

Guangzhou Yijia Electronic Technology Co., Ltd.

CE LVD REPORT

Prepared For:	Guangzhou Yijia Electronic Technology Co., Ltd. 3rd Floor, No. 1, Shijing Avenue, Baiyun District, Guangzhou
Manufacturer :	Guangzhou Yijia Electronic Technology Co., Ltd. 3rd Floor, No. 1, Shijing Avenue, Baiyun District, Guangzhou
Product Name:	Power amplifier
Trademark:	ADSE
Main Model:	SE-500
Additional Model :	IP-1200/IP-3600/IP-6500/IP-9000/IP-9201/IP-9102/IP-9103/SE-240/SE-360/SE-1650/SE-11000/SE-11500/PH-2030/PH-2040/PH-2060/PH-2080/PA-6260MP/PA-6360MP/PA-6500MP/KB-4100/KB-500S/DE-2101/DE-2102/DE-3106/SR-328/X-5/A-2420/MG-166CX/MT-80S/MT-120S
Prepared By :	TST Testing Technology(Dongguan) Co., Ltd. 2F Yinhe Building Hetian Road,Houjie Town, Dongguan, Guangdong, China
Test Date:	Aug.14,2020 To Aug.21,2020
Date of Report :	Aug.21,2020
Report No.:	TST2020081337-1SR

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

Testing Laboratory Name TST Testing Technology(Dongguan) Co., Ltd.
Address 2F Yinhe Building Hetian Road,Houjie Town, Dongguan, Guangdong, China
Testing location TST Testing Technology(Dongguan) Co., Ltd.

Applicant's Name Guangzhou Yijia Electronic Technology Co., Ltd.
Address 3rd Floor, No. 1, Shijing Avenue, Baiyun District, Guangzhou

Manufacturer Guangzhou Yijia Electronic Technology Co., Ltd.
Address 3rd Floor, No. 1, Shijing Avenue, Baiyun District, Guangzhou

Test specification

Standard..... EN 62368-1: 2014+A11:2017

Test item description POWER AMPLIFIER

Model and/or type reference SE-500

Additional Model :
IP-1200/IP-3600/IP-6500/IP-9000/IP-9201/IP-9102/IP-9103/SE-240/SE-360/SE-1650/SE-11000/SE-11500/PH-2030/PH-2040/PH-2060/PH-2080/PA-6260MP/PA-6360MP/PA-6500MP/KB-4100/KB-500S/DE-2101/DE-2102/DE-3106/SR-328/X-5/A-2420/MG-166CX/MT-80S/MT-120S

Rating(s)..... 70V/100V;500W

Test case verdicts

Test case does not apply to the test object : N/A

Test item does meet the requirement : P(ass)

Test item does not meet the requirement : F(ail)

General remarks

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Clause numbers between brackets refer to clauses in EN 62368-1

Throughout this report a comma is used as the decimal separator.

General product information:

The series products have the same circuit diagram, PCB layout and functionality. The differences are the model name and appearance, so, we select SE-500 to test.

Copy of marking plate:

POWER AMPLIFIER

Model : SE-500

Rating : 70V/100V;500W



Guangzhou Yijia Electronic Technology Co., Ltd.



Name and address of the testing laboratory : TST Testing Technology(Dongguan) Co.,Ltd.
2F Yinhe Building Hetian Road,Houjie Town,
Dongguan, Guangdong, China

Grace

Aug.21,2020

Test by :

Signature

Date

Technician

Title

Apple Li

Aug.21,2020

Reported by :

Signature

Date

Project Engineer

Title



Aug.21,2020

Approved by :

Signature

Date

Andy/ Manager

Name and Title



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

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components		P
4.1.15	Markings and instructions	See Annex F	P
4.4.5	Safeguard robustness		N/A
4.5	Explosion		N/A

5	ELECTRICALLY-CAUSED INJURY		P
5.2	Classification of electrical energy sources	Inside Unit only ES1. The Switching Power Supply was considered as separately approved.	P
5.2.1	Electrical energy source classifications		P
5.2.2	ES1, ES2 and ES3 limits	ES1	P
5.2.2.2	Steady-state voltage and current		N/A
5.2.2.3	Capacitor		N/A
5.2.2.4	Single pulses		N/A
5.2.2.5	Repetitive pulses		N/A
5.2.2.6	Ringling signals		N/A
5.2.2.7	Audio signals		N/A
5.3	Protection against electrical energy sources	Inside Unit only ES1. The Switching Power Supply was considered as separately approved.	P
5.3.2.2	Safeguards between ES2 and ordinary persons		N/A
5.3.2.3	Safeguards between ES3 and ordinary persons		N/A
5.3.3.2	Safeguards between ES3 and instructed persons		N/A
5.3.4.2	Safeguards between ES3 and skilled persons		N/A
5.3.5.2	Safeguard between ES1, ES2 and ES3		N/A
5.3.5.3	Protection of ES2 against ES3		N/A
5.3.6.1	Accessibility to electrical energy sources and safeguards for ordinary persons		N/A
	Accessibility to electrical energy sources and safeguards for instructed persons are prevented from access to.....:		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
5.3.6.2	Contact requirements Air gap (mm)..... :		N/A
5.3.6.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	No insulation considered for the Voice Evacuation System Power amplifier Unit. The Switching Power Supply was considered as separately approved.	P
5.4.1.3	Humidity conditioning		P
	Relative humidity (%)..... :		
	Temperature (°C),..... :		
	Duration (h)..... :		
5.4.1.4	Frequency :		N/A
	Alternative electric strength test for solid insulation		
5.4.1.5	Maximum operating temperature for insulating materials	See appended table 5.4.1.5	N/A
5.4.1.6	Pollution degree..... :		N/A
5.4.1.7	Insulation in transformers with varying dimensions		N/A
5.4.1.8	Insulation in circuits generating starting pulses		N/A
5.4.1.9	Determination of working voltage		N/A
5.4.1.10	Insulating surfaces		N/A
5.4.1.11	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.11.2	Vicat softening temperature (°C)..... :		N/A
5.4.1.11.3	Ball pressure	See appended table 5.4.1.11.3	P
5.4.2	Clearances	Functional insulation across PTC F2 and between poles of batteries inside the unit evaluated by means of electric strength test, only Cl. 5.4.2.3 considered. The Switching Power Supply was considered as separately approved.	P
5.4.2.3	Determination of Clearances		P



