	--	10	5	No reduction the clearances and creepage distances	
Enclosure Top (T.5)	Plastics*	Min. 1.5	--	250	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Enclosure Side (T.5)	Plastics*	Min. 1.5	--	250	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Enclosure Bottom (T.5)	Plastics*	Min. 1.5	--	250	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Supplementary information:						

T.6, T.9	TABLE: Impact test				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Enclosure top (T.6)	Plastics*	Min. 1.5	1300	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Enclosure side (T.6)	Plastics*	Min. 1.5	1300	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Enclosure bottom (T.6)	Plastics*	Min. 1.5	1300	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information:					

T.7	TABLE: Drop test	P
-----	------------------	---

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
Enclosure Top	Plastics*	Min. 1.5	1000	After the drop test, enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Enclosure Side	Plastics*	Min. 1.5	1000	After the drop test, enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Enclosure Bottom	Plastics*	Min. 1.5	1000	After the drop test, enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Supplementary information:				

T.8	TABLE: Stress relief test					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	Plastics*	Min. 1.5	70	7	No damaged, no hazard.	
Supplementary information:						

X	TABLE: Alternative method for determining minimum clearances distances				N/A
Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)		
--	--	--	--		
Supplementary information:					

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
4.1.2	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Plastic enclosure/Plug holder	SABIC INNOVATIVE PLASTICS B V	940(f1)(gg*)	PC, Rate V-0, 120°C, min. thickness: 1.5mm, two parts sealed by ultrasonic. HWI=3, HAI=3	UL 94, UL 746C	UL E45329
Step Motor	Wugang City Tengfeida Electronics Co., Ltd.	24BYJ48-202551205D1	5VDC	IEC/EN 62368-1	Tested with appliance
Step Motor	Wugang City Tengfeida Electronics Co., Ltd.	24BYJ48-20251205B2	5VDC	IEC/EN 62368-1	Tested with appliance
PCB	Interchangeable	Interchangeable	V-0, 130°C	UL746	UL
Internal wire	Interchangeable	Interchangeable	VW-1, Min. 26AWG, 80°C	UL 758	UL
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance.					

