



Test Report issued under the responsibility of:



**TEST REPORT
IEC 62368-1**

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

Report Number.....: REP161381
Date of issue.....: 2026-05-15
Total number of pages 86 pages, refer to page 4 for the attachments.

**Name of Testing Laboratory
preparing the Report** Nemko Korea Co., Ltd.
165-51 Yurim-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, 17042,
Korea, Republic of

Applicant's name Linkplay Technology Inc.
Address 3012 Scott Blvd, Santa Clara, CA 95054 United States of America

Test specification:

Standard.....: IEC 62368-1:2018
Test procedure CB Scheme
Non-standard test method N/A

TRF template used IECEE OD-2020-F1:2021, Ed.1.4

Test Report Form No.: IEC62368_1E

Test Report Form(s) Originator: UL(US)

Master TRF.....: Dated 2022-04-14

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General disclaimer:

The test results presented in this report relate only to the object tested.
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Test item description	WiiM Bar
Trade Mark	WiiM
Manufacturer	Linkplay Technology Inc. 3012 Scott Blvd, Santa Clara, CA 95054 United States of America
Model/Type reference	BAR001
Ratings	40 W 100-240 V AC 50/60 Hz, Class II

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	CB Testing Laboratory:	Nemko Korea Co., Ltd.
Testing location/ address.....:		165-51 Yurim-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, 17042, Korea, Republic of
Tested by (name, function, signature)		Yong Beom, Kweon, Project handler
		
Approved by (name, function, signature)....:		Soon Ki, Min, Verifier
☐	Testing procedure: CTF Stage 1:	N/A
Testing location/ address.....:		
Tested by (name, function, signature)		
Approved by (name, function, signature)....:		
☐	Testing procedure: CTF Stage 2:	N/A
Testing location/ address.....:		
Tested by (name + signature)		
Witnessed by (name, function, signature)..:		
Approved by (name, function, signature)....:		
☐	Testing procedure: CTF Stage 3:	N/A
☐	Testing procedure: CTF Stage 4:	N/A
Testing location/ address.....:		
Tested by (name, function, signature)		
Witnessed by (name, function, signature)..:		
Approved by (name, function, signature)....:		
Supervised by (name, function, signature) :		

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

Attachment 1: Photos (8 pages)

Attachment 2: Instruction / Installation Manual (1 page)

Attachment 3: European group differences and national differences, EN 62368-1: 2014 + A11:2017. (9 pages) ¹⁾

Attachment 4: European group differences and national differences, EN IEC 62368-1:2020 + A11:2020. (23 pages)

Attachment 5: Australia/New Zealand national differences (31 pages)

Attachment 6: China national differences (31 pages)

Attachment 7: Japan national differences (5 pages)

Attachment 8: Republic of Korea national differences (1 page)

Attachment 7: CB certificate for WiiM Voice Remote 2 Lite, WiiM Bar Remote (1 page)

¹⁾ European group differences and national differences, EN 62368-1: 2014 + A11:2017 is attached for additional information.

Summary of testing:	
Determination the clearance (Clause 5.4.2)	This equipment is intended to be operated at altitudes of up to 5 000 m (54.0 kPa), so the clearance is multiplied by the altitude correction factor (1.48) and the electric strength test voltage is multiplied by the altitude correction factor (1.24), specified in table 16 of Clause 5.4.2.5. Both frequencies (lower than 30 kHz and higher than 30 kHz) were presented on the power supply unit, see appended Table 5.4.2, 5.4.3. To determine the required clearance, below procedures are considered (linear interpolation is not used). 1) Procedure 1 - <u>From Table 10 (considered temporary overvoltage (frequency $\leq$ 30 kHz)):</u> 1.88 mm (1.27 mm x 1.48) for basic or supplementary insulation and 3.76 mm (2.54 mm x 1.48) for reinforced insulation - <u>From Table 11 (considered steady state voltage (frequency $>$ 30 kHz)):</u> 0.11 mm (0.07 mm x 1.48) for basic or supplementary insulation and 0.21 mm (0.14 mm x 1.48) for reinforced insulation - <u>Highest value for procedure 1:</u> 1.88 mm for basic or supplementary insulation and 3.76 mm for reinforced insulation 2) Procedure 2 - <u>Required clearance from Table 14:</u> 2.22 mm (1.5 mm x 1.48) for basic or supplementary insulation and 4.44 mm (3.0 mm x 1.48) for reinforced insulation - <u>Required electric strength test voltage from Table 15:</u> 3.63 kV (2.92 kV x 1.24) for basic or supplementary insulation and 5.81 kV (4.68 kV x 1.24) for reinforced insulation Required clearance according to procedure 2 is taken in this test report and certified Power Supply test report.
Equipment mounted to a wall or ceiling (Clause 8.7)	Manufacturer specifies a specific wall mount, the apparatus is provided with two screw holes which facilitate attaching a wall bracket to the apparatus, also provided information for screw size (M4), number of screws (2 pcs) and wall mount bracket in the user instruction manual. Therefore relevant test is performed according to clause 8.7.2, Test 1 and Test 3.

Summary of testing: – continued	
Instructions (Annex F.1)	Instructions / user's manual are in English. The information shall be given in a language acceptable to the country where the equipment is intended to be sold.
Plug / External flexible cords (Annex G.7)	This test report does not cover the mains cord set except for listed type in list of critical components. This apparatus must be supplied with an approved mains cord set suitable for the countries where the requirement will be sold.
Equipment containing batteries and their protection circuits (Clause M)	This test report does not cover the Remote Control. This apparatus must be supplied with an approved Remote Control suitable for the countries where the requirement will be sold.
USB Terminal (IEC 62368-3)	IEC 62368-3 is not applied due to the customer's request. The customer is informed that this may create challenges as IEC 62368-3 may be required for national/regional certifications.
Tests performed (name of test and test clause): Clause 4. GENERAL REQUIREMENTS Clause 5. ELECTRICALLY-CAUSED INJURY Clause 6. ELECTRICALLY-CAUSED FIRE Clause 8. MECHANICALLY-CAUSED INJURY Clause 9. THERMAL BURN INJURY Annex B. NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS Annex D. TEST GENERATORS Annex E. TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS Annex F. EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS Annex G. COMPONENTS Annex P. SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS Annex Q. CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING Annex T. MECHANICAL STRENGTH TESTS Annex V. DETERMINATION OF ACCESSIBLE PARTS	Testing location: Refer to page 3.

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

All CENELEC members as listed in EN IEC 62368-1:2020 +A11:2020, Australia/New Zealand, China, Japan and Republic of Korea.

☒ **The product fulfils the requirements of IEC 62368-1: 2018 and EN IEC 62368-1:2020+A11:2020, National Deviations for Republic of Korea, USA and Canada.**

The European Group Differences and National Differences for EN IEC 62368-1:2020+A11:2020 is attached in end of this test report as appendix.

The National Differences for Australia/New Zealand, China, Japan and Republic of Korea are attached in end of this report as appendices.

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.

WiiM Bar

Brand Name: WiiM
Model Name: BAR001
Input: 100-240V AC, 50/60Hz, 40W

Linkplay Technology Inc.
3012 Scott Blvd, Santa Clara, CA 95054.

Made In VIETNAM



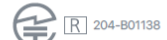
HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE
IC: 30828-BAR001 FCC ID: 2BABF-BAR001
Contains IC: 30828-W98



R-R-L8P-BAR001



R-R-L8P-W98



電波法により5.2/5.3/6 GHz
帯は屋内使用に限ります



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Dolby, Dolby Audio, Dolby Digital, Dolby Atmos, and the double-D symbol are registered trademarks of Dolby Laboratories Licensing Corporation.
Manufactured under license from Dolby Laboratories.

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HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE
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R-R-L8P-BAR001



R-R-L8P-W98



株式会社エミライ



電波法により5.2/5.3/6 GHz
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Dolby, Dolby Audio, Dolby Digital, Dolby Atmos, and the double-D symbol are registered trademarks of Dolby Laboratories Licensing Corporation.
Manufactured under license from Dolby Laboratories.

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		
Considered current rating of protective device	☐ mating connector	☐ other:	
	☒ 16 A		
Equipment mobility	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:		
	☐ other:		
Overvoltage category (OVC)	☐ OVC I	☒ OVC II	☐ OVC III
	☐ OVC IV	☐ other:	
Class of equipment	☐ Class I	☒ Class II	☐ Class III
	☐ Not classified		
Special installation location	☒ N/A	☐ restricted access area	
	☐ outdoor location		
Pollution degree (PD)	☐ PD 1	☒ PD 2	☐ PD 3
Manufacturer's specified T _{ma}	☒ 40 °C	☐ Outdoor: minimum	°C
IP protection class	☐ IPX0	☒ IP20	
Power systems	☒ TN	☐ TT	☒ IT - 230 V L-L for Norway
	☐ not AC mains		
Altitude during operation (m)	☐ 2000 m or less	☒ up to 5 000 m	
Altitude of test laboratory (m)	☒ 2000 m or less	☐ m	
Mass of equipment (kg)	Max. 4.94 kg		

Possible test case verdicts: - test case does not apply to the test object...: N/A - test object does meet the requirement: P (Pass) - test object does not meet the requirement...: F (Fail)	
Testing Date of receipt of test item : 2026-01-26 Date (s) of performance of tests : 2026-01-26 to 2026-04-10	
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 IEC60335-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided:	☐ Yes ☒ Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) : BUMJIN ELECTRONICS VINA CO., LTD Lot CN-04, Dong Mai Industrial Park, Dong Mai Ward, Quang Ninh Province, Viet Nam	

General product information and other remarks:

The apparatus under test is WiiM Bar of insulation Class II.

The apparatus has amplifier circuits with built-in type speakers (Tweeter – Center, R and L, Full Range – R and L, Mid-Woofer – Center, R and L), Bluetooth module, Wi-fi module, several signal input/output (HDMI(in), OPTICAL, Line, LAN and USB) terminals – (See also photos).

Circuit characteristics:

The equipment contains Primary circuits (ES3) and Secondary circuits (ES1).

The equipment is intended to be used with WiiM Voice Remote 2 Lite, WiiM Bar Remote (for Rechargeable Li-ion Battery) is CB certified component by Intertek as follows:
Type, WVR003, WVR004 is Certified by Intertek(Certif. No.: SG ITS-40753M1, Report No.: 250819026SZN-001)

Maximum ambient temperature (Tma): 40 °C

This report is not related to KS Q ISO/IEC 17025 and KOLAS accreditation.

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: Primary circuits	Ordinary (Accessible part)	N/A	N/A	Enclosure: Annex T and no openings
ES3: Primary circuit	Ordinary	N/A	N/A	Distance cl.5.4.2 and 5.4.3; Solid insulation cl. 5.4.4; Component: Annex G
ES3: Capacitor discharge	Ordinary	Bleeder resistors complied with annex G.10	Voltage: complies with cl. 5.5.2.2	N/A
ES1: Secondary Circuit (12 V output in power supply unit, Speakers output (built-in type))	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3: Primary and secondary circuits	Entry of foreign objects	Instructed safeguard (Persons are not expected to insert a foreign object)	No openings	N/A
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

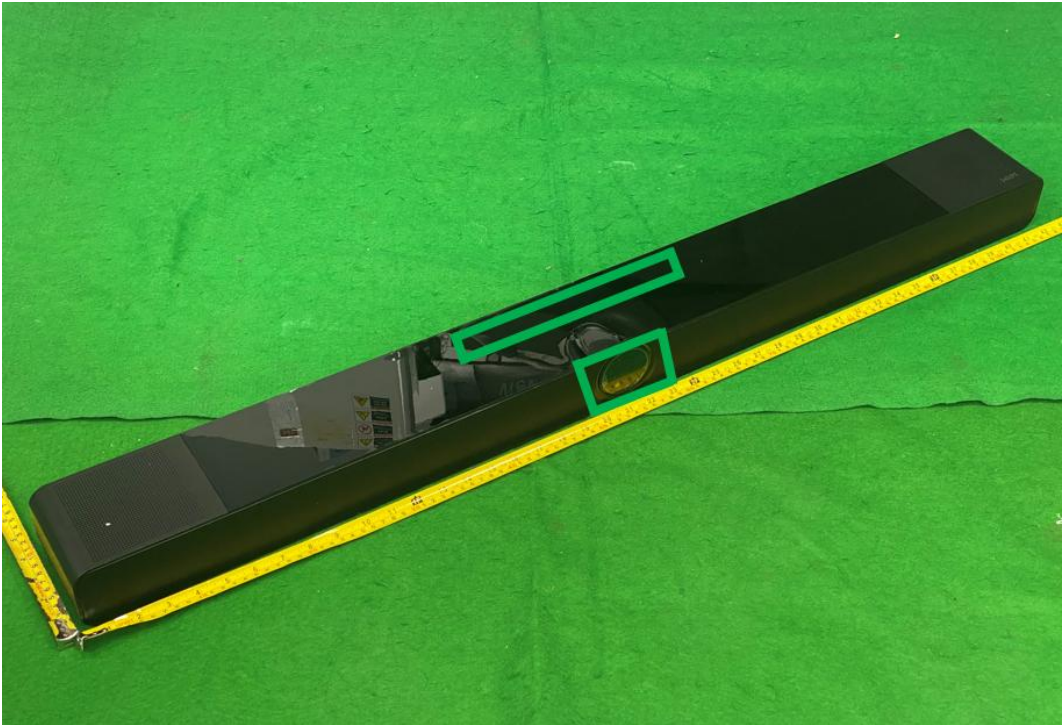
OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3: Primary and secondary circuits	External enclosure	1)	Metal and V-0 class material Enclosure (Fire enclosure)	N/A
PS3 or PS2: Primary and secondary circuits	Conductor and device	1)	PCB of V-0 class material.	N/A
PS3 or PS2: Primary and secondary circuits	Internal component	1)	Complied with cl. 6.4.5.2	N/A
PS3: Primary circuits	Internal component (Appliance inlet and AC connector (J814))	1)	Complied with Annex G.4	N/A
PS3: Primary circuits	Internal component (Varistor (VX801S))	1)	Complied with Annex G.8	N/A
PS3: Primary and secondary circuits	Combustible material (Internal wire)	1)	Complied with cl. 6.5.1	N/A
PS3: Primary and secondary circuits	Combustible material on PCB	1)	Components mounted on V-0 class material; Metal and V-0 class material Enclosure	N/A
Arcing PIS or Resistive PIS	Combustible material within PIS fire cone	1)	2) or Separated from fire cone of PIS.	N/A
PS2: Built-in speakers (Mid-Woofer)	Combustible material (speaker unit)	1)	Single fault conditions	N/A
1) No ignition, Components inside of fire enclosure which measured temperature < 300 °C during test, refer to table 5.4.1.4, 9.3, B.1.5, B.2.6. 2) A volume less than 1 750 mm³, a mass of less than 4 g, PCB is min. V-1 class material. Note: Arcing PIS / Resistive PIS are within PS2 and PS3 circuit, fire enclosure provided.				

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
PS1: Built-in speakers (Tweeter, Full-Range)	Combustible material (speaker unit)	N/A	N/A	N/A
PS3: Power supply cord	External wiring	N/A	N/A	Complying with Annex G.7.
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Sharp edges and corners	Ordinary	N/A	N/A	N/A
MS1: Equipment mass; Max. 4.94 kg	Ordinary	N/A	N/A	N/A
MS3: Wall mount	Ordinary	Wall-mounting holes are complied with cl. 8.7.2	Instructed safeguard	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: Enclosure	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: Optical Digital Audio output terminal	Ordinary	N/A	N/A	N/A
RS1: Diffusive LED, Display	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		
Class 1	Class 2	Class 3
  ☒ ES ☐ PS ☐ MS ☐ TS ☐ RS		
  ☐ ES ☒ PS ☐ MS ☐ TS ☐ RS		

ENERGY SOURCE DIAGRAM					
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	Class 1		Class 2		Class 3
  (External view) Note: External enclosure is considered as MS1 for sharp edge and corner. External enclosure is considered as MS1 for equipment mass. External enclosure is considered as MS3 for wall mount. ☐ ES ☐ PS ☒ MS ☐ TS ☐ RS					

ENERGY SOURCE DIAGRAM		
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Class 1	Class 2	Class 3
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Class 1	Class 2	Class 3
 ☐ ES ☐ PS ☐ MS ☐ TS ☒ RS		

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	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 62368-1.	P
4.1.3	Equipment design and construction	Equipment is adequately designed and constructed.	P
4.1.4	Specified ambient temperature for outdoor use (°C) :	No outdoor equipment.	N/A
4.1.5	Constructions and components not specifically covered	No such part.	N/A
4.1.8	Liquids and liquid filled components (LFC)	No liquid.	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness	See below.	P
4.4.3.1	General	See below.	P
4.4.3.2	Steady force tests	(See Annex T.3, T.5)	P
4.4.3.3	Drop tests	Not movable equipment requiring lifting or handling by an ordinary person.	N/A
4.4.3.4	Impact tests	(See Annex T.6)	P
4.4.3.5	Internal accessible safeguard tests	No internal accessible safeguard is used.	N/A
4.4.3.6	Glass impact tests	No glass in the equipment.	N/A
4.4.3.7	Glass fixation tests	No glass in the equipment.	N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.3.9	Air comprising a safeguard	Clearance is provided as safeguard. Also, all enclosure secures that clearance is not reduced due to mechanical force by a body part or conductive part. During and after the tests of Annex T, clearance continues to comply with the requirements specified in clause 5.2.3.	P
4.4.3.10	Accessibility, glass, safeguard effectiveness	During and after the relevant tests, class 3 energy sources do not become accessible to and ordinary person and all safeguard remains effective.	P
4.4.4	Displacement of a safeguard by an insulating liquid	No insulating liquid.	N/A
4.4.5	Safety interlocks	No safety interlocks.	N/A
4.5	Explosion		P
4.5.1	General		P
4.5.2	No explosion during normal/abnormal operating condition	During normal and abnormal operating conditions explosion did not occur.	P
	No harm by explosion during single fault conditions	During single fault conditions, explosion did not occur.	P
4.6	Fixing of conductors		P
	Fix conductors not to defeat a safeguard	Internal wires are connected with multi-connect housing. All multi-connect housing with wires cannot become displaced by 10 N force test.	P
	Compliance is checked by test..... :	(See Annex T.2)	P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Mains plug part complies with relevant standard .. :	No direct plug-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	Not used for coin/button cell battery.	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
4.10	Component requirements		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays	No 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
5.2.2.4	Single pulse limits	No single pulses generated.	N/A
5.2.2.5	Limits for repetitive pulses	No repetitive pulses generated.	N/A
5.2.2.6	Ringing signals	No ringing signals circuit in the equipment.	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	Sufficient safeguard was provided between energy source and accessible parts to ordinary person.	P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	Reinforced safeguard was provided between energy source and accessible parts to ordinary person.	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	Bare parts at ES3 are not accessible by ordinary person.	P
	Accessibility to outdoor equipment bare parts	No outdoor equipment.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.2.2	Contact requirements	ES3 voltage exceed 420 V peak, but no contact to bare internal conductive part.	P
	Test with test probe from Annex V	No parts can be touched by test probes specified in Annex V.	—
5.3.2.2 a)	Air gap – electric strength test potential (V) :	(See appended table 5.4.9)	P
5.3.2.2 b)	Air gap – distance (mm) :	No openings	N/A
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire	No stripped wire in the equipment.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	Adequately insulating material is used.	P
5.4.1.3	Material is non-hygroscopic	Hygroscopic material is not used as insulating material.	N/A
5.4.1.4	Maximum operating temperature for insulating materials :	Complied with 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	Not required.	N/A
5.4.1.5.3	Thermal cycling test	Not required.	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer is used.	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No circuitry generating starting pulse.	N/A
5.4.1.8	Determination of working voltage :	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	See below.	P
5.4.1.10.2	Vicat test :	Bobbin for T801CS transformer / Base for LX801S are made of Phenolic. See appended table 5.4.1.10.2 for J814 AC connector is made of PA66.	P
5.4.1.10.3	Ball pressure test :	Not applicable.	N/A
5.4.2	Clearances	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.1	General requirements	To determine the required clearance, procedure 2 is taken, refer to summary of testing.	P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance	To determine the required clearance, procedure 2 is taken, refer to summary of testing.	N/A
	Temporary overvoltage		—
5.4.2.3	Procedure 2 for determining clearance	Procedure 2 is used. (See summary of testing and appended table 5.4.2, 5.4.3)	P
5.4.2.3.2.2	a.c. mains transient voltage.....	2 500 V peak	—
5.4.2.3.2.3	d.c. mains transient voltage		—
5.4.2.3.2.4	External circuit transient voltage		—
5.4.2.3.2.5	Transient voltage determined by measurement....		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Not applicable, clearances are determined according to Clause 5.4.2.3 using the required withstand voltages.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages	The equipment is intended to be operated under altitude up to 5 000 m, so the clearance is multiplied by the altitude correction factor (1.48) and the electric strength test voltage is multiplied by the altitude correction factor (1.24).	P
5.4.2.6	Clearance measurement	(See appended table 5.4.2, 5.4.3)	P
5.4.3	Creepage distances	See below.	P
5.4.3.1	General	Pollution degree 2 is considered. Frequencies greater than 30 kHz are presented in power supply unit. (See appended table 5.4.2, 5.4.3)	P
5.4.3.3	Material group.....	Material Group IIIb.	—
5.4.3.4	Creepage distances measurement	(See appended table 5.4.2, 5.4.3)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4	Solid insulation	See below.	P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation :	Certified optocoupler is used, see appended Table 4.1.2. For bobbin in transformers, see appended Table 5.4.4.2.	P
5.4.4.3	Insulating compound forming solid insulation	Evaluated with clause 5.4.4.4	P
5.4.4.4	Solid insulation in semiconductor devices	Certified optocoupler used and comply with G.12 (See appended table 4.1.2)	P
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material	See below;	P
5.4.4.6.1	General requirements	See below;	P
5.4.4.6.2	Separable thin sheet material	Insulating tapes are used in transformer (T801CS) for reinforced insulation. One layer passes the electric strength test for reinforced insulation.	P
	Number of layers (pcs) :	2 or 3 layers	P
5.4.4.6.3	Non-separable thin sheet material	Not used.	N/A
	Number of layers (pcs) :		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	(See Annex G.5 and G.6)	P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V)..... :	(See appended Table 5.4.4.9)	P
	Alternative by electric strength test, tested voltage (V), K_R :		N/A
5.4.5	Antenna terminal insulation	No antenna terminals.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance (M Ω) :		N/A
	Electric strength test..... :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard	Internal wires are ES1 electrical energy source. Also internal wires do not touch ES3.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.7	Tests for semiconductor components and for cemented joints	Certified optocoupler is used, see appended Table 4.1.2.	P
5.4.8	Humidity conditioning	See below.	P
	Relative humidity (%), temperature (°C), duration (h) :	93 %, 40 °C, 120 h	—
5.4.9	Electric strength test	- Required test voltage by <u>method 1 (using the required withstand voltage)</u>: 2.5 kV for basic or supplementary insulation and 4 kV for reinforced insulation. - Required test voltage by <u>method 2 (using the peak working voltage, Max. 488 V peak)</u>: 0.65 kV for basic or supplementary insulation and 0.8 kV for reinforced insulation. - Required test voltage by <u>method 3 (using the nominal mains voltage, 240 V rms)</u>: 2 kV for basic or supplementary insulation and 4 kV for reinforced insulation. To determine the electric strength test voltage, method 1 is taken as highest value, see below.	P
5.4.9.1	Test procedure for type test of solid insulation..... :	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test	Not applicable.	N/A
5.4.10	Safeguards against transient voltages from external circuits	The equipment is not connected to 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

