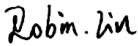




TEST REPORT IEC 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements	
Report Number.....	AOC251209005S
Date of issue	2025-12-12
Total number of pages	57 pages
Name of Testing Laboratory preparing the Report	Shenzhen AOCE Electronic Technology Service Co., Ltd Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Applicant's name	Shenzhen Madatel Supremacy technology Co., Ltd.
Address	15D, Sangdaya Garden, Huafa North Road, Licun Community, Huaqiangbei Street, Futian District, Shenzhen, China
Test specification:	
Standard	IEC 62368-1: 2018
Test procedure.....	Test report
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
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General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the Testing Laboratory, responsible for this Test Report.	

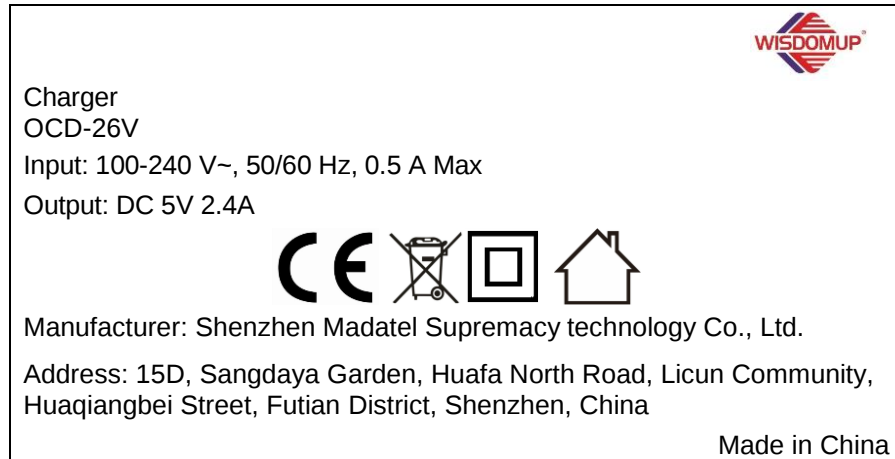
Test item description	Charger	
Trade Mark		
Manufacturer	Shenzhen Madatel Supremacy technology Co., Ltd. 15D, Sangdaya Garden, Huafa North Road, Licun Community, Huaqiangbei Street, Futian District, Shenzhen, China	
Model/Type reference	OCD-26V, OCD-21V, OCD-21T, OCD-21P, OCD-22V, OCD-22T, OCD-22P, OCD-23V, OCD-23T, OCD-23P, OCD-24T, OCD-24P, OCD-25T, OCD-25P, OCD-26T, OCD-26P, OCD-27V, OCD-27T, OCD-27P, OCD-28T, OCD-28P, OCD-29V, OCD-29T, OCD-29P, OCD-30T, OCD-30P, OCD-31T, OCD-31P, OCD-32V, OCD-32T, OCD-32P, OCD-33T, OCD-33P, ODT-01, ODT-02, OTD-03, OTD-04, ODT-05, OCD-39T, OCD-39P	
Ratings	Input: 100-240 V~, 50/60 Hz, 0.5 A Max Output: DC 5 V 2.4A	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	Testing Laboratory:	Shenzhen AOCE Electronic Technology Service Co., Ltd
Testing location/ address		Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Tested by (name, function, signature)		Bill Hu Technical Engineer 
Approved by (name, function, signature) ..		Robin Liu Technical Manager 
☐	Testing procedure: CTF Stage 1:	
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
☐	Testing procedure: CTF Stage 2:	
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name, function, signature) .		
Approved by (name, function, signature) ..		
☐	Testing procedure: CTF Stage 3:	
☐	Testing procedure: CTF Stage 4:	
Testing location/ address		

Tested by (name, function, signature) :		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
Supervised by (name, function, signature) :		

List of Attachments (including a total number of pages in each attachment):	
Attachment 1: 15 pages (Photo)	
Summary of testing:	
Tests performed (name of test and test clause): - IEC 62368-1:2018	Testing location: Shenzhen AOCE Electronic Technology Service Co., Ltd Room 202, 2nd Floor, No.12th Building of Xinhongfuyuan Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China
Summary of compliance with National Differences (List of countries addressed): None ☐ The product fulfils the requirements of	

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.



Notes:

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: Not directly connected to the mains		
Considered current rating of protective device	☒ 16A for building		
	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		
Class of equipment	☐ Class I	☒ Class II	☐ Class III
	☐ Not classified	☐ other:	
Special installation location	☒ N/A	☐ restricted access area	
	☐ outdoor location		
	☐ other:		
Pollution degree (PD)	☐ PD 1	☒ PD 2	☐ PD 3
Manufacturer's specified T_{ma}	25 °C	☐ Outdoor: minimum ____ °C	
IP protection class	☒ IPX0	☐ IP____	
Power systems	☒ TN	☐ TT	☐ IT - ____ V _{L-L}
	☐ not AC mains		
Altitude during operation (m)	☒ 2000 m or less	☐ ____ m	
Altitude of test laboratory (m)	☒ 2000 m or less	☐ ____ m	
Mass of equipment (kg)	Approx. 0.04 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: 2025-11-04 Date (s) of performance of tests: 2025-11-04 to 2025-12-09	
General remarks: "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided:	☐ Yes ☒ Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) : Shenzhen RuiYuan Industrial Co., Ltd 15D, Sangdaya Garden, Huafa North Road, Licun Community, Huaqiangbei Street, Futian District, Shenzhen, China	
General product information and other remarks: 1. This apparatus is Charger (direct plug-in type) used for information technology equipment or audio/video equipment. 2. The enclosure is secured to the top enclosure by ultrasonic welding. 3. The Clearances and Creepage Distances have additionally been assessed for suitability up to 2000 m. 4. The output ports are in accordance with the PS2. 5. All models are same except for the model name. 6. All tests were performed on the model OCD-26V.	