ATTACHMENT to TRF IEC62368_1F	
ATTACHMENT TO TEST REPORT IEC 62368-1:2023 CANADA and US NATIONAL DIFFERENCES (Audio/Video, information and communication technology equipment – Part 1:Safety requirements)	
Differences according to.....:	CSA UL 62368-1:2025 issued July 31, 2025
TRF template used:.....:	IECEE OD-2020-F3:2024, Ed. 1.3
Attachment Form No.....:	CA_US_ND_IEC62368_1F
Attachment Originator.....:	UL Solutions (US)
Master Attachment.....:	Dated 2025-08-25
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Clause	Requirement + Test	Result - Remark	Verdict
	National Differences		P
1 (1DV.1) (1.3)	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CE Code), Part 1, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.		P
1 (1DV.2.1)	This standard includes additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities. See Annex DVB.		N/A
1 (1DV.2.2)	This standard includes additional requirements for equipment intended for mounting under cabinets. See Annex DVC.		N/A
1 (1DV.2.3)	IEC 62368-3 clause 5 for DC power transfer at ES1 or ES2 voltage levels is considered informative. IEC 62368-3 clause 6 for remote power feeding telecommunication (RFT) circuits is considered normative (see ITU K.50). Alternatively, equipment with RFT circuits are given in either UL 2391 or CSA C22.2 No. 60950-21/UL 60950-21. RFT-C circuits are not permitted unless the RFT-C circuit complies with RFT-V limits ($\leq 200V$ per conductor to earth).		N/A
1(1DV2.4)	This standard does not cover Modular Data Centers (MDCs), only the information and communication technology equipment contained within.		N/A
1 (1DV.2.5)	For industrial Additive Manufacturing Equipment (industrial 3D printers), refer to UL 2011, CSA C22.2 No. 301.		N/A
1 (1DV.3)	For protection against direct lightning strikes, reference is made to NFPA 780 and CAN/CSA-B72 for additional requirements.		N/A
1 (1DV.4)	For Battery Backup Systems in separate cabinets, refer to ANSI/CAN/UL 1973.		N/A
	For Stationary Standby Batteries covered in Article 480 of the NEC, refer to UL 1989.		N/A
	For Energy Storage Systems (ESS) covered in Article 706 of the NEC, refer to ANSI/CAN/UL 9540.		N/A
1 (DV.5)	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
1 (1DV.6)	Fault-Managed (Class 4) Power Systems covered in Article 726 of the NEC are required to comply with UL 1400-1.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
4.1 (4.1.8)	For equipment using refrigerants, refer to CSA C22.2 No. 60335-2-40/UL 60335-2-40, CSA C22.2 No. 61010-2-011, and UL 61010-2-011.		N/A
4.1 (4.1.17)	For lengths exceeding 3.05 m, external interconnecting cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.		N/A
	For lengths 3.05 m or less, external interconnecting cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.		N/A
4.6 (4.6.2)	Wire-wrap terminals have special construction and performance requirements.		N/A
4.8 (4.8.1, 4.8.5)	Equipment likely to be accessible to children with coin or button cell batteries is required to comply with UL 4200A. This requirement applies whether the coin or button cell battery is replaceable or non-replaceable. This requirement does not apply to professional equipment. Note: additional UL 4200A TRF attachment is appended to end of this ND TRF.		N/A
5.4.2.3.2 (5.4.2.3.2.1)	Surge Arrestors and Transient Voltage Surge Suppressors installed external to the equipment are required to comply with the appropriate NEC and CE Code requirements.		N/A
5.5.9	Receptacles rated 125-V, single phase, 15- or 20-A accessible to either ordinary, instructed, or skilled persons are required to be provided with GFCI Protection for Personnel if the equipment containing the receptacles is installed outdoors. The protection devices are required to comply with UL 943, and CAN/CSA C22.2 No.144.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.7, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment.		N/A
5.7.8 (5.7.8.1, 5.7.9.1)	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure is required to comply with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A
Annex F (F.3.3.9)	Output terminals provided for supply of other equipment, except mains supply, are required to be marked with a maximum rating or reference to equipment permitted to be connected.		N/A
Annex F (F.3.7)	Outdoor Enclosures are required to be classified and marked in accordance with UL 50 or 50E, or CAN/CSA C22.2 No. 94.1 or 94.2.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex G (G.7)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC and associated requirements of the CE Code.		N/A
	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
	Power supply cords for outdoor equipment are required to be suitable outdoor use type as required by Article 400.4 of the NEC and Rule 4-012 of the CE Code, i.e., marked "W."		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex Q (Q.3)	Equipment with paired conductor and/or coax communications cables/wiring connected to building wiring are required to have special voltage, current, power and marking requirements.		N/A
Annex DVA (1)	Equipment that is designed such that it may be powered from a separate electrical service, is required to meet applicable requirements for service equipment for control and protection of services and their installation and complies with Article 230 of the National Electrical Code (NEC), NFPA 70 and Section 6 of the Canadian Electrical Code, Part I, CSA C22.1.		N/A
	Equipment intended for use in spaces used for environmental air (plenums) are subjected to special flammability requirements for heat and visible smoke release.		N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. and Canadian Regulations.		N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
	Storage batteries and battery management equipment, other than associated with lead-acid batteries, and including battery backup systems that are not an integral part of stationary AV and ICT equipment, such as provided in separate cabinets, are required to be certified (listed) to the appropriate standard(s) for such storage batteries and equipment.		N/A
	Non-Industrial Additive Manufacturing Equipment (non-Industrial 3D Printers) have special limitations in accordance with NFPA 1 and the International Code Council (ICC) International Fire Code (IFC).		N/A
	Network Connected Life Safety Equipment AV/ICT equipment used in life safety applications shall incorporate cybersecurity safeguards establishing its ability to withstand unauthorized updates and malicious attacks while continuing to perform its intended safety functionality.		N/A
Annex DVA (4.8)	See 4.8.		N/A
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		N/A
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a minimum flammability classification of V-1.		N/A
Annex DVA (10.3)	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5)	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (F.3.3.4)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or that are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."		N/A
Annex DVA (F.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position, where mounted in an enclosure, vertically mounted disconnect switches and circuit breakers with vertical operating means extending outside the enclosure are required to indicate in a location visible when accessing the external operating means whether the switch or circuit breaker is in the open (off) or closed (on) position.		N/A
Annex DVA (G.3.4)	Suitable NEC/CE Code branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CE Code 10-400 and 10-614.		N/A
Annex DVA (G.4.3)	Interconnection of units by conductors supplied by a limited power source, or a Class 2 circuit defined in the NEC/CE Code may have field wiring connections other than specified in DVH.3, such as wire-wrap and crimp-on types, if the limited power source and Class 2 circuits are separated from all other circuits by barriers, routing or fixing.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (G.7)	Flexible cords used outdoors are required to have the suffix "W" marked on the flexible cord.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.8)	Safety circuits for personnel protection that are subject to damage from surge events shall have surge protection installed within or immediately adjacent to the control panel.		N/A
Annex DVA (M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A
Annex DVA (Q)	If applicable per NEC 725.60(C) and CE Code 16-350, some limited power sources supplied from AV/ICT equipment are required to have a label indicating the maximum voltage and rated current output for per conductor for each connection point. Where multiple connection points have the same rating, a single label is permitted to be used.		N/A
	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CE Code Part 1 are required to be marked with the voltage rating and "Class 2" or equivalent. The marking is located adjacent to the terminals and visible during wiring.		N/A
	Applicable parts of Chapter 8 of the NEC, and Rules 54 and 60 of the CE Code, may be applicable to ITE installed outdoors with connections to communication systems.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These equipment and components include: appliance couplers, attachment plugs, battery backup systems, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, modular data centres, power supply cords, some power distribution equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.		P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CE Code.		N/A
Annex DVH (DVH.2.1)	For safe and reliable connection to a mains, permanently connected equipment is to be provided.		N/A
Annex DVH (DVH.2.2)	Additional considerations are applicable for D.C. mains.		N/A
Annex DVH (DVH.3.2.1)	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified.		N/A
Annex DVH (DVH.3.2.3)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
Annex DVH (DVH.3.2.4)	All associated mains supply terminals are to be located in proximity to each other and to the main protective earthing terminal, if any.		N/A
Annex DVH (DVH.3.2.5)	Terminals are required to be located, guarded or insulated so that, should a strand of a conductor escape when the conductor is fitted, there is no likelihood of accidental contact between such a strand and accessible conductive parts or unearthed conductive parts separated from accessible conductive parts by supplementary insulation only.		N/A
Annex DVH (DVH.3.3)	When field connection to an external circuit is via wires (example, free conductors), the wires are required to be not smaller than 18 AWG (0.82 mm ²) and the free length of the wire inside an outlet box or wiring compartment is required to be 150 mm or more.		N/A
Annex DVH (DVH.3.4)	Size of protective earthing conductors and terminals are required to comply with specified national conditions.		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH.4.1)	Wire bending space are required to comply with specified national conditions.		N/A
Annex DVH (DVH.4.2)	Volume of wiring compartment is required to comply with specified national conditions.		N/A
Annex DVH (DVH.4.3)	Separation of circuits is required to comply with specified national conditions.		N/A
Annex DVH (DVH.5)	Equipment markings and instructional safeguards are required to comply with specified national conditions.		N/A
Annex DVH (DVH.5.1)	Identification of protective earthing terminal required to comply with specified national conditions.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.5.2)	Identification of terminal for earthed conductor (neutral) is required to comply with specified national conditions.		N/A
Annex DVH (DVH.5.3)	Identification of terminals for aluminium conductors is required to comply with specified national conditions.		N/A
Annex DVH (DVH.5.4)	Wire temperature ratings are required to comply with specified national conditions.		N/A
Annex DVH (DVH.5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

