

Verification of Conformity

No. ESTS-P24070207 (CE)

The following products have been tested by us with the listed standards and found in compliance with the council Low Voltage Directive 2014/35/EU. It is possible to use CE marking to demonstrative for the compliance with this Directive.

Applicant : Huizhou Fujia Appliance Tech. Co., Ltd.
Address : Building B of Yaoyu Ind. Park, Shatian Town, Huiyang District, Huizhou, Guangdong, P.R. China
Product : POWER SUPPLY
Trade Name : N/A
Model No. : FJ-SW729Sxxxxyyyn(for variables xxx, yyyy and n , details see test report)

Test Standards:	
EN IEC 62368-1:2020+A11:2020	Audio/video, information and communication technology equipment Part 1: Safety requirements



EST Technology Co., Ltd.

Http://www.gdest.cn; Tel: +86 769-83081888

Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China

The statement is based on a single evaluation of one sample of above mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab's logo.

TEST REPORT EN 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements	
Report reference No.:	ESTS-P24070207
Tested by.....: (printed name and signature)	Andrew Wang
Approved by.....: (printed name and signature)	Apple Xie
Date of issue.....:	2024-07-04
Testing laboratory	EST Technology Co., Ltd.
Address.....:	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Test location.....:	Same as above
Applicant.....:	Huizhou Fujia Appliance Tech. Co., Ltd.
Address.....:	Building B of Yaoyu Ind. Park, Shatian Town, Huiyang District, Huizhou, Guangdong, P.R. China
Manufacturer.....:	Huizhou Fujia Appliance Tech. Co., Ltd.
Address.....:	Building B of Yaoyu Ind. Park, Shatian Town, Huiyang District, Huizhou, Guangdong, P.R. China
Standards.....:	EN IEC 62368-1:2020+A11:2020
Test Procedure	LVD
Non-standard test method.....:	N/A
Type of test equipment	POWER SUPPLY
Trade mark.....:	N/A
Model/Type designation.....:	FJ-SW729Sxxxxyyyn (for definition of variables xxx, yyyy and n see Table C for details)
Rating.....:	Input: 100-240VAC, 50/60Hz, 1.5A Max Output: See table B for details
TRF originator.....:	EST Technology Co., Ltd.
Copyright blank test report:	EST Technology Co., Ltd.
Test item particulars:	---
Equipment mobility	For direct plug-in
Operating Condition	Continuous
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class II equipment
Mass of equipment (kg)	Approx. 0.224
Protection against ingress of water	IPX0

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

Attachment 1: National differences (22 pages)
Attachment 2: Working Voltage (2 page)
Attachment 3: European plug test report (8 pages)
Attachment 4: UK plug test report (11 pages)
Attachment 5: Photo documentation (11 pages)

Summary of testing:

See below for summary and applicable clauses.

All tests were conducted under maximum normal load conditions as below, if not specified elsewhere.

Tests performed (name of test and test clause):

All applicable tests as described in Test Case and Measurement Sections were performed.

- Maximal ambient temperature as specified by the manufacturer: +40°C.
- Load conditions used during testing see appended table B.2.5 for details.
- The equipment is specified to be operated up to 5000m above sea level.
- If not otherwise specified, tests were performed on models FJ-SW729S2402500E, FJ-SW729S1006000E to represent other similar models.
- The EUT passed the above all tests.

Testing location:

All tests as described in Test Case were performed at the laboratory described on page 1

Clause(s)	Test(s)
4.7.3	Direct plug-in moment test
5.2	Electrical energy source classifications
5.4.1.4, 9.3, B.1.5, B.2.6	Maximum operating temperatures for materials, components and systems
5.4.1.8	Determination of working voltage
5.4.1.10.3	Ball pressure test
5.4.2, 5.4.3	Minimum Clearances/Creepage distance
5.4.5	Antenna terminal insulation - Voltage surge
5.4.8	Humidity conditioning
5.4.9	Electric strength test
5.5.2.2	Stored Discharge on Capacitors
5.7.4	Unearthed accessible parts
6.2.2	Electrical power sources (PS) measurements for classification
9.2	Thermal energy source Classifications
B.2.5	Input tests
B.3, B.4	Abnormal operating and fault condition tests

F.3.9	Durability, legibility and permanence of markings	
G.5.3.3	Transformer overload	
G.8.2.2	Varistor overload test	
Q.1.2	Limited power sources	
T.2	Steady force test, 10 N	
T.4	Steady force test, 100 N	
T.7	Drop test	
T.8	Stress relief test	

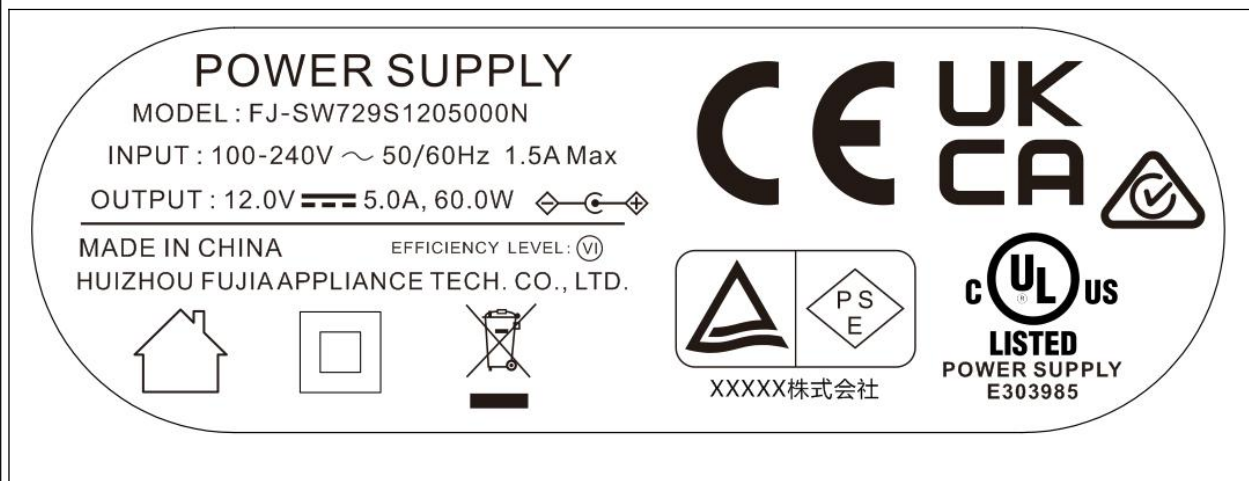
Summary of compliance with National Differences (List of countries addressed):

EU group differences

☒ The product fulfils the requirements of EN IEC 62368-1:2020/A11:2020.

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.The above markings are the minimum requirements required by the safety lab. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
- 2.The CE marking and WEEE symbol (if any) should be at least 5.0mm and 7.0mm respectively in height.
- 3.The mfr. and importer's name and address should be printed on label, if not possible can be printed on package or a document accompanying the equipment before the product is placed on the EU market.

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	☒ 16 A;	
	Location: ☒ building ☐ equipment ☐ N/A	
Equipment mobility.....	☐ movable ☐ hand-held ☐ transportable	
	☒ direct plug-in ☐ stationary ☐ for building-in	
	☐ wall/ceiling-mounted ☐ SRME/rack-mounted	
	☐ other:	
Overvoltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III	
	☐ OVC IV ☐ other:	
Class of equipment	☐ Class I ☒ Class II ☐ Class 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}.....	40 °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 ☒ 5000 m	
Altitude of test laboratory (m)	☒ 2000 m or less ☐ m	
Mass of equipment (kg)	Approx. 0.224kg max.	

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..... :	2023-10-11 (CN23QS79 001)
Date (s) of performance of tests..... :	2023-10-11 to 2023-11-28 (CN23QS79 001)
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.	
Name and address of factory (ies)..... :	Huizhou Fujia Appliance Tech. Co., Ltd. Building B of Yaoyu Ind. Park, Shatian Town, Huiyang District, Huizhou, 516269 Guangdong, P.R. China
General product information and other remarks:	
This report is based on CB report CN21ROB4 001, Please refer to the CB report. - The products are direct plug-in type POWER SUPPLY intended to use for information technology equipment or Audio and Video equipment. - Top enclosure and bottom enclosure are fixed together by ultrasonic welding. - The specified max. ambient temperature is +40°C. - European plug provided in the equipment has been tested according to EN 50075 (See attachment 3) - United Kingdom plug provided in the equipment has been tested according to BS 1363-1+A1 (See attachment 4). - For models with non-detachable plug, the plug in part is fixed to the enclosure and the plug portions (incorporate pins) are moulded together with enclosure that effectively prevents any disintegration or conductive parts remaining in the socket. For models with detachable plug, the plugs are fixed with enclosure by mechanical method that effectively prevents any disintegration or conductive parts remaining in the socket. - The tumbling barrel test of European plug according to DIN VDE 0620-2-1, sub-clause 24.2, DIN VDE, 0620-101:1992 clause 7, figure 2 "Gauge for interchangeability" and EN 50075 was been evaluated. - The power supply is used for the altitude up to 5000m, only clearance for functional insulation, reinforced or double insulation of the EUT are evaluated according to IEC 60664-1 table A.2, other aspects shall be evaluated during national approval. - All models are identical to each other except for model no., output rating, plug portion and the rating of same components (see Table A, C) - For the product colors and shapes of DC output terminal, it could use other colors and shapes as alternative, line filter on output wire is optional, they are did not affect safety.	

Table A: Model difference:

Components	FJ-SW729Sxxxxyyyyn		
	xxx=050-090	xxx=100-160	xxx=180-240
C1, C2, C3, C6	min.15uF, min.400V	min.15uF, min.400V	min.15uF, min.400V
C7, C22	min.10V	min.16V	min.25V

Table B: Model list and definition of variables:

Model No.	Input Rating	Output Rating			Transformer
		Voltage range (V)	Current range (A)	Power (W)	
FJ-SW729Sxxxxyyyyn (xxx=050-090, yyyy=1000-6000)	100-240VAC, 50/60Hz, 1.5 Max	5.0 - 9.0	1.0 - 6.0	54.0	729S-T1
FJ-SW729Sxxxxyyyyn (xxx=100-160, yyyy=1000-6000)		10.0 - 16.0	1.0 - 6.0	60.0	729S-T2
FJ-SW729Sxxxxyyyyn (xxx=180-240, yyyy=1000-3333)		18.0 - 24.0	1.0 - 3.333	60.0	729S-T3

Note: all models of transformer are identical except for the auxiliary windings and secondary windings. Output voltage multiplied with output current are only tested up to the max. output power.

Table C: Definition of variables:

Variable:	Range of variable:	Content:
xxx	050-090, 100-160, 180-240	'xxx' are 3 digits indicating 10 times the output voltage value in V. For example, 050 represents the output voltage is 5.0Vdc, 240 represents the output voltage is 24.0Vdc. The rated output voltage is rising in steps of 0.1V.
yyyy	1000-6000	'yyyy' are 4 digits indicating 1000 times the output current value in A. For example, 1000 represents the output current is 1.0A, 6000 represents the output current is 6.0A. The rated output current is rising in steps of 0.001A.
n	E, N	Indicating one digit number to represent different plug type: E means fixed European type plug, N means detachable EU, UK plug provided.

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 secondary circuit after T1	Ordinary	N/A	N/A	See 5.4.2, 5.4.3, 5.4.5, 5.5.3, 5.5.4
ES3: CX1	Ordinary	N/A	N/A	See 5.5.2.2
ES1: Secondary circuit after T1	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 circuit	Enclosure	See 6.3	V-0	N/A
PS3 circuit	PCB	See 6.3	V-1 or better	N/A
PS2/PS3 circuit	The other components/materials	See 6.3	See 6.4.5, 6.4.6	N/A
PS2 circuit	Output wire	See 6.5	VW-1	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Edges and corners of enclosure	Ordinary	N/A	N/A	N/A
MS1: Mass of the unit	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/circuit 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

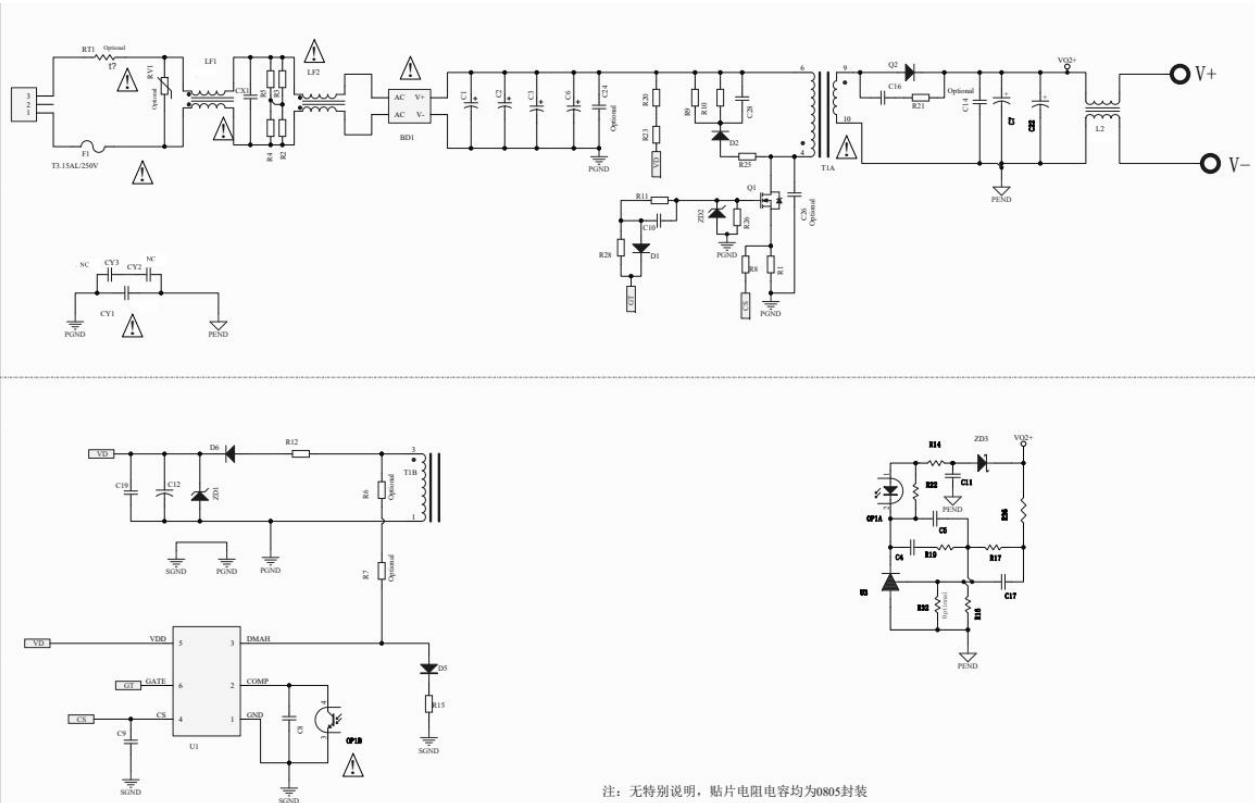


N/A	N/A	N/A	N/A	N/A
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

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

EN 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) :	This equipment is not intended to use in outdoor.	N/A
4.1.5	Constructions and components not specifically covered	No this constructions and components.	N/A
4.1.8	Liquids and liquid filled components (LFC)	No this component.	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 Annex T.2, T.4)	P
4.4.3.3	Drop tests	(See Annex T.7)	P
4.4.3.4	Impact tests	(See Annex T.6)	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
4.4.3.9	Air comprising a safeguard	(See Annex T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness	After tests of 4.4.3.2, 4.4.3.3, 4.4.3.8, no safeguard damaged.	P
4.4.4	Displacement of a safeguard by an insulating liquid	No this insulating liquid.	N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.5	Safety interlocks	No this 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	The wires are secured by soldering and additionally fixed by glue so that a loosening of the terminal connection is unlikely.	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 dimension and construction of the injection part of plugs are in accordance with: For European plug: EN 50075:1990. For UK plug: BS 1363-1+A1	P
4.7.3	Torque (Nm)..... :	0.095Nm Max. for all type of plugs	P
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	No coin/button cell batteries used.	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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays	No this 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 5.5.2.2)	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 within the EUT	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		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
	Test with test probe from Annex V		—

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
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	No hygroscopic material used.	N/A
5.4.1.4	Maximum operating temperature for insulating materials..... :	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degrees..... :	2	
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		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	See only 5.4.1.10.3 below.	P
5.4.1.10.2	Vicat test..... :		N/A
5.4.1.10.3	Ball pressure test..... :	Phenolic bobbin material used in transformer 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
5.4.2.2	Procedure 1 for determining clearance	Temporary overvoltage 2000Vpeak assumed.	P
	Temporary overvoltage :	II	—

