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# Audio/video, information and communication technology equipment

Part 1: Safety requirements

**Report Number.....**: ZKT-2302271037S

**Date of issue.....:** Mar. 03, 2023

Total number of pages.....: 59 pages

Name of Testing Laboratory Shenzhen ZKT Technology Co., Ltd.

preparing the Report.....: 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial

Avenue, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name...... Guangzhou TOPPING Technology Co., Ltd

Address...... Rm201, 26th Jiaomen Rd, Huangge, Nansha, Guangzhou,

China.

**Test specification:** 

Standard.....: J 62368-1(2020)

Test procedure.....: IEC test report+ Japan Deviance

Non-standard test method.....: N/A

**TRF template used.....:** IECEE OD-2020-F1:2020, Ed.1.3

Test Report Form No.....: IEC62368\_1E

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

Master TRF.....: Dated 2021-02-04

Test item description....: Audio Amplifier

Trade Mark.....: TOPPING

Manufacturer.....: Same as applicant

Model/Type reference.....: TP22A,

TP22AA, TP22AB, TP22AC, TP22AD

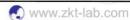
Ratings...... Input: DC 64V/4.0A

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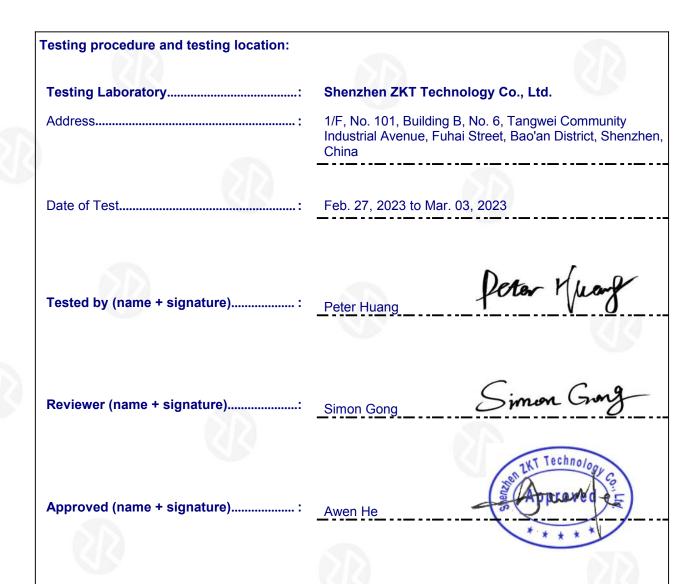






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# List of Attachments (including a total number of pages in each attachment):

Attachment I: 3 pages (National deviation)

Attachment II: 10 pages (Photo)

## **Summary of testing:**

### Tests performed (name of test and test clause):

The submitted samples were found to comply with the requirements of:

- J 62368-1(2020)

## **Testing location:**

Shenzhen ZKT Technology Co., Ltd.

1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

# 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.

Audio Amplifier Model: TP22A Input: DC 64V/4A







Manufacturer: Guangzhou TOPPING Technology Co., Ltd Address: Rm201, 26th Jiaomen Rd, Huangge, Nansha,

Guangzhou, China. Made in China

#### Notes:

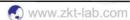
The above labels are draft of an artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.

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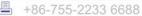


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Test item particulars:	
Product group:	
Classification of use by:	<ul><li>☑ Ordinary person</li><li>☑ Instructed person</li><li>☑ Skilled person</li></ul>
Supply connection::	•
Supply tolerance:	
Supply connection – type:	
	<ul> <li>□ permanent connection</li> <li>□ mating connector</li> <li>⋈ other: Not directly connected to the mains</li> </ul>
Considered current rating of protective device:	☐A; Location: ☐ building ☐ equipment ☑ N/A
Equipment mobility::	
Overvoltage category (OVC)::	<ul><li>○ OVC I</li><li>○ OVC II</li><li>○ OVC IV</li><li>○ other: Not directly connected to the mains</li></ul>
Class of equipment:  Special installation location:	☐ Class I ☐ Class II ☐ Class III ☐ Not classified ☐ other:
Pollution degree (PD)	☐ outdoor location☐ other:
Manufacturer's specified T <sub>ma</sub> :	35°C ☐ Outdoor: minimum°C
IP protection class:	
Power systems:	☐ TN ☐ TT ☐ IT V <sub>L-L</sub> ☐ not AC mains
Altitude during operation (m):	
Altitude of test laboratory (m):	☐ 2000 m or less ☐ <u>&lt;50</u> m
Mass of equipment (kg):	Approx. <1Kg













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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:	Feb. 27, 2023
Date (s) of performance of tests	Feb. 27, 2023 to Mar. 03, 2023
General remarks:	
"(See Enclosure #)" refers to additional informatio	n appended to the report.
"(See appended table)" refers to a table appended	to the report.
Throughout this report a □ comma / ⋈ point	is used as the decimal separator.
Manufacturer's Declaration per sub-clause 4.2.	5 of IECEE 02:
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<ul><li>☐ Yes</li><li>☒ Not applicable</li></ul>
When differences exist; they shall be identified	in the General product information section.
General product information and other remark  1. The product covered in this report is a Audio Arenclosure.  2. The manufacturer specified maximum ambient  3. Only model name are different between models	mplifier which consists circuit board and plastic temperature is 35°C.





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Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source	Body Part		Safeguards	
(e.g. ES3: Primary circuit)	(e.g. Ordinary)	В	S	R
ES2: +64Vdc input	Ordinary	N/A	N/A	Enclosure see 5.3.2
ES1:+64Vdc Audio signals	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source	Material part		Safeguards	
(e.g. PS2: 100 Watt circuit)	(e.g. Printed board)	В	S	R
PS2	РСВ	See 6.3	min. V-1	N/A
PS2	Other combustible components / materials	See 6.3	See 6.4.5, 6.4.6	N/A
7	Injury caused by hazardous	substances		
Class and Energy Source	Body Part		Safeguards	
(e.g. Ozone)	(e.g., Skilled)	В	S	R
Lithium-ion	Skilled	See Annex M	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source	Body Part		Safeguards	
(e.g. MS3: Plastic fan blades)	(e.g. Ordinary)	В	S	R
MS1: Equipment Mass	Ordinary	N/A	N/A	N/A
MS1: Sharp edges and corner	Ordinary	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source	Body Part		Safeguards	
(e.g. TS1: Keyboard caps)	(e.g., Ordinary)	В	S	R
TS1: All accessible parts	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source	Body Part		Safeguards	
(e.g. RS1: PMP sound output)	(e.g., Ordinary)	В	S	R
RS1: LED indicator light	Ordinary	N/A	N/A	N/A









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#### **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

 $\boxtimes$  ES

⊠ PS

⊠ MS

 $\boxtimes$  TS

⊠ RS

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

4	GENERAL REQUIREMENTS	277	P
		(Con appended Table 4.4.2.)	•
4.1.1	Acceptance of materials, components and subassemblies	(See appended Table 4.1.2.)	P
4.1.2	Use of components	Safeguard components are certified to IEC and/or national standards and are used correctly within their ratings.	Р
4.1.3	Equipment design and construction		Р
4.1.4	Specified ambient temperature for outdoor use (°C)		N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	Р
4.4.3	Safeguard robustness	See below	Р
4.4.3.1	General		Р
4.4.3.2	Steady force tests	(See Clause T.4)	Р
4.4.3.3	Drop tests	(See Clause T.7)	Р
4.4.3.4	Impact tests		N/A
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)	7	N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Clause T.8)	Р
4.4.3.9	Air comprising a safeguard		N/A
4.4.3.10	Accessibility, glass, safeguard effectiveness	All safeguard remains effective	Р
4.4.4	Displacement of a safeguard by an insulating liquid	77	N/A
4.4.5	Safety interlocks		N/A
4.5	Explosion		Р
4.5.1	General	(See Annex M for batteries)	Р
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	Р
	No harm by explosion during single fault conditions	(See Clause B.4)	Р
4.6	Fixing of conductors		N/A
	Fix conductors not to defeat a safeguard		N/A