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.11	Separation between external circuits and earth	The equipment is not connected to such external circuits.	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	No 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	All components comply with the applicable requirements for that safeguard and used within its rating.	P
5.5.2	Capacitors and RC units	See below.	P
5.5.2.1	General requirement	(See Annex G.11)	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See Annex G.12)	P
5.5.5	Relays	No relays	N/A
5.5.6	Resistors	Three resistors (RX801S, RX802S and RX803S) used as a safeguard against capacitor voltage discharging that are not bridging for insulation. (See appended tables 4.1.2 and Annex G.10)	P
5.5.7	SPDs	(See Annex G.8)	P

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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	No terminals.	N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment	Not an outdoor equipment.	N/A
	RCD rated residual operating current (mA).....		—
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Class II equipment.	N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).....		—
5.6.4.2	Protective current rating (A)		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm).....		N/A
	Terminal size for connecting protective bonding conductors (mm).....		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method.....		N/A
5.6.6.3	Resistance (Ω) or voltage drop		N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²).....		N/A
	Class II with functional earthing marking		N/A
	Appliance inlet cl & cr (mm).....		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	(See appended table 5.7.4)	P
5.7.2.2	Measurement of voltage	(See appended table 5.2)	P
5.7.3	Equipment set-up, supply connections and earth connections	Single mains connection and Tests are performed with protective earthing connection disconnected (Class II equipment).	P
5.7.4	Unearthed accessible parts	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts	Class II equipment.	N/A
5.7.6	Requirements when touch current exceeds ES2 limits	Measured touch current did exceed 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	The equipment is not intended to be connected to the 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	The equipment is not connected to the 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 part.	N/A
	Air gap (mm)		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	See below.	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 5.4.1.4, 9.3, B.1.5, B.2.6 and B.3, B.4)	P
	Combustible materials outside fire enclosure	No combustible materials outside fire enclosure.	N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Method for control fire spread is used.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	Method for control fire spread is used.	N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	Method for control fire spread is used.	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	No supplementary safeguards are needed.	N/A
6.4.5	Control of fire spread in PS2 circuits	See below;	P
6.4.5.2	Supplementary safeguards	All components in PS2 and PS3 are mounted on V-0 class material of printed boards and comply with the requirements of the relevant IEC components standard. (See appended table 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuits	All components in a PS3 complies with clause 6.4.5.2 and fire enclosure complies with cl. 6.4.8. (See appended table 4.1.2)	P
6.4.7	Separation of combustible materials from a PIS	All circuitry and components are considered as PIS. Metal and V-0 class material is used for fire enclosure. (See appended tables 4.1.2)	P
6.4.7.2	Separation by distance	All of components/parts complied with the requirements of clause 6.4.7.2. (See above clause 6.4.7)	P
6.4.7.3	Separation by a fire barrier	No fire barrier in the equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8	Fire enclosures and fire barriers	See below.	P
6.4.8.2	Fire enclosure and fire barrier material properties	See below.	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier in the equipment.	N/A
6.4.8.2.2	Requirements for a fire enclosure	The available power does not exceed 4 000 W, Metal and V-0 class material is used for fire enclosure.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	See below.	P
6.4.8.3.1	Fire enclosure and fire barrier openings	See below.	P
6.4.8.3.2	Fire barrier dimensions	No fire barrier in the equipment.	N/A
6.4.8.3.3	Top openings and properties	No openings.	N/A
	Openings dimensions (mm) :		N/A
6.4.8.3.4	Bottom openings and properties	No openings.	N/A
	Openings dimensions (mm) :		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard :		N/A
6.4.8.3.5	Side openings and properties	No openings.	N/A
	Openings dimensions (mm) :		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating :	Metal and V-0 class material is used for fire enclosure.	N/A
6.4.9	Flammability of insulating liquid..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.5	Internal and external wiring		P
6.5.1	General requirements	Internal wires complied with IEC 60695-11-21. The test method described in IEC 60695-11-21 is considered equivalent to VW-1 rating of test method described in UL 758.	P
6.5.2	Requirements for interconnection to building wiring	No such outputs.	N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets		N/A
6.6	Safeguards against fire due to the connection to additional equipment		P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)		N/A
	Personal safeguards and instructions	No hazardous substances.	—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries and their protection circuits		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m)..... :		N/A
	Space between end point and nearest fixed mechanical part (mm)..... :		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly..... :		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts..... :		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N)..... :		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps	No 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	The equipment mass less than 7 kg, classified as MS1. Safeguard is not required.	N/A
	Instructional safeguard..... :		N/A
8.6.2	Static stability	Not applicable.	N/A
8.6.2.2	Static stability test..... :		N/A
8.6.2.3	Downward force test	Not applicable.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.6.3	Relocation stability	Not applicable.	N/A
	Wheels diameter (mm) :		—
	Tilt test		N/A
8.6.4	Glass slide test	Not applicable.	N/A
8.6.5	Horizontal force test..... :	Not applicable.	N/A
8.7	Equipment mounted to wall, ceiling or other structure		P
8.7.1	Mount means type :	The equipment is provided with threaded holes. The wall mount bracket, screw size (M4) and number of screw (2) are used for Installation. See summary of testing and attachment for installation manual.	P
8.7.2	Test methods	Not dislodged and remain mechanically intact after test according to Test 1 and Test 3.	P
	Test 1, additional downwards force (N)..... :	<u>Weight of equipment:</u> 4.94 kg <u>Additional force (three times of equipment):</u> 146 N Test was performed by applying downwards through the centre of gravity of the equipment (4.94 kg for equipment + 146 N for additional force) and applying horizontal force of 50 N. Test duration: 1 min	P
	Test 2, number of attachment points and test force (N)..... :	Not applicable.	N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm)..... :	<u>Screw diameter:</u> 3.9 mm <u>Screws into metal:</u> 5 times <u>Test torque:</u> 1.2 Nm After the test, no deterioration impairing safety in the sense of this standard.	P
8.8	Handles strength		N/A
8.8.1	General	No handles.	N/A
8.8.2	Handle strength test		N/A
	Number of handles :		—
	Force applied (N)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.9	Wheels or casters attachment requirements		N/A
8.9.2	Pull test	No wheels or casters.	N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		—
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N)		—
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	No mounting means for SRME.	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	Telescoping or rod antennas		N/A
	Button/ball diameter (mm)	No telescoping or rod antennas.	—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P
9.3	Touch temperature limits		P
9.3.1	Touch temperatures of accessible parts	(See appended tables 5.4.1.4, 9.3, B.1.5, B.2.6 and B.3, B.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
9.3.2	Test method and compliance	The accessible parts are classified as TS1. Tests are performed with the room ambient 20-25 °C, and the results are adjusted to reflect a value of 25 °C. (See appended tables 5.4.1.4, 9.3, B.1.5, B.2.6 and B.3, B.4)	P
9.4	Safeguards against thermal energy sources		N/A
9.5	Requirements for safeguards		N/A
9.5.1	Equipment safeguard	Safeguard is not required since the equipment is classified as TS1.	N/A
9.5.2	Instructional safeguard	Instructional safeguard is not required.	N/A
9.6	Requirements for wireless power transmitters		N/A
9.6.1	General	No wireless power transmitters.	N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance		N/A

10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification	LED indicator and LED display are indicating lights type, classified RS1. Optical Digital Audio is infrared device for data transmission, classified as RS1.	P
	Lasers.....	The equipment does not contain laser or laser diode.	—
	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	No lasers.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		N/A
10.4.1	General requirements	Classified as RS1, additional safeguard is not required.	N/A
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure	No UV radiation.	N/A
10.4.3	Instructional safeguard		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements	No X-radiation.	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 a personal music player.	N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A)		N/A
	Unweighted RMS output voltage (mV)		N/A
	Digital output signal (dBFS).....		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30).....		N/A
	Warning for MEL ≥ 100 dB(A)		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)		N/A
10.6.6.2	Corded listening devices with digital input		N/A

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

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.1	General		P
B.1.5	Temperature measurement conditions	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6 and B.3, B.4)	P
B.2	Normal operating conditions		P
B.2.1	General requirements	See Test Item Particulars and appended test tables.	P
	Audio Amplifiers and equipment with audio amplifiers	(See Annex E)	P
B.2.3	Supply voltage and tolerances	Tolerance is taken as +10 % and -10 % of rated input voltage in this test report.	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	No openings.	N/A
	Instructional safeguard		N/A
B.3.3	DC mains polarity test	The equipment is not intended to be connected dc mains.	N/A
B.3.4	Setting of voltage selector	No voltage selector in the equipment.	N/A
B.3.5	Maximum load at output terminals	No output terminals.	N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions	(See Annex E.2)	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	See below.	P
B.4.2	Temperature controlling device	No temperature controlling device in the equipment.	N/A
B.4.3	Blocked motor test	No motors.	N/A
B.4.4	Functional insulation	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.4.1	Short circuit of clearances for functional insulation	Clearance before fuse complies with cl. 5.4.2.	P
B.4.4.2	Short circuit of creepage distances for functional insulation	Creepage distance before fuse complies with cl. 5.4.3.	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed board.	N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	No electrodes.	N/A
B.4.6	Short circuit or disconnection of passive components	(See appended table B.3, B.4)	P
B.4.7	Continuous operation of components	No components intended for short-time operation or intermittent operation in the equipment.	N/A
B.4.8	Compliance during and after single fault conditions :	During and after single fault conditions, No flame and ignition inside the equipment.	P
B.4.9	Battery charging and discharging under single fault conditions	Remote control complied with IEC 62368-1.	P
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements	The equipment does not produce significant UV radiation.	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) :	Tweeter: 14.71 W Full-Range: 13.95 W Mid-Woofer: 20.39 W	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated load impedance (Ω)	4 Ω x 8 channels, Tweeter – Center, R and L for built-in speakers, Full-Range – R and L for built-in speakers, Mid-Woofer – Center, R and L for built-in speakers.	—
	Open-circuit output voltage (V).....	Tweeter: 7.67 V Full-Range: 7.47 V Mid-Woofer: 9.03 V	—
	Instructional safeguard	Not applicable.	—
E.2	Audio amplifier normal operating conditions		P
	Audio signal source type	A sine wave audio signal source at a frequency of 1 000 Hz.	—
	Audio output power (W).....	Tweeter: 1.84 W Full-Range: 1.74 W Mid-Woofer: 2.55 W	—
	Audio output voltage (V)	Tweeter: 2.71 V Full-Range: 2.64 V Mid-Woofer: 3.19 V	—
	Rated load impedance (Ω)	4 Ω x 8 channels, Tweeter – Center, R and L for built-in speakers, Full-Range – R and L for built-in speakers, Mid-Woofer – Center, R and L for built-in speakers.	—
	Requirements for temperature measurement	Tests are carried out on the open space according to customer information.	N/A
E.3	Audio amplifier abnormal operating conditions	Attainable maximum output power is used as abnormal operating conditions.	P
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	English verified.	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	Used letter symbols according to IEC 60027-1 in label and user manual. V, W, Hz	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Used graphic symbols according to IEC, ISO standard.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	The equipment markings are located on the outside surface of the equipment.	P
F.3.2	Equipment identification markings	See below.	P
F.3.2.1	Manufacturer identification	WiiM	P
F.3.2.2	Model identification	See copy of marking plate.	P
F.3.3	Equipment rating markings	See below.	P
F.3.3.1	Equipment with direct connection to mains	(See Annex F.3.3.3 to F.3.3.6)	P
F.3.3.2	Equipment without direct connection to mains	Equipment with direct connection to mains.	N/A
F.3.3.3	Nature of the supply voltage.....	The symbol (IEC 60417-5032) is used for ac mains.	P
F.3.3.4	Rated voltage	100-240 V AC	P
F.3.3.5	Rated frequency	50/60 Hz	P
F.3.3.6	Rated current or rated power	40 W	P
F.3.3.7	Equipment with multiple supply connections	Only one supply connection.	N/A
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings	No outlets provided.	N/A
F.3.5.2	Switch position identification marking.....	No such switch provided.	N/A
F.3.5.3	Replacement fuse identification and rating markings	Marked adjacent to the fuse on PCB of power supply unit as below; FP801S: T4A H 250V.	P
	Instructional safeguards for neutral fuse		N/A
F.3.5.4	Replacement battery identification marking	No replacement battery	N/A
F.3.5.5	Neutral conductor terminal	No permanently connected equipment.	N/A
F.3.5.6	Terminal marking location	No such terminals.	N/A
F.3.6	Equipment markings related to equipment classification	See below.	P
F.3.6.1	Class I equipment	Class II equipment.	N/A
F.3.6.1.1	Protective earthing conductor terminal.....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1.2	Protective bonding conductor terminals		N/A
F.3.6.2	Equipment class marking	Class II symbol according to IEC 60417-5172 is applied. (See copy of marking plate)	P
F.3.6.3	Functional earthing terminal marking		N/A
F.3.7	Equipment IP rating marking	Not evaluated for protection against ingress of water.	N/A
F.3.8	External power supply output marking	No mains socket outlet for providing power to other apparatus except for USB terminal; "DC 5 V 2 A Max" in user manual.	P
F.3.9	Durability, legibility and permanence of marking	See below.	P
F.3.10	Test for permanence of markings	The marking withstands required tests.	P
F.4	Instructions		P
	a) Information prior to installation and initial use	Provided in user manual.	P
	b) Equipment for use in locations where children not likely to be present	Equipment for use in locations where children was considered.	N/A
	c) Instructions for installation and interconnection	Provided in the user manual.	P
	d) Equipment intended for use only in restricted access area	Equipment is not intended for use in restricted access area.	N/A
	e) Equipment intended to be fastened in place	Provided in the user manual.	P
	f) Instructions for audio equipment terminals	No audio equipment terminals classified as ES3.	N/A
	g) Protective earthing used as a safeguard	Class II equipment.	N/A
	h) Protective conductor current exceeding ES2 limits	Class II equipment.	N/A
	i) Graphic symbols used on equipment	Graphical symbols are explained in the user manual.	P
	j) Permanently connected equipment not provided with all-pole mains switch	No permanently connected equipment.	N/A
	k) Replaceable components or modules providing safeguard function	No such part in the equipment.	N/A
	l) Equipment containing insulating liquid	No insulating liquid.	N/A
	m) Installation instructions for outdoor equipment	No outdoor equipment.	N/A
F.5	Instructional safeguards		N/A
G	COMPONENTS		P
G.1	Switches		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.1.1	General	No switches.	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	Relays		N/A
G.2.1	Requirements	No relays.	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	Protective devices		P
G.3.1	Thermal cut-offs	No thermal cut-offs.	N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links	No thermal links.	N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors	No PTC thermistors.	N/A
G.3.4	Overcurrent protection devices	Mains fuse (FP801S) is certified according to IEC 60127-2 (See appended Table 4.1.2)	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4	No such component.	N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions..... :		N/A
G.4	Connectors		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.1	Spacings	Basic insulation between line and neutral for AC connector (J814) Reinforced insulation between outer insulating surface of appliance inlet and conductive parts that are connected to ES3.	P
G.4.2	Mains connector configuration	The appliance inlet certified according to IEC 60320-1. (See appended Table 4.1.2)	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No plug has such a shape that insertion into mains socket-output or appliance coupler is likely to occur.	N/A
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Approved triple insulated wire used in T801CS transformer. (See Annex J)	P
G.5.1.2	Protection against mechanical stress	Protection against mechanical stress is provided by polyester film tapes.	P
G.5.2	Endurance test	Endurance test is not required.	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	See below;	P
G.5.3.1	Compliance method.....	Transformers (T801CS) complies with the requirements in annex G.5.3.2 and G.5.3.3.	P
	Position	ES3	P
	Method of protection.....	Inherent	P
G.5.3.2	Insulation	The insulation complies with the relevant requirements in clause 5 and passes the relevant electric strength tests.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Protection from displacement of windings..... :	Secured to the soldering pins with wrapping.	—
G.5.3.3	Transformer overload tests	See below;	P
G.5.3.3.1	Test conditions	Tested in the complete power supply unit whose loads are applied to the output of the power supply unit.	P
G.5.3.3.2	Winding temperatures		P
G.5.3.3.3	Winding temperatures - alternative test method	(See appended table B.3, B.4)	P
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors	No motors.	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

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Clause	Requirement + Test	Result - Remark	Verdict
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General	No wire insulation except for certified triple insulating wire in transformer (T801CS).	P
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains supply cords		P
G.7.1	General requirements	Approved sheathed PVC cord. (See appended table 4.1.2)	P
	Type.....	Detachable type.	—
G.7.2	Cross sectional area (mm ² or AWG)	Min. 0.75 mm ² (18 AWG) (See appended table 4.1.2)	P
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords	Appliance inlet provided.	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	Approved mains cord set is used. (See appended Table 4.1.2)	N/A
G.7.5	Non-detachable cord bend protection	Appliance inlet provided.	N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, <i>D</i> (mm)		—
	Radius of curvature after test (mm).....		—
G.7.6	Supply wiring space	Appliance inlet provided.	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

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Clause	Requirement + Test	Result - Remark	Verdict
G.8.1	General requirements	The varistor complies with IEC 61051-2 and IEC 61051-1 and UL 1449. (See appended Table 4.1.2)	P
G.8.2	Safeguards against fire	See below;	P
G.8.2.1	General	Method for control fire spread is used.	P
G.8.2.2	Varistor overload test	The circuit does not open immediately during the initial application of test current, the test is continued until temperature stability; Tested voltage: 480 Vac, Measured highest temperature; Varistor (VA101) body: 1. Wanming (WMR14D751K); - Highest Temperature of Varistor: 25.6 °C, - Ambient: 24.0 °C 2. Thinking (TVR14751KOC31F); - Highest Temperature of Varistor: 26.6 °C, - Ambient: 23.4 °C	P
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		P
G.9.1	Requirements	Certified components (U714, IC500) provided. (See appended table 4.1.2)	P
	IC limiter output current (max. 5A)	(See appended table 4.1.2)	—
	Manufacturers' defined drift	(See appended table 4.1.2)	—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	Resistors		N/A
G.10.1	General	Certified components (RX801S, RX802S and RX803S) provided. (See appended table 4.1.2)	P
G.10.2	Conditioning		P
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.10.5	Impulse test		N/A
G.10.6	Overload test		P
G.11	Capacitors and RC units		P
G.11.1	General requirements	X2, Y1 capacitor is according to IEC 60384-14. (See appended Table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units	Capacitors complied with IEC 60384-14.	P
G.11.3	Rules for selecting capacitors	X2, Y1 capacitors are used appropriately.	P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Certificated optocouplers are certified according to IEC 60747-5-5 (See appended Table 4.1.12)	P
	Type test voltage $V_{ini,a}$	Min. 8 000 V peak	—
	Routine test voltage, $V_{ini,b}$	Min. 8 000 V peak	—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards	(See appended Table 5.4.2, 5.4.3)	P
G.13.3	Coated printed boards	No coated printed board.	N/A
G.13.4	Insulation between conductors on the same inner surface	No such insulation.	N/A
G.13.5	Insulation between conductors on different surfaces	No such insulation.	N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards	No coated printed board.	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 coatings on component terminals.	N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements	No liquid filled components.	N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required	No ICX.	N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test..... :		—
	Mains voltage that impulses to be superimposed on..... :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test :		—
G.16.3	Capacitor discharge test..... :		N/A
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal	No telephone ringing signals.	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

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Clause	Requirement + Test	Result - Remark	Verdict
	Winding wire insulation..... :	Certified triple insulated wire is used in transformer (T801XS) for reinforced insulation. (See appended Table 4.1.2)	—
	Solid round winding wire, diameter (mm)..... :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm ²)..... :		N/A
J.2/J.3	Tests and Manufacturing		—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard	No safety interlocks.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	The appliance inlet is considered as disconnect device.	P
L.2	Permanently connected equipment	Not permanently connected equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L.3	Parts that remain energized	No parts that remain energized when the disconnect device is off.	N/A
L.4	Single-phase equipment	The appliance inlet disconnects both poles simultaneously.	P
L.5	Three-phase equipment	Not three-phase equipment.	N/A
L.6	Switches as disconnect devices	No switches in the equipment.	N/A
L.7	Plugs as disconnect devices	Mains plug is regarded as disconnect device. Relevant warning is provided in user manual.	P
L.8	Multiple power sources	Only single power source is used.	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		P
M.2.1	Batteries and their cells comply with relevant IEC standards	Certificated rechargeable remote controller is certified according to IEC 62368-1.	P
M.3	Protection circuits for batteries provided within the equipment		P
M.3.1	Requirements		P
M.3.2	Test method		P
	Overcharging of a rechargeable battery		P
	Excessive discharging		P
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		P
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		P
M.4.1	General		P
M.4.2	Charging safeguards		P
M.4.2.1	Requirements		P
M.4.2.2	Compliance.....		P
M.4.3	Fire enclosure.....		P