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Clause	Requirement + Test	Result - Remark	Verdict
	Transient Voltage..... : 2500 Vpeak		
	Required withstand voltage..... :		
	Measured peak working voltage..... :		
5.4.2.4	Determination of transient voltages		N/A
5.4.2.5	Determination of required withstand voltage		N/A
5.4.2.6	Measurement of transient voltage levels		N/A
5.4.2.7	Determination of the minimum clearance		N/A
5.4.2.8	Minimum clearances based on electric strength test		N/A
5.4.2.9	Multiplication factors for clearances and test voltage.... :		N/A
5.4.3	Creepage distances	Functional insulation across PTC F2 and between poles of batteries inside the unit evaluated by means of electric strength test, only Cl. 5.4.2.3 considered. The Switching Power Supply was considered as separately approved.	P
5.4.3.1	General		N/A
5.4.3.2.2	Material Group :	IIIb	
5.4.4	Solid insulation	No insulation considered for safety inside the Unit. The Switching Power Supply was considered as separately approved.	P
5.4.4.2	Minimum distance through insulation	See appended table 5.4.4.2	P
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Semiconductor solid insulation		P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.9	Solid insulation at frequencies >30 kHz		N/A
	High frequency peak working voltage V_{PW} (V)..... :		
	Total thickness d (mm)..... :		
	Breakdown electric field strength E_p (kV/mm)..... :		
	Reduction Factor K_R (kV/mm)..... :		
	Breakdown electric field strength E_F :		
	Actual electric strength V_W (kV) :		
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Antenna Terminal connections		N/A
	Insulation resistance (M)..... :		
5.4.6	Insulation of internal wire as part of supplementary insulation		N/A
5.4.7	Thermal cycling test procedure		N/A
5.4.8	Test for degree 1 environment and for an insulating compound		N/A
5.4.9	Tests for semiconductor components and for cemented joints		N/A
5.4.11	Electric strength test	See appended table 5.4.11	P
5.4.11.1	Test procedure for a solid insulation type test		P
5.4.11.2	Test procedure for routine tests		N/A
5.4.12	Protection against overvoltages between external circuit		N/A
5.4.12.1	Parts and circuits separated from external circuits		N/A
5.4.13	Insulation between external circuits and earthed circuitry		N/A
5.4.13.1	Exceptions to separation between external circuits and earth		N/A
5.4.13.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....:		
	Nominal voltage U_{pea} (V).....:		
	Max increase due to variation U_{sp} :		
	Max increase due to ageing U_{sa} :		
	$U_{op} = U_{peak} + U_{sp} + U_{sa}$:		