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 expect for output circuits	Ordinary	N/A	N/A	Enclosure, see 5.3.2, 5.4.2, 5.4.3, 5.5.3, 5.5.4.
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	1 st S	2 nd S
PS3	Enclosure	See 6.3	Min.V-0	N/A
PS3	PCB	See 6.3	Min.V-1	N/A
PS3	Internal wiring	See 6.3	See 6.5 (Equipment safeguards, rated VW-1)	N/A
PS3	Other combustible components / materials	See 6.3	See 6.4.5, 6.4.6	N/A
PS2	All combustible material for output terminal	See 6.4	Output terminal material rated V-1 or better	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
TS1: All accessible parts	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
N/A	N/A	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

(See **OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS**)

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

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	(See appended Table 4.1.2.)	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding access to ES3 and to limiting the outputs to fulfill ES1, and protection in regard to risk of spread of fire, mechanical-caused injury and thermal burn considered.	P
4.1.4	Specified ambient temperature for outdoor use (°C) :		N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Annex T.2 and T.4)	P
4.4.3.3	Drop tests	(See Clause T.7)	P
4.4.3.4	Impact tests		N/A
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Clause T.8)	P
4.4.3.9	Air comprising a safeguard		P
4.4.3.10	Accessibility, glass, safeguard effectiveness	All safeguard remains effective	P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.5	Safety interlocks		N/A
4.5	Explosion		P
4.5.1	General	No explosion observed during normal / abnormal / 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 .. :		P
4.7.3	Torque (Nm) :	0.031 Nm	P
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General		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
4.10	Component requirements		P
4.10.1	Disconnect Device	Direct plug-in equipment	P
4.10.2	Switches and relays	No such switches and relay 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	(See appended table 5.2)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	Steady-state voltage and current limits	(See appended table 5.2)	P
5.2.2.3	Capacitance limits		N/A
5.2.2.4	Single pulse limits	No single pulse introduced	N/A
5.2.2.5	Limits for repetitive pulses	No repetitive pulses introduced	N/A
5.2.2.6	Ringling signals	No ringling signals.	N/A
5.2.2.7	Audio signals	No 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		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 parts are accessible by ordinary person.	P
	Accessibility to outdoor equipment bare parts	No outdoor equipment.	N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V	No bare parts at ES2 or ES3 basic safeguard could be accessed by operator.	—
5.3.2.2 a)	Air gap – electric strength test potential (V)		N/A
5.3.2.2 b)	Air gap – distance (mm)	>0.2	P
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire	No such structure	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Material is non-hygroscopic		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	PD2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied.	N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces	Considered.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances	(see appended table 5.4.2, 5.4.3)	P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		P
5.4.2.2	Procedure 1 for determining clearance	(See appended table 5.4.2, 5.4.3)	P
	Temporary overvoltage	2000Vpeak.	—
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	2500Vpeak.	—
5.4.2.3.2.3	d.c. mains transient voltage		—
5.4.2.3.2.4	External circuit transient voltage.....		—
5.4.2.3.2.5	Transient voltage determined by measurement		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Not such procedure used.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages	Up to 2000m, Factor 1.0	N/A
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	See below.	P
5.4.3.3	Material group	IIIa or IIIb	—
5.4.3.4	Creepage distances measurement	(See appended table 5.4.2, 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation	Certified source of photo couplers used. (See append table 4.1.2)	P
5.4.4.4	Solid insulation in semiconductor devices	(See clause 5.4.4.3)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.5	Insulating compound forming cemented joints	No such construction within the EUT	N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements	The thin sheet materials of polyester tape used in transformer.	P
5.4.4.6.2	Separable thin sheet material	Two layers of insulating tape provided as double/reinforced insulation and each layer passed the electric strength test for reinforced insulation. See appended Table 5.4.9.	P
	Number of layers (pcs)	2-layer min.	P
5.4.4.6.3	Non-separable thin sheet material	No non-separable thin sheet material.	N/A
	Number of layers (pcs)		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material		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	P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V)		P
	Alternative by electric strength test, tested voltage (V), K_R	(See appended Tables 5.4.4.9)	P
5.4.5	Antenna terminal insulation	No antenna is used.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance (M Ω)		N/A
	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 insulation	N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature (°C), duration (h)	95%, 40°C, 120h (Customer requirement)	—
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	Method 1 used.	P
5.4.9.2	Test procedure for routine test		N/A