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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..... :	(See only appended tables)	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..... :	IIIa&IIIb	—
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		P
5.4.4.4	Solid insulation in semiconductor devices	Approved optocoupler used. Requirements of G.12 met, see table 4.1.2 for listed component used.	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	Insulation tape used wrapping transformer	P
5.4.4.6.2	Separable thin sheet material	See above	P
	Number of layers (pcs) :	2 layers	P
5.4.4.6.3	Non-separable thin sheet material	No such thin sheet material within the EUT	N/A
	Number of layers (pcs) :		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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)..... :	(See appended Table 5.4.4.9)	P
	Alternative by electric strength test, tested voltage (V), K_R :		P
5.4.5	Antenna terminal insulation		P
5.4.5.1	General	The power supply will provide non-mains supply voltages to other equipment having antenna terminals.	P
5.4.5.2	Voltage surge test	Surge test with 50 discharges at a maximum rate of 12/min from a 1 nF capacitor charged to 10 kV performed.	P
5.4.5.3	Insulation resistance (M Ω)..... :	Measured 500M Ω between mains supply to output terminals.	P
	Electric strength test..... :	(See appended table 5.4.9)	P
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	Test was performed on product with each source of transformer listed in table 4.1.2	P
	Relative humidity (%), temperature (°C), duration (h)..... :	93%, 40°C, 120hrs	—
5.4.9	Electric strength test		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
5.4.10	Safeguards against transient voltages from external circuits	No such external circuits	N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	See below.	P
5.5.2	Capacitors and RC units	Approved Y and X capacitor provided. See G.11.1 for compliance and their application.	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
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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Resistors	Bleeder resistors between live and neutral located L/N used and as safeguard	P
5.5.7	SPDs	(See Annex G.8)	P
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		N/A
5.6.2	Requirement for protective conductors		N/A
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
5.6.8	Functional earthing		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 60990:1999 was used in determining of the limit of ES1. (See appended table 5.2)	P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4, 5.3 and 5.4 of IEC 60990:1999 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 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 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

EN 62368-1			
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 B.1.5 and B.3)	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, V-0 fire enclosure provided.	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	Method by control of fire spread applied as 6.4.1.	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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.5	Control of fire spread in PS2 circuits	Compliance detailed as follows: – <u>Printed board</u> : rated min. V-1 – <u>Wire insulation</u> : complying with Clause 6 (See Table 4.1.2 for tubing used). The lead cord is complied to UL 758 standard, which test method and testing condition equal to IEC/EN 60695-11-21. – <u>All other components</u> : at least V-2 except for parts mounted on min. V-1 material or small parts of combustible material (with mass less than 4g) or components complying to relevant IEC standard. – <u>Isolating transformer</u> : complying with G.5.3.	P
6.4.5.2	Supplementary safeguards	– (See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuits	Compliance detailed as follows: – Parts as in 6.4.5 above – Fire enclosure rated V-0 used.	P
6.4.7	Separation of combustible materials from a PIS	Fire enclosure provided for all internal parts.	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	Plastic material of output terminals: Min. V-1	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	No openings in fire enclosure.	P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		N/A
	Openings dimensions (mm)..... :	No openings.	N/A
6.4.8.3.4	Bottom openings and properties		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Openings dimensions (mm)..... :	No openings except for the opening filled by VW-1 output cord bushing.	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		N/A
	Openings dimensions (mm)..... :		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating..... :	V-0 Fire Enclosure used.	P
6.4.9	Flammability of insulating liquid..... :		N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	Lead wires comply with UL 758, which has the equivalent requirement with IEC/TS 60695-11-21.	P
6.5.2	Requirements for interconnection to building wiring..... :		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets..... :		N/A
6.6	Safeguards against fire due to the connection to additional equipment		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		P
8.4.1	Safeguards		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Instructional Safeguard.....:	Instructional safeguard is not required.	N/A
8.4.2	Sharp edges or corners	Edges and corners of the enclosure are rounded.	P
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
	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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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	Classification MS1 according to table 35, line 5 and no stability requirements.	N/A
	Instructional safeguard.....:	Instructional safeguard is not required.	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
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N).....:		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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).....:	No such parts.	—

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 and output cable. The equipment evaluated by temperature test (See appended table 5.4.1.4)	P
9.3.2	Test method and compliance		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	No wireless power transmitters.	N/A
9.6.2	Specification of the foreign objects		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
9.6.3	Test method and compliance.....:		N/A
10	RADIATION		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A
	Lasers.....:	No such radiation generated from the equipment.	—
	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.....:	No such x-radiation generated from the equipment	—
10.5.3	Maximum radiation (pA/kg).....:		—
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General	Not such equipment.	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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 summary of testing for tested models, each loaded according to its output ratings. See also appended table B.2.5.)	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

EN 62368-1			
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 Error! No bookmark name given.		P
B.4.1	General	(See appended table B.3, B.4)	P
B.4.2	Temperature controlling device	No such device used.	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	No UV generated from the equipment.	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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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)..... :	Not such equipment.	—
	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 version user manual was provided. (version in other language will be provided when submitted for national 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 required marking is located on the enclosure of the equipment and is easily visible.	P
F.3.2	Equipment identification markings	See copy of marking plate.	P
F.3.2.1	Manufacturer identification	See copy of marking plate	P

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.2.2	Model identification	See model list.	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		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 model list.	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 current fuse is anyway marked with F1: T3.15AL, 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	Class II 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..... :	Class II equipment, symbol IEC 60417-5172 used.	P
F.3.6.3	Functional earthing terminal marking..... :		N/A
F.3.7	Equipment IP rating marking..... :	IP X0	P
F.3.8	External power supply output marking..... :	See copy of marking plate	P

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		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		N/A
	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		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.2	Relays		N/A
G.2.1	Requirements		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	Current fuse complying with IEC 60127 as overcurrent protection device.	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	N/A
G.4.2	Mains connector configuration.....:	Mains plug complied with standard, see attachments for details.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Output connector with a shape insert into a mains connector is unlikely to occur.	P
G.5	Wound components		P

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.1	Wire insulation in wound components	Approved triple insulated wire used as Reinforced insulation for secondary winding of transformer.	P
G.5.1.2	Protection against mechanical stress	Physical separation provided by 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
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..... :	T1	P
	Method of protection..... :	By protection circuit design.	P
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation (The core is considered as primary part as it is not isolated from Primary)	P
	Protection from displacement of windings..... :	The end-turn of each winding is fixed by bobbin 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
	FIW wire nominal diameter..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 winding used as reinforced safeguard in the isolating 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
G.7.1	General requirements	No such cord provided	N/A
	Type..... :		—
G.7.2	Cross sectional area (mm ² or AWG)..... :		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
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		P
G.8.1	General requirements	VDE approved varistor used, coating V-0, see table 4.1.2 for details	P
G.8.2	Safeguards against fire	(See appended table 4.1.2)	P
G.8.2.1	General		P
G.8.2.2	Varistor overload test	No risk of fire and equipment safeguards. All source of varistors in table 4.1.2 are considered.	P
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 limiter provided within the equipment.	N/A
	IC limiter output current (max. 5A)..... :		—
	Manufacturers' defined drift :		—
G.9.2	Test Program		N/A

EN 62368-1			
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	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14. (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 optocoupler complied with standard IEC/EN 60747-5-5. (see appended table 4.1.2)	P
	Type test voltage $V_{ini,a}$:	Min. 4000 Vpeak	—
	Routine test voltage, $V_{ini,b}$:	Min. 4000 Vpeak	—
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	No coated printed board or multilayer board applied for within the equipment.	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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	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)		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
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	No telephone ringing signal generated within the equipment.	N/A
H.3.1.1	Frequency (Hz)		—

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 of this standard (for wires providing Reinforced insulation). 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.....	No safety interlock provided.	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
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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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..... :	No battery used.	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

EN 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 (m ³ /h).....:		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)......:		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate.....:		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)......:		N/A
M.7.4	Marking.....:		N/A

EN 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..... :	No risk of corrosion.	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm)..... :	1.0	—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		P
P.1	General	No opening	P
P.2	Safeguards against entry or consequences of entry of a foreign object		P
P.2.1	General		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
	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	No such liquids.	N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General	No such construction.	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	See appended table Annex Q.1	P
Q.1.1	Requirements		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	A regulating network limits the output in compliance with table Q.1 both under normal operating conditions and after any single fault.	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 Annex Q.1	P
	Current rating of overcurrent protective device (A):		N/A
Q.2	Test for external circuits – paired conductor cable	No such circuit for connection to the EUT	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.....:	Approved fire enclosure with V-0 material used.	—

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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, T.3, T.4, T.5)	P
T.3	Steady force test, 30 N	No internal enclosure.	N/A
T.4	Steady force test, 100 N	(See appended table T.2, T.3, T.4, T.5)	P
T.5	Steady force test, 250 N		N/A
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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
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		N/A
V.2	Accessible part criterion		N/A
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance..... :	(See appended table X)	N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General		N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3	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

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	(See Annex P.4)	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..... :	(See Table T.6)	N/A

EN 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⁾	
Test Model: FJ-SW729S2402500E							
264Va.c., 60Hz	Primary circuits supplied by a.c. mains supply	Normal	264Vrms	--	SS	Frequency: 60Hz	ES3
		Abnormal	--	--	--	--	
		Single fault	--	--	--	--	
264Va.c., 60Hz	T1 pin 9 to 10	Normal	52.8Vpk	--	SS	Frequency: 64.36KHz	ES2
		Single fault: SC T1 pin 9 to 10	0 (output shut down)	--	SS	--	ES1
264Va.c., 60Hz	Output “+” to “-”	Normal	24.24Vdc	--	SS	--	ES1
		Abnormal Output overload	24.24Vdc Max.	--	SS	--	
		Abnormal Transformer overload	24.24Vdc Max.	--	SS	--	
		Single fault: SC/OC (Refer to fault condition on table B.3, B.4 output shutdown)	0	--	SS	--	
		Single fault: SC/OC (Refer to fault condition on table B.3, B.4, fuse open)	0	--	SS	--	
264Va.c., 60Hz	Between L & N (CX1)	Normal	374Vpk	--	CP	Max. 517nF	ES3
Supplementary information: Abbreviation: SC= short circuit; OC= open circuit							
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	

EN 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
Test Model: FJ-SW729S2402500E				
T1 pin 9 to pin 1	216	396	--	--
T1 pin 9 to pin 3	258	516	--	--
T1 pin 9 to pin 4	219	325	--	--
T1 pin 9 to pin 6	220	372	--	--
T1 pin 10 to pin 1	215	344	--	--
T1 pin 10 to pin 3	278	536	64.36K	The Max Vpeak Vrms
T1 pin 10 to pin 4	218	384	--	
T1 pin 10 to pin 6	218	348	--	--
OP1 pin 1 to pin 3	234	372	--	--
OP1 pin 1 to pin 4	231	364	--	--
OP1 pin 2 to pin 3	232	368	--	--
OP1 pin 2 to pin 4	230	370	--	--
CY1 Primary to secondary	217	348	--	--
Test Model: FJ-SW729S1006000E				
T1 pin 9 to pin 1	216	384	--	--
T1 pin 9 to pin 3	253	524	--	--
T1 pin 9 to pin 4	216	352	--	--
T1 pin 9 to pin 6	218	356	--	--
T1 pin 10 to pin 1	214	344	--	--
T1 pin 10 to pin 3	265	532	61.43K	The Max Vpeak Vrms
T1 pin 10 to pin 4	219	396	--	
T1 pin 10 to pin 6	217	352	--	--
OP1 pin 1 to pin 3	222	356	--	--
OP1 pin 1 to pin 4	221	356	--	--
OP1 pin 2 to pin 3	221	356	--	--
OP1 pin 2 to pin 4	222	356	--	--
CY1 Primary to secondary	218	352	--	--
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)	

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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)
Enclosure/ Plug pin holder	SABIC INNOVATIVEPLASTICS US L L C / 940(f1)(gg*)	3.0	125	0.6
Enclosure/ Plug pin holder	SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD / PC2330	3.0	125	0.5
Enclosure/ Plug pin holder	KINGFA SCI & TECH (USA), INC/JH860 (ddd) (f1)	3.0	125	0.5
Bobbin	Sumitomo Bakelite Co. Ltd / PM-9820	3.0	125	0.5
Bobbin	Sumitomo Bakelite Co. Ltd / PM-9630	3.0	125	0.7
Bobbin	Sumitomo Bakelite Co. Ltd / PM-9823	3.0	125	0.6
Bobbin	Sumitomo Bakelite Co. Ltd / PM-9850	3.0	125	0.5
Bobbin	Sumitomo Bakelite Co. Ltd / PM-9750	3.0	125	0.6
Bobbin	CHANG CHUN PLASTICS CO LTD/T375J(G5)(G6)	3.0	125	0.6
Bobbin	CHANG CHUN PLASTICS CO LTD/T375HF	3.0	125	0.5
Bobbin	CHANG CHUN PLASTICS CO LTD/ T- 378J	3.0	125	0.7
Bobbin	CHANG CHUN PLASTICS CO LTD/ T378J	3.0	125	0.6
Bobbin	CHANG CHUN PLASTICS CO LTD/ T200HF	3.0	125	0.5

EN 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Bobbin	CHANG CHUN PLASTICS CO LTD/ T200NA		3.0	125	0.6	
Supplementary information:						
The other bobbin materials of transformer and filter are phenolic, no test is needed. No other parts applied.						

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⁾ (kHz)	Required cl (mm)*	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Between L and N on PCB (B)	420	250	0.06	2.3	3.8	--	2.5	3.8
Different polarity of clamping piece of detachable plug (B)	420	250	0.06	2.3	5.1	--	2.5	6.1
Different polarity of clamping piece of fixed plug (B)	420	250	0.06	2.3	5.5	--	2.5	5.5
Between two pins of Fuse on PCB (B)	420	250	0.06	2.3	3.0	--	2.5	3.0
L pin to primary trace after fuse (B)	420	250	0.06	2.3	3.3	--	2.5	3.3
Primary trace under RT1 to accessible enclosure (R)	420	250	0.06	4.5	6.2	--	5.0	6.2
Live part of detachable plug to accessible surface (R)	420	250	0.06	4.5	5.2	--	5.0	5.2
Clamping piece of detachable plug to accessible surface (R)	420	250	0.06	4.5	6.3	--	5.0	6.3
Clamping piece of fixed plug to accessible surface (R)	420	250	0.06	4.5	6.3	--	5.0	6.3
Trace between OP1 (R)	420	250	0.06	4.5	6.5	--	5.0	6.5
Trace between CY1 (R)	420	250	0.06	4.5	6.7	--	5.0	6.7
Primary trace to metal shield (R)	420	250	0.06	4.5	6.1		5.0	6.1

EN 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Primary to secondary trace under T1 (R)	536	278	64.36	4.5	4.8	--	5.6	6.4
Core of T1 to C7 (R)	536	278	64.36	4.5	6.4	--	5.6	6.4
T1 core to secondary pin (R)	536	278	64.36	4.5	6.8	--	5.6	6.8
T1 primary winding to secondary winding (R)	536	278	64.36	4.5	6.5	--	5.6	6.5
Supplementary information: B=Basic insulation, R=Reinforced insulation								
Note 1: Only for frequency above 30 kHz Note 2: See table 5.4.2.4 if this is based on electric strength test Note 3: Provide Material Group: IIIb 1) Triple insulated wire used in secondary side. Core of transformer (T1) is considered as primary. 2) The equipment is intended to be operated under altitude up to 5000m, so the clearance is multiplied by the altitude correction factor (1.48, linear interpolation used), specified in table A.2 of IEC 60664-1. 3) Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed. 4) All internal wire were additionally fixed by glue.								

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)	
Enclosure	420	Reinforce insulation	0.4	1)	
Bobbin of transformer	536	Reinforce insulation	0.4	1)	
Insulation sheet	536	Reinforce insulation	0.4	1)	
Insulation tape	536	Reinforce insulation	Min. 2 layers	2 layers	
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	--	64.36	0.71	Min. 0.51	Reinforce insulation	536
Insulation sheet	--	64.36	0.35	Min. 0.40	Reinforce insulation	536
Insulation tape	--	64.36	0.46	0.05	Reinforce	536

EN 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
					insulation	
Supplementary information:						
See 5.4.9						

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 and N of input (with fuse opened)		DC	2500	No
Reinforced:				
Unit primary to secondary		DC	4000	No
Unit primary to plastic enclosure (with metal foil)		DC	4000	No
Primary to secondary of transformer T1		DC	4000	No
Secondary to core of transformer T1		DC	4000	No
Insulation tape used in and around transformer T1 (single layer)		DC	4000	No
Insulation sheet		DC	4000	No
Internal and outside part of detachable plug		DC	4000	No
Supplementary information:				
Core of transformer T1 was considered as primary. Test after humidity treatment, heating test, and for unit primary to secondary, primary to plastic enclosure electric strength after each fault condition test. Test were performed on product with each source listed in table 4.1.2.				
The DC voltage source was performed on all testing once in forward and once in reverse.				

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	N	--	12	ES1
Phase to Neutral	264Vac, 60Hz	S (R2 open)	--	64	ES2
Supplementary information:					
The end system may be pluggable equipment type A. Limit of ES1 applied for mains terminal as accessible part.					
X-capacitors installed for testing: CX1=0.47μF±10%.					
[x] bleeding resistor rating: R2=R3=R4=R5=2MΩ					
□ ICX:					
1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit					

EN 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
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:				
North American deviation was considered.				

