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

Report Number..... :	240424031SZN-001
Date of issue ..... :	July 19, 2024
Total number of pages ..... :	See page 3 for details
Name of Testing Laboratory preparing the Report ..... :	Intertek Testing Services Shenzhen Ltd. Longhua Branch
Applicant's name..... :	Hangzhou Hikvision Digital Technology Co., Ltd.
Address ..... :	No.555 Qianmo Road, Binjiang District, Hangzhou 310051, China
Test specification:	
Standard ..... :	IEC 62368-1: 2018
Test procedure..... :	CB Scheme
Non-standard test method..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No. ..... :	IEC62368_1E
Test Report Form(s) Originator.... :	UL(US)
Master TRF ..... :	Dated 2022-04-14

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

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

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description .....:	Analog Amplifier
Trade Mark(s).....:	HIKVISION
Manufacturer.....:	Same as applicant
Model/Type reference.....:	DS-QAE0A120G1-VB6
Ratings .....:	200V-230V~, 50/60Hz, 5A, Class I.

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	Intertek Testing Services Shenzhen Ltd. Longhua Branch	
Testing location/ address ..... :		101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, Shenzhen, P.R. China	
Tested by (name, function, signature) ..... :		Curry Guan/ Engineer	
Approved by (name, function, signature) .. :		Joe Ding/ Sr. Project Engineer	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Witnessed by (name, function, signature) . :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Witnessed by (name, function, signature) . :			
Approved by (name, function, signature) .. :			
Supervised by (name, function, signature) :			

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

- Pages 1 to 62 for IEC 62368-1 TRF (main report)
- Appendix 1 (20 pages): European Group differences and national differences
- Appendix 2 (1 page): Circuits and PCB layout
- Appendix 3 (2 pages): Specification of transformer T1
- Appendix 4 (24 pages): Product photos

Summary of testing:

The sample(s) tested complies with the requirements of IEC 62368-1: 2018

Tests performed (name of test and test clause):	**Testing location:**
Refer to content of this test report	Intertek Testing Services Shenzhen Ltd. Longhua Branch 101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, Shenzhen, P.R. China

Summary of compliance with National Differences:

List of countries addressed

Group and national differences of all CENELEC members have been considered.

☒ **The product fulfils the requirements of IEC 62368-1: 2018**

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

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

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

Information on uncertainty of measurement:

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

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

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

Copy of marking plate:

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

Remark:

- The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
- Above information was labelled or silk-screened on rear enclosure.
- When placing electrical equipment on the EU market, according to EU NLF (new legislative framework), the importer (and manufacturer, if it is different from importer)'s name registered trade name or registered trade mark and the postal address at which he can be contacted shall be marked on the product or, where that is not possible, on its packaging or in a document accompanying the product. The contact details shall be in a language easily understood by end-users and market surveillance authorities.
- The CE marking should be at least 5.0 mm in height.
- The WEEE symbol should be at least 7.0mm in height.

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 ☐ m
Altitude of test laboratory (m) .....:	☒ 2000 m or less ☐ m
Mass of equipment (kg) .....:	9.23Kg

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 .....:	April 24, 2024
Date (s) of performance of tests.....:	April 24, 2024 – July 18, 2024

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.
This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program. The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid.
The clause which indicated with * is the subcontract test item. (if there is subcontracting test).

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....:	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....:	Hangzhou Zhonghe Electronic Equipment Co., Ltd No. 3 Fengcheng Road, Pingyao Town, Yuhang District, Hangzhou City, Zhejiang Province, China

General product information and other remarks:

The product covered in this report was Analog Amplifier which was intended for indoor and professional use only. This apparatus was supplied by AC mains via detachable power cord set.

1. The metal enclosure is connected to protective earthing;

2. Specified maximum ambient temperature is 40°C;
3. The test samples are pre-production without serial number;

Model Differences:
N/A

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 primary circuits	Skilled person	N/A	N/A	Enclosure and Transformer See 5.4.2, 5.4.3, 5.5.3 and 5.5.4
ES1: Secondary amplifier circuits	Skilled person	N/A	N/A	N/A
ES1: LED display circuit	Skilled person	N/A	N/A	N/A
ES2: Audio signal	Skilled person	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1st S	2nd S
PS3: All primary circuits and secondary circuit	Combustible material	1. No parts exceeding 90% of its spontaneous Ignition temperature	1. All PCBs complied with V-0 class material; 2. Transformer comply with G.5.3; 3. All components mounted on V-0 class material 4. Providing a fire enclosure	N/A
PS3: Audi output	Combustible material	1. No parts exceeding 90% of its spontaneous Ignition temperature	1. All PCBs complied with V-0 class material; 2. Transformer comply with G.5.3; 3. All components mounted on V-0 class material 4. Providing a fire enclosure	N/A
PS1: USB Output	Combustible material	N/A	N/A	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
MS2: Equipment mass	Skilled person	N/A	N/A	See 8.6
MS1: Rounded edges and corners	Skilled person	N/A	N/A	N/A
MS3: Moving parts (DC fan)	Skilled person	N/A	N/A	See 8.5
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: all accessible external surface	Skilled person	N/A	N/A	N/A
TS2: internal components	Skilled person	N/A	N/A	Enclosure
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LED indicating light	Ordinary person	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
Details see ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE ☐ **ES** ☐ **PS** ☐ **MS** ☐ **TS** ☐ **RS**

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Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components	(See appended table 4.1.2)	P
4.1.3	Equipment design and construction	Safeguards are provided to reduce the likelihood of injury or, in the case of fire, property damage. No parts of equipment that could cause injury can be accessible.	P
4.1.4	Specified ambient temperature for outdoor use (°C) .....:	Indoor use only	N/A
4.1.5	Constructions and components not specifically covered		P
4.1.8	Liquids and liquid filled components (LFC)	(See G.15)	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.2, T.5)	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	(See Annex T.6)	P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See annex T.8)	P
4.4.3.9	Air comprising a safeguard		P
4.4.3.10	Accessibility, glass, safeguard effectiveness	No damaged. The class 3 or class 2 energy sources except for PS3 not become accessible and all other safeguards remain effective during and after above tests.	P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks		N/A
4.5	**Explosion**		P
4.5.1	General		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

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Clause	Requirement + Test	Result - Remark	Verdict
	Fix conductors not to defeat a safeguard	Pluggable wire connectors used	P
	Compliance is checked by test ..... :	(See Clause T.2)	P
4.7	**Equipment for direct insertion into mains socket–outlets**		N/A
4.7.2	Mains plug part complies with relevant standard .. :		N/A
4.7.3	Torque (Nm) ..... :		N/A
4.8	**Equipment containing coin/button cell batteries**		N/A
4.8.1	General		N/A
4.8.2	Instructional safeguard ..... :		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	**Likelihood of fire or shock due to entry of conductive object**		P
4.10	**Component requirements**		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays	(See Annex G)	P

5	**ELECTRICALLY-CAUSED INJURY**		P
5.2	**Classification and limits of electrical energy sources**		P
5.2.2	ES1, ES2 and ES3 limits	ES1, ES3	P
5.2.2.2	Steady-state voltage and current limits ..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits ..... :	(See appended table 5.2)	P
5.2.2.4	Single pulse limits ..... :		N/A
5.2.2.5	Limits for repetitive pulses ..... :		N/A
5.2.2.6	Ringing signals		N/A
5.2.2.7	Audio signals	(See Annex E)	P
5.3	**Protection against electrical energy sources**		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		P

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Clause	Requirement + Test	Result - Remark	Verdict
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	ES2 or ES3 source cannot access by Skilled person except for Audio signal terminal.	P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V	ES2 or ES3 source cannot access by Skilled person except for Audio signal terminal.	—
5.3.2.2 a)	Air gap – electric strength test potential (V) .....:	(See appended table 5.4.9)	P
5.3.2.2 b)	Air gap – distance (mm) .....:	> 3.0mm	P
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	**Insulation materials and requirements**		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Material is non-hygroscopic	No such 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 .....:	PD2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage .....:	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat test.....:		N/A
5.4.1.10.3	Ball pressure test .....:		N/A
5.4.2	Clearances		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	Procedure 2 used	N/A
	Temporary overvoltage .....:		—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	a.c. mains transient voltage.....:	2500 Vpeak	—

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Clause	Requirement + Test	Result - Remark	Verdict
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 .....:		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test .....:	Clause 5.4.2.2 and 5.4.2.3 considered	N/A
5.4.2.5	Multiplication factors for clearances and test voltages .....:	< 2000m	N/A
5.4.2.6	Clearance measurement .....:	(See appended table 5.4.2)	P
5.4.3	Creepage distances		P
5.4.3.1	General		P
5.4.3.3	Material group .....:	IIIb	—
5.4.3.4	Creepage distances measurement .....:	(See appended table 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation .....:	(See appended table 5.4.2)	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	Wrap two layers of tape between primary coils and secondary coils of the transformer, with an overlap ratio of 50% between layers. any one layer passed the electric strength test for reinforced insulation.	P
	Number of layers (pcs) .....:		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs) .....:		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material .....:		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P, K_R, d, V_{PW} (V) .....:		N/A
	Alternative by electric strength test, tested voltage (V), K_R .....:		N/A
5.4.5	Antenna terminal insulation		P
5.4.5.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.5.2	Voltage surge test		P
5.4.5.3	Insulation resistance (MΩ) ..... :	4	P
	Electric strength test ..... :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature (°C), duration (h) ..... :	Relative humidity: 93% temperature: 40°C duration: 120 h	—
5.4.9	Electric strength test		P
5.4.9.1	Test procedure for type test of solid insulation..... :	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test	Not required	N/A
5.4.10	Safeguards against transient voltages from external circuits		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test ..... :		N/A
5.4.10.2.3	Steady-state test..... :		N/A
5.4.10.3	Verification for insulation breakdown for impulse test ..... :		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V)..... :		—
	Nominal voltage U_{peak} (V)..... :		—
	Max increase due to variation ΔU_{sp} ..... :		—
	Max increase due to ageing ΔU_{sa} ..... :		—
5.4.11.3	Test method and compliance ..... :		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid ..... :		N/A
5.4.12.3	Compatibility of an insulating liquid ..... :		N/A
5.4.12.4	Container for insulating liquid ..... :		N/A
5.5	**Components as safeguards**		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.1	General		P
5.5.2	Capacitors and RC units	(See Annex G.11)	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		P
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable ..... :		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA) ..... :		—
5.6	**Protective conductor**		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation		P
5.6.3	Requirement for protective earthing conductors	(See appended table 4.1.2)	P
	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		P
5.6.4.1	Protective bonding conductors	The yellow/green wire from appliance inlet which connected to metal enclosure is considered as protective bonding conductor and fixed by a screw with integrated locking means.	P
	Protective bonding conductor size (mm^2). ..... :	(See appended table 4.1.2)	—
5.6.4.2	Protective current rating (A) ..... :	16	P
5.6.5	Terminals for protective conductors	Earthing pin in appliance inlet provided as protective earthing terminal.	P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm) ..... :		N/A
	Terminal size for connecting protective bonding conductors (mm) ..... :	2.3	P
5.6.5.2	Corrosion		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.6	Resistance of the protective bonding system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method ..... :	See appended table 5.6.6)	P
5.6.6.3	Resistance (Ω) or voltage drop ..... :	See appended table 5.6.6)	P
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm^2) ..... :		N/A
	Class II with functional earthing marking ..... :		N/A
	Appliance inlet cl & cr (mm) ..... :		N/A
5.7	**Prospective touch voltage, touch current and protective conductor current**		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current		P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts ..... :	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts ..... :	(See appended table 5.7.5)	P
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA) ..... :		N/A
	Instructional Safeguard ..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA) ..... :		N/A
	b) Equipment connected to unearthed external circuits, current (mA) ..... :		N/A
5.8	**Backfeed safeguard in battery backed up supplies**		N/A
	Mains terminal ES ..... :		N/A
	Air gap (mm) ..... :		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.3.1	Arcing PIS .....:	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS .....:	(See appended table 6.2.3.2)	P
6.3	**Safeguards against fire under normal operating and abnormal operating conditions**		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials ..... :	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure .....:		N/A
6.4	**Safeguards against fire under single fault conditions**		P
6.4.1	Safeguard method	Method by control of fire spread applied. Use metal enclosure as control fire spread method.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		P
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		P
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards		N/A
6.4.6	Control of fire spread in PS3 circuits	Compliance detailed as follows: – Printed board: rated V-1 or better. – Wire insulation (tubing): complying with Clause 6 (See Table 4.1.2 for wiring used). – All other components: at least V-2/VTM-2 except for mounted on min. V-1 material or small parts (<4g) of combustible material. Isolating transformer: complying with G.5.3. (See appended tables 4.1.2 and Annex G). Fire enclosure used.	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	See below	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2	Fire enclosure and fire barrier material properties	Metal enclosure use	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier.	N/A
6.4.8.2.2	Requirements for a fire enclosure	Metal enclosure use	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		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties	No top opening	N/A
	Openings dimensions (mm)..... :		N/A
6.4.8.3.4	Bottom openings and properties	No bottom opening	N/A
	Openings dimensions (mm)..... :		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard.....:		N/A
6.4.8.3.5	Side openings and properties	The side openings out of the area indicated by 5 degree angle in figure 44.	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 ..... :	Metal enclosure use	P
6.4.9	Flammability of insulating liquid.....:		N/A
6.5	**Internal and external wiring**		P
6.5.1	General requirements	(See appended Table 4.1.2)	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

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Clause	Requirement + Test	Result - Remark	Verdict
8.2	**Mechanical energy source classifications**		P
8.3	**Safeguards against mechanical energy sources**		P
8.4	**Safeguards against parts with sharp edges and corners**		P
8.4.1	Safeguards	Edges and corners are rounded, MS1	P
	Instructional Safeguard.....:		N/A
8.4.2	Sharp edges or corners		N/A
8.5	**Safeguards against moving parts**		P
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	DC fan protected by enclosure.	P
	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

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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**		P
8.6.1	General	9.23kg>7kg, MS2	P
	Instructional safeguard.....:	See user manual	P
8.6.2	Static stability		P
8.6.2.2	Static stability test .....:	After the stress relief test, The equipment was tipped at any angle from the vertical up to and including 10°, and does not tip over during the tests.	P
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**		P
8.8.1	General		P
8.8.2	Handle strength test		P
	Number of handles.....:	2	—
	Force applied (N) .....:	271.36 for each handle	—
8.9	**Wheels or casters attachment requirements**		N/A
8.9.2	Pull test	No such devices used	N/A
8.10	**Carts, stands and similar carriers**		N/A
8.10.1	General	No such devices used	N/A
8.10.2	Marking and instructions.....:		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N) .....:		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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	No such devices used	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard ..... :		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied ..... :		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	**Telescoping or rod antennas**		N/A
	Button/ball diameter (mm) ..... :		—

9	**THERMAL BURN INJURY**		P
9.2	**Thermal energy source classifications**		P
9.3	**Touch temperature limits**		P
9.3.1	Touch temperatures of accessible parts ..... :	(See appended table 9.3)	P
9.3.2	Test method and compliance		P
9.4	**Safeguards against thermal energy sources**		N/A
9.5	**Requirements for safeguards**		N/A
9.5.1	Equipment safeguard	TS1 for accessible enclosure	N/A
9.5.2	Instructional safeguard ..... :		N/A
9.6	**Requirements for wireless power transmitters**		N/A
9.6.1	General	No such function	N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance ..... :		N/A

10	**RADIATION**		P
10.2	**Radiation energy source classification**		P
10.2.1	General classification		P
	Lasers ..... :	No laser diode used	—
	Lamps and lamp systems ..... :	LED indicating light is classified as Exempt Group. the radiation does not exceed the exposure limits.	—
	Image projectors ..... :	No Image projectors used.	—
	X-Ray ..... :	No X-Ray used.	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Personal music player ..... :	Not 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)**		P
10.4.1	General requirements	LED indicating light is classified as Exempt Group.	P
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location .....:		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure .....:		N/A
10.4.3	Instructional safeguard ..... :		N/A
10.5	**Safeguards against X-radiation**		N/A
10.5.1	Requirements	No X-ray	N/A
	Instructional safeguard for skilled persons ..... :		—
10.5.3	Maximum radiation (pA/kg)..... :		—
10.6	**Safeguards against acoustic energy sources**		N/A
10.6.1	General	Not such appliance	N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A).....:		N/A
	Unweighted RMS output voltage (mV).....:		N/A
	Digital output signal (dBFS).....:		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30) .....:		N/A
	Warning for MEL ≥ 100 dB(A) .....:		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards ..... :		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)..... :		N/A
10.6.6.2	Corded listening devices with digital input		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Max. acoustic output $L_{Aeq,T}$, dB(A) .....:		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) .....:		N/A

B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.1	**General**		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	**Normal operating conditions**		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :	(See Annex E)	P
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	**Simulated abnormal operating conditions**		P
B.3.1	General		P
B.3.2	Covering of ventilation openings	(See appended table B.3, B.4)	P
	Instructional safeguard ..... :		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3, B.4)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions	(See Annex E)	P
B.3.8	Safeguards functional during and after abnormal operating conditions ..... :	(See appended table B.3, B.4)	P
B.4	**Simulated single fault conditions**		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test	(See appended table B.3, B.4)	P
B.4.4	Functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation	Line and Neutral and different pole of fuse comply with the clearance for basic insulation. The other functional insulation complies with short circuit test	P
B.4.4.2	Short circuit of creepage distances for functional insulation	Line and Neutral and different pole of fuse comply with the creepage for basic insulation. The other functional insulation complies with short circuit test	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.3, B.4)	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		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		N/A
C	**UV RADIATION**		N/A
C.1	**Protection of materials in equipment from UV radiation**		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	**UV light conditioning test**		N/A
C.2.1	Test apparatus..... :		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
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**		P
E.1	**Electrical energy source classification for audio signals**		P
	Maximum non-clipped output power (W) ..... :	103.2W Max	—
	Rated load impedance (Ω) ..... :	4Ω, 16Ω, 100Ω	—
	Open-circuit output voltage (V)..... :	111.0V Max	—
	Instructional safeguard ..... :		—
E.2	**Audio amplifier normal operating conditions**		P
	Audio signal source type ..... :	100Hz	—
	Audio output power (W)..... :	(See appended Table B.2.5)	—
	Audio output voltage (V)..... :	(See appended Table B.2.5)	—
	Rated load impedance (Ω) ..... :	(See appended Table 4.1.2)	—
	Requirements for temperature measurement	(See Table B.1.5)	P
E.3	Audio amplifier abnormal operating conditions	(See appended table B.3, B.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	**General**		P
	Language ..... :	English checked	—
F.2	**Letter symbols and graphical symbols**		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	**Equipment markings**		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification ..... :	See copy of marking plate	P
F.3.2.2	Model identification ..... :	See copy of marking plate	P
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage..... :	See copy of marking plate	P
F.3.3.4	Rated voltage ..... :	See copy of marking plate	P
F.3.3.5	Rated frequency ..... :	See copy of marking plate	P
F.3.3.6	Rated current or rated power ..... :	See copy of marking plate	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :		N/A
F.3.5.2	Switch position identification marking..... :		N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :	The current fuse is located inside the appliance coupler and not replaceable by an ordinary person or an instructed person. “200V-230V 50/60Hz 5A FUSE” marking near it.	P
	Instructional safeguards for neutral fuse ..... :		N/A
F.3.5.4	Replacement battery identification marking ..... :		N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment	Class I equipment	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1.1	Protective earthing conductor terminal..... :	 used in appliance inlet.	P
F.3.6.1.2	Protective bonding conductor terminals ..... :		P
F.3.6.2	Equipment class marking ..... :	Class I equipment	P
F.3.6.3	Functional earthing terminal marking ..... :		N/A
F.3.7	Equipment IP rating marking ..... :	IPX0	N/A
F.3.8	External power supply output marking ..... :		N/A
F.3.9	Durability, legibility and permanence of marking	See below	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. 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.	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		P
	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		P
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		P
G	**COMPONENTS**		P
G.1	**Switches**		P
G.1.1	General	Approved switches used	P
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.2	**Relays**		N/A
G.2.1	Requirements	No such component used	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	**Protective devices**		P
G.3.1	Thermal cut-offs		P
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	Approved thermal cot-outs used	P
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices	Approved fuse used (See appended table 4.1.2)	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions..... :		N/A
G.4	**Connectors**		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration ..... :	Approved appliance inlet used (See appended table 4.1.2)	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	**Wound components**		P
G.5.1	Wire insulation in wound components	Certified triple insulation wire used.	P
G.5.1.2	Protection against mechanical stress	Protection against mechanical stress by providing physical separation in the form of insulation tube and tape.	P
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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..... :	Meet the requirements given in G.5.3.2 and G.5.3.3	P
	Position..... :	T1 and T2	P
	Method of protection..... :	Over current protection by circuit design.	P
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation.	P
	Protection from displacement of windings..... :	By bobbin and insulating tape	—
G.5.3.3	Transformer overload tests		P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding temperatures	(See appended table B.3)	P
G.5.3.3.3	Winding temperatures - alternative test method		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
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	DC motor	P
G.5.4.1	General requirements		P
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	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