IEC 62368-1			
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		N/A
5.4.11.1	Exceptions to separation between external circuits and earth	No connection to external circuits with transient voltage.	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		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	Approved Y capacitor (See appended table 4.1.2)	P
5.5.2.1	General requirement	Y capacitors complied with clause annex G.11.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
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 relay used as safeguard	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Resistors		N/A
5.5.7	SPDs	No such varistor used	N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)		—
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Class II equipment	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
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	(See appended table 5.7.4)	P
5.7.2.2	Measurement of voltage	(See appended table 5.7.4)	P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts	Touch current at unearthed accessible conductive parts is not exceeding ES1 limits. (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		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to 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		N/A
	Air gap (mm)		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	(See appended table 6.2.2)	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.3.1	No ignition and attainable temperature value less than 90 °C defined by ISO 871 or less than 300 °C for unknown materials	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
	Combustible materials outside fire enclosure	V-0	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Method of Control fire spread is used.	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
6.4.5.2	Supplementary safeguards	All component in PS2 and PS3 is mounted on V-0 Class material of printed boards and comply with the requirements of the relevant IEC components standard, see appended table 4.1.2 and annex G.	P
6.4.6	Control of fire spread in PS3 circuits	All component in PS3 complies with clause (V-0 class material) complies with 6.4.8, see appended table 4.1.2 and annex G.	P
6.4.7	Separation of combustible materials from a PIS	All circuitry and component are considered as PIS. External enclosure material is V-0 class material, see appended table 4.1.2	P
6.4.7.2	Separation by distance	All component and part comply with these requirements.	P
6.4.7.3	Separation by a fire barrier	Fire barrier min. V-0.	P
6.4.8	Fire enclosures and fire barriers	Equipment enclosure was evaluated as a fire enclosure, internal insulating sheet was evaluated as a fire barrier.	P
6.4.8.2	Fire enclosure and fire barrier material properties	See the following details.	P
6.4.8.2.1	Requirements for a fire barrier	Fire barrier min. V-0.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2.2	Requirements for a fire enclosure	Fire enclosure min. V-0.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	See below	P
6.4.8.3.1	Fire enclosure and fire barrier openings	No openings are provided.	P
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
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :	No such door or cover can be opened by ordinary persons.	N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating :	Fire enclosure min. V-0 and Fire barrier min. V-0.	P
6.4.9	Flammability of insulating liquid..... :		N/A
6.5	Internal and external wiring		N/A
6.5.1	General requirements		N/A
6.5.2	Requirements for interconnection to building wiring :		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets..... :		N/A
6.6	Safeguards against fire due to the connection to additional equipment		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Safeguards		P
	Instructional Safeguard		P
8.4.2	Sharp edges or corners	Accessible edges and corners of the equipment are rounded and are classified as MS1.	P
8.5	Safeguards against moving parts		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
8.6.1	General	Equipment mass 0.06 kg < 7kg, classified as MS1.	P
	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		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		N/A
8.10.2	Marking and instructions.....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
8.11	Mounting means for slide-rail mounted equipment (SRME)		N/A
8.11.1	General		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	All accessible surfaces are classified as TS1 (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		P
9.5.2	Instructional safeguard.....		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10	RADIATION		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A
	Lasers		—
	Lamps and lamp systems		—
	Image projectors		—
	X-Ray		—
	Personal music player		—
10.3	Safeguards against laser radiation		N/A
	The standard(s) equipment containing laser(s) comply		N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		N/A
10.4.1	General requirements		N/A
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location		N/A
	Information for safe operation and installation		N/A
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
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
B.2.3	Supply voltage and tolerances	+10% and -10% for a.c. mains.	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 tables B.3, B.4)	P
B.3.2	Covering of ventilation openings	No ventilation openings.	N/A
	Instructional safeguard		N/A
B.3.3	DC mains polarity test	The equipment is not connected to a D.C. mains.	N/A
B.3.4	Setting of voltage selector	No voltage selector	N/A
B.3.5	Maximum load at output terminals	(See appended tables B.3, B.4)	P
B.3.6	Reverse battery polarity	No batteries	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.3.7	Audio amplifier abnormal operating conditions	No audio amplifier	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective. (See appended tables B.3, B.4)	P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device	No temperature controlling device	N/A
B.4.3	Blocked motor test	No motors	N/A
B.4.4	Functional insulation	(See appended tables B.3, B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended tables B.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended tables B.3, B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards	N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended tables B.3, B.4)	P
B.4.6	Short circuit or disconnection of passive components	(See appended tables B.3, B.4)	P
B.4.7	Continuous operation of components	The equipment 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 tables B.3, B.4)	P
B.4.9	Battery charging and discharging under single fault conditions		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
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A