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, 60Hz	--	0.580mA _{pk}	60	ES1
Output "+/-" to earth	Abnormal Output overload	264Vac, 60Hz	--	0.580mA _{pk}	60	ES1
Output "+/-" to earth	Single fault: SC/OC (Refer to fault condition on table B.3, B.4, output shutdown)	264Vac, 60Hz	--	0.580mA _{pk}	60	ES1
Output "+/-" to earth	Single fault: SC/OC (Refer to fault condition on table B.3, B.4, F1 open)	264Vac, 60Hz	--	0.642mA _{pk}	60	ES1
Plastic enclosure to earth	Normal	264Vac, 60Hz	--	0.050mA _{pk}	60	ES1
Plastic enclosure to earth	Abnormal Output overload	264Vac, 60Hz	--	0.050mA _{pk}	60	ES1
Plastic enclosure to earth	Single fault: SC/OC (Refer to fault condition on table B.3, B.4, output shutdown)	264Vac, 60Hz	--	0.050mA _{pk}	60	ES1
Plastic enclosure to earth	Single fault: SC/OC (Refer to fault condition on table B.3, B.4, fuse open)	264Vac, 60Hz	--	0.050mA _{pk}	60	ES1

EN 62368-1			
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:				
[1] Supply voltage is the anticipated maximum Touch Voltage				
[2] Earthed neutral conductor [Voltage differences less than 1% or more]				
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3				
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.				
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.				
a) Not considered IT power system.				
b) Not three phase equipment.				
c) Not IT power system or three phase delta system.				
d) Not three-phase for use on centre-earthed dalta supply system.				
e) Not such parts.				

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
Test Model: FJ-SW729S2402500E						
Output + to -	Normal condition	23.95	4.0	95.8	5	PS2
Output + to -	Signal fault (R1 SC)	0*	0*	0*	3	PS1

EN 62368-1						
Clause	Requirement + Test	Result - Remark				Verdict
Output + to -	Signal fault (OP1 pin 1-2 SC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 3-4 SC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 1 OC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 3 OC)	0 [#]	0 [#]	0 [#]	3	PS1
Test Model: FJ-SW729S1006000E						
Output + to -	Normal condition	9.12	7.6	69.4	5	PS2
Output + to -	Signal fault (R1 SC)	0 [*]	0 [*]	0 [*]	3	PS1
Output + to -	Signal fault (OP1 pin 1-2 SC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 3-4 SC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 1 OC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 3 OC)	0 [#]	0 [#]	0 [#]	3	PS1
Test Model: FJ-SW729S0506000E						
Output + to -	Normal condition	5.06	7.5	38.02	5	PS2
Output + to -	Signal fault (R1 SC)	0 [*]	0 [*]	0 [*]	3	PS1
Output + to -	Signal fault (OP1 pin 1-2 SC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 3-4 SC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 1 OC)	0 [#]	0 [#]	0 [#]	3	PS1
Output + to -	Signal fault (OP1 pin 3 OC)	0 [#]	0 [#]	0 [#]	3	PS1
Supplementary information: Abbreviation: SC=Short circuit, OC=open circuit Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3. * Fuse F1 open immediately # Unit shutdown immediately and recoverable. No hazard.						

6.2.3.1	TABLE: Determination of Arcing PIS	P
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EN 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
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	--	--	--	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 (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.				
All conductors and devices are considered as PIS.				

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		--	--	Yes (declaration)
Supplementary information:				
Abbreviation: SC= short circuit; OC= open circuit				
Considered resistive PIS in all primary and secondary circuit.				
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, <u>or</u> (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:					

EN 62368-1									
Clause	Requirement + Test					Result - Remark			Verdict
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 (VAC)..... :		See below				—
Ambient temperature during test T_{amb} (°C)..... :		--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
		Horizontal I	Vertical	Horizontal	Vertical	--
Test Model: FJ-SW729S2402500E		90V/60Hz		264V/60Hz		--
Plug holder		52.9	52.3	48.2	47.6	115
Varistor RV1		60.3	60.0	53.9	53.7	105
Line chock of LF1 winding		68.9	68.8	60.3	59.8	130
X-capacitor CX1		68.7	67.9	61.1	60.3	100
Line chock of LF2 winding		71.0	72.0	62.7	60.8	130
E-capacitor C1 body		70.8	77.2	62.9	62.4	105
E-capacitor C3 body		78.6	76.1	69.9	69.3	105
PCB under BD1		84.2	81.7	68.5	67.7	130
PCB under Q1		89.0	84.0	78.0	77.0	130
T1 winding		80.5	76.0	75.0	74.2	110
T1 core		70.9	65.4	63.9	63.6	110
Y-capacitor CY3 body		77.4	73.3	68.7	68.4	125
Opto-coupler OP1 body		78.8	73.7	71.9	70.7	100
Line chock of L2 winding		71.9	66.5	66.4	66.3	130
E-capacitor C7 body		71.4	65.9	66.8	66.5	105

EN 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
PCB under Q2	83.4	78.2	83.3	82.4	130		
Output wire(inside)	67.1	61.7	63.5	63.4	80		
Insulating sheet	79.3	74.4	73.3	72.2	110		
Plastic enclosure inside near T1	64.3	60.3	60.5	59.8	115		
Ambient	40.0	40.0	40.0	40.0	--		
Plastic enclosure outside near T1	41.2	37.1	38.9	36.5	77*		
Output wire(outside)	32.4	29.2	31.4	29.1	77*		
Ambient	25.0	25.0	25.0	25.0	--		
Test Model: FJ-SW729S1006000E	90V/60Hz		264V/50Hz		--		
Plug holder	51.4	51.1	46.8	45.7	115		
Varistor RV1	58.4	58.0	51.8	51.6	105		
Line chock of LF1 winding	66.5	65.9	59.2	57.4	130		
X-capacitor CX1	63.8	65.1	57.4	57.9	100		
Line chock of LF2 winding	68.5	68.8	59.6	61.8	130		
E-capacitor C1 body	68.3	73.5	62.6	59.9	105		
E-capacitor C3 body	75.7	72.5	65.8	66.5	105		
PCB under BD1	88.1	83.0	69.2	68.5	130		
PCB under Q1	97.2	85.5	79.0	78.3	130		
T1 winding	86.5	81.6	75.3	78.6	110		
T1 core	75.4	73.2	65.0	67.0	110		
Y-capacitor CY3 body	82.9	77.0	70.0	72.2	125		
Opto-coupler OP1 body	84.5	77.5	73.4	74.8	100		
Line chock of L2 winding	76.6	69.5	67.7	69.9	130		
E-capacitor C7 body	76.0	68.9	67.9	73.2	105		
PCB under Q2	89.8	82.4	85.6	88.7	130		
Output wire(inside)	71.1	64.3	63.8	60.1	80		
Insulating sheet	85.1	78.3	75.0	76.4	110		
Plastic enclosure inside near T1	67.8	62.7	61.4	62.8	115		
Ambient	40.0	40.0	40.0	40.0	--		
Plastic enclosure outside near T1	44.3	40.2	40.5	38.2	77*		
Output wire(outside)	33.7	30.4	32.2	29.7	77*		
Ambient	25.0	25.0	25.0	25.0	--		
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

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

Supplementary information:

* Temperature limit for TS1 of accessible enclosure according to Table 38.

Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T_{ma}) of 40°C.

Note 2: The temperatures were measured under the worst case normal mode defined in clause B.2.1.

Note 3: Temperature limits are calculated as follows:

Winding components providing safety isolation:

Class B → T_{max} = 120 – 10 = 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	
Test Model: FJ-SW729S2402500E									
90	50	1.284	--	68.10	--	F1	1.284	Load with 24Vdc, 2.5A	
90	60	1.305	--	68.33	--	F1	1.305	Same as above	
100	50	1.169	1.5	67.65	--	F1	1.169	Same as above	
100	60	1.190	1.5	67.91	--	F1	1.190	Same as above	
240	50	0.530	1.5	66.03	--	F1	0.530	Same as above	
240	60	0.488	1.5	66.03	--	F1	0.488	Same as above	
264	50	0.502	--	66.23	--	F1	0.502	Same as above	
264	60	0.462	--	66.24	--	F1	0.462	Same as above	
Test Model: FJ-SW729S1006000E									
90	50	1.291	--	67.55	--	F1	1.291	Load with 10Vdc, 6.0A	
90	60	1.292	--	67.83	--	F1	1.292	Same as above	
100	50	1.154	1.5	66.78	--	F1	1.154	Same as above	
100	60	1.195	1.5	66.98	--	F1	1.195	Same as above	
240	50	0.530	1.5	65.06	--	F1	0.530	Same as above	
240	60	0.496	1.5	64.98	--	F1	0.496	Same as above	
264	50	0.509	--	65.32	--	F1	0.509	Same as above	
264	60	0.461	--	65.18	--	F1	0.461	Same as above	
Supplementary information:									
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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EN 62368-1							
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 (Vac)	Test time	Fuse no.	Fuse current (A)	Observation	
Test Model: FJ-SW729S2402500E							
Output	o-l	90	6h14min	F1	1.305 → 1.655 → 0.01	Output overload to 3.7A, and shutdown at 3.71A, Recoverable when fault removed and no hazards. T1 winding: 115.2°C T1 core: 96.2°C Ambient: 40.0°C Plastic enclosure outside near T1: 54.3°C Output wire(outside): 45.7°C Ambient: 25.0°C Uout=24.24Vdc Touch current: Output “+/-” to “earth”: 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}	
Output	o-l	264	2h58min	F1	0.502 → 0.685 → 0.01	Output overload to 3.7A, and shutdown at 3.71A, Recoverable when fault removed and no hazards. T1 winding: 107.6°C T1 core: 92.2°C Ambient: 40.0°C Plastic enclosure outside near T1: 51.1°C Output wire(outside): 43.4°C Ambient: 25.0°C Uout=24.24Vdc Touch current: Output “+/-” to “earth”: 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}	
Transformer	o-l	90	6h42min	F1	1.305 → 1.683 → 1.712 → 0.01	Transformer output overload to 1.3A, and shutdown at 1.31A, Recoverable when fault removed and no hazards. T1 winding: 130.9°C T1 core: 125.1°C Ambient: 40.0°C Plastic enclosure outside near T1: 65.7°C	

EN 62368-1						
Clause	Requirement + Test				Result - Remark	
						Output wire(outside): 54.2°C Ambient: 25.0°C Uout=24.24Vdc Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Test Model: FJ-SW729S1006000E						
Output	o-l	90	3h22min	F1	1.292 → 1.604 → 0.01	Output overload to 7.6A, and shutdown at 7.61A, Recoverable when fault removed and no hazards. T1 winding: 120.1°C T1 core: 107.1°C Ambient: 40.0°C Plastic enclosure outside near T1: 58.5°C Output wire(outside): 48.0°C Ambient: 25.0°C Uout=9.84Vdc Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Output	o-l	264	2h48min	F1	0.509 → 0.672 → 0.01	Output overload to 7.6A, and shutdown at 7.61A, Recoverable when fault removed and no hazards. T1 winding: 111.2°C T1 core: 100.3°C Ambient: 40.0°C Plastic enclosure outside near T1: 55.2°C Output wire(outside): 46.1°C Ambient: 25.0°C Uout=9.84Vdc Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Transformer	o-l	90	4h45min	F1	1.292 → 1.626 → 1.732 → 0.01	Transformer output overload to 1.8A, and shutdown at 1.81A, Recoverable when fault removed and no hazards. T1 winding: 131.5°C T1 core: 124.7°C Ambient: 40.0°C Plastic enclosure outside

EN 62368-1						
Clause	Requirement + Test				Result - Remark	
						near T1: 66.9°C Output wire(outside): 55.9°C Ambient: 25.0°C Uout=9.84Vdc Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Test Model: FJ-SW729S2402500E						
RV1 + to -	s-c	264	1s	F1	0	Fuse F1 open immediately. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.642mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
BD1 + to -	s-c	264	1s	F1	0	Fuse F1 open immediately. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.642mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
C1	s-c	264	1s	F1	0	Fuse F1 open immediately. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.642mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Q1 pin G-D	s-c	264	1s	F1	0	Fuse F1 open immediately. Q1 damaged. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.642mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Q1 pin D-S	s-c	264	1s	F1	0	Fuse F1 open immediately. Q1 damaged. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.642mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Q1 pin G-S	s-c	264	30min	F1	0.012	Unit shutdown immediately and recoverable. No hazard. Uout=0V

EN 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
						Touch current:Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
U1 pin 5-1	s-c	264	1s	F1	0	Fuse F1 open immediately. U1 damaged. No hazard. U _{out} =0V Touch current:Output "+/-" to "earth": 0.642mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
U1 pin 5-2	s-c	264	1s	F1	0	Fuse F1 open immediately. U1 damaged. No hazard. U _{out} =0V Touch current:Output "+/-" to "earth": 0.642mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
R1	s-c	264	1s	F1	0	Fuse F1 open immediately. No hazard. U _{out} =0V Touch current: Output "+/-" to "earth": 0.642mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
T1 pin 1-3	s-c	264	30min	F1	0.010	Unit shutdown immediately and recoverable. No hazard. U _{out} =0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
T1 pin 4-6	s-c	264	30min	F1	0.010	Unit shutdown immediately and recoverable. No hazard. U _{out} =0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
T1 pin 9-10	s-c	264	30min	F1	0.010	Unit shutdown immediately and recoverable. No hazard. U _{out} =0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
OP1 pin 1-2	s-c	264	30min	F1	0.010	Unit shutdown immediately and recoverable. No hazard.

EN 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
						Uout=0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
OP1 pin 3-4	s-c	264	30min	F1	0.010	Unit shutdown immediately and recoverable. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
OP1 pin 1	o-c	264	30min	F1	0.010	Unit shutdown immediately and recoverable. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
OP1 pin 3	o-c	264	30min	F1	0.018	Unit shutdown immediately and recoverable. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Q2	s-c	264	30min	F1	0.012	Unit shutdown immediately and recoverable. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
C7	s-c	264	30min	F1	0.011	Unit shutdown immediately and recoverable. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}
Output "+" to "-"	s-c	264	30min	F1	0.006	Unit shutdown immediately and recoverable. No hazard. Uout=0V Touch current: Output "+/-" to "earth": 0.580mA _{pk} Plastic enclosure to earth: 0.05mA _{pk}

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information:			
s-c=short circuit, o-c=open circuit, o-l=overload Test table is provided to record abnormal for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test. Specify if test condition by indicating "Single Fault" then the condition for Clause B.4. 1) The overloaded condition is applied according to annex G.5.3.3. Winding Limit for Transformer: 175-10 =165°C. Enclosure outside: TS2=87°C. 2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions. 3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition. 4) Output voltage measured under abnormal or Single fault conditions were not increase by more than 10% of its rated output voltage under normal operating condition. 5) The tests where fuse opened were repeated with each rating and source of fuse and with same result observed.			

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

[illegible]

EN 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
Output + to -	Normal conditions	9.84	5	7.6	8	69.4	100
Output + to -	Signal fault (R1 SC)	0*	5	0*	8	0*	100
Output + to -	Signal fault (OP1 pin 1-2 SC)	0#	5	0#	8	0#	100
Output + to -	Signal fault (OP1 pin 3-4 SC)	0#	5	0#	8	0#	100
Output + to -	Signal fault (OP1 pin 1 OC)	0#	5	0#	8	0#	100
Output + to -	Signal fault (OP1 pin 3 OC)	0#	5	0#	8	0#	100
Test Model: FJ-SW729S0506000E							
Output + to -	Normal conditions	4.98	5	7.5	8	38.02	100
Output + to -	Signal fault (R1 SC)	0*	5	0*	8	0*	100
Output + to -	Signal fault (OP1 pin 1-2 SC)	0#	5	0#	8	0#	100
Output + to -	Signal fault (OP1 pin 3-4 SC)	0#	5	0#	8	0#	100
Output + to -	Signal fault (OP1 pin 1 OC)	0#	5	0#	8	0#	100
Output + to -	Signal fault (OP1 pin 3 OC)	0#	5	0#	8	0#	100
Supplementary Information:							
Abbreviation: SC= short circuit, OC= open circuit.							
* Fuse F1 open immediately							
# Unit shutdown immediately and recoverable. No hazard.							

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	

EN 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Enclosure top, closed to transformer (T.4)	1)	1)	--	100	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Enclosure side closed to transformer (T.4)	1)	1)	--	100	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Enclosure bottom, closed to transformer (T.4)	1)	1)	--	100	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Internal components near the gap between primary and secondary (T.2)	--	--	--	10	5	No insulation breakdown. No reduction the clearances and creepage distances
Supplementary information:						
1). See appended table 4.1.2.						
Each source of enclosure in table 4.1.2 was applied and passed the relevant tests.						

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

T.7	TABLE: Drop test	P
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EN 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
Three sides of enclosure	1)	1)	1000	After the drop test, enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Supplementary information:				
1). See appended table 4.1.2.				
Each source of enclosure in table 4.1.2 was applied and passed the relevant tests.				

T.8	TABLE: Stress relief test					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	1)	1)	78	7	Enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Insulation sheet	1)	1)	96	7	No insulation breakdown.	
Supplementary information:						
1). See appended table 4.1.2.						
Each source in table 4.1.2 was applied and passed the relevant tests.						