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		P
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
G.5.4.6.3	Alternative method	Tested, the fan not emit flames or molten, the cheesecloth or wrapping tissue not char or catch fire.	P
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		P
G.6.2	Enamelled winding wire insulation		P
G.7	**Mains supply cords**		P
G.7.1	General requirements	Approved mains supply cord used, detail see table 4.1.2	P
	Type..... :	H05VV-F	—
G.7.2	Cross sectional area (mm^2 or AWG)..... :	1.5	P
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords	Detachable power supply cord used.	N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) ..... :		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)..... :		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, *D* (mm) ..... :		—
	Radius of curvature after test (mm)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	**Varistors**		N/A
G.8.1	General requirements	No such component used	N/A
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	**Integrated circuit (IC) current limiters**		N/A
G.9.1	Requirements	No such component used	N/A
	IC limiter output current (max. 5A) ..... :		—
	Manufacturers' defined drift ..... :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	**Resistors**		N/A
G.10.1	General	No such component used	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	X-capacitors and Y-capacitors are complied with IEC 60384-14 (See appended Table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	**Optocouplers**		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics	No such component used	N/A
	Type test voltage $V_{ini,a}$ ..... :		—
	Routine test voltage, $V_{ini,b}$ ..... :		—
G.13	**Printed boards**		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards	Not such printed board	N/A
G.13.4	Insulation between conductors on the same inner surface		P
G.13.5	Insulation between conductors on different surfaces		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Distance through insulation ..... :		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements ..... :		N/A
G.15	**Pressurized liquid filled components**		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
G.16.1	Condition for fault tested is not required	No such component used	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	Ringing signal		N/A
H.3.1.1	Frequency (Hz) ..... :		—
H.3.1.2	Voltage (V) ..... :		—
H.3.1.3	Cadence; time (s) and voltage (V) ..... :		—
H.3.1.4	Single fault current (mA):..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) ..... :		N/A
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		N/A
J.1	**General**		N/A
	Winding wire insulation..... :	Certified triple insulation wire used.	—
	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		N/A
K	**SAFETY INTERLOCKS**		N/A
K.1	**General requirements**		N/A
	Instructional safeguard ..... :		N/A
K.2	**Components of safety interlock safeguard mechanism**		N/A
K.3	**Inadvertent change of operating mode**		N/A
K.4	**Interlock safeguard override**		N/A
K.5	**Fail-safe**		N/A
K.5.1	Under single fault condition		N/A
K.6	**Mechanically operated safety interlocks**		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance ..... :		N/A
K.7	**Interlock circuit isolation**		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2 ..... :		N/A
K.7.2	Overload test, Current (A) ..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L	**DISCONNECT DEVICES**		P
L.1	**General requirements**	Appliance coupler used as disconnect device	P
L.2	**Permanently connected equipment**		N/A
L.3	**Parts that remain energized**		N/A
L.4	**Single-phase equipment**	Disconnect both poles simultaneously.	P
L.5	**Three-phase equipment**		N/A
L.6	**Switches as disconnect devices**		N/A
L.7	**Plugs as disconnect devices**		P
L.8	**Multiple power sources**		N/A
	Instructional safeguard ..... :	No such power sources	N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		N/A
M.1	**General requirements**		N/A
M.2	**Safety of batteries and their cells**		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards ..... :		N/A
M.3	**Protection circuits for batteries provided within the equipment**		N/A
M.3.1	Requirements		N/A
M.3.2	Test method		N/A
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Value of *X* (mm)..... :	1.0 mm, PD2	—
P	**SAFEGUARDS AGAINST CONDUCTIVE OBJECTS**		P
P.1	**General**		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		N/A
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguards against the consequences of entry of a foreign object		P
P.2.3.1	Safeguard requirements		P
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment	There are no bare conductive parts of ES3 or PS3 circuits within the projected volume as depicted in figure P.3.	P
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test ..... :		N/A
P.3	**Safeguards against spillage of internal liquids**		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	**Metallized coatings and adhesives securing parts**		N/A
P.4.1	General	No such adhesives used as safeguard	N/A
P.4.2	Tests		N/A
	Conditioning, T_C (°C) ..... :		—
	Duration (weeks) ..... :		—
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	**Limited power sources**		P
Q.1.1	Requirements		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	See appended table Q.1	P
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance ..... :	See appended table Q.1	P
	Current rating of overcurrent protective device (A) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Q.2	**Test for external circuits – paired conductor cable**		N/A
	Maximum output current (A) ..... :		N/A
	Current limiting method ..... :		—
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	**General**		N/A
R.2	**Test setup**		N/A
	Overcurrent protective device for test ..... :		—
R.3	**Test method**		N/A
	Cord/cable used for test ..... :		—
R.4	**Compliance**		N/A
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
S.1	**Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W**		N/A
	Samples, material..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (°C) ..... :		—
	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) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
T	**MECHANICAL STRENGTH TESTS**		P
T.1	**General**		P
T.2	**Steady force test, 10 N ..... :**	(See appended table T.2)	P
T.3	**Steady force test, 30 N ..... :**		N/A
T.4	**Steady force test, 100 N ..... :**		N/A
T.5	**Steady force test, 250 N ..... :**	(See appended table T.5)	P
T.6	**Enclosure impact test**	(See appended table T.6)	P
	Fall test		P
	Swing test		P
T.7	**Drop test ..... :**		N/A
T.8	**Stress relief test..... :**	Metal enclosure used.	N/A
T.9	**Glass Impact Test ..... :**	No parts made of glass	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		P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		P
V.1.4	Plugs, jacks, connectors tested with blunt probe		P
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		P
V.2	**Accessible part criterion**		P
X	**ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)**		N/A
	Clearance..... :		N/A
Y	**CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES**		N/A
Y.1	**General**	Indoor used only	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.2	**Resistance to UV radiation**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by ..... :		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure ..... :		N/A
Y.3.5	Compliance		N/A
Y.4	**Gaskets**		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods ..... :		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	**Protection of equipment within an outdoor enclosure**		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3 ..... :		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	**Mechanical strength of enclosures**		N/A
Y.6.1	General		N/A
Y.6.2	Impact test ..... :	(See Table T.6)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	**TABLE: Classification of electrical energy sources**						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type[1)]	Additional Info [2)]	
253Vac/60Hz	All primary circuits	Normal:	--	--	--	--	ES3 (by declared)
		Abnormal:	--	--	--	--	
		Single fault: SC/OC	--	--	--	--	
253Vac/60Hz	Transformer (T1) output wire blue and black	Normal:	31.2rms	--	SS	60Hz	ES1
		Abnormal:	31.3rms	--	SS	60Hz	
		Single fault: SC/~~OC~~ output wire blue and black	0	--	SS	--	
253Vac/60Hz	Transformer (T1) output wire yellow and black	Normal:	11.6rms	--	SS	60Hz	ES1
		Abnormal:	11.5rms	--	SS	60Hz	
		Single fault: SC/~~OC~~ output wire yellow and black	0	--	SS	--	
253Vac/60Hz	Transformer (T1) output wire white and black	Normal:	8.1rms	--	SS	60Hz	ES1
		Abnormal:	8.2rms	--	SS	60Hz	
		Single fault: SC/~~OC~~ output wire white and black	0	--	SS	--	
253Vac/60Hz	Transformer (T2) output wire red and black	Normal:	22.1rms	--	SS	60Hz	ES1
		Abnormal:	22.2rms	--	SS	60Hz	
		Single fault: SC/~~OC~~ output wire red and black	0	--	SS	--	
253Vac/60Hz	Transformer (T2) output wire yellow and black	Normal:	70.1rms	--	SS	60Hz	ES1
		Abnormal:	70.1rms	--	SS	60Hz	
		Single fault: SC/~~OC~~ output wire yellow and black	0	--	SS	--	
253Vac/60Hz	Transformer (T2) output wire blue and black	Normal:	110.1rms	--	SS	60Hz	ES2
		Abnormal:	110.1rms	--	SS	60Hz	
		Single fault: SC/~~OC~~ output wire blue and black	0	--	SS	--	

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Clause	Requirement + Test			Result - Remark			Verdict
253Vac/60Hz	Audio signal voltage	Normal:	22.1Vac	--	SS	60Hz	ES1
		Abnormal:	22.2Vac	--	SS	60Hz	
		Single fault: SC/~~OC~~	0	--	SS	--	
253Vac/60Hz	Audio signal voltage	Normal:	70.1Vac	--	SS	60Hz	ES2
		Abnormal:	70.1Vac	--	SS	60Hz	
		Single fault: SC/~~OC~~	0	--	SS	--	
253Vac/60Hz	Audio signal voltage	Normal:	110.1Vac	--	SS	60Hz	ES2
		Abnormal:	110.1Vac	--	SS	60Hz	
		Single fault: SC/~~OC~~	0	--	SS	--	
253Vac/60Hz	Metal enclosure to earth	Normal	--	0.088mApk	SS	--	ES1
		Abnormal (see table B.3 for details)	--	0.088mApk	SS	--	
		Single fault (Refer to fault condition on table B.4, Fuse F1 opened)	--	0.109mApk	SS	--	
		Single fault (Refer to fault condition on table B.4, Unit shutdown)	--	0.088mApk	SS	--	
253Vac/60Hz	X cap (CX1)	Normal	374Vpk	--	CP	0.1µF	ES3
253Vac/60Hz	X cap (CX2)	Normal	374Vpk	--	CP	0.1µF	ES3
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc. 2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc. 3) SC=short circuit, OC=open circuit, OL=overload circuit.							

5.4.1.8	**TABLE: Working voltage measurement**			P
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
Input 230V/60Hz				
T1 primary to secondary	250	369	60	--
T2 primary to secondary	230	325	60	--
Supplementary information:				
Max. measured value shown on above table.				

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Clause	Requirement + Test	Result - Remark	Verdict

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

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics				N/A
Allowed impression diameter (mm) .....:		≤ 2 mm			—
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)	
--	--	--	--	--	
Supplementary information:					
The bobbin of the transformer and line chock is phenolic, no need to do this test.					

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq [1] (Hz)	Required cl (mm)	cl (mm)	E.S. [2] (V)	Required cr (mm)	cr (mm)
Between L and N (B)	325	230	60	1.5	2.7	--	2.3	2.7
Primary to metal enclosure (B)	325	230	60	1.5	>3.1	--	2.3	>3.1
Different pole of main fuse (B)	325	230	60	1.5	2.7	--	2.3	2.7
Primary components to secondary wire (B)	325	250	60	3.0	6.0	--	4.6	6.0
Primary components on AC board and secondary component on main board (R)	325	250	60	3.0	6.5	--	4.6	6.5
Transformer:								
Transformer primary and secondary (T1) (R)	369	250	60	3.0	10.0	--	5.0	10.0
Different pole of thermal cou-off (B)	325	230	60	1.5	5.0	--	2.3	5.0
Supplementary information:								
1) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied) 2) F=Functional insulation, B=Basic insulation; S = Supplementary insulation, R=Reinforce insulation. 3) Clearance was evaluated for altitude up to 2000 m above sea level, correction factors clearance is 1. 4) Triple insulated wire used in secondary side. Core of transformer T1 are considered as primary.								

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5.4.4.2	TABLE: Minimum distance through insulation			N/A
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
--	--	--	--	--
Supplementary information:				
1) B=Basic insulation, S=Supplementary insulation, D=Double insulation, R=Reinforced insulation				

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

5.4.9	TABLE: Electric strength tests		P
Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
L/N to metal enclosure	DC	2500V	No
L/N to output terminal	DC	4000V	No
Transformer T1 Pri. & Sec.	DC	4000V	No
One layers insulation tape of transformer T1	DC	4000V	No
Insulation sheet under AC board	DC	2500V	No
Supplementary information:			
1) T3 Core of transformer is considered as primary. 2) Tests after humidity treatment, heating test, and for unit primary to secondary, primary to enclosure electric strength after each fault condition test. 3) Tests were performed on product with each source listed in table 4.1.2. 4) 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
No load/ (L-N)	253Vac/60Hz	Normal	On	20	ES1
No load/ (L-N)	253Vac/60Hz	Normal	Off	16	ES1
No load/ (L-N)	253Vac/60Hz	Single fault (opened R2A)	On	36	ES1
No load/ (L-N)	253Vac/60Hz	Single fault (opened R2A)	Off	28	ES1

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Supplementary information:
X-capacitors installed for testing: see appended table 4.1.2 for details [X] bleeding resistor rating: see appended table 4.1.2 for details [ ] ICX: 1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit

5.6.6	**TABLE: Resistance of protective conductors and terminations**				P
Location		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
Measured from earthing Pin of plug to the metal enclosure		32	2	0.357	0.011
Supplementary information:					

5.7.4	**TABLE: Unearthed accessible parts**					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V_{rms} or V_{pk})	Current (A_{rms} or A_{pk})	Freq. (Hz)	
LED screen surface / plastic parts with metal foil to earth	Normal	253Vac/60Hz	--	0.088mApeak	--	ES1
	Abnormal (see table B.3 for details)		--	0.088mApeak	--	ES1
	Single fault (Refer to fault condition on table B.4, Fuse F1 opened)		--	0.109mApeak	--	ES1
	Single fault (Refer to fault condition on table B.4, Unit shutdown)		--	0.088mApeak	--	ES1
Speaker output “+” / “-” to earth	Normal	253Vac/60Hz	--	0.088mApeak	--	ES1
	Abnormal (see table B.3 for details)		--	0.088mApeak	--	ES1
	Single fault (Refer to fault condition on table B.4, Fuse F1 opened)		--	0.098mApeak	--	ES1
	Single fault (Refer to fault condition on table B.4, Unit		--	0.088mApeak	--	ES1

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

5.7.5	**TABLE: Earthed accessible conductive part**			P
Supply voltage (V).....:	253V/60Hz			—
Phase(s) .....:	[X] 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	
L/N to metal enclosure	1	0.24	--	
	2*	--	--	
	3	N/A	--	
	4	N/A	--	
	5	N/A	--	
	6	N/A	--	
	8	N/A	--	
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.				

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

6.2.2	**TABLE: Power source circuit classifications**					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power[1)] (W)	Time (S)	PS class
All primary circuit	Normal	--	--	>100	5	PS3 (declared)
All internal circuits	Normal	--	--	>100	5	PS3 (declared)
Audio signal	Max. non-clipped	121	1.46	177.7	5	PS3

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output (110V output model)	output					
USB output circuit	Normal	3.48	0.75	2.61	3	PS1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit; Max = Maximum attainable output power 1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3. 2) #: Unit shutdown immediately, recoverable, no hazards						

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

6.2.3.2	**TABLE: Determination of resistive PIS**		P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
All primary circuit	Normal	>100	Yes
All internal circuits	Normal	>100	Yes
Audio signal output terminal	Max. non-clipped output	>100	Yes
USB output circuit	Normal	<15	No
Supplementary information:			
Abbreviation: SC= short circuit; OC= open circuit			

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

9.6	**TABLE: Temperature measurements for wireless power transmitters**				N/A
Supply voltage (V) .....:	--				—
Max. transmit power of transmitter (W) .....:	--				—
Foreign objects	w/o receiver and direct contact	with receiver and direct contact	with receiver and at distance of 2 mm	with receiver and at distance of 5 mm	

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	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)
-	--	--	--	--	--	--	--	--
Supplementary information:								

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**		P
Supply voltage (V) .....:	180V/60Hz	253V/50Hz	—
Ambient temperature during test T_{amb} (°C) .....:	See below	See below	—
Maximum measured temperature T of part/at:	T (°C)		Allowed T_{max} (°C)
Test condition: MIC mode			
AC inlet	46.0	46.7	70
Switch inside	43.3	44.0	125
Internal wire connected to switch	43.9	44.5	105
E2 body	49.4	51.0	105
PCB near U2	63.7	70.4	130
E8 body	55.4	59.7	105
C15 body	53.3	56.5	105
PCB near DB2	62.0	66.5	130
CN2 terminal	53.9	55.6	130
PCB near CN1	63.0	70.6	130
PCB near KBU1010	60.8	67.1	130
PCB near U1	53.6	60.7	130
PCB near rotary knob	51.1	54.7	130
T1 coil	55.8	58.0	110
T2 coil	48.2	47.8	110
T1 primary lead wire	46.0	46.9	105
T1 secondary output wire(11.5V)	44.6	45.2	105
T1 secondary output wire(8V)	46.5	47.3	105
T1 secondary output wire(31V)	49.0	50.1	105
T2 primary lead wire	47.1	47.4	105
T2 secondary output wire(Yellow 70V)	44.7	44.0	105
T2 secondary output wire(Blue 110V)	44.0	43.5	105
T2 secondary output wire(Red 22V)	46.9	46.4	105
T2 secondary output wire(Black 0V)	47.8	47.4	105

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Clause	Requirement + Test	Result - Remark	Verdict

Fan	63.3	69.2	Ref.
Ambient	40.0	40.0	--
At room temperature			
Power switch	26.5	27.1	77
Metal enclosure	28.7	33.7	60
Ambient	25.0	25.0	--

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
Winding of transformer T1 (at 180V)	40.0	9.9	40.0	10.86	64.6	120	Class B
Winding of transformer T1 (at 253V)	40.0	9.9	40.0	10.92	66.3	120	Class B
Winding of transformer T2 (at 180V)	40.0	1.5	40.0	1.60	57.4	120	Class B
Winding of transformer T2 (at 253V)	40.0	1.5	40.0	1.61	58.8	120	Class B

Supplementary information:

Supplementary information:

Note 1: Tma should be considered as directed by applicable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

Note 3: The maximum ambient temperature specified by manufacturer is 40°C.

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (mA)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (mA)	Condition/status
Test condition: AUX mode								
180	50	0.447	--	62.2	--	Main fuse	0.447	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 6.6Vrms Speaker output 4Ω
180	60	0.443	--	69.7	--	Main fuse	0.443	
200	50	0.458	5	61.6	--	Main fuse	0.458	
200	60	0.455	5	69.3	--	Main fuse	0.455	
230	50	0.462	5	73.2	--	Main fuse	0.462	
230	60	0.459	5	72.8	--	Main fuse	0.459	
253	50	0.473	--	81.0	--	Main fuse	0.473	
253	60	0.467	--	80.7	--	Main fuse	0.467	
180	50	0.447	--	62.4	--	Main fuse	0.447	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver
180	60	0.446	--	62.1	--	Main fuse	0.446	
200	50	0.459	5	65.9	--	Main fuse	0.459	

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Clause	Requirement + Test					Result - Remark		Verdict
200	60	0.457	5	65.7	--	Main fuse	0.457	to 1/8 Max. Non-Clipped output power Max. output 7.85Vrms Speaker output 16Ω
230	50	0.464	5	73.4	--	Main fuse	0464	
230	60	0.461	5	73.3	--	Main fuse	0.461	
253	50	0.474	--	81.3	--	Main fuse	0.474	
253	60	0.467	--	81.1	--	Main fuse	0.467	
180	50	0.282	--	39.4	--	Main fuse	0.282	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 25.38Vrms Speaker output 100Ω (70V)
180	60	0.279	--	39.1	--	Main fuse	0.279	
200	50	0.290	5	44.2	--	Main fuse	0.290	
200	60	0.286	5	44.0	--	Main fuse	0.286	
230	50	0.293	5	46.3	--	Main fuse	0.293	
230	60	0.289	5	46.3	--	Main fuse	0.289	
253	50	0.302	--	51.8	--	Main fuse	0.302	
253	60	0.294	--	51.7	--	Main fuse	0.294	
180	50	0.521	--	76.4	--	Main fuse	0.521	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 35.7Vrms Speaker output 100Ω (110V)
180	60	0.521	--	76.1	--	Main fuse	0.521	
200	50	0.533	5	85.5	--	Main fuse	0.533	
200	60	0.532	5	85.4	--	Main fuse	0.532	
230	50	0.538	5	89.7	--	Main fuse	0.538	
230	60	0.536	5	89.7	--	Main fuse	0.536	
253	50	0.549	--	99.3	--	Main fuse	0.549	
253	60	0.544	--	99.3	--	Main fuse	0.544	
Test condition: EMC mode								
180	50	0.466	--	65.2	--	Main fuse	0.466	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 6.78Vrms Speaker output 4Ω
180	60	0.462	--	64.7	--	Main fuse	0.462	
200	50	0.478	5	73.0	--	Main fuse	0.478	
200	60	0.474	5	72.6	--	Main fuse	0.474	
230	50	0.482	5	76.5	--	Main fuse	0.482	
230	60	0.479	5	76.4	--	Main fuse	0.479	
253	50	0.492	--	84.9	--	Main fuse	0.492	

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Clause	Requirement + Test					Result - Remark		Verdict
253	60	0.486	--	84.5	--	Main fuse	0.486	
180	50	0.204	--	28.4	--	Main fuse	0.204	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 7.9Vrms Speaker output 16Ω
180	60	0.201	--	28.2	--	Main fuse	0.201	
200	50	0.211	5	32.0	--	Main fuse	0.211	
200	60	0.209	5	31.9	--	Main fuse	0.209	
230	50	0.215	5	33.7	--	Main fuse	0.215	
230	60	0.209	5	33.5	--	Main fuse	0.209	
253	50	0.226	--	37.8	--	Main fuse	0.226	
253	60	0.215	--	38.8	--	Main fuse	0.215	
180	50	0.287	--	40.1	--	Main fuse	0.287	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 26.16Vrms Speaker output 100Ω(70V)
180	60	0.285	--	39.8	--	Main fuse	0.285	
200	50	0.295	5	45.0	--	Main fuse	0.295	
200	60	0.292	5	44.8	--	Main fuse	0.292	
230	50	0.299	5	47.5	--	Main fuse	0.299	
230	60	0.295	5	47.3	--	Main fuse	0.295	
253	50	0.309	--	52.9	--	Main fuse	0.309	
253	60	0.301	--	52.7	--	Main fuse	0.301	
180	50	0.488	--	69.2	--	Main fuse	0.488	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 35.7Vrms Speaker output 100Ω(110V)
180	60	0.486	--	68.7	--	Main fuse	0.486	
200	50	0.504	5	77.6	--	Main fuse	0.504	
200	60	0.499	5	77.2	--	Main fuse	0.499	
230	50	0.507	5	81.6	--	Main fuse	0.507	
230	60	0.503	5	81.1	--	Main fuse	0.503	
253	50	0.521	--	90.9	--	Main fuse	0.521	
253	60	0.510	--	89.6	--	Main fuse	0.510	
Test condition: USB-A mode								
180	50	0.421	--	58.1	--	Main fuse	0.421	Input using a sine wave audio signal source at a frequency of 1000 Hz.
180	60	0.418	--	57.7	--	Main fuse	0.418	
200	50	0.432	5	65.3	--	Main fuse	0.432	