IEC 62368-1			
Clause	Requirement + Test		Verdict
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
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. Versions in other languages will be provided when national certificate approval.	—
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	The equipment marking is located on the surface and is easily visible.	P
F.3.2	Equipment identification markings	See below.	P
F.3.2.1	Manufacturer identification :	See copy of marking plate	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.2.2	Model identification	See copy of marking plate	P
F.3.3	Equipment rating markings	See copy of marking plate	P
F.3.3.1	Equipment with direct connection to mains	See copy of marking plate	P
F.3.3.2	Equipment without direct connection to mains		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 connection.	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		N/A
F.3.5.2	Switch position identification marking.....		N/A
F.3.5.3	Replacement fuse identification and rating markings	The fuse resistors is located within the equipment and not replaceable by an ordinary person or an instructed person. The fuse resistors marking is marked on PCB near fuse: FR1 4.7R/ 1/2W	P
	Instructional safeguards for neutral fuse		N/A
F.3.5.4	Replacement battery identification marking		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		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	See copy of marking plate.	P
F.3.6.3	Functional earthing terminal marking		N/A
F.3.7	Equipment IP rating marking	IPX0	N/A
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	All markings required are easily discernible under normal lighting conditions.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.10	Test for permanence of markings	After rubbing test by water and petroleum spirit, the marking still legible; it is not easily possible to remove the marking plate and show no curling.	P
F.4	Instructions		P
	a) Information prior to installation and initial use	Relevant safety caution texts and installation instruction are available	P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection	Relevant safety caution texts and installation instruction are available.	P
	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
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General	No switches	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 relays	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.2.4	Test method and compliance		N/A
G.3	Protective devices		P
G.3.1	Thermal cut-offs	No thermal cut-offs	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		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 thermistors	N/A
G.3.4	Overcurrent protection devices	Approved fuse is used (See appended table 4.1.2)	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		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration.....	Direct plug-in equipment	N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Approved TIW used for secondary winding of T1	P
G.5.1.2	Protection against mechanical stress	Physical separation is provided (by insulating tube)	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers	See below.	P
G.5.3.1	Compliance method..... :	The transformers meet the requirements given in G.5.3.2 and G.5.3.3.	P
	Position :	T1	P
	Method of protection :	Over current protection by 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 and insulating tape	—
G.5.3.3	Transformer overload tests	(See appended tables 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		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors	No Motors 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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Approved triple insulated wires comply with Annex J.	P
G.6.2	Enamelled winding wire insulation	Solvent-based enamel winding is not considered basic insulation.	N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type :		—
G.7.2	Cross sectional area (mm ² or AWG) :		N/A
G.7.3	Cord anchorages and strain relief 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, <i>D</i> (mm) :		—
	Radius of curvature after test (mm) :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 Varistor used.	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 IC current limiters used.	N/A
	IC limiter output current (max. 5A)..... :		—
	Manufacturers' defined drift :		—
G.9.2	Test Program		N/A
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	The Y-Capacitor (CY1) are used as safeguard and complied with IEC/EN 60384-14:2013 (See appended table 4.1.2).	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 optocouplers (U2) used in the equipment are complied with IEC/EN 60747-5-5. (See appended table 4.1.2)	P
	Type test voltage $V_{ini,a}$:		—
	Routine test voltage, $V_{ini,b}$:		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		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
G.14	Coating on components terminals		N/A
G.14.1	Requirements :		N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements		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)		N/A
G.16.1	Condition for fault tested is not required		N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test..... :		—
	Mains voltage that impulses to be superimposed on :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test :		—
G.16.3	Capacitor discharge test..... :		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling 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	Approved triple insulated wire used. (See appended 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	(See separate test report)	—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance		N/A
K.7	Interlock circuit isolation		N/A

IEC 62368-1			
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	Direct plug-in equipment	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single-phase equipment	The disconnect device disconnect 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		N/A
L.8	Multiple power sources		N/A
	Instructional safeguard :		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards :		N/A
M.3	Protection circuits for batteries provided within the equipment		N/A
M.3.1	Requirements		N/A
M.3.2	Test method		N/A
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 (m³/h)..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%) :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%) :		N/A
M.7.4	Marking :		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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)..... :	Measurement is in accordance with applicable figures.	—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		N/A
P.1	General	No openings.	N/A
P.2	Safeguards against entry or consequences of entry of a foreign object		N/A
P.2.1	General		N/A
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm)		—
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
	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

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 enclosures and fire barrier materials of equipment where the 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		N/A
T.4	Steady force test, 100 N	(See appended table T.4)	P
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test	Direct plug-in equipment.	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		N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted.....	No such glass provided.	N/A

IEC 62368-1			
Clause	Requirement + Test		Verdict
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)	No such antennas provided.	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	Following the probes test specified in this annex Figure V.1, V.2, V.3 are suitable.	P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		P
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		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		N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3	Resistance to corrosion		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure		N/A
Y.3.5	Compliance		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A

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

IEC 62368-1			
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⁾	
264Vac	Primary circuits supplied by a.c. mains supply	Normal	--	--	--	--	ES3 (declared)
		Abnormal – see table B.3, B.4 for detail	--	--	--	--	
		Single fault – see table B.3, B.4 for detail	--	--	--	--	
264Vac	Plastic enclosure to earth	Normal	--	Max. 0.062mA _p k	SS	--	ES1
		Abnormal – see table B.3, B.4 for detail	--	Max. 0.062mA _p k	SS	--	
		Single fault – see table B.3, B.4 for detail	--	Max. 0.062mA _p k	SS	--	
264Vac	USB-A Output “+” to “-”	Normal	Max. 5.16V _d c	--	SS	--	ES1
		Abnormal – see table B.3, B.4 for detail	Max. 5.16V _d c	--	SS	--	
		Single fault – see table B.3, B.4 for detail	Max. 5.16V _d c	--	SS	--	
264Vac	Output terminal “+/-” to GND	Normal	--	Max. 0.154mA _p k	SS	--	ES1
		Abnormal – see table B.3, B.4 for detail	--	Max. 0.154mA _p k	SS	--	
		Single fault – see table B.3, B.4 for detail	--	Max. 0.154mA _p k	SS	--	
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	

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
T1 Pin 1-A	230	366	107.4k	--
T1 Pin 2-A	281	561	107.4k	--
T1 Pin 4-A	240	390	107.4k	--
T1 Pin 5-A	243	484	107.4k	--
T1 Pin 1-B	224	392	107.4k	--
T1 Pin 2-B	281	564	107.4k	Max. VRMS voltage Max. VPeak voltage
T1 Pin 4-B	241	426	107.4k	--
T1 Pin 5-B	235	520	107.4k	--
U2 Pin 1-3	235	384	60	--
U2 Pin 1-4	235	386	60	--
U2 Pin 2-3	235	386	60	--
U2 Pin 2-4	235	382	60	--
CY1 Primary pin to secondary pin	235	384	60	--
Supplementary information:				
Tested 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	SABIC INNOVATIVE PLASTICS B V	2.0	125	1.2	
Supplementary information:					
--					