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IEC 62368-1 Clause Requirement + Test Result - Remark Verdict Compliance is checked by test....: N/A 4.7 Equipment for direct insertion into mains socket-outlets N/A 4.7.2 Mains plug part complies with relevant standard...: N/A 4.7.3 Torque (Nm)....: N/A 4.8 Equipment containing coin/button cell batteries N/A 4.8.1 N/A General 4.8.2 Instructional safeguard.....: N/A 4.8.3 Battery compartment door/cover construction N/A Not such construction Open torque test N/A 4.8.4.2 Stress relief test N/A 4.8.4.3 Battery replacement test N/A 4.8.4.4 Drop test N/A 4.8.4.5 N/A Impact test 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** N/A

5	ELECTRICALLY-CAUSED INJURY		Р
5.2	Classification and limits of electrical energy source	ces	Р
5.2.2	ES1, ES2 and ES3 limits	ES2	Р
5.2.2.2	Steady-state voltage and current limits:	(See appended table 5.2)	Р
5.2.2.3	Capacitance limits:		N/A
5.2.2.4	Single pulse limits:	100	N/A
5.2.2.5	Limits for repetitive pulses:		N/A
5.2.2.6	Ringing signals		N/A
5.2.2.7	Audio signals	(See Clause E.1)	Р
5.3	Protection against electrical energy sources		Р
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See below.	Р
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	ES2	Р

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4.10.1

4.10.2





**Disconnect Device** 

Switches and relays

N/A

N/A





IEC 62368-1 Result - Remark Verdict Clause Requirement + Test 5.3.1 b) Skilled persons not unintentional contact ES3 bare N/A conductors Accessibility to electrical energy sources and Р 5.3.2.1 safequards Accessibility to outdoor equipment bare parts N/A 5.3.2.2 Р Contact requirements Test with test probe from Annex V Figure V.3 can't contact any bare internal conductive part 5.3.2.2 a) Air gap – electric strength test potential (V).....: N/A 5.3.2.2 b) Air gap – distance (mm) .....: N/A 5.3.2.3 N/A Compliance 5.3.2.4 Р Terminals for connecting stripped wire Audio signals ES1 5.4 N/A Insulation materials and requirements 5.4.1.2 Properties of insulating material N/A 5.4.1.3 Material is non-hygroscopic N/A 5.4.1.4 N/A Maximum operating temperature for insulating materials....: 5.4.1.5 N/A Pollution degrees :: 5.4.1.5.2 Test for pollution degree 1 environment and for an N/A insulating compound 5.4.1.5.3 N/A Thermal cycling test 5.4.1.6 Insulation in transformers with varying dimensions N/A 5.4.1.7 Insulation in circuits generating starting pulses N/A 5.4.1.8 N/A Determination of working voltage....: 5.4.1.9 Insulating surfaces N/A 5.4.1.10 N/A Thermoplastic parts on which conductive metallic parts are directly mounted Vicat test....: 5.4.1.10.2 N/A 5.4.1.10.3 Ball pressure test....: N/A 5.4.2 Clearances N/A 5.4.2.1 General requirements N/A N/A Clearances in circuits connected to AC Mains, Alternative method 5.4.2.2 Procedure 1 for determining clearance N/A Temporary overvoltage .....: 5.4.2.3 Procedure 2 for determining clearance N/A 5.4.2.3.2.2 a.c. mains transient voltage.....:

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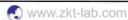
IEC 62368-1 Requirement + Test Result - Remark Verdict Clause 5.4.2.3.2.3 d.c. mains transient voltage .....: 5.4.2.3.2.4 External circuit transient voltage....: 5.4.2.3.2.5 Transient voltage determined by measurement.....: 5.4.2.4 Determining the adequacy of a clearance using an N/A electric strength test .....: 5.4.2.5 Multiplication factors for clearances and test voltages N/A ..... 5.4.2.6 N/A Clearance measurement....: 5.4.3 N/A Creepage distances 5.4.3.1 General N/A 5.4.3.3 Material group....: 5.4.3.4 N/A Creepage distances measurement.....: 5.4.4 Solid insulation N/A 5.4.4.1 N/A General requirements 5.4.4.2 Minimum distance through insulation .....: N/A 5.4.4.3 Insulating compound forming solid insulation N/A 5.4.4.4 Solid insulation in semiconductor devices N/A 5.4.4.5 Insulating compound forming cemented joints N/A 5.4.4.6 N/A Thin sheet material 5.4.4.6.1 General requirements N/A 5.4.4.6.2 Separable thin sheet material N/A N/A Number of layers (pcs) .....: 5.4.4.6.3 Non-separable thin sheet material N/A N/A Number of layers (pcs) .....: 5.4.4.6.4 Standard test procedure for non-separable thin N/A sheet material....: 5.4.4.6.5 N/A Mandrel test 5.4.4.7 Solid insulation in wound components N/A 5.4.4.9 Solid insulation at frequencies >30 kHz, E<sub>P</sub>, K<sub>R</sub>, d, N/A  $V_{PW}(V)$ ...: Alternative by electric strength test, tested voltage N/A (V), K<sub>R</sub>....: 5.4.5 Antenna terminal insulation N/A 5.4.5.1 N/A General 5.4.5.2 N/A Voltage surge test 5.4.5.3 N/A Insulation resistance (M $\Omega$ ).....:

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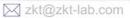


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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test:	(4)	N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	200	N/A
	Relative humidity (%), temperature (°C), duration (h):	9.5	_
5.4.9	Electric strength test		N/A
5.4.9.1	Test procedure for type test of solid insulation:		N/A
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits	(	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test		N/A
5.4.10.3	Verification for insulation breakdown for impulse test:		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth	S	N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U <sub>op</sub> (V)		_
	Nominal voltage U <sub>peak</sub> (V)		_
	Max increase due to variation ΔU <sub>sp</sub> :	ATA	_
	Max increase due to ageing $\Delta U_{sa}$ :	(1)	_
5.4.11.3	Test method and compliance:		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid:		N/A
5.4.12.3	Compatibility of an insulating liquid	000	N/A
5.4.12.4	Container for insulating liquid:	100	N/A
5.5	Components as safeguards	1	N/A













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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers	(212)	N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable:	(2	N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)		_
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements	7/2	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 (mm²):		_
	Protective earthing conductor serving as a reinforced safeguard	5	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 (mm²):		_
5.6.4.2	Protective current rating (A):	DD	N/A
5.6.5	Terminals for protective conductors	(4.4	N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)		N/A
Si	Terminal size for connecting protective bonding conductors (mm)		N/A
5.6.5.2	Corrosion	A A	N/A
5.6.6	Resistance of the protective bonding system	14/4/	N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method:		N/A