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Clause	Requirement + Test	Result - Remark	Verdict
M.4.4	Drop test of equipment containing a secondary lithium battery		P
M.4.4.2	Preparation and procedure for the drop test		P
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): :		P
M.4.4.4	Check of the charge/discharge function		P
M.4.4.5	Charge / discharge cycle test		P
M.4.4.6	Compliance		P
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		P
M.6.1	External and internal faults		P
M.6.2	Compliance		P
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h)..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate..... :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.4	Marking :		N/A
M.8	Protection against internal ignition from external spark sources of batteries with aqueous electrolyte		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V _Z (m ³ /s)..... :		—
M.8.2.3	Correction factors :		—

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Clause	Requirement + Test	Result - Remark	Verdict
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	Provided in the user manual.	P
N	ELECTROCHEMICAL POTENTIALS		N/A
	Material(s) used	Class II equipment.	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm).....	Considered.	—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		P
P.1	General	See below.	P
P.2	Safeguards against entry or consequences of entry of a foreign object		N/A
P.2.1	General	No openings.	N/A
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts.....		N/A
P.2.3.2	Consequence of entry test		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General	Internal liquid is not used.	N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General	Metallized coating is not used.	N/A
P.4.2	Tests		N/A
	Conditioning, T_c (°C)		—
	Duration (weeks)		—

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Clause	Requirement + Test	Result - Remark	Verdict
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1	Requirements	See below;	P
	a) Inherently limited output	LAN port and Optical port are inherently limited, only for signal transmission.	P
	b) Impedance limited output		N/A
	c) Regulating network limited output		N/A
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9	USB and HDMI output are limited by certified IC current limiter.	P
Q.1.2	Test method and compliance	(See appended table Q.1)	—
	Current rating of overcurrent protective device (A)		—
Q.2	Test for external circuits – paired conductor cable	The equipment is not supplying power to an external circuit paired conductor cable.	N/A
	Maximum output current (A)		N/A
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General	Class II equipment.	N/A
R.2	Test setup		N/A
	Overcurrent protective device for test		—
R.3	Test method		N/A
	Cord/cable used for test		—
R.4	Compliance		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material	All materials have suitable flame class, no testing required.	—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material..... :		—
	Wall thickness (mm) :		—
	Conditioning (°C) :		—
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples :		—
	Wall thickness (mm) :		—
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power exceeding 4 000 W		N/A
	Samples, material..... :		—
	Wall thickness (mm) :		—
	Conditioning (°C) :		—
T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N :	(See appended table T.2, T.3, T.4, T.5)	P
T.3	Steady force test, 30 N :	(See appended table T.2, T.3, T.4, T.5)	P
T.4	Steady force test, 100 N :	Not transportable, hand-held or direct plug-in equipment.	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
	Fall test	No hazard as result from the steel sphere fall test.	P
	Swing test	No hazard as result from the steel sphere swing test.	P
T.7	Drop test :	Not movable equipment requiring lifting or handling by an ordinary person.	N/A
T.8	Stress relief test :	(See appended table T.8)	P

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Clause	Requirement + Test	Result - Remark	Verdict
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) :	No telescoping or rod antennas.	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 :	No cathode ray tube.	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	See below.	P
V.1.2	Surfaces and openings tested with jointed test probes	Test with jointed test probe result in no hazard.	P
V.1.3	Openings tested with straight unjointed test probes	Test with straight unjointed test probe result in no hazard.	P
V.1.4	Plugs, jacks, connectors tested with blunt probe	Test with blunt probe result in no hazard.	P
V.1.5	Slot openings tested with wedge probe	No slot openings.	N/A
V.1.6	Terminals tested with rigid test wire	No terminals for connecting stripped wire.	N/A
V.2	Accessible part criterion		P
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance :		N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General	No outdoor equipment.	N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by :		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.3.4	Test procedure :		N/A
Y.3.5	Compliance		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods :		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	Protection of equipment within an outdoor enclosure		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3 :		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test :		N/A

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	
264 Vac	Primary circuits in power supply unit	Normal	—	—	—	—	ES3
		Abnormal	—	—	—	—	
		Single fault – SC/OC	—	—	—	—	
264 Vac	Secondary circuits 12V output in power supply unit	Normal	12.0 Vdc	— ⁴⁾	SS	DC	ES1
		Abnormal	11.54 Vdc	— ⁴⁾	SS	DC	
		Single fault – SC/OC	—	—	—	—	
264 Vac	USB terminal	Normal	5.10 Vdc	— ⁴⁾	SS	DC	ES1
		Abnormal	4.40 Vdc	— ⁴⁾	SS	DC	
		Single fault – SC/OC	—	—	—	—	
264 Vac	HDMI terminal	Normal	5.10 Vdc	— ⁴⁾	SS	DC	ES1
		Abnormal	3.73 Vdc	— ⁴⁾	SS	DC	
		Single fault – SC/OC	—	—	—	—	
264 Vac	LAN terminal ³⁾	Normal	—	—	—	—	ES1
		Abnormal	—	—	—	—	
		Single fault – SC/OC	—	—	—	—	
264 Vac	Optical terminal ³⁾	Normal	—	—	—	—	ES1
		Abnormal	—	—	—	—	
		Single fault – SC/OC	—	—	—	—	
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							
3) Signal transmission only.							
4) Current is not measured because voltage is fulfilled by the limits.							

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	
264 Vac	Phase to Phase (CX801S: 0.33 μF)	Normal	—	—	CP	Max. 396 nF (Total rated value of capacitor plus 20 % of specified tolerance)	ES3
		Abnormal	—	—	CP	Max. 396 nF (Total rated value of capacitor plus 20 % of specified tolerance)	
		Single fault – SC/OC	—	—	—	—	
264 Vac	Tweeter Speakers output Full-Range Speakers output	Normal	2.71 Vrms	— ³⁾	SS	—	ES1
		Abnormal	7.67 Vrms	— ³⁾	SS	—	
		Single fault – SC/OC	—	—	—	—	
264 Vac	Tweeter Speakers output Full-Range Speakers output	Normal	2.64 Vrms	— ³⁾	SS	—	ES1
		Abnormal	7.47 Vrms	— ³⁾	SS	—	
		Single fault – SC/OC	—	—	—	—	
264 Vac	Tweeter Speakers output	Normal	3.19 Vrms	— ³⁾	SS	—	ES1
		Abnormal	9.03 Vrms	— ³⁾	SS	—	
		Single fault – SC/OC	—	—	—	—	
Supplementary information:							
¹⁾ Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
²⁾ Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							
³⁾ Current is not measured because voltage is fulfilled by the limits.							

IEC 62368-1				
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
Line and Neutral before FP801S	240	340	60	Normal operated.
Across mains fuse FP801S	240	340	60	Normal operated.
Neutral and CY802S sec.	240	340	60	Normal operated.
T801CS pin 1 – pin 6, 7	212	348	60	Normal operated.
T801CS pin 1 – pin 8, 9	213	452	37 880	Normal operated.
T801CS pin 3 – pin 6, 7	225	488	38 760	Normal operated.
T801CS pin 3 – pin 8, 9	219	476	60	Normal operated.
T801CS pin 4 – pin 6, 7	211	344	36 500	Normal operated.
T801CS pin 4 – pin 8, 9	212	376	38 760	Normal operated.
T801CS pin 5 – pin 6, 7	212	448	38 760	Normal operated.
T801CS pin 5 – pin 8, 9	211	352	38 170	Normal operated.
PC801S pin 1 – pin 3	218	348	60	Normal operated.
PC801S pin 1 – pin 4	217	348	60	Normal operated.
PC801S pin 2 – pin 3	217	348	60	Normal operated.
PC801S pin 2 – pin 4	216	344	60	Normal operated.
CY801S pri. – CY801S sec.	212	348	60	Normal operated.
CY802S pri. – CY802S sec.	212	344	60	Normal operated.
T801CS pin 5 – PC801S pin 1	219	440	36 760	Normal operated.
PC801S pin 4 – T801CS pin 6, 7	210	336	60	Normal operated.
CY801S pri. – PC801S pin 2	217	348	60	Normal operated.
PC801S pin 3 – CY801S sec.	211	340	60	Normal operated.
T801CS pin 8, 9 – Ground	25	110	38 760	Normal operated.
Supplementary information:				
The highest measured working voltages in transformer are indicated with bold characters.				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		P
Method..... :		ISO 306 / B50	—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)
AC connector, J814; - Material: PA66, - Type: A3963	Zhejiang Lianhe electronics	1 mm	> 200
Supplementary information:			
Base for LX801S line filter / Bobbins for T801CS are made of Phenolic.			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			N/A
Allowed impression diameter (mm) :			≤ 2 mm	—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)
Supplementary information:				

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
5.4.2, 5.4.3 TABLE: Minimum Clearances/Creepage distance								P
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz) ⁴⁾	Required cl (mm) ³⁾	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Primary (Basic insulation)								
Line and Neutral before FP801S	340	240	—	2.3	3.4	—	2.5	3.4
Across mains fuse FP801S	340	240	—	2.3	22.5	—	2.5	22.5
Optocoupler input to output (Reinforced insulation)								
PC801S pri. pins to sec. pins ⁵⁾	348	218	—	4.5	8.5	—	5.0	8.5
Primary to Secondary (Reinforced insulation)								
CY801S pri. – CY801S sec.	348	212	—	4.5	9.7	—	5.0	9.7
CY802S pri. – CY802S sec.	344	212	—	4.5	8.7	—	5.0	8.7
T801CS pin 5 – PC801S pin 1	440	219	36 760	4.5	10.1	—	5.0	10.1
PC801S pin 4 – T801CS pin 6, 7	336	210	—	4.5	11.8	—	5.0	11.8
CY801S pri. – PC801S pin 2	348	217	—	4.5	9.1	—	5.0	9.1
PC801S pin 3 – CY801S sec.	340	211	—	4.5	8.9	—	5.0	8.9
Neutral and CY802S sec.	340	240	—	4.5	8.7	—	5.0	8.7
Primary to Accessible part (plastic enclosure) ⁶⁾	340	240	—	4.5	15.6	—	5.0	> 15.6
Supplementary information:								
¹⁾ Only for frequency above 30 kHz ²⁾ Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied) ³⁾ This equipment is intended to be operated under altitude up to 5 000 m, so the clearance is multiplied by the altitude correction factor (1.48), specified in table 16 of clause 5.4.2.5. ⁴⁾ The high frequency is considered for only cl. 5.4.4.9. Therefore it is measured a transformer. ⁵⁾ Measured highest working voltage for optocoupler between primary and secondary. ⁶⁾ Measured between primary (Inlet, Line) and plastic enclosure.								
Equipment checked with 10 N force test on all possible components. No displacement reducing clearance or creepage distance.								

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz) ⁴⁾	Required cl (mm) ³⁾	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Transformer pri. to sec. (Reinforced insulation)								
T801CS pri. pins to sec. pins ⁵⁾	488	225	38 760	4.5	7.3	—	5.0	7.3
Supplementary information:								
1) Only for frequency above 30 kHz 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied) 3) This equipment is intended to be operated under altitude up to 5 000 m, so the clearance is multiplied by the altitude correction factor (1.48), specified in table 16 of clause 5.4.2.5. 4) The high frequency is considered for only cl. 5.4.4.9. Therefore it is measured a transformer. 5) Measured spacing on transformer body. Measured highest working voltage for transformer between primary and secondary. T801CS (1400900) - Primary – Core = 1.4 mm / Secondary – Core = 8.5 mm (therefore core was primay part). Primary windings – Secondary windings = 7.3 mm - Triple insulated wire (TIW) used in primary windings (W5, W3), TIW are separately approved component to “Reinforced Insulation” by VDE, see appended table 4.1.2.								
Equipment checked with 10 N force test on all possible components. No displacement reducing clearance or creepage distance.								

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)	
Transformer (T801CS) bobbin	488	Reinforced	0.4	Min. 0.4	
Transformer (T801CS) Insulation tape	488	Reinforced	2 or 3 layers	2 or 3 layers	
Supplementary information:					
Tested voltage 4 000 Vdc. No flash over or insulation breakdown after test.					

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz					P
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)
Phenolic	17	38.76	0.71	0.8	Transformer (T801CS) bobbin ¹⁾	488
Polyethylene	52	38.76	0.46	0.025 x 2	Transformer (T801CS) Insulation tape ²⁾	488
Supplementary information:						
¹⁾ Calculated actual electric strength (Vw) for reinforced insulation = $E_P \times K_R \times d = 17 \times 0.71 \times 0.8 = 9.656 \text{ kV}$, 2.4 times of peak working voltage Vpw for reinforced insulation = $2.4 \times 488 / 1.41 = 0.831 \text{ kV}$, $9.656 \text{ kV} > 0.831 \text{ kV}$ ²⁾ Calculated actual electric strength (Vw) for reinforced insulation = $E_P \times K_R \times d = 52 \times 0.46 \times 0.025 \times 2 = 1.196 \text{ kV}$, 2.4 times of peak working voltage Vpw for reinforced insulation = $2.4 \times 488 / 1.41 = 0.831 \text{ kV}$, $1.196 \text{ kV} > 0.831 \text{ kV}$						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
Basic:				
Line – Neutral before mains fuse		DC	2 500	No
Reinforced:				
Primary to Secondary		DC	4 000	No
Primary to Secondary in transformer (T801CS)		DC	4 000	No
Bobbin in T801CS transformer		DC	4 000	No
Insulating tape in T801CS transformer		DC	4 000	No
Primary to External enclosure surface with metal foil		DC	4 000	No
Supplementary information:				
Test voltages are determined using the required withstand voltage. Tested with all manufacturer's transformer respectively.				

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
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
Line to Neutral		264	Normal operated	N/A	0 Vdc	ES1
Supplementary information:						
X-capacitors installed for testing: CX801S: 0.33 μF						
[X] bleeding resistor rating: RX801S, RX802S and RX803S are each 1/4 W, 680 kΩ - complied with G.10						
[] 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				N/A
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
Supplementary information:					

5.7.4	TABLE: Unearthed accessible parts					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V _{rms} or V _{pk})	Current (A _{rms} or A _{pk})	Freq. (Hz)	
Sec. outputs or GND to Earth	Normal	264	—	0.29 mA _{pk} ¹⁾	—	ES1
	Single fault – SC/OC ²⁾	264	—	0.33 mA _{pk} ¹⁾	—	ES1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
¹⁾ There is a measurement on unearthed accessible parts touch current, and according clause 5.2.1.1 the current not exceed the ES1 limit. Measured highest touch current specified in Figure 4, IEC 60990:2016.						
²⁾ Considered maximum single fault condition is FP801S opened.						

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.5	TABLE: Earthed accessible conductive part		N/A
Supply voltage (V).....:			—
Phase(s)	[] Single Phase; [] Three Phase: [] Delta [] Wye		—
Power Distribution System	[] TN [] TT [] IT		—
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment
Supplementary information:			

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

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
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
12 V output in power supply unit	Worst-case fault	11.54 Vdc	10.04	115.86	5	PS3
USB terminal	Worst-case fault	4.40 Vdc	2.28	10.03	3	PS1
HDMI terminal	Worst-case fault	3.73 Vdc	0.71	2.65	3	PS1
Tweeter Speakers output	Worst-case fault	7.67 Vrms	1.92	14.71	3	PS1
Full-Range Speakers output	Worst-case fault	7.47 Vrms	1.87	13.95	3	PS1
Mid-Woofer Speakers output	Worst-case fault	9.03 Vrms	2.26	20.39	5	PS2
LAN terminal ²⁾	Worst-case fault	—	—	—	—	PS1
Optical terminal ²⁾	Worst-case fault	—	—	—	—	PS1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.						
2) Signal transmission only.						

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	
Contact of Appliance inlet (JK2016) in primary circuits	N/A	N/A	N/A	Yes	
Contact of AC connector (J814) in primary circuits	N/A	N/A	N/A	Yes	
Contact of Varistor (VX801S) in primary circuits	N/A	N/A	N/A	Yes	
Holes of solder pads on a printed board in primary and secondary circuits	N/A	N/A	N/A	Yes	
Supplementary information:					

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
6.2.3.2	TABLE: Determination of resistive PIS			P
Location		Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
Components in power supply unit (primary and secondary circuits)		N/A	N/A	Yes
Components in main board (secondary circuits for PS2 and PS3)		N/A	N/A	Yes
Supplementary information:				

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

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

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	
5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements				P
Supply voltage (V).....:	90 V, 50 Hz	264 V, 50 Hz	90 V, 60 Hz	264 V, 60 Hz	—
Ambient temperature during test T_{amb} (°C).....:	24.2	23.2	24.6	24.2	—
Maximum measured temperature T of part/at.....:	T (°C) ¹⁾				Allowed T_{max} (°C)
AC inlet connector body (JK2106)	47.6	47.3	47.4	46.4	—
AC connector, J814 body	51.0	50.6	50.9	49.4	—
Varistor, VX801S body	65.5	61.9	65.3	60.8	85
X-capacitor, CX801S body	67.6	62.9	67.5	61.8	105
Line filter, LX801S coil	72.2	61.7	72.1	60.6	120 ²⁾
Line filter, LX801S core	70.3	61.1	70.2	60.0	130
Switching transformer, T801CS coil	89.1	88.2	89.0	86.7	110 ²⁾
Switching transformer, T801CS core	85.4	85.2	85.4	83.7	120
Switching transformer, T801CS bobbin	85.6	85.1	85.5	83.6	120
PCB near T801CS	83.9	80.8	83.8	79.5	130
E. capacitor, CM801S body	65.8	60.6	65.6	59.5	105
PCB near U500 in Main board	73.0	73.3	72.7	72.2	130
PCB near L105 in AMP board	79.4	79.5	79.3	78.6	130
Internal enclosure above T801CS	61.0	60.3	61.0	58.6	—
Front touch panel ³⁾	30.6	30.9	30.5	31.3	77 ⁴⁾
Top enclosure near touch button ³⁾	28.8	29.0	28.7	29.0	77 ⁴⁾
Rear enclosure near USB port ³⁾	40.6	40.9	40.1	40.3	77 ⁴⁾
Supplementary information:					
Maximum ambient temperature (T_{ma}): 40 °C Operating condition: Measured at 1/8 of maximum non-clipped output mode with Line-in mode, 1 kHz signal is applied for built-in speakers and connect with 5 V / 2.0 A loaded for USB terminal. ¹⁾ Calculated value for T_{ma} (Measured value – T_{amb} + T_{ma}) (except for below to note ³⁾). ²⁾ Temperature limits include less 10 °C for thermocouple measurement method. ³⁾ Calculated value for T_{amb} : 25 °C (If measured T_{amb} is exceeding 25 °C, it is calculated from the measured T_{amb}) ⁴⁾ External surfaces touched occasionally for very short period (> 1 s and < 10 s).					

IEC 62368-1									
Clause		Requirement + Test				Result - Remark		Verdict	
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	2.99	—	161.2	—	FP801S	2.99	1) Uout (V); Tweeter) 7.67 x 3 Full-Range) 7.47 x 2 Mid-Woofer) 9.03 x 3 Pout (W); Tweeter) 14.71 x 3 Full-Range) 13.95 x 2 Mid-Woofer) 20.39 x 3	
100	50	2.93	—	160.6	—	FP801S	2.93		
240	50	1.01	—	161.6	—	FP801S	1.01		
264	50	0.94	—	161.4	—	FP801S	0.94		
90	60	3.01	—	162.3	—	FP801S	3.01		
100	60	2.95	—	160.2	—	FP801S	2.95		
240	60	1.00	—	161.5	—	FP801S	1.00		
264	60	0.93	—	161.3	—	FP801S	0.93		
90	50	0.59	—	34.2	—	FP801S	0.59	2) Uout (V); Tweeter) 2.71 x 3 Full-Range) 2.64 x 2 Mid-Woofer) 3.19 x 3 Pout (W); Tweeter) 1.84 x 3 Full-Range) 1.74 x 2 Mid-Woofer) 2.55 x 3	
100	50	0.54	—	33.9	40	FP801S	0.54		
240	50	0.25	—	33.8	40	FP801S	0.25		
264	50	0.24	—	33.7	—	FP801S	0.24		
90	60	0.60	—	34.1	—	FP801S	0.60		
100	60	0.54	—	34.0	40	FP801S	0.54		
240	60	0.25	—	33.9	40	FP801S	0.25		
264	60	0.24	—	34.2	—	FP801S	0.24		
Supplementary information:									
1) 1kHz sine wave, measured at maximum non-clipped output mode with Line-in mode, and connect with 5 V / 2.0 A loaded for USB terminal.									
2) 1kHz sine wave, measured at 1/8 maximum non-clipped output mode with Line-in mode, and connect with 5 V / 2.0 A loaded for USB terminal.									
Loudspeaker Terminals Information:									
- Loudspeaker impedance (Ω): 4 Ohm x 8 channels									
- Several loudspeaker systems: Full Range - TOP R and L for built-in speakers, Tweeter - R and L, Center for built-in speakers, Mid-Woofer - R and L, Center for built-in speaker									
- Marking of loudspeaker terminals: No marking (built-in speakers)									

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

B.3, B.4		TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T _{amb} (°C)..... :						22 - 25	—
Power source for EUT: Manufacturer, model/type, outputrating :						—	—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
USB terminal	OL	90	3 h 15 min	FP801S	0.66	Max output current: 2.21 A. Measured highest temperature; - Line filter (LX801S) Coil: 60.9 °C, - Line filter (LX801S) Core: 59.1 °C, - Transf.(T801CS) Coil: 78.8 °C, - Transf.(T801CS) Core: 74.4 °C, - Transf.(T801CS) bobbin: 74.6 °C, - Fornt touch panel: 30.1 °C, - Top enclosure near touch button: 28.2 °C, - Rear enclosure near USB port: 41.4 °C, - Ambient: 23.8 °C No Dielectric breakdown. NCD. NH.	
12V output in power supply unit (T801CS) #)	OL	264	2 h 45 min	FP801S	0.76	Max output current: 8.51 A. Measured highest temperature; - Line filter (LX801S) Coil: 53.4 °C, - Line filter (LX801S) Core: 49.0 °C, - Transf.(T801CS) Coil: 135.2 °C, - Transf.(T801CS) Core: 120.5 °C, - Transf.(T801CS) bobbin: 126.9 °C, - Ambient: 24.0 °C No Dielectric breakdown. NCD. NH.	
Supplementary information:							
Abbreviation: SC= Short circuit, NCD = No component damaged, NH = No hazard, NO = Normal operation. #) Tested on the bench.							