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:					

EN 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
4.1.2	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Enclosure	Sabic Innovative Plastics US L L C	940(f1)(gg*)	PC, V-0, 120°C, min. thickness 1.5mm	UL 94	UL E121562
(Alternative)	SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD	PC2330	PC, V-0, 115°C, min. thickness 1.5mm	UL 94	UL E225348
(Alternative)	KINGFA SCI & TECH (USA), INC	JH860 (ddd) (f1)	PC, V-0, 120°C, min. thickness 1.5mm	UL 94	UL E484599
Plug pin holder / sleeve for all type of plugs	Sabic Innovative Plastics US L L C	940(f1)(gg*)	PC, V-0, 120°C	UL 94	UL E121562
(Alternative)	SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD	PC2330	PC, V-0, 115°C	UL 94	UL E225348
(Alternative)	KINGFA SCI & TECH (USA), INC	JH860 (ddd) (f1)	PC, V-0, 120°C	UL 94	UL E484599
EU plug	AXCEL (HUIZHOU) TECHNOLOGY CO., LTD.	XR-729-EU	1.5A, 250VAC	EN 50075: 1990	See attachment 3
UK plug	AXCEL (HUIZHOU) TECHNOLOGY CO., LTD.	XR-729-UK	1.5A, 250VAC	BS 1363-1: 2016+A1: 2018	See attachment 4
PCB	Interchangeable	Interchangeable	V-1 or better, 130°C	UL 94	UL
Fuse (F1)	XC Electronics (Shen Zhen) Corp. Ltd.	3T	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248	VDE 40019614 UL E249609
(Alternative)	XC Electronics (Shen Zhen) Corp. Ltd.	4T	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248	VDE 40029295 UL E249609
(Alternative)	XC Electronics (Shen Zhen) Corp. Ltd.	5TE	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248	VDE 40029550 UL E249609
(Alternative)	Shenzhen Lanson Electronics Co.,	3K	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40010682 UL E221465

EN 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Ltd.			UL 248	
(Alternative)	Shenzhen Lanson Electronics Co., Ltd.	3N	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248	VDE 40016660 UL E221465
(Alternative)	Shenzhen Lanson Electronics Co., Ltd.	SMT	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248	VDE 40012592 UL E221465
(Alternative)	Honghu Bluelight Electronic Co., Ltd.	L3T	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248	TÜV Rheinland: R 50551762 VDE 40026874 UL E324232
(Alternative)	Honghu Bluelight Electronic Co., Ltd.	L3CT	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248	VDE 40033206 UL E324232
(Alternative)	Honghu Bluelight Electronic Co., Ltd.	6ET	T3.15AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248	VDE 40034107 UL E324232
Line filter (LF1) (Optional)	Huizhou Changrui Intelligent Manufacturing Electronics Co., Ltd.	T6*3*3	130°C	IEC/EN 62368-1	Tested with appliance
(Alternative)	Gongcheng Xincheng Electronics Co., Ltd.	T6*3*3	130°C	IEC/EN 62368-1	Tested with appliance
(Alternative)	Dongguan Fengyue Electronics Co., Ltd.	T6*3*3	130°C	IEC/EN 62368-1	Tested with appliance
- Magnet wire	Interchangeable	Interchangeable	130°C	UL 1446	UL
- Triple insulated wire	Furukawa Electric Co., Ltd.	TEX-E	130°C	IEC/EN 62368-1 UL 2353	VDE 006735 UL E206440
(Alternative)	HUIZHOU HUAYING ELECTRONIC TECHNOLOGY CO LTD	MIW-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40047994 UL E470559
(Alternative)	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD	TIW-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40038861 UL E357240
(Alternative)	Shanghai Lucky Trade Co Ltd	TIW-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40023686 UL E305883
(Alternative)	Guangzhou Wanbao	DTM-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40044801 UL E323485

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
	Electronic Material Co Ltd				
(Alternative)	SHANGHAI XIANGXIANG ELECTRON CO LTD	TKW-B	130°C	UL 2353	UL E308908
(Alternative)	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B	130°C	UL 2353	UL E332529
- Bobbin (Optional)	Sumitomo Bakelite Co. Ltd	PM-9820, PM-9630, PM-9823	Phenolic, V-0, 150°C, Min. thickness 0.51 mm	UL 94	UL E41429
(Alternative)	Chang Chun Plastics	T-378J, T378J, T375J(G5)(G6), T375HF, T373J	PMC, V-0, 150°C, Min. thickness 0.43mm	UL 94	UL E59481
Line filter (LF2) (Optional)	Dongguan Yiyang Electronics Co., Ltd.	SQ1212	130°C	IEC/EN 62368-1	Tested with appliance
(Alternative)	SHENZHEN LUCKY TENDA ELECTRONIC CO.,LTD.	TD1212	130°C	IEC/EN 62368-1	Tested with appliance
- Magnet wire	Interchangeable	Interchangeable	130°C	UL 1446	UL
- Bobbin	Sumitomo Bakelite Co. Ltd	PM-9820, PM-9630, PM-9823	Phenolic, V-0, 150°C, Min. thickness 0.51 mm	UL 94	UL E41429
(Alternative)	Chang Chun Plastics	T-378J, T378J, T375J(G5)(G6), T375HF	PMC, V-0, 150°C, Min. thickness 0.6mm	UL 94	UL E59481
X-Capacitor (CX1) (optional)	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	MPX	Max. 0.47uF± 10%, min. 250Vac, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40034679 UL E208107
(Alternative)	DONGGUAN CITY DAFU ELECTRONICS CO LTD	MPX	Max. 0.47uF± 10%, min. 250Vac, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40044620 UL E465278
(Alternative)	Dongguan Cigu	MPX	Max. 0.47uF±	IEC/EN/UL	VDE 40050231

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
	Electronic Technology Co., Ltd		10%, min. 250Vac, 110°C, X2 type	60384-14	UL E481614
(Alternative)	XIANGTAI ELECTRONIC (SHENZHEN) CO LTD	MPX/MKP	Max. 0.47uF± 10%, min. 250Vac, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40036065 UL E357475
Bleeder resistor (R2, R3, R4, R5)	Interchangeable	Interchangeable	Each Max.2M ohm, Min.1/4 W	IEC/EN 62368-1	Tested with appliance
Y-Capacitor (CY1) (Optional)	Shantou High-New Technology Development Zone Songtian Enterprise Co Ltd	CD	Max. 3300pF, min. 250Vac, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40025754 UL E208107
(Alternative)	DONGGUAN CITY DAFU ELECTRONICS CO LTD	CT7 Y1	Max. 3300pF, min. 250Vac, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40041523 UL E465278
(Alternative)	Dongguan Cigu Electronic Technology Co., Ltd	CD	Max. 3300pF, min. 250Vac, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40043434 UL E481614
(Alternative)	XIANGTAI ELECTRONIC (SHENZHEN) CO LTD	YO-series (for VDE) YOF (for UL)	Max. 3300pF, min. 250Vac, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40036880 UL E319473
Varistor (RV1) (Optional)	Shantou High-New Technology Development Zone Songtian Enterprise Co Ltd	10D621K	Min. 300V ac, Min.105°C, (tested for 6KV/3KA combination pulse), coating V-0	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2, UL 1449	VDE 40023049 UL E330837
(Alternative)	Cerglass MFG Inc	10D621K	Min. 300V ac, Min. 105°C, (tested for 6KV/3KA combination pulse), coating V-0	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2, UL 1449	VDE 40028836 UL E317616
(Alternative)	DONGGUAN CITY DAFU ELECTRONICS CO LTD	10D621K (for VDE) NDF10D621K (for UL)	Min. 300V ac, Min. 105°C, (tested for 6KV/3KA combination pulse), coating V-0	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2, UL 1449	VDE 40050909 UL E502211

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Opto-coupler (OP1)	Everlight Electronics Co Ltd	EL1018, EL1019	Ext.Cr&Cl: >8.0 mm, Dti: min. 0.4mm, mm. 110°C	IEC/EN 60747-5-5, UL 1577	VDE 40028391 UL E214129
(Alternative)	LITE-ON Technology Corporation	LTV-1018, LTV-1019	Ext.Cr&Cl: >8.0 mm, Dti: min. 0.4mm, mm. 115°C	IEC/EN 60747-5-5, UL 1577	VDE 138213 UL E113898
(Alternative)	CT Micro International Corporation (for VDE) CT Microelectronics Far East Ltd (for UL)	CT1018, CT1019	Ext.Cr&Cl: >8.0 mm, Dti: min. 0.4mm, mm. 110°C	IEC/EN 60747-5-5, UL 1577	VDE 40039590 UL E364000
(Alternative)	SHENZHEN ORIENT COMPONENTS CO LTD	OR1008, OR1009, OR1018, OR1019	Ext.Cr&Cl: >8.0 mm, Dti: min. 0.4mm, mm. 110°C	IEC/EN 60747-5-5, UL 1577	VDE 40029733 UL E323844
Insulation sheet used between PCB and metal shield	FORMEX, DIV OF ILLINOIS TOOL WORKS INC	FORMEX GK-(a)(d)(f2)	V-0, 115°C, min. thickness 0.4mm	UL 94	UL E121855
(Alternative)	SABIC INNOVATIVE PLASTICS US L L C	FR60 (GG)	V-0, 125°C, min. thickness 0.4mm.	UL 94	UL E121562
(Alternative)	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX PP BK-10, KLX PP WT-10	V-0, 110°C, min. thickness 0.4mm	UL 94	UL E315185
Thermistor (RT1) (Optional)	Interchangeable	Interchangeable	Min. 2.0A, Min. 1.0Ω, at 25°C	UL 1434	UL
Bridge diode (BD1)	Interchangeable	Interchangeable	Min. 2.0A, min. 600V	IEC/EN 62368-1	Tested with appliance
Electrolytic capacitor (C1, C2, C3, C6)	Interchangeable	Interchangeable	Each Max. 33μF, min. 400V, min. 105°C	IEC/EN 62368-1	Tested with appliance
Transistor (Q1)	Interchangeable	Interchangeable	Min. 4A, min. 600V	IEC/EN 62368-1	Tested with appliance
Output cord	Interchangeable	Interchangeable	VW-1, Min. 300V, Min. 80°C, min.	UL 758	UL

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
			24AWG		
Strain Relief for output cord	Interchangeable	Interchangeable	Min. V-1	UL 94, UL 746C	UL
Plastic of output connector	Interchangeable	Interchangeable	V-1 or better	UL 94, UL 746C	UL
Transformer (T1)	Shenzhen Fujia Appliance Co., Ltd.	729S-T1 (for output voltage 5.0-9.0V) 729S-T2 (for output voltage 10.0-16.0V) 729S-T3 (for output voltage 18.0-24.0V)	Class B	Applicable part of IEC/EN 62368-1 and according to IEC 60085	Tested with appliance
(Alternative)	Huizhou Fujia Appliance Tech. Co., Ltd.	729S-T1 (for output voltage 5.0-9.0V) 729S-T2 (for output voltage 10.0-16.0V) 729S-T3 (for output voltage 18.0-24.0V)	Class B	Applicable part of IEC/EN 62368-1 and according to IEC 60085	Tested with appliance
(Alternative)	SHENZHEN LANYIN TECHNOLOGY CO LTD	729S-T1 (for output voltage 5.0-9.0V) 729S-T2 (for output voltage 10.0-16.0V) 729S-T3 (for output voltage 18.0-24.0V)	Class B	Applicable part of IEC/EN 62368-1 and according to IEC 60085	Tested with appliance
- Magnet wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
- Bobbin	Sumitomo Bakelite Co. Ltd	PM-9820, PM-9630, PM-9823	Phenolic, V-0, 150°C, min. thickness: 0.51mm.	UL 94	UL E41429
(Alternative)	Chang Chun Plastics	T-378J, T378J, T375J(G5)(G6), T375HF	PMC, V-0, 150°C, Min. thickness 0.6mm	UL 94	UL E59481
- Triple insulated wire	Furukawa Electric Co.,Ltd.	TEX-E	Min. 130°C	IEC/EN 62368-1 UL 2353	VDE 006735 UL E206440
(Alternative)	TOTOKU ELECTRIC CO LTD	TIW-2 xx yy or TIW-2 LZ xx yy TIW-3 xx yy or	Min. 130°C	IEC/EN 62368-1 UL 2353	VDE 40051888 VDE 40051990 UL E206440

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
		TIW-3 LZ xx yy (for VDE) TIW-2LZX\$+, TIW-2LZXY\$+ TIW-3X\$+ TIW- 3LZX@@@%\$+ (for UL)			
(Alternative)	HUIZHOU HUAYING ELECTRONIC TECHNOLOGY CO LTD	MIW-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40047994 UL E470559
(Alternative)	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD	TIW-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40038861 UL E357240
(Alternative)	Shanghai Lucky Trade Co Ltd	TIW-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40023686 UL E305883
(Alternative)	SHENZHEN JIUDING NEW MATERIAL CO., LTD.	DTFW-B, DTFW-F	130°C	IEC/EN 62368-1 UL 2353	VDE 40037495 UL E357999
(Alternative)	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40033527 UL E332529
- Insulation tape	3M Company Electrical Markets Div (EMD)	1350F-1(b), 1350-1(b)	Min. 130°C	UL 510A	UL E17385
(Alternative)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT*(b)(g), PZ*(b)	Min. 130°C	UL 510A	UL E165111
(Alternative)	P LEO & CO LTD	1P801, 1P802	Min. 130°C	UL 510A	UL E126174
(Alternative)	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX Series	130°C	UL 510A	UL E246820
(Alternative)	SHEN ZHEN XINHUAHUI ELECTRONIC MATERIALS CO LTD	HMT, HWT	130°C	UL 510A	UL E328315
(Alternative)	DONGGUAN SHIN YAHUA ELECTRONIC	CT* (b)(g) CT* (c)(g) PZ* (b)	Min. 130°C	UL 510A	UL E324093

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
	MATERIAL CO LTD	WF* (c)(h)			
-Tube	Great Holding Industrial Co Ltd	TFL, TFS, TFT	200°C	UL 224	UL E156256
(Alternative)	Zeus Company Inc	TFE-LW-150, TFE-TW-300, TFE-SW-600	200°C	UL 224	UL E64007
(Alternative)	SHENGZHENG HANGXUAN S&T CO LTD	XH-TFS	200°C	UL 224	UL E361862
(Alternative)	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-L, CB-TT-S, CB-TT-T, CB-HFT, CB-HFT(XY), CYG-MT	Min. 125°C	UL 224	UL E180908
-Varnish	Resonac Corporation	WP-2952F-2G	Min. 130°C	UL 1446	UL E72979
(Alternative)	ELANTAS PDG, Inc.	468-2(d), V1630FS	Min. 130°C	UL 1446	UL E75225
(Alternative)	JOHN C DOLPH CO	BC-346A, BC-359	Min. 130°C	UL 1446	UL E317427
(Alternative)	LIANGSHENG SHENZHEN NEW MATERIAL TECHNOLOGY.C O., LTD	MZ-850K	Min. 130°C	UL 1446	UL E514406
(Alternative)	HANG CHEUNG COATINGS (HUIYANG) LTD	8562*	155°C	UL 1446	UL E200154
Transformer (T1) (Alternative)	Dongguan Xingshangcheng Electronics Co Ltd	729S-T1 (for output voltage 5.0-9.0V) 729S-T2 (for output voltage 10.0-16.0V) 729S-T3 (for output voltage 18.0-2.0V)	Class B	Applicable part of IEC/EN 62368-1 and according to IEC 60085	Tested with appliance
Insulation system	Dongguan Xingshangcheng Electronics Co Ltd	XC-130B	Class B	UL 1446	UL E470912
- Magnet wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
- Bobbin	Sumitomo Bakelite Co. Ltd	PM-9820, PM-9630, PM-9850	Phenolic, V-0, 150°C, min. thickness:	UL 94	UL E41429

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
		PM-9750	0.51mm.		
(Alternative)	Chang Chun Plastics	T200NA T200HF T375J(G5)(G6), T375HF	PMC, V-0, 150°C, Min. thickness 0.43mm	UL 94	UL E59481
- Triple insulated wire	YOUNG CHANG SILICONE CO LTD	STW-B	Min. 130°C	IEC/EN 62368-1 UL 2353	VDE 40013359 UL E242198
(Alternative)	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD	TIW-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40038861 UL E357240
(Alternative)	Guangzhou Wanbao Electronic Material Co Ltd	DTM-B	130°C	IEC/EN 62368-1 UL 2353	VDE 40044801 UL E323485
- Insulation tape	3M Company Electrical Markets Div (EMD)	1350F-1(b) 1350F-2(c) 44(a)	Min. 130°C	UL 510A	UL E17385
(Alternative)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ* (b), CT * (b)(g), WF*(c)(h)	Min. 130°C	UL 510A	UL E165111
(Alternative)	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX Series	130°C	UL 510A	UL E246820
-Varnish	ELANTAS PDG, Inc.	468-2(d) V1630 V1630FS	Min. 130°C	UL 1446	UL E75225
(Alternative)	JOHN C DOLPH CO	BC-346A, BC-359	Min. 130°C	UL 1446	UL E317427
(Alternative)	Resonac Corporation	WP-2952F-2G	130°C	UL 1446	UL E72979
- Tube	GREAT HOLDING INDUSTRIAL CO LTD	TFL, TFS, TFT	200°C	UL 224	UL E156256
(Alternative)	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-L, CB-TT-S, CB-TT-T, CB-HFT, CB-HFT(XY), CYG-MT	200°C	UL 224	UL E180908



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information: License available upon request. 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. All transformers are identical except for the source of manufacture and some materials, and it does not affect safety.			