IEC 62368-1 Result - Remark Verdict Clause Requirement + Test 5.6.6.3 N/A Resistance ( $\Omega$ ) or voltage drop.....: 5.6.7 Reliable connection of a protective earthing N/A conductor 5.6.8 **Functional earthing** N/A Conductor size (mm<sup>2</sup>).....: N/A Class II with functional earthing marking .....: N/A N/A Appliance inlet cl & cr (mm).....: 5.7 Prospective touch voltage, touch current and protective conductor current N/A 5.7.2 N/A Measuring devices and networks 5.7.2.1 Measurement of touch current N/A 5.7.2.2 N/A Measurement of voltage 5.7.3 Equipment set-up, supply connections and earth N/A connections 5.7.4 N/A Unearthed accessible parts....: Earthed accessible conductive parts..... 5.7.5 N/A 5.7.6 N/A Requirements when touch current exceeds ES2 limits Protective conductor current (mA).....: N/A Instructional Safeguard....: N/A 5.7.7 Prospective touch voltage and touch current N/A associated with external circuits 5.7.7.1 Touch current from coaxial cables N/A 5.7.7.2 Prospective touch voltage and touch current N/A associated with paired conductor cables 5.7.8 Summation of touch currents from external circuits N/A N/A a) Equipment connected to earthed external circuits, current (mA).....: b) Equipment connected to unearthed external N/A circuits, current (mA)..... 5.8 Backfeed safeguard in battery backed up supplies N/A Mains terminal ES....: N/A

6	ELECTRICALLY- CAUSED FIRE		Р
6.2	Classification of PS and PIS		Р
6.2.2	Power source circuit classifications	(See appended table 6.2.2)	N/A
6.2.3	Classification of potential ignition sources	See below.	N/A

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N/A

Air gap (mm).....:





IEC 62368-1 Requirement + Test Result - Remark Verdict Clause 6.2.3.1 Arcing PIS .....: N/A 6.2.3.2 Resistive PIS .....: N/A Р 6.3 Safeguards against fire under normal operating and abnormal operating conditions 6.3.1 No ignition and attainable temperature value less (See appended table 5.4.1.4. than 90 % defined by ISO 871 or less than 300 °C 6.3.2, 9.0, B.2.6) for unknown materials.....: Combustible materials outside fire enclosure.....: N/A 6.4 Safeguards against fire under single fault conditions Р 6.4.1 Р Safeguard method Method of Control fire spread used. 6.4.2 Reduction of the likelihood of ignition under single N/A fault conditions in PS1 circuits 6.4.3 Р Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits 6.4.3.1 Supplementary safeguards Р 6.4.3.2 Р Single Fault Conditions..... (See appended table B.3, B.4) Special conditions for temperature limited by fuse N/A 6.4.4 Control of fire spread in PS1 circuits Р 6.4.5 Р Control of fire spread in PS2 circuits 6.4.5.2 Supplementary safeguards Compliance detailed as Р follows: - Printed board: rated V-1 or VTM-1 min. class material. Plastic enclosure: rated V-1 or VTM-1 min. class material. Other components other than PCB and wires are: - mounted on PCB rated V-1 or VTM-1 min., or - made of V-2, VTM-2 or HF2 6.4.6 Control of fire spread in PS3 circuits N/A 6.4.7 Separation of combustible materials from a PIS V-0 fire enclosure used. N/A 6.4.7.2 Separation by distance N/A 6.4.7.3 Separation by a fire barrier N/A 6.4.8 Р Fire enclosures and fire barriers 6.4.8.2 Fire enclosure and fire barrier material properties Equipment enclosure was Р evaluated as a fire enclosure.

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Requirements for a fire barrier



V-0 fire enclosure used.

6.4.8.2.1

Р





	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2.2	Requirements for a fire enclosure	V-0 fire enclosure used.	Р
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	No openings	N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties	No openings	N/A
	Openings dimensions (mm):	100	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:	6	N/A
6.4.8.3.5	Side openings and properties		N/A
	Openings dimensions (mm):		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)	Without cover or door that can be open	N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating:		N/A
6.4.9	Flammability of insulating liquid	(4)	N/A
6.5	Internal and external wiring		Р
6.5.1	General requirements	See below.	Р
6.5.2	Requirements for interconnection to building wiring	The material of VW-1 on internal wiring were considered compliance equal to equivalent to IEC/TS 60695-11-21 relevant standards.	Р
6.5.3	Internal wiring size (mm²) for socket-outlets:		N/A
6.6	Safeguards against fire due to the connection to	additional equipment	Р

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES	
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
1	Personal safeguards and instructions:	_
7.5	Use of instructional safeguards and instructions	N/A
	Instructional safeguard (ISO 7010)	_
7.6	Batteries and their protection circuits	Р













IEC 62368-1 Verdict Clause Requirement + Test Result - Remark **MECHANICALLY-CAUSED INJURY** Р 8 8.2 Р Mechanical energy source classifications 8.3 Р Safeguards against mechanical energy sources Р 8.4 Safeguards against parts with sharp edges and corners 8.4.1 N/A Safeguards Instructional Safeguard....: N/A Р 8.4.2 Sharp edges or corners Accessible edges and corners of the equipment are rounded and are classified as MS1. 8.5 Safeguards against moving parts N/A 8.5.1 Fingers, jewellery, clothing, hair, etc., contact with N/A MS2 or MS3 parts MS2 or MS3 part required to be accessible for the N/A function of the equipment N/A Moving MS3 parts only accessible to skilled person Instructional safeguard....: 8.5.2 N/A 8.5.4 Special categories of equipment containing moving N/A parts 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 N/A Access protection override 8.5.4.2.2.1 Override system N/A 8.5.4.2.2.2 N/A Visual indicator 8.5.4.2.3 Emergency stop system N/A Maximum stopping distance from the point of N/A activation (m)....: Space between end point and nearest fixed N/A mechanical part (mm)....: 8.5.4.2.4 **Endurance requirements** N/A Mechanical system subjected to 100 000 cycles of N/A operation Mechanical function check and visual inspection N/A N/A - Cable assembly.....: 8.5.4.3 Equipment having electromechanical device for N/A destruction of media 8.5.4.3.1 Equipment safeguards N/A

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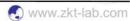
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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3.2	Instructional safeguards against moving parts:	(V	N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N):		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps	No such Lamps provided.	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		N/A
	Instructional safeguard:		N/A
8.6.2	Static stability	7	N/A
8.6.2.2	Static stability test:		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm):	.50	
	Tilt test	(10)	N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test:		N/A
8.7	Equipment mounted to wall, ceiling or other struc	cture	N/A
8.7.1	Mount means type		N/A
8.7.2	Test methods	(	N/A
	Test 1, additional downwards force (N):		N/A
	Test 2, number of attachment points and test force (N)		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm):		N/A
8.8	Handles strength		N/A
8.8.1	General	C.	N/A
8.8.2	Handle strength test		N/A
	Number of handles:		_
	Force applied (N)		_
8.9	Wheels or casters attachment requirements	AAA	N/A
8.9.2	Pull test	( (	N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A













IEC 62368-1 Clause Requirement + Test Result - Remark Verdict 8.10.2 Marking and instructions....: N/A 8.10.3 Cart, stand or carrier loading test N/A Loading force applied (N)....: N/A 8.10.4 Cart, stand or carrier impact test N/A 8.10.5 N/A Mechanical stability Force applied (N)..... 8.10.6 Thermoplastic temperature stability N/A 8.11 N/A Mounting means for slide-rail mounted equipment (SRME) 8.11.1 General N/A 8.11.2 Requirements for slide rails N/A Instructional Safeguard....: N/A 8.11.3 Mechanical strength test N/A 8.11.3.1 Downward force test, force (N) applied.....: N/A 8.11.3.2 N/A Lateral push force test 8.11.3.3 Integrity of slide rail end stops N/A 8.11.4 Compliance N/A 8.12 N/A Telescoping or rod antennas Button/ball diameter (mm)....:

9	THERMAL BURN INJURY		Р
9.2	Thermal energy source classifications		Р
9.3	Touch temperature limits		Р
9.3.1	Touch temperatures of accessible parts:	(See appended table 9.3)	Р
9.3.2	Test method and compliance		Р
9.4	Safeguards against thermal energy sources		N/A
9.5	Requirements for safeguards		N/A
9.5.1	Equipment safeguard		N/A
9.5.2	Instructional safeguard:		N/A
9.6	Requirements for wireless power transmitters		N/A
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance:		N/A