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Clause	Requirement + Test	Result - Remark	Verdict
5.5	Components as safeguards		
5.5.1	General	Components used as safeguards only inside separately approved Switching Power Supply, in other parts only ES1 circuits	P
5.5.2	Components as basic safeguard and supplementary safeguard		N/A
5.5.2.2	Capacitors and RC units as basic safeguards and supplementary safeguard		N/A
5.5.2.3	Safeguards against capacitor discharge		N/A
	Capacitance (nF)		
	Charged voltage (V).....		
	Measured voltage after 2 s (V)		
5.5.2.4	Transformers as basic safeguard or supplementary safeguard		N/A
5.5.2.5	Optocouplers as basic safeguard or supplementary safeguard		N/A
5.5.2.6	Relay as basic safeguard or supplementary safeguard		N/A
5.5.2.7	Resistors as basic safeguard or supplementary safeguard		N/A
5.5.2.8	SPD as basic safeguard		N/A
5.5.2.9	Other components as basic safeguards between ES1 and ES2		N/A
5.5.3	Components as reinforced safeguard		N/A
5.5.3.1	General requirements		N/A
5.5.3.2	Capacitors and RC		N/A
5.5.3.3	Transformer		N/A
5.5.3.4	Optocouplers		N/A
5.5.3.5	Relays		N/A
5.5.3.6	Resistors		N/A
5.5.4	Insulation between the mains and external circuit consisting of a coaxial		N/A
5.5.5	Components and parts that may bridge insulation		N/A
5.5.5.1	Access to ES2 or ES3		N/A
5.6	Protective conductor		
5.6.1	General requirements		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
5.6.2	Corrosion		N/A
5.6.3	Colour of insulation		N/A
5.6.4	Test for low current-carrying protective conductors resistance (), voltage drop (V), test current (A), duration (min).....:		N/A
5.6.5	Protective conductors used as basic safeguard between ES1 and ES2		N/A
5.6.5.1	General		N/A
5.6.5.2	Fault current-carrying protective conductors		N/A
5.6.5.2.3	Protective earthing conductor size (mm ²)		
	Protective bonding conductor size (mm ²).....:		
5.6.6	Protective conductors used as supplementary safeguard		N/A
5.6.6.1	General		N/A
5.6.6.2	Size of protective earthing conductors and terminals, Rated current (A).....:		N/A
	Conductor size.....:		
	Terminal size..... :		
5.6.6.3.	Size of protective bonding conductors and terminals, Rated current (A).....:		N/A
	Conductor size (mm ²).....:		
	Terminal size (mm)..... :		
5.6.6.4	Resistance of protective conductors and their terminations		N/A
5.6.6.4.1	Protective bonding conductors and terminals rated 80 A or more		N/A
5.6.6.4.2	Protective Bonding Conductor		N/A
	Resistance ()......:		
	Voltage drop (V)..... :		
	Test current (A)		
	Duration (min).....:		
5.6.7	Protective earthing conductors serving as double or reinforced safeguard		N/A
5.6.7.1	General		N/A
5.6.7.2	Requirements for protective earthing conductors serving as reinforced safeguard		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
5.6.7.3	Terminations		N/A
	Terminal size (mm)..... :		
5.6.8	Reliable earthing		N/A
5.6.8.2	Reliable earthing for protection		N/A
5.6.8.3	Reliable earthing when the basic safeguard between ES1 & ES2 is provided by earthing ES1		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		--
5.7.2	Measuring devices and networks		P
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection)..... :	No interconnected equipment.	
	Multiple connections to mains (one connection at a time/simultaneous connections)..... :		
5.7.4	Unearthed conductive accessible parts		N/A
5.7.4.1	Unearthed parts accessible to ordinary persons		N/A
5.7.4.2	Unearthed parts accessible to instructed persons		N/A
5.7.5	Earthed accessible conductive parts		N/A
5.7.6	Protective conductor current		N/A
	Supply Voltage (V)..... :		
	Measured current (mA)..... :		
	Instructional Safeguard		N/A
5.7.7	Prospective touch voltage and touch current due to external circuits		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		N/A
	B) Equipment whose external circuits are not referenced to earth. Measured current (mA)..... :		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	Refer to Energy Source identification and classification table for power source	P



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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault	(See appended table 6.2.2)	P
6.2.2.4	PS1	Considered for output of Switching power supply. (See appended table 6.2.2)	P
6.2.2.5	PS2	Considered for both units.	P
6.2.2.6	PS3		P
6.2.3	Classification of potential ignition sources	PIS only inside separately approved switching power supply.	P
6.2.3.1	Arcing PIS		N/A
	Component, location		
6.2.3.2	Resistive PIS		N/A
	Component, location		
6.3	Safeguards against fire under normal operating conditions and abnormal operating conditions		
6.3.1	Requirements	See appended table 6.3.2	P
6.4	Safeguards against fire under single fault conditions		
6.4.1	Protection Method		P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	Considered for output of Switching power supply.	P
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	Considered for batteries inside unit.	P
6.4.3.1	General		P
6.4.3.2	Supplementary Safeguards		P
6.4.3.3	Single Fault Conditions		P
6.4.5	Control of fire spread in PS2 circuits	Considered for all internal circuits of units except battery compartments.	P
6.4.5.2	Supplementary safeguards	See Annex G	P
6.4.6	Control of fire spread in PS3 circuit	Considered for separately approved switching power supply.	P
6.4.7	Separation of combustible materials from a PIS	Only inside separately approved switching power supply, considered to comply with requirements.	P
6.4.7.1	General		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	Separately approved switching power supply considered to comply with requirements.	P
6.4.8.1	Fire enclosure and fire barrier material properties		N/A
6.4.8.1.1	Requirements for a fire barrier		N/A
6.4.8.1.2	Requirements for a fire enclosure		N/A
6.4.8.2	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.2.1	Fire enclosure and fire barrier openings		N/A
6.4.8.2.2	Fire barrier dimensions		N/A
6.4.8.2.3	Fire Enclosure dimensions, top openings (mm) :		N/A
	Needle Flame test		N/A
6.4.8.2.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c): dimensions (mm) :		N/A
6.4.8.2.5	Integrity of the fire enclosure, condition met: a), b) or c): dimensions (mm) :		N/A
6.4.8.3	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating..... :		N/A
6.5	Internal and external wiring		P
6.5.1	General	Wirings of separately approved switching power supply have been considered to comply with requirements.	P
6.5.2	Cross-sectional area (mm ²) :		--
6.5.3	Flammability		P
6.5.4	Requirements for interconnection to building wiring	See Annex Q	P
6.6	Likelihood of fire due to entry of foreign objects,	See Annex P	P
	Construction and dimensions (mm)..... :		
6.7	Safeguards against fire due to connection to secondary equipment		P
	External port limited to PS2		P
7	CHEMICALLY-CAUSED INJURY		N/A
7.2	Reduction of exposure to hazardous chemicals		N/A
7.3	Ozone exposure		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.4	Use of PPE		N/A
	Type of PPE.....:		
7.5	Use of instructional safeguards and instructions		N/A
	Instruction Safeguard (ISO 7010)		N/A
7.6	Batteries		N/A

