TEST REPORT

Product Name	:	**LCD Display**
Model Number	:	**PB3701A, PB37*** (The symbol "*" can be 0-9, A-Z, a-z, "/", "\", "-", "_" or blank for the marketing purpose, only different model designations on the marking plate for different markets. No safety concerns)**

Prepared for	:	Associated Industries China, Inc.
Address	:	5F-1, No.3-1, Park Street, Nangang District, Taipei, 11503, Taiwan
Prepared by	:	EMTEK (SHENZHEN) CO., LTD.
Address	:	Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Tel: (0755) 26954280 Fax: (0755) 26954282
Report Number	:	ENS2505230083S00301R

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

Report Number. :	ENS2505230083S00301R
Date of issue :	2025-06-04
Total number of pages :	93
Name of Testing Laboratory preparing the Report :	EMTEK (Shenzhen) Co., Ltd
Applicant's name :	Associated Industries China, Inc.
Address :	5F-1, No.3-1, Park Street, Nangang District, Taipei, 11503, Taiwan
Test specification:	
Standard :	IEC 62368-1:2018
Test procedure :	Test Report
Non-standard test method :	N/A
TRF template used :	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No. :	IEC62368_1E
Test Report Form(s) Originator :	UL(US)
Master TRF :	Dated 2022-04-14

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 ..... :	LCD Display
Trade Mark(s) .....:	neovo
Manufacturer ..... :	Associated Industries China, Inc. 5F-1, No.3-1, Park Street, Nangang District, Taipei, 11503, Taiwan
Model/Type reference ..... :	PB3701A, PB37*** (The symbol "*" can be 0-9, A-Z, a-z, "/", "\", "-", "_" or blank for the marketing purpose, only different model designations on the marking plate for different markets. No safety concerns)
Ratings ..... :	100-240V~, 50/60Hz, 1.0A.

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**Testing Laboratory:**	EMTEK (Shenzhen) Co., Ltd	
Testing location/ address.....:		Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China	
Tested by (name, function, signature).....:		Eric Wu/ Engineer	Eric Wu
Approved by (name, function, signature)...:		Angel Lan/ Project Engineer	Angel Lan
☐	**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):

- Main test report of TRF (Page 2 to 65)
- EUROPEAN GROUP DIFFERENCES (Page 66 to 85)
- Photos (Page 86 to 92)
- Statement (Page 93)

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
Glass fixation test (4.4.3.7, T.9) Classification of electrical energy sources (5.2) Temperature measurements (5.4.1.4, 9.3, B.1.5, B.2.6) Minimum Clearances/Creepage distance (5.4.2, 5.4.3) Distance through insulation measurements (5.4.4.2) Humidity conditioning (5.4.8) Electric strength tests (5.4.9) Stored discharge on capacitors (5.5.2.2) Resistance of protective conductors and terminations (5.6.6) Unearthed accessible parts (5.7.4) Earthed accessible conductive part (5.7.5) Power source circuit classifications (6.2.2) Equipment mounted to wall or ceiling (8.7) Input test (B.2.5) Abnormal operating and fault condition tests (B.3, B.4) Durability, legibility and permanence of markings (F.3.9, F.3.10) Circuits intended for interconnection with building wiring (LPS) (Annex Q.1) Steady force test (T.2, T.5) Impact tests (T.6, T.9)	EMTEK (Shenzhen) Co., Ltd Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

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

List of countries addressed: European Group Differences, United Kingdom* (*: United Kingdom differences is equal to European Group Differences.)

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

☒ The product fulfils the requirements of: BS EN IEC 62368-1: 2020+A11: 2020

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.

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 ..... :	☒ 15 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} ..... :	45 °C ☐ Outdoor: minimum °C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power systems ..... :	☒ TN ☐ TT ☐ IT - 230 V L-L ☐ not AC mains
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ 5000 m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ m
Mass of equipment (kg) ..... :	Approx. 6.91kg

Possible test case verdicts:	
- test case does not apply to the test object... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement .. :	F (Fail)
Testing:	
Date of receipt of test item..... :	2025-04-09
Date (s) of performance of tests ..... :	2025-04-09 to 2025-04-21

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of 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) ..... :	Associated Industries China, Inc. 5F-1, No.3-1, Park Street, Nangang District, Taipei, 11503, Taiwan

General product information and other remarks:

Product Description –

1. The product covered in this report is a Non-Smart Bar Dis play which is intended to use as Audio/video, information and communication technology equipment. Electrical components are mounted on PWB, two speakers in metal enclosure sealed by screw.
2. The HDMI mode has the maximum power consumption according to table B.2.5, unless otherwise specified, all the tests are performed with HDMI mode.
3. The suitable power supply cord shall be provided and evaluated during national approval.

Model Differences –

PB3701A, PB37*** (The symbol "*" can be 0-9, A-Z, a-z, "/", "\", "-", "_" or blank for the marketing purpose, only different model designations on the marking plate for different markets. No safety concerns)

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	**Possible Hazard**			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: All circuits except for the below ES1 & ES2 circuits	Ordinary person	N/A	N/A	See 5.4.2, 5.4.3, 5.5.3, 5.5.2, 5.5.4, Enclosure
ES3: X capacitor connected between L and N	Ordinary person	N/A	N/A	See 5.5.2.2
ES1: LED Backlight	Ordinary person	N/A	N/A	N/A
ES1: All secondary terminals	Ordinary 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 circuits except for output terminals	All combustible materials within equipment fire enclosure	See 6.3	See 6.4.5, 6.4.6	N/A
PS3: All circuits	Metal enclosure	See 6.3	Metal	N/A
PS3: All circuits except for output terminals	PCB	See 6.3	V-1 or better	N/A
PS3: All circuits	Internal/external wiring	See 6.3	See 6.4.5, 6.4.6	N/A
PS2: LED Backlight	The other components/panel	See 6.3	See 6.4.5	N/A
PS1: Speaker output	All combustible materials	N/A	N/A	N/A
PS1: Accessible terminal	All combustible materials	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
Alkaline battery(complied with annex M)	Ordinary person	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
MS3: Mounted>2M height	Ordinary person	N/A	N/A	See 8.7
MS2: Equipment mass	Ordinary person	N/A	N/A	Wall mount
MS1: Sharp edges and corners	Ordinary person	N/A	N/A	N/A

9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS3: Internal parts/circuits	Ordinary	N/A	N/A	Enclosure
TS1: Accessible surfaces	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LED backlight circuit	Ordinary	N/A	N/A	N/A
RS1: LED Indicator	Ordinary	N/A	N/A	N/A
Supplementary Information: "B" – Basic Safeguard; "S" – Supplementary Safeguard; "R" – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM
Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems. Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings
☐ **ES** ☐ **PS** ☐ **MS** ☐ **TS** ☐ **RS** **Details see OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS**

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G.	P
4.1.3	Equipment design and construction		P
4.1.4	Specified ambient temperature for outdoor use (°C) .....:		N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See appended Table T.2, T.3, T.4, T.5)	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	(See appended Table T.6, T.9)	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		N/A
4.4.3.9	Air comprising a safeguard	(See Annex T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness		P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks	No safety interlock used	N/A
4.5	**Explosion**		P
4.5.1	General	No explosion occurs during normal/abnormal operation	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
		and single fault conditions, See appended table B.2.6, B.3 and B.4, Annex M	
4.5.2	No explosion during normal/abnormal operating condition		P
	No harm by explosion during single fault conditions		P
4.6	**Fixing of conductors**		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test .....:	(See appended table 5.4.2, 5.4.3)	P
4.7	**Equipment for direct insertion into mains socket–outlets**		N/A
4.7.2	Mains plug part complies with relevant standard ...:	Not direct-in equipment	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		N/A

5	**ELECTRICALLY-CAUSED INJURY**		P
5.2	**Classification and limits of electrical energy sources**		P
5.2.2	ES1, ES2 and ES3 limits	See below	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