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Clause	Requirement + Test					Result - Remark		Verdict
200	60	0.428	5	64.6	--	Main fuse	0.428	deliver to 1/8 Max. Non-Clipped output power Max. output 6.12Vrms Speaker output 4Ω
230	50	0.435	5	68.3	--	Main fuse	0.435	
230	60	0.31	5	68.0	--	Main fuse	0.31	
253	50	0.448	--	75.9	--	Main fuse	0.448	
253	60	0.439	--	75.4	--	Main fuse	0.439	
180	50	0.183	--	23.3	--	Main fuse	0.183	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 7.35Vrms Speaker output 16Ω
180	60	0.178	--	22.9	--	Main fuse	0.178	
200	50	0.191	5	26.3	--	Main fuse	0.191	
200	60	0.185	5	26.0	--	Main fuse	0.185	
230	50	0.196	5	27.8	--	Main fuse	0.196	
230	60	0.187	5	27.4	--	Main fuse	0.187	
253	50	0.207	--	31.1	--	Main fuse	0.207	
253	60	0.193	--	30.7	--	Main fuse	0.193	
180	50	0.257	--	39.4	--	Main fuse	0.257	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 23.9Vrms Speaker output 100Ω(70V)
180	60	0.254	--	39.1	--	Main fuse	0.254	
200	50	0.266	5	44.2	--	Main fuse	0.266	
200	60	0.261	5	44.0	--	Main fuse	0.261	
230	50	0.270	5	46.3	--	Main fuse	0.270	
230	60	0.263	5	46.3	--	Main fuse	0.263	
253	50	0.279	--	51.8	--	Main fuse	0.279	
253	60	0.269	--	51.7	--	Main fuse	0.269	
180	50	0.518	--	74.1	--	Main fuse	0.518	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 38.18Vrms Speaker output 100Ω(110V)
180	60	0.515	--	73.5	--	Main fuse	0.515	
200	50	0.531	5	82.9	--	Main fuse	0.531	
200	60	0.534	5	82.5	--	Main fuse	0.534	
230	50	0.535	5	87.1	--	Main fuse	0.535	
230	60	0.534	5	86.8	--	Main fuse	0.534	
253	50	0.547	--	96.0	--	Main fuse	0.547	
253	60	0.542	--	96.3	--	Main fuse	0.542	

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Clause	Requirement + Test					Result - Remark		Verdict
Test condition: SD mode								
180	50	0.447	--	62.4	--	Main fuse	0.447	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 6.22Vrms Speaker output 4Ω
180	60	0.446	--	62.1	--	Main fuse	0.446	
200	50	0.459	5	65.9	--	Main fuse	0.459	
200	60	0.457	5	65.7	--	Main fuse	0.457	
230	50	0.464	5	73.4	--	Main fuse	0.464	
230	60	0.461	5	73.3	--	Main fuse	0.461	
253	50	0.474	--	81.3	--	Main fuse	0.474	
253	60	0.467	--	81.1	--	Main fuse	0.467	
180	50	0.187	--	22.9	--	Main fuse	0.187	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 7.28Vrms Speaker output 16Ω
180	60	0.177	--	22.5	--	Main fuse	0.177	
200	50	0.189	5	25.9	--	Main fuse	0.189	
200	60	0.183	5	25.6	--	Main fuse	0.183	
230	50	0.193	5	27.3	--	Main fuse	0.193	
230	60	0.185	5	26.9	--	Main fuse	0.185	
253	50	0.204	--	30.6	--	Main fuse	0.204	
253	60	0.190	--	30.1	--	Main fuse	0.190	
180	50	0.256	--	40.1	--	Main fuse	0.256	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 23.9Vrms Speaker output 100Ω(70V)
180	60	0.253	--	39.8	--	Main fuse	0.253	
200	50	0.265	5	45.0	--	Main fuse	0.265	
200	60	0.260	5	44.8	--	Main fuse	0.260	
230	50	0.269	5	47.5	--	Main fuse	0.269	
230	60	0.262	5	47.3	--	Main fuse	0.262	
253	50	0.279	--	52.9	--	Main fuse	0.279	
253	60	0.268	--	52.7	--	Main fuse	0.268	
180	50	0.488	--	69.2	--	Main fuse	0.488	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped
180	60	0.486	--	68.7	--	Main fuse	0.486	
200	50	0.501	5	77.6	--	Main fuse	0.501	
200	60	0.499	5	77.2	--	Main fuse	0.499	

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Clause	Requirement + Test					Result - Remark		Verdict
230	50	0.507	5	81.6	--	Main fuse	0.507	output power Max. output 35.7Vrms Speaker output 100Ω(110V)
230	60	0.503	5	81.1	--	Main fuse	0.503	
253	50	0.521	--	90.9	--	Main fuse	0.521	
253	60	0.510	--	89.6	--	Main fuse	0.510	
Test condition: MIC mode								
180	50	0.447	--	62.4	--	Main fuse	0.447	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 6.6Vrms Speaker output 4Ω
180	60	0.446	--	62.1	--	Main fuse	0.446	
200	50	0.459	5	65.9	--	Main fuse	0.459	
200	60	0.457	5	65.7	--	Main fuse	0.457	
230	50	0.464	5	73.4	--	Main fuse	0.464	
230	60	0.461	5	73.3	--	Main fuse	0.461	
253	50	0.474	--	81.3	--	Main fuse	0.474	
253	60	0.467	--	81.3	--	Main fuse	0.467	
180	50	0.207	--	28.9	--	Main fuse	0.207	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 8.13Vrms Speaker output 16Ω
180	60	0.207	--	29.0	--	Main fuse	0.207	
200	50	0.216	5	32.6	--	Main fuse	0.216	
200	60	0.213	5	32.7	--	Main fuse	0.213	
230	50	0.219	5	34.3	--	Main fuse	0.219	
230	60	0.215	5	34.5	--	Main fuse	0.215	
253	50	0.229	--	38.5	--	Main fuse	0.229	
253	60	0.221	--	38.6	--	Main fuse	0.221	
180	50	0.279	--	36.6	--	Main fuse	0.279	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 26.5Vrms Speaker output 100Ω(70V)
180	60	0.276	--	36.2	--	Main fuse	0.276	
200	50	0.288	5	41.2	--	Main fuse	0.288	
200	60	0.283	5	40.8	--	Main fuse	0.283	
230	50	0.292	5	43.3	--	Main fuse	0.292	
230	60	0.286	5	42.9	--	Main fuse	0.286	
253	50	0.303	--	48.1	--	Main fuse	0.303	
253	60	0.291	--	47.7	--	Main fuse	0.291	

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180	50	0.540	--	79.4	--	Main fuse	0.540	Input using a sine wave audio signal source at a frequency of 1000 Hz. deliver to 1/8 Max. Non-Clipped output power Max. output 39.25Vrms Speaker output 100Ω(110V)
180	60	0.539	--	79.0	--	Main fuse	0.539	
200	50	0.551	5	88.6	--	Main fuse	0.551	
200	60	0.550	5	88.7	--	Main fuse	0.550	
230	50	0.556	5	93.0	--	Main fuse	0.556	
230	60	0.554	5	93.0	--	Main fuse	0.554	
253	50	0.539	--	103.1	--	Main fuse	0.539	
253	60	0.563	--	103.2	--	Main fuse	0.563	

Supplementary information:

B.3, B.4	TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T_{amb} (°C) ..... :			25.0			—
Power source for EUT: Manufacturer, model/type, outputrating... :			--			—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
T1 Pin Blue - Black (31V)	OL	253V	6h59mins	Main fuse	0.563 to 0.605 to 0.642 to 0.654 to 0.18	Transformer (T1)'s thermal protector opened when the current load to 4.6A, no hazard. T1 coil: 133.3°C Ambient: 40.0°C Power switch: 29.9°C Metal enclosure (top): 40.1°C Ambient: 25.0°C
T1 Pin Yellow - Black (11.5V)	OL	253V	6h55mins	Main fuse	0.563 to 0.611 to 0.664 to 0.672 to 0.18	Transformer (T1)'s thermal protector opened when the current load to 3.8A, no hazard. T1 coil: 131.3°C Ambient: 40.0°C Power switch: 28.3°C Metal enclosure (top): 40.7°C Ambient: 25.0°C
T1 Pin White - White (8V)	OL	253V	6h54mins	Main fuse	0.563 to 0.614 to 0.669 to 0.676 to 0.18	Transformer (T1)'s thermal protector opened when the current load to 3.7A, no hazard. T1 coil: 146.7°C Ambient: 40.0°C

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Clause	Requirement + Test				Result - Remark	Verdict

						Power switch: 29.2°C Metal enclosure (top): 39.5°C Ambient: 25.0°C
T1 Pin Blue - Black (31V)	SC	253V	1s	Main fuse	0	Main fuse opened immediately, no hazards.
T1 Pin Yellow - Black (11.5V)	SC	253V	1s	Main fuse	0	Main fuse opened immediately, no hazards.
T1 Pin White - White (8V)	SC	253V	1s	Main fuse	0	Main fuse opened immediately, no hazards.
T2 Pin Blue - Black (110V)	SC	253V	10mins	Main fuse	0.015	Unit shutdown immediately. No damaged, no hazards.
T2 Output	Max. non-clipped	253V	3h41mins	Main fuse	1.275	Unit normal working, no hazard. T1 coil: 113.2°C T2 coil: 94.6°C Ambient: 40.0°C Power switch: 28.9°C Metal enclosure (top): 42.2°C Ambient: 25.0°C
Ventilation opening	Blocked	253V	2hour 08mins	Main fuse	0.563	Unit normal working, no hazard. T1 coil: 58.8°C T2 coil: 48.9°C Ambient: 40.0°C Power switch: 27.5°C Metal enclosure (top): 40.0°C Ambient: 25.0°C
Fan	locking	253V	7hours	Main fuse	0.577	Unit normal working, no hazard. T1 coil: 70.3°C T2 coil: 49.4°C Ambient: 40.0°C Power switch: 29.8°C Metal enclosure (top): 49.4°C Ambient: 25.0°C
USB	OL	253V	4hour 32mins	Main fuse	0.573	When the output current load reaches 0.75A, the USB port will be protected, with no voltage output and no danger. Unit normal working, no hazard. T1 coil: 60.2°C T2 coil: 48.6°C Ambient: 40.0°C Power switch: 27.1°C Metal enclosure (top): 33.9°C

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Clause	Requirement + Test				Result - Remark	Verdict

						Ambient: 25.0°C
C5	SC	253	1s	Main fuse	0	Main fuse opened immediately, no hazards.
BR1 pin “+” to “-”	SC	253	1s	Main fuse	0	Main fuse opened immediately, no hazards.
BR2 pin “+” to “-”	SC	253	1s	Main fuse	0	Main fuse opened immediately, no hazards.
E2	SC	253	1s	Main fuse	0	Main fuse opened immediately, no hazards.
U1 pin 2-3	SC	253	10mins	Main fuse	0.015	Unit shutdown immediately. No damaged, no hazards.
U1 pin 2-8	SC	253	1s	Main fuse	0	Unit shutdown immediately. No damaged, no hazards.
U1 pin 3-4	SC	253	1s	Main fuse	0	Unit shutdown immediately. No damaged, no hazards.
U2 pin 5-7	SC	253	10mins	Main fuse	0.015	Unit shutdown immediately. No damaged, no hazards.
U2 pin 6-7	SC	253	1s	Main fuse	0	Unit shutdown immediately. No damaged, no hazards.
J3 pin 1-3	SC	253	1s	Main fuse	0	Unit shutdown immediately. No damaged, no hazards.
P2 pin 1-3	SC	253	1s	Main fuse	0	Unit shutdown immediately. No damaged, no hazards.
C11	SC	253	1s	Main fuse	0	Unit shutdown immediately. No damaged, no hazards.
R1	SC	253	10mins	Main fuse	0.015	Unit shutdown immediately. No damaged, no hazards.
D2	SC	253	10mins	Main fuse	0.015	Unit shutdown immediately. No damaged, no hazards.

Supplementary information:

1) SC: Short circuit; OC: Open circuit; OL: Overloaded.
2) The test result shown all safeguards remained effective and didn’t lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.
3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.
4) The overloaded condition is applied according to annex G.5.3.3.
Winding Limit for transformer: 150-10=140°C. Plastic enclosure: 87°C; Metal enclosure: 70°C; Button: 70°C.
5) The same as result test conducted on all fuse sources, all fuse sources see table 4.1.2 for details.

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?.....:		Impossible	—
Equipment Specification	Charging		
	Voltage (V)	Current (A)	

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Clause	Requirement + Test	Result - Remark	Verdict

	--		--			
Manufacturer/type	Battery specification					
	Non-rechargeable batteries		Rechargeable batteries			
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)
			Voltage (V)	Current (A)		
--	--	--	--	--	--	--
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.						
Specified battery temperature (°C).....:	--					

Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Supplementary information:

Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.

M.4.2	**TABLE: Charging safeguards for equipment containing a secondary lithium battery**	N/A
Maximum specified charging voltage (V) .....:	--	—
Maximum specified charging current (A) .....:	--	—
Highest specified charging temperature (°C) .....:	--	
Lowest specified charging temperature (°C) .....:	--	

Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	
--	--	--	--	--	--
--	--	--	--	--	--

Supplementary information:

Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature

1) See table B.2.5, B.3 and B.4

Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**						P
Output Circuit	Condition	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
USB	Abnormal: OL	5.06	5	0.75	8	2.62	100
	Single fault: C11-SC	5.08	5	0	8	0	100
Supplementary Information:							

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SC=short circuit, OC=open circuit

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Location/ Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
Internal wires and components	--	--	--	10	5	Cl./cr. can still complying the requirement after force applied
External enclosure	Metal	See table 4.1.2	--	250	5	No damage
Supplementary information:						

T.6, T.9	TABLE: Impact test			P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
External enclosure	Metal	See table 4.1.2	1300	No damaged
Supplementary information:				

T.7	TABLE: Drop test			N/A
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
-	--	--	--	-
Supplementary information:				
*: Tests were performed on product with each source listed in table 4.1.2.				

T.8	TABLE: Stress relief test				N/A
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
--	--	--	--	--	--
Supplementary information:					

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

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

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4.1.2	TABLE: list of critical components and materials				P
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1]**
Metal enclosure	Interchangeable	Interchangeable	Min. thickness: 1.2mm	IEC 62368-1:2018	Tested with appliance
Power plug	Ningbo Ousheng Electric Appliance Co., Ltd	S03-B	250VAC, 16A	DIN VDE 0620-2-1/A1 (VDE 0620-2-1/A1):2017-09 DIN VDE 0620-2-1 (VDE 0620-2-1):2016-01	VDE 40023901
Power wire	Ningbo Ousheng Electric Appliance Co., Ltd	H05VV-F	3 ×1.5mm^2	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011	VDE 40021137
Appliance Coupler	Kenic Electric Mfg. Co., Ltd	KE-24	AC 250V, 10A	DIN VDE 0625-1	VDE 40003450
Appliance inlet with fuse holder	LECI Electronics Co., Ltd	DB-14-2+RS	250VAC, 10A 70°C	DIN EN IEC 60320-1 (VDE 0625-1):2023-06; EN IEC 60320-1:2021	VDE 40012137
-Fuse in appliance inlet	Schurter AG	SP 5x20	F5AL, 250VAC	DIN EN 60127-1 (VDE 0820-1) IEC/EN 60127-1 IEC/EN 60127-2 DIN EN 60127-2 (VDE 0820-2)	VDE 40009397
Power switch	Yueqing Leiya Electronic Co., Ltd	LY601E	6A, 250VAC, 125°C, 10E3	EN IEC 61058-1 EN 61058-1-1	TUV HN 7041017886 01-01
Heat-shrinking tube	DONG GUAN HENGCHANGYONG ELECTRIC CO LTD	HCY-3	300V, 105°C	UL 224	UL E313826
Internal primary wire	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674
X-Capacitor (CX1, CX2)	Carli Electronics Co., Ltd	MKP-X2	275V~, 0.1uF, 105°C, X2 type	IEC 60384-14	VDE 40008520
Bleeding resistor (R2A, R3A)	Hangzhou Hangzu Electronic Technology Co., LTD	RJ15	Each max. 1.1MΩ, min 0.5W	IEC 62368-1:2018	Tested with appliance

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Clause	Requirement + Test	Result - Remark	Verdict

Y-Capacitor (CY3, CY4)	Jyh Chung Electronic Co., Ltd.	CT7-Y1-250V-08b-B-221K 17BH	250V~, 2200pF, 125°C, Y1 type or Y2 type	IEC 60384-14	VDE 123326
PTC (F1)	BAODTAN (SHENZHEN) INDUSTRIAL CO LTD	PTC181216V260	85°C, Class C3	UL 1434 IEC 62368-1	UL E506488 Tested with appliance
Inductance (L1)	Hangzhou Baishun Electronics Co., LTD	31 Common mode inductors	31x19x13 Inductance 10Mh Current maximum 5A	IEC 62368-1:2018	Tested with appliance
Transformer (T1)	Chang Shu YiSheng Electrical Appliance Factory	PG120HK	Class B, Input: 220VAC 50/60Hz Output: blue-black: 31Vac, yellow- black: 11.5VAC, white-white: 8VAC	IEC/EN 62368-1:2018	Tested with appliance
-Tube	DONG GUAN HENGCHANGYONG ELECTRIC CO LTD	HCY-3	300V, 105°C	UL 224	UL E313826
-Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT Polyester	130°C, 0.05mm	UL510	UL E165111
-Flame Retardant Sleeving	SHENZHEN WAHCHANGWEI INDUSTRIAL CO LTD	SGS-25	200°C, VW-1, 2500V	UL1441	UL E1233804
(Alternative)	SHENZHEN WAHCHANGWEI INDUSTRIAL CO LTD	SGS-40	200°C, VW-1, 4000V	UL1441	UL E1233804
-Insulation sheet	Mylar Specialty Films	Mylar A	VTM-2, 105°C	UL94	UL E93687
-Primary Winding	Zhengzhou Weien New Material Technology Co ltd	MW 35A	220°C	UL 1446	UL E250244
- secondary Winding	Zhengzhou Weien New Material Technology Co ltd	MW 35A	220°C	UL 1446	UL E250244
-Primary lead wire	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674
-Secondary lead wire (for 40V)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674

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(Alternative)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1430	300V,105°C, 20AWG, VW-1	UL 758	UL E189674
-Secondary lead wire (for 11.5V)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674
(Alternative)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1430	300V,105°C, 20AWG, VW-1	UL 758	UL E189674
-Secondary lead wire (for 8V)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674
(Alternative)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1430	300V,105°C, 20AWG, VW-1	UL 758	UL E189674
-Thermal protector	Foshan Ji Hui Electrical	BW – ACJ	130°C, 3000 cycles	DIN EN 60730-1 DIN EN 60730-2-2	VDE 40019595
Audio transformer					
Transformer (T2)	Chang Shu YiSheng Electrical Appliance Factory	PG150	Class B, Input: 22VAC, 100Hz Output: red-black: 22Vac, yellow-black: 70VAC, blue-white: 110VAC	IEC/EN 62368-1:2018	Tested with appliance
-Tube	DONG GUAN HENGCHANGYONG ELECTRIC CO LTD	HCY-3	300V, 105°C	UL 224	UL E313826
-Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT Polyester	130°C, 0.05mm	UL510	UL E165111
-Flame Retardant Sleeving	SHENZHEN WAHCHANGWEI INDUSTRIAL CO LTD	SGS-25	200°C, VW-1, 2500V	UL1441	UL E1233804
(Alternative)	SHENZHEN WAHCHANGWEI INDUSTRIAL CO LTD	SGS-40	200°C, VW-1, 4000V	UL1441	UL E1233804
-Insulation sheet	Mylar Specialty Films	Mylar A	VTM-2, 105°C	UL94	UL E93687
-Primary Winding	Zhengzhou Weien New Material Technology Co ltd	MW 35A	220°C	UL 1446	UL E250244

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Clause	Requirement + Test	Result - Remark	Verdict

- secondary Winding	Zhengzhou Weien New Material Technology Co ltd	MW 35A	220°C	UL 1446	UL E250244
-Primary lead wire	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674
-Secondary lead wire (for 25V)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674
(Alternative)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1430	300V,105°C, 20AWG, VW-1	UL 758	UL E189674
-Secondary lead wire (for 70V)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674
(Alternative)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1430	300V,105°C, 20AWG, VW-1	UL 758	UL E189674
-Secondary lead wire (for 110V)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1015	600V,105°C, 20AWG, VW-1	UL 758	UL E189674
(Alternative)	GUANGDONG DONGJU WIRE & CABLE CO LTD	1430	300V,105°C, 20AWG, VW-1	UL 758	UL E189674
-Thermal protector	Foshan Ji Hui Electrical	BW - ACJ	130°C, 3000 cycles	DIN EN 60730-1 DIN EN 60730-2-2	VDE 40019595
Fan	Suzhou shun feng wang Electronic Technology Co., LTD.	DFX8025	24V DC, 0.2A, 3000RP, 34.8CFM	IEC 62368-1:2018	Tested with appliance
Supplementary information:					
[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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

	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".	--
	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	--
1	**Modification to Clause 3 .**	N/A
3.3.19	**Sound exposure** *Replace 3.3.19 of IEC 62368-1 with the following definitions:*	N/A
3.3.19.1	**momentary exposure level, MEL** metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.19.3	**sound exposure, *E*** A-weighted sound pressure (p) squared and integrated over a stated period of time, T Note 1 to entry: The SI unit is Pa^2 s. $E = \int_0^T p(t)^2 \, dt$		N/A
3.3.19.4	**sound exposure level, *SEL*** logarithmic measure of sound exposure relative to a reference value, E_0, typically the 1 kHz threshold of hearing in humans. Note 1 to entry: *SEL* is measured as A-weighted levels in dB. $SEL = 10 \lg\left(\frac{E}{E_0}\right)$ 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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2	**Modification to Clause 10**		N/A
10.6	**Safeguards against acoustic energy sources** Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	**Introduction** **Safeguard** requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled to the ear are specified below. Requirements 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		N/A