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			
Attachment Form No: EU_GD_IEC62368_1E			
Attachment Originator: UL(Demko)			
Master Attachment: 2021-02-04			
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	CENELEC COMMON MODIFICATIONS (EN)		
	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.		
3.3.19	Sound exposure <i>Replace 3.3.19 of IEC 62368-1 with the following definitions:</i>		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 additional information.		N/A
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 Pa² 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, E_0, typically the 1 kHz threshold of hearing in humans. Note 1 to entry: SEL is measured as A-weighted levels in dB. $SEL = 10 \lg \left(\frac{E}{E_0} \right) \text{ dB}$ 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		
10.6	Safeguards against acoustic energy sources Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	Introduction	No such part in this equipment	N/A

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	• 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.	No such part in this equipment	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 $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long 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	No such part in this equipment	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 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.		N/A
10.6.2.4	RS3 limits RS3 is a class 3 acoustic energy source that		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	exceeds RS2 limits.		
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 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.		N/A
10.6.4	Requirements for maximum sound exposure		N/A
10.6.4.1	Measurement methods		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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 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.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.		N/A
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		N/A

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

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 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.		N/A
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 $L_{Aeq, \tau}$ 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		N/A

Page 16 of 22

Report No.: EUTR 124070207

IEC 62368-1

Clause	Requirement + Test	Result - Remark	Verdict																																																												
	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.																																																														
10.6.6.4	Measurement method <i>Measurements shall be made in accordance with EN 50332-2 as applicable.</i>		N/A																																																												
3	Modification to the whole document																																																														
	Delete all the “country” notes in the reference document according to the following list: <table> <tr> <td>0.2.1</td><td>Note 1 and 2</td><td>1</td><td>Note 4 and 5</td><td>3.3.8.1</td><td>Note 2</td></tr> <tr> <td>3.3.8.3</td><td>Note 1</td><td>4.1.15</td><td>Note</td><td>4.7.3</td><td>Note 1 and 2</td></tr> <tr> <td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 12</td><td>Note c</td><td>5.4.2.3.2.4</td><td>Note 1 and 3</td></tr> <tr> <td>5.4.2.3.2.4 Table 13</td><td>Note 2</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr> <tr> <td>5.4.10.2.1</td><td>Note</td><td>5.4.10.2.2</td><td>Note</td><td>5.4.10.2.3</td><td>Note</td></tr> <tr> <td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3 and 4</td></tr> <tr> <td>5.6.8</td><td>Note 2</td><td>5.7.6</td><td>Note</td><td>5.7.7.1</td><td>Note 1 and Note 2</td></tr> <tr> <td>8.5.4.2.3</td><td>Note</td><td>10.2.1 Table 39</td><td>Note 3 and 4 and 5</td><td>10.5.3</td><td>Note 2</td></tr> <tr> <td>~~10.6.1~~</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td><td>Y.4.1</td><td>Note</td></tr> <tr> <td>Y.4.5</td><td>Note</td><td></td><td></td><td></td><td></td></tr> </table>	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						N/A
0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2																																																										
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Y.4.5	Note																																																														
4	Modification to Clause 1		P																																																												

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	Add the following note: <i>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.</i>		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 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.		P
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.	No external circuits.	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.	No such radiation from the equipment.	N/A

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

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 taking account of the background level. NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
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

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

10	Modification to Bibliography		N/A
	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.		N/A
11	ADDITION OF ANNEXES		P
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
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 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"	Class II equipment	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV.	No TNV circuits.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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.	No such resistors.	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. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A

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

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

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 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	Not such system.	N/A

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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. 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 <i>Justification:</i> Heavy Current Regulations, Section 6c		N/A
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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.		N/A
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: A power supply cord with a conductor of 1,25 mm² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

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

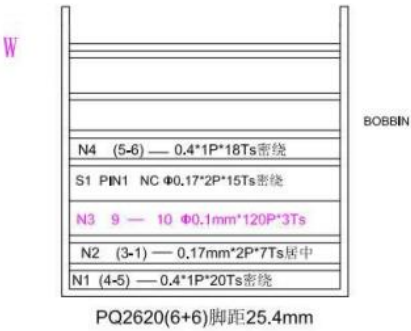
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <i>Justification:</i> 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

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

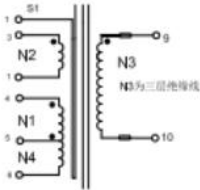
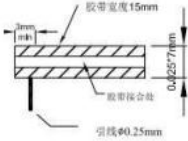
ZD	IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)							
	<table><tr><th rowspan="2">Type of flexible cord</th><th colspan="2">Code designations</th></tr><tr><th>IEC</th><th>CENELEC</th></tr></table>		Type of flexible cord	Code designations		IEC	CENELEC	N/A
	Type of flexible cord	Code designations						
		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						

Transformer T1

4. 绕线剖面示意图

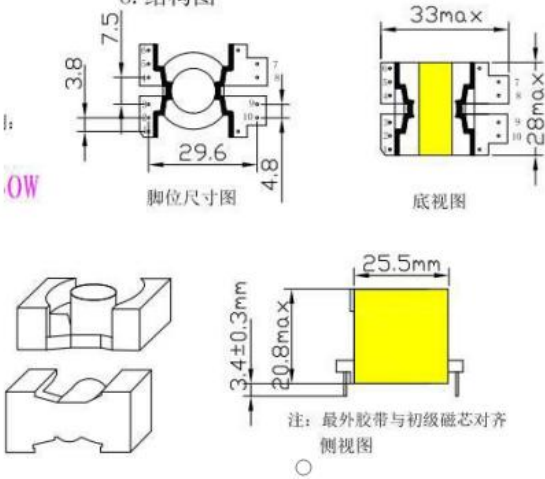


5. S工艺图



序号	标记	初级边挡墙	绕线说明				次级边挡墙	胶带	备注
			进线引脚	出线引脚	线径 (m/m)	匝数	绕法		
1	N1	0mm	4	5	0.4*1P	20TS	密绕	0mm	2TS 层间用1Ts胶带绝缘
2	N2	0mm	3	1	0.17*2P	7TS	居中	0mm	2TS
3	N3	0mm	9	10	TDx-E 0.1*120P	3TS	密绕	0mm	3TS
4	S1	0mm	1	NC	0.17*2P	15TS	密绕	0mm	2TS
5	N4	0mm	5	6	0.4*1P	18TS	密绕	0mm	3TS
6									

8. 结构图

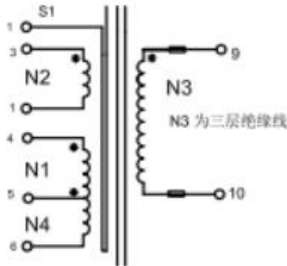
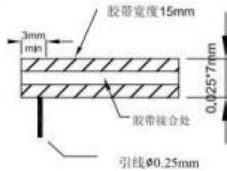


Transformer T2

4. 绕线剖面示意图

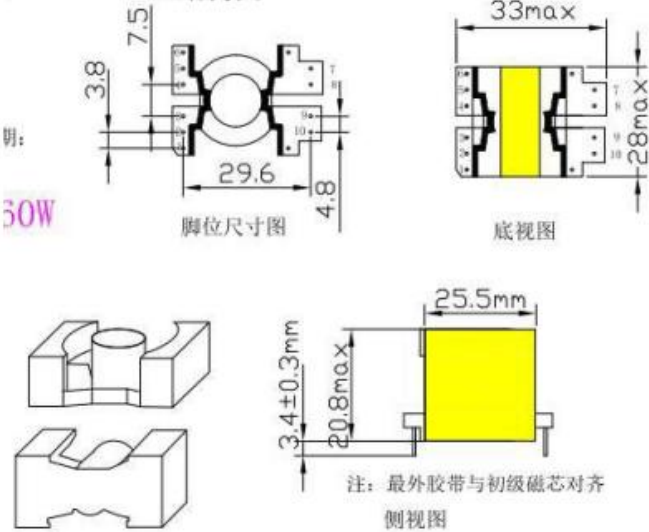


5. S工艺图



序号	标记	初级边挡墙	绕线说明				次级边挡墙	胶带	备注
			进线引脚	出线引脚	线径 (m/m)	匝数	绕法		
1	N1	0mm	4	5	0.40*1P	20TS	密绕	0mm	2TS 层间用1Ts胶带绝缘
2	N2	0mm	3	1	0.17*2P	6TS	居中	0mm	2TS
3	N3	0mm	9	10	TEX-E 0.1*100P	5TS	密绕	0mm	3TS
4	S1	0mm	1	NC	0.17*2P	15TS	密绕	0mm	2TS
5	N4	0mm	5	6	0.40*1P	18TS	密绕	0mm	3TS

8. 结构图



EN 50075: 1990 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

European plug portion test for EU plug portion

6	Marking		P
	Appliances shall be marked as follows:		--
	Rated current in amperes (A)	Refer to marking label of final appliance.	N/A
	Rated Voltage in volts (V)	As above	N/A
	Symbol for nature of supply (~)	As above	N/A
	Name, trade mark or identification mark of manufacturer or responsible vendor	EU plug of Adapter model: FJ-SW729SxxxxyyyN	P
	Type reference	Incorporated plug portion of adaptor	P

7	Dimensions			P
	Plugs shall comply with Standard Sheet 1		(see attached drawing)	—
	Between two pins (pin base)	18.0 - 19.2 mm	18.28 mm	P
	Between two pins (pin top)	17.0 - 18.0 mm	17.13 mm	P
	Diameter of pin (metallic part)	4 ^{±0.06} mm	3.98 mm	P
	Diameter of pin (pin base)	max. 4.0 mm	3.90 mm	P
	Diameter of pin (middle part)	max. 3.8 mm	3.38 mm	P
	Pin length	19 ^{±0.5} mm	19.18 mm	P
	Length of pin except metal part	10 ^{+1/-0} mm	10.32 mm	P
	Shape of pin top		Round shape	P
	Length of plug base	35.3 ^{±0.7} mm	34.8 mm	P
	Width of plug base	13.7 ^{±0.7} mm	13.65 mm	P
	Diagonal dimension of plug base	26.1 ^{±0.5} mm	26.3 mm mm	P
	within a distance of 18mm	≥18 mm	18.10 mm	P
	Angle	45°	45 °	P
	Radius	R 5 -0, +1 mm	5.85 mm	P

8	Protection against electric shock		P
8.1	Live parts of the plug not accessible (standard test finger)	Protected by enclosure of the equipment	P
8.2	No connection between one plug-pin and socket outlet	Checked by gauge of Fig.4	P
8.3	External parts of insulating material	External parts except pins are insulating material.	P

9	Construction		P
9.1	Plugs are not replaceable	Not replaceable	P

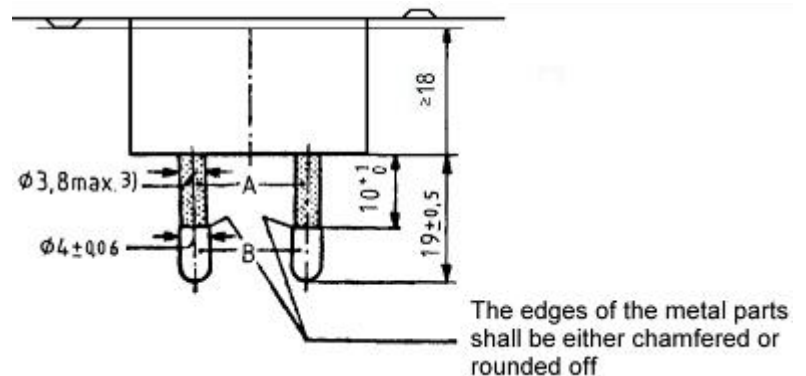
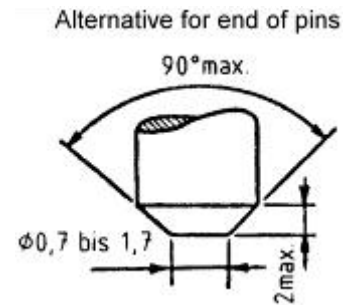
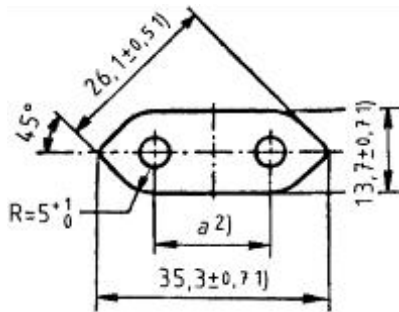
EN 50075: 1990 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
9.2	Switches, fuse, lampholder not incorporated	Not incorporated	P
9.3	Solid pins	As above	P
	Adequate mechanical strength	See clause 13.1 and 13.4	P
9.4	Pins locked against rotation	Each pin shaft is designed with ridges to lock into the pin holder	P
	Adequate fixed into the body	Connected by metal spring sheet	P
9.5	Kind of connection	The equipment provides sufficient gripping surface	P
9.6	Easily to be withdrawn from socket-outlet	As above	P
10	Resistance to humidity		P
	-Humidity treatment for 48 hours	Tested with the equipment for 120h at 40 °C and 95%RH.	P
11	Insulation resistance and electric strength		P
11.1	Insulation resistance (500 V, min 5 MΩ)	Pins against body: 100MΩ Each pin against body: 100MΩ Pin against Pin: 100MΩ	P
11.2	Electric strength (2,000 V)	Pins against body: 2000V Each pin against body: 2000V Pin against Pin: 2000V	P
13	Mechanical strength		P
13.1	Pressed with 150 N for 5 min	No deformation or deviation from the dimensions of plug portion	P
13.2	Tumbling barrel according to Figure 8	Weight of sample: 173g Number of falls: 500 times	P
	No damages after the test		P
	Requirements of clause 7 and 8.2 still fulfilled	Deformations allowed according to the equipment standard	P
13.3	Rubbing test of plug-pins: 10,000 cycles, 4 N	See test below	P
	No damage of the pins	No visible damage	P
13.4	Pull test at 70°C with 40 N	See test below	P
	Pins not more than 1 mm displaced	Displacement: 0.1mm max.	P
14	Resistance to heat and to aging		P
14.1	Sufficient resistant to heat	See test below	P

EN 50075: 1990 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
14.1.1	After 1 h in heating cabinet at 100 °C no damage shown	No visible damage	P
14.1.2	After 1h in heating cabinet at 80 °C and a force of 20 N through the jaws no damage shown	Performed a 125°C ball pressure test at the material of plug portion which maintains live part in position. Measured after 1 hour: Result : Sabic Innovative Plastics US L L C: 940(f1)(gg*): 0.6mm SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD: PC2330: 0.5mm KINGFA SCI & TECH (USA), INC/JH860 (ddd) (f1) :0.5mm Limit : 2.0mm	P
14.2	Aging test	See test below.	P
	- at 70 °C for 168h	70 °C for 168h applied.	P
	- at room temperature for 96h		N/A
	No traces of cloth at a force of 5N	Material does not soften	P
	No damage leads to non-compliance	No visible damage	P
15	Current-carrying parts and connections resistance to heat and to aging		P
15.1	Connections withstand the mechanical stresses occurring in normal use	See below	P
15.2	Contact pressure not through isolating material	Complied	P
15.3	Current carrying parts of copper	Copper content 58%-60%. No rolled sheet used	P
	No electroplated coating when part is subjected to mechanical wear	No electroplated coating	P
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion	No such materials used.	N/A
16	Creepage distances, clearances and distances through insulation		P
	Live parts of different polarity: 3 mm	>3 mm	P
	Through insulation between live parts and accessible surfaces: 1.5 mm	>1.5 mm	P
17	Resistance of insulation material to abnormal heat and fire		P
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug pin holder with: 750 °C. Test was performed for all sources of enclosure material.	P

EN 50075: 1990 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug portion with: 650 °C. Test was performed for all sources of enclosure material.	P

7	Dimensions	P
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A = Insulating collar

B = metal pin

- 1) These dimensions shall not be exceeded within a distance of 18mm from the engagement face of the plug.
- 2) Dimension a is:
18mm to 19.2mm in the plane of the engagement face
17mm to 18mm at the ends of the pins
- 3) This dimension may be increased to 4mm within a distance of 4mm from the engagement face of the plug.

