TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment Part 1: Safety requirements

Report Number.....:	BTL-UKCA-1-S2403C034B
Date of issue.....:	2024-12-12
Total number of pages.....:	127
Name of Testing Laboratory preparing the Report.....:	**BTL Inc. (Dongguan)** 1-2/F., 4/F., Building A, 1-2/F. of Building B, 3/F. of Building C, No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong, China
Applicant's name.....:	**Suparo Industries Ltd**
Address.....:	Weir Street, Blackburn, BB2 2AN, United Kingdom
Test specification:	
Standard.....:	BS EN IEC 62368-1:2020+A11:2020; IEC 62368-1:2018
Test procedure.....:	N/A
Non-standard test method.....:	N/A
TRF template used.....:	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No.....:	IEC62368_1E
Test Report Form(s) Originator.....:	UL(US)
Master TRF.....:	Dated 2022-04-14

This report is not valid as a CB Test Report unless signed by an approved CB 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.
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Test item description.....:	70W Dual USB-C & USB-A Wall Charger
Trade Mark(s) .....:	Suparo
Manufacturer.....:	**Foshan G-power Technology Co.,Ltd** B4-601, 602, 603, 604, 702, 704,SXC, No.1 Fusheng West Rd, Dafuji Comm, Ronggui Str, Shunde Dist, Foshan City, Guangdong P.R.,China
Model/Type reference.....:	S70, S70W, S70B
Ratings.....:	Input: AC 100-240V 50/60Hz 1.8A Output: Total output: 70W Max USB-C1 / C2 Output: 5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 3.0A; 15.0Vdc, 3.0A; 20.0Vdc, 3.25A; 20.6Vdc, 3.4A; PPS: 3.3-11.0Vdc, 5.0A(Max 70W) USB-A Output: 5.0Vdc, 3.0A; 9.0Vdc, 2A; 12.0Vdc, 1.5A (Max 18W) USB-C1+C2 Output: 45W+20W USB-C1+A Output: 45W+18W USB-C2+A Output: 7.5W+7.5W USB-C1+C2+A Output: 45W+7.5W+7.5W

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**Testing Laboratory:**	**BTL Inc. (Dongguan)**	
Testing location/ address.....:		Room 108-116, 309-310,Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan, Guangdong, China	
Tested by (name, function, signature).....:		Vyu Li / Project Handler	Vyu Li
Approved by (name, function, signature)...:		Ben Liu / Reviewer	Ben Liu
☐	**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, function, signature).....			
Witnessed by (name, function, signature)..:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		

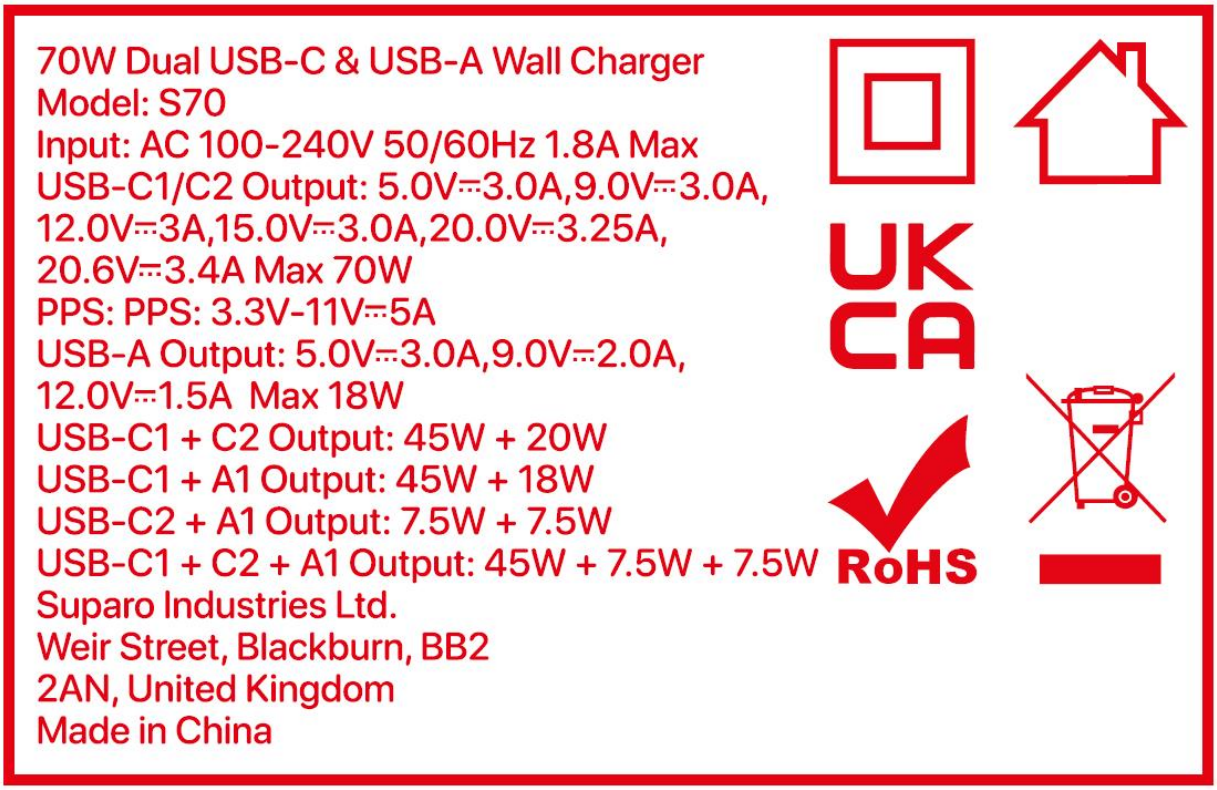
Testing location/ address.....:		
Tested by (name, function, signature).....:		
Witnessed by (name, function, signature)..:		
Approved by (name, function, signature)...:		
Supervised by (name, function, signature) :		

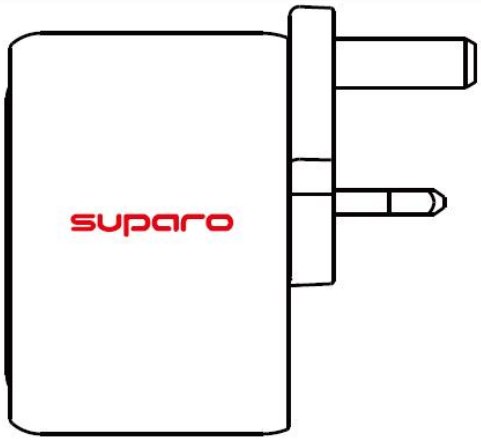
List of Attachments (including a total number of pages in each attachment):

- Group Differences and National Differences (21 pages)
- UK plug (fixed) Test Report (21 pages)
- Photo Documentation (12 pages)

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.





Remark:
1. This is a representative label; the others are identical to it except for model name.
2. Trade Mark ” Suparo” was silkscreened on the exterior of the equipment.

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..... :	☒ 16A (13A for UK); 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 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}..... :	35 °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. 0.144 kg

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..... : N/A

Date (s) of performance of tests.....: N/A

General remarks:

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When determining the test conclusion, the nominal variations in some test parameters have little effect on the uncertainty of the measurement result. The decision rules are based on IEC Guide 115 with complying the relevant requirements of environment and equipment.

"(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.

☐ **This Test Report Form contains requirements according to IEC/ISO …... Standard dated ….. and includes** Corrigendum dated …….
(Note: The above text maybe removed if not applicable)

Name and address of factory (ies).....: Same as manufacturer

General product information and other remarks:

Product Description –

- The product is a Class II 70W Dual USB-C & USB-A Wall Charger with two USB-C and one USB-A ports intended for audio/video, information and communication technology equipment.
- All electronic components are mounted on PWB and housed in a plastics enclosure which is secured by ultrasonic welding.
- The product has the situation of reducing power, the specific situation is as follows:

Output Ports	Before power derating			After power derating	
	Output ratings	Total output Power	Condition	Output ratings	Total output Power
USB-C1 / USB-C2	5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 3.0A; 15.0Vdc, 3.0A; 20.0Vdc, 3.25A;	70W Max.	NTC detected temperature reaches 95°C, power derating, After NTC temperature reaches 70°C, power recovery.	5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 3.0A; 15.0Vdc, 3.0A; 20.0Vdc, 2.25A PPS: 3.3-11.0Vdc, 4A	45W Max.

	20.6Vdc, 3.4A; PPS: 3.3-11.0Vdc, 5.0A				
USB-C1+ USB-C2	**USB-C1:** 5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 3.0A; 15.0Vdc, 3.0A; 20.0Vdc, 2.25A; PPS: 3.3-11.0Vdc, 4.0A	USB-C1+ USB-C2: 45W+20W		**USB-C1:** 5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 2.5A; 15.0Vdc, 2.0A; 20.0Vdc, 1.5A	USB-C1+ USB-C2: 30W+20W
	USB-C2: 5.0Vdc, 3.0A; 9.0Vdc, 2.0A; 12.0Vdc, 1.67A;			**USB-C2:** 5.0Vdc, 3.0A; 9.0Vdc, 2.0A; 12.0Vdc, 1.67A;	
USB-C1+ USB-A	**USB-C1:** 5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 3.0A; 15.0Vdc, 3.0A; 20.0Vdc, 2.25A; PPS: 3.3-11.0Vdc, 4.0A	USB-C1+ USB-A: 45W+18W		**USB-C1:** 5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 2.5A; 15.0Vdc, 2.0A; 20.0Vdc, 1.5A	USB-C1+ USB-A: 30W+18W
	USB-A: 5.0Vdc, 3.0A; 9.0Vdc, 2.0A; 12.0Vdc, 1.5A;			**USB-A:** 5.0Vdc, 3.0A; 9.0Vdc, 2.0A; 12.0Vdc, 1.5A;	
USB-C1+ USB-C2+ USB-A	**USB-C1:** 5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 3.0A;	USB-C1+ USB-C2+ USB-A: 45W+7.5W+7.5W		**USB-C1:** 5.0Vdc, 3.0A; 9.0Vdc, 3.0A; 12.0Vdc, 2.5A; 15.0Vdc, 2.0A; 20.0Vdc, 1.5A	USB-C1+ USB-C2+ USB-A: 30W+7.5W+7.5W

	15.0Vdc, 3.0A; 20.0Vdc, 2.25A; PPS: 3.3-11.0Vdc, 4.0A				
	USB-C2: 5.0Vdc, 1.5A			**USB-C2:** 5.0Vdc, 1.5A	
	USB-A: 5.0Vdc, 1.5A			**USB-A:** 5.0Vdc, 1.5A	
USB-C2+ USB-A	**USB-C2:** 5.0Vdc, 1.5A	USB-C2+ USB-A: 7.5W+7.5W	Not power derating	**--**	--
	USB-A: 5.0Vdc, 1.5A			**--**	--

Model Differences –

- All models are similar except for model name.

Model	Plug type
S70, S70W, S70B	UK plug (fixed)
Note:	

Additional application considerations – (Considerations used to test a component or sub-assembly) –

- The product was submitted and tested for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 35ºC.
- The test samples were pre-production samples without serial numbers.

Report Summary –

- This report is based on original CB report (report no. CN24N34Q 001) of Ulab Testing Co., Ltd., and all tests refer to the original CB report. And changed the following information:
  1. Add UK plug test report, see attachments for details.
  2. Change the Applicant name and address.
  3. Change the product name (describes the Test item description).
  4. Change the trade mark.
  5. Change the model name. The change model "S70, S70W, S70B" is identical to the CB report model "P2265UK" except for the model name.

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: All circuits except for output terminals	Ordinary	N/A	N/A	Enclosure See 5.4.2, 5.4.3, 5.4.4.2, 5.4.5, 5.4.9, 5.5.3
ES3: X capacitor connected between L and N	Ordinary	N/A	N/A	See 5.5.2.2
ES1: Output terminals	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	1st S	2nd S
PS3: All circuits except for output terminals	Enclosure	See 6.3	V-0 or better	N/A
PS3: All circuits except for output terminals	PCB	See 6.3	V-1 or better	N/A
PS3: All circuits except for output terminals	The other components/materials	See 6.3	See 6.4.5, 6.4.6	N/A
PS3: All circuits except for output terminals	Internal wiring	See 6.3	See 6.5	N/A
PS2: Output terminals	Output terminals	See 6.3	See 6.4.5	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: Equipment mass	Ordinary	N/A	N/A	N/A
MS1: Sharp edges and corners	Ordinary	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS3: Internal Parts/circuits of the unit in enclosure	Ordinary	N/A	N/A	Enclosure

TS1: Accessible part of external enclosure surfaces	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
Exempt group: LED 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** **Details see "OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS" TABLE.**

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

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	Refer to summary of testing and appended table 4.1.2.	P
4.1.2	Use of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 62368-1.	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding access to ES3 and to limiting the outputs to fulfil 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) ..... :	This equipment is not intended to use in outdoor.	N/A
4.1.5	Constructions and components not specifically covered	No such constructions and components.	N/A
4.1.8	Liquids and liquid filled components (LFC)	No such component used.	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness	See below.	P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.2 and T.4)	P
4.4.3.3	Drop tests	(See Annex T.7)	P
4.4.3.4	Impact tests		N/A
4.4.3.5	Internal accessible safeguard tests	The external enclosure cannot be opened without damaging the product.	N/A
4.4.3.6	Glass impact tests	No such glass used.	N/A
4.4.3.7	Glass fixation tests	No such glass used.	N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.3.9	Air comprising a safeguard	(See Annex T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness	After tests, no safeguard damaged.	P
4.4.4	Displacement of a safeguard by an insulating liquid	No such insulating liquid.	N/A
4.4.5	Safety interlocks	No such safety interlocks.	N/A
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 condition	(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**		**P**
	Fix conductors 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... :	The UK plug according to BS 1363-1:2016+A1:2018	P
4.7.3	Torque (Nm)..... :	For UK plug (fixed): max. 0.040Nm Limit: 0.25Nm	P
4.8	**Equipment containing coin/button cell batteries**		**N/A**
4.8.1	General	No such component provided.	N/A
4.8.2	Instructional safeguard..... :		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		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**

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Clause	Requirement + Test	Result - Remark	Verdict
4.10	**Component requirements**		**P**
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays	No such components used	N/A
5	**ELECTRICALLY-CAUSED INJURY**		**P**
5.2	**Classification and limits of electrical energy sources**		**P**
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current limits..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits..... :	(See appended table 5.2)	P
5.2.2.4	Single pulse limits.....:	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses.....:	No such repetitive pulses generated in the EUT or applied to it.	N/A
5.2.2.6	Ringing signals	No such ringing signals within the EUT	N/A
5.2.2.7	Audio signals	No such audio signals.	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 5.3 to 5.5 which applies to protection between the accessible parts and hazardous parts of other circuits.	P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	Accessible ES1 derived from ES3 circuits by double safeguard or reinforced safeguard, and the current or voltage levels complied with ES1 limits.	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors	No such construction.	N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit and the enclosure (safeguard) are accessed to person.	P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements	No openings allowing entry of a probe. No access with test probe to any ES3 circuit or parts.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test with test probe from Annex V		—
5.3.2.2 a)	Air gap – electric strength test potential (V)..... :		N/A
5.3.2.2 b)	Air gap – distance (mm) ..... :		N/A
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire	No such terminals.	N/A
5.4	**Insulation materials and requirements**		**P**
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	Material is non-hygroscopic	See clause 5.4.8.	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.....:	2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied. No insulating compound applied (however see 5.5.4).	N/A
5.4.1.5.3	Thermal cycling test	See above	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	N/A
5.4.1.8	Determination of working voltage..... :	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat test.....:		N/A
5.4.1.10.3	Ball pressure test.....:	The bobbin materials of transformer are phenolic which is acceptable without test. For other parts see appended table 5.4.1.10.3.	P
5.4.2	Clearances	The highest value in Cl 5.4.2.2 and Cl 5.4.2.3 be used.	P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.2	Procedure 1 for determining clearance	Temporary overvoltage 2000Vpeak assumed.	P
	Temporary overvoltage .....:	II	—
5.4.2.3	Procedure 2 for determining clearance	(See appended table 5.4.2, 5.4.3)	P
5.4.2.3.2.2	a.c. mains transient voltage..... :	2500 Vpk considered for Overvoltage Cat. II	—
5.4.2.3.2.3	d.c. mains transient voltage ..... :	No such transient	—
5.4.2.3.2.4	External circuit transient voltage.....:	No such transient	—
5.4.2.3.2.5	Transient voltage determined by measurement.....:	Transient voltages from an AC mains	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test .....:	Using procedure 2 to determine the clearance according to 5.4.2.3.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages .....:	Specified the equipment to be operated up to 2000m above sea level. Factor 1.0 according to table 16 is applied.	P
5.4.2.6	Clearance measurement.....:	(See appended table 5.4.2, 5.4.3)	P
5.4.3	Creepage distances	(See appended table 5.4.2, 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material group.....:	Material group IIIb assumed.	—
5.4.3.4	Creepage distances measurement.....:	(See appended table 5.4.2, 5.4.3)	P
5.4.4	Solid insulation	See below	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	No such insulation applied.	N/A
5.4.4.4	Solid insulation in semiconductor devices	Approved Opto-coupler used, see Annex G.12.	P
5.4.4.5	Insulating compound forming cemented joints	No such construction within the EUT.	N/A
5.4.4.6	Thin sheet material	See below.	P
5.4.4.6.1	General requirements	Considered.	P
5.4.4.6.2	Separable thin sheet material	(See appended table 5.4.9)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Number of layers (pcs) ..... :	Min. 2 layers	P
5.4.4.6.3	Non-separable thin sheet material	No such insulation used within the EUT	N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material.....:		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	See G.5.3 and G.6.1 only.	P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P, K_R, d, V_{PW} (V).....:	See below.	N/A
	Alternative by electric strength test, tested voltage (V), K_R.....:	(See appended table 5.4.9)	P
5.4.5	Antenna terminal insulation		P
5.4.5.1	General		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)..... :	L/N and output terminal: >500MΩ	P
	Electric strength test.....:		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard	No such insulation of internal wire as part of supplementary safeguard.	N/A
5.4.7	Tests for semiconductor components and for cemented joints	No tests necessary – see only 5.4.4.4.	N/A
5.4.8	Humidity conditioning	See below	P
	Relative humidity (%), temperature (°C), duration (h)..... :	93%, 40°C, 120h	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for type test of solid insulation..... :	Compliance was checked immediately following temperature test in 5.4.1.4 and on a sample of the transformer raised to the relevant temperature as measured during that test.	P
5.4.9.2	Test procedure for routine test	No routine tests considered. To be considered during the relevant national approval.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.10	Safeguards against transient voltages from external circuits	No such external circuits.	N/A
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.....:		N/A
5.4.10.3	Verification for insulation breakdown for impulse test..... :		N/A
5.4.11	Separation between external circuits and earth	No such connections for external circuit applied within the EUT.	N/A
5.4.11.1	Exceptions to separation between external circuits and earth	No such connections to external circuit as above.	N/A
5.4.11.2	Requirements		N/A
	SPDs 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.....:		N/A
5.4.12	Insulating liquid	No such insulating liquid.	N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid.....:		N/A
5.4.12.3	Compatibility of an insulating liquid.....:		N/A
5.4.12.4	Container for insulating liquid..... :		N/A
5.5	**Components as safeguards**		**P**
5.5.1	General		P
5.5.2	Capacitors and RC units	X capacitor and Y capacitor complying with IEC 60384-14 is used. (See appended table 4.1.2.)	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....:	(See appended table 5.5.2.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See Annex G.12)	P
5.5.5	Relays	No such component provided.	N/A
5.5.6	Resistors	No such component provided.	N/A
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable.....:	No such external circuits.	N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment	No outdoor equipment.	N/A
	RCD rated residual operating current (mA).....:		—
5.6	**Protective conductor**	Class II equipment.	**N/A**
5.6.2	Requirement 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	Requirement 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)..... :		N/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
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.....:		N/A
5.6.6.3	Resistance (Ω) or voltage drop.....:		N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	Figure 4 of IEC 60990:2016 was used in determining of the limit of ES1.	P
5.7.2.2	Measurement of voltage	(See appended table 5.2)	P
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..... :		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	No such 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	No such external circuits.	N/A
	a) Equipment connected to earthed external circuits, current (mA)..... :		N/A
	b) Equipment connected to unearthed external circuits, current (mA)..... :		N/A
5.8	**Backfeed safeguard in battery backed up supplies**		**N/A**
	Mains terminal ES..... :	No such battery backed up supplies.	N/A
	Air gap (mm)..... :		N/A

6	**ELECTRICALLY- CAUSED FIRE**	**P**
6.2	**Classification of PS and PIS**	**P**

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2	Power source circuit classifications.....:	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits. (See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	See the following details.	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.....:	No ignition and no such temperature attained within the equipment. (See appended table 5.4.1.4, 9.3, B.1.5, B.2.6).	P
	Combustible materials outside fire enclosure.....:	No such materials.	N/A
6.4	**Safeguards against fire under single fault conditions**		**P**
6.4.1	Safeguard method	Method by control of fire spread applied.	P
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		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions.....:		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	See below	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: - Printed board: Rated V-1 or better. - All other components: At least V-2 except for mounted on min. V-1 material or small parts of combustible material less than 4g. - Isolating transformer: Complying with G.5.3. See appended tables 4.1.2 and Annex G.	P
6.4.6	Control of fire spread in PS3 circuits	Compliance detailed as follows: The plastic fire enclosure is rated V-0.	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	No specific barrier provided.	N/A
6.4.8	Fire enclosures and fire barriers	V-0 Fire Enclosure used.	P
6.4.8.2	Fire enclosure and fire barrier material properties	See below.	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier used.	N/A
6.4.8.2.2	Requirements for a fire enclosure	The V-0 fire enclosure is used. See above.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties	No openings	N/A
	Openings dimensions (mm)..... :		N/A
6.4.8.3.4	Bottom openings and properties	No openings	N/A
	Openings dimensions (mm)..... :		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard..... :		N/A
6.4.8.3.5	Side openings and properties	No openings	N/A
	Openings dimensions (mm)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
6.5	**Internal and external wiring**		**P**
6.5.1	General requirements	See below.	P
6.5.2	Requirements for interconnection to building wiring .....:	VW-1 wires used, which considered to equivalent to IEC/TS 60695-11-21.	—
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**		**P**

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**
	Instructional safeguard (ISO 7010).....:		—
7.6	**Batteries and their protection circuits**		**N/A**

8	**MECHANICALLY-CAUSED INJURY**		**P**
8.2	**Mechanical energy source classifications**		**P**
8.3	**Safeguards against mechanical energy sources**		**N/A**
8.4	**Safeguards against parts with sharp edges and corners**		**N/A**
8.4.1	Safeguards		N/A
	Instructional Safeguard.....:	Instructional safeguard is not required.	N/A
8.4.2	Sharp edges or corners	All edges and corners of the enclosure were rounded and classified as MS1	N/A
8.5	**Safeguards against moving parts**		**N/A**
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	No moving parts.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	MS2 or MS3 part required to be accessible for the function of the equipment		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
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	General	MS1, mass does not exceed 7 kg	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard..... :		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**		**N/A**
8.7.1	Mount means type.....:		N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N)..... :		N/A
	Test 2, number of attachment points and test force (N).....:		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm)..... :		N/A
8.8	**Handles strength**		**N/A**
8.8.1	General	No handles.	N/A
8.8.2	Handle strength test		N/A
	Number of handles.....:		—
	Force applied (N).....:		—
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 carts, stands or similar carriers	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		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N).....:		—
8.10.6	Thermoplastic temperature stability		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.11	**Mounting means for slide-rail mounted equipment (SRME)**		**N/A**
8.11.1	General	Not such equipment	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard.....:		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied..... :		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		N/A
8.12	**Telescoping or rod antennas**		**N/A**
	Button/ball diameter (mm).....:		—
9	**THERMAL BURN INJURY**		**P**
9.2	**Thermal energy source classifications**		**P**
9.3	**Touch temperature limits**		**P**
9.3.1	Touch temperatures of accessible parts..... :	No part considered to be accessible other than enclosure. The equipment evaluated by temperature test (See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
9.3.2	Test method and compliance	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
9.4	**Safeguards against thermal energy sources**		**P**
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		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10	**RADIATION**		**P**
10.2	**Radiation energy source classification**		**P**
10.2.1	General classification		P
	Lasers.....:	N/A	—
	Lamps and lamp systems.....:	LED indicating is low power application classified as exempt group.	—
	Image projectors.....:	N/A	—
	X-Ray.....:	N/A	—
	Personal music player.....:	N/A	—
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)**		**P**
10.4.1	General requirements	LED indicating is low power application classified as exempt group.	P
	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
10.4.2	Requirements for enclosures		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		N/A
	Instructional safeguard for skilled persons.....:		—
10.5.3	Maximum radiation (pA/kg).....:		—
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

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Clause	Requirement + Test	Result - Remark	Verdict
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**
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	**Normal operating conditions**		**P**
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers.....:	Not such equipment.	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)	P
B.3	**Simulated abnormal operating conditions**		**P**
B.3.1	General	(See appended table B.3, B.4)	P
B.3.2	Covering of ventilation openings		N/A
	Instructional safeguard..... :		N/A
B.3.3	DC mains polarity test	The EUT is not connected to a D.C. mains	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.4	Setting of voltage selector	No voltage selector was used.	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3, B.4)	P
B.3.6	Reverse battery polarity	No battery within the EUT	N/A
B.3.7	Audio amplifier abnormal operating conditions	Not such equipment.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions..... :	All safeguards remained effective.	P
B.4	**Simulated single fault conditions**		**P**
B.4.1	General	(See appended table B.3, B.4)	P
B.4.2	Temperature controlling device	NTC(NTC1) comply with IEC/EN 60539-1	N/A
B.4.3	Blocked motor test	No motors used.	N/A
B.4.4	Functional insulation	See below	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards used.	N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.3, B.4 for faults on electronic components)	P
B.4.6	Short circuit or disconnection of passive components	(See appended table B.3, 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 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	No battery involved in the EUT	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		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

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Clause	Requirement + Test	Result - Remark	Verdict
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 CONTAINING AUDIO AMPLIFIERS**		**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 amplifier normal operating conditions**		**N/A**
	Audio signal source type..... :		—
	Audio output power (W)..... :		—
	Audio output voltage (V)..... :		—
	Rated load impedance (Ω) ..... :		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating 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 IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	**Equipment markings**		**P**
F.3.1	Equipment marking locations	Equipment marking is located on the equipment surface, and it is easily visible.	P
F.3.2	Equipment identification markings	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.2.1	Manufacturer identification .....:	Foshan G-power Technology Co.,Ltd	P
F.3.2.2	Model identification .....:	See copy of marking plate.	P
F.3.3	Equipment rating markings	See the following details.	P
F.3.3.1	Equipment with direct connection to mains	The equipment is direct connected to AC mains, see F.3.3.3 to F.3.3.6.	P
F.3.3.2	Equipment without direct connection to mains	See above.	N/A
F.3.3.3	Nature of the supply voltage..... :	See copy of marking plate.	P
F.3.3.4	Rated voltage..... :	See copy of marking plate.	P
F.3.3.5	Rated frequency.....:	See copy of marking plate.	P
F.3.3.6	Rated current or rated power.....:	See copy of marking plate.	P
F.3.3.7	Equipment with multiple supply connections	Only one mains supply connection provided.	N/A
F.3.4	Voltage setting device	No voltage setting device	N/A
F.3.5	Terminals and operating devices	See below	P
F.3.5.1	Mains appliance outlet and socket-outlet markings .....:	No outlet used.	N/A
F.3.5.2	Switch position identification marking.....:	No switch used.	N/A
F.3.5.3	Replacement fuse identification and rating markings .....:	The current fuse is located within the equipment and not replaceable by an ordinary person or an instructed person. The fusible resistor is anyway marked with F1 T5A 250V	P
	Instructional safeguards for neutral fuse.....:		N/A
F.3.5.4	Replacement battery identification marking..... :	No such battery on the equipment.	N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification	See below	P
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..... :	Symbol IEC 60417-5172 used.	P
F.3.6.3	Functional earthing terminal marking..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.7	Equipment IP rating marking..... :	This equipment is classified as IPX0.	N/A
F.3.8	External power supply output marking..... :	See copy of marking plate.	P
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	P
F.4	**Instructions**		**P**
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		N/A
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict