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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.		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 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		N/A

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	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 exceeds RS2 limits.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 (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
10.6.4	**Requirements for maximum sound exposure**		N/A
10.6.4.1	**Measurement methods** All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
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

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.5.3	**Exposure-based requirements** With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at. The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3. The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster. Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface. NOTE In case the source is known not to be music (or test signal), the EL may be disabled.		N/A
10.6.6	**Requirements for listening devices (headphones, earphones, etc.)**		N/A
10.6.6.1	**Corded listening devices with analogue input** With 94 dB L_{Aeq} acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in 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 $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

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				

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Clause	Requirement + Test	Result - Remark	Verdict

4	**Modification to Clause 1**		P
1	***Add*** *the following note:* *NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.*		P
5	**Modification to 4.Z1**		P
4.Z1	***Add*** *the following new subclause after 4.9:* To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** 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.		N/A
7	**Modification to 10.2.1**		N/A
10.2.1	Add the following to c) and d) in table 39: For additional requirements, see 10.5.1.		N/A

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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**		P
G.7.1	***Add*** *the following note:* NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		P

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Clause	Requirement + Test	Result - Remark	Verdict
10	**Modification to Bibliography**		P
	Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		P
11	**ADDITION OF ANNEXES**		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”	Should be evaluated in the final national certificate.	N/A
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		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	**Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
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.		P
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**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		
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 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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
8.5.4.2.3	**United Kingdom** Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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.		N/A
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 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.		P
ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A

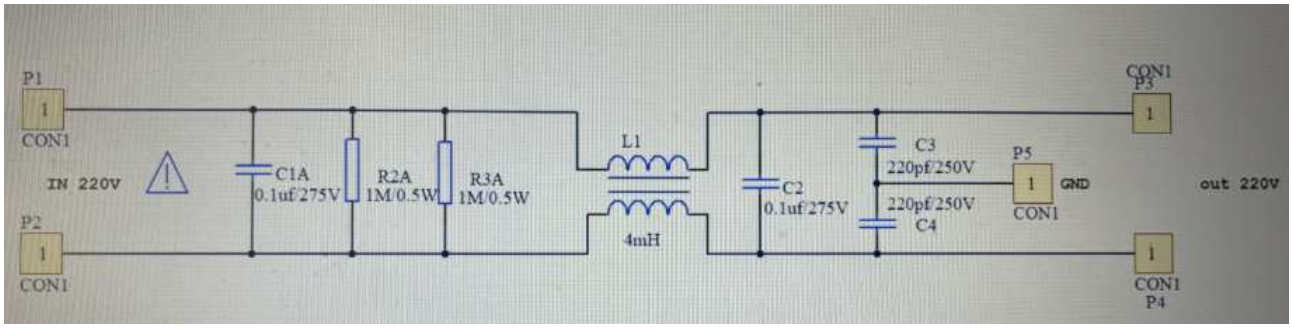
IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification*: German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de		N/A
ZD	**IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)**		P

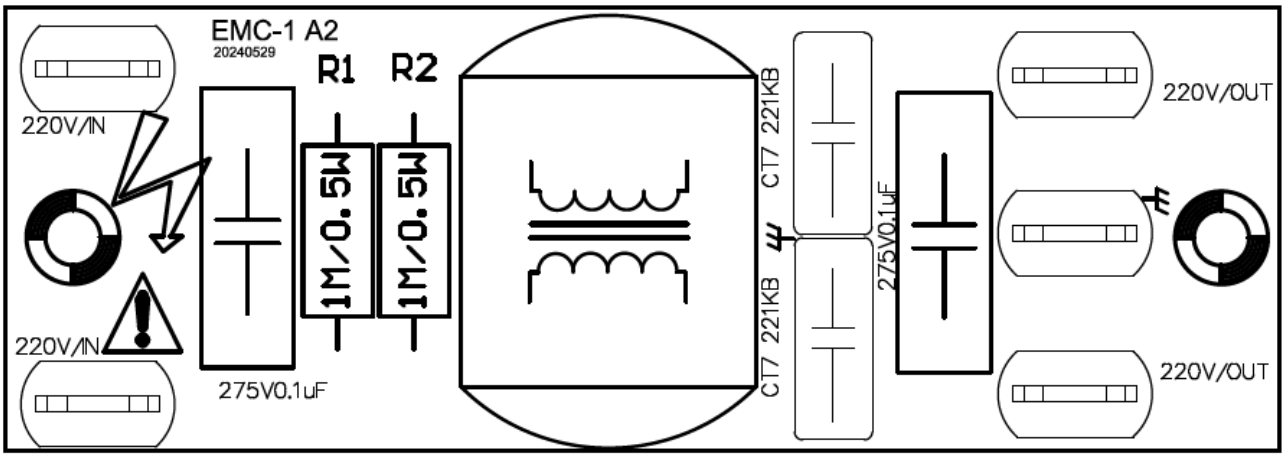
IEC62368_1E - ATTACHMENT

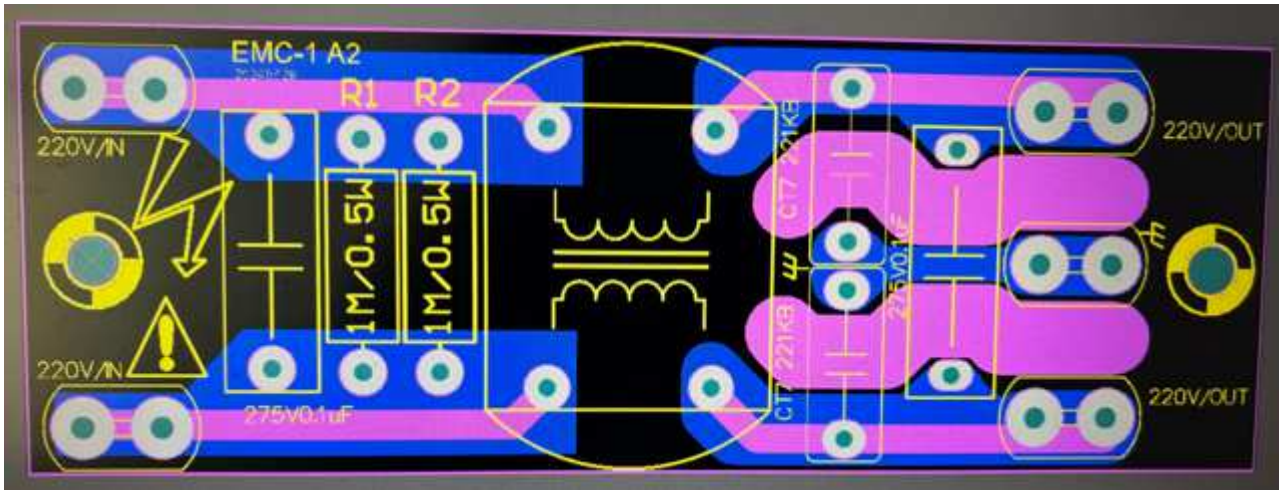
Clause	Requirement + Test	Result - Remark	Verdict
			P

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

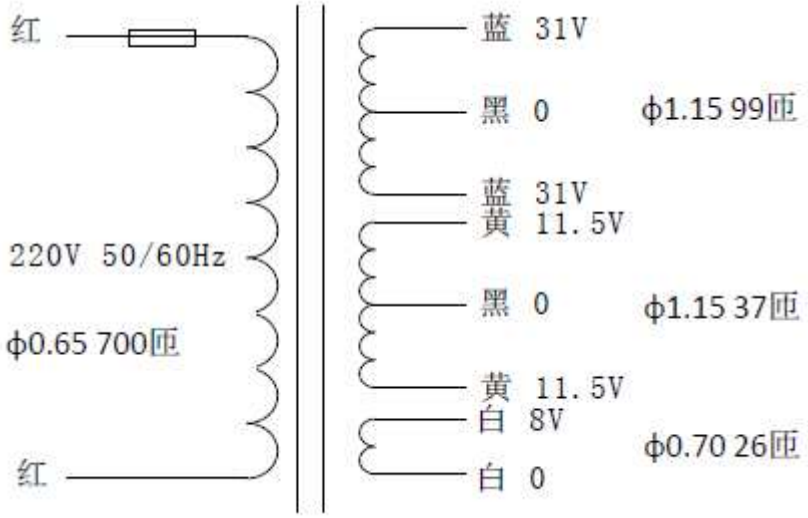
Circuits and PCB layout



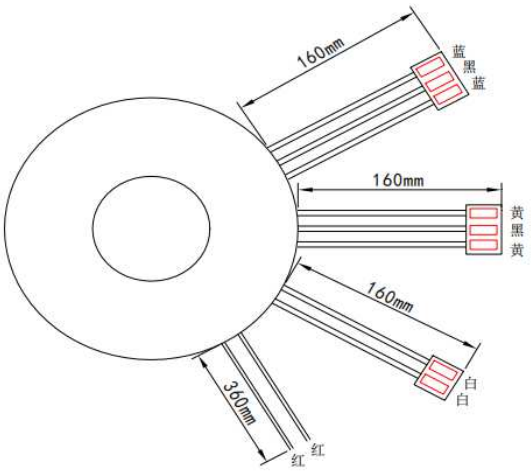


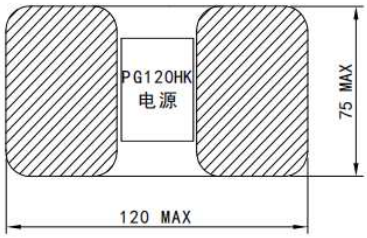


Specification of transformer T1



客户 CUSTOMER: 杭州中河电子器材有限公司
变压器成品尺寸、及出线位置（顶部出线图）单付：（mm)
Product Appearance.Size Unit:(mm)





Specification of transformer T1

一、变压器物料表. Transformer Material.

项目Ite m	种类Description	规格参数Specification parameters	供应商Manufacturer/supplier
1.	铁芯 Lammination core	BAOWU steel 105*58*55	Baosteel and Wuhan iron and Steel Manufacturers
2.	漆包线 Copper Wire	QZYL-2/180/200/220 初级0.65线700匝 次级0.70线26匝 1.15线37匝*2 1.15线99匝*2	ANHUI JINGER ELECTRICAL TECHNOLOGY CO LTD Changxing Meige Composite Materia CO LTD
3.	初级引线 Primary Leadout	RV0.5	SHANGHAI QIFAN CABLE CO LTD ECHU SPECIAL CABLE & WIRE (KUNSHAN) CO LTD JIANGYIN WEICHENG SPECIAL CABLE CO LTD
4.	次级引线 Secondary Leadout	AVR0.3/RV0.5	SHANGHAI QIFAN CABLE CO LTD ECHU SPECIAL CABLE & WIRE (KUNSHAN) CO LTD JIANGYIN WEICHENG SPECIAL CABLE CO LTD
5.	水性绝缘漆 insulating coatings		LONGMEN CHUANGYI PAINTING CO LTD
6.	聚酯薄膜 POLYESTER FILM	OUTEF INSULATION 0.05*1 layer CORE INSULATION 0.05*Two layers PRITO SEC.INSULATION 0.05*Two layers UNDER SEC.LEADS 0.05*1 layer	Jiangsu Yuxing Film Technology Co., Ltd
7.	温度保险 Thermal protector	BW-ABJ 130℃	Foshan Ji Hui Electrical