10	RADIATION	Р
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IEC 62368-1 Clause Requirement + Test Result - Remark Verdict 10.2 Radiation energy source classification Р 10.2.1 General classification LED indication light: RS1 Р Lasers....: Lamps and lamp systems.... Image projectors....: X-Ray....: Personal music player..... 10.3 Safeguards against laser radiation N/A The standard(s) equipment containing laser(s) N/A comply.....: Safeguards against optical radiation from lamps and lamp systems (including 10.4 P LED types) 10.4.1 General requirements LED indication light: RS1 Р Instructional safeguard provided for accessible N/A radiation level needs to exceed Risk group marking and location....: N/A N/A Information for safe operation and installation 10.4.2 Requirements for enclosures N/A UV radiation exposure....: N/A 10.4.3 Instructional safeguard....: N/A 10.5 Safeguards against X-radiation N/A 10.5.1 N/A Requirements Instructional safeguard for skilled persons.....: 10.5.3 Maximum radiation (pA/kg).....: 10.6 Safeguards against acoustic energy sources N/A 10.6.1 General N/A 10.6.2 Classification N/A Acoustic output  $L_{Aeq,T}$ , dB(A)..... N/A Unweighted RMS output voltage (mV).....: N/A N/A Digital output signal (dBFS).....: 10.6.3 Requirements for dose-based systems N/A 10.6.3.1 N/A General requirements 10.6.3.2 Dose-based warning and automatic decrease N/A 10.6.3.3 Exposure-based warning and requirements N/A N/A 30 s integrated exposure level (MEL30).....

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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
	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.)	SD	N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output L <sub>Aeq,T</sub> , dB(A)		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output L <sub>Aeq,T</sub> , dB(A)		N/A

В	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		Р
B.1	General		Р
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	Р
B.2	Normal operating conditions		Р
B.2.1	General requirements	(See Test Item Particulars and appended test tables)	Р
	Audio Amplifiers and equipment with Audio Amplifiers	Normal tested with maximum volume.	Р
B.2.3	Supply voltage and tolerances	(/	N/A
B.2.5	Input test:	(See appended table B.2.5)	Р
B.3	Simulated abnormal operating conditions		N/A
B.3.1	General		N/A
B.3.2	Covering of ventilation openings		N/A
	Instructional safeguard	AA	N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals		N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio Amplifier abnormal operating conditions		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	(2) 3	N/A
B.4	Simulated single fault conditions		Р











IEC 62368-1 Requirement + Test Result - Remark Verdict Clause B.4.1 Р General B.4.2 Temperature controlling device N/A B.4.3 Blocked motor test N/A Р B.4.4 **Functional insulation** B.4.4.1 Short circuit of clearances for functional insulation Р B.4.4.2 Short circuit of creepage distances for functional insulation B.4.4.3 Short circuit of functional insulation on coated N/A printed boards B.4.5 Short-circuit and interruption of electrodes in tubes N/A and semiconductors B.4.6 N/A Short circuit or disconnection of passive components B.4.7 Continuous operation of components N/A B.4.8 Р Compliance during and after single fault conditions (See appended table B.4) ..... B.4.9 Р Battery charging and discharging under single fault (See Annex M) conditions C **UV RADIATION** N/A **C.1** N/A Protection of materials in equipment from UV radiation C.1.2 Requirements N/A C.1.3 Test method N/A **C.2 UV** light conditioning test N/A C.2.1 N/A Test apparatus....: C.2.2 Mounting of test samples N/A C.2.3 Carbon-arc light-exposure test N/A C.2.4 N/A Xenon-arc light-exposure test 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 Ε Ρ TEST CONDITIONS FOR EQUIPMENT CONTAINING Audio AmplifierS E.1 Electrical energy source classification for audio signals Ρ Maximum non-clipped output power (W).....: Rated load impedance ( $\Omega$ ) .....: Open-circuit output voltage (V)..... See Clause F.5 Instructional safeguard.....:

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Clause	Requirement + Test	Result - Remark	Verdict
E.2	Audio Amplifier normal operating conditions		Р
	Audio signal source type		_
	Audio output power (W)		_
	Audio output voltage (V):		_
	Rated load impedance (Ω):	AA	_
	Requirements for temperature measurement		Р
E.3	Audio Amplifier abnormal operating conditions	(See Table B.3, B.4)	Р
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND II SAFEGUARDS	NSTRUCTIONAL	Р
F.1	General		Р
	Language	English	_
F.2	Letter symbols and graphical symbols		Р
F.2.1	Letter symbols according to IEC60027-1		N/A
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		Р
F.3	Equipment markings		Р
F.3.1	Equipment marking locations	The equipment marking is located on the surface and is easily visible.	Р
F.3.2	Equipment identification markings	See below.	Р
F.3.2.1	Manufacturer identification:	See copy of marking plate	Р
F.3.2.2	Model identification	See copy of marking plate	Р
F.3.3	Equipment rating markings	See copy of marking plate	Р
F.3.3.1	Equipment with direct connection to mains		N/A
F.3.3.2	Equipment without direct connection to mains		Р
F.3.3.3	Nature of the supply voltage:	See copy of marking plate	Р
F.3.3.4	Rated voltage:	See copy of marking plate	Р
F.3.3.5	Rated frequency		N/A
F.3.3.6	Rated current or rated power	See copy of marking plate	Р
F.3.3.7	Equipment with multiple supply connections	Only one connection.	N/A
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings	60	N/A
F.3.5.2	Switch position identification marking		N/A
F.3.5.3	Replacement fuse identification and rating markings		N/A











Page 24 of 59 IEC 62368-1 Clause Requirement + Test Result - Remark Verdict Instructional safeguards for neutral fuse.....: N/A F.3.5.4 Replacement battery identification marking.....: N/A F.3.5.5 Neutral conductor terminal N/A

F.3.5.6	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification	00	N/A
F.3.6.1	Class I equipment	40.	N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Protective bonding conductor terminals:		N/A
F.3.6.2	Equipment class marking:		N/A
F.3.6.3	Functional earthing terminal marking:		N/A
F.3.7	Equipment IP rating marking:	IPX0	N/A
F.3.8	External power supply output marking:		N/A
F.3.9	Durability, legibility and permanence of marking	All markings required are easily discernible under normal lighting conditions.	Р
F.3.10	Test for permanence of markings	After rubbing test by water and petroleum spirit, the marking still legible; it is not easily possible to remove the marking plate and show no curling.	Р
F.4	Instructions		N/A
6	a) Information prior to installation and initial use	(2	N/A
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
180	f)		N/A
	g)  Protective earthing used as a safeguard	OD	N/A

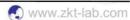
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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
	h)  Protective conductor current exceeding ES2 limits		N/A
	i)Graphic symbols used on equipment		N/A
	j)Permanently connected equipment not provided with all-pole mains switch	(212)	N/A
	k)Replaceable components or modules providing safeguard function		N/A
	I)Equipment containing insulating liquid	.4	N/A
	m) Installation instructions for outdoor equipment	(	N/A
F.5	Instructional safeguards		Р
G	COMPONENTS		N/A
G.1	Switches		N/A
G.1.1	General	$\Delta \Delta$	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	Relays		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment	(	N/A
G.2.4	Test method and compliance		N/A
G.3	Protective devices		N/A
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	(A)	N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment	(4.6)	N/A
G.3.2.2	Test method and compliance		N/A