G	**COMPONENTS**		**P**
G.1	**Switches**		**N/A**
G.1.1	General	No switch used.	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	**Relays**		**N/A**
G.2.1	Requirements	No relay used.	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		N/A
G.3	**Protective devices**		**P**
G.3.1	Thermal cut-offs	No thermal cut-off used.	N/A
	Thermal cut-outs separately approved according to IEC 60730 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		N/A
G.3.2	Thermal links	No thermal link 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		N/A
G.3.3	PTC thermistors	No PTC thermistor used.	N/A
G.3.4	Overcurrent protection devices	Approved current fuse used.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:		N/A
G.4	**Connectors**		**P**
G.4.1	Spacings	No such connector with insulated surfaces accessible within the EUT.	P
G.4.2	Mains connector configuration.....:	Direct plug-in type. Mians plug complied with EN 50075:1900, BS 1363-1:2016+A1:2018.	P

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Clause	Requirement + Test	Result - Remark	Verdict
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	Approved Insulated wire used as Reinforced insulation for secondary winding of transformer.	P
G.5.1.2	Protection against mechanical stress	The insulation tube is provided for winding of transformer to protect against mechanical stress.	P
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	No insulation breakdown		N/A
G.5.3	Transformers		**P**
G.5.3.1	Compliance method..... :	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position.....:	See appended table 4.1.2	P
	Method of protection..... :	By protection circuit design.	P
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation.	P
	Protection from displacement of windings.....:	By bobbin, Triple insulation wire and insulating tape.	—
G.5.3.3	Transformer overload tests	(See appended table B.3, B.4)	P
G.5.3.3.1	Test conditions	Tested in the complete equipment.	P
G.5.3.3.2	Winding temperatures	(See appended table B.3, B.4)	P
G.5.3.3.3	Winding temperatures - alternative test method	Alternative test method was not considered.	N/A
G.5.3.4	Transformers using FIW	No FIW used.	N/A
G.5.3.4.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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.5.3.4.7	Routine test		N/A
G.5.4	Motors	No motor used.	N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		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 ..... :		N/A
G.5.4.6.3	Alternative method		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 ..... :		—
G.6	**Wire Insulation**		**P**
G.6.1	General	Triple insulated winding in transformer secondary windings used as reinforced safeguard in theisolating transformer that has separately complied with Annex J.	P
G.6.2	Enamelled winding wire insulation	Insulation does not rely on solvent-based enamel.	N/A
G.7	**Mains supply cords**		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	General requirements	No mains supply cords used.	N/A
	Type..... :		—
G.7.2	Cross sectional area (mm^2 or AWG)..... :		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		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		N/A
	Overall diameter or minor overall dimension, *D* (mm)..... :		—
	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	No such components.	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 components.	N/A
	IC limiter output current (max. 5A)..... :		—
	Manufacturers' defined drift ..... :		—
G.9.2	Test Program		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.3	Compliance		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
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	**Capacitors and RC units**		**P**
G.11.1	General requirements	(See appended table 4.1.2) Certified X, Y capacitor complied with IEC/EN 60384-14.	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	**Optocouplers**		**P**
	Optocouplers comply with IEC 60747-5-5 with specifics	The optocoupler complied with standard IEC/EN 60747-5-5.	P
	Type test voltage $V_{ini,a}$..... :	(See appended table 4.1.2)	—
	Routine test voltage, $V_{ini,b}$..... :	(See appended table 4.1.2)	—
G.13	**Printed boards**		**P**
G.13.1	General requirements	See the following details.	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board complied with the minimum clearance and creepage requirements.	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		N/A
	Distance through insulation.....:		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.14	**Coating on components terminals**		**N/A**
G.14.1	Requirements ..... :	No coating on component terminals considered to affect creepage or clearances.	N/A
G.15	**Pressurized liquid filled components**		**N/A**
G.15.1	Requirements	No such device provided within the equipment.	N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		**P**
G.16.1	Condition for fault tested is not required	Approved Discharge ICX (U1) used. (see appended table 4.1.2)	P
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately	Approved Discharge ICX (U1) used. (see appended table 4.1.2)	P
G.16.2	Tests	Approved Discharge ICX (U1) used. (see appended table 4.1.2)	P
	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..... :	Approved Discharge ICX (U1) used. (see appended table 4.1.2)	P
H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		**N/A**
H.1	**General**		**N/A**
H.2	**Method A**		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
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 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**		**P**
J.1	**General**		**P**
	Winding wire insulation..... :	Triple insulated winding wiring used as reinforced safeguard in the isolating transformer that has been evaluated to Annex J. See Table 4.1.2.	—
	Solid round winding wire, diameter (mm)..... :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm^2)..... :		N/A
J.2/J.3	Tests and Manufacturing		—
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.6.2	Test method and compliance..... :		N/A
K.7	**Interlock circuit isolation**		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
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.....:		N/A
K.7.2	Overload test, Current (A)..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	**DISCONNECT DEVICES**		**P**
L.1	**General requirements**	AC plug used to disconnect from AC mains.	**P**
L.2	**Permanently connected equipment**	Not permanently connected equipment.	**N/A**
L.3	**Parts that remain energized**	When AC plug is disconnected no hazardous voltage in the equipment.	**P**
L.4	**Single-phase equipment**	The mains plug disconnects both poles simultaneously.	**P**
L.5	**Three-phase equipment**		**N/A**
L.6	**Switches as disconnect devices**		**N/A**
L.7	**Plugs as disconnect devices**	See above.	**P**
L.8	**Multiple power sources**	Only one a.c. mains connection.	**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

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Clause	Requirement + Test	Result - Remark	Verdict
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		N/A
M.4	**Additional safeguards for equipment containing a portable secondary lithium battery**		**N/A**
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance.....:		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		N/A
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		N/A
M.6	**Safeguards against short-circuits**		**N/A**
M.6.1	External and internal faults		N/A
M.6.2	Compliance		N/A
M.7	**Risk of explosion from lead acid and NiCd batteries**		**N/A**
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate..... :		N/A
M.7.2	Test method and compliance		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

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Clause	Requirement + Test	Result - Remark	Verdict
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 batteries with aqueous electrolyte**		**N/A**
M.8.1	General		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..... :		—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Value of *X* (mm)..... :	Considered.	—
P	**SAFEGUARDS AGAINST CONDUCTIVE OBJECTS**		**P**
P.1	**General**	See below.	**P**
P.2	**Safeguards against entry or consequences of entry of a foreign object**		**P**
P.2.1	General	See the following details.	P
P.2.2	Safeguards against entry of a foreign object		P
	Location and Dimensions (mm) ..... :	No openings.	—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	**Safeguards against spillage of internal liquids**		**N/A**
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		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**		**P**
Q.1	**Limited power sources**		**P**
Q.1.1	Requirements		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Q.1)	P
	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..... :	(See appended table Q.1)	P
	Current rating of overcurrent protective device (A) ..... :		N/A
Q.2	**Test for external circuits – paired conductor cable**		N/A
	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..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
R.4	**Compliance**		**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)..... :		—
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		N/A
	Mounting of samples .....:		—
	Wall thickness (mm).....:		—
S.4	**Flammability classification of materials**		**N/A**
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)..... :		—
T	**MECHANICAL STRENGTH TESTS**		**P**
T.1	**General**		**P**
T.2	**Steady force test, 10 N .....:**	(See appended table T.2)	**P**
T.3	**Steady force test, 30 N .....:**	No internal enclosure.	**N/A**
T.4	**Steady force test, 100 N .....:**	(See appended table T.4)	**P**
T.5	**Steady force test, 250 N .....:**		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
T.6	**Enclosure impact test**		**N/A**
	Fall test		N/A
	Swing test		N/A
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..... :**	No glass used.	**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**
V.1.1	General	No access with test probes to any hazardous parts.	P
V.1.2	Surfaces and openings tested with jointed test probes	No openings.	N/A
V.1.3	Openings tested with straight unjointed test probes		N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		P
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..... :		N/A
Y	**CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES**		**N/A**
Y.1	**General**	For indoor use only.	**N/A**
Y.2	**Resistance to UV radiation**		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
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		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		N/A
	Alternative test methods.....:		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	**Protection of equipment within an outdoor enclosure**		**N/A**
Y.5.1	General		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
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
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.....:		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)]	
Test for USB-C1 port							
264Vac, 60Hz	Output “+” to “-“ (+20.6Vdc)	Normal	20.698V	--	SS	DC	ES1
		Abnormal	20.698V	--	SS	DC	
		Single fault - EC5 SC	0	--	SS	--	
		Single fault - C6 SC	20.698V	--	SS	DC	
		Single fault - R11 SC	20.698V	--	SS	DC	
		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	--	SS	--	
		Single fault - T1 pin A to pin B SC	0	--	SS	--	
		Single fault - T1 pin 2 to pin 5 SC	0	--	SS	--	
		Single fault - T1 pin 4 to pin 6 SC	0	--	SS	--	
		Single fault - U2 pin 1 to pin 2 SC	0	--	SS	--	
		Single fault - U2 pin 3 to pin 4 SC	0	--	SS	--	
		Single fault - U2 pin 1 OC	0	--	SS	--	
		Single fault - U2 pin 3 OC	0	--	SS	--	
		Single fault – U1 pin 1,2 to pin 6 SC	0	--	SS	--	
		Single fault – U1 pin 1,2 to pin 9 SC	0	--	SS	--	

		Single fault – U1 pin 4 to pin 6 SC	0	--	SS	--	
		Single fault – U1 pin 4 to pin 9 SC	0	--	SS	--	
		Single fault – RS1 SC	0	--	SS	--	
264Vac, 60Hz	Output “+” to earth	Normal	--	0.300m Apk	SS	60Hz	ES1
		Abnormal	--	0.300m Apk	SS	60Hz	
		Single fault - EC5 SC	--	0.312m Apk	SS	60Hz	
		Single fault - C6 SC	--	0.300m Apk	SS	60Hz	
		Single fault - R11 SC	--	0.300m Apk	SS	60Hz	
		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	--	0.312m Apk	SS	60Hz	
		Single fault - T1 pin A to pin B SC	--	0.312m Apk	SS	60Hz	
		Single fault - T1 pin 2 to pin 5 SC	--	0.312m Apk	SS	60Hz	
		Single fault - T1 pin 4 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 1 to pin 2 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 3 to pin 4 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 1 OC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 3 OC	--	0.312m Apk	SS	60Hz	

		Single fault – U1 pin 1,2 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 9 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 9 SC	--	0.312m Apk	SS	60Hz	
		Single fault – RS1 SC	--	0.312m Apk	SS	60Hz	
264Vac, 60Hz	Output “-” to earth	Normal	--	0.299m Apk	SS	60Hz	ES1
		Abnormal	--	0.299m Apk	SS	60Hz	
		Single fault - EC5 SC	--	0.309m Apk	SS	60Hz	
		Single fault - C6 SC	--	0.299m Apk	SS	60Hz	
		Single fault - R11 SC	--	0.299m Apk	SS	60Hz	
		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	--	0.309m Apk	SS	60Hz	
		Single fault - T1 pin A to pin B SC	--	0.309m Apk	SS	60Hz	
		Single fault - T1 pin 2 to pin 5 SC	--	0.309m Apk	SS	60Hz	
		Single fault - T1 pin 4 to pin 6 SC	--	0.309m Apk	SS	60Hz	
		Single fault - U2 pin 1 to pin 2 SC	--	0.309m Apk	SS	60Hz	
		Single fault - U2 pin 3 to pin 4 SC	--	0.309m Apk	SS	60Hz	

		Single fault - U2 pin 1 OC	--	0.309m Apk	SS	60Hz	
		Single fault - U2 pin 3 OC	--	0.309m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 6 SC	--	0.309m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 9 SC	--	0.309m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 6 SC	--	0.309m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 9 SC	--	0.309m Apk	SS	60Hz	
		Single fault – RS1 SC	--	0.309m Apk	SS	60Hz	
Test for USB-C2 port							
264Vac, 60Hz	Output “+” to “-“ (+20.6Vdc)	Normal	20.599V	--	SS	DC	ES1
		Abnormal	20.599V	--	SS	DC	
		Single fault - EC5 SC	0	--	SS	--	
		Single fault - C6 SC	20.599V	--	SS	DC	
		Single fault - R11 SC	20.599V	--	SS	DC	
		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	--	SS	--	
		Single fault - T1 pin A to pin B SC	0	--	SS	--	
		Single fault - T1 pin 2 to pin 5 SC	0	--	SS	--	
		Single fault - T1 pin 4 to pin 6 SC	0	--	SS	--	
		Single fault - U2 pin 1 to pin 2 SC	0	--	SS	--	

		Single fault - U2 pin 3 to pin 4 SC	0	--	SS	--	
		Single fault - U2 pin 1 OC	0	--	SS	--	
		Single fault - U2 pin 3 OC	0	--	SS	--	
		Single fault – U1 pin 1,2 to pin 6 SC	0	--	SS	--	
		Single fault – U1 pin 1,2 to pin 9 SC	0	--	SS	--	
		Single fault – U1 pin 4 to pin 6 SC	0	--	SS	--	
		Single fault – U1 pin 4 to pin 9 SC	0	--	SS	--	
		Single fault – RS1 SC	0	--	SS	--	
264Vac, 60Hz	Output “+” to earth	Normal	--	0.300m Apk	SS	60Hz	ES1
		Abnormal	--	0.300m Apk	SS	60Hz	
		Single fault - EC5 SC	--	0.312m Apk	SS	60Hz	
		Single fault - C6 SC	--	0.300m Apk	SS	60Hz	
		Single fault - R11 SC	--	0.300m Apk	SS	60Hz	
		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	--	0.312m Apk	SS	60Hz	
		Single fault - T1 pin A to pin B SC	--	0.312m Apk	SS	60Hz	
		Single fault - T1 pin 2 to pin 5 SC	--	0.312m Apk	SS	60Hz	

		Single fault - T1 pin 4 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 1 to pin 2 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 3 to pin 4 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 1 OC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 3 OC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 9 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 9 SC	--	0.312m Apk	SS	60Hz	
		Single fault – RS1 SC	--	0.312m Apk	SS	60Hz	
264Vac, 60Hz	Output “-” to earth	Normal	--	0.299m Apk	SS	60Hz	ES1
		Abnormal	--	0.299m Apk	SS	60Hz	
		Single fault - EC5 SC	--	0.309m Apk	SS	60Hz	
		Single fault - C6 SC	--	0.299m Apk	SS	60Hz	
		Single fault - R11 SC	--	0.299m Apk	SS	60Hz	
		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	--	0.309m Apk	SS	60Hz	

		Single fault - T1 pin A to pin B SC	--	0.309m Apk	SS	60Hz	
		Single fault - T1 pin 2 to pin 5 SC	--	0.309m Apk	SS	60Hz	
		Single fault - T1 pin 4 to pin 6 SC	--	0.309m Apk	SS	60Hz	
		Single fault - U2 pin 1 to pin 2 SC	--	0.309m Apk	SS	60Hz	
		Single fault - U2 pin 3 to pin 4 SC	--	0.309m Apk	SS	60Hz	
		Single fault - U2 pin 1 OC	--	0.309m Apk	SS	60Hz	
		Single fault - U2 pin 3 OC	--	0.309m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 6 SC	--	0.309m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 9 SC	--	0.309m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 6 SC	--	0.309m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 9 SC	--	0.309m Apk	SS	60Hz	
		Single fault – RS1 SC	--	0.309m Apk	SS	60Hz	
Test for USB-A port							
264Vac, 60Hz	Output “+” to “-“ (+12.0Vdc)	Normal	12.019V	--	SS	DC	ES1
		Abnormal	12.019V	--	SS	DC	
		Single fault - EC5 SC	0	--	SS	--	
		Single fault - C6 SC	12.019V	--	SS	DC	
		Single fault - R11 SC	12.019V	--	SS	DC	

		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	--	SS	--	
		Single fault - T1 pin A to pin B SC	0	--	SS	--	
		Single fault - T1 pin 2 to pin 5 SC	0	--	SS	--	
		Single fault - T1 pin 4 to pin 6 SC	0	--	SS	--	
		Single fault - U2 pin 1 to pin 2 SC	0	--	SS	--	
		Single fault - U2 pin 3 to pin 4 SC	0	--	SS	--	
		Single fault - U2 pin 1 OC	0	--	SS	--	
		Single fault - U2 pin 3 OC	0	--	SS	--	
		Single fault – U1 pin 1,2 to pin 6 SC	0	--	SS	--	
		Single fault – U1 pin 1,2 to pin 9 SC	0	--	SS	--	
		Single fault – U1 pin 4 to pin 6 SC	0	--	SS	--	
		Single fault – U1 pin 4 to pin 9 SC	0	--	SS	--	
		Single fault – RS1 SC	0	--	SS	--	
264Vac, 60Hz	Output “+” to earth	Normal	--	0.300m Apk	SS	60Hz	ES1
		Abnormal	--	0.300m Apk	SS	60Hz	
		Single fault - EC5 SC	--	0.312m Apk	SS	60Hz	

		Single fault - C6 SC	--	0.300m Apk	SS	60Hz	
		Single fault - R11 SC	--	0.300m Apk	SS	60Hz	
		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	--	0.312m Apk	SS	60Hz	
		Single fault - T1 pin A to pin B SC	--	0.312m Apk	SS	60Hz	
		Single fault - T1 pin 2 to pin 5 SC	--	0.312m Apk	SS	60Hz	
		Single fault - T1 pin 4 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 1 to pin 2 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 3 to pin 4 SC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 1 OC	--	0.312m Apk	SS	60Hz	
		Single fault - U2 pin 3 OC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 9 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 6 SC	--	0.312m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 9 SC	--	0.312m Apk	SS	60Hz	
		Single fault – RS1 SC	--	0.312m Apk	SS	60Hz	
264Vac, 60Hz	Output “-” to earth	Normal	--	0.299m Apk	SS	60Hz	ES1

Abnormal	--	0.299m Apk	SS	60Hz
Single fault - EC5 SC	--	0.309m Apk	SS	60Hz
Single fault - C6 SC	--	0.299m Apk	SS	60Hz
Single fault - R11 SC	--	0.299m Apk	SS	60Hz
Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	--	0.309m Apk	SS	60Hz
Single fault - T1 pin A to pin B SC	--	0.309m Apk	SS	60Hz
Single fault - T1 pin 2 to pin 5 SC	--	0.309m Apk	SS	60Hz
Single fault - T1 pin 4 to pin 6 SC	--	0.309m Apk	SS	60Hz
Single fault - U2 pin 1 to pin 2 SC	--	0.309m Apk	SS	60Hz
Single fault - U2 pin 3 to pin 4 SC	--	0.309m Apk	SS	60Hz
Single fault - U2 pin 1 OC	--	0.309m Apk	SS	60Hz
Single fault - U2 pin 3 OC	--	0.309m Apk	SS	60Hz
Single fault – U1 pin 1,2 to pin 6 SC	--	0.309m Apk	SS	60Hz
Single fault – U1 pin 1,2 to pin 9 SC	--	0.309m Apk	SS	60Hz
Single fault – U1 pin 4 to pin 6 SC	--	0.309m Apk	SS	60Hz
Single fault – U1 pin 4 to pin 9 SC	--	0.309m Apk	SS	60Hz

		Single fault – RS1 SC	--	0.309m Apk	SS	60Hz	
264Vac, 60Hz	Plastic enclosure to earth	Normal	--	0.020m Apk	SS	60Hz	ES1
		Abnormal	--	0.020m Apk	SS	60Hz	
		Single fault - EC5 SC	--	0.021m Apk	SS	60Hz	
		Single fault - C6 SC	--	0.020m Apk	SS	60Hz	
		Single fault - R11 SC	--	0.020m Apk	SS	60Hz	
		Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	--	0.021m Apk	SS	60Hz	
		Single fault - T1 pin A to pin B SC	--	0.021m Apk	SS	60Hz	
		Single fault - T1 pin 2 to pin 5 SC	--	0.021m Apk	SS	60Hz	
		Single fault - T1 pin 4 to pin 6 SC	--	0.021m Apk	SS	60Hz	
		Single fault - U2 pin 1 to pin 2 SC	--	0.021m Apk	SS	60Hz	
		Single fault - U2 pin 3 to pin 4 SC	--	0.021m Apk	SS	60Hz	
		Single fault - U2 pin 1 OC	--	0.021m Apk	SS	60Hz	
		Single fault - U2 pin 3 OC	--	0.021m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 6 SC	--	0.021m Apk	SS	60Hz	
		Single fault – U1 pin 1,2 to pin 9 SC	--	0.021m Apk	SS	60Hz	

		Single fault – U1 pin 4 to pin 6 SC	--	0.021m Apk	SS	60Hz	
		Single fault – U1 pin 4 to pin 9 SC	--	0.021m Apk	SS	60Hz	
		Single fault – RS1 SC	--	0.021m Apk	SS	60Hz	
264Vac, 60Hz	L to N	Normal	376V	--	CP	CX1: 0.22uF	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			P
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
USB-C1 port loaded 20.6Vdc, 3.4A				
T1 pin 4 to pin A	202	332	--	--
T1 pin 4 to pin B	203	352	--	--
T1 pin 6 to pin A	274	604	--	--
T1 pin 6 to pin B	**295**	**640**	**109.0K**	**Max Vpeak & Vrms**
T1 pin 2 to pin A	233	412	--	--
T1 pin 2 to pin B	237	406	--	--
T1 pin 5 to pin A	231	376	--	--
T1 pin 5 to pin B	233	420	--	--
U2 pin 1 to pin 3	191	352	--	--
U2 pin 1 to pin 4	191	352	--	--
U2 pin 2 to pin 3	191	354	--	--
U2 pin 2 to pin 4	191	352	--	--
CY1 primary to secondary	216	352	--	--
CY2 primary to secondary	273	376	--	--
Primary component (LF2) to secondary component (R42)	223	364	--	--
Primary component (EC2) to secondary component (C21)	236	380	--	--

USB-C1 port loaded PPS 11Vdc, 5A				
T1 pin 6 to pin B	279	616	79.6K	--
USB-C2 port loaded 20.6Vdc, 3.4A				
T1 pin 6 to pin B	292	628	107.0K	--
USB-C2 port loaded PPS 11Vdc, 5A				
T1 pin 6 to pin B	281	620	107.0K	--
USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 5Vdc, 3A				
T1 pin 6 to pin B	286	620	94.0K	--
USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 12Vdc, 1.67A				
T1 pin 6 to pin B	288	628	109.0K	--
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 5Vdc, 3A				
T1 pin 6 to pin B	286	620	95.4K	--
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 12Vdc, 1.67A				
T1 pin 6 to pin B	288	630	93.3K	--
USB-C1 port loaded PPS 11Vdc, 4A; USB-C2 port loaded 5Vdc, 3A				
T1 pin 6 to pin B	286	620	96.0K	--
USB-C1 port loaded PPS 11Vdc, 4A; USB-C2 port loaded 12Vdc, 1.67A				
T1 pin 6 to pin B	288	630	93.6K	--
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 5Vdc, 3A				
T1 pin 6 to pin B	286	620	91.9K	--
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 9Vdc, 2A				
T1 pin 6 to pin B	289	620	109K	--
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 12Vdc, 1.5A				
T1 pin 6 to pin B	289	620	92.6K	--
USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 5Vdc, 3A				
T1 pin 6 to pin B	284	630	96.2K	--
USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 9Vdc, 2A				
T1 pin 6 to pin B	287	620	91.9K	--
USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 12Vdc, 1.5A				
T1 pin 6 to pin B	287	624	92.6K	--
USB-C1 port loaded PPS 11Vdc, 4A; USB-A port loaded 5Vdc, 3A				
T1 pin 6 to pin B	284	624	96.0K	--
USB-C1 port loaded PPS 11Vdc, 4A; USB-A port loaded 9Vdc, 2A				

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T1 pin 6 to pin B	286	620	92.6K	--
USB-C1 port loaded PPS 11Vdc, 4A; USB-A port loaded 12Vdc, 1.5A				
T1 pin 6 to pin B	286	624	92.6K	--
USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A				
T1 pin 6 to pin B	280	616	91.9K	--
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A				
T1 pin 6 to pin B	279	630	91.2K	--
USB-C1 port loaded PPS 11Vdc, 4A; USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A				
T1 pin 6 to pin B	280	624	91.8K	--
Supplementary information:				
Test voltage: 240Vac, 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/ Type: LUPOY EF1006F(m)(f1)	LG CHEM LTD	3.0	125	1.2
Supplementary information:				
The bobbin material of transformer are phenolic, no test is needed.				

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq [1] (Hz)	Required cl (mm)	cl (mm)	E.S. [2] (V)	Required cr (mm)	cr (mm)
Line to Neutral before Fuse F1 (BI)	420	250	60	1.5	3.1	--	2.5	3.1
Two pins of fuse F1 on PCB trace (BI)	420	250	60	1.5	2.9	--	2.5	2.9
Live parts (plug metal shrapnel) and accessible enclosure (RI)	420	250	60	3.0	7.5	--	5.0	7.5
Primary component (LF2) to secondary component (R42) (RI)	420	250	60	3.0	5.4	--	5.0	5.4
CY1 primary to secondary (RI)	420	250	60	3.0	7.6	--	5.0	7.6
CY2 primary to secondary (RI)	420	273	60	3.0	5.8	--	5.5	5.8
U2 primary to secondary (RI)	420	250	60	3.0	7.5	--	5.0	7.5
Primary component (EC2) to secondary component (C21) (RI)	420	250	60	3.0	5.3	--	5.0	5.3
T1 primary pin 4 to secondary component (R14) (RI)	640	295	109K	3.0	6.2	--	5.9	6.2
T1 primary pin 4 to CY1 secondary pin (RI)	640	295	109K	3.0	6.8	--	5.9	6.8
T1 primary pin 2 to secondary component (R16) (RI)	640	295	109K	3.0	8.6	--	5.9	8.6
T1 primary winding/pin to secondary winding/pin (RI)	640	295	109K	3.0	11.2	--	5.9	11.2
T1 core to secondary winding/pin (RI)	640	295	109K	3.0	11.2	--	5.9	11.2
Supplementary information:								

1). Only for frequency above 30 kHz

2). Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)

3). See table 5.4.2.4 if this is based on electric strength test.

4). Provide Material Group IIIb

5). BI: basic insulation; SI: supplementary insulation; RI: reinforce insulation.

6). T1 core is considered as primary.

7). Insulating sheet used between primary component and secondary component.

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)
Bobbin of transformer (T1)	640	Reinforce insulation	Min. 0.4	1)
Insulation tape used for transformer T1	640	Reinforce insulation	Two layers min.	Two layers min.
Insulating sheet (between primary component and secondary component)	640	Reinforce insulation	Min. 0.4	1)
Plastic enclosure	640	Reinforce insulation	Min. 0.4	1)
Opto-coupler (U2)	420	Reinforce insulation	Min. 0.4	1)
Supplementary information:				
1). See appended table 4.1.2.				