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	
B.3, B.4	TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T_{amb} (°C)					22 - 25	—
Power source for EUT: Manufacturer, model/type, output rating					—	—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Speaker outputs	Maximum non-clipped output	264	10 min	FP801S	0.94	Unit protection after 30 sec. No Dielectric breakdown. NCD. NH.
Speaker outputs	Maximum non-clipped output	90	10 min	FP801S	3.01	Unit protection immediately. No Dielectric breakdown. NCD. NH.
BS801S ("+" to AC)	SC	264	1 s	FP801S	0	FP801S fuse opened immediately. 1) NH.
BS801S ("+" to AC)	SC	90	1 s	FP801S	0	FP801S fuse opened immediately. 1) NH.
BS801S ("-" to AC)	SC	264	1 s	FP801S	0	FP801S fuse opened immediately. 1) NH.
BS801S ("-" to AC)	SC	90	1 s	FP801S	0	FP801S fuse opened immediately. 1) NH.
CM801S	SC	264	1 s	FP801S	0	FP801S fuse opened immediately. 1) NH.
CM801S	SC	90	1 s	FP801S	0	FP801S fuse opened immediately. 1) NH.
IC801S (Pin 3 to Pin 5)	SC	264	10 min	FP801S	0.04	Unit shutdown immediately. NCD. NH.
IC801S (Pin 3 to Pin 5)	SC	90	10 min	FP801S	0.04	Unit shutdown immediately. NCD. NH.
Q801S (G to S)	SC	264	10 min	FP801S	0.04	Unit shutdown immediately. NCD. NH.
Q801S (D to S)	SC	264	1 s	FP801S	0	FP801S fuse opened immediately. 1) NH.
Q801S (D to S)	SC	90	1 s	FP801S	0	FP801S fuse opened immediately. 1) NH.
Supplementary information:						
Abbreviation: SC= Short circuit, NCD = No component damaged, NH = No hazard, NO = Normal operation. 1) All fuse (FP801S) of each manufacturer the same result comes out.						

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	
B.3, B.4	TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T_{amb} (°C)					22 - 25	—
Power source for EUT: Manufacturer, model/type, output rating					—	—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Q801S (D to G)	SC	264	1 s	FP801S	0	FP801S fuse opened immediately. ¹⁾ Q801S damaged. NH.
Q801S (D to G)	SC	90	1 s	FP801S	0	FP801S fuse opened immediately. ¹⁾ Q801S damaged. NH.
PC801S (Pin 3 to Pin 4)	SC	264	10 min	FP801S	0.04	Unit shutdown immediately. NCD. NH.
PC801S (Pin 1 to Pin 2)	SC	264	10 min	FP801S	0.06	Unit shutdown immediately. NCD. NH.
D901 (1 to 2)	SC	264	10 min	FP801S	0.10	Unit shutdown immediately. NCD. NH.
D901 (1 to 3)	SC	264	10 min	FP801S	0.10	Unit shutdown immediately. NCD. NH.
C902	SC	264	10 min	FP801S	0.10	Unit shutdown immediately. NCD. NH.
Supplementary information:						
Abbreviation: SC= Short circuit, NCD = No component damaged, NH = No hazard, NO = Normal operation. ¹⁾ All fuse (FP801S) of each manufacturer the same result comes out.						

IEC 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
M.3	TABLE: Protection circuits for batteries provided within the equipment						N/A
Is it possible to install the battery in a reverse polarity position?.....:							—
Equipment Specification		Charging					
		Voltage (V)			Current (A)		
Manufacturer/type		Battery specification					
		Non-rechargeable batteries		Rechargeable batteries			
		Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)
				Voltage (V)	Current (A)		
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C)							—
Component No.	Fault condition	Charge/discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery					N/A
Maximum specified charging voltage (V)						—
Maximum specified charging current (A)						—
Highest specified charging temperature (°C)						—
Lowest specified charging temperature (°C)						—
Battery manufacturer/type	Operating and fault condition	Measurement			Observation	
		Charging voltage (V)	Charging current (A)	Temp. (°C)		
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature						

IEC 62368-1							
Clause	Requirement + Test			Result - Remark		Verdict	
Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)						P
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
USB terminal ¹⁾	Normal operation	5.1 Vdc	5	2.28	≤ 8	10.03 (at 4.40 Vdc)	≤ 100
HDMI terminal ¹⁾	Normal operation	5.1 Vdc	5	0.71	≤ 8	2.65 (at 3.73 Vdc)	≤ 100
Optical terminals ²⁾	Normal operation	0	5	0	≤ 8	0	≤ 100
LAN terminal ²⁾	Normal operation	0	5	0	≤ 8	0	≤ 100
Supplementary information:							
Abbreviation: SC= short circuit							
¹⁾ Limited by IC Current Limiter (see appended table 4.1.2).							
²⁾ Signal transmission only.							

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
Components on PCB	—	—	—	10	5	No reduction of clearance / creepage distances.
External enclosure	Metal	Min. 0.6	The test probe of Figure V.1 or Figure V.2	30	5	Energy source did not become accessible, equipment safeguards were not defeated.
External enclosure	Plastic ¹⁾	Min. 1.5	The test probe of Figure V.1 or Figure V.2	30	5	Energy source did not become accessible, equipment safeguards were not defeated.
External enclosure	Metal	Min. 0.6	A circular plane surface 30 mm in diameter	250	5	Energy source did not become accessible, equipment safeguards were not defeated.
External enclosure	Plastic ¹⁾	Min. 1.5	A circular plane surface 30 mm in diameter	250	5	Energy source did not become accessible, equipment safeguards were not defeated.
Supplementary information:						
¹⁾ See appended table 4.1.2.						

T.6, T.9	TABLE: Impact test				P
Location/part	Material	Thickness (mm)	Height (mm)	Observation	
External enclosure	Metal	Min. 0.6	1300	Energy source did not become accessible, equipment safeguards were not defeated.	
Supplementary information:					

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
T.7	TABLE: Drop test					N/A
Location/part		Material	Thickness (mm)	Height (mm)	Observation	
Supplementary information:						

T.8	TABLE: Stress relief test					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
External enclosure	Plastic ¹⁾	Min. 1.5	71	7	No risk of shrinkage or distortion.	
Supplementary information:						
¹⁾ See appended table 4.1.2.						

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:				

IEC 62368-1					
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), 2)}
Mains cord set (for Korea)	DongGuan XinHaiLin Wire & Cable Technology Co., Ltd	XHL-P057 plug	2.5 A 250V~	K60884-1	KC, SU04174- 14002A
		H05VVH2-F cord	2 x 0.75 mm²	K60227	KC, SU01116- 14001A
		LS-22 insert	2.5 A 250V~	KC60320-1	KC, SU04174- 14004B
Mains cord set (for Japan)	Shenzhen Hong YunElectron Co.,Ltd.	HYP-001	7 A 125 V~	JIS C 8303/ 8306	PSE, JET7221- 43001-1001
	Shenzhen Tongyuan Industrial Co.,Ltd	VCTFK	2 x 0.75 mm²	JIS C 3306	PSE, JET1985- 12009-1002
	Shenzhen Hong YunElectron Co.,Ltd.	HYC-201	7 A 125 V~	J60320-1	PSE, JET7221- 43006-1001
Mains cord set (for China)	Shenzhen HenglideIndustry Co, Ltd	HLD-1	6A 250V~	GB 1002-2024, GB/T 2099.1- 2021	CCC, 20080102012 83309
		53(RVV)	2 x 0.75 mm²	GB/T5023.5- 2008	CCC, 20090101053 39845
		HLD-005	2.5A 250V~	GB/T15934- 2008	CCC, 20240101016 07127
Mains cord set (for India)	I-SHENG ELECTRIC WIRE & CABLE CO., LTD.	SP-021Q	6A 250V~	IS 1293	BIS, CM/L- 4100069378
		YY	2 x 0.75 mm²	IS 694	BIS, CM/L- 4100299193
		IS-033C	2.5A 250V~	IEC 60320-1	Fimko, FI- 57430/M1
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
Mains cord set (for Brazil)	Chaohui Electrical APPLIANCE Co., Ltd.	CH-1701	10A 250V~	NBR 14136	BV, BR38756001
	Shenzhen HenglidelIndustry Co, Ltd	H03VVH2-F	2 x 0.75 mm²	EN 50525-2-11	VDE, 40047119
	Shenzhen Hong YunElectron Co.,Ltd.	HYC-201	2.5A 250V~	IEC 60320-1	VDE, 40022120
Mains cord set (for Australia)	Shenzhen Hong YunElectron Co.,Ltd.	HYP-203	7.5A/10A 250V~	AS/NZS 3112, AS/NZS 3100	SAA Approval, SAA-203297- EA
	Shenzhen Tongyuan Industrial Co.,Ltd	H05VVH2-F	2 x 0.75 mm²	AS/NZS 60227.5	SAA Approval, NSW24638
	Shenzhen Hong YunElectron Co.,Ltd.	HYC-G201	2.5A 250V~	AS/NZS 60320.1	SAA Approval, SAA-203296- EA
Mains cord set (for CENELEC Countries)	Shenzhen Hong YunElectron Co.,Ltd.	HYP-201	2.5A 250V~	DIN VDE 0620 Teil 101, EN 50075	VDE, 40021944
	Shenzhen HenglidelIndustry Co, Ltd	H05VVH2-F	2 x 0.75 mm²	EN 50525-2-11	VDE, 40047119
	Shenzhen Hong YunElectron Co.,Ltd.	HYC-201	2.5A 250V~	EN IEC 60320- 1	VDE, 40022120
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
Mains cord set (for UK)	Shenzhen Hong YunElectron Co.,Ltd.	HYP-UK301	5A 250V~	BS 1363-1	ASTA, 1426
	Shenzhen HenglidelIndustry Co, Ltd	H05VVH2-F	2 x 0.75 mm²	EN 50525-2-11	VDE, 40047119
	Shenzhen Hong YunElectron Co.,Ltd.	HYC-201	2.5A 250V~	EN IEC 60320- 1	VDE, 40022120
- Description:	A various suitable certified power supply cord set can be added in the country where the apparatus is sold.				
Appliance inlet	LECI Electronics Co., LTD	DB-8	AC 250 V~, 2.5 A	IEC 60320-1	VDE, 40032028
Internal Wiring	MYUNG BO CABLE CO LTD	1007	Min. 300 V, 80 °C, marked VW-1	IEC 62368-1 UL 758	Tested in the equipment UL, E232407
Alt.)	Interchangeable	Interchangeable	Min. 300 V, 80 °C, marked VW-1	IEC 62368-1 UL 758	Tested in the equipment UL
Tubing for Internal Wiring	DONGGUAN SALIPT CO LTD	SALIPT S-901- 600	Max. 600 V, 125 °C, VW-1	IEC 62368-1 UL 758	Tested in the equipment UL, E209436
Alt.)	Interchangeable	Interchangeable	Max. 600 V, 125 °C, VW-1	IEC 62368-1 UL 758	Tested in the equipment UL
AC connector (J814)	ZHEJIANG LIANHE ELECTRONIC CO LTD	A3963-WR03-2A	250 V~, 10 A, V-0, PA66	IEC 62368-1 UL 1977	Tested in the equipment UL, E364711
Mains fuse (FP801S)	Smart Electronics Inc.	STC series	T4A H 250V	IEC 60127-1	VDE, 40031932
Alt.)	Dongguan Better Electronics Technology Co., Ltd.	524 series	T4A H 250V	IEC 60127-1	VDE, 40025424
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
Varistor (VX801S)	Xiamen Wanming Electronics Co.,Ltd	WMR14D751K	Max. Continuous a.c. voltage: 460 V, Max. Peak current: 6.0 kA, 85 °C Coating material: V-0	IEC 62368-1 IEC 61051-1 IEC 61051-2 IEC 61051-2-2 IEC 60950-1 (Annex Q) UL 1449	Tested in the equipment VDE, 40052271
Alt.)	Thinking Electronic Industrial Co., Ltd.	TVR14751K	Max. Continuous a.c. voltage: 465 V, Max. Peak current: 6.0 kA, 85 °C Coating material: V-0	IEC 62368-1 IEC 61051-1 IEC 61051-2 IEC 61051-2-2 IEC 60950-1 (Annex Q) UL 1449	Tested in the equipment VDE, 005944
Thermistor (NT801S)	Thinking Electronic Industrial Co., Ltd.	SCK-053	5 Ω, at 25 °C, NTC	IEC 62368-1 UL 1434	Tested in the equipment UL, E138827
Alt.)	Xiamen Wanming Electronics Co.,Ltd	08D050	5 Ω, at 25 °C, NTC	IEC 62368-1 UL 1434	Tested in the equipment UL, E324473
Alt.)	Interchangeable	Interchangeable	Max. 5 Ω, at 25 °C, NTC	IEC 62368-1 UL 1434	Tested in the equipment UL
- Description:	The component is located after mains fuse (FP801S).				
X-capacitor (CX801S)	SUNIL ELECTRONICS IND. CO., LTD.	436D	Max. 0.33 μF, AC 275/310 V Min. X2	IEC 60384-14	SEMKO, SE-ENEC- 2002253
Alt.)	Nistronics (Jiangxi) Co., Ltd.	MPR	Max. 0.33 μF, AC 275/310 V, Min. X2	IEC 60384-14	VDE, 40032056
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
Line filter (LX801S)	LINYI NAM YANG ELECTRONICS CO.,LTD	1420991	130 °C	IEC 62368-1	Tested in the equipment
Alt.)	SHANDONG WUSONG ELECTRONIC TECHNOLOGY CO.,LTD	1420991	130 °C	IEC 62368-1	Tested in the equipment
Alt.)	TRANSON Co., Ltd.	1420991	130 °C	IEC 62368-1	Tested in the equipment
Base Material	Chang Chun Plastics Co Ltd	T375HF	V-0, 150 °C, PMC	UL 94	UL, E59481
- Description:	All sources are identical to each other except manufacturer.				
Bridge Diode (BD801S)	YANGJIE	GBL406	Min 600 V / 4 A	IEC 62368-1	Tested in the equipment
Alt.)	MCC	GBL406	Min 600 V / 4 A	IEC 62368-1	Tested in the equipment
Alt.)	Interchangeable	Interchangeable	Min 600 V / 4 A	IEC 62368-1	Tested in the equipment
Electrolytic Capacitor (CM801S)	JIANGHAI	CD263	Max. 100 µF, Min. 450 V, 105 °C	IEC 62368-1	Tested in the equipment
Alt.)	SAMWHA	KA	Max. 100 µF, Min. 450 V, 105 °C	IEC 62368-1	Tested in the equipment
Alt.)	Interchangeable	Interchangeable	Max. 100 µF, Min. 450 V, 105 °C	IEC 62368-1	Tested in the equipment
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
Optocoupler (PC801S)	Lite-on technology Corp.	LTV-1008	V _{ini,a} = 8 000 Vp, V _{ini,b} = 8 000 Vp, V _{IOTM} ; 8 000 Vp, Ext. dist.: 7.0 mm, DTI: 0.4 mm, 115 °C	IEC 60747-5-5	VDE, 138213
Alt.)	Everlight electronics Co., Ltd.	EL1018	V _{ini,a} = 8 000 Vp, V _{ini,b} = 8 000 Vp, V _{IOTM} ; 8 000 Vp, Ext. dist.: 8.0 mm, DTI: 0.4 mm, 115 °C	IEC 60747-5-5	VDE, 40028391
Bridging Cap. (CY801S)	Xiamen Wanming Electronics Co., Ltd.	HJ	Max. 1 000 pF, Min. 250 Vac, Y1	IEC 60384-14	VDE, 40034438
Alt.)	Kunshan Wansheng Electronics Co., Ltd.	CT7	Max. 1 000 pF, Min. 250 Vac, Y1	IEC 60384-14	VDE, 40012143
Bridging Cap. (CY802S)	Xiamen Wanming Electronics Co., Ltd.	CK	Max. 680 pF, Min. 250 Vac, Y1	IEC 60384-14	VDE, 40034438
Alt.)	Anshan Kei Fat Electronic Ceramic Technical Co., Ltd.	CT7	Max. 680 pF, Min. 250 Vac, Y1	IEC 60384-14	VDE, 40036847
Switching mode transformer (T801CS)	LINYI NAM YANG ELECTRONICS CO.,LTD	1400900	Class 130 (B)	IEC 62368-1 UL 1446	Tested in the equipment UL, E140149
Alt.)	COREPLUS CO LTD	1400900	Class 130 (B)	IEC 62368-1 UL 1446	Tested in the equipment UL, E348258
Alt.)	TRANSON Co., Ltd.	1400900	Class 130 (B)	IEC 62368-1 UL 1446	Tested in the equipment UL, E348380
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
TI Wire	KBI Cosmolink Co., Ltd.	TIW-M	Reinforced, 130 °C	IEC 62368-1 UL 2353	VDE, 138053 UL, E213764
Alt.)	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B	Reinforced, 130 °C	IEC 62368-1 UL 2353	VDE, 40033527 UL, E332529
Alt.)	YOUNG CHANG SILICONE CO LIMITED	STW-B	Reinforced, 130 °C	IEC 62368-1 UL 2353	VDE, 40013359 UL, E242198
Bobbin material	Sumitomo Bakelite Co Ltd	PM-9820	V-0, 150 °C, PF	UL 94	UL, E41429
- Description:	UL1446, Class 130 (B) insulation system covered, (NAM YANG = YS-130, Coreplus = CP-130, TRANSON = TO-01B)				
FET (Q801S)	AUK	SMK10N65F	Min. 650 V, Min. 10 A	IEC 62368-1	Tested in the equipment
Alt.)	SEMIHOW	HFS10N65D	Min. 650 V, Min. 10 A	IEC 62368-1	Tested in the equipment
Alt.)	UTC	10N65ML	Min. 650 V, Min. 10 A	IEC 62368-1	Tested in the equipment
Alt.)	Interchangeable	Interchangeable	Min. 650 V, Min. 10 A	IEC 62368-1	Tested in the equipment
Discharge resistor (RX801S, RX802S, RX803S)	YAGEO CORP	RC1206	Power: 1/4 W Resistance: 680 kΩ	IEC 62368-1	DEMKO, DK-113953- UL
Alt.)	POWERNET TECHNOLOGIE S CORP	WR12X684JTL	Power: 1/4 W Resistance: 680 kΩ	IEC 62368-1	DEMKO, DK-155825- UL
Component IC Current Limiter for USB(U714)	Wuxi ETEK Microelectronics Co LTD	ET20164	Input Voltage: Max. 5.5 Vdc Output Current Limit: 2.9 A	IEC 62368-1	DEMKO, DK-169918- M1-UL
Component IC Current Limiter for HDMI (IC500)	TEXAS INSTRUMENTS INCORPORATE D	TPS2553	Input Voltage: Max. 6.5 Vdc Output Current Limit: 1.7 A	IEC 62368-1	MET, US-2406- MET
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
Printed wiring board	Keenrich Electronics (Hong Kong) Ltd	37	V-0, 130 °C	UL 796	UL, E66047
Alt.)	Interchangeable	Interchangeable	Min. V-0, 130 °C	UL 796	UL
Printed wiring board (except for PSU)	KINGBOARD LAMINATES HOLDINGS LTD	KB-6160A	V-0, 130 °C	UL 796	UL, E123995
Alt.)	Interchangeable	Interchangeable	Min. V-0, 130 °C	UL 796	UL
Cover Enclosure Material (Cover-top, Cover-bottom)	COVESTRO	FR3311 TV	PC+ABS GF15, V-0, Min. 1.5 mm thickness	UL 94	UL, E41613
Alt.)	QINGDAO HAIER NEW MATERIAL DEVELOPMENT CO.,LTD	NH-9018G15	PC+ABS GF15, V-0, Min. 1.5 mm thickness	UL 94	UL, E230779
Alt.)	LOTTE CHEMICAL CORPORATION	GC-1151	PC+ABS, GF15 V-0,Min. 3.0 mm thickness	UL 94	UL, E115797
Alt.)	LOTTE CHEMICAL CORPORATION	HM-1159	PC+ABS, GF15 V-0,Min. 3.0 mm thickness	UL 94	UL, E115797
Cover Enclosure Material (Cover-terminal, Cover-rear)	COVESTRO	FR3010	PC+ABS, V-0, Min. 1.5 mm thickness	UL 94	UL, E41613
Alt.)	QINGDAO HAIER NEW MATERIAL DEVELOPMENT CO.,LTD	NH-9012	PC+ABS, V-0, Min. 1.5 mm thickness	UL 94	UL, E230779
Alt.)	LOTTE CHEMICAL CORPORATION	GC-1017	PC+ABS, V-0, Min. 2.0 mm thickness	UL 94	UL, E115797
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
Cover Enclosure Material (Cover-terminal, Cover-rear) - continued Alt.)	LOTTE CHEMICAL CORPORATION	NH-1090 (v4)	PC+ABS, V-0, Min. 2.0 mm thickness	UL 94	UL, E115797
Cover Enclosure Material (Cover-PCB, Holder grille, Cover-Side)	LG CHEM LTD	HI121H	ABS, HB, Min. 1.5 mm thickness	UL 94	UL, E67171
Alt.)	CHILIN TECHNOLOGY CO LTD	GA-1535	ABS, HB, Min. 1.5 mm thickness	UL 94	UL, E177071
Alt.)	LOTTE CHEMICAL CORPORATION	GC-0735K	ABS, HB, Min. 1.5 mm thickness	UL 94	UL, E115797
Alt.)	LOTTE CHEMICAL CORPORATION	HF-0680 U(v4)	ABS, HB, Min. 1.5 mm thickness	UL 94	UL, E115797
Enclosure Material (Deco-top)	CHI MEI CORPORATION	CM-207	PMMA, HB, Min. 1.5 mm thickness	UL 94	UL, E56070
Alt.)	LG CHEM LTD	HI121H	ABS, HB, Min. 1.5 mm thickness	UL 94	UL, E67171
Alt.)	CHILIN TECHNOLOGY CO LTD	GA-1535	ABS, HB, Min. 1.5 mm thickness	UL 94	UL, E177071
Alt.)	LOTTE CHEMICAL CORPORATION	GC-0735K	ABS, HB, Min. 1.5 mm thickness	UL 94	UL, E115797
Alt.)	LOTTE CHEMICAL CORPORATION	HF-0680 U(v4)	ABS, HB, Min. 1.5 mm thickness	UL 94	UL, E115797
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