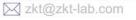


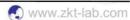
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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided	50	N/A
G.3.5.2	Single faults conditions:	44	N/A
G.4	Connectors		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration		N/A
G.4.3	Plug is shaped that insertion into mains socket- outlets or appliance coupler is unlikely	5	N/A
G.5	Wound components		N/A
G.5.1	Wire insulation in wound components		N/A
G.5.1.2	Protection against mechanical stress		N/A
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test	GP.	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	N/A
G.5.3	Transformers	(4	N/A
G.5.3.1	Compliance method:		N/A
	Position:		N/A
	Method of protection:		N/A
G.5.3.2	Insulation		N/A
	Protection from displacement of windings:	22	_
G.5.3.3	Transformer overload tests	6.0	N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding temperatures		N/A
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter:		













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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.4.2	Transformers with basic insulation only	(V)	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	NA	N/A
G.5.3.4.6	Partial discharge test	44.4	N/A
G.5.3.4.7	Routine test		N/A
G.5.4	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	1	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	(7) (7)	N/A
G.5.4.6	Locked-rotor overload test for DC motors	639.	N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature:		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage:		
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Enamelled winding wire insulation	(()	N/A
<b>G.7</b>	Mains supply cords		N/A
G.7.1	General requirements		N/A
.400	Туре:		
G.7.2	Cross sectional area (mm² or AWG):		N/A
G.7.3	Cord anchorages and strain relief for non- detachable power supply cords	88	N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A













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Clause	Requirement + Test	Result - Remark	Verdict
	Strain relief test force (N):		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm):		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection	(4)	N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, <i>D</i> (mm):		_
	Radius of curvature after test (mm):		
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test	(	N/A
G.9	Integrated circuit (IC) current limiters		N/A
G.9.1	Requirements		N/A
	IC limiter output current (max. 5A):		
	Manufacturers' defined drift:		_
G.9.2	Test Program	50	N/A
G.9.3	Compliance	68	N/A
G.10	Resistors		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test	.60	N/A
G.10.4	Voltage surge test	777	N/A
G.10.5	Impulse test	130	N/A
G.10.6	Overload test		N/A











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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
G.11	Capacitors and RC units		N/A
G.11.1	General requirements		N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics	() ()	N/A
	Type test voltage V <sub>ini,a</sub> :		_
	Routine test voltage, V <sub>ini, b</sub> :		_
G.13	Printed boards		N/A
G.13.1	General requirements		N/A
G.13.2	Uncoated printed boards		N/A
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation	777	N/A
	Number of insulation layers (pcs):		_
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals	7	N/A
G.14.1	Requirements	(See Clause G.13)	N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)	a la	N/A
G.16.1	Condition for fault tested is not required		N/A













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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
	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
Н	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz):		_
H.3.1.2	Voltage (V):		_
H.3.1.3	Cadence; time (s) and voltage (V):	100	_
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	<u> </u>	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 WITHOU' INSULATION	T INTERLEAVED	N/A
J.1	General		N/A
	Winding wire insulation:		_
	Solid round winding wire, diameter (mm):		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm²):		N/A
J.2/J.3	Tests and Manufacturing	(See separate test report)	
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard:		N/A
K.2	Components of safety interlock safeguard mecha	anism	N/A













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Clause			
Oldube	Requirement + Test	Result - Remark	Verdict
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		N/A
L.1	General requirements	Not directly connected to the mains	N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single-phase equipment		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
	Instructional safeguard:		N/A
M	<b>EQUIPMENT CONTAINING BATTERIES AND THE</b>	IR PROTECTION CIRCUITS	N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards		N/A
M.3	Protection circuits for batteries provided within the equipment		N/A











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Clause	Requirement + Test	Result - Remark	Verdict	
M.3.1	Requirements		N/A	
M.3.2	Test method		N/A	
	Overcharging of a rechargeable battery	(See appended table M.3)	N/A	
	Excessive discharging	(See appended table M.3)	N/A	
	Unintentional charging of a non-rechargeable battery		N/A	
	Reverse charging of a rechargeable battery		N/A	
M.3.3	Compliance	(See appended table M.3)	N/A	
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		N/A	
M.4.1	General		N/A	
M.4.2	Charging safeguards	(	N/A	
M.4.2.1	Requirements		N/A	
M.4.2.2	Compliance	(See appended table M.4.2)	N/A	
M.4.3	Fire enclosure	V-0	N/A	
M.4.4	Drop test of equipment containing a secondary lithium battery	88	N/A	
M.4.4.2	Preparation and procedure for the drop test		N/A	
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%)::	After test, the voltage difference less than 5% in the 24H	N/A	
M.4.4.4	Check of the charge/discharge function		N/A	
M.4.4.5	Charge / discharge cycle test		N/A	
M.4.4.6	Compliance		N/A	
M.5	Risk of burn due to short-circuit during carrying		N/A	
M.5.1	Requirement		N/A	
M.5.2	Test method and compliance		N/A	
M.6	Safeguards against short-circuits		N/A	
M.6.1	External and internal faults		N/A	
M.6.2	Compliance		N/A	
M.7	Risk of explosion from lead acid and NiCd batte	ries	N/A	
M.7.1	Ventilation preventing explosive gas concentration		N/A	
	Calculated hydrogen generation rate:		N/A	
M.7.2	Test method and compliance		N/A	
	Minimum air flow rate, Q (m³/h)		N/A	
M.7.3	Ventilation tests		N/A	











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Clause	Requirement + Test	Result - Remark	Verdict
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 $V_Z$ (m³/s):		_
M.8.2.3	Correction factors		_
M.8.2.4	Calculation of distance d (mm):		_
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		Р
	Instructional safeguard:	Stated in user manual.	Р
N	ELECTROCHEMICAL POTENTIALS		N/A
	Material(s) used:		_
0	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Value of X (mm):		_
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		N/A
P.1	General	No openings.	N/A
P.2	Safeguards against entry or consequences of en	try of a foreign object	N/A
P.2.1	General		N/A
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm):		_
P.2.3	Safeguards against the consequences of entry of a foreign object	(4)	N/A











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Clause	Requirement + Test	Result - Remark	Verdict
	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	1010	N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing part	S	N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T <sub>C</sub> (°C):		_
	Duration (weeks):		_
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		
Q.1	Limited power sources	717	N/A
Q.1.1	Requirements		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Q.1)	N/A
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance:	(See appended table Q.1)	N/A
	Current rating of overcurrent protective device (A)		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A):		N/A
	Current limiting method:		
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test:		_
R.3	Test method		N/A











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	IEC 62368-1		
Clause	Requirement + Test	Result - Remark	Verdict
R.4	Compliance		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		_
	Wall thickness (mm)		
	Conditioning (°C):		
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		_
	Wall thickness (mm)		_
	Conditioning (°C):		_
S.3	Flammability test for the bottom of a fire enclose	ure	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):		_
Т	MECHANICAL STRENGTH TESTS		Р
T.1	General		Р
T.2	Steady force test, 10 N:	(See appended table T.2)	Р
T.3	Steady force test, 30 N:		N/A
T.4	Steady force test, 100 N	(See appended table T.4)	Р
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A