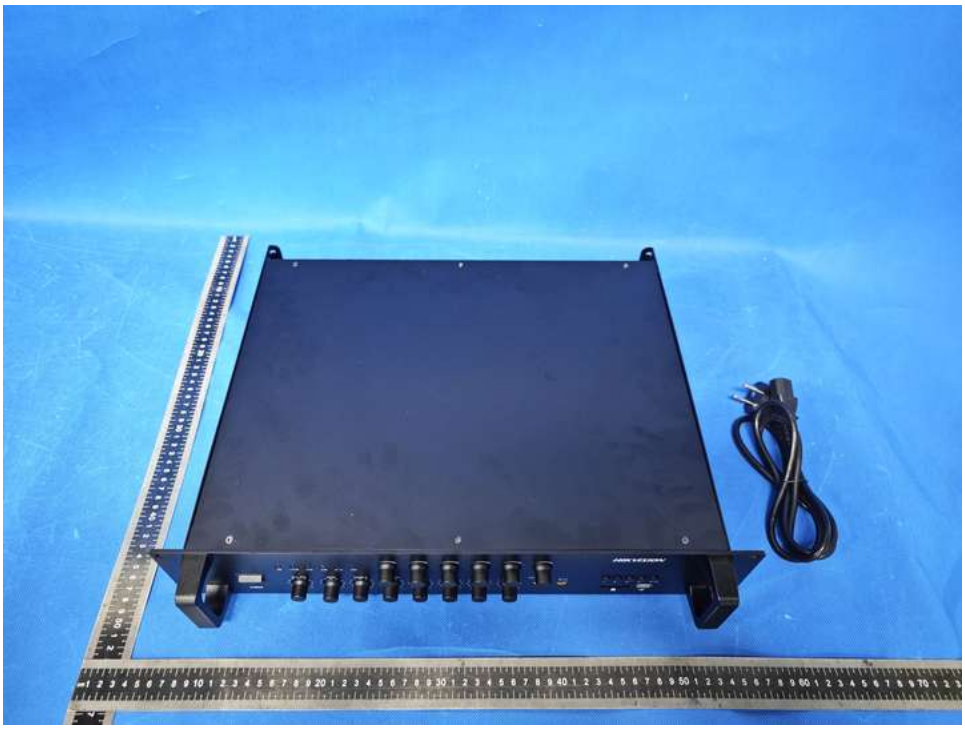


Photo 1. Overall view

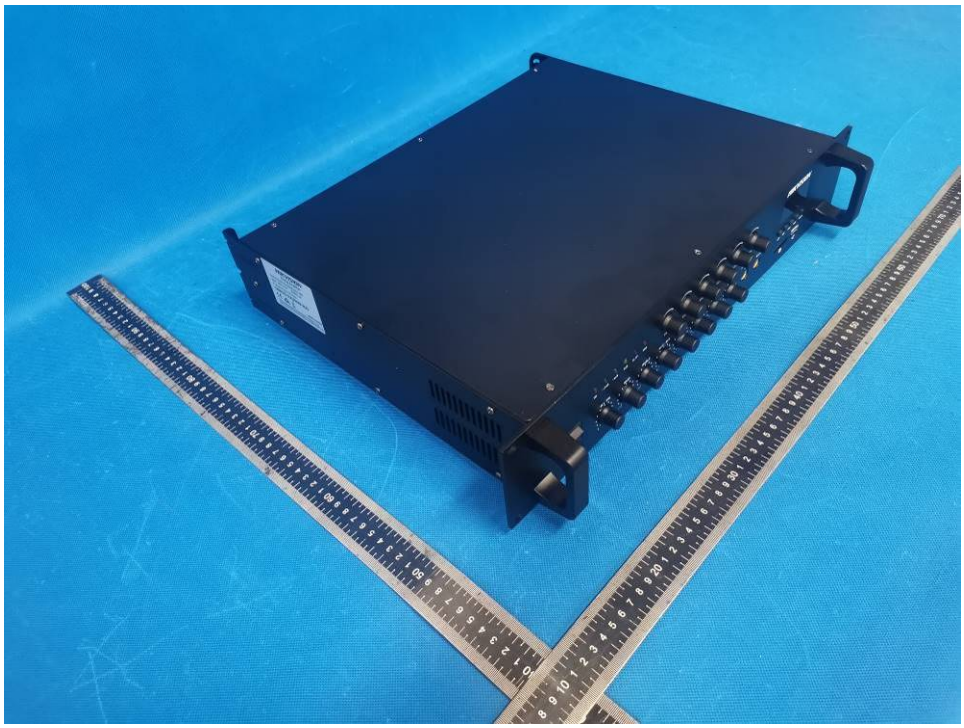


Photo 2. Overall view

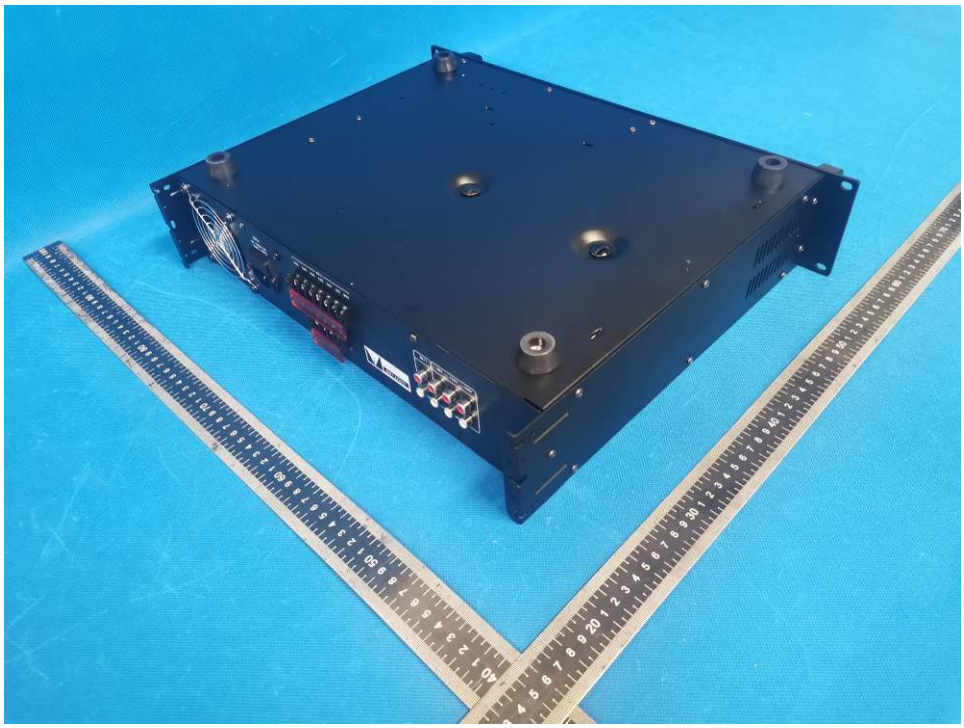


Photo 3. Overall view

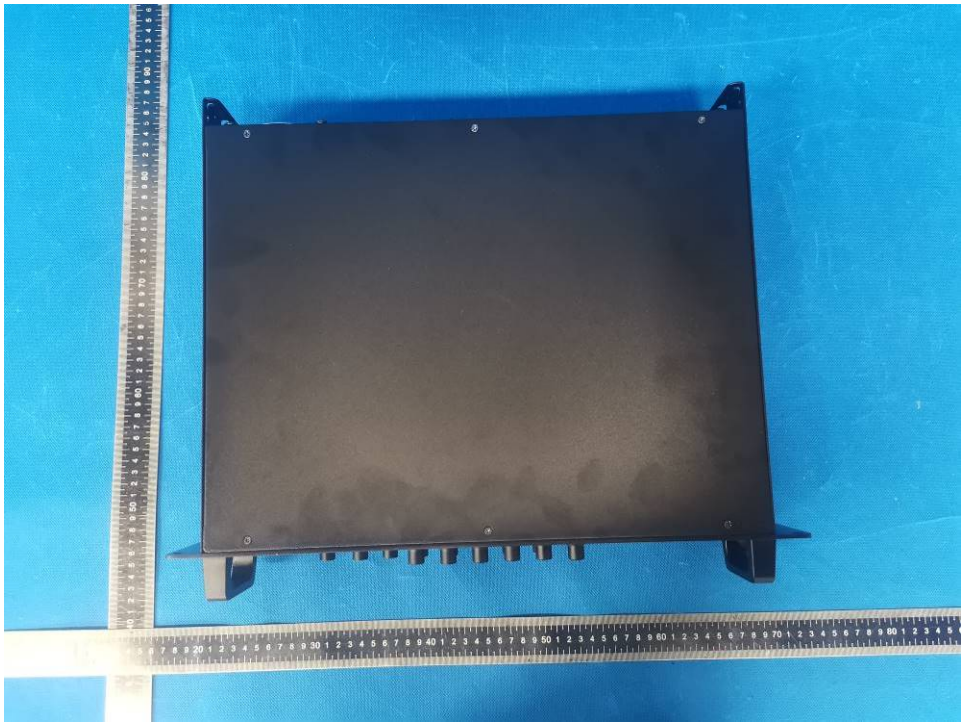


Photo 4. Overall view

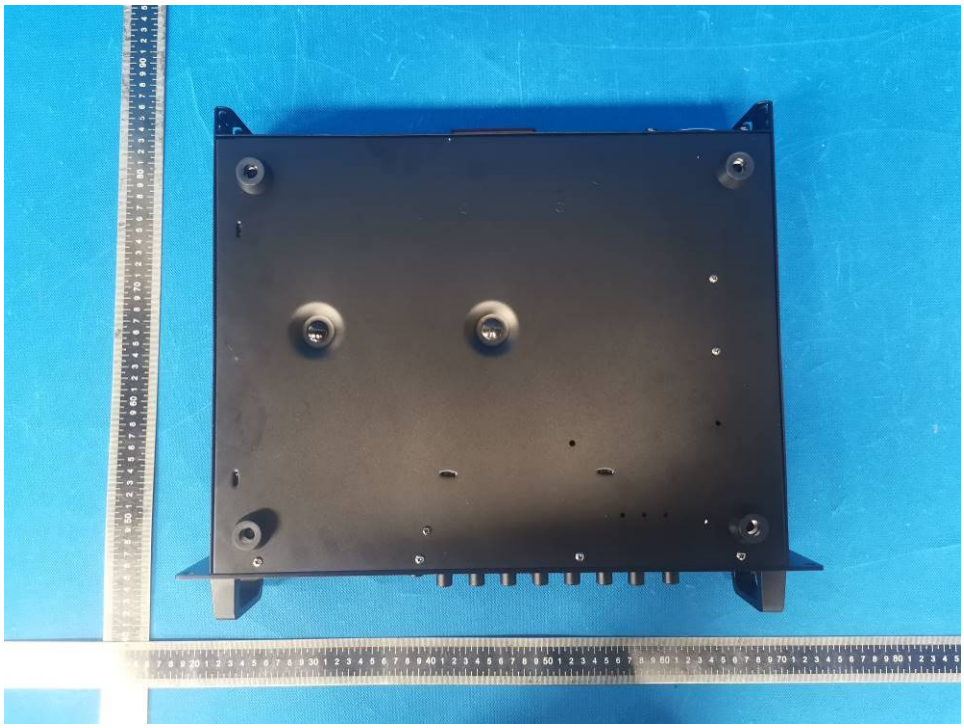


Photo 5. Overall view

Photo 6. Adjustment button view

Photo 7. Output port view

Photo 8. AC Connector and Fan view

Photo 9. Audio input/output port view

Photo 10. Label view

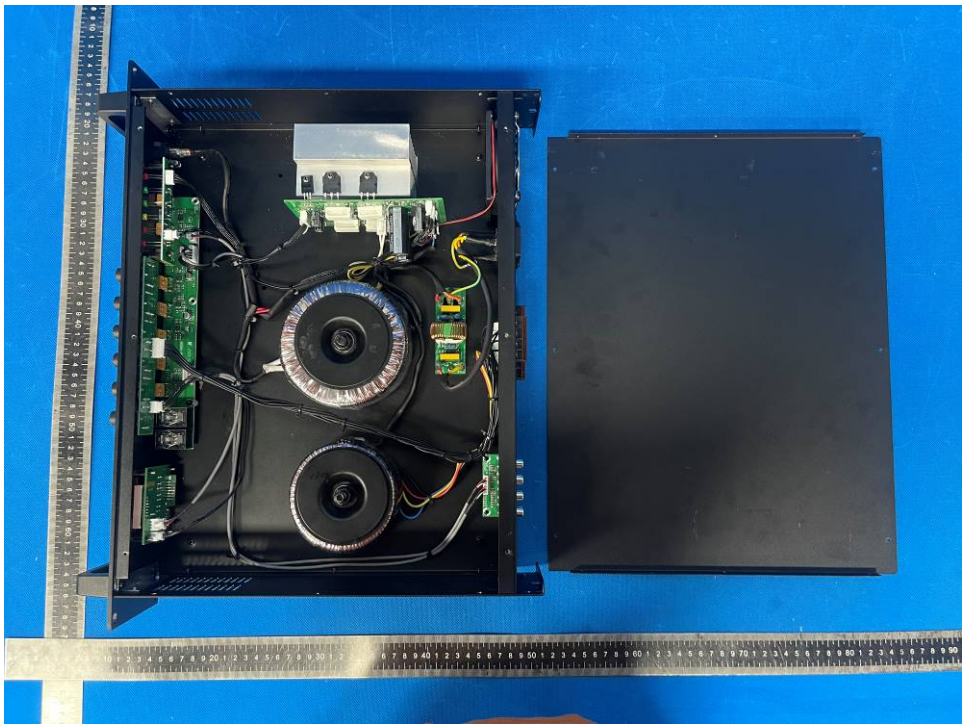


Photo 11. Internal view

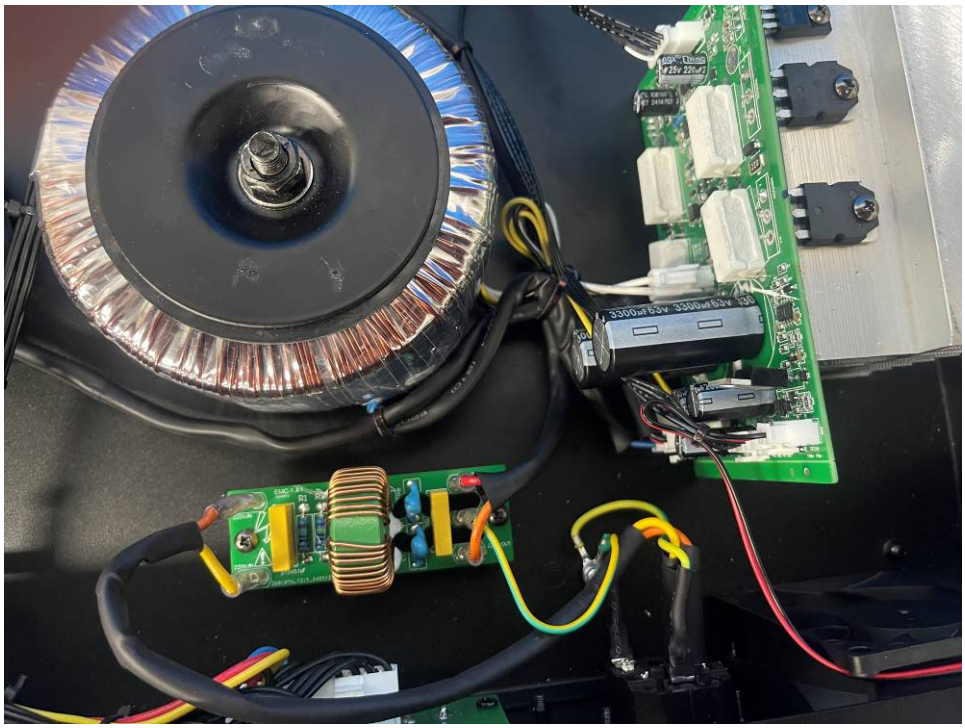


Photo 12. Internal view

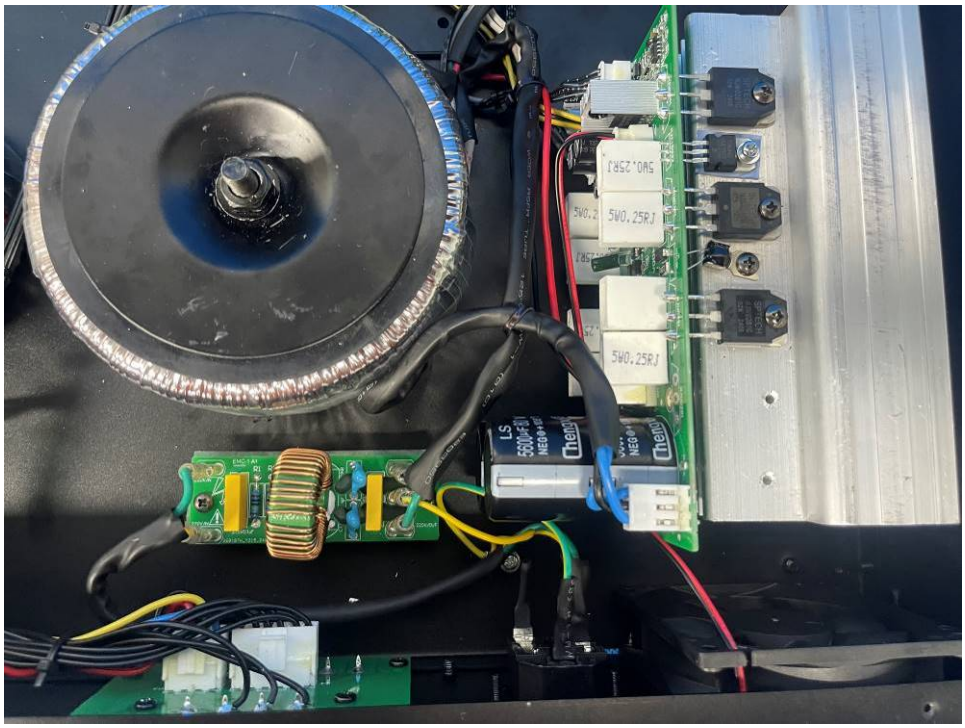


Photo 13. Internal view

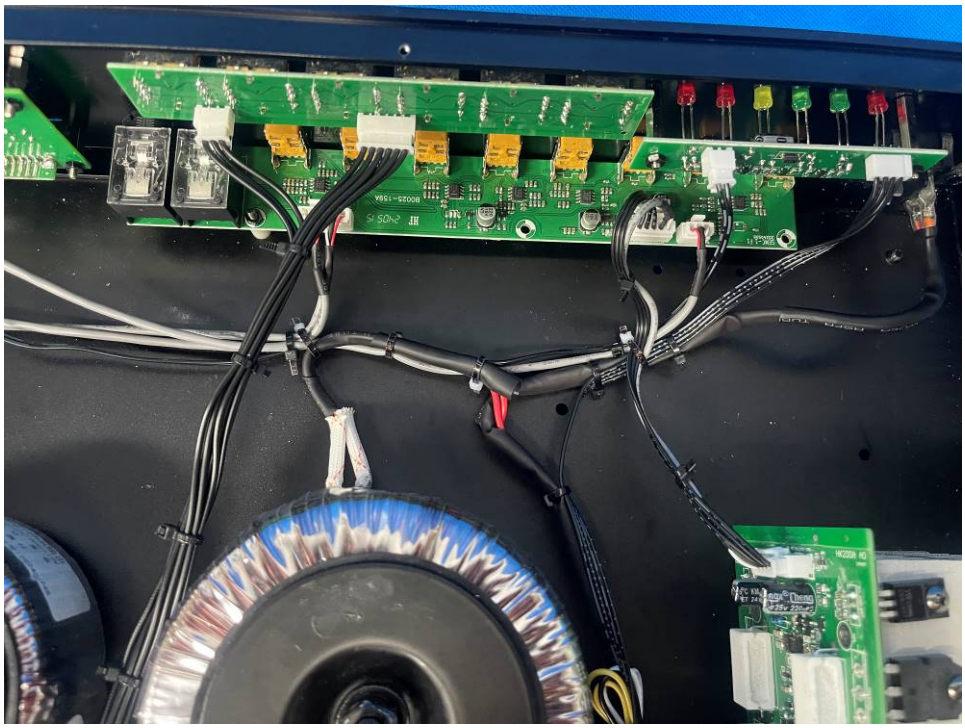


Photo 14. Internal view

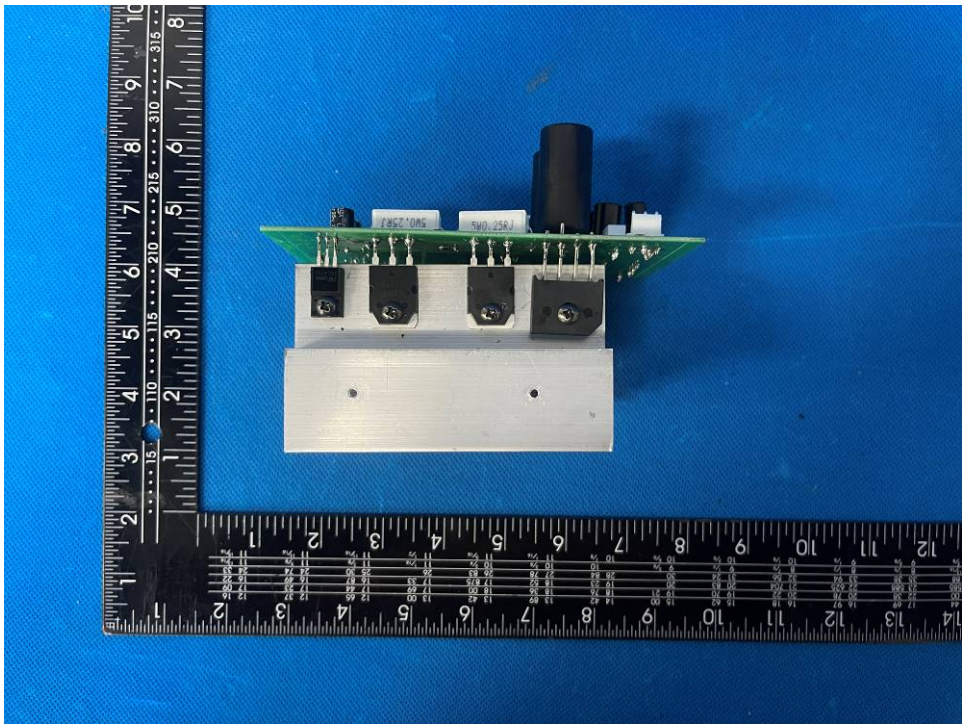


Photo 15. Power amplifier PCB board view

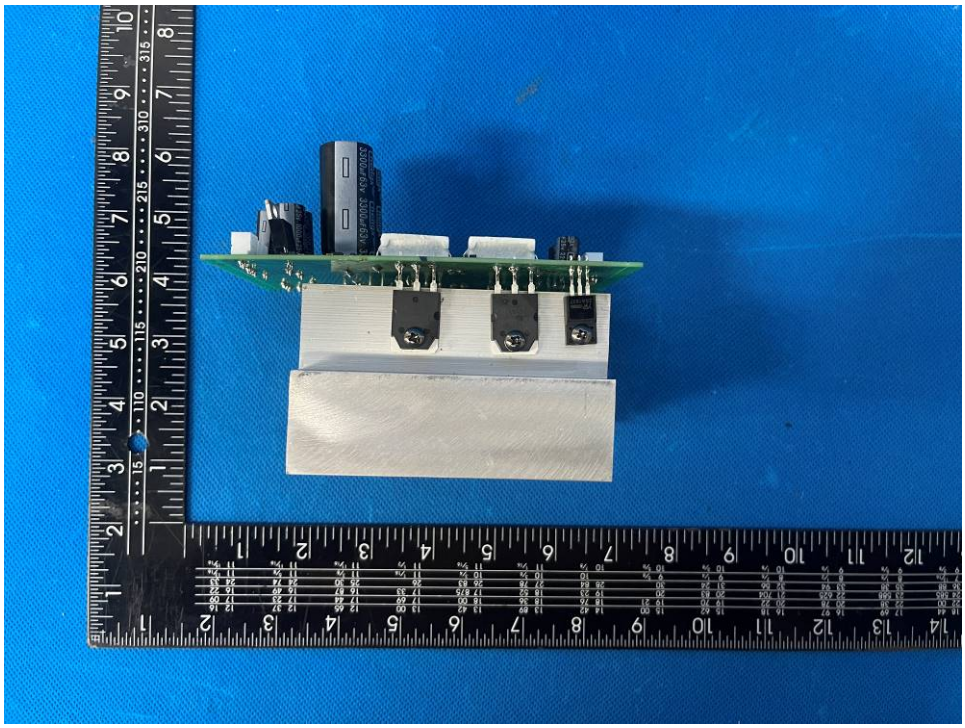