IEC 62368-1					
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), 2)}
Front Metal Enclosure (Net Grille)	Interchangeable	Interchangeable	Steel (SPCC), Min. 0.6 mm thickness	IEC 62368-1	Tested in the equipment
WiiM Voice Remote 2 Lite, WiiM Bar Remote	Linkplay Technology Inc.	WVR003, WVR004	Input: 5VDC	IEC 62368-1	Intertek, SG ITS-40753M1
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

ATTACHMENT 1

Photos



Top View



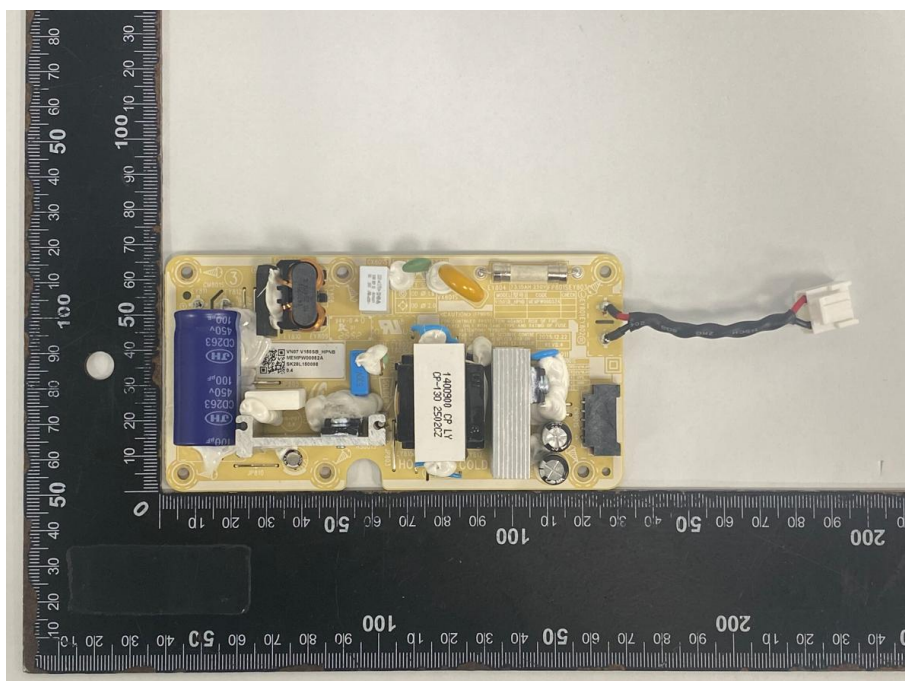
Bottom View

ATTACHMENT 1

Photos



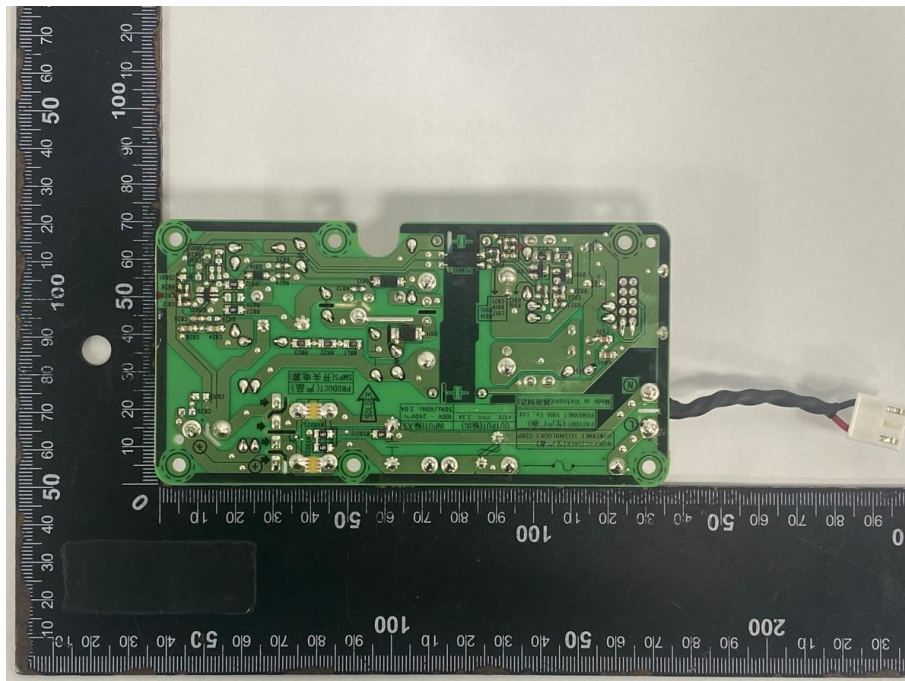
Interior View



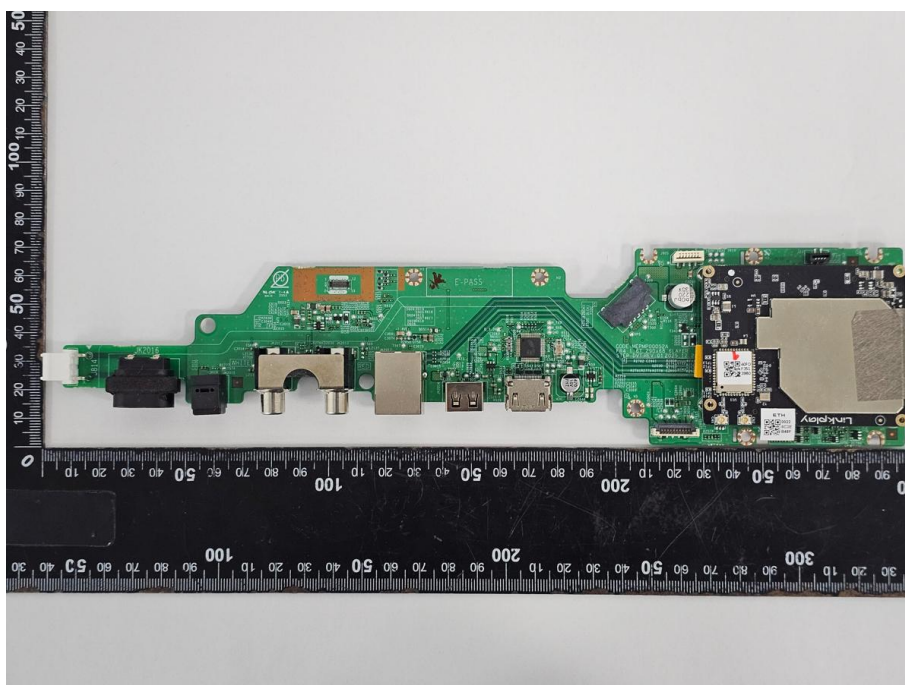
SMPS Top View

ATTACHMENT 1

Photos



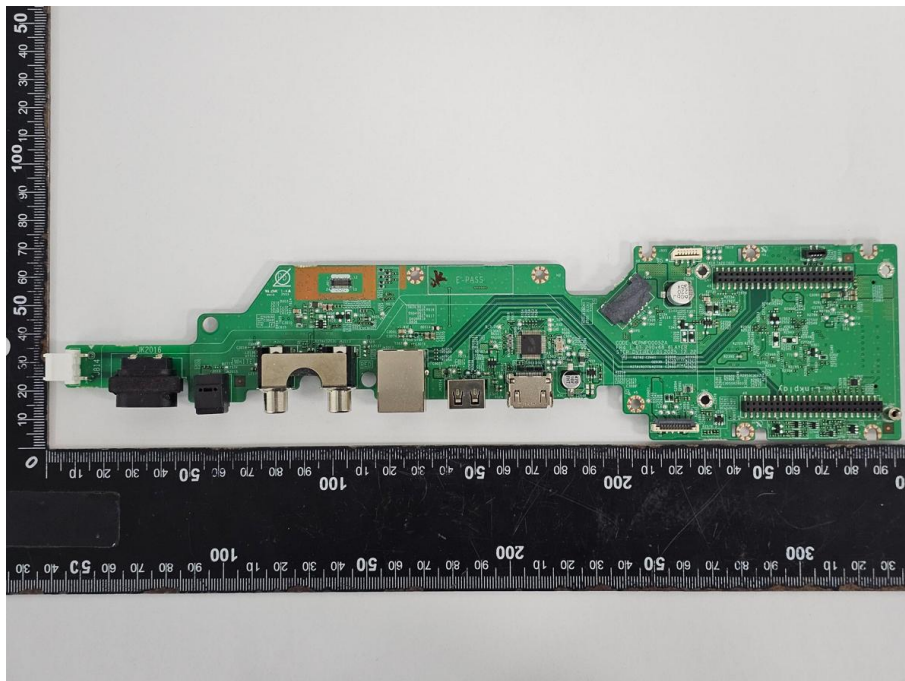
SMPS Bottom View



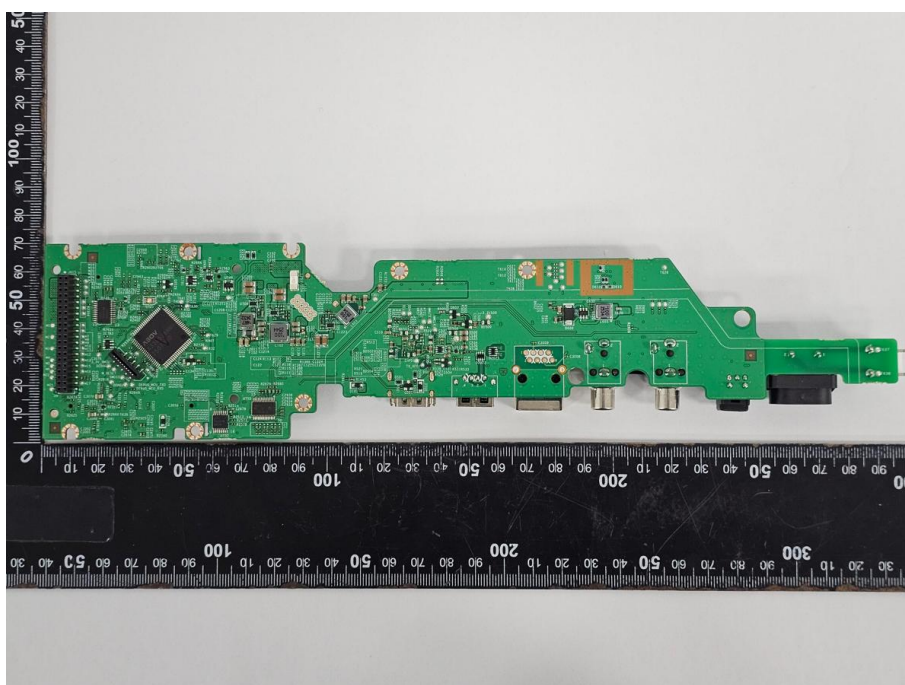
Mainboard Top View with wireless board

ATTACHMENT 1

Photos



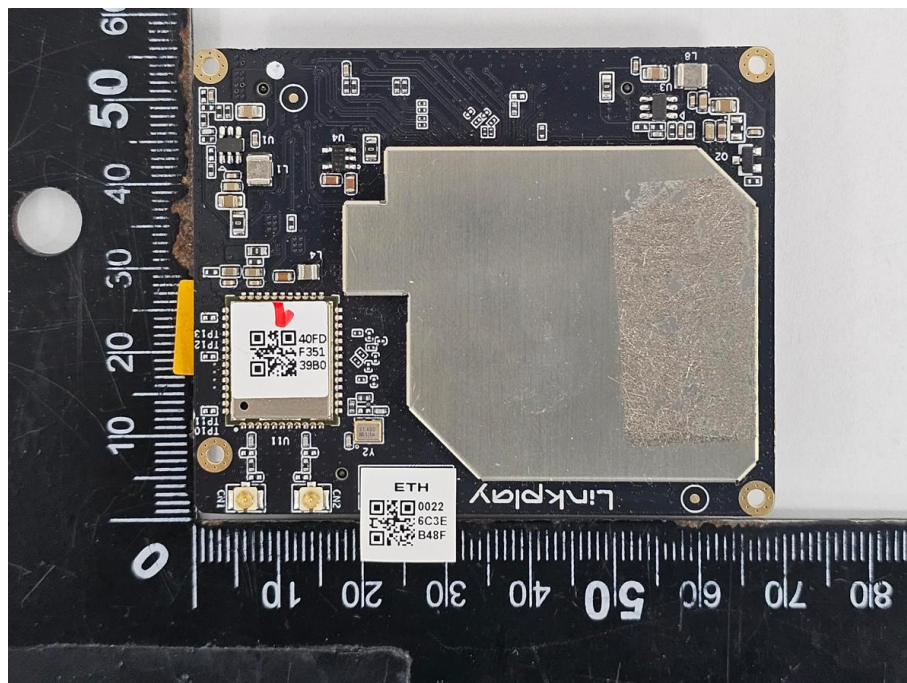
Mainboard Top View without wireless board