ATTACHMENT – UL 4200A			
ATTACHMENT TO TEST REPORT UL 4200A US NATIONAL DIFFERENCES (Approval and test specification—Products Incorporating Button Batteries or Coin Cell Batteries)			
Differences according to.....: US UL 4200A:2023-08-30			
TRF template used:.....: IECEE OD-2020-F3:2024, Ed. 1.3			
Attachment Form No.....: CA_US ND Attachment			
Attachment Originator.....: UL Solutions (US)			
Master Attachment.....: Dated 2025-08-25			
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Note: UL 4200A:2023 is NOT covered by IECEE Accreditation for Testing / Reporting Please state Laboratory Accreditation for this Standard.			
Clause	Requirement + Test	Result - Remark	Verdict
5	CONSTRUCTION		N/A
5.1	Products that use button/coin cell batteries designed to minimize the risk of children removing and ingesting the batteries.		N/A
	Products that allow user removal or replacement of button/coin cells shall comply with requirements 5.2 – 5.6; OR		N/A
	Products with button/coin cells that are not intended to allow user removal/replacement shall comply with 5.7.		N/A
5.2	Products with removable or replaceable button/coin cell batteries shall not allow the button/coin cell to be contacted by Test Probe.		N/A
5.3	Probe applied to any depth permitted via openings and rotated or angled throughout insertion to examine the enclosure.		N/A
5.4	Parts of the enclosure that may be opened or removed by the user without using a tool or with less effort that two independent and simultaneous movements by hand is to be opened and removed.		N/A
5.4A	Tension Test for part of the battery compartment enclosure is protected by pliable material, to determine whether the battery compartment enclosure can become exposed or accessible, using a force of at least 70.0 N (15.7 lbf).		N/A
	If a new part of the battery compartment enclosure becomes exposed or accessible, repeat the examination of 5.4 and remove any further pliable material that is then exposed until no new part of the battery compartment enclosure becomes exposed or accessible, and then conduct the test in 5.3.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
5.5	Products with removeable or replaceable button/coin cell battery inside a battery compartment shall be designed to prevent child by one of the following methods:		N/A
5.5 a)	A tool is required to open the battery compartment. For a battery compartment secured by a screw or a twist-on access cover, a minimum torque of 0.5 Nm and a minimum angle of 90 degrees of rotation is required to open the compartment or		N/A
	The fastener shall engage a minimum of two full threads.		N/A
5.5 b)	The battery compartment door or cover requires the application of a minimum of two independent and simultaneous movements to open by hand.		N/A
5.6	If screws or similar fasteners are used to secure the door or cover, the fasteners shall be captive to the door, cover or device.		N/A
5.7	Products incorporating button/coin cells not intended for user removal or replacement shall effectively prevent remove of the battery. The button/coin cell shall be:		N/A
5.7 a)	Made inaccessible by an enclosure or similar means which passes tests of 6.2 and 6.3; or		N/A
5.7 b)	Held fully captive by the use of soldering, fasteners or equivalent means and shall pass test 6.4.		N/A
6	PERFORMANCE		N/A
	Protection from Ingestion or Aspiration of Button/Coin Cell Batteries		N/A
6.1	GENERAL		N/A
6.1.1	Button/coin cell batteries shall not be accessible or liberated from the product as a result of mechanical abuse tests in applicable safety standards for the product.		N/A
	Products with button/coin cells shall comply with the tests in 6.2 – 6.4.		N/A
6.2	PRE-CONDITIONING		N/A
6.2.1 a)	Stress Relief Test		N/A
6.2.1 b)	Battery Replacement Test		N/A
	Battery replaced a total of ten times, adhering to manufacturer's instructions.		N/A
6.3	ABUSE TESTS		N/A
6.3.1	GENERAL		N/A
6.3.2	Drop test for portable devices and hand-held products		N/A
6.3.3	Impact test		N/A
6.3.4	Crush test		N/A
6.3.4A	Torque test		N/A
6.3.4B	Tension test		N/A

Clause	Requirement + Test	Result - Remark	Verdict
6.3.4C	Compression test		N/A
6.3.5	Compliance test		N/A
6.4	Secureness test		N/A
7	MARKINGS		N/A
7A	GENERAL		N/A
7A.1	All warning statements or icons shall be prominent, legible, easily discernable under normal lighting conditions, and permanently marked.		N/A
7A.2	If an instructional safeguard is present in more than one color to indicate hazard severity, the color shall be in accordance with the ISO 3864 series.		N/A
7A.3	Printed or screened markings shall also be permanent.		N/A
7A.4	Legibility of markings is determined by inspection. Permanency is determined by the tests of Permanence of Markings.		N/A
7A.5	Language		N/A
7A.6	Safety alert symbol		N/A
7A.7	Text in the message panel		N/A
7A.8	Labels consideration that are provided on a sticker, hang tag, instructions or manual.		N/A
7A.9	Labels consideration that are required to be on the packaging of consumer products and directly on consumer products.		N/A
7B	Packaging Markings		N/A
7B.1	Principal display panel contains the warning label.		N/A
7B.2	Consumer products that are not contained in packaging.		N/A
7B.3	Limited space on principal display panel of the consumer product packaging.		N/A
7B.4	Additional text consideration for principal display panel or secondary display panel of the consumer product packaging, or accompanying hang tag or sticker label.		N/A
7C	Product Markings		N/A
7C.1	Consumer products marked with a warning label on the product display panel.		N/A
7C.2	Limited space on the product.		N/A
7C.3	Product is too small to include the warning with text in Figure 7C.1 or the icon in Figure 7C.2.		N/A
7D	Test for permanence of markings.		N/A
9	INSTRUCTIONS		N/A

Clause	Requirement + Test	Result - Remark	Verdict
9.1	Instructions and manuals, if provided, shall include all of the applicable markings and the applicable statements.		N/A
	If instructions and manuals are not provided, the statements shall be present on the principal display panel or secondary display panel of the consumer product packaging, or if there is no consumer product packaging, the accompanying hang tag or sticker label.		N/A
9.2	Products with replaceable button/coin cell batteries.		N/A
9.3	Products with non-replaceable button/coin cell batteries.		N/A

ATTACHMENT 2 Photo Documentation

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Report No.:
PTC26040117601S-UL01

Product: Battery camera

Type Designation: PG1



Fig. 1



Fig. 2

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Report No.:
PTC26040117601S-UL01