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Clause	Requirement + Test	Result - Remark	Verdict
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.1	P
5.3	**Protection against electrical energy sources**		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See table of "overview of employed safeguards"	P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		N/A
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit can be accessed for this product.	P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V	Checked by V.1.2 (Figure V.1) and V.1.3, cannot contact with the conductive part for ES3 circuits.	—
5.3.2.2 a)	Air gap – electric strength test potential (V).....:		N/A
5.3.2.2 b)	Air gap – distance (mm) .....:	Air gap >0.5mm	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	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials .....:	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
5.4.1.5	Pollution degrees .....:	Pollution degree 2	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		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Phenolic material used in transformer without further test.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.2	Vicat test.....:		N/A
5.4.1.10.3	Ball pressure test.....:		P
5.4.2	Clearances	Procedure 2 is higher. Hence the determination of clearance is by procedure 2. (See appended table 5.4.2, 5.4.3)	P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance	(See appended table 5.4.2, 5.4.3)	P
	Temporary overvoltage .....:	2000V peak	—
5.4.2.3	Procedure 2 for determining clearance	(See appended table 5.4.2, 5.4.3)	P
5.4.2.3.2.2	a.c. mains transient voltage .....:	2500V peak	—
5.4.2.3.2.3	d.c. mains transient voltage .....:	No connections to d.c. mains.	—
5.4.2.3.2.4	External circuit transient voltage.....:	No connections to external circuit with transient voltage.	—
5.4.2.3.2.5	Transient voltage determined by measurement .....:		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test .....:	See above	N/A
5.4.2.5	Multiplication factors for clearances and test voltages .....:	1.48	P
5.4.2.6	Clearance measurement.....:	(See appended table 5.4.2, 5.4.3)	P
5.4.3	Creepage distances	(See appended table 5.4.2, 5.4.3)	P
5.4.3.1	General	See below	P
5.4.3.3	Material group.....:	IIIb	—
5.4.3.4	Creepage distances measurement.....:	(See appended table 5.4.2, 5.4.3)	P
5.4.4	Solid insulation	Enclosure is compliance with 5.4.4.2.	P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation .....:	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices	Approved optocoupler used.	P
5.4.4.5	Insulating compound forming cemented joints		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
	Number of layers (pcs) .....:	2 layers	P
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		P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P, K_R, d, V_{PW} (V) .....:		P
	Alternative by electric strength test, tested voltage (V), K_R .....:		N/A
5.4.5	Antenna terminal insulation		P
5.4.5.1	General		P
5.4.5.2	Voltage surge test		P
5.4.5.3	Insulation resistance (MΩ).....:	L/N to output terminal: > 4MΩ	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).....:	95%, 40°C, 120h	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for type test of solid insulation .....:	Compliance was checked immediately following temperature test in 5.4.1.4 and test on a sample of the transformer raised to the relevant temperature as measured during that test. After Humidity conditioning, retested	P
5.4.9.2	Test procedure for routine test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.10	Safeguards against transient voltages from external circuits	No such external circuits	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test .....:		N/A
5.4.10.2.3	Steady-state test .....:		N/A
5.4.10.3	Verification for insulation breakdown for impulse test.....:		N/A
5.4.11	Separation between external circuits and earth		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
5.5.1	General	See the following details.	P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement	See the following details.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector .....:	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers		P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPDs		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	Protective earthing conductor size (mm^2) .....:		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2).....:		—
5.6.4.2	Protective current rating (A).....:		P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm).....:		P
	Terminal size for connecting protective bonding conductors (mm) .....:		P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective bonding system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method .....:		P
5.6.6.3	Resistance (Ω) or voltage drop .....:		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.2.1	Measurement of touch current	Figure 4 of IEC 60990 is used in determination of limits of ES1.	P
5.7.2.2	Measurement of voltage	Figure 4 of IEC 60990 is used in determination of limits of ES1.	P
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4 and sub-clauses 5.3 and 5.4 of IEC 60990 applied	P
5.7.4	Unearthed accessible parts .....:	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts .....:	Current not exceeding ES2.	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.....:	No such parts.	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		P
6.2.3.1	Arcing PIS .....:	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS .....:	(See appended table 6.2.3.2)	P
6.3	**Safeguards against fire under normal operating and abnormal operating conditions**		P

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Clause	Requirement + Test	Result - Remark	Verdict
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 .....:		P
6.4	**Safeguards against fire under single fault conditions**		P
6.4.1	Safeguard method	Method of control of fire spread was applied.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	Control fire spread considered	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		P
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: −Printed board: V-1 min. −Wire insulation: complying with Clause 6 (See Table 4.1.2 for tubing used). The input wire and output cord are complied to UL 758 standard, which test method and testing condition equal to IEC/EN 60695-11-21. −All other components: at least V-2 except for parts mounted on min. V-1 material or small parts of combustible material (with mass less than 4g) or components complying to relevant IEC standard −Isolating transformer: complying with G.5.3.	P
6.4.6	Control of fire spread in PS3 circuits	See above, fire enclosure details see 6.4.8	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	Equipment enclosure was evaluated for fire enclosure	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		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		P
	Openings dimensions (mm).....:	All openings didn't exceed 5 mm in any dimension.	P
6.4.8.3.4	Bottom openings and properties		P
	Openings dimensions (mm).....:	All openings didn't exceed 3 mm in any dimension.	P
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard .....:		N/A
6.4.8.3.5	Side openings and properties		P
	Openings dimensions (mm).....:	All openings didn't exceed 3 mm in any dimension.	P
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	P
6.4.9	Flammability of insulating liquid.....:		N/A
6.5	**Internal and external wiring**		P
6.5.1	General requirements	Internal input wires comply with UL 758, which has the equivalent requirement with IEC 60695-11-21.	P
6.5.2	Requirements for interconnection to building wiring .....:		N/A
6.5.3	Internal wiring size (mm^2) for socket-outlets.....:		N/A
6.6	**Safeguards against fire due to the connection to additional equipment**		P

7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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**		P
8	**MECHANICALLY-CAUSED INJURY**		P
8.2	**Mechanical energy source classifications**		P
8.3	**Safeguards against mechanical energy sources**		P
8.4	**Safeguards against parts with sharp edges and corners**		P
8.4.1	Safeguards	MS1 for accessible surface of Equipment MS1 for Mass of equipment	P
	Instructional Safeguard .....:		N/A
8.4.2	Sharp edges or corners		P
8.5	**Safeguards against moving parts**		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm).....:		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Mechanical function check and visual inspection		N/A
	- Cable assembly.....:		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts.....:		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N) .....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm) .....:		N/A
8.6	**Stability of equipment**		N/A
8.6.1	General	MS2, Wall mounted	N/A
	Instructional safeguard.....:		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test.....:		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm) .....:		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test .....:		N/A
8.7	**Equipment mounted to wall, ceiling or other structure**		P
8.7.1	Mount means type .....:	Four screws provided, and each rated PM6 with a length of 16mm(Max.).	P
8.7.2	Test methods		P
	Test 1, additional downwards force (N).....:		N/A
	Test 2, number of attachment points and test force (N).....:	162N applied for each point applied for each point (four directions plus inward and outward).	P
	Test 3 Nominal diameter (mm) and applied torque (Nm) .....:	Each of four screws is loosened and then tightened 5 times with a torque 2.5Nm.	P
8.8	**Handles strength**		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.8.1	General		P
8.8.2	Handle strength test	See below	P
	Number of handles.....:	Two handles	—
	Force applied (N) .....:	Applied force: 486N for each handle	—
8.9	**Wheels or casters attachment requirements**		N/A
8.9.2	Pull test		N/A
8.10	**Carts, stands and similar carriers**		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions.....:		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N).....:		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N) .....:		—
8.10.6	Thermoplastic temperature stability		N/A
8.11	**Mounting means for slide-rail mounted equipment (SRME)**		N/A
8.11.1	General		N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard .....:		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied .....:		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	**Telescoping or rod antennas**		N/A
	Button/ball diameter (mm).....:		—

9	**THERMAL BURN INJURY**	P
9.2	**Thermal energy source classifications**	P
9.3	**Touch temperature limits**	P

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Clause	Requirement + Test	Result - Remark	Verdict
9.3.1	Touch temperatures of accessible parts .....:	All internal parts are classified as TS3. All accessible surfaces are classified as TS1, see appended table 5.4.1.4, 9.3, B.1.5, B.2.6.	P
9.3.2	Test method and compliance		P
9.4	**Safeguards against thermal energy sources**		P
9.5	**Requirements for safeguards**		P
9.5.1	Equipment safeguard		P
9.5.2	Instructional safeguard.....:	Instructional safeguard is not required.	N/A
9.6	**Requirements for wireless power transmitters**		N/A
9.6.1	General	No such parts.	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	See table of "Overview of employed safeguards"	P
	Lasers .....:	No laser radiation.	—
	Lamps and lamp systems .....:		—
	Image projectors.....:		—
	X-Ray.....:		—
	Personal music player.....:		—
10.3	**Safeguards against laser radiation**		N/A
	The standard(s) equipment containing laser(s) comply.....:		N/A
10.4	**Safeguards against optical radiation from lamps and lamp systems (including LED types)**		P
10.4.1	General requirements	LED used for indicating light and LED backlight used within this equipment is considered as RS1	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

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Clause	Requirement + Test	Result - Remark	Verdict
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 such x-radiation generated from the equipment	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 equipment.	N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A) .....:		N/A
	Unweighted RMS output voltage (mV) .....:		N/A
	Digital output signal (dBFS).....:		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30) .....:		N/A
	Warning for MEL ≥ 100 dB(A) .....:		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards .....:		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV) .....:		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A).....:		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A).....:		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
B.1.5	Temperature measurement conditions	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
B.2	**Normal operating conditions**		P
B.2.1	General requirements ..... :	Maximum rated output applied (See appended table)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :	See annex E	P
B.2.3	Supply voltage and tolerances	±10% of rated voltage	P
B.2.5	Input test ..... :	(See appended table B.2.5)	P
B.3	**Simulated abnormal operating conditions**		P
B.3.1	General	(See appended table B.3, B.4)	P
B.3.2	Covering of ventilation openings	(See appended table B.3, B.4)	P
	Instructional safeguard..... :	Not such equipment.	N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector	No 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	(See appended table B.3, B.4)	P
B.3.7	Audio amplifier abnormal operating conditions		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	No motor	N/A
B.4.4	Functional insulation	(See appended table B.3, B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards.	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