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	MS1: No sharp edges or corners. Mass less than 7 kg	P
8.3	Protection against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners		N/A
8.4.1	Safeguards		N/A
8.4.2	Instructional safeguard		N/A
8.5	Safeguards against moving parts		N/A
8.5.2	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Instructional Safeguard.....:		
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard.....:		
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N).....:		N/A
8.5.5	Protection of persons against loosening, exploding or imploding parts		N/A
8.5.5.1	Protection against MS3 parts		N/A
8.5.5.2.1	Mechanical enclosure requirements for rotating solid media		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
8.5.5.2.2	High pressure lamps		N/A
8.6	Stability		N/A
8.6.1	Product classification		N/A
	Instructional Safeguard..... :		
8.6.2	Static stability for floor standing equipment		N/A
8.6.2.1	Requirements		N/A
8.6.2.2	Static stability test		N/A
	Applied Force..... :		
8.6.2.3	Relocation stability test		N/A
	Unit configuration during 10 tilt..... :		
8.6.3	Non-floor standing equipment having controls that are accessed during normal use or having displays with moving images		N/A
8.6.3.1	Glass slide test		N/A
8.6.3.2	Horizontal force test (Applied Force)..... :		N/A
	Position of feet or movable parts..... :		
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force..... :		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force..... :		N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard..... :		
8.10.3	Cart, stand or carrier loading test and compliance		N/A



	Applied force..... :		
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EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)..... :		
8.10.6	Thermoplastic temperature stability (°C).....:		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.2	Mechanical strength test, variable <i>N</i>:		N/A
8.11.3	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas		N/A
	Button/Ball diameter (mm)..... :		

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	Refer to Energy Source identification and classification table for thermal energy source	P
9.3	Protection against thermal energy sources		N/A
9.3.2	Protection of ordinary person		N/A
9.3.2.1	Protection of ordinary person against TS1		N/A
9.3.2.2	Protection of ordinary person against TS2		N/A
	Instructional Safeguard..... :		N/A
9.3.2.3	Protection of ordinary person against TS3		N/A
9.3.2.4	Identify safeguards..... :		N/A
9.3.3	Protection of instructed person		N/A
9.3.3.1	Protection of instructed person against TS2		N/A
9.3.3.2	Protection of instructed person against TS3 (Identify safeguards) :		N/A
9.3.4	Protection of skilled person		N/A
	Instructional Safeguard :		N/A
9.4.1	Equipment safeguard		P
9.4.1.2	Temperatures on Accessible Surfaces		P
9.4.2	Instructional safeguard :		N/A

10	RADIATION		--
10.2	Radiation energy source classifications		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.3	Requirements for electromagnetic radiation		N/A
10.3.1	General		N/A
10.3.1.1	Protection of persons from non-ionizing radiation		N/A
10.3.1.2	Non-ionizing radiation from lasers		N/A
	Laser Class, conditions		
10.3.1.3	Non-ionizing optical radiation from lamps and lamp systems (including LEDs)		N/A
10.3.1.3.1	Identification of lamp or lamp system		N/A
10.3.1.3.2a	UV radiation		N/A
	Instructional Safeguard (person and text)		
10.3.1.3.2b	Visible Radiation		N/A
	Instructional Safeguard (person and text)		
10.3.2	Non-ionizing radiation from radio frequencies in the range 0 Hz to 300 GHz		N/A
10.3.3	Protection of persons from ionizing radiation (X-radiation)		N/A
10.3.3.2	Maximum radiation (pA/kg)		
10.3.3.3	Supply voltage (V), distance (mm)		
10.3.3.4	Abnormal and Single fault condition		N/A
10.3.4	Protection of materials from lamps that produce UV radiation		N/A
10.4	Protection against acoustic energy sources		N/A
10.4.1	Safeguards		N/A
10.4.3	Protection of ordinary persons from acoustic energy sources (instructional safeguard)		N/A

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements	See Test Item Particulars and appended test tables	P
	Audio Power amplifiers and equipment with audio Power amplifiers		N/A
B.2.5	Input test	See appended table B.2.5	P