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

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Basic / supplementary:								
Different polarity of L/N before fuse resistors FR1	<420	<250	60	1.5	2.9	--	2.5	2.9
Different polarity of fuse resistors FR1	<420	<250	60	1.5	3.0	--	2.5	3.0
Reinforced:								
Primary trace to secondary trace under U2	<420	<250	60	3.0	6.4	--	5.0	6.4
Primary trace to secondary trace under CY1	<420	<250	60	3.0	7.5	--	5.0	7.5
Primary circuit to accessible enclosure	<420	<250	60	3.0	5.5	--	5.0	6.2
Primary trace to secondary trace under T1	564	281	107.4k	3.0	7.4	--	5.8	7.4
Primary component (C1) to secondary component (USB terminal)	564	281	107.4k	3.0	7.7	--	5.8	7.7
Core of T1 to secondary component	564	281	107.4k	3.0	7.7	--	5.8	7.7
Primary winding to secondary winding of T1	564	281	107.4k	3.0	8.2	--	5.8	8.2
Supplementary information:								
1) Only for frequency above 30 kHz 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied) 3) For clearance and creepage did not describe above are far larger than limit above. The secondary of T1 used triple insulated wire, core as primary of T1.								

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 T1	564Vac	Reinforce	0.4	Min. 0.7	
Plastic enclosure	564Vac	Reinforce	0.4	Min. 1.5	
Insulation tape	564Vac	Reinforce	2 layers	min. 2 layers	
Insulation sheet	420Vac	Reinforce	0.4	Min. 0.4	
Supplementary information:					
Supplementary information:					
1) See appended table 4.1.2 for details.					

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

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)
T1 bobbin (phenolic)	17	107.4	0.53	Min. 0.7	Reinforce	564
2 layers insulation tape used on T1 (polyethylene glycol terephthalate)	--	107.4	0.34	Min. 2 layers	Reinforce	564
Supplementary information:						
--						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary				
L to N (with FR1 opened)		DC	2500VDC	No
Reinforced:				
L/N to output terminal		DC	4000VDC	No
L/N to plastic enclosure wrapped with metal foil		DC	4000VDC	No
Primary to secondary of transformer T1		DC	4000VDC	No
Secondary to core of transformer T1		DC	4000VDC	No
Insulation tape used in and around transformer T1 (single layer)		DC	4000VDC	No
Insulation sheet		DC	4000VDC	No
From Enclosure inside to Enclosure outside		DC	4000VDC	No
Supplementary information:				
--				

5.5.2.2	TABLE: Stored discharge on capacitors				N/A
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class
--	--	--	--	--	--
Supplementary information:					
X-capacitors installed for testing:					
☐ bleeding resistor rating:					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
☐ ICX:			

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)	
USB-A Output terminals	Normal	264Vac	Max. 5.16Vdc	--	60	ES1
	Abnormal – see table B.3, B.4 for detail	264Vac	Max. 5.16Vdc	--	60	ES1
	Single fault – see table B.3, B.4 for detail	264Vac	Max. 5.16Vdc	--	60	ES1
Plastic enclosure with metal foil	Normal	264Vac	--	Max. 0.062mA _{pk}	60	ES1
	Abnormal – see table B.3, B.4 for detail	264Vac	--	Max. 0.062mA _{pk}	60	ES1
	Single fault – see table B.3, B.4 for detail	264Vac	--	Max. 0.062mA _{pk}	60	ES1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

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

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

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

6.2.2	TABLE: Power source circuit classifications						P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class	
All circuits except for output circuits (Output connector)	--	--	--	--	--	PS3 (Declared)	
USB-A Output terminal: 5V	Normal	5.16	4.2	18.12	5	PS2	
	U1 pin 4-7 SC	0	0	0	3	PS1	
	U1 pin 2-6 SC	0	0	0	3		
	D1 SC	0	0	0	3		
	U3 pin 3-8 SC	0	0	0	3		
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit							
1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.							

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

6.2.3.2	TABLE: Determination of resistive PIS			P
Location		Operating and fault condition	Dissipate power (W)	Resistive PIS? Yes / No
All internal circuits / components		--	--	Yes (declaration)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information:			
Abbreviation: SC= short circuit; OC= open circuit			

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

9.6	TABLE: Temperature measurements for wireless power transmitters							N/A
Supply voltage (V)..... :		--						—
Max. 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 (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)
--	--	--	--	--	--	--	--	--
Supplementary information:								
--								

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements				P
Supply voltage (V)..... :		Condition A	Condition B	--	—
Ambient temperature during test T_{amb} (°C) :		25.0	25.0	--	—
Maximum measured temperature T of part/at:		T (°C)			Allowed T_{max} (°C)
Plug Holder outside		48.6	45.4	--	120
Plug Holder inside		52.4	48.7	--	120
C1 Body		102.3	96.0	--	105
C2 Body		103.8	97.8	--	105
L1 Coil		107.6	96.6	--	130
T1 Coil		106.1	96.6	--	110
T1 Bobbin		101.7	92.7	--	150

IEC 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
C4 Body	99.8				94.0		105
PCB near U3	106.6				98.8		130
Insulation sheet near T1	103.4				93.9		115
PCB near DB1	110.2				98.2		130
PCB near U1	125.8				111.5		130
CY1 Body	106.7				97.5		125
U2 Body	102.6				93.5		110
Plastic enclosure near top of T1, inside	65.8				59.8		120
Plastic enclosure near top of T1, outside	58.6				53.3		77
Plastic enclosure near bottom of T1, inside	87.2				78.7		120
Plastic enclosure near bottom of T1, outside	75.1				67.7		77
Plastic enclosure near side of T1, inside	84.1				76.4		120
Plastic enclosure near side of T1, outside	69.7				63.2		77
Plastic enclosure near USB-A output port, outside	52.7				47.5		77
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:							
Condition A: Input: 90Vac/60Hz, Load: 5Vdc, 2.4A							
Condition B: Input: 264Vac/60Hz, Load: 5Vdc, 2.4A							

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
90	50	0.319	--	18.72	--	FR1	0.319	Load: 5Vdc, 2.4A
90	60	0.321	--	18.75	--	FR1	0.321	
100	50	0.298	0.5	18.61	--	FR1	0.298	
100	60	0.298	0.5	18.63	--	FR1	0.298	
240	50	0.169	0.5	18.52	--	FR1	0.169	
240	60	0.173	0.5	18.56	--	FR1	0.173	
264	50	0.161	--	18.65	--	FR1	0.161	
264	60	0.162	--	18.66	--	FR1	0.162	
Supplementary information:								
Equipment may be have rated current or rated power or both. Both should be measured.								