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.7	Continuous operation of components	The equipment is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Compliance during and after single fault conditions .....:	During and after a single fault condition, a class 1 or class 2 energy sources did not become a class 3 energy source. For a class 3 energy source, during and after a single fault condition, at least one safeguard continued to comply with the relevant safeguard requirements.	P
B.4.9	Battery charging and discharging under single fault conditions	See Annex M	P
C	**UV RADIATION**		N/A
C.1	**Protection of materials in equipment from UV radiation**		N/A
C.1.2	Requirements	No such UV RADIATION provided within the equipment.	N/A
C.1.3	Test method		N/A
C.2	**UV light conditioning test**		N/A
C.2.1	Test apparatus .....:		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	**TEST GENERATORS**		N/A
D.1	**Impulse test generators**		N/A
D.2	**Antenna interface test generator**		N/A
D.3	**Electronic pulse generator**		N/A
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		P
E.1	**Electrical energy source classification for audio signals**		P
	Maximum non-clipped output power (W).....:	PS1	—
	Rated load impedance (Ω) .....:	See table 4.1.2	—
	Open-circuit output voltage (V).....:	ES1	—
	Instructional safeguard.....:	--	—
E.2	**Audio amplifier normal operating conditions**		P
	Audio signal source type.....:	Three vertical bar signal	—
	Audio output power (W).....:	PS1	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Audio output voltage (V) ..... :	See table B.2.5	—
	Rated load impedance (Ω) ..... :	See table 4.1.2	—
	Requirements for temperature measurement	(See Table B.1.5)	P
E.3	Audio amplifier abnormal operating conditions	(See Table B.3, B.4)	P
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	**General**		P
	Language ..... :	English	—
F.2	**Letter symbols and graphical symbols**		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are compliance with IEC 60027-1	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Graphic symbols are compliance with IEC 60417 or ISO 3864-2 or ISO 7000	P
F.3	**Equipment markings**		P
F.3.1	Equipment marking locations	Equipment marking is located on its exterior surface and is readily visible	P
F.3.2	Equipment identification markings	See the following details.	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	See the following details.	P
F.3.3.1	Equipment with direct connection to mains	See copy of marking plate	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage ..... :	~	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	No multiple supply connections	N/A
F.3.4	Voltage setting device	No voltage setting device	N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :	No mains appliance outlet and socket-outlet	N/A
F.3.5.2	Switch position identification marking..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.3	Replacement fuse identification and rating markings .....:	Fuse is not replaceable by ordinary person, however fuse marking on PCB adjacent to fuse: T3.15A 250VAC.	P
	Instructional safeguards for neutral fuse.....:		N/A
F.3.5.4	Replacement battery identification marking .....:	(See Annex M.10)	P
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	See below.	P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal .....:		P
F.3.6.1.2	Protective bonding conductor terminals .....:		P
F.3.6.2	Equipment class marking.....:		N/A
F.3.6.3	Functional earthing terminal marking .....:		N/A
F.3.7	Equipment IP rating marking.....:	IPX0	P
F.3.8	External power supply output marking .....:	Not external power supply.	N/A
F.3.9	Durability, legibility and permanence of marking		N/A
F.3.10	Test for permanence of markings		N/A
F.4	**Instructions**		P
	a) Information prior to installation and initial use	Contained in user manual	P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection	Relevant safety caution texts and installation instruction are available.	P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		N/A
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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**		N/A
G.1.1	General		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	**Relays**		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	**Protective devices**		P
G.3.1	Thermal cut-offs	No thermal cut-offs used	N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics	No Thermal links	N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors	No PTC thermistors	N/A
G.3.4	Overcurrent protection devices	Fuse used	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions .....:	(See appended table B.4)	N/A
G.4	**Connectors**		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration .....:		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	**Wound components**		P
G.5.1	Wire insulation in wound components	(See Annex J)	P
G.5.1.2	Protection against mechanical stress		P
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)..... :		—
	Test temperature (°C)..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method..... :	See G.5.3.2 and G.5.3.3.	P
	Position..... :	See appended table 4.1.2.	P
	Method of protection..... :	Over current protection by circuit design.	P
G.5.3.2	Insulation		P
	Protection from displacement of windings..... :	Triple insulation wire used and insulation tapes, bobbin provided.	—
G.5.3.3	Transformer overload tests	(See appended table B.3, B.4)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding temperatures		P
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4	Motors	No motors used	N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) .....:		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature .....:		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage .....:		—
G.6	**Wire Insulation**		P
G.6.1	General	Approved lead wire used.	P
G.6.2	Enamelled winding wire insulation		N/A
G.7	**Mains supply cords**		P
G.7.1	General requirements	Approved Mains supply cords used.	P
	Type.....:	(See appended table 4.1.2)	—
G.7.2	Cross sectional area (mm^2 or AWG).....:	(See appended table 4.1.2)	P
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords	Detachable power supply cords	N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N).....:		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....:		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, *D* (mm) ..... :		—
	Radius of curvature after test (mm)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	**Varistors**		P
G.8.1	General requirements		P
G.8.2	Safeguards against fire	Metal enclosure	P
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		N/A
	IC limiter output current (max. 5A) ..... :		—
	Manufacturers' defined drift ..... :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	**Resistors**		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	**Capacitors and RC units**		P
G.11.1	General requirements	Approved Capacitors used	P
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	**Optocouplers**		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Optocouplers comply with IEC 60747-5-5 with specifics	Approved Optocoupler used	P
	Type test voltage $V_{ini,a}$ ..... :	Considered	—
	Routine test voltage, $V_{ini,b}$ ..... :	Considered	—
G.13	**Printed boards**		P
G.13.1	General requirements	See appended table 4.1.2	P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation ..... :		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements ..... :	No coating on component terminals considered to affect creepage or clearances.	N/A
G.15	**Pressurized liquid filled components**		N/A
G.15.1	Requirements	No such device provided within the equipment.	N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
G.16.1	Condition for fault tested is not required		N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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): .....:		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) .....:		N/A
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		P
J.1	**General**		P
	Winding wire insulation.....:	Certified triple insulation wire used.	—
	Solid round winding wire, diameter (mm) .....:		P
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm^2).....:		P
J.2/J.3	Tests and Manufacturing		—
K	**SAFETY INTERLOCKS**		N/A
K.1	**General requirements**		N/A
	Instructional safeguard.....:	No safety interlock provided within the equipment.	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

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Clause	Requirement + Test	Result - Remark	Verdict
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.....:	(See appended table 5.4.9)	N/A
K.7.2	Overload test, Current (A).....:		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	**DISCONNECT DEVICES**		P
L.1	**General requirements**	The AC appliance coupler used as disconnect device	P
L.2	**Permanently connected equipment**		N/A
L.3	**Parts that remain energized**	No such parts when coupler used.	N/A
L.4	**Single-phase equipment**	Disconnect device disconnects all poles simultaneously.	P
L.5	**Three-phase equipment**		N/A
L.6	**Switches as disconnect devices**		N/A
L.7	**Plugs as disconnect devices**		N/A
L.8	**Multiple power sources**		N/A
	Instructional safeguard.....:		N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		P
M.1	**General requirements**		P
M.2	**Safety of batteries and their cells**		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards.....:	Alkaline battery used	N/A
M.3	**Protection circuits for batteries provided within the equipment**		P
M.3.1	Requirements		P

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.2	Test method		P
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		P
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance	No hazardous	P
M.4	**Additional safeguards for equipment containing a portable secondary lithium battery**		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance..... :		N/A
M.4.3	Fire enclosure..... :		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): .... :		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	**Risk of burn due to short-circuit during carrying**		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	**Safeguards against short-circuits**		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		N/A
M.7	**Risk of explosion from lead acid and NiCd batteries**		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate..... :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m^3/h)..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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		P
	Instructional safeguard ..... :		P
N	**ELECTROCHEMICAL POTENTIALS**		P
	Material(s) used ..... :	Complied	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Value of *X* (mm) ..... :	Pollution degree considered	—
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	See below	P
	Location and Dimensions (mm) ..... :	All openings didn't exceed 5 mm in any dimension.	—
P.2.3	Safeguards against the consequences of entry of a foreign object	Comply with the requirement of clause P.2.2	N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	**Safeguards against spillage of internal liquids**		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	**Metallized coatings and adhesives securing parts**		P
P.4.1	General	Approved adhesive tape used	P
P.4.2	Tests		N/A
	Conditioning, T_C (°C) ..... :		—
	Duration (weeks)..... :		—
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	**Limited power sources**		P
Q.1.1	Requirements		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Q.1)	P
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance ..... :	(See appended table Q.1)	P
	Current rating of overcurrent protective device (A) ..... :		N/A
Q.2	**Test for external circuits – paired conductor cable**		N/A
	Maximum output current (A) ..... :		N/A
	Current limiting method..... :		—
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	**General**		N/A
R.2	**Test setup**		N/A
	Overcurrent protective device for test ..... :		—
R.3	**Test method**		N/A
	Cord/cable used for test ..... :		—
R.4	**Compliance**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
S.1	**Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W**		N/A
	Samples, material..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	**Flammability test for fire enclosure and fire barrier integrity**		N/A
	Samples, material..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
S.3	**Flammability test for the bottom of a fire enclosure**		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples ..... :		—
	Wall thickness (mm)..... :		—
S.4	**Flammability classification of materials**		N/A
S.5	**Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W**		N/A
	Samples, material..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
T	**MECHANICAL STRENGTH TESTS**		P
T.1	**General**		P
T.2	**Steady force test, 10 N ..... :**	(See appended table 5.4.2, 5.4.3)	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.2, T.3, T.4, T.5)	P
T.6	**Enclosure impact test**	(See appended table T.6, T.9)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Fall test		P
	Swing test		N/A
T.7	**Drop test ..... :**		N/A
T.8	**Stress relief test ..... :**		N/A
T.9	**Glass Impact Test ..... :**		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		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		P
V.2	**Accessible part criterion**		P
X	**ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)**		N/A
	Clearance ..... :	(See appended table X)	N/A
Y	**CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES**		N/A
Y.1	**General**		N/A
Y.2	**Resistance to UV radiation**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	(See Annex P.4)	N/A
Y.5	**Protection of equipment within an outdoor enclosure**		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3..... :		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	**Mechanical strength of enclosures**		N/A
Y.6.1	General		N/A
Y.6.2	Impact test ..... :	(See Table T.6)	N/A