Product: Battery camera

Type Designation: PG1



Fig. 3

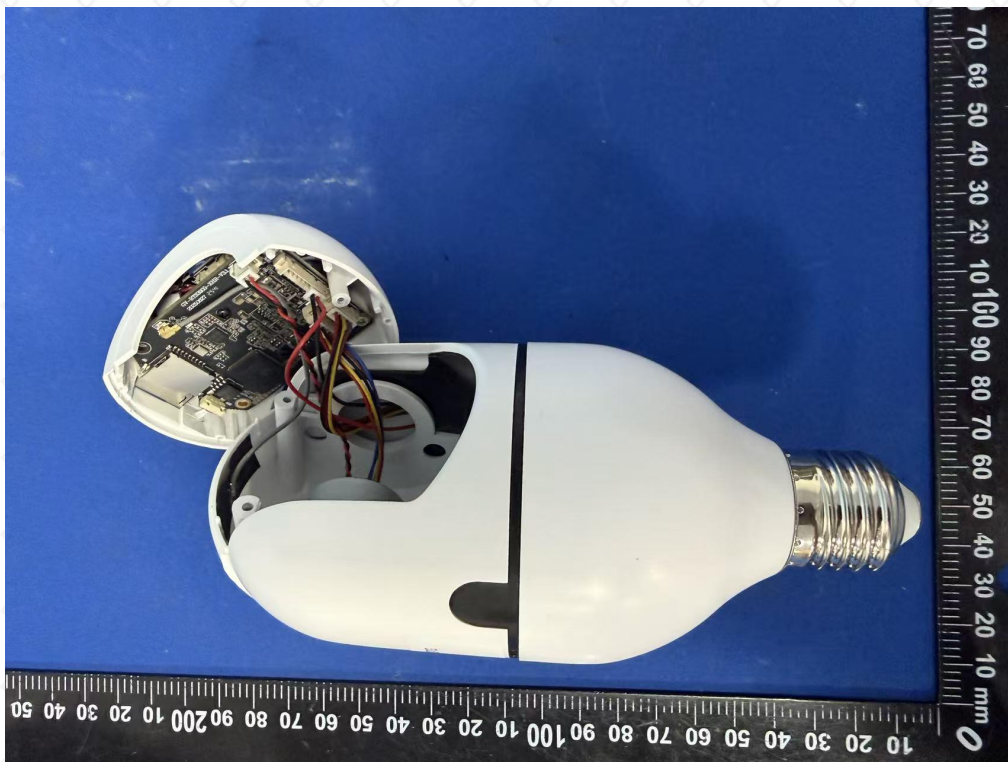


Fig. 4

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Report No.:
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Product: Battery camera

Type Designation: PG1

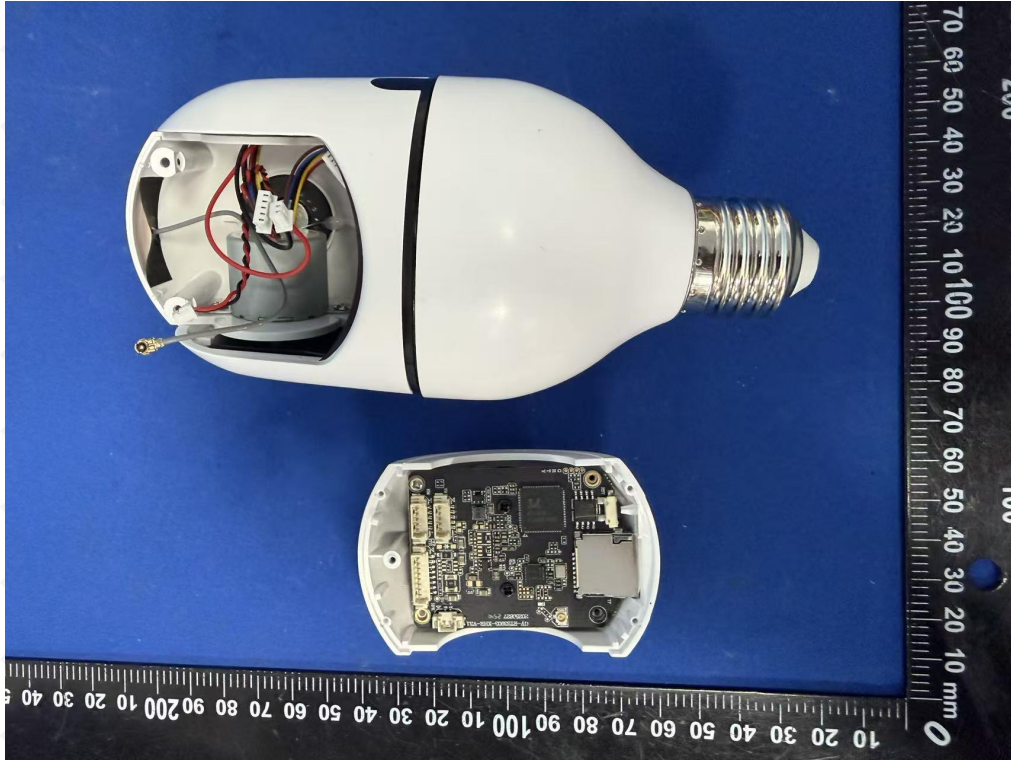


Fig. 5



Fig. 6

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Report No.:
PTC26040117601S-UL01