Photo 16. Power amplifier PCB board view

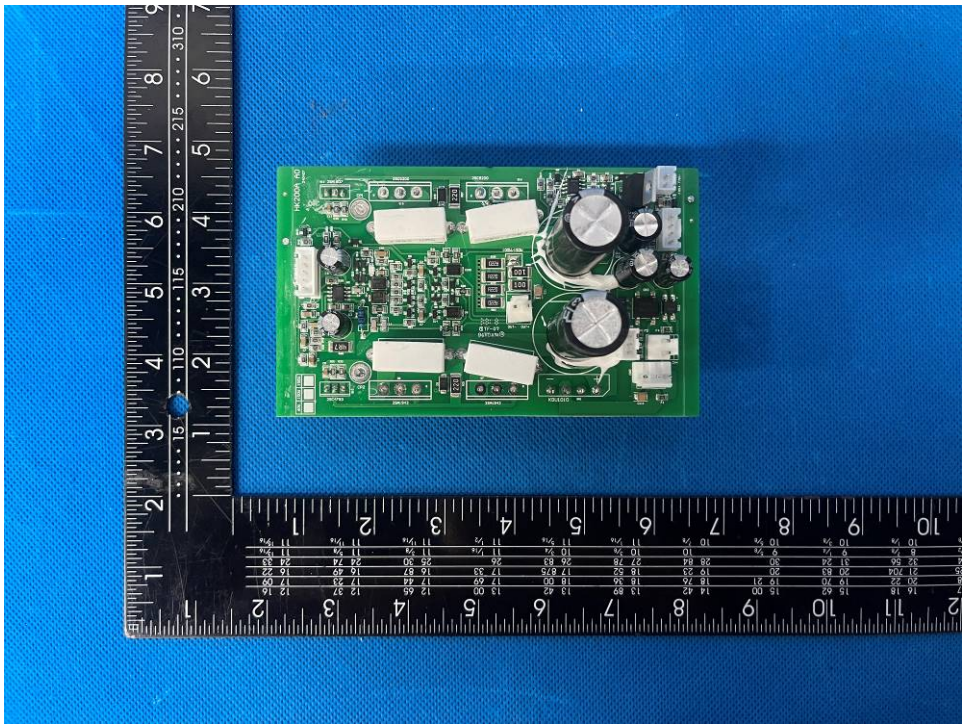


Photo 17. Power amplifier PCB board view

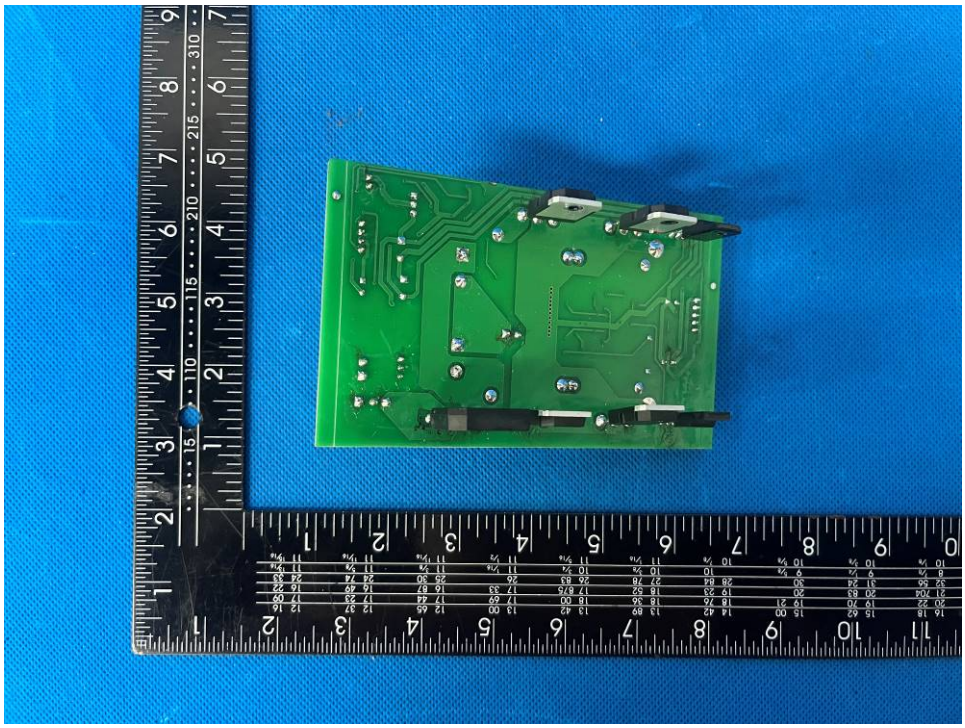


Photo 18. Power amplifier PCB board view

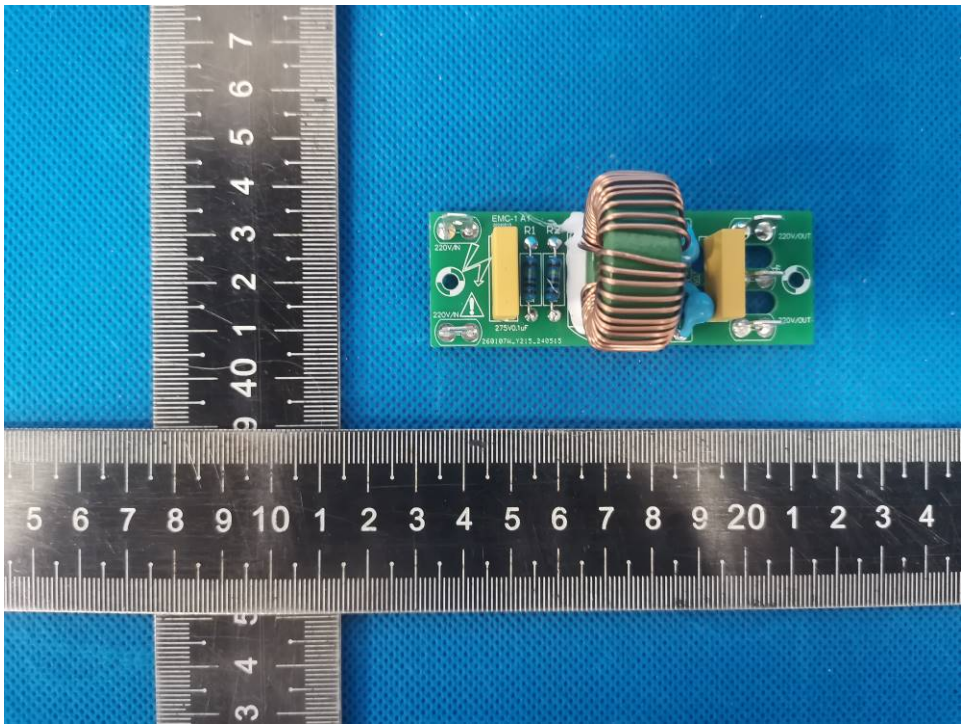


Photo 19. PCB view

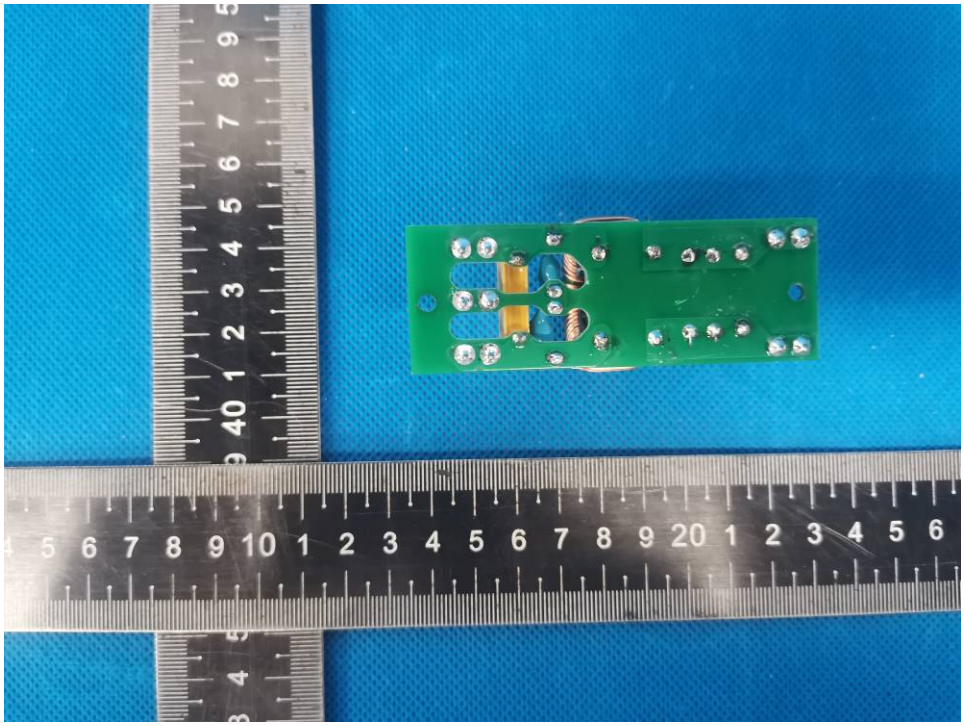


Photo 20. PCB view

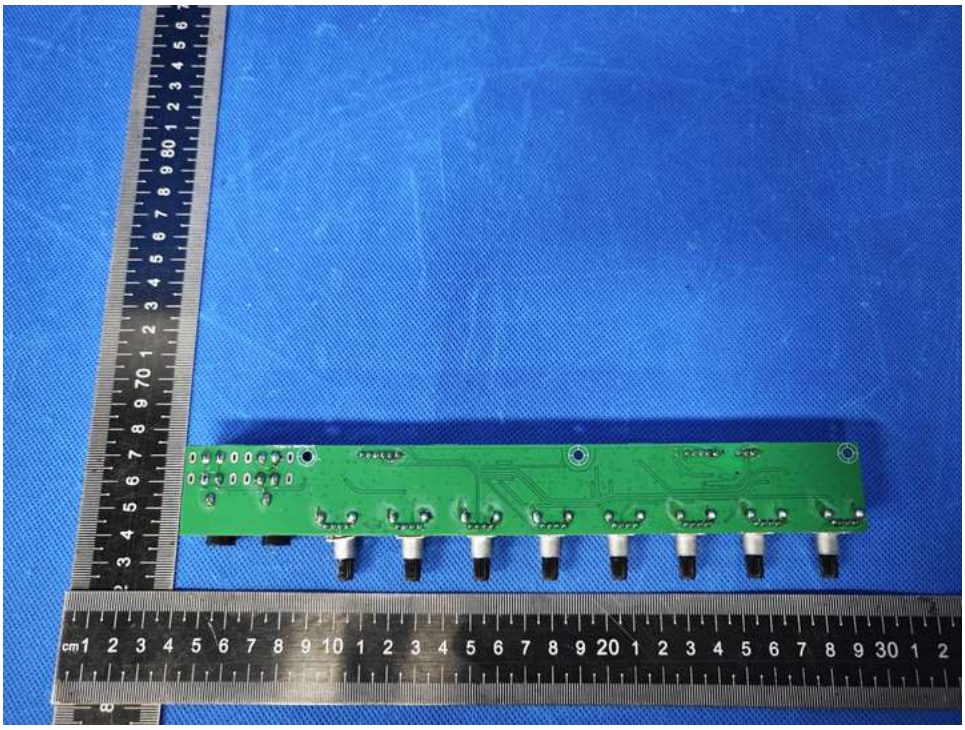


Photo 21. Adjustment button PCB view

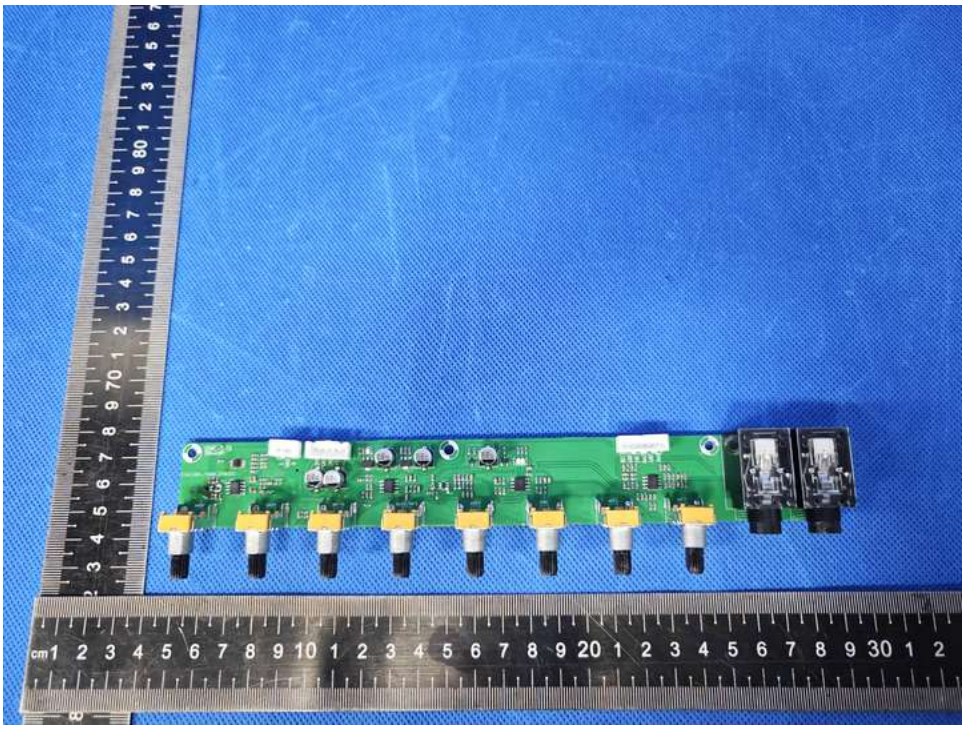


Photo 22. Adjustment button PCB view

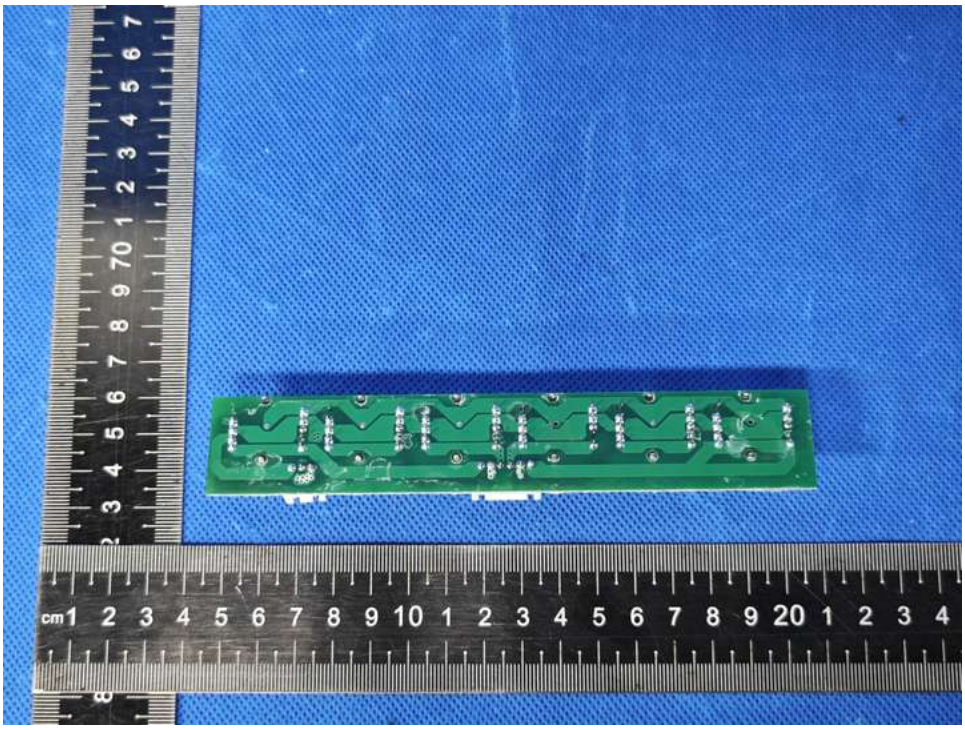


Photo 23. Adjustment button PCB view

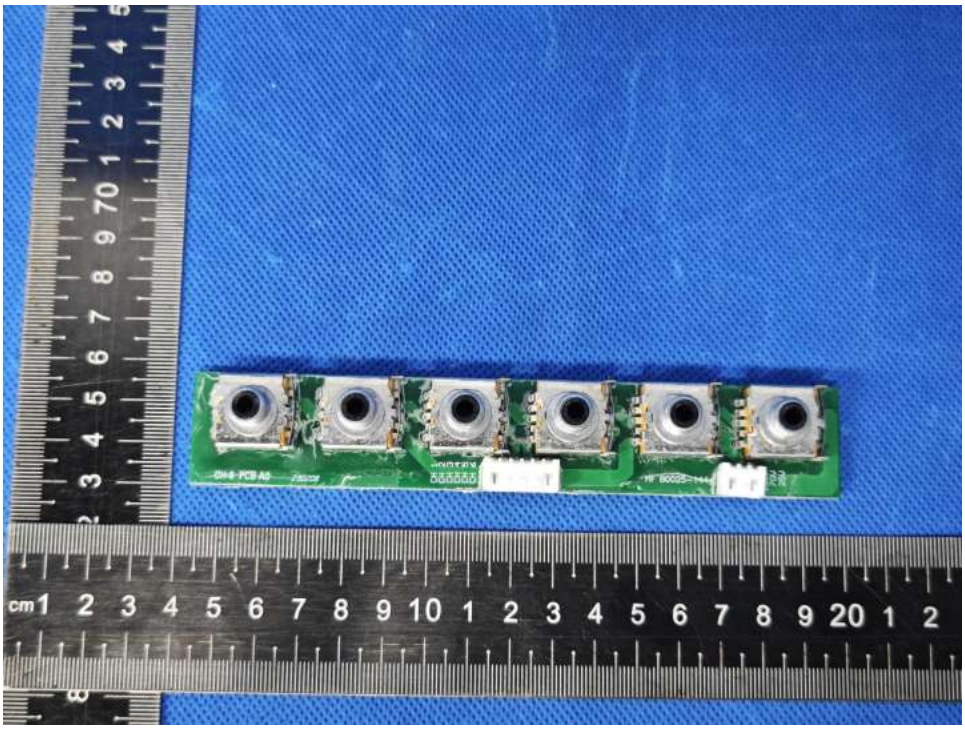


Photo 24. Adjustment button PCB view

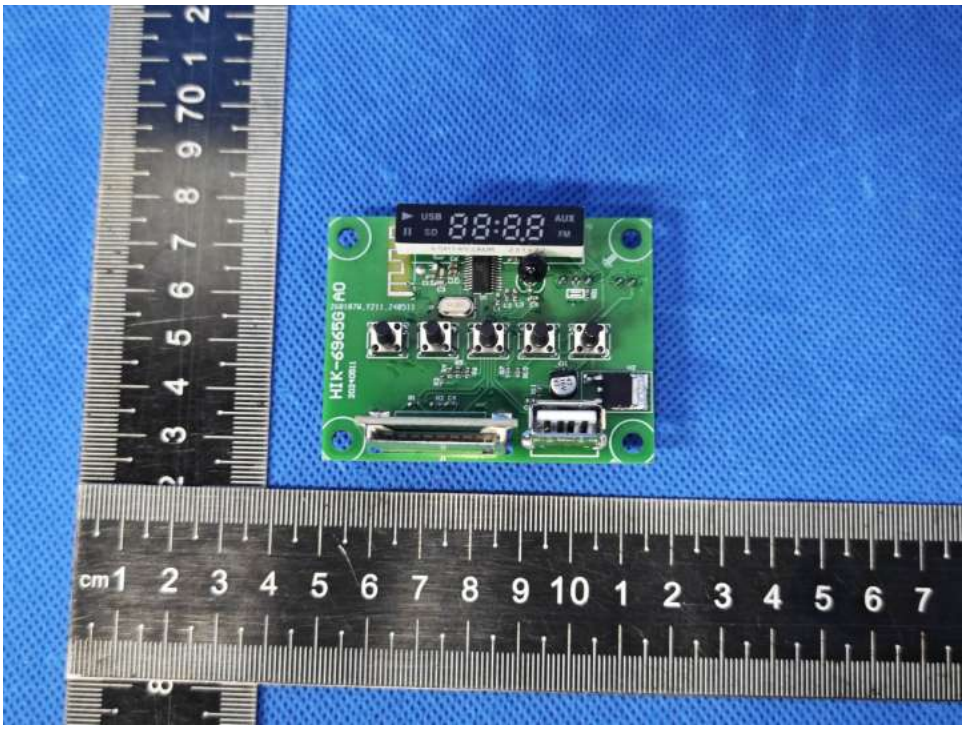


Photo 25. Electronic display circuit PCB view

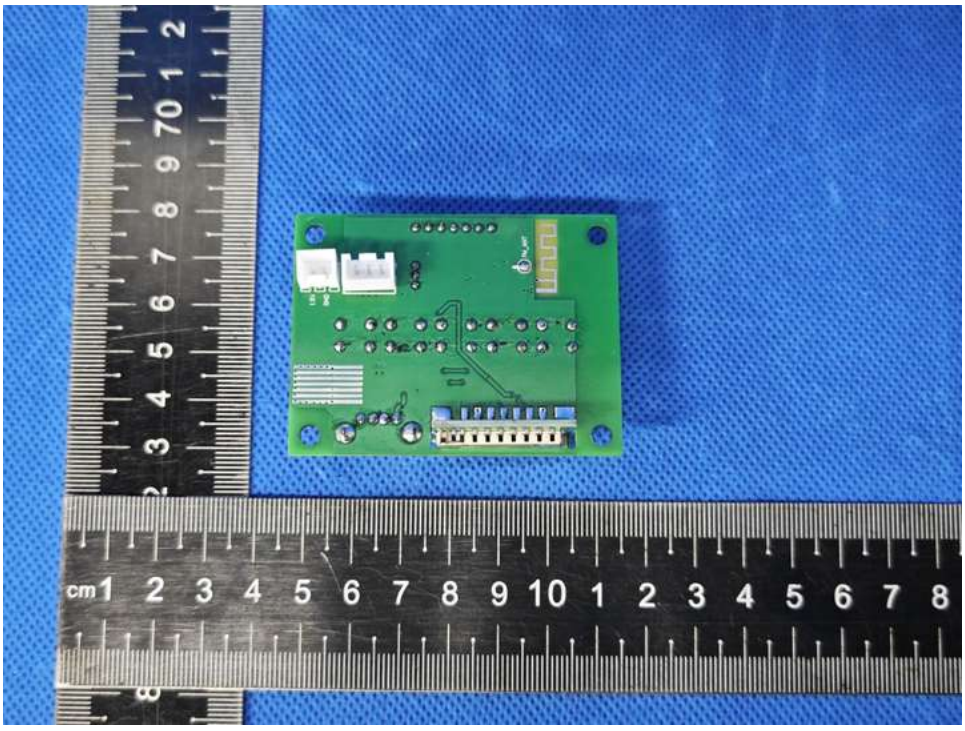


Photo 26. Electronic display circuit PCB view