IEC 62368-1 Requirement + Test Verdict Clause Result - Remark Swing test N/A **T.7** (See appended table T.7) Р Drop test .....: **T.8** Р (See appended table T.8) Stress relief test....: Glass Impact Test....:: **T.9** N/A T.10 N/A Glass fragmentation test Number of particles counted....: N/A T.11 Test for telescoping or rod antennas N/A N/A Torque value (Nm) .....: U MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION N/A AGAINST THE EFFECTS OF IMPLOSION **U.1** General N/A Instructional safeguard: N/A **U.2** Test method and compliance for non-intrinsically protected CRTs N/A **U.3 Protective screen** N/A **DETERMINATION OF ACCESSIBLE PARTS** Ρ **V.1** Р Accessible parts of equipment V.1.1 General Following the probes test specified in this annex Figure V.1, V.2, V.5 are suitable. V.1.2 Р Surfaces and openings tested with jointed test probes V.1.3 Openings tested with straight unjointed test probes N/A No openings V.1.4 Plugs, jacks, connectors tested with blunt probe Ρ V.1.5 Slot openings tested with wedge probe N/A V.1.6 Terminals tested with rigid test wire Р **V.2** Accessible part criterion Р ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION X N/A IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS) Clearance....: N/A CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES N/A **Y.1** General N/A Y.2 Resistance to UV radiation N/A Y.3 N/A Resistance to corrosion **Y.3** Resistance to corrosion N/A Y.3.1 Metallic parts of outdoor enclosures are resistant to N/A effects of water-borne contaminants by.....:

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Clause	Requirement + Test	Result - Remark	Verdict
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure:		N/A
Y.3.5	Compliance		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods:		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	Protection of equipment within an outdoor enclose	sure	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









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Clause	Requirement + Test		Result - Remark	Verdict			

5.2	TABLE: Classificat	ion of electrical e	nergy sou	rces			Р
Supply Voltage	Location (e.g.	Test conditions		Para	ameters		ES Class
designation)			U (V)	I (mA)	Type <sup>1)</sup>	Additional Info <sup>2)</sup>	Cidoo
64Vdc	Input terminal	Normal:	64.1Vdc		30		
		Abnormal: see table B.3	Max. 64.1Vdc		<del>-</del> V/S/		ES2
		Single fault: see table B.4	Max. 64.1Vdc				

Supplementary information:

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

5.4.1.8	TABLE: Working voltage measurement					
Location		RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comm	ents
	(1)			(A (C)		
Supplementary information:						

5.4.1.10.2 TABLE: Vicat softening temperature of thermoplastics						
Method: ISO 306 / B50						
Object/ Part No./Material Manufacturer/trademark Thickness (mm) T softenii						
Supplementary information:						

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics						N/A
Allowed impression diameter (mm) ≤ 2 mm							_
Object/Part I						ression ter (mm)	
Supplementary information:							

5.4.2, 5.4.3 TABLE: Minimum Clearances/Creepage distance							N/A	
Clearance (cl) and creepage distance (cr) at/of/between:	U <sub>ρ</sub> (V)	U <sub>rms</sub> (V)	Freq 1) (Hz)	Required cl (mm)	cl (mm)	E.S. <sup>2)</sup> (V)	Required cr (mm)	cr (mm)
	1					-		

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	IEC 62368-1							
Clause	Requirement + Test	Result - Remark	Verdict					
Suppleme	entary information:	77	Q.					
1) Only fo	or frequency above 30 kHz							
2) Comple	ete Electric Strength voltage (E.S. (V) w	vhen 5.4.2.4 applied)						

5.4.4.2	TABLE: Minimun	TABLE: Minimum distance through insulation						
Distance thr (DTI) at/of	ough insulation	Peak voltage (V)	Insulation	Required DTI (mm)	Mea	sured DTI (mm)		
Supplement	Supplementary information:							

5.4.4.9	.4.9 TABLE: Solid insulation at frequencies >30 kHz						N/A
Insulation r	naterial	<b>E</b> <sub>P</sub>	Frequency (kHz)	<b>K</b> <sub>R</sub>	Thickness d (mm)	Insulation	V <sub>PW</sub> (Vpk)
Supplemen	tary information:						

5.4.9	TABLE: Electric strength tests	1	22	N/A
Test voltage	e applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
- 8				
Supplement	ary information:			

5.5.2.2	TABLE:	Stored discharge of	n capacitors			N/A	
Location		Supply voltage (V)	Operating and fault condition 1)	Switch position	Measured voltage (Vpk)	ES Class	
		(2/2)		.50			
Supplement	tary inforn	nation:		P2 P2			
X-capacitors	s installed	I for testing:					
□ bleeding	resistor r	rating:					
□ ICX:							
1) Normal of	perating	condition (e.g., norm	al operation, or open	fuse), SC= shor	t circuit, OC=	pen circuit	













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

5.6.6 TABLE: Resis	stance of protective conduc	ctors and terminat	ions	N/A	
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
	(((		- A		
Supplementary information:	100		44		

5.7.4	TABLE	E: Unearthed acces	ssible parts				N/A		
Location	Operating and		Supply	F	·	ES class			
		fault conditions	Voltage (V)	Voltage (V <sub>rms</sub> or V <sub>pk</sub> )	Current (A <sub>rms</sub> or A <sub>pk</sub> )	Freq. (Hz)			
						\	D'-		
Supplementary information: Abbreviation: SC= short circuit; OC= open circuit									

5.7.5	TABLE: Earthed access	ible conductive part	470		N/A
Supply volta	age (V):				_
Phase(s)	:	[] Single Phase; [] Three	[] Wye		
Power Distri	ibution System:	□ TN □ TT			
Location		Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comm	ent
		7-7			12
Supplement	ary Information:				

5.8	TABLE:	Backfeed sa	afeguard in battery	backed up s	upplies		N/A			
Location		Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class			
- 25					212					
Supplementa	Supplementary information:									
Abbreviation	: SC= sho	ort circuit, OC	= open circuit							

6.2.2 TABLE: Power source circuit classifications								
Location Operating and fault condition		Voltage (V)	Current (A)	Max. Power <sup>1)</sup> (W)	Time (S)	PS class		

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Clause	Requirement + Test		Result - Remark	Verdict

Supplementary information:

Abbreviation: SC= short circuit; OC= open circuit

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

6.2.3.1	TABLE: Determine	nation of Arcing PIS			N/A				
Location		Open circuit voltage after 3 s (Vpk)			Arcing PIS? Yes / No				
Supplementary information:									
	7/2								

6.2.3.2	TABLE: Determi	nation of resistive PIS		Р
Location		Operating and fault condition	Dissipate power (W)	Resistive PIS? Yes / No
All components				Yes (declared)
	tary information: n: SC= short circuit;	OC= open circuit	ATA	

8.5.5	TABLE: High pre	ssure lamp				N/A
Lamp manufacturer		Lamp type	Explosion method	glass particle bey		ticle found yond 1 m 'es / No
- 0		- 2	-	-		1
Supplementa	ary information:				11	

9.6	TABLE	Tempera	ture measi	urements	for wireles	s power t	ransmitter	S	N/A
Supply voltag	Supply voltage (V):								_
Max. transmit power of transmitter (W):				:					_
			eiver and contact		eiver and contact	with receiver and at distance of 2 mm		with receiver and a distance of 5 mm	
Foreign ob	jects	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)
- 1									
Supplementary information:Max temperature 70 °C									

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Clause Requirement + Test Result - Remark Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Tempe	erature me	asureme	ents				Р
Supply voltage	(V)		:	A*				_
Ambient tempe	erature during te	est T <sub>amb</sub> (°C	):	35.0				_
Maximum measured temperature <i>T</i> of part/at:					T (	°C)		Allowed T <sub>max</sub> (°C)
PCB near U1	PCB near U1				45.8			130
PCB near U3				46.3			130	
C2 body				40 .6			- 2	105
C4 body				41.3			- (	105
Internal wire				37.9				80
Plastic enclosu	ıre inside			38.8		,		
Plastic enclosu	ıre outside			36.5		,		48
Ambient				35.0				
Temperature T	of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class

- 1. Supplementary information: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) :35 $^{\circ}$ C
- 2. The temperatures were measured under the worse case normal mode defined in clause B.2.1.
- 3. \*Temperature limit for TS1 of accessible enclosure according to Table 38. The accessible part was occasionally for short periods (>1 min and <8h.)