5.4.4.9	**TABLE: Solid insulation at frequencies >30 kHz**					**P**
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)
Bobbin of transformer (T1)	17	109.0	0.53	1)	Reinforce insulation	640
Insulation tape used for transformer T1	--	109.0	0.34	--	Reinforce insulation	640
Transformer TIW	--	109.0	0.30	--	Reinforce insulation	640
Insulating sheet (between primary component and secondary component)	--	109.0	0.30	--	Reinforce insulation	640
Plastic enclosure	--	109.0	0.30	--	Reinforce	640

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Clause	Requirement + Test	Result - Remark	Verdict

					insulation	
Supplementary information:						
The bobbin material is phenolic. For reinforced insulation: 1.2 × 2 × V_{PW} / K_R, T1 bobbin: 2899V; T1 insulation tape: 4518V; Transformer TIW: 5120V; Insulating sheet: 5120V; Enclosure: 5120V;						

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 to N (fused disconnected)	DC	2500	No
Unit: Primary to secondary	DC	4000	No
Unit: Primary to plastic enclosure with foil	DC	4000	No
Bobbin of T1	DC	4000	No
One layers insulation tape of T1 (All sources)	DC	4518	No
Insulating sheet (between primary component and secondary component)	DC	5120	No
T1: Primary to secondary	DC	5120	No
T1: Secondary to core	DC	5120	No
Enclosure outside to inside	DC	5120	No
Supplementary information:			
1. The materials of enclosure, insulation tape: See table 4.1.2 2. Applied d.c. voltage in one polarity for 60s and then repeated it in reverse polarity. 3. T1 core is considered as primary.			

5.5.2.2	**TABLE: Stored discharge on capacitors**				**P**
Location	Supply voltage (V)	Operating and fault condition [1)]	Switch position	Measured voltage (Vpk)	ES Class
Phase to Neutral	264Vac, 60Hz	Normal	--	4V	ES1
Supplementary information:					
X-capacitors installed for testing: CX1=0.22uF					

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Clause	Requirement + Test	Result - Remark	Verdict

[ ] bleeding resistor rating:
[X] ICX: U1(Approved IC used)
1) Normal operating condition (e.g., normal operation, or open fuse), 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)	
Output +/- to earth	Normal	264Vac	--	0.300mApk / 0.299mApk / 60	ES1
Output +/- to earth	Abnormal - See table B.3, B.4 for details.	264Vac	--	0.300mApk / 0.299mApk / 60	ES1
Output +/- to earth	Single fault – See table B.3, B.4 for details (Unit shutdown)	264Vac	--	0.312mApk / 0.309mApk / 60	ES1
Output +/- to earth	Single fault - See table B.3, B.4 for details (Fuse open)	264Vac	--	0.089mApk / 0.324mApk / 60	ES1
Plastic enclosure to earth	Normal	264Vac	--	0.020mApk / 0.020mApk / 60	ES1
Plastic enclosure to earth	Abnormal - See table B.3, B.4 for details.	264Vac	--	0.020mApk / 0.020mApk / 60	ES1
Plastic enclosure to earth	Single fault – See table B.3, B.4 for details (Unit shutdown)	264Vac	--	0.021mApk / 0.021mApk / 60	ES1
Plastic enclosure to earth	Single fault - See table B.3, B.4 for details (Fuse open)	264Vac	--	0.021mApk / 0.021mApk / 60	ES1

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
Abbreviation: SC= short circuit; OC= open circuit

5.7.5	TABLE: Earthed accessible conductive part			N/A
Supply voltage (V).....:	--			—
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					P
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
All circuits except for output terminal	--	--	--	--	--	PS3 (Declared)
Output terminal*	--	--	--	--	--	PS2
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. 2) *: Comply with Annex Q(LPS), which are considered to be PS2 circuits.						

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Clause	Requirement + Test	Result - Remark	Verdict

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
Primary circuits and secondary circuit / parts except for output terminal	--	--	--	Yes (Declaration)
Supplementary information:				
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (Vp) and normal operating condition rms current (Irms) is greater than 15.				

6.2.3.2	TABLE: Determination of resistive PIS		P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
All internal circuits/components except output terminal	--	--	Yes (Declaration)
Supplementary information:			
Abbreviation: S-C=Short Circuit, O-C=Open Circuit. All internal circuits/components except output terminal considered resistive PIS. A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.			

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. transmit power of transmitter (W)..... :	--								—
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 (ºC)	Ambient (ºC)	Object (ºC)	Ambient (ºC)	Object (ºC)	Ambient (ºC)	Object (ºC)	Ambient (ºC)
--	--	--	--	--	--	--	--	--
Supplementary information:								

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**	**P**

Supply voltage (V).....:	A: 90Vac/60Hz (Horizontal) B: 90Vac/60Hz (Vertical) C: 264Vac/60Hz (Horizontal) D: 264Vac/60Hz (Vertical)	—

Ambient temperature during test T_{amb} (°C).....:	See below	See below	See below	See below	—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
USB-C1 port loaded 20.6Vdc, 3.4A					
Below are internal parts / Supply voltage and Condition	A		B		--
01. Input wire	81.1	94.4	78.2	92.3	125
02. CX1 body (Input board)	81.7	95.0	78.7	92.8	110
03. LF2 coil (Input board)	90.2	103.5	87.5	101.6	130
04. PWB near RT1 (Input board)	85.9	99.2	83.1	97.2	130
05. LF1 coil (Input board)	90.8	104.1	88.0	102.1	130
06. CE4 body (Output terminal board)	85.0	98.3	81.9	96.0	105
07. L3 body (Output terminal board)	80.5	93.8	77.8	91.9	105
08. PWB near Q3 (Output terminal board)	82.4	95.7	79.5	93.6	130
09. PWB near U7 (Output terminal board)	83.6	96.9	80.7	94.8	130
10. PWB near U5 (Output terminal board)	83.3	96.6	80.4	94.5	130
11. Temperature controller wire	82.8	96.1	80.1	94.2	--
12. PWB near Q1 (Secondary board)	79.3	92.6	76.7	90.8	130
13. PWB near D2 (Input board)	84.1	97.4	81.4	95.5	130
14. Insulating sheet	85.9	99.2	82.9	97.0	110
15. EC2 body (Main board)	84.8	98.1	81.6	95.7	105
16. L1 coil (Main board)	89.0	102.3	85.8	99.9	130
17. T1 core (Main board)	83.8	97.1	80.0	94.1	110
18. T1 coil (Main board)	84.7	98.0	80.2	94.3	110
19. EC6 body (Main board)	82.9	96.2	79.9	94.0	105
20. PWB near Q4 (Output terminal board)	78.1	91.4	75.6	89.7	130
21. CY2 body (Main board)	80.0	93.3	76.9	91.0	125
22. PWB near BD3 (Main board)	88.5	101.8	86.8	100.9	130

23. PWB near U1 (Main board)	87.5	100.8	83.8	97.9	130
24. PWB near D3 (Main board)	89.5	102.8	85.5	99.6	130
25. CY1 body (Main board)	86.2	99.5	82.8	96.9	125
26. U2 body (Main board)	84.1	97.4	80.8	94.9	125
27. Inside plastic enclosure near T1	77.2	90.5	73.9	88.0	120
28. Inside plastic enclosure near plug holder	80.4	93.7	77.3	91.4	120
Ambient	21.7	Shift to 35°C	22.9	Shift to 35°C	--
Below are accessible parts					
29. Outside plastic enclosure near T1	67.7	71.0	62.4	66.5	77
30. Outside plastic enclosure near plug holder	56.0	59.3	52.9	57.0	77
Ambient	21.7	Shift to 25°C	22.9	Shift to 25°C	--
Below are internal parts / Supply voltage and Condition	C		D		--
01. Input wire	59.4	71.3	60.3	72.1	125
02. CX1 body (Input board)	59.8	71.7	61.0	72.8	110
03. LF2 coil (Input board)	66.1	78.0	67.2	79.0	130
04. PWB near RT1 (Input board)	61.1	73.0	62.0	73.8	130
05. LF1 coil (Input board)	64.9	76.8	65.7	77.5	130
06. CE4 body (Output terminal board)	65.6	77.5	66.4	78.2	105
07. L3 body (Output terminal board)	65.5	77.4	67.6	79.4	105
08. PWB near Q3 (Output terminal board)	66.6	78.5	68.3	80.1	130
09. PWB near U7 (Output terminal board)	66.2	78.1	67.6	79.4	130
10. PWB near U5 (Output terminal board)	67.8	79.7	69.5	81.3	130
11. Temperature controller wire	65.8	77.7	67.0	78.8	--
12. PWB near Q1 (Secondary board)	68.2	80.1	71.4	83.2	130
13. PWB near D2 (Input board)	60.6	72.5	61.6	73.4	130
14. Insulating sheet	64.5	76.4	65.4	77.2	110
15. EC2 body (Main board)	65.8	77.7	66.9	78.7	105
16. L1 coil (Main board)	69.7	81.6	70.6	82.4	130
17. T1 core (Main board)	70.1	82.0	70.9	82.7	110
18. T1 coil (Main board)	71.2	83.1	72.9	84.7	110
19. EC6 body (Main board)	68.4	80.3	70.2	82.0	105

20. PWB near Q4 (Output terminal board)	66.0	77.9	68.9	80.7	130
21. CY2 body (Main board)	69.2	81.1	71.7	83.5	125
22. PWB near BD3 (Main board)	64.1	76.0	72.4	84.2	130
23. PWB near U1 (Main board)	78.0	89.9	78.9	90.7	130
24. PWB near D3 (Main board)	75.7	87.6	76.3	88.1	130
25. CY1 body (Main board)	70.6	82.5	71.8	83.6	125
26. U2 body (Main board)	71.8	83.7	73.5	85.3	125
27. Inside plastic enclosure near T1	66.0	77.9	68.4	80.2	120
28. Inside plastic enclosure near plug holder	58.3	70.2	59.3	71.1	120
Ambient	23.1	Shift to 35°C	23.2	Shift to 35°C	--
Below are accessible parts					
29. Outside plastic enclosure near T1	59.6	61.5	58.1	59.9	77
30. Outside plastic enclosure near plug holder	45.6	47.5	46.0	47.8	77
Ambient	23.1	Shift to 25°C	23.2	Shift to 25°C	--
USB-C1 port loaded PPS 11Vdc, 5A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	80.8	93.9	--	--	125
02. CX1 body (Input board)	81.6	94.7	--	--	110
03. LF2 coil (Input board)	92.4	105.5	--	--	130
04. PWB near RT1 (Input board)	84.8	97.9	--	--	130
05. LF1 coil (Input board)	90.6	103.7	--	--	130
06. CE4 body (Output terminal board)	84.1	97.2	--	--	105
07. L3 body (Output terminal board)	84.3	97.4	--	--	105
08. PWB near Q3 (Output terminal board)	86.1	99.2	--	--	130
09. PWB near U7 (Output terminal board)	86.5	99.6	--	--	130
10. PWB near U5 (Output terminal board)	84.3	97.4	--	--	130
11. Temperature controller wire	89.4	102.5	--	--	--
12. PWB near Q1 (Secondary board)	76.3	89.4	--	--	130
13. PWB near D2 (Input board)	84.4	97.5	--	--	130
14. Insulating sheet	85.7	98.8	--	--	110
15. EC2 body (Main board)	86.4	99.5	--	--	105

16. L1 coil (Main board)	85.4	98.5	--	--	130
17. T1 core (Main board)	78.3	91.4	--	--	110
18. T1 coil (Main board)	79.6	92.7	--	--	110
19. EC6 body (Main board)	81.5	94.6	--	--	105
20. PWB near Q4 (Output terminal board)	75.7	88.8	--	--	130
21. CY2 body (Main board)	75.9	89.0	--	--	125
22. PWB near BD3 (Main board)	87.6	100.7	--	--	130
23. PWB near U1 (Main board)	79.4	92.5	--	--	130
24. PWB near D3 (Main board)	82.0	95.1	--	--	130
25. CY1 body (Main board)	82.5	95.6	--	--	125
26. U2 body (Main board)	78.7	91.8	--	--	125
27. Inside plastic enclosure near T1	72.4	85.5	--	--	120
28. Inside plastic enclosure near plug holder	79.4	92.5	--	--	120
Ambient	21.9	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	66.0	69.1	--	--	77
30. Outside plastic enclosure near plug holder	56.5	59.6	--	--	77
Ambient	21.9	Shift to 25°C	--	--	--
USB-C2 port loaded 20.6Vdc, 3.4A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	81.1	93.9	--	--	125
02. CX1 body (Input board)	81.0	93.8	--	--	110
03. LF2 coil (Input board)	87.9	100.7	--	--	130
04. PWB near RT1 (Input board)	85.2	98.0	--	--	130
05. LF1 coil (Input board)	89.1	101.9	--	--	130
06. CE4 body (Output terminal board)	84.8	97.6	--	--	105
07. L3 body (Output terminal board)	85.2	98.0	--	--	105
08. PWB near Q3 (Output terminal board)	88.4	101.2	--	--	130
09. PWB near U7 (Output terminal board)	85.7	98.5	--	--	130
10. PWB near U5 (Output terminal board)	86.8	99.6	--	--	130
11. Temperature controller wire	81.8	94.6	--	--	--

12. PWB near Q1 (Secondary board)	80.8	93.6	--	--	130
13. PWB near D2 (Input board)	83.2	96.0	--	--	130
14. Insulating sheet	85.4	98.2	--	--	110
15. EC2 body (Main board)	84.8	97.6	--	--	105
16. L1 coil (Main board)	89.0	101.8	--	--	130
17. T1 core (Main board)	84.4	97.2	--	--	110
18. T1 coil (Main board)	85.7	98.5	--	--	110
19. EC6 body (Main board)	84.9	97.7	--	--	105
20. PWB near Q4 (Output terminal board)	79.5	92.3	--	--	130
21. CY2 body (Main board)	81.0	93.8	--	--	125
22. PWB near BD3 (Main board)	89.0	101.8	--	--	130
23. PWB near U1 (Main board)	87.9	100.7	--	--	130
24. PWB near D3 (Main board)	89.6	102.4	--	--	130
25. CY1 body (Main board)	86.8	99.6	--	--	125
26. U2 body (Main board)	84.8	97.6	--	--	125
27. Inside plastic enclosure near T1	77.7	90.5	--	--	120
28. Inside plastic enclosure near plug holder	79.5	92.3	--	--	120
Ambient	22.2	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	70.0	72.8	--	--	77
30. Outside plastic enclosure near plug holder	56.3	59.1	--	--	77
Ambient	22.2	Shift to 25°C	--	--	--
USB-C2 port loaded PPS 11Vdc, 5A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	72.7	84.1	--	--	125
02. CX1 body (Input board)	78.3	89.7	--	--	110
03. LF2 coil (Input board)	84.5	95.9	--	--	130
04. PWB near RT1 (Input board)	79.7	91.1	--	--	130
05. LF1 coil (Input board)	80.2	91.6	--	--	130
06. CE4 body (Output terminal board)	86.6	98.0	--	--	105
07. L3 body (Output terminal board)	91.4	102.8	--	--	105

08. PWB near Q3 (Output terminal board)	91.0	102.4	--	--	130
09. PWB near U7 (Output terminal board)	90.8	102.2	--	--	130
10. PWB near U5 (Output terminal board)	93.1	104.5	--	--	130
11. Temperature controller wire	82.3	93.7	--	--	--
12. PWB near Q1 (Secondary board)	82.9	94.3	--	--	130
13. PWB near D2 (Input board)	78.5	89.9	--	--	130
14. Insulating sheet	80.9	92.3	--	--	110
15. EC2 body (Main board)	84.0	95.4	--	--	105
16. L1 coil (Main board)	84.7	96.1	--	--	130
17. T1 core (Main board)	77.4	88.8	--	--	110
18. T1 coil (Main board)	80.8	92.2	--	--	110
19. EC6 body (Main board)	85.8	97.2	--	--	105
20. PWB near Q4 (Output terminal board)	80.7	92.1	--	--	130
21. CY2 body (Main board)	77.1	88.5	--	--	125
22. PWB near BD3 (Main board)	85.5	96.9	--	--	130
23. PWB near U1 (Main board)	79.2	90.6	--	--	130
24. PWB near D3 (Main board)	82.0	93.4	--	--	130
25. CY1 body (Main board)	82.9	94.3	--	--	125
26. U2 body (Main board)	80.2	91.6	--	--	125
27. Inside plastic enclosure near T1	71.6	83.0	--	--	120
28. Inside plastic enclosure near plug holder	75.1	86.5	--	--	120
Ambient	23.6	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	60.4	61.8	--	--	77
30. Outside plastic enclosure near plug holder	55.7	57.1	--	--	77
Ambient	23.6	Shift to 25°C	--	--	--
USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 5Vdc, 3A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	82.5	95.3	--	--	125
02. CX1 body (Input board)	82.9	95.7	--	--	110
03. LF2 coil (Input board)	92.2	105.0	--	--	130

04. PWB near RT1 (Input board)	86.5	99.3	--	--	130
05. LF1 coil (Input board)	91.6	104.4	--	--	130
06. CE4 body (Output terminal board)	86.7	99.5	--	--	105
07. L3 body (Output terminal board)	88.7	101.5	--	--	105
08. PWB near Q3 (Output terminal board)	94.0	106.8	--	--	130
09. PWB near U7 (Output terminal board)	89.8	102.6	--	--	130
10. PWB near U5 (Output terminal board)	91.1	103.9	--	--	130
11. Temperature controller wire	88.1	100.9	--	--	--
12. PWB near Q1 (Secondary board)	81.1	93.9	--	--	130
13. PWB near D2 (Input board)	85.5	98.3	--	--	130
14. Insulating sheet	87.7	100.5	--	--	110
15. EC2 body (Main board)	88.2	101.0	--	--	105
16. L1 coil (Main board)	89.7	102.5	--	--	130
17. T1 core (Main board)	82.6	95.4	--	--	110
18. T1 coil (Main board)	82.7	95.5	--	--	110
19. EC6 body (Main board)	86.8	99.6	--	--	105
20. PWB near Q4 (Output terminal board)	80.4	93.2	--	--	130
21. CY2 body (Main board)	80.4	93.2	--	--	125
22. PWB near BD3 (Main board)	89.3	102.1	--	--	130
23. PWB near U1 (Main board)	85.0	97.8	--	--	130
24. PWB near D3 (Main board)	87.6	100.4	--	--	130
25. CY1 body (Main board)	87.2	100.0	--	--	125
26. U2 body (Main board)	83.7	96.5	--	--	125
27. Inside plastic enclosure near T1	76.3	89.1	--	--	120
28. Inside plastic enclosure near plug holder	81.0	93.8	--	--	120
Ambient	23.6	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	60.4	61.8	--	--	77
30. Outside plastic enclosure near plug holder	55.7	57.1	--	--	77
Ambient	23.6	Shift to 25°C	--	--	--
USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 12Vdc, 1.67A					
Below are internal parts / Supply voltage and	A		--		--

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Clause	Requirement + Test	Result - Remark	Verdict

Condition					
01. Input wire	83.1	94.6	--	--	125
02. CX1 body (Input board)	83.3	94.8	--	--	110
03. LF2 coil (Input board)	92.1	103.6	--	--	130
04. PWB near RT1 (Input board)	87.2	98.7	--	--	130
05. LF1 coil (Input board)	92.1	103.6	--	--	130
06. CE4 body (Output terminal board)	86.9	98.4	--	--	105
07. L3 body (Output terminal board)	89.2	100.7	--	--	105
08. PWB near Q3 (Output terminal board)	90.2	101.7	--	--	130
09. PWB near U7 (Output terminal board)	88.3	99.8	--	--	130
10. PWB near U5 (Output terminal board)	89.0	100.5	--	--	130
11. Temperature controller wire	86.9	98.4	--	--	--
12. PWB near Q1 (Secondary board)	81.3	92.8	--	--	130
13. PWB near D2 (Input board)	85.9	97.4	--	--	130
14. Insulating sheet	87.9	99.4	--	--	110
15. EC2 body (Main board)	87.8	99.3	--	--	105
16. L1 coil (Main board)	90.3	101.8	--	--	130
17. T1 core (Main board)	83.7	95.2	--	--	110
18. T1 coil (Main board)	83.9	95.4	--	--	110
19. EC6 body (Main board)	86.1	97.6	--	--	105
20. PWB near Q4 (Output terminal board)	80.1	91.6	--	--	130
21. CY2 body (Main board)	81.1	92.6	--	--	125
22. PWB near BD3 (Main board)	91.3	102.8	--	--	130
23. PWB near U1 (Main board)	86.6	98.1	--	--	130
24. PWB near D3 (Main board)	89.1	100.6	--	--	130
25. CY1 body (Main board)	87.7	99.2	--	--	125
26. U2 body (Main board)	84.5	96.0	--	--	125
27. Inside plastic enclosure near T1	77.1	88.6	--	--	120
28. Inside plastic enclosure near plug holder	81.3	92.8	--	--	120
Ambient	23.5	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	69.0	70.5	--	--	77
30. Outside plastic enclosure near plug holder	57.0	58.5	--	--	77

Ambient	23.5	Shift to 25°C	--	--	--
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 5Vdc, 3A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	77.1	88.6	--	--	125
02. CX1 body (Input board)	77.2	88.7	--	--	110
03. LF2 coil (Input board)	85.4	96.9	--	--	130
04. PWB near RT1 (Input board)	80.7	92.2	--	--	130
05. LF1 coil (Input board)	85.4	96.9	--	--	130
06. CE4 body (Output terminal board)	81.5	93.0	--	--	105
07. L3 body (Output terminal board)	86.6	98.1	--	--	105
08. PWB near Q3 (Output terminal board)	88.5	100.0	--	--	130
09. PWB near U7 (Output terminal board)	84.2	95.7	--	--	130
10. PWB near U5 (Output terminal board)	86.0	97.5	--	--	130
11. Temperature controller wire	81.2	92.7	--	--	--
12. PWB near Q1 (Secondary board)	77.5	89.0	--	--	130
13. PWB near D2 (Input board)	79.4	90.9	--	--	130
14. Insulating sheet	82.0	93.5	--	--	110
15. EC2 body (Main board)	82.4	93.9	--	--	105
16. L1 coil (Main board)	84.4	95.9	--	--	130
17. T1 core (Main board)	78.8	90.3	--	--	110
18. T1 coil (Main board)	78.9	90.4	--	--	110
19. EC6 body (Main board)	82.3	93.8	--	--	105
20. PWB near Q4 (Output terminal board)	77.0	88.5	--	--	130
21. CY2 body (Main board)	76.5	88.0	--	--	125
22. PWB near BD3 (Main board)	83.1	94.6	--	--	130
23. PWB near U1 (Main board)	80.9	92.4	--	--	130
24. PWB near D3 (Main board)	83.1	94.6	--	--	130
25. CY1 body (Main board)	82.5	94.0	--	--	125
26. U2 body (Main board)	79.7	91.2	--	--	125
27. Inside plastic enclosure near T1	72.8	84.3	--	--	120
28. Inside plastic enclosure near plug holder	75.5	87.0	--	--	120
Ambient	23.5	Shift to	--	--	--

		35°C			
Below are accessible parts					
29. Outside plastic enclosure near T1	65.7	67.2	--	--	77
30. Outside plastic enclosure near plug holder	54.7	56.2	--	--	77
Ambient	23.5	Shift to 25°C	--	--	--
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 12Vdc, 1.67A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	79.4	90.8	--	--	125
02. CX1 body (Input board)	79.3	90.7	--	--	110
03. LF2 coil (Input board)	87.1	98.5	--	--	130
04. PWB near RT1 (Input board)	83.3	94.7	--	--	130
05. LF1 coil (Input board)	87.8	99.2	--	--	130
06. CE4 body (Output terminal board)	83.1	94.5	--	--	105
07. L3 body (Output terminal board)	84.3	95.7	--	--	105
08. PWB near Q3 (Output terminal board)	85.4	96.8	--	--	130
09. PWB near U7 (Output terminal board)	83.6	95.0	--	--	130
10. PWB near U5 (Output terminal board)	84.7	96.1	--	--	130
11. Temperature controller wire	81.4	92.8	--	--	--
12. PWB near Q1 (Secondary board)	78.2	89.6	--	--	130
13. PWB near D2 (Input board)	81.6	93.0	--	--	130
14. Insulating sheet	83.9	95.3	--	--	110
15. EC2 body (Main board)	83.3	94.7	--	--	105
16. L1 coil (Main board)	86.4	97.8	--	--	130
17. T1 core (Main board)	81.0	92.4	--	--	110
18. T1 coil (Main board)	81.3	92.7	--	--	110
19. EC6 body (Main board)	82.5	93.9	--	--	105
20. PWB near Q4 (Output terminal board)	77.3	88.7	--	--	130
21. CY2 body (Main board)	78.0	89.4	--	--	125
22. PWB near BD3 (Main board)	85.1	96.5	--	--	130
23. PWB near U1 (Main board)	83.8	95.2	--	--	130
24. PWB near D3 (Main board)	85.9	97.3	--	--	130
25. CY1 body (Main board)	84.1	95.5	--	--	125

26. U2 body (Main board)	81.6	93.0	--	--	125
27. Inside plastic enclosure near T1	74.5	85.9	--	--	120
28. Inside plastic enclosure near plug holder	77.8	89.2	--	--	120
Ambient	23.6	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	66.8	68.2	--	--	77
30. Outside plastic enclosure near plug holder	56.4	57.8	--	--	77
Ambient	23.6	Shift to 25°C	--	--	--
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 5Vdc, 3A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	80.0	92.5	--	--	125
02. CX1 body (Input board)	80.5	93.0	--	--	110
03. LF2 coil (Input board)	90.4	102.9	--	--	130
04. PWB near RT1 (Input board)	83.9	96.4	--	--	130
05. LF1 coil (Input board)	89.5	102.0	--	--	130
06. CE4 body (Output terminal board)	85.5	98.0	--	--	105
07. L3 body (Output terminal board)	89.6	102.1	--	--	105
08. PWB near Q3 (Output terminal board)	92.1	104.6	--	--	130
09. PWB near U7 (Output terminal board)	88.5	101.0	--	--	130
10. PWB near U5 (Output terminal board)	90.7	103.2	--	--	130
11. Temperature controller wire	86.6	99.1	--	--	--
12. PWB near Q1 (Secondary board)	81.8	94.3	--	--	130
13. PWB near D2 (Input board)	82.7	95.2	--	--	130
14. Insulating sheet	86.0	98.5	--	--	110
15. EC2 body (Main board)	87.2	99.7	--	--	105
16. L1 coil (Main board)	88.6	101.1	--	--	130
17. T1 core (Main board)	82.0	94.5	--	--	110
18. T1 coil (Main board)	82.3	94.8	--	--	110
19. EC6 body (Main board)	86.5	99.0	--	--	105
20. PWB near Q4 (Output terminal board)	82.0	94.5	--	--	130
21. CY2 body (Main board)	80.1	92.6	--	--	125