B.3	Simulated abnormal operating conditions	P
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EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.3.1	General requirements		P
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test	USB connector	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		P
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited		N/A
B.4.3	Motor tests		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		N/A
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnect of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions		P
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		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 Power amplifierS		N/A
E.1	Audio Power amplifier normal operating conditions		N/A
	Audio signal voltage (V).....:		
E.2	Audio Power amplifier abnormal operating conditions		N/A
F	ANNEX F, EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language		
F.2	Letter symbols and graphical symbols		P
	Letter symbols :		P
	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification..... :	See the marking label	P
F.3.2.2	Model identification..... :	See the marking label	P
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment without direct connection to mains		P
F.3.3.2	Nature of supply voltage..... :		P
F.3.3.3	Rated voltage.....:	See the marking label	P
F.3.3.4	Rated frequency.....:		N/A
F.3.3.5	Rated current or rated power.....:	See the marking label	P
F.3.3.6	Equipment with multiple supply connections		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings.... :		N/A
F.3.5.2	Switch position identification marking..... :		P
F.3.5.3	Replacement fuse identification and rating markings.:	Only inside Switching Power Supply separately approved	N/A
F.3.5.4	Replacement battery identification marking..... :		P
	Language..... :	English	
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment		P
F.3.6.1.1	Protective earthing conductor terminal		N/A
	-Complete equipment (IEC60417-5017)		N/A
	-Sub-assembly/component (IEC60417-5017 or -5019)		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.1.4	Terminal marking location		N/A
F.3.6.2	Class II equipment (IEC60417-5172)	Regarding to the Switching Power Supply	N/A
F.3.7	Equipment IP rating marking..... :	Ordinary equipment.	--
F.3.8	Durability, legibility and permanence of markings	Marking (printed on the enclosure) comply with the requirements	P
F.3.9	Test for permanence of markings		P
F.4	Instructions		--
	Instructions given for installation or initial use		P
	Equipment for use in locations where children not likely to be present marked with the relevant marking		N/A
	Equipment intended for use only in restricted access area		N/A
	Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	Protective earthing employed as safeguard		N/A
	Protective earthing conductor current exceeding ES 2 limits		N/A
	Symbols used on equipment		P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Permanently connected equipment not provided with all-pole mains switch		N/A
	Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A

G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements		P
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Thermal cut-offs		N/A
G.2.1 a), b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.2.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3	Thermal links		N/A
G.3.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)..... :		
	Single Fault Condition :		
	Test Voltage (V) and Insulation Resistance ()..... :		
G.4	PTC Thermistors		N/A
G.5	Overcurrent protection devices		N/A
G.6	Protective devices not mentioned in G.2 to G.5		N/A
	Compliance (device and single fault condition)..... :		N/A
G.7	Transformers		N/A
G.7.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1) :		N/A
	Position..... :		
	Method of protection..... :		
G.7.2	Insulation		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Protection from displacement of windings.....:		N/A
G.7.3	Overload test		N/A
G.7.3.1	Test conditions		N/A
G.7.3.2	Winding Temperatures testing in the unit		N/A
G.7.3.3	Winding Temperatures - Alternative test method		N/A
G.8	Motors		N/A
G.8.1	General requirements		N/A
	Position..... :		
G.8.2	Test conditions		N/A
G.8.3	Running overload test		N/A
G.8.4	Locked-rotor overload test		N/A
	Test duration (days) :		
G.8.5	Running overload test for d.c. motors in secondary circuits		N/A
G.8.5.2	Tested in the unit		N/A
G.8.5.3	Tested on the Bench - Alternative test method; test time (h).....:		N/A
G.8.5.4	Electric strength test (V)..... :		N/A
G.8.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.8.6.2	Tested in the unit		N/A
G.8.6.3	Tested on the bench - Alternative test method; test time (h) :		N/A
G.8.7.1	Electric strength test for ES2 or ES3 motors (V) :		N/A
G.8.7.2	Maximum temperatures		N/A
G.8.8	Motors with capacitors		N/A
G.8.9	Three-phase motors		N/A
G.8.10	Series motors		N/A
	Operating voltage.....:		
G.9	Mains supply cords		N/A
G.9.1	General requirements		N/A
	Type..... :		