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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)]	
264Vac/60Hz	Primary circuits supplied by AC mains	Normal	--	--	--	--	ES3
264Vac/60Hz	USB output + to -	Normal	5.02V	--	SS	60	ES1
		Abnormal: Overload	--	--	SS	60	ES1
		Single fault: (see table B.3, B.4 for details)	0	--	SS	60	ES1
264Vac/60Hz	USB output + or - to earth	Normal	--	0.102m Apk	SS	60	ES1
		Abnormal: Overload	--	0.102m Apk	SS	60	ES1
		Single fault: (see table B.3, B.4 for details)	--	0.186m Apk	SS	60	ES1
		LED backlight output + to metal enclosure, SC	130V	0.580m Apaek	SS	60	ES1
264Vac/60Hz	RS232 &IR IN/OUT,HDMI1,HDMI2,DP2,DP1,DPOUT	Normal	--	0.102m Apk	SS	60	ES1
		Abnormal: Overload	--	0.102m Apk	SS	60	ES1
		Single fault: (see table B.3, B.4 for details)	--	0.186m Apk	SS	60	ES1
264Vac/60Hz	Display screen surface with metal foil to earth	Normal	--	0.050m Apk	SS	60	ES1
		Abnormal: Overload	--	0.050m Apk	SS	60	ES1
		Single fault: (see table B.3, B.4 for details)	--	0.055m Apk	SS	60	ES1
Supplementary information: SC=Short Circuit							

1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.8	TABLE: Working voltage measurement				P
Location		RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
TF1 pin 1-6		257	344	125K	--
TF1 pin 1-7/8		275	380	125K	--
TF1 pin 1-9		258	676	125K	--
TF1 pin 1-10		259	560	125K	--
TF1 pin 1-11		260	850	125K	--
TF1 pin 3-6		259	448	125K	--
TF1 pin 3-7/8		257	478	125K	--
TF1 pin 3-9		258	472	125K	--
TF1 pin 3-10		259	440	125K	--
TF1 pin 3-11		259	456	125K	--
TF1 pin 4-6		171	400	125K	
TF1 pin 4-7/8		171	352	125K	--
TF1 pin 4-9		170	420	125K	--
TF1 pin 4-10		170	372	125K	Max. Vpeak & Vrms
TF1 pin 4-11		169	416	125K	--
TF1 pin 5-6		171	348	125K	--
TF1 pin 5-7/8		171	360	125K	--
TF1 pin 5-9		171	448	125K	--
TF1 pin 5-10		170	400	125K	--
TF1 pin 5-11		171	448	125K	--
CY1 pin1-pin2		114	180	60	--
CY2 pin1-pin2		126	184	60	--
CY3 pin1-pin2		172	352	60	--
PF1 pin1-pin3		178	364	60	--
PF1 pin1-pin4		178	364	60	--
PF1 pin2-pin3		179	365	60	--
PF1 pin2-pin4		178	365	60	--
Supplementary information:					
240V~,60Hz					

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics	N/A

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Method..... :			—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)
Supplementary information:			
--			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P
Allowed impression diameter (mm)..... :	2.0			—
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)
AC connected (CN101)	Dongguan HUACONN Electronics Co., Ltd	2.5	125	1.4
Supplementary information:				

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq [1] (Hz)	Required cl (mm)	cl (mm)	E.S. [2] (V)	Required cr (mm)	cr (mm)
Line to Neutral (Before fuse) (BI)	420	250	60	2.3 (1.5 x 1.48)	4.3	--	2.5	4.3
Different pins of use link FP1 on PCB (BI)	420	250	60	2.3 (1.5 x 1.48)	9.3	--	2.5	9.3
The primary live part and metal enclosure (RI)	420	250	60	4.5 (3.0 x 1.48)	8.0	--	5.0	8.0
Primary pin to secondary pin of Y-cap CY1, CY2,CY3 on PCB (BI)	420	250	60	4.5 (3.0 x 1.48)	8.0	--	5.0	8.0
Primary pins to secondary pins of Optocoupler (PF1)	420	250	60	4.5 (3.0 x 1.48)	6.7	--	5.0	6.7
Primary pins to secondary pins of transformer TF1 on PCB (RI)	676	258	125K	4.5 (3.0 x 1.48)	7.4	--	6.0	7.4
Primary pin to secondary winding of transformer TF1 (RI)	676	258	125K	4.5 (3.0 x 1.48)	7.5	--	6.0	7.5
Core to primary winding of transformer TF1 (RI)	676	258	125K	4.5 (3.0 x 1.48)	7.5	--	6.0	7.5
Supplementary information:								

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1) Only for frequency above 30 kHz
2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)
3) (FI) = Functional Insulation , (BI)= Basic Insulation , (RI) = Reinforced Insulation
4) The multiplication factor 1.48 for Clearances comes from the table 16 of IEC 62368-1: 2018
5) Triple insulation wire used as primary windings of TB1. Core is considered as secondary part.

5.4.4.2	**TABLE: Minimum distance through insulation**			P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
Mylar sheet (under power supply)	676	Reinforced	0.25	See Table 4.1.2
Transformer bobbin of Transformer (TF1)	676	Reinforced	0.40	See Table 4.1.2
Insulation tape of Transformer (TF1)	676	Reinforced	2 layers	≥2 layers
Supplementary information:				
Solid in sualtions at frequency above 30kHz were evaluated with electrical strength test, see details in table 5.4.9				

5.4.4.9	**TABLE: Solid insulation at frequencies >30 kHz**					P
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)
Mylar sheet (under power supply)	--	125K	0.46	0.25	Reinforced	676
Transformer bobbin of Transformer (TF1)	--	125K	0.46	0.40	Reinforced	676
Insulation tape of Transformer (TF1)	--	125K	0.46	2 layers	Reinforced	676
Supplementary information:						
All materials considered as other materials 0.46 for thin material, considered as the most unfavourable conditions; RI (Mylar sheet)=2*1.2*680/0.46=3548Vpk; RI (Insulation tape)=2*1.2*680/0.46=358Vpk; RI (bobbin)=2*1.2*680/0.46=3548Vpk.						

5.4.9	**TABLE: Electric strength tests**			P
Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No	
L to N (Fuse FP1 disconnected) (FI)	DC	2500	No	
Primary to Metal Enclosure(RI)	DC	2500	No	

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Primary to output terminal(RI)	DC	4000	No
Mylar sheet (under power supply) (RI)	DC	4000	No
Transformer (TF1) Core to primary winding (RI)	DC	4000	No
Transformer (TF1) Primary winding to Secondary winding (RI)	DC	4000	No
Supplementary information:			
Note 1: Electric strength tests are also conducted after sub-clause 5.4.8 for all sources. Note 2: (FI) = Functional Insulation , (BI)= Basic Insulation , (RI) = Reinforced Insulation Note 3: All testing Including after Humidity required of clause 5.4.8, there are including unit. Note 4: *tested with all source list at table 4.1.2. Note 5: Triple insulation wire used as primary windings of TB1. Core is considered as secondary part.			

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
264Vac, 60Hz	Phase to Neutral	N	--	4V	ES1
264Vac, 60Hz	Phase to Neutral	S (RP1 opened)	--	12V	ES1
Supplementary information:					
X-capacitors installed for testing: See appended table 4.1.2 [x] bleeding resistor rating: See appended table 4.1.2 [ ] 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)
AC inlet PE pin to the Farthest point of metal enclosure	40	2	0.52	0.013
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)	
--	--	264V	--	--	60	ES1
Supplementary information:						
See appended table 5.2 for details.						

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5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V).....:				—
Phase(s) .....:	[ ] Single Phase; [ ] Three Phase: [ ] Delta [ ] Wye			
Power Distribution System .....:	[ ] TN [ ]TT [ ] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
L & N to metal enclosure	e-open	Normal: 0.812mApk Reverse: 0.812mApk	--	
Supplementary Information:				

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

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 internal primary circuits	Normal	--	--	--	--	PS3 (Declared)
LED backlight output	Normal	130	0.76	98.8	5	PS2
USB output	Normal	5.02	4.23	21.15	5	PS2
USB output	Single fault: U6 pin 5-1 SC	0	0	0	3	PS1
RS232&IR IN/OUT	Normal	3.50	0	0	3	PS1
HDMI	Normal	0	0	0	3	PS1
DP	Normal	5.60	0	0	3	PS1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

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Clause	Requirement + Test	Result - Remark	Verdict

1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.

6.2.3.1	TABLE: Determination of Arcing PIS			P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
All internal circuits/components	--	--	--	Yes (declaration)
Supplementary information:				
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15. * An Arcing PIS is considered to exist in primary circuits and secondary circuits.				