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	
B.3, B.4	TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T _{amb} (°C)..... :					25°C if not specified	—
Power source for EUT: Manufacturer, model/type, outputrating .. :					--	—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	current (A)	Observation
DB1 Pin "1" to "4"	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
C1	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
D1	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
D2	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
C7	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
R1	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
U1 pin 3-7	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
U1 pin 2-6	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
U1 pin 4-7	SC	264Vac	1s	FR1	0	Unit shut down, FR1 fuse resistors opened, tested 3 times, no hazardous.
T1 Pin 1-2	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
T1 Pin 4-5	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
T1 Pin A-B	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
U2 Pin 1-2	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
						hazardous.
U2 Pin 3-4	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
U2 Pin 1	OC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
U2 Pin 3	OC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
U3 Pin 3-8	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
SOP---10 Pin 3-10	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
SOP---10 Pin 1-10	SC	264Vac	30mins	FR1	0.196	Unit normal wokring, no damaged, no hazardous.
C4	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
R12	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
USB-A Output terminal "+", "-"	SC	264Vac	10mins	FR1	0.007	Unit shut down, can be recovery, no damaged, no hazardous.
USB-A Output terminal: 5V	OL	264Vac	6h17mins	FR1	0.162→ 0.185→ 0.191→ 0.199→ 0.007	Unit max load when output overload to 4.2A. T1 coil: 106.3°C T1 Bobbin: 101.9°C Plastic enclosure near top of T1, outside: 56.6 °C Plastic enclosure near bottom of T1, outside: 70.8 °C Plastic enclosure near side of T1, outside: 69.5 °C Plastic enclosure near USB-A output port, outside: 48.8°C Plastic enclosure near USB-A and Type-C output port, outside: 60.4°C Plastic enclosure near Type-C output port, outside:

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
					62.4°C Ambient: 25°C Unit shut down immediately, no damaged, can be recovery, no hazardous.	
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit; OL= Overload						

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

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

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
		voltage (V)	current (A)	(°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
USB-A Output terminal: 5V	Normal	5.16	60	4.2	8	18.12	100
	U1 pin 4-7 SC	0	60	0	8	0	100
	U1 pin 2-6 SC	0	60	0	8	0	100
	D1 SC	0	60	0	8	0	100
	U3 pin 3-8 SC	0	60	0	8	0	100
Supplementary Information:							
Abbreviation: SC= short circuit; OC= open circuit							

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Part/Location	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Internal components / wire	--	--	V.2	10	5	No reduction the clearances and creepage distances.	
Top enclosure	Plastic	Min. 1.0	--	100	5	No damage, No hazard	
Side enclosure	Plastic	Min. 1.0	--	100	5	No damage, No hazard	
Bottom enclosure	Plastic	Min. 1.0	--	100	5	No damage, No hazard	
Supplementary information:							
--							

T.6, T.9	TABLE: Impact test					N/A
Location/part		Material	Thickness (mm)	Height (mm)	Observation	
--		--	--	--	--	
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
Top enclosure		Plastic	Min. 1.0	1000	No damage, No hazard
Side enclosure		Plastic	Min. 1.0	1000	No damage, No hazard
Bottom enclosure		Plastic	Min. 1.0	1000	No damage, No hazard
Supplementary information:					
--					

T.8	TABLE: Stress relief test				P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Completed sample	Plastic	Min. 1.0	98	7	No damaged, the hazardous live parts cannot be touched.
Supplementary information:					
--					