22. PWB near BD3 (Main board)	87.4	99.9	--	--	130
23. PWB near U1 (Main board)	84.4	96.9	--	--	130
24. PWB near D3 (Main board)	86.8	99.3	--	--	130
25. CY1 body (Main board)	86.9	99.4	--	--	125
26. U2 body (Main board)	83.5	96.0	--	--	125
27. Inside plastic enclosure near T1	76.1	88.6	--	--	120
28. Inside plastic enclosure near plug holder	78.4	90.9	--	--	120
Ambient	22.5	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	68.7	71.2	--	--	77
30. Outside plastic enclosure near plug holder	56.2	58.7	--	--	77
Ambient	22.5	Shift to 25°C	--	--	--
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 9Vdc, 2A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	80.9	91.4	--	--	125
02. CX1 body (Input board)	81.4	91.9	--	--	110
03. LF2 coil (Input board)	90.2	100.7	--	--	130
04. PWB near RT1 (Input board)	85.1	95.6	--	--	130
05. LF1 coil (Input board)	90.0	100.5	--	--	130
06. CE4 body (Output terminal board)	84.9	95.4	--	--	105
07. L3 body (Output terminal board)	87.5	98.0	--	--	105
08. PWB near Q3 (Output terminal board)	87.6	98.1	--	--	130
09. PWB near U7 (Output terminal board)	86.1	96.6	--	--	130
10. PWB near U5 (Output terminal board)	86.3	96.8	--	--	130
11. Temperature controller wire	85.1	95.6	--	--	--
12. PWB near Q1 (Secondary board)	77.9	88.4	--	--	130
13. PWB near D2 (Input board)	83.7	94.2	--	--	130
14. Insulating sheet	85.8	96.3	--	--	110
15. EC2 body (Main board)	85.8	96.3	--	--	105
16. L1 coil (Main board)	87.8	98.3	--	--	130
17. T1 core (Main board)	81.2	91.7	--	--	110

18. T1 coil (Main board)	81.6	92.1	--	--	110
19. EC6 body (Main board)	82.8	93.3	--	--	105
20. PWB near Q4 (Output terminal board)	77.2	87.7	--	--	130
21. CY2 body (Main board)	78.2	88.7	--	--	125
22. PWB near BD3 (Main board)	87.4	97.9	--	--	130
23. PWB near U1 (Main board)	84.2	94.7	--	--	130
24. PWB near D3 (Main board)	86.5	97.0	--	--	130
25. CY1 body (Main board)	85.0	95.5	--	--	125
26. U2 body (Main board)	81.8	92.3	--	--	125
27. Inside plastic enclosure near T1	74.9	85.4	--	--	120
28. Inside plastic enclosure near plug holder	79.4	89.9	--	--	120
Ambient	24.5	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	68.1	68.6	--	--	77
30. Outside plastic enclosure near plug holder	55.9	56.4	--	--	77
Ambient	24.5	Shift to 25°C	--	--	--
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 12Vdc, 1.5A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	81.6	93.4	--	--	125
02. CX1 body (Input board)	82.1	93.9	--	--	110
03. LF2 coil (Input board)	91.2	103.0	--	--	130
04. PWB near RT1 (Input board)	85.6	97.4	--	--	130
05. LF1 coil (Input board)	90.8	102.6	--	--	130
06. CE4 body (Output terminal board)	86.3	98.1	--	--	105
07. L3 body (Output terminal board)	87.2	99.0	--	--	105
08. PWB near Q3 (Output terminal board)	87.6	99.4	--	--	130
09. PWB near U7 (Output terminal board)	87.0	98.8	--	--	130
10. PWB near U5 (Output terminal board)	86.5	98.3	--	--	130
11. Temperature controller wire	86.0	97.8	--	--	--
12. PWB near Q1 (Secondary board)	78.7	90.5	--	--	130
13. PWB near D2 (Input board)	84.3	96.1	--	--	130

14. Insulating sheet	87.1	98.9	--	--	110
15. EC2 body (Main board)	86.9	98.7	--	--	105
16. L1 coil (Main board)	89.4	101.2	--	--	130
17. T1 core (Main board)	82.7	94.5	--	--	110
18. T1 coil (Main board)	83.3	95.1	--	--	110
19. EC6 body (Main board)	83.4	95.2	--	--	105
20. PWB near Q4 (Output terminal board)	77.6	89.4	--	--	130
21. CY2 body (Main board)	79.3	91.1	--	--	125
22. PWB near BD3 (Main board)	88.6	100.4	--	--	130
23. PWB near U1 (Main board)	86.0	97.8	--	--	130
24. PWB near D3 (Main board)	88.4	100.2	--	--	130
25. CY1 body (Main board)	86.3	98.1	--	--	125
26. U2 body (Main board)	83.2	95.0	--	--	125
27. Inside plastic enclosure near T1	76.0	87.8	--	--	120
28. Inside plastic enclosure near plug holder	80.1	91.9	--	--	120
Ambient	23.2	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	69.0	70.8	--	--	77
30. Outside plastic enclosure near plug holder	57.4	59.2	--	--	77
Ambient	23.2	Shift to 25°C	--	--	--
USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 5Vdc, 3A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	76.4	87.1	--	--	125
02. CX1 body (Input board)	76.8	87.5	--	--	110
03. LF2 coil (Input board)	84.6	95.3	--	--	130
04. PWB near RT1 (Input board)	80.0	90.7	--	--	130
05. LF1 coil (Input board)	84.7	95.4	--	--	130
06. CE4 body (Output terminal board)	80.7	91.4	--	--	105
07. L3 body (Output terminal board)	85.6	96.3	--	--	105
08. PWB near Q3 (Output terminal board)	85.2	95.9	--	--	130
09. PWB near U7 (Output terminal board)	82.3	93.0	--	--	130

10. PWB near U5 (Output terminal board)	84.4	95.1	--	--	130
11. Temperature controller wire	79.8	90.5	--	--	--
12. PWB near Q1 (Secondary board)	77.2	87.9	--	--	130
13. PWB near D2 (Input board)	78.6	89.3	--	--	130
14. Insulating sheet	81.3	92.0	--	--	110
15. EC2 body (Main board)	81.4	92.1	--	--	105
16. L1 coil (Main board)	83.7	94.4	--	--	130
17. T1 core (Main board)	78.3	89.0	--	--	110
18. T1 coil (Main board)	78.4	89.1	--	--	110
19. EC6 body (Main board)	80.9	91.6	--	--	105
20. PWB near Q4 (Output terminal board)	77.2	87.9	--	--	130
21. CY2 body (Main board)	76.2	86.9	--	--	125
22. PWB near BD3 (Main board)	82.6	93.3	--	--	130
23. PWB near U1 (Main board)	80.7	91.4	--	--	130
24. PWB near D3 (Main board)	82.7	93.4	--	--	130
25. CY1 body (Main board)	81.9	92.6	--	--	125
26. U2 body (Main board)	79.3	90.0	--	--	125
27. Inside plastic enclosure near T1	72.5	83.2	--	--	120
28. Inside plastic enclosure near plug holder	75.0	85.7	--	--	120
Ambient	24.3	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	65.7	66.4	--	--	77
30. Outside plastic enclosure near plug holder	54.7	55.4	--	--	77
Ambient	24.3	Shift to 25°C	--	--	--
USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 9Vdc, 2A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	78.2	90.0	--	--	125
02. CX1 body (Input board)	78.1	89.9	--	--	110
03. LF2 coil (Input board)	85.2	97.0	--	--	130
04. PWB near RT1 (Input board)	81.9	93.7	--	--	130
05. LF1 coil (Input board)	85.9	97.7	--	--	130

06. CE4 body (Output terminal board)	81.2	93.0	--	--	105
07. L3 body (Output terminal board)	82.5	94.3	--	--	105
08. PWB near Q3 (Output terminal board)	82.5	94.3	--	--	130
09. PWB near U7 (Output terminal board)	81.2	93.0	--	--	130
10. PWB near U5 (Output terminal board)	81.9	93.7	--	--	130
11. Temperature controller wire	79.6	91.4	--	--	--
12. PWB near Q1 (Secondary board)	75.1	86.9	--	--	130
13. PWB near D2 (Input board)	80.2	92.0	--	--	130
14. Insulating sheet	82.1	93.9	--	--	110
15. EC2 body (Main board)	81.3	93.1	--	--	105
16. L1 coil (Main board)	84.1	95.9	--	--	130
17. T1 core (Main board)	78.5	90.3	--	--	110
18. T1 coil (Main board)	79.0	90.8	--	--	110
19. EC6 body (Main board)	79.1	90.9	--	--	105
20. PWB near Q4 (Output terminal board)	74.3	86.1	--	--	130
21. CY2 body (Main board)	75.5	87.3	--	--	125
22. PWB near BD3 (Main board)	83.2	95.0	--	--	130
23. PWB near U1 (Main board)	81.5	93.3	--	--	130
24. PWB near D3 (Main board)	83.6	95.4	--	--	130
25. CY1 body (Main board)	81.6	93.4	--	--	125
26. U2 body (Main board)	78.9	90.7	--	--	125
27. Inside plastic enclosure near T1	72.4	84.2	--	--	120
28. Inside plastic enclosure near plug holder	76.6	88.4	--	--	120
Ambient	23.2	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	66.1	67.9	--	--	77
30. Outside plastic enclosure near plug holder	55.1	56.9	--	--	77
Ambient	23.2	Shift to 25°C	--	--	--

USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 12Vdc, 1.5A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	78.2	89.8	--	--	125

02. CX1 body (Input board)	78.3	89.9	--	--	110
03. LF2 coil (Input board)	85.0	96.6	--	--	130
04. PWB near RT1 (Input board)	81.8	93.4	--	--	130
05. LF1 coil (Input board)	85.8	97.4	--	--	130
06. CE4 body (Output terminal board)	80.9	92.5	--	--	105
07. L3 body (Output terminal board)	81.0	92.6	--	--	105
08. PWB near Q3 (Output terminal board)	81.3	92.9	--	--	130
09. PWB near U7 (Output terminal board)	80.7	92.3	--	--	130
10. PWB near U5 (Output terminal board)	80.7	92.3	--	--	130
11. Temperature controller wire	79.4	91.0	--	--	--
12. PWB near Q1 (Secondary board)	74.6	86.2	--	--	130
13. PWB near D2 (Input board)	80.3	91.9	--	--	130
14. Insulating sheet	82.1	93.7	--	--	110
15. EC2 body (Main board)	81.1	92.7	--	--	105
16. L1 coil (Main board)	84.0	95.6	--	--	130
17. T1 core (Main board)	78.5	90.1	--	--	110
18. T1 coil (Main board)	79.0	90.6	--	--	110
19. EC6 body (Main board)	78.3	89.9	--	--	105
20. PWB near Q4 (Output terminal board)	73.2	84.8	--	--	130
21. CY2 body (Main board)	75.5	87.1	--	--	125
22. PWB near BD3 (Main board)	82.4	94.0	--	--	130
23. PWB near U1 (Main board)	81.7	93.3	--	--	130
24. PWB near D3 (Main board)	83.7	95.3	--	--	130
25. CY1 body (Main board)	81.4	93.0	--	--	125
26. U2 body (Main board)	78.8	90.4	--	--	125
27. Inside plastic enclosure near T1	72.5	84.1	--	--	120
28. Inside plastic enclosure near plug holder	76.7	88.3	--	--	120
Ambient	23.4	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	66.2	67.8	--	--	77
30. Outside plastic enclosure near plug holder	55.5	57.1	--	--	77
Ambient	23.4	Shift to 25°C	--	--	--

USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	79.9	91.1	--	--	125
02. CX1 body (Input board)	80.6	91.8	--	--	110
03. LF2 coil (Input board)	89.5	100.7	--	--	130
04. PWB near RT1 (Input board)	84.3	95.5	--	--	130
05. LF1 coil (Input board)	89.3	100.5	--	--	130
06. CE4 body (Output terminal board)	84.4	95.6	--	--	105
07. L3 body (Output terminal board)	88.1	99.3	--	--	105
08. PWB near Q3 (Output terminal board)	88.9	100.1	--	--	130
09. PWB near U7 (Output terminal board)	86.3	97.5	--	--	130
10. PWB near U5 (Output terminal board)	87.3	98.5	--	--	130
11. Temperature controller wire	84.7	95.9	--	--	--
12. PWB near Q1 (Secondary board)	78.2	89.4	--	--	130
13. PWB near D2 (Input board)	82.8	94.0	--	--	130
14. Insulating sheet	85.2	96.4	--	--	110
15. EC2 body (Main board)	85.5	96.7	--	--	105
16. L1 coil (Main board)	87.1	98.3	--	--	130
17. T1 core (Main board)	79.9	91.1	--	--	110
18. T1 coil (Main board)	80.3	91.5	--	--	110
19. EC6 body (Main board)	83.3	94.5	--	--	105
20. PWB near Q4 (Output terminal board)	78.2	89.4	--	--	130
21. CY2 body (Main board)	76.9	88.1	--	--	125
22. PWB near BD3 (Main board)	85.5	96.7	--	--	130
23. PWB near U1 (Main board)	82.7	93.9	--	--	130
24. PWB near D3 (Main board)	85.1	96.3	--	--	130
25. CY1 body (Main board)	84.5	95.7	--	--	125
26. U2 body (Main board)	80.9	92.1	--	--	125
27. Inside plastic enclosure near T1	73.2	84.4	--	--	120
28. Inside plastic enclosure near plug holder	78.9	90.1	--	--	120
Ambient	23.8	Shift to 35°C	--	--	--
Below are accessible parts					

29. Outside plastic enclosure near T1	64.7	65.9	--	--	77
30. Outside plastic enclosure near plug holder	55.4	56.6	--	--	77
Ambient	23.8	Shift to 25°C	--	--	--
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A					
Below are internal parts / Supply voltage and Condition	A		--		--
01. Input wire	75.8	88.4	--	--	125
02. CX1 body (Input board)	75.8	88.4	--	--	110
03. LF2 coil (Input board)	82.5	95.1	--	--	130
04. PWB near RT1 (Input board)	79.3	91.9	--	--	130
05. LF1 coil (Input board)	83.1	95.7	--	--	130
06. CE4 body (Output terminal board)	78.6	91.2	--	--	105
07. L3 body (Output terminal board)	81.0	93.6	--	--	105
08. PWB near Q3 (Output terminal board)	81.6	94.2	--	--	130
09. PWB near U7 (Output terminal board)	79.3	91.9	--	--	130
10. PWB near U5 (Output terminal board)	80.7	93.3	--	--	130
11. Temperature controller wire	77.4	90.0	--	--	--
12. PWB near Q1 (Secondary board)	73.9	86.5	--	--	130
13. PWB near D2 (Input board)	77.9	90.5	--	--	130
14. Insulating sheet	79.6	92.2	--	--	110
15. EC2 body (Main board)	79.0	91.6	--	--	105
16. L1 coil (Main board)	81.4	94.0	--	--	130
17. T1 core (Main board)	76.0	88.6	--	--	110
18. T1 coil (Main board)	76.2	88.8	--	--	110
19. EC6 body (Main board)	77.7	90.3	--	--	105
20. PWB near Q4 (Output terminal board)	73.0	85.6	--	--	130
21. CY2 body (Main board)	73.7	86.3	--	--	125
22. PWB near BD3 (Main board)	81.1	93.7	--	--	130
23. PWB near U1 (Main board)	78.6	91.2	--	--	130
24. PWB near D3 (Main board)	80.6	93.2	--	--	130
25. CY1 body (Main board)	79.3	91.9	--	--	125
26. U2 body (Main board)	76.8	89.4	--	--	125
27. Inside plastic enclosure near T1	70.6	83.2	--	--	120

28. Inside plastic enclosure near plug holder	74.4	87.0	--	--	120
Ambient	22.4	Shift to 35°C	--	--	--
Below are accessible parts					
29. Outside plastic enclosure near T1	64.1	66.7	--	--	77
30. Outside plastic enclosure near plug holder	53.3	55.9	--	--	77
Ambient	22.4	Shift to 25°C	--	--	--

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:

1. The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 35°C.
2. The temperatures were measured under the worse case normal mode defined in clause B.2.1.
3. This product will automatically reduce the power under certain conditions, and then automatically recover when the specified power is reached.
4. The maximum temperatures are calculated as follows:

   Winding components (with safety isolation):

   - Class B Tmax= 120°C − 10°C = 110°C

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
USB-C1 port loaded 20.6Vdc, 3.4A								
90Vac	50	1.469	--	80.56	--	F1	1.469	Maximum normal load
90Vac	60	1.487	--	80.63	--	F1	1.487	Maximum normal load
100Vac	50	1.329	1.8	79.46	--	F1	1.329	Maximum normal load
100Vac	60	1.354	1.8	79.51	--	F1	1.354	Maximum normal load
240Vac	50	0.608	1.8	77.57	--	F1	0.608	Maximum normal load
240Vac	60	0.619	1.8	77.65	--	F1	0.619	Maximum normal load
264Vac	50	0.563	--	77.44	--	F1	0.563	Maximum normal load

264V ac	60	0.576	--	77.45	--	F1	0.576	Maximum normal load
USB-C1 port loaded PPS 11Vdc, 5A								
90Vac	50	1.195	--	65.69	--	F1	1.195	Maximum normal load
90Vac	60	1.207	--	65.70	--	F1	1.207	Maximum normal load
100V ac	50	1.085	1.8	65.07	--	F1	1.085	Maximum normal load
100V ac	60	1.093	1.8	65.10	--	F1	1.093	Maximum normal load
240V ac	50	0.503	1.8	63.87	--	F1	0.503	Maximum normal load
240V ac	60	0.512	1.8	63.89	--	F1	0.512	Maximum normal load
264V ac	50	0.467	--	63.65	--	F1	0.467	Maximum normal load
264V ac	60	0.474	--	63.67	--	F1	0.474	Maximum normal load
USB-C2 port loaded 20.6Vdc, 3.4A								
90Vac	50	1.482	--	80.80	--	F1	1.482	Maximum normal load
90Vac	60	1.496	--	81.00	--	F1	1.496	Maximum normal load
100V ac	50	1.335	1.8	79.90	--	F1	1.335	Maximum normal load
100V ac	60	1.358	1.8	80.02	--	F1	1.358	Maximum normal load
240V ac	50	0.609	1.8	77.81	--	F1	0.609	Maximum normal load
240V ac	60	0.621	1.8	77.83	--	F1	0.621	Maximum normal load
264V ac	50	0.566	--	77.94	--	F1	0.566	Maximum normal load
264V ac	60	0.575	--	77.96	--	F1	0.575	Maximum normal load
USB-C2 port loaded PPS 11Vdc, 5A								
90Vac	50	1.206	--	67.11	--	F1	1.206	Maximum normal load

90Vac	60	1.210	--	67.14	--	F1	1.210	Maximum normal load
100Vac	50	1.092	1.8	66.20	--	F1	1.092	Maximum normal load
100Vac	60	1.103	1.8	66.23	--	F1	1.103	Maximum normal load
240Vac	50	0.509	1.8	64.08	--	F1	0.509	Maximum normal load
240Vac	60	0.516	1.8	64.10	--	F1	0.516	Maximum normal load
264Vac	50	0.504	--	64.25	--	F1	0.504	Maximum normal load
264Vac	60	0.508	--	64.29	--	F1	0.508	Maximum normal load
USB-A port loaded 5Vdc, 3A								
90Vac	50	0.371	--	18.80	--	F1	0.371	Maximum normal load
90Vac	60	0.372	--	18.82	--	F1	0.372	Maximum normal load
100Vac	50	0.337	1.8	18.76	--	F1	0.337	Maximum normal load
100Vac	60	0.378	1.8	18.77	--	F1	0.378	Maximum normal load
240Vac	50	0.160	1.8	18.64	--	F1	0.160	Maximum normal load
240Vac	60	0.163	1.8	18.67	--	F1	0.163	Maximum normal load
264Vac	50	0.149	--	18.69	--	F1	0.149	Maximum normal load
264Vac	60	0.151	--	18.70	--	F1	0.151	Maximum normal load
USB-A port loaded 9Vdc, 2A								
90Vac	50	0.414	--	21.46	--	F1	0.414	Maximum normal load
90Vac	60	0.416	--	21.48	--	F1	0.416	Maximum normal load
100Vac	50	0.384	1.8	21.33	--	F1	0.384	Maximum normal load
100Vac	60	0.385	1.8	21.35	--	F1	0.385	Maximum normal load

240V ac	50	0.180	1.8	21.19	--	F1	0.180	Maximum normal load
240V ac	60	0.181	1.8	21.21	--	F1	0.181	Maximum normal load
264V ac	50	0.168	--	21.26	--	F1	0.168	Maximum normal load
264V ac	60	0.170	--	21.27	--	F1	0.170	Maximum normal load
USB-A port loaded 12Vdc, 1.5A								
90Vac	50	0.417	--	21.38	--	F1	0.417	Maximum normal load
90Vac	60	0.418	--	21.38	--	F1	0.418	Maximum normal load
100V ac	50	0.379	1.8	21.28	--	F1	0.379	Maximum normal load
100V ac	60	0.381	1.8	21.32	--	F1	0.381	Maximum normal load
240V ac	50	0.179	1.8	21.13	--	F1	0.179	Maximum normal load
240V ac	60	0.180	1.8	21.14	--	F1	0.180	Maximum normal load
264V ac	50	0.168	--	21.20	--	F1	0.168	Maximum normal load
264V ac	60	0.169	--	21.22	--	F1	0.169	Maximum normal load
USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 5Vdc, 3A								
90Vac	50	1.314	--	71.38	--	F1	1.314	Maximum normal load
90Vac	60	1.331	--	71.40	--	F1	1.331	Maximum normal load
100V ac	50	1.193	1.8	70.58	--	F1	1.193	Maximum normal load
100V ac	60	1.226	1.8	70.63	--	F1	1.226	Maximum normal load
240V ac	50	0.555	1.8	69.39	--	F1	0.555	Maximum normal load
240V ac	60	0.562	1.8	69.40	--	F1	0.562	Maximum normal load
264V ac	50	0.514	--	69.24	--	F1	0.514	Maximum normal load

264V ac	60	0.523	--	69.25	--	F1	0.523	Maximum normal load
USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 12Vdc, 1.67A								
90Vac	50	1.407	--	76.15	--	F1	1.407	Maximum normal load
90Vac	60	1.420	--	76.25	--	F1	1.420	Maximum normal load
100V ac	50	1.261	1.8	75.32	--	F1	1.261	Maximum normal load
100V ac	60	1.293	1.8	75.36	--	F1	1.293	Maximum normal load
240V ac	50	0.584	1.8	73.68	--	F1	0.584	Maximum normal load
240V ac	60	0.596	1.8	73.69	--	F1	0.596	Maximum normal load
264V ac	50	0.541	--	73.77	--	F1	0.541	Maximum normal load
264V ac	60	0.553	--	73.83	--	F1	0.553	Maximum normal load
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 5Vdc, 3A								
90Vac	50	1.291	--	70.21	--	F1	1.291	Maximum normal load
90Vac	60	1.313	--	70.26	--	F1	1.313	Maximum normal load
100V ac	50	1.174	1.8	69.80	--	F1	1.174	Maximum normal load
100V ac	60	1.192	1.8	69.88	--	F1	1.192	Maximum normal load
240V ac	50	0.545	1.8	68.05	--	F1	0.545	Maximum normal load
240V ac	60	0.552	1.8	68.06	--	F1	0.552	Maximum normal load
264V ac	50	0.506	--	68.16	--	F1	0.506	Maximum normal load
264V ac	60	0.515	--	68.21	--	F1	0.515	Maximum normal load
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 12Vdc, 1.67A								
90Vac	50	1.376	--	75.26	--	F1	1.376	Maximum normal load

90Vac	60	1.391	--	75.29	--	F1	1.391	Maximum normal load
100Vac	50	1.245	1.8	74.24	--	F1	1.245	Maximum normal load
100Vac	60	1.274	1.8	74.52	--	F1	1.274	Maximum normal load
240Vac	50	0.575	1.8	72.58	--	F1	0.575	Maximum normal load
240Vac	60	0.581	1.8	72.67	--	F1	0.581	Maximum normal load
264Vac	50	0.532	--	72.50	--	F1	0.532	Maximum normal load
264Vac	60	0.549	--	72.52	--	F1	0.549	Maximum normal load
USB-C1 port loaded PPS 11Vdc, 4A; USB-C2 port loaded 5Vdc, 3A								
90Vac	50	1.301	--	71.33	--	F1	1.301	Maximum normal load
90Vac	60	1.320	--	71.35	--	F1	1.320	Maximum normal load
100Vac	50	1.185	1.8	70.53	--	F1	1.185	Maximum normal load
100Vac	60	1.203	1.8	70.60	--	F1	1.203	Maximum normal load
240Vac	50	0.547	1.8	69.14	--	F1	0.547	Maximum normal load
240Vac	60	0.553	1.8	69.16	--	F1	0.553	Maximum normal load
264Vac	50	0.512	--	68.93	--	F1	0.512	Maximum normal load
264Vac	60	0.516	--	69.01	--	F1	0.516	Maximum normal load
USB-C1 port loaded PPS 11Vdc, 4A; USB-C2 port loaded 12Vdc, 1.67A								
90Vac	50	1.384	--	78.24	--	F1	1.384	Maximum normal load
90Vac	60	1.395	--	78.44	--	F1	1.395	Maximum normal load
100Vac	50	1.241	1.8	77.11	--	F1	1.241	Maximum normal load
100Vac	60	1.247	1.8	77.15	--	F1	1.247	Maximum normal load

240V ac	50	0.576	1.8	73.42	--	F1	0.576	Maximum normal load
240V ac	60	0.583	1.8	73.48	--	F1	0.583	Maximum normal load
264V ac	50	0.533	--	73.33	--	F1	0.533	Maximum normal load
264V ac	60	0.542	--	73.38	--	F1	0.542	Maximum normal load
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 5Vdc, 3A								
90Vac	50	1.356	--	73.34	--	F1	1.356	Maximum normal load
90Vac	60	1.324	--	73.58	--	F1	1.324	Maximum normal load
100V ac	50	1.185	1.8	72.19	--	F1	1.185	Maximum normal load
100V ac	60	1.191	1.8	72.21	--	F1	1.191	Maximum normal load
240V ac	50	0.542	1.8	69.61	--	F1	0.542	Maximum normal load
240V ac	60	0.554	1.8	69.71	--	F1	0.554	Maximum normal load
264V ac	50	0.500	--	69.52	--	F1	0.500	Maximum normal load
264V ac	60	0.512	--	69.59	--	F1	0.512	Maximum normal load
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 9Vdc, 2A								
90Vac	50	1.352	--	76.26	--	F1	1.352	Maximum normal load
90Vac	60	1.357	--	76.31	--	F1	1.357	Maximum normal load
100V ac	50	1.214	1.8	74.81	--	F1	1.214	Maximum normal load
100V ac	60	1.220	1.8	74.89	--	F1	1.220	Maximum normal load
240V ac	50	0.566	1.8	72.18	--	F1	0.566	Maximum normal load
240V ac	60	0.573	1.8	72.21	--	F1	0.573	Maximum normal load
264V ac	50	0.528	--	72.09	--	F1	0.528	Maximum normal load