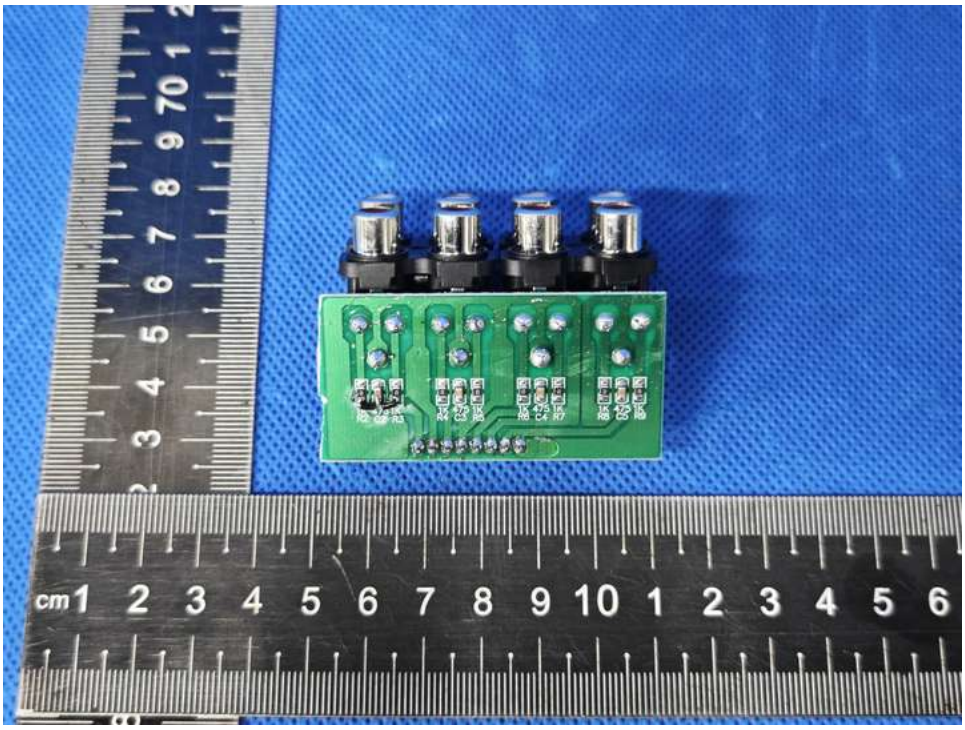


Photo 27. Audio input/output port PCB view

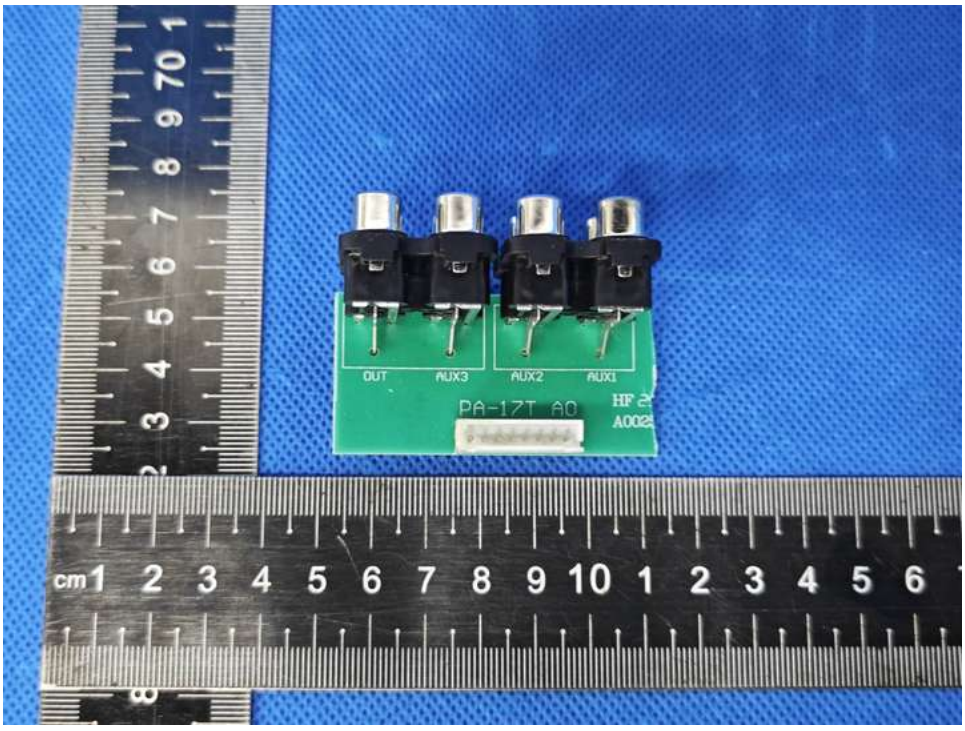


Photo 28. Audio input/output port PCB view

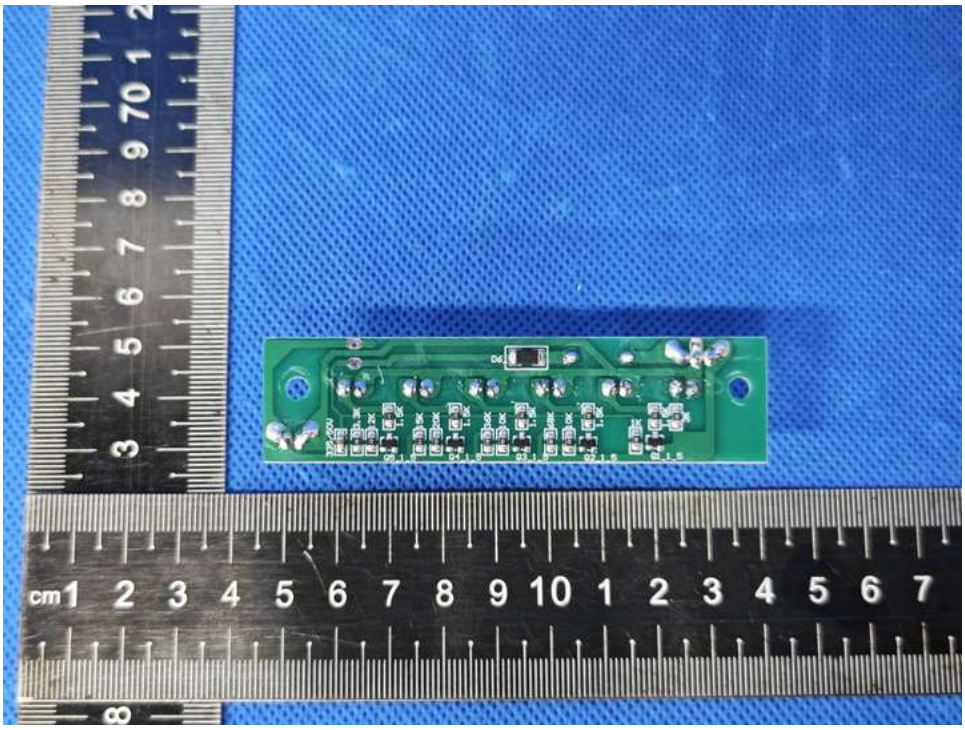


Photo 29. Indicator light PCB view

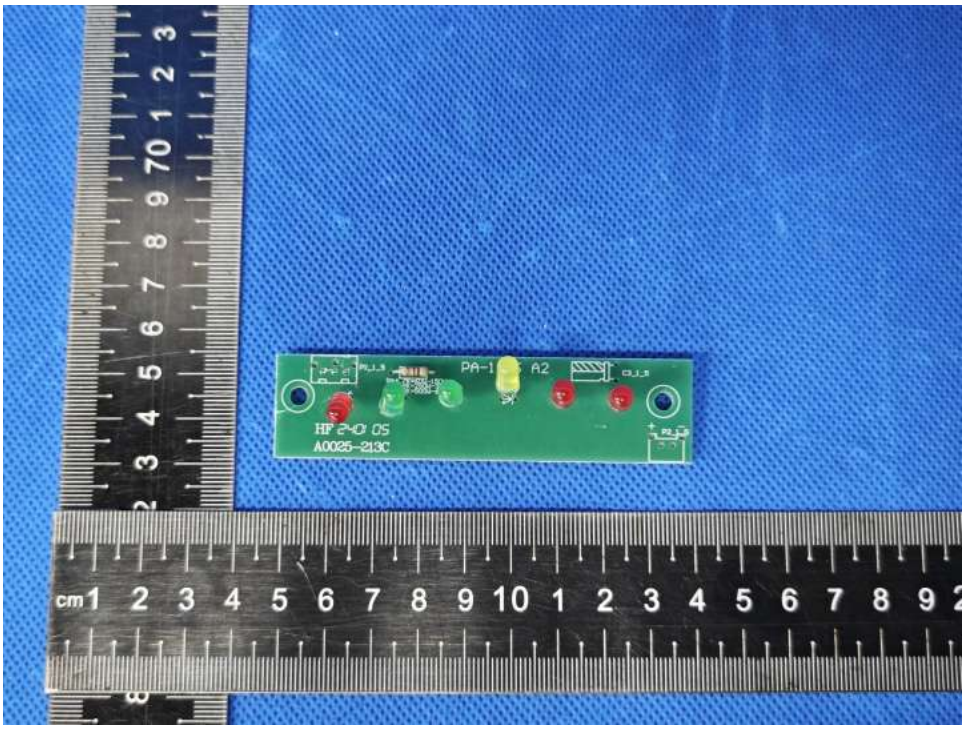


Photo 30. Indicator light PCB view

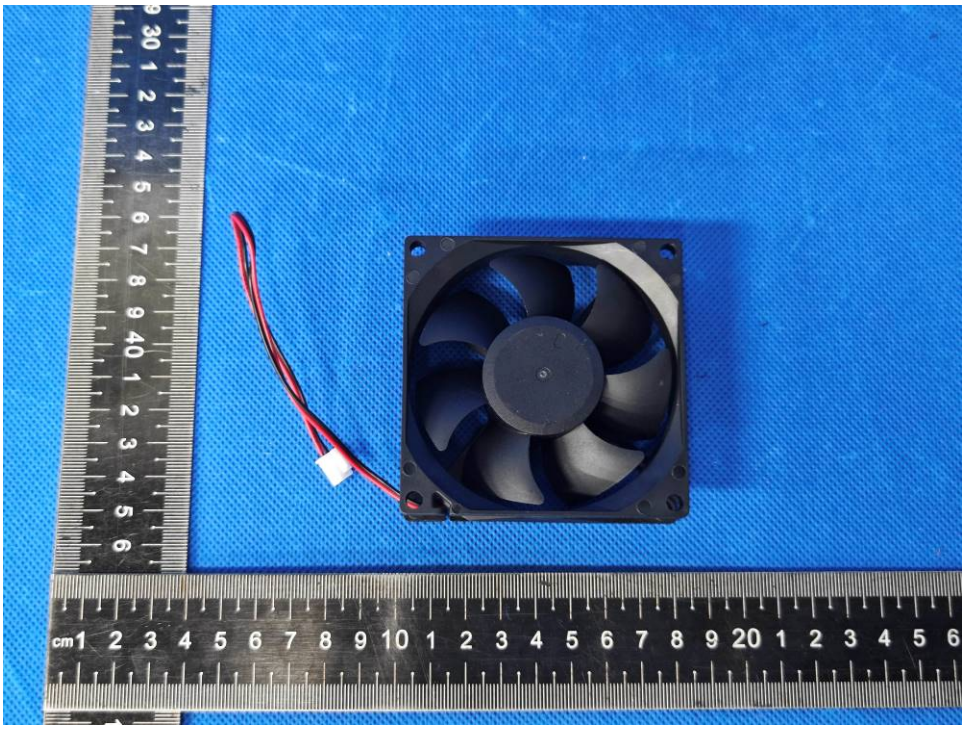


Photo 31. Fan view

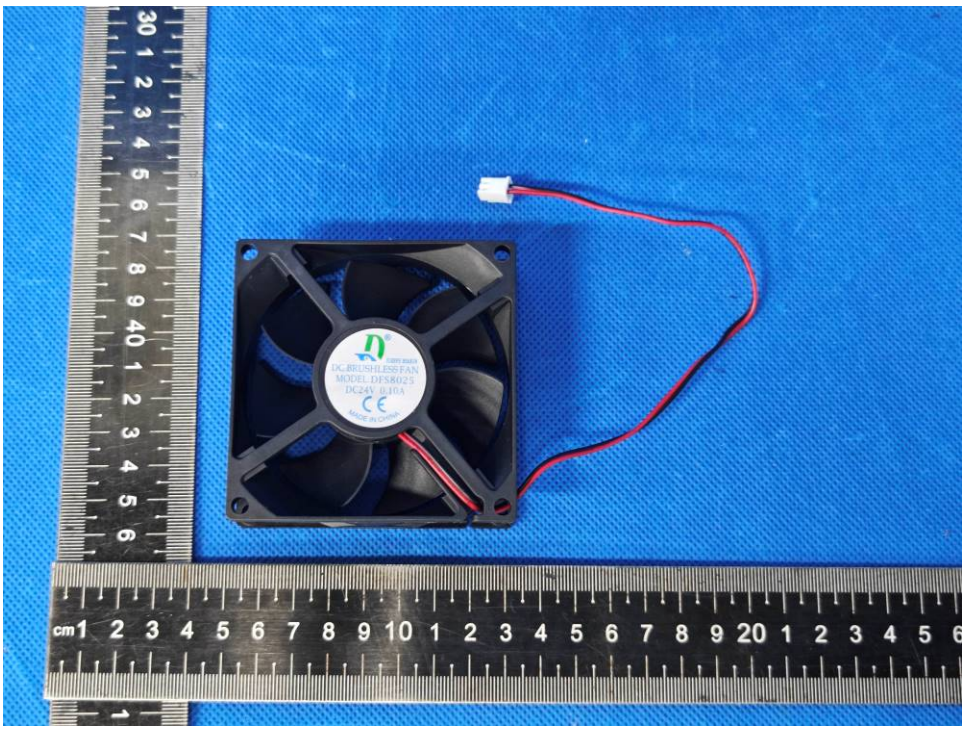


Photo 32. Fan view

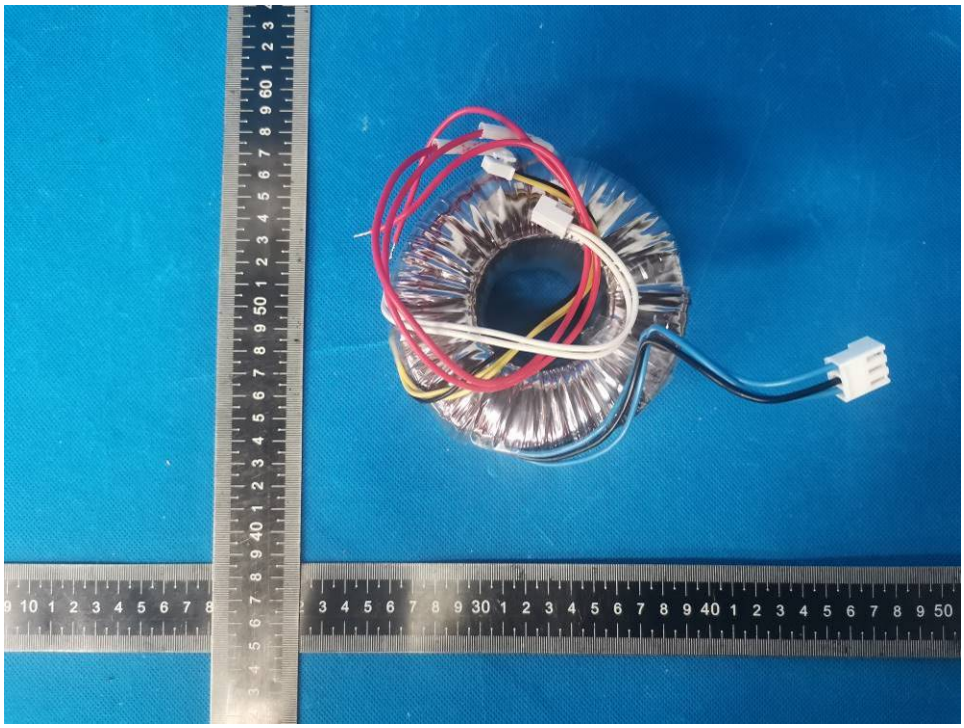


Photo 33. Transformer PG120HK view

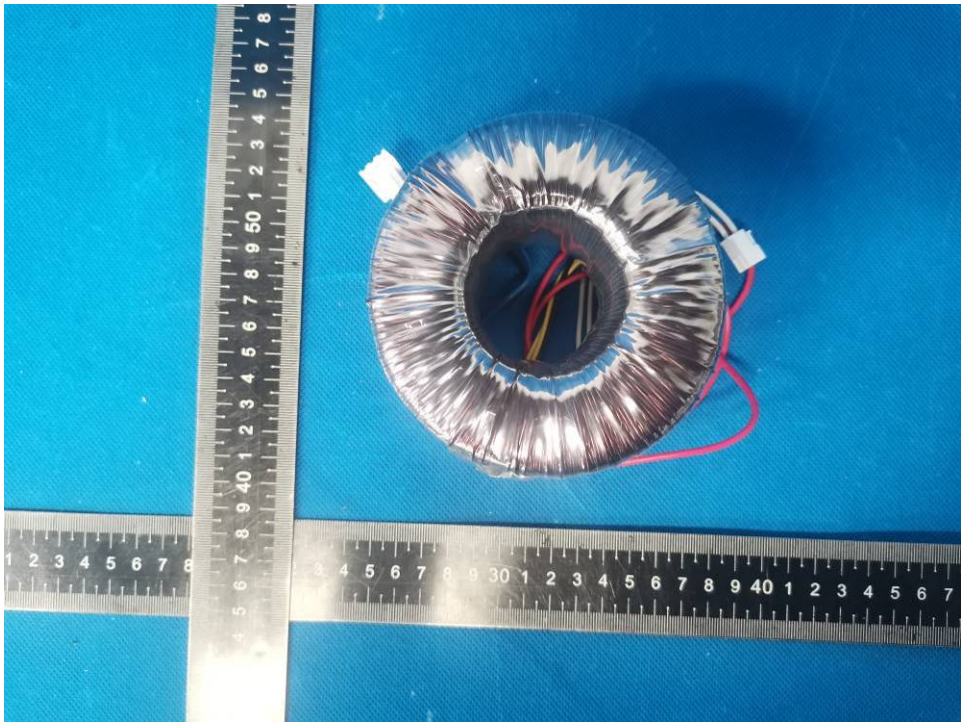


Photo 34. Transformer PG120HK view

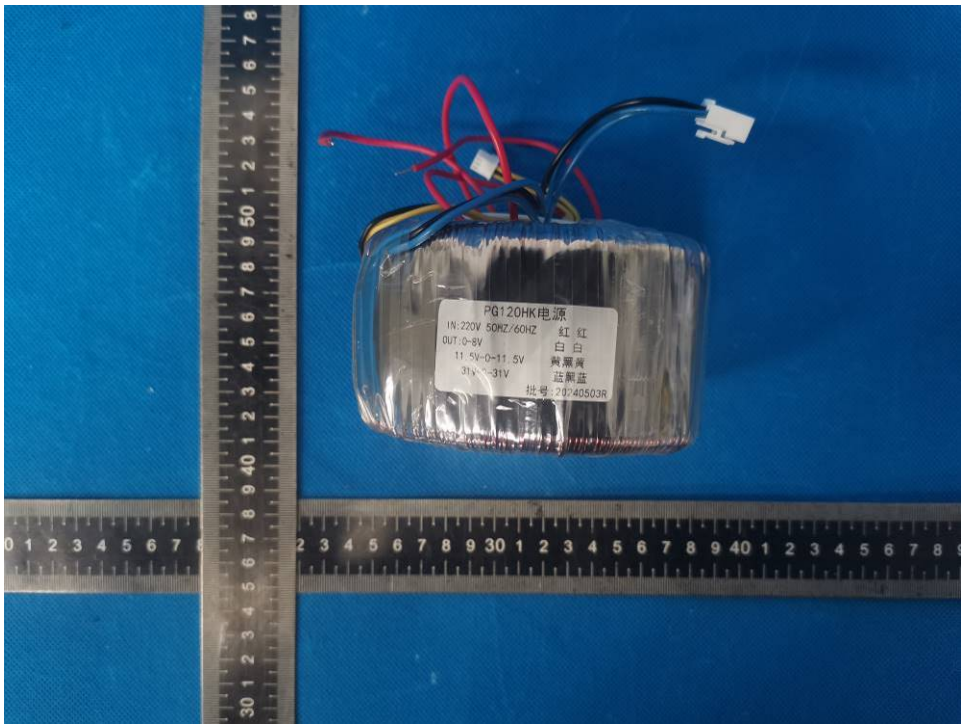


Photo 35. Transformer PG120HK view

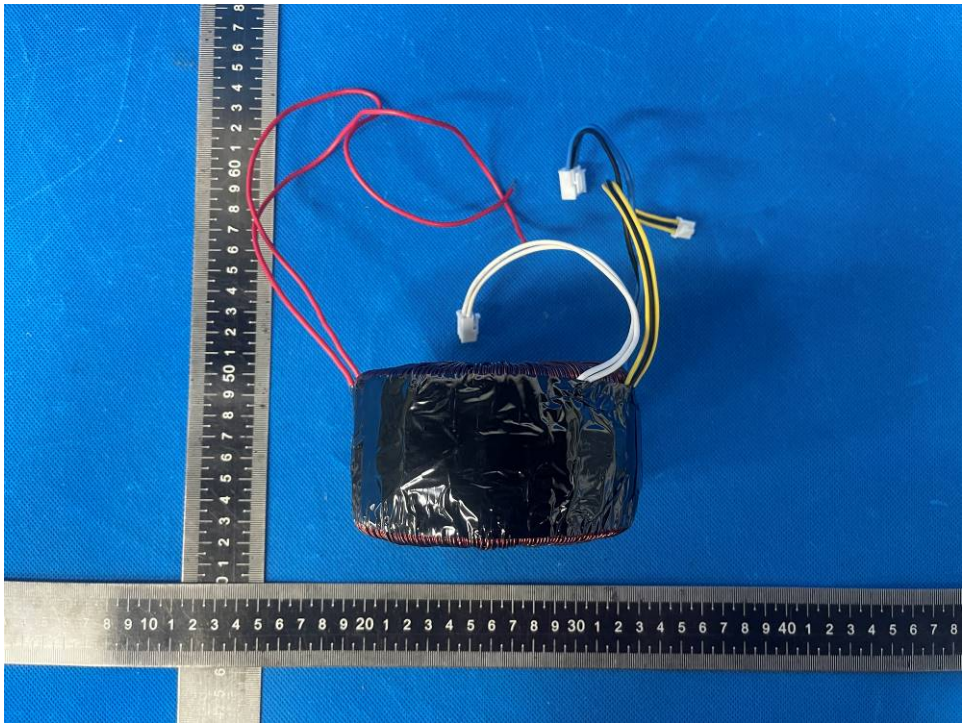


Photo 36. Transformer PG120HK view

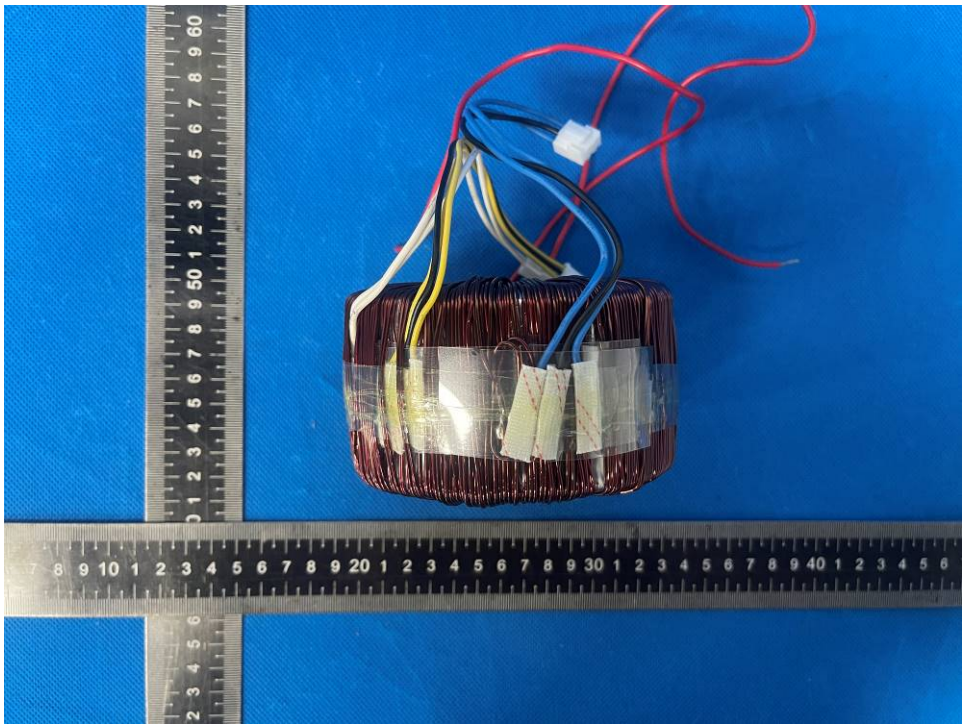


Photo 37. Transformer PG120HK view

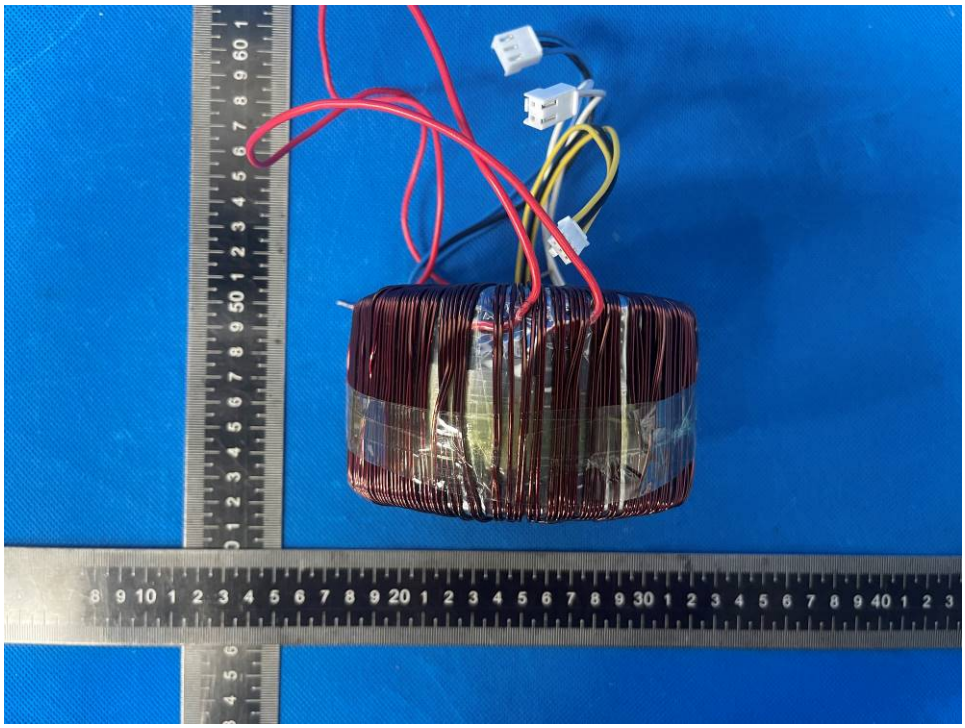