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

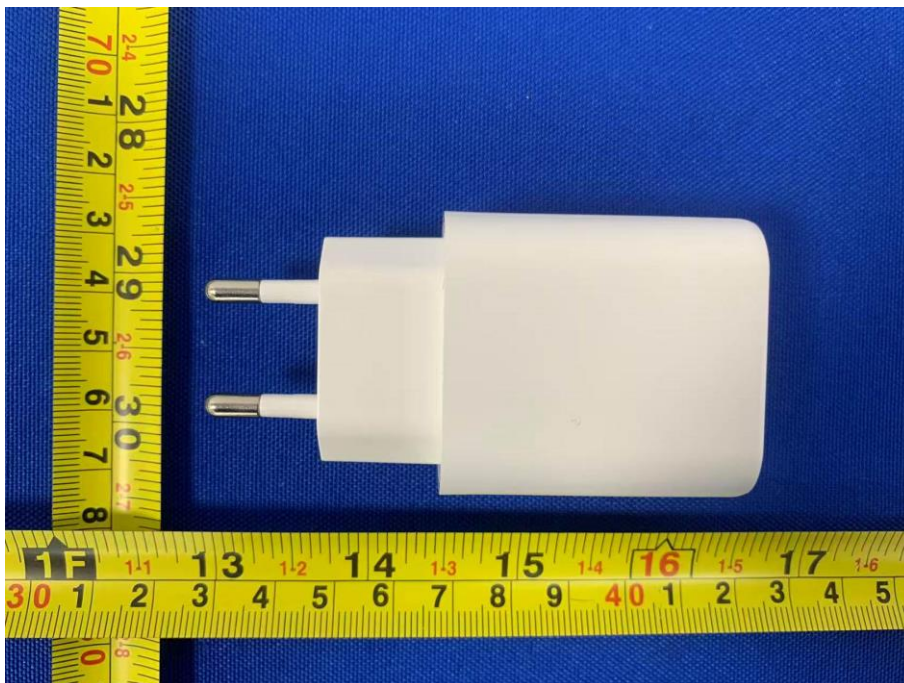
4.1.2		TABLE: Critical components information				P
Object / part No.	Manufacturer / trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Plastic enclosure	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	120 °C, V-0, Min. thickness: 1.0 mm	UL 94 UL 746C	UL E45329	
Plug holder/sleeving material	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	120 °C, V-0, Min. thickness: 1.0 mm	UL 94 UL 746C	UL E45329	
PCB	Interchangeable	Interchangeable	V-0, 130 °C	UL 94	UL	
Fuse Resistors (FR1)	Shenzhen Lanbao Anke Electronics CO., LTD	RXF 21	4.7 R, 0.5 W	IEC/EN 62368-1	VDE 40046884 Test with appliance	
Bridge rectifier (DB1)	Shenzhen Walder Semiconductor Co., Ltd.	WRABS20M	Min. 1.0 A, Min. 1000 V	IEC/EN 62368-1	Test with appliance	
(Alternative)	Nanjing Zhongbao Electronic Co., Ltd.	FTB10S-20	Min. 1.0 A, Min. 1000 V	IEC/EN 62368-1	Test with appliance	
Electrolytic Capacitor (C1, C2)	Fuzhiqing Electronics (Shenzhen) Co., Ltd.	CH	Each Min. 400 V, Max. 18 uF, 105 °C	IEC/EN 62368-1	Test with appliance	
(Alternative)	Yiyang Wanjingyuan Electronic Co., Ltd.	CH	Each Min. 400 V, Max. 18 uF, 105 °C	IEC/EN 62368-1	Test with appliance	
(Alternative)	Dongguan Hong'an Electronic Co., Ltd.	CH	Each Min. 400 V, Max. 18 uF, 105 °C	IEC/EN 62368-1	Test with appliance	
(Alternative)	Dongguan Jiawei Cheng Electronic Co., Ltd.	CH	Each Min. 400 V, Max. 18 uF, 105 °C	IEC/EN 62368-1	Test with appliance	
(Alternative)	Yiyang Wanjingyuan Electronic Co., Ltd.	CH	Each Min. 400 V, Max. 18 uF, 105 °C	IEC/EN 62368-1	Test with appliance	
Line chock (L1)	Shenzhen shuo pu te electronic technology Co., Ltd	TΦ6*12	130 °C	IEC/EN 62368-1	Tested with appliance	
Y-Capacitor (CY1)	Sichuan TRX Technology Co., Ltd.	TRX	Max. 2200 pF, Min. 400 Vac, 125 °C, Y1 type.	IEC/EN 60384-14	ENEC-02084-M2	
(Alternative)	Huizhou Jingqin Electronic Components Co., Ltd.	SMD series	Max. 2200 pF, Min. 400 Vac, 125 °C, Y1 type.	IEC/EN 60384-14	ENEC-04145-M1	

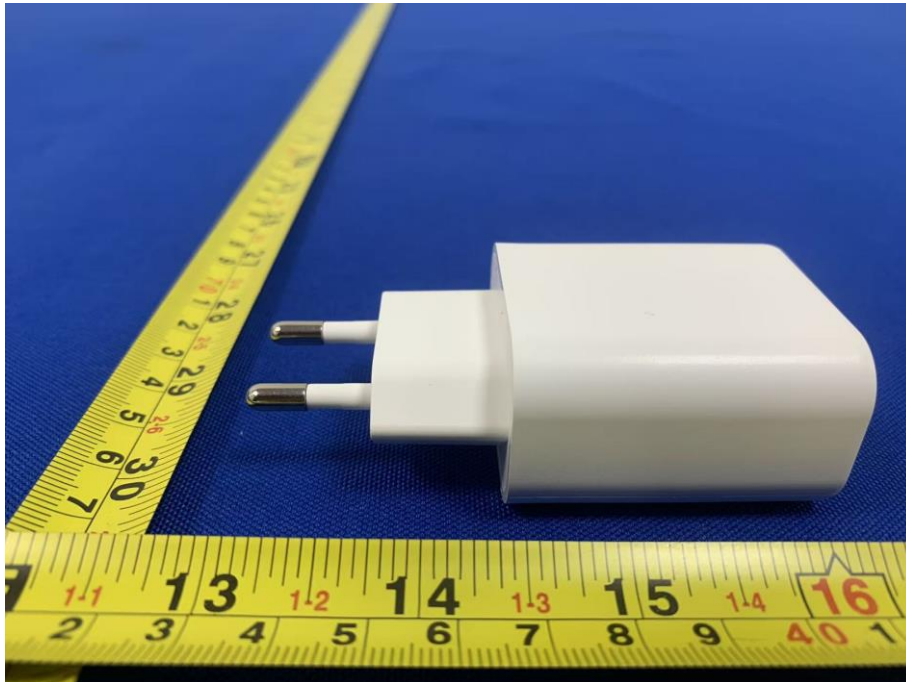
Optocoupler (U2)	Everlight Electronics Co., Ltd.	EL817	Double protection optical isolators, providing 4000 vac isolation Dti. ≥ 0.4 mm, ext.cl.=ext.cr. ≥ 7.6 mm, 110 °C	IEC/EN 60747-5-5	VDE 132249
Transformer (T1)	Guangxi Qinzhou Xingda Weiye Technology Co Ltd	W-001-GaN	Class B	IEC/EN 62368-1	Test with appliance
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375J(G5)(G6)	Phenolic, V-0, 150 °C, Min. Thickness 0.7 mm	UL 94	UL E59481
- Magnet wire	HUIZHOU CITY DENGGAODA ELECTROTECH CO LTD	X UEW	130 °C; MW 79-C	UL 1446	UL E253843
(Alternative)	Interchangeable	Interchangeable	130 °C; MW 79-C	UL 1446	UL
-Triple insulation wire	Shenzhen Kaizhong Hedong New Materials Co., Ltd.	TIW-B	130 °C	IEC/EN 62368-1	VDE 40038861
- Insulation tape	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A (b)	130 °C	UL 510A	UL E246950
-Tubing	Fluotech Industrial (Huizhou) Co Ltd	TFT	200 °C, min. 300 V	UL 224	UL E175982
-Varnish	ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD	E962	MW 28-C, 130 °C	UL 1446	UL E335405