264V ac	60	0.531	--	72.17	--	F1	0.531	Maximum normal load
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 12Vdc, 1.5A								
90Vac	50	1.351	--	76.27	--	F1	1.351	Maximum normal load
90Vac	60	1.355	--	76.28	--	F1	1.355	Maximum normal load
100V ac	50	1.215	1.8	74.77	--	F1	1.215	Maximum normal load
100V ac	60	1.221	1.8	74.91	--	F1	1.221	Maximum normal load
240V ac	50	0.565	1.8	72.08	--	F1	0.565	Maximum normal load
240V ac	60	0.571	1.8	72.13	--	F1	0.571	Maximum normal load
264V ac	50	0.526	--	71.98	--	F1	0.526	Maximum normal load
264V ac	60	0.533	--	72.00	--	F1	0.533	Maximum normal load
USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 5Vdc, 3A								
90Vac	50	1.283	--	72.21	--	F1	1.283	Maximum normal load
90Vac	60	1.291	--	72.31	--	F1	1.291	Maximum normal load
100V ac	50	1.152	1.8	71.08	--	F1	1.152	Maximum normal load
100V ac	60	1.174	1.8	71.16	--	F1	1.174	Maximum normal load
240V ac	50	0.546	1.8	68.69	--	F1	0.546	Maximum normal load
240V ac	60	0.551	1.8	68.79	--	F1	0.551	Maximum normal load
264V ac	50	0.506	--	68.64	--	F1	0.506	Maximum normal load
264V ac	60	0.511	--	68.67	--	F1	0.511	Maximum normal load
USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 9Vdc, 2A								
90Vac	50	1.334	--	75.02	--	F1	1.334	Maximum normal load

90Vac	60	1.336	--	75.24	--	F1	1.336	Maximum normal load
100Vac	50	1.195	1.8	73.73	--	F1	1.195	Maximum normal load
100Vac	60	1.203	1.8	73.74	--	F1	1.203	Maximum normal load
240Vac	50	0.542	1.8	70.99	--	F1	0.542	Maximum normal load
240Vac	60	0.557	1.8	71.09	--	F1	0.557	Maximum normal load
264Vac	50	0.504	--	70.97	--	F1	0.504	Maximum normal load
264Vac	60	0.515	--	70.98	--	F1	0.515	Maximum normal load
USB-C1 port loaded 20Vdc, 2.25A; USB-A port loaded 12Vdc, 1.5A								
90Vac	50	1.332	--	74.12	--	F1	1.332	Maximum normal load
90Vac	60	1.337	--	75.12	--	F1	1.337	Maximum normal load
100Vac	50	1.193	1.8	73.70	--	F1	1.193	Maximum normal load
100Vac	60	1.199	1.8	73.81	--	F1	1.199	Maximum normal load
240Vac	50	0.551	1.8	71.03	--	F1	0.551	Maximum normal load
240Vac	60	0.558	1.8	71.01	--	F1	0.558	Maximum normal load
264Vac	50	0.511	--	70.95	--	F1	0.511	Maximum normal load
264Vac	60	0.516	--	71.00	--	F1	0.516	Maximum normal load
USB-C1 port loaded PPS 11Vdc, 4A; USB-A port loaded 5Vdc, 3A								
90Vac	50	1.304	--	73.10	--	F1	1.304	Maximum normal load
90Vac	60	1.312	--	73.12	--	F1	1.312	Maximum normal load
100Vac	50	1.173	1.8	71.99	--	F1	1.173	Maximum normal load
100Vac	60	1.182	1.8	72.00	--	F1	1.182	Maximum normal load

240V ac	50	0.542	1.8	69.45	--	F1	0.542	Maximum normal load
240V ac	60	0.551	1.8	69.53	--	F1	0.551	Maximum normal load
264V ac	50	0.504	--	69.42	--	F1	0.504	Maximum normal load
264V ac	60	0.512	--	69.44	--	F1	0.512	Maximum normal load
USB-C1 port loaded PPS 11Vdc, 4A; USB-A port loaded 9Vdc, 2A								
90Vac	50	1.354	--	76.06	--	F1	1.354	Maximum normal load
90Vac	60	1.358	--	76.23	--	F1	1.358	Maximum normal load
100V ac	50	1.211	1.8	74.72	--	F1	1.211	Maximum normal load
100V ac	60	1.220	1.8	74.82	--	F1	1.220	Maximum normal load
240V ac	50	0.563	1.8	72.03	--	F1	0.563	Maximum normal load
240V ac	60	0.574	1.8	72.04	--	F1	0.574	Maximum normal load
264V ac	50	0.524	--	71.83	--	F1	0.524	Maximum normal load
264V ac	60	0.535	--	71.92	--	F1	0.535	Maximum normal load
USB-C1 port loaded PPS 11Vdc, 4A; USB-A port loaded 12Vdc, 1.5A								
90Vac	50	1.351	--	76.12	--	F1	1.351	Maximum normal load
90Vac	60	1.364	--	76.15	--	F1	1.364	Maximum normal load
100V ac	50	1.211	1.8	74.69	--	F1	1.211	Maximum normal load
100V ac	60	1.221	1.8	74.78	--	F1	1.221	Maximum normal load
240V ac	50	0.562	1.8	71.91	--	F1	0.562	Maximum normal load
240V ac	60	0.573	1.8	71.97	--	F1	0.573	Maximum normal load
264V ac	50	0.524	--	71.82	--	F1	0.524	Maximum normal load

264Vac	60	0.532	--	71.89	--	F1	0.532	Maximum normal load
USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A								
90Vac	50	0.371	--	19.06	--	F1	0.371	Maximum normal load
90Vac	60	0.372	--	19.07	--	F1	0.372	Maximum normal load
100Vac	50	0.343	1.8	18.95	--	F1	0.343	Maximum normal load
100Vac	60	0.345	1.8	18.96	--	F1	0.345	Maximum normal load
240Vac	50	0.159	1.8	18.88	--	F1	0.159	Maximum normal load
240Vac	60	0.161	1.8	18.89	--	F1	0.161	Maximum normal load
264Vac	50	0.147	--	18.81	--	F1	0.147	Maximum normal load
264Vac	60	0.149	--	18.83	--	F1	0.149	Maximum normal load
USB-C1 port loaded 15Vdc, 3A; USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A								
90Vac	50	1.311	--	73.55	--	F1	1.311	Maximum normal load
90Vac	60	1.323	--	73.57	--	F1	1.323	Maximum normal load
100Vac	50	1.186	1.8	72.17	--	F1	1.186	Maximum normal load
100Vac	60	1.194	1.8	72.24	--	F1	1.194	Maximum normal load
240Vac	50	0.544	1.8	69.73	--	F1	0.544	Maximum normal load
240Vac	60	0.552	1.8	69.75	--	F1	0.552	Maximum normal load
264Vac	50	0.513	--	69.63	--	F1	0.513	Maximum normal load
264Vac	60	0.515	--	69.67	--	F1	0.515	Maximum normal load
USB-C1 port loaded 20Vdc, 2.25A; USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A								
90Vac	50	1.285	--	72.18	--	F1	1.285	Maximum normal load

90Vac	60	1.293	--	72.30	--	F1	1.293	Maximum normal load
100Vac	50	1.166	1.8	71.09	--	F1	1.166	Maximum normal load
100Vac	60	1.173	1.8	71.16	--	F1	1.173	Maximum normal load
240Vac	50	0.543	1.8	68.72	--	F1	0.543	Maximum normal load
240Vac	60	0.545	1.8	68.74	--	F1	0.545	Maximum normal load
264Vac	50	0.502	--	68.63	--	F1	0.502	Maximum normal load
264Vac	60	0.511	--	68.66	--	F1	0.511	Maximum normal load
USB-C1 port loaded PPS 11Vdc, 4A; USB-C2 port loaded 5Vdc, 1.5A; USB-A port loaded 5Vdc, 1.5A								
90Vac	50	1.303	--	73.11	--	F1	1.303	Maximum normal load
90Vac	60	1.312	--	73.29	--	F1	1.312	Maximum normal load
100Vac	50	1.175	1.8	71.95	--	F1	1.175	Maximum normal load
100Vac	60	1.184	1.8	72.01	--	F1	1.184	Maximum normal load
240Vac	50	0.543	1.8	69.46	--	F1	0.543	Maximum normal load
240Vac	60	0.552	1.8	69.55	--	F1	0.552	Maximum normal load
264Vac	50	0.508	--	69.38	--	F1	0.508	Maximum normal load
264Vac	60	0.516	--	69.41	--	F1	0.516	Maximum normal load

Supplementary information:

- Equipment may be have rated current or rated power or both. Both should be measured
- The maximum measured current under rated voltage did not exceed 110% of the rated current.

B.3, B.4	**TABLE: Abnormal operating and fault condition tests**	**P**

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Clause	Requirement + Test	Result - Remark	Verdict

Ambient temperature T_{amb} (°C)..... :	See below	—
Power source for EUT: Manufacturer, model/type, outputrating... :	--	—

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Horizontal						
USB-C1 port loaded 20.6Vdc, 3.4A						
USB-C1 Port Output “+” to “-”	O-L	90Vac	10hrs	F1	1.487 to 0.983 to 1.006 to 1.066 to 0.030	NB, NC, NT After USB-C1 port output drops to 2.25A, When output is overloaded to 2.5A, the product run stably, and then output overload to 2.6A, unit shutdown, no damaged, no hazards. 01. T1 core (Main board): 85.8°C 02. T1 coil (Main board): 86.8°C 03. PWB near BD3 (Main board): 90.8°C 04. PWB near D3 (Main board): 90.9°C 05. Outside plastic enclosure near T1: 71.8°C 06. Outside plastic enclosure near plug holder: 57.3°C Ambient: 21.9°C Prospective touch voltage: Output “+” to “-”: 20.698Vdc Touch current: Output “+” to earth: 0.300mApk Output “-” to earth: 0.299mApk Plastic enclosure to earth: 0.020mApk
USB-C1 Port Output “+” to “-”	S-C	90Vac	10mins	F1	1.487 to 0.030	NB, NC, NT Unit shutdown immediately, no damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.300mApk Output “-” to earth:

						0.299mApk Plastic enclosure to earth: 0.020mApk
USB-C1 port loaded 15Vdc, 3A; USB-A port loaded 12Vdc, 1.5A						
USB-A Port Output “+” to “-”	O-L	90Vac	6hrs	F1	1.355 to 1.029 to 1.030 to 1.051 to 0.628	NB, NC, NT After USB-C1 port output drops to 2.0A, When USB-A output is overloaded to 3.4A, the product run stably, and then output overload to 3.6A, unit shutdown, no damaged, no hazards. 01. T1 core (Main board): 83.8°C 02. T1 coil (Main board): 84.7°C 03. PWB near BD3 (Main board): 89.8°C 04. PWB near D3 (Main board): 89.7°C 05. Outside plastic enclosure near T1: 71.5°C 06. Outside plastic enclosure near plug holder: 58.3°C Ambient: 21.5°C Prospective touch voltage: Output “+” to “-”: USB-C1 port: 15.097Vdc USB-A port: 12.019Vdc Touch current: Output “+” to earth: 0.300mApk Output “-” to earth: 0.299mApk Plastic enclosure to earth: 0.020mApk
USB-A Port Output “+” to “-”	S-C	90Vac	10mins	F1	1.355 to 0.628	NB, NC, NT Unit operated normally except USB-A port shutdown, no damaged, no hazards. Prospective touch voltage: Output “+” to “-”: USB-C1 port: 15.097Vdc USB-A port: 0Vdc Touch current: Output “+” to earth: 0.300mApk

						Output “-” to earth: 0.299mApk Plastic enclosure to earth: 0.020mApk
USB-C2 port loaded 20.6Vdc, 3.4A						
USB-C2 Port Output “+” to “-”	O-L	90Vac	10hrs	F1	1.496 to 0.980 to 1.001 to 0.030	NB, NC, NT After USB-C2 port output drops to 2.25A, When output is overloaded to 2.35A, the product run stably, and then output overload to 2.4A, unit shutdown, no damaged, no hazards. 01. T1 core (Main board): 86.0°C 02. T1 coil (Main board): 87.8°C 03. PWB near BD3 (Main board): 90.3°C 04. PWB near D3 (Main board): 91.0°C 05. Outside plastic enclosure near T1: 73.0°C 06. Outside plastic enclosure near plug holder: 57.7°C Ambient: 23.7°C Prospective touch voltage: Output “+” to “-”: 20.591Vdc Touch current: Output “+” to earth: 0.300mApk Output “-” to earth: 0.299mApk Plastic enclosure to earth: 0.020mApk
Transformer T1 pin A to pin B (after Q1)	O-L	90Vac	10hrs	F1	1.496 to 0.975 to 1.001 to 0.030	NB, NC, NT After USB-C2 port output drops to 2.25A, When Transformer T1 pin A to pin B (after Q1) is overloaded to 2.35A, the product run stably, and then Transformer T1 pin A to pin B (after Q1) overload to 2.4A, unit shutdown, no damaged, no hazards. 01. T1 core (Main board): 86.6°C 02. T1 coil (Main board):

						88.6°C 03. PWB near BD3 (Main board): 90.5°C 04. PWB near D3 (Main board): 91.3°C 05. Outside plastic enclosure near T1: 74.6°C 06. Outside plastic enclosure near plug holder: 58.4°C Ambient: 22.7°C Prospective touch voltage: Output “+” to “-”: 20.591Vdc Touch current: Output “+” to earth: 0.300mApk Output “-” to earth: 0.299mApk Plastic enclosure to earth: 0.020mApk
USB-C2 Port Output “+” to “-”	S-C	90Vac	10mins	F1	1.496 to 0.030	NB, NC, NT Unit shutdown immediately, no damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
BD3 pin ~ to pin +	S-C	264Vac	1s	F1	0	NB, NC, NT. Fuse F1 opened immediately, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.324mApk Output “-” to earth: 0.324mApk Plastic enclosure to earth: 0.021mApk
EC2	S-C	264Vac	1s	F1	0	NB, NC, NT. Fuse F1 opened immediately, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc

						Touch current: Output “+” to earth: 0.324mApk Output “-” to earth: 0.324mApk Plastic enclosure to earth: 0.021mApk
U1 pin 1,2 to pin 6	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
U1 pin 1,2 to pin 9	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
U1 pin 4 to pin 6	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
U1 pin 4 to pin 9	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc

						Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
RS1	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
T1 pin 2 to pin 5	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
T1 pin 4 to pin 6	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
T1 pin A to pin B	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc

						Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
U2 pin 1 to pin 2	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
U2 pin 3 to pin 4	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
U2 pin 1	O-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
U2 pin 3	O-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc

						Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
R11	S-C	264Vac	10mins	F1	0.575	NB, NC, NT. Unit operated normally, no hazards, no damaged. Prospective touch voltage: Output “+” to “-”: 20.591Vdc Touch current: Output “+” to earth: 0.300mApk Output “-” to earth: 0.299mApk Plastic enclosure to earth: 0.020mApk
C6	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
Q1 pin 1,2,3 to pin 5,6,7,8	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk
EC5	S-C	264Vac	10mins	F1	0.030	NB, NC, NT. Unit shutdown immediately. No damaged, no hazards. Prospective touch voltage: Output “+” to “-”: 0Vdc

						Touch current: Output “+” to earth: 0.312mApk Output “-” to earth: 0.309mApk Plastic enclosure to earth: 0.021mApk

Supplementary information:

- Results Key: NB=No indication of dielectric breakdown; IP=Internal protection operated (list component); CD=Components damaged (list damaged components); @ = Tests were repeated 2 more times (Totally 3 times) and get the same result; I/P = Input; O/P = Output, NSF=No Ignition, TC=Touch Current measured, TV= Touch Voltage measured.
- S-C= Short Circuit, O-C= Open Circuit, O-L= Overload
- After each fault condition, the output doesn’t exceed the ES1 requirement.
- The overloaded condition is applied according to annex G.5.3.3.

  Transformer winding Limit: 175-10=165°C
- During and after single fault conditions, the output voltage did not increase by more than 10% of its rated output voltage under normal operating condition.

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				
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse 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
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)						P
Output Circuit	Condition	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Test for USB-C1 port							
+5V Output "+" to "-"	Normal	5.076	5	3.4	8	15.06	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	5.076	5	3.4	8	15.06	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100

	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+9V Output “+” to “-”	Normal	9.069	5	3.4	8	29.25	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	9.069	5	3.4	8	29.25	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100

	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+12V Output "+" to "-"	Normal	12.078	5	3.4	8	38.82	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	12.078	5	3.4	8	38.82	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100

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Clause	Requirement + Test	Result - Remark	Verdict

	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+15V Output “+” to “-”	Normal	15.097	5	3.4	8	46.86	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	15.097	5	3.4	8	46.86	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+20V	Normal	20.105	5	3.7	8	71.75	100

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Clause	Requirement + Test			Result - Remark			Verdict
Output “+” to “-”	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	20.105	5	3.7	8	71.75	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+20.6V Output “+” to “-”	Normal	20.698	5	3.9	8	77.76	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	20.698	5	3.9	8	77.76	100

	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
PPS +11V Output “+” to “-”	Normal	11.060	5	5.4	8	57.68	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	11.060	5	5.4	8	57.68	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100

	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
Test for USB-C2 port							
+5V Output “+” to “-”	Normal	5.057	5	3.3	8	15.32	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	5.057	5	3.3	8	15.32	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100

	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+9V Output “+” to “-”	Normal	9.041	5	3.3	8	28.49	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	9.041	5	3.3	8	28.49	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100

	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+12V Output “+” to “-”	Normal	12.018	5	3.3	8	38.30	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	12.018	5	3.3	8	38.30	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100

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Clause	Requirement + Test	Result - Remark	Verdict

	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+15V Output “+” to “-”	Normal	15.009	5	3.3	8	47.48	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	15.009	5	3.3	8	47.48	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+20V	Normal	20.005	5	3.5	8	67.68	100

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
Output “+” to “-”	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	20.005	5	3.5	8	67.68	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+20.6V Output “+” to “-”	Normal	20.599	5	3.7	8	73.59	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	20.599	5	3.7	8	73.59	100

	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
PPS +11V Output “+” to “-”	Normal	11.060	5	5.4	8	58.01	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	11.060	5	5.4	8	58.01	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100

	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
Test for USB-A port							
+5V Output “+” to “-”	Normal	5.055	5	3.6	8	15.68	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	5.055	5	3.6	8	15.68	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100

	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+9V Output “+” to “-”	Normal	9.041	5	2.4	8	20.24	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	9.041	5	2.4	8	20.24	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100

	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
+12V Output "+" to "-"	Normal	12.019	5	3.6	8	18.54	100
	Single fault - EC5 SC	0	5	0	8	0	100
	Single fault - C6 SC	0	5	0	8	0	100
	Single fault - R11 SC	12.019	5	3.6	8	18.54	100
	Single fault - Q1 pin 1,2,3 to pin 5,6,7,8 SC	0	5	0	8	0	100
	Single fault - T1 pin A to pin B SC	0	5	0	8	0	100
	Single fault - T1 pin 2 to pin 5 SC	0	5	0	8	0	100
	Single fault - T1 pin 4 to pin 6 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 to pin 2 SC	0	5	0	8	0	100
	Single fault - U2 pin 3 to pin 4 SC	0	5	0	8	0	100
	Single fault - U2 pin 1 OC	0	5	0	8	0	100
	Single fault - U2 pin 3 OC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 6 SC	0	5	0	8	0	100
	Single fault – U1 pin 1,2 to pin 9 SC	0	5	0	8	0	100
	Single fault – U1 pin 4 to pin 6 SC	0	5	0	8	0	100

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Clause	Requirement + Test	Result - Remark	Verdict

	Single fault – U1 pin 4 to pin 9 SC	0	5	0	8	0	100
	Single fault – RS1 SC	0	5	0	8	0	100
Supplementary Information:							
SC=Short circuit, OC=Open circuit							

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 component	--	--	--	10	5	Clearance and creepage distances were not reduced below their required values.
Top enclosure	See appended table 4.1.2	See appended table 4.1.2	--	100	5	No cracking, all safeguards remain effective.
Side enclosure	See appended table 4.1.2	See appended table 4.1.2	--	100	5	No cracking, all safeguards remain effective.
Bottom enclosure	See appended table 4.1.2	See appended table 4.1.2	--	100	5	No cracking, all safeguards remain effective.
Supplementary information:						

T.6, T.9	TABLE: Impact test			N/A
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
--	--	--	--	--
--	--	--	--	--
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Supplementary information:				

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

T.7	TABLE: Drop test				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Side enclosure	See appended table 4.1.2	See appended table 4.1.2	1000	No cracking, no indications of dielectric breakdown, all safeguards remain effective.	
Bottom enclosure	See appended table 4.1.2	See appended table 4.1.2	1000	No cracking, no indications of dielectric breakdown, all safeguards remain effective.	
Side enclosure	See appended table 4.1.2	See appended table 4.1.2	1000	No cracking, no indications of dielectric breakdown, all safeguards remain effective.	
Supplementary information:					

T.8	TABLE: Stress relief test				P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Plastic enclosure	See table 4.1.2	See appended table 4.1.2	103.8	7	No indication of shrinkage or distortion.
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)	
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Supplementary information:				

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	LG CHEM LTD	LUPOY EF1006F(m)(f1)	V-0, 120°C, min thickness 2.0mm	UL 94, UL 746B	UL
Plug holder	LG CHEM LTD	LUPOY EF1006F(m)(f1)	V-0, 120°C, min thickness 2.0mm	UL 94, UL 746B	UL
PCB	Interchangeable	Interchangeable	V-1 or better, min. 130ºC	UL 796	UL
Lead wire (used for internal wiring)	DONGGUAN YIAO ELECTRONICS CO LTD	3239	3000V, min. 24AWG, VW-1, 200°C	UL 758	UL
(Alternative)	Interchangeable	3239	Min. 300V, min. 24AWG, VW-1, min. 125°C	UL 758	UL
Fuse (F1)	Dongguan Anlu Electronics Technology Co. Ltd.	2410T	T5A, 250VAC	IEC 60127-1, IEC 60127-7, UL 248-1, UL 248-14	CB, UL
(Alternative)	SHENZHEN LANSON ELECTRONICS CO., LTD.	24E	T5A, 250VAC	EN 60127-1, EN 60127-7, UL 248-1, UL 248-14	TUV Rh, UL
X-Capacitor (CX1)	Guangdong JURCC electronics Co., LTD.	MPX/MKP	Max. 0.22μF±20%, min. 275VAC, 110°C, X2 type	IEC/EN 60384-14, UL 60384-14	VDE, UL
Discharge IC (U1)	Joulwatt Technology Co., Ltd.	JW1565VDFNF#TR	(optional) 90Vac-264Vac, 50-60Hz. Total X capacitance: 0.047uF-1.5uF, total series resistance: 1Kohm-100Kohm	IEC 62368-1:2018	CB by UL
Resistor (R2)	Interchangeable	Interchangeable	Max. 10Kohm, min. 1/4W	--	--
Y-Capacitor (CY2)	Dongguan Chengxi Electronics Co., Ltd	For VDE: CD series For UL: CD	Max. 680pF, min. 300Vac, 125°C, Y1 type	IEC/EN 60384-14, UL 60384-14	VDE, UL

Thermistor (RT1)	Interchangeable	Interchangeable	Rated 5Ω at 25°C	--	--
Thermistor (NTC1)	SHENZHEN BEIDUOLI HOLDING CO.,LTD	3950	Rated 100KΩ at 25°C	UL 1434, IEC/EN 60539-1:2016	UL, TUV Rh
Electrolytic capacitors (EC1, EC2, EC3, EC4)	Interchangeable	Interchangeable	Each min. 400V, max. 27uF, min. 105°C	--	--
Bridge rectifiers (BD3)	Interchangeable	Interchangeable	Min. 4A, min. 1000V	--	--
Y-Capacitor (CY1)	Sichuan Teruixiang Technology International Co Ltd	For ENEC: TRX series For UL: TRX	Max. 1000pF, min. 400Vac, 125°C, Y1 type	EN 60384-14, UL 60384-14	ENEC, UL
Opto-coupler (U2)	Shenzhen Orient Components Co. Ltd.	OR1008	Double protection, Dti. ≥ 0.4mm, Ext.cl&cr.≥8.0mm, 125°C, isolation voltage 5000V	IEC/EN 60747-5-5 UL 1577	VDE, UL
Insulating sheet (between primary component and secondary component)	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR3738A(d)	V-0, 110°C, min thickness 4.3mm	UL 94, UL 746B	UL
(Alternative)	SABIC INNOVATIVE PLASTICS B V	FR700(GG1)	V-0, 125°C, min thickness 4.3mm	UL 94, UL 746B	UL
Current sensor Resistor (RS1, RS2, RS3)	Interchangeable	Interchangeable	Min. 0.47ohm, 1/4W	--	--
Choke (LF1)	SHENZHEN BAIWEI ELECTRONICS CO., LTD	6*3*2-200UH	130°C	--	Tested with appliance
Choke (LF2)	SHENZHEN BAIWEI ELECTRONICS CO., LTD	10*6*5-500uH	130°C	--	Tested with appliance

Inductor (L1)	SHENZHEN BAIWEI ELECTRONICS CO., LTD	DR5*11-70UH	130°C	--	Tested with appliance
Transformer (T1)	SHENZHEN BAIWEI ELECTRONICS CO., LTD	P2265-ATQ23.7-V1.0	Class B	--	Tested with appliance
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375J(G5)(G6)	Phenolic, V-0, min.150°C, min. 0.71mm thickness.	UL 94, UL746B	UL
- Magnet wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
- Triple insulation wire	Shenzhen Darun Science and Technology Co., Ltd	DRTIW-F	155°C	UL 2353, IEC/EN 62368-1	VDE, UL
- Tube	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD	LING FREE PTFE TUBE	VW-1, 200°C	UL 224	UL
- Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E962	130°C	UL 510A	UL
- Varnish	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD	468-2 (d), 468-2FC (d), 468-2-7-xxF (d), 468-2-7FC-xxF (d)	Min. 130°C	UL 1446	UL
Glue	Interchangeable	Interchangeable	Min. V-2	UL 94	UL
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-2039. 2) *License available upon request.*					

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)

Differences according to.....: EN IEC 62368-1:2020+A11:2020
BS EN IEC 62368-1:2020+A11:2020

Attachment Form No..... : EU_GD_IEC62368_1E

Attachment Originator.....: --

Master Attachment.....: --

	CENELEC COMMON MODIFICATIONS (EN)		P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed “Z”.		P
	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
1	**Modification to Clause 3 .**		N/A
3.3.19	**Sound exposure** *Replace 3.3.19 of IEC 62368-1 with the following definitions:*		N/A
3.3.19.1	**momentary exposure level, MEL** metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	additional information.		
3.3.19.3	**sound exposure, *E*** A-weighted sound pressure (p) squared and integrated over a stated period of time, T Note 1 to entry: The SI unit is Pa^2 s. $E = \int_0^T p(t)^2 \, dt$		N/A
3.3.19.4	**sound exposure level, *SEL*** logarithmic measure of sound exposure relative to a reference value, *E0*, typically the 1 kHz threshold of hearing in humans. Note 1 to entry: *SEL* is measured as A-weighted levels in dB. $SEL = 10 \lg\left(\frac{E}{E_0}\right)$ dB Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	**digital signal level relative to full scale, dBFS** levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	**Modification to Clause 10**		N/A
10.6	**Safeguards against acoustic energy sources** Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	**Introduction** **Safeguard** requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled to the ear are specified below. Requirements		N/A

	for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an **ordinary person**, that: – is designed to allow the user to listen to audio or audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment. Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3. NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360. NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible. Listening devices sold separately shall comply with the requirements of 10.6.6. These requirements are valid for music or video mode only. The requirements do not apply to: – professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music players: • long distance radio receiver (for example, a		

	multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. – a player while connected to an external amplifier that does not allow the user to walk around while in use. For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply. The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		
10.6.1.2	**Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.		N/A
10.6.2	**Classification of devices without the capacity to estimate sound dose**		N/A
10.6.2.1	**General** This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3. For classifying the acoustic output $L\text{Aeq},T$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long		N/A

	term *L*Aeq,*T*) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, *T* becomes the duration of the song. NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term *L*Aeq,*T*) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		
10.6.2.2	**RS1 limits (to be superseded, see 10.6.3.2)** RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the *L*Aeq,*T* acoustic output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		N/A
10.6.2.3	**RS2 limits (to be superseded, see 10.6.3.3)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and		N/A

	listening device is known by other means such as setting or automatic 130 detection, the *L*Aeq,*T* acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed “programme simulation noise” as described in EN 50332-1.		
10.6.2.4	**RS3 limits** RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	**Classification of devices (new)**		N/A
10.6.3.1	**General** Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		N/A
10.6.3.2	**RS1 limits (new)** RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the *L*Aeq,*T* acoustic output shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		N/A
10.6.3.3	**RS2 limits (new)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and		N/A

	listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		
10.6.4	**Requirements for maximum sound exposure**		N/A
10.6.4.1	**Measurement methods** All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A
10.6.4.2	**Protection of persons** Except as given below, protection requirements for parts **accessible** to **ordinary persons**, **instructed persons** and **skilled persons** are given in 4.3. NOTE 1 Volume control is not considered a **safeguard.** Between RS2 and an **ordinary person**, the **basic safeguard** may be replaced by an **instructional safeguard** in accordance with Clause F.5, except that the **instructional safeguard** shall be placed on the equipment, or on the packaging, or in the instruction manual. Alternatively, the **instructional safeguard** may be given through the equipment display during use. The elements of the **instructional safeguard** shall be as follows: – element 1a: the symbol  , IEC 60417-6044 (2011-01) – element 2: “High sound pressure” or equivalent wording – element 3: “Hearing damage risk” or equivalent wording – element 4: “Do not listen at high volume levels for long periods.” or equivalent wording		N/A