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

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

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9.6	TABLE: Temperature measurements for wireless power transmitters								N/A
Supply voltage (V).....:			--						—
Max. transmit power of transmitter (W).....:			--						—
	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	
Foreign objects	Object (ºC)	Ambient (ºC)	Object (ºC)	Ambient (ºC)	Object (ºC)	Ambient (ºC)	Object (ºC)	Ambient (ºC)
--	--	--	--	--	--	--	--	--
Supplementary information:								

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements					P
Supply voltage (V).....:	90V/60Hz	90V/60Hz	264V/60Hz	264V/60Hz		—
Ambient temperature during test T_{amb} (°C).....:	See below	See below	See below	See below		—
Maximum measured temperature T of part/at:	T (°C)					Allowed T_{max} (°C)
At room temperature Shift to 45°C on HDMI mode						
AC input	37.4	58.8	49.1	73.0		80
CY5 body(Power board)	38.0	59.4	34.8	58.7		85
CX1 body(Power board)	41.4	62.8	38.2	62.1		85
LP2 winding(Power board)	49.4	70.8	39.0	62.9		80
CY2 body(Power board)	37.5	58.9	34.9	58.8		85
CY1 body(Power board)	39.4	60.8	35.9	59.8		85
CF21 body (Power board)	54.5	75.9	46.9	70.8		85
PCB near PD1 (Power board)	67.9	89.3	52.0	75.9		85
PCB near HS21 (Power board)	59.8	81.2	56.3	80.2		85
CP11 body(Power board)	61.1	82.5	52.2	76.1		85
CF16 body (Power board)	54.3	75.7	50.5	74.4		85
PF16 body (Power board)	46.9	68.3	45.4	69.3		85

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Clause	Requirement + Test	Result - Remark	Verdict

CY3 body(Power board)	53.1	74.5	51.4	75.3	85
TF1 coil (Power board)	70.8	92.2	69.1	93.0	130
TF1 core (Power board)	65.0	86.4	66.6	90.5	130
FC14 body(Power board)	52.5	73.9	55.4	79.3	105
CF25 body(Power board)	61.8	83.2	59.8	83.7	105
HS1 body (Power board)	66.8	88.2	68.9	92.8	130
PCB near LK4 (Power board)	76.1	97.5	76.4	100.3	130
CF6 body (Power board)	40.2	61.6	83.9	107.8	130
PCB near LK2 (Power board)	62.3	83.7	64.9	88.8	130
PCB near CK8 (Power board)	64.0	85.4	64.4	88.3	155
CF12 body (Power board)	65.6	87.0	57.2	81.1	105
Mylar	36.2	57.6	34.1	58.0	85
PCB near L103(screen board)	52.8	74.2	51.6	75.5	155
PCB near IC100(screen board)	24.5	45.9	23.7	47.6	85
C207 body (main board)	36.0	58.8	40.1	64.0	130
L73 body (main board)	42.7	64.1	46.1	70.0	130
PCB near U14(Main board)	43.5	64.8	61.8	84.7	130
PCB near DP2(main board)	43.3	64.7	48.8	72.7	105
Ambient	23.6	45.0	21.1	45.0	85
Note: The temperature value of accessible enclosure parts shall be calculated to 25°C					
Switch	31.4	32.8	29.5	33.4	85
Screen	34.2	35.6	32.0	35.9	85
Metal enclosure	35.4	36.8	34.7	38.6	85
Button	30.2	31.6	29.2	33.1	85
Ambient	23.6	25.0	21.1	25.0	85

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
Supplementary information:							

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Note 1: Tma should be considered as directed by appliable 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. Heating test was conducted in 20-25°C ambient, all points except external accessible parts was adjusted to 40°C Tma, the points of external accessible parts was adjusted to 25°C ambient.

Class 130 (B) Tmax = 120°C - 10°C = 110°C

Test mode: HDMI mode:The unit is running three vertical bar signal on LCD display, 1KHz audio sine wave signal input with 1/8 maximum non-clipped output power with two 6ohm speakers, test with maximum contrast and Max. Brightness.

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
90	50	0.75	--	46.03	--	FP1	0.75	**HDMI mode:** Three vertical bar signal input with max. contrast and brightness with 1kHz sine signal adjusted to 1/8 max. non-clipped output power. Speaker output:2.5V× 2 USB2.0 port loaded with 0.5A
90	60	0.76	--	46.05	--	FP1	0.76	
100	50	0.67	1.0	45.66	--	FP1	0.67	
100	60	0.68	1.0	45.68	--	FP1	0.68	
240	50	0.33	1.0	44.82	--	FP1	0.33	
240	60	0.35	1.0	44.83	--	FP1	0.35	
264	50	0.30	--	45.86	--	FP1	0.30	
264	60	0.32	--	45.87	--	FP1	0.32	
Supplementary information:								

B.3, B.4	**TABLE: Abnormal operating and fault condition tests**						**P**
Ambient temperature T_{amb} (°C) ..... :					25		—
Power source for EUT: Manufacturer, model/type, outputrating... :					See table 4.1.2		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Opening	Blocked	264	2hrs30 mins	FP1	0.32	The EUT run for steady, no component damaged, no hazard. Max temperature: TF1 coil :73.6 °C TF1 core :70.6 °C Scswitch:32.7 °C Screen:36.0 °C	

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B.3, B.4	TABLE: Abnormal operating and fault condition tests		P
Ambient temperature T_{amb} (°C) ..... :		25	—
Power source for EUT: Manufacturer, model/type, outputrating... :		See table 4.1.2	—

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
						Metal enclosure:38.5 °C Button:31.2 °C Ambient:25.0°C USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 5.02Vdc
Speaker	SC	264	2hrs 15mins	FP1	0.31	The EUT run for steady, no component damaged, no hazard. Max temperature: TF1 coil :70.0 °C TF1 core :67.5 °C Scswitch:32.1 °C Screen:35.3 °C Metal enclosure:37.2 °C Button:31.5 °C Ambient:25.0°C USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 5.02Vdc
Speaker	Max. available output power	264	2hrs 20mins	FP1	0.33	The EUT run for steady, no component damaged, no hazard. Max temperature: TF1 coil :75.6 °C TF1 core :72.3 °C Scswitch:31.9 °C Screen:34.2 °C Metal enclosure:37.4 °C Button:31.1 °C Ambient:25.0°C USB output +/- to earth touch current is 0.102mApk. USB output + to - touch

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B.3, B.4	TABLE: Abnormal operating and fault condition tests		P
Ambient temperature T_{amb} (°C) ..... :		25	—
Power source for EUT: Manufacturer, model/type, outputrating... :		See table 4.1.2	—

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
						voltage: 5.02Vdc
USB output	Overload	264	6hrs50 mins	FP1	0.32- 0.43- 0.03-	Increasing the transformer secondary output current from 0.5A to3.4A, then added the current to 3.5A, unit shut down. Protected. No hazard. Max temperature: TF1 coil :73.6 °C TF1 core :70.6 °C Scswitch:32.7 °C Screen:36.0 °C Metal enclosure:38.5 °C Button:31.2 °C Ambient:25.0°C USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 5.02Vdc
TF1 pin 11 to after DF2	Overload	264	6hrs 45mins	FP1	0.32- 0.42- 0.03	Increasing the transformer secondary output current from 0A to 0.7A, then added the current to 0.71A, unit shut down. Protected. No hazard. Max temperature: T101 coil: 114.6°C T101 core: 106.0°C Screen:36.4°C Button: 29.5°C Metal enclosure:43.3°C Ambient: 25.0°C USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 5.12Vdc
TF1 pin 7 to	Overload	264	5hrs	FP1	0.68-	Increasing the transformer secondary output current

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B.3, B.4	TABLE: Abnormal operating and fault condition tests						P
Ambient temperature T_{amb} (°C) ..... :					25		—
Power source for EUT: Manufacturer, model/type, outputrating... :					See table 4.1.2		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
after DF5			23mins		0.92-0.03	from 0A to3.4A, then added the current to 0.41A, unit shut down. Protected. No hazard. Max temperature: T101 coil: 116.6°C T101 core: 108.0°C Screen:36.8°C Button: 29.9°C Metal enclosure:43.2°C Ambient: 25.0°C USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 5.12Vdc	
TF1 pin 7 to after ZF1	Overload	264	5hrs 12mins	FP1	0.35-0.42-0.03	Increasing the transformer secondary output current from 0A to1.3A, then added the current to 0.31A, unit shut down. Protected. No hazard. Max temperature: T101 coil: 112.1°C T101 core: 101.3°C Screen:36.1°C Button: 29.2°C Metal enclosure:43.5°C Ambient: 25.0°C USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 5.12Vdc	
DP1 pin 1-4	SC	264	1s	FP1	0	Fuse open, no damaged, no hazard. USB output +/- to earth touch current is 0.186mApk. USB output + to - touch voltage: 0Vdc	

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B.3, B.4	TABLE: Abnormal operating and fault condition tests		P
Ambient temperature T_{amb} (°C) ..... :		25	—
Power source for EUT: Manufacturer, model/type, outputrating... :		See table 4.1.2	—

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
CP1	SC	264	1s	FP1	0	Fuse open, no damaged, no hazard. USB output +/- to earth touch current is 0.186mApk. USB output + to - touch voltage: 0Vdc
QF4 pin 1-3	SC	264	1s	FP1	0	Fuse open, no damaged, no hazard. USB output +/- to earth touch current is 0.186mApk. USB output + to - touch voltage: 0Vdc
QF4 pin 1-2	SC	264	1s	FP1	0	Fuse open, no damaged, no hazard. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
QF4 pin 2-3	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.186mApk. USB output + to - touch voltage: 0Vdc
QF9 pin 1-3	SC	264	1s	FP1	0	Fuse open, no damaged, no hazard. USB output +/- to earth touch current is 0.186mApk. USB output + to - touch voltage: 0Vdc
QF9 pin 1-2	SC	264	1s	FP1	0	Fuse open, no damaged, no hazard. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc

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Clause	Requirement + Test	Result - Remark	Verdict

B.3, B.4	TABLE: Abnormal operating and fault condition tests		P
Ambient temperature T_{amb} (°C) ..... :		25	—
Power source for EUT: Manufacturer, model/type, outputrating... :		See table 4.1.2	—

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
QF9 pin 2-3	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
UF1 pin 6-1	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
UF1 pin 5-1	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
TF1 pin 1-3	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
TF1 pin 5-4	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
TF1 pin 6-7/8	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc

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B.3, B.4	TABLE: Abnormal operating and fault condition tests		P
Ambient temperature T_{amb} (°C) ..... :		25	—
Power source for EUT: Manufacturer, model/type, outputrating... :		See table 4.1.2	—

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
TF1 pin 7/8-9	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
TF1 pin 9-11	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
PF1 pin 1-2	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
PF1 pin 3-4	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
PF1 pin 1	OC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc
PF1 pin 3	OC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc

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Clause	Requirement + Test	Result - Remark	Verdict

B.3, B.4	TABLE: Abnormal operating and fault condition tests						P
Ambient temperature T_{amb} (°C) ..... :					25		—
Power source for EUT: Manufacturer, model/type, outputrating... :					See table 4.1.2		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
FD2	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc	
DF5	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc	
ZF1	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc	
CF13	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc	
CF6	SC	264	10mins	FP1	0.042	Unit shut down immediately, recoverable, no hazards. USB output +/- to earth touch current is 0.102mApk. USB output + to - touch voltage: 0Vdc	
Alkaline battery of Remote control	Reversed	3Vdc	10mins	--	--	Remote control can't work, No damaged, no hazards.	
Supplementary information:							

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Clause	Requirement + Test	Result - Remark	Verdict

B.3, B.4	TABLE: Abnormal operating and fault condition tests						P
Ambient temperature T_{amb} (°C) ..... :					25		—
Power source for EUT: Manufacturer, model/type, outputrating... :					See table 4.1.2		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
The room ambient temperature is 20 to 25°C. 1. After each of above test, unit can pass the dielectric strength test specified in table 5.4.9. 2. Alternate fuse was tested for each fault if the fuse is operated, the same results. 3. No ignition during and after all tests. 4. Output voltage comply with ES1 during and after all tests. 5. SC=Short Circuit; OC=Open Circuit. OL= Overload 6. Test with HDMI mode.							