EN 50075: 1990 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
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European plug portion test for EU plug portion

6	Marking		P
	Appliances shall be marked as follows:		--
	Rated current in amperes (A)	Refer to marking label of final appliance.	N/A
	Rated Voltage in volts (V)	As above	N/A
	Symbol for nature of supply (~)	As above	N/A
	Name, trade mark or identification mark of manufacturer or responsible vendor	EU plug of Adapter model: FJ-SW729SxxxxyyyE	P
	Type reference	Incorporated plug portion of adaptor	P

7	Dimensions			P
	Plugs shall comply with Standard Sheet 1		(see attached drawing)	—
	Between two pins (pin base)	18.0 - 19.2 mm	18.13 mm	P
	Between two pins (pin top)	17.0 - 18.0 mm	17.20 mm	P
	Diameter of pin (metallic part)	4 ^{±0.06} mm	4.01 mm	P
	Diameter of pin (pin base)	max. 4.0 mm	3.90 mm	P
	Diameter of pin (middle part)	max. 3.8 mm	3.44 mm	P
	Pin length	19 ^{±0.5} mm	18.89 mm	P
	Length of pin except metal part	10 ^{+1/-0} mm	10.22 mm	P
	Shape of pin top		Round shape	P
	Length of plug base	35.3 ^{±0.7} mm	35.19 mm	P
	Width of plug base	13.7 ^{±0.7} mm	13.92 mm	P
	Diagonal dimension of plug base	26.1 ^{±0.5} mm	26.23 mm mm	P
	within a distance of 18mm	≥18 mm	18.24 mm	P
	Angle	45°	45 °	P
	Radius	R 5 -0, +1 mm	5.67 mm	P

8	Protection against electric shock		P
8.1	Live parts of the plug not accessible (standard test finger)	Protected by enclosure of the equipment	P
8.2	No connection between one plug-pin and socket outlet	Checked by gauge of Fig.4	P
8.3	External parts of insulating material	External parts except pins are insulating material.	P

9	Construction		P
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EN 50075: 1990 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
9.1	Plugs are not replaceable	Not replaceable	P
9.2	Switches, fuse, lampholder not incorporated	Not incorporated	P
9.3	Solid pins	As above	P
	Adequate mechanical strength	See clause 13.1 and 13.4	P
9.4	Pins locked against rotation	Each pin shaft is designed with ridges to lock into the pin holder	P
	Adequate fixed into the body	Connected by metal spring sheet	P
9.5	Kind of connection	The equipment provides sufficient gripping surface	P
9.6	Easily to be withdrawn from socket-outlet	As above	P

10	Resistance to humidity		P
	-Humidity treatment for 48 hours	Tested with the equipment for 120h at 40 °C and 95%RH.	P

11	Insulation resistance and electric strength		P
11.1	Insulation resistance (500 V, min 5 MΩ)	Pins against body: 100MΩ Each pin against body: 100MΩ Pin against Pin: 100MΩ	P
11.2	Electric strength (2,000 V)	Pins against body: 2000V Each pin against body: 2000V Pin against Pin: 2000V	P

13	Mechanical strength		P
13.1	Pressed with 150 N for 5 min	No deformation or deviation from the dimensions of plug portion	P
13.2	Tumbling barrel according to Figure 8	Weight of sample: 134g Number of falls: 500 times	P
	No damages after the test		P
	Requirements of clause 7 and 8.2 still fulfilled	Deformations allowed according to the equipment standard	P
13.3	Rubbing test of plug-pins: 10,000 cycles, 4 N	See test below	P
	No damage of the pins	No visible damage	P
13.4	Pull test at 70°C with 40 N	See test below	P
	Pins not more than 1 mm displaced	Displacement: 0.2mm max.	P

14	Resistance to heat and to aging		P
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EN 50075: 1990 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
14.1	Sufficient resistant to heat	See test below	P
14.1.1	After 1 h in heating cabinet at 100 °C no damage shown	No visible damage	P
14.1.2	After 1h in heating cabinet at 80 °C and a force of 20 N through the jaws no damage shown	Performed a 125°C ball pressure test at the material of plug portion which maintains live part in position. Measured after 1 hour: Result : Sabic Innovative Plastics US L L C: 940(f1)(gg*): 0.6mm SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD: PC2330: 0.5mm SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD / PC2370(a1)(f1) :0.5mm Limit : 2.0mm	P
14.2	Aging test	See test below.	P
	- at 70 °C for 168h	70 °C for 168h applied.	P
	- at room temperature for 96h		N/A
	No traces of cloth at a force of 5N	Material does not soften	P
	No damage leads to non-compliance	No visible damage	P

15	Current-carrying parts and connections resistance to heat and to aging		P
15.1	Connections withstand the mechanical stresses occurring in normal use	See below	P
15.2	Contact pressure not through isolating material	Complied	P
15.3	Current carrying parts of copper	Copper content 58%-60%. No rolled sheet used	P
	No electroplated coating when part is subjected to mechanical wear	No electroplated coating	P
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion	No such materials used.	N/A

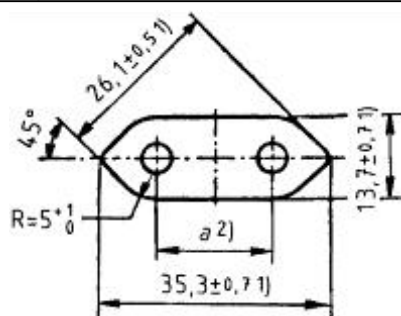
16	Creepage distances, clearances and distances through insulation		P
	Live parts of different polarity: 3 mm	>3 mm	P
	Through insulation between live parts and accessible surfaces: 1.5 mm	>1.5 mm	P

17	Resistance of insulation material to abnormal heat and fire		P
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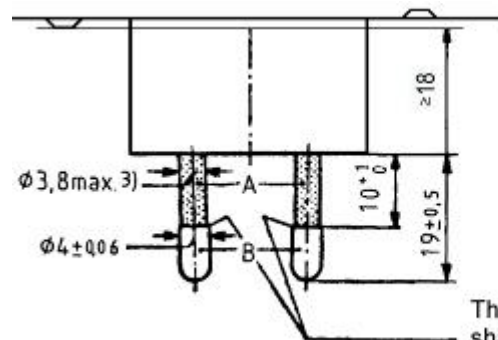
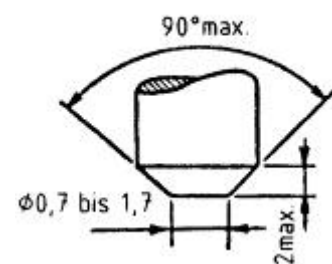
EN 50075: 1990 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug pin holder with: 750 °C. Test was performed for all sources of enclosure material.	P
	Insulating material not unduly affected by abnormal heat and by fire	Glow wire test performed on plug portion with: 650 °C. Test was performed for all sources of enclosure material.	P

7	Dimensions	P
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Alternative for end of pins



The edges of the metal parts shall be either chamfered or rounded off

A = Insulating collar

B = metal pin

- 1) These dimensions shall not be exceeded within a distance of 18mm from the engagement face of the plug.
- 2) Dimension a is:
18mm to 19.2mm in the plane of the engagement face
17mm to 18mm at the ends of the pins
- 3) This dimension may be increased to 4mm within a distance of 4mm from the engagement face of the plug.

Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict
12	Construction of Plugs UK plug of Adapter model:FJ-SW729SxxxxyyyN		P
12.1	The disposition of the pins shall be shown as figure 4.	The dispositions of the pins were shown as figure 4.	P
12.2	Pin and sleeve dimensions, body outline were checked according to figure 4 of BS1363: Part 1.	7.78 mm was measured from the engagement surface. (It shall not less than 6.35 mm) The dimensions found within the specified limits as shown in figure 4.	P P
	The plug portion shall enter the gauge fully with a force less than 10N was applied to the centre of the sample at right angle	The dimensions were found within the specified limits as shown in figure 4.	P
12.3	No parts of a line or neutral pin shall be less than 9.5mm from the periphery of the plug measured along the engagement surface.	Sample could enter into the gauge fully with a force less than 10 N.	P
12.9	Plug pins were constructed of brass or nickel plated 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
12.9.2	Surfaces of the non-solid plug pins which are visible shall be free of apertures.		N/A
12.9.3	All seams and joints of non-solid pins shall be closed over their entire length.		N/A
12.9.4.1	For solid pins, apply a force of 1090N to 1100N to the movable anvil by any convenient method such that the pin is strained at a rate not exceeding 10mm/min	After test at 1100 N, the pin portions could fit the relevant gauge.	P
	After the test, the plug shall enter the gauge fully with a force less than 10N was applied to the centre of the sample at right angle.	Complied.	P
12.9.4.2 a)	For non-solid pins, separate specimens apply a force of 790N to 800N to rest against the upper surface of the pin by movable anvil 50 times without impact.		N/A
	Test made twice where there is a joint or seam in one of the major axis surfaces of a pin.		N/A
	After the test:		N/A
	- the pins conform to 12.9.2		N/A
	- the pins conform to 12.9.3		N/A
	- the plug shall fit the gauge shown in Figure 5 when used in the manner described in 12.2.1.		N/A
12.9.4.2 b)	For non-solid pins, apply a force to the movable anvil by any convenient method such that the pin is strained at a rate not exceeding 10mm/min		N/A
	The measured force shall be not less than 1100N when the movement of the anvil from the datum		N/A

Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict
	point reaches 1.4mm to 1.5mm		
	Test made twice where there is a joint or seam in one of the major axis surfaces of a pin.		N/A
12.9.5.1	Plugs with nickel plated brass and/or non-solid pins shall not cause excessive wear to socket contacts or shutters of socket-outlets.	See below	P
	Two types of the socket outlet shall have the shutters operated by the earth pin, one of which is preferably operated by all three pins and one of which is preferably operated by line and neutral pins only.		P
	Each plug is inserted into and withdrawn from the socket-outlet at a rate of six insertions and six withdrawals per minute, the speed of travel of the plug being approximately 150 mm/s. The periods during which the plug is inserted and withdrawn shall be approximately equal. Make and break a current of that under normal 15000 times. The plug pins are renewed or a new plug is used after each 5 000 insertions and withdrawals.	250V, 1.5A max.	P
	After the test:		P
	- The shutters of the socket-outlets shall be operating satisfactorily, the socket contacts safely shielded.	Complied.	P
	- The socket-outlets shall be in accordance with 9.1, 16, 15, 13.4.1a), 10.2, 13.6, 13.7 and 13.8 of BS 1363-2:2016 and the permitted values of voltage drop specified in 13.4.1a) of BS 1363-2:2016 for the plug pin to socket contact measurements increased by 50%.	Complied.	P
	- The pins of the plug shall remain intact with no openings in the surface, joints or seams which will accept the probe specified in 12.9.3. There shall be no visible evidence of peeling or flaking of plating.	No peeling or flaking of plating.	P
12.9.6	Each pin of the adapter was subjected to a torque of 1Nm for 60s as specified in the standard.	After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60s to a pull of 100N in the oven.	After the test, no plug pin was detached and the plug pins could fit the relevant gauge.	P
12.12	The degree of the flexibility of mounting of the plug pins was checked by inspection	Complied.	P
12.13	Suitable means shall be provided for withdrawing the plug without subjecting the flexible cord to stress.		P

Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict
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.	Both line and neutral pins were fitted with insulating sleeve.	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 the plug pin and the sleeve. (1250V±30V for 60s)		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.	After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2	P
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.	After the test carried out at 125 °C for 120 min, only slightly impression observed, the impressions were less than 50% of the thickness measured before the test.	P
22.2	Parts of insulating material shall be sufficiently resistant to heat and still shaving its location and function.	Complied. See 22.2.1	P
22.2.1	Compliance checked as follows: a) Parts of ceramic material are used; b) external parts of plugs tested according to 22.1.3; c) all other parts of insulating material including ISOD subjected to the ball pressure at a temperature of 75°C ± 5°C	See appended table 22.2.1	P
23	Resistance to abnormal heat, fire and tracking		P
23.1	Plugs shall be proof against abnormal heat, fire and tracking		P
23.1.1	Compliance shall be checked by the test described in 23.2		P
23.2	Glow-wire test The test is performed according to BS EN 60695-2-11:2014 and at the test temperature given in Table 10 a) Parts necessary to retain live parts in position including ISOD were tested at 750°C. b) Parts not necessary to retain live in position were tested at 650°C.	See appended table 23.2	P
Additional Requirements (Clause 12.2, 12.9.4.3, 12.9.5, 12.9.6, 22.2 and 23) for the ISOD According to the standard BS 1363: Part 1: 2016			
12.2	Solid insulated shutter opening device should comply all the dimensions specified in Figure 4 with exception of the width of the ISOD should be 4.05 mm maximum and 3.90 mm minimum. and its height which should be 8.05 mm maximum and 7.75 mm minimum	The measured dimensions were found to be within the specified limits. (see attached appendix 1 for details)	P

Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict
12.9.4.3	For ISOD, apply a force of 400N to 410N to the movable anvil by any convenient method such that the pin is strained at a rate not exceeding 10mm/min.	After test at 400 N, the pin portions could fit the relevant gauge.	P
	The measured deflection shall not exceed 1.5mm when applied the force 100N to 410N. The ISOD shall not be broken or show cracks that are visible with normal or corrected vision without additional magnification.	0.1mm	P
	After the test the plug shall fit the Figure 5 gauge when used in the manner described in 12.2.1 with a force not exceeding 20 N.	Complied.	P
	When testing a plug fitted with an ISOD due to the flexibility of plastic materials some additional alignment of the ISOD is allowed when inserting into the Figure 5 gauge. Where alignment cannot be maintained the test of 13.8 of BS 1363-2:2016 shall be applied and the maximum withdrawal force from a socket-outlet conforming to BS 1363-2:2016 shall not exceed 36 N.		N/A
12.9.5.2	Plugs with ISOD shall not cause excessive wear to socket contacts or shutters of socket-outlets.	See below	P
	Using a selection of three different makes of rewirable plugs conforming to this standard and three different makes of unswitched socket-outlets conforming to BS 1363-2:2016, selected to represent different earth contact designs, the earth resistance between the earthing plug pin and the earthing socket contact of the socket-outlets shall be established in accordance with BS 1363-2:2016, 10.2.1b). All socket-outlets shall be of the type where the earth pin or ISOD of a plug inserted into the socket outlet operates the shutter mechanism.		P
	Each plug is inserted into and withdrawn from the socket-outlet at a rate of six insertions and six withdrawals per minute, the speed of travel of the plug being approximately 150 mm/s. The periods during which the plug is inserted and withdrawn shall be approximately equal.		P
	After 5 000 insertions and withdrawals:		P
	- The socket-outlet shall be examined and shall show no sign of damage that would impair further use	The socket-outlet show no sign of damage that would impair further use.	P
	- The plugs shall show no damage and shall conform to the dimensional requirements of this standard.	The plugs show no damage and conform to the dimensional requirements of 12.2.	P
	- The shutters of the socket-outlet shall be operating satisfactorily and the socket contacts shall be safely shielded.	The shutters of the socket-outlet operate satisfactorily and the socket contacts safely shielded.	P

Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict
	- The earth resistance between the earthing plug pin and the earthing socket contact of the socket-outlets shall be in accordance with BS 1363-2: 2016, 10.2.1b)	Complied.	P
12.9.6	ISOD of the adapter was subjected to a torque of 1Nm for 60s as specified in the standard.	After the test, the pin portion could fit the relevant gauge.	P

Clause 12 of BS 1363-1: 2016+A1:2018

Clause	Requirement - Test	Result – Remark	Verdict
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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 (including ISOD)	SABIC INNOVATIVEPLASTICS US L L C / 940(f1)(gg*)	--	--	125	0.6	< 2.0	Pass
Plug portion (including ISOD)	SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD / PC2330	--	--	125	0.5	< 2.0	Pass
Plug portion (including ISOD)	KINGFA SCI & TECH (USA), INC/JH860 (ddd) (f1)	--	--	125	0.5	< 2.0	Pass
Supplementary information:							

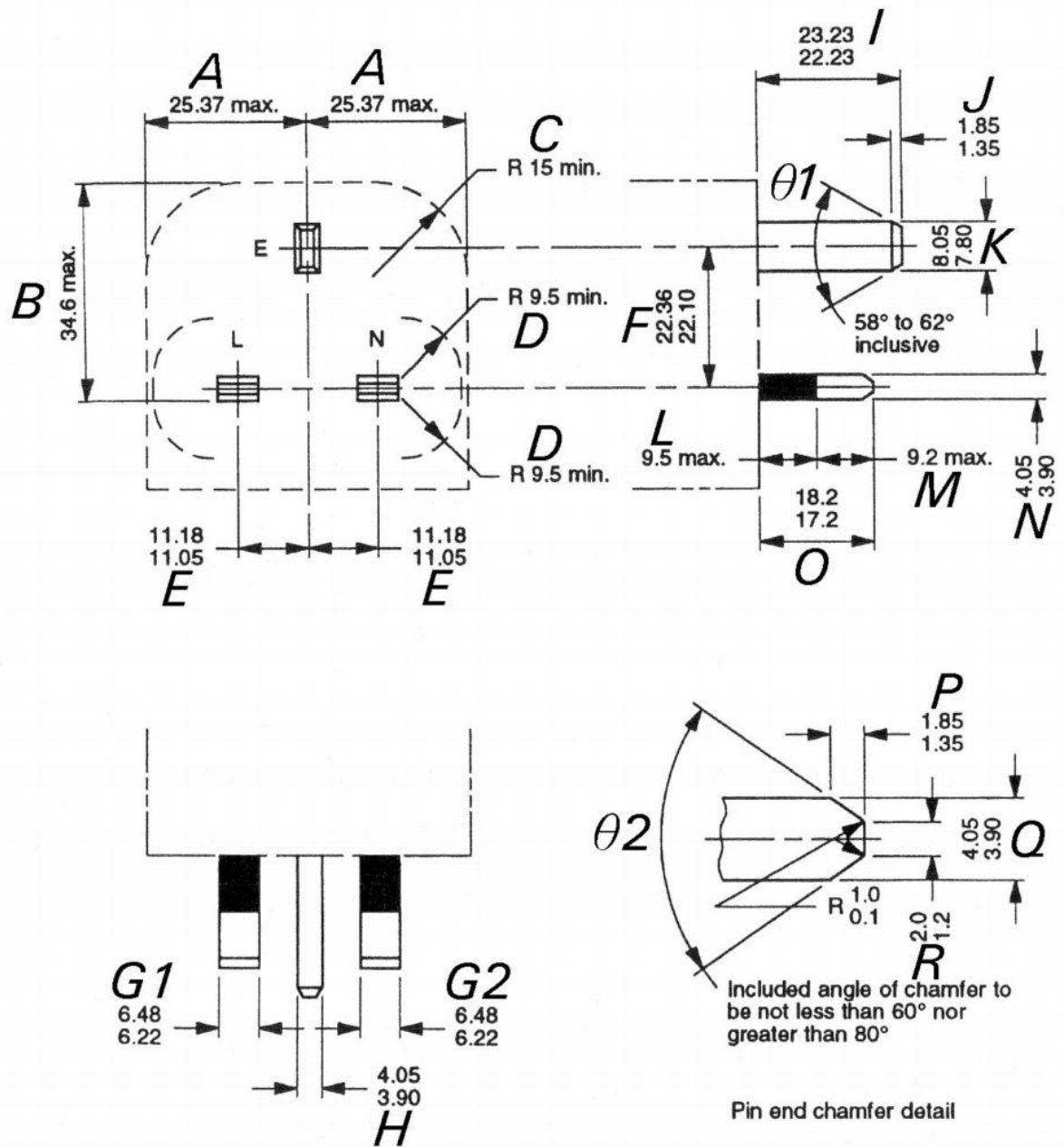
Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict