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A)		
	Cross-sectional area (mm ²), (AWG)		
G.9.2	Compliance and test method		N/A
G.9.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.9.3.1	General requirements		N/A
G.9.3.2	Cord strain relief		N/A
G.9.3.2.1	Requirements		N/A
	Strain relief test force (N).....		
G.9.3.2.2	Strain relief mechanism failure		N/A
G.9.3.2.3	Cord sheath or jacket position, distance (mm).....		
G.9.3.2.4	Strain relief comprised of polymeric material		N/A
G.9.4	Cord Entry		N/A
G.9.5	Non-detachable cord bend protection		N/A
G.9.5.1	Requirements		N/A
G.9.5.2	Mass (g)		
	Diameter (m).....		
	Temperature (°C)		
G.9.6	Cord Replacement		N/A
G.9.7	Supply wiring space		N/A
G.9.7.2	Stranded wire		N/A
G.9.7.2.1	Test with 8 mm strand		N/A
G.10	Metal oxide varistors		N/A
G.10.1	General requirements		N/A
G.10.2	Basic safeguard		N/A
G.10.3	Supplementary safeguard		N/A
G.10.3.2	Sudden failure		N/A
G.10.3.3	Gradual failure		N/A
G.11	WOUND COMPONENTS		N/A
G.11.1	Wire insulation in wound components		N/A
G.11.1.1	General (thickness (mm), or number of layers		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.11.1.2	Solvent-based enamel winding insulation		N/A
G.11.1.3	Protection against mechanical stress in wound components		N/A
G.11.2	Additional insulation in wound components		N/A
G.11.2.1	General requirements		N/A
G.11.2.2	Dimension (mm) or test		N/A
G.11.3	Endurance test on wound components		N/A
G.11.3.1	General test requirements		N/A
G.11.3.3	Heat run test		N/A
	Time (s).....:		
	Temperature (°C)..... :		
G.11.3.4	Vibration Test		N/A
G.11.3.5	Wound Components supplied by mains		N/A
G.12	Circuits generating starting pulses		N/A
G.12.1	Insulation in circuits generating starting pulses		N/A
G.12.2	Clearances in circuits generating starting pulses		N/A
	Spacing or Electric Strength Test (specify option and test results) :		N/A
G.13	IC current limiters		N/A
	IC current limiters in PS1 or PS 2 fulfil all the conditions as set out		N/A
G.14	Test for resistors serving as safeguard		N/A
G.14.1	General requirements		N/A
G.14.2	Resistor test		N/A
G.14.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.14.3.1	General requirements		N/A
G.14.3.2	Voltage surge test		N/A
G.14.3.3	Impulse test		N/A
G.15	Capacitor and RC units serving as safeguards bridging insulation		N/A
G.15.1	General requirements		N/A
G.15.2	Conditioning of capacitors and RC units		N/A
G.15.3	Rules for selecting capacitors		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.16	Optocouplers as safeguards		N/A
	Optocouplers comply with IEC 60747-5-5 with testing conditions as indicated		N/A
G.17	Relays		N/A
G.17.1	General requirements		N/A
G.17.2	Requirements for relays		N/A
G.17.3	Overload test		N/A
G.17.4	Electric strength test		N/A
G.17.5	Relay controlling mains socket-outlets		N/A
G.17.6	Test method		N/A
G.17.7	Compliance		N/A
G.18	Printed boards		N/A
G.18.1	General requirements		N/A
G.18.2	Uncoated printed boards		N/A
G.18.3	Coated printed boards		N/A
G.18.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction).....:		N/A
G.18.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		
G.18.6	Tests on coated printed boards		N/A
G.18.6.1	Sample preparation and preliminary inspection		N/A
G.18.6.2	Thermal conditioning		N/A
G.18.6.3	Electric strength test		N/A
G.18.6.4	Abrasion resistance test		N/A
G.19	Coating on components terminals		N/A
G.19.1	Requirements		N/A
G.19.2	Compliance and test method		N/A
G.20	Mains connectors		N/A
	Mains connector configuration		
G.21	Liquid filled components		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.21.1	General requirements		N/A
G.21.2	Requirements		N/A
G.21.3	Compliance and test methods		N/A
G.21.3.1	Hydrostatic pressure test		N/A
G.21.3.2	Creep resistance test		N/A
G.21.3.3	Tubing and fittings compatibility test		N/A
G.21.3.4	Vibration test		N/A
G.21.3.5	Thermal cycling test		N/A
G.21.3.6	Force test		N/A
G.21.4	Compliance		N/A
G.22	Connectors other than mains connectors		N/A
	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General requirements		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		
H.3.1.2	Voltage (V)		
H.3.1.3	Cadence; time (s) and voltage (V)		
H.3.1.4	Single fault current (mA):..... :		
H.3.2	Tripping device and monitoring voltage..... :		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)..... :		

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements	See separate test report	



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		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
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method..... :		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type & circuit location)		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	DISCONNET DEVICES		P
L.1	General requirements	Mains plug is considered as disconnect device of switching power supply. Both units are supplied by output of switching power supply or by internal batteries.	P
L.1.1	General		N/A
L.1.2	Permanently connected equipment		N/A
L.1.3	Parts that remain energized		P
L.1.4	Single phase equipment		P
L.1.5	Three-phase equipment		N/A
L.1.6	Switches as disconnect devices		N/A
L.1.7	Plugs as disconnect devices	No power cord used. Switching Power supply with direct plug-in	N/A
L.1.8	Multiple power sources		N/A
M	BATTERIES AND FUEL CELLS		P
M.1	General requirements		P
M.2	Safety of battery cells and batteries		P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.2.1	Requirements		P
M.2.2	Compliance and test method (identify method) :		P
M.3	Protection in battery circuits		P
M.3.1	Requirements		P
M.3.2	Test method		P
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		P
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		P
M.3.3	Compliance		P
M.4	Endurance of a battery and its enclosure		N/A
M.4.1	Requirements		N/A
M.4.2	Compliance and test method		N/A
	Replaceable battery (instructional safeguard text):		N/A
M.5	Risk of burn due to short circuit during carrying		P
M.5.1	Requirement		P
M.5.2	Compliance and Test Method (Test of P.2.2.3)		P
M.6	Prevention of short circuits and protection from other effects of electric current		P
M.6.1	Short circuits		P
M.6.1.1	General requirements		P
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) . :		N/A
M.6.2	Leakage current (mA)..... :		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume $I_z(m^3/s)$:		
M.8.2.3	Correction factors..... :		