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

Maximum specified charging voltage (V)..... :	--	—
Maximum specified charging current (A) ..... :	--	—
Highest specified charging temperature (ºC) ..... :	--	
Lowest specified charging temperature (ºC) ..... :	--	

Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (ºC)	
--	--	--	--	--	--
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**						P
Output Circuit	Condition	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
LED backlight output	Normal	130	3	0.76	8	98.8	100
USB output	Normal	5.02	3	4.23	8	21.15	100
USB output	Single fault: U6 pin 5-1 SC	0	5	0	8	0	100
RS232&IR IN/OUT	Normal	3.50	5	0	8	0	100
HDMI	Normal	0	5	0	8	0	100
DP	Normal	0	5	0	8	0	100
Supplementary Information:							
SC=Short circuit							

T.2, T.3, T.4, T.5	**TABLE: Steady force test**					P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
Internal component or part	--	--	--	10	5	Clearances is not reduced, no hazard

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Clause	Requirement + Test	Result - Remark	Verdict

Enclosure	1)	1)	--	250	5	ES3 energy can not accessible, all safeguards remain effective.

Supplementary information:
Test for all sources of Plastic enclosure.

1): See appended table 4.1.2 for details

T.6, T.9	TABLE: Impact test			P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
Enclosure	1)	1)	1300	All safeguards remain effective.
LED panel	--	--	204	All safeguards remain effective.

Supplementary information:

1) See appended table 4.1.2 for details.

T.7	TABLE: Drop test				N/A
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
--	--	--	--	--	

Supplementary information:

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

Supplementary information:

1) Test for all sources of Plastic enclosure

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

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
PCB	Huizhou China Eagle Electronic Technology Co., Ltd	FR4	V-0, 130 ℃	UL796 UL94	E170968
Power supply board	Shenzhen MEGMEET Electrical Co., Ltd	MP80TL-2P32-A	/	/	/
Motherboard	Shenzhen Gray-scale Technology Co., LTD	RS512M32LM4 D2BDS-53BT	/	/	/
/	/	E16GCSAB1AB E00 BGA153	/	/	/
/	/	YT8512 QFN32	/	/	/
/	/	RK809-5-QFN68	/	/	/
/	/	RK3566-BGA565	/	/	/
Screen line	SHENZHEN JTK WIRE&CABLE CO LTD	FI-RE51P	/	UL1571	E359216
Motherboard power supply line	Shenzhen Haixinda Connecting Line Co. , Ltd/REACH	XH2.54/13P-PH2.0-6	2468	24AWG, 80°C, 300V,VW-1	UL
Power cord	Chao Hui Electrical Appliance Co., Ltd.	CH-231	AC 250V 16A	DIN VDE 0620-2-1 (VDE 0620-2-1):2021-02 DIN VDE 0620-2-1/A1 (VDE 0620-2-1/A1):2023-09	VDE40017596
Power cord	Chao Hui Electrical Appliance Co., Ltd.	CH-706	AC 250V 2,5A	DIN EN IEC 60320-1 (VDE 0625-1):2023-06; EN IEC 60320-1:2021	VDE40017890

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Power cord	Chao Hui Electrical Appliance Co., Ltd.	H05VV-F	0.75 24/0.20MM	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011	VDE40025860
AC socket connection cable	Dongguan HUACONN Electronics Co., Ltd	HC-66	AC 250V 2,5A max 70℃	DIN EN IEC 60320-1 (VDE 0625-1):2023-06; EN IEC 60320-1:2021	VDE40032581
Four-pin power switch	Yueqing Qiyang Electronics Co., Ltd	QY601-201	6A 250V AC, 10A 125V AC	TUV EN 61058-1:2002/A2:2008	TUV N8A 17 02 98459 001
37-inch screen	FUZHOU BOE OPTOELECTRONICS TECHNOLOGY CO.,LTD	DV370FBM-N10	1920*540	/	/
Rear shell	ShenZhenShiXinHuiChengTechnology Co.,LTD.	/	SGCC T=1.0mm	/	/
Remote control	Shenzhen Huidu Technology Co.,ltd	/	/	/	DTI2025EE060122
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
	audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment. Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3. NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360. NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible. Listening devices sold separately shall comply with the requirements of 10.6.6. These requirements are valid for music or video mode only. The requirements do not apply to: – professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music players: • long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. – a player while connected to an external amplifier that does not allow the user to walk around while in use.		

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Clause	Requirement + Test	Result - Remark	Verdict
	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 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.		N/A
10.6.2.2	**RS1 limits (to be superseded, see 10.6.3.2)**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	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.		
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
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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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.		
10.6.3.3	**RS2 limits (new)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		N/A
10.6.4	**Requirements for maximum sound exposure**		N/A
10.6.4.1	**Measurement methods** All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A
10.6.4.2	**Protection of persons** Except as given below, protection requirements for parts **accessible** to **ordinary persons**, **instructed persons** and **skilled persons** are given in 4.3. NOTE 1 Volume control is not considered a **safeguard.** Between RS2 and an **ordinary person**, the **basic safeguard** may be replaced by an **instructional safeguard** in accordance with Clause F.5, except that the **instructional safeguard** shall be placed on the equipment, or on the packaging, or in the instruction		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

	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				

4	**Modification to Clause 1**		N/A
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.*		N/A

5	**Modification to 4.Z1**	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	***Add*** *the following new subclause after 4.9:* To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		P
6	**Modification to 5.4.2.3.2.4**		N/A
5.4.2.3.2.4	***Add*** *the following to the end of this subclause:* The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.	No connection to external circuit.	N/A
7	**Modification to 10.2.1**		N/A
10.2.1	Add the following to c) and d) in table 39: For additional requirements, see 10.5.1.	No radiation.	N/A
8	**Modification to 10.5.1**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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 cm^2, 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
10	**Modification to Bibliography**		P
	Add the following notes for the standards indicated:		P

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	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.		
11	**ADDITION OF ANNEXES**		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”	Class II equipment	N/A

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.	No high touch current measured.	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;	No connection to such a network.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	• the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	100-240Vac	P
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.	Class II equipment	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.		N/A
5.6.4.2.1	**France** After the indent for **pluggable equipment type A**, the following is added: – in certain cases, the **protective current rating** of the circuit supplied from the mains is taken as 20 A instead of 16 A.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm^2 to 1,5 mm^2 in cross-sectional area.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.6.8	**Norway** To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as **class I equipment**. See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
5.7.7.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building 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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
8.5.4.2.3	**United Kingdom** Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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		
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.	Not such equipment.	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

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Clause	Requirement + Test	Result - Remark	Verdict

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.		N/A
ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification*: German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de	Not such equipment.	N/A
ZD	**IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)**		P

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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