Product: Battery camera

Type Designation: PG1

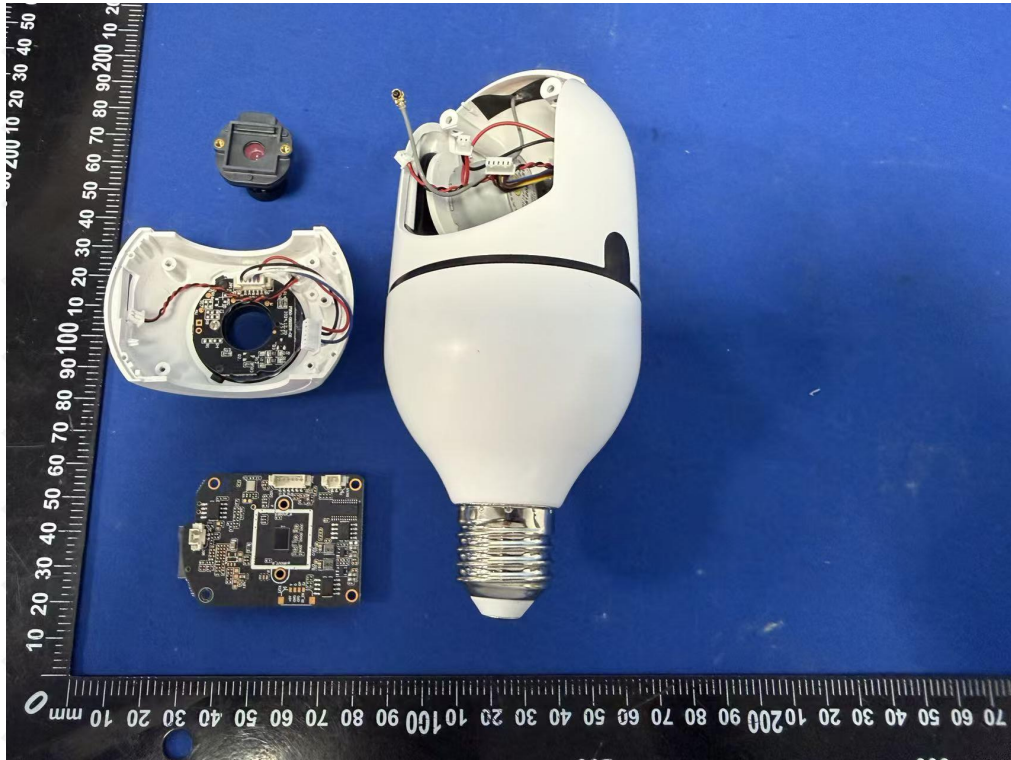


Fig. 7

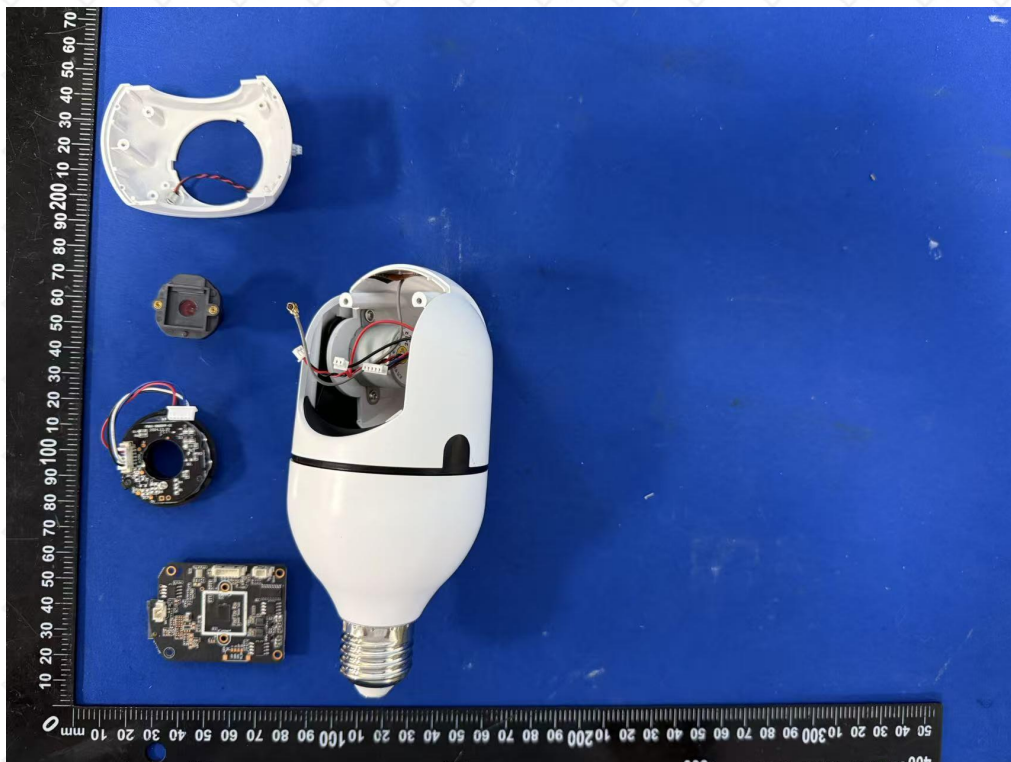


Fig. 8

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Report No.:
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Product: Battery camera