	An **equipment safeguard** shall prevent exposure of an **ordinary person** to an RS2 source without intentional physical action from the **ordinary person** and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off. The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time. NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed. NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off. A **skilled person** shall not be unintentionally exposed to RS3.		
10.6.5	**Requirements for dose-based systems**		N/A
10.6.5.1	**General requirements** Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause. The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration. The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be		N/A

	made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.		
10.6.5.2	**Dose-based warning and requirements** When a dose of 100 % *CSD* is reached, and at least at every 100 % further increase of *CSD*, the device shall warn the user and require an acknowledgement. In case the user does not acknowledge, the output level shall automatically decrease to compliance with class RS1. The warning shall at least clearly indicate that listening above 100 % *CSD* leads to the risk of hearing damage or loss.		N/A
10.6.5.3	**Exposure-based requirements** With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at. The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3. The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster. Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface. NOTE In case the source is known not to be music (or test signal), the EL may be disabled.		N/A
10.6.6	**Requirements for listening devices (headphones, earphones, etc.)**		N/A
10.6.6.1	**Corded listening devices with analogue input** With 94 dB *L*Aeq acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in		N/A

	volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed “programme simulation noise” as described in EN 50332-1 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.		
10.6.6.2	**Corded listening devices with digital input** With any playing device playing the fixed “programme simulation noise” described in EN 50332-1, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the *L*Aeq,*T* acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.3	**Cordless listening devices** In cordless mode, – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the cordless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the receiving device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above mentioned programme simulation noise, the *L*Aeq,*T* acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.4	**Measurement method** *Measurements shall be made in accordance with EN 50332-2 as applicable.*		N/A
3	**Modification to the whole document**		P
	Delete all the “country” notes in the reference document according to the following list:		P

Clause	Requirement + Test	Result - Remark	Verdict

0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2
3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2
5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3
5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note
5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4
5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2
8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2
~~10.6.1~~	Note 3	F.3.3.6	Note 3	Y.4.1	Note
Y.4.5	Note				

4	**Modification to Clause 1**		P
1	***Add*** *the following note:* *NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.*		P
5	**Modification to 4.Z1**		P
4.Z1	***Add*** *the following new subclause after 4.9:* To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B**		P

	or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		
6	**Modification to 5.4.2.3.2.4**		N/A
5.4.2.3.2.4	***Add*** *the following to the end of this subclause:* The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.		N/A
7	**Modification to 10.2.1**		N/A
10.2.1	Add the following to [c] and [d] in table 39: For additional requirements, see 10.5.1.		N/A
8	**Modification to 10.5.1**		N/A
10.5.1	***Add*** *the following after the first paragraph:* For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made. NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus. Moreover, the measurement shall be made under fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made. For RS1, the dose-rate shall not exceed 1 µSv/h		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	taking account of the background level. NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		
9	**Modification to G.7.1**		N/A
G.7.1	***Add*** *the following note:* NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A
10	**Modification to Bibliography**		P
	Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		P
11	**ADDITION OF ANNEXES**		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til		N/A

	stikproppens jord." In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: "Apparatet må tilkoples jordet stikkontakt" In **Sweden**: "Apparaten skall anslutas till jordat uttag"		
4.7.3	**United Kingdom** To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		P
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	No high touch current.	N/A
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be	No TNV circuits.	N/A

Clause	Requirement + Test	Result - Remark	Verdict
	performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	**Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.		N/A

	Justification: In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		
5.6.4.2.1	**Ireland and United Kingdom** After the indent for **pluggable equipment type A**, the following is added: – the **protective current rating** is taken to be 13 A, this being the largest rating of fuse used in the **mains** plug.		P
5.6.4.2.1	**France** After the indent for **pluggable equipment type A**, the following is added: – in certain cases, the **protective current rating** of the circuit supplied from the mains is taken as 20 A instead of 16 A.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm^2 to 1,5 mm^2 in cross-sectional area.		N/A
5.6.8	**Norway** To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as **class I equipment**. See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	No high protective conductor current.	N/A
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
5.7.7.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building	Not such system.	N/A

	installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		

8.5.4.2.3	**United Kingdom** Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.		N/A

	Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c		
G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		P
G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc. (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		P
G.7.1	**Ireland** To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	**Ireland and United Kingdom** To the first paragraph the following is added:		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	A power supply cord with a conductor of 1,25 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.		
ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification*: German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de	No CRT within the equipment.	N/A
ZD	**IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)**		N/A

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H
Cords insulated and sheathed with halogen-free thermoplastic compounds		
Light halogen-free thermoplastic insulated and sheathed flexible cords		H03Z1Z1-F H03Z1Z1H2-F
Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		H05Z1Z1-F H05Z1Z1H2-F

TEST REPORT

Applicant	:	FOSHAN G-POWER TECHNOLOGY CO.,LTD
Address	:	B4-601, 602, 603, 604, 702, 704,SXC, No.1 Fusheng West Rd, Dafuji Comm, Ronggui Str, Shunde Dist, Foshan City, Guangdong P.R.,China
Manufacturer	:	FOSHAN G-POWER TECHNOLOGY CO.,LTD
Address	:	B4-601, 602, 603, 604, 702, 704,SXC, No.1 Fusheng West Rd, Dafuji Comm, Ronggui Str, Shunde Dist, Foshan City, Guangdong P.R.,China
Product Name	:	70W GaN 3-port Traveling Charger
Trade Mark	:	N/A
Model No.	:	P2265UK
Ratings	:	Input: AC 100-240V, 50/60Hz, 1.8A Output: See marking plate for details
Standard	:	13 A plugs, socket-outlets, adaptors and connection units Part 1: Specification for rewirable and non-rewirable 13 A fused plugs BS 1363-1:2016+A1:2018
Date of Receiver	:	March 29, 2024
Date of Test	:	June 27, 2024 to July 09, 2024
Date of Issue	:	August 22, 2024
Test Report Form No	:	NTCS-BS1363-1-A1
Test Result	:	Pass *

This Test Report is Issued Under the Authority of:

Compiled by

Bettine Liao / Engineer

Approved & Authorized Signer

Ryan Luo / Authorized Signatory

*Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of Dongguan Nore Testing Center Co., Ltd. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

TEL: +86-769-22022444 FAX: +86-769-22022799 Web: www.ntc-c.com
Address: Building D, Gaosheng Science & Technology Park, Zhouxi Longxi Road, Nancheng District, Dongguan City, Guangdong, China

Revision History of This Test Report

Report Number	Description	Issued Date
NTC2403480SV00	Initial Issue	2024-08-22
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Copy of marking plate:

70W GaN 3-port Traveling Charger
Model: P2265UK
Input: AC 100-240V 50/60Hz 1.8A
Total output: 70W Max
USB-C1/C2 Output:5.0Vdc,3.0A;9.0Vdc,3.0A;
12.0Vdc,3.0A;15.0Vdc,3.0A;20.0Vdc,3.25A;
20.6Vdc,3.4A;
PPS:3.3-11.0Vdc,5.0A(Max 70W)
USB-A Output:5.0Vdc,3.0A;9.0Vdc,2A;
12.0Vdc,1.5A(Max 18W)
USB-C1+C2 Output: 45W+20W
USB-C1+A Output: 45W+18W
USB-C2+A Output: 7.5W+7.5W
USB-C1+C2+A Output:45W+7.5W+7.5W
Manufacturer:
FOSHAN G-POWER TECHNOLOGY CO.,LTD
Make in China

Note:
The above marking are the minimum requirements by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

Summary of testing:

The product complies with the applicable requirements for plug portion according to BS 1363-1:2016+A1:2018

Test item particulars:		
Classification of installation and use	:	Indoor use only
Supply Connection	:	Direct plug-in
Mass of equipment (kg)	:	0.130kg
Possible test case verdicts:		
- test case does not apply to the test object	:	N (N/A)
- test object does meet the requirement	:	P (Pass)
- test object does not meet the requirement	:	F (Fail)
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 is used as the decimal separator.		
General product information:		
1. The product covered by this report is 70W GaN 3-port Traveling Charger with UK plug portion in direct plug-in device for use in general home environment. 2. The plug portions (incorporated pins) are integral with the enclosure that effectively prevent any disintegration or conductive parts remaining in the socket. 3. Factory name and address: Same as Manufacturer.		

BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict
8	**Clearances, creepage distances and solid insulation**		P
8.1	Clearances		P
	Plugs energized directly from the low-voltage supply fall into Overvoltage Category III. The clearances shall withstand the rated impulse voltage declared by the manufacturer considering the rated voltage and the Overvoltage Category as given in Annex D and the pollution degree declared by the manufacturer in accordance with Annex E.	2.5KV, Pollution Degree 2.	P
8.1.1	Clearances for basic insulation		P
	The clearances for basic insulation shall not be less than the values given in Table 3	>1.5mm	P
	the accessory meets the impulse withstand voltage test of Annex F at the impulse voltage specified in Annex D but only if the parts are rigid or located by mouldings or if the construction is such that it is unlikely that distances will be reduced by distortion or by movement of the parts during mounting, connection and normal use.		P
8.1.2	Clearances for functional insulation		N/A
	The clearances for functional insulation shall not be less than the values specified for basic insulation in 8.1.1.		N/A
8.1.3	Clearances for supplementary insulation		N/A
	The clearances for supplementary insulation shall not be less than the values specified for basic insulation in 8.1.1.		N/A
8.1.4	Clearances for reinforced insulation		P
	The clearances for reinforced insulation shall be not less than the values specified for basic insulation in 8.1.1 but using the next higher step for rated impulse withstand voltage given in Table 3.	>3.0mm	P
8.1.5	Contact gap		N/A
	The minimum contact gap shall be 1.2 mm in the open position.		N/A
8.2	Creepage distances		P
	Material degrees	Material group IIIb	P
	The CTI or PTI values are determined in accordance with Annex C.	100≤ CTI/PTI ≤175	P

BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict
	Pollution degrees :	Pollution Degree 2	P
8.2.1	Creepage distances for basic insulation		P
	The creepage distances for basic insulation shall not be less than the values given in Table 4.	>2.5mm	P
8.2.2	Creepage distances for functional insulation		N/A
	The creepage distances for functional insulation shall not be less than the values specified for basic insulation in 8.2.1.		N/A
8.2.3	Creepage distances for supplementary insulation		N/A
	The creepage distances for supplementary insulation shall not be less than the values specified for basic insulation in 8.2.1.		N/A
8.2.4	Creepage distances for reinforced insulation		P
	The creepage distances for reinforced insulation shall not be less than those derived from twice the distance specified for basic insulation in Table 4.	>5.0mm	P
8.3	Solid insulation		P
	Solid insulation for basic, functional, supplementary and reinforced insulation shall be capable of withstanding electrical stresses which can occur in normal use. No minimum thickness is specified for solid insulation.		P
8.3.1	Compliance shall be checked by tests in accordance with 15.1.3 using the values given in Table 10.		P
12	**Construction of Plugs**		P
12.1	The disposition of the pins shall be shown as figure 4.	Fill in the measured dimensions in Table 1	P
12.2	Pin and sleeve dimensions, body outline were checked according to figure 4 of BS1363: part 1.	The outline of the plug did not exceed the specified dimensions at a distance of 6.92mm from the engagement surface. (limit: >6.35mm) The measured dimensions of items shown in fig. 4 were found within the specified limits.	P
	The plug portion should enter the gauge fully with a force less than 10N was applied to the centre of the sample at right angle.	Sample was entered into the gauge completely.	P

BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict
12.3	No part of a line or neutral pin shall be less than 9,5mm from the periphery of the plug measured along the engagement surface.	9.61mm measured from L&N to periphery of the plug.	P
12.9	Plug pins were constructed of brass	Complied.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard. Arrange the test as Figure 32 of BS 1363.	Test on L, N pin separately. For non-solid pins: 800N 50 times applied; (tested on contact surface). After the test, the plug could entry the gauge fully with a force less than 10N	P
12.9.6	Each pin of the adaptor was subjected to a torque of 1Nm for 60s as specified in the standard.	After the test, the plug could entry the gauge fully with a force less than 10N	P
12.11	The adaptors were tested as specified in the standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60 sec. to a pull of 100N in the oven.	After the test, the plug pins was not detached. After the test, the plug could entry the gauge fully with a force less than 10N.	P
12.12	The degree of flexibility of mounting of the plug pins was checked according to 12.12.1 Arrange the test as Figure 8 of BS 1363.	During the test, declination was observed to the plug pins: Measured value: 1° 30' (Limit: Max. 3° 30')	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	L & N with insulating sleeves. The plug could entry the gauge fully with a force less than 10N. Fill in the measured dimensions in Table 2.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P
12.17.2	Electric strength test applied between the metal part of plug pin and the sleeve (1250±30V)	Complied. No breakdown and flashover occur.	P
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	Complied. After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2.	P

BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 200°C and tested according to the standard for 120min. Arrange the test as Figure 10 of BS 1363.	After the test, the thickness of sleeves of plug pins (Line and neutral pins) remaining at the impression point reduced by 11.1%. Before test: 0.68mm After test: 0.60mm Limit: 50%	P

BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict
14.1	**Resistance to ageing**		P
14.1.1	Compliance is checked by the following test.		P
	Plugs are subjected to a test in a heating cabinet with an atmosphere having the composition and pressure of the ambient air and ventilated by natural circulation. The temperature of the cabinet is kept at 70 °C ± 5 °C. The specimens are kept in the cabinet for 168 h (0, +2) h. After the treatment, the samples are removed from the cabinet and kept at room temperature and relative humidity for 1 h; and following which they are examined and shall show no damage which: — would lead to non-compliance with this standard; — would impair safety; — would prevent further use.	70 °C, 168 h, after test no damage lead to non-compliance, impair safety or prevent further use occured.	P
21	Screws, current-carrying parts and connections		N/A
21.1	Screwed connections, electrical and otherwise, shall withstand the mechanical stresses occurring in normal use. Screws directly transmitting electrical contact pressure shall screw into metal. Screws shall not be of metal which is soft and liable to creep.		N/A
	Screws shall not be of insulating material if their replacement by a metal screw would affect the safety or performance requirements of the plug.		N/A
	Contact pressure in electrical connections within the plug and between the plug and the cable or flexible cord connected to it shall not be transmitted through insulating material other than ceramic, pure mica or other material with characteristics no less suitable, unless there is sufficient resiliency in the metallic parts to compensate for any possible shrinkage or yielding of the insulating material.		N/A
21.1.1	Compliance shall be checked by inspection and, for screws and nuts which are intended to be tightened during installation, or use, or during replacement of the fuse link by the following test.		N/A

BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict
	The screw is tightened and loosened as follows: a) 10 times for screws in engagement with a thread of insulating material, the screw being completely removed and replaced each time; b) five times for nuts and other screws. When testing terminal screws and nuts a 1.5 mm2 flexible conductor is placed in the terminal of plugs. The conductor is moved each time the screw is loosened. The test is made by means of a suitable test screwdriver, applying a torque as given in Table 3.	No damage impairing the further use of the screwed connection	N/A
	For clamp type (screwless) terminals compliance shall be checked by inspection and the test given in Clause 25.		N/A
21.2	Thread-cutting and/or thread-forming screws shall not be used for the making of current-carrying or earth continuity connections.		N/A
	Screws which make a mechanical connection between different parts of the plug shall be locked against loosening, if the connection carries current.		N/A
	Rivets used for current-carrying or earth continuity connections shall be locked against loosening, if these connections are subject to torsion in normal use which is likely to loosen the connection.		N/A
21.2.1	Compliance shall be checked by inspection and by manual test.		N/A
21.3	Except for live and neutral plug pins, current-carrying parts and earthing plug pins shall be of brass, copper, phosphor-bronze or other metal at least equivalent with regard to its conductivity, resistance to abrasion and resistance to corrosion.		N/A
21.3.1	Compliance shall be checked by inspection and by the relevant tests described in 10.1, Clause 16 and Clause 24.		N/A

BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict
ADDITIONAL REQUIREMENT FOR THE SOLID INSULATED SHUTTER OPENING DEVICE (ISOD) ACCORDING TO BS 1363-1: 2016+A1: 2018			
12.2	Plug fitted with an ISOD shall comply with all the dimensions specified in Fig. 4a with exception of the width of the ISOD, which should be 4,05mm max. and 3,90mm min. and its height which should be 8,05mm max. and 7,75mm min.	See measured dimensions in (Table Plug Portion Dimensions)	P
12.9.4.3	Solid insulated opening device were tested as specified in the standard.	After being subjected to a forced of 400N, the pin could fit the relevant gauge.	P
12.9.5.2	Plugs with ISOD shall not cause excessive wear to socket contacts or shutters of sockets-outlets The test use a separate sample of plug with ISOD for each type of socket-outlet, with each sample being inserted into and withdrawn from the socket-outlet at a rate of 6 insertions and 6 withdrawals per minute, the speed of travel of the plug being approximately 150mm/s	After 5000 insertions and withdrawals completed, socket outlets show no damage that would impair further use. Plugs show no damage and suit for the dimensional requirements according to clause 12.2. The shutters of the socket-outlets operate satisfactorily and socket contacts safety shielded.	P
22.1	Plugs shall be resistant to heat.		P
22.1.1	Compliance shall be checked by the test described in 22.1.2 or 22.1.3.		P
22.1.2	Plug samples are kept for 60+5/-0 min in a heating cabinet maintained at 70 °C ± 5 °C. During the test they shall not undergo any change impairing their further use and the sealing compound shall not flow to such an extent that live parts are exposed		P

BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict
22.1.3	Plugs with external parts of resilient material, e.g. thermoplastics, rubber, are subjected to a pressure test by means of an apparatus similar to that shown in Figure 23, the test being made in a heating cabinet at a temperature of 70 °C ± 5 °C. The plug is clamped between the jaws in such a way that these press against it in the area where it is gripped in normal use, the centreline of the jaws coinciding as nearly as possible with the centre of this area. The force applied through and including the effect of the jaws is 20+0/-1N. After min the jaws are removed and the plugs shall satisfy the tests described in 15.1.2b)1) and 15.1.3 and shall comply with the gauge given in Figure 5 when used in a manner as described in 12.2.1.		N/A
22.2	Parts of insulating material shall be sufficiently resistant to heat having particular regard for their location and function in the complete plug.		P
22.2.1	After 1h in heating cabinet at 75±5°C and a force of 20 N through the jaws no damage shown	See table 22.2.2.	P
23	Resistance to abnormal heat, fire and tracking		P
23.2	Insulating material not unduly affected by abnormal heat and by fire	See table 23.2.	P
	Insulating material not unduly affected by abnormal heat and by fire	See table 23.2.	P

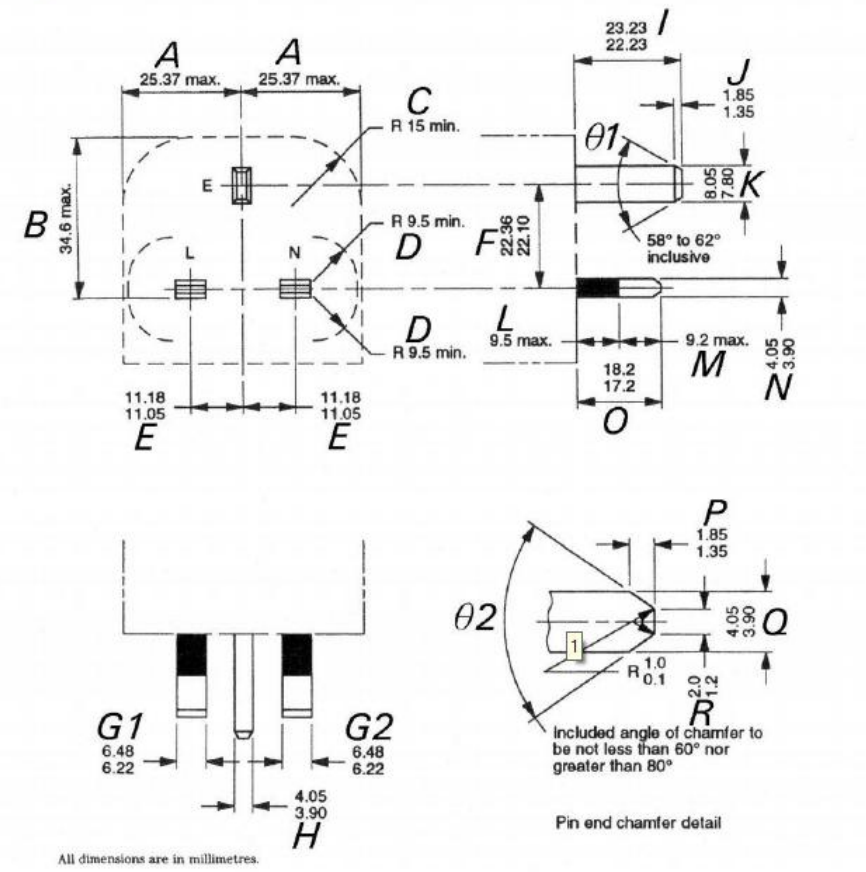
BS 1363-1: 2016+A1: 2018			
Clause	Requirement +Test	Result - Remark	Verdict

22.2.1	**TABLE: Ball-pressure test**						
Specimen				Ball-pressure test			
Part	Material	Material-thickness [mm]	Colour	[C°]	Measured [mm]	Required [mm]	Result
Plug portion/ ISOD	See critical component	2.75	Black	75	0.41	< 2.0	P
Pin sleeving	See critical component	2.75	Black	75	0.35	< 2.0	P
Supplementary information:							

23.2	**TABLE: Glow-wire-test [60 s]**								
Specimen				Flame					
Part	Material	Material-thickness [mm]	Colour	[°C]	Start [s]	End [s]	Height [mm]	Ignition of tissue paper	Result
Plug portion/ ISOD	See critical component	2.75	Black	750	0	0	0	Not fire	P
Pin sleeving	See critical component	2.75	Black	750	0	0	0	Not fire	P
Enclosure	See critical component	2.75	Black	650	0	0	0	Not fire	P
Supplementary information:									

Critical component:					
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity
Plastic enclosure	LG CHEM LTD	LUPOY EF1006F(m)(f1)	PC, V-0, 120°C, minimum thickness: 2.0mm	UL 94, UL 746B	UL E67171
Plug holder/ Pin sleeving	LG CHEM LTD	LUPOY EF1006F(m)(f1)	PC, V-0, 120°C	UL 94, UL 746B	UL E67171
Metal material of plug pin	--	--	Copper content: 61.05%	--	--

UK plug portion



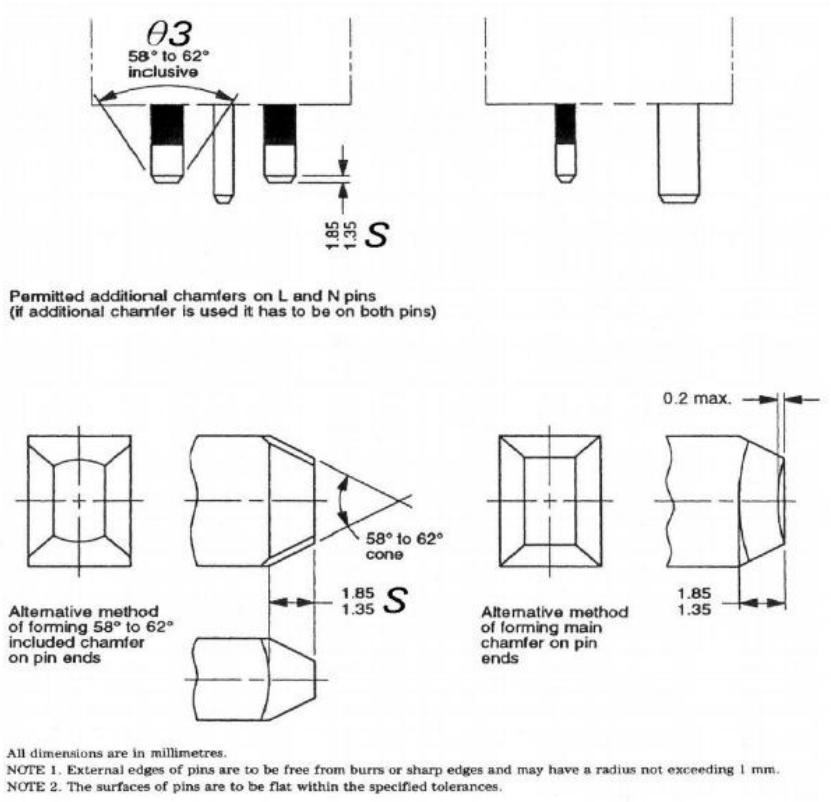
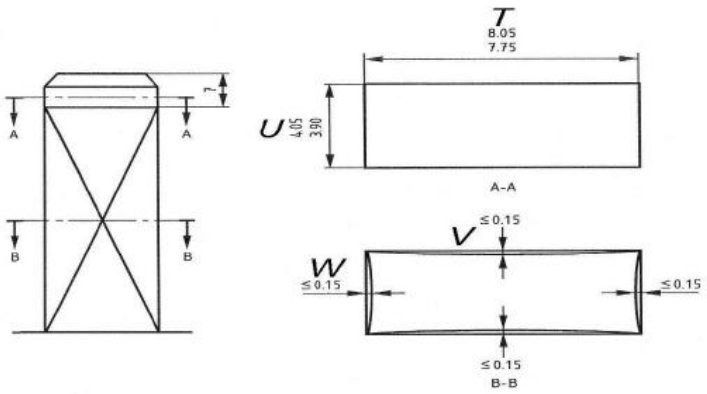


Figure 4a of BS 1363: Part 1

* Remark: all these dimensions were checked by the relevant gauge (based on BS1363-1: 2016Figure 5)



Solid insulated shutter opening device (ISOD)

NOTE Section A-A to be measured away from chamfer as shown.