Fig. 1 –External view for model PB3701A

Fig. 2 –External view for model PB3701A

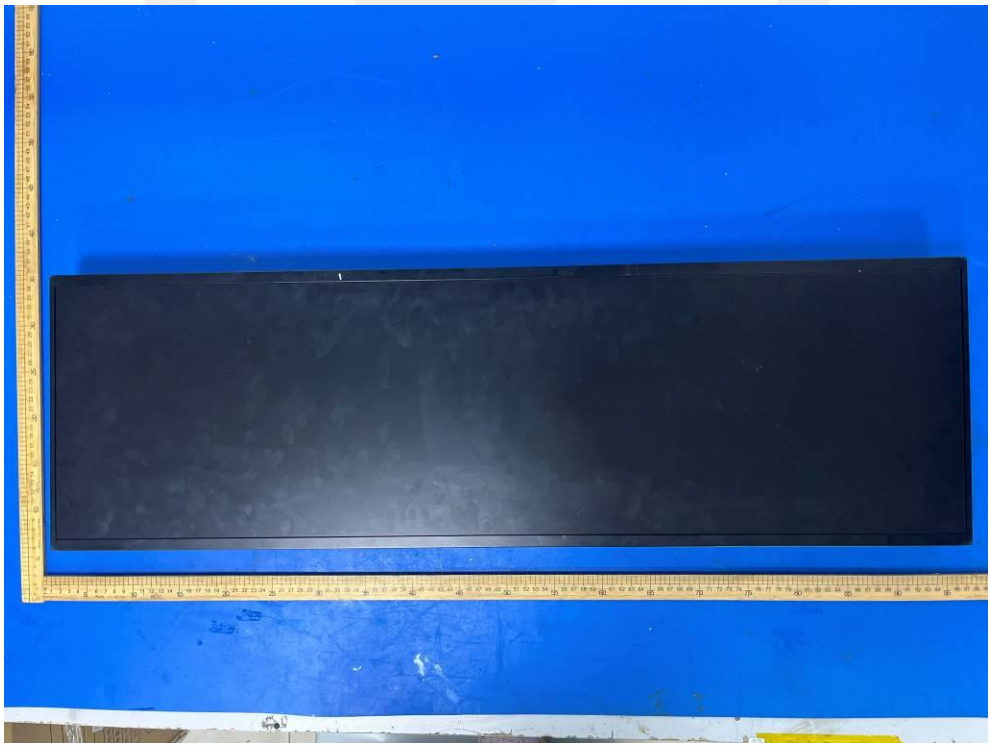

Fig. 3 –External view for model PB3701A

Fig. 4 –Terminal view for model PB3701A

Fig. 5 – Terminal view for model PB3701A

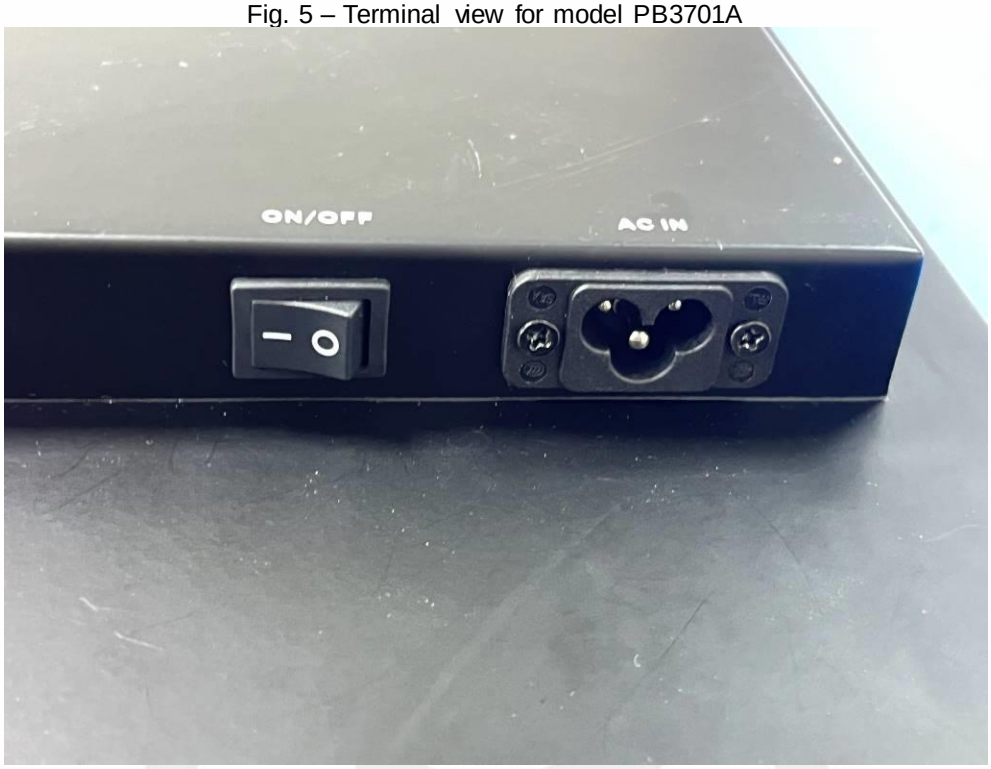

Fig. 6 –Internal view for model PB3701A

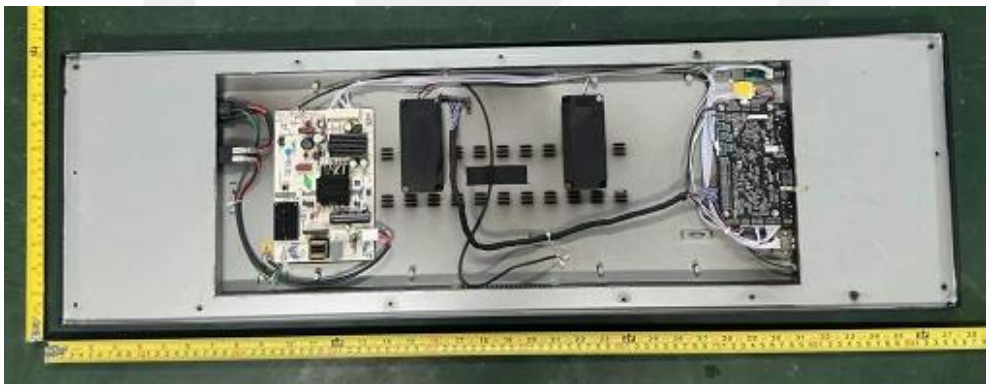

Fig. 7 –Internal view for model PB3701A

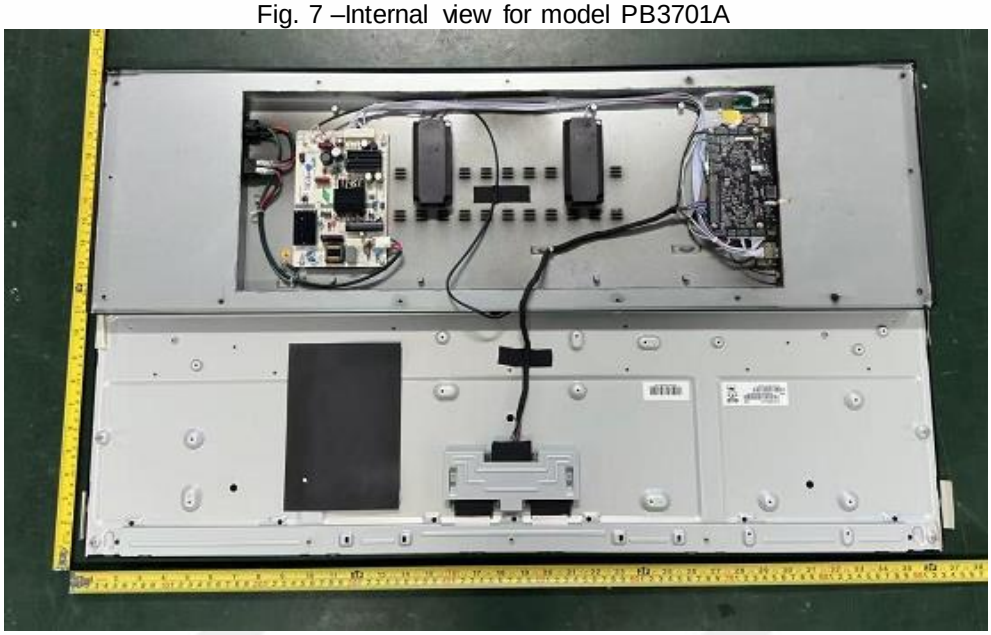