Type Designation: PG1

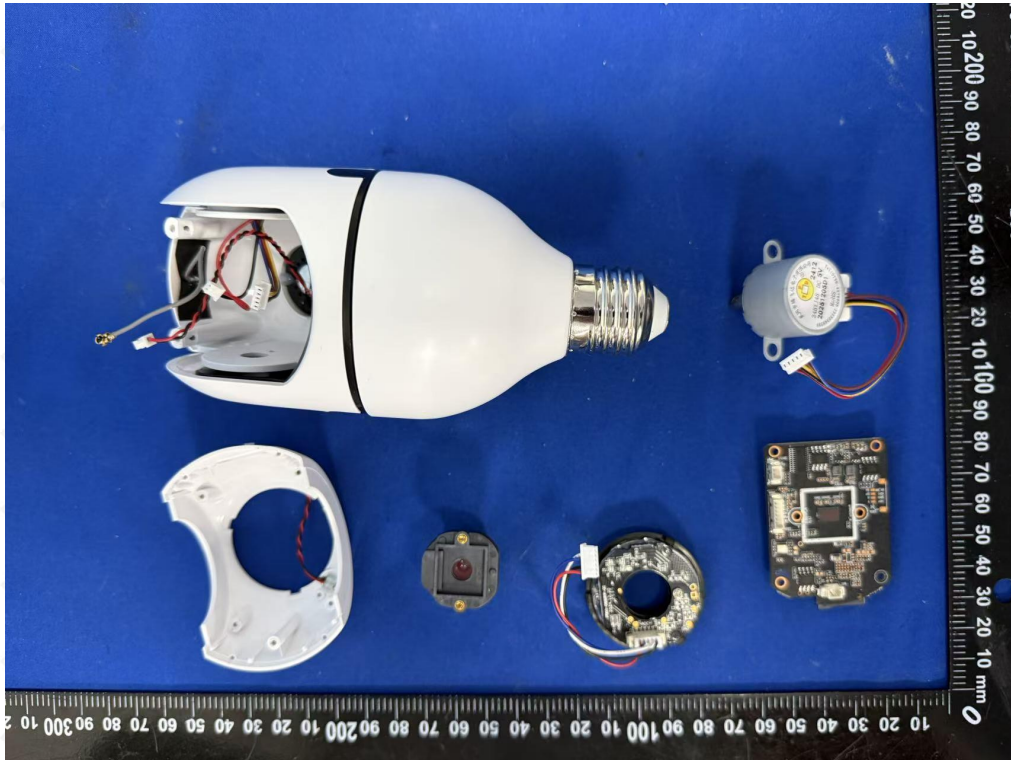
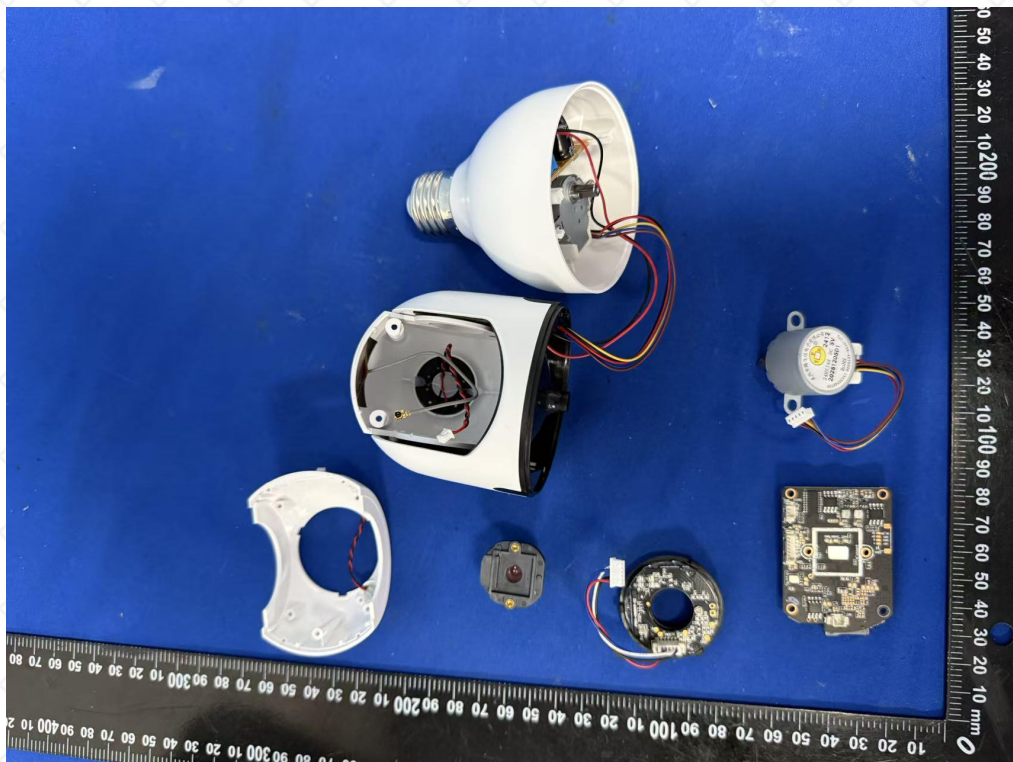


Fig. 9



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Report No.:
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Product: Battery camera

Type Designation: PG1

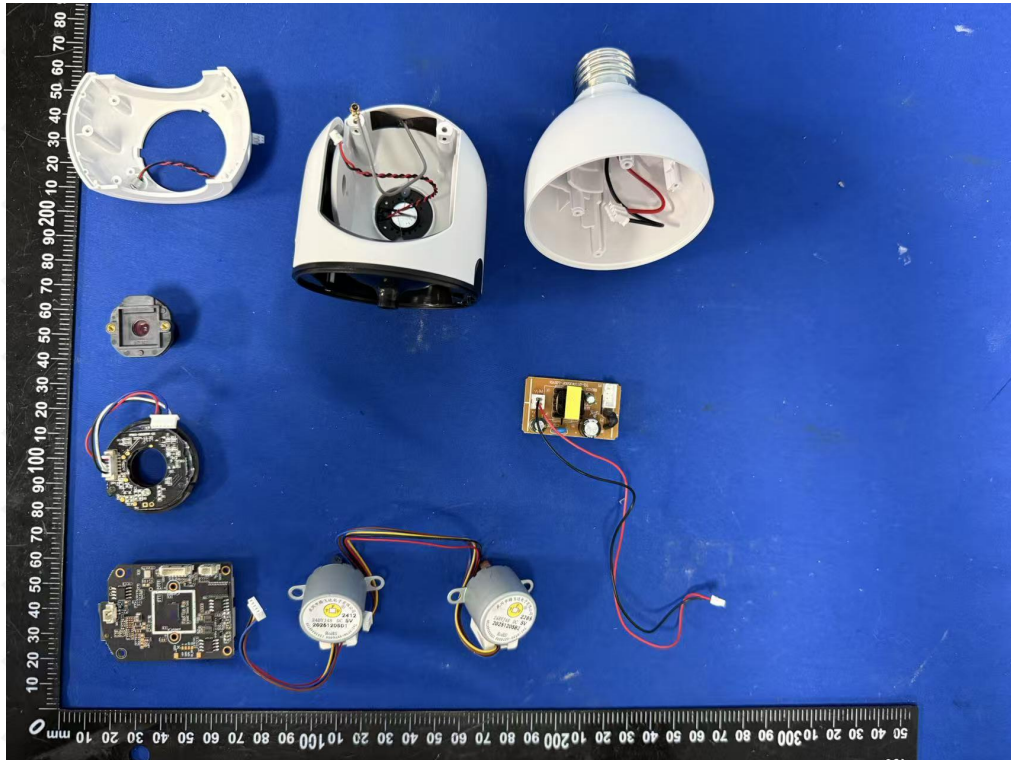


Fig. 10



Fig. 11

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Report No.:
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Product: Battery camera