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.8.2.4	Calculation of distance d (mm) :		
M.9	Preventing electrolyte spillage	18650 Rechargeable battery	P
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 (Determination of compliance: inspection, data review; or abnormal testing)		P

N	ELECTROCHEMICAL POTENTIALS	--
	Metal(s) used.....:	

O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES	--
	Figures O.1 to O.20 of this Annex applied.....:	

P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS, FOREIGN LIQUIDS, AND SPILLAGE OF INTERNAL LIQUIDS		--
P.1	General requirements	Separately approved switching power supply considered to comply with requirements. No ES3, PS3 or PIS inside both units.	P
P.2	Safeguards against entry of solid foreign objects		N/A
P.2.1	Top and side openings		N/A
	Location and Dimensions (mm) :		
P.2.2	Transportable equipment		N/A
P.2.2.1	Openings in transportable equipment provided with energy storage devices, such as batteries		N/A
P.2.2.2	Transportable equipment without batteries and having accessible floating conductive parts (identification of supplementary safeguard) :		N/A
P.2.2.3	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard):		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
	Non-transportable (identification of safeguards) :		N/A
	Transportable (identification of safeguards) :		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Q	INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources		N/A
	- Inherently limited output		N/A
	- Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
	- Overcurrent protective device limited output		N/A
	- an IC current limiter complying with G.13		N/A
Q.2	Compliance and test method		N/A
Q.3	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		
	Current limiting method		N/A
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)).		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.....		



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Wall thickness (mm)..... :		
	Conditioning (°C)..... :		
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material..... :		
	Wall thickness (mm)..... :		
	Cheesecloth did not ignite		N/A
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 does not exceed 4 000 W		N/A
	Samples, material..... :		
	Wall thickness (mm)..... :		
	Conditioning (test condition), (°C).....:		
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	- After every test specimen was not consumed completely		N/A
	- After fifth flame application, flame extinguished within 1 min		N/A

T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		P
T.2	Steady force test, 10 N		N/A
T.3	Steady force test, 30 N	Considered for batteries compartments of the units.	P
T.4	Steady force test, 100 N		P
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test		P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
T.8	Stress relief test		P
T.9	Glass breakage		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J) :		
T.9.3	Fragmentation test and compliance		N/A
T.10	Test for telescoping or rod antennas		N/A
	Torque value (Nm) :		

U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OFIMPLOSION		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen		N/A



4.1.2	List of critical components				P
Object/Part No.	Manufacturer/Trademark	Type/Model	Technical Data	Standard	Mark(s) Of Conformity 1)
TVS Diodes	SOCAY	SMBJ6.5CA	6.5V	—	—
Resettable Fuse	REOMAX	TRF012	0.12A	—	CE
SMD Resistor	SAMSUNG	0805	1K 1/4W	—	CE
Multiplayer Ceramic Chip Capacitors	SAMSUNG	0805	100UF/25V	—	CE
IC 7LB184	SIT	SPO8	3.3/5V	—	CE
1) an asterisk indicates a mark which assures the agreed level of surveillance					

5.4.1.5, 6.3.2, 9.0, B.2.6, B.2.7	TABLE: Thermal requirements					P	
	Supply voltage (V)	4.5					
	Ambient T _{min} (°C)	25.0					
	Ambient T _{max} (°C)	25.2					
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)	
Orientation						--	
Main PCB, hottest point		33.6				130	
Leads		29.8				80	
Handle		31.2				48	
External plastic enclosure, hottest point		37.6				77	
Supplementary information:							
Temperature T of winding:	t ₁ (°C)	R ₁ ()	t ₂ (°C)	R ₂ ()	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--



Supplementary information:

5.4.1.11.3	TABLE: Ball pressure test of thermoplastics			P
	Allowed impression diameter (mm)	2 mm		
Part		Test temperature (°C)	Impression diameter (mm)	
PCB		125	0.8	
Enclosure		125	0.9	
Supplementary information:				

5.4.2, 5.4.3, 5.4.4.5 a), b)	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)1)	Required cl (mm)	cl (mm) 2)	Required3) cr (mm)	cr (mm)
Between mains parts before fuse	340	240	0.06	1.3	*	2.5	*
Between primary and secondary circuits	340	240	0.06	2.6	*	5.0	*
Between primary circuits and enclosure	340	240	0.06	2.6	*	5.0	*
Supplementary information:							
Note 1: Only for frequency above 30 kHz							
Note 2: See table 5.4.2.8 if this is based on electric strength test (5.4.2.8)							
Note 3: Provide Material Group							
*Switching power supply separately approved.							

5.4.2.8	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
--		--	--	--
Supplementary information:				

5.4.4.2, 5.4.4.5c), 5.5.2.7	TABLE Distance through insulation measurements				P
Distance through insulation di at/of:	Up (V)	Test voltage (V)	Required di (mm)	di (mm)	
Between primary and secondary circuits		572	0.4	*	
Between primary circuits and enclosure		340	0.4	*	



Supplementary information:

*Switching power supply separately approved.