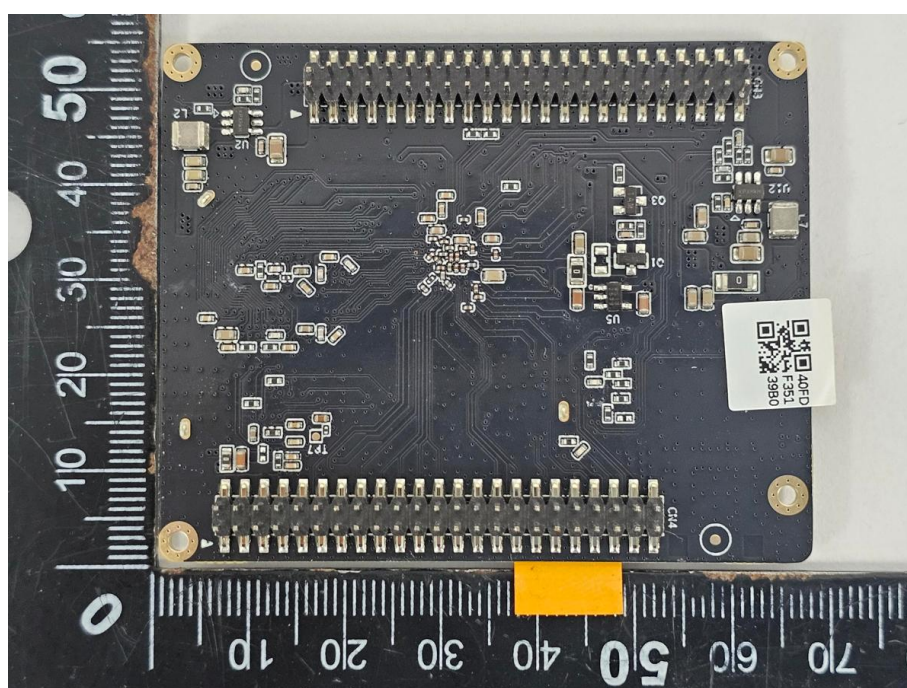
Mainboard Bottom View

ATTACHMENT 1

Photos

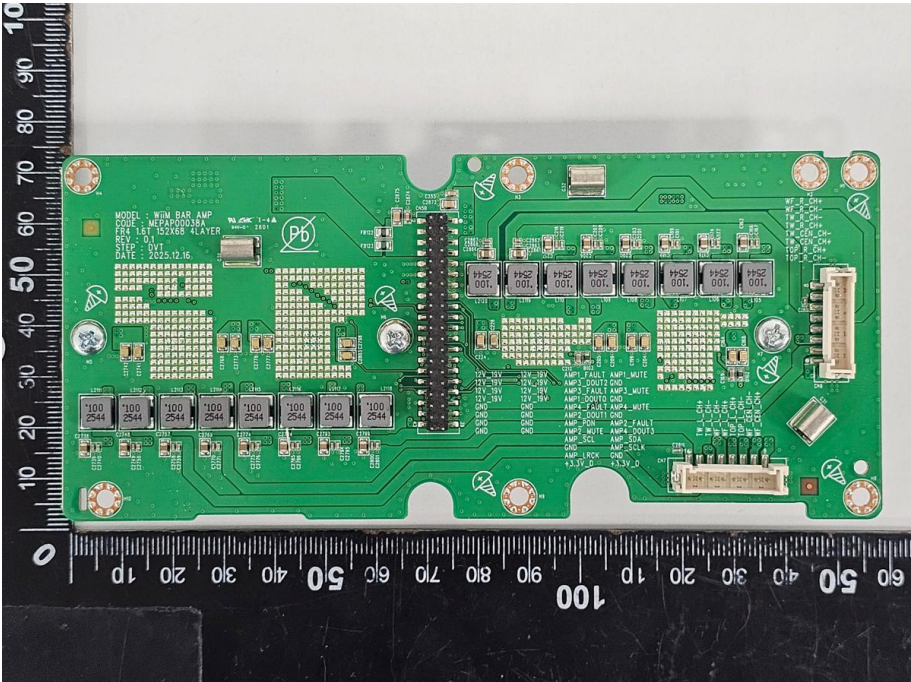


Wireless board Top View

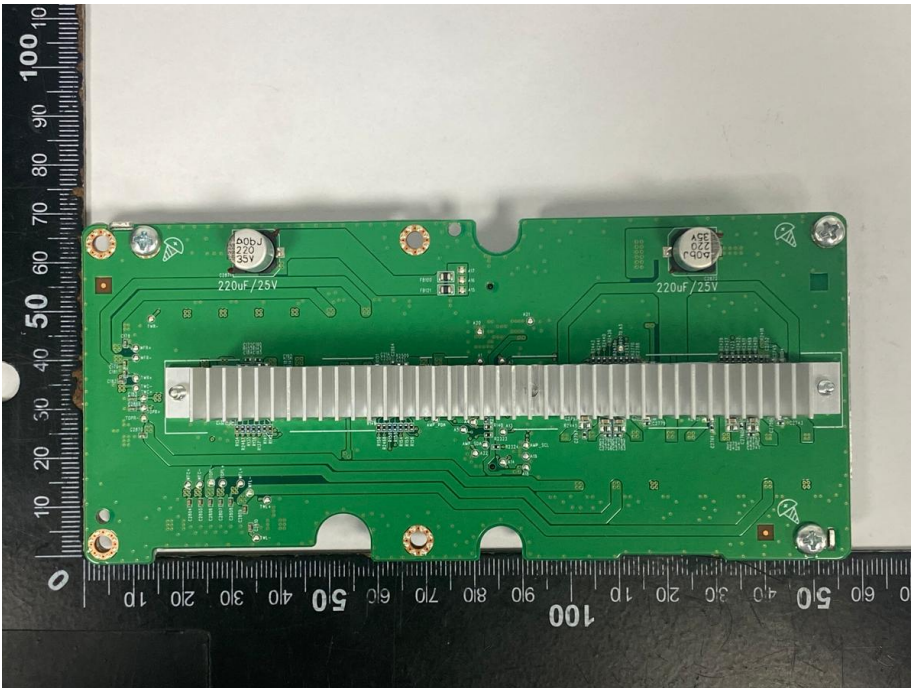


Wireless board Bottom View

ATTACHMENT 1
Photos



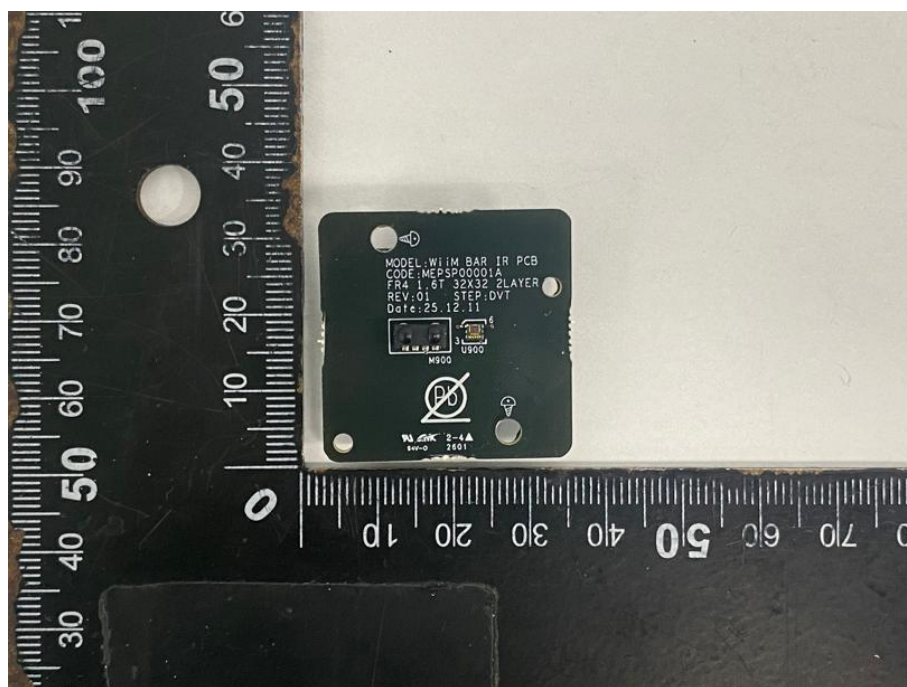
Amp board Top View



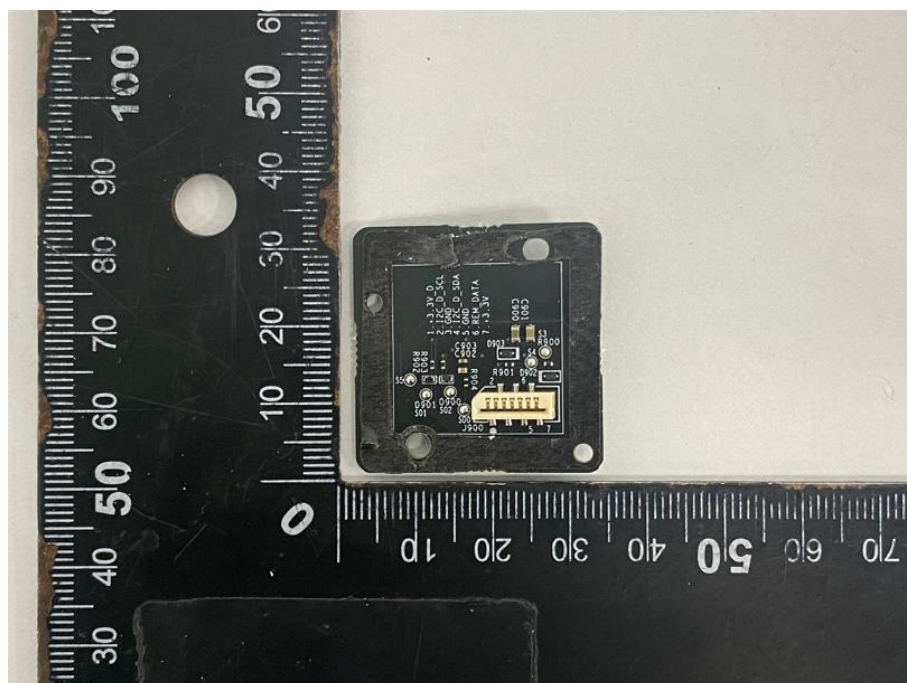
Amp board Bottom View

ATTACHMENT 1

Photos



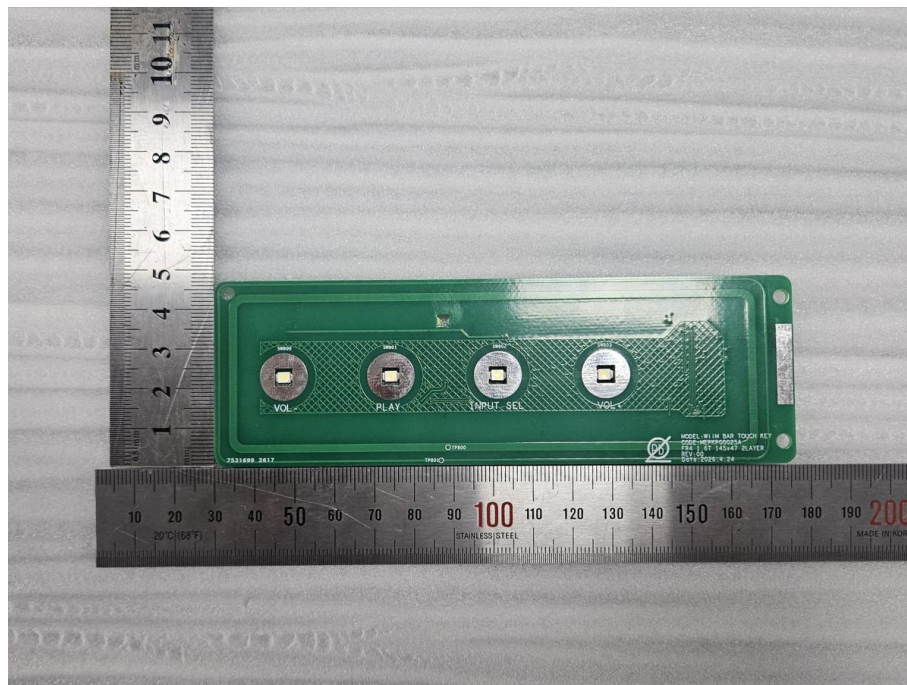
IR PCB Top View



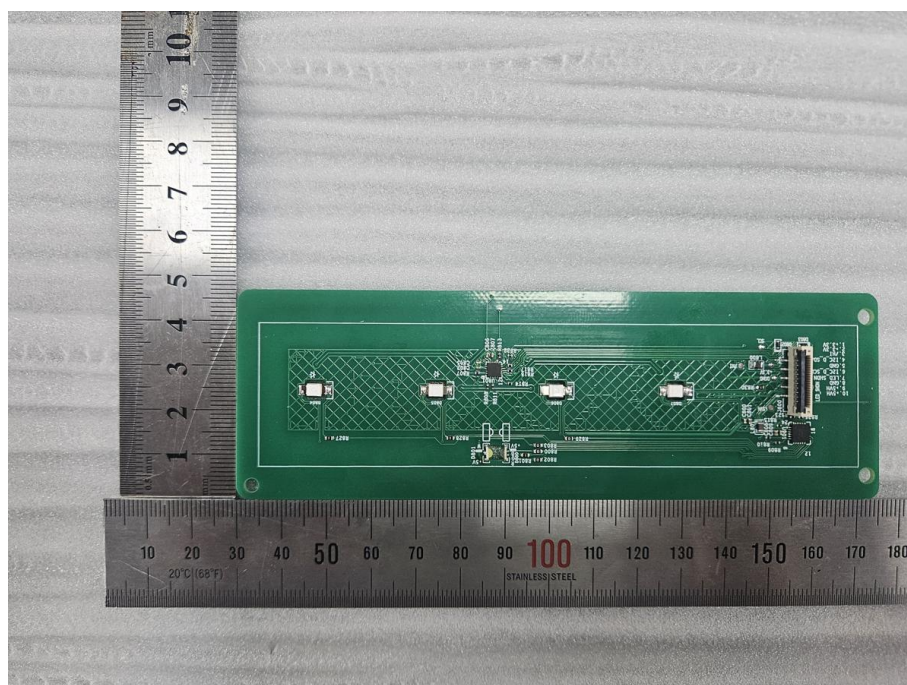
IR PCB Bottom View

ATTACHMENT 1

Photos



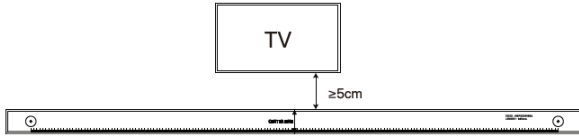
KEY PCB Top View



KEY PCB Bottom View

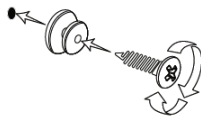
ATTACHMENT 2

Instruction / Installation Manual

4.2 Wall Mounting

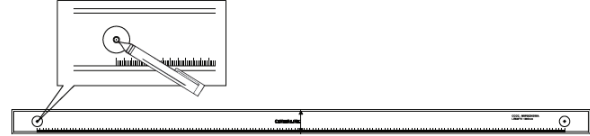
1. Position the included wall-mount guide on the wall at the desired location and ensure it is level. Then secure it with tape.

* Note: If mounted below a TV, align the centerline and leave at least 5 cm clearance below TV.



4. Insert an M5 wall-mount screw (35mm or longer) through each included wall-mount holder, then tighten them into the holes.

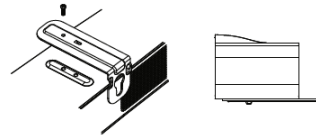
* Note: The wall-mount screw is not included.



2. Mark the drilling positions through the circles on the guide.

3. Drill holes at the marked positions using an appropriately sized drill bit.

* Note: Use appropriate wall anchors if not installing on wood studs.



5. Attach the two wall-mount brackets to the bottom of the WiiM Bar using two included screws (M4 x L12, 2 pcs). Ensure the hanger parts are positioned behind the WiiM Bar.

6. Hang the brackets onto the wall-mount holders, then slide the WiiM Bar down to lock.

ATTACHMENT 3			
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 62368-1:2014+A11:2017			
Attachment Form No. : EU_GD_IEC62368_1D_II			
Attachment Originator : Nemko AS			
Master Attachment : Date 2021-02-04			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			

	CENELEC COMMON MODIFICATIONS (EN)					P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed “Z”.					P																																				
CONTENTS	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																																				
	Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list: <table><tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr><tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr><tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr><tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr><tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr></table>					0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
0.2.1	Note	1	Note 3	4.1.15	Note																																					
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c																																					
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note																																					
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3																																					
5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4																																					
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																					
	For special national conditions, see Annex ZB.					P																																				
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.			Noted.		—																																				

ATTACHMENT 3			
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.	Integral parts of the equipment (over current protective device (fuse) provide).	P
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.	Not such interconnections.	N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.	No RS hazards.	N/A
10.5.1	Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i> <i>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 presets 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.</i> NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. <i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</i> <i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-</i>	No RS hazards.	N/A

ATTACHMENT 3			
Clause	Requirement + Test	Result - Remark	Verdict
	<i>voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i> <i>For RS1, the dose-rate shall not exceed 1 μSv/h taking account of the background level.</i> NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		
10.6.1	Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		N/A
10.Z1	Add the following new subclause after 10.6.5. 10.Z1 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
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		—

ATTACHMENT 3			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	Add the following standards: Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		—
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	Denmark, Finland, Norway and Sweden To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordnet 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	Not direct plug-in equipment.	N/A

ATTACHMENT 3			
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.	The touch current does not exceed 3.5 mA.	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 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.	Not for connection to such external circuits.	N/A

ATTACHMENT 3			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Considered.	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. <i>Justification:</i> 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
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.7.5	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.	Class II equipment.	N/A
5.7.6.1	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	No external circuits	N/A

ATTACHMENT 3			
Clause	Requirement + Test	Result - Remark	Verdict
	interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: “Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
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 .	No high touch current.	N/A

ATTACHMENT 3			
Clause	Requirement + Test	Result - Remark	Verdict
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	Not direct plug-in equipment.	N/A
G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c	The mains plug complied with the requirement of DS 60884-2-D1.	P
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.	See summary of testing.	N/A

ATTACHMENT 3			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	See summary of testing.	N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard	See summary of testing.	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.	See summary of testing.	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. <i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de	No CRT used.	N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)			
Differences according to : EN IEC 62368-1:2020+A11:2020			
Attachment Form No. : EU_GD_IEC62368_1E			
Attachment Originator : UL(Demko)			
Master Attachment : 2021-02-04			
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	CENELEC COMMON MODIFICATIONS (EN)		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.		
3.3.19	Sound exposure <i>Replace 3.3.19 of IEC 62368-1 with the following definitions:</i>		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
3.3.19.3	sound exposure, E A-weighted sound pressure (<i>p</i>) squared and integrated over a stated period of time, <i>T</i> Note 1 to entry: The SI unit is Pa ² s.		N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	$E = \int_0^T p(t)^2 dt$		
3.3.19.4	sound exposure level, <i>SEL</i> logarithmic measure of sound exposure relative to a reference value, <i>E</i>₀, typically the 1 kHz threshold of hearing in humans. Note 1 to entry: <i>SEL</i> is measured as A-weighted levels in dB. $SEL = 10 \lg \left(\frac{E}{E_0} \right) \text{ dB}$ Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	digital signal level relative to full scale, dBFS levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	Modification to Clause 10		
10.6	Safeguards against acoustic energy sources Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	Introduction Safeguard requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an ordinary person, that: – is designed to allow the user to listen to audio or audiovisual content / material; and	This equipment is not personal music players.	N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	– 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.		

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	– a player while connected to an external amplifier that does not allow the user to walk around while in use. For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply. The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		
10.6.1.2	Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.		N/A
10.6.2	Classification of devices without the capacity to estimate sound dose		N/A
10.6.2.1	General This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3. For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song. NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning	No RS hazards.	N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		
10.6.2.2	RS1 limits (to be superseded, see 10.6.3.2) RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		N/A
10.6.2.3	RS2 limits (to be superseded, see 10.6.3.3) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed “programme simulation noise” as described in EN 50332-1.		N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
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.	No RS hazards.	N/A
10.6.3.2	RS1 limits (new) RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		N/A
10.6.3.3	RS2 limits (new) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall		N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		
10.6.4	Requirements for maximum sound exposure		N/A
10.6.4.1	Measurement methods All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.	No RS hazards.	N/A
10.6.4.2	Protection of persons Except as given below, protection requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3. NOTE 1 Volume control is not considered a safeguard . Between RS2 and an ordinary person , the basic safeguard may be replaced by an instructional safeguard in accordance with Clause F.5, except that the instructional safeguard shall be placed on the equipment, or on the packaging, or in the instruction manual. Alternatively, the instructional safeguard may be given through the equipment display during use. The elements of the instructional safeguard shall be as follows:  – element 1a: the symbol , IEC 60417-6044 (2011-01) – element 2: "High sound pressure" or equivalent wording – element 3: "Hearing damage risk" or equivalent wording – element 4: "Do not listen at high volume levels for long periods." or equivalent wording 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.		N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time. NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed. NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off. A skilled person shall not be unintentionally exposed to RS3.		
10.6.5	Requirements for dose-based systems		N/A
10.6.5.1	General requirements Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause. The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration. The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.	This equipment is not personal music players.	N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.5.2	Dose-based warning and requirements When a dose of 100 % <i>CSD</i> is reached, and at least at every 100 % further increase of <i>CSD</i>, 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 % <i>CSD</i> 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

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input With 94 dB L_{Aeq} acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed “programme simulation noise” as described in EN 50332-1 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.	This equipment is not listening devices.	N/A
10.6.6.2	Corded listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
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 <i>Measurements shall be made in accordance with EN 50332-2 as applicable.</i>		N/A

ATTACHMENT 4

Clause	Requirement + Test		Result - Remark		Verdict	
3	Modification to the whole document					
	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
	10.6.4	Note 3	F.3.3.6	Note 3	Y.4.1	Note
	Y.4.5	Note				
4	Modification to Clause 1					
1	Add the following note: <i>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.</i>		Considered.		P	
5	Modification to 4.Z1					
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		Integral parts of the equipment (over current protective device (fuse) provided).		P	

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
6	Modification to 5.4.2.3.2.4		
5.4.2.3.2.4	<i>Add the following to the end of this subclause:</i> The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.	Not such interconnections.	N/A
7	Modification to 10.2.1		
10.2.1	Add the following to c) and d) in table 39: For additional requirements, see 10.5.1.	No RS hazards.	N/A
8	Modification to 10.5.1		
10.5.1	<i>Add the following after the first paragraph:</i> For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made. NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.	No RS hazards.	N/A

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

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	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 jordat stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex	No direct plug-in equipment.	N/A
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.	The touch current does not exceed 3.5 mA.	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.	Not for connection to such external circuits	N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Considered.	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. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	Considered.	P
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

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
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 mm² to 1,5 mm² in cross-sectional area.		N/A
5.6.8	Norway To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as class I equipment. See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	Class II equipment.	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:	No external circuits.	N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
8.5.4.2.3	United Kingdom Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
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	Not direct plug-in equipment.	N/A
G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a	The mains plug complied with the requirement of DS 60884-2-D1.	P

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
	<i>Justification:</i> 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.	See summary of testing.	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.	See summary of testing.	N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard	See summary of testing.	N/A

ATTACHMENT 4			
Clause	Requirement + Test	Result - Remark	Verdict
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.	See summary of testing.	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. <i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de	No CRT used.	N/A

ATTACHMENT 4																																																							
Clause	Requirement + Test	Result - Remark	Verdict																																																				
ZD	IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)		N/A																																																				
	<table><tr><th rowspan="2">Type of flexible cord</th><th colspan="2">Code designations</th></tr><tr><th>IEC</th><th>CENELEC</th></tr><tr><td colspan="3">PVC insulated cords</td></tr><tr><td>Flat twin tinsel cord</td><td>60227 IEC 41</td><td>H03VH-Y</td></tr><tr><td>Light polyvinyl chloride sheathed flexible cord</td><td>60227 IEC 52</td><td>H03VV-F H03VVH2-F</td></tr><tr><td>Ordinary polyvinyl chloride sheathed flexible cord</td><td>60227 IEC 53</td><td>H05VV-F H05VVH2-F</td></tr><tr><td colspan="3">Rubber insulated cords</td></tr><tr><td>Braided cord</td><td>60245 IEC 51</td><td>H03RT-F</td></tr><tr><td>Ordinary tough rubber sheathed flexible cord</td><td>60245 IEC 53</td><td>H05RR-F</td></tr><tr><td>Ordinary polychloroprene sheathed flexible cord</td><td>60245 IEC 57</td><td>H05RN-F</td></tr><tr><td>Heavy polychloroprene sheathed flexible cord</td><td>60245 IEC 66</td><td>H07RN-F</td></tr><tr><td colspan="3">Cords having high flexibility</td></tr><tr><td>Rubber insulated and sheathed cord</td><td>60245 IEC 86</td><td>H03RR-H</td></tr><tr><td>Rubber insulated, crosslinked PVC sheathed cord</td><td>60245 IEC 87</td><td>H03RV4-H</td></tr><tr><td>Crosslinked PVC insulated and sheathed cord</td><td>60245 IEC 88</td><td>H03V4V4-H</td></tr><tr><td colspan="3">Cords insulated and sheathed with halogen-free thermoplastic compounds</td></tr><tr><td>Light halogen-free thermoplastic insulated and sheathed flexible cords</td><td></td><td>H03Z1Z1-F H03Z1Z1H2-F</td></tr><tr><td>Ordinary halogen-free thermoplastic insulated and sheathed flexible cords</td><td></td><td>H05Z1Z1-F H05Z1Z1H2-F</td></tr></table>	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	N/A
Type of flexible cord	Code designations																																																						
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ATTACHMENT 5			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to : AS/NZS 62368.1:2022			
TRF template used: : IEC 62368-1:2018, Ed. 1.1			
Attachment Form No. : AU_NZ_ND_IEC62368_1E			
Attachment Originator : JAS-ANZ			
Master Attachment : 2022-07-01			
Copyright © 2020 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			

	National Differences		
Appendix ZZ	Variations to IEC 62368-1:2018 (ED. 3.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2018 (ED. 3.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	After the first paragraph, <i>add</i> the following: The Australian or Australian/New Zealand Standards listed below are modified adoptions of, or not equivalent to, the IEC normative references and are required for the application of this Standard. All references in the source text to those IEC normative references shall be replaced by references to the corresponding Australian or Australian/New Zealand Standards. Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> -IEC 60086-2 <i>Primary batteries — Part 2: Physical and electrical specifications</i> -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i>		P

ATTACHMENT 5			
Clause	Requirement + Test	Result - Remark	Verdict
	-AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i> -AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i> -AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i> -AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i> -AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i> -AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> -AS/NZS 60950.1, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i> IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i> -AS/NZS 61558.1, <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 3, MOD)</i> -AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i>		
4.7.2	Requirements Delete the text of the second paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet conforming to AS/NZS 3112, shall conform to the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets. Conformity is checked by inspection and, if necessary, by the tests in AS/NZS 3112.		N/A

ATTACHMENT 5																							
Clause	Requirement + Test		Result - Remark	Verdict																			
	NOTE: Equipment with plug portions for use in countries other than Australia and New Zealand will need to conform to other countries' requirements Note Additional AS/NZS 3112 Appendix J,TRF is appended to end of this TRF.																						
4.7.3	Compliance Criteria <i>Delete</i> this clause			N/A																			
4.8.1	General After second list, <i>add</i> the following: NOTE: Refer to the Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard 2020 and Consumer Goods (Products Containing Button/Coin Batteries) Information Standard 2020 for more information on button cell batteries in Australia..		Not used for coin / button cell batter.	N/A																			
5.4.10.2.1	General <i>Delete</i> the first paragraph and <i>replace</i> with the following: In Australia, the separation is checked by the test given in both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test given in either 5.4.10.2.2 or 5.4.10.2.3..		No external circuits.	N/A																			
Table 28	Replace the table with the following:			N/A																			
<table><tr><th rowspan="2">Parts</th><th colspan="2">Impulse test</th><th colspan="2">Steady state test</th></tr><tr><th>New Zealand</th><th>Australia</th><th>New Zealand</th><th>Australia</th></tr><tr><td>Parts indicated in Clause 5.4.10.1 a) ^a</td><td>2.5 kV</td><td>7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.</td><td>1.5 kV</td><td>3 kV</td></tr><tr><td>Parts indicated in Clause 5.4.10.1 b) and c) ^b</td><td colspan="2">1.5 kV</td><td>1.0 kV</td><td>1.5 kV</td></tr></table> ^a Surge suppressors shall not be removed. ^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment. ^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.				Parts	Impulse test		Steady state test		New Zealand	Australia	New Zealand	Australia	Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.	1.5 kV	3 kV	Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV		1.0 kV	1.5 kV	N/A
Parts	Impulse test		Steady state test																				
	New Zealand	Australia	New Zealand	Australia																			
Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.	1.5 kV	3 kV																			
Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV		1.0 kV	1.5 kV																			
5.4.10.2.2	<i>Delete</i> "NOTE" and <i>replace</i> with "NOTE 1". After NOTE 1, <i>add</i> the following: NOTE 2: For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.			N/A																			

ATTACHMENT 5			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE 3: For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		
5.4.10.2.3	<i>Delete</i> "NOTE" and <i>replace</i> with "NOTE 1". After NOTE 1, <i>add</i> the following: NOTE 2: For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 3: The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	Electrically-caused fire		P
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 as follows: 6.201 External power supplies, docking stations and other similar devices (see special national conditions)		P
8.6	Stability of equipment		N/A
Table 36	Footnote ^a , after first sentence, <i>add</i> the following: Equipment having displays with moving images shall include "television sets and display devices".		N/A
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.201 Restraining Device fixing point (see special national conditions) 8.6.202 Restraining device (see special national conditions)		N/A
Annex F Paragraph F.3.3.4	Rated Voltage <i>Delete</i> "NOTE" and <i>replace</i> with NOTE1" After NOTE 1, <i>add</i> the following Equipment that is intended for connection to the supply mains in Australia and New Zealand shall be marked with: (a) A rated voltage of: • 230 V for single phase equipment • 400 V for poly phase equipment Or (b) A rated voltage range that includes: • 230 V for single phase equipment • 400 V for poly phase equipment NOTE 2: equipment that is not rated as above is not suitable for direct connection to the supply mains in Australia or new Zealand.	The rated voltage range of the equipment covers 230 Vac.	P