Photo 38. Transformer PG120HK view

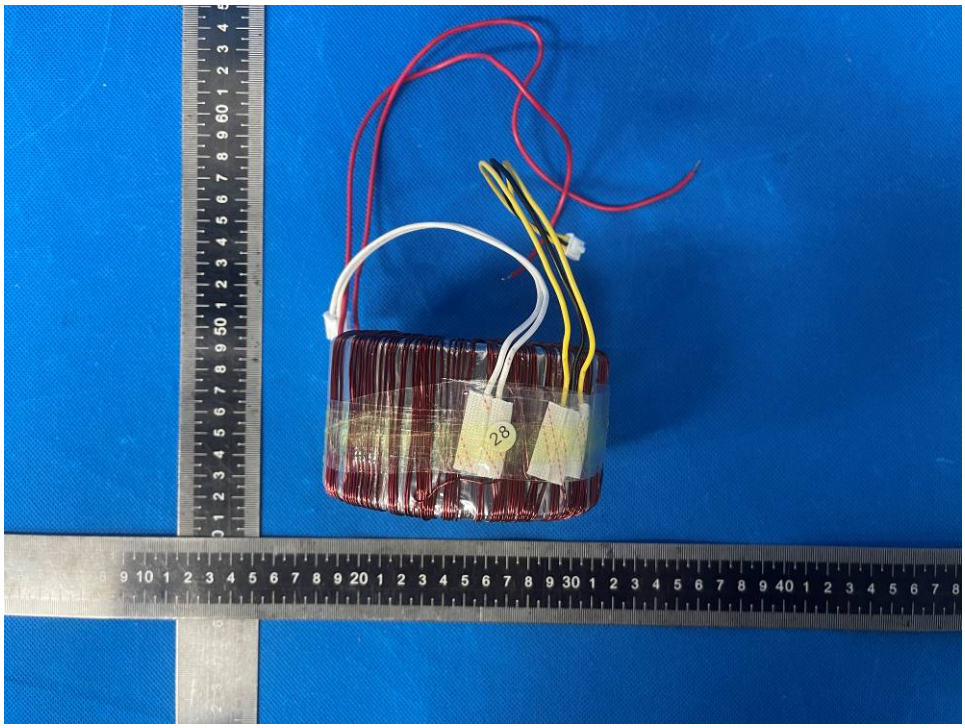


Photo 39. Transformer PG120HK view

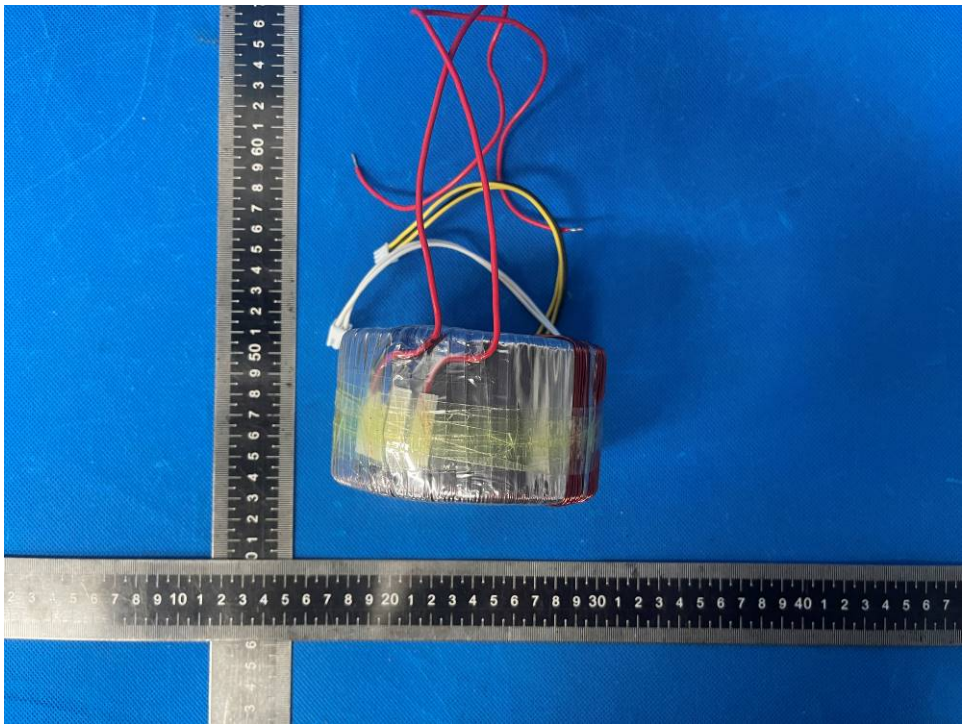


Photo 40. Transformer PG120HK view

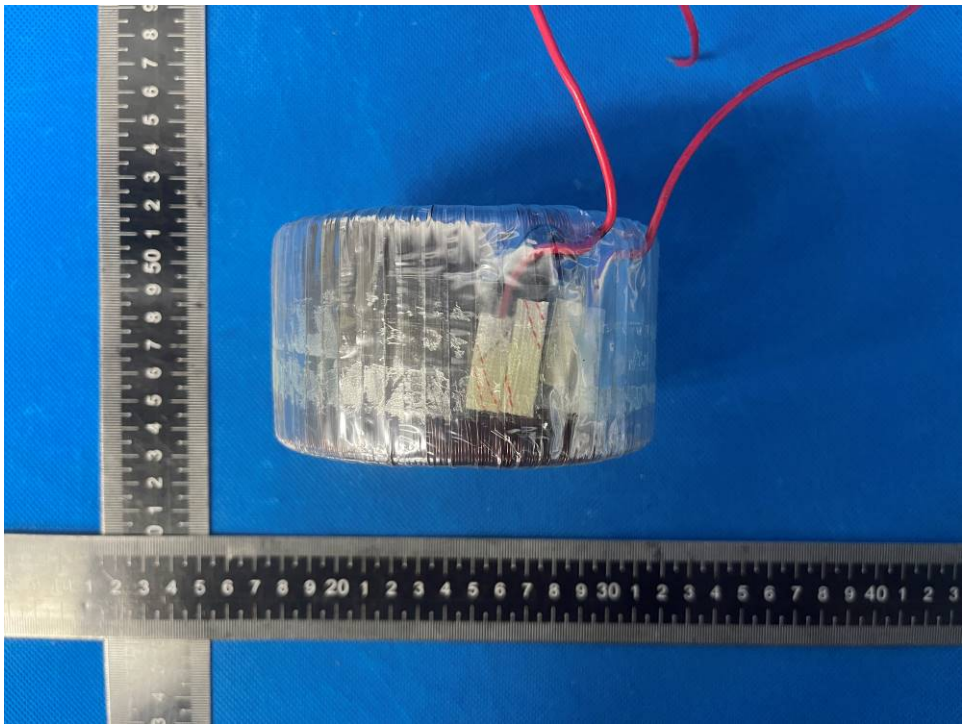


Photo 41. Transformer PG120HK view

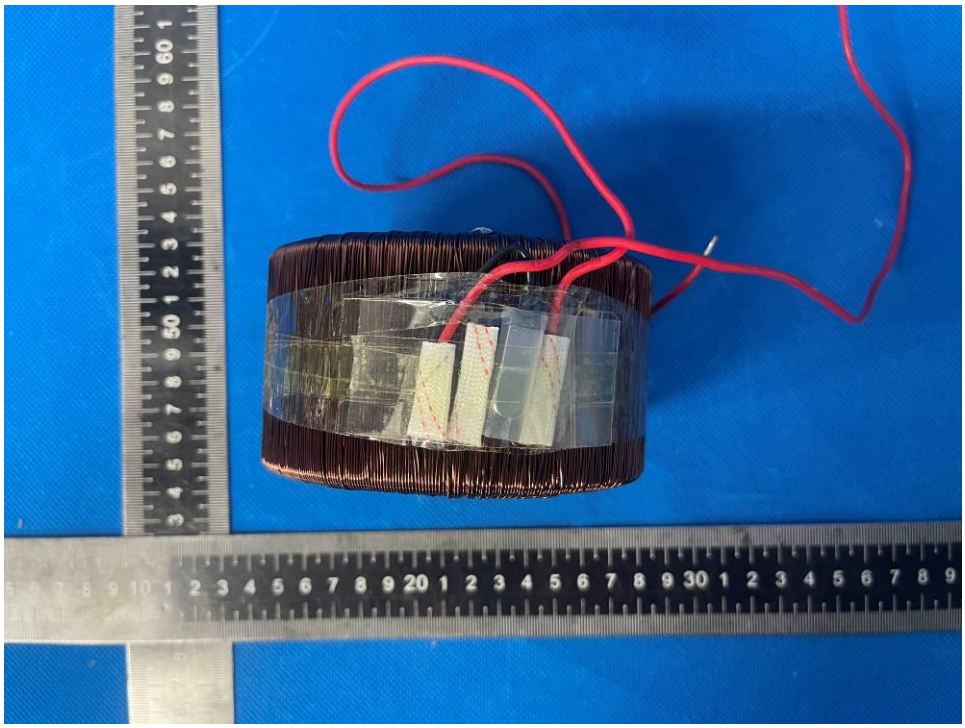


Photo 42. Transformer PG120HK view

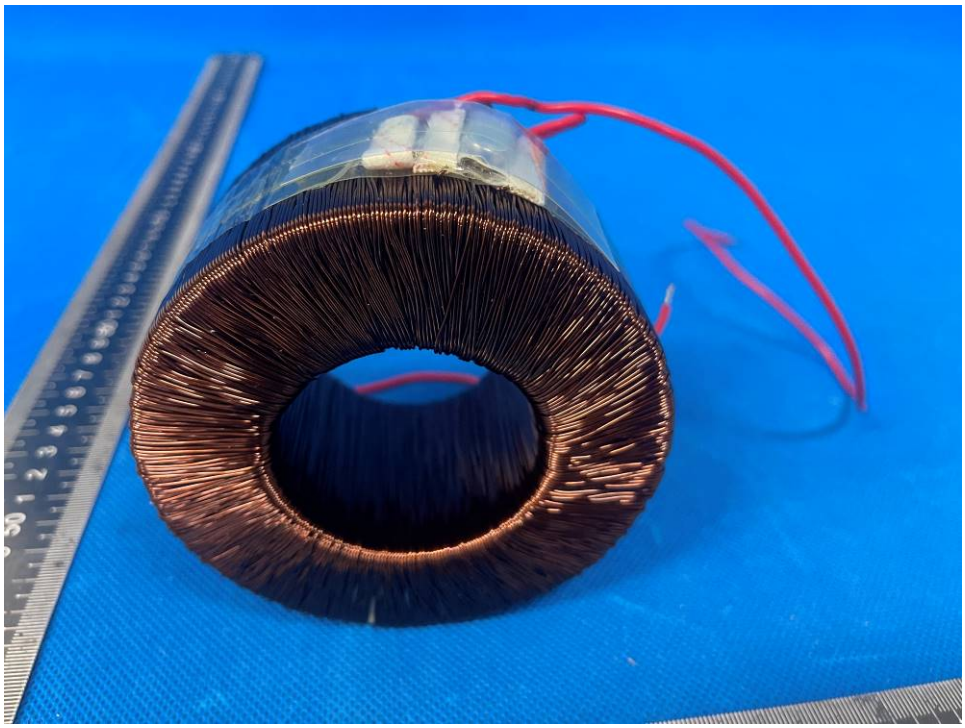


Photo 43. Transformer PG120HK view

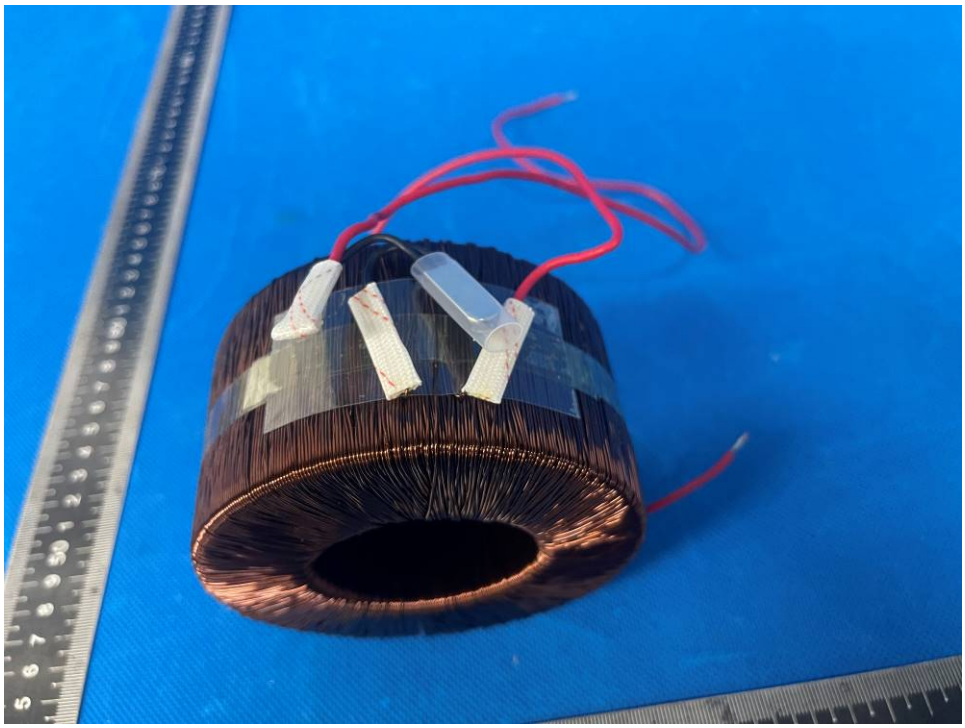


Photo 44. Transformer PG120HK view

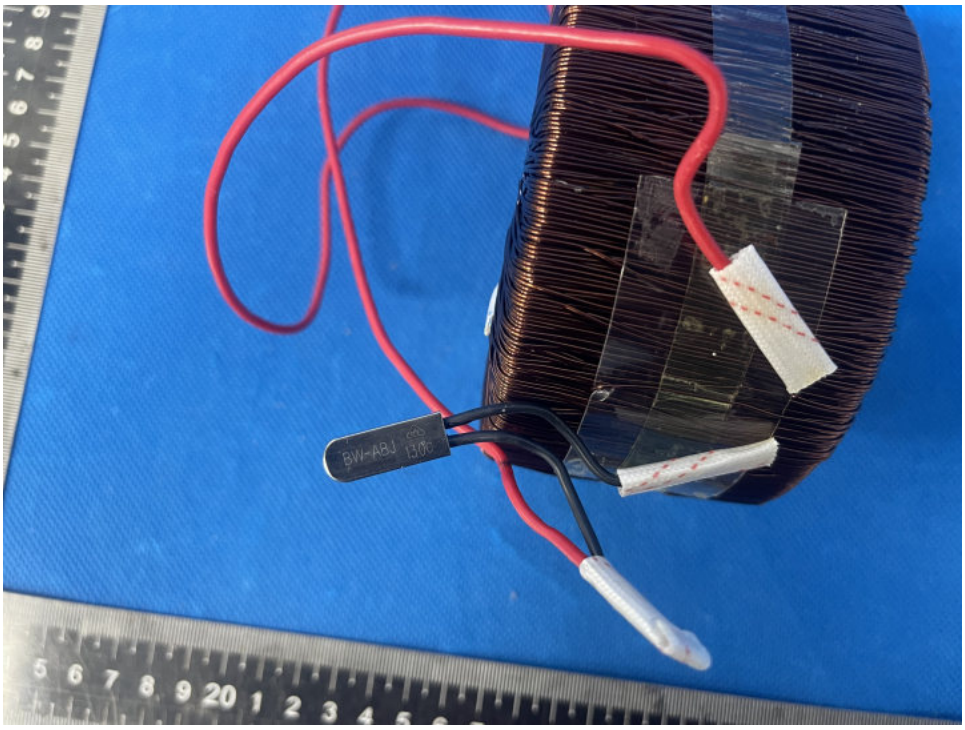


Photo 45. Transformer PG120HK view

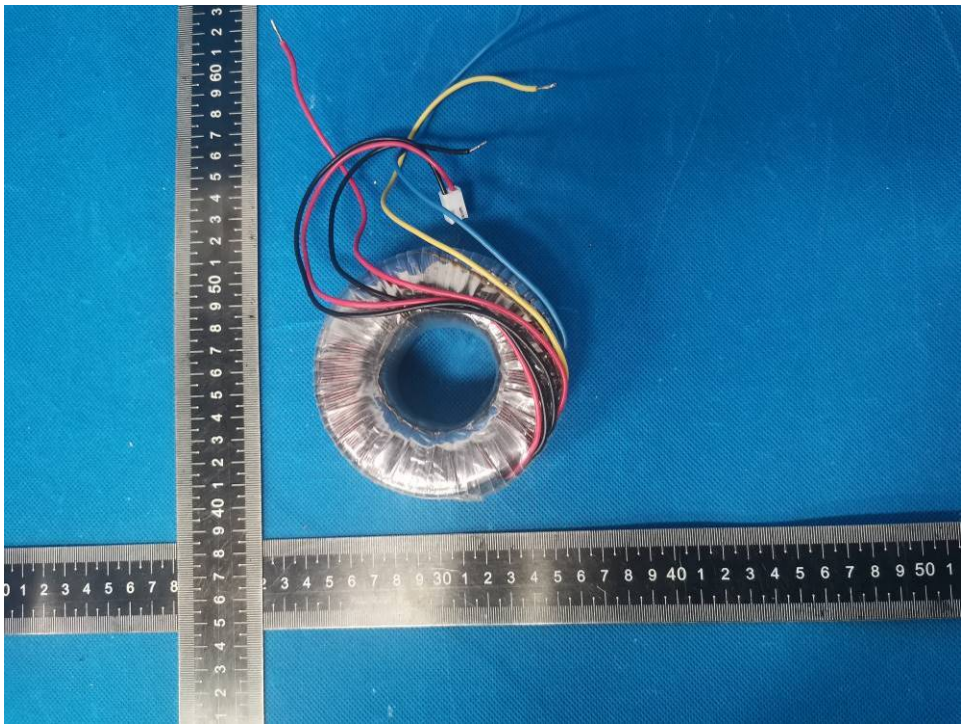


Photo 46. Transformer PG150 view

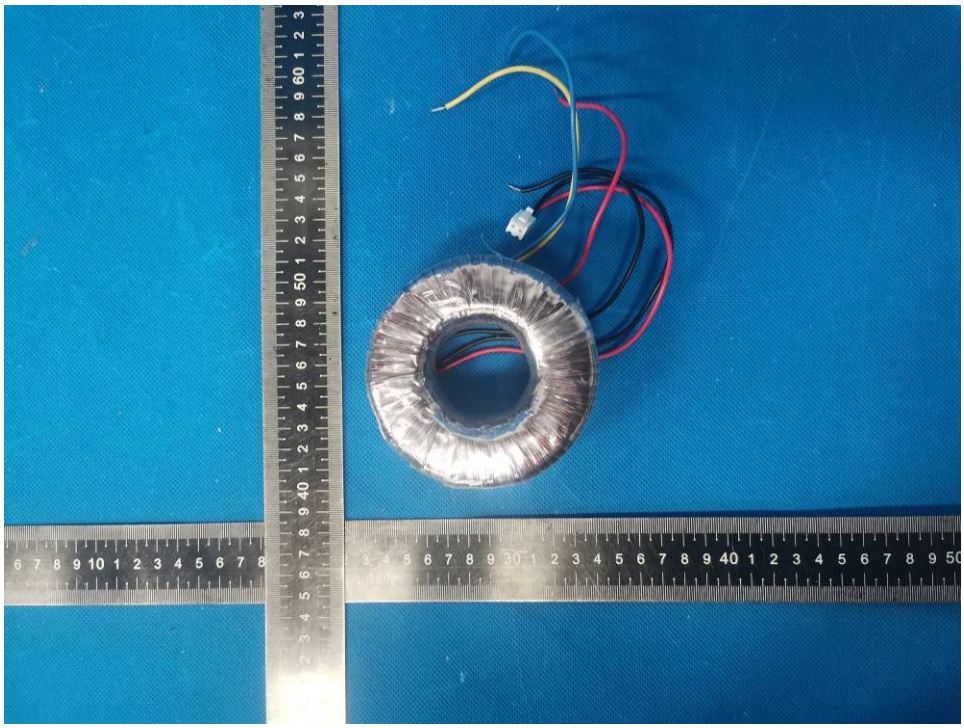


Photo 47. Transformer PG150 view

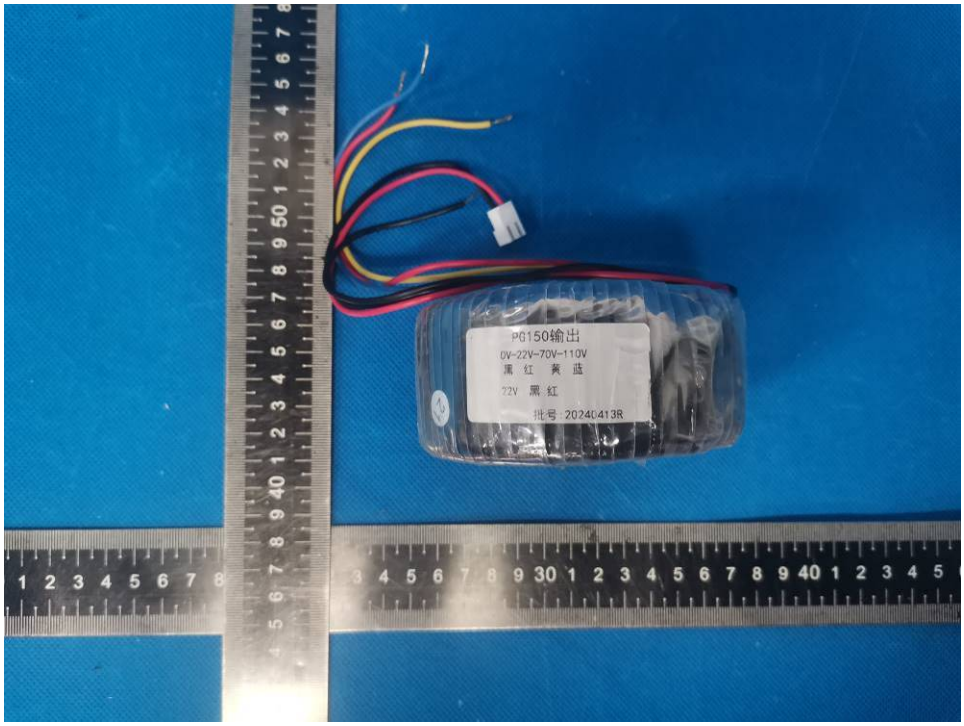


Photo 48. Transformer PG150 view

**********End of report**********