Figure 4b of BS 1363: Part 1

Pls take photos from three dimensions of the plug portion, and provided in appended paper

Plug Portion Dimensions

Linear Dimensions (mm)	Measurement (sample A)*	Measurement (sample B)	Measurement (sample C)	Limit	Verdict
A	24.16	24.15	24.15	25.37 max	P
B	32.61	32.62	32.62	34.6 max	P
C	24.10	24.12	24.10	15 min.	P
D	9.61	9.61	9.61	9.5 min.	P
E (from L to E)	11.13	11.14	11.13	11.05 - 11.18	P
(from N to E)	11.14	11.14	11.14		P
F	22.16	22.15	22.16	22.10 - 22.36	P
G1	6.31	6.30	6.31	6.22 – 6.48	P
G2	6.31	6.30	6.31	6.22 – 6.48	P
H	3.91	3.91	3.91	3.90 – 4.05	P
I	22.51	22.52	22.51	22.23 – 23.23	P
J	1.74	1.74	1.75	1.35 – 1.85	P
K	7.82	7.82	7.83	7.80 – 8.05	P
L (line)	9.34	9.34	9.35	9.5 max.	P
(neutral)	9.35	9.35	9.34		P
M (line)	8.40	8.39	8.40	9.2 max.	P
(neutral)	8.38	8.40	8.38		P
N (line) (sleeve)	3.92	3.91	3.92	3.90 – 4.05	P
(neutral) (sleeve)	3.91	3.92	3.91		P
O (line)	17.74	17.73	17.75	17.20 – 18.20	P
(neutral)	17.73	17.75	17.73		P
P (line)	1.60	1.61	1.60	1.35 – 1.85	P
(neutral)	1.61	1.60	1.61		P
(earth)	1.48	1.49	1.48		P
Q (line) (metal)	3.97	3.97	3.98	3.90 – 4.05	P
(neutral) (metal)	3.98	3.98	3.97		P
(earth) (metal)	--	--	--		N/A
R (line)	1.88	1.87	1.88	1.2 – 2.0	P
(neutral)	1.88	1.87	1.88		P
(earth)	1.87	1.88	1.88		P
S (line/ neutral)	1.68	1.69	1.68	1.35 – 1.85	P
θ1(earth)	60.2	60.2	59.8	58° – 62°	P
θ2 (line/ neutral)	78.5	78.0	77.9	60° – 80°	P

Linear Dimensions (mm)	Measurement (sample A)*	Measurement (sample B)	Measurement (sample C)	Limit	Verdict
(earth)	75.4	75.0	75.0		P
θ3	60.3	60.1	60.3	58° – 62°	P
[1)] The outline of the plug is different from shown in figure, but it can insert the gauge fully with a force less than 10 N. So the dimension C is not applicable for the case.					

For solid insulated shutter opening device

Linear Dimensions (mm)	Measurement (sample A)	Measurement (sample B)	Measurement (sample C)	Limit	Verdict
T	7.90	7.93	7.94	7.75 – 8.05	P
U	3.94	3.93	3.94	3.90 – 4.05	P
V (E → L)	0.05	0.05	0.05	0.15 max	P
(E → N)	0.05	0.05	0.05	0.15 max	P
W (E → Top)	0.05	0.05	0.05	0.15 max	P
(E → L&N)	0.05	0.05	0.05	0.15 max	P

* Remark:
All these dimensions were checked by the relevant gauge (based on 1363-1: 2016 Figure 5).

Photo documentation

Photo 1 External view

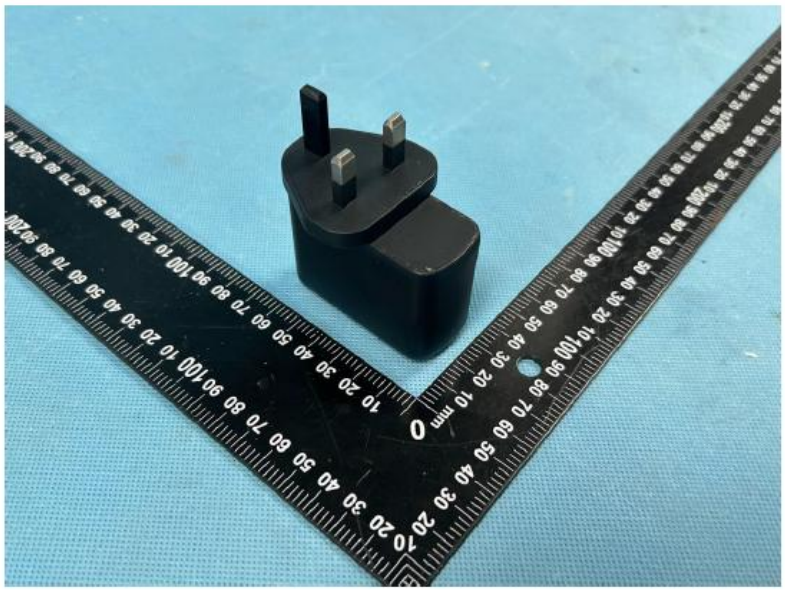


Photo 2 External view

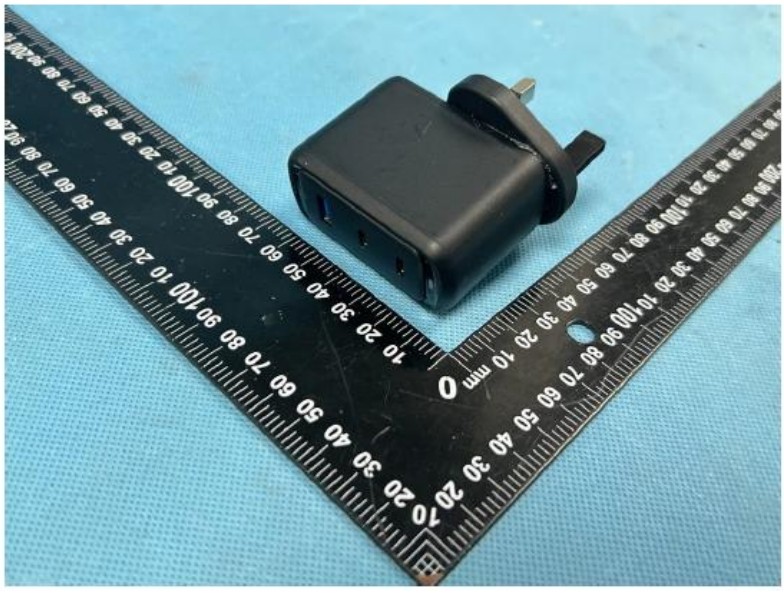
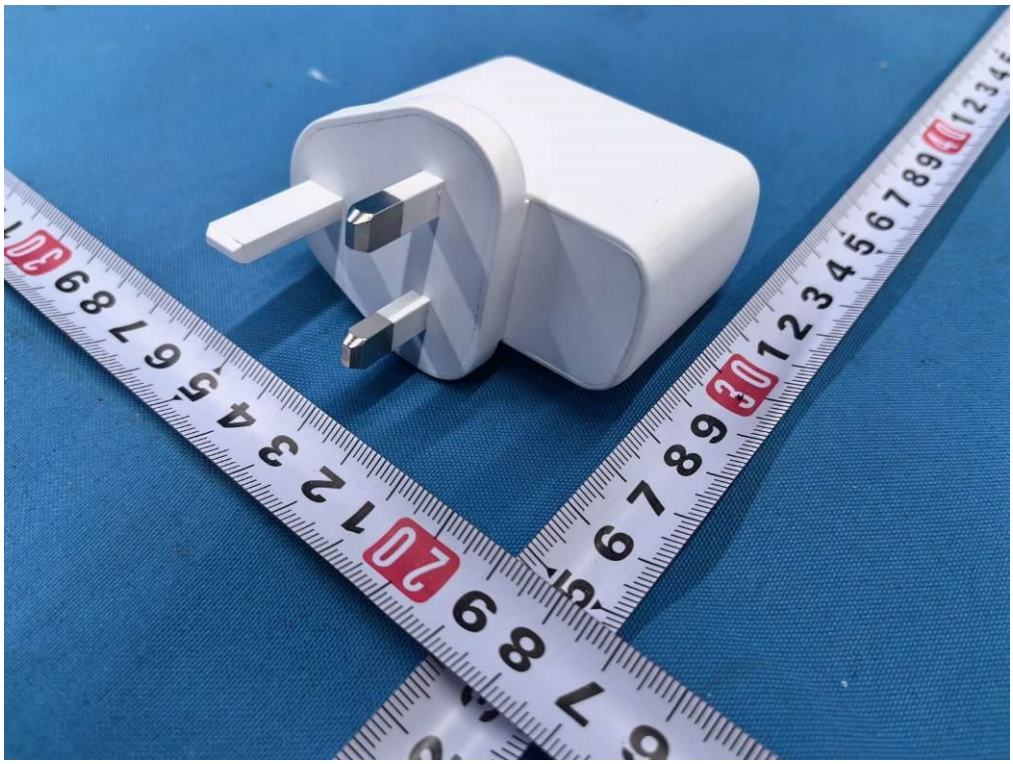


Photo 3 External view

--- END OF THIS REPORT---

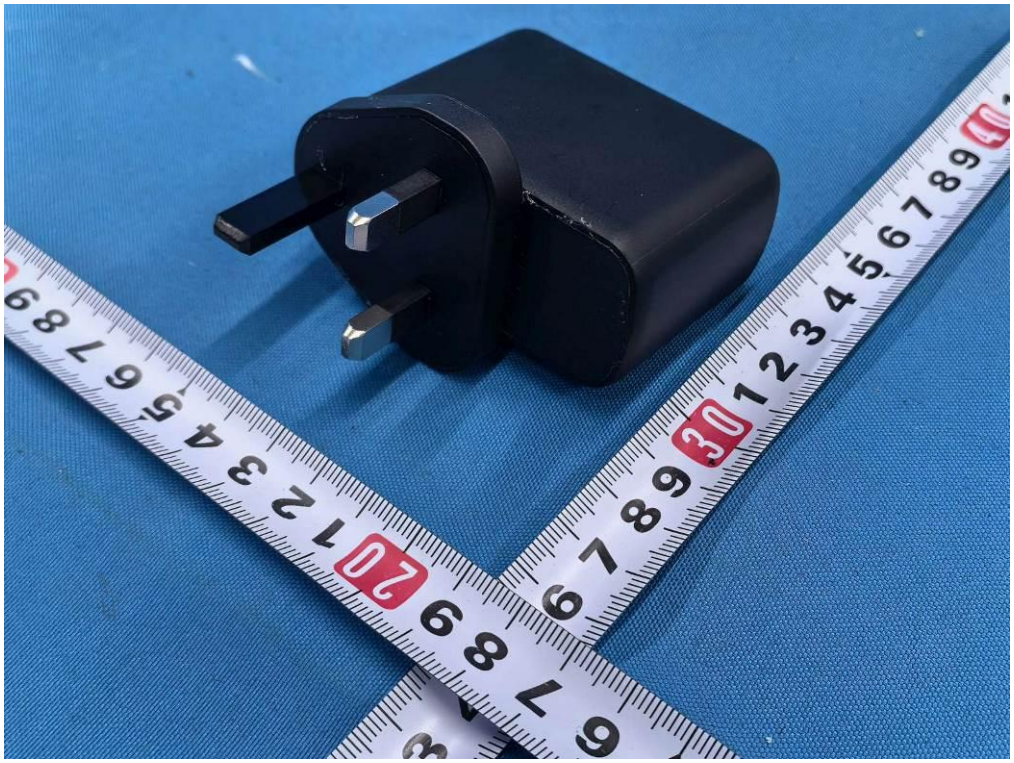
PHOTOS



External view - 1 (white enclosure)

External view - 2 (white enclosure)

PHOTOS

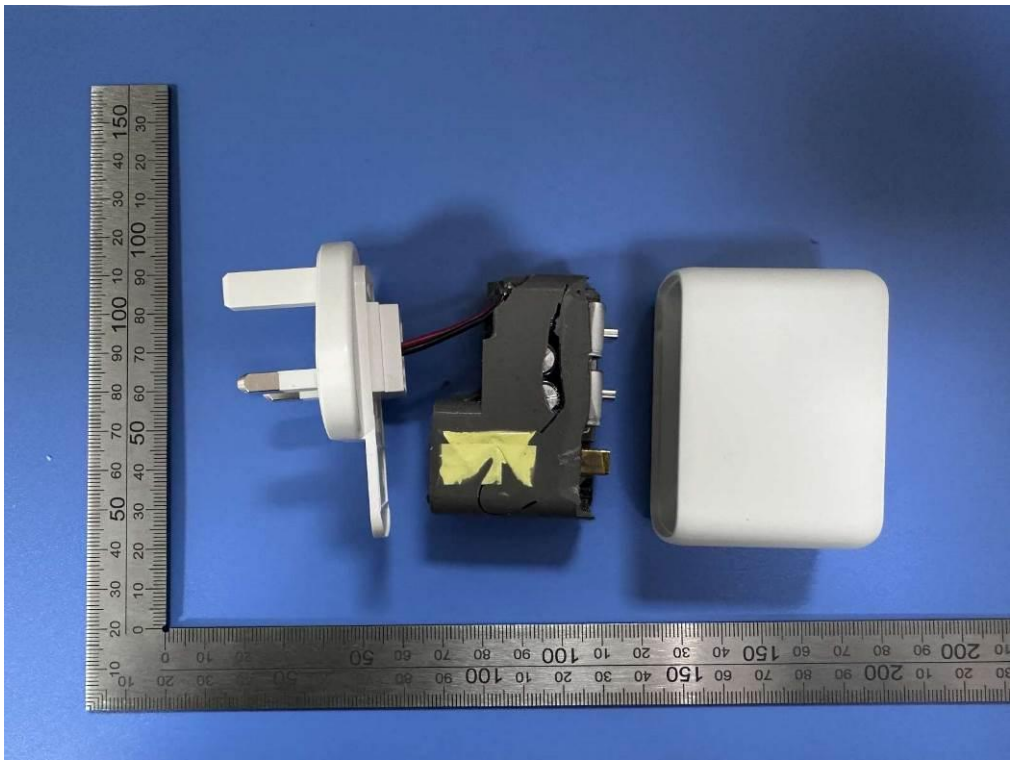


External view - 3 (black enclosure)

External view - 4 (black enclosure)