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
Enclosure	SABIC INNOVATIVEPLASTICS US L L C / 940(f1)(gg*)	--	--	650	--	--	--	No	Pass
Enclosure	SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD / PC2330	--	--	650	--	--	--	No	Pass
Enclosure	KINGFA SCI & TECH (USA), INC/JH860 (ddd) (f1)	--	--	650	--	--	--	No	Pass
Plug portion (including ISOD)	SABIC INNOVATIVEPLASTICS US L L C / 940(f1)(gg*)	--	--	750	--	--	--	No	Pass
Plug portion (including ISOD)	SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD / PC2330	--	--	750	--	--	--	No	Pass
Plug portion (including ISOD)	KINGFA SCI & TECH (USA), INC/JH860 (ddd) (f1)	--	--	750	--	--	--	No	Pass
Supplementary information:									

Interchangeable UK plug portion for switching power adapter

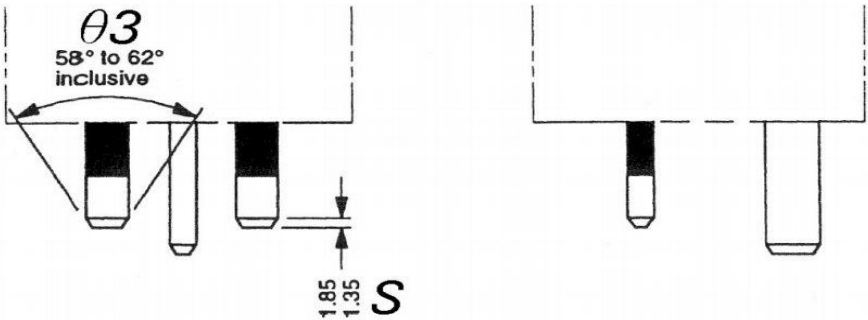
Clause 12 of BS 1363-1: 2016+A1:2018

Clause	Requirement - Test	Result – Remark	Verdict
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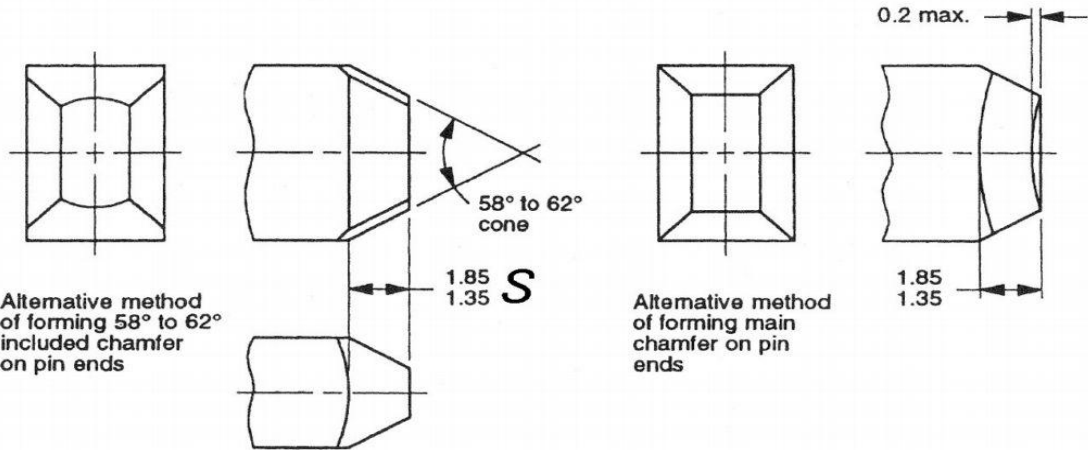


All dimensions are in millimetres.

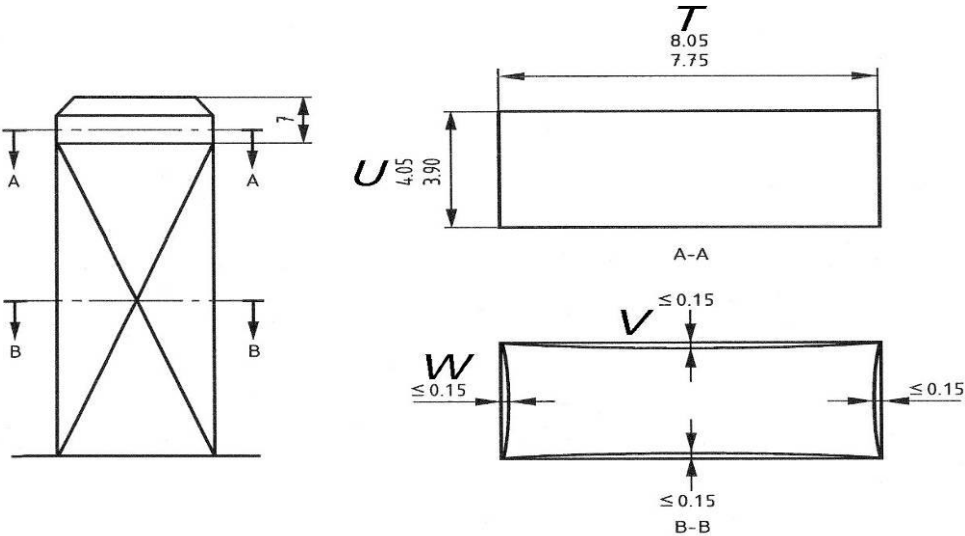
Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict



Permitted additional chamfers on L and N pins
(if additional chamfer is used it has to be on both pins)



All dimensions are in millimetres.
NOTE 1. External edges of pins are to be free from burrs or sharp edges and may have a radius not exceeding 1 mm.
NOTE 2. The surfaces of pins are to be flat within the specified tolerances.



Solid insulated shutter opening device (ISOD)
NOTE Section A-A to be measured away from chamfer as shown.

Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict

Appendix 1 (Refer to 12.2)

13A Plug Portion Dimensions

<u>Linear Dimensions (mm)</u>	<u>Measurement</u>			<u>Limit</u>	<u>Verdict</u>
	<u>Sample A</u>	<u>Sample B</u>	<u>Sample C</u>		
A	24.29	24.22	24.16	25.37 max.	P
B	32.56	32.52	32.46	34.6 max.	P
C	1)	1)	1)	15 min.	P
D	9.71	9.77	9.73	9.5 min.	P
E (from L to E)	11.10	11.09	11.11	11.05 - 11.18	P
(from N to E)	11.11	11.09	11.09		P
F	22.26	22.23	22.19	22.10 - 22.36	P
G1	6.30	6.34	6.27	6.22 – 6.48	P
G2	6.26	6.32	6.30	6.22 – 6.48	P
H	3.94	3.95	4.00	3.90 – 4.05	P
I	22.73	22.81	22.75	22.23 – 23.23	P
J	1.66	1.70	1.72	1.35 – 1.85	P
K	7.95	8.00	8.01	7.80 - 8.05 (7.75 - 8.05 For ISOD)	P
L (line)	9.33	9.40	9.42	9.5 max.	P
(neutral)	9.34	9.42	9.41		P
M (line)	8.55	8.35	8.24	9.2 max.	P
(neutral)	8.50	8.25	8.27		P
N (line) (sleeve)	3.98	4.01	4.02	3.90 – 4.05	P
(neutral) (sleeve)	3.93	4.00	4.02		P
O (line)	17.88	17.76	17.69	17.20 – 18.20	P
(neutral)	17.80	17.67	17.65		P
P (line)	1.49	1.49	1.50	1.35 – 1.85	P
(neutral)	1.49	1.48	1.47		P
(earth)	1.84	1.80	1.80		P

Clause 12 of BS 1363-1: 2016+A1:2018			
Clause	Requirement - Test	Result – Remark	Verdict

<u>Linear Dimensions (mm)</u>	<u>Measurement</u>			<u>Limit</u>	<u>Verdict</u>
	<u>Sample A</u>	<u>Sample B</u>	<u>Sample C</u>		
Q (line) (metal)	3.96	3.99	3.98	3.90 – 4.05	P
(neutral) (metal)	3.97	3.99	3.98		P
(earth) (metal)	--	--	--		N/A
R (line)	1.81	1.84	1.86	1.2 – 2.0	P
(neutral)	1.86	1.84	1.86		P
(earth)	1.88	1.91	1.94		P
S (line/ neutral)	1.49/1.49	1.43/1.43	1.42/1.42	1.35 – 1.85	P
θ1	59.0°	60°	61°	58° – 62°	P
θ2 (line/ neutral)	70.0° / 70.0°	68° / 69°	67° / 70°	60° – 80°	P
(earth)	69.0°	72°	72°		P
θ3	60.0°	61°	61°	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

<u>Linear Dimensions (mm)</u>	<u>Measurement</u>			<u>Limit</u>	<u>Verdict</u>
	<u>Sample A</u>	<u>Sample B</u>	<u>Sample C</u>		
T	7.95	8.00	8.01	7.75 – 8.05	P
U	4.01	4.01	4.00	3.90 – 4.05	P
V (E → L)	0.12	0.13	0.13	0.15 max.	P
(E → N)	0.12	0.13	0.12	0.15 max.	P
W (E → Top)	0.12	0.13	0.13	0.15 max.	P
(E → L&N)	0.11	0.12	0.13	0.15 max.	P