Type Designation: PG1

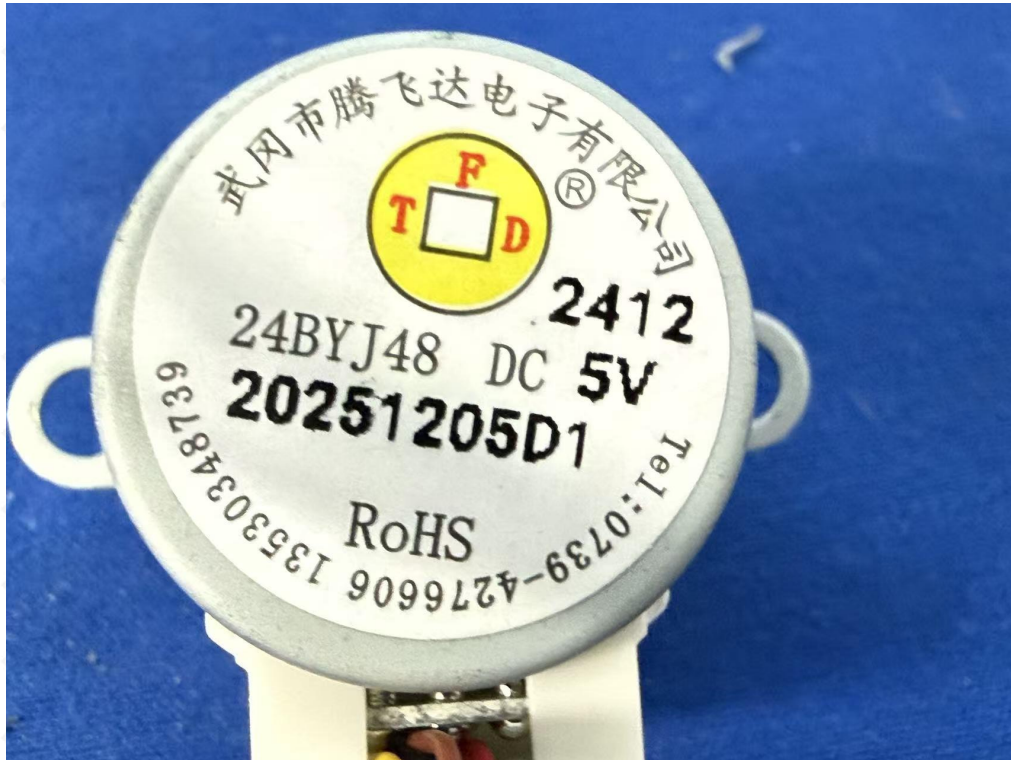


Fig. 12

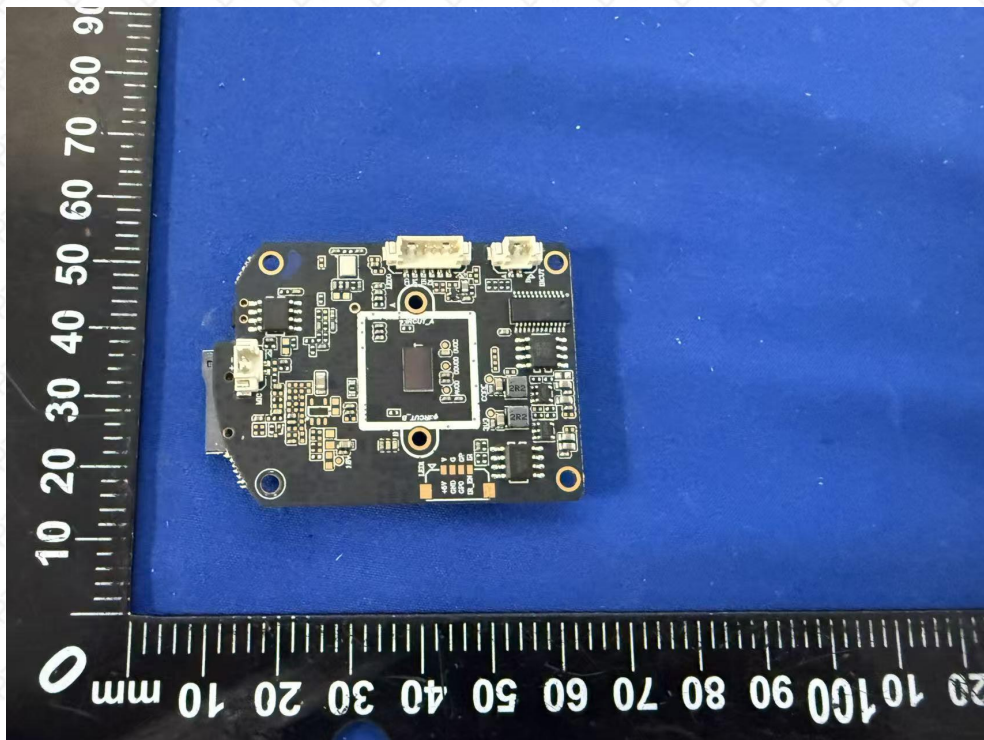


Fig. 13

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Report No.:
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Product: Battery camera