#### Note 3:

A\*. Input: 64V ===4A

B.2.5	TAB	TABLE: Input test								
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condit	ion/status	
64V	-	3.76	4	240.64	-	(0.5)	-		-	

Supplementary information:

Equipment may be having rated current or rated power or both. Both should be measured.

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Clause	Requirement + Test		Result - Remark	Verdict

B.3, B.4	TAB	LE: Abnormal	operating	and fault o	ondition t	tests		Р		
Ambient temp	pera	ture T <sub>amb</sub> (°C)			:		35°C			
Power source	e for	EUT: Manufact	urer, mode	l/type, outp	utrating:			_		
Component N	No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	on		
U1 Pin 1-3	3	SC	64.0	7hrs			Unit shutdown immand recoverable. Namage, no hazard	lo		
U1 Pin 5-6	6	SC	64.0	7hrs	<u> </u>		Unit shutdown immand recoverable. Namage, no hazard	lo		
D1		SC	64.0	10min			Unit shutdown imme and recoverable. No no hazards.			
C2		SC	64.0	10min		-	Unit shutdown imme and recoverable. No no hazards.			

### Supplementary information:

Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.

If the Abnormal/Fault test need do temperature test, the Record rise see Table 2.

M.3	TABLE: Pr	otection circu	its f	or batteri	es provide	ed within	the equ	uipment	N/A		
Is it possible to	install the b	pattery in a rev	erse	polarity po	osition?				_		
					Ch	arging			<u>.</u>		
Equipment Sp	pecification	Voltage (V)					C	Current (A)			
			Battery specification								
		Non-rechargeable batteries			Rech	Rechargeable batteries					
		Discharging Unintentional		C	harging		Discharging	Reverse			
Manufactu	ırer/type	current (A)	current (A) charging current (A)		Voltage (V)	Curre	nt (A)	current (A)	charging current (A)		
(2) (2)				4		-	-				
Note: The tests	s of M.3.2 are	e applicable on	ly w	hen above	appropriat	te data is	not avail	able.			
Specified batte	Specified battery temperature (°C)							Р			
Component No.	Fault condition	Charge/ discharge mo	ode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Obse	rvation		

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IEC 62368-1										
Clause	Requirement -		Result - Remark			Verdict				
	- V			(14)				12.		

### 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 lithiu battery									
Maximum specified charging voltage (V):										
Maximum specified charging current (A)										
Highest specified charging temperature (°C)										
Lowest spe	cified cha	rging temperatu	ure (°C)		:	12	_			
Battery		Operating		Measurement		Observatio	n			
manufacturer/type		and fault condition	Charging voltage (V)	Charging current (A)	Temp.					

### Supplementary information:

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

Q.1	TABLE: Circuits	ABLE: Circuits intended for interconnection with building wiring (LPS)  N/A								
Output	Condition	U <sub>oc</sub> (V)	Time (s)	I <sub>sc</sub>	(A)	S (VA)				
Circuit	Condition		Tille (S)	Meas.	Limit	Meas.	Limit			
				1		1				

### Supplementary Information:

SC = shorted circuit

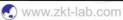
T.2, T.3, T.4, T.5	TABLE	ABLE: Steady force test						Р
Part/Location	1	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Obs	ervation
Top enclos	sure	metal case	Min. 1.5		100	5	No	hazard
Side enclo	sure	metal case	Min. 1.5		100	5	No	hazard
Bottom encl	om enclosure metal case Min. 1.5			100	5	No	hazard	
Supplementa	ary infor	mation:				<u>'</u>		

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

T.6, T.9	TABLE: Impa	act test	0			N/A
Location/part		Material	Thickness (mm)	Height (mm)	Observation	on
		15 Pz		-		
Supplementa	ary information			921	2)	

T.7	TABLE: Dro	p test				Р	
Location/part		Material	Thickness (mm)	Height (mm)	Observation	on	
Top enclosure		metal case	Min. 1.5	1000	No hazard		
Side er	nclosure	metal case	Min. 1.5	1000	No hazar	d	
Bottom enclosure		metal case	Min. 1.5	1000	No hazar	d	
Supplementary information:							

T.8	TABLE	: Stress relief to	est				Р	
Location	/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observ	/ation	
TP22	A	Plastic	Min. 1.5	70	7	No distor		
Supplementary information:								

X	TABLE: Alternative method for determining minimum clearances distances N/A								
Clearance di	stanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)					
Supplementa	ary information:								

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4.1.2	TAB	BLE: Critical compo	nents information	n			Р
Object / part	No.	Manufacturer/ trademark	Type / model	Technical data	Standard		k(s) of formity <sup>1)</sup>
PCB		KINGBOARD LAMINATES HOLDINGS LTD	KB-5150	V-0, 130°C	UL 94	UL	E123995
Plastic Enclosure	e	Interchangable	Interchangable	Min.HB,80°C	UL 94		UL
Internal wi	ire	Interchangable	Interchangable	80°C,300V, VW-1,22AWG	UL 758		UL
Electrolyt Capacitor (E		Interchangeable	Interchangeable	22uF,Min. 400V, 105℃	IEC 62368-1, EN IEC 62368-1	· ·	est with opliance
AC/DC Adapter		SHENZHENSHI JILIYUAN ELECTRONIC CO.,LTD	JLY64004001	Input: AC 100- 240~, 50/60Hz, 5A Output: DC 64V,4A	IEC 62368-1 IEC/EN 62368-1		est with opliance

## Supplementary information:





<sup>&</sup>lt;sup>1)</sup>Provided evidence ensures the agreed level of compliance. See OD-2039.

<sup>&</sup>lt;sup>2)</sup> Description line content is optional. Main line description needs to clearly detail the component used for



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

#### ATTACHMENT TO TEST REPORT

### IEC 62368-1 (JAPAN) NATIONAL DIFFERENCES

(AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT - PART 1: SAFETY REQUIREMENTS)

Differences according to...... J 62368-1 (2020)

TRF template used:..... IECEE OD-2020-F3, Ed. 1.1

Attachment Form No.....: JP\_ND\_IEC62368\_1B

Attachment Originator.....: UL (JP)

Master Attachment.....: Date 2020-11-06

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	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 standard 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.	Р
5.6.1	Mains socket-outlet and appliance outlet shall comply with Clause G.4.2A if they are incorporated as part of the equipment.	<b>N</b> -
5.6.2.1	Mains connection of class 0I equipment: Instructional safeguard in accordance with Clause F.3.6.1A; Mains plug having a lead wire for protective earthing connection of class 0I equipment; Independent main protective earthing terminal installed by ordinary person.	N/A
5.6.2.2	This requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.	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 cab tire cable with 1.25 mm² or more cross-sectional area	N/A

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IEC 62368-1 ATTACHMENT					
Clause	Requirement + Test	Result	- Remark	Verdict	
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS 08282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or the is provided with mains appliance outlet as specified in	at n			
	JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.	n			
5.7.4	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.	<b>\</b>		N/A	
6.4.3.3	A fuse complying with JIC C 6575 series or a fuse having equivalent characteristics shall open within 1 For Class A fuse of JIS C 6575, replace "2.1 times" to "1.35 times" and in case of Class B fuse of JIS C 6575, replace "2.1 times" by "1.6 times".  A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.	by		N/A	
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac 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	
8.5.4.2.2	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.			N/A	
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to th opening. And then the wedge probe per Figure V.4 shall not contact any moving part.	e		N/A	
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointe 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.	ct	hazardous moving rts	N/A	
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) b,c			N/A	
₹.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8303 of relevant regulation 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 accessible only to skilled persons.	Э		N/A	
F.3.5.3	If the fuse is necessary for the safeguard function, th symbols indicating pre-arcing time-current characteristic.	е	50	N/A	