ATTACHMENT 5			
Clause	Requirement + Test	Result - Remark	Verdict
Annex F.3.3.5	After the list, <i>add</i> the following Equipment that is intended for connection to supply mains in Australia or New Zealand shall be marked with a rated frequency of 50 Hz or a rated frequency range or nominal value which includes 50Hz	The rated frequency of the equipment covers 50 Hz.	P
Annex F.3.8	After "The DC output of an external power supply", insert "or docking stations and other similar external devices"		N/A
Annex G Paragraph G.4.2	Mains connectors 1 After "IEC 60320", insert "or AS/NZS 60320 series". 2 After "IEC 60906-1", insert "or AS/NZS 3123" 3 <i>After</i> first paragraph <i>add</i> the following: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		P
Paragraph G.5.3.1	Transformers, General 1 Third dashed point <i>replace</i> 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 Fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		P
Annex G.7.1	Mains supply cords, General Fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'	See summary of testing.	N/A
Table G.7	Sizes of conductors 1 First column, second row, <i>delete</i> "6" and <i>replace</i> with "7.5" 2 Second column, second row, <i>delete</i> '0,75' and <i>replace</i> with '0.75 ^b 3 <i>Delete</i> NOTE 1. 4 <i>Replace</i> 'NOTE 2' with 'NOTE:'. 5 <i>Delete</i> 'Footnote b' and <i>replace</i> with the following: ^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1' 7 Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'	See summary of testing.	N/A

ATTACHMENT 5			
Clause	Requirement + Test	Result - Remark	Verdict
Annex M M 2.1	Add "IEC 60086-2" to the list		N/A
Annex M Paragraph M.3.2	Test method Delete"NOTE" and replace with "NOTE 1" After NOTE 1 <i>add</i> the following: NOTE 2: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of ES1 may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A

	Special national conditions (if any)		
6.201	External power supplies, docking stations and other similar devices For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— (a) at all ES1 outlets or connectors shall not increase by more than 10 % of the output rated voltage under normal operating conditions, measured after 3 s of introducing a single fault condition and after 3 s of introducing abnormal operating conditions; and (b) of a USB outlet or connector shall not increase by more than 3 V or 10 % of the output rated voltage under normal operating conditions, whichever is higher, measured after 3 seconds of introducing a single fault condition and after 3 s of introducing abnormal operating conditions For equipment with multiple rated voltages at the output, the requirements apply with the equipment configured for each output rated voltage in turn NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. The 3 s measurement delay is based on IEC document 108/742/INF, <i>TC 108, Standards Interpretation Panel Question 15 — Output voltage</i> , in relation to similar requirements in IEC 62368-3:2017.	See table Annex Q.1.	P

ATTACHMENT 5			
Clause	Requirement + Test	Result - Remark	Verdict
	Conformity shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single fault conditions of Annex B.4.		
8.6.201	Restraining device fixing point Freestanding-capable MS2 and MS3 television sets and display devices shall be provided with a fixing point to facilitate the anchoring of the equipment from toppling The fixing point shall conform to Clause 8.7 where the fixing point uses a wall, ceiling or other structure mount. Alternatively, the fixing point shall be capable of withstanding a pull equal to the mass of the equipment in all directions without damage Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point		N/A
8.6.202	Restraining device MS2 and MS3 television sets and display devices shall be provided with a restraining device and associated hardware to attach to the television set or display device. The restraining device shall be capable of withstanding a pull equal to the mass of the equipment in all directions. Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point.		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT AS_NZS_3112:2017_+A1:2021 Appendix J AUSTRALIAN / NEW ZEALAND NATIONAL DIFFERENCES (Approval and test specification—Plugs and socket-outlets)			
Differences according to.....: AS_NZS_3112:2017_Amendment 1:2021_Appendix J			
TRF template used:.....: IEC EE OD-2020-F3, Ed. 1.1			
Attachment Form No.: AS_NZS_3112:2017_Appendix J			
Attachment Originator.....: JAS-ANZ			
Master Attachment.....: 2022-06			
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	Note: AS/NZS 3112 is NOT covered by IECEE Accreditation for Testing / Reporting Please State Laboratory Accreditation for this Standard		
	Accreditation		
	Accreditation Stamp		

J1 SCOPE	General: This Appendix specifies additional dimensional and constructional requirements for detachable plug portions, or equipment incorporating integral supply pins or equipment incorporating detachable plug portions. This Appendix shall be read in conjunction with Section 2_of this Standard. For the purposes of this Appendix, where the term 'plug' is used in Section 2 it shall be taken to mean the plug portion of equipment or the detachable plug portion. The equipment shall comply with the relevant product Standard. The tests and requirements specified in this Appendix are in addition to any test and requirements of the relevant product Standard for the equipment. (AS/NZS 3112:2017/A1:2021) See summary of testing.	N/A
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J2	DEFINITION	N/A
J2.1	Detachable plug portion A plug portion that is detachable from the equipment and with connections including the following standardized outputs and other contacts (a) Type A (see Figure J1): A detachable plug portion with a connection intended for plugging directly into equipment. The connection being via the equipment group 1 appliance inlet within the scope of AS/NZS 60320.1. (b) Type B (see Figure J2): A detachable plug portion with a non-standardized connection intended for plugging directly into equipment	N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	(c) Type C (see Figure J3): A detachable plug portion with a connection intended for use with an adaptor connected to a flexible cord so as to replicate a supply plug and flexible cord configuration. The connection being via a group 1 appliance outlet within scope of AS/NZS 60320.2.2, which is integral with the plug portion (AS/NZS 3112:2017)		
J2.2	Integral plug portion A plug portion that is integral to the equipment enclosure and is not detachable (AS/NZS 3112:2017)		N/A
J2.3	Plug portion A plug portion is that portion of equipment with pins for insertion into a socket-outlet, including the plug pins, terminals of the plug pins, external dimensions of the 'maximum projection' and any connections of a detachable plug portion. (AS/NZS 3112:2017/A1:2021)		N/A

J3	REQUIREMENTS FOR THE PLUG PORTION		N/A
J3.1	General The following provisions apply to the dimensional and constructional requirements of plug portions of equipment and any detachable connection between the plug portion and the equipment:		N/A
(a)	For detachable plug portions intended for connection to the equipment in multiple orientations, the relevant tests are performed in the most onerous orientation.		N/A
(b)	For Type A detachable plug portion, the relevant requirements of AS/NZS 3105:2014 are applicable, in addition to conformance with relevant clauses of this Appendix		N/A
(c)	For Type B detachable plug portions, the conformance is shown by the relevant clauses of this Appendix.		N/A
(d)	For Type C detachable plug portions, conformance is shown by assessment to Section 2 of this Standard (plugs) and relevant clauses of this Appendix (AS/NZS 3112:2017)		N/A

J3.2	Plug pins of plug portions The requirements of Clause 2.2 are applicable for plug pins.	N/A
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2.2	PLUG PINS		N/A
2.2.1	Current carrying parts of plug pins of metal having sufficient mechanical strength, electrical conductivity and resistance to corrosion adequate for the intended use		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	Plug pin material?		—
2.2.3	Plug pins adequately proportioned throughout and portion adjacent to the connection designed to not introduce a stress concentration which may lead to a fracture of the pin, and suitably shaped to prevent abrasion or cutting of conductor strands due to flexure in normal use		N/A
	Exposed ends of plug pins have a lead-in, bevel or radius to facilitate entry into socket-outlets and to operate shutters		N/A
	Flat-pins with the following profile are deemed to comply:		—
(a)	Flat-pins with a radius on the end with side bevels may have a width and thickness profile as specified in Figure 2.1(h)		N/A
(b)	Flat-pins square on the end with corner and side bevels may have a width and thickness profile as specified in Figure 2.1(i)		N/A
(c)	Flat-pins square on the end with corner bevels and a radius on the sides may have a width and thickness profile as specified in Figure 2.1(j)		N/A
	Contact portion of the pins smooth and free from openings or indentations		N/A
	Flat pin plugs having a longitudinal seam or opening in the contact portion of one face; width not exceeding 0.3 mm and		N/A
	Thickness not exceeding 1.58 mm		N/A
	Exposed portion of earthing pins and pins other than insulated pins free from any non-metallic coverings or coatings (AS/NZS 3112:2017)		N/A
2.2.4	Live parts of insulated pin plugs not exposed when plug is partially or fully engaged with associated socket		N/A
	Compliance by measurement to Figure 2.4		N/A
	Lacquer, enamel or sprayed insulating coating not considered to be insulation material		N/A
	All live pins on low voltage plugs except for those shown in Figure 2.1 (a2), (b) and (g) of the insulated pin type		N/A
	Colour green or green / yellow not used for insulation of insulated pins (AS/NZS 3112:2017)		N/A
J3.3	Ratings and dimensions for low-voltage plug portions Requirements of clauses 2.8.1 and 2.8.4 apply for rating and dimensions		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
2.8	Ratings and Dimensions of Low Voltage Plugs		—
2.8.1	Plugs with ratings up to and including 20A; shall conform to the appropriate dimensions shown in Figure 2.1		N/A
	Rating of plug	___A	—
	Nominal dimensions covering disposition of pins checked by gauge of Appendix A		N/A
	Distance between live pin and edge of moulding to not less than 9 mm		N/A
	Measured distance	___mm	—
	No point on plug face protrudes more than 0.5 mm		N/A
	Measured protrusion	___mm	—
	Dimensional requirements of Figure 2.1(e2) did not applied to plugs with greater than three pins (AS/NZS 3112:2017)		N/A
2.8.4	Low voltage plugs comply with dimensions of Figure 2.1		N/A
	Disposition of pins checked by gauge complying with Appendix A, B or F as appropriate		N/A
	Low voltage plug having rating up to 15A and of the Figure 2.1 (a1), (c), (d), (f) or (g) type; comply with dimensional requirements of Figure 2.1 (e1 and e2)		N/A
	20A plug of Figure 2.1(a2) type complies with dimensional requirements of Figure 2.1 (e2)		N/A
	Plugs with insulated pins need not comply with dimension $R20.0 \pm 1$ mm requirement of Figure 2.1 (e3) provided there is at least 9mm from the edge of the live pins to the edge of the plug face Figure 2.1(e3). (AS/NZS 3112:2017)		N/A

J3.4	Internal connections for plug portions Requirements of clause 2.9 apply for internal connections; unless requirements contained in the relevant product standard (AS/NZS 3112:2017)	N/A
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2.9	INTERNAL CONNECTIONS		N/A
	Plug provided with earthing connections designed and constructed so that when plug is correctly wired and assembled:		N/A
(a)	Loose terminal screw or conductive material cannot bridge any live or earthed parts		N/A
(b)	Earthing parts effectively isolated from contact with live conductor which may become detached		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
(c)	Live parts effectively isolated from contact with any earthing conductor which may become detached		N/A
	Any connections for auxiliary devices comply with above requirements (AS/NZS 3112:2017)		N/A
J3.5	Arrangement of earthing connections for plug portions Requirements of clause 2.10 apply for arrangement of earthing connections		N/A
2.10	Arrangement of earthing connections		N/A
	Earthing pin radial to the circle embracing the pins (AS/NZS 3112:2017)		N/A
J3.6	Configuration of plug portions Requirements of clause 2.12.6 apply for configuration of the plug portion (AS/NZS 3112:2017)		N/A
2.12	Marking		—
2.12.6	Configuration of plugs		N/A
	Pins disposed so that configuration, as viewed from the pins, is earth, neutral and active in a clockwise direction		N/A
	Where there is no earthing pin; live pins conform to this configuration (AS/NZS 3112:2017)		N/A
J4	Tests		N/A
J4.1	General Plug portions of equipment shall be subjected to the following tests and unless stated otherwise, shall comply with the requirements specified in Section 2_for each test. The number of test samples shall be in accordance with Table J1 For equipment with a detachable plug portion, the assessment(s) of Table J1 tests 2, 3, 5, 10 and 11 shall be conducted on the— (a) assembled equipment with the detachable plug portion connected; and (b) the detachable plug portion after it has been separated from the equipment (AS/NZS 3112:2017/A1:2021)		N/A
J4.2	High voltage test The requirements of Clause 2.13.3_are applicable unless requirements are contained in the relevant product standard		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	(AS/NZS 3112:2017)		
2.13.3	Test No.1 - High voltage test		N/A
	Plug withstands without failure electric strength test as specified (AS/NZS 3112:2017)		N/A

J4.3	Mechanical strength		N/A
J4.3.1	Tumbling barrel test The tumbling barrel test is applied to determine the mechanical strength of the plug portions and equipment having integral or detachable plug portions. For equipment with a detachable plug portion, the detachable plug portion may become detached during the test. If this occurs the detachable plug portion shall be reassembled with the equipment when the pins are straightened as per (a) and (b) below. Three samples (Samples BCD in Table J1) that have not been subjected to any previous test are tested as specified in <u>Clause 2.13.7.1</u> , however the test is modified as follows:		N/A
	They are tested in a tumbling barrel as described in AS 60068.2.32 or test Free fall repeated – Procedure 2 in IEC 60068-2.31. The samples shall be dropped from a height of 500 mm onto a steel plate, 3 mm thick. The barrel shall be turned at a rate of 5 r/min, to yield 10 falls per minute. Only one sample shall be tested at a time. A sample is dropped— (a) 500 times if the mass of the specimen does not exceed 250 g. The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of <u>Figure A1</u> , <u>Figure B1</u> or <u>Figure F1</u> ; and (b) 250 times if the mass of the specimen exceeds 250 g. The pins being straightened after each 25 drops and at the completion of the test to pass through the appropriate gauge of <u>Figures A1</u> , <u>Figure B1</u> or <u>Figure F1</u> . (AS/NZS 3112:2017/A1:2021)		N/A
	Mass of sample	_____ Grams	N/A
	Number of drops	500 / 250	N/A
	Compliance shall be checked by <u>Paragraph J4.3.3</u>		N/A

J4.3.2	Test No.3 Impact test. Plug portions and equipment having integral plug portions or detachable plug portions shall withstand lateral impact forces. All samples that were subjected to the tests in <u>Paragraph J4.3.1</u> (Samples BCD in Table J1) shall be tested as follows:		N/A
	(a) The sample shall be positioned at the centre of a steel plate with a thickness of at least 6 mm. Apertures in the steel plate for the plug pins to pass through shall conform to the corresponding		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	socket Standard. The sample shall be held against the steel plate by clamping all the pins.		
	(b) Samples shall be subjected to blows, with an impact energy of 1.0 ± 0.05 J by any means having the same performance as the spring-operated impact-test apparatus of AS/NZS 3100.		N/A
	(c) Three blows shall be applied to every point that is most likely to directly or indirectly stress the enclosure joints of the sample		N/A
	Compliance shall be checked by <u>Paragraph J4.3.3</u>		N/A
J4.3.3	Specific compliance criteria This Paragraph provides the common compliance assessment criteria for tests specified in Paragraphs <u>J4.3.1</u> and <u>J4.3.2</u> .		N/A
	Following each test, the samples shall comply with <u>Clause 2.13.7.1</u>		N/A
(a)	assembled equipment with the detachable plug portion connected;		N/A
	After the test, samples show no damage		N/A
(b)	the detachable plug portion after it has been separated from the equipment.		N/A
	After the test, samples show no damage		N/A
4.3.4	Pin bending test The pins of the plug portion of three samples (Samples EFG in Table J1) not subjected to any previous tests shall be tested for compliance with the pin bending test of <u>Clause 2.13.7.2</u> (AS/NZS 3112:2017/A1:2021)		N/A
2.13.7.2	Test No.4 – Pin bending test		N/A
	All flat-pin plugs rated up to and including 15 A shall be subjected to the pin bending test		N/A
	Three samples are subjected by clamping the plug in a rigid holding block and applying the bending force as specified		N/A
	After the test the pins shall not be broken off. (AS/NZS 3112:2017)		N/A
J4.8.3	Test No.5 Plug portion detachment requirements		N/A
	For all Type B or C devices and for Type A devices where the outlet of the detachable plug portion is parallel to the plug supply pins, disengagement of the detachable plug portion from the equipment shall require at least two simultaneous independent actions or the use of a tool.		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	The plug portion and the equipment/adaptor shall be connected and disconnected 50 times (100 strokes).		N/A
	Compliance is verified by the plugging test, a force which, over a period of 10 s, shall be increased steadily to 60 ± 0.6 N and held at this value for a further 10 s, shall be applied evenly at the connecting equipment in a direction parallel to the pins. This procedure shall be conducted three times on the same plug portion, at intervals of 5 min, without disturbing the plug portions between tests		N/A
	During the test the plug portion shall not separate		N/A
	The test of AS/NZS 3112 'temperature rise test' for plugs shall be conducted immediately after the above test without disturbing the sample. Test No 6 Temperature Rise test J4.4 (AS/NZS 3112:2017/A1:2021)		N/A

J4.4	Temperature rise test The relevant requirements of <u>Clause 2.13.8</u> are applicable for the temperature rise test, except that the test current shall be that specified in the relevant product standard		N/A
	The temperature rise of the pins shall not exceed 45 K irrespective of the temperature rise of parts specified in end-product standards.		N/A
	For detachable plug portions the temperature rise of terminals and contacts shall not exceed 45 K. (AS/NZS 3112:2017)		N/A

2.13.8	Test No.6 – Temperature rise test		N/A
	Plug tested in draught free environment as specified using clamping units as specified in Figure 2.10		N/A
	Test Current Relevant Product Standard	_____ Amps _____ (Standard?)	N/A
	Temperature of terminals and contacts of detachable plug portion not exceeding 45 K (AS/NZS 3112:2017)		N/A

J4.5	Securement of pins of the plug portion The requirements of <u>Clause 2.13.9</u> are applicable for the securement of pins. (AS/NZS 3112:2017)		N/A
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2.13.9	Test No.7. Securement of pins		N/A
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ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
2.13.9.1	Movement of pins		N/A
	Plug pins clamped 5 ± 0.5 mm from pin face; test equipment and sample pre-conditioning for 1 h at $40 \pm 1^\circ\text{C}$		N/A
	Force of 18 ± 1 N applied to pin 14 ± 0.5 mm from plug face; applied gradually over 10 s and maintained for 10 s; applied in four directions		N/A
	Maximum deflection during test not exceeding 2.0 mm		N/A
	Any distortion 5 minutes after test does not prevent insertion of plug into standard gauge(s) (AS/NZS 3112:2017 + A1:2021)		N/A
2.13.9.2	Fixing of pins		N/A
	Plug heated to $50 \pm 2^\circ\text{C}$ for 1h		N/A
	Force of 60 ± 0.6 N applied to each pin over 10 s and maintained for 10 minutes; applied in two directions along length of pin		N/A
	Maximum displacement during test not exceeding 2.4 mm		N/A
	Maximum measured displacement		—
	Pin returns to within 0.8 mm of nominal length within 5 minutes of removal of test force (AS/NZS 3112:2017)		N/A
J4.6	Tests on the insulation material of insulated pin-plug portions The requirements of <u>Clause 2.13.13</u> are applicable for insulating material of insulated plug pins. (AS/NZS 3112:2017)		N/A
2.13.13	Test No.8 Tests for insulation material of insulated pin plugs		N/A
2.13.13.1	Material of pin-insulation resistant to stresses at temperature likely to occur		N/A
2.13.13.2	Pressure test at high temperature		N/A
	Specimen tested as per Figure 2.5 with force of 2.5 N applied as specified; maintained for 2 h at $160 \pm 5^\circ\text{C}$; removed and cooled by immersion in water within 10 s		N/A
	Thickness of insulation at point of impression not reduced by more than 50%		N/A
	Initial thickness	mm	—
	Thickness after test	mm	—
	No visible cracks on insulation material		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	Dimension of insulating material not below minimum size in Figure 2.4 (AS/NZS 3112:2017)		N/A
2.13.13.3	Static damp heat test		N/A
	Specimen subjected to two damp heat cycles in accordance with AS 60068.2.30; Db (12 + 12h), 95% RH, 25 ± 3°C; 40°C		N/A
	After this treatment and recovery to room temperature; specimen subjected to:		N/A
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)		N/A
(b)	High voltage test in accordance with clause 2.13.3		N/A
(c)	Abrasion test in accordance with clause 2.13.13.6		N/A
2.13.13.4	Low temperature test		N/A
	Plug maintained at -15 ± 2°C for minimum of 24 h and returned to room temperature; after which specimen subjected to:		N/A
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)		N/A
(b)	High voltage test in accordance with clause 2.13.3		N/A
(c)	Abrasion test in accordance with clause 2.13.13.6		N/A
2.13.13.5	Impact test at low temperature		N/A
	Specimen maintained at -15 ± 2°C for 24 h		N/A
	Specimen placed in position and subjected to impact test as per Figure 2.6; mass of 100 ± 1 g falling through 100 mm		N/A
	Four impacts applied; specimen rotated through 90° between impacts		N/A
	After return to room temperature; no visible cracks of insulating material		N/A
2.13.13.6	Abrasion test		N/A
	Plug held in clamp and tested as per Figure 2.7; pin loaded at 4 N; 20 000 movements		N/A
	After test; pins show no damage affecting safety or impairing further use of the plug		N/A
	Insulating sleeve not punctured or rucked up (AS/NZS 3112:2017)		N/A
J4.7	Test no.9 Equipment with a plug portion intended to be supported by the contacts of a socket-outlet		N/A
	Equipment with pins intended to be introduced into fixed socket-outlets not imposing undue strain on socket-outlet		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	Applied torque not exceeding 0.25 Nm		N/A
	Measured torque (AS/NZS 3112:2017)	Nm	—

J4.8	Additional requirements for detachable plug portions		N/A
J4.8.1	Test no.10 Access to live parts		N/A
	Small test finger of Figure 13 of IEC 61032 was not possible to contact live parts with the force of 20N		N/A
	incorrectly assemble the plug portion was not possible (AS/NZS 3112:2017)		N/A