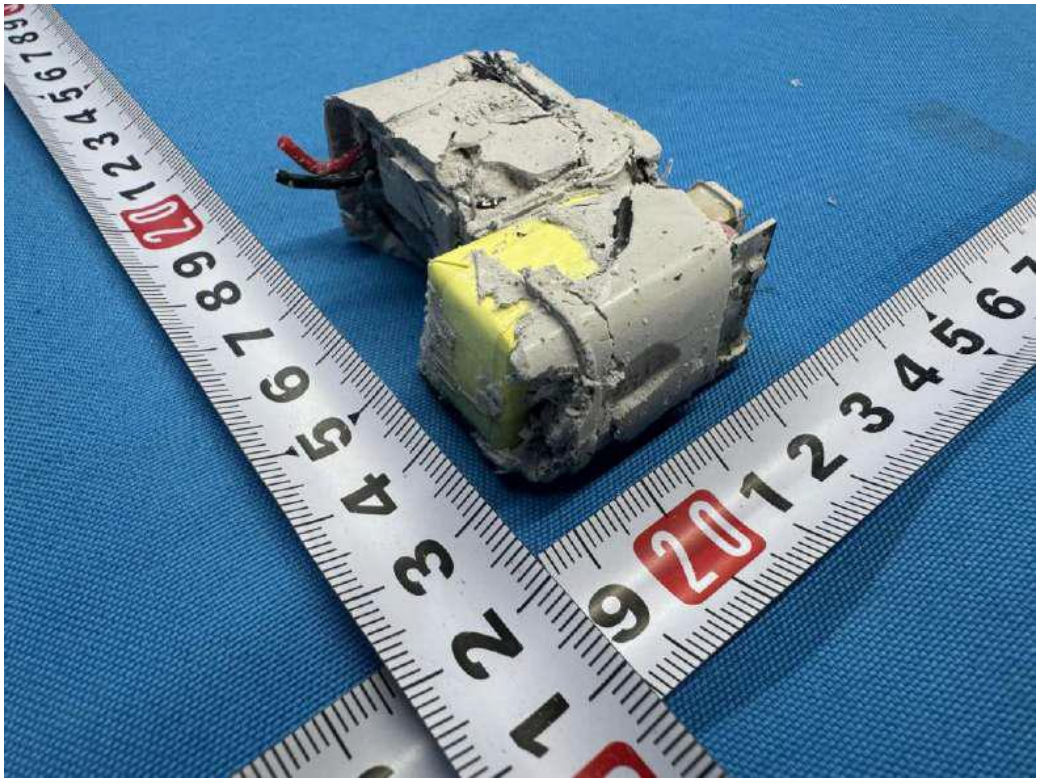
PHOTOS

Terminal view

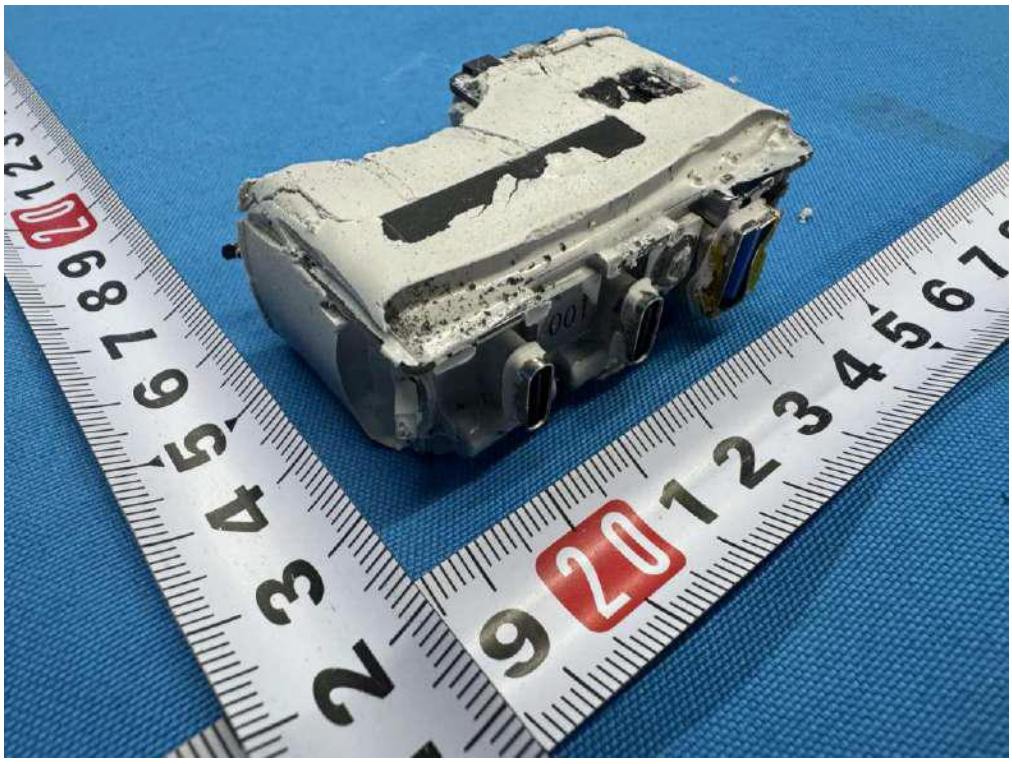


Internal view - 1

PHOTOS

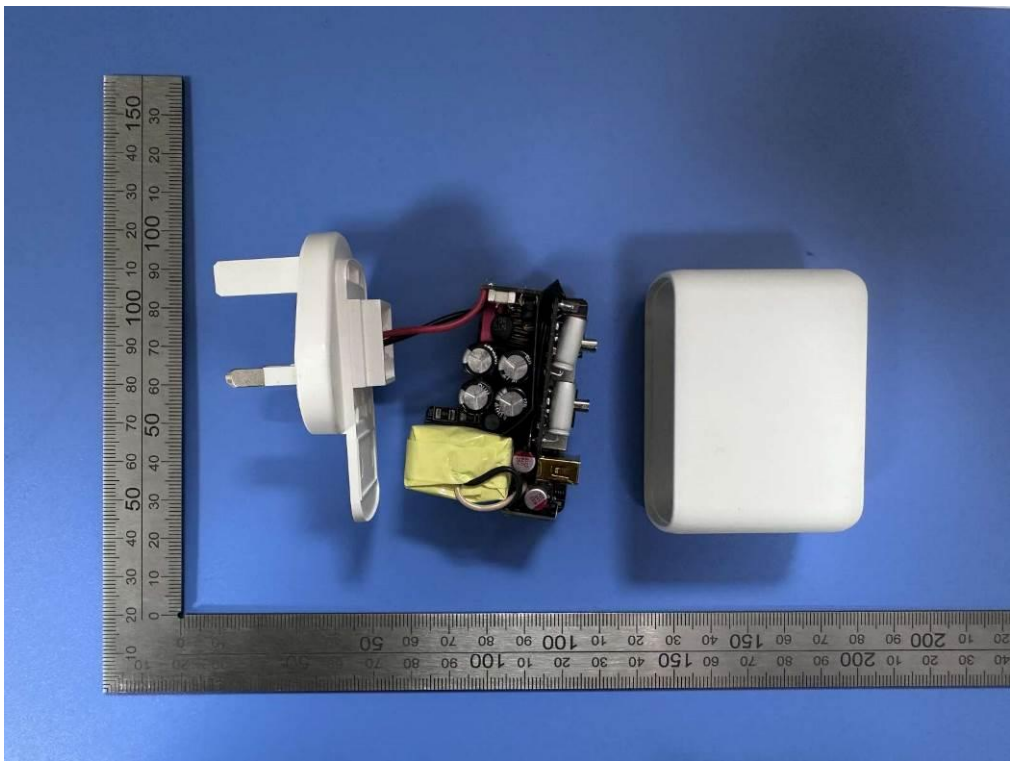


Internal view - 2

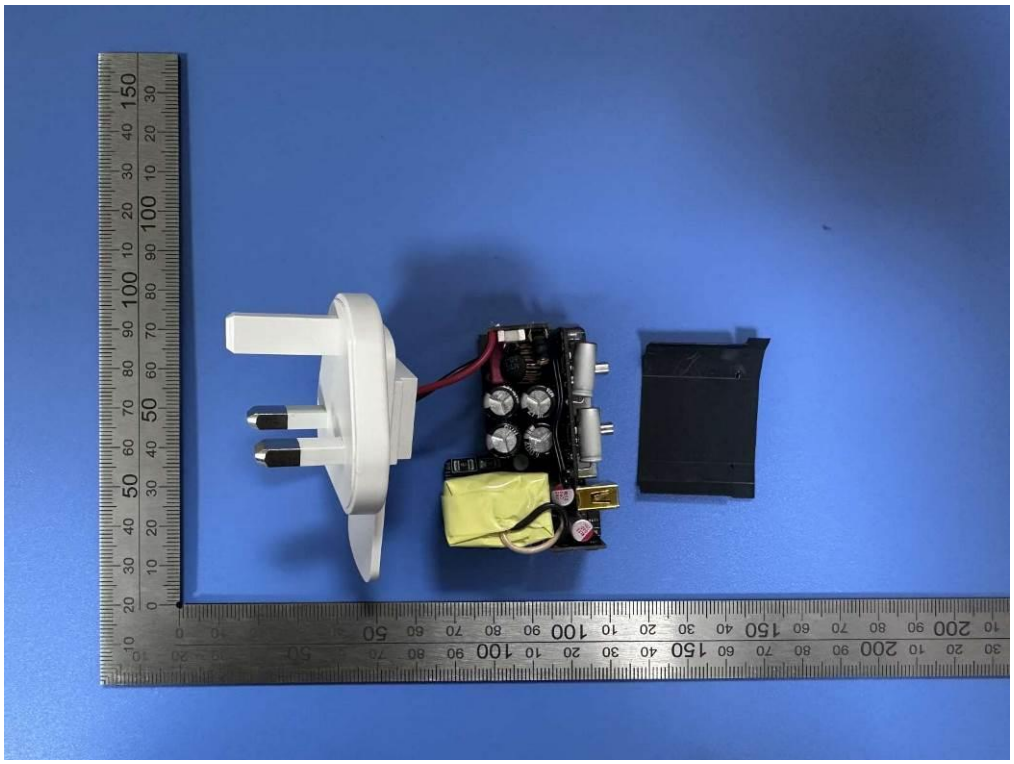


Internal view - 3

PHOTOS

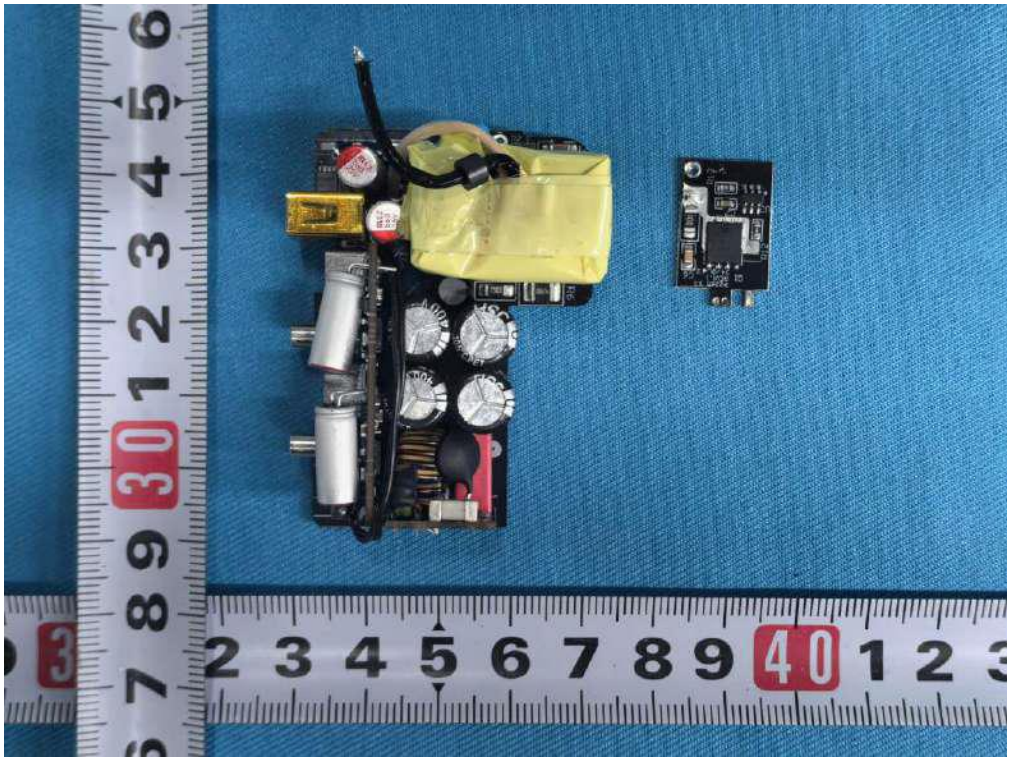


Internal view - 4

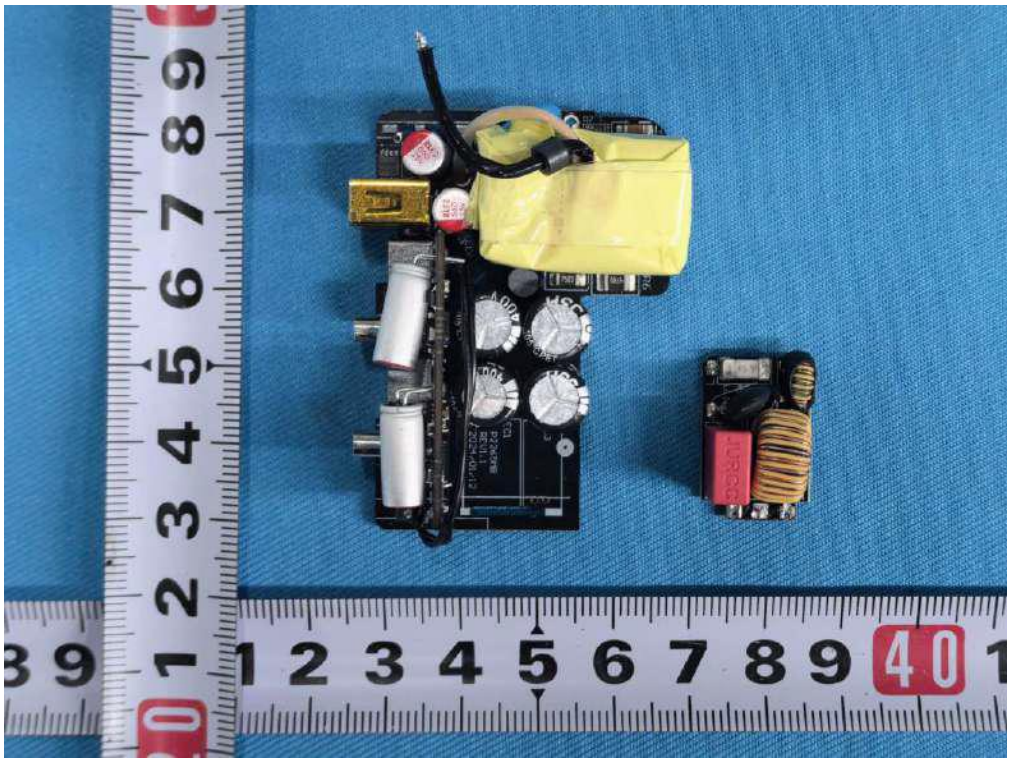


Internal view - 5

PHOTOS

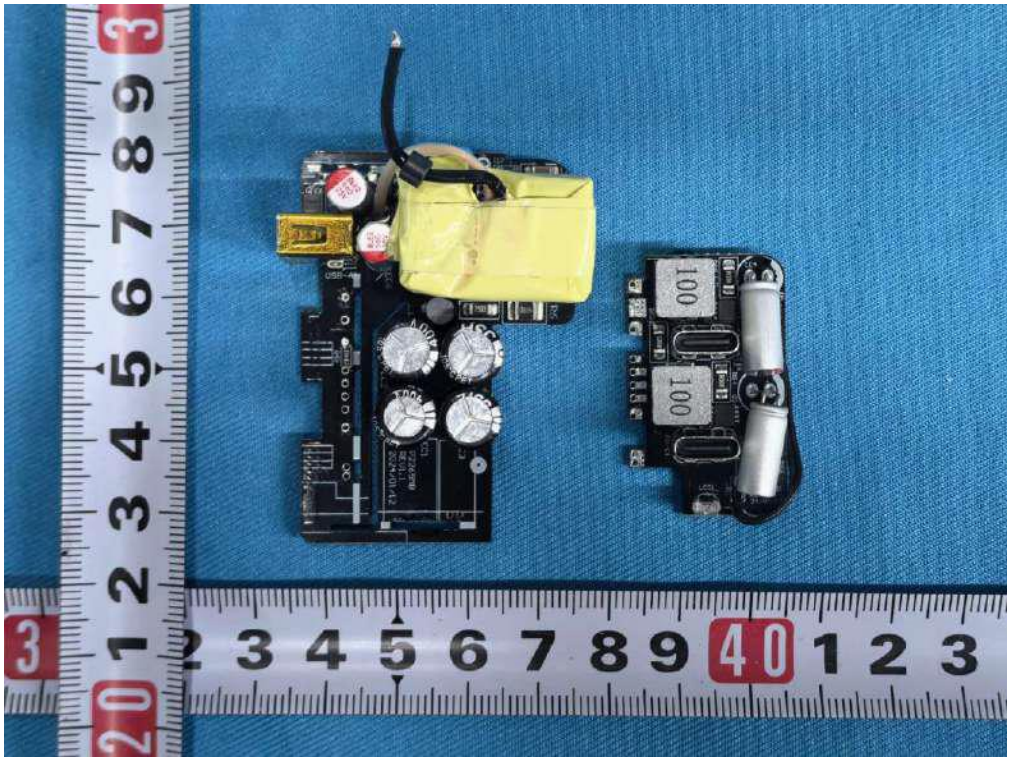


Internal view - 6

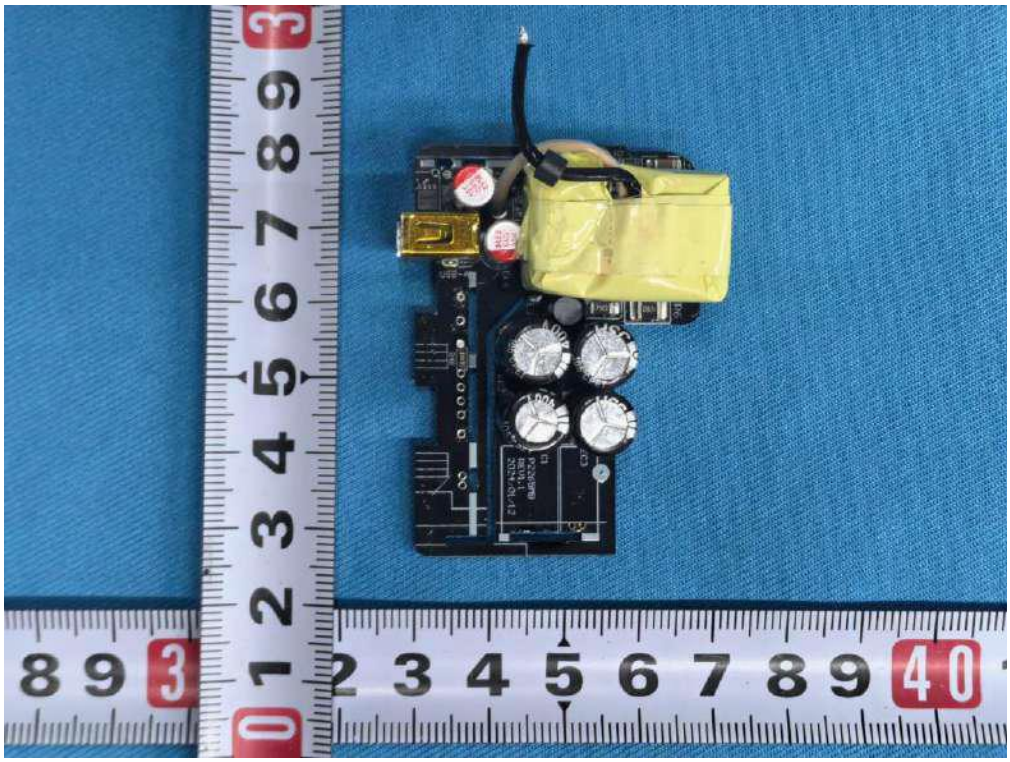


Internal view - 7

PHOTOS

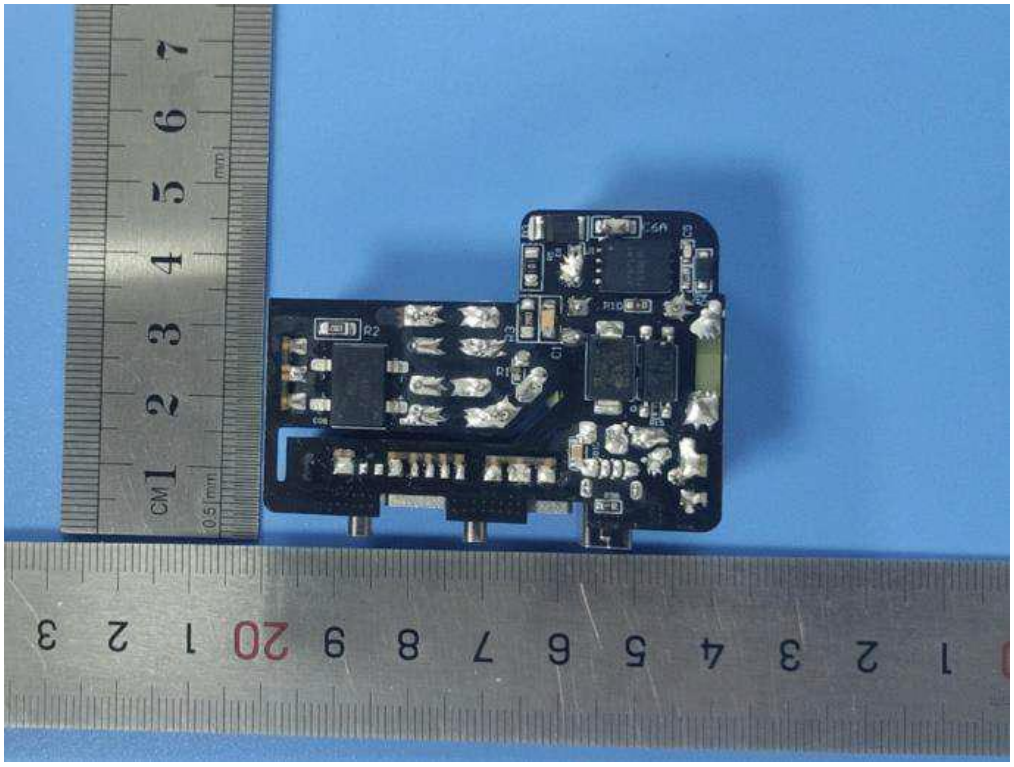


Internal view - 8



Main board - 1

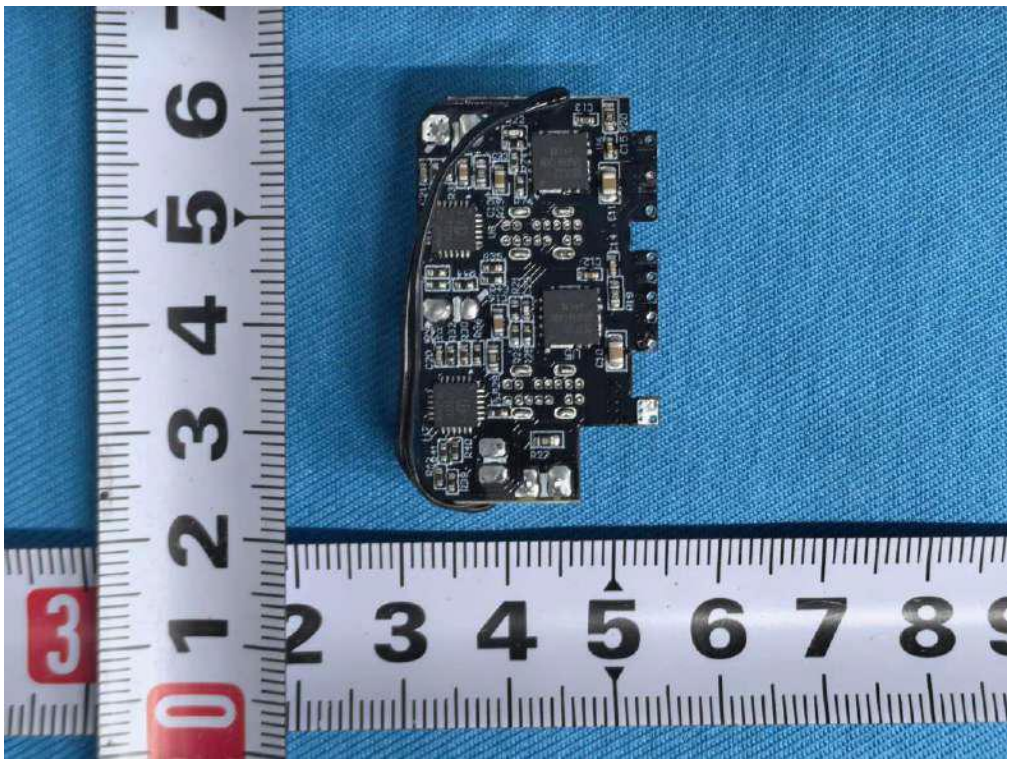
PHOTOS



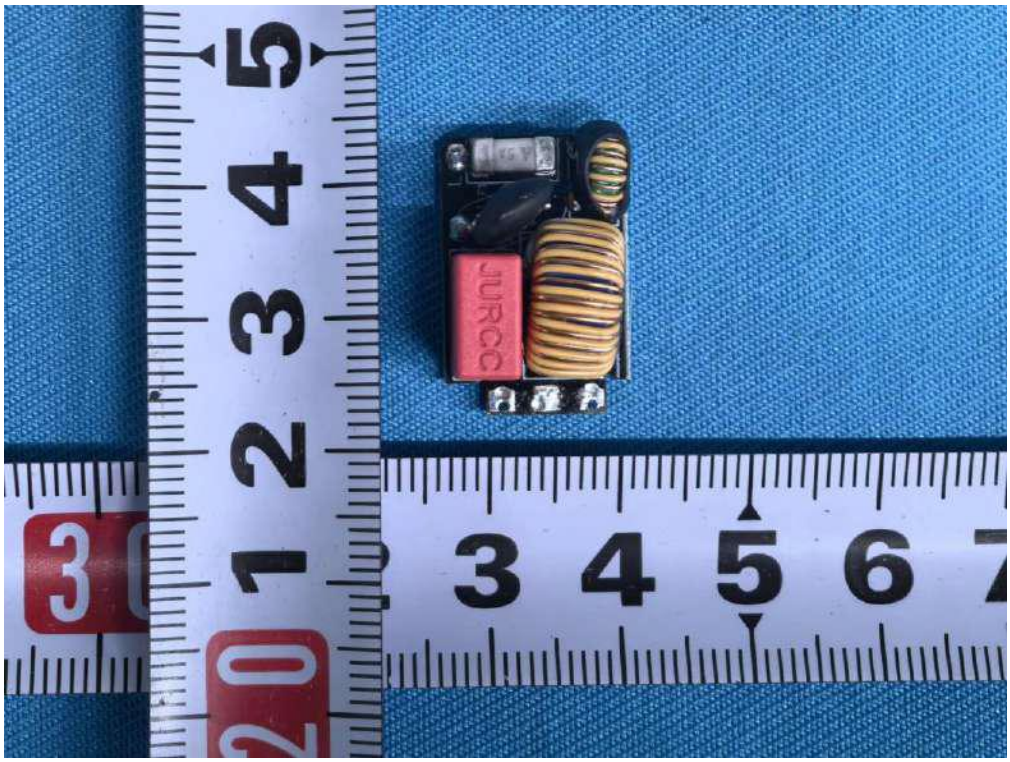
Main board - 2

Output terminal board - 1

PHOTOS

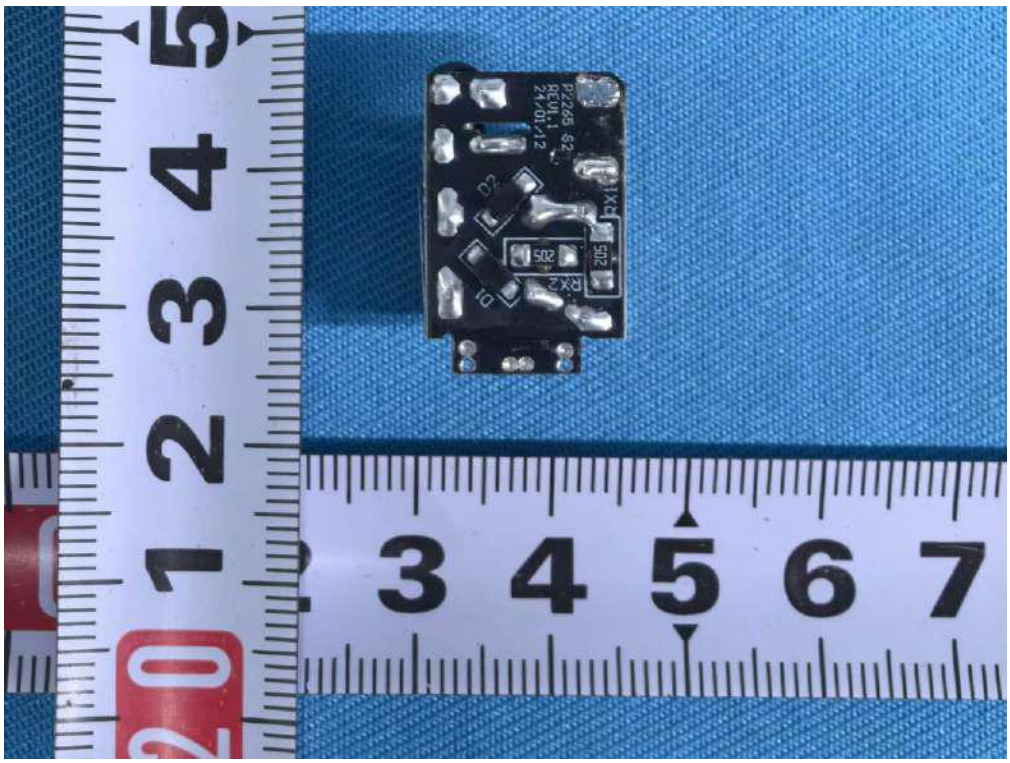


Output terminal board - 2

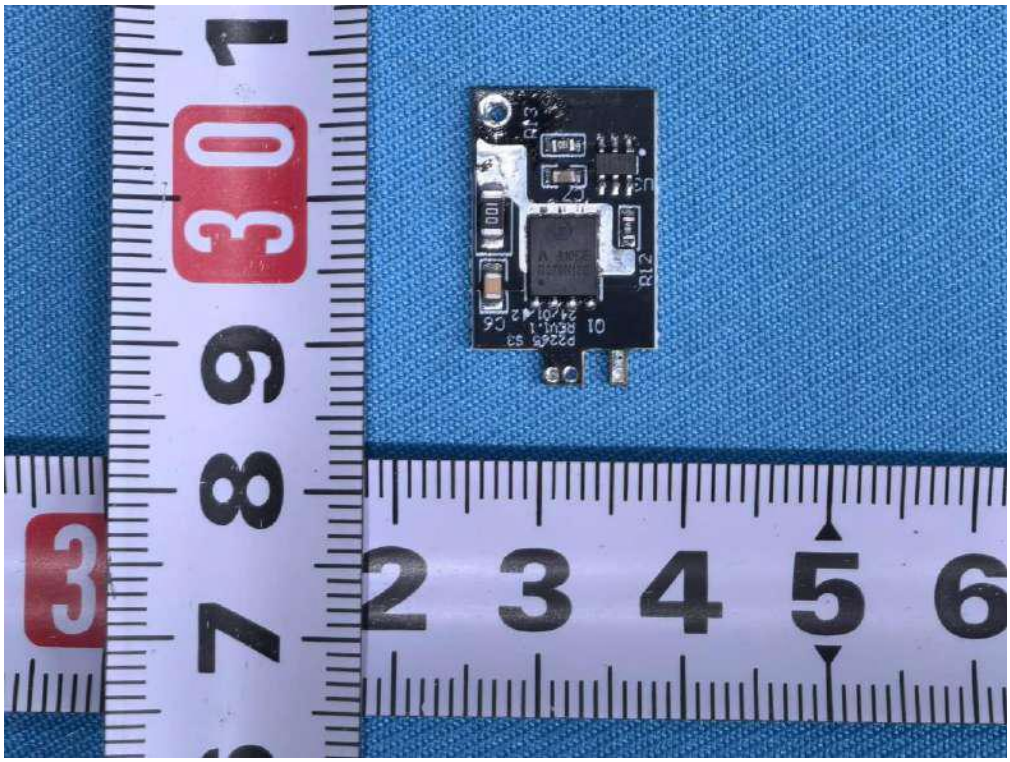


Input board - 1

PHOTOS

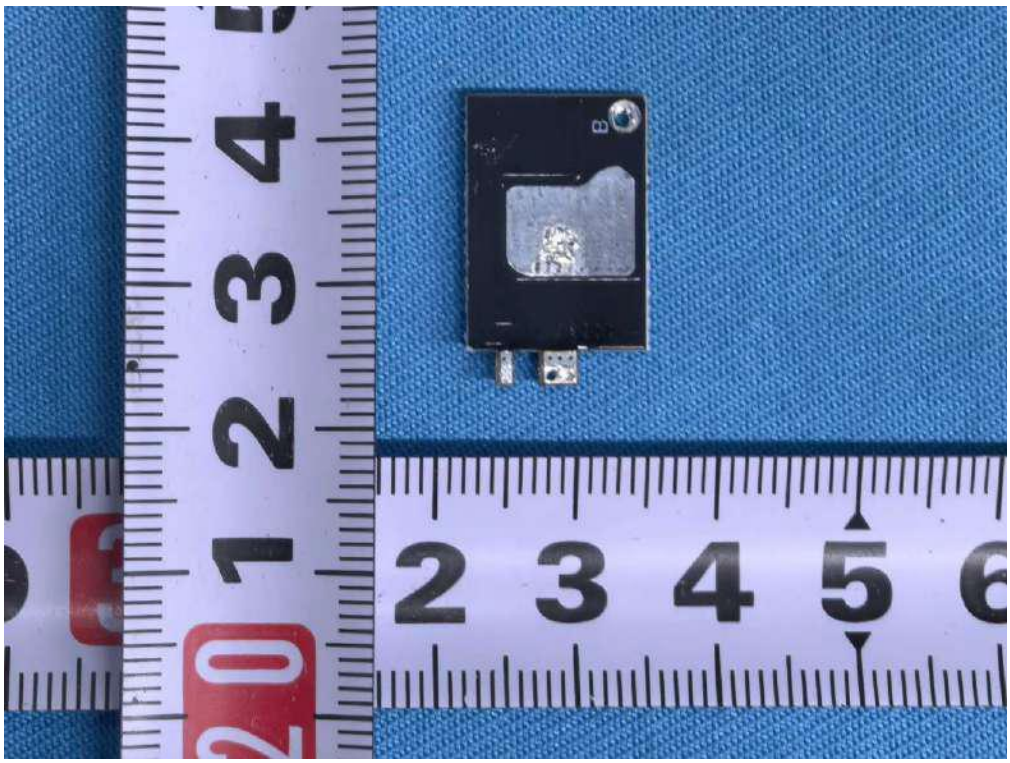


Input board - 2

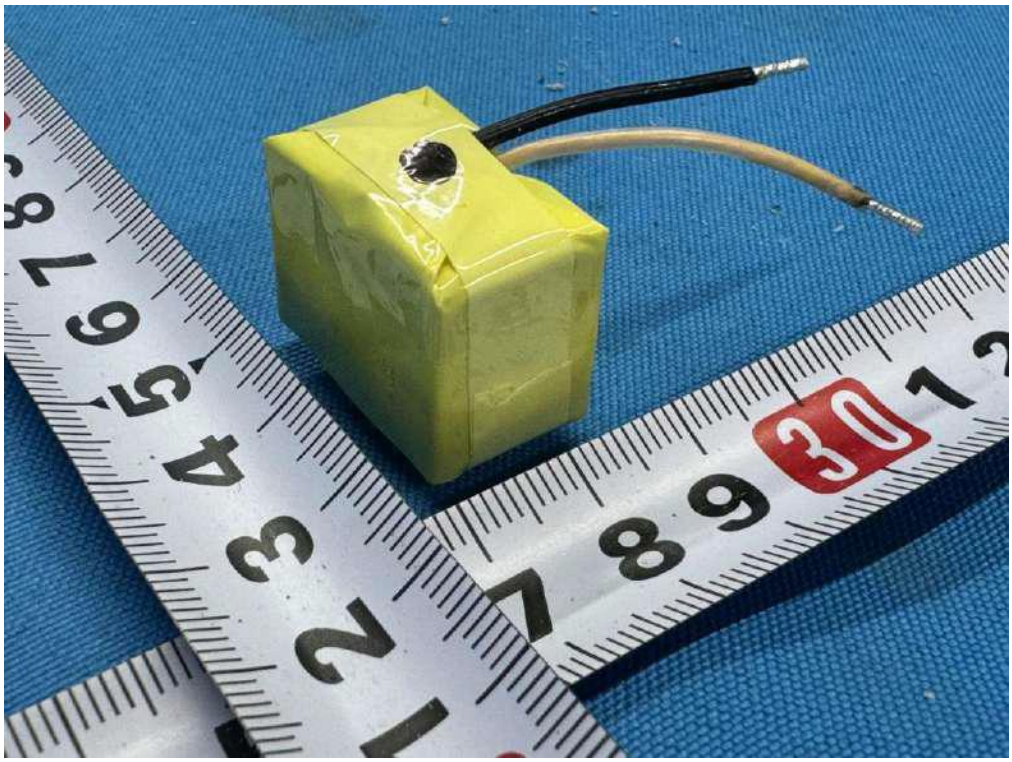


Secondary board - 1

PHOTOS

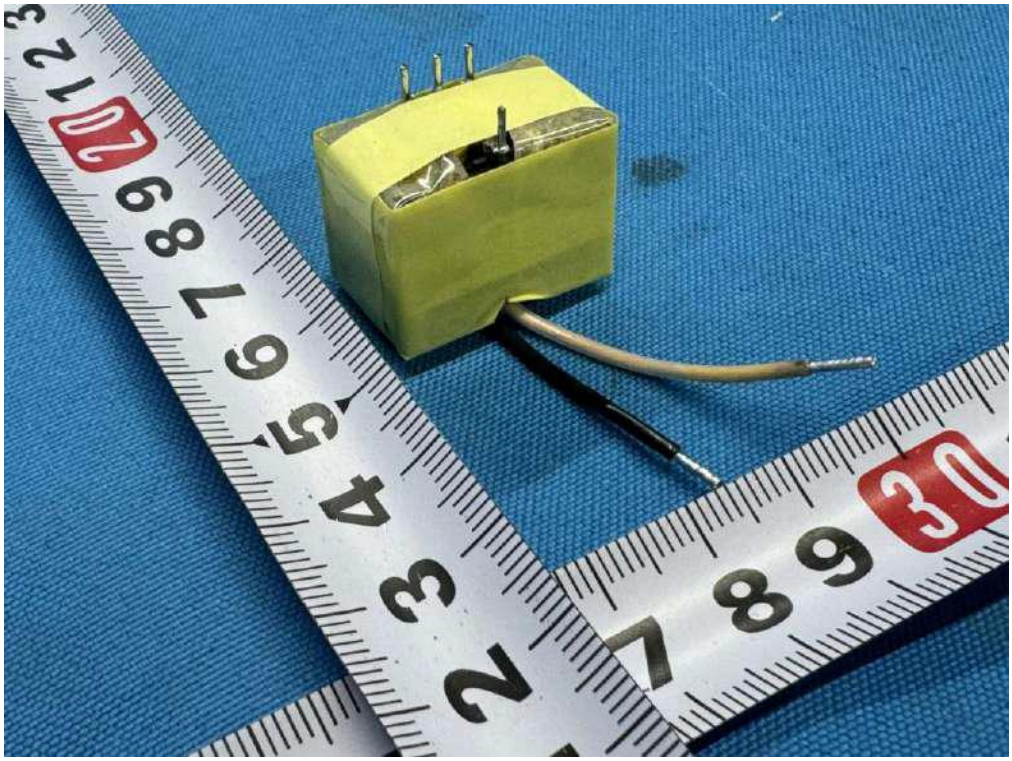


Secondary board - 2



Transformer T1 - 1

PHOTOS



Transformer T1 - 2

- End of test report -