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	IEC 62368-1 ATTACHME		
Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional performent shall be provided regarding to	d	N/A
<u> </u>	instructional safeguard shall be provided regarding t earthing connection.	ne .	
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		N/A
F.4	Instruction 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.  Installation instruction for the protective earthing		N/A
	connection for class 0I equipment provided with independent main protective earthing terminal, wher the cord for the protective earthing connection is not provided within the package for the equipment.		R
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JI C 6691 or have properties equivalent to or better that 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 relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivaler characteristics.  If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.	t	N/A
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.		N/A
G.4.2	Mains connector shall comply with JIS C 8282 series JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series.	S,	18
	Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance.  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 preventing mechanical stress not to transmit to the soldering part of inlet terminal.	ve	N/A
0.4.00	Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.		
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively.		
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.		N/A
G.8.3.3	Withstand 1,71 $\times$ 1.1 $\times$ U <sub>0</sub> for 5 s.		N/A













# **Attachment II**

































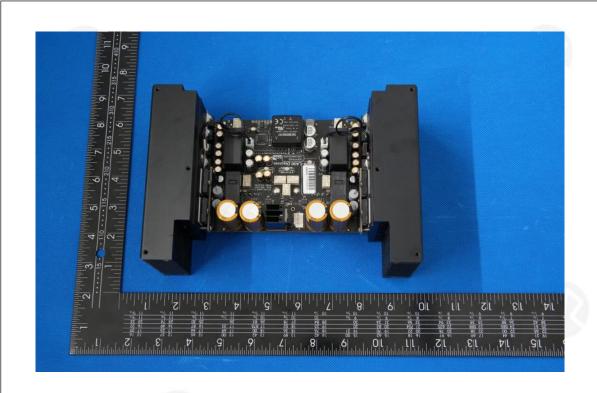


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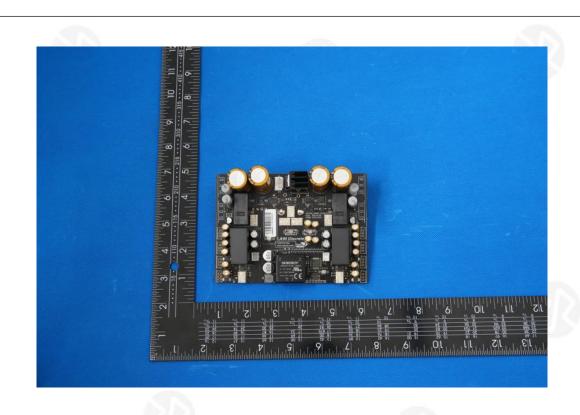


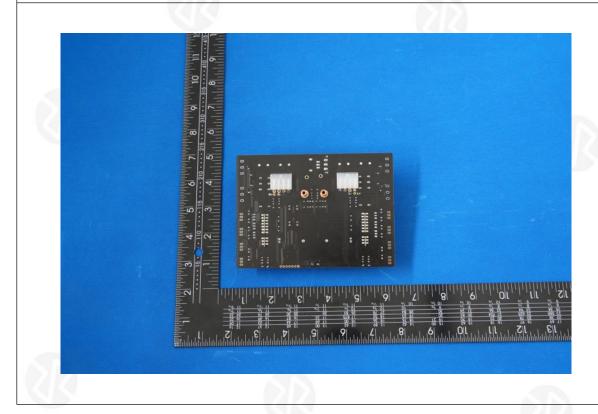








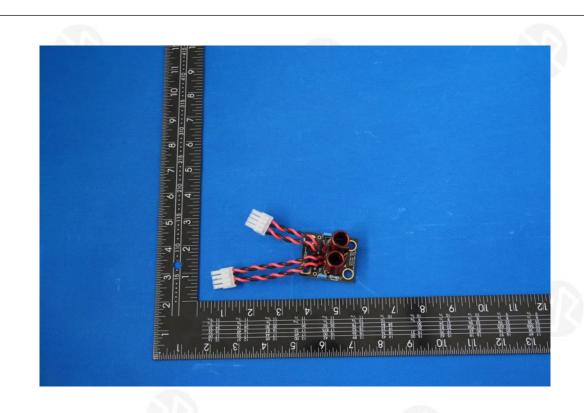


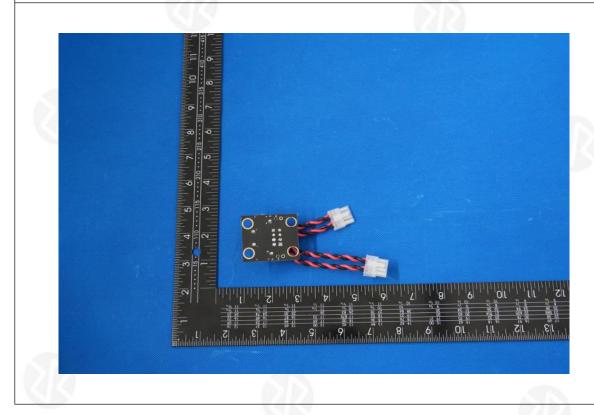






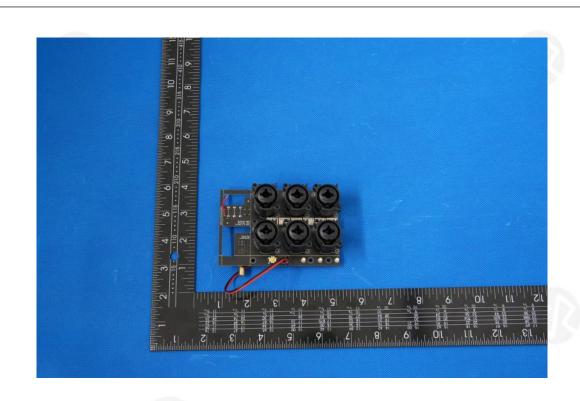


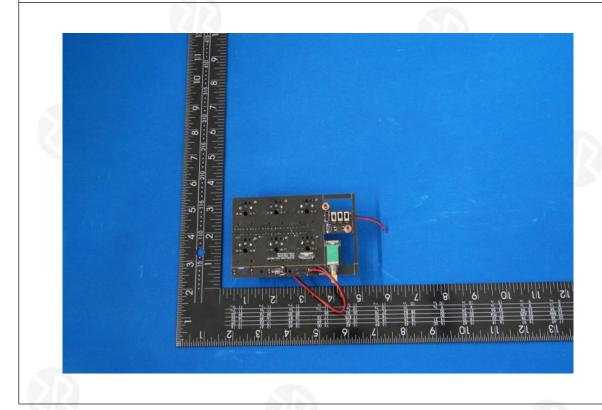
























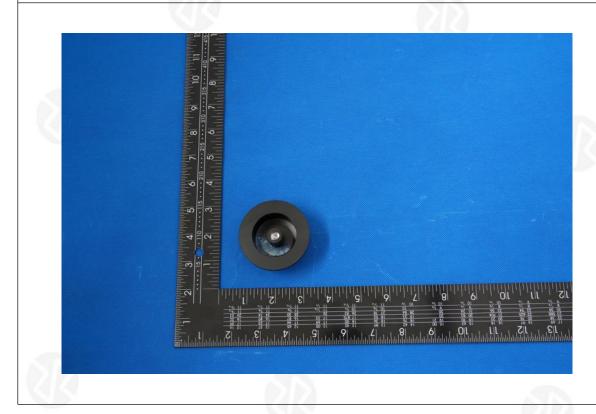


























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