Figure 1 Overall view of unit with detachable EU plug



Figure 2 Overview of unit with detachable EU plug



Figure 3 Overview of unit with detachable EU plug

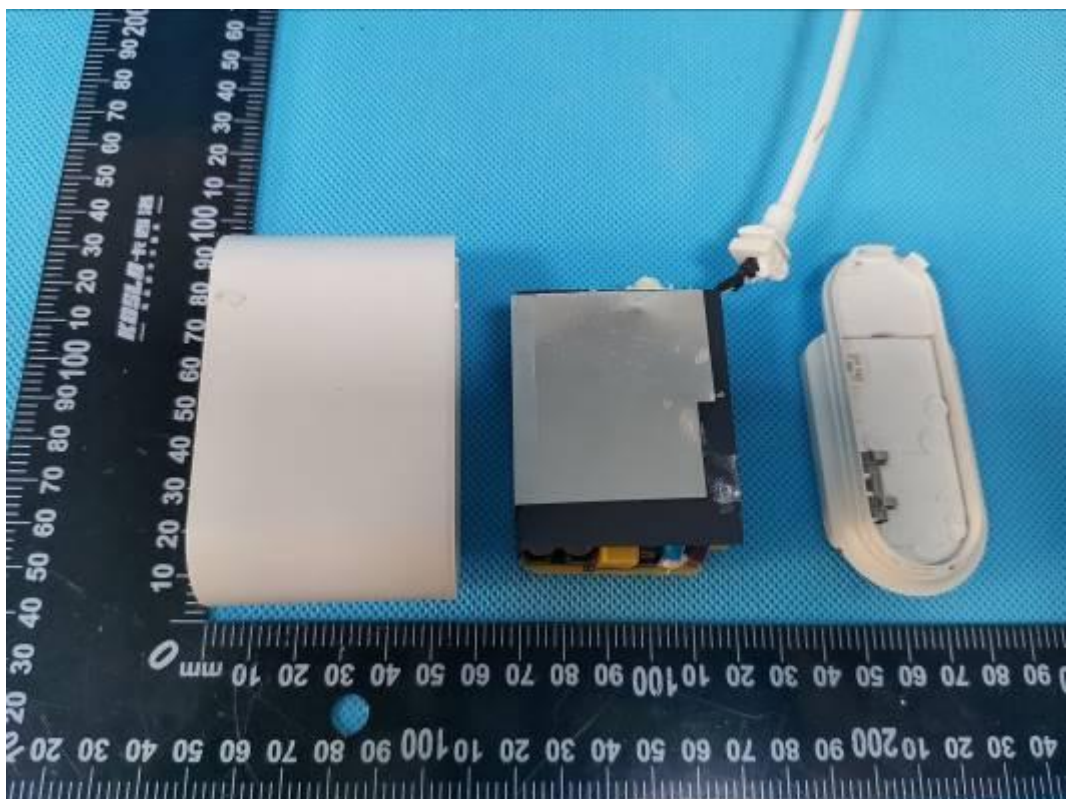


Figure 4 Internal view of unit with detachable plug



Figure 5 Overview of unit with detachable UK plug



Figure 6 Overview of unit with detachable UK plug



Figure 7 Overview of unit with detachable UK plug



Figure 8 Overview of unit with fixed EU plug



Figure 9 Overview of unit with fixed EU plug



Figure 10 Internal view of unit with fixed plug

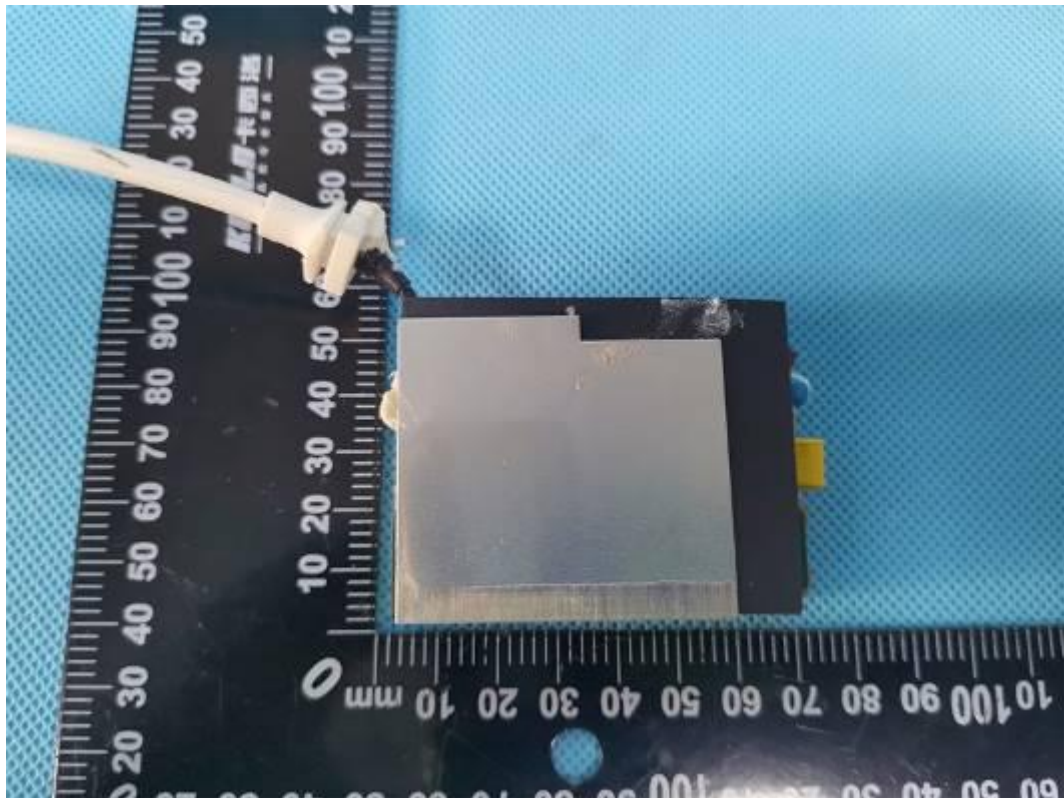


Figure 11 Internal view

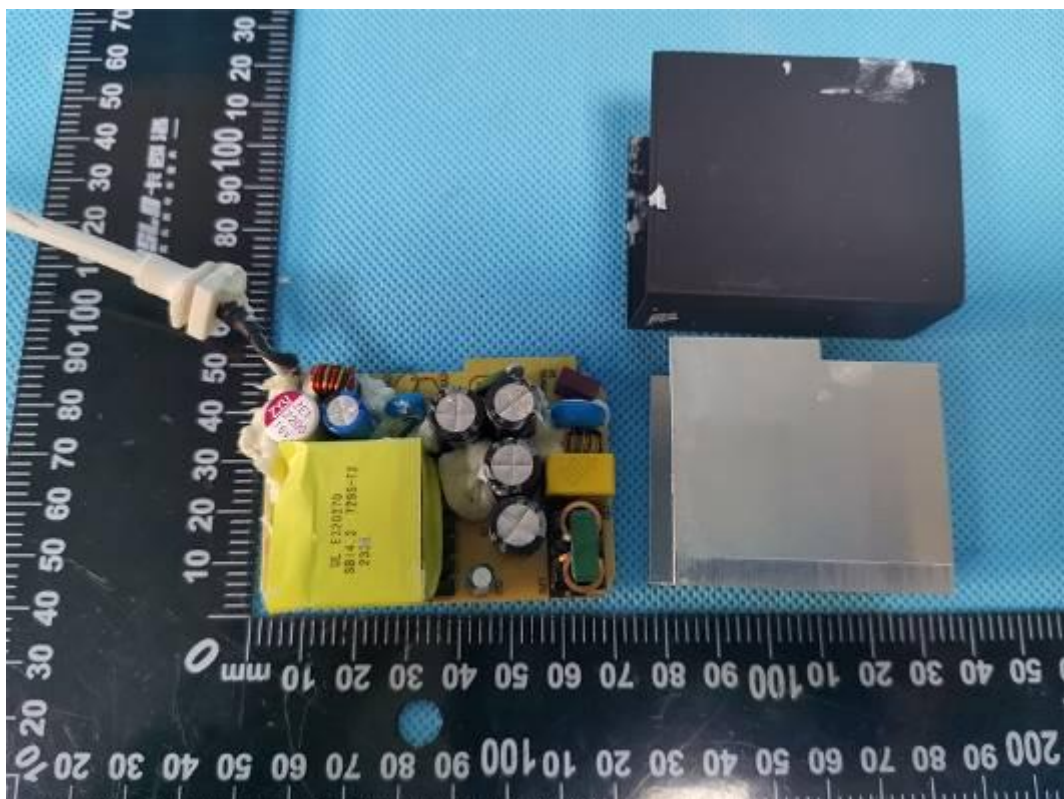


Figure 12 Internal view



Figure 13 Components side view of PCB



Figure 14 Trace side view of PCB



Figure 15 Trace side view of PCB

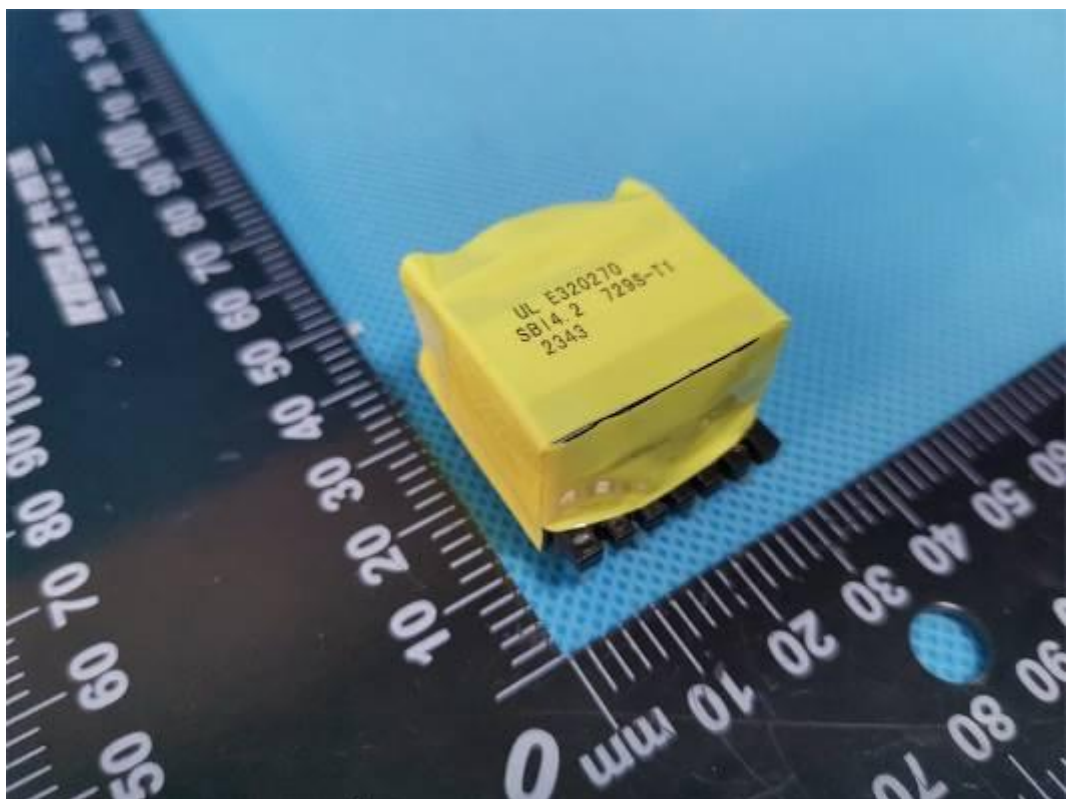


Figure 16 Transformer view

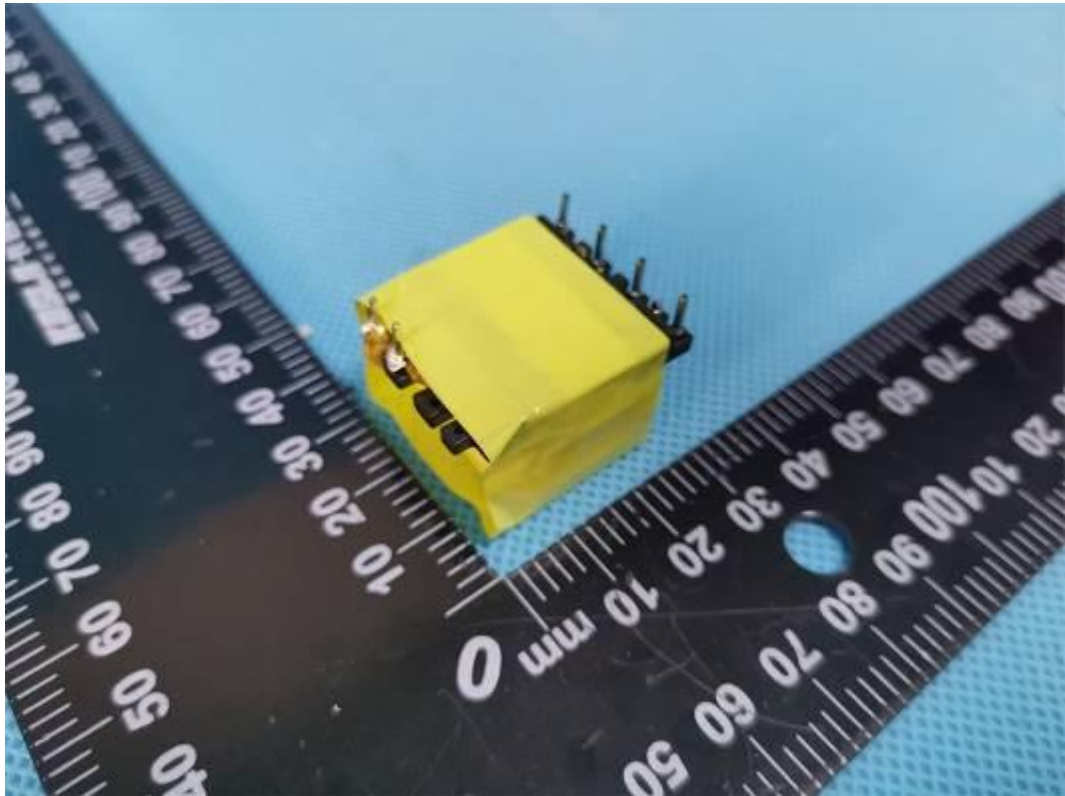


Figure 17 Transformer view

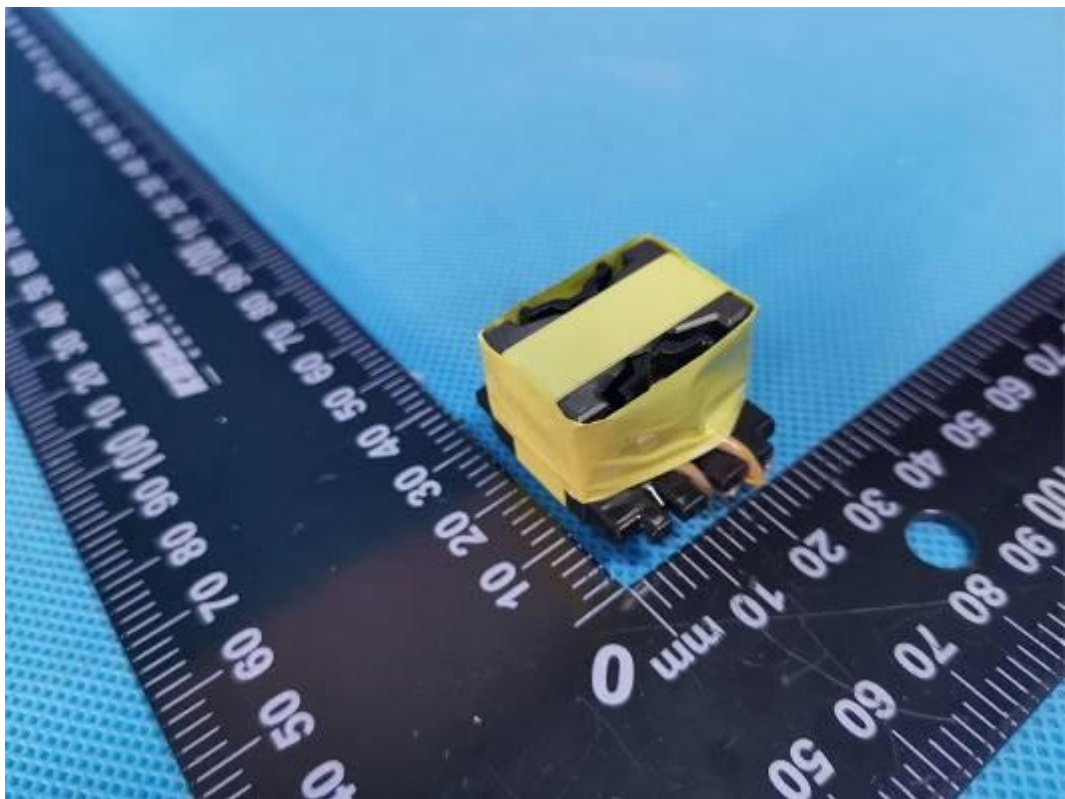


Figure 18 Transformer view

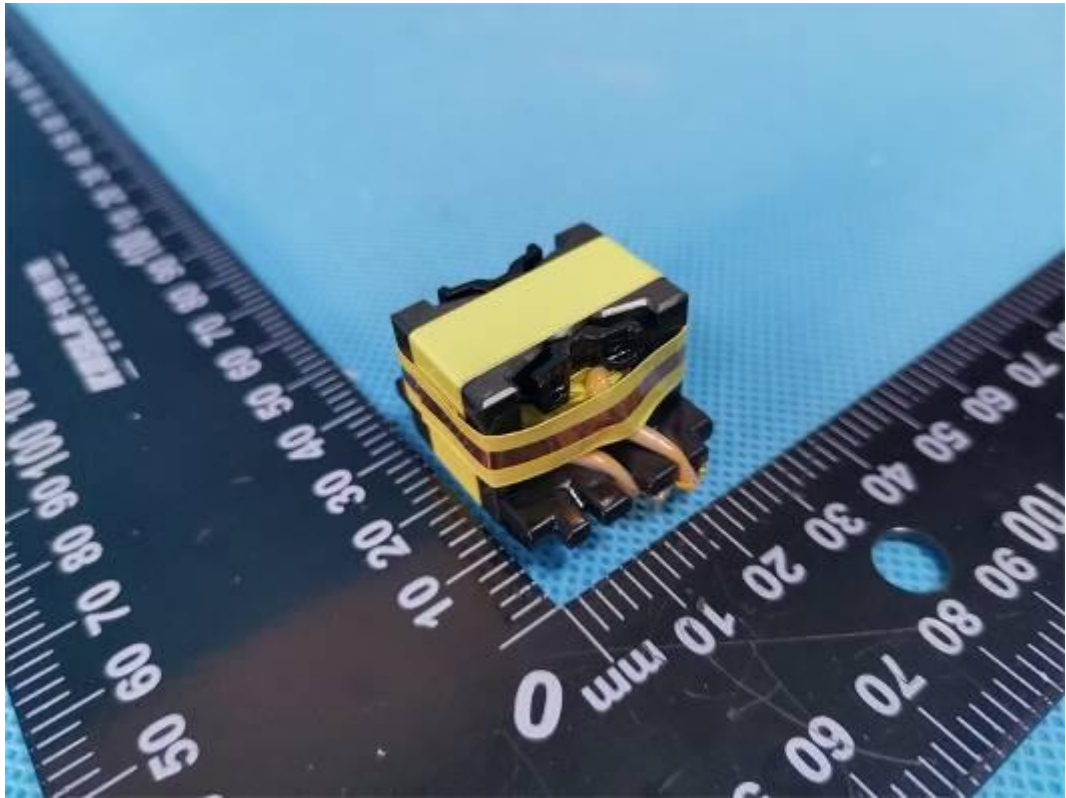


Figure 19 Transformer view



Figure 20 Transformer view

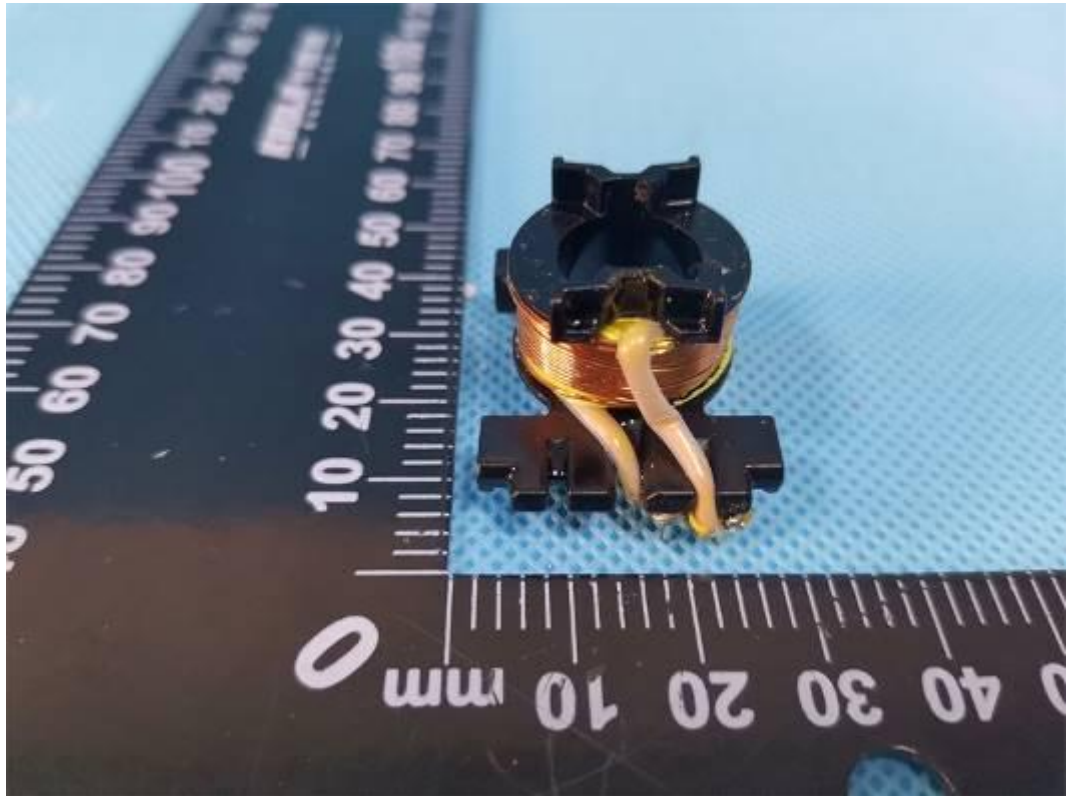


Figure 21 Transformer view

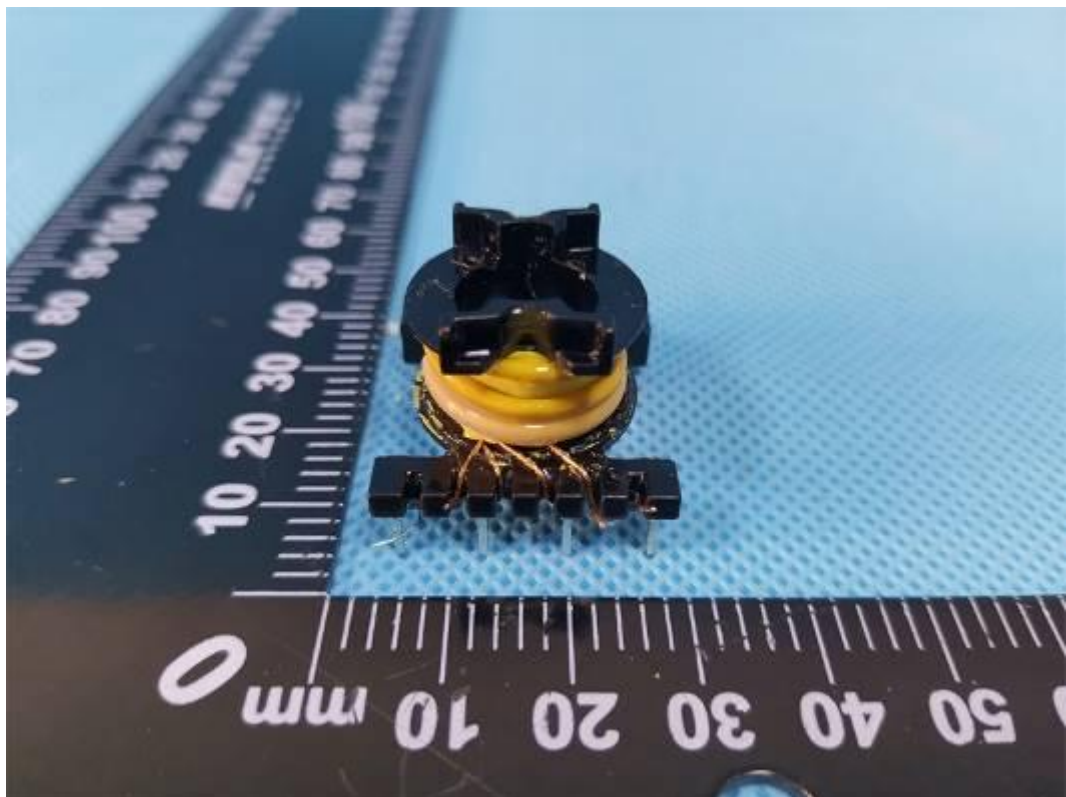


Figure 22 Transformer view