Type Designation: PG1

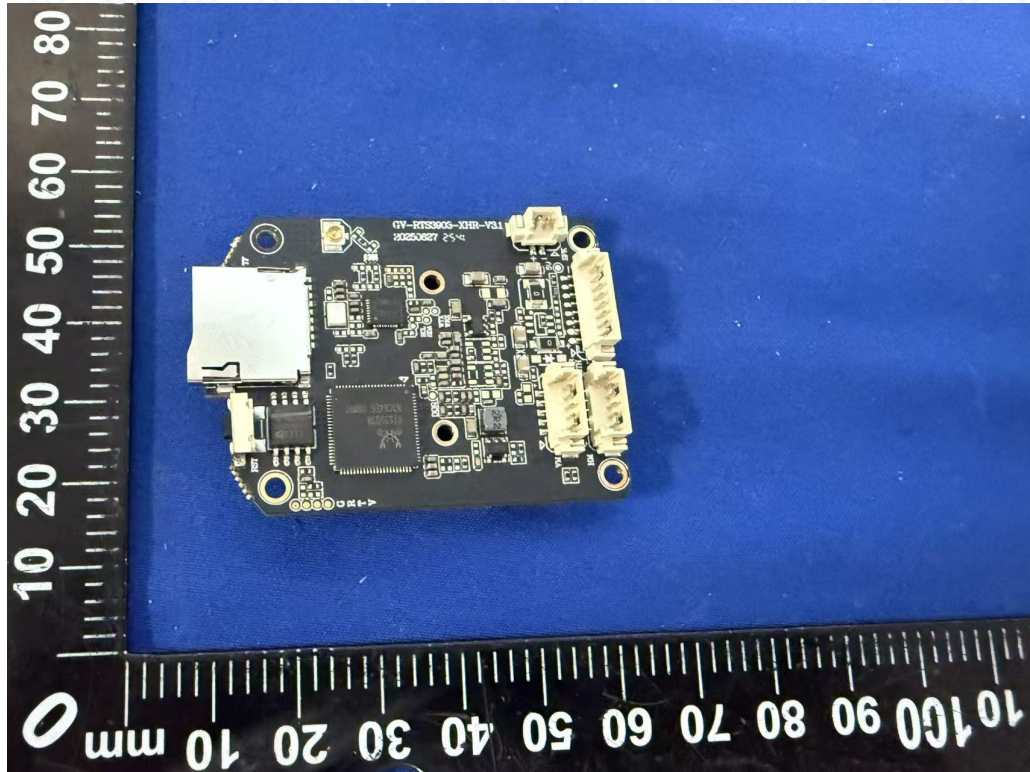


Fig. 14

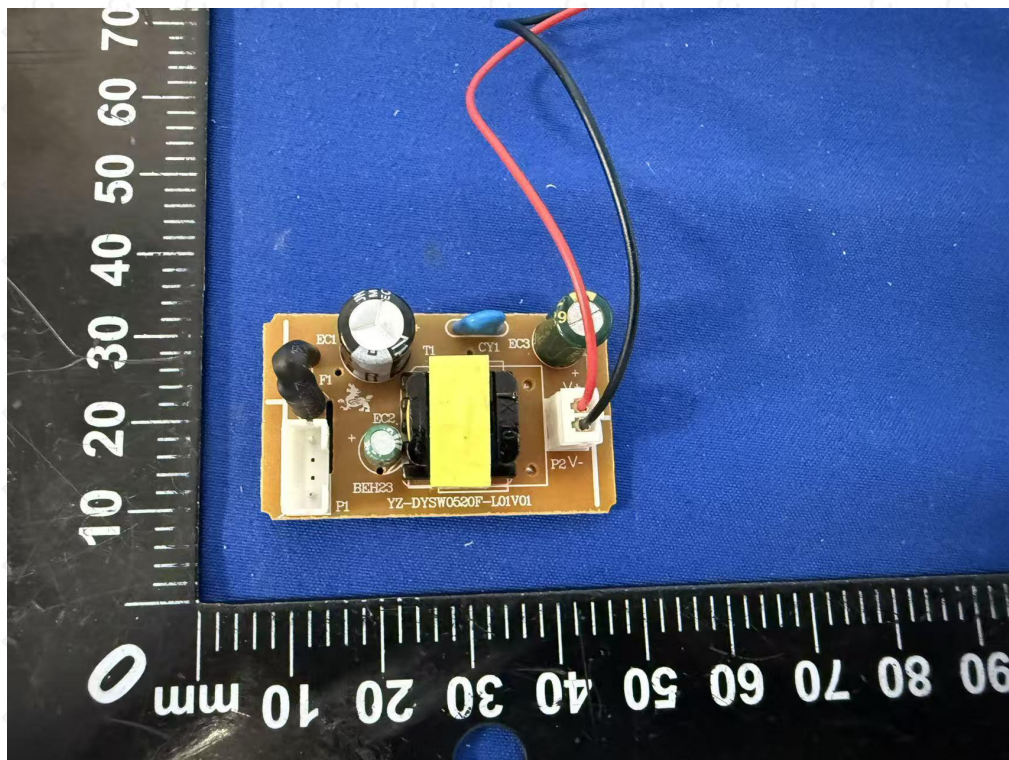


Fig. 15

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Product: Battery camera

Type Designation: PG1

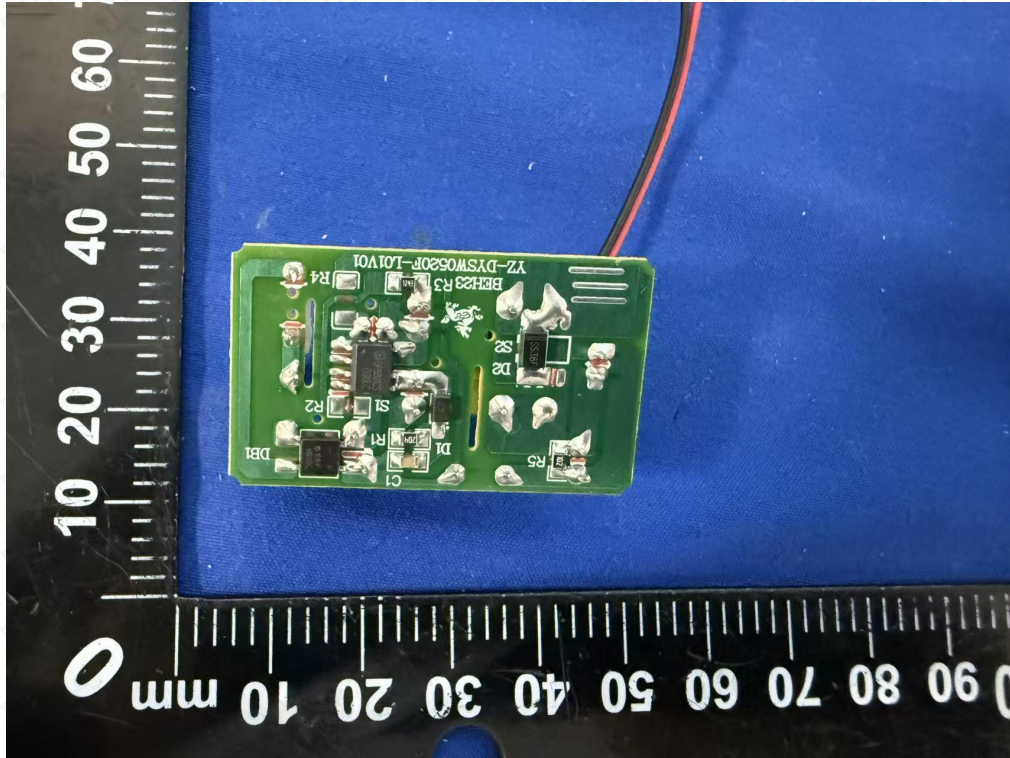


Fig. 16