5.4.11	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
Between poles of batteries inside unit		DC	7.4	No
--		--	--	--
Basic/supplementary:				
--		--	--	--
Reinforced:				
--		--	--	--
Routine Tests:				
--		--	--	--
--		--	--	--
Supplementary information:				

5.6.6.4	TABLE: Resistance of protective conductors and terminations				N/A
Accessible part		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
--		--	--	--	--
Supplementary information:					

5.7.4.1	TABLE: Unearthed conductive parts accessible for ordinary person		N/A
Supply voltage (V):..... :	--	—	
Earthed neutral conductor [Voltage differences less than 1% or more]:.....:	--	—	
Specify method used for measurement as described in IEC60990, sub-clause 4.3:..... :	--	—	
5.7.4.1a)	TABLE: Unearthed conductive parts accessible (for ordinary person)		N/A
Unearthed accessible part		Prospective touch voltage (V)	Touch current (mA)
--		--	--
--		--	--
After fault of the applicable basic safeguard			
--		--	--



--	--	--
After fault of the applicable supplementary safeguard		
--	--	--
--	--	--
Supplementary Information: For fault conditions, identify the safeguard that was faulted e.g., "Accessible Part/basic insulation."		
5.7.4.1b)	TABLE: Unearthed conductive parts accessible (>ES2 voltage limits)	N/A
Unearthed accessible part, at which the prospective touch voltage exceeds the ES2 limits	Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
	1	--
	2	--
	3	--
	4	--
	5	--
	6	--
	8	--
Supplementary Information: If touch current measurements are not needed, indicate "N/A" in the space provided. IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. If the touch current did not exceed ES2 limits, indicate, "PASS."		

5.7.4.2	TABLE: Unearthed conductive parts accessible to instructed persons	N/A
Supply voltage (V):..... :	--	—
Earthed neutral conductor [Voltage differences less than 1% or more]:..... :	--	—
Specify method used for measurement as described in IEC60990, sub-clause 4.3	--	—
5.7.4.2 a)	TABLE: Unearthed conductive parts accessible to instructed persons	N/A
Unearthed accessible part	Prospective touch voltage (V)	Touch current (mA)
--	--	--
--	--	--
--	--	--
--		
5.4.7.2 b)	TABLE: Unearthed conductive parts accessible (>ES2 voltage limits)	N/A
Unearthed accessible part, at which the prospective touch voltage exceeds the ES2 limits	Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
	1	--



	2	--
	3	--
	4	--
	5	--
	6	--
	8	--
Supplementary Information: If touch current measurements are not needed, indicate "N/A" in the space provided. IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. If the touch current did not exceed ES2 limits, indicate, "PASS."		

5.7.5	TABLE: Earthed accessible conductive part		N/A
Supply voltage..... :	--	—	
Earthed neutral conductor [Voltage differences less than 1% or more]..... :	--	—	
Specify method used for measurement as described in IEC60990, sub-clause 4.3..... :	--	—	
Earthed accessible conductive part	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)	
	1	--	
	2*	--	
	3	--	
	4	--	
	5	--	
	6	--	
	8	--	
Supplementary Information:			
IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.			
(*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			

8.5	TABLE: Fan Blade Classification		N/A
Variable	Value		
Mass, m	kg		
Fan blade radius, r	mm		
Rotational speed, N	rpm		
K factor (figure 47), K			



Classification formula	$\frac{N}{15,000} \frac{K}{2,400} \frac{1}{1}$	$\frac{N}{22,000} \frac{K}{3,600} \frac{1}{1}$
Classification calculation		
Classification: MS		
Supplementary information:		

8.5.5.2.1	TABLE: Rotating Solid Media	N/A
Variable	Value	
Media thickness (mm)..... :		
Total media mass, M (kg)..... :		
Constant, S..... :	0,250 (no deflector)	0,125 (deflector)
Velocity, v (m/s)..... :		
Media outer radius, R _o (m)..... :		
Force {F = S x (mv ²)/R _o } (N)..... :		
Smallest dia of media, X (mm)..... :		
Test Result..... :		
Supplementary information:		

8.5.5.2.2	TABLE: High Pressure Lamp	N/A
Description	Values	Energy Source Classification
Lamp type..... :		—
Manufacturer..... :		—
Cat no..... :		—
Pressure (cold) (MPa)..... :		MS_
Pressure (operating) (MPa)..... :		MS_
Operating time (minutes)..... :		—
Explosion method..... :		—
Max particle length escaping enclosure (mm)..... :		MS_
Max particle length beyond 1 m (mm)..... :		MS_
Overall result		
Supplementary information:		



B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
4.5	0.6	--	2.7	--	--	-	--
Supplementary information: Equipment may be have rated current or rated power or both. Both should be measured							

B.3 & B.4	TABLE: Abnormal operating and fault condition tests							P
Ambient temperature (°C)					25.3°C			
Power source for EUT: Manufacturer, model/type, output rating					--			
Component No.	Abnormal/Fault	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
	Reverse polarity of the batteries	4.5V	10s	--	--	--	--	The unit stays off. The negative battery pins do not come in contact with the positive battery connectors of the compartment
	Covering of ventilation openings	4.5V	3600s					The unit normally works. No high temperature; no burning; 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.								



ANNEX A:

Photo- documentation



Sample photo:



***** End Of Report *****