Fig. 8 –PCB view

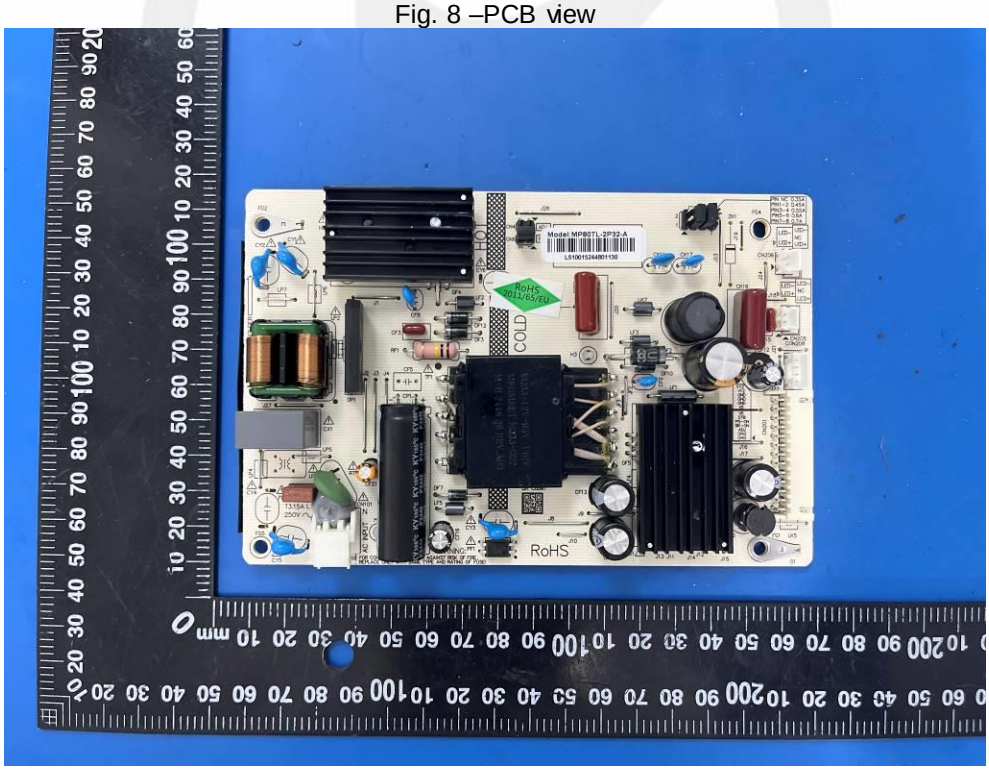

Fig. 9 – PCB view

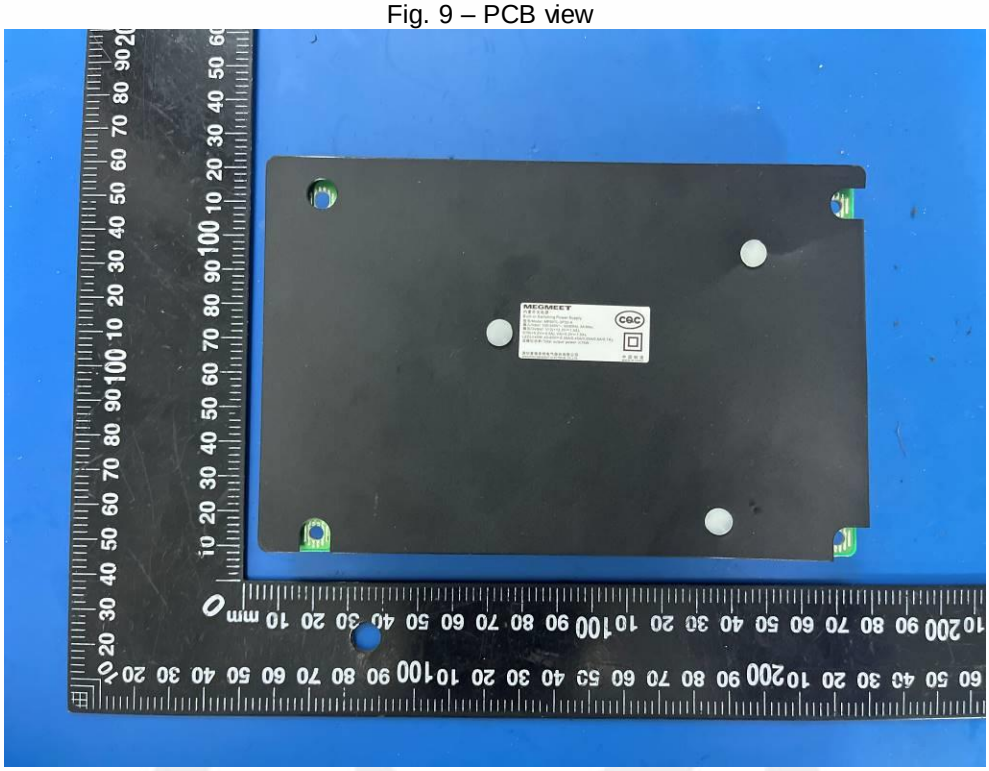

Fig. 10 – PCB view

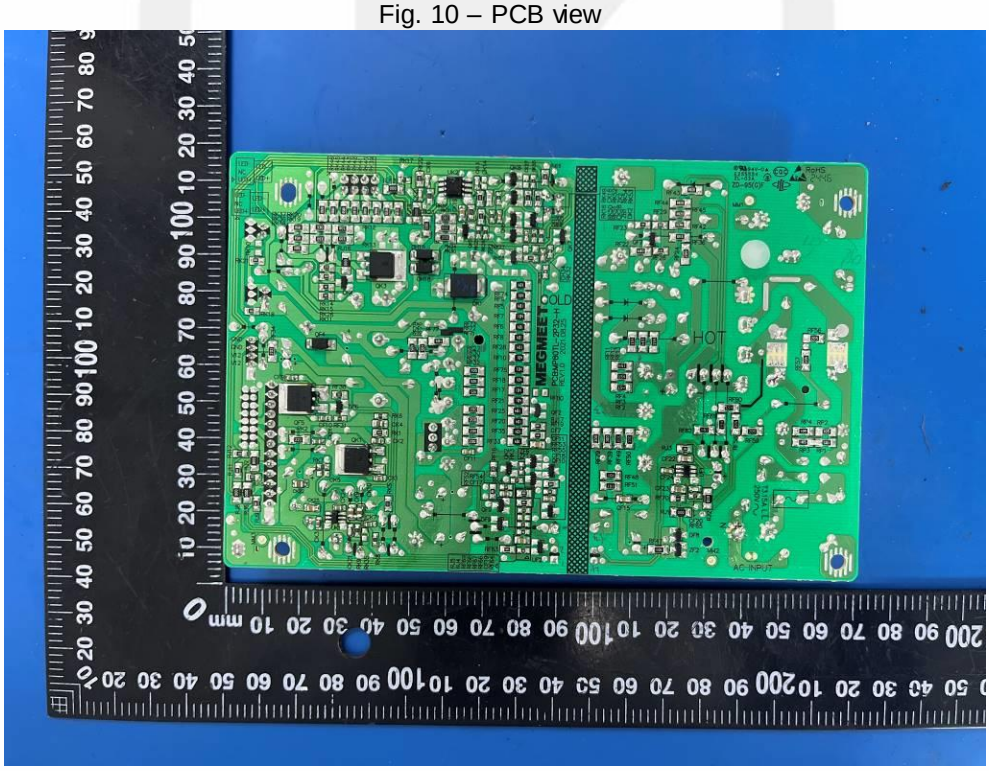

Fig. 11 –PCB view

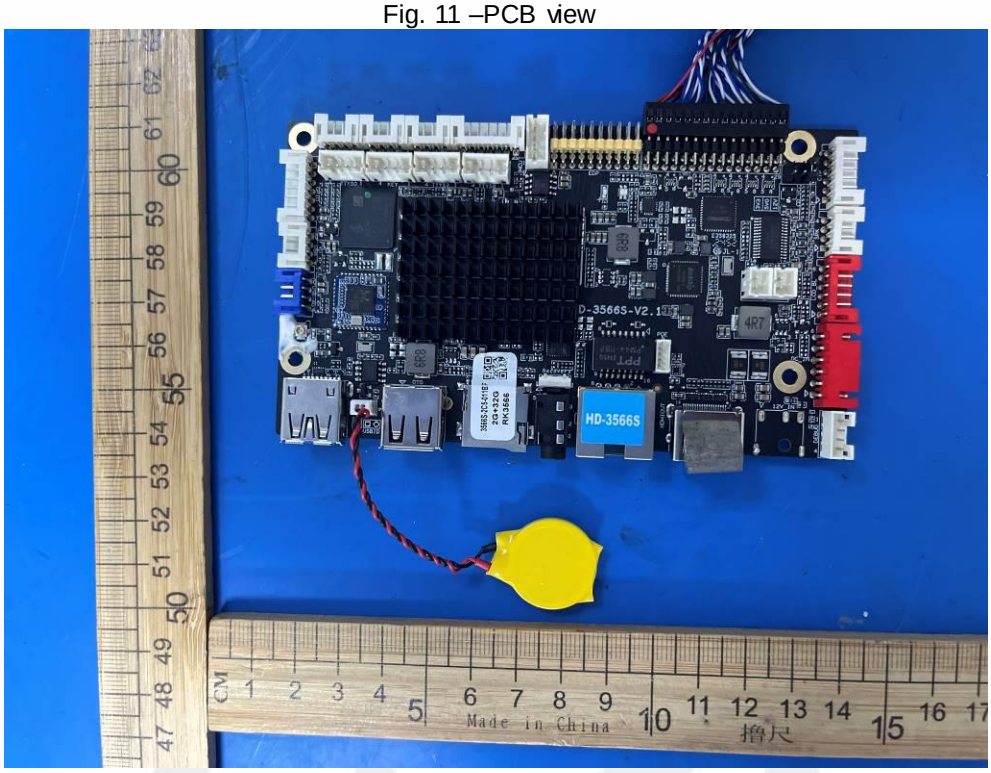

Fig. 12 –PCB view

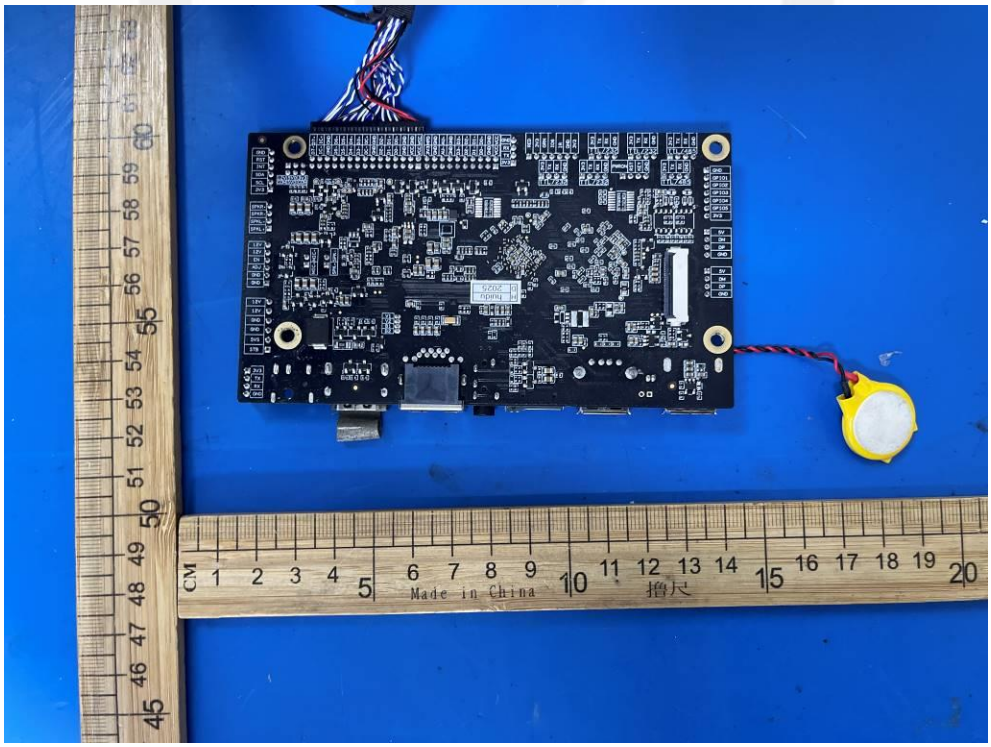

Fig. 13 –Remote control view

********** **End of Report** **********

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