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See OD-2039.

²⁾ Description line content is optional. Main line description needs to clearly detail the component used for testing.

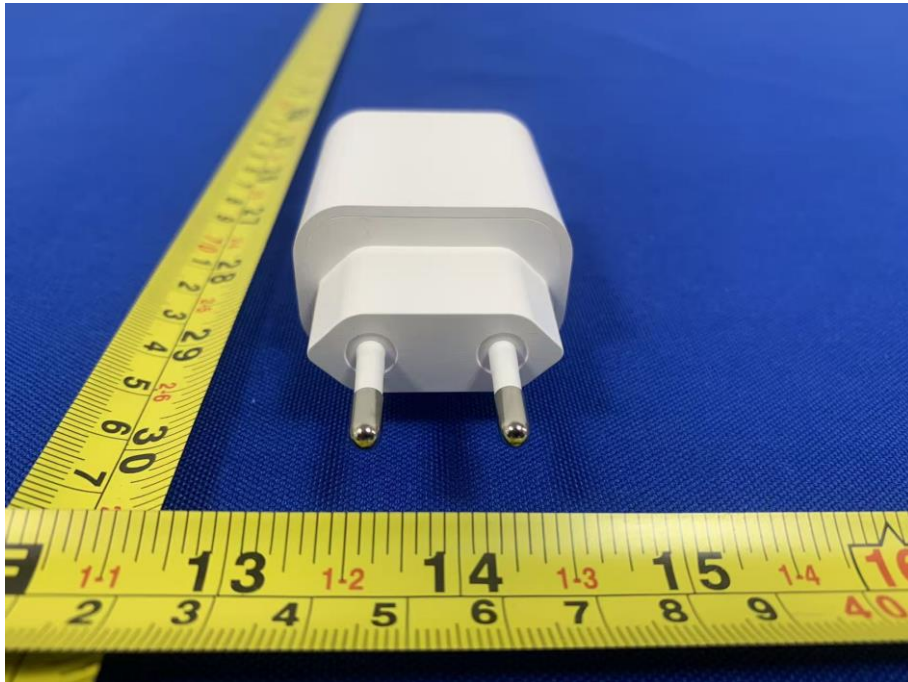
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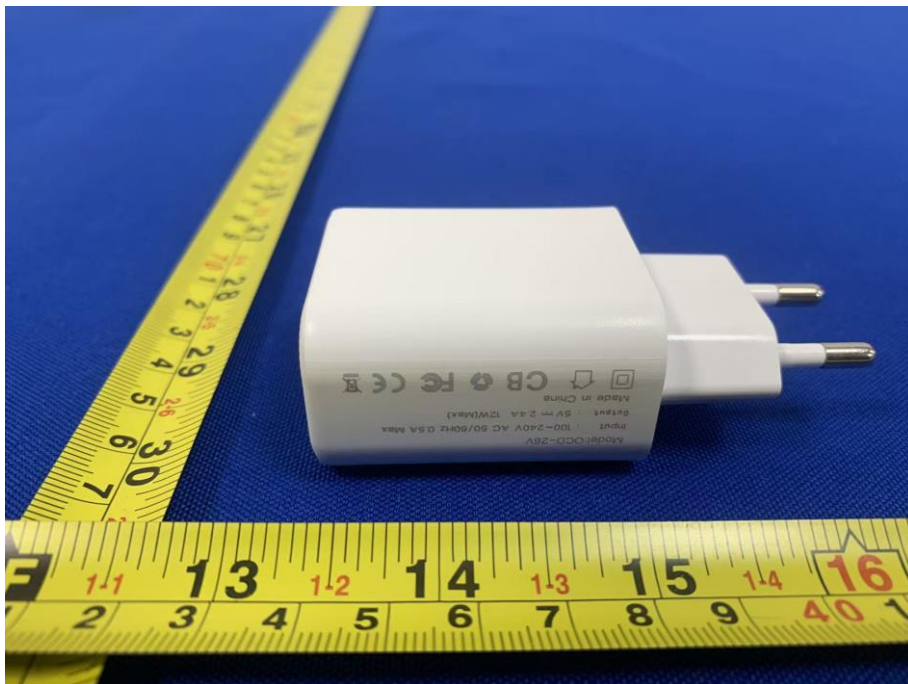
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Overview



Overview