J4.8.2	Test No.11 Construction of detachable contacts where the input current of the equipment exceeds 0.2 A		N/A
	Contacts of the equipment shall be such that they make and maintain, under normal service conditions, satisfactory electrical and mechanical contact with the corresponding contact of the detachable plug portion.		N/A
	For connections intended to accommodate pins, contact shall be made on two surfaces diametrically opposite, except if a single spring-assisted contact is used. (AS/NZS 3112:2017/A1:2021)		N/A
	Contacts shall not rely exclusively on the resilience of the contact material and shall have an opposite face of material other than thermoplastic or resilient insulating material. (AS/NZS 3112:2017/ A1:2021)		N/A
	The alignment and contact-making properties of contacts shall be independent of terminal screws		N/A
	The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding.		N/A
	A visual inspection is conducted to determine the existence of interference between the metal contacts and the thermoplastic or resilient moulding to provide supplementary contact pressure to the metal contacts.		N/A
	Conformance of the effectiveness of the contacts is checked by inspection and by the inspection and tests in J4.8.3 (AS/NZS 3112:2017)		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
J4.8.4	Resistance of insulating material to heat and fire		N/A
J4.8.4.1	Test no.12 Resistance to heat For Type B detachable plug portions parts of non-metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this Standard.		N/A
	Ball pressure test conducted in accordance with IEC 60695-10-2		N/A
(a)	75°C ± 2°C, for external parts;		N/A
(b)	125°C ± 2°C, for parts supporting live parts.		N/A

J4.8.4.2	Test no.13 Resistance to fire		N/A
	Plug portions comply with resistance to fire requirements of AS/NZS 3100 as follows:		N/A
	The glow wire test temperature 'T' for 'retaining parts' of fixed socket outlets shall be 750 C (AS/NZS 3112:2017)		N/A

TABLES OF RESULTS

2.2.4	TABLE: Dimensions of insulation on insulated pin plugs		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase pin			8.7 ± 0.5
Neutral pin			8.7 ± 0.5

2.8.1	TABLE: Dimensions of plugs- 10A (a1)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)			6.35 ± 0.15
Earth pin width (B)			6.35 ± 0.15
Pin thickness (C)			1.63 + 0.15, -0.05
Pin disposition (D)			checked by test gauge
Pin disposition (E)			checked by test gauge
Phase and neutral pin length (F)			17.06 ± 0.4
Earth pin length (G)			19.94 ± 0.8
Pin boss radius - maximum			21.0 max
Pin boss height			8.6 min

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
2.8.1	TABLE: Dimensions of plugs- 15A (a1)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)			6.35 ± 0.15
Earth pin width (B)			9.08 ± 0.15
Pin thickness (C)			$1.63 + 0.15, -0.05$
Pin disposition (D)			checked by test gauge
Pin disposition (E)			checked by test gauge
Phase and neutral pin length (F)			17.06 ± 0.4
Earth pin length (G)			19.94 ± 0.8
Pin boss radius - maximum			21.0 max
Pin boss height			8.6 min

2.8.1	TABLE: Dimensions of plugs-20A (a2)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)			9.08 ± 0.15
Earth pin width (B)			9.08 ± 0.15
Pin thickness (C)			$1.63 + 0.15, -0.05$
Pin disposition (D)			checked by test gauge
Pin disposition (E)			checked by test gauge
Phase and neutral pin length (F)			17.06 ± 0.4
Earth pin length (G)			19.94 ± 0.8
Pin boss radius - maximum			21.0 max
Pin boss height			8.6 min

2.8.1	TABLE: Projection from plug face centroid		N/A
Direction of projection		Measured (mm)	Allowed (mm)
Left			≤ 21.9 or ≥ 27.0
Right			≤ 21.9 or ≥ 27.0
Up			≤ 21.9 or ≥ 27.0
Down			≤ 21.9 or ≥ 27.0

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
2.13.3	TABLE: Test No. 1 – High voltage test		N/A
Test voltage applied between:		Test voltage (V)	Breakdown
All poles of the plug; taken in pairs		1000	Yes / No
Live poles of the plug and any external metal		3500	Yes / No
Live poles of the plug and the earthing terminal		1000	Yes / No
Live poles of the plug and a flexible electrode		3500	Yes / No
Live poles and metal foil applied around insulation on pins		1250	Yes / No

2.13.7.1	Test No.2 – Tumbling barrel test		N/A
	Following the test, the samples shall comply with <u>Clause 2.13.7.1(a..e)</u>		N/A
	(a) Live parts shall not have become exposed to the standard test finger		N/A
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained. AS/NZS 3100 Cl 8.5 The resistance shall not exceed 0.1 Ω	___ Ω .	N/A
	(c) Any other function affecting safety shall not be impaired		N/A
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created (see Clause 2.9)		N/A
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking		N/A

	Test No.3 Impact test for assembled equipment with the detachable plug portion connected and for equipment with an integral plug portion.		N/A
	Following the test, the samples shall comply with <u>Clause 2.13.7.1 (a..e)</u> as follows:		N/A
	(a) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1 Ω	___ Ω .	N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	(c) Any other function affecting safety shall not be impaired		N/A
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created		N/A
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		N/A
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		N/A
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		N/A
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.		N/A
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.		N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100:CI 5.2.2 as follows:		N/A
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A

	Test No.3 Impact test for the detachable plug portion after it has been separated from the equipment		N/A
	Following the test, the samples shall comply with <u>Clause 2.13.7.1 (a..e)</u>		N/A
	(a) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1 Ω	___ Ω .	N/A
	(c) Any other function affecting safety shall not be impaired		N/A
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created		N/A
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		N/A
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		N/A
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.		N/A
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.		N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100.CI 5.2.2 as follows:		N/A

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A

2.13.8	TABLE: Test No. 6 - Temperature rise test		N/A
	Ambient temperature	°C	—
	Test current	A	—
Measured part		dT measured (K)	dT allowed (K)
Active (phase) terminal			45
Neutral terminal			45
Earthing terminal			45

2.13.9.1	TABLE: Movement of pins		N/A
	Earth and neutral pins clamped – phase pin loaded		—
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force towards neutral plane parallel to pin plane			2.0
Force from neutral plane parallel to pin plane			2.0
Force outwards at 90° to pin plane			2.0
Force inwards at 90° to pin plane			2.0

2.13.9.1	TABLE: Movement of pins		N/A
	Phase and neutral pins clamped – earth pin loaded		—
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force inwards parallel to pin plane			2.0
Force outwards parallel to pin plane			2.0
Force towards neutral			2.0
Force towards phase			2.0

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
2.13.9.1	TABLE: Movement of pins		N/A
	Phase and earth pins clamped – neutral pin loaded		—
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force towards phase plane parallel to pin plane			2.0
Force from phase plane parallel to pin plane			2.0
Force outwards at 90° to pin plane			2.0
Force inwards at 90° to pin plane			2.0
2.13.13.3	TABLE: Test No.13(b) – Insulation resistance test after static damp heat test		N/A
Applied between:		Insulation resistance (MΩ)	Minimum required (MΩ)
Live poles and metal foil applied around insulation on pins			5
2.13.13.3	TABLE: Test No.1 – High voltage test after static damp heat test		N/A
Test voltage applied between:		Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins		1250	Yes / No
2.13.13.4	TABLE: Test No.1 – Insulation resistance test after low temperature test		N/A
Applied between:		Insulation resistance (MΩ)	Minimum required (MΩ)
Live poles and metal foil applied around insulation on pins			5
2.13.13.4	TABLE: Test No.1 – High voltage test after low temperature test		N/A
Test voltage applied between:		Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins		1250	Yes / No
J4.8.4.1	TABLE: Test no.12 Resistance to heat		N/A
Component tested		Temperature (°C)	Diameter of impression (mm)

Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2.

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
J4.8.4.2	TABLE: Test no.13 Resistance to Fire		N/A
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100:2017 Annex A. The glow-wire test temperature 'T' shall be 750 °C.		N/A

Glow-wire testing was conducted in accordance with IEC 60695-2-10 and IEC 60695-2-11.

Test specimens arranged so that the surface in contact with the tip of the glow-wire was vertical and glow wire tip applied to surface of the specimen likely to be subjected to thermal stresses in normal use.

A layer of white pine board and wrapping tissue was placed beneath the sample at 200 mm ± 5 mm distance.

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J								
SPECIMEN NUMBER	1	2	3	4	5	6	7	8
Ignition of wrapping tissue layer (not permitted)								
RESULTS If parts tested withstand the glow-wire test, but during the test produce a flame that persists for longer than 2 s, then the consequential needle flame test of AS/NZS 3100:2017 Annex A 6.1.5 applies.								

LEGEND: CE Complete Equipment SA Sub Assembly SE Self Extinguished
 EBD Emitted Burning Droplets SBD Specimen Burned and Distorted SMD Specimen Melted and Distorted
 ME Manually Extinguished SC Separate Component SS Specimen Scorched
 NA Not Applicable SCC Specimen Completely Consumed WPNI Wall Penetrated but no Ignition
 NI No Ignition X Flame Appeared for an Instant

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J					
Clause	Requirement + Test			Result - Remark	Verdict
	TABLE: Needle- flame test (NFT)				N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Supplementary information: - NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1 - NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0					

ATTACHMENT 5_AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	PHOTOGRAPHS		

ATTACHMENT 6			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1:2018 CHINA NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment -Part 1: Safety requirements)			
Differences according to..... : GB 4943.1-2022			
TRF template used:..... : IEC EE OD-2020-F3, Ed. 1.1			
Attachment Form No. : CN_ND_IEC62368_1E			
Attachment Originator : CQC			
Master Attachment : Dated 2022-12-01			
Copyright © 2020 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		
4.1.2	Use of components Add a paragraph: A component used shall comply with related requirements corresponding altitude of the equipment.	Considered.	P
4.11	Add clause 4.11,as follows: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except the device shall meet the all requirement of Fault conditions. If pluggable equipment type B or permanently connected equipment depends on protective devices outside the equipment for protection, this shall be stated in the installation instructions of the equipment, with requirements for short-circuit protection, over-current protection ,or both if necessary.	Class II equipment	N/A
5.3.2.2	Contact requirements Amend the 2 nd paragraph of table 8 to be: For equipment intended to be used at altitude of 2000m to 5000m, the values in this table are multiplied by the multiplication factor corresponding altitude of 5000m.	Considered.	P

ATTACHMENT 6			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.5	Multiplication factors for altitudes higher than 2 000 m above sea level Amend the 1st paragraph to be: For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE in tables 10,11 and 14, and resistance test voltages required in table 15, shall meet the requirements of 5000 m above sea level, This is multiplied by the multiplication factor corresponding altitude of 5000m in table 16. For equipment to be used at equal or less than 2000 m above sea level, the minimum CLEARANCE in tables 10, 11 and 14, and resistance test voltages required in table 15, shall meet the requirements of 2000 m above sea level. This is multiplied by the multiplication factor corresponding altitude of 2000m in table 16. Delete note 2 of Clause 5.4.2.5.	Considered.	P
5.4.5.1	General Delete the 2nd paragraph of Clause 5.4.5.1: This test does not apply to equipment where one antenna terminal on the equipment is connected to earth in accordance with 5.6.7. Add the following: The Insulation resistance between CATV antenna coaxial sockets and protective earth of apparatus shall comply with BASIC INSULATION. If it's possible that CLASS II apparatus with CATV antenna coaxial sockets connect with protective earth of another CLASS I apparatus by other terminals, the insulation resistance between them shall comply with BASIC INSULATION as well. If antenna cable separated from the protective earth before connection to the apparatus, there is no requirements of Insulation resistance between them but F.4 requirements shall be meet. Delete "NOTE" of Clause 5.4.5.1		N/A

ATTACHMENT 6			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.8	Humidity conditioning Amend clause 5.4.8 as follows : The humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature (40±2) °C and a relative humidity of (93±3)%. During this conditioning, the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of (93±3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered. Pre-processing conditions and requirements below 2000m can be used until additional data is available.		P
6.4.9 Y.4.3	Delete references to ASTM and NEMA.		P
6.5.1	General requirements Delete the text of the Note "Wire complying with UL 2556 VW-1 is considered to comply with these requirements".	Internal wires complied with IEC 60695-11-21.	P
F.1	Amend the second paragraph of annex F.1 to be: Unless symbols are used or otherwise specified, safety related equipment markings, instructions, and instructional safeguards shall be in normative Chinese.		P

ATTACHMENT 6			
Clause	Requirement + Test	Result - Remark	Verdict
F.2.2	After the first paragraph of annex F.2.2 ,add the following: For apparatus intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording or a symbol shown below shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m."  For apparatus intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording or a symbol shown below shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only symbol used, the explanation of the symbol shall be contained in the instruction manual. The statements above shall be given in a language acceptable to the regions where the apparatus is intended to be used.		N/A
F.3.3.4	After the last paragraph, Added: ...for single rated voltage, "220 V" or three-phase "380V" shall be marked only. For a rating voltage range, 220 V or three-phase 380V shall be covered. For multiple rated voltages, one of them shall be 220 V or three-phase 380V and which default setting from manufacture shall be 220 V or three-phase 380V as well.		N/A
F.3.3.5	After the last paragraph, Added: Rated frequency shall be 50Hz or frequency range shall cover 50Hz.	The rated frequency of the equipment covers 50 Hz.	P
F.4	Instructions Added: – For apparatus incorporating antenna coaxial sockets which is non-separated with CATV network, a warning wording or a similar shall be given in the instruction manual: "A CATV cable intended to be connected to apparatus shall be separated with the protective earth of the apparatus, otherwise fire hazard might be caused."		N/A
F.5	Instructional safeguards In table F.2 , change 230V to 220V, change 400Y/230V 3Ø to 380 Y/220 V 3Ø		N/A

ATTACHMENT 6			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	Amend clause G.4.2 as follows : Plugs connected to the MAINS in apparatus shall comply with GB/T 1002,GB/T 1003,GB/T 2099.1 or GB/T11918 (All parts) series. Appliance coupler shall comply with GB/T 17465 (All parts) series or GB/T 11918 (All parts) series.		P
	Special national conditions (if any)		
0.12	Add clause 0.12 Description of relevant information.		P
1	GB 4943.1-2022 applies to equipment used at altitudes not exceeding 5000m above sea level, For apparatus intended to be used at altitude not exceeding 2000m, The requirements can be appropriately reduced, but warning instructions shall be provided.. Revise the sixth paragraph of 1 as: In addition to specified by the manufacturer, this document assumes a maximum altitude of 5000m	See summary of testing.	N/A
B.2.6.1	Amend T_{ma} as follows: T_{ma} is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, T_{ma} is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration. temperature test conditions and temperature limits below 2000m can be used until additional data is available.		P
Annex Z (normative)	Added annex Z: Instructions of the new safety warning labels.		N/A
Annex AA (informative)	Added annex AA: Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighur.		P

ATTACHMENT 7			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1:2018 JAPAN NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements			
Differences according to : J62368-1(2023)			
TRF template used: : IECEE OD-2020-F3:2022, Ed. 1.2			
Attachment Form No. : JP_ND_IEC62368_1E			
Attachment Originator : UL Solutions (JP)			
Master Attachment : Dated 2023-05-12			
Copyright © 2023 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this document or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.	Considered.	P
5.6.1	Mains socket-outlet and interconnection coupler shall comply with Clause G.4.2A if they are incorporated as part of the equipment.		P
5.6.2.1	Connection for protective conductor of class 0I equipment provided with instructional safeguard in accordance with Clause F.3.6.1A is considered to make earlier and break later than supply connection. Mains plug having a lead wire for protective earthing connection of class 0I equipment shall comply with all of the following: – Not to be used for equipment having a rated voltage of 150 V or more – Clip is not used for the earthing connection of the lead wire. – The lead wire for earthing is at least 10 cm long If class 0I equipment provides an independent main protective earthing terminal and is intended to be installed by ordinary person, earthing wire shall be provided in the package of the equipment.	Class II equipment.	N/A

ATTACHMENT 7			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.2.2	Internal earthing conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector need not be green-and-yellow.		N/A
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm ² or more cross-sectional area		N/A
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series, JIS C 8300 or JIS C 8303, or that is provided with mains appliance outlet as specified in JIS C 8283 series for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.5	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990:2016.		N/A
6.4.3.2	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. A fuse having time/current characteristics other than those specified in IEC 60127 shall be tested with the characteristics taken into account. In case of Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”.		P
8.5.4.3.1	Only three-phase stationary equipment rated more than AC 200 V can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.3.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		P

ATTACHMENT 7			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.	No openings.	N/A
8.5.4.3.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.	No moving part.	N/A
F.3.5.1	When the mains socket-outlet is configured in accordance with JIS C 8282 series, JIS C 8300 or JIS C 8303, the assigned current or power shall be marked. If the voltage of the socket-outlet is the same as the mains voltage, the voltage need not be marked. Instructional safeguard of Class 0I equipment shall be provided with an instructional safeguard in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8300 or JIS C 8303 to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.	Class II equipment.	N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic shall be included.		P
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.2 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions shall be provided regarding the earthing connection. In addition to the above, for class 0I equipment, an instruction to connect earthing before and disconnect earthing after the connection of supply conductors shall be marked on the visible place of the main body or shall be in the text of an accompanying document.	Class II equipment,	N/A
F.3.6.2	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.	Class II symbol according to IEC 60417-5172 is applied. (See copy of marking plate)	P

ATTACHMENT 7			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.8A	Attention marking for aging deterioration of CRT television Year of manufacture, standard usage period by design according to JIS C 9921-5 and cautionary statement for possible risks of aging deterioration when used beyond the specified period shall be marked on CRT television except for industrial use CRT television.		N/A
F.4	For audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A, the instructions shall require that the external wiring connected to these terminals shall be installed by a skilled person, or shall be connected by means of ready-made leads or cords that are constructed in a way that would prevent contact with any ES3 circuit. For class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided in the package of the equipment, if the protective earthing connection is made by instructed person or skilled person, the suitable installation instruction for the protective earthing connection shall be provided.		N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.		N/A
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the applicable JIS or IEC standard in accordance with 4.1.2 or shall have equivalent or better properties. Such a protective device shall have adequate breaking (rupturing) capacity to interrupt the maximum fault current (including short-circuit current) that can flow.		P
G.4.1	This requirement does not apply to connectors covered in Clauses G.4.2 and G.4.2A.		P

ATTACHMENT 7			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	Mains connectors, mains plugs and socket-outlets shall comply with JIS C 8283 series, JIS C 8285, IEC 60309 series, JIS C 8282 series, JIS C 8300, JIS C 8303, or have equivalent or better properties. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Construction shall prevent mechanical stress not to transmit to the soldering part of appliance inlet terminal. When an equipment is rated not more than 125 V and all of the following are met, Type C14 and C18 appliance inlet complying with JIS C 8283-3 can be considered as rated 15 A. – The temperature of appliance inlet does not exceed the value specified in JIS C 8283-1 under the most unfavourable normal operating condition as specified in Clause B.2.1. – "Use only designated cord set attached in this equipment" or equivalent text is described in the operating instruction. If the cord set is not provided in the package of the equipment, suitable information regarding to the cord set is described in the operating instruction.		P
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively		N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.	Class II equipment.	N/A
G.7.2 Table G.7	Cross-sectional area of equipment rated up to and including 3 A shall be 0.75 mm ² .		P
G.7.6.1 Table G.9	The cross-sectional area of mains cords according to JIS C 3010 may comply with relevant Japanese wiring regulation. For cables other than those complying with JIS C 3662 series or JIS C 3663 series, the terminals shall be suitable for the size of the intended cables.		P

ATTACHMENT 8			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1:2018 Republic of Korea NATIONAL DIFFERENCES Audio/video, information and communication technology equipment - Part 1: Safety requirements			
Differences according to : KC 62368-1(2021-08)			
TRF template used: : IECEE OD-2020-F3, Ed. 1.2			
Attachment Form No. : KR_ND_IEC62368_1E			
Attachment Originator : KTL			
Master Attachment : 2024-09-02			
Copyright © 2024 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		
4.1.1	As of January 1, 2023, internal and external components and subassemblies that comply with IEC 60950-1 or IEC 60065 are not acceptable if those components and subassemblies mandates KC certification.	Considered	P
G.4.2	Plugs for the connection of the apparatus to the supply main shall comply with the Korean requirement (KS C 8305 or KC 60884-1 or KC 60799).		P
	Special national conditions (if any)		
Voltage	The marking of rated voltage or rated voltage range, for appliances intended to be connected to the supply mains, shall include 110 V, 220 V or 380 V.		P
Frequency	Only appliances having supply frequency of 60 Hz or a frequency range including 60 Hz are accepted.		P
Instruction	Instruction manuals and appliance marking related safety, including nameplate shall be in Korean		P

ATTACHMENT 9

WiiM Voice Remote 2 Lite, WiiM Bar Remote CB certificate



Ref. Certif. No.

SG ITS-40753M1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

CB TEST CERTIFICATE

Product

WiiM Voice Remote 2 Lite, WiiM Bar Remote

Name and address of the applicant

Linkplay Technology Inc.
3012 Scott Blvd, Santa Clara, CA 95054, United States

Name and address of the manufacturer

Linkplay Technology Inc.
3012 Scott Blvd, Santa Clara, CA 95054, United States

Name and address of the factory

Note: When more than one factory, please report on page 2

Power7 Technology (Dong Guan) Co., Ltd.
No. 28 Binjiang Street, Shishuikou Village, Qiaotou Town, Dongguan City,
GUANGDONG PROVINCE P. R. CHINA

Ratings and principal characteristics

Input: 5VDC

Trademark (if any)

WiiM

Customer's Testing Facility (CTF) Stage used

-

Model / Type Ref.

WVR003, WVR004

Additional information (if necessary may also be reported on page 2)

This certificate replaces CB Certificate No. SG ITS-40753 dated 23 September 2025 due to update the address of applicant and manufacturer, add Product Name, add model, add marking plate for model WVR004, update the National differences, add photos, add Model difference to General product information and other remarks.

Group and national differences of all CENELEC countries and National differences of United States of America (US), Canada (CA), Japan (JP), SWITZERLAND (CH) were checked.

A sample of the product was tested and found to be in conformity with

IEC 62368-1:2023

As shown in the Test Report Ref. No. which forms part of this Certificate

250819026SZN-001 Amendment 1

This CB Test Certificate is issued by the National Certification Body

Intertek Testing Services (Singapore) Pte Ltd
5, Pereira Road, #06-01
Asiawide Industrial Building
Singapore 368025

Date: 13 April 2026

intertek

Signature:

Ong Keng Chuan